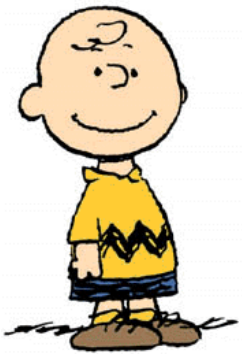

Charlie 2G and 3G

Field Test Display Specification

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Author:	Jari.P.Jokinen
Approval:	Tero Tamminiemi
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1.0	8.4.2004	Jari Jokinen	Approved	Modified and approved Charlie 2G FTD v. 1.0 and Charlie 3G FTD v. 0.4 were put together
0.1	6.4.2004	Jari Jokinen	Draft	

1 INTRODUCTION

This document specifies the features of Charlie Field Test Displays. Field Test Display, i.e. engineering test mode, is a configurable software feature that is available in application list. Field Test Display is useful for testing mobile phones during development or for verifying the operation of the network.

2 USING THE FIELD TEST DISPLAYS

2.1 General

When the Field Test Display is active, the phone can be used in a similar way than without it. When application key is pressed FTD will stay on backround and it can be activated again by pressing application key for about one second and after that select.

It is possibly to disable FTD from display 62.07 and after that FTD application icon will be deleted. FTD can be restored installing it again.

NOTE: FTD application should not interfere phone operation, because of allmost all field testing will be made so that FTD is in active mode. When phone will go to customer, FTD is not activated and phone should not care of this. This will be a challenge to FTD application

During proper power off (use of power key or RE-CHARGE indication) some valuable data (e.g. the number of current field test display) is stored onto the permanent memory. Next time when the phone is powered on the lastly selected field test display will be automatically re-activated.

2.2 Activating the Field Test Displays

The Field Test Display is located in other folder and can be activated as follows:

1. Press application key
2. Scroll in the application list to other folder and from there field test display item
3. Press the Options button and Open or press rocker to select

The field test data display will then appear in a moment and first field test display is shown.

2.3 Deactivating the Field Test Displays

Test display can be deactivated by pressing Exit– key or

1. Press the Options button
2. Choose Exit

2.4 Field Test Display modes

2.4.1 Modes belonging in the use of the displays

There are tree Field Test Displays modes:

- Execute mode

- Data display mode
- Help mode

Different modes are marked in this specification as follows:

Execute mode:

```
**************************
*    Execute    display   *
* With this display it is *
* possible  to  reset     *
* registration / mobility *
* counters. Use options   *
* to change.              *
*                         *
*                         *
*                         *
**************************
 OPTIONS             EXIT
```

Data display mode:

```
+++++++++++++++++++++++++++++
+ Parameter 1   aaaa        +
+ Parameter 2   bbbb        +
+ Parameter 3   cccc        +
+ Parameter 4   dddd        +
+ Parameter 5   eeee        +
+ Parameter 6   ffff        +
+ Parameter 7   gggg        +
+ Pa 8 / Pa 9   hhhh  iiii+
+ Pa10 / Pa11   jjjj  kkkk+
+++++++++++++++++++++++++++++
  OPTIONS            EXIT
```

The execute mode can be selected by choosing options from every execute display. Example, select group 2 and display number 1, select options, select reset handover counters and confirm with Ok button. Timers are reseted as soon as the OK button has been pressed from options menu and the execute mode takes over.

During the data display mode, parameter text will define what parameter is visible, there is no help mode so all needed information from that parameter is in that text field.

The rocker key (<,>^,v) offer an easy way to switch to another test displays without using the options menu. Rocker (<,>) can be used to change different display groups, like Group1: GSM signaling displays. Rocker (^,v) can be used to change different data displays from one group.

Display will support different colourcodes, all parameters which are in normal range are coloured with green. When some parameter will go to critical level, example tx power is too low parameter is coloured with red. NOTE Will be implmented if enough time to do that.

Help mode: selection phase

```
+++++++++++++++++++++++++++++
+ Parameter 1   aaaa        +
+ Parameter 2   bbbb        +
+ Parameter 3   cccc        +
+ Parameter 4   dddd        +
+ Parameter 5   eeee        +
+ Parameter 6   ffff        +
+ Parameter 7   gggg        +
+ Pa 8 / Pa 9   hhhh  iiii+
+ Pa10 / Pa11   jjjj  kkkk+
+++++++++++++++++++++++++++++
 OPTIONS             EXIT
```

It is possible to view help text from every parameter. By pressing "copy-paste" button in Data mode, selection menu appears (highlight- yellow) help

text will appear by selecting parameter and by pressing "rocker". Help text's are specified in description field for every parameter.

Abbreviation	Server	Sub Block ID	Mode	Description (HELP TEXT)
bbb	GSS	FTD_SB_CARRIER	R,I,O	When mobile is on TCH: DCH carrier number of serving cell in decimal. When mobile is NOT on TCH: CH means carrier number of serving cell in decimal. If hopping is on, used channels are scrolled when display is updated

Help mode: help text phase, example

```
+++++++++++++++++++++++++++++++
+ When mobile is on TCH:      +
+ DCH carrier number of       +
+ serving cell in decimal.    +
+ When mobile is NOT on TCH:  +
+ CH means carrier number     +
+ of serving cell in decimal. +
+ If hopping is on, used      +
+ channels are scrolled when  +
+ display is updated.         +
+++++++++++++++++++++++++++++++
                          BACK
```

2.4.2 Modes belonging in the field test display data

The displayed data itself has three different modes:

- R = R&D Mode (allows all data presented on the display)
- O = Operator Mode (only network related displays presented on the display)
- I = Infra vendor mode (only network related and few R&D displays presented on the display)

The presented data are divided into displays so, that data with same mode are located in the own displays. So, some displays can be activated/deactivated to be visible or not by the R&D people.

Signal and battery level

When Field Test Display is active, normal signal and battery level bars are visible.

3 INFORMATION ON THE DISPLAYS

Length of a field is shown in the display picture by amount of the letters. Two notations are currently used. Examples of an old and new notations:

	Old notation	New notation
Field with 5 letters, field name a	aaaaa	a(5)
Field with 4 letters, field name h	hhhh	h(4)

If a value is not available, 'x' is shown for all the digits. If data to be displayed is shorter than the field reserved to show that data, text is aligned left and numbers right.

In this specification the layouts of field test displays is drawn and all needed data items are shown in each display. In the descriptive tables are mentioned the server, from which the data is got, the sub block ID of the server message for the data, description of the data and the mode (R, I or O) for each data item.

As so many field test display as possible are defined to be common. The rest of the displays are divided based on protocol (GSM, TDMA, CDMA, PDC, WCDMA, TETRA). All displays are divided into different groups based on that and in every group display numbering starts from 01.

Format of the field is shown in Format column using next symbols:

Symbol	Description
DW:D	double word, 32bit value shown in decimal
DW:H	double word, 32bit value shown in hexadecimal
W:D	word, 16bit value shown in decimal
W:H	word, 16bit value shown in hexadecimal
B:D	byte, 8bit value shown in decimal
B:H	byte, 8bit value shown in hexadecimal
S	String

Group 01: GSM Signaling displays, which can be visible to network operators

The network operators can activate these signaling displays. Before field test displays are visible, mobile has to be modified. With the normal production mobile, field test displays are not working.

Display 01.01: Information of the serving cell (Version: 3.25, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ Channel num    abbb      +
+ Rx level       ccc       +
+ Tx power lev   ddd       +
+ GPRS attach    qq        +
+ TS / TA        e    ff   +
+ Rx / R time    g    mmmm +
+ C1 / C2        nnn  ppp  +
+ Band/ CHty     rr   oooo +
+ Amr U/AMR D    x    y    +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a	GSS	FTD_SB_HOPPING		R,I,O	**H**, if carrier numbers are scrolled when hopping is on. Otherwise '**.**'
bbb	GSS	FTD_SB_CARRIER		R,I,O	When mobile is on TCH: DCH carrier number of serving cell in decimal. When mobile is NOT on TCH: CH means carrier number of serving cell in decimal. If hopping is on, used channels are scrolled when display is updated ERR means that mobile is out of band.
ccc	GSS	FTD_SB_RX_LEVEL		R,I,O	Rx level in dBm, minus sign not shown if <=-100
ddd	GSS	FTD_SB_TX_LEVEL		R,I,O	Tx power level. If transmitter is on, symbol * is shown in front of the power level value.
e	GSS	FTD_SB_TIME_SLOT		R,I,O	Time Slot, range is 0 – 7
ff	GSS	FTD_SB_TIMING_ADV		R,I,O	Timing advance, range is 0 - 63
g	GSS	FTD_SB_RX_QUALITY		R,I,O	Rx quality (sub), range is 0 - 7
mmmm	GSS	FTD_SB_RADIO_LINK_TIMEOUT		R,I,O	Radio Link Timeout value. If value is negative, 0 is shown. Maximum value is 64. When mobile is NOT on TCH then xx is show
nnn	GSS	FTD_SB_C1		R,I,O	Value of the path loss criteria (C1). Range is -99 - 999. ERR means that the value is out of range, e.g. because it was not able to be calculated
ppp	GSS	FTD_SB_C2		R,I,O	Value of the cell reselection criteria (C2). Range is -99 - 999. If phone is

					phase 1 then C1 value is shown. ERR means that the value is out of range, e.g. because it was not able to be calculated.
rr	GSS	FTD_SB_CURR_BAND		R,I,O	Currently used band.Values: **9** = GSM900, **18** = GSM1800, **19** = GSM1900 ….. extensible for future
oooo	GSS	FTD_SB_TYPE_OF_CURR_CH		R,I,O	Type of current channel **THR0**: TCH HR subchannel 0 **THR1**: TCH HR subchannel 1 **AHS0**: TCH AHS subchannel 0 **AHS1**: TCH AHS subchannel 1 **TFR**: TCH FR **AFS**: TCH AFS **TEFR**: TCH EFR **F144**: TCH FR data channel, speed 14.4 kbps **F96**: TCH FR data channel, speed 9.6 kbps **F72**: TCH FR data channel, speed 7.2 kbps **F48** : TCH FR data channel, speed 4.8 kbps **F24** : TCH FR data channel, speed 2.4 kbps **H480** : TCH HR data channel, speed 4.8 kbps, subch 0 **H481** : TCH HR data channel, speed 4.8 kbps, subch 1 **H240** : TCH HR data channel, speed 2.4 kbps, subch 0 **H241** : TCH HR data channel, speed 2.4 kbps, subch 1 **FA**: TCH FR signaling only (FACCH) channel **FAH0** : TCH HR signaling only (FACCH) channel, subch 0 **FAH1** : TCH HR signaling only (FACCH) channel, subch 1 **PCCC, PBCC, PAGC** : GPRS packet control channel **PNDR:** GPRS non-DRX mode (in PCCCH) **PDTC**: GPRS traffic channel **NDRX**: GPRS non-DRX mode (in CCCH) **SDCC** : SDCCH **AGCH** : AGCH **CCCH** : CCCH **CBCH** : CCCH and cell broadcast receiving on **BCCH** : BCCH **SEAR** : SEARCH **NSPS** : MS is in No Serv Power Save state
qq	GPDS	FTD_SB_GPDS_ATT_AND_PDP		R,I,O	G if MS is GSM-GPRS attached, GP if attached and PDP context

					created, U if UMTS-GPRS attached, UP if attached and PDP context created, otherwise empty.
x	GSM_ DSP	FTD_SB_AMR_UL_MODE		R,I,O	Current absolute uplink mode on AMR channels, (0-7). **0**=4.75, **1**=5.15, **2**=5.9, **3**=6.7, **4**=7.4, **5**=7.95, **6**=10.2, **7**=12.2.
y	GSM_ DSP	FTD_SB_AMR_DL_MODE		R,I,O	Current absolute downlink mode on AMR channels. See definition above.

Display 01.02: More information of the serving cell (Version: 1, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ Paging mode     aa       +
+ max RACH retr   b        +
+ Roaming ind     c        +
+ BSIC value      bdd      +
+ CC cause        ee       +
+ Rx quality      f        +
+ CRO / Hopping   ggg   hh +
+ PenT / HCh      iii   j  +
+ MAIO / HSN      mm    nn +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aa	GSS	FTD_SB_PAGING_MODE		R,I,O	Paging mode **NO** : normal paging **EX** : extended paging **RO** : paging reorganization **SB** : same as before
b	GSS	FTD_SB_MAX_RAND_ACC_TRA		R,I,O	Maximum number of Random Access retransmission
c	GSS	FTD_SB_ROAMING_IND		R,I,O	Roaming indicator, values are R or empty.
bdd	GSS	FTD_SB_BSIC		R,I,O	Letter B and BSIC value, range is 0 - 63.
ee	GSS	FTD_SB_LAST_CALL_REL_REAS		R,I,O	Reason of last call release. Cause from messages disconnect and release complete.
f	GSS	FTD_SB_ RX_QUALITY		R,I,O	RX quality (full), range is 0 – 7
ggg	GSS	FTD_SB_CELL_RESEL_OFFSET		R,I,O	Cell reselect offset, range 0 - 126 dB. 0 - 63 * 2 dB. 'xxx' in active mode.
hh	GSS	FTD_SB_TEMP_OFFSET		R,I,O	Temporary offset, range 0 - 60 dB. 0 - 7 * 10 dB. 70 dB means infinite time. 'xx' in active mode.
iii	GSS	FTD_SB_PENALTY_TIME		R,I,O	Penalty time, range 0 - 620 s. 0 - 31 * 20 s. 'xxx' in active mode
j	GSS	FTD_SB_HOPP_CH		R,I,O	Hopping channel

					0 Single RF channel **1** RF hopping channel
mm	GSS	FTD_SB_MOB_ALLOC_INDEX		R,I,O	Mobile allocation index offset, MAIO Range: 00 to 63 / xx when H=0
nn	GSS	FTD_SB_HSN		R,I,O	Hopping sequence number, HSN Range: 00 to 63 / xx when H=0

Display 01.03: Information of the serving cell, 1st and 2nd neighbor (Version: 3.25, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+  Serving cell info      +
+ CH:    C1:    Rx:   C2: +
+ aaa    bbb    ccc   ddd +
+  1. Neighbor  info      +
+ eee    fff    ggg   hhh +
+  2. Neighbor  info      +
+ iii    jjj    kkk   lll +
+ 1. Neigbor ar mn        +
+ 2. Neigbor ar op        +
+++++++++++++++++++++++++++
```

1. row: serving cell information
2. row: 1. neighbor information
3. row: 2. neighbor information
4. row, mn: 1. neighbor information
4. row, op: 2. neighbor information

Abbr.	Server	Sub Block ID	Format	Mode	Description
aaa	GSS	FTD_SB_BCCH_CARRIER_SERV		R,I,O	Carrier number of serving cell in decimal
bbb	GSS	FTD_SB_C1S		R,I,O	C1 value of serving cell, range is -99 - 999, displayed only in idle mode. ERR means that the value is out of range, e.g. because it was not able to be calculated. Instead of C1 value, letter 'B' and BSIC value will be displayed in active mode.
ccc	GSS	FTD_SB_RX_LEVEL		R,I,O	Rx level of serving cell in dBm, minus sign not shown if <=-100
ddd	GSS	FTD_SB_C2S		R,I,O	C2 value of serving cell, range is -99 – 999. ERR means that the value is out of range, e.g. because it was not able to be calculated.
eee	GSS	FTD_SB_CARRIER_1_NEIGH		R,I,O	Carrier number of 1. neighbor in decimal

fff	GSS	FTD_SB_C1_1_NEIGH		R,I,O	C1 of 1. neighbor value, range is -99 - 999, displayed only in idle mode. ERR means that the value is out of range, e.g. because it was not able to be calculated. Instead of C1 value, letter 'B' and BSIC value will be displayed in active mode.
ggg	GSS	FTD_SB_RX_LEVEL_1_NEIGH		R,I,O	Rx level of 1. neighbor in dBm, minus sign not shown if <=-100
hhh	GSS	FTD_SB_C2_1_NEIGH		R,I,O	C2 of 1. neighbor value, range is -99 – 999. ERR means that the value is out of range, e.g. because it was not able to be calculated.
iii	GSS	FTD_SB_CARRIER_2_NEIGH		R,I,O	Carrier number of 2. neighbor in decimal
jjj	GSS	FTD_SB_C1_2_NEIGH		R,I,O	C1 value of 2. neighbor, range is -99 - 999, displayed only in idle mode. ERR means that the value is out of range, e.g. because it was not able to be calculated. Instead of C1 value, letter 'B' and BSIC value will be displayed in active mode.
kkk	GSS	FTD_SB_RX_LEVEL_2_NEIGH		R,I,O	Rx level of 2. neighbor in dBm, minus sign not shown if <=-100
lll	GSS	FTD_SB_C2_2_NEIGH		R,I,O	C2 value of 2. neighbor, range is -99 – 999. ERR means that the value is out of range, e.g. because it was not able to be calculated.
m	GSS	FTD_SB_LOCATION_AREA_INFO_1		R,I,O	F is shown if cell is in a forbidden location area, otherwise location is empty.
n	GSS	FTD_SB_CELL_PRIORITY_1		R,I,O	B is Barred, N is normal priority and L is low priority, otherwise location is empty.
o	GSS	FTD_SB_LOCATION_AREA_INFO_2		R,I,O	F is shown if cell is in a forbidden location area, otherwise location is empty.
p	GSS	FTD_SB_CELL_PRIORITY_2		R,I,O	B is Barred, N is normal priority and L is low priority, otherwise location is empty.

Display 01.04: Information of the 3rd, 4th and 5th neighbor (Version: 3.25, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+   3. Neighbor info      +
+ aaa    bbb    ccc   ddd +
+   4. Neighbor info      +
+ eee    fff    ggg   hhh +
+   5. Neighbor info      +
+ iii    jjj    kkk   lll +
+ 3. Neigbor ar mn         +
+ 4. Neigbor ar op         +
+ 5. Neigbor ar QR         +
+++++++++++++++++++++++++++
```

1. row: 3. neighbor information
2. row: 4. neighbor information
3. row: 5. neighbor information
4. row, mn: 3. neighbor information
5. row, op: 4. neighbor information
6. row, qr: 5. neighbor information

Abbr.	Server	Sub Block ID	Format	Mode	Description
aaa	GSS	FTD_SB_CARRIER_3_NEIGH		R,I,O	Carrier number of 3. neighbor in decimal
bbb	GSS	FTD_SB_C1_3_NEIGH		R,I,O	C1 value of 3. neighbor, range is -99 - 999, displayed only in idle mode. ERR means that the value is out of range, e.g. because it was not able to be calculated. Instead of C1 value, letter 'B' and BSIC value will be displayed in active mode.
ccc	GSS	FTD_SB_RX_LEVEL_3_NEIGH		R,I,O	Rx level of 3. neighbor in dBm, minus sign not shown if <=-100
ddd	GSS	FTD_SB_C2_3_NEIGH		R,I,O	C2 value of 3. neighbor, range is -99 – 999. ERR means that the value is out of range, e.g. because it was not able to be calculated.
eee	GSS	FTD_SB_CARRIER_4_NEIGH		R,I,O	Carrier number of 4. neighbor in decimal
fff	GSS	FTD_SB_C1_4_NEIGH		R,I,O	C1 value of 4. neighbor, range is -99 - 999, displayed only in idle mode. ERR means that the value is out of range, e.g. because it was not able to be calculated. Instead of C1 value, letter 'B' and BSIC value will be displayed in active mode.
ggg	GSS	FTD_SB_RX_LEVEL_4_NEIGH		R,I,O	Rx level of 4. neighbor in dBm, minus sign not shown if <=-100
hhh	GSS	FTD_SB_C2_4_NEIGH		R,I,O	C2 value of 4. neighbor, range is -99 – 999. ERR means that the value is out of range, e.g. because it was not able to be calculated.
iii	GSS	FTD_SB_CARRIER_5_NEIGH		R,I,O	Carrier number of 5. neighbor in decimal
jjj	GSS	FTD_SB_C1_5_NEIGH		R,I,O	C1 value of 5. neighbor, range is -99 - 999, displayed only in idle mode. ERR means that the value is out of range, e.g. because it was not able to be calculated. Instead of C1 value, letter 'B' and BSIC value will be displayed in active mode.
kkk	GSS	FTD_SB_RX_LEVEL_5_NEIGH		R,I,O	Rx level of 5. neighbor in dBm, minus sign not shown if <=-100
lll	GSS	FTD_SB_C2_5_NEIGH		R,I,O	C2 value of 5. neighbor, range is -99 – 999. ERR means that the value is out of range, e.g. because it was not able to be calculated.
m	GSS	FTD_SB_LOCATION_AREA_INFO_3		R,I,O	F is shown if cell is in a forbidden location area, otherwise location is empty.
n	GSS	FTD_SB_CELL_PRIORITY_3		R,I,O	B is Barred, N is normal priority and L is low priority, otherwise location is empty.
o	GSS	FTD_SB_LOCATION_AREA_INFO_4		R,I,O	F is shown if cell is in a forbidden location area, otherwise location is empty.
p	GSS	FTD_SB_CELL_PRIORITY_4		R,I,O	B is Barred, N is normal priority and L is low priority, otherwise location is empty.

Q	GSS	FTD_SB_LOCATION_AREA_INFO_5		R,I,O	F is shown if cell is in a forbidden location area, otherwise location is empty.
R	GSS	FTD_SB_CELL_PRIORITY_5		R,I,O	B is Barred, N is normal priority and L is low priority, otherwise location is empty.

Display 01.05: Information of the 6th, 7th and 8th neighbor (Version: 3.25, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+   6. Neighbor info      +
+ aaa    bbb    ccc   ddd +
+   7. Neighbor info      +
+ eee    fff    ggg   hhh +
+   8. Neighbor info      +
+ iii    jjj    kkk   lll +
+ 6. Neigbor ar mn         +
+ 7. Neigbor ar op         +
+ 8. Neigbor ar qr         +
+++++++++++++++++++++++++++
```

1. row: 6. neighbor information
2. row: 7. neighbor information
3. row: 8. neighbor information
4. row, ef: 6. neighbor information
5. row, gh: 7. neighbor information
6. row, ij: 8. neighbor information

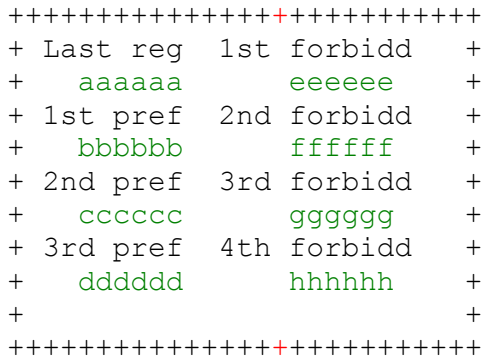
Abbr.	Server	Sub Block ID	Format	Mode	Description
aaa	GSS	FTD_SB_CARRIER_6_NEIGH		R,I,O	Carrier number of 6. neighbor in decimal
bbb	GSS	FTD_SB_C1_6_NEIGH		R,I,O	C1 value of 6. neighbor, range is -99 - 999, displayed only in idle mode. ERR means that the value is out of range, e.g. because it was not able to be calculated. Instead of C1 value, letter 'B' and BSIC value will be displayed in active mode.
ccc	GSS	FTD_SB_RX_LEVEL_6_NEIGH		R,I,O	Rx level of 6. neighbor in dBm, minus sign not shown if <=-100
ddd	GSS	FTD_SB_C2_6_NEIGH		R,I,O	C2 value of 6. neighbor, range is -99 – 999. ERR means that the value is out of range, e.g. because it was not able to be calculated.
eee	GSS	FTD_SB_CARRIER_7_NEIGH		R,I,O	Carrier number of 7. neighbor in decimal
fff	GSS	FTD_SB_C1_7_NEIGH		R,I,O	C1 value of 7. neighbor, range is -99 - 999, displayed only in idle mode. ERR means that the value is out of range, e.g. because it was not able to be calculated. Instead of C1 value, letter 'B' and BSIC value will be displayed in active mode.
ggg	GSS	FTD_SB_RX_LEVEL_7_NEIGH		R,I,O	Rx level of 7. neighbor in dBm, minus sign not shown if <=-100
hhh	GSS	FTD_SB_C2_7_NEIGH		R,I,O	C2 value of 7. neighbor, range is -99 – 999.

					ERR means that the value is out of range, e.g. because it was not able to be calculated.
iii	GSS	FTD_SB_CARRIER_8_NEIGH		R,I,O	Carrier number of 8. neighbor in decimal
jjj	GSS	FTD_SB_C1_8_NEIGH		R,I,O	C1 value of 8. neighbor, range is -99 - 999, displayed only in idle mode. ERR means that the value is out of range, e.g. because it was not able to be calculated. Instead of C1 value, letter 'B' and BSIC value will be displayed in active mode.
kkk	GSS	FTD_SB_RX_LEVEL_8_NEIGH		R,I,O	Rx level of 8. neighbor in dBm, minus sign not shown if <=-100
lll	GSS	FTD_SB_C2_8_NEIGH		R,I,O	C2 value of 8. neighbor, range is -99 – 999. ERR means that the value is out of range, e.g. because it was not able to be calculated.
m	GSS	FTD_SB_LOCATION_AREA_INFO_6		R,I,O	F is shown if cell is in a forbidden location area, otherwise location is empty.
n	GSS	FTD_SB_CELL_PRIORITY_6		R,I,O	B is Barred, N is normal priority and L is low priority, otherwise location is empty.
o	GSS	FTD_SB_LOCATION_AREA_INFO_7		R,I,O	F is shown if cell is in a forbidden location area, otherwise location is empty.
p	GSS	FTD_SB_CELL_PRIORITY_7		R,I,O	B is Barred, N is normal priority and L is low priority, otherwise location is empty.
q	GSS	FTD_SB_LOCATION_AREA_INFO_8		R,I,O	F is shown if cell is in a forbidden location area, otherwise location is empty.
r	GSS	FTD_SB_CELL_PRIORITY_8		R,I,O	B is Barred, N is normal priority and L is low priority, otherwise location is empty.

Display 01.06: Network selection display (Version: 1, Status: Approved)

This display shows the last registered network country code and network code as well as the codes for four forbidden networks and the first 3 preferred networks.

Data Display:



1. row: last registered network - 1st forbidden network
2. row: 1st preferred network - 2nd forbidden network
3. row: 2nd preferred network - 3rd forbidden network
4. row: 3rd preferred network - 4th forbidden network

Abbr	Serve	Sub Block ID	Forma	Mode	Description

.	r		t		
a(6)	GSS	FTD_SB_LAST_REG		R,I,O	Last registred network
b(6)	GSS	FTD_SB_1_PREF		R,I,O	1. preferred network
c(6)	GSS	FTD_SB_2_PREF		R,I,O	2. preferred network
d(6)	GSS	FTD_SB_3_PREF		R,I,O	3. preferred network
e(6)	GSS	FTD_SB_1st_FORBIDDEN_NW		R,I,O	1. forbidden PLMN in SIM
f(6)	GSS	FTD_SB_2nd_FORBIDDEN_NW		R,I,O	2. forbidden PLMN in SIM
g(6)	GSS	FTD_SB_3rd_FORBIDDEN_NW		R,I,O	3. forbidden PLMN in SIM
h(6)	GSS	FTD_SB_4th_FORBIDDEN_NW		R,I,O	4. forbidden PLMN in SIM

Display 01.07: System information bits for serving cell (Version: 3.19, Status: Approved).

Data Display:

```
++++++++++++++++++++++++++++
+ Emergency cal   a        +
+ Attach detach   b        +
+ Half rate CH    c        +
+ C2 broadcast    d        +
+ SI 7&8 broad    e        +
+ Cell broad      f        +
+ Call Re-est     g        +
+ ECSC / 2-Ter    h     i  +
+ Mband / GPRS    j     k  +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a	GSS	FTD_SB_SYSTEM_INFO_BITS1	S	R,I,O	1 is shown if emergency calls are supported, else 0
b	GSS	FTD_SB_SYSTEM_INFO_BITS1	S	R,I,O	1 is shown if attach-detach-procedure is allowed, else 0
c	GSS	FTD_SB_SYSTEM_INFO_BITS1	S	R,I,O	1 is shown if half rate channels are supported, else 0
d	GSS	FTD_SB_SYSTEM_INFO_BITS1	S	R,I,O	1 is shown if C2 values are broadcast, else 0
e	GSS	FTD_SB_SYSTEM_INFO_BITS1	S	R,I,O	1 is shown if system information 7 and 8 are broadcast, else 0
f	GSS	FTD_SB_SYSTEM_INFO_BITS1	S	R,I,O	1 is shown if cell broadcast is supported, else 0
g	GSS	FTD_SB_SYSTEM_INFO_BITS1	S	R,I,O	1 is shown if re-establishment is supported, else 0
h	GSS	FTD_SB_SYSTEM_INFO_BITS2	S	R,I,O	In idle mode 1 is shown if Early Classmark (ECSC) sending is supported, else 0. In dedicated mode (conversation) X is shown.
i	GSS	FTD_SB_SYSTEM_INFO_BITS2	S	R,I,O	In idle mode 1 is shown if 2-Ter messages are supported, else 0.

					In dedicated mode (conversation) X is shown.
j	GSS	FTD_SB_SYSTEM_INFO_BITS2	S	R,I,O	MultiBand reporting decimal value (0,1,2,3) is shown if supported. This is shown both in idle and dedicated mode.
k	GSS	FTD_SB_GPRS_SUPPORT	B:D	R,I,O	1 is shown if GPRS is supported, else 0

The following is picked from Phase2+ ETSI GSM 05.08 version 5.4.0, Section 8.4.3 ""Additional cell reporting requirements for multiband MS"".

For a multi band MS the number of cells, for each frequency band supported, which shall be included in the measurement report is indicated by the parameter, MULTIBAND_REPORTING. The meaning of different values of the parameter is specified as follows:

Value	Meaning
0 (00)	Normal reporting of the six strongest cells, with known and allowed NCC part of BSIC, irrespective of the band used.
1 (01)	The MS shall report the strongest cell, with known and allowed NCC part of BSIC, in each of the frequency bands in the BA list, excluding the frequency band of the serving cell. The remaining positions in the measurement report shall be used for reporting of cells in the band of the serving cell. If there are still remaining positions, these shall be used to report the next strongest identified cells in the other bands irrespective of the band used.
2 (10)	The MS shall report the two strongest cells, with known and allowed NCC part of BSIC, in each of the frequency bands in the BA list, excluding the frequency band of the serving cell. The remaining positions in the measurement report shall be used for reporting of cells in the band of the serving cell. If there are still remaining positions, these shall be used to report the next strongest identified cells in the other bands irrespective of the band used.
3 (11)	The MS shall report the three strongest cells, with known and allowed NCC part of BSIC, in each of the frequency bands in the BA list, excluding the frequency band of the serving cell. The remaining positions in the measurement report shall be used for reporting of cells in the band of the serving cell. If there are still remaining positions, these shall be used to report the next strongest identified cells in the other bands irrespective of the band used.

Display 01.08: Paging repeat period, TMSI, periodic location update, AFC and AGC (Version: 3.19, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ TMSI value      aaaaaaaa +
+ Curr T3212      bbb      +
+ Initial T3212   ccc      +
+ Paging repeat   d        +
+ Downlink fail   ee       +
+ TCH/SDCCH Ga    ff       +
+ VCTCXO AFC      ggggg    +
+ Channel num     hhh      +
+                          +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(8)	GSS	FTD_SB_TMSI	S	R,I,O	TMSI value in hex format
b(3)	GSS	FTD_SB_T3212	B:D	R,I,O	Current value of T3212 counter (range is 000 - 'ccc', where 1 means 6 min time. So, if this value is 2 less than 'ccc' then next periodic location updating will be made within 2 * 6 min = 12 minutes
c(3)	GSS	FTD_SB_T3212_TIMEOUT	B:D	R,I,O	Timeout value of T3212 counter (range is 000 - 240, where 1 means 6 min time between location updates and 240 means 240 * 6 min = 24 h between location updates. 000 means that periodic location update is not in use.) This value is received from the network.
d	GSS	FTD_SB_PRP	B:D	R,I,O	Value of paging repeat period (range is 2 - 9, when paging is in every second multiframe, mobile takes more current than if it were in every 9th multiframe)
e(2)	GSS	FTD_SB_DOWNLINK_SIGN_FAIL	B:D	R,I,O	Downlink signaling failure value. If value is negative, 0 is shown. Maximum value is 45. When mobile is on TCH then xx is shown
f(2)	GSS	FTD_SB_GAIN_ON_TCH	B:D	R,I,O	Gain value on TCH/SDCCH, range is 0 - 93
g(5)	GSS	FTD_SB_VCTCXO_AFC_DAC	S	R,I,O	VCTCXO AFC DAC control, range is -1024 - 1023
h(3)	GSS	FTD_SB_BCCH_CARRIER_SERV	S	R,I,O	Serving cell channel number

Display 01.09: Network parameters (Version: 4.0, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+   Network parameters    +
+ Country code   aaa      +
+ Network code   bbb      +
+ Location area  ccccc    +
+                         +
+ Serving cell            +
+ Channel num    ddd      +
+ Cell                    +
+ identifier   eeeeeeeeee +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description

a(3)	GSS	FTD_SB_REG_MCC		R,I,O	MCC value in decimal (MCC=Mobile Country Code)
b(3)	GSS	FTD_SB_REG_MNC		R,I,O	MNC value in decimal (MNC=Mobile Network Code). Three digits are shown only in DCS1900. In other systems only two digits are shown.
c(5)	GSS	FTD_SB_LAC		R,I,O	LAC value in decimal (LAC=Location Area Code)
d(3)	GSS	FTD_SB_BCCH_CARRIER_SERV		R,I,O	Serving cell channel number
e(10)	GSS	FTD_SB_CELL_ID	DW:D	R,I,O	Cell Identifier in decimal format

LAC and CID may be in hex format in some projects. Or even both decimal and hexadecimal formats may be shown on the same line.

Display 01.10: Ciphering, hopping DTX status and IMSI (Version: 1, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+  Updated only on TCH    +
+                         +
+ Cipherin val    aaa     +
+                         +
+ Hopping val     bbb     +
+                         +
+ DTX value       ccc     +
+                         +
+ IMSI attach     ddd     +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aaa	GSS	FTD_SB_CIPH		R,I,O	Ciphering value, OFF/A51/A52
bbb	GSS	FTD_SB_HOPP_STATUS		R,I,O	Hopping value, ON/OFF
ccc	GSS	FTD_SB_DTX_VALUE		R,I,O	DTX value ON/OFF
ddd	GSS	FTD_SB_IMSI_ATT		R,I,O	IMSI attach **ON** : IMSI attach on **OFF** : IMSI attach off

These values are updated only on the TCH.

Display 01.11: Uplink DTX switching display (Version: 1, Status: Approved)

With this display it is possible to change MS to use DTX or not, if BS allows MS to decide it. This display must be activated from MENU to change DTX state. When MENU is not active and the user is scrolling field test displays with NEXT and PREVIOUS, the DTX state will not change.

Executive Display:

```
**********************
*    Execute    display   *
* With this display it is *
* possible to change MS   *
* to use DTX or not. Use  *
* options to change       *
*                         *
* DTX mode      aaaaaaaaaa*
* Default DTX   bbb       *
* DTX from BS   ccc       *
**********************
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
EXE	GSS	FTD_SB_DTX_STATUS_CHANGE	N/A	R,I,O	Toggle DTX status.
a(10)	GSS	FTD_SB_DTX_STATUS		R,I,O	Status of switched mode. **DTX:ON** : MS uses DTX **DTX:OFF** : MS does not use DTX **DTX:DEF** : MS use default state of DTX. Defined in MS_PAR.H **NOTALLOWED**: BS does not allow MS to decide if it uses DTX or not.
bbb	GSS	FTD_SB_DTX_DEF		R,I,O	Default state of DTX. Defined in MS_PAR.H. The value is either ON or OFF
ccc	GSS	FTD_SB_DTX_FROM_BS		R,I,O	Is DTX value from BS MAY : BS allows MS to decide if it uses dtx or not on uplink. USE : BS controls MS to use dtx (on uplink) NOT : BS controls MS not to use dtx (on uplink)

Display 01.12: Storing and removing BTS_TEST carrier (Version: 3.13, Status: Approved)

This display is used to change BTS_TEST carrier on permanent memory. If BTS_TEST carrier is stored on permanent memory each time the mobile sends a search list it uses only the carrier number stored on Mobile Station permanent memory. Also the neighbor information from system information messages is ignored. If the BTS_TEST carrier is not stored, then the mobile behaves normally (i.e. does the neighbor measurements according the GSM specifications).

Executive Displays:

```
**************************
*     Execute   display    *
* With this display it is *
* possible  to   change   *
* BTS_TEST carrier.  Use  *
* options to change       *
*                         *
*   BTS TEST locked on    *
*     channel   xxxx      *
*                         *
**************************
```

Mobile is searching only one frequency. Neighbor measurements are not done.

```
**************************
*     Execute   display    *
* With this display it is *
* possible  to  change    *
* BTS_TEST carrier.  Use  *
* options to change       *
*                         *
*     BTS TEST  OFF       *
*                         *
*                         *
**************************
```

Mobile is behaving normally. Neighbor measurements are done.

To store BTS test carrier, perform following steps:
1. Press the Menu button.
2. Scroll in the main menu loop to field test display item.
3. Press the Select button.
4. Select this display in input mode by entering 0112 (TEST GROUP;TEST DISPLAY) to the query prompt.
5. Test input promt will be shown on the display, enter the channel number in display.
6. Confirm with the Ok button.
7. Switch power off and on.
8. If activation succeeded, there is text "BTS TEST LOCKED, CH:…" in display 12 of group 1.

To deactivate BTS tests, perform following steps:
1. Press the Menu button.
2. Scroll in the main menu loop to field test display item.
3. Press the Select button.
4. Select this display in input mode by entering 0112 (TEST GROUP;TEST DISPLAY) to the query prompt.
5. Test input promt will be shown on the display, enter the 3333 as a channel number in display
6. Confirm with the Ok button.
7. Switch power off and on.
8. If deactivation succeeded, there is text "BTS TEST OFF" in display 12 of group 1.

The legal carrier numbers:

Band	Carrier Numbers
GSM450	259-293
GSM480	306-340
GSM 850	128-251
GSM900	1-124
GSM1800	512-885
GSM1900	512-810
E-GSM	0, 975 – 1023
R-GSM	955-974

Abbr.	Server	Sub Block ID	Format	Mode	Description
xxxx	NETWORK	FTD_SB_BTS_STATUS		R,I,O	BTS test status
INPUT	NETWORK	FTD_SB_BTS_TEST	DW:D	R,I,O	BTS test

Display 01.13: Toggle Cell Barred Status (Version: 1, Status: Approved)

Executive Displays:

```
**************************
*     Execute   display    *
* With this display it is *
* possible  to  change    *
* Call bearer status.Use  *
* options to change       *
*                         *
*       CALL BEARER       *
*        xxxxxxxx         *
*                         *
**************************
```

This test is meant to be used when some cells are tested prior taking them into commercial use. By setting the barring on in the base station normal GSM phones will not try to register these barred cells. By selecting cell barring reversed, the MS will only use the cells to be tested. However, if at the same time it is wanted that MS will be capable to use normal network cell barring ignored can be set. This display will show the cell barring mode.

NOTE! If a cell has been selected before barring state is changed the selected cell may have different barring state than what the display shows. After reselection the cell barring state is working for sure.

To change Cell Barring status, perform following steps:

1. Press the Menu button.
2. Scroll in the main menu loop to field test display item.
3. Press the Select button.
4. Select this display in executive mode by entering 0113 (TEST GROUP;TEST DISPLAY) to the query prompt.

5. Confirm with the Ok button.
6. If activation succeeded, there is text "CELL BARR …" in display 13 of group 1.

Abbr.	Server	Sub Block ID	Format	Mode	Description
Cell barr exe	GSS	FTD_SB_CELL_BARR_IND_STATUS_CHANGE		R,I,O	Toggle Cell Barring status
Cell barr stat	GSS	FTD_SB_CELL_BARR_STATUS_IND		R,I,O	Cell Barring status

Display 01.14: Modify "last used band" (Version: 1, Status: Approved)

This display is applicable only in phones having both European and American frequencies.

With this display it is possible to manipulate the "last used band". In multi-band products this paramater is used at startup to decide which band shall be searched first. In most cases the last used band is the most promising band to find networks in. Nevertheless, for testing purposes it is helpful to have influence on this decision.
If at startup no "last used band" is found in the memory, the "Default" setting (Europe or America) will be effective.

Executive Display:

```
**************************
*     Execute   display    *
* With this display it is *
* possible to set band    *
* which will be searched  *
* first after startup     *
*                         *
* Use options to set.     *
*                         *
*                         *
**************************
```

1. Press the Menu button.
2. Scroll in the main menu loop to field test display item.
3. Press the Select button.
4. Select this display in input mode by entering 01.14 (TEST GROUP;TEST DISPLAY) to the query prompt.
5. Test input prompt will activate, enter the desired band code (see the table below) in display.
6. Confirm with the Ok button.
7. REMOVE BATTERY or POWER SUPPLY

NOTE: In normal operation the last used band is saved to the memory at power-down. If this value is written via Test Display 01.14, the phone MUST NOT be powerd off normally afterwards, because then the user-set value will be overwritten. The power supply has be interrupted instead.

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(2)	GSS	FTD_SB_LAST_USED_BAND_READ	B:D	R,I,O	Last used band, see the table below
INPUT	GSS	FTD_SB_LAST_USED_BAND_SET	DW:D	R,I,O	Write value to memory

Band codes:

Band Code	Meaning
9	GSM900
18	GSM1800
19	GSM1900
Other	Delete stored value

Group 02: GSM Registration and Mobility Displays

Display 02.01: Reset Registration and Mobility counters (Version: 1, Status: Approved)

With this display all timers listed on the displays in this group can be reset.

Executive Display:

```
**************************
*     Execute   display    *
* With this display it is *
* possible  to  reset     *
* registration / mobility *
* counters. Displays      *
* 02/02 - 02/07           *
* Use options to change.  *
*                         *
*                         *
**************************
```

Abbr.	Server	Sub Block ID	Form at	Mode	Description
EXE	GSS	FTD_SB_RESET_HANDOVERS	N/A	R	Reset handover counters.

Display 02.02: Neighbor Measurement Counter Display (Version: 1, Status: Approved)

Data Display:

```
++++++++++++++++++++++++++++
+ Neighbor counter display+
+ PSW meas                +
+ attempts       aaaa     +
+ Sync meas               +
+ attempts       bbbb     +
+ BCCH meas               +
+ attempts       cccc     +
+ BCCH meas               +
+ ext att        dddd     +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Form at	Mode	Description
aaaa	GSS	FTD_SB_NEIGH_PSW_ATT		R	Counter for neighbor PSW measurement attempts
bbbb	GSS	FTD_SB_NEIGH_SYNC_ATT		R	Counter for neighbor synchronization measurement attempts
cccc	GSS	FTD_SB_NEIGH_BCCH_ATT		R	Counter for neighbor BCCH measurement attempts

dddd	GSS	FTD_SB_BCCH_EXT_ATT		R	Counter for neighbor BCCH Ext measurement attempts

Counter values are shown in hexadecimal form. On poweroff the values of the counter displays are stored onto the permanent memory, where they will be read during power on. To initialize the counters to zero, select Display 02.01: Reset Registration and Mobility counters. Counters are automatically reset to zero when they exceed their maximum value.

Display 02.03: Search and reselection counter display (Version: 1, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ Search/reselect counters+
+ GSM 900  PSW   aaaaa    +
+ GSM 1800 PSW   bbbbb    +
+ GSM 900  sync  ccccc    +
+ GSM 1800 sync  ddddd    +
+ 900-900  res   eeeee    +
+ 1800-1800 res  fffff    +
+ 900-1800 res   ggggg    +
+ 1800-900 res   hhhhh    +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aaaaa	GSS	FTD_SB_NO_PSW_FOUND_GSM		R	GSM900 counter for MDI_NO_PSW_FOUND message received from DSP in decimal form (max 99999).
bbbbb	GSS	FTD_SB_NO_PSW_FOUND_DCS		R	GSM1800 counter for MDI_NO_PSW_FOUND message received from DSP in decimal form (max 99999).
ccccc	GSS	FTD_SB_SYNC_GSM		R	GSM900 counter for synchronization measurement attempts in decimal form. If counter value is over 99999 then five x are shown.
ddddd	GSS	FTD_SB_SYNC_DCS		R	GSM1800 counter for synchronization measurement attempts in decimal form. If counter value is over 99999 then five x are shown.
eeeee	GSS	FTD_SB_RESEL_GSM_GSM		R	Counter for GSM900->GSM900 cell reselections in decimal form (max 99999).
fffff	GSS	FTD_SB_RESEL_DCS_DCS		R	Counter for GSM1800->GSM1800 cell reselections in decimal form (max 99999).
ggggg	GSS	FTD_SB_RESEL_GSM_DCS		R	Counter for GSM900->GSM1800 cell reselections in decimal form (max 99999).
hhhhh	GSS	FTD_SB_RESEL_DCS_GSM		R	Counter for GSM1800->GSM900 cell reselections in decimal form (max 99999).

On power off the values of the counter displays are stored onto the permanent memory, where they will be read during power on. To initialize the counters to zero, select Display 02.01: Reset Registration and Mobility counters. Counters are automatically reset to zero when they exceed their maximum value.

Display 02.04: Location update attempts counters (Version: 1, Status: Approved)

Data Display:

```
++++++++++++++++++++++++++
+ Location update counters+
+ Fail reasons:           +
+ Norm LU        Aa       +
+ Periodic&IMSI  dd       +
+ Counters:               +
+ Norm LU total  bbb      +
+ Norm LU ok     ccc      +
+ Periodic tot   eee      +
+ periodic ok    fff      +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
Aa	GSS	FTD_SB_LAST_NORMAL_LOC_UP_REASON		R	Reason of last normal location update failure
bbb	GSS	FTD_SB_NORMAL_LOC_UP_COUNT		R	Count of normal location update attempts
ccc	GSS	FTD_SB_SUCC_LOC_UP_COUNT		R	Count of succeeded normal location updates
dd	GSS	FTD_SB_LAST_IMSI_ATT_FAIL_REASON		R	Reason of last periodic or IMSI attach location update failure
eee	GSS	FTD_SB_LOC_UP_COUNT_IMSI		R	Count of all periodic and IMSI attach location update attempts
fff	GSS	FTD_SB_SUCC_LOC_UP_COUNT_IMSI		R	Count of succeeded periodic and IMSI attach location updates

On poweroff the values of the counter displays are stored onto the permanent memory, where they will be read during power on. To initialize the counters to zero, select Display 02.01: Reset Registration and Mobility counters. Counters are automatically reset to zero when they exceed their maximum value.

Display 02.05: Handover display, INTER CELL (Version: 1, Status: Approved)

Data Display:

```
++++++++++++++++++++++++++
+  INTER CELL   Handovers +
+ 900->900   OK  aaaa     +
+ 1800->1800 OK  bbbb     +
+ 900->1800  OK  cccc     +
+ 1800->900  OK  dddd     +
+ 9-9/18-18FAIL  eee fff  +
+ 9-18/18-9FAIL  ggg  hhh +
+ 9-9/18-18prev  iii  jjj +
+ 9-18/18-9prev  kkk  lll +
++++++++++++++++++++++++++
```

Abbr	Serve	Sub Block ID	Forma	Mod	Description

.	r		t	e	
aaaa	GSS	FTD_SB_HO_GSM_GSM		R	Counter of successful handovers (max 9999) from GSM900 to GSM900
bbbb	GSS	FTD_SB_HO_DCS_DCS		R	Counter of successful handovers (max 9999) from GSM1800 to GSM1800
cccc	GSS	FTD_SB_HO_GSM_DCS		R	Counter of successful handovers (max 9999) from GSM900 to GSM1800
dddd	GSS	FTD_SB_HO_DCS_GSM		R	Counter of successful handovers (max 9999) from GSM1800 to GSM900
eee	GSS	FTD_SB_FAILED_HO_GSM_GSM		R	Counter for failed handovers (max 999) from GSM900 to GSM900
fff	GSS	FTD_SB_FAILED_HO_DCS_DCS		R	Counter for failed handovers (max 999) from GSM1800 to GSM1800
ggg	GSS	FTD_SB_FAILE_HO_GSM_DCS		R	Counter for failed handovers (max 999) from GSM900 to GSM1800
hhh	GSS	FTD_SB_FAILED_HO_DCS_GSM		R	Counter for failed handovers (max 999) from GSM1800 to GSM900
iii	GSS	FTD_SB_BACK_TO_PREV_GSM_GSM		R	Counter of successful back to previous channel attempts (max 999) from GSM900 to GSM900
jjj	GSS	FTD_SB_BACK_TO_PREV_DCS_DCS		R	Counter of successful back to previous channel attempts (max 999) from GSM1800 to GSM1800
kkk	GSS	FTD_SB_BACK_TO_PREV_GSM_DCS		R	Counter of successful back to previous channel attempts (max 999)from GSM900 to GSM1800
lll	GSS	FTD_SB_BACK_TO_PREV_DCS_GSM		R	Counter of successful back to previous channel attempts (max 999) from GSM1800 to GSM900

Counters will stop when they reach their maximum. To initialize the counters to zero Display 02.01: Reset Registration and Mobility counters.

Display 02.06: Handover display, INTRA CELL (Version: 1, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ INTRA CELL    Handovers  +
+ 900->900     OK  aaaa    +
+ 1800->1800   OK  bbbb    +
+ 900->1800    OK  cccc    +
+ 1800->900    OK  dddd    +
+ 9-9/18-18FAIL    eee fff +
+ 9-18/18-9FAIL    ggg hhh +
+ 9-9/18-18prev    iii jjj +
+ 9-18/18-9prev    kkk lll +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aaaa	GSS	FTD_SB_INTRA_HO_GSM_GSM		R	Counter of successful INTRA CELL handovers (max 9999) from GSM900 to GSM900
bbbb	GSS	FTD_SB_INTRA_HO_DCS_DCS		R	Counter of successful INTRA CELL handovers (max 9999) from GSM1800 to GSM1800

cccc	GSS	FTD_SB_INTRA_HO_GSM_DCS		R	Counter of successful INTRA CELL handovers (max 9999) from GSM900 to GSM1800
dddd	GSS	FTD_SB_INTRA_HO_DCS_GSM		R	Counter of successful INTRA CELL handovers (max 9999) from GSM1800 to GSM900
eee	GSS	FTD_SB_FAILED_INTRA_HO_GSM_GSM		R	Counter of failed INTRA CELL handovers (max 999) from GSM900 to GSM900
fff	GSS	FTD_SB_FAILED_INTRA_HO_DCS_DCS		R	Counter of failed INTRA CELL handovers (max 999) from GSM1800 to GSM1800
ggg	GSS	FTD_SB_FAILED_INTRA_HO_GSM_DCS		R	Counter of failed INTRA CELL handovers (max 999) from GSM900 to GSM1800
hhh	GSS	FTD_SB_FAILED_INTRA_HO_DCS_GSM		R	Counter of failed INTRA CELL handovers (max 999) from GSM1800 to GSM900
iii	GSS	FTD_SB_INTRA_BACK_TO_PREV_GSM_GSM		R	Counter of successful back to previous normal INTRA CELL channel attempts (max 999) from GSM900 to GSM900
jjj	GSS	FTD_SB_INTRA_BACK_TO_PREV_DCS_DCS		R	Counter of successful back to previous normal INTRA CELL channel attempts (max 999) from GSM1800 to GSM1800
kkk	GSS	FTD_SB_INTRA_BACK_TO_PREV_GSM_DCS		R	Counter of successful back to previous normal INTRA CELL channel attempts (max 999) from GSM900 to GSM1800
lll	GSS	FTD_SB_INTRA_BACK_TO_PREV_DCS_GSM		R	Counter of successful back to previous normal INTRA CELL channel attempts (max 999) from GSM1800 to GSM900

Counters will stop when they reach their maximum. To initialize the counters to zero, select Display 02.01: Reset Registration and Mobility counters.

Display 02.07: L2 display (Version: 1, Status: Approved)

Data Display:

```
++++++++++++++++++++++++++++
+    L2 retransmission     +
+ T200 MS 900     aaaa     +
+                          +
+ T200 BS 900     bbbb     +
+                          +
+ T200 MS 1800    cccc     +
+                          +
+ T200 BS 1800    dddd     +
+                          +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aaaa	GSS	FTD_SB_T200_EXP_MS_GSM		R	GSM900: Counts how many times T200 in MS has expired and therefore L2 transmission has been repeated.
bbbb	GSS	FTD_SB_T200_EXP_BS_GSM		R	GSM900: Counts how many times T200 in BS (network) has expired and therefore L2 transmission has been repeated
cccc	GSS	FTD_SB_T200_EXP_MS_DCS		R	GSM1800: Counts how many times T200 in MS has expired and therefore L2 transmission has been repeated (for dualband phones).

dddd	GSS	FTD_SB_T200_EXP_BS_DCS		R	GSM1800: Counts how many times T200 in BS (network) has expired and therefore L2 transmission has been repeated (for dualband phones)

Counters will stop when they reach their maximum. To initialize the counters to zero Display 02.01: Reset Registration and Mobility counters.

Group 03: GSM memory handling

Display 03.01: SIM information 1 (Version: 1, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+    SIM information 1    +
+                         +
+ SIM voltage   aaaaa     +
+ SIM baudrate  bbb       +
+ Clk stop allo c         +
+ Clk stop cond dddddddd  +
+ Pin1/Pin2 att f      g  +
+ Puk1/Puk2 att hh     ii +
+ ATR retrans   j         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(5)	SIM	FTD_SB_SIM_VOL_SEL	S	R	Sim voltage selection type (3, 1V8 or 1V8/3)
b(3)	SIM	FTD_SB_SIM_BAUDRATE	W:D	R	Sim baudrate (372, 64, 32 or 0)
c	SIM	FTD_SB_CLOCK_STOP_ALL	S	R	Clock stop allowed, Y or N
d(8)	SIM	FTD_SB_CLOCK_STOP_COND	S	R	Clock stop condition, High or low (preferred)
f	SIM	FTD_SB_PIN1_ATT	B:D	R	Pin1 attempts left (0,1,2,3)
g	SIM	FTD_SB_PIN2_ATT	B:D	R	Pin2 attempts left (0,1,2,3)
hh	SIM	FTD_SB_PUK1_ATT	B:D	R	Puk1 attempts left (0-10)
ii	SIM	FTD_SB_PUK2_ATT	B:D	R	Puk2 attempts left (0-10)
j	SIM	FTD_SB_ATR_RETRANS	B:D	R	ATR retransmission counter (0-9)

Display 03.02: SIM information 2 (Version: 1, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+    SIM information 2    +
+ Service table           +
+ from  6F38    aaaaaaaaaa+
+ Customer serv           +
+ profile 6F15  bbbbbbbbbb+
+ Customer serv           +
+ profile 6F98  cccccccccc+
+ ATR historic            +
+ bytes         ddddddddddd+
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(10)	SIM	FTD_SB_SIM_SERV_TAB		R	The service table form the sim card file 6F38. The readout of the service table is compressed so that each service is reprecented with one bit. 1 for Allocated Activated otherwise 0.
b(10)	SIM	FTD_SB_SIM_CSP1		R	The Customer service profile from file 6F15 on binary form.
c(10)	SIM	FTD_SB_SIM_CSP2		R	The Customer service profile from file 6F98 on binary form
d(10)	SIM	FTD_SB_SIM_HIST_DATA		R	Max. first 5 historical bytes from the ATR on binary form.

Group 04: GSM Test Timers, SMS and Call Counter Displays

Display 04.01: Reset test timers to zero and restart them (Version: 1, Status: Approved)

With this display all timers listed on the Display 04.02. can be reset.

Executive Display:

```
**************************
*     Execute   display    *
* With this display it is *
* possible  to  reset     *
* test timers to zero.    *
* Display 04/03.          *
* Use options to change.  *
*                         *
*                         *
*                         *
***************************
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
EXE	GSS	FTD_SB_RESET_TEST_TIMERS	N/A	R	Reset and restart Test timers

Display 04.02: Enable or disable test timers (Version: 1, Status: Approved)

This display will only use to start or stop the timers. When looking the status of timers user should use the Display 04.03: Test timer display (Version: 1, Status: Approved)

Executive Display:

```
**************************
*     Execute   display    *
* With this display it is *
* possible  to  start and *
* stop test timers        *
* Display 04/03.          *
* Use options to change.  *
*                         *
*                         *
*          XXX            *
*                         *
***************************
```

XXX ON or OFF

On power off the values of the timer displays are stored onto the permanent memory, where they will be read during power on. To initialize the counters to zero, use Display 04.01: Reset test timers to zero and restart them.

Also the current state of timer disabling/enabling is stored onto the permanent memory.

Abbr.	Server	Sub Block ID	Format	Mode	Description
EXE	GSS	FTD_SB_ENAB_OR_DISAB_TEST_TIMERS	N/A	R	Enable / DisableTimers
b(6)	GSS	FTD_SB_TEST_TIMER_STATE		R	State of timers, ON/OFF

Display 04.03: Test timer display (Version: 1, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ Test timer display      +
+                         +
+ Power on time  aaaa     +
+ Service time   bbbb     +
+ No-serv time   cccc     +
+ Trans on time  dddd     +
+ Timers state   eee      +
+                         +
+                         +
+++++++++++++++++++++++++++
```

A	Server	Sub Block ID	Format	Mode	Description
aaaa	GSS	FTD_SB_POWER_ON_TIMER		R	Timer for how long the phone has been powered on
bbbb	GSS	FTD_SB_SERV_TIMER		R	Timer for how long the phone has been in service
cccc	GSS	FTD_SB_NSPS_TIMER		R	Timer for NO-SERV POWER-SAVE state
dddd	GSS	FTD_SB_TRANSMIT_TIMER		R	Timer for how long the transmitter has been on
eee	GSS	FTD_SB_TEST_TIMER_STATE		R	State of timers, ON/OFF

All the values are shown in one minute resolution. The accuracy of the timers is about one second. The display uses following format for timers: HHMM where HH is hours and MM is minutes.

NOTE: When the maximum usage time of the phone is required (e.g. idle time measurement) then ALL field test displays must be deactivated! See chapter **Erreur ! Source du renvoi introuvable. Erreur ! Source du renvoi introuvable.**, how to deactivate the field test displays.

Display 04.04: Reset SMS and Call Counters to zero (Version: 1, Status: Approved)

With this display all counters listed on the Display 04.05: Call attempts counters (Version: 1, Status: Approved),

Display 04.07: SMS attempts counters and Display 04.08: SMS timeout counters can be reset.

Executive Display:

```
*************************
*     Execute   display   *
* With this display it is *
* possible  to  reset     *
* SMS and Call counters   *
* to zero. Displays 04/05 *
* 05/07, 04/08            *
* Use options to change   *
*                         *
*                         *
*                         *
*************************
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
EXE	GSS	FTD_SB_RESET_TEST_COUNTERS	N/A	R	Reset SMS & Call counter displays

Display 04.05: Call attempts counters (Version: 1, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+  Call attempts counters +
+                         +
+ CC cause      Aa        +
+ Release dire  bb        +
+ MO attempts   ccc       +
+ MO call ok    ddd       +
+ MT attempts   eee       +
+ MT call ok    fff       +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
Aa	GSS	FTD_SB_LAST_CALL_REL_REAS		R	Reason of last call release: Cause from messages disconnect and release complete

bb	GSS	FTD_SB_LAST_CALL_REL_DIRECTION		R	Direction of last call release: UN : Unknown MO : Mobile originated MT : Mobile terminated IN : Internal (ME CS sw)
ccc	GSS	FTD_SB_MO_CALL_COUNT		R	Count of all MO call attempts made
ddd	GSS	FTD_SB_MO_CALL_OK_COUNT		R	Count of succeeded MO calls
eee	GSS	FTD_SB_MT_CALL_COUNT		R	Count of all call setups received
fff	GSS	FTD_SB_MT_CALL_OK_COUNT		R	Count of succeeded MT calls

On poweroff the values of the counter displays are stored onto the permanent memory, where they will be read during power on. To initialize the counters to zero, select Display 04.04: Reset SMS and Call Counters to zero. Counters are automatically reset to zero when they exceed their maximum value.

Display 04.06: Information about reasons for call clearing (Version: 1, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ Information from call   +
+ clearing reasons        +
+                         +
+ CC cause      aaaa      +
+                         +
+ MM cause      bbbb      +
+                         +
+ RR cause      cccc      +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aaaa	GSS	FTD_SB_CC_CAUSE		R	CC cause value, see section 10.5.4.11/GSM 04.08. '*' is shown in front of cause value if cause is made up by CC layer in MS
bbbb	GSS	FTD_SB_MM_CAUSE		R	MM cause value, see section 10.5.3.6/GSM 04.08. '*' is shown in front of cause value if cause is made up by MM layer in MS
cccc	GSS	FTD_SB_RR_CAUSE		R	RR cause value, see section 10.5.2.31/GSM 04.08. '*' is shown in front of cause value if cause is made up by RR layer in MS

All cause values are shown in decimal form.

Display 04.07: SMS attempts counters (Version: 1, Status: Approved)

Data Display:

```
++++++++++++++++++++++++++
+  SMS attempts counters  +
+ Last MO fail  aa        +
+ MO all        bbb       +
+ MO Ok         ccc       +
+ Last MT fail  dd        +
+ MT all        eee       +
+ MT Ok         fff       +
+ Broad sche    gggg      +
+                         +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aa	GSS	FTD_SB_LAST_MO_SMS_FAIL		R	Reason of last sending failure
bbb	GSS	FTD_SB_MO_SMS_COUNT		R	Count of all MO short message attempts
ccc	GSS	FTD_SB_MO_SMS_OK_COUNT		R	Count of succeeded MO short message attempts
dd	GSS	FTD_SB_LAST_MT_SMS_FAIL		R	Reason of last receiving failure
eee	GSS	FTD_SB_MT_SMS_COUNT		R	Count of all MT short message attempts
fff	GSS	FTD_SB_MT_SMS_OK_COUNT		R	Count of succeeded MT short message attempts
gggg	GSS	FTD_SB_CB_SCHEDULE_MSG		R	Count of all received cell broadcast schedule messages

On poweroff the values of the counter displays are stored onto the permanent memory, where they will be read during power on. To initialize the counters to zero Display 04.04: Reset SMS and Call Counters to zero. Counters are automatically reset to zero when they exceed their maximum value.

Display 04.08: SMS timeout counters (Version: 1, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+  SMS timeout counters   +
+                         +
+ TR1M           aaa      +
+ TR2M           bbb      +
+ TRAM           cc       +
```

```
+ TC1M            ddd       +
+ TC2M            eee       +
+ CB schedule     ff        +
+                           +
++++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aaa	GSS	FTD_SB_TR1M_COUNT		R	Counter for TR1M timeouts
bbb	GSS	FTD_SB_TR2M_COUNT		R	Counter for TR2M timeouts
cc	GSS	FTD_SB_TRAM_COUNT		R	Counter for TRAM timeouts
ddd	GSS	FTD_SB_TC1M_COUNT		R	Counter for TC1M timeouts
eee	GSS	FTD_SB_TC2M_COUNT		R	Counter for TC2M timeouts
ff	GSS	FTD_SB_CB_SCHEDULE_COUNT		R	Counter for CB schedule timeouts

On poweroff the values of the counter displays are stored onto the permanent memory, where they will be read during power on. To initialize the counters to zero, select Display 04.04: Reset SMS and Call Counters to zero. Counters are automatically reset to zero when they exceed their maximum value.

Display 04.09: Toggle transmitter functionality (Version: 1, Status: Approved)

When selected, disables transmitter functionality if enabled and vice versa. New setting is valid until next power off or until new execute of this display.

Executive Display:

```
*****************************
*     Execute   display     *
* With this display it is   *
* possible  to  disable     *
* or enable transmitter     *
* Use options to change.    *
*                           *
*       xxxxxxxx            *
*                           *
*                           *
*****************************
Options
Enabled or disabled
```

This FTD can be used to simulate easily situations when the MS can hear the network (i.e. receiving signal is good enough), but the network can not receive any messages from the MS.

Location updating attempts or MO call establishment attempts can be failed (random access failure) by this FTD and field testing of these failures is much easier now.

Next periodic location updating can be checked from the Display 01.08: Paging repeat period, TMSI, periodic location update, AFC and AGC (Version: 3.19, Status: Approved) by taking the difference of current T3212 counter value and T3212 timeout value.

Abbr.	Server	Sub Block ID	Form	Mode	Description

			at		
aaaaaaaa	GSS	FTD_SB_TOGGLE_TRANS_STATUS		R	Transmitter status
EXE	GSS	FTD_SB_TOGGLE_TRANS_STATUS _CHANGE	N/A	R	Toggle transmitter functionality

Group 05: GSM Data Displays

Display 05.01: HSCSD, Timeslot information display (Version: 3.19, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+     HSCSD     Timeslot  +
+   information display   +
+                         +
+ Timeslot       01234567 +
+ RX             rrrrrrrr +
+ TX             tttttttt +
+ Main CH Ts     x        +
+ Main CH power  yy       +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
rrrrrrrr	GSS	FTD_SB_RX_TIMESLOT_ALLOC		R,I,O	Each bit can have value 1 or 0, 1 indicating that timeslot is part of multislot allocation in downlink direction.
tttttttt	GSS	FTD_SB_TX_TIMESLOT_ALLOC		R,I,O	Each bit can have value 1 or 0, 1 indicating that timeslot is part of multislot allocation in uplink direction.
x	GSS	FTD_SB_MAIN_CH_PLACE		R,I,O	Value from 0 to 7 indicating the place of main channel. In case of GPRS multislot allocation, this is not valid "x".
yy	GSS	FTD_SB_MAIN_CH_PWR_CONTROL		R,I,O	Value from 0-31 indicating main channel power control level. In case of GPRS multislot allocation, this is not valid "xx".

Display 05.02: HSCSD, Timeslot power control level display (Version: 3.19, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ Main CH TS      x        +
+ Main CH power   yy       +
+ Pwr level TS0   aa       +
+ Pwr level TS1   bb       +
+ Pwr level TS2   cc       +
+ Pwr level TS3   dd       +
+ Pwr level TS4   ee       +
+ Pwr level TS5   ff       +
+ Pwr TS6 / TS7   gg    hh +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
x	GSS	FTD_SB_MAIN_CH_PLACE		R,I,O	Value from 0 to 7 indicating the place of main channel. In case of GPRS multislot allocation, this is not valid "x".
yy	GSS	FTD_SB_MAIN_CH_PWR_CONTROL		R,I,O	Value from 0-31 indicating main channel power control level. In case of GPRS multislot allocation, this is not valid "xx".
aa	GSS	FTD_SB_PWR_CONTROL_TS_0		R,I,O	Power control level for timeslot 0.
bb	GSS	FTD_SB_PWR_CONTROL_TS_1		R,I,O	Power control level for timeslot 1.
cc	GSS	FTD_SB_PWR_CONTROL_TS_2		R,I,O	Power control level for timeslot 2.
dd	GSS	FTD_SB_PWR_CONTROL_TS_3		R,I,O	Power control level for timeslot 3.
ee	GSS	FTD_SB_PWR_CONTROL_TS_4		R,I,O	Power control level for timeslot 4.
ff	GSS	FTD_SB_PWR_CONTROL_TS_5		R,I,O	Power control level for timeslot 5.
gg	GSS	FTD_SB_PWR_CONTROL_TS_6		R,I,O	Power control level for timeslot 6.
hh	GSS	FTD_SB_PWR_CONTROL_TS_7		R,I,O	Power control level for timeslot 7.

Display 05.03: Transparent data information (Version: 1, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ Transparent data info   +
+ Num of CH's    Aaa     +
+ Connect speed  Bbbb    +
+ Connect type   cccc    +
+ Connect mode   dddd    +
+ Mode status    eee     +
+ SB stat bit    fff     +
+ X stat bit     gg      +
+ V.80           hhhh    +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
Aaa	CSD	FTD_SB_TB_NUM_CHAN		R	Number of channels. Value 1+1 or 2+2. Applicable only in GSM mode, otherwise show xxx.
Bbbb	CSD	FTD_SB_TB_CON_SPEED		R	Connection speed in kbit/s. **2.4** : 2400 bit/s **4.8** : 4800 bit/s **9.6** : 9600 bit/s **14.4** : 14400 bit/s **19.2** : 19200 bit/s

					28.8 : 28800 bit/s **32**: 32000 bits/s **33.6**: 33600 bits/s **56**: 56000 bits/s **64**: 64000 bits/s
cccc	CSD	FTD_SB_TB_CON_TYPE		R	Connection type. **Asyn** :When connection is asynchronous **Syn** :When connection is synchronous
dddd	CSD	FTD_SB_TB_CON_MODE		R	Connection mode. **Buff** : Connection is in buffered mode **V.80** : Connection is in V.80 mode
eee	CSD	FTD_SB_TB_STATUS_CON_MODE		R	Status of connection mode. **SCN** : When synchronizing **CON** : When connected Applicable only in GSM mode, otherwise show xxx.
fff	CSD	FTD_SB_TB_STATUS_SB		R	Status bit SB value 0 or 1. **SB0**: Status ON **SB1**: Status OFF Applicable only in GSM mode, otherwise show xxx.
gg	CSD	FTD_SB_TB_STATUS_X		R	Status bit X value 0 or 1. **X0** : Status ON **X1** : Status OFF Applicable only in GSM mode, otherwise show xx.
hhhh	CSD	FTD_SB_TB_V80_SM		R	When V.80 is used the sub mode is shown. **Tran** : Transparent **Fram** : Framed

Display 05.04: Non transparent data (Version: 1, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ Non Transparent data    +
+                         +
+ Sent I-farmes  aaaaaaaa +
+ X-bit out      bb       +
+ Re-trans       cccccccc +
+ Uplink buff    dd       +
+ Received I-fr  eeeeeeee +
+ X-bit in       ff       +
+ SREJ frames    gggggggg +
+ Downlink buff  hh       +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aaaaaaaa	CSD	FTD_SB_NTB_NUM_SENT_I_FRAME		R	Number of sent I-frames. 32-bit hex number and range is 0 - FFFFFFFF.

bb	CSD	FTD_SB_NTB_ STATUS_XOUT		R	X-bit out value 0 or 1. **X0** : Status OFF **X1** : Status ON
cccccccc	CSD	FTD_SB_NTB_ NUM_RETRANS_FR AME		R	Number of retransmitted frames. 32-bit hex number and range is 0 - FFFFFFFF.
dd	CSD	FTD_SB_NTB_UPLI NK_ BUF		R	Uplink buffer overflow. 8-bit hex number and range is 0 – FF. If not supported **xx** is shown.
eeeeeeee	CSD	FTD_SB_NTB_ NUM_RECV_I_FRA ME		R	Number of received I-frames. 32-bit hex number and range is 0 - FFFFFFFF.
ff	CSD	FTD_SB_NTB_ STATUS_XIN		R	X-bit in. Value is 0 or 1. **X0** : Status OFF **X1** : Status ON
gggggggg	CSD	FTD_SB_NTB_ NUM_SREJ_FRAME S		R	Number of SREJ'ed frames. 32-bit hex number and range is 0 - FFFFFFFF.
hh	CSD	FTD_SB_NTB_ DOWNLINK_BUF		R	Downlink buffer overflow. 8-bit hex number and range is 0 - FF. If not supported **xx** is shown.

Display 05.05: Facsimile information (Version: 1, Status: Approved)

Note! This display is not yet updated for 3G phones.

Data Display:

```
+++++++++++++++++++++++++++
+ Fax call pha  aa         +
+ Fax class    bb         +
+ Err corr mode c          +
+ MO or MT     dd         +
+ TrSpd / DTE  eee  ff    +
+ Cts / Cls2St ggg  hh    +
+ Cls2Us / Cls1 ii  j     +
+ Flow / OtDT  k    llll  +
+ OfDT / GSM st mmmm n     +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aa	CSD	FTD_SB_FAX_PHAS E		R	Shows the phase of the facsimile call when Class is 2 or 2.0. **0** : no call (default and in Class 1) **BR** : Phase B receive **BT** :Phase B transmit **CR** : Phase C receive **CT** : Phase C transmit **DR** : Phase D receive **DT** : Phase D transmit **E** : Phase E
bb	CSD	FTD_SB_FAX_CLAS S		R	Selected fax class. **0** : Not selected yet (default)

					1 : Class 1 **2** : Class 2 **20** : Class 2.0
c	CSD	FTD_SB_FAX_ECM		R	Error correction mode. **1** : Used **0** : Not used
dd	CSD	FTD_SB_FAX_DIR		R	**MO**: Mobile originated **MT**: mobile terminated.
eee	CSD	FTD_SB_FAX_ IMAGE_TRANS_SPEED		R	Negotiated image transfer speed. **0** : not yet negotiated (default) **24** : 2400 bit/s **48** : 4800 bit/s **72** : 7200 bit/s **96** : 9600 bit/s **120** : 12000 bit/s **144** : 14400 bit/s
ff	CSD	FTD_SB_FAX_ NUM_SESSIONS		R	Number of different DTE sessions for which fax has created tables. Range is 0 – 99, default is 0.
ggg	CSD	FTD_SB_FAX_ CALL_TERM_STATUS		R	Call termination status, value range is 0 – FF as specified in Appendix A tables A.1 & A.2 for Class 2.0 and 0-255 for Class 2 (tables A.3 & A.4). Default is 0.
hh	CSD	FTD_SB_FAX_ CLASS2_SUBSTATES		R	Class 2/2.0 substate. 8-bit hex number and range is 0 – 2C. (Appendix A, Table A.5)
ii	CSD	FTD_SB_FAX_ CLASS2_UTIL_STATE		R	Class 2/2.0 utility state. 8-bit hex number and range is 0 –1C. (Appendix A, Table A.6)
j	CSD	FTD_SB_FAX_ CLASS1_SUBSTATE		R	Class 1 substate. Range is 0 – 9. (Appendix A, Table A.7)
k	CSD	FTD_SB_FAX_ FLOW_CTRL		R	Flow control enabled by fax. **1** : ON **0** : OFF
llll	CSD	FTD_SB_FAX_ TO_DTE_BUF		R	Buffer towards DTE overflowed, number of lost octets shown. Range is 0 – 9999.
m(4)	CSD	FTD_SB_FAX_ FROM_DTE_BUF		R	Buffer from DTE overflowed, number of lost octets shown. Range is 0 – 9999.
n	CSD	FTD_SB_FAX_ GSM_STATE		R	State of the GSM fax module. Range is 0 – 8. (Appendix A, table A.8)

Display 05.06: CSD Server, main data display (Version: 1, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++++
+   CSD Server  main data   +
+ DTE ID       aaaaaaaaaaa  +
+ TCH ID         b          +
+ DTE context    c          +
+ Conf call st   def        +
+ State machin   gggg       +
+ GPDS connect   h          +
+ Pend trans     iii        +
+ Pend timeout   jjjjjj     +
+++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(12)	CSD	FTD_SB_CSDS_MDD1_DTE_ID		R	Existing DTE IDs. Each character represents a DTE (upto 12 separate sessions). DTE ID is 4-bit hex number and range is 0 – C and x. x : session doesn't exists Example: the value 01345xxxxxxx means that there are five DTE sessions with DTE IDs a_0 = 0, a_1 = 1, a_2 = 3, a_3 = 4 and a_4 = 5. F means that the session a_i , i $\in$ [5 - 11] doesn't exists.
b	CSD	FTD_SB_CSDS_MDD1_TCH_ID		R	TCH ID. 4-bit hex number and range is 0 – C and x. x : Not active
c	CSD	FTD_SB_CSDS_MDD1_NUM_OF_CALLS		R	Number of call contexts within DTEs. Range is 0 - 6.
def	CSD	FTD_SB_CSDS_MDD1_CONFERENCE		R	d = Conference call active. **A** : Active, **x** : Not active. e = Conference call state. **A** : Active **H** : On hold **x** : Not active. f = DTE ID of conference owner DTE. 4-bit hex number and range is **0 - C** and x. **x** : Conference not active.
g(4)	CSD	FTD_SB_CSDS_MDD1_STATE		R	State Machine state information. 4-bit hex numbers. g_0 = Main state. Range is 0 – 8. g_1 = State branching condition. Range is 0 – F. g_2 = Next state. Range is 0 – 8. g_3 = Call stack depth. Range is 0 – 4.
h	CSD	FTD_SB_CSDS_MDD1_NUM_GPDS_CONNECTIONS		R	Number of GPDS connections. 4-bit hex number and range is 0 – B.
iii	CSD	FTD_SB_CSDS_MDD1_NUM_OF_TRANSACTIONS		R	Number of pending transactions. Range is 0 - 999.
j(6)	CSD	FTD_SB_CSDS_MDD1_MB_TIMER_STATUS		R	Number of delta elements (pending time-outs) for a timer. There are six timers and each of the timers use one digit (k). Range is 0 – Z (0 – 40). j_0 : DTR. j_1 : HANGUP. j_2 : ALERT. j_3 : GENERIC. j_4 : DIAL_DELAY. j_5 : USSD_REPLY.

Display 05.07: CSD Server, active DTE info 1/2, call related info (Version: 3.13, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++++
+ DTE ID          a          +
+ Num of calls    b          +
+ Csta / Cmode    cccc   dd  +
+ TCH ID / Cdi    e      ff  +
+ AcID / HcID     gg     hh  +
+ PeT / Ct inf    iii    ll  +
+ Ctr / NCtr      jj     kk  +
+ SM st / LeID    mmmm   nnnn+
+                            +
+++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a	CSD	FTD_SB_CSDS_ADTE1_DTE_ID		R	DTE ID. 8-bit hex number and range is 0 – C and x. **x** : Not active
b	CSD	FTD_SB_CSDS_ADTE1_NUM_OF_CALLS		R	Number of calls. Range is 0 – 2.
cccc	CSD	FTD_SB_CSDS_ADTE1_CALL_STATE		R	Current call state. **IDLE** : IDLE **MTCO** : MT CONNECTING **WCON** : WAITING CONNECT **CONN** : CONNECTED **DISC** : DISCONNECTING
dd	CSD	FTD_SB_CSDS_ADTE1_CALL_MODE		R	Call mode. **0** : EMERGENCY **1** : SPEECH **2** : DATA **3** : FAX **A0** : ALT SPEECH DATA **A1** : ALT DATA SPEECH **A2** : ALT SPEECH FAX **A3** : ALT FAX SPEECH **A4** : SPEECH THEN DATA **A5** : UNDEFINED
e	CSD	FTD_SB_CSDS_ADTE1_TCH_ID		R	TCH ID. 8-bit hex number and range is 0 – C and x. x : No TCH channel active.
ff	CSD	FTD_SB_CSDS_ADTE1_CALL_DIR		R	Call direction. **MO** : Mobile Originated **MT** : Mobile Terminated
gg	CSD	FTD_SB_CSDS_ADTE1_ACTIVE_CALL_ID		R	Active call ID. 8-bit hex number and range is 0 – 9 and 80 – 83. **0** : CSDC_CALL_ID_NONE **1 – 9** : Call id from CALL server **80** : CSDC_CALL_ID_ALL **81** : CSDC_CALL_ID_ACTIVE **82** : CSDC_CALL_ID_HOLD **83** : CSDC_CALL_ID_CONFERENCE
hh	CSD	FTD_SB_CSDS_		R	Held call ID. 8-bit hex number and range is 0 –

		ADTE1_ON_HOLD_CALL_ID			9 and 80 – 83. Interpretation, as above.
iii	CSD	FTD_SB_CSDS_ADTE1_NUM_OF_PENDING_TRANS		R	Number of pending transactions. Range is 0 – 999.
jj/kk	CSD	FTD_SB_CSDS_ADTE1_CALL_TERM_REASON		R	jj = Call termination reason. 8-bit hex number and range is 0 – 13. kk = Network related call termination reason. 8-bit hex number and range is 1 – 7F.
ll	CSD	FTD_SB_CSDS_ADTE1_CALL_TERM_ORIG_AND_DIR		R	l_0 = Call termination origin. **C** : Client **S** : Server **N** : Network l_1 = Call termination direction. **O** : Mobile Originated **T** : Mobile Terminated **U** : Unspecified / Unknown
mmmm	CSD	FTD_SB_CSDS_ADTE1_SM_STATE_INFO		R	SM State information. 4-bit hex numbers. m_0 = Main state. Range is 0 – 8. m_1 = State branching condition. Range is 0 – F. m_2 = Next state. Range is 0 – 8. m_3 = Call stack depth. Range is 0 – 4.
nnnn	CSD	FTD_SB_CSDS_ADTE1_LAST_EVENT		R	Last event id. 16-bit hex value and range is 0 – 7FFF.

Display 05.08: CSD Server, active DTE info 2/2, GPDS, socket, conference info (Version: 1, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ CSD server DTE,GPDS      +
+ DTE ID         a         +
+ Act call ID    bb        +
+ GPDS ID,stat   cc        +
+ GPRS quality   dddddd    +
+ Socket conn    ee        +
+ DTE ID         f         +
+ Conff call st  g         +
+ Conff call ID  hhhhh     +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a	CSD	FTD_SB_CSDS_ADTE2_DTE_ID		R	DTE ID. 8-bit hex number and range is 0 – C and x. x : No DTE ID available
bb	CSD	FTD_SB_CSDS_ADTE2_ACTIVE_CALL_ID		R	Active call ID. 8-bit hex number and range is 0 – 9 and 80 – 83. **0** : CSDC_CALL_ID_NONE **1 – 9** : Call id from CALL server **80** : CSDC_CALL_ID_ALL **81** : CSDC_CALL_ID_ACTIVE

					82 : CSDC_CALL_ID_HOLD **83** : CSDC_CALL_ID_CONFERENCE
cc	CSD	FTD_SB_CSDS_ADTE2_GPDS_CID_AND_STATE		R	c_0 = GPDS context id. 4-bit hex number and range is 0 – 7. c_1 = GPDS status value A or D. A : Attached D : Detached
dddddd	CSD	FTD_SB_CSDS_ADTE2_GPDS_QOS		R	GPRS Quality of service. 4-bit hex numbers. D_0 : Precedence class. Range is 0 – 3. D_1 : Delay class. Range is 0 – 4. D_2 : Reliability class. Range is 0 – 5. D_3 : Peak throughput class. Range is 0 – 9. d_4 and d_5: Mean throughput class. Range is 0 – 13 (8-bit hex).
ee	CSD	FTD_SB_CSDS_ADTE2_SOCKET_INFO		R	Socket connection. **00** : No **01** : Yes
f	CSD	FTD_SB_CSDS_ADTE2_CONFERENCE_OWNER		R	DTE ID of a conference owner. 8-bit hex number and range is 0 – C and x. **x** : No DTE ID available
g	CSD	FTD_SB_CSDS_ADTE2_CONFERENCE_STATUS		R	Conference call status. **A** : Active **H** : Held
h(5)	CSD	FTD_SB_CSDS_ADTE2_CONFERENCE_PARTICIPANTS		R	Call ids in a conference. Each h_i ($0 < i < 4$) is a call id of a participating call. Each h_i is in range 1 – 9.

Display 05.09: GPRS Rel99 Display (Version: 1, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++++
+ Context info  aa b cc dd  +
+ Act user cid  ee          +
+ PDP type      fff         +
+ QoS           gggg        +
+ Max up/down   hhh   iii   +
+ SDU error     jj          +
+ Neg QoS up    kkk         +
+ Neg Qos down  lll         +
+ Residual BER  mmm         +
+++++++++++++++++++++++++++++
```

To change GPRS context, perform following steps:
1. Press the Menu button.
2. Scroll in the main menu loop to field test display item.
3. Press the Select button.

4. Select this display in input mode by entering 0509 (TEST GROUP;TEST DISPLAY) to the query prompt.
5. Test input prompt will be shown on the display, enter the context number in display.
6. Confirm with the Ok button.
7. If change succeeded, the new session information are displayed in display 09 of group 05.

Abbr.	Server	Sub Block ID	Format	Mode	Description
aa	CSD	FTD_SB_GPRS99_CONTEXT_ID		R	User context id. Range is 1 - 10.
b	CSD	FTD_SB_GPRS99_CONTEXT_STATE		R	GPRS context state. **A** : Attached **D** : Detached
cc	CSD	FTD_SB_GPRS99_GPDS_CONTEXT_ID		R	GPDS context id. 8-bit hex number. Range is 0 - FF.
dd	CSD	FTD_SB_GPRS99_NBR_GPDS_CONNECTIONS		R	Number of GPDS connections. Range is 0 – 99.
ee	CSD	FTD_SB_GPRS99_ACT_USER_CID		R	Active user cid. Range is 1 - 10.
fff	CSD	FTD_SB_GPRS99_PDP_TYPE		R	PDP type. **IP** : Internet Protocol **IP6** : Internet Protocol version 6 **PPP** : Point to Point Protocol
gggg	CSD	FTD_SB_GPRS99_NEQ_QOS		R	Negotiated Qos profile. g_0 : Traffic class (0-3) g_1 : Delivery order (0-1) g_2 : Delivery of erroneous SDUs (0-2) g_3 : Traffic handling priority (0-2)
hhh	CSD	FTD_SB_GPRS99_NEQ_MAX_UL		R	Negotiated Qos profile's maximum uplink bitrate. Range is 0-64 kbit/s.
iii	CSD	FTD_SB_GPRS99_NEQ_MAX_DL		R	Negotiated Qos profile's maximum downlink bitrate. Range is 0-384 kbit/s.
jj	CSD	FTD_SB_GPRS99_SDER		R	SDU error ratio. **00** : 0E0 (Subscribed) **11** : E **12** : E2 **13** : E3 **14** : E4 **15**: E5 **15** : E6 **73** : 7E3 **FF** : Default
kkk	CSD	FTD_SB_GPRS99_NEQ_GUA_UL		R	Negotiated Qos profile's quaranteed uplink bitrate. Range is 0-64 kbit/s.
lll	CSD	FTD_SB_GPRS99_NEQ_GUA_DL		R	Negotiated Qos profile's quaranteed downlink bitrate. Range is 0-384 kbit/s.
mm	CSD	FTD_SB_GPRS99_RBER		R	Residual bit error rate. **00** : 0E0 (Subscribed) **12** : E2 **13** : E3 **14** : E4 **15** : E5 **16** : E6 **43** : 4E3

					52 : 5E2 **53** : 5E3 **68** : 6E8 **FF** : Default
INPUT	CSD	FTD_SB_GPRS99_CHANGE_CONTEXT	DW:D	R	Change GPRS context.

Display 05.10: MAC Interface Display (Version: 1, Status: Approved)

Data Display:

```
++++++++++++++++++++++++++++
+ MAC Interface display    +
+                          +
+ Allowed frame            +
+ combinations             +
+                          +
+ aaaaaaaaa                +
+                          +
+                          +
+                          +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(9)	CSD	FTD_SB_MAC_ALLOWED_COMB		R	Allowed frame combinations for CSD-MAC to use. Each character represents one combination, 0 means that combination is not allowed. If zero frame is allowed, then it will be marked as 1. a_n : n = associated transmission frame a_1 = zeroth frame a_9 = eighth frame Example: 112040008 Means that legal combination of frames are 0,1,2,4 and 8.

Display 05.11: CSD Server Main Data Display, Control 2001 (Version: 1, Status : Approved)

Data Display:

This display is applicable for Kenny.

```
+++++++++++++++++++++++++++
+ Call mode      A         +
+ DTE/Calls      bb  cc    +
+ Pending trans      ddd   +
+ RS Irda        e   f     +
+ UAU UAN        ggg hhh   +
+ UCU UCN        iii jjj   +
+ UDU UDN        kkk lll   +
+ BT/Socket      m   n     +
+ DCP/Unknown    o   p     +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
A	CSD	FTD_SB_CSDS_MAIN_ACT_CALL_MODE		R	Active call mode. **G** : GSM **W** : WCDMA
bb	CSD	FTD_SB_CSDS_MAIN_NBR_DTE		R	Number of DTE sessions. Range: 0 – 50.
cc	CSD	FTD_SB_CSDS_MAIN_NBR_CALL		R	Number of connected calls. Range: 0 – 99.
ddd	CSD	FTD_SB_CSDS_MAIN_PENDING_TRANS		R	Number of pending transactions. Range is 0-999.
e	CSD	FTD_SB_CSDS_MAIN_RS232		R	A DTE of the type RS232 connected. **R** : If connected **x** : No RS232 connection
f	CSD	FTD_SB_CSDS_MAIN_IRDA		R	A DTE of the type IrDA connected. **I** : If connected **x** : No IrDa connection
ggg	CSD	FTD_SB_CSDS_MAIN_USB_UAU		R	A DTE of the type USB connected. (AT cmd, unsolicited responses) **UAU** : If connection **xxx** : No connection
hhh	CSD	FTD_SB_CSDS_MAIN_USB_UAN		R	A DTE of the type USB connected. (AT cmd, no unsolicited responses) **UAN** : If connection **xxx** : No connection
iii	CSD	FTD_SB_CSDS_MAIN_USB_UCU		R	A DTE of the type USB connected. (Modem ctrl, unsolicited responses) **UCU** : If connection **xxx** : No connection
jjj	CSD	FTD_SB_CSDS_MAIN_USB_UCN		R	A DTE of the type USB connected. (Modem ctrl, no unsolicited responses) **UCN** : If connection **xxx** : No connection
kkk	CSD	FTD_SB_CSDS_MAIN_USB_UDU		R	A DTE of the type USB connected. (Modem data, unsolicited responses) **UDU** : If connection **xxx** : No connection
lll	CSD	FTD_SB_CSDS_MAIN_USB_UDN		R	A DTE of the type USB connected. (Modem data, no unsolicited responses)

					UDN : If connection **xxx** : No connection
m	CSD	FTD_SB_CSDS_MAIN_BT		R	A DTE of the type Bluetooth connected. **B** : If connected **x** : No Bluetooth connection
n	CSD	FTD_SB_CSDS_MAIN_SCK		R	A DTE of the type Socket connected. **S** : If connected **x** : No Socket connection
o	CSD	FTD_SB_CSDS_MAIN_DCP		R	A DTE of the type DCP connected. **D** : If connected **x** : No DCP connection
p	CSD	FTD_SB_CSDS_MAIN_UNK		R	An unknown DTE type connected. **U** : Unknown connection **x** : No unknown connection

Display 05.12: Control DTE and Call Info Displays, Control 2001 (Version: 1, Status: Approved)

Data Display:

Next display is applicable for Kenny.

```
+++++++++++++++++++++++++++
+ DTE and Call info       +
+                         +
+ Locked session          +
+                         +
+ DTE           aaa       +
+ Call          bb        +
+                         +
+                         +
+                         +
+++++++++++++++++++++++++++
```

To change DTE or Call session, perform following steps:

1. Press the Menu button.
2. Scroll in the main menu loop to field test display item.
3. Press the Select button.
4. Select this display in input mode by entering 0512 (TEST GROUP;TEST DISPLAY) to the query prompt.
5. Test input prompt will be shown on the display, enter the session number in display.
6. Confirm with the Ok button.
7. If change succeeded, the new session information are displayed in group 5 display 13 for DTE and display 14 for Call. Also locked session information are changed in display 12 of group 5.

Abbreviation	Description
XX	Locked DTE session. DTE session type. XX = 1 : RS232 XX = 2 : IRDA XX = 3 : Bluetooth XX = 4 : USB AT command, no unsolicited responses XX = 5 : USB AT command, unsolicited responses

	XX = 6 : USB modem control, no unsolicited responses XX = 7 : USB modem control, unsolicited responses XX = 8 : USB modem data, no unsolicited responses XX = 9 : USB modem data, unsolicited responses XX = 10 : Socket XX = 11 : DCP XX = 12 : Unknown
2y 30 31	Locked Call session. y : Call ID. Range is 1 – 7. 30 : MO call being created 31 : MT call being created

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	CSD	FTD_SB_CSDS_INFO_DTE_STATE		R	Show locked DTE session.
bb	CSD	FTD_SB_CSDS_INFO_CALL_STATE		R	Show locked Call session.
INPUT	CSD	FTD_SB_CSDS_INFO_CHANGE_DISPLAY	DW:D	R	Change DTE or Call display's session.

This display is used for selecting the Call or DTE session the information of which the user wants to browse.

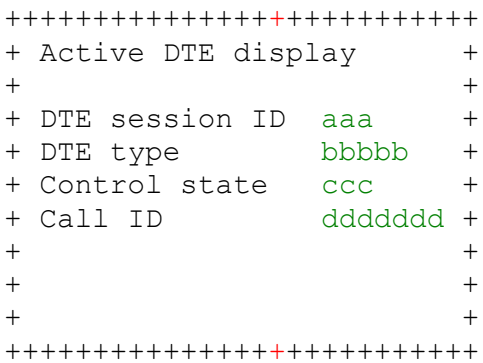
The CSD server Main Display indicates the total number of existing DTE sessions as well as what types of DTEs are included. The user selects the DTE session which he wants to browse by indicating the type of this session.

Call display is selected by entering the Call ID of the call to be browsed. The user finds the correct Call IDs from the display of the DTE session which owns the call. The user may also request the information of an MO or MT call that is in the process of being created by typing 30 (MO) or 31 (MT).

Display 05.13: Active DTE Display xx, Control 2001 (Version: 1, Status: Approved)

Data Display:

Display is applicable for Kenny.



Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	CSD	FTD_SB_CSDS_ DTE_SESSION_ID		R	DTE Session ID. Range is 0 – 255.
b(5)	CSD	FTD_SB_CSDS_ DTE_TYPE		R	DTE type. **NONE** : Not active **RS** : RS232 **IRDA** : Infra Red Data Association **BT** : Bluetooth **SCKT** : Socket **DCP** : Data Control Protocol **FF** : Unknown Universal Serial Bus **USATN** : AT, no unsolicited responses **USATU** : AT, unsolicited responses **USMCN**: Modem control, no unsolicited responses **USMCU**: Modem control, unsolicited responses **USMDN**: Modem data, no unsolicited responses **USMDU**: Modem data, unsolicited responses
c(3)	CSD	FTD_SB_CSDS_ DTE_CTRL_STATE		R	Control state. **WC**: CSDC_WAIT_FOR_COMMAND **CP**: CSDC_COMMAND_PROCESSING **WRA**:CSDC_WAIT_FOR_REMOTE_ACK **PNC**: CSDC_PROCESS_NEXT_CMD **SRM**: CSDC_SMS_READ_MODE
d(7)	CSD	FTD_SB_CSDS_ DTE_CID		R	Associated call ids. d_n : n = associated call id. Range is 1 - 7. Example: the values 1xxx5xx means that associated call ids are 1 and 5.

Display 05.14: Active Call Display (Version: 1, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ Call ID        aaa       +
+ Call mode      bb        +
+ Call type      c         +
+ Service        ddd       +
+ Call state     eeee      +
+ Call dir       ff        +
+ DTE ID         ggg       +
+ System         h         +
+ Cid            iii       +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aaa	CSD	FTD_SB_CSDS_CALL_ID		R	Call ID. Range is 1 – 7.
bb	CSD	FTD_SB_CSDS_CALL_CURRENT_MODE		R	Current Call Mode. **EM** : EMERGENCY **SP** : SPEECH **DA** : DATA **FA** : FAX **SF** : ALT SPEECH FAX **FS** : ALT FAX SPEECH **UN** : UNDEFINED
c	CSD	FTD_SB_CSDS_CALL_TYPE		R	Call Type **S**: Single **D**: Dual
ddd	CSD	FTD_SB_CSDS_CALL_SERVICE		R	Service **A**: ASYNC **S**: SYNC **F1**: Fax Class 1 **F2**: Fax Class 2 **F20**: Fax Class 2.0
eeee	CSD	FTD_SB_CSDS_CALL_STATE		R	Current call state. **IDLE** : CSDC_IDLE **OCM** : CSDC_ONLINE_CMD_MODE **DCG** : CSDC_DATA_CONNECTING **DCD** : CSDC_DATA_CONNECTED **MTA** : CSDC_MT_CALL_ANSWERED **MTCG** : CSDC_MT_CALL_CONNECTING **MOCG** : CSDC_MO_CALL_CONNECTING **VC** : CSDC_VOICE_CONNECTED **FCD** : CSDC_FAX_CONNECTED **REL** : CSDC_CALL_RELEASING **DTMF** : CSDC_DTMF_TRANSMIT
ff	CSD	FTD_SB_CSDS_CALL_DIR		R	Call direction. **MO** : Mobile Originated **MT** : Mobile Terminated
ggg	CSD	FTD_SB_CSDS_CALL_SESSION_ID		R	DTE session ID. Range is 0 – 255.
h	CSD	FTD_SB_CSDS_CALL_SYSTEM		R	System. **G** : GSM **W** : WCDMA
iii	CSD	FTD_SB_CSDS_CALL_TCH_RAB_ID		R	TCH/RAB ID. RAB ID if system is WCDMA and TCH ID for GSM. In WCDMA system this is left empty if RAB ID has not been received. Range is 0 – 255.

Display 05.15: Common CSD Display (Version: 1, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ Received TCH   aaaaaaaa +
+ Dbug1          bb       +
+ Dbug2          cccccccc +
+ Dbug3          dd       +
+ Dbug4          eeeeeeee +
+ Dbug5          ff       +
+ Dbug6          gggggggg +
+ Dbug7          hh       +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(8)	CSD	FTD_SB_COMMON_NUM_TCH_OVERRUNS		R	Number of received TCH overrun and underrun indications from TCH pipe. 32-bit hex number and range is 0 - FFFFFFFF.
b(2)	CSD	FTD_SB_COMMON_DEBUG_1		R	For general debugging use. String with max. length 2 +1. (*
c(8)	CSD	FTD_SB_COMMON_DEBUG_2		R	For general debugging use. 32-bit hex number and range is 0 - FFFFFFFF. (*
d(2)	CSD	FTD_SB_COMMON_DEBUG_3		R	For general debugging use. 8-bit hex number and range is 0 – FF. (*
e(8)	CSD	FTD_SB_COMMON_DEBUG_4		R	For general debugging use. 32-bit hex number and range is 0 - FFFFFFFF. (*
f(2)	CSD	FTD_SB_COMMON_DEBUG_5		R	For general debugging use. String with max. length 2 +1. (*
g(8)	CSD	FTD_SB_COMMON_DEBUG_6		R	For general debugging use. 32-bit hex number and range is 0 - FFFFFFFF. (*
h(2)	CSD	FTD_SB_COMMON_DEBUG_7		R	For general debugging use. 8-bit hex number and range is 0 – FF. (*

(* See csd_common_ftd.h for more information how to activate debugging fields.

Continuus Server: tresw15
Database Path: /opt/ccm_dbs/tr_dcom
Project Name: csd4_sw
Directory: csd4_sw/common
Filename: csd_common_ftd.h

Display 05.16: Current BC-IE (Version: 1, Status: Approved)

Data Display:

```
++++++++++++++++++++++++++++
+                          +
+ BC-IE1 BC-IE2    aa  bb  +
+ BC-IE3 BC-IE4    cc  dd  +
+ BC-IE5 BC-IE6    ee  ff  +
+ BC-IE7 BC-IE8    gg  hh  +
+ BC-IE9 BC-IE10   ii  jj  +
+ BC-IE11 BC-IE12  kk  ll  +
+ BC-IE13 BC-IE14  mm  nn  +
+                          +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aa	CSD	FTD_SB_BC_IE_OCTET_1	B:H	R	1. octet of the BC-IE, which is length. . Range is 00-FF.
bb	CSD	FTD_SB_BC_IE_OCTET_2	B:H	R	2. octet of the current BC-IE. Range is 00-FF.
cc	CSD	FTD_SB_BC_IE_OCTET_3	B:H	R	3. octet of the current BC-IE. Range is 00-FF.
dd	CSD	FTD_SB_BC_IE_OCTET_4	B:H	R	4. octet of the current BC-IE. Range is 00-FF.
ee	CSD	FTD_SB_BC_IE_OCTET_5	B:H	R	5. octet of the current BC-IE. Range is 00-FF.
ff	CSD	FTD_SB_BC_IE_OCTET_6	B:H	R	6. octet of the current BC-IE. Range is 00-FF.
gg	CSD	FTD_SB_BC_IE_OCTET_7	B:H	R	7. octet of the current BC-IE. Range is 00-FF.
hh	CSD	FTD_SB_BC_IE_OCTET_8	B:H	R	8. octet of the current BC-IE. Range is 00-FF.
ii	CSD	FTD_SB_BC_IE_OCTET_9	B:H	R	9. octet of the current BC-IE. Range is 00-FF.
jj	CSD	FTD_SB_BC_IE_OCTET_10	B:H	R	10. octet of the current BC-IE. Range is 00-FF.
kk	CSD	FTD_SB_BC_IE_OCTET_11	B:H	R	11. octet of the current BC-IE. Range is 00-FF.
ll	CSD	FTD_SB_BC_IE_OCTET_12	B:H	R	12. octet of the current BC-IE. Range is 00-FF.
mm	CSD	FTD_SB_BC_IE_OCTET_13	B:H	R	13. octet of the current BC-IE. Range is 00-FF.
nn	CSD	FTD_SB_BC_IE_OCTET_14	B:H	R	14. octet of the current BC-IE. Range is 00-FF.

Display 05.17: LLC (Version: 1, Status: Approved)

Data Display:

```
++++++++++++++++++++++++++++
+                          +
+ LLC1           aa        +
+ LLC2           bb        +
+ LLC3           cc        +
+ LLC4           dd        +
+ LLC5           ee        +
+ LLC6           ff        +
+ LLC7           gg        +
+                          +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aa	CSD	FTD_SB_LLC_OCTET_1	B:H	R	1. octet of the LLC, which is length. . Range is 00-FF.
bb	CSD	FTD_SB_LLC_OCTET_2	B:H	R	2. octet of the LLC. Range is 00-FF.
cc	CSD	FTD_SB_LLC_OCTET_3	B:H	R	3. octet of the LLC. Range is 00-FF.
dd	CSD	FTD_SB_LLC_OCTET_4	B:H	R	4. octet of the LLC. Range is 00-FF.
ee	CSD	FTD_SB_LLC_OCTET_5	B:H	R	5. octet of the LLC. Range is 00-FF.
ff	CSD	FTD_SB_LLC_OCTET_6	B:H	R	6. octet of the LLC. Range is 00-FF.
gg	CSD	FTD_SB_LLC_OCTET_7	B:H	R	7. octet of the LLC. Range is 00-FF.

Group 06: GPRS Signaling displays

Display 06.01: Information of the current GPRS state and previous TBF configuration (Version: 3.17, Status: Approved)

If MS is not GPRS attached, xxx is shown in all displays.

```
++++++++++++++++++++++++++
+ GPRS state and TBF conf.+
+ Hopping/Carrier a   b(4)+
+ RX lev / Tadv  c(3) d(2)+
+ DL TS / UP TS   e   f   +
+ DL CS / UP CS   g   h   +
+ Tadv I / TFI    i   j   +
+ MAC / Cha type k(4) l(4)+
+ GPRS State      m       +
+ USF values      n(8)    +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a	GSS	FTD_SB_GPRS_HOPPING	S	R,I,O	H, if carrier numbers are scrolled when hopping is on. Otherwise empty.
b(4)	GSS	FTD_SB_GPRS_CARRIER	W:D	R,I,O	Carrier number in decimal. If hopping is on, used channels are scrolled when display is updated
c(3)	GSS	FTD_SB_GPRS_RX_LEVEL		R,I,O	Rx level in dBm, minus sign not shown if <=-100
d(2)	GSS	FTD_SB_GPRS_TIMING_ADV		R,I,O	The latest value for timing advance, range 0-63
e	GPDS	FTD_SB_RLC_DL_SLOTS	B:D	R,I,O	Downlink time slot count in the latest TBF configuration, range 0-8
f	GPDS	FTD_SB_RLC_UL_SLOTS	B:D	R,I,O	Uplink time slot count in the latest TBF configuration, range 0-8.
g	GPDS	FTD_SB_RLC_DLRX_CS	B:D	R,I,O	The Channel Coding Scheme of the latest downlink data block, range 1-4.
h	GPDS	FTD_SB_RLC_ULTX_CS	B:D	R,I,O	The Channel Coding Scheme of the latest uplink data block, range 1-4.
I(2)	GSS	FTD_SB_PH_TAI	S	R,I,O	The latest value for timing advance index, range 0-15. If continuous timing advance is/was not in use, xx is shown.
j(2)	GPDS	FTD_SB_MAC_DL_TFI	S	R,I,O	TFI of the latest TBF configuration, range 0-31. If there is/was no downlink TBF in the latest TBF configuration, xx is shown.
k(4)	GPDS	FTD_SB_MAC_ALLOC_MODE	S	R,I,O	MAC mode, i.e. resource allocation method, used during the latest TBF configuration: **DYN** **EDYN** **FIXD** **DUSF**: USF granularity in use **EUSF**: USF granularity in use **F_HD**: Fixed Half Duplex
I(4)	GSS	FTD_SB_GPRS_TYPE_	S		Type of current channel

		OF_CURR_CH			In GPRS idle mode, if PBCCH supported in cell: PCCC, PBCC, PAGC, PNDR (non-DRX state): In GPRS idle mode, if PBCCH not supported in cell: AGCH, NDRX (non-DRX state), CCCH, BCCH In GPRS transfer mode: **PDTC** Other possibilities are the same as in Display 1 in group 1.
m	GPDS	FTD_SB_GMM_R_AND_S	S	R,I,O	**R** if MS is in READY state, **S** if GPRS is suspended and otherwise empty,
n(8)	GSS	FTD_SB_PH_USF		R,I,O	USF values of the current TBF configuration, the first value corresponding timeslot 0, next timeslot 1 and so on. The range of each USF value is 0-7. If there is no uplink TBF, or dynamic allocation was not used in the latest TBF configuration, xxxxxxxx is shown. If there is an uplink TBF but not all the 8 time slots are used, x is shown in place of the unused time slots.

Display 06.02: Previous UL TBF establishment (Version: 3.15, Status: Approved)

```
++++++++++++++++++++++++++
+ UL TBF establighment    +
+                         +
+ Estab cause   a(8)      +
+                         +
+ Channel req   b(5)      +
+                         +
+ Result of TBF c(7)      +
+                         +
+ Access type   d(7)      +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(8)	GPDS	FTD_SB_MAC_UL_TBF_EST_CAUSE	S	R,I,O	The establishment cause of the previous TBF establishment: **ONE-PHAS**: one-phase access request **SHORT**: short access request **TWO-PHAS**: two-phase access request **PAGE RES**: paging response **CELL UPD**: cell update **GMM SIGN**: GMM or SM procedure **SINGLE B**: single block without TBF establishment These correspond the establishment causes in PACKET CHANNEL REQUEST.
b(5)	GPDS	FTD_SB_MAC_CH_REQ_TYPE	S	R,I,O	**PRACH**: if PACKET CHANNEL REQUEST was sent (PCCCH)

					RACH: if CHANNEL REQUEST was sent (CCCH)
e	GPDS	FTD_SB_MAC_RADIO_PRIORITY	B:D	R,I,O	Radio priority, range 1-4.
c(7)	GPDS	FTD_SB_MAC_TBF_EST_RES	S	R,I,O	Result of the TBF establishment: **OK**: TBF establishment succeeded. **REJECT**: IMM ASS REJECT (CCCH) or PACKET ACCESS REJECT (PCCCH) received from the network. **TIMEOUT**: No response to (P)RACH from the network. **QUEUE**: CS channel description received in IMM ASS (CCCH) or PACKET QUEUING NOTIFICATION received (PCCCH) and the TBF was not established (the final result may still be OK if the TBF was established correctly after queueing). **FAILURE**: TBF establishment failed due to any other reason.
d(7)	GPDS	FTD_SB_MAC_TBF_EST_REALIZED	S	R,I,O	The used access type, 1-PHASE or 2-PHASE access. This informs the finally used method, regardless of the requested access type. If the TBF establishment failed, xxxxxx is shown.

Display 06.03: Information of the GMM state (Version: 5.0, Status: Approved)

```
++++++++++++++++++++++++++
+ GMM state information   +
+                        +
+ NW oper mode  a(3)      +
+ GPRS attach   b(8)      +
+ GMM state     c         +
+ MS state      d(5)      +
+ READY timeout e(3)      +
+ T3312 timer   f(3)      +
+ T3312 / exp   g(3) h    +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	GPDS	FTD_SB_GMM_NW_MODE	S	R,I,O	Network operation mode **NW1** **NW2** **NW3**
b(8)	GPDS	FTD_SB_GMM_ATTACH_TYPE	S	R,I,O	The status of GPRS attach: (xxxxxxxx displayed in all these displays in case no GPRS attach is made) **BOTH**: Both IMSI and GPRS attach made **GPRS**: GPRS attach only
c	GPDS	FTD_SB_GMM_ATTACH_STATUS	S	R,I,O	The state of GMM c: main state of GMM **X** idle **R** registered **D** deregistered

d(5)	GPDS	FTD_SB_GMM_READY_TMR_STATUS		R,I,O	**READY**: MS is in READY state **FORCE**: MS is in standby state after receiving "force to standby" indication STAND: MS is in standby state (xxxx shown if in IDLE state)
e(3)	GPDS	FTD_SB_GMM_READY_TMR_TIMEOUT		R,I,O	The used timeout value for READY timer. Unit seconds. xxx if READY timer is deactivated
f(3)	GPDS	FTD_SB_GMM_RAU_TMR_CURRENT		R,I,O	Current value of T3312 timer, timer for periodical routing area updates. Range is 000 – 186 and unit is minutes.
g(3)	GPDS	FTD_SB_GMM_RAU_TMR_TIMEOUT		R,I,O	Timeout value of T3312 timer. Range 000 – 186 and unit is minutes. xxx if T3312 timer is deactivated
h	GPDS	FTD_SB_GMM_PREVENT_READY_EXPIRY	S	R,I,O	F if READY timer expiry preventation mechanism is activated, otherwise empty.

Display 06.04: Values of P-TMSI, RAC, SMS radio priority, Ciphering and Non-DRX parameters (Version: 3.15, Status: Approved)

```
++++++++++++++++++++++++++++
+ Ciphering and non-DRX    +
+ parameters               +
+                          +
+ P-TMSI          a(8)     +
+ RAI             b(4)     +
+ Ciphering       c(4)     +
+ SPLIT_PG_CYC    d(3)     +
+ Non-DRX timer   e(2)     +
+ SMS radio pri   f        +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(8)	GPDS	FTD_SB_GMM_PTMSI_VALUE		R,I,O	P-TMSI value in hex format
b(4)	GPDS	FTD_SB_GMM_RAI_VALUE		R,I,O	RAI (Routing Area Indicator) in hex format
c(4)	GPDS	FTD_SB_GMM_CIPHERING_VALUE		R,I,O	Ciphering value (negotiated by GMM): OFF/GEA1/GEA2 Note! Even if the value here would show that ciphering is used, LLC may still send and receive unciphered blocks.
d(3)	GPDS	FTD_SB_GMM_SPLIT_PG_CYCLE_VALUE		R,I,O	SPLIT_PG_CYCLE value indicated by MS. 704 if non-DRX is used, otherwise range is 1-352. 0 is shown if SPLIT_PG_CYCLE is not in use in CCCH.
e(2)	GPDS	FTD_SB_GMM_NON_DRX_TMR		R,I,O	non-DRX timer indicated by MS. (The actually used value is a minimum of this and the network parameter.) 0 if no non-DRX mode is used after transfer mode, otherwise range is 1-64 seconds.
f	GPDS	FTD_SB_GMM_SMS_PRIORITY		R,I,O	SMS radio priority, range 1-4. If MO SMS via GPRS is not allowed, x is shown.

Display 06.05: GPRS Network parameters (Version: 3.15, Status: Approved)

```
++++++++++++++++++++++++++++
+ GPRS network parameters  +
+                          +
+ CTRL_ACK type  a(4)       +
+ ACCESS_BURST   b(2)       +
+ DRX_TIMER_MAX  c(2)       +
+ SPLIT support  d          +
+ Paging mode    e(2)       +
+ NC mode        f(3)       +
+ T3168 timer    g          +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(4)		FTD_SB_MAC_CTRL_ACK_TYPE		R,I,O	The value of CONTROL_ACK_TYPE 4ACC: PACKET CONTROL ACKNOWLEDGEMENT is sent as 4 access bursts. CTRL: PACKET CONTROL ACKNOWLEDGEMENT is sent as RLC/MAC control block.
b(2)		FTD_SB_MAC_ACC_BURST_TYPE		R,I,O	The value of ACCESS_BURST_TYPE, either 8 or 11 [bits].
c(2)		FTD_SB_MAC_DRX_TIMER_MAX		R,I,O	The value of DRX_TIMER_MAX, range 1 – 64 seconds.
d		FTD_SB_MAC_SPLIT_PG_CYCLE_ON_CCCH		R,I,O	The value of SPLIT_PG_CYCLE_CCCH_SUPPORTED, range 0-1. If PBCCH is supported, x is shown.
e(2)		FTD_SB_MAC_PAGE_MODE		R,I,O	Paging mode: NO: normal paging EX: extended paging RO: paging reorganization SB: same as before
f(3)		FTD_SB_MAC_NCMODE_BROADCAST		R,I,O	NC mode indicated in system information. If GPRS not supported, xxx is shown. NC0: No measurement reports, MS decides of the cell re-selections NC1: Measurement reports. MS decides of the cell re-selections NC2: Measurement reports. The network commands the cell re-selections.
g		FTD_SB_MAC_T3168_VALUE		R,I,O	The value of T3168 timer, range 0-7, corresponding 0.5s, 1s,…, 4s.

Display 06.06: Packet control channel parameters (Version: 4.0, Status: Approved)

If PCCCH is not supported, xxx is shown in all fields

```
++++++++++++++++++++++++++++
+ PCCCH parameters          +
+                          +
+ BS_PBCCH_BLKS         a  +
+ BS_PCC_CHANS          b(2)+
+ BS_PAG_BLCKS_RES      c(2)+
+ BS_PCC_REL            d  +
+ BS_PRACH_BLKS         e(2)+
+ Hopping of PBCCH      g  +
+ Hopping of PCCCH      h  +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a	GPDS	FTD_SB_BS_PBCCH_BLKS		R,I,O	Value of BS_PBCCH_BLKS, range 1-4.
g	GSS	FTD_SB_PBCCH_HOPPING		R,I,O	Hopping of PBCCH H if PBCCH is hopping, otherwise empty
b(2)	GPDS	FTD_SB_BS_PCC_CHANS		R,I,O	Value of BS_PCC_CHANS, range 1-16.
h	GSS	FTD_SB_PCCCH_HOPPING		R,I,O	Hopping of PCCCH H if PCCCH is hopping, otherwise empty (also if BS_PCC_CHANS=1)
c(2)	GPDS	FTD_SB_BS_PAG_BLKS_RES		R,I,O	Value of BS_PAG_BLCKS_RES, range 0-12.
d	GPDS	FTD_SB_BS_PCC_REL		R,I,O	Value of BS_PCC_REL, range 0-1.
e(2)	GPDS	FTD_SB_BS_PRACH_BLKS		R,I,O	Value of BS_PRACH_BLKS, range 0-12.

Display 06.07: (Packet) System information parameters (Version: 5.0, Status: Approved)

```
++++++++++++++++++++++++++++
+    System information    +
+                          +
+ Sys 13 / Sys 5  a(4)  b  +
+ PSI repeat/ LR  c(2)d(2)+
+ PSI_HR/ Status  e(2)  f  +
+ MSCR / SGSNR    g     h  +
+ SI ind/NW EXT   i     j  +
+ CCN / PFC mode  k     l  +
+                          +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description

a(4)	GSS	FTD_SB_PH_SI13_LOCATION		R,I,O	The location of System information 13. NORM: SI 13 available at BCCH Norm EXT: SI 13 available at BCCH Ext
b	GPDS	FTD_SB_MAC_PSI5_BROADCAST		R,I,O	The availability of Packet system information 5 (optional) 0: PSI 5 not supported 1: PSI 5 supported
c(2)	GPDS	FTD_SB_MAC_PSI1_REPEAT_PERIOD		R,I,O	The value of PSI_REPEAT_PERIOD, range 1-16. If PBCCH is not supported, xx is shown.
d(2)	GPDS	FTD_SB_MAC_PSI_COUNT_LR		R,I,O	The value of PSI_COUNT_LR, range 0-63. If PBCCH is not supported, xx is shown.
e(2)	GPDS	FTD_SB_MAC_PSI_COUNT_HR		R,I,O	The value of PSI_COUNT_HR, range 0-63. If PBCCH is not supported, xx is shown.
f	GPDS	FTD_SB_MAC_PSI_STATUS		R,I,O	The value of PSI_STATUS_IND, range 0-1. If 1, network supports the PACKET PSI_STATUS message. If PBCCH is not supported, x is shown.
g	GSS	FTD_SB_PH_MSCR	B:D	R,I,0	Value of MSCR bit, range 0-1. If 0, MSC is Release ’98 or older, or info not availaible If 1, MSC is Release ’99 onwards
h	GSS	FTD_SB_PH_SGSNR	B:D	R;I;O	Value of SGSNR bit, range 0-1 If 0, SGSN is Release ’98 or older, or info not available If 1, SGSN is Release ’99 onwards
i	GSS	FTD_SB_PH_SI_STATUS_IND	B:D	R;I;O	The value of SI_STATUS_IND, range 0-1. If 1, network supports the PACKET SI_STATUS message. If PBCCH is supported, x is shown.
j	GSS	FTD_SB_PH_EXT_UTBF	B:D	R;I;O	The value of NW_EXT_UTBF, range 0-1. If 1, network supports the extended UL TBF mode (Rel4).
k	GSS	FTD_SB_PH_CCN_ACTIVE	B:D	R;I;O	The value of CCN_ACTIVE, range 0-1. If 1, network supports Cell Change Notification procedures (Rel4)
l	GSS	FTD_SB_PH_PFC_FEATURE_MODE	B:D	R;I;O	The value of PFC_FEATURE_MODE, range 0-1. If 1, network supports packet flow context procedures.

Display 06.08: Cell re-selection parameters (serving cell) (Version: 3.15, Status: Approved)

xx is shown in all fields if MS performs cell re-selections with GSM cell re-selection algorithm, i.e. if PBCCH is not supported and if neither PACKET MEAS ORDER nor PACKET CELL CHANGE ORDER has been received. xx is also shown in a specific field if the value is not available

```
+++++++++++++++++++++++++++
+ Cell re-selection param +
+                         +
+ RXLEV_ACCESS_MIN   a(2) +
+ CELL_RESELECT_HYS  b(2) +
+ RA_RESELECT_HYSTE  c(2) +
+ C31_HYST           d    +
+ C32_QUAL           e    +
+ RANDOM_ACC_RETRY   f    +
+ T_RESEL            g(4) +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(2)	GSS	FTD_SB_GPRS_RXLEV_ACC_MIN		R,I,O	The value of GPRS_RXLEV_ACCESS_MIN, range 0-63.
b(2)	GSS	FTD_SB_GPRS_CELL_RESEL_HYST		R,I,O	The value of GPRS_CELL_RESELECT_HYSTERESIS, range 0-14 [dB].
c(2)	GSS	FTD_SB_RA_RESEL_HYST		R,I,O	The value of RA_RESELECT_HYSTERESIS, range 0-14 [dB].
d	GSS	FTD_SB_C31_HYST		R,I,O	The value of C31_HYST, range 0-1.
e	GSS	FTD_SB_C32_QUAL		R,I,O	The value of C32_QUAL, range 0-1.
f	GSS	FTD_SB_RAND_ACC_RETRY		R,I,O	The value of RANDOM_ACCESS_RETRY, range 0-1.
g(4)	GSS	FTD_SB_T_RESEL		R,I,O	The value of T_RESEL, range 5-300 [seconds].

Display 06.09: GPRS information of the serving cell, 1st, 2nd, and 3rd neighbor (Version: 3.19, Status: Approved)

2. row: serving cell information
4. row: 1. neighbor information
6. row: 2. neighbor information
8. row: 3. neighbor information

xx is shown in all fields if MS performs cell re-selections with GSM cell re-selection algorithm, i.e. if PBCCH is not supported and if neither PACKET MEAS ORDER nor PACKET CELL CHANGE ORDER has been received.

```
+++++++++++++++++++++++++++
+ GPRS Serving cell info  +
+ CH:    Rx:    PRI:  C32:+
+ aaa    bbb     c    ddd +
+ 1. Neighbor  info       +
+ eee    fff     g    hhh +
+ 2. Neighbor  info       +
+ iii    jjj     k    lll +
+ 3. Neighbor  info       +
+ mmm    nnn     o    ppp +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	GSS	FTD_SB_GPRS_CARRIER_SERV		R,I,O	Carrier number in decimal.
b(3)	GSS	FTD_SB_GPRS_RX_LEVEL_SERV		R,I,O	Rx level in dBm, minus sign not shown if <=-100.
c	GSS	FTD_SB_PRIOR_CLASS_SERV		R,I,O	PRIORITY_CLASS, range 0-7. Shown only when C31>=0, otherwise left empty. If HCS parameters

					are not available (optional), x is shown.
d(3)	GSS	FTD_SB_C32_SERV		R,I,O	C32 value. For the serving cell, C32 equals C1. The neighbours are sorted first based on the priority class (biggest priority on top). Within each priority class the neighbours are sorted based on C32 value. The neighbors are sorted based on only C32, if all the C31 values are negative (c-fields empty) or if priorities are not available (x shown in c-fields).
e(3)	GSS	FTD_SB_GPRS_CARRIER_1_NEIGH		R,I,O	Carrier number in decimal.
f(3)	GSS	FTD_SB_GPRS_RX_LEVEL_1_NEIGH		R,I,O	Rx level in dBm, minus sign not shown if <=-100.
g	GSS	FTD_SB_PRIOR_CLASS_1_NEIGH		R,I,O	PRIORITY_CLASS, range 0-7. Shown only when C31>=0, otherwise left empty. If HCS parameters are not available (optional), x is shown.
h(3)	GSS	FTD_SB_C32_1_NEIGH		R,I,O	C32 value. For the serving cell, C32 equals C1. The neighbours are sorted first based on the priority class (biggest priority on top). Within each priority class the neighbours are sorted based on C32 value. The neighbors are sorted based on only C32, if all the C31 values are negative (c-fields empty) or if priorities are not available (x shown in c-fields).
i(3)	GSS	FTD_SB_GPRS_CARRIER_2_NEIGH		R,I,O	Carrier number in decimal.
j(3)	GSS	FTD_SB_GPRS_RX_LEVEL_2_NEIGH		R,I,O	Rx level in dBm, minus sign not shown if <=-100.
k	GSS	FTD_SB_PRIOR_CLASS_2_NEIGH		R,I,O	PRIORITY_CLASS, range 0-7. Shown only when C31>=0, otherwise left empty. If HCS parameters are not available (optional), x is shown.
l(3)	GSS	FTD_SB_C32_2_NEIGH		R,I,O	C32 value. For the serving cell, C32 equals C1. The neighbours are sorted first based on the priority class (biggest priority on top). Within each priority class the neighbours are sorted based on C32 value. The neighbors are sorted based on only C32, if all the C31 values are negative (c-fields empty) or if priorities are not available (x shown in c-fields).
m(3)	GSS	FTD_SB_GPRS_CARRIER_3_NEIGH		R,I,O	Carrier number in decimal.
n(3)	GSS	FTD_SB_GPRS_RX_LEVEL_3_NEIGH		R,I,O	Rx level in dBm, minus sign not shown if <=-100.
o	GSS	FTD_SB_PRIOR_CLASS_3_NEIGH		R,I,O	PRIORITY_CLASS, range 0-7. Shown only when C31>=0, otherwise left empty. If HCS parameters are not available (optional), x is shown.
p(3)	GSS	FTD_SB_C32_3_NEIGH		R,I,O	C32 value. For the serving cell, C32 equals C1. The neighbours are sorted first based on the priority class (biggest priority on top). Within each priority class the neighbours are sorted based on C32 value. The neighbors are sorted based on only C32, if all the C31 values are negative (c-fields empty) or if priorities are not available (x shown in c-fields).

Display 06.10: GPRS information of the 4th,5th and 6th neighbor (Version: 3.15, Status: Approved)

2. row: 4. neighbor information
4. row: 5. neighbor information
6. row: 6. neighbor information

xx is shown in all fields if MS performs cell re-selections with GSM cell re-selection algorithm, i.e. if PBCCH is not supported and if neither PACKET MEAS ORDER nor PACKET CELL CHANGE ORDER has been received.

```
++++++++++++++++++++++++++
+                        +
+ 4. Neighbor  info      +
+ CH:    Rx:    PRI:  C32:+
+ aaa    bbb     c    ddd +
+ 5. Neighbor  info      +
+ eee    fff     g    hhh +
+ 6. Neighbor  info      +
+ iii    jjj     k    lll +
+                        +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	GSS	FTD_SB_GPRS_CARRIER_4_NEIGH		R,I,O	Carrier number in decimal.
b(3)	GSS	FTD_SB_GPRS_RX_LEVEL_4_NEIGH		R,I,O	Rx level in dBm, minus sign not shown if <=-100.
c	GSS	FTD_SB_PRIOR_CLASS_4_NEIGH		R,I,O	PRIORITY_CLASS, range 0-7. Shown only when C31>=0, otherwise left empty. If HCS parameters are not available (optional), x is shown.
d(3)	GSS	FTD_SB_C32_4_NEIGH		R,I,O	C32 value. The neighbours are sorted first based on the priority class (biggest priority on top). Within each priority class the neighbours are sorted based on C32 value. The neighbors are sorted based on only C32, if all the C31 values are negative (c-fields empty) or if priorities are not available (x shown in c-fields).
e(3)	GSS	FTD_SB_GPRS_CARRIER_5_NEIGH		R,I,O	Carrier number in decimal.
f(3)	GSS	FTD_SB_GPRS_RX_LEVEL_5_NEIGH		R,I,O	Rx level in dBm, minus sign not shown if <=-100.
g	GSS	FTD_SB_PRIOR_CLASS_5_NEIGH		R,I,O	PRIORITY_CLASS, range 0-7. Shown only when C31>=0, otherwise left empty. If HCS parameters are not available (optional), x is shown.
h(3)	GSS	FTD_SB_C32_5_NEIGH		R,I,O	C32 value. The neighbours are sorted first based on the priority class (biggest priority on top). Within each priority class the neighbours are sorted based on C32 value. The neighbors are sorted based on only C32, if all the C31

					values are negative (c-fields empty) or if priorities are not available (x shown in c-fields).
i(3)	GSS	FTD_SB_GPRS_CARRIER_6_NEIGH		R,I,O	Carrier number in decimal.
j(3)	GSS	FTD_SB_GPRS_RX_LEVEL_6_NEIGH		R,I,O	Rx level in dBm, minus sign not shown if <=-100.
k	GSS	FTD_SB_PRIOR_CLASS_6_NEIGH		R,I,O	PRIORITY_CLASS, range 0-7. Shown only when C31>=0, otherwise left empty. If HCS parameters are not available (optional), x is shown.
l(3)	GSS	FTD_SB_C32_6_NEIGH		R,I,O	C32 value. The neighbours are sorted first based on the priority class (biggest priority on top). Within each priority class the neighbours are sorted based on C32 value. The neighbors are sorted based on only C32, if all the C31 values are negative (c-fields empty) or if priorities are not available (x shown in c-fields).

Display 06.11: GPRS information of the serving cell and 6 neighbors (Version: 3.16, Status: Approved)

1. row: serving cell information
2. row: 1. neighbor on the left, 4. neighbor on the right
3. row: 2. neighbor on the left, 5. neighbor on the right
4. row: 3. neighbor on the left, 6. neighbor on the right

xx is shown in all fields if MS performs cell re-selections with GSM cell re-selection algorithm, i.e. if PBCCH is not supported and if neither PACKET MEAS ORDER nor PACKET CELL CHANGE ORDER has been received.

```
++++++++++++++++++++++++++
+ Serving cell  a   c   d +
+ 1. neighbor   b   c   d +
+ 2. neighbor   b   c   d +
+ 3. neighbor   b   c   d +
+ 4. neighbor   b   c   d +
+ 5. neighbor   b   c   d +
+ 6. neighbor   b   c   d +
+  a=MS READY  b=Same RA  +
+  c=CELL_BAR  d=EXC_ACC  +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
Display row 1: serving cell information					
a	GSS	FTD_SB_GMM_STATE		R,I,O	R if MS is in READY state and therefore applies hysteresis for cell re-selection.
c	GSS	FTD_SB_CELL_BAR_ACC_2		R,I,O	The value of CELL_BAR_ACCESS_2. x is shown if PBCCH is not supported.

d	GSS	FTD_SB_EXC_ACC		R,I,O	The value of EXC_ACC. x is shown if PBCCH is not supported.
Display row 2, left side: 1st neighbor					
b	GSS	FTD_SB_SAME_RA_AS_SRV_CELL_1_NEIGH		R,I,O	The value of SAME_RA_AS_SERVING_CELL: 1: cell belongs to the same routing area as the serving cell 0: cell belongs to the different routing area as the serving cell
c	GSS	FTD_SB_CELL_BAR_ACC_2_1_NEIGH		R,I,O	The value of CELL_BAR_ACCESS_2. x is shown if PBCCH is not supported.
d	GSS	FTD_SB_EXC_ACC_1_NEIGH		R,I,O	The value of EXC_ACC. x is shown if PBCCH is not supported.
Display row 3, left side: 2nd neighbor					
b	GSS	FTD_SB_SAME_RA_AS_SRV_CELL_2_NEIGH		R,I,O	The value of SAME_RA_AS_SERVING_CELL: 1: cell belongs to the same routing area as the serving cell 0: cell belongs to the different routing area as the serving cell
c	GSS	FTD_SB_CELL_BAR_ACC_2_2_NEIGH		R,I,O	The value of CELL_BAR_ACCESS_2. x is shown if PBCCH is not supported.
d	GSS	FTD_SB_EXC_ACC_2_NEIGH		R,I,O	The value of EXC_ACC. x is shown if PBCCH is not supported.
Display row 4, right side: 3rd neighbor					
b	GSS	FTD_SB_SAME_RA_AS_SRV_CELL_3_NEIGH		R,I,O	The value of SAME_RA_AS_SERVING_CELL: 1: cell belongs to the same routing area as the serving cell 0: cell belongs to the different routing area as the serving cell
c	GSS	FTD_SB_CELL_BAR_ACC_2_3_NEIGH		R,I,O	The value of CELL_BAR_ACCESS_2. x is shown if PBCCH is not supported.
d	GSS	FTD_SB_EXC_ACC_3_NEIGH		R,I,O	The value of EXC_ACC. x is shown if PBCCH is not supported.
Display row 2, right side: 4th neighbor					
b	GSS	FTD_SB_SAME_RA_AS_SRV_CELL_4_NEIGH		R,I,O	The value of SAME_RA_AS_SERVING_CELL: 1: cell belongs to the same routing area as the serving cell 0: cell belongs to the different routing area as the serving cell
c	GSS	FTD_SB_CELL_BAR_ACC_2_4_NEIGH		R,I,O	The value of CELL_BAR_ACCESS_2. x is shown if PBCCH is not supported.
d	GSS	FTD_SB_EXC_ACC_4_NEIGH		R,I,O	The value of EXC_ACC. x is shown if PBCCH is not supported.
Display row 3, right side: 5th neighbor					
b	GSS	FTD_SB_SAME_RA_AS_SRV_CE		R,I,O	The value of SAME_RA_AS_SERVING_CELL: 1: cell belongs to the same routing area as the serving cell 0: cell belongs to the different routing area as the serving

		LL_5_NEIGH			cell
c	GSS	FTD_SB_CELL_BAR_ACC_2_5_NEIGH		R,I,O	The value of CELL_BAR_ACCESS_2. x is shown if PBCCH is not supported.
d	GSS	FTD_SB_EXC_ACC_5_NEIGH		R,I,O	The value of EXC_ACC. x is shown if PBCCH is not supported.
Display row 4, right side: 6th neighbor					
b	GSS	FTD_SB_SAME_RA_AS_SRV_CELL_6_NEIGH		R,I,O	The value of SAME_RA_AS_SERVING_CELL: 1: cell belongs to the same routing area as the serving cell 0: cell belongs to the different routing area as the serving cell
c	GSS	FTD_SB_CELL_BAR_ACC_2_6_NEIGH		R,I,O	The value of CELL_BAR_ACCESS_2. x is shown if PBCCH is not supported.
d	GSS	FTD_SB_EXC_ACC_6_NEIGH		R,I,O	The value of EXC_ACC. x is shown if PBCCH is not supported.

Display 06.12: EGPRS specific parameters (Version: 3.24, Status: Approved)

```
++++++++++++++++++++++++++
+    EGPRS parameters    +
+                        +
+ EDGE Supported      a  +
+ Packet Channel         +
+ request supported   b  +
+ BEP period or          +
+ Bep period2       c(2) +
+ Used link qual         +
+ measurement mode   d(2) +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a	GSS	FTD_SB_EGPRS_SUPPORT	B:D	R,I,O	1=EGPRS supported in cell; 0=not supported
b	GSS	FTD_SB_EGPRS_PACKET CHANNEL _REQUEST	B:D	R,I,O	1=EGPRS packet channel request supported in cell; 0=not supported
c(2)	GSS	FTD_SB_EGPRS_BEP_PER	B:H	R,I,O	BEP_PERIOD, or BEP_PERIOD2 when received
d(2)	GPDS	FTD_SB_EGPRS_LQ_MEAS_MODE	?	R,I,O	Used link quality measurement mode

Display 06.13: EGPRS BEP parameters (Version: 5.0, Status: Approved)

```
++++++++++++++++++++++++++
+    EGPRS BEP parameters +
+                        +
+ GMSK Bit error         +
+ probapility        a   +
+ 8-PSK Bit error       +
+ probapility        b   +
+ GMSK Bit error        +
+ variation        c(2)  +
+ 8-PSK Bit error       +
+ variation        d(2)  +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(2)	GPDS	FTD_SB_EGPRS_BEP_MEAN_GPSK	B:D	R	This field contains the mean value of the Bit Error Probability of the channel averaged over all time slots in the TBF for GMSK, refer to 3GPP TS 05.08. Range 0-31
b	GPDS	FTD_SB_EGPRS_BEP_CV_GPSK	B:D	R	This field contains the mean value of the Bit Error Probability of the channel averaged over all time slots in the TBF for 8 PSK, refer to 3GPP TS 05.08. Range 0-7
c(2)	GPDS	FTD_SB_EGPRS_BEP_MEAN_8PSK	B:D	R	This field contains the variation co-efficient for the Bit Error Probability averaged over all time slots of the TBF for GMSK, refer to 3GPP TS 05.08. Range 0-31
d	GPDS	FTD_SB_EGPRS_BEP_CV_8PSK	B:D	R	This field contains the variation co-efficient for the Bit Error Probability averaged over all time slots of the TBF for 8 PSK, refer to 3GPP TS 05.08. Range 0-7

Group 07: GPRS Data protocol displays

Display 07.01: Information of the first active PDP context (Version: 3.22, Status: Approved)

If no PDP context is active, xx is shown in all fields. In 2G/3G products, xx is shown in all fields except NSAPI and SAPI.

```
++++++++++++++++++++++++++
+ 1. active PDP context   +
+                         +
+ NSAPI / SAPI   a(2) b   +
+ Relia / Delay  c    d   +
+ Prece / peak   e    f   +
+ Mean  / prior  g(2) h   +
+ VanJac/V.42bis i    j   +
+ PDP addr of PDP context +
+     k(3).l(3).m(3).n(3) +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aa	GPDS	FTD_SB_GPDS_NSAPI_1		R,I,O	NSAPI of the PDP context, range 5-15.
b	GPDS	FTD_SB_GPDS_SAPI_1		R,I,O	SAPI of the PDP context: 3,5,9 or B (=11)
c	GPDS	FTD_SB_SN_RELC_1		R,I,O	The negotiated reliability class of the PDP context, range 1-5.
d	GPDS	FTD_SB_SN_DELC_1		R,I,O	The negotiated delay class of the PDP context, range 1-4.
e	GPDS	FTD_SB_SN_PREC_1		R,I,O	The negotiated precedence class of the PDP context, range 1-3
f	GPDS	FTD_SB_SN_PTPC_1		R,I,O	The negotiated peak throughput, range 1-9.
gg	GPDS	FTD_SB_SN_MTPC_1		R,I,O	The negotiated mean throughput, range 1-18 or B (=best effort).
h	GPDS	FTD_SB_SN_RPRI_1		R,I,O	The radio priority of the PDP context, range 1-4.
i	GPDS	FTD_SB_SN_HCOMP_1		R,I,O	P if protocol compression (VanJacobsen) isnegotiated to be usedotherwise empty.
j	GPDS	FTD_SB_SN_DCOMP_1		R,I,O	D if data compression (V.42bis) is negotiated to be used otherwise empty.
kkk	GPDS	FTD_SB_GPDS_PDP_ADDRESS_1_1		R,I,O	The PDP address of the PDP context, part 1. Format IPv4 address.
lll	GPDS	FTD_SB_GPDS_PDP_ADDRESS_1_2		R,I,O	The PDP address of the PDP context, part 2. Format IPv4 address.
mmm	GPDS	FTD_SB_GPDS_PDP_ADDRESS_1_3		R,I,O	The PDP address of the PDP context, part 3. Format IPv4 address.
nnn	GPDS	FTD_SB_GPDS_PDP_ADDRESS_1_4		R,I,O	The PDP address of the PDP context, part 4. Format IPv4 address.

Display 07.02: Information of the second active PDP context (Version: 3.22, Status: Approved)

If no PDP context is active, xx is shown in all fields. In 2G/3G products, xx is shown in all fields except NSAPI and SAPI.

```
++++++++++++++++++++++++++
+ 2. active PDP context   +
+                         +
+ NSAPI / SAPI   a(2) b   +
+ Relia / Delay  c    d   +
+ Prece / peak   e    f   +
+ Mean  / prior  g(2) h   +
+ VanJac/V.42bis i    j   +
+ PDP addr of PDP context +
+     k(3).l(3).m(3).n(3) +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aa	GPDS	FTD_SB_GPDS_NSAPI_2		R,I,O	NSAPI of the PDP context, range 5-15.
b	GPDS	FTD_SB_GPDS_SAPI_2		R,I,O	SAPI of the PDP context: 3,5,9 or B (=11)
c	GPDS	FTD_SB_SN_RELC_2		R,I,O	The negotiated reliability class of the PDP context, range 1-5.
d	GPDS	FTD_SB_SN_DELC_2		R,I,O	The negotiated delay class of the PDP context, range 1-4.
e	GPDS	FTD_SB_SN_PREC_2		R,I,O	The negotiated precedence class of the PDP context, range 1-3
f	GPDS	FTD_SB_SN_PTPC_2		R,I,O	The negotiated peak throughput, range 1-9.
gg	GPDS	FTD_SB_SN_MTPC_2		R,I,O	The negotiated mean throughput, range 1-18 or B (=best effort).
h	GPDS	FTD_SB_SN_RPRI_2		R,I,O	The radio priority of the PDP context, range 1-4.
i	GPDS	FTD_SB_SN_HCOMP_2		R,I,O	P if protocol compression (VanJacobsen) is negotiated to be used otherwise empty.
j	GPDS	FTD_SB_SN_DCOMP_2		R,I,O	D if data compression (V.42bis) is negotiated to be used otherwise empty.
kkk	GPDS	FTD_SB_GPDS_PDP_ADDRESS_2_1		R,I,O	The PDP address of the PDP context, part 1. Format IPv4 address.
lll	GPDS	FTD_SB_GPDS_PDP_ADDRESS_2_1		R,I,O	The PDP address of the PDP context, part 2. Format IPv4 address.
mmm	GPDS	FTD_SB_GPDS_PDP_ADDRESS_2_3		R,I,O	The PDP address of the PDP context, part 3. Format IPv4 address.
nnn	GPDS	FTD_SB_GPDS_PDP_ADDRESS_2_4		R,I,O	The PDP address of the PDP context, part 4. Format IPv4 address.

Display 07.03: Information of the RLC state (Version: 1, Status: Approved)

If no TBF is active, xx is shown in all fields.

```
++++++++++++++++++++++++++
+ RLC state information   +
+ Downlink TS   a         +
+ Coding scheme b         +
+ RLC mode down c(c)      +
+ Uplink TS     d         +
+ Coding scheme e         +
+ RLC mode up   f(4)      +
+ UL TBF        g(g)      +
+ N3102 state   i(2)      +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a	GPDS	FTD_SB_RLC_DL_SLOTS		R,I,O	Downlink time slot count, range 1-8. If no downlink TBF is active, x is shown.
b	GPDS	FTD_SB_RLC_DL_CH_CODE		R,I,O	Channel coding scheme in downlink direction, range 1-4. If no downlink TBF is active, x is shown.
cccc	GPDS	FTD_SB_RLC_DL_MODE		R,I,O	RLC mode in downlink direction. If no downlink TBF is active, xxxxx is shown. ACK: RLC in acknowledged mode UNAC: RLC in unacknowledged mode
d	GPDS	FTD_SB_RLC_UL_SLOTS		R,I,O	Upink time slot count, range 1-8. If no upink TBF is active, x is shown.
e	GPDS	FTD_SB_RLC_UL_CH_CODE		R,I,O	Channel coding scheme in uplink direction, range 1-4. If no uplink TBF is active, x is shown.
ffff	GPDS	FTD_SB_RLC_UL_MODE		R,I,O	RLC mode in uplink direction. If no uplink TBF is active, xxxx is shown. ACK: RLC in acknowledged mode UNAC: RLC in unacknowledged mode
ggggg	GPDS	FTD_SB_RLC_ENDING_MODE		R,I,O	xxxxx when no UL TBF is active CLOSE when UL TBF is close-ended TBF OPEN when UL TBF is open-ended TBF
ii	GPDS	FTD_SB_RLC_N3102		R,I,O	The state of N3102 counter, range 0-PAN_MAX (negative values are also shown as 0). If the counter is disabled, x is shown.

Display 07.04: RLC parameters (Version: 1, Status: Approved)

xx is shown in the fields when the values are not available (e.g. no GPRS support in the cell, no GPRS attach performed).

```
++++++++++++++++++++++++++
+ RLC parameters          +
+                         +
+ T3192 timer    a(2)     +
+ BS_CV_MAX      c(2)     +
+ PAN_DEC        d        +
+ PAN_INC        e        +
+ PAN_MAX        f(f)     +
+                         +
+                         +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aa	GPDS	FTD_SB_RLC_T3192		R,I,O	The value of T3192 timer, range 0-7, corresponding 0.5s, 1s,…, 4s.
Bb	GPDS	FTD_SB_RLC_BS_CV_MAX		R,I,O	The value of BS_CV_MAX, range 1-15. Tells how many radio block periods the countdown procedure lasts in the end of UL TBF.
c	GPDS	FTD_SB_RLC_PAN_DEC		R,I,O	The value of PAN_DEC, range 0-7. If PAN_DEC and PAN_INC are equal to 0, N3102 counter is disabled.
d	GPDS	FTD_SB_RLC_PAN_INC		R,I,O	The value of PAN_INC, range 0-7. If PAN_DEC and PAN_INC are equal to 0, N3102 counter is disabled.
ee	GPDS	FTD_SB_RLC_PAN_MAX		R,I,O	The value of PAN_MAX, range 4-32.

Display 07.05: RLC data block counters (Version: 1, Status: Approved)

```
++++++++++++++++++++++++++
+ RLC data block counters +
+                         +
+ Received blocks    b(4) +
+ Sent blocks        d(4) +
+ Missing DL blocks  f(4) +
+ Req retrans uplink h(4) +
+                         +
+                         +
+                         +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
bbbb	GPDS	FTD_SB_RLC_BLOCKS_RECV		R,I,O	Counter for received RLC data blocks
dddd	GPDS	FTD_SB_RLC_BLOCKS_SENT		R,I,O	Counter for sent RLC data blocks
ffff	GPDS	FTD_SB_RLC_BLOCKS_MISS		R,I,O	Counter for detected missing downlink data blocks
hhhh	GPDS	FTD_SB_RLC_BLOCKS_RESENT		R,I,O	Counter for requested re-transmissions of the uplink RLC data blocks

Display 07.06: LLC data block counters (Version: 1, Status: Approved)

```
+++++++++++++++++++++++++
+ LLC data block counters +
+                        +
+ Received               +
+ PDU'S          bbbb    +
+ Sent PDU's     dddd    +
+ Missing                +
+ downl PDU's    ffff    +
+ Re-trans               +
+ uplink PDU'S   hhhh    +
+++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
bbbb	GPDS	FTD_SB_LLC_PDU_RECV		R,I,O	Counter for received LLC PDUs
dddd	GPDS	FTD_SB_LLC_PDU_SENT		R,I,O	Counter for sent LLC PDUs
ffff	GPDS	FTD_SB_LLC_PDU_MISS		R,I,O	Counter for detected missing or erroneous?? downlink LLC PDUs
hhhh	GPDS	FTD_SB_LLC_PDU_RESENT		R,I,O	Counter for re-transmitted uplink LLC PDUs

Display 07.07: LLC Ciphering parameters (Version: 1, Status: Approved)

```
++++++++++++++++++++++++++
+ LLC ciphering parameters+
+                        +
+ LSB of Kc      a(8)    +
+ MSB of Kc      b(8)    +
+ UL overflow I  c(4)    +
+ DL overflow I  d(4)    +
+ UL overflow UI e(4)    +
+ DL overflow UI f(4)    +
+                        +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aaaaaaaa	GPDS	FTD_SB_LLC_KC1		R,I,O	LSB of Kc (bits 0-31) in hex format
bbbbbbbb	GPDS	FTD_SB_LLC_KC2		R,I,O	MSB of Kc (bits 32-63) in hex format
cccc	GPDS	FTD_SB_LLC_OC_I_UL		R,I,O	Uplink overflow counter for I frames
dddd	GPDS	FTD_SB_LLC_OC_I_DL		R,I,O	Downlink overflow counter for I frames
eeee	GPDS	FTD_SB_LLC_OC_UI_UL		R,I,O	Uplink overflow counter for UI frames
ffff	GPDS	FTD_SB_LLC_OC_UI_DL		R,I,O	Downlink overflow counter for UI frames

Display 07.08: LLC parameters of the first SAPI (Version: 1, Status: Approved)

xx is shown in all fields if there is no LLC SAPIs activated?

```
+++++++++++++++++++++++++++
+ LLC parameters 1. SAPI  +
+                         +
+ SAPI           a(2)     +
+ N201-I         b(4)     +
+ N201-U         c(4)     +
+ N200 / T200    d(2) e(4) +
+ kU   / kD      f(3) g(3) +
+ mU             h(5)     +
+ mD             I(5)     +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aa	GPDS	FTD_SB_GPDS_SAPI_1		R,I,O	The SAPI identity: 3,5,9 or 11.
bbbb	GPDS	FTD_SB_LLC_N201_I_1		R,I,O	The value of N201-I (maximum information field for I frames), range 140-1520.
cccc	GPDS	FTD_SB_LLC_N201_U_1		R,I,O	The value of N201-U (maximum information field for U and UI frames), range 140-1520.
dd	GPDS	FTD_SB_LLC_N200_1		R,I,O	The value of N200 (maximum number of retransmissions), range 1-15.
eeee	GPDS	FTD_SB_LLC_T200_1		R,I,O	The value of T200 (retransmission timeout), range 1-4095.
fff	GPDS	FTD_SB_LLC_KU_1		R,I,O	The value of kU (uplink window size), range 1-255.
ggg	GPDS	FTD_SB_LLC_KD_1		R,I,O	The value of kD (downlink window size), range 1-255.

Display 07.09: LLC parameters of the second SAPI (Version: 1, Status: Approved)

xx is shown in all fields if there is no LLC SAPIs activated.

```
+++++++++++++++++++++++++++
+ LLC parameters 2. SAPI   +
+                          +
+ SAPI           a(2)      +
+ N201-I         b(4)      +
+ N201-U         c(4)      +
+ N200 / T200    d(2) e(4) +
+ kU   / kD      f(3) g(3) +
+ mU             h(5)      +
+ mD             I(5)      +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aa	GPDS	FTD_SB_GPDS_SAPI_2		R,I,O	The SAPI identity: 3,5,9 or 11.
bbbb	GPDS	FTD_SB_LLC_N201_I_2		R,I,O	The value of N201-I (maximum information field for I frames), range 140-1520.
cccc	GPDS	FTD_SB_LLC_N201_U_2		R,I,O	The value of N201-U (maximum information field for U and UI frames), range 140-1520.
dd	GPDS	FTD_SB_LLC_N200_2		R,I,O	The value of N200 (maximum number of retransmissions), range 1-15.
eeee	GPDS	FTD_SB_LLC_T200_2		R,I,O	The value of T200 (retransmission timeout), range 1-4095.
fff	GPDS	FTD_SB_LLC_KU_2		R,I,O	The value of kU (uplink window size), range 1-255.
ggg	GPDS	FTD_SB_LLC_KD_2		R,I,O	The value of kD (downlink window size), range 1-255.

Display 07.10: SNDC Data counters (Version: 1, Status: Approved)

```
+++++++++++++++++++++++++++
+ SNDC data counters       +
+                          +
+ Received NPDU's    b(4)  +
+ Sent NPDU's        d(4)  +
+ Aborted NPDU       f(4)  +
+ Resent NPDU's      h(4)  +
+                          +
+                          +
+                          +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
bbbb	GPDS	FTD_SB_SN_NPDU_RECV		R,I,O	Counter for received NPDUs
dddd	GPDS	FTD_SB_SN_NPDU_SENT		R,I,O	Counter for sent NPDUs
ffff	GPDS	FTD_SB_SN_NPDU_ABORT		R,I,O	Counter for aborted NPDU receptions
hhhh	GPDS	FTD_SB_SN_NPDU_RESENT		R,I,O	Counter for resent NPDUs

Display 07.11: PPP information (Version: 1, Status: Approved)

```
++++++++++++++++++++++++++
+ PPP information         +
+                         +
+ PPP HDLC FCS failures   +
+          bbbb           +
+ PPP max receive unit    +
+          dddd           +
+ PPP max transmit unit   +
+          ffff           +
+                         +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
bbbb	GPDS	FTD_SB_PDI_FCS_FAIL		R,I,O	Counter for PPP HDLC FCS failures
dddd	GPDS	FTD_SB_PDI_MRU		R,I,O	Negotiated PPP Maximum Receive Unit Value.
ffff	GPDS	FTD_SB_PDI_MTU		R,I,O	Negotiated PPP Maximum Transmit Unit Value.

Display 07.12: ERLC Data information_1 (Version: 3.32, Status: Approved)

```
++++++++++++++++++++++++++
+ ERLC Data information 1 +
+                         +
+ Used MCS UL       B(4)  +
+                         +
+ Used MCS DL       d(4)  +
+                         +
+ Resegmentation bit f    +
+                         +
+ Pre-emptive bit    h    +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
b(4)	GPDS	FTD_SB_ERLC_MCS_UPLINK	S	R,I,O	Used MCS for uplink. Coding 1,2,3,4,5,6,7,8,9,3P,6P
d(4)	GPDS	FTD_SB_ERLC_MSC_DOWNLINK	S	R,I,O	Used MCS for downlink Coding 1,2,3,4,5,6,7,8,9,3P,6P
f	GPDS	FTD_SB_ERLC_RESEGMENT_BIT		R,I,O	Value of resegmentation bit
h	GPDS	FTD_SB_ERLC_PRE_EMPTIVE		R,I,O	Value of pre-emptive transmission bit

Display 07.13: ERLC Data information_2 (Version: 3.12, Status: Approved)

```
++++++++++++++++++++++++++
+ ERLC Data information 2 +
+                        +
+ Used window size for UL +
+          b(5)          +
+                        +
+                        +
+ Used window size for UL +
+          d(5)          +
+                        +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
bbbbb	GPDS	FTD_SB_ERLC_WINDOW_UPLINK		R,I,O	Used window size for uplink
ddddd	GPDS	FTD_SB_ERLC_WINDOW_DOWNLIN		R,I,O	Used window size for downlink

Display 07.14: ERLC Data counters (Version: 3.12, Status: Approved)

```
++++++++++++++++++++++++++
+ ERLC Data counters      +
+                        +
+ MS out of memory counter+
+          b(5)          +
+                        +
+                        +
+ MCS changes during TBF  +
+          d(5)          +
+                        +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
b(5)	GPDS	FTD_SB_ERLC_MS_OUT_OF_MEM		R,I,O	MS_OUT_OF_MEMORY counter
d(5)	GPDS	FTD_SB_ERLC_LINK_ADAPTATIONS		R,I,O	Number of MCS changes during TBF

Display 07.15: System status (Version: 5.0, Status: Approved)

In 2G only products, xx is shown in all counter fields.

```
++++++++++++++++++++++++++
+      System status      +
+                         +
+ System status     a(2)  +
+ SMS sig req       b(5)  +
+ Data serv req     c(5)  +
+ GSM serv req      d(5)  +
+ Inter-sys HO      e(5)  +
+ Active PDP        f(2)  +
+ Active CID        h(12) +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(2)	GPDS	FTD_SB_GPDS_ATT_AND_PDP	S	R,I,O	Status of the system: G if GSM, GP if attached to GSM and PDP context created, U if UMTS, UP if attached to UMTS and PDP context created, empty if not attached.
b(5)	GPDS	FTD_SB_GPDS_MSL_SMS_SERV_REQ_COUNTER	W:D	R,I,O	Counter for SMS signalling service requests.
c(5)	GPDS	FTD_SB_GPDS_MSL_DATA_SERV_REQ_COUNTER	W:D	R,I,O	Counter for data service requests.
d(5)	GPDS	FTD_SB_GPDS_MSL_GSM_SERV_REQ_COUNTER	W:D	R,I,O	Counter for GSM service requests.
e(5)	GPDS	FTD_SB_GPDS_MSL_INTSYS_HO_COUNTER	W:D	R,I,O	Counter for inter-system handovers.
f(2)	GPDS	FTD_SB_GPDS_CONTEXT_COUNT	B:D	R,I,O	Number of active PDP contexts, range 0-10.
h(12)	GPDS	FTD_SB_GPDS_ACTIVE_CIDS	S	R,I,O	Active CIDs (6 first) after each other, range 0-10 for each. Example when 4 active PDP contexts: “ 0 1 2 3”.

Display 07.16: Information of the selected PDP context (Version: 5.0, Status: Approved)

To change PDP context, perform following steps:

1. Press the Options button.
2. Select Change PDP context
3. Press the Select button.
4. “INPUT” prompt will be shown on the display, enter the PDP context identifier (CID) in display.
5. Confirm with the Ok button.

If change succeeded, the new PDP context information is displayed. If no PDP context is active, xx is shown in all fields. In 2G only products, xx is shown in most of the fields.

```
++++++++++++++++++++++++++
+ PDP context information +
+ Change PDP use options  +
+ CID / SAPI     a(2) b(2)+
+ NSAPI / be id  c(2) d(2)+
+ Flow id/Pr lev e(3) f   +
+ H Comp/D comp  g    h   +
+ PDP context address     +
+   I(3).j(3).k(3).l(3)   +
+ Primary CID    m(2)     +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	GPDS	FTD_SB_GPDS_CHANGE_CONTEXT	DW : D	R,I,O	Context identifier (CID), range 0-10.
a(2)	GPDS	FTD_SB_GPDS_CID	B:D	R,I,O	CID of the PDP context, range 0-10.
b(2)	GPDS	FTD_SB_GPDS_SAPI	B:D	R,I,O	SAPI of the PDP context: 1,3,5,7,9 or 11.
c(2)	GPDS	FTD_SB_GPDS_NSAPI	B:D	R,I,O	NSAPI of the PDP context, range 5-15.
d(2)	GPDS	FTD_SB_GPDS_MSL_RBID	B:D	R,I,O	The radio bearer ID of the PDP context, range 5-32.
e(3)	GPDS	FTD_SB_GPDS_MSL_PFID	B:D	R,I,O	The packet flow ID of the PDP context, range 0-127.
f	GPDS	FTD_SB_GPDS_MSL_RPRI	B:D	R,I,O	Radio priority level of the corresponding NSAPI, range 1-4.
g	GPDS	FTD_SB_GPDS_MSL_HCOMP	S	R,I,O	Header compression to be used: V - VanJacobsen (RFC1144), D - Degermark (RFC2507), R - RoHC (RFC3095), otherwise 'x' is shown.
h	GPDS	FTD_SB_GPDS_MSL_DCOMP	S	R,I,O	Data compression to be used: 2 - V.42bis 4 - V.44, otherwise 'x' is shown.
i(3)	GPDS	FTD_SB_GPDS_PDP_ADDRESS_V4_1	B:D	R,I,O	First byte of the PDP address in IPv4 format. If IPv6 is used 'xxx' is shown.
j(3)	GPDS	FTD_SB_GPDS_PDP_ADDRESS_V4_2	B:D	R,I,O	Second byte of the PDP address in IPv4 format. If IPv6 is used 'xxx' is shown.
k(3)	GPDS	FTD_SB_GPDS_PDP_ADDRESS_V4_3	B:D	R,I,O	Third byte of the PDP address in IPv4 format. If IPv6 is used 'xxx' is shown.
l(3)	GPDS	FTD_SB_GPDS_PDP_ADDRESS_V4_4	B:D	R,I,O	Last byte of the PDP address in IPv4 format. If IPv6 is used 'xxx' is shown.
m(2)	GPDS	FTD_SB_GPDS_RELATED PRIM_CID	B:D	R,I,O	Empty if primary context. CID of the related primary PDP context, range 0-10, if secondary context.

Display 07.17: QoS of the selected PDP context 1 (Version: Charlie spec)

To change PDP context, perform following steps:

1. Press the Options button.
2. Select Change PDP context
3. Press the Select button.
4. “INPUT” prompt will be shown on the display, enter the PDP context identifier (CID) in display.
5. Confirm with the Ok button.

If change succeeded, the new QoS information is displayed. If no PDP context is active, xx is shown in all fields.

```
++++++++++++++++++++++++++
+  PDP context QoS info 1 +
+ Context ID         a(2) +
+ Trafic class      b    +
+ Erroneous SDU     c    +
+ Delivery order    d    +
+ Max SDU size      e(3) +
+ Bit error rate    f    +
+ SDU error rate    g    +
+ Max bit UL/ DL h(3) I(3)+
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	For mat	Mode	Description
INPUT	GPDS	FTD_SB_GPDS_CHANGE_CONTEXT	DW : D	R,I,O	Context identifier (CID), range 0-10.
a(2)	GPDS	FTD_SB_GPDS_CID	B:D	R,I,O	CID of the PDP context, range 0-10.
b	GPDS	FTD_SB_GPDS_SM_TRAC	B:D	R,I,O	The traffic class, range 1-4.
c	GPDS	FTD_SB_GPDS_SM_DOES	B:D	R,I,O	The delivery of the erroneous SDUs, range 1-3.
d	GPDS	FTD_SB_GPDS_SM_DELO	B:D	R,I,O	The delivery order, range 1-2.
e(3)	GPDS	FTD_SB_GPDS_SM_MSDU	B:D	R,I,O	Maximum SDU size, range 1-153.
f	GPDS	FTD_SB_GPDS_SM_RBER	B:D	R,I,O	The residual Bit Error Rate (BER), range 1-9.
g	GPDS	FTD_SB_GPDS_SM_SDER	B:D	R,I,O	The SDU error ratio, range 1-7.
h(3)	GPDS	FTD_SB_GPDS_SM_MBRU	B:D	R,I,O	Maximum bit rate for uplink, range 1-254.
i(3)	GPDS	FTD_SB_GPDS_SM_MBRD	B:D	R,I,O	Maximum bit rate for downlink, range 1-254.

Display 07.18: QoS of the selected PDP context 2 (Version: Charlie spec)

```
++++++++++++++++++++++++++
+  PDP context QoS info 1 +
+ Trafic priority    j    +
+ Transfer delay     k(2) +
+ Guar bit rate UL   l(3) +
+ Guar bit rate DL   m(3) +
+ Neg Rel class      n    +
+ Neg Del class      o    +
+ Neg preced calss   p    +
+ Peak / mean Thru  q r(2)+
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	For mat	Mode	Description
j	GPDS	FTD_SB_GPDS_SM_TRHP	B:D	R,I,O	The traffic handling priority, range 1-3.
k(2)	GPDS	FTD_SB_GPDS_SM_TRDL	B:D	R,I,O	The transfer delay, range 1-62.
l(3)	GPDS	FTD_SB_GPDS_SM_GBRU	B:D	R,I,O	Guaranteed bit rate for uplink, range 1-254.
m(3)	GPDS	FTD_SB_GPDS_SM_GBRD	B:D	R,I,O	Guaranteed bit rate for downlink, range 1-254.
n	GPDS	FTD_SB_GPDS_SM_RELC	B:D	R,I,O	The negotiated reliability class, range 1-5.
o	GPDS	FTD_SB_GPDS_SM_DELC	B:D	R,I,O	The negotiated delay class, range 1-4.
p	GPDS	FTD_SB_GPDS_SM_PREC	B:D	R,I,O	The negotiated precedence class, range 1-3
q	GPDS	FTD_SB_GPDS_SM_PTPC	B:D	R,I,O	The negotiated peak throughput, range 1-9.
r(2)	GPDS	FTD_SB_GPDS_SM_MTPC	B:D	R,I,O	The negotiated mean throughput, range 1-31.

Display 07.19: PDCP parameters of the selected PDP context (Version: 3.22, Status: Approved)

To change PDP context, perform following steps:

6. Press the Options button.
7. Select Change PDP context
8. Press the Select button.
9. “INPUT” prompt will be shown on the display, enter the PDP context identifier (CID) in display.
10. Confirm with the Ok button.

If change succeeded, new PDCP parameters are displayed. If no PDCP radio bearer is active, xx is shown in all fields.

```
++++++++++++++++++++++++++
+  PDCP parameters       +
+ Radio bearer ID    a    +
+ PDU presense       b    +
+ Loss SRNS supp     c    +
+ Max window size    d(5) +
+ Dis PDU recept     e(5) +
+ Dis PDU transm     f(5) +
+ S RX PDU/TX PDU    g(5) +
+ T RX PDU/TX PDU i(5)j(5)+
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	GPDS	FTD_SB_GPDS_CHANGE_CONTEXT	DW:D	R,I,O	Context identifier (CID), range 0-10.
a(2)	GPDS	FTD_SB_GPDS_PDCP_RBID	B:D	R,I,O	The radio bearer ID of the PDP context, range 5-32.
b	GPDS	FTD_SB_GPDS_PDCP_HEADER	B:D	R,I,O	Indicates the presence of the PDCP PDU header, range 0-1.
c	GPDS	FTD_SB_GPDS_PDCP_RELOC	B:D	R,I,O	Indicates whether the lossless SRNS relocation is supported, range 0-1.
d(5)	GPDS	FTD_SB_GPDS_PDCP_MAX_WS	W:D	R,I,O	Maximum window size, 0-65535.
e(5)	GPDS	FTD_SB_GPDS_PDCP_RECV_DISC	W:D	R,I,O	Number of discarded PDUs in reception.
f(5)	GPDS	FTD_SB_GPDS_PDCP_SENT_DISC	W:D	R,I,O	Number of discarded PDUs in transmission.
g(5)	GPDS	FTD_SB_GPDS_PDCP_SEQ_RECV	W:D	R,I,O	Number of PDUs received with sequence number.
h(5)	GPDS	FTD_SB_GPDS_PDCP_SEQ_SENT	W:D	R,I,O	Number of PDUs sent with sequence number.
i(5)	GPDS	FTD_SB_GPDS_PDCP_PDU_RECV	W:D	R,I,O	Total number of received PDUs.
j(5)	GPDS	FTD_SB_GPDS_PDCP_PDU_SENT	W:D	R,I,O	Total number of sent PDUs.

Display 07.20: RFC2507 parameters of the selected PDP context (Version: 3.22, Status: Approved)

To change PDP context, perform following steps:

11. Press the Options button.
12. Select Change PDP context
13. Press the Select button.
14. “INPUT” prompt will be shown on the display, enter the PDP context identifier (CID) in display.
15. Confirm with the Ok button.

If change succeeded, new RFC2507 parameters are displayed. If RFC2507 is not active, xx is shown in all fields.

```
++++++++++++++++++++++++++
+  PDCP parameters       +
+ Radio bearer ID    a(2) +
+ F_MAX_PERIOD       b(5) +
+ F_MAX_TIME         c(3) +
+ MAX_HEADER         d(5) +
+ EXPECT_REORDING    e    +
+ TCP_SPACE          f(3) +
+ NON_TCP_SPACE      g(5) +
+ RX Pac/TX Pac   h(5)i(5)+
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	GPDS	FTD_SB_GPDS_CHANGE_CONTEXT	DW : D	R,I,O	Context identifier (CID), range 0-10.
a(2)	GPDS	FTD_SB_GPDS_CID	B:D	R,I,O	CID of the PDP context, range 0-10.
b(5)	GPDS	FTD_SB_GPDS_RFC2507_MAX_PERIOD	W:D	R,I,O	RFC2507 parameter F_MAX_PERIOD, range 1-65535.
c(3)	GPDS	FTD_SB_GPDS_RFC2507_MAX_TIME	B:D	R,I,O	RFC2507 parameter F_MAX_TIME, range 1-255.
d(5)	GPDS	FTD_SB_GPDS_RFC2507_MAX_HEADER	W:D	R,I,O	RFC2507 parameter MAX_HEADER, range 60-65535.
e	GPDS	FTD_SB_GPDS_RFC2507_EXP_REORD	B:D	R,I,O	RFC2507 parameter EXPECT_REORDERING, range 0-1.
f(3)	GPDS	FTD_SB_GPDS_RFC2507_TCP_SPACE	B:D	R,I,O	RFC2507 parameter TCP_SPACE, range 3-255.
g(5)	GPDS	FTD_SB_GPDS_RFC2507_NON_TCP_SPACE	W:D	R,I,O	RFC2507 parameter NON_TCP_SPACE, range 3-65535.
h(5)	GPDS	FTD_SB_GPDS_RFC2507_CTX_STATE_RECV	W:D	R,I,O	Number of received context state packets.
i(5)	GPDS	FTD_SB_GPDS_RFC2507_CTX_STATE_SENT	W:D	R,I,O	Number of sent context state packets.

Group 08: GPRS Measurement displays

Xx is shown in all the fields when the values are not available (e.g. no GPRS support in the cell, no GPRS attach performed).

Display 08.01: Power control parameters (Version: 3.19, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ Power control           +
+                         +
+ Alpha           aaa     +
+ TW / TT         bb  cc  +
+ PSI4 / PB       d   eee +
+ PC channel      ffff    +
+ Ni value        gg      +
+ Gamma0-7    hh hh hh hh +
+             hh hh hh hh +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	GSS	FTD_SB_ALPHA	B:D	R,I,O	The value of ALPHA, range 0.0-1.0.
b(2)	GSS	FTD_SB_T_AVG_W	B:D	R,I,O	The k value for T_AVG_W, range 0-25.
c(2)	GSS	FTD_SB_T_AVG_T	B:D	R,I.O	The k value for T_AVG_T, range 0-25.
d	GPDS	FTD_MAC_PSI4_BROADCAST	B:D	R,I.O	The value of INT_MEAS_CHANNEL_LIST_AVAIL, range 0-1. If 1, PSI4 is broadcasted. x is shown if PBCCH is not supported.
e(3)	GSS	FTD_SB_PB	B:D	R,I.O	The value of Pb, range 0 - -30 [dB]. xxx is shown if PBCCH is not supported.
f(4)	GSS	FTD_SB_PC_MEAS_CHAN	S	R,I.O	The value of PC_MEAS_CHAN, either BCCH or PDCH.
g(2)	GSS	FTD_SB_N_AVG_I	B:D	R,I.O	The k value for N_AVG_I, range 0-15.
h(2) x 8	GSS	FTD_SB_GAMMA_TN0..7	B:D	R,I.O	The values of GAMMA_TN0, GAMMA_TN1,…, GAMMA_TN7, range 0-62 [dB] on each. xx is shown in place of unused time slots. (Thus, in packet idle mode, all of them are xx.)

Display 08.02: The previous channel quality report (Version: 3.20, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ Prev channel quality    +
+                         +
+                         +
+ Dlack/RESreq   aaaaaaa  +
+ C value        bb       +
+ RX quality     c        +
+ Var value      dd       +
+ IF0-7       hh hh hh hh +
+             hh hh hh hh +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(7)	GPDS	FTD_SB_MAC_QREP_SENT_IN	S	R,I,O	DL_ACK if the previous channel quality report was sent in PACKET DOWNLINK ACK/NACK message. RES_REQ if the previous channel quality report was sent in PACKET RESOURCE REQUEST
b(2)	GPDS	FTD_SB_MAC_C_VALUE	B:D	R,I,O	The reported C value, range 0-63.
c	GPDS	FTD_SB_MAC_RXQUAL	B:D	R,I,O	The reported RXQUAL value, downlink quality, range 0-7. If the previous channel quality report was included in PACKET RESOURCE REQUEST, x is shown.
d(2)	GPDS	FTD_SB_MAC_SIGN_VAR	B:D	R,I.O	The reported SIGN_VAR value, range 0-63. xx is shown if the parameter was not included in the channel quality report (in two-phase access).
h(2) x 8	GPDS	FTD_SB_MAC_QREP_I_TN0..7	B:D	R,I.O	The reported I_LEVEL_TN0, I_LEVEL_TN1,…,I_LEVEL_TN7 values, range 0-63 on each. xx is shown if the corresponding interference level was not reported.

Display 08.03: NC and EM parameters (Version: 1, Status: REJECTED)

Data Display:

```
+++++++++++++++++++++++++++
+ NC and EM parameters    +
+                         +
+ NC mode         a       +
+ N I T           b  C  d +
+ PSI5            eeee    +
+ Ord/Type/Period f  g  h +
+ P/O             iiii    +
+ NCC             jjj     +
+ IFfr            kkk     +
+++++++++++++++++++++++++++
```

xx is shown in all fields if PBCCH is not supported and if neither PACKET MEAS ORDER nor PACKET CELL CHANGE ORDER has been received.

Abbr.	Server	Sub Block ID	Format	Mode	Description
a				R,I,O	The value of NETWORK_CONTROL_ORDER, range 0-2.
b					The value of NC_NON_DRX_PERIOD, range 0-7.
C					The value of NC_REPORTING_PERIOD_I, range 0-7.
d					The value of NC_REPORTING_PERIOD_T, range 0-7.
eeee					PSI5 if the current NC parameters were received in PSI5 message. ORDE if the current NC parameters were received in PACKET MEAS ODER or PACKET CELL CHANGE ORDER.
f					The value of EXT_MEASUREMENT_ORDER, range 0-1.
g					The value of EXT_REPORTING_TYPE, range 1-3.
h					The value of EXT_REPORTING_PERIOD, range 0-7.
iiii					PSI5 if the current EM parameters were received in PSI5 message. ORDE if the current EM parameters were received in PACKET MEAS ODER or PACKET CELL CHANGE ORDER.
jjj					The value of NCC_PERMITTED, range 0-255. xxx is shown if EXT_REPORTING_TYPE is not type 2.
kkk					The carrier number (in decimal) where INT_FREQUENCY refers. xxx is shown if INT_FREQUENCY is not broadcasted (optional).

Display 08.04: The previous NC report, part 1 (Version: 1, Status: REJECTED)

Data Display:

```
++++++++++++++++++++++++++++
+ Prev NC report part1     +
+                          +
+ RxL / IFLev    aa    bb  +
+                          +
+ Carrier  BSIC  RxLevel   +
+ 1    ccc     dd      ee  +
+ 2    ccc     dd      ee  +
+ 3    ccc     dd      ee  +
+                          +
++++++++++++++++++++++++++++
```

If the previous NC measurement report included less than 3 measurement results, xx is shown in the corresponding rows.

1.row 1.neighbor information
2.row 2.neighbor information
3.row 3.neighbor information

Abbr.	Server	Sub Block ID	Format	Mode	Description
aa				R,I,O	The value of RXLEV_SERVING_CELL in the previous transmitted NC measurement report (PACKET MEASUREMENT REPORT), range 0-63.
bb					The value of INTERFERENCE_SERVING_CELL, range 0-63. xx is shown if the interference value was not reported.
ccc					Carrier number in decimal.
dd					BSIC value. xx is shown if BSIC was not reported.
ee					RXLEVEL value, range 0-63 or in dBm.

Display 08.05: The previous NC report, part 2 (Version: 1, Status: REJECTED)

Data Display:

```
+++++++++++++++++++++++++++
+ Prev NC report part2    +
+                         +
+                         +
+ Carrier  BSIC  RxLevel  +
+ 4   ccc    dd      ee   +
+ 5   ccc    dd      ee   +
+ 6   ccc    dd      ee   +
+                         +
+                         +
+++++++++++++++++++++++++++
```

If the previous NC measurement report included less than 6 measurement results, xx is shown in the corresponding rows.

4.row 4.neighbor information
5.row 5.neighbor information
6.row 6.neighbor information

Abbr.	Server	Sub Block ID	Format	Mode	Description
Ccc				R,I,O	Carrier number in decimal.
Dd					BSIC value. xx is shown if BSIC was not reported.
Ee					RXLEVEL value, range 0-63.

Display 08.06: The previous EM report, part 1 (Version: 1, Status: REJECTED)

Data Display:

```
+++++++++++++++++++++++++++
+ Prev EM report part1     +
+                          +
+                          +
+ Carrier  BSIC  RxLevel   +
+ 1    ccc    dd      ee   +
+ 2    ccc    dd      ee   +
+ 3    ccc    dd      ee   +
+ 4    ccc    dd      ee   +
+                          +
+++++++++++++++++++++++++++
```

If the previous EM measurement report included less than 4 measurement results, xx is shown in the corresponding rows.

1.row 1.neighbor information
2.row 2.neighbor information
3.row 3.neighbor information
4.row 4.neighbor information

Abbr.	Server	Sub Block ID	Format	Mode	Description
ccc				R,I,O	Carrier number in decimal.
dd					BSIC value. xx is shown if BSIC was not reported.
ee					RXLEVEL value, range 0-63.

Display 08.07: The previous EM report, part 2 (Version: 1, Status: REJECTED)

Data Display:

```
+++++++++++++++++++++++++++
+ Prev EM report part2     +
+                          +
+                          +
+ Carrier  BSIC  RxLevel   +
+ 5    ccc    dd      ee   +
+ 6    ccc    dd      ee   +
+                          +
+ IFLevel0-7 hh hh hh hh   +
+           hh hh hh hh    +
+++++++++++++++++++++++++++
```

If the previous EM measurement report included less than 6 measurement results, xx is shown in the corresponding rows.

5.row 5.neighbor information
6.row 6.neighbor information

Abbr.	Server	Sub Block ID	Format	Mode	Description
ccc				R,I,O	Carrier number in decimal.
dd					BSIC value. xx is shown if BSIC was not reported.
ee					RXLEVEL value, range 0-63.
hh x 8					The reported I_LEVEL_TN0, I_LEVEL_TN1,…,I_LEVEL_TN7 values, range 0-63 on each. xx is shown if the corresponding interference level was not reported. in dBm if possible

Display 08.08: Downlink power control parameters (Version: 1, Status: REJECTED)

Data Display:

```
+++++++++++++++++++++++++++
+ Downlink power control  +
+                         +
+ BTS PWR CTRL     a      +
+ PO value         bb     +
+ PR value (A/B)   c      +
+                         +
+                         +
+                         +
+                         +
+++++++++++++++++++++++++++
```

xx is shown in the fields if there is no TBF active.

Abbr.	Server	Sub Block ID	Format	Mode	Description
a				R,I,O	The value of BTS_PWR_CTRL_MODE, either A or B
bb					The value of P0, range 0-30 [dB].
c					The value of PR mode: A: PR Mode A is used B: PR Mode B is used

Group 09: GPRS Test counter displays

Display 09.02: TBF counters (Version: 5.0, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ TBF counters             +
+                          +
+ UL packet idle    aaaaa  +
+ UL TBF idle       bbbbb  +
+ UL packet tr      ccccc  +
+ UL TBF tr         ddddd  +
+                          +
+ DL TBF idle       fffff  +
+ UL abnormal       hhhhh  +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(5)	GPDS	FTD_SB_MAC_UL_TBF_IDLE_ATTEMPT	W:D	R,I,O	Counter for UL TBF attempts in packet idle mode
b(5)	GPDS	FTD_SB_RLC_UL_TBF_IDLE_SUCC	W:D	R,I,O	Counter for successful UL TBFs, established in packet idle mode
c(5)	GPDS	FTD_SB_MAC_UL_TBF_TRANS_ATTEMPT	W:D	R,I,O	Counter for UL TBF attempts in packet transfer mode
d(5)	GPDS	FTD_SB_RLC_UL_TBF_TRANS_SUCC	W:D	R,I,O	Counter for successful UL TBFs, established in packet transfer mode
f(5)	GPDS	FTD_SB_MAC_DL_TBF_COUNTER	W:D	R,I,O	Counter for DL TBF establishments in packet idle mode
h(5)	GPDS	FTD_SB_RLC_UL_TBF_ABNORM_REL	W:D	R,I,O	Counter for UL TBF abnormal releases, any reason

Display 09.10: GPRS attach and detach counters (Version: 5.0, Status:Approved)

Data Display:

```
++++++++++++++++++++++++++++
+ GPRS attach and detach   +
+                          +
+ Attach failure      aa   +
+ Attach attemps      bbb  +
+ Attach succeeded    cccc +
+ NI detach cause     hh   +
+ NI detach counter   iii  +
+                          +
+                          +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(2)	GPDS	FTD_SB_GMM_ATTACH_FAIL_CAUSE	B:H	R,I,O	Cause of the last attach failure
b(3)	GPDS	FTD_SB_GMM_ATTACH_ATTEMPT	W:D	R,I,O	Counter for the attach attempts
c(4)	GPDS	FTD_SB_GMM_ATTACH_OK	W:D	R,I,O	Counter for the succeededl attachs
h(2)	GPDS	FTD_SB_GMM_NTW_INIT_DET_CAUSE	B:H	R,I,O	Cause of the last network initiated detach
i(3)	GPDS	FTD_SB_GMM_NTW_INIT_DETACH	W:D	R,I,O	Counter for network initiated detach

Display 09.11: Periodic routing area update counters (Version: 5.0, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ Periodic routing area   +
+       update counters    +
+                          +
+ RA update cause    aa    +
+ RAU attemps        bbbb  +
+ RAU succeeded      cccc  +
+                          +
+                          +
+                          +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(2)	GPDS	FTD_SB_GMM_PRAU_FAIL_CAUSE	B:H	R,I,O	Cause of the last periodic routing area update failure
b(4)	GPDS	FTD_SB_GMM_PRAU_ATTEMPT	W:D	R,I,O	Counter for the periodic RAU attempts
c(4)	GPDS	FTD_SB_GMM_PRAU_OK	W:D	R,I,O	Counter for the succeeded periodic RAUs

Display 09.12: Routing area update counters (Version: 5.0, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ Routing area update     +
+ counters                +
+                          +
+ RA update cause    aa    +
+ RAU attemps        bbbb  +
+ RAU succeeded      cccc  +
+                          +
+                          +
+                          +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(2)	GPDS	FTD_SB_GMM_RAU_FAIL_CAUSE	B:H	R,I,O	Cause of the last routing area update failure
b(4)	GPDS	FTD_SB_RAU_ATTEMPT	W:D	R,I,O	Counter for the RAU attempts
c(4)	GPDS	FTD_SB_RAU_OK	W:D	R,I,O	Counter for the succeeded RAUs

Display 09.13: PDP context counters (Version: 5.0, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ PDP context counters    +
+                         +
+ PDP act failure     aa   +
+ PDP act attemps     bbb  +
+ PDP succeeded       ccc  +
+ PDP MS init deact   gg   +
+ PDP net init deact  jj   +
+                         +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(2)	GPDS	FTD_SB_SM_MO_PDP_FAIL_CAUSE	B:H	R,I,O	Cause of the last MS initiated PDP context activation failure
b(3)	GPDS	FTD_SB_SM_MO_PDP_ATTEMPT	W:D	R,I,O	Counter for the MS initiated PDP context activation attempts
c(3)	GPDS	FTD_SB_SM_MO_PDP_OK	W:D	R,I,O	Counter for the succeeded MS initiated PDP context activations
g(2)	GPDS	FTD_SB_SM_MO_PDP	B:H	R,I,O	Cause of the last MS initiated PDP context deactivation

		_DEAC_CAUSE			
j(2)	GPDS	FTD_SB_SM_MT_PDP_DEAC_CAUSE	B:H	R,I,O	Cause of the last Network initiated PDP context deactivation

Display 09.14: SMS over GPRS counters (Version: 5.0, Status: Approved)

The values in this display concern only SMS transferred via GPRS. Otherwise the SMS counters in GSM displays are valid.

Data Display:

```
++++++++++++++++++++++++++++
+ SMS over GPRS counters   +
+                          +
+ Send failure         aa  +
+ MO SMS attemps       bbb +
+ MO SMS send OK       ccc +
+ Receive failure      dd  +
+ MT SMS attemps       eee +
+ MT SMS receive OK    fff +
+                          +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(2)	GSS	FTD_SB_SMS_SEND_FAIL_CAUSE_GPRS	B:H	R,I,O	Reason of last sending failure
b(3)	GSS	FTD_SB_SMS_MO_ATT_GPRS	W:D	R,I,O	Count of MO short message attempts via GPRS
c(3)	GSS	FTD_SB_SMS_MO_GPRS_OK	W:D	R,I,O	Count of succeeded MO short message sendings
d(2)	GSS	FTD_SB_SMS_REC_F	B:H	R,I,O	Reason of last receiving failure

		AIL_CAUSE_GPRS			
e(3)	GSS	FTD_SB_SMS_MT_ATT_GPRS	W:D	R,I,O	Count of MT short message attempts via GPRS
f(3)	GSS	FTD_SB_SMS_MT_GPRS_OK	W:D	R,I,O	Count of succeeded MT short message receptions

Display 09.17: MS initiated cell re-selection counters (Version: 5.0, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++++++
+ MS init cell reselection+
+    counters              +
+                          +
+ CCCH  => CCCH      aaaa +
+ CCCH  => PCCCH     cccc +
+ PCCCH => CCCH      eeee +
+ PCCCH => PCCCH     gggg +
+                          +
+                          +
+++++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(4)	GPDS	FTD_SB_MAC_RESEL_C_C	W:D	R,I,O	Counter for cell re-selection attempts from CCCH to CCCH in NC0 or NC1 mode
c(4)	GPDS	FTD_SB_MAC_RESEL_C_P	W:D	R,I,O	Counter for cell re-selection attempts from CCCH to PCCCH in NC0 or NC1 mode
e(4)	GPDS	FTD_SB_MAC_RESEL_P_C	W:D	R,I.O	Counter for cell re-selection attempts from PCCCH to CCCH in NC0 or NC1 mode
g(4)	GPDS	FTD_SB_MAC_RESEL_P_P	W:D	R,I,O	Counter for cell re-selection attempts from PCCCH to PCCCH in NC0 or NC1 mode

Display 09.18: Network initiated cell re-selection counters (Version: 5.0, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+    Network init cell    +
+    reselction counters  +
+                         +
+ CCCH  =>CCCH  aaaa bbbb +
+ CCCH  =>PCCCH cccc dddd +
+ PCCCH =>CCCH  eeee ffff +
+ PCCCH =>PCCCH gggg hhhh +
+                         +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(4)	GPDS	FTD_SB_MAC_PCCO_C_C_ATT	W:D	R,I,O	Counter for network commanded cell re-selection attempts from CCCH to CCCH
b(4)	GPDS	FTD_SB_MAC_PCCO_C_C_OK	W:D	R,I,O	Counter for succeeded network commanded cell re-selections from CCCH to CCCH
c(4)	GPDS	FTD_SB_MAC_PCCO_C_P_ATT	W:D	R,I,O	Counter for network commanded cell re-selection attempts from CCCH to PCCCH
d(4)	GPDS	FTD_SB_MAC_PCCO_C_P_OK	W:D	R,I,O	Counter for succeeded network commanded cell re-selections from CCCH to PCCCH
e(4)	GPDS	FTD_SB_MAC_PCCO_P_C_ATT	W:D	R,I,O	Counter for network commanded cell re-selection attempts from PCCCH to CCCH
f(4)	GPDS	FTD_SB_MAC_PCCO_P_C_OK	W:D	R,I,O	Counter for succeeded network commanded cell re-selections from PCCCH to CCCH
g(4)	GPDS	FTD_SB_MAC_PCCO_P_P_ATT	W:D	R,I,O	Counter for network commanded cell re-selection attempts from PCCCH to PCCCH
h(4)	GPDS	FTD_SB_MAC_PCCO_P_P_OK	W:D	R,I,O	Counter for succeeded network commanded cell re-selections from PCCCH to PCCCH

Group 10: GSM DSP displays

Display 10.01: DSP Data Display 1 (Version: 1, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ DSP data display 1       +
+                         +
+ 1              aaaa      +
+ 2              bbbb      +
+ 3              cccc      +
+ 4              dddd      +
+ 5              eeee      +
+ 6              ffff      +
+ 7   8          gggg hhhh +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aaaa	GSM_DSP	FTD_SB_DSP_DATA_1		R	DSP specific data in hex format
bbbb	GSM_DSP	FTD_SB_DSP_DATA_2		R	DSP specific data in hex format
cccc	GSM_DSP	FTD_SB_DSP_DATA_3		R	DSP specific data in hex format
dddd	GSM_DSP	FTD_SB_DSP_DATA_4		R	DSP specific data in hex format
eeee	GSM_DSP	FTD_SB_DSP_DATA_5		R	DSP specific data in hex format
ffff	GSM_DSP	FTD_SB_DSP_DATA_6		R	DSP specific data in hex format
gggg	GSM_DSP	FTD_SB_DSP_DATA_7		R	DSP specific data in hex format
hhhh	GSM_DSP	FTD_SB_DSP_DATA_8		R	DSP specific data in hex format

These values are updated 5-10 times/second.

Display 10.02: DSP Data Display 2 (Version: 1, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ DSP data display 2        +
+                         +
+ 9              aaaa      +
+ 10             bbbb      +
+ 11             cccc      +
+ 12             dddd      +
+ 13             eeee      +
+ 14             ffff      +
+ 15   16         gggg hhhh +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aaaa	GSM_DSP	FTD_SB_DSP_DATA_9		R	DSP specific data in hex format
bbbb	GSM_DSP	FTD_SB_DSP_DATA_10		R	DSP specific data in hex format
cccc	GSM_DSP	FTD_SB_DSP_DATA_11		R	DSP specific data in hex format
dddd	GSM_DSP	FTD_SB_DSP_DATA_12		R	DSP specific data in hex format
eeee	GSM_DSP	FTD_SB_DSP_DATA_13		R	DSP specific data in hex format
ffff	GSM_DSP	FTD_SB_DSP_DATA_14		R	DSP specific data in hex format
gggg	GSM_DSP	FTD_SB_DSP_DATA_15		R	DSP specific data in hex format
hhhh	GSM_DSP	FTD_SB_DSP_DATA_16		R	DSP specific data in hex format

These values are updated 5-10 times/second.

Display 10.03: DSP Data Display 3 (Version: 1, Status: Approved)

Data Display:

```
++++++++++++++++++++++++++
+ DSP data display 3      +
+                        +
+ 17            aaaa      +
+ 18            bbbb      +
+ 19            cccc      +
+ 20            dddd      +
+ 21            eeee      +
+ 22            ffff      +
+ 23   24       gggg hhhh +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aaaa	GSM_DSP	FTD_SB_DSP_DATA_17		R	DSP specific data in hex format
bbbb	GSM_DSP	FTD_SB_DSP_DATA_18		R	DSP specific data in hex format
cccc	GSM_DSP	FTD_SB_DSP_DATA_19		R	DSP specific data in hex format
dddd	GSM_DSP	FTD_SB_DSP_DATA_20		R	DSP specific data in hex format
eeee	GSM_DSP	FTD_SB_DSP_DATA_21		R	DSP specific data in hex format
ffff	GSM_DSP	FTD_SB_DSP_DATA_22		R	DSP specific data in hex format
gggg	GSM_DSP	FTD_SB_DSP_DATA_23		R	DSP specific data in hex format
hhhh	GSM_DSP	FTD_SB_DSP_DATA_24		R	DSP specific data in hex format

These values are updated 5-10 times/second.

Display 10.04: FER measuments for sub ch0: REAL, FULL and SUB values (Version: 3.24, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ FER meas for sub ch0     +
+                          +
+ FER real              aa +
+ Correct FACCH         bb +
+ Erroneous TCH         cc +
+ Erroneous FACCH       dd +
+ Erroneous Full        ff +
+ Used frames           gg +
+ Erroneous frames      hh +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(2)	GSM_DSP	FTD_SB_DSP_DATA_25	B:D	R,I,O	FER REAL, a counter for correct frames including TCH, FACCH, SACCH
b(2)	GSM_DSP	FTD_SB_DSP_DATA_26	B:D	R,I,O	FER REAL, a counter for correct FACCH frames
c(2)	GSM_DSP	FTD_SB_DSP_DATA_27	B:D	R,I,O	FER REAL, a counter for erroneous TCH frames
d(2)	GSM_DSP	FTD_SB_DSP_DATA_28	B:D	R,I,O	FER REAL, a counter for erroneous FACCH frames
f(2)	GSM_DSP	FTD_SB_DSP_DATA_29	B:D	R,I,O	FER FULL, a counter for erroneous frames including TCH, SACCH, FACCH and SID frames
g(2)	GSM_DSP	FTD_SB_DSP_DATA_30	B:D	R,I,O	FER SUB, a counter for used frames
h(2)	GSM_DSP	FTD_SB_DSP_DATA_31	B:D	R,I,O	FER SUB, a counter for erroneous frames

These values are updated for every 480ms (One SACCH multiframe)

Display 10.05: FER measuments for sub ch1: REAL, FULL and SUB values (Version: 3.25, Status: Approved)

Data Display:

```
++++++++++++++++++++++++++++
+ FER meas for sub ch1     +
+                          +
+ FER real              aa +
+ Correct FACCH         bb +
+ Erroneous TCH         cc +
+ Erroneous FACCH       dd +
+ Erroneous Full        ff +
+ Used frames           gg +
+ Erroneous frames      hh +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(2)	GSM_DSP	FTD_SB_DSP_DATA_32	B:D	R,I,O	FER REAL, a counter for correct frames including TCH, FACCH, SACCH
b(2)	GSM_DSP	FTD_SB_DSP_DATA_33	B:D	R,I,O	FER REAL, a counter for correct FACCH frames
c(2)	GSM_DSP	FTD_SB_DSP_DATA_34	B:D	R,I,O	FER REAL, a counter for erroneous TCH frames
d(2)	GSM_DSP	FTD_SB_DSP_DATA_35	B:D	R,I,O	FER REAL, a counter for erroneous FACCH frames
f(2)	GSM_DSP	FTD_SB_DSP_DATA_36	B:D	R,I,O	FER FULL, a counter for erroneous frames including TCH, SACCH, FACCH and SID frames
g(2)	GSM_DSP	FTD_SB_DSP_DATA_37	B:D	R,I,O	FER SUB, a counter for used frames
h(2)	GSM_DSP	FTD_SB_DSP_DATA_38	B:D	R,I,O	FER SUB, a counter for erroneous frames

These values are updated for every 480ms (One SACCH multiframe)

Display 10.06: FER measuments for sub ch2: REAL, FULL and SUB values (Version: 3.25, Status: Approved)

Data Display:

```
++++++++++++++++++++++++++++
+ FER meas for sub ch2     +
+                          +
+ FER real              aa +
+ Correct FACCH         bb +
+ Erroneous TCH         cc +
+ Erroneous FACCH       dd +
+ Erroneous Full        ff +
+ Used frames           gg +
+ Erroneous frames      hh +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(2)	GSM_DSP	FTD_SB_DSP_DATA_39	B:D	R,I,O	FER REAL, a counter for correct frames including TCH, FACCH, SACCH
b(2)	GSM_DSP	FTD_SB_DSP_DATA_40	B:D	R,I,O	FER REAL, a counter for correct FACCH frames
c(2)	GSM_DSP	FTD_SB_DSP_DATA_41	B:D	R,I,O	FER REAL, a counter for erroneous TCH frames
d(2)	GSM_DSP	FTD_SB_DSP_DATA_42	B:D	R,I,O	FER REAL, a counter for erroneous FACCH frames
f(2)	GSM_DSP	FTD_SB_DSP_DATA_43	B:D	R,I,O	FER FULL, a counter for erroneous frames including TCH, SACCH, FACCH and SID frames
g(2)	GSM_DSP	FTD_SB_DSP_DATA_44	B:D	R,I,O	FER SUB, a counter for used frames
h(2)	GSM_DSP	FTD_SB_DSP_DATA_45	B:D	R,I,O	FER SUB, a counter for erroneous frames

These values are updated for every 480ms (One SACCH multiframe)

Group 11: CDSP GSM AMR displays

Display 11.01: AMR1:Information of the Active Mode Set (Version: 3.16, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ Channel type        aaaa +
+ Active mode set     bbbb +
+ Treshold 1          ccc  +
+ Hysteresis 1        dd   +
+ ICMI / ICM      e   f    +
+ Treshold 2/3    ggg jjj  +
+ Hysteresis 2/3  hh  kk   +
+ RATSCCH             ii   +
+ Noise suppression   l    +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(4)	GSS	FTD_SB_TYPE_OF_CURR_CH		R	Channel type
b(4)	GSM_DSP	FTD_SB_AMR1_MODESET		R	Active codec mode set , mode numbers in ACS are shown as digits 0 = 4.75 1 = 5.15 2 = 5.9 3 = 6.7 4 = 7.4 5 = 7.95 6 = 10.2 7 = 12.2 (1-4 digit hex without leading zeros)
c(3)	GSM_DSP	FTD_SB_AMR1_TH1		R	first threshold, 999 if not in use
d(2)	GSM_DSP	FTD_SB_AMR1_HYS1		R	first hysteresis, 99 if not in use
e	GSM_DSP	FTD_SB_AMR1_ICMI		R	ICMI (Initial codec mode indicator) 0=not signalled. 1=signalled.
f	GSM_DSP	FTD_SB_AMR1_ICM		R	Initial codec mode (ICM) If ICMI=0 mode selected by implicit rule If ICMI=1 signalled start mode used (shown as absolute mode 0-7)
g(3)	GSM_DSP	FTD_SB_AMR1_TH2		R	Second threshold, 999 if not in use
h(2)	GSM_DSP	FTD_SB_AMR1_HYS2		R	Second hysteresis, 99 if not in use
i(2)	GSM_DSP	FTD_SB_AMR1_RATSCCH		R	Count RATSCCH messages, truncated (wrap around overflow) to 8 bits (print two digit hex value)

					Counter is reset at call setup and HO.
j(3)	GSM_ DSP	FTD_SB_AMR1_TH3		R	third threshold, 999 if not in use
k(2)	GSM_ DSP	FTD_SB_AMR1_HYS3		R	third hysteresis, 99 if not in use
l	GSM_ DSP	FTD_SB_AMR1_NSCB		R	Noise Suppression Control bit: **0**=noise suppression can be used; **1**=noise suppression is turned off

Data display contains the information from MS multirate information signalling. From 8 possible speech codec modes at most 4 belongs to active codec mode set. Active codecs are shown in display using mode numbers which are shown as digits (0..7). Modeset display has that many digits as there are modes in active set (1–4). Highest mode is shown left so that also mode 0, if included in the ACS, is shown properly.

In addition to active codec mode set display shows thresholds and hysteresis values for mode changes according link quality. With 4 modes in active mode set three threshold/hysteresis values are needed. Number is always 1 less than number of codecs in mode set. If number of active modes is less than 4 unused threshold and hysteresis values are filled with 9's.

Even though the information needed for display is known by L3 on call setup RATSCCH signalling may override all values. That is why display information is always fetched from DSP.

Display 11.02: AMR2: Information of the mode control (Version: 3.16, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ Mode up/downlink  a   b +
+ Rx level/quality  ccc d +
+ Channel type      eeee  +
+ Mode command      ffff  +
+ Mode command      gggggggg +
+ Mode ind          hhhh  +
+ Mode ind          iiiiiiii +
+ Mode request      jjjj  +
+ Mode request      kkkkkkkk +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a	GSM_DSP	FTD_SB_AMR_UL_MODE		R	Current absolute uplink mode within modeset (0-7)
b	GSM_DSP	FTD_SB_AMR_DL_MODE		R	Current absolute downlink mode within modeset (0-7)
c(3)	GSS	FTD_SB_RX_LEVEL		R	Rx level in dBm, minus sign not shown if <=-100
d	GSS	FTD_SB_RX_QUALITY		R	Rx quality (sub), range is 0 - 7
e(4)	GSS	FTD_SB_TYPE_OF_CURR_CH		R	Channel type

f(4)	GSM_DSP	FTD_SB_AMR2_MODE_CMD_HI		R	mode command history(Hex)
g(8)	GSM_DSP	FTD_SB_AMR2_MODE_CMD_LO		R	mode command history (Hex)
h(4)	GSM_DSP	FTD_SB_AMR2_MODE_IND_DL_HI		R	mode indication downlink history (Hex)
i(8)	GSM_DSP	FTD_SB_AMR2_MODE_IND_DL_LO		R	mode indication downlink history (Hex)
j(4)	GSM_DSP	FTD_SB_AMR2_MODE_REQ_HI		R	mode request history (Hex)
k(8)	GSM_DSP	FTD_SB_AMR2_MODE_REQ_LO		R	mode request history (Hex)

First line shows in compact form current channel type and basic quality information including up and downlink AMR modes. All information in the first row is available also from Display 01.01

Three history lines are used to print mode commands, mode indication to downlink direction and mode requests. Mode indication to uplink is not that interesting as it reflects mode commands after short delay. Mode requests might differ from mode indications downlink as BTS is not required to obey mode request. It should be noted that mode information in history lines in FTD is shown using absolute modes (0–7) even though in actual inband transmission relative value within mode set is used (0–3).

With update rate 480 ms each digit in display corresponds mode related commands / indications in history.

DSP history algorithm can be modified to maintain history as different averages on the basis of the future needs without changing FTD display specification. See also executive Display 11.04: AMR4: Control AMR FTD data pre processing (Version: 1, Status: Approved)

Display 11.03: AMR3: Information of the link quality estimation (Version: 3.16, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++
+ Mode up/down      a   b +
+ Rx level/quality  ccc d +
+ Channel type      eeee  +
+ Link quality est  FFff  +
+ Frame erasure%    GGggg +
+ Fast fading       HHhh  +
+ Slow fading       IIii  +
+ Fading comp       Jj    +
+ Mode regs kkkk llllllll +
+++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a	GSM_DSP	FTD_SB_AMR_UL_MODE		R	Current absolute uplink mode (0-7)
b	GSM_DSP	FTD_SB_AMR_DL_MODE		R	Current absolute downlink mode (0-7)
c(3)	GSS	FTD_SB_RX_LEVEL		R	Rx level in dBm, minus sign not shown if <=-100
d	GSS	FTD_SB_RX_QUALITY		R	Rx quality (sub), range is 0 - 7
e(4)	GSS	FTD_SB_TYPE_OF_CURR_CH		R	Channel type
FFff	GSM_DSP	FTD_SB_AMR3_LQE		R	Current link quality estimate (dB) (floating point number)
GGggg	GSM_DSP	FTD_SB_AMR3_FRAME_ERASURE		R	frame erasure % (floating point number)
HHhh	GSM_DSP	FTD_SB_AMR3_FAST_FAD_FILTER		R	Output of the fast fading filter (floating point number)
IIii	GSM_DSP	FTD_SB_AMR3_SLOW_FAD_FILTER		R	slow fading filter output (floating point number)
Jj	GSM_DSP	FTD_SB_AMR3_FAD_COMP		R	fading compensation factor
k(4)	GSM_DSP	FTD_SB_AMR2_MODE_REQ_HI		R	mode request history (Hex)
l(8)	GSM_DSP	FTD_SB_AMR2_MODE_REQ_LO		R	mode request history (Hex)

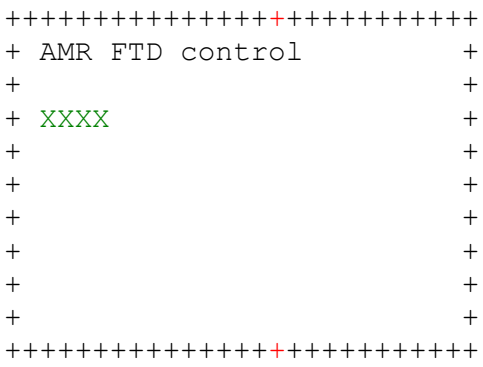
First line is same as used in 'Display 11.02: AMR2: Information of the mode control (Version: 3.16, Status: Approved)'.

With update rate 480 ms each digit in display corresponds mode related commands / indication in history.

FFff, GGggg, HHhh, IIii and Jj represent floating point values. Decimal part is marked with lower case letters in this specification and decimal point is not printed

Display 11.04: AMR4: Control AMR FTD data pre processing (Version: 1, Status: Approved)

Data Display:

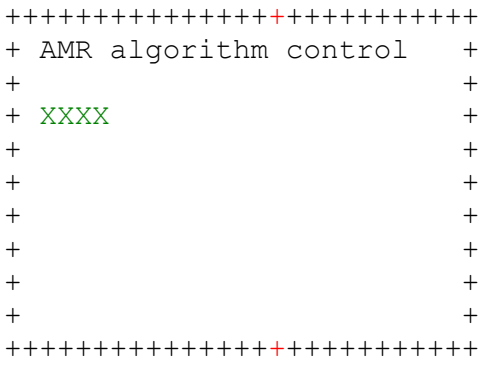


Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	GSM_DSP	FTD_SB_AMR4_CTRL_WORD	DW:H	R	Control word for DSP for controlling pre processing of AMR mode control related field test displays.
XXXX	GSM_DSP	FTD_SB_AMR4_CTRL_DISP		R	Control word for DSP for controlling pre processing of AMR mode control related field test displays.

When display is selected, control word can be edited. Keyboard is in "text"-mode, so hex numbers 0-F can be written. After editing of the control word is completed, request is sent to DSP.

Display 11.05: AMR5: Control AMR algorithms (Version: 1, Status: Approved)

Data Display:



Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	GSM_DSP	FTD_SB_AMR5_CTRL_WOR	DW:H	R	Control word for DSP for

		D			controlling AMR algorithms.
XXXX	GSM_DSP	FTD_SB_AMR5_CTRL_ALG O		R	Control word for DSP for controlling AMR algorithms.

When display is selected, control word can be edited. Keyboard is in "text"-mode, so hex numbers 0-F can be written. After editing of the control word is completed, request is sent to DSP.

Group 12: CDSP SW Platform

Display 12.01: CDSP version and date (Version: 3.13, Status: Approved)

Data Display:

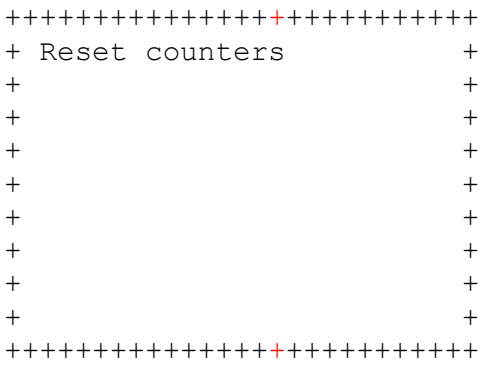
Abbr.	Server	Sub Block ID	Format	Mode	Description
a(12)	ADSP_CORE	FTD_SB_ADSP_VERSION_1	S	R	CDSP version string
b(12)	ADSP_CORE	FTD_SB_ADSP_VERSION_2	S	R	CDSP version string
c(12)	ADSP_CORE	FTD_SB_ADSP_VERSION_3	S	R	CDSP version string
d(6)	ADSP_CORE	FTD_SB_ADSP_VERSION_DATE	S	R	CDSP version date. Format: ddmmyy

Display 12.02: Reset display (Version: 1, Status: Approved)

With this display all counters and error codes in this group can be reset.

Note: Does not reset PPCs

Data Display:



Abbr.	Server	Sub Block ID	Format	Mode	Description
EXE	MON	FTD_SB_ADSP_CLEAR_CNT	N/A	R	Clears all counters and error codes in this group. Note! This is not resetting any PPC counters.

Display 12.03: CDSP error and reset counters and MCU reset time (Version: 3.13, Status: Approved)

This display has counters for MCU originated CDSP resets, CDSP originated CDSP resets (fatal CDSP errors) and non-fatal CDSP errors. The display also holds the time of the last MCU originated CDSP reset.

Data Display:

```
++++++++++++++++++++++++++
+ CDSP error and reset    +
+   and MCU reset time    +
+                         +
+ MCU resets         aaaa +
+ Fatal CDSP         bbbb +
+ Non fatal CDSP     cccc +
+ MCU reset time           +
+             ddddddddddd +
+                         +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(4)	MON	FTD_SB_PPC_MCU_GEN_ADSP_RESET	W:D	R	Number of MCU originated CDSP resets.
b(4)	MON	FTD_SB_PPC_ADSP_ORI_RESETS_TOTAL	W:D	R	Number of CDSP originated CDSP resets (fatal CDSP errors).
c(4)	MON	FTD_SB_PPC_ADSP_NON_FATAL_ERRORS_TOTAL	W:D	R	Number of non-fatal CDSP errors.
d(11)	MON	FTD_SB_ADSP_MCU_RESET_DATE	S	R	Date and time of the last MCU originated CDSP reset. Format: ddmmyy hhmm

Note! These are not PPC counters.

Display 12.04: Counters for specific CDSP non-fatal errors (Version: 1, Status: Approved)

This display holds information about specific non-fatal errors in the CDSP.

Data Display:

```
+++++++++++++++++++++++++++
+ Specific non-fatal CDSP +
+                         +
+ CDSP unrec    aaaa      +
+ Signal error  bbbb      +
+ Res  Res      cccc dddd +
+ Res  Res      eeee ffff +
+ Res  Res      gggg hhhh +
+                         +
+                         +
+++++++++++++++++++++++++++
```

Abbr	Server	Sub Block ID	Format	Mode	Description
a(4)	ADSP_CORE	FTD_SB_ADSP_SPECIFIC_ERR_CNT_1	W:D	R	Counter for unrecognised messages received by the CDSP.
b(4)	ADSP_CORE	FTD_SB_ADSP_SPECIFIC_ERR_CNT_2	W:D	R	Counter for errors when a signal is meant for its receiving process, but in different state of the process.
c(4)	ADSP_CORE	FTD_SB_ADSP_SPECIFIC_ERR_CNT_3	W:D	R	Reserved.
d(4)	ADSP_CORE	FTD_SB_ADSP_SPECIFIC_ERR_CNT_4	W:D	R	Reserved.
e(4)	ADSP_CORER	FTD_SB_ADSP_SPECIFIC_ERR_CNT_5	W:D	R	Reserved.
f(4)	ADSP_CORE	FTD_SB_ADSP_SPECIFIC_ERR_CNT_6	W:D	R	Reserved.
g(4)	ADSP_CORE	FTD_SB_ADSP_SPECIFIC_ERR_CNT_7	W:D	R	Reserved.
h(4)	ADSP_CORE	FTD_SB_ADSP_SPECIFIC_ERR_CNT_8	W:D	R	Reserved.

Note! These counters are not PPC counters.

Display 12.05: CDSP fatal error codes (Version: 3.13, Status: Approved)

This display holds four last fatal error codes. The display works in a FIFO principle. When a new error occurs all the errors are moved forward and if there are errors more than four, the oldest error code is removed. There are separate queues for fatal and non-fatal error codes. Also the ID of the last executed process is displayed after the error code. Codes and process IDs are in hexadecimal numbers.´

Data Display:

```
+++++++++++++++++++++++++++
+ CDSP fatal error codes  +
+                         +
+ Last 4 fatal    process +
+                         +
+ aaaaaaaa         bbb     +
+ cccccccc         ddd     +
+ eeeeeeee         fff     +
+ gggggggg         hhh     +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(8)	MON	FTD_SB_PPC_ADSP_ORI_RESETS_ERROR_CODES _1	DW:H	R	Last fatal error code.
b(3)	MON	FTD_SB_PPC_ADSP_ORI_RESETS_ERROR_TASK_ID_1	W:H	R	Last process running when the error occurred.
c(8)	MON	FTD_SB_PPC_ADSP_ORI_RESETS_ERROR_CODES _2	DW:H	R	Last – 1 fatal error code.
d(3)	MON	FTD_SB_PPC_ADSP_ORI_RESETS_ERROR_TASK_ID_2	W:H	R	Last process running when the error occurred.
e(8)	MON	FTD_SB_PPC_ADSP_ORI_RESETS_ERROR_CODES _3	DW:H	R	Last – 2 fatal error code.
f(3)	MON	FTD_SB_PPC_ADSP_ORI_RESETS_ERROR_TASK_ID_3	W:H	R	Last process running when the error occurred.
g(8)	MON	FTD_SB_PPC_ADSP_ORI_RESETS_ERROR_CODES _4	DW:H	R	Last – 3 fatal error code.
h(3)	MON	FTD_SB_PPC_ADSP_ORI_RESETS_ERROR_TASK_ID_4	W:H	R	Last process running when the error occurred.

Display 12.06: CDSP non-fatal error codes (Version: 1, Status: Approved)

This display holds four last non-fatal error codes. The display works in a FIFO principle. When a new error occurs all the errors are moved forward and if there are errors more than four, the oldest error code is removed. There are separate queues for fatal and non-fatal error codes. Also the ID of the last executed process is displayed after the error code. Codes and process IDs are in hexadecimal numbers.

Data Display:

```
+++++++++++++++++++++++++++
+ CDSP non-fatal errors    +
+                         +
+ Last 4 non-fat  process  +
+                         +
+ aaaaaaaa         bbb     +
+ cccccccc         ddd     +
+ eeeeeeee         fff     +
+ gggggggg         hhh     +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(8)	MON	FTD_SB_PPC_ADSP_NON_FATAL_ERRORS_CODE_1	DW :H	R	Last non-fatal error code.
b(3)	MON	FTD_SB_PPC_ADSP_NON_FATAL_ERROR_TASK_ID_1	W :H	R	Last process running when the error occurred.
c(8)	MON	FTD_SB_PPC_ADSP_NON_FATAL_ERRORS_CODE_2	DW :H	R	Last – 1 non-fatal error code.
d(3)	MON	FTD_SB_PPC_ADSP_NON_FATAL_ERROR_TASK_ID_2	W:H	R	Last process running when the error occurred.
e(8)	MON	FTD_SB_PPC_ADSP_NON_FATAL_ERRORS_CODE_3	DW :H	R	Last – 2 non-fatal error code.
f(3)	MON	FTD_SB_PPC_ADSP_NON_FATAL_ERROR_TASK_ID_3	W:H	R	Last process running when the error occurred.
g(8)	MON	FTD_SB_PPC_ADSP_NON_FATAL_ERRORS_CODE_4	DW:H	R	Last – 3 non-fatal error code.
h(3)	MON	FTD_SB_PPC_ADSP_NON_FATAL_ERROR_TASK_ID_4	W:H	R	Last process running when the error occurred.

Display 12.07: CDSP fatal error code timestamps (Version: 3.31, Status: Approved)

This display holds timestamps for fatal error codes in display 12.05.

Data Display:

```
++++++++++++++++++++++++++
+ CDSP fatal timestamps   +
+                         +
+ date            time    +
+                         +
+ aaaaaa          bbbb    +
+ cccccc          dddd    +
+ eeeeee          ffff    +
+ gggggg          hhhh    +
+                         +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(6)	MON	FTD_SB_ADSP_LAST_FATAL_ERR_CODE_DATE_1	S	R	Date of the last fatal error. Format: ddmmyy
b(4)	MON	FTD_SB_ADSP_LAST_FATAL_ERR_CODE_TIME_1	S	R	Clock time of the last fatal error. Format:hhmm
c(6)	MON	FTD_SB_ADSP_LAST_FATAL_ERR_CODE_DATE_2	S	R	Date of the last – 1 fatal error. Format: ddmmyy
d(4)	MON	FTD_SB_ADSP_LAST_FATAL_ERR_CODE_TIME_2	S	R	Clock time of the last – 1 fatal error. Format: hhmm
e(6)	MON	FTD_SB_ADSP_LAST_FATAL_ERR_CODE_DATE_3	S	R	Date of the last – 2 fatal error. Format: ddmmyy
f(4)	MON	FTD_SB_ADSP_LAST_FATAL_ERR_CODE_TIME_3	S	R	Clock time of the last – 2 fatal error. Format: hhmm
g(6)	MON	FTD_SB_ADSP_LAST_FATAL_ERR_CODE_DATE_4	S	R	Date of the last – 3 fatal error. Format: ddmmyy
h(4)	MON	FTD_SB_ADSP_LAST_FATAL_ERR_CODE_TIME_4	S	R	Clock time of the last - 3 fatal error. Format: hhmm

Display 12.08: CDSP non-fatal error code timestamps (Version: 3.31, Status: Approved)

This display holds timestamps for non-fatal error codes in display 12.06.

Data Display:

```
+++++++++++++++++++++++++++
+ CDSP non-fatal timest.  +
+                         +
+ date           time     +
+                         +
+ aaaaaa         bbbb     +
+ cccccc         dddd     +
+ eeeeee         ffff     +
+ gggggg         hhhh     +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(6)	MON	FTD_SB_ADSP_LAST_NON_FATAL_ERR_CODE_DATE_1	S	R	Date of the last non-fatal error. Format: ddmmyy
b(4)	MON	FTD_SB_ADSP_LAST_NON_FATAL_ERR_CODE_TIME_1	S	R	Clock time of the last non-fatal error. Format: hhmm
c(6)	MON	FTD_SB_ADSP_LAST_NON_FATAL_ERR_CODE_DATE_2	S	R	Date of the last – 1 non-fatal error. Format: ddmmyy
d(4)	MON	FTD_SB_ADSP_LAST_NON_FATAL_ERR_CODE_TIME_2	S	R	Clock time of the last – 1 non-fatal error. Format: hhmm
e(6)	MON	FTD_SB_ADSP_LAST_NON_FATAL_ERR_CODE_DATE_3	S	R	Date of the last – 2 non-fatal error. Format: ddmmyy
f(4)	MON	FTD_SB_ADSP_LAST_NON_FATAL_ERR_CODE_TIME_3	S	R	Clock time of the last – 2 non-fatal error. Format: hhmm
g(6)	MON	FTD_SB_ADSP_LAST_NON_FATAL_ERR_CODE_DATE_4	S	R	Date of the last – 3 non-fatal error. Format: ddmmyy
h(4)	MON	FTD_SB_ADSP_LAST_NON_FATAL_ERR_CODE_TIME_4	S	R	Clock time of the last - 3 non-fatal error. Format: hhmm

Display 12.09: Counters for failed application starts (Version: 1, Status: Approved)

This display holds counters for failed application starts.

Data Display:

```
+++++++++++++++++++++++++++
+ Failed applicat. starts +
+                         +
+ Audio          aaaa     +
+ Voice          bbbb     +
+ Midi           cccc     +
+ Video          dddd     +
+                         +
+ Res  Res       eeee ffff +
+ Res  Res       gggg hhhh +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
Aaaa	ADSP_CORE	FTD_SB_ADSP_APP_START_FAIL_CNT_1	W:D	R	Counter for failed audio application start requests.
bbbb	ADSP_CORE	FTD_SB_ADSP_APP_START_FAIL_CNT_2	W:D	R	Counter for failed voice application start requests.
Cccc	ADSP_CORE	FTD_SB_ADSP_APP_START_FAIL_CNT_3	W:D	R	Counter for failed midi application start requests.
Dddd	ADSP_CORE	FTD_SB_ADSP_APP_START_FAIL_CNT_4	W:D	R	Counter for failed video application start requests.
Eeee	ADSP_CORE	FTD_SB_ADSP_APP_START_FAIL_CNT_5	W:D	R	Reserved.
Ffff	ADSP_CORE	FTD_SB_ADSP_APP_START_FAIL_CNT_6	W:D	R	Reserved.
Gggg	ADSP_CORE	FTD_SB_ADSP_APP_START_FAIL_CNT_7	W:D	R	Reserved.
Hhhh	ADSP_CORE	FTD_SB_ADSP_APP_START_FAIL_CNT_8	W:D	R	Reserved.

Display 12.10: Common CDSP test data display (Version: 3.22, Status: Approved)

This display prompts for a number, which is then sent to the CDSP. The CDSP responds with four 12 character string, which are displayed by the FTD.

Data Display:

To select the test data to be show, perform following steps:

1. Press the Menu button.
2. Scroll in the main menu loop to field test display item.
3. Press the Select button.
4. Select this display in input mode by entering 1210 (CDSP SW platform; Common CDSP test data display) to the query prompt.
5. “INPUT” prompt will be shown on the display, ented data number.
6. Confirm with the Ok button.

Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	ADSP_CORE	FTD_SB_ADSP_TEST_INDEX	DW:D	R	Select data to be shown by giving the index of the data.
a(12)	ADSP_CORE	FTD_SB_ADSP_TEST_DATA_1	S	R	CDSP test data.
b(12)	ADSP_CORE	FTD_SB_ADSP_TEST_DATA_2	S	R	CDSP test data.
c(12)	ADSP_CORE	FTD_SB_ADSP_TEST_DATA_3	S	R	CDSP test data.
d(12)	ADSP_CORE	FTD_SB_ADSP_TEST_DATA_4	S	R	CDSP test data.

Group 41: WCDMA CDSP displays

The displays in this group show CDSP specific information.

Display 41.01: RACH MSG TX profile (Version: 3.19, Status: Approved)

RACH MSG TX profile shows detailed information about latest RACH message transmission procedure.

Data Display:

```
++++++++++++++++++++++++++
+ RACH MSG TX profile     +
+ Initial TxtxPower   aaa +
+ Po bbb Pp_m ccc SFN ddd +
+ A_slot ee   SubChan fff +
+ Lenght  g   Sign_m hhhh +
+ Sign_rnd iiii Pre   lll +
+ D_CH_G  k  C_CH_G j     +
+ Message m  data   n     +
+ Message tx power  ooo   +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	WCDMA_DSP_CS	FTD_WDSP_SB_INIT_TX_PWR	W:D	R,I,O	Initial transmission power, unit dBm. Value range –99 … +99.
b(3)	WCDMA_DSP_CS	FTD_WDSP_SB_TX_PO_PARAM	W:D	R,I,O	Po parameter, unit dBm. Value range –99 … +99.
c(3)	WCDMA_DSP_CS	FTD_WDSP_SB_TX_PP_M_PARAM	W:D	R,I,O	Pp_m parameter, unit dBm. Value range –99 … +99.
d(3)	WCDMA_DSP_CS	FTD_WDSP_SB_TX_START_TIMING	W:H	R,I,O	Base sfn for transmission start timing in hexadecimal format, value range 0x0 - 0xFFF
e(2)	WCDMA_DSP_CS	FTD_WDSP_SB_TX_FIRST_ACCESS_SLOT	B:D	R,I,O	First used access slot in decimal format, value range 0 … 59
f(3)	WCDMA_DSP_CS	FTD_WDSP_SB_TX_SUBCH_MASK	W:H	R,I,O	Subchannel mask in hexadecimal format, value range 0x0 … 0xFFF
g	WCDMA_DSP_CS	FTD_WDSP_SB_TX_MSG_LEN	B:D	R,I,O	Message length, two values: 1: 10 ms 2: 20 ms
h(4)	WCDMA_DSP_CS	FTD_WDSP_SB_TX_SIGSEL_MASK	W:H	R,I,O	Available signatures selection mask in hexadecimal format, value range 0x0 … 0xFFFF
I(4)	WCDMA_DSP_CS	FTD_WDSP_SB_TX_SIGSEL_RND	W:H	R,I,O	Signature selection random seed in hexadecimal format, value range 0x0 …0xFFFF
j	WCDMA_DSP_CS	FTD_WDSP_SB_TX_CTRL_CH_GAIN	B:H	R,I,O	Control channel gain in hexadecimal format, value range 0x0 … 0xF
k	WCDMA_DSP_CS	FTD_WDSP_SB_TX_DATA_CH_GAIN	B:H	R,I,O	Data channel gain in hexadecimal format, value range 0x0 … 0xF
l(3)	WCDMA_D	FTD_WDSP_SB_TX	W:H	R,I,O	Preamble transmission count in

	SP_CS	_PREAMP_COUNT			hexadecimal format, value range 0x0 …0xFFF
m	PN_WCDMA_DSP_CS	FTD_WDSP_SB_TX_MSG_RES	B:D	R,I,O	Message transmission result, three values: . 0: Message not transmitted 1: Message transmitted 2: Message transmission denied
n	PN_WCDMA_DSP_CS	FTD_WDSP_SB_TX_DATA_CH_SF	B:D	R,I,O	Data channel spreading factor, four values: 0: SF256 1: SF128 2: SF64 3: SF32
o(3)	PN_WCDMA_DSP_CS	FTD_WDSP_SB_TX_MSG_PWR	W:D	R,I,O	Message transmission power, unit dBm. Value range –99 … +99.

Display 41.02: Dedicated uplink channel power control status (Version: 3.24, Status: Approved)

This display gives a quick overview of the current uplink dedicated channel power control status. From this display the operating point of the uplink power control can be seen

Data Display:

```
+++++++++++++++++++++++++++
+ Dedicated tx power info +
+ Tx min/max       aaa bbb +
+ Tx current       ccc     +
+ Algo e  step f   SSDT  g  +
+ Tx loop       h  DPCCH i  +
+ Comp mode     j  sync  k  +
+ PhCh min l  PhCh max  m   +
+ PhCh average       nnnnn  +
+ Ul+ ooooo      Ul- ppppp  +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	WCDMA_DSP_CS	FTD_SB_WDSP_TX_MIN_PWR	W:D	R,I,O	Minimum TX power during the display update period, unit dBm. Value range –99 … +99.
b(3)	WCDMA_DSP_CS	FTD_SB_WDSP_TX_MAX_PWR	W:D	R,I,O	Maximum TX power during the display update period, unit dBm. Value range –99 … +99.
c(3)	WCDMA_DSP_CS	FTD_SB_WDSP_TX_CUR_PWR	W:D	R,I,O	Current TX power at display update time, unit dBm. Value range –99 … +99.
e	WCDMA_DSP_CS	FTD_SB_WDSP_TX_PWR_CTRL_ALG	B:D	R,I,O	Current power control algorithm type, 1 = power control algorithm 1 2 = power control algorithm 2
f	WCDMA_DSP_CS	FTD_SB_WDSP_TX_PWR_STEP	B:D	R,I,O	Current power control step size, unit dB, value range 1 .. 2.

Abbr.	Server	Sub Block ID	Format	Mode	Description
g	WCDMA_DSP_CS	FTD_SB_WDSP_TX_SSDT	B:D	R,I,O	Current SSDT state values: 0: not active 1: active
h	WCDMA_DSP_CS	FTD_SB_WDSP_TX_DIV_MODE	B:D	R,I,O	TX closed loop diversity state, values: 0: not active 1: Closed loop mode 1 2: Closed loop mode 2
I	WCDMA_DSP_CS	FTD_SB_WDSP_TX_DPCCH_FFORM	B:D	R,I,O	DPCCH frame format, value range 0 …5.
j	WCDMA_DSP_CS	FTD_SB_WDSP_TX_CM_MODE	B:D	R,I,O	Compressed mode used during display update period, values: 0: No compressed mode 1: Compressed mode active
k	WCDMA_DSP_CS	FTD_SB_WDSP_TX_OOS	B:D	R,I,O	Out of sync state visited during display update period, values: 0: No out of sync 1: Out of sync active
l	WCDMA_DSP_CS	FTD_SB_WDSP_TX_MIN_PHCH_BIT_RATE	B:H	R,I,O	Minimum PhCh bit rate used in the uplink frames during display update period. Value range is 0 …12, shown as hexadecimal number. Value coding is as follows: Range 0: 0 Range 1-6: 2^(L - 1) * 150 Range 8-12: (L - 6) * 9600
m	WCDMA_DSP_CS	FTD_SB_WDSP_TX_MAX_PHCH_BIT_RATE	B:H	R,I,O	Maximum PhCh bit rate used in the uplink frames during display update period. Value range is 0 …12, shown as hexadecimal number. Value coding is as follows: Range 0: 0 Range 1-6: 2^(m - 1) * 150 Range 8-12: (m - 6) * 9600
n(5)	WCDMA_DSP_CS	FTD_SB_WDSP_TX_AVR_PHCH_BIT_RATE	W:D	R,I,O	Average PhCH frame bit rate during display update period, value range 0 …57600
o(5)	WCDMA_DSP_CS	FTD_SB_WDSP_TX_NUM_OF_UL_INC_PWR_COMMANDS	DW:D	R,I,O	Amount of derived "increase power" uplink power control commands during display update period. Value range 0 .. 99999.
p(5)	WCDMA_DSP_CS	FTD_SB_WDSP_TX_NUM_OF_UL_DEC_PWR_COMMANDS	DW:D	R,I,O	Amount of derived "decrease power" uplink power control commands during display update period. Value range 0 … 99999.

Display 41.03: Dedicated downlink channel power control status (Version: 3.19, Status: Approved)

This display gives a quick overview of the current downlik dedicated channel power control status. From this display the operating point of the downlink power control can be seen

Data Display:

```
+++++++++++++++++++++++++++
+ Dedicated tx power info +
+                         +
+ SIR minimum        aaaa +
+ SIR maximum        bbbb +
+ SIR current        cccc +
+ Downlink increase ddddd +
+ Downlink decrease eeeee +
+                         +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(4)	WCDMA_DSP_CS	FTD_SB_WDSP_TARGET_SIR_MIN	W:D	R,I,O	Minimum target SIR value during display update period. Unit is dBm / 10. Value range is –320 … 310.
b(4)	WCDMA_DSP_CS	FTD_SB_WDSP_TARGET_SIR_MAX	W:D	R,I,O	Maximum target SIR value during display update period. Unit is dBm / 10 Value range is –320 … 310.
c(4)	WCDMA_DSP_CS	FTD_SB_WDSP_TARGET_SIR_CURRENT	W:D	R,I,O	Current target SIR at display update time. Unit is dBm / 10. Value range is –320 … 310.
d(5)	WCDMA_DSP_CS	FTD_SB_WDSP_NUM_OF_DL_INC_PWR_COMMANDS	DW:D	R,I,O	Amount of sent "increase power" downlink power control commands during display update period. Value range is 0 … 99999
e(5)	WCDMA_DSP_CS	FTD_SB_WDSP_NUM_OF_DL_DEC_PWR_COMMANDS	DW:D	R,I,O	Amount of sent "decrease power" downlink power control commands during display update period. Value range is 0 … 99999

Display 41.04: WCDMA AFC status (Version: 3.13, Status: Approved)

The purpose of the display is to monitor WCDMA AFC behavior (including aging algorithm).

Data Display:

```
+++++++++++++++++++++++++++
+ WCDMA AFC status        +
+                         +
+ AFC DAC init       aaaa +
+ AFC DAC current    bbbb +
+ AFC DAC minimum    cccc +
+ AFC DAC maximum    dddd +
+                         +
+                         +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(4)	WCDMA_DSP_CS	FTD_SB_WDSP_AFC_INIT_DAC	W:D	R	Initial AFC DAC setting. Value range 0 to 2047.
b(4)	WCDMA_DSP_CS	FTD_SB_WDSP_AFC_CURR_DAC	W:D	R	Current AFC DAC setting. Value range 0 to 2047.
c(4)	WCDMA_DSP_CS	FTD_SB_WDSP_AFC_MIN_CURR_DAC	W:D	R	Minimum AFC DAC setting during display update period. Value range 0 to 2047.
d(4)	WCDMA_DSP_CS	FTD_SB_WDSP_AFC_MAX_CURR_DAC	W:D	R	Maximum AFC DAC setting during display update period. Value range 0 to 2047.

Display 41.05: CDSP load status (Version: 3.19, Status: Approved)

This display gives information about the CDSP processor load.

Data Display:

```
+++++++++++++++++++++++++++
+ CDSP load status        +
+ Act mode          aaaaa% +
+ very light sleep  bbbbb% +
+ light sleep       ccccc% +
+ deep sleep        ddddd% +
+ Act mode          eeeeee +
+ very light sleep  ffffff +
+ light sleep       gggggg +
+ deep sleep        hhhhhh +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(5)	WCDMA_DSP_CS	FTD_SB_WDSP_LOAD_ACT_PORTION	W:D	R	Amount of time spent in active mode during display update period. Value is relative portion, range 0 ... 10000.
b(5)	WCDMA_DSP_CS	FTD_SB_WDSP_LOAD_VLS_PORTION	W:D	R	Amount of time spent in very light sleep mode during display update period. Value is relative portion, range 0 ... 10000.
c(5)	WCDMA_DSP_CS	FTD_SB_WDSP_LOAD_LS_PORTION	W:D	R	Amount of time spent in light sleep mode during display update period. Value is relative portion, range 0 ... 10000.
d(5)	WCDMA_DSP_CS	FTD_SB_WDSP_LOAD_DS_PORTION	W:D	R	Amount of time spent in deep sleep mode during display update period. Value is relative portion, range 0 ... 10000.
e(6)	WCDMA_DSP_CS	FTD_SB_WDSP_LOAD_ACT_CYCLES	DW:H	R	Amount of time spent in active mode during display update period. Value is sleep clock cycles (one cycle duration is approximately 30.5 μs).

Abbr.	Server	Sub Block ID	Format	Mode	Description
f(6)	WCDMA_DSP_CS	FTD_SB_WDSP_LOAD_VLS_CYCLES	DW:H	R	Amount of time spent in very light sleep mode during display update period. Value is sleep clock cycles (one cycle duration is approximately 30.5 µs).
g(6)	WCDMA_DSP_CS	FTD_SB_WDSP_LOAD_LS_CYCLES	DW:H	R	Amount of time spent in light sleep mode during display update period. Value is sleep clock cycles (one cycle duration is approximately 30.5 µs).
h(6)	WCDMA_DSP_CS	FTD_SB_WDSP_LOAD_DS_CYCLES	DW:H	R	Amount of time spent in deep sleep mode during display update period. Value is sleep clock cycles (one cycle duration is approximately 30.5 µs).

Display 41.06: Downlink receiver gain control status (Version: 3.28, Status: Approved)

This display gives information about WCDMA downlink receiver gain control operating point.

Data Display:

```
+++++++++++++++++++++++++++
+ Downlink rx gain status +
+                         +
+ Rx ana/digi      aa fff +
+ BB amp   bb  Gain pre c +
+ LNA state d  LNA bias e +
+ RSSI before FIR    gggg +
+ RSSI after FIR     hhhh +
+ Amp estim analog   iiii +
+ Amp estim digital  jjjj +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(2)	WCDMA_DSP_CS	FTD_SB_WDSP_RX_GAIN_ANA_AGC_DB_COUNT	B:D	R	Analog AGC's RX_dB counter. Value range 0…27.
b(2)	WCDMA_DSP_CS	FTD_SB_WDSP_RX_GAIN_BB_AMP	B:D	R	Control word of BB amplifier. Value range 0…18.
c	WCDMA_DSP_CS	FTD_SB_WDSP_RX_GAIN_PRE_AMP	B:D	R	Gain of preamplifier. 0 = minimum gain 1 = maximum gain
d	WCDMA_DSP_CS	FTD_SB_WDSP_RX_GAIN_LNA	B:D	R	LNA state. 3 = LNA has maximum gain 1 = LNA has middle gain 0 = LNA has minimum gain
e	WCDMA_DSP_CS	FTD_SB_WDSP_RX_GAIN_LNA_BIAS	B:H	R	LNA bias state. 1 = half bias current 0 = normal bias current

Abbr.	Server	Sub Block ID	Format	Mode	Description
f(3)	WCDMA_DSP_CS	FTD_SB_WDSP_RX_GAIN_DIGI_AGC_DB_COUNT	W:D	R	Digital AGC's RX_dB counter. Value range 0 … 511.
g(4)	WCDMA_DSP_CS	FTD_SB_WDSP_RX_GAIN_RSSI_ANA_DBM	W:D	R	RSSI before FIR, range –240 … +20 (-120 dBm … +10 dBm) , unit dBm, format q1_16
h(4)	WCDMA_DSP_CS	FTD_SB_WDSP_RX_GAIN_RSSI_DIGI_DBM	W:D	R	RSSI after FIR, range –240 … +20 (-120 dBm … +10 dBm) unit dBm, format q1_16
I(4)	WCDMA_DSP_CS	FTD_SB_WDSP_RX_GAIN_ANA_AMP_EST	W:H	R	Amplitude estimate of analog AGC. Value range 0x0000…0xFFFF
j(4)	WCDMA_DSP_CS	FTD_SB_WDSP_RX_GAIN_DIGI_AMP_EST	W:H	R	Amplitude estimate of digital AGC. Value range 0x0000…0xFFFF

Display 41.07: WCDMA rake receiver status (Version: 3.13, Status: Approved)

This display gives information about WCDMA downlink rake receiver operating point

Data Display:

```
++++++++++++++++++++++++++++
+ WCDMA rake receiver      +
+                          +
+ Active BS              a +
+ Active PHCH            b +
+ Fingers                c +
+ Delay               dddd +
+ Master fingers        ee +
+ Finger alloc ffffffffff +
+ Finger algor gggggggggg +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a	WCDMA_DSP_CS	FTD_SB_WDSP_RAKE_NUM_OF_ACTIVE_BS	B:D	R	Number of active BSs in rake. Value range 0 … 6.
b	WCDMA_DSP_CS	FTD_SB_WDSP_RAKE_NUM_OF_ACTIVE_PHCH	B:D	R	Number of active PHCHs in rake. Value range 0 … 3.
c	WCDMA_DSP_CS	FTD_SB_WDSP_RAKE_NUM_OF_USED_FINGERS	B:D	R	Number of allocated fingers i.e multipaths (filtered average over 50 frames). Value range 0 … 8.
d(4)	WCDMA_DSP_CS	FTD_SB_WDSP_RAKE_DELAY_SPREAD	W:D	R	Time difference of 1st and last multipath used for combining, value range 0 … 5120, unit 0.1 chips.

Abbr.	Server	Sub Block ID	Format	Mode	Description
e(2)	WCDMA_DSP_CS	FTD_SB_WDSP_RAKE_ALLOCATED_MASTERS	B:H	R	Currently allocated master fingers. Bit #0 (mask 0x01) = Master finger 0 Bit #1 (mask 0x02) = Master finger 1 … Bit #7 (mask 0x80)= Master finger 7
f(10)	WCDMA_DSP_CS	FTD_SB_WDSP_RAKE_ALLOC_COUNT	DW:D	R	Number of finger allocations done during display update period on current PhCHs.
g(10)	WCDMA_DSP_CS	FTD_SB_WDSP_RAKE_ALLOC_CALL_COUNT	DW:D	R	Number of finger allocation algorithm calls done during display update period on current PhCHs.

Display 41.08: WCDMA decoder status (Version: 3.13, Status: Approved)

This display gives a quick overview of the current decoder internal values regarding reception quality and sync status

Data Display:

```
++++++++++++++++++++++++++
+ WCDMA decoder status    +
+                         +
+ TFCI forced        aaaa +
+ TFCI BER           bbbb +
+ BER cccc      BLER dddd +
+ Sync lost          eeee +
+ Sync status           f +
+ Spreading factor    ggg +
+ Slot format          hh +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(4)	WCDMA_DSP_CS	FTD_SB_WDSP_DEC_FORCED_TFCI	W:H	R	Number of forced TFCI values in display update period.
b(4)	WCDMA_DSP_CS	FTD_SB_WDSP_DEC_TFCI_BER	W:H	R	TFCI BER averaged over display update period.
c(4)	WCDMA_DSP_CS	FTD_SB_WDSP_DEC_BER	W:H	R	BER used by the sync status algorithm (based on the TPC or the PILOT bits, depending on the situation). Averaged over display update period.
d(4)	WCDMA_DSP_CS	FTD_SB_WDSP_DEC_BLER	W:H	R	BLER in q12_16 format. This is the combined BLER for all the trch with BLER being measured, used by outer loop power control (averaged over display update period)
e(4)	WCDMA_DSP_CS	FTD_SB_WDSP_DEC_SYNC_LOST	W:H	R	Number of times the phone lost sync since the activation of the display.

Abbr.	Server	Sub Block ID	Format	Mode	Description
f	WCDMA_DSP_CS	FTD_SB_WDSP_DEC_SYNC_STATUS	B:D	R	SYNC sync status: 0 out of sync 1 in sync
g(3)	WCDMA_DSP_CS	FTD_SB_WDSP_DEC_SPREADING_FACTOR	B:D	R	Spreading factor
h(2)	WCDMA_DSP_CS	FTD_SB_WDSP_DEC_SLOT_FORMAT	B:D	R	Slot format used in the physical channel

Display 41.09: Common WCDMA DSP CS scratchpad display (interactive) (Version: 3.19, Status: Approved)

This display provides a generic display template that can be used to display any data on field test display. This display is needed in order to be able to support for the various needs detected in field testing. With this display quick test-specific temporary displays can be easily added to support specific problems detected in field testing.The display prompts for an index and then shows the data associated with the given index. Use the following steps to activate this display. The display is not activated if the arrow (∧∨) buttons are used.

1. Press the Menu button.
2. Scroll in the main menu loop to field test display item.
3. Press the Select button.
4. Select this display by giving the display number 4109 to the query prompt.
5. Test input prompt will be shown on the display. Enter scratchpad index.
6. Confirm with the Ok button.
7. Data associated with the given index is shown if the activation was successful.

Data Display:

```
++++++++++++++++++++++++++
+ Interactive CDSP        +
+ scratchpad display      +
+                         +
+ aaaaaaaaaaaa            +
+ bbbbbbbbbbbb            +
+ cccccccccccc            +
+ dddddddddddd            +
+                         +
+                         +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	WCDMA_DSP_CS	FTD_SB_WDSP_SCRATCHPAD_INDEX	DW:D	R	Scratchpad index, see project specific documentation.
a(12)	WCDMA_DSP_CS	FTD_SB_WDSP_SCRATCHPAD_DATA1	S	R	FTD data 0 … 12 character string

Abbr.	Server	Sub Block ID	Format	Mode	Description
b(12)	WCDMA_DSP_CS	FTD_SB_WDSP_SCRATCHPAD_DATA2	S	R	FTD data 0 … 12 character string
c(12)	WCDMA_DSP_CS	FTD_SB_WDSP_SCRATCHPAD_DATA3	S	R	FTD data 0 … 12 character string
d(12)	WCDMA_DSP_CS	FTD_SB_WDSP_SCRATCHPAD_DATA4	S	R	FTD data 0 … 12 character string

Display 41.10: FDD neighbour cell summary (Version: 3.13, Status: Approved)

This displays summarises the number of cells in the active, monitored, detected and undetected sets on the 3 frequencies. Active and detected sets only contain cells on the home frequency

Data Display:

```
+++++++++++++++++++++++++++
+ FDD neighbour cell info +
+ Active cells          aa +
+ Intra cells           bb +
+ Inter 1 freq          cc +
+ Inter 2 freq          dd +
+ Detected cells        ee +
+ Intra cells undetect  ff +
+ Inter 1 freq undet    gg +
+ Inter 2 freq undet    hh +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(2)	WCDMA_DSP_CS	FTD_SB_WDSP_CELL_SUM_INTRA_ACTIVE	W:D	R,I,O	Number of cells in the active set
b(2)	WCDMA_DSP_CS	FTD_SB_WDSP_CELL_SUM_INTRA_MON	W:D	R,I,O	Number of cells in intra-freq monitired set
c(2)	WCDMA_DSP_CS	FTD_SB_WDSP_CELL_SUM_INTER1_MON	W:D	R,I,O	Number of cells in Inter 1 freq monitored set
d(2)	WCDMA_DSP_CS	FTD_SB_WDSP_CELL_SUM_INTER2_MON	W:D	R,I,O	Number of cells in Inter 2 freq monitored set
e(2)	WCDMA_DSP_CS	FTD_SB_WDSP_CELL_SUM_INTRA_DET	W:D	R,I,O	Number of cells in detected set
f(2)	WCDMA_DSP_CS	FTD_SB_WDSP_CELL_SUM_INTRA_UNDET	W:D	R,I,O	Number of cells in Intra freq neighbour list that are undetected
g(2)	WCDMA_DSP_CS	FTD_SB_WDSP_CELL_SUM_INTER1_UNDET	W:D	R,I,O	Number of cells in Inter1 freq neighbour list that are undetected

Abbr.	Server	Sub Block ID	Format	Mode	Description
h(2)	WCDMA_DSP_CS	FTD_SB_WDSP_CELL_SUM_INTER2_UNDET	W:D	R,I,O	Number of cells in Inter2 freq neighbour list that are undetected

Display 41.11: FDD ranking summary (Version: 3.24, Status: Approved)

This display shows the 4 highest ranked cells. The ranking criteria (RSCP, EcNo) will be automatically selected based on the parameters received from the network

Data Display:

```
+++++++++++++++++++++++++++
+ FDD ranking summary     +
+ Freq1   BS1   System    +
+ aaaaa   eee         i   +
+ Freq2   BS2   System    +
+ bbbbb   fff         j   +
+ Freq3   BS3   System    +
+ ccccc   ggg         k   +
+ Freq4   BS4   System    +
+ ddddd   hhh         l   +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(5)	WCDMA_DSP_CS	FTD_SB_WDSP_RANK_FREQ_1	W:D	R,I,O	Cell 1 frequency code, center frequency is value / 5.
b(5)	WCDMA_DSP_CS	FTD_SB_WDSP_RANK_FREQ_2	W:D	R,I,O	Cell 2 frequency code, center frequency is value / 5.
c(5)	WCDMA_DSP_CS	FTD_SB_WDSP_RANK_FREQ_3	W:D	R,I,O	Cell 3 frequency code, center frequency is value / 5.
d(5)	WCDMA_DSP_CS	FTD_SB_WDSP_RANK_FREQ_4	W:D	R,I,O	Cell 4 frequency code, center frequency is value / 5.
e(3)	WCDMA_DSP_CS	FTD_SB_WDSP_RANK_BSID_1	W:D	R,I,O	Cell 1 BS ID
f(3)	WCDMA_DSP_CS	FTD_SB_WDSP_RANK_BSID_2	W:D	R,I,O	Cell 2 BS ID
g(3)	WCDMA_DSP_CS	FTD_SB_WDSP_RANK_BSID_3	W:D	R,I,O	Cell 3 BS ID
h(3)	WCDMA_DSP_CS	FTD_SB_WDSP_RANK_BSID_4	W:D	R,I,O	Cell 4 BS ID

Abbr.	Server	Sub Block ID	Format	Mode	Description
i	WCDMA_DSP_CS	FTD_SB_WDSP_RANK_SYSTEM_1	S	R,I,O	FDD home cell = "W", FDD neighbour cell = "w" GSM neigbour cell = "g" Data not available = "-" In case data is not available also corresponding frequency and BS ID field values are meaningless.
j	WCDMA_DSP_CS	FTD_SB_WDSP_RANK_SYSTEM_2	S	R,I,O	FDD home cell = "W", FDD neighbour cell = "w" GSM neigbour cell = "g" Data not available = "-" In case data is not available also corresponding frequency and BS ID field values are meaningless.
k	WCDMA_DSP_CS	FTD_SB_WDSP_RANK_SYSTEM_3	S	R,I,O	FDD home cell = "W", FDD neighbour cell = "w" GSM neigbour cell = "g" Data not available = "-" In case data is not available also corresponding frequency and BS ID field values are meaningless.
l	WCDMA_DSP_CS	FTD_SB_WDSP_RANK_SYSTEM_4	S	R,I,O	FDD home cell = "W", FDD neighbour cell = "w" GSM neigbour cell = "g" Data not available = "-" In case data is not available also corresponding frequency and BS ID field values are meaningless.

Display 41.12: FDD Frequency summary (Version: 3.13, Status: Approved)

This display shows the RSSI measured on the 3 FDD frequencies being used by the UE

Data Display:

```
+++++++++++++++++++++++++++
+ FDD frequency summary   +
+                         +
+ Freq        INTRA RSSI   +
+ aaaaa       dddd         +
+ Freq        INTRA RSSI   +
+ bbbbb       eeee         +
+ Freq        INTRA RSSI   +
+ ccccc       ffff         +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(5)	WCDMA_DSP_CS	FTD_SB_WDSP_FREQ_INTRA	W:D	R,I,O	Frequency code of home cell, center frequency is value / 5.
b(5)	WCDMA_DSP_CS	FTD_SB_WDSP_FREQ_INTER1	W:D	R,I,O	Frequency code of measured frequency 1, center frequency is value / 5.
c(5)	WCDMA_DSP_CS	FTD_SB_WDSP_FREQ_INTER2	W:D	R,I,O	Frequency code of measured frequency 2, center frequency is value / 5.
d(4)	WCDMA_DSP_CS	FTD_SB_WDSP_RSSI_INTRA	W:D	R,I,O	INTRA RSSI * -10
e(4)	WCDMA_DSP_CS	FTD_SB_WDSP_RSSI_INTER1	W:D	R,I,O	INTER1 RSSI * -10
f(4)	WCDMA_DSP_CS	FTD_SB_WDSP_RSSI_INTER2	W:D	R,I,O	INTER2 RSSI * - 10

Display 41.13: FDD intra frequency neighbour summary (Version: 3.13, Status: Approved)

This displays shows the status of eight best ranked neighbour cells on home cell frequency

Data Display:

```
+++++++++++++++++++++++++++
+ FDD intra freq neigh    +
+ Stat ID  Ec Stat ID  Ec +
+    a bbb cc    d eee ff +
+ Stat ID Ec  Stat ID  Ec +
+    g hhh ii    j kkk ll +
+ Stat ID Ec  Stat ID  Ec +
+    m nnn oo    p qqq rr +
+ Stat ID Ec  Stat ID  Ec +
+    s ttt uu    v xx  yy +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description

Abbr.	Server	Sub Block ID	Format	Mode	Description
a	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTRA_STATUS_1	S	R,I,O	BS status “a” = Active set, STTD not active on PCCPCH. “m” = Monitored set, STTD not active on PCCPCH. “d” = Detected set, STTD not active on PCCPCH. “u” = Undetected, STTD not active on PCCPCH. “n” = Not listed or detected, STTD not active on PCCPCH. “A” = Active set, STTD active on PCCPCH. “M” = Monitored set, STTD active on PCCPCH. “D” = Detected set, STTD active on PCCPCH. “U” = Undetected, STTD active on PCCPCH. “N” = Not listed or detected, STTD active on PCCPCH.
b(3)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTRA_BSID_1	W:D	R,I,O	BS ID on INTRA
c(2)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTRA_ECNO_1	W:D	R,I,O	Cell Ec/No * -1
d	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTRA_STATUS_2	S	R,I,O	BS status
e(3)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTRA_BSID_2	W:D	R,I,O	BS ID on INTRA
f(2)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTRA_ECNO_2	W:D	R,I,O	Cell Ec/No * -1
g	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTRA_STATUS_3	S	R,I,O	BS status
h(3)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTRA_BSID_3	W:D	R,I,O	BS ID on INTRA
I(2)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTRA_ECNO_3	W:D	R,I,O	Cell Ec/No * -1
j	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTRA_STATUS_4	S	R,I,O	BS status

Abbr.	Server	Sub Block ID	Format	Mode	Description
k(3)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTRA_BSID_4	W:D	R,I,O	BS ID on INTRA
l(2)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTRA_ECNO_4	W:D	R,I,O	Cell Ec/No * -1
m	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTRA_STATUS_5	S	R,I,O	BS status
n(3)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTRA_BSID_5	W:D	R,I,O	BS ID on INTRA
o(2)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTRA_ECNO_5	W:D	R,I,O	Cell Ec/No * -1
p	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTRA_STATUS_6	S	R,I,O	BS status
q(3)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTRA_BSID_6	W:D	R,I,O	BS ID on INTRA
r(2)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTRA_ECNO_6	W:D	R,I,O	Cell Ec/No * -1
s	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTRA_STATUS_7	S	R,I,O	BS status
t(3)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTRA_BSID_7	W:D	R,I,O	BS ID on INTRA
u(2)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTRA_ECNO_7	W:D	R,I,O	Cell Ec/No * -1
v	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTRA_STATUS_8	S	R,I,O	BS status
x(3)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTRA_BSID_8	W:D	R,I,O	BS ID on INTRA
y(2)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTRA_ECNO_8	W:D	R,I,O	Cell Ec/No * -1

Displays 41.14 – 41.15: FDD inter frequencies 1 and 2 neighbour summary (Version: 3.13, Status: Approved)

These two displays show the status of eight best ranked neighbour cells on inter frequencies 1 and 2. Display 41.14 shows inter frequency 1 summary and 41.15 inter frequency 2 summary.

Data Display:

```
+++++++++++++++++++++++++++
+ FDD inter freq neigh    +
+ Stat ID  Ec Stat ID  Ec +
+    a bbb cc    d eee ff +
+ Stat ID Ec  Stat ID  Ec +
+    g hhh ii    j kkk ll +
+ Stat ID Ec  Stat ID  Ec +
+    m nnn oo    p qqq rr +
+ Stat ID Ec  Stat ID  Ec +
+    s ttt uu    v xxx yy +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTERx_STATUS_1	S	R,I,O	BS status “a” = Active set, STTD not active on PCCPCH. “m” = Monitored set, STTD not active on PCCPCH. “d” = Detected set, STTD not active on PCCPCH. “u” = Undetected, STTD not active on PCCPCH. “n” = Not listed or detected, STTD not active on PCCPCH. “A” = Active set, STTD active on PCCPCH. “M” = Monitored set, STTD active on PCCPCH. “D” = Detected set, STTD active on PCCPCH. “U” = Undetected, STTD active on PCCPCH. “N” = Not listed or detected, STTD active on PCCPCH.
b(3)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTERx_BSID_1	W:D	R,I,O	BS ID on INTERx
c(2)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTERx_ECNO_1	W:D	R,I,O	Cell Ec/No * -1
d	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTERx_STATUS_2	S	R,I,O	BS status
e(3)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTERx_BSID_2	W:D	R,I,O	BS ID on INTERx

Abbr.	Server	Sub Block ID	Format	Mode	Description
f(2)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTERx_ECNO_2	W:D	R,I,O	Cell Ec/No * -1
g	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTERx_STATUS_3	S	R,I,O	BS status
h(3)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTERx_BSID_3	W:D	R,I,O	BS ID on INTERx
I(2)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTERx_ECNO_3	W:D	R,I,O	Cell Ec/No * -1
j	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTERx_STATUS_4	S	R,I,O	BS status
k(3)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTERx_BSID_4	W:D	R,I,O	BS ID on INTERx
l(2)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTERx_ECNO_4	W:D	R,I,O	Cell Ec/No * -1
m	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTERx_STATUS_5	S	R,I,O	BS status
n(3)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTERx_BSID_5	W:D	R,I,O	BS ID on INTERx
o(2)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTERx_ECNO_5	W:D	R,I,O	Cell Ec/No * -1
p	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTERx_STATUS_6	S	R,I,O	BS status
q(3)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTERx_BSID_6	W:D	R,I,O	BS ID on INTERx
r(2)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTERx_ECNO_6	W:D	R,I,O	Cell Ec/No * -1
s	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTERx_STATUS_7	S	R,I,O	BS status
t(3)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTERx_BSID_7	W:D	R,I,O	BS ID on INTERx
u(2)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTERx_ECNO_7	W:D	R,I,O	Cell Ec/No * -1
v	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTERx_STATUS_8	S	R,I,O	BS status
x(3)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTERx_BSID_8	W:D	R,I,O	BS ID on INTERx

Abbr.	Server	Sub Block ID	Format	Mode	Description
y(2)	WCDMA_DSP_CS	FTD_SB_WDSP_DETECT_INTERx_ECNO_8	W:D	R,I,O	Cell Ec/No * -1

where “x” denotes the number of the inter frequence., x=1 in display 41.14 and x=2 in display 41.15.

Display 41.16: FDD mode GSM cell detection summary (Version: 3.13, Status: Approved)

Displays the top 4 GSM cells showing the frequency code, measured RSSI and if the BSIC has been verified.

Data Display:

```
+++++++++++++++++++++++++++
+ FDD mode GSM cell detec +
+ GSM1    RSSI     Verified +
+ aaaa    eeee     i        +
+ GSM2    RSSI     Verified +
+ bbbb    ffff     j        +
+ GSM3    RSSI     Verified +
+ cccc    gggg     k        +
+ GSM4    RSSI     Verified +
+ dddd    hhhh     l        +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(4)	WCDMA_DSP_CS	FTD_SB_WDSP_GSM_FREQ_1	W:D	R,I,O	GSM Cell 1 frequency code
b(4)	WCDMA_DSP_CS	FTD_SB_WDSP_GSM_FREQ_2	W:D	R,I,O	GSM Cell 2 frequency code
c(4)	WCDMA_DSP_CS	FTD_SB_WDSP_GSM_FREQ_3	W:D	R,I,O	GSM Cell 3 frequency code
d(4)	WCDMA_DSP_CS	FTD_SB_WDSP_GSM_FREQ_4	W:D	R,I,O	GSM Cell 4 frequency code
e(4)	WCDMA_DSP_CS	FTD_SB_WDSP_GSM_RSSI_1	W:D	R,I,O	Cell 1 RSSI *-10
f(4)	WCDMA_DSP_CS	FTD_SB_WDSP_GSM_RSSI_2	W:D	R,I,O	Cell 2 RSSI *-10
g(4)	WCDMA_DSP_CS	FTD_SB_WDSP_GSM_RSSI_3	W:D	R,I,O	Cell 3 RSSI *-10
h(4)	WCDMA_DSP_CS	FTD_SB_WDSP_GSM_RSSI_4	W:D	R,I,O	Cell 4 RSSI *-10

Abbr.	Server	Sub Block ID	Format	Mode	Description
l	WCDMA_DSP_CS	FTD_SB_WDSP_GSM_STATUS_1	S	R,I,O	Cell 1 verified status “V”=verified, “N” = Not verified
j	WCDMA_DSP_CS	FTD_SB_WDSP_GSM_STATUS_2	S	R,I,O	Cell 2 verified status “V”=verified, “N” = Not verified
k	WCDMA_DSP_CS	FTD_SB_WDSP_GSM_STATUS_3	S	R,I,O	Cell 3 verified status “V”=verified, “N” = Not verified
l	WCDMA_DSP_CS	FTD_SB_WDSP_GSM_STATUS_4	S	R,I,O	Cell 4 verified status “V”=verified, “N” = Not verified

Display 41.17: FDD detailed cell info (interactive): (Version: 3.16, Status: Approved)

This display promts for a cell frequence code and BSID and shows info about the selected cell.

Use the following steps to activate this display in interactive mode. The display is not activated if the arrow (∧∨) buttons are used.

1. Press the Menu button.
2. Scroll in the main menu loop to field test display item.
3. Press the Select button.
4. Select this display by giving the display number 4117 to the query prompt.
5. Test input prompt will be shown on the display. Enter frequency code and BSID as specified in the table below.
6. Confirm with the Ok button.
7. Info about the cell is shown if the activation was successful.

Data Display:

```
++++++++++++++++++++++++++++
+ FDD detailed cell info   +
+                          +
+ Frequency code    aaaaa  +
+ RSSI  bbbb   BsID   ccc  +
+ R_Order dd   BsStatus e  +
+ Syncro   f   TxDiv    g  +
+ Frame timing      hhhhh  +
+ SCPICH   l   EcNO   jjj  +
+ RSCP  kkkk               +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	WCDMA_DSP_CS	FTD_SB_WDSP_CELL_INPUT	DW:D	R,O.I	Format xxxxxyyy, where xxxxx:: frequency code (decimal) yyy: BSID (decimal)
a(5)	WCDMA_DSP_CS	FTD_SB_WDSP_CELL_DETAIL_FREQ	W:D	R,I,O	Frequency code

Abbr.	Server	Sub Block ID	Format	Mode	Description
b(4)	WCDMA_DSP_CS	FTD_SB_WDSP_CELL_DETAIL_RSSI	W:D	R,I,O	RSSI * -10
c(3)	WCDMA_DSP_CS	FTD_SB_WDSP_CELL_DETAIL_BSID	W:D	R,I,O	BS ID
d(2)	WCDMA_DSP_CS	FTD_SB_WDSP_CELL_DETAIL_RANK	W:D	R,I,O	cell ranking order
e	WCDMA_DSP_CS	FTD_SB_WDSP_CELL_DETAIL_STATUS	S	R,I,O	BS status “A” = Active set “M” = Monitored set “D” = Detected set “U” = Undetected “N” = Not listed or detected
f	WCDMA_DSP_CS	FTD_SB_WDSP_CELL_DETAIL_SYNC	S	R,I,O	Cell syncronization status: “N” = Not syncronized, “S” = Syncronized “D” = SFN Decoded
g	WCDMA_DSP_CS	FTD_SB_WDSP_CELL_DETAIL_STTD	S	R,I,O	Cell tx diversity status: “-” = STTD not used on PCCPCH “S” = STTD used on PCCPCH.
h(5)	WCDMA_DSP_CS	FTD_SB_WDSP_CELL_DETAIL_TIMING	W:D	R,I,O	Cell frame timing in relation to WCDMA system clock.
I	WCDMA_DSP_CS	FTD_SB_WDSP_CELL_DETAIL_SCPICH	S	R,I,O	SCPICH measurement status: “-” = SCPICH not used “S” = SCPICH used
j(3)	WCDMA_DSP_CS	FTD_SB_WDSP_CELL_DETAIL_H	W:D	R,I,O	EcNo * -10
k(4)	WCDMA_DSP_CS	FTD_SB_WDSP_CELL_DETAIL_G	W:D	R,I,O	RSCP * -10

Groups 42-45: WCDMA Layer 1 Field Test Displays

To be defined.

Group 46: WCDMA RAN System displays

Display Display 46.01: RRC Global Status (Version: 6.2, Status: Approved)

This screen shows Global RRC status

Data Display:

```
+++++++++++++++++++++++++++
+ RRC Global status       +
+                         +
+ Global state  aaaaaaaaa +
+ Active Domain CS:     b +
+ Active Domain PS:     c +
+ Drop cause ddddddddddddd +
+ Ciphering CS          e +
+ Ciphering PS          f +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(9)	PN_WRAN	FTD_SB_RRC_GLOBAL_STATE	S	R,O	RRC Global State OOZ, idle-pch, cell-dch, cell-fach, cell-pch, ura-pch
b(1)	PN_WRAN	FTD_SB_RRC_GLOBAL_ACTIVE_DOMAIN_CS	B:D	R,O	RRC Active Domain - CS 1/0
c(1)	PN_WRAN	FTD_SB_RRC_GLOBAL_ACTIVE_DOMAIN_PS	B:D	R,O	RRC Active Domain - PS 1/0
d(12)	PN_WRAN	FTD_SB_RRC_CALL_RELEASE_DROP_CAUSE	S	R,O	Last Call Drop/Release Cause
e(1)	PN_WRAN	FTD_SB_RRC_CS_DOMAIN_CIPHERING	B:D	R,O	Ciphering - CS Domain on/off - 1/0
f(1)	PN_WRAN	FTD_SB_RRC_PS_DOMAIN_CIPHERING	B:D	R,O	Ciphering - PS Domain on/off - 1/0

Display 46.02: PEER message MSC (Version: 6.2, Status: Approved)

This screen shows an MSC of last 7 PEER messages Message order runs vertically. The oldest message is blanked out.

ASUp - Active Set Update (C - Complete, F - Failure)

ADD - Assistance Data Delivery CCO - Cell Change Order From UTRAN (F - Failure)

CU - Cell Update (Cnf - Confirm)

CtCk - Counter Check (R - Response)

HOFU - Handover From UTRAN Command (F - Failure)

HOTU - Handover To UTRAN Command (C - Complete)

IRHI - Inter RAT Handover Info

MeCn - Measurement Control (F - Failure)

PAGEx - Paging Type x

PCRc - Physical Channel Reconfiguration (C - Complete, F - Failure)

PSCA - Physical Shared Channel Allocation

PCRq - PUSCH Capacity Request

RBRc - Radio Bearer Reconfiguration (C - Complete, F - Failure)

RBRl - Radio Bearer Release (C - Complete, F - Failure)

RBSt - Radio Bearer Setup (C - Complete, F - Failure)

RCRej - RRC Connection Reject

RCRl - RRC Connection Release (C - Complete)

RCReq - RRC Connection Request

RCSt - RRC Connection Setup (C - Complete)

RFI - RRC Failure Info

RS - RRC Status

SecM - Security Mode Command (C - Complete, F - Failure)

SgCR - Signalling Connection Release (I - Indication)

SICI - System Information Change Indication

TCRc - Transport Channel Reconfiguration (C - Complete, F - Failure)

TFCC - Transport Format Combination Control (F - Failure)

UECEq - UE Capability Enquiry

UECI - UE Capability Information (C - Confirm)

UPCC - Uplink Physical Channel Control

UraU - URA Update (C - Confirm)

UMI - UTRAN Mobility Information (C - Confirm, F - Failure)

Data Display:

```
+++++++++++++++++++++++++++
+ PEER message MSC        +
+ PEER message ID   aaaaa +
```

```
+ PEER message ID    bbbbb +
+ PEER message ID    ccccc +
+ PEER message ID    ddddd +
+ PEER message ID    eeeee +
+ PEER message ID    fffff +
+ PEER message ID    ggggg +
+ PEER message ID    hhhhh +
+++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(5)	PN_WRAN	FTD_SB_RRC_PEER_MSG_1_ID	S	R,O	PEER Message ID
e(5)	PN_WRAN	FTD_SB_RRC_PEER_MSG_5_ID	S	R,O	PEER Message ID
b(5)	PN_WRAN	FTD_SB_RRC_PEER_MSG_2_ID	S	R,O	PEER Message ID
f(5)	PN_WRAN	FTD_SB_RRC_PEER_MSG_6_ID	S	R,O	PEER Message ID
c(5)	PN_WRAN	FTD_SB_RRC_PEER_MSG_3_ID	S	R,O	PEER Message ID
g(5)	PN_WRAN	FTD_SB_RRC_PEER_MSG_7_ID	S	R,O	PEER Message ID
d(5)	PN_WRAN	FTD_SB_RRC_PEER_MSG_4_ID	S	R,O	PEER Message ID
h(5)	PN_WRAN	FTD_SB_RRC_PEER_MSG_8_ID	S	R,O	PEER Message ID

Display 46.03: RNTI Values (Version: 6.2, Status: Approved)

This screen shows current RNTI values

Data Display:

```
+++++++++++++++++++++++++++++
+ RNTI values               +
+                          +
+ USRNC identity      aaa  +
+ USRNTI             bbbbb +
+ C-RNTI              cccc +
+                          +
+                          +
+                          +
+                          +
+++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	PN_WRAN	FTD_SB_RRC_U_RNTI_SRNC_IDENTITY	W:H	R,O	U-RNTI SRNC Identity 0..FFF
b(5)	PN_WRAN	FTD_SB_RRC_U_RNTI_SRNTI	DW:H	R,O	U-RNTI SRNTI 0..FFFFF
c(4)	PN_WRA	FTD_SB_RRC_C_RNTI	W:H	R,O	C-RNTI 0..FFFF

	N				

Display 46.04: Ciphering Capability (Version: 6.2, Status: Approved)

This screen is used to set and display the Ciphering capability - possible inputs are shown on the help text

Data Display:

```
++++++++++++++++++++++++++
+ Ciphering capability    +
+                         +
+ UEA0 ciphering:         +
+ aaaaaaaa                +
+                         +
+ UEA1 ciphering:         +
+ bbbbbbbb                +
+                         +
+                         +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	PN_WRAN	FTD_SB_INPUT_rrc_ftd_flag_uea_ciphering_capability	DW:D	R,O	callback function subblock identity
a(8)	PN_WRAN	FTD_SB_RRC_UEA0_CIPHER_FLAG	S	R,O	Ciphering capability flag to show if UEA0 is ENABLED or DISABLED
b(8)	PN_WRAN	FTD_SB_RRC_UEA1_CIPHER_FLAG	S	R,O	Ciphering capability flag to show if UEA1 is ENABLED or DISABLED

Display 46.05: Cell Selection - Screen 2 (Version: 6.2, Status: Approved)

This screen shows the current PLMN information

Data Display:

```
++++++++++++++++++++++++++
+ Cell selection - 2      +
+                         +
+ PLMN number      aaaaaa +
+ Search type      bbbbbb +
+ Trigger type     cccccc +
+ PLMN frequency    ddddd +
+ PLMN scramble code  eee +
+                         +
+                         +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(6)	PN_WRAN	FTD_SB_RRC_PLMN_NUMBER	DW:H	R,O	PLMN Number - 0..FFFFFF

b(6)	PN_WRAN	FTD_SB_RRC_PLMN_SEARCH_TYPE	S	R,O	Type of search used to find PLMN nonini, init, candid, allcel, emerge, PLMN
c(6)	PN_WRAN	FTD_SB_RRC_PLMN_SEARCH_TRIGGER	S	R,O	Type of trigger used to find PLMN - L1trig, statch, intRat
d(5)	PN_WRAN	FTD_SB_RRC_PLMN_FREQ	W:D	R,O	PLMN frequeny
e(3)	PN_WRAN	FTD_SB_RRC_PLMN_SCR_CODE	W:D	R,O	PLMN scramble code

Display 46.06: FDD BTS Carrier Lock Mode (Version: 6.2, Status: Approved)

This screen is used in BTS carrier lock mode to retrieve FDD Frequency and Scrambling code. The frequency and scrambling code is entered as one decimal value. Both frequency and scrambling code are five digits. e.g. entered value on FTD is '1060000040', where '10600' is the BTS test frequency and '00040' is the test scrambling code. To clear the BTS test mode user enters '0000000000'.

Data Display:

```
+++++++++++++++++++++++++++
+ FDD BTS carrier lock    +
+ mode                    +
+                         +
+ FDD frequency:          +
+ aaaaa                   +
+                         +
+ FDD scrambling code:    +
+ bbbbb                   +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	PN_WRAN	FTD_SB_INPUT_rrc_ftd_wcdma_bts_freq_lock_mode	DW:D	R,O	callback function subblock identity
a(5)	PN_WRAN	FTD_SB_RRC_BTS_CARRIER_LOCK_FREQ	W:D	R,O	FDD Frequency to use in BTS carrier lock mode
b(5)	PN_WRAN	FTD_SB_RRC_BTS_CARRIER_LOCK_SCR_CODE	W:D	R,O	FDD scrambling code to use in BTS carrier lock mode

Display 46.07: Counter Reset (Version: 6.2, Status: Approved)

This screen is used to reset counters

Data Display:

```
+++++++++++++++++++++++++++
+ Counter reset           +
+                         +
+ Reset all counters 1    +
+ Quit               0    +
```

```
+                              +
+                              +
+                              +
+                              +
+                              +
++++++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	PN_WRAN	FTD_SB_INPUT_rrc_ftd_reset_counters	DW:D	R,O	callback function subblock identity

Display 46.08: Call Failure Reasons (Version: 6.2, Status: Approved)

This screen shows Counts for each call failure reason

Data Display:

```
++++++++++++++++++++++++++++++++
+ Call failure                 +
+ reason                       +
+                              +
+ RLink   aaa Handover bbb     +
+ RLC     ccc Uplayer  ddd     +
+ Normal  eee RLC/SIB7 fff     +
+ Config  ggg V/N300   hhh     +
+ CRT     iii V/N300   jjj     +
+ OoS     kkk Unspec   lll     +
++++++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	PN_WRAN	FTD_SB_RRC_RADIO_LINK_FAILURE_COUNT	W:D	R,O	Number of Radio link Failures
b(3)	PN_WRAN	FTD_SB_RRC_HO_FROM_UTRAN_COUNT	W:D	R,O	Number of Handover to UTRAN
c(3)	PN_WRAN	FTD_SB_RRC_RLC_LINK_ERROR_COUNT	W:D	R,O	Number of RLC link Error
d(3)	PN_WRAN	FTD_SB_RRC_RELEASE_REQ_COUNT	W:D	R,O	Number of upper layer triggered release
e(3)	PN_WRAN	FTD_SB_RRC_NORMAL_REL_COUNT	W:D	R,O	Number of normal release
f(3)	PN_WRAN	FTD_SB_RRC_SIB7_RECEPTION_FAIL_COUNT	W:D	R,O	Number of RLC link Error
g(3)	PN_WRAN	FTD_SB_RRC_CONFIG_FAILURE_COUNT	W:D	R,O	Number of configuration failures
h(3)	PN_WRAN	FTD_SB_RRC_V300_GR_N300_COUNT	W:D	R,O	Number of V300 > N300 failures
i(3)	PN_WRAN	FTD_SB_RRC_T314_T315_TIMEOUT_COUNT	W:D	R,O	Number of Connection Reestablishment Timers Timeouts failures-T314/T315
j(3)	PN_WRAN	FTD_SB_RRC_V302_GR_N302_COUNT	W:D	R,O	Number of V302 > N302 failures

k(3)	PN_WRAN	FTD_SB_RRC_T316_T317_T307_COUNT	W:D	R,O	Number of Out of Service Timer Timeout failures-T316/T317/T307
l(3)	PN_WRAN	FTD_SB_RRC_UNSPECIFIC_FAILURE_COUNT	W:D	R,O	Number of unspecific failures

Display 46.09: L1 State (Version: 6.2, Status: Approved)

This screen shows L1 State

Data Display:

```
+++++++++++++++++++++++++++
+ L1 state                +
+                         +
+ PCCPCH state   a        +
+ SCCPCH state   b        +
+ RACH state     c        +
+ DPCH state     d        +
+                         +
+                         +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(1)	PN_WRAN	FTD_SB_RRC_PCCPCH_STATE	B:D	R,O	PCCPCH State
b(1)	PN_WRAN	FTD_SB_RRC_SCCPCH_STATE	B:D	R,O	SCCPCH State
c(1)	PN_WRAN	FTD_SB_RRC_RACH_STATE	B:D	R,O	RACH State
d(1)	PN_WRAN	FTD_SB_RRC_DPCH_STATE	B:D	R,O	DPCH State

Display 46.10: Cell Reselection - Screen 1 (Version: 6.2, Status: Approved)

This screen shows reselection OK and Fail counters

Data Display:

```
+++++++++++++++++++++++++++
+ Cell reselection - 1    +
+ Idle         OK / Failed +
+           aaaaa    bbbbb +
+ Connected    OK / Failed +
+           ccccc    ddddd +
+ UMTS => GSM OK / FAILED +
+           eeeee    fffff +
+ GSM => UMTS OK / FAILED +
+           ggggg    hhhhh +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(5)	PN_WRAN	FTD_SB_RRC_IDLE_RESELECTION_OK_COUNT	W:D	R,O	Number of successful Idle mode reselections
b(5)	PN_WRAN	FTD_SB_RRC_IDLE_RESELECTION_FAIL_COUNT	W:D	R,O	Number of unsuccessful Idle mode reselections
c(5)	PN_WRAN	FTD_SB_RRC_CON_RESELECTION_OK_COUNT	W:D	R,O	Number of successful Connected mode reselections
d(5)	PN_WRAN	FTD_SB_RRC_CON_RESELECTION_FAIL_COUNT	W:D	R,O	Number of unsuccessful Connected mode reselections
e(5)	PN_WRAN	FTD_SB_RRC_UMTS_TO_GSM_OK_COUNT	W:D	R,O	Number of successful UMTS to GSM reselections
f(5)	PN_WRAN	FTD_SB_RRC_UMTS_TO_GSM_FAIL_COUNT	W:D	R,O	Number of unsuccessful UMTS to GSM reselections
g(5)	PN_WRAN	FTD_SB_RRC_GSM_TO_UMTS_OK_COUNT	W:D	R,O	Number of successful GSM to UMTS reselections
h(5)	PN_WRAN	FTD_SB_RRC_GSM_TO_UMTS_FAIL_COUNT	W:D	R,O	Number of unsuccessful GSM to UMTS reselections

Display 46.11: Radio Access Bearer Information (Version: 6.2, Status: Approved)

This screen shows Radio Access Bearers currently setup

Data Display:

```
++++++++++++++++++++++++++++
+ RAB information          +
+ RAB ID        Domain     +
+ aaa            b         +
+ ccc            d         +
+ eee            f         +
+ ggg            h         +
+ iii            j         +
+ kkk            l         +
+ SRB's ID   mm nn oo pp   +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	PN_WRAN	FTD_SB_RRC_RAB_ID1	B:D	R,O	Radio Access Bearer ID
b(1)	PN_WRAN	FTD_SB_RRC_RAB_ID1_DOMAIN	S	R,O	Domain - PS, CS
c(3)	PN_WRAN	FTD_SB_RRC_RAB_ID2	B:D	R,O	Radio Access Bearer ID
d(1)	PN_WRAN	FTD_SB_RRC_RAB_ID2_DOMAIN	S	R,O	Domain - PS, CS
e(3)	PN_WRAN	FTD_SB_RRC_RAB_ID3	B:D	R,O	Radio Access Bearer ID
f(1)	PN_WRAN	FTD_SB_RRC_RAB_ID3_DOMAIN	S	R,O	Domain - PS, CS
g(3)	PN_WRA	FTD_SB_RRC_RAB_ID4	B:D	R,O	Radio Access Bearer ID

	N				
h(1)	PN_WRAN	FTD_SB_RRC_RAB_ID4_DOMAIN	S	R,O	Domain - PS, CS
i(3)	PN_WRAN	FTD_SB_RRC_RAB_ID5	B:D	R,O	Radio Access Bearer ID
j(1)	PN_WRAN	FTD_SB_RRC_RAB_ID5_DOMAIN	S	R,O	Domain - PS, CS
k(3)	PN_WRAN	FTD_SB_RRC_RAB_ID6	B:D	R,O	Radio Access Bearer ID
l(1)	PN_WRAN	FTD_SB_RRC_RAB_ID6_DOMAIN	S	R,O	Domain - PS, CS
m(2)	PN_WRAN	FTD_SB_RRC_SRB_ID1	B:D	R,O	Signalling Radio Bearer ID
n(2)	PN_WRAN	FTD_SB_RRC_SRB_ID2	B:D	R,O	Signalling Radio Bearer ID
o(2)	PN_WRAN	FTD_SB_RRC_SRB_ID3	B:D	R,O	Signalling Radio Bearer ID
p(2)	PN_WRAN	FTD_SB_RRC_SRB_ID4	B:D	R,O	Signalling Radio Bearer ID

Display 46.12: Radio Bearer Information (Version: 6.2, Status: Approved)

This screen shows all Radio Bearers associated with a RAB id. The RAB id and the associated domain are entered as a single decimal value. The RAB id is the first three digits and the domain is input as the last digit, 1 for PS and 0 for CS.

Data Display:

```
+++++++++++++++++++++++++++
+ RB information - 1       +
+                         +
+ RAB ID and domain(P/C): +
+ aaab                    +
+                         +
+ Radio Bearer ID         +
+ cc dd ee ff gg hh ii jj +
+ Re-establishment timer  +
+ kkkkk                   +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	PN_WRAN	FTD_SB_INPUT_rrc_ftd_rab_id_set	DW:D	R,O	callback function subblock identity
a(3)	PN_WRAN	FTD_SB_RRC_RAB_ID	B:D	R,O	Radio Access Bearer ID
b(1)	PN_WRAN	FTD_SB_RRC_RAB_ID_DOMAIN	S	R,O	Domain - PS, CS
c(2)	PN_WRAN	FTD_SB_RRC_RB_ID1	B:D	R,O	Radio Bearer ID
d(2)	PN_WRAN	FTD_SB_RRC_RB_ID2	B:D	R,O	Radio Bearer ID

e(2)	PN_WRAN	FTD_SB_RRC_RB_ID3	B:D	R,O	Radio Bearer ID
f(2)	PN_WRAN	FTD_SB_RRC_RB_ID4	B:D	R,O	Radio Bearer ID
g(2)	PN_WRAN	FTD_SB_RRC_RB_ID5	B:D	R,O	Radio Bearer ID
h(2)	PN_WRAN	FTD_SB_RRC_RB_ID6	B:D	R,O	Radio Bearer ID
i(2)	PN_WRAN	FTD_SB_RRC_RB_ID7	B:D	R,O	Radio Bearer ID
j(2)	PN_WRAN	FTD_SB_RRC_RB_ID8	B:D	R,O	Radio Bearer ID
k(5)	PN_WRAN	FTD_SB_RRC_RAB_RE_EST_TIMER	S	R,O	Radio Access Bearer Re-establishment Timer (T314/T315)

Display 46.13: Radio Bearer Information (Version: 6.2, Status: Approved)

This screen takes an input Radio Bearer id and shows associated information

Data Display:

```
+++++++++++++++++++++++++++
+ RB information - 2       +
+                         +
+ RB ID: aa               +
+                         +
+ Domain            bbbbb +
+ Re-establishment  ccccc +
+ RB status         ddddd +
+                         +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	PN_WRAN	FTD_SB_INPUT_rrc_ftd_rb_id_set	DW:D	R,O	callback function subblock identity
a(2)	PN_WRAN	FTD_SB_RRC_RB_ID	B:D	R,O	Radio Bearer ID
b(5)	PN_WRAN	FTD_SB_RRC_RB_DOMAIN	S	R,O	Domain - PS, CS, SRB
c(5)	PN_WRAN	FTD_SB_RRC_RB_RE_EST_TIMER	S	R,O	Radio Bearer Re-establishment Timer (T314/T315)
d(5)	PN_WRAN	FTD_SB_RRC_RB_STATUS	S	R,O	RB Status - Start, Stop

Display 46.14: DPCH Change Count (Version: 6.2, Status: Approved)

Display number of successful HHOs and channel reconfigurations

Data Display:

```
+++++++++++++++++++++++++++
+ DPCH change count        +
```

```
+                              +
+ HHO count              aaa  +
+ DPCH reconf count      bbb  +
+                              +
+                              +
+                              +
+                              +
+                              +
++++++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	PN_WRAN	FTD_SB_SUCCESSFUL_HHOS	B:H	R	Number of successful HHOs
b(3)	PN_WRAN	FTD_SB_SUCCESSFUL_DPCH_RECONFIGS	B:H	R	Number of successful DPCH reconfigs

Display 46.15: Tracker Feature Enable/Disable (Version: 6.2, Status: Approved)

Sets Forced InterSystem Mode - IS resel fail, ISHO blind/fallback and CCO blind/fallback

Data Display:

```
++++++++++++++++++++++++++++++++
+ Tracker feature on/off       +
+                              +
+ Tracker feature              +
+ enable/disable               +
+                              +
+                              +
+                              +
+                              +
+                              +
++++++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	PN_WRAN	FTD_SB_INPUT_WPH_SET_IS_MODE	DW:D	R	callback function subblock identity

Display 46.27: Voice RLC-U Information (Version: 6.2, Status: Approved)

This screen shows Voice RLC-U information. This includes the number of RB's used, whether or not DTX is supported and the Frame Rate

Data Display:

```
++++++++++++++++++++++++++++++++
+ Voice RLC-U info             +
+                              +
```

```
+ Radio Bearer  a          +
+ DTX           b          +
+ Frame rate    cc.dd      +
+                          +
+                          +
+                          +
+                          +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(1)	PN_WRAN	FTD_SB_W_MAC_VOICE_NUMBER_OF_RADIO_BEARERS_USED	B:D	R	This parameter reflects the number of radio bearers used. This will have a range of 1-3 and is represented as a single digit decimal value
b(1)	PN_WRAN	FTD_SB_W_MAC_VOICE_DTX_SUPPORTED	B:D	R	This Boolean flag shows whether DTX is supported or not. This is represented as a single digit decimal value as follows: 0 - DTX Not Supported 1 - DTX Supported
c(2)	PN_WRAN	FTD_SB_W_MAC_VOICE_FRAME_RATE_WHOLE_PART	W:D	R	This field shows the voice frame rate representing the whole part of the 3-digit frame rate which is represented as a single digit decimal value. It may represent the whole part of one of the following valid frame rate values: 4.57, 5.15, 5.90, 6.70, 7.40, 7.95, 10.2, 12.2
d(2)	PN_WRAN	FTD_SB_W_MAC_VOICE_FRAME_RATE_FRAC_PART	W:D	R	This field shows the voice frame rate representing the fractional part of the 3-digit frame rate which is represented as a 2 digit decimal value. It may represent the fractional part of one of the following valid frame rate values: 4.57, 5.15, 5.90, 6.70, 7.40, 7.95, 10.2, 12.2

Display 46.28: DTX Enable/Disable input (Version: 6.2, Status: Approved)

This screen shall form the input to Enable or Disable DTX

Data Display:

```
++++++++++++++++++++++++++++
+ DTX enable/disable       +
+ input                    +
+                          +
+ DTX enable/disable       +
+ (1/0): a                 +
```

```
+                              +
+                              +
+                              +
+                              +
++++++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	PN_WRAN	FTD_SB_INPUT_DTX_ENABLE_DISABLE	DW:D	R	callback function subblock identity
a(1)	PN_WRAN	FTD_SB_W_MAC_DTX_ENABLE_DISABLE_INPUT	B:D	R	This screen require a single digit decimal input to either enable or disable DTX. This may be done by entering the digit 1 or 0, having the following effect: 0 - Disable DTX 1 - Enable DTX

Display 46.60: 3G to 2G Reselections (Version: 6.2, Status: Approved)

This is used to display information helpful in analysing 3G to 2G reselections

Data Display:

```
++++++++++++++++++++++++++++++++
+ 3G to 2G reselections        +
+                              +
+ Scrambling aaa ECNO bbb      +
+ Inter-RAT new cell  ccc      +
+ ARFCN     dddd verify k      +
+ RSSI eee  Mode State  j      +
+ GSM sui OK/FAIL fff ggg      +
+ GSM res OK/FAIL hhh iii      +
+                              +
++++++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	PN_WRAN	FTD_SB_PRI_SCR_CODE_TYPE	W:D	R	Primary Scrambling Code
b(3)	PN_WRAN	FTD_SB_ECNO_VALUE	B:D	R	ECNO Value
c(3)	PN_WRAN	FTD_SB_NEW_RAT_CELL_IND_COUNT	B:D	R	Count of inter-RAT new cell inds
d(4)	PN_WRAN	FTD_SB_GSM_ARFCN0	W:D	R	Strongest GSM ARFCN
e(3)	PN_WRAN	FTD_SB_STATUS_RSSI0	W:D	R	Status RSSI level
k(1)	PN_WRAN	FTD_SB_VERIFICATION_STATUS	B:D	R	0 indicates that the ARFCN is not verified, 1 indicates that the ARFCN is verified
f(3)	PN_WRAN	FTD_SB_SUCCESS_GSM_SUITABILITY_CHECK_COUNT	B:D	R	Count of Successfull GSM Suitability Checks

g(3)	PN_WRAN	FTD_SB_FAILED_GSM_SUITABILITY_CHECK_COUNT	B:D	R	Count of failed GSM Suitability Checks
h(3)	PN_WRAN	FTD_SB_SUCCESS_GSM_INTER_RESELECTION_COUNT	B:D	R	Count of successful GSM inter-RAT reselections
i(3)	PN_WRAN	FTD_SB_FAILED_GSM_INTER_RESELECTION_COUNT	B:D	R	Count of failed GSM inter-RAT reselections
j(1)	PN_WRAN	FTD_SB_MODE_STATE	W:D	R	0 indicates 3G selected cell, 1 indicates 2G selected state

Display 46.61: 3G to 2G ISHO #1 (Version: 6.2, Status: Approved)

This is used to display information helpful in analysing 3G to 2G ISHO

Data Display:

```
+++++++++++++++++++++++++++
+ 3G to 2G ISHO - 1       +
+                         +
+ Scrambling aaa ECNO bbb +
+ Comp c ARFCN dddd ver k +
+ RSSI eee Mode state   j +
+ Handover Ok         fff +
+ Handover Fail       ggg +
+ Handover OK fall    hhh +
+ Handover Fail fall  iii +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	PN_WRAN	FTD_SB_PRI_SCR_CODE_TYPE	W:D	R	Primary Scrambling Code
b(3)	PN_WRAN	FTD_SB_ECNO_VALUE	B:D	R	ECNO Value
c(1)	PN_WRAN	FTD_SB_CM_STATUS	B:D	R	Status of compressed mode patterns for RSSI, Initial BSIC verification & BSIC refresh
d(4)	PN_WRAN	FTD_SB_GSM_ARFCN0	W:D	R	Strongest GSM ARFCN
e(3)	PN_WRAN	FTD_SB_STATUS_RSSI0	W:D	R	Status RSSI level
k(1)	PN_WRAN	FTD_SB_VERIFICATION_STATUS	B:D	R	0 indicates that the ARFCN is not verified, 1 indicates that the ARFCN is verified
f(3)	PN_WRAN	FTD_SB_SUCCESS_HO_ATTEMPS	B:D	R	Count of succesful handover attemps
g(3)	PN_WRAN	FTD_SB_FAILED_HO_ATTEMPS	B:D	R	Count of failed handover attemps
h(3)	PN_WRAN	FTD_SB_SUCCESS_FALLBACK_ATTEMPS	B:D	R	Count of succesful fallback attemps
i(3)	PN_WRAN	FTD_SB_FAILED_FALLBACK_ATTEMPS	B:D	R	Count of failed fallback attemps
j(1)	PN_WRAN	FTD_SB_MODE_STATE	W:D	R	0 indicates 3G selected cell, 1 indicates 2G selected state

Display 46.62: 3G to 2G ISHO #2 (Version: 6.2, Status: Approved)

List of strongest GSM cells containing ARFCN, verification status, RSSI level

Data Display:

```
+++++++++++++++++++++++++++
+ 3G to 2G ISHO - 2       +
+ AFCN0 RSSI0 Verified    +
+ aaaa  bbb   i           +
+ AFCN1 RSSI1 Verified    +
+ cccc  ddd   j           +
+ AFCN2 RSSI2 Verified    +
+ eeee  fff   k           +
+ AFCN3 RSSI3 Verified    +
+ gggg  hhh   l           +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(4)	PN_WRAN	FTD_SB_GSM_ARFCN0	W:D	R	Strongest GSM ARFCN
b(3)	PN_WRAN	FTD_SB_STATUS_RSSI0	W:D	R	Status RSSI level
i(1)	PN_WRAN	FTD_SB_VERIFICATION_STATUS	B:D	R	0 indicates that the ARFCN is not verified, 1 indicates that the ARFCN is verified
c(4)	PN_WRAN	FTD_SB_GSM_ARFCN1	W:D	R	Strongest GSM ARFCN 1
d(3)	PN_WRAN	FTD_SB_STATUS_RSSI1	W:D	R	Status RSSI level 1
j(1)	PN_WRAN	FTD_SB_VERIFICATION_STATUS1	B:D	R	0 indicates the ARFCN is not verified, 1 indicates the ARFCN is verified
e(4)	PN_WRAN	FTD_SB_GSM_ARFCN2	W:D	R	Strongest GSM ARFCN 2
f(3)	PN_WRAN	FTD_SB_STATUS_RSSI2	W:D	R	Status RSSI level 2
k(1)	PN_WRAN	FTD_SB_VERIFICATION_STATUS2	B:D	R	0 indicates the ARFCN is not verified, 1 indicates the ARFCN is verified
g(4)	PN_WRAN	FTD_SB_GSM_ARFCN3	W:D	R	Strongest GSM ARFCN 3
h(3)	PN_WRAN	FTD_SB_STATUS_RSSI3	W:D	R	Status RSSI level 3
l(1)	PN_WRAN	FTD_SB_VERIFICATION_STATUS3	B:D	R	0 indicates the ARFCN is not verified, 1 indicates the ARFCN is verified

Display 46.63: 3G to 2G ISHO #3 (Version: 6.2, Status: Approved)

List of strongest GSM cells containing ARFCN, verification status, RSSI level

Data Display:

```
++++++++++++++++++++++++++++
+ 3G to 2G ISHO - 3        +
+ AFCN4 RSSI4 Verified     +
+ aaaa  bbb   i            +
+ AFCN5 RSSI5 Verified     +
+ cccc  ddd   j            +
+ AFCN6 RSSI6 Verified     +
+ eeee  fff   k            +
+ AFCN7 RSSI7 Verified     +
+ gggg  hhh   l            +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(4)	PN_WRAN	FTD_SB_GSM_ARFCN4	W:D	R	Strongest GSM ARFCN 4
b(3)	PN_WRAN	FTD_SB_STATUS_RSSI4	W:D	R	Status RSSI level 4
i(1)	PN_WRAN	FTD_SB_VERIFICATION_STATUS4	B:D	R	0 indicates the ARFCN is not verified, 1 indicates the ARFCN is verified
c(4)	PN_WRAN	FTD_SB_GSM_ARFCN5	W:D	R	Strongest GSM ARFCN 5
d(3)	PN_WRAN	FTD_SB_STATUS_RSSI5	W:D	R	Status RSSI level 5
j(1)	PN_WRAN	FTD_SB_VERIFICATION_STATUS5	B:D	R	0 indicates the ARFCN is not verified, 1 indicates the ARFCN is verified
e(4)	PN_WRAN	FTD_SB_GSM_ARFCN6	W:D	R	Strongest GSM ARFCN 6
f(3)	PN_WRAN	FTD_SB_STATUS_RSSI6	W:D	R	Status RSSI level 6
k(1)	PN_WRAN	FTD_SB_VERIFICATION_STATUS6	B:D	R	0 indicates the ARFCN is not verified, 1 indicates the ARFCN is verified
g(4)	PN_WRAN	FTD_SB_GSM_ARFCN7	W:D	R	Strongest GSM ARFCN 7
h(3)	PN_WRAN	FTD_SB_STATUS_RSSI7	W:D	R	Status RSSI level 7
l(1)	PN_WRAN	FTD_SB_VERIFICATION_STATUS7	B:D	R	0 indicates the ARFCN is not verified, 1 indicates the ARFCN is verified

Group 47: WCDMA RRC displays

Display 47.01: RRC Global State Change Counters (Version: 6.2, Status: Approved)

This screen shows Global RRC state Change Countes

Data Display:

```
+++++++++++++++++++++++++++
+ RRC global state change +
+ counters                +
+                         +
+ DCH  => FACH      aaaaa +
+ FACH => DCH       bbbbb +
+ FACH => CELL_PCH  ccccc +
+ FACH => URA_PCH   ddddd +
+ DCH  => CELL_PCH  eeeee +
+ DCH  => URA_PCH   fffff +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(5)	PN_WRAN	FTD_SB_RRC_DCH_TO_FACH_COUNT	W:D	R,O	Number of state changes from DCH to FACH
b(5)	PN_WRAN	FTD_SB_RRC_FACH_TO_DCH_COUNT	W:D	R,O	Number of state changes from FACH to DCH
c(5)	PN_WRAN	FTD_SB_RRC_FACH_TO_CELLPCH_COUNT	W:D	R,O	Number of state changes from FACH to CELL_PCH
d(5)	PN_WRAN	FTD_SB_RRC_FACH_TO_URAPCH_COUNT	W:D	R,O	Number of state changes from FACH to URA_PCH
e(5)	PN_WRAN	FTD_SB_RRC_DCH_TO_CELLPCH_COUNT	W:D	R,O	Number of state changes from DCH to CELL_PCH
f(5)	PN_WRAN	FTD_SB_RRC_DCH_TO_URAPCH_COUNT	W:D	R,O	Number of state changes from DCH to URA_PCH

Display 47.02: Counters for Timeouts - Screen 1 (Version: 6.2, Status: Approved)

This screen shows the number timeouts for RRC timers

Data Display:

```
+++++++++++++++++++++++++++
+ RRC count timeouts - 1  +
+                         +
+ T300  T312  T301  T302  +
+  aaa   bbb   ccc   ddd  +
+                         +
+ T304  T305  T307  T308  +
+  eee   fff   ggg   hhh  +
+                         +
+ T309   iii              +
```

```
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	PN_WRAN	FTD_SB_RRC_T300_IDLE_TIMEOUT_COUNT	W:D	R,O	T300 timeout counter
b(3)	PN_WRAN	FTD_SB_RRC_T312_IDLE_TIMEOUT_COUNT	W:D	R,O	T312 timeout counter
c(3)	PN_WRAN	FTD_SB_RRC_T301_TIMEOUT_COUNT	W:D	R,O	T301 timeout counter
d(3)	PN_WRAN	FTD_SB_RRC_T302_TIMEOUT_COUNT	W:D	R,O	T302 timeout counter
e(3)	PN_WRAN	FTD_SB_RRC_T304_TIMEOUT_COUNT	W:D	R,O	T304 timeout counter
f(3)	PN_WRAN	FTD_SB_RRC_T305_TIMEOUT_COUNT	W:D	R,O	T305 timeout counter
g(3)	PN_WRAN	FTD_SB_RRC_T307_TIMEOUT_COUNT	W:D	R,O	T307 timeout counter
h(3)	PN_WRAN	FTD_SB_RRC_T308_TIMEOUT_COUNT	W:D	R,O	T308 timeout counter
i(3)	PN_WRAN	FTD_SB_RRC_T309_TIMEOUT_COUNT	W:D	R,O	T309 timeout counter

Display 47.03: Counters for Timeouts - Screen 2 (Version: 6.2, Status: Approved)

This screen shows the number timeouts for RRC timers

Data Display:

```
+++++++++++++++++++++++++++
+ RRC count timeouts - 2  +
+                         +
+ T310  T311  T312  T313  +
+  aaa   bbb   ccc   ddd  +
+                         +
+ T314  T315  T316  T317  +
+  eee   fff   ggg   hhh  +
+                         +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	PN_WRAN	FTD_SB_RRC_T310_TIMEOUT_COUNT	W:D	R,O	T310 timeout counter
b(3)	PN_WRAN	FTD_SB_RRC_T311_TIMEOUT_COUNT	W:D	R,O	T311 timeout counter
c(3)	PN_WRAN	FTD_SB_RRC_T312_TIMEOUT_COUNT	W:D	R,O	T312 timeout counter
d(3)	PN_WRAN	FTD_SB_RRC_T313_TIMEOUT_COUNT	W:D	R,O	T313 timeout counter
e(3)	PN_WRAN	FTD_SB_RRC_T314_TIMEOUT_COUNT	W:D	R,O	T314 timeout counter
f(3)	PN_WRA	FTD_SB_RRC_T315_TIMEOUT_CO	W:D	R,O	T315 timeout counter

	N	UNT			
g(3)	PN_WRAN	FTD_SB_RRC_T316_TIMEOUT_COUNT	W:D	R,O	T316 timeout counter
h(3)	PN_WRAN	FTD_SB_RRC_T317_TIMEOUT_COUNT	W:D	R,O	T317 timeout counter

Display 47.04: Peer Message Count- Screen1 (Version: 6.2, Status: Approved)

This screen shows Count for Peer Messages

Data Display:

```
++++++++++++++++++++++++++++
+ Peer message count - 1    +
+                          +
+  MIB aaa        PMIB bbb +
+ SIB1 ccc        SIB2 ddd +
+ SIB3 eee       PSIB3 fff +
+ SIB4 ggg       PSIB4 hhh +
+ SIB5 iii        SIB6 jjj +
+ SIB7 kkk        SIB8 lll +
+                          +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	PN_WRAN	FTD_SB_RRC_MIB_COUNT	W:D	R,O	MIB Message Count
b(3)	PN_WRAN	FTD_SB_RRC_PMIB_COUNT	W:D	R,O	MIB Message Count
c(3)	PN_WRAN	FTD_SB_RRC_SIB1_COUNT	W:D	R,O	SIB1 Message Count
d(3)	PN_WRAN	FTD_SB_RRC_SIB2_COUNT	W:D	R,O	SIB2 Message Count
e(3)	PN_WRAN	FTD_SB_RRC_SIB3_COUNT	W:D	R,O	SIB3 Message Count
f(3)	PN_WRAN	FTD_SB_RRC_PSIB3_COUNT	W:D	R,O	SIB3 Message Count
g(3)	PN_WRAN	FTD_SB_RRC_SIB4_COUNT	W:D	R,O	SIB4 Message Count
h(3)	PN_WRAN	FTD_SB_RRC_PSIB4_COUNT	W:D	R,O	SIB4 Message Count
i(3)	PN_WRAN	FTD_SB_RRC_SIB5_COUNT	W:D	R,O	SIB5 Message Count
j(3)	PN_WRAN	FTD_SB_RRC_SIB6_COUNT	W:D	R,O	SIB6 Message Count
k(3)	PN_WRAN	FTD_SB_RRC_SIB7_COUNT	W:D	R,O	SIB7 Message Count
l(3)	PN_WRAN	FTD_SB_RRC_SIB8_COUNT	W:D	R,O	SIB8 Message Count

Display 47.05: Peer Message Count- Screen2 (Version: 6.2, Status: Approved)

This screen shows Peer Message Count

Data Display:

```
+++++++++++++++++++++++++++++
+ Peer message count - 2     +
+                           +
+ SIB9  aaa      SIB15 ggg  +
+ SIB10 bbb      SIB16 hhh  +
+ SIB11 ccc      SIB17 iii  +
+ SIB12 ddd      SIB18 jjj  +
+ SIB13 eee                 +
+ SIB14 fff                 +
+                           +
+++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	PN_WRAN	FTD_SB_RRC_SIB9_COUNT	W:D	R,O	SIB9 Message Count
b(3)	PN_WRAN	FTD_SB_RRC_SIB10_COUNT	W:D	R,O	SIB10 Message Count
c(3)	PN_WRAN	FTD_SB_RRC_SIB11_COUNT	W:D	R,O	SIB11 Message Count
d(3)	PN_WRAN	FTD_SB_RRC_SIB12_COUNT	W:D	R,O	SIB12 Message Count
e(3)	PN_WRAN	FTD_SB_RRC_SIB13_COUNT	W:D	R,O	SIB13 Message Count
f(3)	PN_WRAN	FTD_SB_RRC_SIB14_COUNT	W:D	R,O	SIB14 Message Count
g(3)	PN_WRAN	FTD_SB_RRC_SIB15_COUNT	W:D	R,O	SIB15 Message Count
h(3)	PN_WRAN	FTD_SB_RRC_SIB16_COUNT	W:D	R,O	SIB16 Message Count
i(3)	PN_WRAN	FTD_SB_RRC_SIB17_COUNT	W:D	R,O	SIB17 Message Count
j(3)	PN_WRAN	FTD_SB_RRC_SIB18_COUNT	W:D	R,O	SIB18 Message Count

Display 47.06: Peer Message Count-Screen3 (Version: 6.2, Status: Approved)

This screen shows Peer Message Count

Data Display:

```
+++++++++++++++++++++++++++++
+ Peer message count - 3     +
+ Connect request      aaa  +
+ Connect reject       bbb  +
+ Connect setup        ccc  +
+ Connect setup compl  ddd  +
+ Connect release      eee  +
+ Connect rel compl    fff  +
+ Paging type1         ggg  +
+ Paging type2         hhh  +
+++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	PN_WRAN	FTD_SB_RRC_CONRQ_COUNT	W:D	R,O	RRC Connection Request Message Count
b(3)	PN_WRAN	FTD_SB_RRC_CONREJ_COUNT	W:D	R,O	RRC Connection Reject Message Count
c(3)	PN_WRAN	FTD_SB_RRC_CONSET_COUNT	W:D	R,O	RRC Connection Setup Message Count
d(3)	PN_WRAN	FTD_SB_RRC_CONSC_COUNT	W:D	R,O	RRC Connection Setup Complete Message Count
e(3)	PN_WRAN	FTD_SB_RRC_CONREL_COUNT	W:D	R,O	RRC Connection Release Message Count
f(3)	PN_WRAN	FTD_SB_RRC_CNRLC_COUNT	W:D	R,O	RRC Connection Release Complete Message Count
g(3)	PN_WRAN	FTD_SB_RRC_PAGE1_COUNT	W:D	R,O	Paging Type1 Message Count
h(3)	PN_WRAN	FTD_SB_RRC_PAGE2_COUNT	W:D	R,O	Paging Type2 Message Count

Display 47.07: Peer Message Count-Screen4 (Version: 6.2, Status: Approved)

This screen shows Peer Message Count

Data Display:

```
+++++++++++++++++++++++++++
+ Peer message count - 4   +
+ RB setup          ok/fail +
+   aaa             bbb ccc +
+ RB reconf         ok/fail +
+   ddd             eee fff +
+ RB release        ok/fail +
+   ggg             hhh iii +
+ Transport CH      ok/fail +
+   jjj             kkk lll +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	PN_WRAN	FTD_SB_RRC_RBSET_COUNT	W:D	R,O	Radio Bearer Setup Message Count
b(3)	PN_WRAN	FTD_SB_RRC_RBSTC_COUNT	W:D	R,O	Radio Bearer Setup Complete Message Count
c(3)	PN_WRAN	FTD_SB_RRC_RBSTF_COUNT	W:D	R,O	Radio Bearer Setup Failure Message Count
d(3)	PN_WRAN	FTD_SB_RRC_RBRC_COUNT	W:D	R,O	Radio Bearer Reconfiguration Message Count
e(3)	PN_WRAN	FTD_SB_RRC_RBRCC_COUNT	W:D	R,O	Radio Bearer Reconfiguration Complete Message Count
f(3)	PN_WRAN	FTD_SB_RRC_RBRCF_COUNT	W:D	R,O	Radio Bearer Reconfiguration Failure Message Count
g(3)	PN_WRAN	FTD_SB_RRC_RBRL_COUNT	W:D	R,O	Radio Bearer Release Message Count

h(3)	PN_WRAN	FTD_SB_RRC_RBRLC_COUNT	W:D	R,O	Radio Bearer Release Complete Message Count
i(3)	PN_WRAN	FTD_SB_RRC_RBRLF_COUNT	W:D	R,O	Radio Bearer Release Failure Message Count
j(3)	PN_WRAN	FTD_SB_RRC_TCR_COUNT	W:D	R,O	Transport Channel Reconfiguration Message Count
k(3)	PN_WRAN	FTD_SB_RRC_TCHRC_COUNT	W:D	R,O	Transport Channel Reconfiguration Complete Message Count
l(3)	PN_WRAN	FTD_SB_RRC_TCHRF_COUNT	W:D	R,O	Transport Channel Reconfiguration Failure Message Count

Display 47.08: Peer Message Count-Screen5 (Version: 6.2, Status: Approved)

This screen shows Peer Message Count

Data Display:

```
+++++++++++++++++++++++++++
+ Peer message count - 5   +
+ Physical CH      ok/fail +
+    aaa           bbb ccc +
+ Act set update   ok/fail +
+    ddd           eee fff +
+ HO to UTRAN      ok/fail +
+    ggg           hhh iii +
+ HO from UTRAN    ok/fail +
+    jjj           kkk lll +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	PN_WRAN	FTD_SB_RRC_PCRC_COUNT	W:D	R,O	Physical Channel Reconfiguration Message Count
b(3)	PN_WRAN	FTD_SB_RRC_PCHRC_COUNT	W:D	R,O	Physical Channel Reconfiguration Complete Message Count
c(3)	PN_WRAN	FTD_SB_RRC_PCHRF_COUNT	W:D	R,O	Physical Channel Reconfiguration Failure Message Count
d(3)	PN_WRAN	FTD_SB_RRC_ASUP_COUNT	W:D	R,O	Active Set Update Message Count
e(3)	PN_WRAN	FTD_SB_RRC_ASUPC_COUNT	W:D	R,O	Active Set Update Complete Message Count
f(3)	PN_WRAN	FTD_SB_RRC_ASUPF_COUNT	W:D	R,O	Active Set Update Failure Message Count
g(3)	PN_WRAN	FTD_SB_RRC_HOTUT_COUNT	W:D	R,O	Handover to UTRAN Message Count
h(3)	PN_WRAN	FTD_SB_RRC_HOTUC_COUNT	W:D	R,O	Handover to UTRAN Complete Message Count
i(3)	PN_WRAN	FTD_SB_RRC_HFUG_COUNT	W:D	R,O	Handover from UTRAN Message Count
j(3)	PN_WRAN	FTD_SB_RRC_HOFUF_COUNT	W:D	R,O	Handover from UTRAN Failure Message Count

Display 47.09: Peer Message Count-Screen6 (Version: 6.2, Status: Approved)

This screen shows Peer Message count

Data Display:

```
+++++++++++++++++++++++++++
+ Peer message count - 6   +
+                         +
+ CU aaa    CU confirm bbb +
+ CountChk ccc   IDT   ddd +
+ DL_tr     eee   UL_tr fff +
+ MContr ggg    MCFail hhh +
+ MRep   iii    SecMod jjj +
+ SecModComp    kkk        +
+ SecModFail    lll        +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	PN_WRAN	FTD_SB_RRC_CELUP_COUNT	W:D	R,O	Cell Update Message Count
b(3)	PN_WRAN	FTD_SB_RRC_CUCNF_COUNT	W:D	R,O	Cell Update Confirm Message Count
c(3)	PN_WRAN	FTD_SB_RRC_CTCK_COUNT	W:D	R,O	Counter Check Message Count
d(3)	PN_WRAN	FTD_SB_RRC_IDT_COUNT	W:D	R,O	Initial Direct Transfer Message Count
e(3)	PN_WRAN	FTD_SB_RRC_DDT_COUNT	W:D	R,O	Downlink Direct Transfer Message Count
f(3)	PN_WRAN	FTD_SB_RRC_UDT_COUNT	W:D	R,O	Uplink Direct Transfer Message Count
g(3)	PN_WRAN	FTD_SB_RRC_MECON_COUNT	W:D	R,O	Measurement Control Message Count
h(3)	PN_WRAN	FTD_SB_RRC_MECOF_COUNT	W:D	R,O	Measurement Control Failure Message Count
i(3)	PN_WRAN	FTD_SB_RRC_MEREP_COUNT	W:D	R,O	Measurement Report Message Count
j(3)	PN_WRAN	FTD_SB_RRC_SECM_COUNT	W:D	R,O	Security Mode Command Message Count
k(3)	PN_WRAN	FTD_SB_RRC_SECMC_COUNT	W:D	R,O	Security Mode Complete Message Count
l(3)	PN_WRAN	FTD_SB_RRC_SECMF_COUNT	W:D	R,O	Security Mode Failure Message Count

Display 47.10: Peer Message Count-Screen7 (Version: 6.2, Status: Approved)

This screen shows Peer Message Count

Data Display:

```
+++++++++++++++++++++++++++
+ Peer message count - 7   +
+                         +
+ SG_CR mes/ind    aaa bbb +
```

```
+ UE_CE  URA       ccc ddd +
+ RRC  URA_conf    eee fff +
+ UTRAN UTRAN_cf   ggg hhh +
+ UTRAN_fail           iii +
+ CCO_from_UTRAN       jjj +
+ CCO_from_UTRAN_fail kkk +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	PN_WRAN	FTD_SB_RRC_SGCR_COUNT	W:D	R,O	Signalling Connection Release Message Count
b(3)	PN_WRAN	FTD_SB_RRC_SGCRI_COUNT	W:D	R,O	Signalling Connection Release Indication Message Count
c(3)	PN_WRAN	FTD_SB_RRC_UECEQ_COUNT	W:D	R,O	UE Capability Enquiry Message Count
d(3)	PN_WRAN	FTD_SB_RRC_URAUP_COUNT	W:D	R,O	URA Update Message Count
e(3)	PN_WRAN	FTD_SB_RRC_RRCST_COUNT	W:D	R,O	RRC Status Message Count
f(3)	PN_WRAN	FTD_SB_RRC_URAUC_COUNT	W:D	R,O	URA Update Confirm Message Count
g(3)	PN_WRAN	FTD_SB_RRC_UTMI_COUNT	W:D	R,O	UTRAN Mobility Information Message Count
h(3)	PN_WRAN	FTD_SB_RRC_UMIC_COUNT	W:D	R,O	UTRAN Mobility Information Confirm Message Count
i(3)	PN_WRAN	FTD_SB_RRC_UMIF_COUNT	W:D	R,O	UTRAN Mobility Information Failure Message Count
j(3)	PN_WRAN	FTD_SB_RRC_CCOFU_COUNT	W:D	R,O	CellChangeOrderFromUTRAN message Count
k(3)	PN_WRAN	FTD_SB_RRC_CCOFUF_COUNT	W:D	R,O	CellChangeOrderFromUTRANFailure message Count

Group 48: WCDMA RLC displays

Display 48.01: Set AM Bearer ID (Version: 6.2, Status: Approved)

Set the RLC AM bearer ID for which the AM info will be displayed

Data Display:

```
+++++++++++++++++++++++++++
+ Set AM bearer ID        +
+                         +
+ Radio bearer: aa        +
+ RLC SAP:      bbbb      +
+ RLC mode:     cc        +
+                         +
+                         +
+                         +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	PN_WRAN	FTD_SB_INPUT_RLC_FTD_AM_BEARER_SELECT	DW:D	R,O	callback function subblock identity
a(2)	PN_WRAN	FTD_SB_RLC_FTD_SELECTED_AM_RADIO_BEARER	B:D	R,O	AM radio bearer for which data is to be displayed. It is uint8 data. It can be 1 - 32.
b(4)	PN_WRAN	FTD_SB_RLC_FTD_SAP_USER	S	R,O	RLC SAP user for selected radio bearer. It is string data. It can be "RRC" or "PDCP".
c(2)	PN_WRAN	FTD_SB_RLC_FTD_MODE	S	R,O	RLC mode for selected radio bearer. It is string data. It can be "AM" or "UM".

Display 48.02: RLC AM State information (Version: 6.2, Status: Approved)

This screen displays state information for the AM bearer selected using display 48.01

Data Display:

```
+++++++++++++++++++++++++++
+ RLC AM state info       +
+                         +
+ AM uplink status    aaa +
+ AM downlink status  bbb +
+                         +
+                         +
+                         +
+                         +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	PN_WRAN	FTD_SB_RLC_FTD_AM_UL_FLOW_CTRL	S	R,O	AM Uplink flow control status. It is string data. It can be "ON" or "OFF".
b(3)	PN_WRAN	FTD_SB_RLC_FTD_AM_DL_FLOW_CTRL	S	R,O	AM Downlink flow control status. It is string data. It can be "ON" or "OFF".

Display 48.03: RLC AM Counters 1 (Version: 6.2, Status: Approved)

This screen displays counters for the AM bearer selected using display 48.01

Data Display:

```
+++++++++++++++++++++++++++
+ RLC AM counters 1       +
+                         +
+ PDU Tx         aaaaaa   +
+ PDU ReTx       bbbbbb   +
+ PDU Rx         cccccc   +
+                         +
+                         +
+                         +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(6)	PN_WRAN	FTD_SB_RLC_FTD_AM_DATA_PDU_TXD	DW:D	R	Number of the transmitted AMD PDUs. It is uint32 data displayed as 6 decimal digits. It can be 0 - 4294967295 but displayed 0 - 999999.
b(6)	PN_WRAN	FTD_SB_RLC_FTD_AM_DATA_PDU_RETXD	DW:D	R	Number of the re-transmitted AMD PDUs. It is uint32 data displayed as 6 decimal digits. It can be 0 - 4294967295 but displayed 0 - 999999.
c(6)	PN_WRAN	FTD_SB_RLC_FTD_AM_DATA_PDU_RXD	DW:D	R	Number of the received AMD PDUs. It is uint32 data displayed as 6 decimal digits. It can be 0 - 4294967295 but displayed 0 - 999999.

Display 48.04: RLC AM Counters 2 (Version: 6.2, Status: Approved)

This screen displays counters for the AM bearer selected using display 48.01

Data Display:

```
+++++++++++++++++++++++++++
```

```
+ RLC AM counters 2        +
+                          +
+ Ctrl PDU Tx    aaaaaa    +
+ Ctrl PDU Rx    bbbbbb    +
+                          +
+                          +
+                          +
+                          +
+                          +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(6)	PN_WRAN	FTD_SB_RLC_FTD_AM_CTRL_PDU_TXD	DW:D	R	Number of the transmitted Control PDUs. It is uint32 data displayed as 6 decimal digits. It can be 0 - 4294967295 but displayed 0 - 999999.
b(6)	PN_WRAN	FTD_SB_RLC_FTD_AM_CTRL_PDU_RXD	DW:D	R	Number of the received Control PDUs. It is uint32 data displayed as 6 decimal digits. It can be 0 - 4294967295 but displayed 0 - 999999.

Display 48.05: RLC AM Counters 3 (Version: 6.2, Status: Approved)

This screen displays counters for the AM bearer selected using display 48.01

Data Display:

```
++++++++++++++++++++++++++++
+ RLC AM counters 3         +
+                          +
+ SDU Requested  aaaaaa    +
+ SDU Discarded  bbbbbb    +
+ SDU Acked      cccccc    +
+                          +
+                          +
+                          +
+                          +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(6)	PN_WRAN	FTD_SB_RLC_FTD_AM_TX_SDU_REQUESTED	DW:D	R	Number of the requested AM Tx SDUs. It is uint32 data displayed as 6 decimal digits. It can be 0 - 4294967295 but displayed 0 - 999999.
b(6)	PN_WRAN	FTD_SB_RLC_FTD_AM_TX_SDU_DISCARDED	DW:D	R	Number of the discarded AM Tx SDUs. It is uint32 data displayed as 6 decimal digits. It can be 0 - 4294967295 but displayed 0 - 999999.

c(6)	PN_WRAN	FTD_SB_RLC_FTD_AM_TX_SDU_ACKED	DW:D	R	Number of the acknowledged AM Tx SDUs. It is uint32 data displayed as 6 decimal digits. It can be 0 - 4294967295 but displayed 0 - 999999.

Display 48.06: RLC AM Counters 4 (Version: 6.2, Status: Approved)

This screen displays counters for the AM bearer selected using display 48.01

Data Display:

```
+++++++++++++++++++++++++++
+ RLC AM counters 4        +
+                          +
+ Reject PDU Data  aaaaaa  +
+ Reject PDU Ctrl  bbbbbb  +
+                          +
+                          +
+                          +
+                          +
+                          +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(6)	PN_WRAN	FTD_SB_RLC_FTD_AM_REJECTED_DATA_PDUS	DW:D	R	Number of the rejected AMD PDUs. It is uint32 data displayed as 6 decimal digits. It can be 0 - 4294967295 but displayed 0 - 999999.
b(6)	PN_WRAN	FTD_SB_RLC_FTD_AM_REJECTED_CTRL_PDUS	DW:D	R	Number of the rejected AM Status PDUs. It is uint32 data displayed as 6 decimal digits. It can be 0 - 4294967295 but displayed 0 - 999999.

Display 48.07: RLC AM Counters 5 (Version: 6.2, Status: Approved)

This screen displays counters for the AM bearer selected using display 48.01

Data Display:

```
+++++++++++++++++++++++++++
+ RLC AM counters 5        +
+                          +
+ Delivered SDU    aaaaaa  +
+ Resets           bbbbbb  +
+                          +
+                          +
+                          +
+                          +
+                          +
+++++++++++++++++++++++++++
```

```
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(6)	PN_WRAN	FTD_SB_RLC_FTD_AM_DELIVERED_SDUS	DW:D	R	Number of the delivered AM SDUs. It is uint32 data displayed as 6 decimal digits. It can be 0 - 4294967295 but displayed 0 - 999999.
b(6)	PN_WRAN	FTD_SB_RLC_FTD_AM_NUM_OF_RESETS	DW:D	R	Number of times of the AM resets. It is uint32 data displayed as 6 decimal digits. It can be 0 - 4294967295 but displayed 0 - 999999.

Display 48.08: RLC AM Counters 6 (Version: 6.2, Status: Approved)

This screen displays counters for the AM bearer selected using display 48.01

Data Display:

```
++++++++++++++++++++++++++
+ RLC AM counters 6       +
+                         +
+ AM re-establish  aaaaaa +
+ AM reconfigs     bbbbbb +
+                         +
+                         +
+                         +
+                         +
+                         +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(6)	PN_WRAN	FTD_SB_RLC_FTD_AM_NUM_OF_RE ESTABLISHMENTS	DW:D	R	Number of times of the AM re-establishments. It is uint32 data displayed as 6 decimal digits. It can be 0 - 4294967295 but displayed 0 - 999999.
b(6)	PN_WRAN	FTD_SB_RLC_FTD_AM_NUM_OF_RE CONFIGS	DW:D	R	Number of times of the AM resets. It is uint32 data displayed as 6 decimal digits. It can be 0 - 4294967295 but displayed 0 - 999999.

Display 48.09: RLC AM Tx Buffer Occupancy (Version: 6.2, Status: Approved)

This screen displays the Tx buffer occupancy (in %) of the AM bearer selected using display 48.01

Data Display:

```
+++++++++++++++++++++++++++
+ RLC AM Tx Buffer        +
+ Occupancy              +
+                        +
+ AM Tx current     aaa % +
+ AM Tx peak        bbb % +
+                        +
+                        +
+                        +
+                        +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	PN_WRAN	FTD_SB_RLC_FTD_AM_TX_BFR_OCC	B:D	R	Current buffer occupancy of the AM Tx buffer. It is uint8 data displayed as 3 decimal digits. It can be 0 - 100%.
b(3)	PN_WRAN	FTD_SB_RLC_FTD_AM_TX_BFR_OCC_PEAK	B:D	R	Peak buffer occupancy of the AM Tx buffer. It is uint8 data displayed as 3 decimal digits. It can be 0 - 100%.

Group 49: WCDMA MAC displays

Display 49.01: Basic Radio Bearer Information (Version: 6.2, Status: Approved)

This screen shows the number of active UL and DL Radio Bearers and the RB ID Bit-Fields

Data Display:

```
+++++++++++++++++++++++++++
+ Basic RB information    +
+                         +
+ Uplink          bb      +
+ Sub ID1         aaaaaaaa +
+ Sub ID2         cccccccc +
+ Downlink        ee       +
+ Sub ID1         dddddddd +
+ Sub ID2         ffffffff +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(8)	PN_WRAN	FTD_SB_W_MAC_UL_RB_SUB_ID_1	DW:H	R	This field shows the Active Up-Link Radio Bearer Id bit-field,nSub_Id_1, as an 8 digit hexadecimal value. This will have a range ofn0-FFFFFFFF. When this hex value is converted into a bit-field, a 1 willnrepresent an active RB for this SUB ID and 0 an inactive RB for this Sub ID.nThe RB shall be indicated by its position in the bit-field. e.g the Least Significant Bit (LSB) will represent RB 1, the Most Significant Bit (MSB) will represent RB 32.
b(2)	PN_WRAN	FTD_SB_W_MAC_NUM_ACTIVE_UL_RB	B:D	R	This field shows the number of active up-link radio bearers having a range of 0-32 represented as an integer
c(8)	PN_WRAN	FTD_SB_W_MAC_UL_RB_SUB_ID_2	DW:H	R	This field shows the Active Up-Link Radio Bearer Id bit-field, Sub_Id_2, as an 8 digit hexadecimal value. This will have a range of 0-FFFFFFFF. When this hex value is converted into a bit-field, a 1 will represent an active RB for this SUB ID and 0 an inactive RB for this Sub ID. The RB shall be indicated by its position in the bit-field. e.g the Least Significant Bit (LSB) will

					represent RB 1, the Most Significant Bit (MSB) will represent RB 32.
d(8)	PN_WRAN	FTD_SB_W_MAC_DL_RB_SUB_ID_1	DW:H	R	This field shows the Active Down-Link Radio Bearer Id bit-field, Sub_Id_1, as an 8 digit hexadecimal value. This will have a range of 0-FFFFFFFF. When this hex value is converted into a bit-field, a 1 will represent an active RB for this SUB ID and 0 an inactive RB for this Sub ID. The RB shall be indicated by its position in the bit-field. e.g the Least Significant Bit (LSB) will represent RB 1, the Most Significant Bit (MSB) will represent RB 32.
e(2)	PN_WRAN	FTD_SB_W_MAC_NUM_ACTIVE_DL_RB	W:D	R	This field shows the number of active down-link radio bearersnhaving a range of 0-32, represented as an integer
f(8)	PN_WRAN	FTD_SB_W_MAC_DL_RB_SUB_ID_2	DW:H	R	This field shows the Active Down-Link Radio Bearer Id bit-field, Sub_Id_2, as an 8 digit hexadecimal value. This will have a range of 0-FFFFFFFF. When this hex value is converted into a bit-field, a 1 will represent an active RB for this SUB ID and 0 an inactive RB for this Sub ID. The RB shall be indicated by its position in the bit-field. e.g the Least Significant Bit (LSB) will represent RB 1, the Most Significant Bit (MSB) will represent RB 32.

Display 49.02: Basic DCH Information (Version: 6.2, Status: Approved)

This screen shows the number of UL and DL DCH's and their corresponding DCH ID Bit-Field

Data Display:

```
+++++++++++++++++++++++++++
+ Basic DCH information   +
+                         +
+ Uplink DCH           aa +
+ DCH ID          bbbbbbbb +
+ Downlink DCH         cc +
+ DCH ID          dddddddd +
+ Conf DCH             ee +
+ Free DCH ID     ffffffff +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(2)	PN_WRAN	FTD_SB_W_MAC_ACTIVE_UL_DCH	W:D	R	This field shows the number of active up-link DCH's having a range of 0-32, represented as an integer
b(8)	PN_WRAN	FTD_SB_W_MAC_ACTIVE_UL_DCH_ID_BITFIELD	DW:H	R	This field shows the Active Up-Link DCH Id bit-field, as an 8 digit hexadecimal value. This will have a range of 0-FFFFFFFF. When this hex value is converted into a bit-field, a 1 will represent an active DCH and a 0 an inactive DCH.nThe DCH shall be indicated by its position in the bit-field. e.g the Least Significant Bit (LSB) will represent DCH 1, the Most Significant Bit (MSB) will represent DCH 32.
c(2)	PN_WRAN	FTD_SB_W_MAC_ACTIVE_DL_DCH	W:D	R	This field shows the number of active down-link DCH's having a range of 0-32, represented as an integer
d(8)	PN_WRAN	FTD_SB_W_MAC_ACTIVE_DL_DCH_ID_BITFIELD	DW:H	R	This field shows the Active Down-Link DCH Id bit-field, as an 8 digit hexadecimal value. This will have a range of 0-FFFFFFFF. When this hex value is converted into a bit-field, a 1 will represent an active DCH and a 0 an inacative DCH. The DCH shall be indicated by its position in the bit-field. e.g the Least Significant Bit (LSB) will represent DCH 1, the Most Significant Bit (MSB) will represent DCH 32.
e(2)	PN_WRAN	FTD_SB_W_MAC_FREE_DCH	W:D	R	This field shows the number of configured DCH's that do not have RB's attached. This field has a range of 0-32, represented as an integer.
f(8)	PN_WRAN	FTD_SB_W_MAC_FREE_DCH_ID_BITFIELD	DW:H	R	This field shows the unconnected DCH Id bit-field as an 8 digit hexadecimal value. These are the DCH's that are configured but no UL or DL RB is connected to them. When this hex value is converted into a bit-field, a 1 will represent an active DCH and a 0 an inacative DCH. The DCH shall be indicated by its position in the bit-field. e.g the Least Significant Bit (LSB) will represent DCH 1, the Most Significant Bit (MSB) will represent DCH 32.

Display 49.04: Radio Bearer ID and SUB ID input (Version: 6.2, Status: Approved)

This screen shall form the input for the Radio Bearer ID and sub ID. This will be formed of a 2 digit decimal value of the RB ID (XX, range 1-32) followed by a single digit for the Sub ID (Y being either 1 or 2), input as XXY

Data Display:

```
+++++++++++++++++++++++++++
+ RB ID and SUB ID input  +
+                         +
+ Enter RB ID and SUB ID  +
+ as XXY: aaa             +
+                         +
+                         +
+                         +
+                         +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	PN_WRAN	FTD_SB_INPUT_RB_AND_SUBID_SET	DW:D	R	callback function subblock identity
a(3)	PN_WRAN	FTD_SB_W_MAC_RB_SUB_ID_INPUT	B:D	R	This 3 digit decimal input requests the 2 digit RB-ID, having a range of 0-32, followed by the single digit Sub-ID, which can be either 1 or 2

Display 49.05: Radio Bearer Information (Version: 6.2, Status: Approved)

This screen shall display the Radio Bearer Information including both UL and DL information

Data Display:

```
+++++++++++++++++++++++++++
+ RB information          +
+                         +
+ ActStatus aa RLC mode b +
+ RLC connect c  Cipher d +
+ Priority e    TCHtype f +
+ TCH_ID  gg    CTstat  h +
+ CTvalue i     Size    j +
+ DEDBR   kk    TCHtype l +
+ ID mm status n  value o +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(2)	PN_WRAN	FTD_SB_W_MAC_RB_ACTIVE_STATUS	S	R	Represents the RB's Active status using 2 characters.

					Thesencharacters represent the following status:nUL - Up-LinknDL - Down-LinknUD - Up-Link and Down-LinknNO - Representing none of the above i.e. no active status
b(1)	PN_WRAN	FTD_SB_W_MAC_RB_RLC_MODE	S	R	The RLC mode is represented by a single character whichnreflects the following valid information on the display about the RB RLCnmode:nM - Main,nV - VoicenC - CSDnL - Loopback
c(1)	PN_WRAN	FTD_SB_W_MAC_RB_RLC_CONNECTED_STATUS	S	R	This field represents the RLC Connected status which isnrepresented as a single character and is used to represent the followingninformationnC - ConnectednU - Unconnected
d(1)	PN_WRAN	FTD_SB_W_MAC_RB_CIPHERING_STATUS	S	R	This field informs us if ciphering for this radio bearer isnEnabled or Disabled. This is represented as a single character as followsnE - Ciphering EnablednD - Ciphering Disabled
e(1)	PN_WRAN	FTD_SB_W_MAC_RB_UL_PRIORITY	B:D	R	This parameter represents the RB UL information priority as andecimal value which has a range of 1-8
f(1)	PN_WRAN	FTD_SB_W_MAC_RB_UL_MAPPED_TCH_TYPE	S	R	The UL Mapped Traffic Channel Type is represented as a singlencharacter as followsnR - RACHnD - DCH
g(2)	PN_WRAN	FTD_SB_W_MAC_RB_UL_MAPPED_TCH_ID	W:D	R	This field represents the UL Mapped TCH ID as a 2 digitndecimal value. If the UL Mapped Traffic Channel Type is DCH then thisnhas a range of 1-32
h(1)	PN_WRAN	FTD_SB_W_MAC_RB_UL_CT_STATUS	B:D	R	The UL CT Status flag for the RB is represented as a singlendigit decimal values which shows the following information:n0 - Not Presentn1 - Present
i(1)	PN_WRAN	FTD_SB_W_MAC_RB_UL_CT_VALUE	B:H	R	The UL CT Value has a range of 0-15. This is represented on thendisplay as a single digit Hexadecimal Value having a range 0-F
j(1)	PN_WRAN	FTD_SB_W_MAC_RB_UL_SIZES_STATUS	S	R	The Sizes Status field is represented as a single characternshowing the following information:nA - All SizesnE - ExplicitnC - Configured
k(2)	PN_WRAN	FTD_SB_W_MAC_RB_UL_DEDBR_INSTANCE	B:D	R	This field represents the DEDBR Instance and has the rangen0-63. This is represented as a two digit decimal value on the display
l(1)	PN_WRAN	FTD_SB_W_MAC_RB_DL_MAPPED_TCH_TYPE	S	R	The DL Mapped Traffic Channel Type or FACH is representednby

					a single character which shows the following information:nF - FACHnD - DCH
m(2)	PN_WRAN	FTD_SB_W_MAC_RB_DL_MAPPED_TCH_ID	W:D	R	If the DL Mapped traffic Channel type is DCH then thisnfield represents a 32 bit mapped traffic channel ID, having a range of 1-32.nThis is represented as a 2 digit decimal value
n(1)	PN_WRAN	FTD_SB_W_MAC_RB_DL_CT_STATUS	B:D	R	The DL CT Status flag for the RB is represented as a singlendigit decimal values which shows the following information:n0 - Not Presentn1 - Present
o(1)	PN_WRAN	FTD_SB_W_MAC_RB_DL_CT_VALUE	B:H	R	The DL CT Value has a range of 0-15. This is represented on thendisplay as a single digit Hexadecimal Value having a range 0-F

Display 49.06: Input DCH ID (Version: 6.2, Status: Approved)

This screen forms the input screen for the DCH ID in order to display the information related to the DCH on other display screens. The input is a 2-digit decimal value with a range of 1-32

Data Display:

```
++++++++++++++++++++++++++++
+ Input DCH ID              +
+                          +
+ Enter DCH ID(xx): aa     +
+                          +
+                          +
+                          +
+                          +
+                          +
+                          +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	PN_WRAN	FTD_SB_INPUT_DCH_ID_SET	DW:D	R	callback function subblock identity
a(2)	PN_WRAN	FTD_SB_W_MAC_DCH_ID_INPUT	B:D	R	This field represents a 2 digit deciaml value representing the DCH ID which has a range of 1-32

Display 49.07: DCH Information (Version: 6.2, Status: Approved)

This screen shows the UL and DL DCH information for a DCH ID

Data Display:

```
+++++++++++++++++++++++++++
+ DCH information         +
+ UL act status   SUB ID1 +
+ a               bbbbbbbb +
+ UL TTI          SUB ID2 +
+ cc              dddddddd +
+ DL act status   SUB ID1 +
+ e               ffffffff +
+ DL TTI          SUB ID2 +
+ gg              hhhhhhhh +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(1)	PN_WRAN	FTD_SB_W_MAC_DCH_UL_ACTIVE_STATUS	S	R	This field represents the DCH UL Active status using a single character showing the following information: A - Activel - Inactive
b(8)	PN_WRAN	FTD_SB_W_MAC_DCH_UL_RB_SUB ID_1	DW:H	R	This field is represented as an 8-digit hexadecimal value which represents the 32-bit bit-field of the UL RB sub id 1
c(2)	PN_WRAN	FTD_SB_W_MAC_DCH_UL_TTI	B:D	R	This field represents the UL TTI field as a two digit decimal value. The valid values for this field are 10, 20, 40 and 80 ms
d(8)	PN_WRAN	FTD_SB_W_MAC_DCH_UL_RB_SUB ID_2	DW:H	R	This field is represented as an 8-digit hexadecimal value which represents the 32-bit bit-field of the UL RB sub id 2
e(1)	PN_WRAN	FTD_SB_W_MAC_DCH_DL_ACTIVE_STATUS	S	R	This field represents the DCH DL Active status using a single character showing the following information: A - Activel - Inactive
f(8)	PN_WRAN	FTD_SB_W_MAC_DCH_DL_RB_SUB ID_1	DW:H	R	This field is represented as an 8-digit hexadecimal value which represents the 32-bit bit-field of the DL RB sub id 1
g(2)	PN_WRAN	FTD_SB_W_MAC_DCH_DL_TTI	B:D	R	This field represents the DL TTI field as a two digit decimal value. The valid values for this field are 10, 20, 40 and 80 ms
h(8)	PN_WRAN	FTD_SB_W_MAC_DCH_DL_RB_SUB ID_2	DW:H	R	This field is represented as an 8-digit hexadecimal value which represents the 32-bit bit-field of the DL RB sub id 2

Group 50: WCDMA WPH displays

Display 50.01: WPH Connection counts (Version: 6.2, Status: Approved)

Count number of successful & unsuccessful connections. DPCH field also counts number of fallbacks.

Data Display:

```
+++++++++++++++++++++++++++
+ WPH connection counts    +
+                          +
+ PCCPCH OK/NOK aaaa bbbb  +
+ PRACH  OK/NOK cccc dddd  +
+ SCCPCH OK/NOK eeee ffff  +
+ DPCH   OK/NOK gggg  iii  +
+ DPCH fallback       hhh  +
+                          +
+                          +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(4)	PN_WRAN	FTD_SB_SUCCESSFUL_PCCPCH_CONNECTS	B:H	R	Number of successful PCCPCH connections
b(4)	PN_WRAN	FTD_SB_FAILED_PCCPCH_CONNECTS	B:H	R	Number of failed PCCPCH connections
c(4)	PN_WRAN	FTD_SB_SUCCESSFUL_PRACH_CONNECTS	B:H	R	Number of successful PRACH connections
d(4)	PN_WRAN	FTD_SB_FAILED_PRACH_CONNECTS	B:H	R	Number of failed PRACH connections
e(4)	PN_WRAN	FTD_SB_SUCCESSFUL_SCCPCH_CONNECTS	B:H	R	Number of successful SCCPCH connections
f(4)	PN_WRAN	FTD_SB_FAILED_SCCPCH_CONNECTS	B:H	R	Number of failed SCCPCH connections
g(4)	PN_WRAN	FTD_SB_SUCCESSFUL_DPCH_CONNECTS	B:H	R	Number of successful DPCH connections
h(3)	PN_WRAN	FTD_SB_FALLBACK_DPCH_CONNECTS	B:H	R	Number of fallback DPCH connections
i(3)	PN_WRAN	FTD_SB_FAILED_FALLBACK_DPCH_CONNECTS	B:H	R	Number of failed DPCH connections

Display 50.10: WPH L1 Received Error Codes (Version: 6.2, Status: Approved)

This display presents error information (specifically, error code values) received from L1 by WPH

Data Display:

```
+++++++++++++++++++++++++++
+ WPH L1 received errors   +
```

```
+                            +
+ Process ID          aaaa  +
+ L1 error type       bbbb  +
+ L1 error subtype    cccc  +
+ L1 main code   dddddddd  +
+ L1 extra code  eeeeeeee  +
+                            +
+                            +
++++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(4)	PN_WRAN	FTD_SB_WPH_L1_OS_TASK_ID	W:H	R	Identification number of L1 o/s process
b(4)	PN_WRAN	FTD_SB_WPH_L1_ERROR_TYPE	W:H	R	L1 error type
c(4)	PN_WRAN	FTD_SB_WPH_L1_ERROR_SUBTYPE	W:H	R	L1 error subtype
d(8)	PN_WRAN	FTD_SB_WPH_L1_MAIN_ERROR_CODE	DW:H	R	L1 main error code
e(8)	PN_WRAN	FTD_SB_WPH_L1_EXTRA_ERROR_CODE	DW:H	R	L1 extra error code

Display 50.11: WPH L1 Received Error Timestamp (Version: 6.2, Status: Approved)

This display presents error information (specifically, timestamps & extra information) received from L1 by WPH

Data Display:

```
++++++++++++++++++++++++++++++
+ WPH L1 received error      +
+ timestamps                 +
+                            +
+ DSP timestamp  aaaaaaaa    +
+                            +
+ Additional DSP debug       +
+ info                       +
+ bbbb  cccc  dddd  eeee     +
+                            +
++++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(8)	PN_WRAN	FTD_SB_WPH_L1_TIMESTAMP	DW:H	R	Error code DSP timestamp
b(4)	PN_WRAN	FTD_SB_WPH_L1_EXTRA_DEBUG_INFO1	W:H	R	Additional DSP debug information
c(4)	PN_WRAN	FTD_SB_WPH_L1_EXTRA_DEBUG_INFO2	W:H	R	Additional DSP debug information
d(4)	PN_WRAN	FTD_SB_WPH_L1_EXTRA_DEBUG_INFO3	W:H	R	Additional DSP debug information
e(4)	PN_WRA	FTD_SB_WPH_L1_EXTRA_DEBUG	W:H	R	Additional DSP debug

	N	_INFO4			information

Display 50.12: WPH L1 PId list before error (Version: 6.2, Status: Approved)

This provides access to the PId list immediately preceeding the event which generated the error. The user is prompted to enter the offset, where 0 corresponds to the most recently saved PId. The specified PID is shown together with the seven immediately preceeding it (4 PID indices are shown to indicate what's on the display, and the ordering). Entering values which are too large will result in the oldest 8 PIDs being shown.

Data Display:

```
+++++++++++++++++++++++++++
+ WPH L1 PID list before  +
+ error                   +
+                         +
+ PID    ind PID          +
+ aaaa << ii eeee         +
+ bbbb << jj ffff         +
+ cccc kk >> gggg         +
+ dddd ll >> hhhh         +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	PN_WRAN	FTD_SB_INPUT_WPH_L1_GET_PID_INDEX	DW:D	R	callback function subblock identity
a(4)	PN_WRAN	FTD_SB_WPH_L1_PID0	W:H	R	L1 Process id
i(2)	PN_WRAN	FTD_SB_WPH_L1_PID_INDEX_ID1	B:D	R	This indicates the index of the value being pointed at.
e(4)	PN_WRAN	FTD_SB_WPH_L1_PID4	W:H	R	L1 Process id
b(4)	PN_WRAN	FTD_SB_WPH_L1_PID1	W:H	R	L1 Process id
j(2)	PN_WRAN	FTD_SB_WPH_L1_PID_INDEX_ID2	B:D	R	This indicates the index of the value being pointed at.
f(4)	PN_WRAN	FTD_SB_WPH_L1_PID5	W:H	R	L1 Process id
c(4)	PN_WRAN	FTD_SB_WPH_L1_PID2	W:H	R	L1 Process id
k(2)	PN_WRAN	FTD_SB_WPH_L1_PID_INDEX_ID3	B:D	R	This indicates the index of the value being pointed at.
g(4)	PN_WRAN	FTD_SB_WPH_L1_PID6	W:H	R	L1 Process id
d(4)	PN_WRAN	FTD_SB_WPH_L1_PID3	W:H	R	L1 Process id
l(2)	PN_WRAN	FTD_SB_WPH_L1_PID_INDEX_ID4	B:D	R	This indicates the index of the value being pointed at.
h(4)	PN_WRAN	FTD_SB_WPH_L1_PID7	W:H	R	L1 Process id

Display 50.13: WPH L1 Rx signal list before error (Version: 6.2, Status: Approved)

This provides access to the Rx Signal list immediately preceeding the event which generated the error. The user is prompted to enter the offset, where 0 corresponds to the most recently saved Rx Signal. The specified Rx Signal is shown together with the seven immediately preceeding it (4 indices are shown to indicate which are on the display, and the ordering). Entering values which are too large will result in the oldest 8 Rx Signals being shown

Data Display:

```
+++++++++++++++++++++++++++
+ WPH L1 Rx signal list   +
+ before error            +
+                         +
+ ID     ind ID           +
+ aaaa << ii eeee         +
+ bbbb << jj ffff         +
+ cccc kk >> gggg         +
+ dddd ll >> hhhh         +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	PN_WRAN	FTD_SB_INPUT_WPH_L1_GET_RXSIG_INDEX	DW:D	R	callback function subblock identity
a(4)	PN_WRAN	FTD_SB_WPH_L1_RX_SIGNALID1	W:H	R	This displays an internal L1 signal id
i(2)	PN_WRAN	FTD_SB_WPH_L1_RX_SIGID_INDEX_ID1	B:D	R	This is used as an aide-memoire for the user; it indicates the index of the signal id being pointed at.
e(4)	PN_WRAN	FTD_SB_WPH_L1_RX_SIGNALID5	W:H	R	This displays an internal L1 signal id
b(4)	PN_WRAN	FTD_SB_WPH_L1_RX_SIGNALID2	W:H	R	This displays an internal L1 signal id
j(2)	PN_WRAN	FTD_SB_WPH_L1_RX_SIGID_INDEX_ID2	B:D	R	This is used as an aide-memoire for the user; it indicates the index of the signal id being pointed at.
f(4)	PN_WRAN	FTD_SB_WPH_L1_RX_SIGNALID6	W:H	R	This displays an internal L1 signal id
c(4)	PN_WRAN	FTD_SB_WPH_L1_RX_SIGNALID3	W:H	R	This displays an internal L1 signal id
k(2)	PN_WRAN	FTD_SB_WPH_L1_RX_SIGID_INDEX_ID3	B:D	R	This is used as an aide-memoire for the user; it indicates the index of the signal id being pointed at.
g(4)	PN_WRAN	FTD_SB_WPH_L1_RX_SIGNALID7	W:H	R	This displays an internal L1 signal id
d(4)	PN_WRAN	FTD_SB_WPH_L1_RX_SIGNALID4	W:H	R	This displays an internal L1 signal id
l(2)	PN_WRAN	FTD_SB_WPH_L1_RX_SIGID_INDEX_ID4	B:D	R	This is used as an aide-memoire for the user; it indicates the index of the

					signal id being pointed at.
h(4)	PN_WRAN	FTD_SB_WPH_L1_RX_SIGNALID8	W:H	R	This displays an internal L1 signal id

Display 50.14: WPH L1 Tx signal list before error (Version: 6.2, Status: Approved)

This provides access to the Tx Signal list immediately preceeding the event which generated the error. The user is prompted to enter the offset, where 0 corresponds to the most recently saved Tx Signal. The specified Tx Signal is shown together with the seven immediately preceeding it (4 indices are shown to indicate which are on the display, and the ordering). Entering values which are too large will result in the oldest 8 Tx Signals being shown

Data Display:

```
+++++++++++++++++++++++++++
+ WPH L1 Tx signal list   +
+ before error            +
+                         +
+ ID     ind ID           +
+ aaaa << ii eeee         +
+ bbbb << jj ffff         +
+ cccc kk >> gggg         +
+ dddd ll >> hhhh         +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	PN_WRAN	FTD_SB_INPUT_WPH_L1_GET_TXSIG_INDEX	DW:D	R	callback function subblock identity
a(4)	PN_WRAN	FTD_SB_WPH_L1_TX_SIGNALID1	W:H	R	This displays an internal L1 signal id
i(2)	PN_WRAN	FTD_SB_WPH_L1_TX_SIGID_INDEX_ID1	B:D	R	This is used as an aide-memoire for the user; it indicates the index of the signal id being pointed at.
e(4)	PN_WRAN	FTD_SB_WPH_L1_TX_SIGNALID5	W:H	R	This displays an internal L1 signal id
b(4)	PN_WRAN	FTD_SB_WPH_L1_TX_SIGNALID2	W:H	R	This displays an internal L1 signal id
j(2)	PN_WRAN	FTD_SB_WPH_L1_TX_SIGID_INDEX_ID2	B:D	R	This is used as an aide-memoire for the user; it indicates the index of the signal id being pointed at.
f(4)	PN_WRAN	FTD_SB_WPH_L1_TX_SIGNALID6	W:H	R	This displays an internal L1 signal id
c(4)	PN_WRAN	FTD_SB_WPH_L1_TX_SIGNALID3	W:H	R	This displays an internal L1 signal id
k(2)	PN_WRAN	FTD_SB_WPH_L1_TX_SIGID_INDEX_ID3	B:D	R	This is used as an aide-memoire for the user; it indicates the index of the signal id being pointed at.
g(4)	PN_WRA	FTD_SB_WPH_L1_TX_SIGNALID7	W:H	R	This displays an internal L1

	N				signal id
d(4)	PN_WRAN	FTD_SB_WPH_L1_TX_SIGNALID4	W:H	R	This displays an internal L1 signal id
l(2)	PN_WRAN	FTD_SB_WPH_L1_TX_SIGID_INDEX_ID4	B:D	R	This is used as an aide-memoire for the user; it indicates the index of the signal id being pointed at.
h(4)	PN_WRAN	FTD_SB_WPH_L1_TX_SIGNALID8	W:H	R	This displays an internal L1 signal id

Display 50.15: WPH L1 list of previous warnings received before error (Version: 6.2, Status: Approved)

This provides access to the previous warning list immediately preceeding the event which generated the error. The user is prompted to enter the offset, where 0 corresponds to the most recently saved warning. The specified warning is shown together with the one immediately preceeding it (2 indices are shown to indicate which are on the display). Entering values which are too large will result in the oldest warnings being shown

Data Display:

```
+++++++++++++++++++++++++++
+ WPH L1 list of previous +
+ warnings before error   +
+                         +
+ Ind             ee      +
+ Main error      aaaaaaaa +
+ Extra error     bbbbbbbb +
+ Ind             ff      +
+ Main error      cccccccc +
+ Extra error     dddddddd +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	PN_WRAN	FTD_SB_INPUT_WPH_L1_GET_WARN_INDEX	DW:D	R	callback function subblock identity
e(2)	PN_WRAN	FTD_SB_WPH_L1_WARNING_INDEX_ID1	B:D	R	This is used as an aide-memoire for the user; it indicates the index of the signal id being pointed at.
a(8)	PN_WRAN	FTD_SB_WPH_L1_MAIN_ERROR_CODE1	DW:H	R	This displays an internal L1 signal id
b(8)	PN_WRAN	FTD_SB_WPH_L1_EXTRA_ERROR_CODE1	DW:H	R	This displays an internal L1 signal id
f(2)	PN_WRAN	FTD_SB_WPH_L1_WARNING_INDEX_ID2	B:D	R	This is used as an aide-memoire for the user; it indicates the index of the signal id being pointed at.
c(8)	PN_WRAN	FTD_SB_WPH_L1_MAIN_ERROR_CODE2	DW:H	R	This displays an internal L1 signal id
d(8)	PN_WRAN	FTD_SB_WPH_L1_EXTRA_ERROR_CODE2	DW:H	R	This displays an internal L1 signal id

Group 61: Common EM (Energy Management) displays

Display 61.01: Basic EM information (Version: 3.16, Status: Approved)

```
++++++++++++++++++++++++++++
+   EM information         +
+ Version no    aaaaaaaaa  +
+ Battery bars  b          +
+ Bat sw status ccc        +
+ Battery type  ddd        +
+ Volt / Temp   eeee ffff  +
+ Cap / SbyH    gggg hhh   +
+ ChMo / CsSt   iii  jjjj  +
+ Carger type   kkk        +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(9)	EM	EM_SB_FTD_VERSION	S	R	EM version number: Eg: 05.04.070
b(2)	EM	EM_SB_FTD_NUMBER_OF_BAT_BARS	B:D	R	Number of battery bars (1 to 8 decimal)
c(3)	EM	EM_SB_FTD_STATUS	S	R	Battery monitor SW status: **???** **Cha** = Charging **Mon** = Monitoring **Rst** = Restart batmon4 **Set** = Settle after charging **Res** = Reset batmon4 **Ser** = Service **Sto** = Stopped **Dis** = Disable
d(3)	EM	EM_SB_FTD_BAT_TYPE	S	R	Battery type: **???** **SB** = Service battery **Ni** = Nickel battery **Err** = Error **4L1** = 4.1 v littium battery **4L2** = 4.2 v littium battery
e(4)	EM	EM_SB_FTD_INST_BAT_VOLT	W:D	R	Instantaneous battery voltage in mV (0 to 9999 decimal)
f(3)	EM	EM_SB_FTD_CURRENT_BAT_TEMP	W:D	R	Current battery temperature in kelvin (0 to 999 decimal)
g(4)	EM	EM_SB_FTD_BAT_CAPACITY	W:D	R	Battery capacity in mAh (0 to 9999 decimal)
h(3)	EM	EM_SB_FTD_REMAIN_STBY_HOURS	W:D	R	Remaining standby time to battery low in hours (0 to 999 decimal)
i(3)	EM	EM_SB_FTD_PRESENT_CHA_MODE	S	R	Present charging state: **Not** = Not charging **Ini** = Initialization **TCh** = Temperature check **LiC** = Lithium charging

					Dis = Disabled **Dch** = Discharging **Dco** = Disconnectted **Pow** = Power **Col** = Cold charging **Hot** = Hot charging **Mai** = Maintenance charging **BEr** = Battery error **NiC** = Nickel charging **CPa** = Control paused **CDi** = Control disabled
j(4)	EM	EM_SB_FTD_CS_STATE	S	R	CS state): **????** **Idle** **NSPS** **SCAN** **SIGN** = Signalling **Call** **CSD** **HSCS** = HSCSD **GPRS** **Data** **EDGE**
k(3)	EM	EM_SB_FTD_PRESENT_CHR_TYPE	S	R	Present charger type: **???** **TEr** = Temperature error **2Wi** = 2 wire charger **3Wi** = 3 wire charger **AC7** = ACP7 charger **VEr** = Voltage error **CEr** = Current error

Display 61.02: Basic BATMON4 information (Version: 1, Status: Approved)

```
++++++++++++++++++++++++++++
+   BATMON4 information    +
+ Batt voltage  aaaaa      +
+ Stand by time bbbbbb     +
+ TX-off Volt   ccccc      +
+ TX-on Volt    dddd       +
+ Misc flags    eeeee      +
+ VDmf /PowInd  ffff   ggg+
+ Stat/Cal V    hhh   iiii+
+ Blow/PrWarn   jjj    kkk+
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(4)	EM	EM_SB_FTD_INST_BAT_VOLT	W:D	R	Measured instantaneous battery voltage in mV (0 to 9999 decimal).
b(6)	EM	EM_SB_FTD_REMAIN_STBY_MINUTES	DW:D	R	Remaining standby time estimate in minutes (0 to 999999 decimal).
c(4)	EM	EM_SB_FTD_EST_TX_OFF	W:D	R	Estimated Tx-Off battery voltage in mV (0 to 9999 decimal).
d(4)	EM	EM_SB_FTD_MEAS_TX_ON	W:D	R	Measured Tx-On synchronized battery voltage in mV (0 to 9999 decimal).
e(2)	EM	EM_SB_FTD_MISC_	B:H	R	Miscellaneous Battery Monitor flags in bitfields

		MON_FLAGS1			(00 to FF hexadecimal).
f(4)	EM	EM_SB_FTD_DMF_BAT_VOLT	W:D	R	Double median filtered battery voltage in mV (0 to 9999 decimal)
g(3)	EM	EM_SB_FTD_BAT_POW_IND	S	R	Battery Power Indication: "**Ok**" "**Low**" "**LFB**" (= Low For Boot) "**Emp**" (= Empty)
h(3)	EM	EM_SB_FTD_STATUS	S	R	Battery Monitor internal status: "**Cha**" = Charging "**Mon**" = Monitoring "**Rst**" = Restart batmon4 "**Set**" = Settle after charging "**Res**" = Reset batmon4 "**Ser**" = Service "**Stp**" = Stopped "**Dis**" = Disable
i(4)	EM	EM_SB_FTD_CALC_VOLT_LEVEL	W:D	R	Calculated voltage level "Check" voltage in mV (0 to 9999 decimal).
j(3)	EM	EM_SB_FTD_NUMBER_BAT_LOW_WARN	W:D	R	Number of battery low warnings (0 to 999 decimal).
k(3)	EM	EM_SB_FTD_WARN_COUNT	W:D	R	Present warning interval counter (0 to 999 decimal).

Display 61.03: Advanced BATMON4 algorithm information (Version: 1, Status: Approved)

```
+++++++++++++++++++++++++++
+   Advanced BATMON4      +
+ Dmf voltage    aaaa     +
+ Misc int flags 1 b      +
+ Curr mon est 1 ccccc    +
+ Batmon4 volt   ddd      +
+ Misc int flags 2 e      +
+ Curr mon est 2 fffff    +
+ Phi/elapsed  gggg hhhhhh+
+ Dphi/SbyMin  iiiiijjjjjj+
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(4)	EM	EM_SB_FTD_DMF_BAT_VOLT	W:D	R	Double median filtered battery voltage in mV (0 to 9999 decimal)
b	EM	EM_SB_FTD_MISC_MON_INT_FLAGS2	B:H	R	Miscellaneous BatMon4 internal flags as 4 bit bitfield (0 to F hexadecimal). Fields (bit 0 = lsb): [0] : First Correction flag. [1] : Model Valid flag. [3-2] : Settle Delay Mode.
c(5)	EM	EM_SB_FTD_CURRENT_MON_EST1	W :D	R	Total phone current estimate reported to the Battery Monitor by PSM module in 0.1 mV units (0 to 99999 decimal).
d(4)	EM	EM_SB_FTD_MON_VOLT	W:D	R	Current BatMon4 model voltage in mV (0 to 9999 decimal).
e	EM	EM_SB_FTD_MISC_MON	B:H	R	Misc BatMon4 internal flags as 4 bit

		_INT_FLAGS3			bitfield (0 to F hexadecimal). Bitfields (bit 0 = lsb): [0] : 0=Standby, 1=Non-Standby. [3-1] : <Future - TBD>.
f(5)		EM_SB_FTD_CURRENT_MON_EST2	W :D	R	Total phone current (I_{Load}) estimated by BatMon4 in the Non-Standby algorithm part from measured voltage drop in 0.1 mV units (0 to 99999 decimal).
g(4)	EM	EM_SB_FTD_PHI_VARIABLE	W:D	R	Present BatMon4 algorithm Phi value in mV (0 to 9999 decimal).
h(6)	EM	EM_SB_FTD_ELAPSED_TIME	DW:D	R	Elapsed "Model Time" in minutes (0 to 999999 decimal).
i(5)	EM	EM_SB_FTD_DELTA_PHI_VARIABLE	W:D (Signed)	R	Present BatMon4 ΔPhi value in mV (-9999 to +9999 signed decimal).
j(6)	EM	EM_SB_FTD_REMAIN_STBY_MINUTES	DW:D	R	BatMon4 remaining standby time estimate in minutes (0 to 999999 decimal).

Display 61.04: Battery Monitor setup and log information (Version: 1, Status: Approved)

```
++++++++++++++++++++++++++
+  Battery monitor setup  +
+ Batt impedance aaa       +
+ Charged amount bbbbb     +
+ Full treshold  cccc      +
+ Low treshold   ddddd     +
+ Boot voltage   eeee      +
+ Low warning V  ffff      +
+ Algorithm adj  gg        +
+ Algorithm err  hhhh      +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	EM	EM_SB_FTD_BAT_IMP	W:D	R	Battery impedance in mOhm (0 to 999 decimal).
b(5)	EM	EM_SB_FTD_CHARGED_AMOUNT	W:D (Signed)	R	Charged amount (-9999 to +9999 decimal)
c(4)	EM	EM_SB_FTD_BAT_FULL_THRES	W:D	R	Battery full voltage threshold used by the BatMon4 algorithm in mV (0 to 9999 decimal).
d(4)	EM	EM_SB_FTD_BAT_LOW_THRES	W:D	R	Battery low voltage threshold used by the BatMon4 algorithm in mV (0 to 9999 decimal).
e(4)	EM	EM_SB_FTD_BAT_BOOT_VOLT	W:D	R	"Boot" battery voltage used for Battery Monitor initialisation in mV (0 to 9999 decimal).
f(4)	EM	EM_SB_FTD_VOLT_AT_FIRST_BAT_LOW	W:D	R	Voltage level at first battery low warning in mV (0 to 9999 decimal).
g(2)	EM	EM_SB_FTD_MON_ALG_ADJ	B:H	R	Number of BatMon4 algorithm parameter adjustments since last reset/restart of the BatMon4 algorithm (0 to FF hexadecimal).
h(4)	EM	EM_SB_FTD_PARAM_ERRORS	W:H	R	BatMon4 algorithm parameter error mask as bitmap (0000 to FFFF hexadecimal).

Display 61.05: PSM (Phone State Monitor) information 1 (Version: 3.16, Status: Approved)

```
++++++++++++++++++++++++++++
+  Phone State Monitor 1   +
+                          +
+ Ext act MSB    aaaaaaaa  +
+                          +
+ Ext act MSB 2  bbbbbbbb  +
+                          +
+ Int act LSB    dddddddd  +
+                          +
+ Int act LSB 2  cccccccc  +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(8)	EM	EM_SB_FTD_ACTIVITY_BYTE4	S	R	External activity information MSB
b(8)	EM	EM_SB_FTD_ACTIVITY_BYTE3	S	R	External activity information 2nd MSB
c(8)	EM	EM_SB_FTD_ACTIVITY_BYTE2	S	R	Internal activity information 2nd LSB
d(8)	EM	EM_SB_FTD_ACTIVITY_BYTE1	S	R	Internal activity information LSB
					MSB Bit31 = Data cable active Bit30 = Camera active Bit29 = Cover power active Bit28 = Bluetooth active Bit27-Bit17 = Not used Bit16 = Touchpad active Bit15 = USB active Bit14 = Flashlight active Bit13 = MIDI active Bit12 = ADSP active Bit11 = VRR active Bit10 = IHF active Bit9 = MP3 active Bit8 = GPS active Bit7 = Video active Bit6 = Radio active Bit5 = DC out active Bit4 = Irda active Bit3 = Buzzer active Bit2 = Vibra active Bit1 = Keyboard light active Bit0 = Display light active LSB

Display 61.06: PSM (Phone State Monitor) information 2 (Version: 1, Status: Approved)

```
++++++++++++++++++++++++++
+ Phone State Monitor 2   +
+                         +
+ Battery current aaaaa   +
+                         +
+ Phone current   bbbbb   +
+                         +
+ Feature current ccccc   +
+                         +
+ Discharge mAs   ddddd   +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(5)	EM	EM_SB_FTD_BAT_CURRENT	W:D (Signed)	R	Battery current in mA (-2000 to +2000 decimal)
b(5)	EM	EM_SB_FTD_PHONE_CURRENT	W:D	R	Phone current in mA (0 to 2000 decimal)
c(5)	EM	EM_SB_FTD_FEATURE_CURRENT	W:D	R	Feature current in mA (0 to 2000 decimal)
d(5)	EM	EM_SB_FTD_DISCHARGE_AMOUNT	W:D	R	Discharge amount in mAs (0 to 2000 decimal)

Display 61.07: PSM (Phone State Monitor) information 3 (Version: 3.16, Status: Approved)

```
++++++++++++++++++++++++++
+ Phone State Monitor 3   +
+                         +
+ Cs idle        aaa      +
+ Active sw      bbb      +
+ Cs state       cccc     +
+ mCs protocol   ddddd    +
+ Batmon state   eeeee    +
+                         +
+                         +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	EM	EM_SB_FTD_CS_IDLEACTIVITY	B:D	R	CS idle activity (0 to 255 decimal)
b(3)	EM	EM_SB_FTD_ACTIVE_SW_FEATURE	B:D	R	Active sw features (0 to 255 decimal)
c(4)	EM	EM_SB_FTD_CS_STATE	S	R	CS state: ???? **Idle** **NSPS** **SCAN** **SIGN** = Signalling

					Call **CSD** **HSCS** = HSCSD **GPRS** **Data** **EDGE**
d(5)	EM	EM_SB_FTD_CS_PROTOCOL	S	R	CS protocol: ????? **GSM** **TDMA** **CDMA** **AMPS** **PDC** **WCDMA** **NMT** **TETRA**
e(5)	EM	EM_SB_FTD_BATMON4_STATE	S	R	Batmon4 state: **IDLE** **TALK** **FEAT** **DATA** **TRANS** **PACKD**

Display 61.08: Basic charging information (Version: 1, Status: Approved)

```
++++++++++++++++++++++++++
+   Basic charging       +
+ Charging state aaa      +
+ Charger type   bbb      +
+ Inst bat volt  cccc     +
+ Charger checks d        +
+ Chr st/Chr cur eeee ffff+
+ Full/Vchar     g   hhhhh+
+ Ichar/PWM      iiii  jjj+
+ Temp/Chr time  kkk   lll+
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	EM	EM_SB_FTD_PRESENT_CHA_MODE	S	R	Present charging state: **Not** = Not charging **Ini** = Initialization **TCh** = Temperature check **LiC** = Lithium charging **Dis** = Disabled **Dch** = Discharging **Dco** = Disconnected **Pow** = Power **Col** = Cold charging **Hot** = Hot charging **Mai** = Maintenance charging **BEr** = Battery error **NiC** = Nickel charging **CPa** = Control paused **CDi** = Control disabled
b(3)	EM	EM_SB_FTD_PRESE	S	R	Present charger type:

		NT_CHR_TYPE			**???** **TEr** = Temperature error **2Wi** = 2 wire charger **3Wi** = 3 wire charger **AC7** = ACP7 charger **VEr** = Voltage error **CEr** = Current error
c(4)	EM	EM_SB_FTD_CHA_INST_BAT_VOLT	W:D	R	Instantaneous battery voltage in mV (0 to 9999 decimal)
d	EM	EM_SB_FTD_NUMBER_CHR_CHECKS	B:D	R	Number of charger checks (0 to 9 decimal)
e(4)	EM	EM_SB_FTD_CHR_REC_STATE	S	R	Charger recognition state: **????** **NoCh** = No charger connected **ByCk** = Battery type check **BeCk** = Battery temp check **CkV7** = Check VCHAR for ACP7 **CkI7** = Check ICHAR from ACP7 **CkI8** = Check ICHAR from ACP8 or ACP9 **Ck3W** = Check for 3 wire charger **MxCk** = Done maximum number of charger checks **ChPa** = Charger info paused **ChDi** = Charger info disabled **ChOK**= Charger OK **ChNo** = Charger not OK
f(4)	EM	EM_SB_FTD_INST_CHR_CURRENT	W:D	R	Instantaneous charger current in mA (0 to 9999 decimal)
g	EM	EM_SB_FTD_BAT_FULL_FLAG	B:D	R	Battery full flag (0 or 1)
h(5)	EM	EM_SB_FTD_AVERAGE_CHR_VOLT	W:D	R	Average Vchar in mV (0 to 65535 decimal)
i(4)	EM	EM_SB_FTD_CALC_CHR_CURRENT	W:D	R	Calculated Ichar in mA (0 to 9999 decimal)
j(3)	EM	EM_SB_FTD_SW_PWM_VALUE	B:D	R	SW PWM value (0 to 255 decimal)
k(3)	EM	EM_SB_FTD_CURRENT_BAT_TEMP	W:D	R	Current battery temperature in kelvin (0 to 999 decimal)
l(4)	EM	EM_SB_FTD_CHA_TIME	W:D	R	Charge time in 'hhmm' format (85 minutes is e.g. shown as 125)

Display 61.09: Extended charging information (Version: 1, Status: Approved)

```
+++++++++++++++++++++++++++
+    Extended charging    +
+ Pres chr type aaa       +
+ Prev chr type bbb       +
+ Const ch mode c         +
+ Pres chr mode ddd       +
+ Pr mod / Hpwm eee    fff+
+ Spwm / Opwm   ggg   hhhh+
+ Hpwmf/Over V  i      jjj+
+ Bchr/ Cwpwm   k      lll+
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description

a(3)	EM	EM_SB_FTD_PRESENT_CHR_TYPE	S	R	Present charger type: **???** **TEr** = Temperature error **2Wi** = 2 wire charger **3Wi** = 3 wire charger **AC7** = ACP7 charger **VEr** = Voltage error **CEr** = Current error
b(3)	EM	EM_SB_FTD_PREVIOUS_CHR_TYPE	S	R	Previous charger type: **???** **TEr** = Temperature error **2Wi** = 2 wire charger **3Wi** = 3 wire charger **AC7** = ACP7 charger **VEr** = Voltage error **CEr** = Current error
c	EM	EM_SB_FTD_CHA_MODE	B:D	R	Constant Voltage Charging method (0 to 9 decimal)
d(3)	EM	EM_SB_FTD_PRESENT_CHA_MODE	S	R	Present charging mode: **???** **Not** = Not charging **Ini** = Initialization **TCh** = Temperature check **LiC** = Lithium charging **Dis** = Disabled **Dch** = Discharging **Dco** = Disconnectted **Pow** = Power **Col** = Cold charging **Hot** = Hot charging **Mai** = Maintenance charging **BEr** = Battery error **NiC** = Nickel charging **CPa** = Control paused **CDi** = Control disabled
e(3)	EM	EM_SB_FTD_PREVIOUS_CHA_MODE	S	R	Previous charging mode: **???** **Not** = Not charging **Ini** = Initialization **TCh** = Temperature check **LiC** = Lithium charging **Dis** = Disabled **Dch** = Discharging **Dco** = Disconnectted **Pow** = Power **Col** = Cold charging **Hot** = Hot charging **Mai** = Maintenance charging **BEr** = Battery error **NiC** = Nickel charging **CPa** = Control paused **CDi** = Control disabled
f(3)	EM	EM_SB_FTD_HW_PWM_VALUE	B:D	R	HW PWM value (0 to 255 decimal)
g(3)	EM	EM_SB_FTD_SW_PWM_VALUE	B:D	R	SW PWM value (0 to 255 decimal)
h(4)	EM	EM_SB_FTD_OS_PWM_BAT_VOLT	W:D	R	Open switch PWM battery voltage in mV (0 to 9999 decimal)
i	EM	EM_SB_FTD_PWM_F	B:D	R	HW PWM frequency (0 to 3 decimal)

		REQ			
j(3)	EM	EM_SB_FTD_OVV_LIMIT	S	R	OVer Voltage limit ??? 3v6 = 3.6 volt 5v1 = 5.1 volt 5v3 = 5.3 volt
k	EM	EM_SB_FTD_BUB_CHARGING	B:D	R	Back-Up Battery charging status (0 to 2 decimal): 0 = software control (Should not happen) 1 = disabled 2 = enabled
l(4)	EM	EM_SB_FTD_CS_PWM_BAT_VOLT	W:D	R	Close switch PWM battery voltage in mV (0 to 9999 decimal)

Display 61.10: Extended charging information 2 (Version: 3.16, Status: Approved)

```
+++++++++++++++++++++++++++
+ Open -dv det  aaa        +
+ Slow -dv det  bbb        +
+ -dv over time cccc       +
+ Charge amount ddd        +
+ Bat voltage   eee        +
+ Bat temp      fff        +
+ Fuzzy sum     ggg        +
+ Maint charge  hhh        +
+ Open dv       iii        +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(3)	EM	EM_SB_FTD_OS_DV_DETECT	B:D	R	Open switch -dv detect rule (0 to 100 decimal)
b(3)	EM	EM_SB_FTD_SLOW_DV_DETECT	B:D	R	Slow -dv detect rule (0 to 100 decimal)
c(3)	EM	EM_SB_FTD_DV_OVER_TIME_DETECT	B:D	R	-dv over time detect rule (0 to 100 decimal)
d(3)	EM	EM_SB_FTD_CHARGE_AMOUNT_DETECT	B:D	R	Charge amount detect rule (0 to 100 decimal)
e(3)	EM	EM_SB_FTD_BAT_VOLT_DETECT	B:D	R	Battery voltage detect rule (0 to 100 decimal)
f(3)	EM	EM_SB_FTD_BAT_TEMP_DETECT	B:D	R	Battery temperature detect rule (0 to 100 decimal)
g(4)	EM	EM_SB_FTD_FUZZY_SUM	W:D	R	Fuzzy sum (0 to 9999 decimal)
h(3)	EM	EM_SB_FTD_MAINTENANCE_CHA_TIME	W:D	R	Maintenance charging time in seconds (0 to 999 decimal)
i(3)	EM	EM_SB_FTD_OS_DV_OVER_TIME	W:D	R	Open switch dv over time in seconds (0 to 999 decimal)

Display 61.11: Configuration parameters etc. (Version: 3.16, Status: Approved)

```
++++++++++++++++++++++++++++
+    Config parameters     +
+                          +
+ Time/bat bar  aaaaa      +
+ Bat footprint b          +
+ Conf bat bars c          +
+ Conf min curr ddd        +
+ Conf bat sfty e(4)       +
+ Conf bat emp  f(4)       +
+                          +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(5)	EM	EM_SB_FTD_CALC_BAT_BAR	W:D	R	Calculated time per battery bar in minutes (0 to 99999 decimal).
b(2)	EM	EM_SB_FTD_CONF_BAT_FOOTPRINT	B:D	R	Id of configured battery footprint. BxB = 1 BxC = 2 BxD = 3 BxN = 4 BL_4C = 11 BL_5C = 12
c	EM	EM_SB_FTD_CONF_BAT_BARS	B:D	R	Configured number of batt. bars.
d(3)	EM	EM_SB_FTD_CONF_MIN_CURRENT	W:D	R	Configured minimum standby current for least power consuming phone protocol suppported in 0.1 mA units (0 to 999).
e(4)	EM	EM_SB_FTD_CONF_BAT_SAFETY_LEVEL	W:D	R	Configured Battery Monitor battery low "Safety Net" voltage level in mV (0 to 9999 decimal).
f(4)	EM	EM_SB_FTD_CONF_BAT_EMPTY_LEVEL	W:D	R	Configured Battery Monitor "Battery Empty" voltage level in mV (0 to 9999 decimal).

Display 61.12: Varying EM information 1 (Version: 3.15, Status: Approved)

```
++++++++++++++++++++++++++++
+    Varying Em info 1     +
+ FT display 1             +
+    a(12)                 +
+ FT display 2             +
+    b(12)                 +
+ FT display 3             +
+    c(12)                 +
+ FT display 4             +
+    d(12)                 +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(12)	EM	EM_SB_FTD_STRING1	S	R	Varying field test display 1

b(12)	EM	EM_SB_FTD_STRING2	S	R	Varying field test display 2
c(12)	EM	EM_SB_FTD_STRING3	S	R	Varying field test display 3
d(12)	EM	EM_SB_FTD_STRING4	S	R	Varying field test display 4

Display 61.13: Varying EM information 2 (Version: 3.15, Status: Approved)

```
+++++++++++++++++++++++++++
+    Varying Em info 2    +
+ FT display 5            +
+    a(12)                +
+ FT display 6            +
+    b(12)                +
+ FT display 7            +
+    c(12)                +
+ FT display 8            +
+    d(12)                +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(12)	EM	EM_SB_FTD_STRING5	S	R	Varying field test display 5
b(12)	EM	EM_SB_FTD_STRING6	S	R	Varying field test display 6
c(12)	EM	EM_SB_FTD_STRING7	S	R	Varying field test display 7
d(12)	EM	EM_SB_FTD_STRING8	S	R	Varying field test display 8

Group 62: Common general displays

Display 62.01: Reasons for SW resets (Version: 3.32, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++++
+ Reason for sw resets      +
+                           +
+ Reset reason              +
+              aaaaaaaaaaaa +
+                           +
+ Task name   bbbbbbbbbbbb +
+ System name         ccccc +
+                           +
+                           +
+++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(12)	MON	FTD_SB_LAST_RESET_REASON	S	R	Last reset reason shown in ASCII text. The bold text on the left should be shown when HW_RESET_XXX on the right is returned: **UNKNOWN:** HW_RESET_UNKNOWN, **PWR CHA:** HW_RESET_POWER_OFF_CHARGER_CONNECTED, **PWR KEY:** HW_RESET_POWER_OFF_KEY_PRESSED, **SW REQ:** HW_RESET_SW_RESET_REQUESTED, **INT ERR:** HW_RESET_INT_ERROR, **STACK:** HW_RESET_STACK_OVERFLOW, **WD REQ:** HW_RESET_WD_RESET_REQUESTED, **DIV ZERO:** HW_RESET_DIV_BY_ZERO, **PRODUCT:** HW_RESET_PRODUCTION_RESET, **ASSERT:** HW_RESET_ASSERTION_FAILED, **UNDEF:** HW_RESET_UNDEFINED_INSTRUCTION, **IO ABORT:** HW_RESET_IO_ABORT, **NULL ACC:** HW_RESET_NULL_ACCESS, **ADDERR:** HW_RESET_ADDRESS_ERROR, **ALIGN:** HW_RESET_ALIGNMENT_ERROR, **FLASH:** HW_RESET_FLASH_WRITE-_PROTECTION **CBUS:** HW_RESET_CBUS_ERROR **OFFRTC:** HW_RESET_POWER_OFF_RTC **OSFATAL:** HW_RESET_OS_FATAL_HANDLER **FlaBlkOF:** HW_RESET_FLASH_BLOCK_-OVERFLOW

					ASIC WD: HW_RESET_ASIC_WD_RESET **EPOC**: HW_RESET_EPOC_RESET **ADSP_START** HW_RESET_ADSP_STARTUP_FAILED **ADSP RESP** HW_RESET_ADSP_NO_RESPONSE **ADSP ERR** HW_RESET_ADSP_ERROR **CDSP_START** HW_RESET_CDSP_STARTUP_FAILED **CDSP RESP** HW_RESET_CDSP_NO_RESPONSE **CDSP ERR** HW_RESET_CDSP_ERROR HW_RESET_RESERVED Note: reset reasons are not available in string format in some products. In that case a numeric value is shown, see os_trace_data.txt.
b(12)	MON	FTD_SB_TASK_BEFORE_RESET	S	R	Name of running task before reset Note: task names are not available in some products. In that case task number is shown, see os_trace_data.txt
c(5)	MON	FTD_SB_SYSTEM_BEFORE_RESET	S	R	Name of the active system (GSM, TDMA, CDMA, WCDMA) before reset

ADSP and CDSP reset reasons:

STARTUP_FAILED:	DSP startup was attempted, but a timeout occurred
NO RESPONSE:	DSP stopped responding
ERROR:	DSP detected a fatal error and asked reset

Display 62.02: Counters for resets 1 (Version: 3.32, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ Counters for reset 1    +
+                         +
+ Unknown/Charger    aa bb +
+ Power key/SW       cc dd +
+ Int/Stack          ee ff +
+ WD/Div             gg hh +
+ AWD                ii    +
+ Flash block        mm    +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aa	MON	FTD_SB_UNKNOWN_RESET	W:D	R	UNKNOWN
bb	MON	FTD_SB_POFF_CHARGER_CNN	W:D	R	POWER_OFF_CHARGER_CONNECTED (charger connected when powering off)
cc	MON	FTD_SB_POFF_KEY	W:D	R	POWER_OFF_KEY_PRESSED (too fast power off/on)

dd	MON	FTD_SB_SW_RESET	W:D	R	SW_RESET_REQUESTED
ee	MON	FTD_SB_INTERNAL_ERROR	W:D	R	INT_ERROR
ff	MON	FTD_SB_STACK_OF_RESET	W:D	R	STACK_OVERFLOW
gg	MON	FTD_SB_WATCHDOG_RESET	W:D	R	WD_RESET_REQUESTED
hh	MON	FTD_SB_DIV_BY_0_RESET	W:D	R	DIV_BY_ZERO
ll	MON	FTD_SB_PPC_ASIC_WD_RESET	B:D	R	ASIC_WD_RESET
mm	MON	FTD_SB_FLASH_BLOCK_OVERFLOW	W:D	R	FLASH_BLOCK_OVERFLOW

Counters are stored to permanent memory.
These counters are not PPC counters, except FTD_SB_PPC_ASIC_WD_RESET

Display 62.03: Counters for resets 2 (Version: 3.19, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ Counters for resets 2   +
+                         +
+ Prod/As/Un      aa bb cc +
+ IO/Null/Ad      dd ee ff +
+ Alig/FlashWrite   gg hh +
+ Cbus            ii       +
+ OSFatal         jj       +
+ Epoc            mm       +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aa	MON	FTD_SB_PRODUCTION_RESET	W:D	R	PRODUCTION_RESET
bb	MON	FTD_SB_ASSERTFAIL_RESET	W:D	R	ASSERTION_FAILED
cc	MON	FTD_SB_UNDEFINSTR_RESET	W:D	R	UNDEFINED_INSTRUCTION
dd	MON	FTD_SB_IO_ABORT_RESET	W:D	R	IO_ABORT
ee	MON	FTD_SB_NULLPOINTER_RESET	W:D	R	NULL_ACCESS
ff	MON	FTD_SB_ADDR_ERROR_RESET	W:D	R	ADDRESS_ERROR
gg	MON	FTD_SB_ALIGNMENT_RESET	W:D	R	ALIGNMENT_ERROR
hh	MON	FTD_SB_FLASH_WRITE_RESET	W:D	R	FLASH_WRITE_PROTECTION
ii	MON	FTD_SB_CBUS_RESET	W:D	R	CBUS_ERROR
jj	MON	FTD_SB_OS_FATAL_RESET	W:D	R	OS_FATAL_HANDLER
mm	MON	FTD_SB_EPOC_RESET	W:D	R	EPOC_RESET

Counters are stored to permanent memory.
These counters are not PPC counters.

Display 62.04: Counters for DSP resets (Version: 3.32, Status: Approved)

Data Display:

```
++++++++++++++++++++++++++++
+ Counters for DSP resets  +
+                          +
+ GSM              aa bb cc +
+ TDMA             dd ee ff +
+ CDMA             gg hh ii +
+ WCDMA            jj kk ll +
+ ADSP             mm nn oo +
+                          +
+                          +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(2)	MON	FTD_SB_GSM DSP_STARTUP_FAILED	W:D	R	GSM DSP startup fail counter
b(2)	MON	FTD_SB_GSM DSP_NO_RESPONSE	W:D	R	GSM DSP no response (dead) counter
c(2)	MON	FTD_SB_GSM DSP_ERROR	W:D	R	GSM DSP error counter
d(2)	MON	FTD_SB_TDMA DSP_STARTUP_FAILED	W:D	R	TDMA DSP startup fail counter
e(2)	MON	FTD_SB_TDMA DSP_NO_RESPONSE	W:D	R	TDMA DSP no response (dead) counter
f(2)	MON	FTD_SB_TDMA DSP_ERROR	W:D	R	TDMA DSP error counter
g(2)	MON	FTD_SB_CDMA DSP_STARTUP_FAILED	W:D	R	CDMA DSP startup fail counter
h(2)	MON	FTD_SB_CDMA DSP_NO_RESPONSE	W:D	R	CDMA DSP no response (dead) counter
i(2)	MON	FTD_SB_CDMA DSP_ERROR	W:D	R	CDMA DSP error counter
j(2)	MON	FTD_SB_WCDMA DSP_STARTUP_FAILED	W:D	R	WCDMA DSP startup fail counter
k(2)	MON	FTD_SB_WCDMA DSP_NO_RESPONSE	W:D	R	WCDMA DSP no response (dead) counter
l(2)	MON	FTD_SB_WCDMA DSP_ERROR	W:D	R	WCDMA DSP error counter
m(2)	MON	FTD_SB_ADSP_STARTUP_FAILED	W:D	R	ADSP startup fail counter
n(2)	MON	FTD_SB_ADSP_NO_RESPONSE	W:D	R	ADSP no response (dead) counter
o(2)	MON	FTD_SB_ADSP_ERROR	W:D	R	ADSP DSP error counter

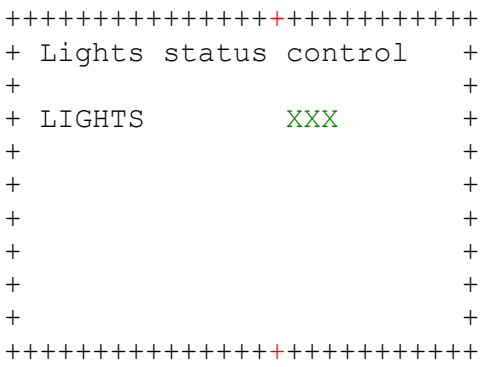
Counters are stored to permanent memory.
These counters are not PPCs.
ADSP and CDSP reset reasons:

STARTUP_FAILED:	DSP startup was attempted, but a timeout occurred
NO RESPONSE:	DSP stopped responding
ERROR:	DSP detected a fatal error and asked reset

Display 62.06: Lights status control (Version: 1, Status: Approved)

If selected, lights are always on, otherwise light status is controlled by UI.

Data Display:

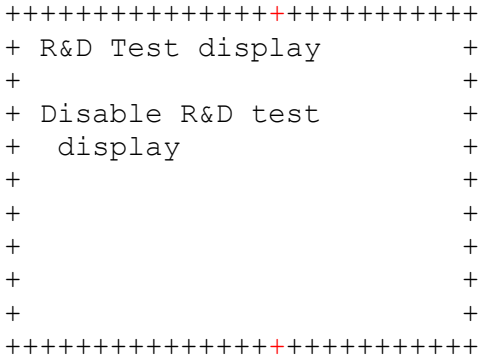


Abbr.	Server	Sub Block ID	Format	Mode	Description
EXE	LIGHT	FTD_SB_LIGHTS_TOGGLE	N/A	R	Toggle lights on/off
xxx	LIGHT	FTD_SB_LIGHTS_STATUS		R	Status of lights (ON, OFF)

Display 62.07: Disabling R&D Test Displays (Version: 1, Status: Approved)

This display can be used to disable R&D Test Displays item from the phone main menu. To disable displays execute this display by selecting R&D test Displays from main menu and entering the display number to the query.

Data Display:

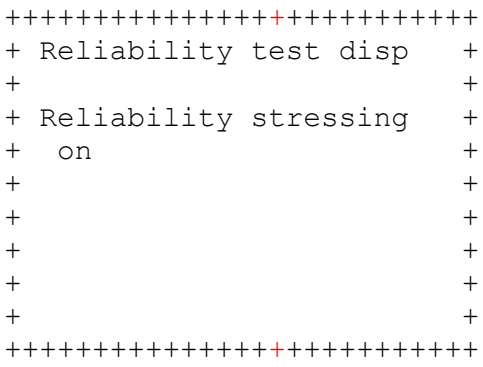


Abbr.	Server	Sub Block ID	Format	Mode	Description
EXE	GARBAGE	FTD_SELECT_STATE	N/A	R	Disable R&D Test Displays Value: UI_FTD_DISPLAY_OFF

Display 62.08: Reliability Test Display (Version: 1, Status: Approved)

This display can be used to set phone into test state for reliability stressing. To activate this functionality execute this display by selecting R&D test Displays from main menu and entering the display number to the query.

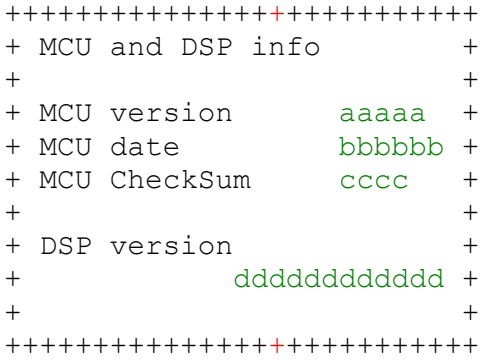
Data Display:



Abbr.	Server	Message ID	Format	Mode	Description
EXE	MTC	MTC_STATE_REQ	N/A	R	Set MS to test state Value: MTC_TEST

Display 62.10: Information about MCU and DSP software versions (Version: 3.23, Status: Approved)

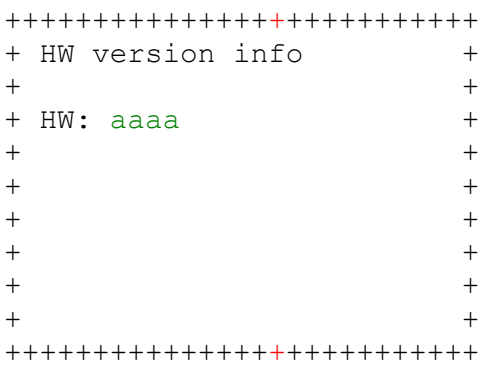
Data Display:



Abbr.	Server	Sub Block ID	Format	Mode	Description
a(5)	INFO	FTD_SB_MCU_VERSION		R	Version number of MCU SW (e.g. 2.081)
b(6)	INFO	FTD_SB_VERSION_DATE		R	Date of version.c Format of the date should be DDMMYY.
c(4)	INFO	FTD_SB_MCU_CHECKSUM		R	MCU SW checksum
d(12)	INFO	FTD_SB_DSP_VERSION		R	Version of currently active DSP software (GSM, TDMA, …)

Display 62.11: Information about HW version (Version: 3.18, Status: Approved)

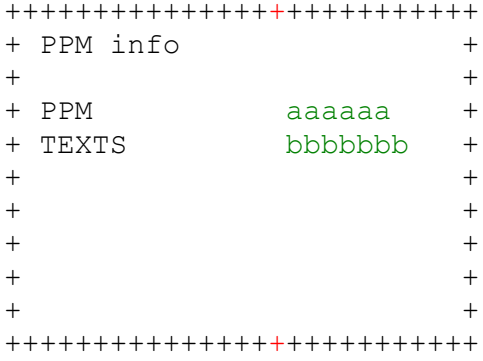
Data Display:



Abbr.	Server	Sub Block ID	Format	Mode	Description
aaaa	INFO	FTD_SB_HW_VERSION		R	Hardware version

Display 62.12: Information about PPM (Version: 3.24, Status: Approved)

Data Display:



Abbr.	Server	Sub Block ID	Format	Mode	Description
a(6)	INFO	FTD_SB_PPM_VERSION	S	R	PPM version (e.g. 2.081B)
b(7)	INFO	FTD_SB_TEXT_VERSION	S	R	Language package version

Group 63: Common OS status displays

Display 63.01: OS Block usage statistics (Blocks 1-8) (Version: 3.19, Status: Approved)

```
+++++++++++++++++++++++++++
+ OS block usage stat 1-8 +
+ R set1/F set1 aa     bb +
+ R set2/F set2 cc     dd +
+ R set3/F set3 ee     ff +
+ R set4/F set4 gg     hh +
+ R set5/F set5 ii     jj +
+ R set6/F set6 kk     ll +
+ R set7/F set7 mm     nn +
+ R set8/F set8 oo     pp +
+++++++++++++++++++++++++++
```

1. row: Block set 1, block set 2
2. row: Block set 3, block set 4
3. row: Block set 5, block set 6
4. row: Block set 7, block set 8

Abbr.	Server	Sub Block ID	Format	Mode	Description
aa	MON	FTD_SB_BLOCK_RES_SET1	B:H	R	Number of reserved blocks, set 1
bb	MON	FTD_SB_FREE_BL_WORST_CASE_SET1	B:H	R	Number of free blocks in worst case, set 1
cc	MON	FTD_SB_BLOCK_RES_SET2	B:H	R	Number of reserved blocks, set 2
dd	MON	FTD_SB_FREE_BL_WORST_CASE_SET2	B:H	R	Number of free blocks in worst case, set 2
ee	MON	FTD_SB_BLOCK_RES_SET3	B:H	R	Number of reserved blocks, set 3
ff	MON	FTD_SB_FREE_BL_WORST_CASE_SET3	B:H	R	Number of free blocks in worst case, set 3
gg	MON	FTD_SB_BLOCK_RES_SET4	B:H	R	Number of reserved blocks, set 4
hh	MON	FTD_SB_FREE_BL_WORST_CASE_SET4	B:H	R	Number of free blocks in worst case, set 4
ii	MON	FTD_SB_BLOCK_RES_SET5	B:H	R	Number of reserved blocks, set 5
jj	MON	FTD_SB_FREE_BL_WORST_CASE_SET5	B:H	R	Number of free blocks in worst case, set 5
kk	MON	FTD_SB_BLOCK_RES_SET6	B:H	R	Number of reserved blocks, set 6
ll	MON	FTD_SB_FREE_BL_WORST_CASE_SET6	B:H	R	Number of free blocks in worst case, set 6
mm	MON	FTD_SB_BLOCK_RES_SET7	B:H	R	Number of reserved blocks, set 7
nn	MON	FTD_SB_FREE_BL_WORST_CASE_SET7	B:H	R	Number of free blocks in worst case, set 7
oo	MON	FTD_SB_BLOCK_RES_SET8	B:H	R	Number of reserved blocks, set 8
pp	MON	FTD_SB_FREE_BL_WORST_CASE_SET8	B:H	R	Number of free blocks in worst case, set 8

Note! The max value of the above fields is FF (255) even thought the OS limits the maximum number of blocks in the block set to FFFF (65535).. FTD will show FF in case of the field value exceeds FF.

Display 63.02: OS Block usage statistics (Blocks 9-16) (Version: 3.19, Status: Approved)

```
‘+++++++++++++++++++++++++++
+ OS block usage stat 9-16+
+ R set9/F set9 aa     bb +
+ R se10/F se10 cc     dd +
+ R se11/F se11 ee     ff +
+ R se12/F se12 gg     hh +
+ R se13/F se13 ii     jj +
+ R se14/F se14 kk     ll +
+ R se15/F se15 mm     nn +
+ R se16/F se16 oo     pp +
+++++++++++++++++++++++++++
```

1. row: Block set 9, block set 10
2. row: Block set 11, block set 12
3. row: Block set 13, block set 14
4. row: Block set 15, block set 16

Abbr.	Server	Sub Block ID	Format	Mode	Description
aa	MON	FTD_SB_BLOCK_RES_SET9	B:H	R	Number of reserved blocks, set 9
bb	MON	FTD_SB_FREE_BL_WORST_CASE_SET9	B:H	R	Number of free blocks in worst case, set 9
cc	MON	FTD_SB_BLOCK_RES_SET10	B:H	R	Number of reserved blocks, set 10
dd	MON	FTD_SB_FREE_BL_WORST_CASE_SET10	B:H	R	Number of free blocks in worst case, set 10
ee	MON	FTD_SB_BLOCK_RES_SET11	B:H	R	Number of reserved blocks, set 11
ff	MON	FTD_SB_FREE_BL_WORST_CASE_SET11	B:H	R	Number of free blocks in worst case, set 11
gg	MON	FTD_SB_BLOCK_RES_SET12	B:H	R	Number of reserved blocks, set 12
hh	MON	FTD_SB_FREE_BL_WORST_CASE_SET12	B:H	R	Number of free blocks in worst case, set 12
ii	MON	FTD_SB_BLOCK_RES_SET13	B:H	R	Number of reserved blocks, set 13
jj	MON	FTD_SB_FREE_BL_WORST_CASE_SET13	B:H	R	Number of free blocks in worst case, set 13
kk	MON	FTD_SB_BLOCK_RES_SET14	B:H	R	Number of reserved blocks, set 14
ll	MON	FTD_SB_FREE_BL_WORST_CASE_SET14	B:H	R	Number of free blocks in worst case, set 14
mm	MON	FTD_SB_BLOCK_RES_SET15	B:H	R	Number of reserved blocks, set 15
nn	MON	FTD_SB_FREE_BL_WORST_CASE_SET15	B:H	R	Number of free blocks in worst case, set 15
oo	MON	FTD_SB_BLOCK_RES_SET16	B:H	R	Number of reserved blocks, set 16
pp	MON	FTD_SB_FREE_BL_WORST_CASE_SET16	B:H	R	Number of free blocks in worst case, set 16

Display 63.03: OS block allocation errors (Version: 3.32, Status: Approved)

```
++++++++++++++++++++++++++
+  OS block alloc errors  +
+ Double deallo aaaaaa    +
+ Failed deallo bbb       +
+ D deallo name cccccccc  +
+ Overwrites    dd        +
+ Out of memory ee        +
+ Block pointer fff       +
+ Mod blk point gg        +
+ Big blk count hh        +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(8)	MON	FTD_SB_POINTER_TO_DEALLOC	DW:H	R	Pointer to memory where double deallocation was called, in hex format. Valid only when double dellocation has happened.
bbb	MON	FTD_SB_PPC_DMM_OVER_DEALLOC	W:D	R	Counter for failed deallocations.
c(12)	MON	FTD_SB_TASK_NAME_DOUBLE_DEALLOC	S	R	Name of task that last tried to double deallocate a block. Valid only when double dellocation has happened. Note: task names are not available in some products. In that case task number is shown, see os_trace_data.txt
dd	MON	FTD_SB_DYNMEM_OVERWRITE	W:D	R	Counter for overwrites
ee	MON	FTD_SB_DYNMEM_EXHAUSTED	W:D	R	Counter for out of memory
fff	MON	FTD_SB_OS_INTERNAL_ERROR_COUNT	W:D	R	Counter for internal OS errors
gg	MON	FTD_SB_MODIFIED_POINTER	W:D	R	Counter for modified block pointer
hh	MON	FTD_SB_DYNMEM_BIG_BLOCK	W:D	R	Counter for too big block

Note: This display is only valid when the counter for failed deallocations is not zero.

Display 63.04: Memory status before reset (Version: 3.19, Status: Approved)

```
++++++++++++++++++++++++++
+     Memory status      +
+     before reset       +
+                        +
+ Stack status aaaaaaaaa  +
+                        +
+                        +
+ Block status aaaaaaaaa  +
+                        +
+                        +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(12)	MON	FTD_SB_BLOCK_SET_STATUS_1	s	R	Status of each block set before reset. First position contains the status of block set 1, second position the status of block set 2 and so on. Possible values for each block set are: **0** : status OK **1** : block set full **2** : (de)allocation error or total memory corruption Note: This display is only valid when a unknown or a stack overflow interrupt has occurred.
b(12)	MON	FTD_SB_BLOCK_SET_STATUS_2	s	R	See FTD_SB_BLOCK_SET_STATUS_1 description.

Display 63.05: OS pre-reset error status (Version: 3.32, Status: Approved)

```
+++++++++++++++++++++++++++
+ OS pre-reset error stat +
+                         +
+ Status code    st       +
+ Os func id     fn       +
+ Task name      aaaaaa   +
+                         +
+ Task 1         xxxxxxxx +
+ Task 2         yyyyyyyy +
+ Task 3         zzzzzzzz +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
st	MON	FTD_SB_OS_PRE_RESET_ERROR_STATUS	B:H	R	Status code byte, 00 == no error, other values in os_trace_data.txt (OS_RESPONSES)
fn	MON	FTD_SB_OS_PRE_RESET_ERROR_FUNCTION_ID	B:D	R	OS function id where error/warn/remark occurred, values in os_trace_data.txt (MONITOR_HOOK_IDS)
a(6)	MON	FTD_SB_OS_PRE_RESET_ERROR_TASK	S	R	Task name Note: task names are not available in some products. In that case task number is shown, see os_trace_data.txt
x(8)	MON	FTD_SB_OS_PRE_RESET_ERROR_PARAMETER_1	DW:H	R	Parameter 1, 32-bit hex number. See dct4_osmo_interpretation.txt
y(8)	MON	FTD_SB_OS_PRE_RESET_ERROR_PARAMETER_2	DW:H	R	Parameter 2, 32-bit hex number. See dct4_osmo_interpretation.txt
z(8)	MON	FTD_SB_OS_PRE_RESET_ERROR_PARAMETER_3	DW:H	R	Parameter 3, 32-bit hex number. See dct4_osmo_interpretation.txt

Display 63.06: OS current error status (Version: 3.31, Status: Approved)

```
++++++++++++++++++++++++++++
+ Os current error status  +
+                          +
+ Status code    st        +
+ Os func id     fn        +
+ Task name      aaaaaa    +
+                          +
+ Task 1         xxxxxxxx  +
+ Task 2         yyyyyyyy  +
+ Task 3         zzzzzzzz  +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
st	MON	FTD_SB_OS_CURRENT_ERROR_STATUS	B:H	R	Status code byte, 00 == no error, other values in os_trace_data.txt (OS_RESPONSES)
fn	MON	FTD_SB_OS_CURRENT_ERROR_FUNCTION_ID	B:D	R	OS function id where error/warn/remark occurred, values in os_trace_data.txt (MONITOR_HOOK_IDS)
a(6)	MON	FTD_SB_OS_CURRENT_ERROR_TASK	S	R	Task name Note: task names are not available in some products. In that case task number is shown, see os_trace_data.txt
x(8)	MON	FTD_SB_OS_CURRENT_ERROR_PARAMETER_1	DW:H	R	Parameter 1, 32-bit hex number. See dct4_osmo_interpretation.txt
y(8)	MON	FTD_SB_OS_CURRENT_ERROR_PARAMETER_2	DW:H	R	Parameter 2, 32-bit hex number. See dct4_osmo_interpretation.txt
z(8)	MON	FTD_SB_OS_CURRENT_ERROR_PARAMETER_3	DW:H	R	Parameter 3, 32-bit hex number. See dct4_osmo_interpretation.txt

Display 63.07: OS pre-reset warning status (Version: 3.31, Status: Approved)

```
++++++++++++++++++++++++++++
+ Os pre-reset warn status+
+                          +
+ Status code    st        +
+ Os func id     fn        +
+ Task name      aaaaaa    +
+                          +
+ Task 1         xxxxxxxx  +
+ Task 2         yyyyyyyy  +
+ Task 3         zzzzzzzz  +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
st	MON	FTD_SB_OS_PRE_RES	B:H	R	Status code byte, 00 == no error, other values

		ET_WARN_STATUS			in os_trace_data.txt (OS_RESPONSES)
fn	MON	FTD_SB_OS_PRE_RESET_WARN_FUNCTION_ID	B:D	R	OS function id where error/warn/remark occurred, values in os_trace_data.txt (MONITOR_HOOK_IDS)
a(6)	MON	FTD_SB_OS_PRE_RESET_WARN_TASK	S	R	Task name Note: task names are not available in some products. In that case task number is shown, see os_trace_data.txt.
x(8)	MON	FTD_SB_OS_PRE_RESET_WARN_PARAMETER_1	DW:H	R	Parameter 1, 32-bit hex number. See dct4_osmo_interpretation.txt
y(8)	MON	FTD_SB_OS_PRE_RESET_WARN_PARAMETER_2	DW:H	R	Parameter 2, 32-bit hex number. See dct4_osmo_interpretation.txt
z(8)	MON	FTD_SB_OS_PRE_RESET_WARN_PARAMETER_3	DW:H	R	Parameter 3, 32-bit hex number. See dct4_osmo_interpretation.txt

Display 63.08: OS current warning status (Version: 3.31, Status: Approved)

```
+++++++++++++++++++++++++++++
+ Os current warning status +
+                           +
+ Status code   st          +
+ Os func id    fn          +
+ Task name     aaaaaa      +
+                           +
+ Task 1        xxxxxxxx    +
+ Task 2        yyyyyyyy    +
+ Task 3        zzzzzzzz    +
+++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
st	MON	FTD_SB_OS_CURRENT_WARN_STATUS	B:H	R	Status code byte, 00 == no error, other values in os_trace_data.txt (OS_RESPONSES)
fn	MON	FTD_SB_OS_CURRENT_WARN_FUNCTION_ID	B:D	R	OS function id where error/warn/remark occurred, values in os_trace_data.txt (MONITOR_HOOK_IDS)
a(6)	MON	FTD_SB_OS_CURRENT_WARN_TASK	S	R	Task name Note: task names are not available in some products. In that case task number is shown, see os_trace_data.txt
x(8)	MON	FTD_SB_OS_CURRENT_WARN_PARAMETER_1	DW:H	R	Parameter 1, 32-bit hex number. See dct4_osmo_interpretation.txt
y(8)	MON	FTD_SB_OS_CURRENT_WARN_PARAMETER_2	DW:H	R	Parameter 2, 32-bit hex number. See dct4_osmo_interpretation.txt
z(8)	MON	FTD_SB_OS_CURRENT_WARN_PARAMETER_3	DW:H	R	Parameter 3, 32-bit hex number. See dct4_osmo_interpretation.txt

Display 63.09: OS pre-reset remark status (Version: 3.31, Status: Approved)

```
++++++++++++++++++++++++++
+ Os pre-reset remark status +
+                          +
+ Status code   st         +
+ Os func id    fn         +
+ Task name     aaaaaa     +
+                          +
+ Task 1        xxxxxxxx   +
+ Task 2        yyyyyyyy   +
+ Task 3        zzzzzzzz   +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
st	MON	FTD_SB_OS_PRE_RESET_REM_STATUS	B:H	R	Status code byte, 00 == no error, other values in os_trace_data.txt (OS_RESPONSES)
fn	MON	FTD_SB_OS_PRE_RESET_REM_FUNCTION_ID	B:D	R	OS function id where error/warn/remark occurred, values in os_trace_data.txt (MONITOR_HOOK_IDS)
a(6)	MON	FTD_SB_OS_PRE_RESET_REM_TASK	S	R	Task name Note: task names are not available in some products. In that case task number is shown, see os_trace_data.txt
x(8)	MON	FTD_SB_OS_PRE_RESET_REM_PARAMETER_1	DW:H	R	Parameter 1, 32-bit hex number. See dct4_osmo_interpretation.txt
y(8)	MON	FTD_SB_OS_PRE_RESET_REM_PARAMETER_2	DW:H	R	Parameter 2, 32-bit hex number. See dct4_osmo_interpretation.txt
z(8)	MON	FTD_SB_OS_PRE_RESET_REM_PARAMETER_3	DW:H	R	Parameter 3, 32-bit hex number. See dct4_osmo_interpretation.txt

Display 63.10: OS current remark status (Version: 3.31, Status: Approved)

```
++++++++++++++++++++++++++
+ Os current remark status +
+                          +
+ Status code   st         +
+ Os func id    fn         +
+ Task name     aaaaaa     +
+                          +
+ Task 1        xxxxxxxx   +
+ Task 2        yyyyyyyy   +
+ Task 3        zzzzzzzz   +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
st	MON	FTD_SB_OS_CURRE	B:H	R	Status code byte,

		NT_REM_STATUS			00 == no error, other values in os_trace_data.txt (OS_RESPONSES)
fn	MON	FTD_SB_OS_CURRENT_REM_FUNCTION_ID	B:D	R	OS function id where error/warn/remark occurred, values in os_trace_data.txt (MONITOR_HOOK_IDS)
a(6)	MON	FTD_SB_OS_CURRENT_REM_TASK	S	R	Task name Note: task names are not available in some products. In that case task number is shown, see os_trace_data.txt
x(8)	MON	FTD_SB_OS_CURRENT_REM_PARAMETER_1	DW:H	R	Parameter 1, 32-bit hex number. See dct4_osmo_interpretation.txt
y(8)	MON	FTD_SB_OS_CURRENT_REM_PARAMETER_2	DW:H	R	Parameter 2, 32-bit hex number. See dct4_osmo_interpretation.txt
z(8)	MON	FTD_SB_OS_CURRENT_REM_PARAMETER_3	DW:H	R	Parameter 3, 32-bit hex number. See dct4_osmo_interpretation.txt

Display 63.11: Heap system status (Version: 3.19, Status: Approved)

```
++++++++++++++++++++++++++++
+   Heap system status     +
+ Used bytes     (a7)      +
+ Used blocks    b(4)      +
+ Free bytes     c(7)      +
+ Free blocks    d(4)      +
+ Zero alloc     e(2)      +
+ Double alloc   f(2)      +
+ Invalid point  g(2)      +
+ Co blk/Chk fa  h(2)  i(2)+
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(7)	MON	FTD_SB_HEAP_USED_BYTES	DW:D	R	Used bytes
b(4)	MON	FTD_SB_HEAP_USED_BLOCKS	W:D	R	Used block count
c(7)	MON	FTD_SB_HEAP_FREE_BYTES	DW:D	R	Free bytes
d(4)	MON	FTD_SB_HEAP_FREE_BLOCKS	W:D	R	Free block count
ee	MON	FTD_SB_HEAP_ZERO_ALLOCATES	B:D	R	Count of zero allocations
ff	MON	FTD_SB_HEAP_DOUBLE_DEALLOC	B:D	R	Count of double deallocations
gg	MON	FTD_SB_HEAP_INVALID_POINTER	B:D	R	Count of invalid pointers
hh	MON	FTD_SB_HEAP_CORRUPT_BLOCK	B:D	R	Count of corrupt blocks
ii	MON	FTD_SB_HEAP_PNTRCHK_FAIL	DW : D	R	Total count of pointer check failures

Display 63.12: Heap top users (Version: 3.31, Status: Approved)

```
+++++++++++++++++++++++++++
+     Heap top users      +
+ Task name      a(7)     +
+ Blocks used    b(4)     +
+ Task name      c(7)     +
+ Blocks used    d(4)     +
+ Task name      e(7)     +
+ Blocks used    f(4)     +
+ Task name      g(7)     +
+ Blocks used    h(4)     +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(7)	MON	FTD_SB_HEAP_MEM_OWNER_TASK_1	S	R	Task name
b(4)	MON	FTD_SB_HEAP_MEM_OWNER_BLOCKS_1	B:D	R	Number of blocks used
c(7)	MON	FTD_SB_HEAP_MEM_OWNER_TASK_2	S	R	Task name
d(4)	MON	FTD_SB_HEAP_MEM_OWNER_BLOCKS_2	B:D	R	Number of blocks used
e(7)	MON	FTD_SB_HEAP_MEM_OWNER_TASK_3	S	R	Task name
f(4)	MON	FTD_SB_HEAP_MEM_OWNER_BLOCKS_3	B:D	R	Number of blocks used
g(7)	MON	FTD_SB_HEAP_MEM_OWNER_TASK_4	S	R	Task name
h(4)	MON	FTD_SB_HEAP_MEM_OWNER_BLOCKS_4	B:D	R	Number of blocks used

Note: task names are not available in some products. In that case task number is shown, see os_trace_data.txt.

Display 63.13: Failed assertions (Version: 3.19, Status: Approved)

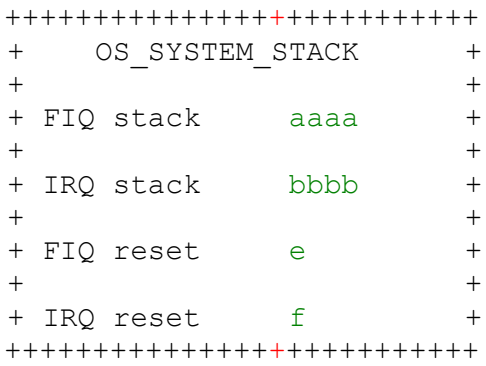
```
+++++++++++++++++++++++++++
+    Failed assertions    +
+                         +
+ Filename     aaaaaaaaaaa+
+                         +
+  Line        bbbbb      +
+                         +
+ Counter for             +
+ failed asser  ccccc     +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(12)	MON	FTD_SB_ASSERT_LATEST_FILE	S	R	Filename, where assertion happened
b(5)	MON	FTD_SB_ASSERT_LATEST_LINE	DW:D	R	Line, where assertion happened
c(5)	MON	FTD_SB_ASSERT_TOTAL_COUNT	W:D	R	Counter for failed assertions

Display 63.14-63.29: Reserved for future use (Version: 1, Status: -)

These displays are reserved for future OS displays.

Display 63.30: Information of OS_SYSTEM_STACK (Version: 3.19, Status: Approved)



Abbr.	Server	Sub Block ID	Format	Mode	Description
aaaa	MON	FTD_SB_STACK_STATUS_SYSTEM_1	DW:D	R	FIQ stack status (OS_SYSTEM_STACK_1)
bbbb	MON	FTD_SB_STACK_STATUS_SYSTEM_2	DW:D	R	IRQ stack status (OS_SYSTEM_STACK_2)
e	MON	FTD_SB_STACK_PRE_RESET_STATUS_SYSTEM_1	B:D	R	Shows the status of FIQ stack just before reset. **0** : status OK, no overflow **1** : status not OK, stack overflow
f	MON	FTD_SB_STACK_PRE_RESET_STATUS_SYSTEM_2	B:D	R	Shows the status of IRQ stack just before reset: **0** : status OK, no overflow **1** : status not OK, stack overflow

Note! Values are not stored to permanent memory.

Display 63.31: Select task set (Version: 3.19, Status: Approved)

This displays toggles task set that is shown in displays 63.32 – 63.99. To toggle the set:
1. Press menu-button.
2. Scroll in the main menu to loop to field test display item.
3. Press Select-button

4. Select this display in executive mode by entering 6331 at the query prompt.
5. Confirm with the Ok button.
6. Task set is toggled and the resulting set is shown in the display

Note 1: If the display is selected using arrow buttons, then the task set selection is not toggled.
Note 2: This display may have been configured off in products that have less than 69 tasks.

```
**************************
*     Execute   display    *
* This displays toggles task *
* set that is shown in displays *
* 63.32 – 63.99. Use options to  *
* change.                    *
*                            *
*                            *
*  Current task     a        *
*                            *
**************************
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
EXE	MON	FTD_SB_TASK_SET_TOGGLE	N/A	R	Toggle OS task set.
a	MON	FTD_SB_TASK_SET_STATUS	B:D	R	Current task set selection for displays 63.32 – 63.99 **1** = tasks 0 – 67 **2** = tasks 68 - 135

Displays 63.32 – 63.99: Information about tasks (Version: 3.31, Status: Approved)

These displays show information either about tasks 0 … 67 or tasks 68 – 136 depending on which task set is currently selected, see display 63.31.

```
++++++++++++++++++++++++++++
+    Task information      +
+                          +
+ Task name      a(12)     +
+ Stack worst    b(5)      +
+ W mailbox      c(5)      +
+ F mailbox      d(5)      +
+ stack overflow e         +
+                          +
+                          +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(12)	MON	FTD_SB_TASKNAME_X	S	R	Task Name (ASCII) Note: task names are not available in some products. In that case task number is shown, see os_trace_data.txt

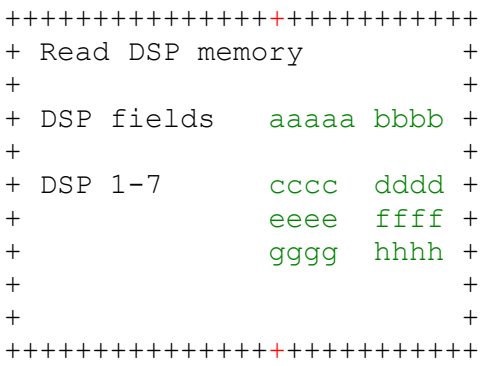
b(5)	MON	FTD_SB_STACK_STATUS_TASK_X	DW:D	R	Number tells how many stack memory locations have been empty in the worst case. So, if number is zero, stack has been full. Values are not stored to permanent memory.
c(5)	MON	FTD_SB_MSGBUF_STATUS_TASK_X	B:D	R	Worst case Mailbox status of task x (x is the task id) i.e. how much there is queue "places" used in worst case.
d(5)	MON	FTD_SB_FASTBUF_STATUS_TASK_X	B:D	R	Fast mailbox status of task x (x is the task id) i.e. how much there is queue "places" used in worst case.
e	MON	FTD_SB_STACK_PRE_RESET_STATUS_X	B:D	R	Tells whether stack overflow occurred before reset was done. (x is the task id) 0 : status OK, no overflow 1 : status not OK, stack overflow

where x = 0 … 67 and corresponds either to task x or task x + 68 depending on selected task set.

Group 64: Common Audio displays

Display 64.01: Read DSP Memory (Version: 3.13, Status: Approved)

Data Display:



Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	DSP_AUDIO	FTD_SB_READ_DSP_ADDR	DW:H	R	Address field for reading DSP memory. Hex format, 24 Bits.
a(6)	DSP_AUDIO	FTD_SB_READ_DSP_ADDR_1	DW:H	R	Address field for reading DSP memory. Hex format, 24 bits.
b(4)	DSP_AUDIO	FTD_SB_READ_DSP_MEM_1	W:H	R	Current contents of address a(6) in DSP memory
c(4)	DSP_AUDIO	FTD_SB_READ_DSP_MEM_2	W:H	R	Current contents of address a(6) + 1 in DSP memory
d(4)	DSP_AUDIO	FTD_SB_READ_DSP_MEM_3	W:H	R	Current contents of address a(6) + 2 in DSP memory
e(4)	DSP_AUDIO	FTD_SB_READ_DSP_MEM_4	W:H	R	Current contents of address a(6) + 3 in DSP memory
f(4)	DSP_AUDIO	FTD_SB_READ_DSP_MEM_5	W:H	R	Current contents of address a(6) + 4 in DSP memory
g(4)	DSP_AUDIO	FTD_SB_READ_DSP_MEM_6	W:H	R	Current contents of address a(6) + 5 in DSP memory
h(4)	DSP_AUDIO	FTD_SB_READ_DSP_MEM_7	W:H	R	Current contents of address a(6) + 6 in DSP memory

When display is selected, address fields can be edited. Keyboard is in "text"-mode, so hex numbers 0-F can be written. Data display shows the addresses and their contents. After editing of addresses is completed, request for reading specified memory locations is sent. These values are updated 5-10 times/second.

Display 64.02: Signal generators (Version: 3.13, Status: Approved)

Data Display:

```
++++++++++++++++++++++++++++
+ Signal generators        +
+                          +
+ Signal level: -aa.adB    +
+ Frequency:      bbbb     +
+ Routing:        cc       +
+ Wave form:      dd       +
+                          +
+                          +
+                          +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	DSP_AUDIO	FTD_SB_BASIC_SIGGEN_INPUT	DW:D	R	Test input value (for frequence)
aa.a	DSP_AUDIO	FTD_SB_BASIC_SIGGEN_LEVEL	S	R	Level of the test signal, dB from maximum. Decimal format.
bbbb	DSP_AUDIO	FTD_SB_BASIC_SIGGEN_FREQ	W:D	R	Frequency of the test signal. Decimal format.
cc	DSP_AUDIO	FTD_SB_BASIC_SIGGEN_ROUTE	B:D	R	Routing of the test signal.
dd	DSP_AUDIO	FTD_SB_BASIC_SIGGEN_WAVE_FORM	B:D	R	Wave form of the test signal.

This display can be used to control test signal generators in the DSP. When display is selected, fields can be edited. When editing is completed, a request to start the generators is sent. Because FTD-application is uncapable to handle more than one iput value per FTD, only frequency input is used at the beginning.

Display 64.03: Accesory mode status (Version: 3.13, Status: Approved)

Data Display:

```
++++++++++++++++++++++++++++
+ Accessory mode status    +
+                          +
+ Mode:               aaa  +
+ Accessory mode:     bbb  +
+                          +
+                          +
+                          +
+                          +
+                          +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aaa	audio	COMM_FTD_DATA_AUD_ANADIGI_MODE	B:D	R	Mode: ANA – Analog / DIG - Digital
bbb	audio	COMM_FTD_DATA_AUD_ACCESSORY_MODE	B:D	R	Accessory mode: HP / HF / HDC5 / HDC9 / LPS1 / LPS3 / PPHF / PPHF_EXT / HFU_2 / HFU_2_EXT / ANCO_HP / ANCO_ANC / IHF / SMART

Display 64.04: Downlink audio display (Version: 3.13, Status: Approved)

Data Display:

```
++++++++++++++++++++++++++++
+ Downlink audio           +
+                          +
+ UEM attenuator      aa   +
+ Peak value          bbbb +
+ Cut off counter     cccc +
+ Voice level         dddd +
+ Data lack           eeee +
+                          +
+                          +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aa	DSP_AUDIO	FTD_SB_DNLINK_AUD_ATT	B:H	R	Downlink attenuator setting in UEM.
bbbb	DSP_AUDIO	FTD_SB_DNLINK_AUD_SIGNAL_PEAK	W:H	R	Peak value of the downlink signal since last request. Counter is reset after every request.
cccc	DSP_AUDIO	FTD_SB_DNLINK_AUD_CUT_OFF	W:H	R	Value of the downlink cut off counter since last request. Counter is reset after every request.
dddd	DSP_AUDIO	FTD_SB_DNLINK_VOICE_LEVEL	W:H	R	Dowlink voice level moving average in hex
eeee	DSP_AUDIO	FTD_SB_DNLINK_DATA_LACK	W:H	R	Counter for lack of downlink data

These values are updated 5-10 times/second.

Display 64.05: Uplink audio display (Version: 3.13, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ Uplink audio display    +
+                         +
+ UEM gain           aa   +
+ Peak value         bbbb +
+ Cut off count      cccc +
+ Voice level        dddd +
+                         +
+                         +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aa	DSP_AUDIO	FTD_SB_UPLINK_AUD_GAIN	B:H	R	Uplink gain setting in UEM.
bbbb	DSP_AUDIO	FTD_SB_UPLINK_AUD_SIGNAL_PEAK	W:H	R	Peak value of the uplink signal since last request. Counter is reset after every request.
cccc	DSP_AUDIO	FTD_SB_UPLINK_AUD_CUT_OFF	W:H	R	Value of the uplink cut off counter since last request. Counter is reset after every request.
dddd	DSP_AUDIO	FTD_SB_UPLINK_VOICE_LEVEL	W:H	R	Uplink voice level instantaneous or moving average in hex

These values are updated 5-10 times/second.

Display 64.06: Microphone Active Gain Control (AGC) (Version: 3.13, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ Microphone AGC          +
+                         +
+ Gain analog        aaa  +
+ Gain digital       bbb  +
+ Treshold low       ccc  +
+ Treshold up        ddd  +
+ Analog counter     eeee +
+                         +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aaa	AUDIO	COMM_FTD_DATA_AUD_AIN_GAIN	W:D	R	Analog microphone gain in dB. Decimal point and sign is not shown. E.g. –10.5dB is shown

					as "105". 20*log10(Q11).
bbb	DSP_AUDIO	FTD_SB_AGC_DGAIN	W:D	R	Digital compensation gain in dB. Decimal point is not shown. 20*log10(Q11).
ccc	DSP_AUDIO	FTD_SB_AGC_LOWER_TRESHOLD	W:D	R	Lower threshold for Microphone AGC in dB. Decimal point and sign is not shown. E.g. –10.5dB is shown as "105". 20*log10(Q11).
ddd	DSP_AUDIO	FTD_SB_AGC_UPPER_TRESHOLD	W:D	R	Upper threshold for Microphone AGC in dB. Decimal point and sign is not shown. 20*log10(Q11).
eeee	DSP_AUDIO	FTD_SB_AGC_GAIN_CONTROL_COUNTER	W:H	R	Counter for analog gain control. Hex format (Q11)

Display 64.07: Acoustic Echo Canceller (AEC) (Version: 3.13, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++++
+ Acoustic echo canceller   +
+                           +
+ EAA/Ada/ERL aaa bbb ccc   +
+ RxG/TcG/GLi ddd eee fff   +
+ TxN/Sta/CNo ggg h   iii   +
+ RX VAD      kkkk          +
+ TX VAD      llll          +
+                           +
+                           +
+++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aaa	DSP_AUDIO	FTD_SB _AEC_ACOUSTIC_ATT	W:D	R	Electro acoustic attenuation of echo in dB. Decimal point and sign is not shown. E.g. –10.5dB is shown as "105". 20*log10(Q11).
bbb	DSP_AUDIO	FTD_SB _AEC_ADAPTIVE_ATT	W:D	R	Adaptive attenuation of echo in dB. Decimal point is not shown. 20*log10(Q11).
ccc	DSP_AUDIO	FTD_SB _AEC_ECHO	W:D	R	Total echo return loss in dB. Decimal point is not shown. 20*log10(Q11).
ddd	DSP_AUDIO	FTD_SB _AEC_RX_ATT	W:D	R	RX attenuation gain in dB. Decimal point and sign is not shown. 20*log10(Q11).
eee	DSP_AUDIO	FTD_SB _AEC_TX_ATT	W:D	R	TX attenuation gain in dB. Decimal point and sign is not shown. 20*log10(Q11).
fff	DSP_AUDIO	FTD_SB _AEC_ATT_GAIN_LIMIT	W:D	R	Gain limit for RX and TX attenuators in dB. Decimal point and sign is not shown. 20*log10(Q11).
ggg	DSP_AU	FTD_SB _AEC_	W :D	R	TX Noise level in dB. Decimal point and sign is

	DIO	TX_NOISE			not shown. 20*log10(Q11).
h	DSP_AUDIO	FTD_SB _AEC_ ADAPTIVE_FILTERS	B:D	R	Adaptive filter status.
iii	DSP_AUDIO	FTD_SB _AEC_ COMFORT_NOISE	W:H	R	Comfort noise generation in different 12 sub bands. Hex format, 12 bits.
kkkk	DSP_AUDIO	FTD_SB _AEC_ RX_VAD	W:H	R	16 last RX VAD decisions in hex format.
llll	DSP_AUDIO	FTD_SB _AEC_ TX_VAD	W:H	R	16 last TX VAD decisions in hex format.

These values are updated 5-10 times/second.

Display 64.08: Dynamic/Multi-Band Range Controller (DRC/MDRC) (Version: 3.13, Status: Approved)

Data Display:

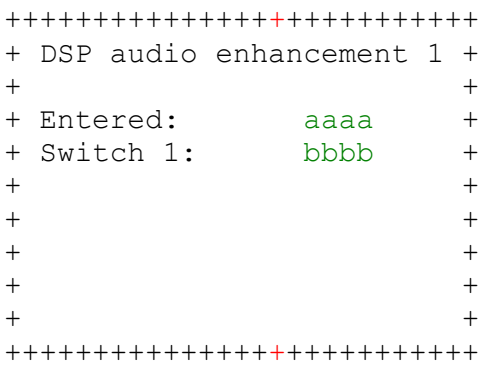
```
+++++++++++++++++++++++++++++
+ DRC/MDRC                  +
+                           +
+ DsL          aaa bbb ccc +
+              ddd eee fff +
+ Uspl/UsL     ggg hhh     +
+ NsL          iii         +
+ Dtb/Utb      jjj kkk     +
+ DNTb          ll         +
+                           +
+++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aaa bbb ccc ddd eee fff	DSP_AUDIO	FTD_SB_DRC_DL_SIGNAL_LEVEL	W:D	R	Downlink signal level in dB. 10*log10(Q11). Decimal point and sign is not shown. E.g. –10.5dB is shown as "105".
ggg	DSP_AUDIO	FTD_SB_DRC_UL_SPEECH_LEVEL	W:D	R	Uplink speech level in dB. 10*log10(Q11). Decimal point and sign is not shown. E.g. –10.5dB is shown as "105".
hhh	DSP_AUDIO	FTD_SB_DRC_UL_SIGNAL_LEVEL	W:D	R	Uplink signal level in dB. 10*log10(Q11). Decimal point and sign is not shown. E.g. –10.5dB is shown as "105".
iii	DSP_AUDIO	FTD_SB_DRC_NOISE_LEVEL	W:D	R	Backround noise signal level in dB. 10*log10(Q11). Decimal point and sign is not shown. E.g. –10.5dB is shown as "105".
jjj	DSP_AUDIO	FTD_SB_DRC_DL_TBL	W:D	R	Current downlink DRC table(s).
kkk	DSP_AUDIO	FTD_SB_DRC_UL_TBL	W:D	R	Current uplink DRC table(s).
ll	DSP_AUDIO	FTD_SB_DRC_DL_NOISE_TBL	B:D	R	Current downlink noise dependent table.

These values are updated 5-10 times/second.

Display 64.09: Control DSP audio enhancements switch 1 (Version: 3.15, Status: Approved)

Data Display:



Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	DSP_AUDIO	FTD_SB_BASIC_ALG_1_VALUE_TO_SWITCH_1	DW:H	R	Value to be written to switch1
aaaa	DSP_AUDIO	FTD_SB_BASIC_ALG_1_VALUE_OF_SWITCH_ 1	W:H	R	Value written to switch1.
bbbb	DSP_AUDIO	FTD_SB_BASIC_ALG_1_CURR_VALUE_SWITCH_ 1	W:H	R	Current value of switch1. Updated 5-10 times per second.

This can be provided by Audio Server, but currently is not supported

To control DSP audio enhancements, perform following steps:

1. Press the Menu button.
2. Scroll in the main menu loop to field test display item.
3. Press the Select button.
4. Select this display in input mode by entering 6409 (TEST GROUP;TEST DISPLAY) at the query prompt.
5. Test input display will activate, enter the control words in display. Keyboard is in "text" mode, so that hex numbers 0-F can be written.
6. Confirm with the Ok button.
7. If activation succeeded, the control word is then sent to the DSP.
8. Status of the registers is read 5-10 times per second and filelds a and b are updated accordingly. This allows the user to see the current values in these registers.

Used together withdisplays 64.10 and 64.11, this display makes rapid on/off switching of audio DSP algorithms possible. Switching with arrow keys is possible only after this display or display 2 has been selected from the menu. This prevents accidental on/off switching of algorithms when browsing displays by arrow keys. Entered values are not saved to permanent memory.

Display 64.10: Control DSP audio enhancements switch 2 (Version: 3.15, Status: Approved)

Data Display:

```
++++++++++++++++++++++++++++
+ DSP audio enhancement 2  +
+                          +
+ Entered:       aaaa      +
+ Switch 2:      bbbb      +
+                          +
+                          +
+                          +
+                          +
+                          +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	DSP_AUDIO	FTD_SB_BASIC_ALG_1_VALUE_TO_SWITCH_2	DW:H	R	Value to be written to switch2
aaaa	DSP_AUDIO	FTD_SB_BASIC_ALG_1_VALUE_OF_SWITCH_ 2	W:H	R	Value written to switch2.
bbbb	DSP_AUDIO	FTD_SB_BASIC_ALG_1_CURR_VALUE_SWITCH_ 2	W:H	R	Current value of switch2. Updated 5-10 times per second.

This can be provided by Audio Server, but currently is not supported

To control DSP audio enhancements, perform following steps:

1. Press the Menu button.
2. Scroll in the main menu loop to field test display item.
3. Press the Select button.
4. Select this display in input mode by entering 6410 (TEST GROUP;TEST DISPLAY) at the query prompt.
5. Test input display will activate, enter the control words in display. Keyboard is in "text" mode, so that hex numbers 0-F can be written.
6. Confirm with the Ok button.
7. If activation succeeded, the control word is then sent to the DSP.
8. Status of the registers is read 5-10 times per second and filelds a and b are updated accordingly. This allows the user to see the current values in these registers.

Display 64.11: Control DSP audio enhancements switch 3 (Version: 3.15, Status:Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ DSP audio enhancement 3 +
+                         +
+ Entered:       aaaa     +
+ Switch 3:      bbbb     +
+                         +
+                         +
+                         +
+                         +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	DSP_AUDIO	FTD_SB_BASIC_ALG_1_VALUE_TO_SWITCH_3	DW:H	R	Value to be written to switch3
aaaa	DSP_AUDIO	FTD_SB_BASIC_ALG_1_VALUE_OF_SWITCH_ 3	W:H	R	Value written to switch3.
bbbb	DSP_AUDIO	FTD_SB_BASIC_ALG_1_CURR_VALUE_SWITCH_ 3	W:H	R	Current value of switch3. Updated 5-10 times per second.

This can be provided by Audio Server, but currently is not supported

To control DSP audio enhancements, perform following steps:

1. Press the Menu button.
2. Scroll in the main menu loop to field test display item.
3. Press the Select button.
4. Select this display in input mode by entering 6411 (TEST GROUP;TEST DISPLAY) at the query prompt.
5. Test input display will activate, enter the control words in display. Keyboard is in "text" mode, so that hex numbers 0-F can be written.
6. Confirm with the Ok button.
7. If activation succeeded, the control word is then sent to the DSP.
8. Status of the registers is read 5-10 times per second and filelds a and b are updated accordingly. This allows the user to see the current values in these registers.

Display 64.12: SpCs (Version: 3.13, Status: Approved)

Data Display:

```
++++++++++++++++++++++++++++
+ SpCs                     +
+                          +
+ Rx type           aaaa    +
+ Tx type           bbbb    +
+ decode mode       cc      +
+ encode mode       dd      +
+ spC type          eeeee   +
+                          +
+                          +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(4)	DSP_AUDIO	FTD_SB_RX_TYPE	W:H	R	Uplink flags (Speech/Background noise)
b(4)	DSP_AUDIO	FTD_SB_TX_TYPE	W:H	R	Downlink flags (BFI, SID, TAF)
c(2)	DSP_AUDIO	FTD_SB_AMR_DEC_BITRATE	B:H	R	AMR SpC Decoder bitrate (00-07)
d(2)	DSP_AUDIO	FTD_SB_AMR_ENC_BITRATE	B:H	R	AMR SpC Encoder bitrate (00-07)
e(5)	DSP_AUDIO	FTD_SB_SpC_TYPE	S	R	SpC type in string (G_FR, G_EFR, G_AMR, WAMR1, or WAMR2)

These values are updated 5-10 times/second.

Display 64.13: SpC counters (Version: 3.16, Status: Approved)

Data Display:

```
++++++++++++++++++++++++++++
+ SpC counters             +
+                          +
+ C_handovers       aaaaa  +
+ C_mode changes    bbbbb  +
+ C_format changes  ccccc  +
+                          +
+                          +
+                          +
+                          +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(5)	DSP_AUDIO	FTD_SB_C_HANDOVERS	W:D	R	Number of codec handovers
b(5)	DSP_AUDIO	FTD_SB_C_MODE	W :D	R	Number of codec mode changes

		_CHANGES			
c(5)	DSP_AUDIO	FTD_SB_C_FORMAT_CHANGES	W :D	R	Number of codec format changes

These values are updated 5-10 times/second.

Group 65: Common PPC (Product Performance Counters) displays

Display 65.01: PPC Counters 1 (Version: 3.19, Status: Approved)

```
++++++++++++++++++++++++++++
+       PPC counters 1     +
+                          +
+ Ccall timer     aaaa     +
+ Dmem manag      bb       +
+ DSP res count   cc       +
+ SW cr count     dd       +
+ ASIC wdog res   ee       +
+ Bad Pof count   ff       +
+                          +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aaaa	MON	FTD_SB_PPC_CUMUL_CALL_TIMER	DW:D	R	PPC number 36 : Cumulative Call Timer.
bb	MON	FTD_SB_PPC_DMM_NO_BUF	W:D	R	PPC number 12 : Dynamic Memory Management - No Buffers.
cc	MON	FTD_SB_PPC_DSP_RESET	W:D	R	PPC number 16 : DSP reset counter.
dd	MON	FTD_SB_PPC_SW_CRASH	B:D	R	PPC number 17 : SW crash counter.
ee	MON	FTD_SB_PPC_ASIC_WD_RESET	B:D	R	PPC number 18 : ASIC watchdog reset counter.
ff	MON	FTD_SB_BAD_POWER_OFF	W:D	R	PPC number 49 : Bad Power Off Counter.

Display 65.02: PPC Counters 2 (Version: 3.19, Status: Approved)

```
++++++++++++++++++++++++++++
+       PPC counters 2     +
+ PA temp         aa       +
+ PA batt         bb       +
+ Batt temp       cc       +
+ Chr full        dd       +
+ Inv chr conn    eeee     +
+ Inv C/ Inv B    ff    gg +
+ I Btemp/Bsize   hh    ii +
+ Ccon / Cdis     kk    ll +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aa	MON	FTD_SB_PPC_PA_OVER_T_PWR_OFF	B:D	R	PPC number 20 : PA Over Temperature Power off counter.
bb	MON	FTD_SB_PPC_PA_OVER_T_BATT_TEMP	B:D	R	PPC number 21 : PA Over Temperature Power off Battery temperature.

cc	MON	FTD_SB_PPC_BATT_OVER_T_PWR_OFF	B:D	R	PPC number 22 : Battery Over Temperature Power off counter.
dd	MON	FTD_SB_PPC_BATT_OVER_T_PA_TEMP	B:D	R	PPC number 23 : Battery Over Temperature Power off PA temperature
Eeee	MON	FTD_SB_PPC_BATT_CHARGED_FULL	DW:D	R	PPC number 24 : Battery Charged to Full Counter.
ff	MON	FTD_SB_PPC_INV_CHA_CONN	B:D	R	PPC number 27 : Invalid Charger Connected counter.
gg	MON	FTD_SB_PPC_INV_BATT_CONN	B:D	R	PPC number 29 : Invalid Battery Connection counter.
hh	MON	FTD_SB_PPC_INV_BATT_CONN_BTEMP	W:D	R	PPC number 30 : Invalid Battery Connection BTEMP.
ii	MON	FTD_SB_PPC_INV_BATT_CONN_BSIZE	W:D	R	PPC number 31 : Invalid Battery Connection BSIZE.
jjjj	MON	FTD_SB_PPC_CHA_CONN	W:D	R	PPC number 32 : Charger connection counter.
kkkk	MON	FTD_SB_PPC_CHA_DISCONN	W:D	R	PPC number 33 : Charger disconnection counter.

Display 65.03: PPC Counters 3 (Version: 3.19, Status: Approved)

```
+++++++++++++++++++++++++++++
+       PPC counters 3      +
+                           +
+ Dropped calls   aaaa      +
+                           +
+ Dropped calls             +
+ rssi           -bbb       +
+                           +
+ Dropped call              +
+ BER %           cccc      +
+                           +
+++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aaaa	MON	FTD_SB_PPC_DROPPED_CALL	DW:D	R	PPC number 40 : Total number of dropped calls.
-bbb	MON	FTD_SB_PPC_DROPPED_CALL_RSSI	B:D	R	PPC number 41 : Dropped call rssi (in dBm).
cccc	MON	FTD_SB_PPC_DROPPED_CALL_BER	B:D	R	PPC number 43 : Dropped call ber(in %).

Display 65.04: Camera PPCs (Version: 3.27, Status: Approved)

```
+++++++++++++++++++++++++++++
+  Camera PPC counter       +
+                           +
+ App started     a(7)      +
+ Cont int fail   b(4)      +
+ Viewfinder run  c(7)      +
+ Data int fail   d(4)      +
+ Pic landscape   e(4)      +
+ Pic portrait    f(4)      +
+ Discar images   g(4)      +
+ CCP / twilight  h(2) I(4)+
+++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(7)	MON	FTD_SB_PPC_CAMERA_APP_START	DW:D	R	Camera application started
b(4)	MON	FTD_SB_PPC_CAMERA_CONTROL_FAILED	W:D	R	Camera control interface failed
c(7)	MON	FTD_SB_PPC_CAMERA_VIEW_RUNTIME	DW:D	R	Camera viewfinder runtime counter
d(4)	MON	FTD_SB_PPC_CAMERA_DATA_FAILED	W:D	R	Camera data interface failed
e(4)	MON	FTD_SB_PPC_PICTURE_LANDSCAPE	W:D	R	Pictures taken landscape
f(4)	MON	FTD_SB_PPC_PICTURE_PORTRAIT	W:D	R	Pictures taken portrait
g(4)	MON	FTD_SB_PPC_PICTURE_DISCARDED	W:D	R	Discarded images
h(2)	MON	FTD_SB_PPC_COMPACT_CAMERA_PORT_STUCK	B:D	R	CCP stuck counter
I(4)	MON	FTD_SB_PPC_PICTURE_TWILIGHT	W:D	R	Pictures taken twilight

Display 65.05: HW UI counters (Version: 3.28, Status: Approved)

```
+++++++++++++++++++++++++++++
+     HW UI counter         +
+                           +
+ Flip open       a(8)      +
+                           +
+                           +
+ EL on time      b(8)      +
+                           +
+ Keypad Chinese character+
+ input counter   c(8)      +
+                           +
+++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Forma	Mode	Description

			t		
a(8)	MON	FTD_SB_PPC_FLIP_OPEN_TIMES	DW:D	R	PPC 1014: Flip open counter
b(8)	MON	FTD_SB_PPC_EL_ON_TIME	DW:D	R	PPC 1015: EL on time counter (in second)
c(8)	MON	FTD_SB_PPC_KEYPAD_CHINESE_CHARACTER_INPUT	DW:D	R	PPC 1016: Keypad Chinese Character Input Counter Note: repeated in display 76.06.

Group 73: Common Accessory displays

Please refer Accessory Server specific documentation for more information about the data items.

Display 73.01: Accessory mode information 1 (Version: 1, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++++
+ Accessory mode info 1     +
+                           +
+ Accessory mode      aa    +
+ Accessory detect    bb    +
+ Last head Int       cccc  +
+ Last hook int       dddd  +
+                           +
+                           +
+                           +
+++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aa	Accessory	ACC_SB_FTD_ACC_MODE		R	Accessory mode (byte, hex)
bb	Accessory	ACC_SB_FTD_ACC_DET_ON		R	Accessory detection in progress flag: 0 / 1 (byte, hex)
cccc	Accessory	ACC_SB_FTD_ACC_HEADINT		R	Last HeadInt channel reading (word, hex)
dddd	Accessory	ACC_SB_FTD_ACC_HOOKINT		R	Last HookInt channel reading (word, hex)

Display 73.02: Accessory mode information 2 (Version: 1, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++++
+ Accessory mode info 2     +
+                           +
+ Loop counter        aa    +
+ P&P hf wrong inst   bb    +
+ P&P hf power down   cc    +
+ Charger disconnect  dd    +
+                           +
+                           +
+                           +
+++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aa	Accessory	ACC_SB_FTD_ACC_COUNTER		R	Accessory detection loop counter value (byte, hex)
bb	Accessory	ACC_SB_FTD_ACC_PPHF_WI		R	Plug and play handsfree wrong installation flag: 0 / 1 (byte, hex)
cc	Accessory	ACC_SB_FTD_ACC_PPHF_DOWN		R	Plug and play handsfree power down flag: 0 / 1 (byte, hex)
dd	Accessory	ACC_SB_FTD_ACC_CHRG_DC		R	Charger disconnection detected flag: 0 / 1 (byte, hex)

Display 73.03: Accessory mode information 3 (Version: 1, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ Accessory mode info 3   +
+                         +
+ Headset btn down     aa +
+ HFU car kit state    bb +
+ HFU car kit state up cc +
+                         +
+                         +
+                         +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aa	Accessory	ACC_SB_FTD_ACC_HD_BTN_DOWN		R	Headset detected in button down state flag: 0 / 1 (byte, hex)
bb	Accessory	ACC_SB_FTD_ACC_HFU2_INFO		R	HFU-2x car kit state indication data (byte, hex)
cc	Accessory	ACC_SB_FTD_ACC_HFU2_SU_INFO		R	HFU-2x car kit start up indication data (byte, hex)

Display 73.04: Vibra information (Version: 1, Status: Approved)

Data Display:

```
++++++++++++++++++++++++++++
+ Vibra information        +
+                          +
+ Vibra state          aa  +
+ Vibra intensity      bb  +
+                          +
+                          +
+                          +
+                          +
+                          +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aa	Accessory	ACC_SB_FTD_ACC_VBR_STATE		R	Vibra state (off/on) flag: 0 / 1 (byte, hex)
bb	Accessory	ACC_SB_FTD_ACC_VBR_INT		R	Vibra intensity (relative clock frequency) data: 0x00 - 0x64 (byte, hex)

Display 73.06: Ambient light sensor information 1 (Version: 1, Status: Approved)

Data Display:

```
++++++++++++++++++++++++++++
+ Ambient light sensor     +
+  info 1                  +
+                          +
+ Luminance level     aa   +
+ Calibrated value    bbbb +
+ Temp comp value     cccc +
+ Raw AD value        dddd +
+                          +
+                          +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aa	Accessory	ACC_SB_FTD_ACC_ALI_LUM	B:H	R	Ambient light luminance level (byte, hex)
bbbb	Accessory	ACC_SB_FTD_ACC_ALI_CAL_VAL	W:H	R	Ambient light calibrated value (word, hex)
cccc	Accessory	ACC_SB_FTD_ACC_ALI_TEMP_VAL	W:H	R	Ambient light temperature compensated value (word, hex)
dddd	Accessory	ACC_SB_FTD_ACC_ALI_RAW_VAL	W:H	R	Ambient light raw AD value (word, hex)

Display 73.07: Ambient light sensor information 2 (Version: 1, Status: Approved)

Data Display:

```
++++++++++++++++++++++++++++
+ Ambient light sensor     +
+  info 2                  +
+                          +
+ CalConv cal value  aaaa  +
+ VCXO temperature   bbbb  +
+                          +
+                          +
+                          +
+                          +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(4)	ACCESSORY	ACC_SB_FTD_ACC_ALI_CALCONV	W:H	R	Ambient light CalConv – calibration value (word, hex)
b(4)	ACCESSORY	ACC_SB_FTD_ACC_ALI_VCXOTEMP	B:D	R	VCXO Temperature (byte, decimal)

Group 74: Common Memory Management displays

```
+++++++++++++++++++++++++++
+ MeM component versions  +
+                         +
+ PMM release ID          +
+           a(11)         +
+ PERM release ID         +
+           b(11)         +
+ NVD release ID          +
+           c(11)         +
+                         +
+++++++++++++++++++++++++++
```

Display 74.01: Information of MeM component versions (Version: 1, Status: Approved)

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(11)	PERM	PERM_SB_FTD_PMM_VERSION	S	R	PMM release ID
b(11)	PERM	PERM_SB_FTD_PERM_VERSION	S	R	PERM release ID
c(11)	NVD	PERM_SB_FTD_NVD_VERSION	S	R	NVD release ID

Display 74.02: Information of PMM Plain area (Version: 1, Status: Approved)

```
+++++++++++++++++++++++++++
+     PMM Plain area      +
+ Memory used    a(7)     +
+ % used         b(4)     +
+ Memory release c(7)     +
+ % released     d(4)     +
+ Memory unused  e(7)     +
+ % unused       f(4)     +
+ Number of bloc g(3)     +
+ Block size     h(7)     +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(7)	PERM	PERM_SB_FTD_PMM_PLAIN_TOTAL_MEMORY_USED		R	Memory Used
b(4)	PERM	PERM_SB_FTD_PMM_PLAIN_TOTAL_MEMORY_USED_PC	B:D	R	% Used
c(7)	PERM	PERM_SB_FTD_PMM_PLAIN_TOTAL_MEMORY_RELEASED		R	Memory Released
d(4)	PERM	PERM_SB_FTD_PMM_PLAIN_TOTAL_MEMORY_RELEASED_PC	B:D	R	% Released
e(7)	PERM	PERM_SB_FTD_PMM_PLAIN_TOTAL_MEMORY_UNUSED		R	Memory Unused
f(4)	PERM	PERM_SB_FTD_PMM_PLAIN_TOTAL_MEMORY_UNUSED_PC	B:D	R	% Unused

g(3)	PERM	PERM_SB_FTD_PMM_PLAIN_TOTAL_PAGE_NUMBER	W:D	R	Number of Blocks (configuration)
h(7)	PERM	PERM_SB_FTD_PMM_PLAIN_PAGE_SIZE		R	Block size (configuration)

Display 74.03: Information of PMM Classified area (Version: 1, Status: Approved)

```
++++++++++++++++++++++++++
+   PMM classified area   +
+ Memory used    a(7)     +
+ % used         b(4)     +
+ Memory release c(7)     +
+ % released     d(4)     +
+ Memory unused  e(7)     +
+ % unused       f(4)     +
+ Number of bloc g(3)     +
+ Block size     h(7)     +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aaaaaaa	PERM	PERM_SB_FTD_PMM_CLASS_TOTAL_MEMORY_USED		R	Memory Used
bbbb	PERM	PERM_SB_FTD_PMM_CLASS_TOTAL_MEMORY_USED_PC	B:D	R	% Used
ccccccc	PERM	PERM_SB_FTD_PMM_CLASS_TOTAL_MEMORY_RELEASED		R	Memory Released
dddd	PERM	PERM_SB_FTD_PMM_CLASS_TOTAL_MEMORY_RELEASED_PC	B:D	R	% Released
eeeeeee	PERM	PERM_SB_FTD_PMM_CLASS_TOTAL_MEMORY_UNUSED		R	Memory Unused
ffff	PERM	PERM_SB_FTD_PMM_CLASS_TOTAL_MEMORY_UNUSED_PC	B:D	R	% Unused
gggg	PERM	PERM_SB_FTD_PMM_CLASS_TOTAL_PAGE_NUMBER		R	Number of Blocks (configuration)
hhhhhhh	PERM	PERM_SB_FTD_PMM_CLASS_PAGE_SIZE		R	Block size (configuration)

Display 74.04: Information of PMM Protected area (Version: 1, Status: Approved)

```
++++++++++++++++++++++++++
+   PMM protected area    +
+ Memory used    a(7)     +
+ % used         b(4)     +
+ Memory release c(7)     +
+ % released     d(4)     +
+ Memory unused  e(7)     +
+ % unused       f(4)     +
+ Number of bloc g(3)     +
+ Block size     h(7)     +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description

aaaaaaa	PERM	PERM_SB_FTD_PMM_PROT_TOTAL_MEMORY_USED		R	Memory Used
bbbb	PERM	PERM_SB_FTD_PMM_PROT_TOTAL_MEMORY_USED_PC	B:D	R	% Used
ccccccc	PERM	PERM_SB_FTD_PMM_PROT_TOTAL_MEMORY_RELEASED		R	Memory Released
dddd	PERM	PERM_SB_FTD_PMM_PROT_TOTAL_MEMORY_RELEASED_PC	B:D	R	% Released
eeeeeee	PERM	PERM_SB_FTD_PMM_PROT_TOTAL_MEMORY_UNUSED		R	Memory Unused
ffff	PERM	PERM_SB_FTD_PMM_PROT_TOTAL_MEMORY_UNUSED_PC	B:D	R	% Unused
gggg	PERM	PERM_SB_FTD_PMM_PROT_TOTAL_PAGE_NUMBER		R	Number of Blocks (configuration)
hhhhhhh	PERM	PERM_SB_FTD_PMM_PROT_PAGE_SIZE		R	Block size (configuration)

Display 74.05: PMM Storing information (Version: 1, Status: Approved)

```
++++++++++++++++++++++++++
+   PMM protected area   +
+                        +
+ % Rec. foreg.  a(3)     +
+ % Rec. backg.  b(3)     +
+ Fragments      c(4)     +
+ Pool size      d(8)     +
+ Mem reserv.    e(8)     +
+ Swap size      f(8)     +
+                        +
++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aaa	PERM	PERM_SB_FTD_PMM_FOREGROUND_WRITE_PC	B:D	R	% Records written in Foreground
bbb	PERM	PERM_SB_FTD_PMM_BACKGROUND_WRITE_PC	B:D	R	% Records written in Background
cccc	PERM	PERM_SB_FTD_PMM_FRAGMENT_COUNTER		R	Total amount of fragments
ddddddd	PERM	PERM_SB_FTD_PMM_PLAIN_POOL_SIZE_QUERY		R	Remaining Pool size in Plain area
eeeeeeee	PERM	PERM_SB_FTD_PMM_PLAIN_MEM_TOTAL_RES_QUERY		R	Memory reservations in Plain area
ffffffff	PERM	PERM_SB_FTD_PMM_PLAIN_SWAP_SIZE		R	Swap size in Plain area

Display 74.06: PMM Error information 1 (Version: 1, Status: Approved)

```
++++++++++++++++++++++++++++
+   PMM Error info 1       +
+                          +
+ Log adress      a(8)     +
+ Error code      b(8)     +
+ Write address   c(4)     +
+ Read address    d(8)     +
+                          +
+                          +
+                          +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aaaaaaaa	PERM	PERM_SB_FTD_PMM_ERROR_LOG_PRESENT		R	Log address
bbbbbbbb	PERM	PERM_SB_FTD_PMM_ERROR_CODE		R	Error code
cccccccc	PERM	PERM_SB_FTD_PMM_ERROR_WRITE_ADDRESS		R	Write address
dddddddd	PERM	PERM_SB_FTD_PMM_ERROR_READ_ADDRESS		R	Read address

Display 74.07: PMM Error information 2 (Version: 1, Status: Approved)

```
++++++++++++++++++++++++++++
+   PMM Error info 2       +
+                          +
+ Write error counter       +
+ a(8)                      +
+ Read error counter        +
+ b(8)                      +
+ Calling group ID          +
+ c(4)                      +
+ Calling index number      +
+ d(8)                      +
++++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(8)	PERM	PERM_SB_FTD_PMM_DEV_FLASH_WRITE_ERROR_COUNTER		R	Write error counter
b(8)	PERM	PERM_SB_FTD_PMM_DEV_FLASH_READ_ERROR_COUNTER		R	Read error counter
c(4)	PERM	PERM_SB_FTD_PMM_CALLING _GROUP		R	Calling group ID
d(4)	PERM	PERM_SB_FTD_PMM_CALLING _INDEX		R	Calling Index number

Display 74.08: Information of PMM Clean-up (Version: 1, Status: Approved)

```
+++++++++++++++++++++++++++
+     PMM clean-up        +
+                         +
+ Retry peak data read     +
+ a(4)                     +
+ Retry peak data write    +
+ b(4)                     +
+ Retry peak header read   +
+ c(3)                     +
+ Cleanup peak      d(3)   +
+ Writeback peak    e(3)   +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aaaa	PERM	PERM_SB_FTD_PMM_ERROR_RETRY_DATA_READ		R	Retry peak on record data read
bbbb	PERM	PERM_SB_FTD_PMM_ERROR_RETRY_DATA_WRITE		R	Retry peak on record data write
ccc	PERM	PERM_SB_FTD_PMM_ERROR_RETRY_HEADER_READ		R	Retry peak on record header read
	PERM	PERM_SB_FTD_PMM_PEAK_CLEANUP_MAILBOX		R	Cleanup peak (in mailbox)
eee	PERM	PERM_SB_FTD_PMM_PEAK_WRITEBACK_MAILBOX		R	Writeback peak (in mailbox)

Group 81: Multimode protocol displays

Display 81.01: Force protocol between GSM and WCDMA (Version: 3.26, Status: Approved)

Data Display:

```
+++++++++++++++++++++++++++
+ Force protocol between   +
+ GSM and WCDMA            +
+                          +
+ 0-dual                   +
+ 1-GSM                    +
+ 2-WCDMA                  +
+                          +
+ a                        +
+                          +
+++++++++++++++++++++++++++
```

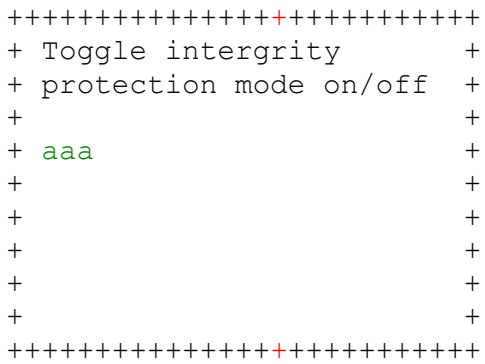
To change Force Protocol status, perform following steps:

1. Press the Menu button.
2. Scroll in the main menu loop to field test display item.
3. Press the Select button.
4. Select this display in input mode by entering 8101 (Multimode protocol displays; Force protocol) to the query prompt.
5. Test input prompt will activate, enter the Force Protocol status code (see the table below) in display.
6. Confirm with the Ok button.

Abbr.	Server	Sub Block ID	Format	Mode	Description
INPUT	GSS	FTD_SB_SELECTED_RAT_SET	DW:D	R,I,O	Force protocol 0 = dual mode 1 = GSM 2 = WCDMA
a	GSS	FTD_SB_SELECTED_RAT_READ	B:D	R,I,O	Forced protocol: 0 = dual mode 1 = GSM 2 = WCDMA 255 = unknown

Display 81.02: Toggle Integrity Protection Mode (Version: 3.26, Status: Approved)

Data Display:



To change integrity protection mode, perform following steps:

1. Press the Menu button.
2. Scroll in the main menu loop to field test display item.
3. Press the Select button.
4. Select this display in executive mode by entering 8102 (Multimode protocol displays;toggle integrity protection mode) to the query prompt.
5. Confirm with the Ok button.

Abbr.	Server	Sub Block ID	Format	Mode	Description
EXE	GSS	FTD_SB_GSS_INT_PRO_MODE_TOGGLE	N/A	R,I,O	Toggle integrity protection mode.
a(3)	GSS	FTD_SB_GSS_INT_PRO_MODE	S	R,I,O	Current integrity protection mode: **ON** : Enabled **OFF** : Disabled

Group 99: Charlie specific displays

Display 99.01: PPC Counters

Data Display:

```
+++++++++++++++++++++++++++
+ PPC Counters            +
+                         +
+ Reflash  aaaa           +
+ Ins SIM  bbbb           +
+ SW reset cccc           +
+                         +
+ SYMBIAN panic prog dddd +
+ SYMBIAN panic data eeee +
+ SYMBIAN panic reas ffff +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
aaaa					PPC number 50 : Reflash Counter
bbbb					PPC number 94 : Insert SIM Card Error counter
cccc					PPC number 327 : SW reset reason
dddd					PPC number 331 : SYMBIAN Panic program counter
eeee					PPC number 332 : SYMBIAN Panic data abort counter
ffff					PPC number 333 : SYMBIAN Panic reason counter

Display 99.04: Einfo on FTD

Data Display:

```
+++++++++++++++++++++++++++
+ Einfo                   +
+                         +
+ APE SW         aaaaaaaa +
+ CellMo SW      bbbbbbbb +
+ APE image      cccccccc +
+ HWId           dddddddd +
+                         +
+                         +
+                         +
+++++++++++++++++++++++++++
```

Abbr.	Server	Sub Block ID	Format	Mode	Description
a(8)					APE SW (AMCU, ADSP)
b(8)					CellMo SW (CMCU, CDSP)
c(8)					APE variant image version
d(8)					HWIDn versionro

4 REFERENCES

1. Original GSM Field Test Display Specification:
Part: HD9413:SPEC.BASE
Item: HD9413:FIELD_TEST_DISPLAY_SPEC.BASE-SPEC
File: hd94x_field_test_display_spec.txt

2. Original TDMA Field Test Display Specification:
DAMPS_CS_SW: IS136_FT_DISPLAY_SPEC.BASE-SPEC.

3. Field Test Display – Application configuration:
Workset: ISA:WS_ISA
Part: ISA:DOCUMENTS.BASE
Item: ISA:USER_GUIDES.BASE
File: FTD_Appl_conf_guide.doc

4. Product Performance counters specification:
Doc No: DSP00033-EN
Database: WinTesla-Camberley (UK)
Filename: document\wintesla\ppc_spec.doc

5. BT102 locals message description, v10.2 27.9.2001. Proposal. Thomas Busse.
\\trenfs05\Calypso\sw\System\Bluetooth\Documents\Bochum\BT102_loc_spec.doc

6. BT102 – Product performance counter, v8.0 15.8.2001. Approved. Thomas Busse
\\trenfs05\Calypso\sw\System\Bluetooth\Documents\Bochum\BT102_ppc_spec.doc

7. BT102 FTD event message description, v4.0 29.3.2001. Approved. Daniel Bencak, Dietmar Schepp \\trenfs05\Calypso\sw\System\Bluetooth\Documents\Bochum\BT102_ftd_event_msg.doc