Nokia Flexi Multiradio 10 BTS and Nokia AirScale BTS HW-Roadmap

Flexi multiradio BTS and AirScale BTS System Modules

Flexi Multiradio 10 System Module outdoor
- FSMF Core -> GSM/WCDMA/LTE
- FBBA Sub-module -> WCDMA/LTE/SRAN
- FBBC Sub-module ->LTE/SRAN

Nokia AirScale System Module indoor
- AMIA Subrack -> LTE/SRAN/5G

Nokia AirScale System Module outdoor
- AMOB Subrack -> LTE/SRAN/5G

Nokia AirScale System Module outdoor
- AMOC Subrack -> LTE/SRAN
- AMOD Subrack ->LTE7SRAN/5G

Flexi Multiradio 10 System Module indoor
- FSIH Core -> TD-LTE
- FBIH Sub-module -> TD-LTE

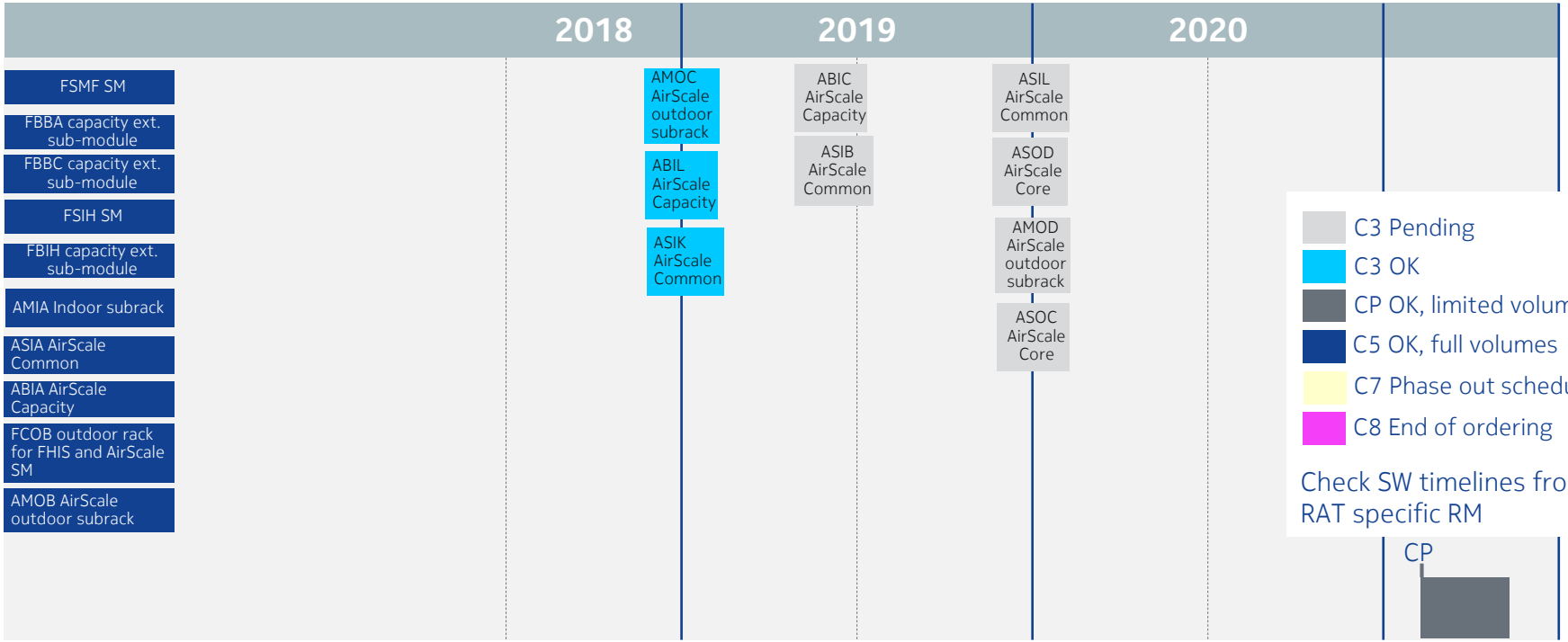
Nokia AirScale System Module common units
- ASIA Common -> LTE/SRAN
- ASIK Common -> 5G
- ASIB Common -> LTE/SRAN/5G
- ASIL Common -> 5G, HW ready for LTE/SRAN

Nokia AirScale System Module capacity units
- ABIA Capacity -> LTE/SRAN
- ABIL Capacity -> 5G
- ABIC Capacity-> LTE/SRAN/5G

Nokia AirScale System Module outdoor
- ASOC Core -> LTE/SRAN
- ASOD Core -> 5G

Flexi multiradio BTS and AirScale BTS System Modules

Hardware availability



Flexi Multiradio 10 BTS System Module Outdoor FSMF

Overview

High capacity System Module with multiradio capability

- Multiradio platform for GSM, WCDMA, LTE
- Up to 9x20MHz 2T2R LTE cells and Pay as You Grow -capacity expansion with extension sub-modules (1-2 FBBxs)
    - FBBA and FBBC has the same capacity as FSMF core
    - FBBA and FBBC can be mixed
    - 1 optical ports in FBBA HW (OBSAI RP3/CPRI 6 Gbps)
    - 4 optical ports in FBBC HW (OBSAI RP3/CPRI 6 Gbps)
        - Total 12 optical ports with 2 FBBC
- Integrated high capacity Ethernet transport. Optional transport sub-module for additional transport features
- Optional power distribution sub-module with four power outputs (-48V)
- IP65 Outdoor Module for different installation scenarios and use cases
- Active cooling for the highest reliability

Dimensions:

10.1 – 19.7 kg

IP65

-35 to +55 °C

NOKIA

Flexi Multiradio 10 BTS System Module FSIH

Overview

Indoor baseband solution for very high capacity and technology evolution

- Standard 2.5U Indoor (IP20) Flexi system module for max beam forming TD-LTE configuration
- Pay as You Grow; the casing can accommodate one indoor FSIH module and two capacity extension FBIH sub-modules
    - High capacity for TD-LTE - up to 9x20MHz (S333) 8T8R or 12x20MHz 2T2R with FSIH+2xFBIH baseband solution
    - Up to 24 optical RF ports (12+2x6) with OBSAI 6 Gbps and CPRI up to 9.8 Gbps with IQ compression
- Integrated GNSS support with improved synch holdover performance
- Integrated high capacity Ethernet
- Active cooling for the highest reliability

Dimensions:

111mm x 448mm x 360mm

Indoor -5 to +55 °C

Weight: 15kg

AirScale BTS System Module

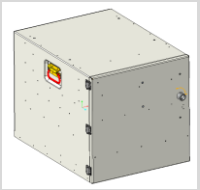
Building blocks

Common Unit ASIx

Capacity Unit ABIx

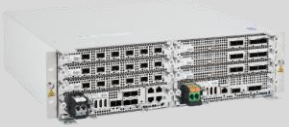
Building blocks used in subracks to create Multi-RAT capable AirScale System Module

Outdoor subrack AMOD



- 11U height
- 8 Plug-in Units
  - 2x Common
  - 6x Capacity
- <160 litres
- <55 Kg fully equipped
- Operational temperature range -40 °C to +55 °C
- stack, plinth, wall, pole

Indoor subrack AMIA



- 3U height
- 8 Plug-in Units
  - 2x Common
  - 6x Capacity
- 23 litres
- ~23 Kg fully equipped
- Operational temperature range -5 °C to +60 °C
- 19” rack, shelters, pole, wall, indoor cabinet (FCIA), outdoor cabinet with protection (FCOB)

Outdoor subrack AMOB

- 8U height
- 8 Plug-in Units
  - 2x Common
  - 6x Capacity
- 104 litres
- ~41 Kg fully equipped
- Operational temperature range -40 °C to +55 °C
- 19” rack, stack, plinth, wall, pole, cabinet (FCOA)

Outdoor subrack AMOC

- 4U height
- 4 Plug-in Units
  - 1x Common
  - 3x Capacity
- 48 litres
- ~25 Kg fully equipped
- Operational temperature range -40 °C to +55 °C
- 19’’ rack, stack, plinth, wall, pole, cabinet (FCOA)

AirScale Common ASIA

Common Unit for SRAN and LTE

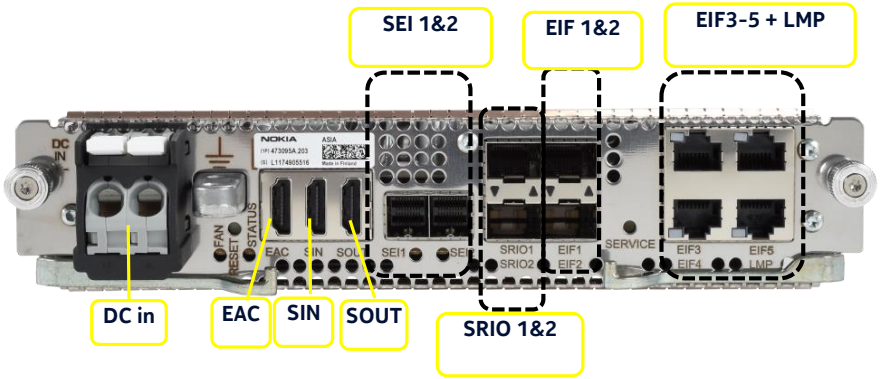
ASIA Common Unit:

- Indoor AirScale common unit supporting GSM, WCDMA, LTE
- Control, transport, O&M processing integrated
- Synchronization and timing functions
- Power supply and thermal control of system module
- Compatible for chaining with Flexi Multiradio10 System Module
- System Extension Interfaces for chaining of multiple AirScale System Modules

Product description:

OAM, Central Call Processing & backhaul support

- Backhaul throughput: 5 Gbps
- C-Plane capacity: 750+ TA/s (Nokia ref. Traffic Model)
- #RRC connected users: 15k (depending on Traffic Model)
- Typical power consumption: 80 W
- ASIA connectivity includes:
  - 2 x SFP+ ports for 1/10 GE backhaul (EIF1, EIF2)
  - 3x RJ45 ports for 1 GE backhaul (EIF3, EIF4, EIF5)
  - 2 x mini SAS HD extension ports for AirScale SM chaining (SEI1, SEI2)
  - 2x SFP+ (SRIO)



ASIA (Indoor Common Unit)

AirScale Common ASIK

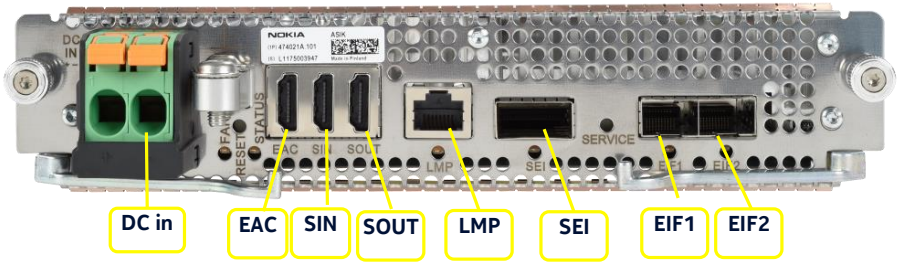
Common Unit for 5G

ASIK Common Unit:

- Indoor AirScale common unit supporting 5G
- Control, transport, O&M processing integrated
- Synchronization and timing functions
- Power supply and thermal control of system module
- System Extension Interfaces for chaining of multiple AirScale System Modules

Product description:

- OAM, Central Call Processing & backhaul support
- Typical power: 115 W
- ASIK connectivity includes:
  - 2 x SFP28 ports for 1/10/25 GE backhaul (EIF1, EIF2)
  - 1 x QSFP+ extension ports for AirScale SM chaining (SEI)



ASIK (Indoor Common Unit)

AirScale Common ASIB

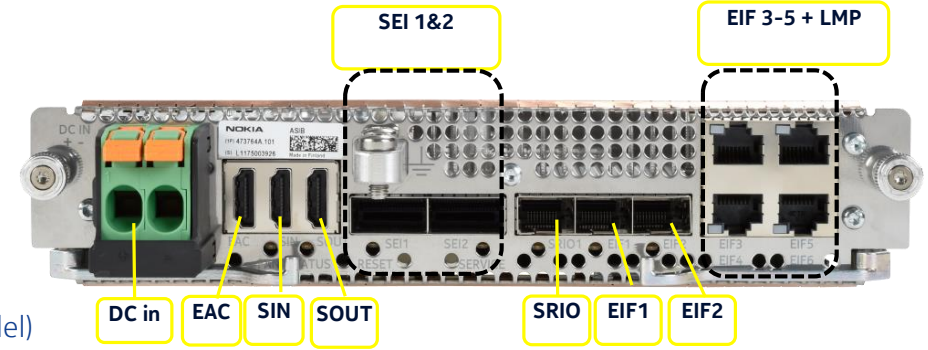
High Capacity Common Unit (SRAN, LTE , 5G)

ASIB Common Unit:

- Next Generation of Common Unit for AirScale System Module
- Very high LTE BBU capacity for large configurations
- Full resiliency support
- Compatible for chaining with Flexi Multiradio10 System Module

Product description:

- OAM, Central Call Processing & backhaul support
- Backhaul throughput: 7.5 Gbps
- C-Plane capacity: 1 300 TA/s (Nokia ref. Traffic Model)
- #RRC connected users: 30k (depending on Traffic Model)
- Typical power: 85 W
- ASIB connectivity includes:
  - 2 x SFP+ ports for 1/10 GE backhaul (EIF1, EIF2)
  - 3x RJ45 ports for 1GE backhaul (EIF3, EIF4, EIF5)
  - 2 x QSFP+ extension ports for AirScale SM chaining (SEI1, SEI2)
  - 1x SFP+ (SRIO)



ASIB (Indoor Common Unit)

AirScale Common ASIL

ASIL high capacity introduction – Preliminary information

Product description:

- Cloud or Classical BTS configuration for all technology, 5G introduction first
- Control, transport, O&M processing integrated
- Synchronization and timing functions
- Power supply and thermal control of system module
- System Extension Interfaces for chaining of multiple AirScale System Modules
- Up to 2 ASIL units in a single Subrack

Design ongoing

ASIL (Indoor Common Unit)

Connectivity:

- 3x SFP28 and 1x 10GE for Backhaul (EIF)
- 2x QSFP+ for System Extension Interface
- 3x HDMI (Sync IN and OUT, External Alarms and Controls)
- RJ45 (LMP – Local Management Port)

Compatibility:

- Sub-racks: All existing Airscale sub-rack, depending on technology support
- HW compatibility: All existing Airscale plug-in unit, depending on technology support

Typical power consumption: Under design, compatible with existing sub-rack

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AirScale Capacity **ABIA**

Capacity unit for SRAN and LTE

Product description:
- Processing unit for GSM, WCDMA and LTE
- Handles L1/L2 baseband processing
- Up to 6 units per AMIA rack

Target Capacity (1)

LTE 20MHz:	6 cells 4x4 or 12 cells 2x2
LTE 20 MHz+GSM:	Half LTE capacity + 36 TRX
Data throughput(2):	1 800 Mbps
#RRC connected users(2):	5 040

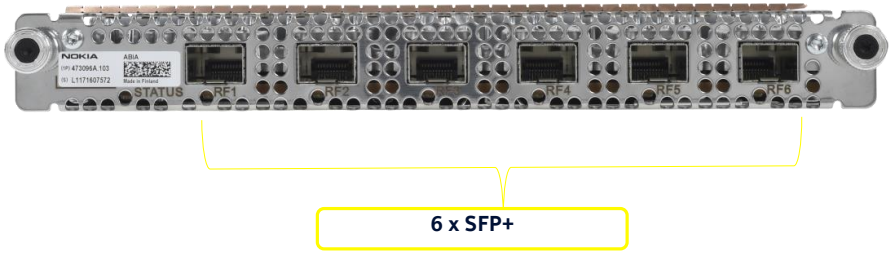
Fronthaul connectivity:

Optical interfaces:	6x SFP+
Fronthaul types:	OBSAI 6 Gbps, CPRI 9.8Gbps

Compatibility:

Sub-racks:	AMIA, AMOB, AMOC, AMOD
Common Units:	ASIA, ASIB

Typical power consumption: 80 W



ABIA (Indoor Capacity Unit)

(1) Please refer to SW features for the full readiness of the functions
(2) (depending on Traffic Model)

AirScale Capacity **ABIL**

Capacity unit for 5G

Product description:
- Processing unit for 5G
- Based on Next Gen. of Nokia ReefShark SoC Technology
- Handles L1/L2RT baseband processing
- Ethernet fronthaul support

Target Capacity (1)

16x8 100MHz MIMO layers depending on configurations

Data throughput(2): 7 000 Mbps

Fronthaul connectivity:

Optical interfaces: 2x SFP28 + 2x QSFP28

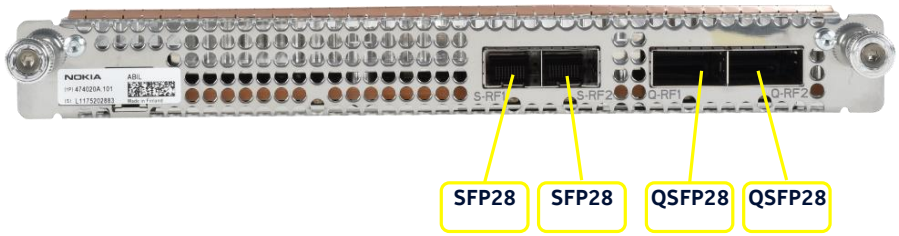
Fronthaul types: CPRI 9.8Gbps, eCPRI 10/25Gbps

Compatibility:

Sub-racks: AMIA, AMOB, AMOC, AMOD

Common Units: ASIB, ASIK

Typical power consumption: 119 W



ABIL (Indoor Capacity Unit)

(1) Please refer to SW features for the full readiness of the functions

(2) (depending on Traffic Model)

AirScale Capacity **ABIC**

High Capacity unit for SRAN, LTE and narrowband 5G

Product description:

- Processing unit for GSM, LTE & 5G
- Handles GSM/LTE U/C-plane and 5G L1/L2RT baseband processing
- Based on Next Gen. of Nokia ReefShark SoC Technology
- Very high LTE BBU capacity for large configurations
- Concurrent LTE+5G offers reduced footprint & power consumption

Target Capacity (1)

LTE 20MHz:	18 cells 4x4 or 24 cells 2x2
LTE 20MHz+GSM:	Half LTE capacity + 36 TRX
5G 20MHz:	16 cells 4x4
LTE 20MHz+5G 20MHz:	9 cells 4x4 + 9 cells 4x4
Data throughput(2):	2 700 Mbps (depending on Traffic Model)
#RRC connected users(2):	10 080 (depending on Traffic Model)

Fronthaul connectivity:

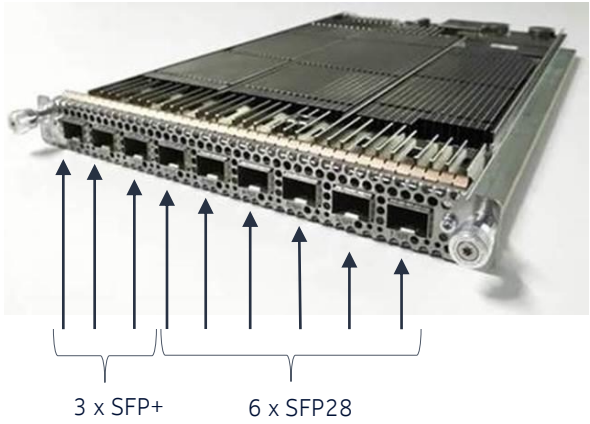
Optical interfaces:	3x SFP+ + 6x SFP28
Fronthaul types:	OBSAI 6 Gbps, CPRI 9.8Gbps, FD-CPRI 9.8Gbps, eCPRI 10/25Gbps

Compatibility:

Sub-racks:	AMIA, AMOB, AMOC, AMOD
Common Units:	ASIB, ASIK

Typical power consumption: 130 W

ABIC (Indoor Capacity Unit)



(1) Please refer to SW features for the full readiness of the functions
(2) (depending on Traffic Model)

AirScale Core ASOC

Standalone Outdoor system module

Product description:

- Processing unit for LTE, HW ready for GSM
- All functionality in one core unit (common + capacity)
- High LTE capacity & Investment protection
- Best-in-class energy efficiency enables fan less operation option
- Compatible with existing Flexi Multiradio and Airscale System Module
- Capacity can be expanded by chaining 2nd ASOC
- Installation options: Book, Wall, Pole, Rail, Casing, 19” Rack

Target Capacity (1)

LTE20 MHz:	9 cells 4x4 or 12 cells 2x2
LTE 20MHz+GSM:	8 cells 4x4 + 12 TRX (GSM)
Data throughput (2):	675Mbps
#RRC connected users (2):	5 040

Backhaul connectivity:

- 2x SFP+ ports for 1/10 GE backhaul (EIF1, EIF2)
- 2x RJ45 ports for 1 GE backhaul (EIF3, EIF4)

Fronthaul connectivity:

Optical interfaces:	6x SFP+
Fronthaul types:	OBSAI 6 Gbps, CPRI 9.8Gbps

Typical power consumption: 65 W

ASOC outdoor SM

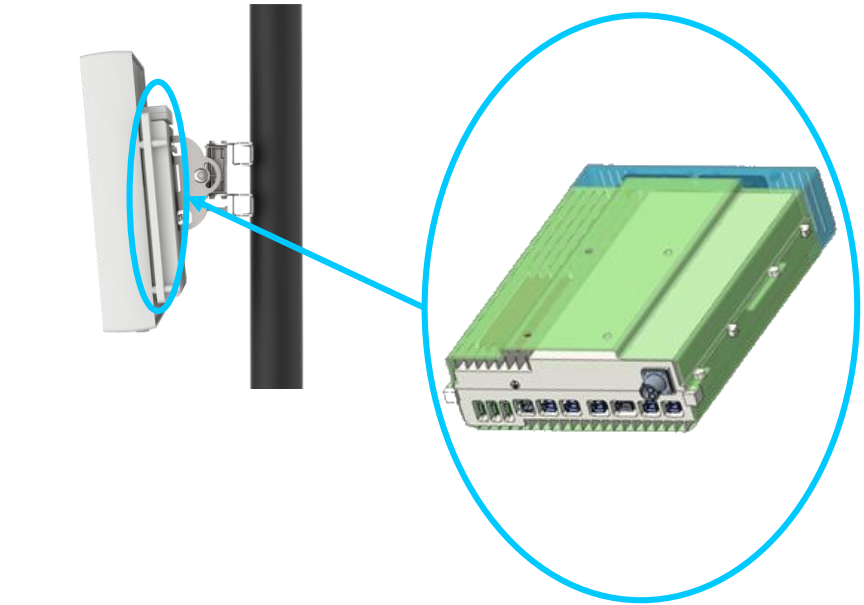
(1) Please refer to SW features for the full readiness of the functions
(2) (depending on Traffic Model)

RAP Add-On Baseband Module (ASOD)

Reduced fronthaul bandwidth and latency for 5G deployment

Radio Access Point (RAP) solution with ASOD+RU

- Cloud optimized solution. All-in-One in classical architecture
- Outdoor system module for 5G mMIMO eCPRI based Radios Units
- Small size: #9 liters - #9 Kg
- Baseband module fixed to radio module
- ASOD module communicates with RU via existing interfaces
- Capacity of one sector
- F1 interface directly to CU or backhaul
- Reduced site footprint
- Reduced bandwidth and latency requirements



Flexi Multiradio BTS System Modules – SW Support

Name	Module name	SW support	Comments
ESMB	Flexi EDGE 18 carrier System Module ESMB 472109A	GSM: RG10	End of delivery
ESMC	Flexi EDGE 36 carrier System Module ESMC 472059A	GSM: RG10	End of delivery
FSMC	Flexi Multimode System Module FSMC 471401A	WCDMA: RU20	End of delivery
FSMD	Flexi Multimode System Module FSMD 471402A	WCDMA: RU10 LTE: RL30	End of delivery
FSME	Flexi Multimode System Module FSME 471469A	WCDMA: RU10 LTE: RL10	End of delivery
FSMF	Flexi Multiradio 10 System Module Outdoor FSMF 472181A	GSM: RG30EP1 WCDMA: RU40 LTE: RL40 TDLTE: RL25 SRAN 16.2 MP1	
FBBA	Capacity Extension Sub-module FBBA 472182A	WCDMA: RU30/40 LTE: RL50 TDLTE: RL25 SRAN 16.2 MP1	
FBBC	Capacity Extension Sub-module FBBC 472797A	LTE: RL60 SRAN 16.2 MP1	
FSIH	Flexi Multiradio10 System Module Indoor FSIH 472567A	TDLTE: RL45	
FBIH	Capacity Extension Sub-module FBIH 472568A	TDLTE: RL45	

AirScale BTS System Modules – SW support

Name	Module name	Release	Comments
ASIA	ASIA AirScale Common 473095A	FDD-LTE 16A TD-LTE 16A SRAN 17A	
ASIK	ASIA AirScale Common 473095A	5G 18A	
ASIB	ASIB AirScale Common 473764A	LTE 19 SRAN 19 5G 19B	
ASIL	ASIL AirScale Common 474767A	5G 19B	
ABIA	ABIA AirScale Capacity 473096A	FDD-LTE 16A TD-LTE 16A SRAN 17A	
ABIC	ABIC AirScale Capacity 474723A	SRAN 19A LTE 19 (trial), LTE 19A 5G 19B	
ABIL	ABIL AirScale Capacity 474020A	5G 18A	
ASOC	ASOC AirScale Outdoor Core 474423A	LTE 19B	
ASOD	ASOD AirScale Outdoor Core DC 474911A	5G 19B	DC version
ASODA	ASODA AirScale Outdoor Core AC 475019A	5G 19B	AC version

AirScale BTS System Modules Subrack– SW support

Name	Module name	Release	Comments
AMIA	AMIA AirScale Indoor Subrack 473098A	FDD-LTE 16A TD-LTE 16A SRAN 17A 5G 18A	
AMOB	AMOB AirScale Outdoor Subrack 473952A	FDD-LTE 17A TD-LTE 17A SRAN 17A 5G 19	
AMOC	AMOC AirScale Outdoor Subrack 474262A	FDD-LTE 18A TD-LTE 18A SRAN 19	
AMOD	AMOD AirScale Outdoor Subrack 474930A	LTE 19A 5G 19B	
FCOB	FCOB Flexi Cabinet Outdoor 473240A	FDD-LTE 16A TD-LTE 16A SRAN 16.10	

Flexi and AirScale FDD-radios

RRH

Flexi RRH 2T2R
-10w

Flexi RRH 2T2R
-80w & 120W

Flexi RRH 4T4R
-120W & 160W

AirScale RRH
2T4R 120W
4T4R 160W

AirScale RRH
- 2T2R 120W RRH
- 4T4R 160w - 320w
- Multiband RRHs

RF Module

Flexi RFM 3T6R
-180W&240W

Flexi RFM 6T&R
-240W& 360w

AirScale RFM 6T6R
- 480W

RF in Antenna and all in one BTS

WCDMA/LTE
-Flexi Lite BTS
2 –pipe 20W)

Multiradio RAS Antenna + 1-3 radios

Massive MIMO Active Antenna MAA 16T16R

Compact Active Antenna

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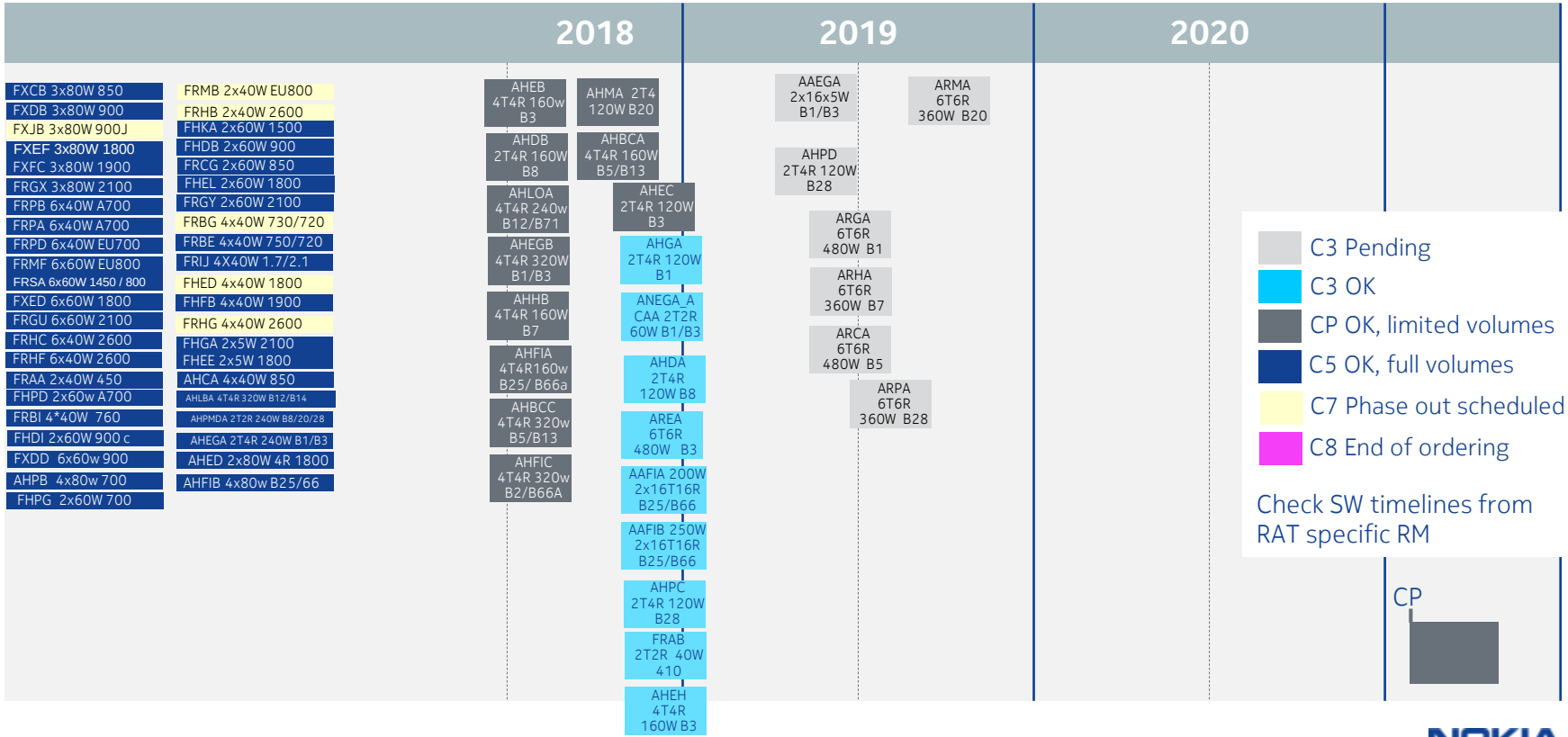
Flexi multiradio BTS and AirScale BTS FDD Radios

Hardware availability



Radios for FDD frequency bands

	band name		Uplink	Downlink	3*60W 3T6R	3*80W 3T6R	6*40W 6*60W 6T6R	6*80w 6T6R	2*40W 2T2R	2*60W 2*80W 2T2R	2*120w 2T4R	2*60W 2*80W 2T4R	4*30W 4*40W 4T4R	4*60W 4T4R	4*80W 4T4R	2*5W 2T2R	LITE 2T2R	CAA 2T2R	MAA 16T16R
1	2.1 GHz	2x60 MHz	1920-1980	2110-2170	*FRGP*	*FRGT* FRGX	FRGU	ARGA	*FRGQ*	FRGY	AHEGA	AHGA	FHGB		AHEGB	FHGA	FQGA	ANEGA_A	AAEGA
2	1900 MHz	2x60 MHz	1850-1910	1930-1990	*FXFA,B*	FXFC									AHFIC				
3	1800 MHz	2x75 MHz	1710-1785	1805-1880	*FXEA*	FXEB FXEE FXEF	FXED	AREA	FHEA	*FHEB FHEF* FHEL	AHEGA	AHED AHEC	FHED AHEB		AHEGB	FHEE		ANEGA_A	AAEGA
4	1.7/2.1 GHz	2x 45MHz	1710-1755	2110-2155	*FRIE*								*FRIG*						
5	850 MHz	2x25 MHz	824-849	869-894	*FXCA*	FXCB			*FHCA*	FRCG			AHCA AHBCA		AHBCC				
7	2.6 GHz	2x70 MHz	2500-2570	2620-2690	FRHA		FRHC/F		FRHB				*FRHD/E* FRHG AHHB						
8	900 MHz	2x35 MHz	880-915	925-960	*FXDA/J*	FXDB FXJB	FXDD		*FHDA*	FHDB FHDI		AHDA AHDB		AHPMDA					
9	1700 MHz	2x35 MHz	1749,9-1784,9	1844,9-1879,9	*FXEA*														
10	1.7/2.1 GHz	2x60 MHz	1710-1770	2110-2170	*FRIE*														
11	1500 MHz	2x25 MHz	1427,9-1452,9	1475,9-1500,9	*FRKA*					FHKA									
12	lower 700 MHz	2x16 MHz	699-715	729-745					FRLB				AHLBA	AHLOA					
13	Upper 700 MHz												AHBCA		AHBCC				
14	upper 700 MHz	2x10 MHz	788-798	758-768	*FRBB*								FRBI AHLBA						
17	lower 700 MHz	2x12 MHz	704-716	734-746					FRLB										
20	800 EU MHz	2x30 MHz	832-862	791-821	*FRMA/D*		*FRMC/E* FRMF		FRMB			AHMA		AHPMDA					
25	1900 MHz+5MHz	2x65 MHz	1850-1915	1930-1995									FHFB AHFIA				*FQFA*		AAFIA AAFIB
28	APT 700 MHz	2x45 MHz	703-748	758-803			FRPA FRPB FRPD ARPA			FHPD FHPG	AHPD AHPC			AHPMDA	AHPB				
12/29	B12+29:730/720	2x16 MHz 1X10 MHz	699-715	729-745& 718-728									FRBG		AHFIB				
31	450 MHz	2x5 MHz	452.5 - 457.5	462.5 - 467.5					FRAA										
20/32	800EU/1450	1x40 MHz 1X30 MHz	832- 862	1452-1490			FRSA												
B66	AWS ext	70+90MHz	1710-1780	2110-2200									FRIJ AHFIA		AHFIB AHFIC				AAFIA AAFIB
B71	600 USDD	35 MHz	617-652	663-698										AHLOA					

Flexi RFM 3T6R 180W and 240W

3 sector unit FXJB

Operator benefits

- Only one unit for 3 sector

Feature description

Radio characteristics
RF Output Power: 3x80W
- 3TX & 6RX, 6* 7/16 connectors
- full band iBW & oBW

Other characteristics
- Supported Technologies: GSM/WCDMA/FDD-LTE
- Optical Interface Type: 3* 6 Gb/s OBSAI
- Mount: Pole/Wall installation, Rooftop, Vertical Book/Stack mount

Dimensions:

19.3 liters, <25kg

IP 65. -35°C to +55°C

Flexi RFM 3T6R 180W

HW details and SW support

Name	Module name	SW Support	TX bandwidth*	RX bandwidth*	Obsai RP-3	Comments
FRBB	Flexi RF Module Triple 760 (FRBB) 472417A	LTE: RL30	TX:3x10 MHz	RX:5*10 MHz	3 x 3Gb	Band 14 Output power 3 x 40W
FRMA	Flexi RF Module Triple 800EU (FRMA) 472221A	LTE: RL10 SRAN 16.2MP2	3*TX: 20 MHz	6*RX: 20 MHz	3 x 3Gb	Band 20. full band A,B & C: (832-862 MHz & 791-821 MHz) MHz Output power 3 x 60W
FRMD	Flexi RF Module Triple 800EU (FRMD) 472625A	LTE: RL40	3*TX: 15 MHz	6*RX: 15 MHz	3 x 3Gb	Band 20. sub-band A & 0,5B (832-847MHz & 791-806 MHz) MHz Output power 3 x 60W
FRKA	Flexi RF Module Triple 1500 (FRKA) 472111A	WCDMA: RU20	3*TX: 10 MHz	6*RX: 10 MHz	3 x 3Gb	Band 11. Output power 3 x 60W
FRIE	Flexi RF Module Triple 1.7/2.1 (FRIE) 471895A	WCDMA: RU20 LTE: RL10 SRAN 16.10	3*TX: 20 MHz	6*RX: 20 MHz	3 x 3Gb	Band 10. Output power 3 x 60W
FRGP	Flexi RF Module Triple 2100 (FRGP) 472100A	WCDMA: RU20 LTE: RL10 SRAN 16.2	3*TX: 20 MHz	6*RX: 20 MHz	3 x 3Gb	Band 1. Output power 3 x 60W
FRHA	Flexi RF Module Triple 2600 (FRHA) 471894A	LTE: RL10 SRAN 16.2MP2	3*TX: 20 MHz	6*RX: 20 MHz	3 x 3Gb	Band 7. Output power 3 x 60W

*) Sliding frequency window over the whole operational band, all sectors can have different frequency window

Flexi RFM 3T6R 180W

HW details and SW support

Name	Module name	SW Support	TX bandwidth*	RX bandwidth*	OBSAI RP-3	Comments
FXCA	Flexi RF Module Triple 850 (FXCA) 472142A	GSM: RG10 WCDMA: RU20 LTE: RL20 SRAN 16.2	3*TX: 15 MHz	6*RX: 15 MHz	3 x 3Gb	Band 5&6.Covers also iDEN and Japanese 800 band Output power 3 x 60W HW in C7
FXDA	Flexi RF Module Triple 900 (FXDA) 472083A	GSM: RG10 WCDMA: RU20 LTE: RL50 SRAN 16.2	3*TX: 20 MHz	6*RX: 20 MHz	3 x 3Gb	Band 8. Full band filter window 880-915/925-960 MHz.Output power 3 x 60W HW in C8
FXDJ	Flexi RF Module Triple 900 (FXDJ) 472143A	GSM: RG10 WCDMA: RU30 SRAN 17A (MSR) LTE 18	3*TX: 12.5 MHz	6*RX: 12.5 MHz	3 x 3Gb	Band 8. Sub band (J-band) filter window 890-915/935-960 MHz Output power 3 x 60W
FXEA	Flexi RF Module Triple1800 (FXEA) 472084A	GSM: RG10 WCDMA: RU40 LTE: RL20 SRAN 16.2	3*TX: 25 MHz	6*RX: 30 MHz	3 x 3Gb	Band 3. Output power 3 x 60W
FXFA	Flexi RF Module Triple 1900 (FXFA) 472166A	GSM: RG10 WCDMA: RU20 LTE: RL40 SRAN 16.2	3*TX: 20 MHz	6*RX: 20 MHz	3 x 3Gb	Band 2. Output power 3 x 60W HW in C8
FXFB	Flexi RF Module Triple 1900 (FXFB) 472569A	GSM: RG20EP1 WCDMA: RU30 LTE: RL60 SRAN 16.2 MP1	3*TX: 20 MHz	6*RX: 20 MHz	3 x 3Gb	Band 2. Output power 3 x 60W. Include RET connector & DC feed OVP

*) Sliding frequency window over the whole operational band, all sectors can have different frequency window

Flexi RFM 3T6R 240W

HW details and SW support

Name	Module name	SW Support	TX bandwidth*	RX bandwidth*	OBSAI RP-3	Comments
FXCB	Flexi RF Module Triple 80W 850 (FXCB) 472678A	GSM: RG30 WCDMA: RU30EP2 LTE: RL60 SRAN 16.2	3*TX: 25 MHz	6*RX: 25 MHz	3 x 6 Gb	Band 5. Output power 3 x 80W
FXDB	Flexi RF Module Triple 80W 900 (FXDB) 472573A	GSM: RG20EP2 WCDMA: RU30EP2 LTE: RL50 SRAN 16.2	3*TX: 35 MHz	6*RX: 35 MHz	3 x 6 Gb	Band 8. Full band filter window 880-915/925-960 MHz Output power 3 x 80W
FXJB	Flexi RF Module Triple 80W 900 (FXJB) 472574A	GSM: RG40 WCDMA: RU50EP1 SRAN 17A for MSR LTE 18	3*TX: 25 MHz	6*RX: 25 MHz	3 x 6 Gb	Band 8. Sub band (J-band) filter window 890-915/935-960 MHz Output power 3 x 80W. >40dB rejection at 880 MHz
FXEB	Flexi RF Module Triple 80W 1800 (FXEB) 472501A	GSM: RG20EP2 LTE: RL40 SRAN 16.2	3*TX: 35 MHz	6*RX: 60 MHz	3 x 6 Gb	Band 3.Output power 3 x 80W (at RX div out connector: full 75MHz)
FXEE	Flexi RF Module Triple 80W 1800 (FXEE) 473223A	GSM: RG40 FDD-LTE 15A SRAN 16.2	3*TX: 75 MHz	6*RX: 60 MHz	3 x 6 Gb	Band 3.Output power 3 x 80W (at RX div out connector: full 75MHz)
FXEF	FXEF Flexi RFM 3-pipe 1800 240W F 473439A	GSM 16 FDD-LTE 16A SRAN 16.2 MP1	3*TX: 75 MHz	6*RX: 75MHz	3 x 6 Gb	Band 3.Output power 3 x 80W
FXFC	Flexi RF Module Triple 80W 1900 (FXFC) 472679A	GSM: RG30 WCDMA: RU30EP2 LTE: RL60 SRAN 16.2	3*TX: 35 MHz	6*RX: 60 MHz	3 x 6 Gb	Band 2. Output power 3 x 80W

*) Sliding frequency window over the whole operational band, all sectors can have different frequency window

Flexi RFM 3T6R 240W

HW details and SW support

Name	Module name	SW Support	TX bandwidth*	RX bandwidth*	OBSAI RP-3	Comments
FRGT	Flexi RF Module Triple 80W 2100 (FRGT) 472810A	WCDMA: RU30EP2 LTE RL50 SRAN 16.2	3*TX: 60 MHz	6*RX: 60 MHz	3 x 6 Gb	Band 1. Output power 3 x 80W
FRGX	FRGX Flexi RFM 3-pipe 2100 240W 473440A	WCDMA 16 (MP) LTE FDD 17A SRAN 16.10	3*TX: 60 MHz	6*RX: 60 MHz	3 x 6 Gb	Band 1. Output power 3 x 80W

Flexi RFM 6T6R B8 360W FXDD

High power 6T6R RFM for 900 MHz

Benefits for the operator

- Low site level TCO (1RFM) for 2x2 MIMO and also for 4x4 MIMO (2 RFMs)
- Fast LTE deployment and scalability to MIMO configurations
- Reduce footprint and OPEX for 6T6R configuration

Feature description

Radio characteristics

- RF Output Power: 6x60W
- 6TX & 6RX, 6* 7/16 connectors
- Band 8. TX: 925-960 MHz, RX: 880-915 MHz,
- Fullband iBW&oBW

Other characteristics

- Supported Technologies: GSM/WCDMA/FDD-LTE
- Supported System Module: FSMF, AirScale
- Optical Interface Type: 3* 6 Gb/s OBSAI
- Mount: Pole, Wall , Rooftop/Book Floor/Stack installation

Dimensions:

19.3 liters, <25 kg

IP 65. -35°C to +55°C

Flexi RFM 6T6R 240W

HW details and SW support

Name	Module name	SW Support	TX bandwidth*	RX bandwidth*	OBSAI RP-3	Comments
FRPA	Flexi RF Module 6*40W 700 (FRPA) 472703A	LTE: RL50 SRAN 16.2	6*TX: 35 MHz	6*RX: 35 MHz	3 x 6 Gb	Band 28 (703-738UL & 758-793 DL) Output power 6 x 40W
FRPB	Flexi RF Module 6*40W 700 (FRPB) 472752A	LTE: RL50 SRAN 16.2	6*TX: 30 MHz	6*RX: 30 MHz	3 x 6 Gb	Band 28 (718-748UL & 773-803 DL) Output power 6 x 40W
FRPD	Flexi RF Module 6*40W EU700 (FRPD) 473710A	FDD-LTE 16A 5G 19B	6*TX: 30 MHz	6*RX: 30 MHz	3 x 6 Gb	Band 28EU (703-733UL & 758-788 DL) Output power 6 x 40W
FRMC	Flexi RF Module 6*40W EU800 (FRMC) 472655A	LTE: RL50	6*TX: 20 MHz	6*RX: 20 MHz	3 x 6 Gb	Band 20, Sub-Band B&C (842-862 MHz & 801-821 MHz) Output power 6 x 40W
FRME	Flexi RF Module 6*40W EU800 (FRME) 472927A	FDD-LTE 15A SRAN 16.2	6*TX: 20 MHz	6*RX: 20 MHz	3 x 6 Gb	Band 20, Sub-Band A&B (832-852 MHz & 791-811 MHz) Output power 6 x 40W
FRHC	Flexi RF Module 6*40W 2600 (FRHC) 472656A	LTE: RL50 SRAN 16.2	6*TX: 40 MHz	6*RX: 40 MHz	3 x 6 Gb	Band 7. sub band: DL 2620-2675 MHz, UL 2500-2555 MHz Output power 6 x 40W
FRHF	Flexi RF Module 6*40W 2600 (FRHF) 472849A	LTE: RL50 SRAN 16.2	6*TX: 40 MHz	6*RX: 40 MHz	3 x 6 Gb	Band 7. sub band: DL 2640-2690 MHz, UL 2520-2570 MHz Output power 6 x 40W

*) Sliding frequency window over the whole operational band, all sectors can have different frequency window

NOKIA

Flexi RFM 6T6R 360W

HW details and SW support

Name	Module name	SW Support	TX bandwidth*	RX bandwidth*	OBSAI RP-3	Comments
FRMF	Flexi RF Module 6*60W 800 (FRMF) 472930A	FDD-LTE 16 SRAN 16.2	6*TX: 30 MHz	6*RX: 30 MHz	3 x 6 Gb	Band 20 (a+b+c blocks). Output power 6 x 60W
FXDD	FXDD Flexi RFM 6*60w 900 360W (FXDD) 473564A	FDD-LTE 18 SRAN 17A	6*TX: 35 MHz	6*RX: 35 MHz	3 x 6 Gb	Band 8. Output power 6 x 60W.
FRSA	FRSA Flexi RFM 6*60W 1450/800 (FRSA) 473400A	FDD-LTE 16A	6*TX: 40 MHz	6*RX: 30 MHz	3 x 6 Gb	Band 32&20. Output power 6 x 60W FRSA TX is 40 MHz for band 32 (1452 MHz-1490 MHz) and RX 30 MHz for Band 20 (832 MHz- 862 MHz).
FXED	Flexi RF Module 6*60W 1800 (FXED) 472924A	FDD-LTE 15 GSM 16 SRAN 16.2	6*TX: 60 MHz	6*RX: 60 MHz	3 x 6 Gb	Band 3. Output power 6 x 60W.
FRGU	Flexi RF Module 6*60W 2100 (FRGU) 472956A	FDD-LTE 16 WCDMA 16 SRAN 16.2	6*TX: 60 MHz	6*RX: 60 MHz	3 x 6 Gb	Band 1. Output power 6 x 60W

*) Sliding frequency window over the whole operational band, all sectors can have different frequency window

AirScale RFM 6T6R B3 480W AREA

High Power, Full band,3-sector LTE optimized solution for 1800 MHz

Benefits for the operator

- 1+1+1 & 2+2+2 2TX MIMO downlink with only one RF Module
- Lean Site solution
- Reduced Opex
- High RF OP

Feature description

Radio characteristics

- RF Output Power: 6x80W
- 6TX & 6RX
- Band 3: TX 1805 - 1880 MHz, RX 1710 – 1785 MHz
- Full band iBW & oBW
- 5G ready HW

Other characteristics

- Concurrent operation LTE and GSM defined by SW
- Supported System Module: FSMF, AirScale
- Optical Interface Type: 3* 9.8 Gb/s CPRI
- Mount: Pole/Wall installation, Rooftop, Vertical Book/Stack mount, rail

Target dimensions:

< 25Lliters, <25kg

IP 65. -35°C to +55°C

AirScale RFM 6T6R B1 480W ARGA

High Power, Full band,3-sector LTE optimized solution for 2100 MHz

Benefits for the operator

- 1+1+1 & 2+2+2 2TX MIMO downlink with only one RF Module
- Lean Site solution
- Reduced Opex
- High RF OP

Feature description

Radio characteristics

- RF Output Power: 6x80W
- 6TX & 6RX
- Band 1: TX 2110 - 2170 MHz, RX 1920 - 1980 MHz
- Full band iBW & oBW
- 5G ready HW

Other characteristics

- Concurrent operation LTE and WCDMA defined by SW
- Supported System Module: FSMF, AirScale
- Optical Interface Type: 3* 9.8 Gb/s CPRI
- Mount: Pole/Wall installation, Rooftop, Vertical Book/Stack mount, rail

Target dimensions:

< 25Lliters, <25kg

IP 65. -35°C to +55°C

AirScale RFM 6T6R B28 360W ARPA

High Power, Full band,3-sector LTE optimized solution for EU700 MHz

Benefits for the operator

- 1+1+1 & 2+2+2 2TX MIMO downlink with only one RF Module
- Lean Site solution
- Reduced Opex
- High RF OP

Feature description

Radio characteristics

- RF Output Power: 6x60W
- 6TX & 6RX
- Band 28: TX 758 - 788 MHz, RX 703 - 733 MHz
- Full band iBW & oBW
- 5G ready HW

Other characteristics

- Supported Technologies: FDD-LTE
- Supported System Module: FSMF, AirScale
- Optical Interface Type: 3* 9.8 Gb/s CPRI
- Mount: Pole/Wall installation, Rooftop, Vertical Book/Stack mount, rail

Target dimensions:

< 25Lliters, <25kg

IP 65. -35°C to +55°C

AirScale RFM 6T6R B20 360W ARMA

High Power, Full band,3-sector LTE optimized solution for EU800 MHz

Benefits for the operator

- 1+1+1 & 2+2+2 2TX MIMO downlink with only one RF Module
- Lean Site solution
- Reduced Opex
- High RF OP

Feature description

Radio characteristics

- RF Output Power: 6x60W
- 6TX & 6RX
- Band 20: TX 791 - 821 MHz, RX 832 - 862 MHz
- Full band iBW & oBW
- 5G ready HW

Other characteristics

- Supported Technologies: FDD-LTE
- Supported System Module: FSMF, AirScale
- Optical Interface Type: 3* 9.8 Gb/s CPRI
- Mount: Pole/Wall installation, Rooftop, Vertical Book/Stack mount, rail

Target dimensions:

< 25Lliters, <25kg

IP 65. -35°C to +55°C

AirScale RFM 6T6R B5 480W ARCA

High Power, Full band,3-sector LTE optimized solution for 850 MHz

Benefits for the operator

- 1+1+1 & 2+2+2 2TX MIMO downlink with only one RF Module
- Lean Site solution
- Reduced Opex
- High RF OP

Feature description

Radio characteristics

- RF Output Power: 6x80W
- 6TX & 6RX
- Band 5: TX 869 - 894 MHz, RX 824 - 849 MHz
- Full band iBW & oBW
- 5G ready HW

Other characteristics

- Concurrent operation LTE and GSM defined by SW
- Supported System Module: FSMF, AirScale
- Optical Interface Type: 3* 9.8 Gb/s CPRI
- Mount: Pole/Wall installation, Rooftop, Vertical Book/Stack mount, rail

Target dimensions:

< 25Lliters, <25kg

IP 65. -35°C to +55°C

AirScale RFM 6T6R B7 360W ARHA

High Power, Full band,3-sector LTE optimized solution for 2600 MHz

Benefits for the operator

- 1+1+1 & 2+2+2 2TX MIMO downlink with only one RF Module
- Lean Site solution
- Reduced Opex
- High RF OP

Feature description

Radio characteristics

- RF Output Power: 6x60W
- 6TX & 6RX
- Band 7: TX 2620 - 2690 MHz, RX 2500 - 2570 MHz
- Full band iBW & oBW
- 5G ready HW

Other characteristics

- Supported Technologies: FDD-LTE
- Supported System Module: FSMF, AirScale
- Optical Interface Type: 3* 9.8 Gb/s CPRI
- Mount: Pole/Wall installation, Rooftop, Vertical Book/Stack mount, rail

Target dimensions:

< 25Lliters, <25kg

IP 65. -35°C to +55°C

AirScale RFM 6T6R 360/480W

HW details and SW support

Name	Module name	SW Support	TX bandwidth	RX bandwidth	CPRI	Comments
AREA	AirScale RFM 6T6R B3 480W AREA 474198A	FDD-LTE 18A SRAN 18A	6*TX: 75 MHz	6*RX: 75 MHz	3* 9.8 Gb/s CPRI	Band 3 (1800): 6x80W. 4.3-10 connector
ARGA	AirScale RFM 6T6R B1 480W ARGA 474800A	LTE 19 SRAN 19	6*TX: 60 MHz	6*RX: 60 MHz	3* 9.8 Gb/s CPRI	Band 1 (2100): 6x80W. 4.3-10 connector
ARPA	AirScale RFM 6T6R B28 360W ARPA 474802A	LTE 19A	6*TX: 30 MHz	6*RX: 30 MHz	3* 9.8 Gb/s CPRI	Band 28 (EU700) TX 758 - 788 MHz, RX 703 - 733 MHz 6x60W. 4.3-10 connector
ARHA	AirScale RFM 6T6R B7 360W ARGA 474801A	LTE 19A	6*TX: 70 MHz	6*RX: 70 MHz	3* 9.8 Gb/s CPRI	Band 7 (2600): 6x60W. 4.3-10 connector
ARMA	AirScale RFM 6T6R B20 360W ARMA 474803A	LTE 19B	6*TX: 30 MHz	6*RX: 30 MHz	3* 9.8 Gb/s CPRI	Band 20 (EU800): 6x60W. 4.3-10 connector
ARCA	AirScale RFM 6T6R B5 480W ARCA 474841A	SRAN 19 LTE 19	6*TX: 25 MHz	6*RX: 25 MHz	3* 9.8 Gb/s CPRI	Band 5 (850): 6x80W. 4.3-10 connector

AirScale RRH 2T2R B8J 120W FHDI

Single band AirScale RRH solution for 900 MHz

Benefits for the operator

- Lean Site solution
- Reduced Opex
- Provides better interference rejection against adjacent 850 band

Feature description

Radio characteristics

- RF Output Power: 2x60W
- 2TX & 2RX, 2* 4.3-10 connectors
- Band 8 (top 25MHz): TX 935-960 MHz, RX 890-915 MHz,
- Fullband iBW&oBW

Other characteristics

- Supported Technologies: GSM/WCDMA/FDD-LTE
- Supported System Module: FSMF, AirScale
- Optical Interface Type: 2* 6 Gb/s OBSAI
- Mount: Wall, Pole, Book Mounting, RAS

Dimensions:

12.5 liters, 12.5 kg

IP65 -40°C to +55°C

AirScale RRH 2T2R 700 120W FHPG

Single band AirScale RRH solution for 700 MHz

Benefits for the operator

- Lean Site solution
- Reduced Opex

Feature description

Radio characteristics

- RF Output Power: 2x60W
- 2TX & 2RX, 2* 4.3-10 connectors
- Sub-Band 28: TX 773 – 783 MHz, RX 718 – 728 MHz,
- Fullband iBW&oBW

Other characteristics

- Supported Technologies: FDD-LTE
- Supported System Module: FSMF, AirScale
- Optical Interface Type: 2* 6 Gb/s OBSAI
- Mount: Wall, Pole, Book Mounting, RAS

Dimensions:

12.5 liters, 12.5 kg

IP65 -40°C to +55°C

FRAB AirScale RRH 2T2R 410 40W

Single band AirScale RRH solution for 410 MHz

Benefits for the operator

- Lean Site solution
- Reduced Opex

Feature description

Radio characteristics

- RF Output Power: 2x20W
- 2TX & 2RX, 2* 4.3-10 connectors
- Band 126 (non-3GPP): TX 420 – 425 MHz, RX 410 - 415 MHz,
- Fullband iBW&oBW

Other characteristics

- Supported Technologies: FDD-LTE
- Supported System Module: FSMF
- Optical Interface Type: 2* 6 Gb/s OBSAI
- Mount: Wall, Pole, Book Mounting

Dimensions:

15 liters, 16 kg

IP65 -40°C to +55°C

Flexi RRH 2T2R 60W/80W

HW details and SW support

Name	Module name	SW Support	TX bandwidth*	RX bandwidth*	OBSAI RP-3	Comments
FRAA	Flexi RRH 2TX 450 80W A (FRAA) 473220A	FDD-LTE 16 SRAN 17A	TX: 5+5 MHz	2*RX: 5 MHz	2 x 6 Gb	band 31. RX: 452.5 - 457.5 MHz TX: 462.5 - 467.5 MHz 40W+40W. 4.3-10 connector
FRLB	Flexi RRH 2TX/2RX 730 (FRLB) 472180A	LTE: RL20 SRAN 16.2	TX: 16+16 MHz	2*RX: 16 MHz	2 x 3 Gb	Band 12+17. TX:729-745 MHz & RX 699-715 MHz. 30W+30W
FRMB	Flexi RRH 2TX/2RX 800EU (FRMB) 472291A	LTE: RL10 SRAN 16.2	TX: 20+20 MHz	2*RX: 20 MHz	2 x 3 Gb	Band 20. 40+40 W
FHCA	Flexi RRH 2TX/2RX 850 (FHCA) 472169A	LTE: RL30	TX: 15+15 MHz	2*RX: 15 MHz	2 x 6 Gb	Band 5. 20+20 W
FHDA	Flexi RRH 2TX/2RX 900 (FHDA) 472132A	GSM: RG10 WCDMA: RU30 SRAN 16.2	V.1:TX: 25+25 MHz V.2: TX: 30+30 MHz	2*RX: 35 MHz	2 x 3 Gb	Band 8. 40+40 W . HW in C8
FHEA	Flexi RRH 2TX/2RX 1800 (FHEA) 472168A	GSM: RG20 LTE: RL20 SRAN 16.2	TX: 25+25 MHz	2*RX: 40 MHz	2 x 3 Gb	Band 3. 40+40 W. HW in C8
FRGQ	Flexi RRH 2TX/2RX 2100 (FRGQ) 472261A	WCDMA: RU20 LTE: RL30 SRAN 16.2	TX: 20+20 MHz	2*RX: 60MHz	2 x 3 Gb	Band 1. 40+40 W. HW in C7
FRHB	Flexi RRH 2TX/2RX 2600 (FRHB) 472292A	LTE: RL30 SRAN 16.2	TX: 20+20 MHz	2*RX: 20 MHz	2 x 3 Gb	Band 7. 40+40 W

*) Sliding frequency window over the whole operational band, all sectors can have different frequency window

Flexi RRH 2T2R 120W

HW details and SW support

Name	Module name	SW Support	TX bandwidth*	RX bandwidth*	OBSAI RP-3	Comments
FHPD	Flexi RRH 2T/2R A700 120W (FHPD) 473821A	FDD-LTE 17A SRAN 17A	TX:45+45 MHz**	2 * RX: 45 MHz	2 x 6 Gb	Band 28. 60+60 W
FRCG	Flexi RRH 2TX/2RX 850 (FRCG) 473224A	FDD-LTE 15A WCDMA 16	TX: 25+25 MHz	2 * RX: 25 MHz	2 x 6 Gb	Band 5. 60+60 W 4.3-10 connector.
FHDB	Flexi RRH 2TX/2RX 900 (FHDB) 472649A	GSM: RG30 WCDMA: RU40 LTE: RL40 SRAN 16.2	TX: 35+35 MHz	2 * RX: 35 MHz	2 x 6 Gb	Band 8. 60+60 W
FHKA	AirScale RRH 2T2R B11 120W FHKA 473838A	FDD-LTE 16A	TX: 20+20 MHz	2 * RX: 20 MHz		band 11. RX 1427.9 – 1447.9 MHz,TX 1475.9 – 1495.9 MHz 60+60w. 4.3-10 connector.
FHEB	Flexi RRH 2TX/2RX 1800 (FHEB) 472650A	GSM: RG30 LTE: RL50 SRAN 16.2 5G 19B	TX: 40+40 MHz**	2 * RX: 60 MHz	2 x 6 Gb	Band 3. 60+60 W
FHEF	Flexi RRH 2TX/2RX 1800 (FHEF) 473043A	GSM: RG40 SRAN 16.2	TX: 25+25MHz**	2 * RX: 25 MHz	2 x 6 Gb	Sub-Band 3. 1805-1860&1710-1765MHz. 60+60 W
FRGY	Flexi RRH 2TX/2RX 2100 (FRGY) 472854A	WCDMA: RU50EP1 FDD-LTE 15 SRAN 16.2	TX: 60+60 MHz	2 * RX: 60 MHz	2 x 6 Gb	Band 1. 60+60 W

*) Sliding frequency window over the whole operational band, all sectors can have different frequency window

**) with GSM 35 MHz

AirScale RRH 2T2R 120W

HW details and SW support

Name	Module name	SW Support	TX bandwidth	RX bandwidth	OBSAI RP-3/ CIPRI	Comments
FHDI	AirScale RRH 2T2R 900J 120W FHDI 473825A	FDD-LTE 18 SRAN 17A	TX: 25+25 MHz	2 * RX: 25 MHz	2 x 6 Gb	Band 8, 900J: RX 890 – 915 MHz, TX 935 – 960 MHz. 60+60 W 4.3-10 connector
FHEL	AirScale RRH 2T2R B3 120W FHEL 473475A	FDD-LTE 16A SRAN 16.10 GSM 16	TX: 75+75 MHz	2 * RX: 75 MHz	2 x 6 Gb	Band 3 (1800). 60+60 W 4.3-10 connector
FHPG	FHPG AirScale RRH 2T2R 700 120W 474407A	FDD-LTE 18	TX: 10+10 MHz	2 * RX: 10 MHz	2 x 6 Gb	B28 subband (A700): TX 773 – 783 MHz, RX 718 – 728 . 60+60W. 4.3-10 connector
FRAB	FRAB Flexi RRH 2T2R 450 40W 474383A	FDD-LTE 18A	TX: 5+5 MHz	2*RX: 5 MHz	2 x 6 Gb	band 126 (non-3GPP). RX: 410 - 415 MHz TX: 420 - 425 MHz 20W+20W. 4.3-10 connector

AirScale RRH 2T4R B3 160W AHED

Single band AirScale RRH solution for 1800 MHz

Benefits for the operator

- Lean Site solution
- Reduced Opex
- PIM cancellation
- CPRI support
- No external filters required to handle transmitter spurious emission and blocking

Feature description

Radio characteristics

- RF Output Power: 2x80W
- 2TX & 4RX. 4* 4.3-10 connectors
- Band 3 (top 55MHz): TX 1825-1880 MHz, RX 1730-1785 MHz
- Fullband iBW&oBW
- 5G ready HW

Other characteristics

- Supported Technologies: GSM/FDD-LTE
- Supported System Module: FSMF, AirScale SM
- Optical Interface Type: 2* 9.8 Gb/s CPRI with compression
- Mount: Wall, Pole, Book, RAS, horizontal with Fan

Target dimensions:

12.2 liters, 12.8 kg

IP65, -40 to +55 °C

AirScale RRH 2T4R B8 120W AHDB

Single band AirScale RRH solution for 900 MHz

Benefits for the operator

- Lean Site solution
- Reduced Opex
- PIM cancellation
- CPRI support
- No external filters required to handle transmitter spurious emission and blocking

Feature description

Radio characteristics

- RF Output Power: 2x60W
- 2TX & 4RX. 4* 4.3-10 connectors
- Band 8 (top 26 MHz): TX 934-960 MHz, RX 889-915 MHz
- Fullband iBW&oBW
- 5G ready

Other characteristics

- Supported Technologies: GSM/WCDMA/FDD-LTE
- Supported System Module: FSMF, AirScale SM
- Optical Interface Type: 2* 9.8 Gb/s CPRI with compression
- Mount: Wall, Pole, Book, RAS, horizontal with Fan

Target dimensions:

12.2 liters, 12.8 kg

IP65, -40 to +55 °C

AirScale RRH 2T4R B20 120W AHMA

Single band AirScale RRH solution for EU800

Benefits for the operator

- Lean Site solution
- Reduced Opex
- PIM cancellation
- CPRI support
- No external filters required to handle transmitter spurious emission and blocking

Feature description

Radio characteristics

- RF Output Power: 2x60W
- 2TX & 4RX. 4* 4.3-10 connectors
- Band 20: TX 791 - 821 MHz, RX 832 - 862 MHz
- Fullband iBW&oBW
- 5G ready HW

Other characteristics

- Supported Technologies: FDD-LTE
- Supported System Module: FSMF, AirScale SM
- Optical Interface Type: 2* 9.8 Gb/s CPRI with compression
- Mount: Wall, Pole, Book, RAS, horizontal with Fan

Target dimensions:

12.2 liters, 12.8 kg

IP65, -40 to +55 °C

AirScale RRH 2T4R B8 120W AHDA

Single band AirScale RRH solution for 900 MHz

Benefits for the operator

- Lean Site solution
- Reduced Opex
- PIM cancellation
- CPRI support
- No external filters required to handle transmitter spurious emission and blocking

Feature description

Radio characteristics

- RF Output Power: 2x60W
- 2TX & 4RX. 4* 4.3-10 connectors
- Band 8: TX 925 - 960 MHz, RX 880 - 915 MHz
- Fullband iBW&oBW
- 5G ready HW

Other characteristics

- Supported Technologies: GSM/WCDMA/FDD-LTE
- Supported System Module: FSMF, AirScale SM
- Optical Interface Type: 2* 9.8 Gb/s CPRI with compression
- Mount: Wall, Pole, Book, RAS, horizontal with Fan

Target dimensions:

12.2 liters, 12.8 kg

IP65, -40 to +55 °C

AirScale RRH 2T4R B3 120W AHEC

Single band AirScale RRH solution for 1800 MHz sub-band

Benefits for the operator

- Lean Site solution
- Reduced Opex
- PIM cancellation
- CPRI support
- No external filters required to handle transmitter spurious emission and blocking

Feature description

Radio Characteristics

- RF Output Power: 2x60W
- 2TX & 4RX. 4* 4.3-10 connectors
- Band 3 (Bottom 55MHz): TX 1805 - 1860 MHz, RX 1710 - 1765MHz
- Fullband iBW&oBW
- 5G ready

Other characteristics

- Supported Technologies: GSM/FDD-LTE
- Supported System Module: FSMF, AirScale SM
- Optical Interface Type: 2* 9.8 Gb/s CPRI with compression
- Mount: Wall, Pole, Book, RAS, horizontal with Fan

Target dimensions:

12.2 liters, 12.8 kg

IP65, -40 to +55 °C

AirScale RRH 2T4R B1 120W AHGA

Single band AirScale RRH solution for 2100 MHz

Benefits for the operator

- Lean Site solution
- Reduced Opex
- PIM cancellation
- CPRI support
- No external filters required to handle transmitter spurious emission and blocking

Feature description

Radio characteristics

- RF Output Power: 2x60W
- 2TX & 4RX. 4* 4.3-10 connectors
- Band 1: TX 2110 - 2170 MHz, RX 1920 - 1980MHz
- Fullband iBW&oBW
- 5G ready HW

Other characteristics

- Supported Technologies: WCDMA/FDD-LTE
- Supported System Module: FSMF, AirScale SM
- Optical Interface Type: 2* 9.8 Gb/s CPRI with compression
- Mount: Wall, Pole, Book, RAS, horizontal with Fan

Target dimensions:

12.2 liters, 12.8 kg

IP65, -40 to +55 °C

AirScale RRH 2T4R B28 120W AHPD

Single band AirScale RRH solution for 700 MHz

Benefits for the operator

- Lean Site solution
- Reduced Opex
- PIM cancellation
- CPRI support

Feature description

Radio Characteristics (Preliminary values)

- RF Output Power: 2x60W
- 2TX & 4RX, 4* 4.3-10 connectors
- Band 28: TX 758-788 MHz, RX 703-733 MHz
- Fullband iBW&oBW
- 5G ready

Other characteristics

- Supported Technologies: FDD-LTE
- Supported System Module: FSMF, AirScale SM
- Optical Interface Type: 2* 9.8 Gb/s CPRI with compression
- Mount: Wall, Pole, Book, RAS, horizontal with Fan

Target dimensions:

12.2 liters, 12.8 kg

IP65, -40 to +55 °C

AirScale RRH 2T4R B28 120W AHPC

Full band AirScale RRH solution for 700 MHz

Benefits for the operator

- Lean Site solution
- Reduced Opex
- PIM cancellation
- CPRI support

Feature description

Radio Characteristics (Preliminary values)

- RF Output Power: 2x60W
- 2TX & 4RX, 4* 4.3-10 connectors
- Band 28: TX 758-803 MHz, RX 703-748 MHz
- Fullband iBW&oBW
- 5G ready

Other characteristics

- Supported Technologies: FDD-LTE
- Supported System Module: FSMF, AirScale SM
- Optical Interface Type: 2* 9.8 Gb/s CPRI with compression
- Mount: Wall, Pole, Book, RAS, horizontal with Fan

Target dimensions:

12.4 liters, 13.6 kg

IP65, -40 to +55 °C

Flexi and AirScale RRH 2T4R 120W and 160W

HW details and SW support

Name	Module name	SW Support	TX bandwidth	RX bandwidth	CIPRI	Comments
FRCJ	FRCJ Flexi RRH 2T4R 873 120W 473818A	FDD-LTE 16A	TX: 11+11 MHz	4 * RX: 11 MHz	2 x 2.45 Gb CPRI	Band 26b: RX 824 – 835 MHz TX 869 – 880 MHz. 2x60W. 4.3-10 connector.
AHDB	AHDB AirScale RRH 2T4R B8 120W 474257A	SRAN 18 SP FDD-LTE 18 5G 19	TX: 26+26 MHz	4 * RX: 26 MHz	2 x 9.8 Gb/s + compress	Band 8 subband (900). Rx : 889-915 MHz. TX : 934-960 MHz. 2x60 W. 4.3-10 connector
AHED	AHED AirScale RRH 2T4R B3 160W 473807A	FDD-LTE 18 SRAN 18 SP	TX: 55+55 MHz	4 * RX: 55 MHz	2 x 9.8 Gb/s + compress	Band 3 subband (1800). RX 1730 - 1785 MHz. TX 1825 - 1880 MHz. 2x80 W. 4.3-10 connector
AHMA	AirScale RRH 2T4R B20 120W AHMA 474255A	FDD-LTE 18SP	TX: 30+30 MHz	4 * RX: 30 MHz	2 x 9.8 Gb/s + compress	B20 (EU800). 2x60W. 4.3-10 connector
AHDA	AirScale RRH 2T4R B8 120W AHDA 474060A	FDD-LTE 18A SRAN 18A	TX: 35+35 MHz	4 * RX: 35 MHz	2 x 9.8 Gb/s + compress	B8 (900): 2x60W. 4.3-10 connector
AHEC	AirScale RRH 2T4R B3 120W AHEC 473806A	FDD-LTE 18A 5G 19	TX: 55+55 MHz	4 * RX: 55 MHz	2 x 9.8 Gb/s + compress	B3 subband (1800):TX 1805 - 1860 MHz, RX 1710 - 1765MHz 2x60W. 4.3-10 connector
AHGA	AirScale RRH 2T4R B1 120W AHGA 474254A	FDD-LTE 18A SRAN 19	TX: 60+60 MHz	4 * RX: 60 MHz	2 x 9.8 Gb/s + compress	B1 (2100) 2x60W. 4.3-10 connector
AHPD	AirScale RRH 2T4R B28 120W AHPD 474712A	LTE 19 5G 19	2 * TX:30 MHz	4 * RX: 30 MHz	2 x 9.8 Gb/s + compress	band 28 (700 suband) TX 758-788 MHz, RX 703-733 MHz. 2x60w. 4.3-10 connector

Flexi and AirScale RRH 2T4R 120W and 160W

HW details and SW support

Name	Module name	SW Support	TX bandwidth	RX bandwidth	CIPRI	Comments
AHPC	AirScale RRH 2T4R B28 120W AHPC 474649A	FDD-LTE 18A	2 * TX:45 MHz	4 * RX: 45 MHz	2 x 9.8 Gb/s + compress	band 28 TX 758-803 MHz, RX 703-748 MHz. 2x60w. 4.3-10 connector

AirScale RRH 4T4R B66 160W FRIJ

SBTS support Multiradio RRH for AWS-3 band

Benefits for the operator

- Improved Book Mount design
- Optimized for Single Sector deployment with 4TX MIMO

Feature description

Radio characteristics

- RF Output Power: 4x40W
- 4TX & 4RX:, 4* 4.3-10 connectors
- Band 4 + new AWS extensions (AWS-3 + AWS-4)
- TX 2110-2200 MHz, RX 1710-1780 MHz
- Full band iBW
- oBW 40 MHz:

Other characteristics

- Supported Technologies: WCDMA/FDD-LTE
- Supported System Module: FSMF, AirScale
- Optical Interface Type: 3* 6 Gb/s OBSAI
- Mount: Wall, Pole, Book, RAS, horizontal with Fan

Dimensions:

18.5 liters, 20.4 kg

IP65. -40°C to +55°C

AirScale RRH 4T4R B3 160W AHEB

Single band AirScale RRH solution for 1800 MHz

Benefits for the operator

- Lean Site solution
- Reduced Opex
- PIM cancellation
- CPRI support

Feature description

Radio characteristics

- RF Output Power: 4x40W
- 4TX & 4RX, 4* 4.3-10 connectors
- Band 3: TX1805-1880 MHz, RX 1710-1785 MHz
- Fullband iBW&oBW
- 5G HW

Other characteristics

- Supported Technologies: GSM/FDD-LTE
- Supported System Module: FSMF, AirScale SM
- Optical Interface Type: 2* 9.8 Gb/s CPRI with compression
- Mount: Wall, Pole, Book, RAS, horizontal with Fan

Target dimensions:

13.9 liters, 13.5 kg

IP65, -40 to +55 °C

NOKIA

AirScale RRH 4T4R B5 160W AHCA

Fullband, SW Definable Radio for 850 MHz

Benefits for the operator

- Extended occupied bandwidth
- New carrier configurations possible
- Compact size
- PIM cancellation
- Reduced Opex
- Flexible mounting options
- Lean Site solution

Feature description

Radio characteristics

- RF Output Power: 4x40W
- 4TX & 4RX. 4* 4.3-10 connectors
- Band 5: TX 869 – 894 MHz, RX 824 – 849 MHz
- Fullband iBW&oBW
- 5G ready

Other characteristics

- Supported Technologies: FDD-LTE
- Supported System Module: FSMF, AirScale SM
- Optical Interface Type: 2 * 9.8 Gb/s CPRI with compression
- Mount: Wall, Pole, Book, horizontal with Fan

Dimensions:

16.4 liters, 16.7 kg

IP65. -40°C to +55°C*

NOKIA

AirScale RRH 4T4R B7 160W AHHB

Single band AirScale RRH solution for 2600 MHz

Benefits for the operator

- Lean Site solution
- Reduced Opex
- PIM cancellation
- CPRI support

Feature description

Radio Characteristics

- RF Output Power: 4x40W
- 4TX & 4RX, 4* 4.3-10 connectors
- Band 7: TX 2620-2690 MHz, RX: 2500-2570 MHz
- Fullband iBW&oBW
- 5G ready HW

Other characteristics

- Supported Technologies: FDD-LTE
- Supported System Module: FSMF, AirScale SM
- Optical Interface Type: 2* 9.8 Gb/s CPRI with compression
- Mount: Wall, Pole, Book, RAS, horizontal with Fan

Target dimensions:

13.9 liters, 13.5 kg

IP65, -40 to +55 °C

AirScale RRH 4T4R B3 160W AHEH

Single band AirScale RRH solution for 1800 MHz

Benefits for the operator

- Lean Site solution
- Reduced Opex
- PIM cancellation
- CPRI support

Feature description

Radio Characteristics

- RF Output Power: 4x40W
- 4TX & 4RX, 4* 4.3-10 connectors
- Sub-band 3: TX1805-1860 MHz, RX 1710-1765 MHz
- Fullband iBW&oBW
- 5G ready HW

Other characteristics

- Supported Technologies: FDD-LTE
- Supported System Module: FSMF, AirScale SM
- Optical Interface Type: 2* 9.8 Gb/s CPRI with compression
- Mount: Wall, Pole, Book, RAS, horizontal with Fan

Target dimensions:

13.9 liters, <15 kg

IP65, -40 to +55 °C

NOKIA

AirScale RRH 4T4R B28 320W AHPB

Single band AirScale RRH solution for 700 MHz

Benefits for the operator

- Lean Site solution
- Reduced Opex
- PIM cancellation
- CPRI support

Feature description

Radio characteristics (Preliminary values)

- RF Output Power: 4x80W
- 4TX & 4RX. 4* 4.3-10 connectors
- Band 28 : TX 758 - 803 MHz, RX 703 - 748 MHz
- Fullband iBW&oBW
- 5G HW

Other characteristics
- Supported Technologies: FDD-LTE
- Supported System Module: AirScale SM
- Optical Interface Type: 2* 9.8 Gb/s CPRI with compression
- Mount: Wall, Pole, Book, horizontal with Fan

Target dimensions:

<23 liters, <24 kg

IP65. -40°C to +55°C

NOKIA

Flexi RRH 4T4R 120W

HW details and SW support

Name	Module name	SW Support	TX bandwidth*	RX bandwidth*	OBSAI RP-3	Comments
FRIG	FRIG Flexi RRH 4TX/4RX 1.7/2.1120W 472704A	LTE: RL40 SRAN 16.10	4 * TX: 45 MHz	4 * RX: 45 MHz	3 x 6 Gb	Band 4. 4x30W or 2x60W
FHGB	FHGB Flexi RRH 4TX/4RX 2100 120W 473102A	LTE 15A SRAN 17A	4 * TX: 20 MHz	4 * RX: 20 MHz	2 x 6 Gb	Band 1 sub band: RX 1920 - 1940 MHz, TX: 2110 - 2130 MHz 4x30W
FRHD	FRHD Flexi RRH 4TX/4RX 2600 120W 472746A	LTE: RL50 SRAN 16.2	4 * TX: 40 MHz	4 * RX: 40 MHz	3 x 6 Gb	Band 7 sub band : TX 2640-2690 MHz, & RX 2520-2570MHz) 4x30W
FRHE	FRHE Flexi RRH 4TX/4RX 2600 120W 472830A	LTE: RL50 SRAN 16.2	4 * TX: 40 MHz	4 * RX: 40 MHz	3 x 6 Gb	Band 7 sub band: TX 2620-2675 MHz & RX 2500-2555 MHz) 4x30W

*) Sliding frequency window over the whole operational band, all sectors can have different frequency window

Flexi RRH 4T4R 160W

HW details and SW support

Name	Module name	SW Support	TX bandwidth	RX bandwidth	OBSAI RP-3/ CIPRI	Comments
FHFB	FHFB Flexi RRH 4TR 1900 473042A	FDD-LTE15 WCDMA 16 SRAN 16.10/ SRAN MRS 18A	4 * TX: 65 MHz	4 * RX: 65 MHz	3 x 6 Gb	Band 25.(1900+5 4 x 40W
FHED	Flexi RRH 4TX/4RX 1800 472829A	FDD-LTE 16 SRAN 16.2MP1/ SRAN MRS 18 SP	4 * TX: 65 MHz	4 * RX: 65 MHz	3 x 6 Gb	Band 3 (1800).4x40W . 4.3-10 connector
FRHG	FRHG Flexi RRH 4T4R 2600 160W 473225A	FDD-LTE 16 SRAN 16.2	4 * TX: 65 MHz	4 * RX: 65 MHz	3 x 6 Gb	Band 7 (2600).4x40W. 4.3-10 connector.
FRBI	FRBI Flexi RRH 4-pipe 760 160W 474045A	FDD LTE 17A	4 * TX: 10 MHz	4 * RX: 10 MHz	2 x 2.45 Gb CPRI	Band 14 (upper 700): 4x40w. 4.3-10 connector.

AirScale RRH 4T4R 160W

HW details and SW support

Name	Module name	SW Support	TX bandwidth	RX bandwidth	OBSAI RP-3/ CIPRI	Comments
FRIJ	FRIJ AirScale RRH 4T4R B66 160W 473368A	FDD-LTE 16A WCDMA 16 (MP) SRAN 18 SP	4 * TX: 90 MHz	4 * RX: 70 MHz	3 x 6 Gb	Band 66 (AWS ext.).4x40W. 4.3-10 connector.
AHEB	AHEB AirScale RRH 4T4R B3 160W 473484A	FDD-LTE 18 SRAN 18 SP 5G 19B	4 * TX: 75 MHz	4 * RX: 75 MHz	2 x 9.8 Gb/s + compress	Band 3 (1800).4x40W . 4.3-10 connector
AHEH	AHEH AirScale RRH 4T4R B3 160W 474253A	FDD-LTE 18A	4 * TX: 55MHz	4 * RX: 55 MHz	2 x 9.8 Gb/s + compress	Sub-band 3: TX1805-1860 MHz, RX 1710-1765 MHz.4x40W. 4.3-10 connector
AHCA	AHCA AirScale RRH 4T4R B5 160W, 473966A	FDD-LTE 17A 5G 19	4 * TX: 25 MHz	4 * RX: 25 MHz	2 x 9.8 Gb/s + compress	band 5 (850). 4x40w. 4.3-10 connector
AHHB	AHHB AirScale RRH 4T4R B7 160W, 474252A	FDD-LTE 17ASP1 PnP, full FDD-LTE 18	4 * TX:70 MHz	4 * RX: 70 MHz	2 x 9.8 Gb/s + compress	band 7(2600). 4x40w. 4.3-10 connector

AirScale 4T4R 320W RRH

HW details and SW support

Name	Module name	SW Support	TX bandwidth	RX bandwidth	CPRI	Comments
AHPB	AHPB AirScale RRH 4T4R B28 320W 474119A	FDD-LTE 17A SP1 5G 19B	4 * TX: 45 MHz	4 * RX: 45 MHz	2 x 9.8 Gb/s + compress	Band 28. 4x 80w 4.3-10 connector

AirScale Dual RRH 2T4R B1/3 240W AHEGA

Multiradio Dual band RRH for 1800 and 2100 MHz

Benefits for the operator

- Lean Site solution
- Reduced Opex
- Dual PIM cancellation
- CPRI support
- Power sharing across bands

Feature description

Radio characteristics

- RF Output Power: 2x60W per band. With power pool 2x80W per band
- 2TX & 4RX for B1, 2TX & 4RX for B3. 4* 4.3-10 connectors
- Band 1: TX 2110 - 2170 MHz, RX 1920 - 1980 ,
- Band 3: TX 1805 - 1880 MHz, RX 1710 - 1785 MHz
- Fullband iBW (WCDMA/LTE)
- oBW: Full Band in 2TX/2RX mode, 40MHz in 2TX/4RX mode
- 5G ready HW

Other characteristics

- Supported Technologies: B1(WCDMA/FDD-LTE), B3(GSM/FDD-LTE)
- Supported System Module: FSMF, AirScale SM
- Optical Interface Type: 2* 9.8 Gb/s CPRI with compression
- Mount: Wall, Pole, Book, RAS, horizontal with Fan

Target dimensions:

<21 liters, <25 kg ,

IP65 -40°C to +55°C

NOKIA

AirScale Dual RRH 4T4R B25/B66 320W AHFIB

Dual-band AirScale RRH solution for B25/66 band

Benefits for the operator

- Lean Site solution
- Reduced Opex
- Dual PIM cancellation
- CPRI support

Feature description

Radio characteristics

- RF Output Power: 4x40W per band.
- 4TX & 4RX for both band B25 & B66, 4* 4.3-10 connector
- Band 25: TX 1930 – 1995 MHz, RX 1850 – 1915 MHz
- Band 66: TX 2110 – 2200 MHz, RX 1710 – 1780 MHz
- Full band iBW
- oBW: B25 fullband. B66: 80 MHz
- 5G ready

Other characteristics

- Supported Technologies: B25(GSM/WCDMA/FDD-LTE), B66(WCDMA/FDD-LTE)
- Supported System Module: FSMF, AirScale SM
- Optical Interface Type 2* 9.8 Gb/s CPRI with compression
- Mount: Wall, Pole, Book, horizontal with Fan

Target dimensions:
<26 liters, <30 kg

IP65, -40 to +55 °C

NOKIA

AirScale Dual RRH 4T4R B25/B66a 160W AHFIA

Dual-band AirScale RRH solution for B25/66 band

Benefits for the operator

- Lean Site solution
- Reduced Opex
- Dual PIM cancellation
- CPRI support
- Power sharing across bands

Feature description

Radio characteristics

- RF Output Power: 4x40W. Dynamic power sharing between B25 and B66a
- 4TX & 4RX for both band B25 & B66a, 4* 4.3-10 connector
- Band 25:TX 1930 – 1995 MHz, RX 1850 – 1915 MHz
- Band 66a: TX 2110 – 2180 MHz, RX 1710 – 1780 MHz
- Full band iBW&oBW
- 5G ready HW

Other characteristics

- Supported Technologies: B25(GSM/WCDMA/FDD-LTE), B66(WCDMA/FDD-LTE)
- Supported System Module: FSMF, AirScale SM
- Optical Interface Type 2* 9.8 Gb/s CPRI with compression
- Mount: Wall, Pole, Book, horizontal with Fan. Fits inside a NYC shroud

Target dimensions:

22.3 liters, 28 kg

IP65, -40 to +55 °C

NOKIA

AirScale Dual RRH 4T4R B2/B66a 320W AHFIC

Dual-band AirScale RRH solution for B2/66a band

Benefits for the operator

- Lean Site solution
- Reduced Opex
- Dual PIM cancellation
- CPRI support
- Power sharing across bands

Feature description

Radio characteristics

- RF Output Power: Max output power B66a: 4x60W and B2: 4x40W.
- Max power of 80 W per TX pair between B2 and B66a
- 4TX & 4RX for both band B2 & B66a, 8* 4.3-10 connector
- Band 2: TX 1930 – 1990 MHz, RX 1850 – 1910 MHz
- Band 66a: TX 2110 – 2180 MHz, RX 1710 – 1780 MHz
- Full band iBW & oBW
- 5G ready HW

Other characteristics

- Supported Technologies: FDD-LTE
- Supported System Module: AirScale SM
- Optical Interface Type 2* 9.8 Gb/s CPRI with compression
- Mount: Wall, Pole, Book, horizontal with Fan

Target dimensions:

<32 liters, <36 kg

IP65, -40 to +55 °C

NOKIA

AirScale Dual RRH 4T4R B1/3 320W AHEGB

Multiradio Dual band RRH for band 1800 and 2100 MHz

Benefits for the operator

- Lean Site solution
- Reduced Opex
- Dual PIM cancellation
- CPRI support

Feature description

Radio characteristics

- RF Output Power: 4x40W per band.
- 4TX & 4RX for B1 and B3. 4* 4.3-10 connectors
- Band 1: TX 2110 - 2170 MHz, RX 1920 - 1980 MHz
- Band 3: TX 1805 - 1880 MHz, RX 1710 - 1785 MHz
- Full band iBW&oBW (WCDMA/LTE)
- 5G ready HW

Other characteristics

- Supported Technologies: B1(WCDMA/FDD-LTE), B3(GSM/FDD-LTE)
- Supported System Module: FSMF, AirScale SM
- Optical Interface Type: 2* 9.8 Gb/s CPRI with compression
- Mount: Wall, Pole, Book, RAS, horizontal with Fan

Target dimensions:

<26 liters, <30 kg ,

IP65 -40°C to +55°C

NOKIA

AirScale2 Dual RRH 4T4R B1/3 400W AHEGC

Boost output power available to 2100MHz (60MHz IBW) and 1800MHz (75MHz IBW)

Benefits for the operator

- Lean Site solution
- Flexible allocation of 4x60W to B1 or B3
- Dual PIM cancellation
- Integrated fan for flexible growth to maximum output power
- CPRI support

Feature description

Radio characteristics

- RF Output Power: up to 4x60W for either band, 4x100W total
- 4TX & 4RX for B1 and B3. 4* 4.3-10 connectors
- Band 1: TX 2110 - 2170 MHz, RX 1920 - 1980 MHz
- Band 3: TX 1805 - 1880 MHz, RX 1710 - 1785 MHz
- Full band iBW&oBW (WCDMA/LTE)
- 5G ready HW
- Active cooling

Other characteristics

- Supported Technologies: B1(WCDMA/FDD-LTE), B3(GSM/FDD-LTE)
- Supported System Module: FSMF, AirScale SM
- Optical Interface Type: 2* 9.8 Gb/s CPRI with compression
- Mount: Wall, Pole, Book, Horizontal

Target dimensions:

<26 liters, <30 kg ,

IP65 -40°C to +55°C

AirScale Dual RRH 4T4R B12/14 320W AHLBA

Multiradio Dual band RRH for band 12 and band 14

Benefits for the operator

- Optimized for dual band / single sector deployment 4TX MIMO
- PIM cancellation
- Reduced Opex
- Flexible mounting options
- Lean Site solution
- Power sharing across bands

Feature description

Radio characteristics

- RF Output Power: 4x80W. Dynamic power sharing between B12 and B14
- 4TX & 4RX for both band B12 & B14, 4* 4.3-10 connector
- Band 12: TX 729 – 745 MHz, RX 699 – 715 MHz
- Band 14: TX 758 – 768 MHz, RX 788 – 798 MHz
- Fullband iBW & oBW
- 5G ready HW

Other characteristics

- Supported Technologies: FDD-LTE
- Supported System Module: AirScale SM
- Optical Interface Type: 2 * 9.8 Gb/s CPRI with compression
- Mount: Wall, Pole, Book, horizontal with Fan

Target dimensions:

<31 liters, <35 kg

IP65. -40°C to +55°C

NOKIA

AirScale Dual RRH 4T4R B5/13 160W AHBCA

Multiradio Dual band RRH for band 5 and band 13

Benefits for the operator

- Optimized for dual band / single sector deployment 4TX MIMO
- PIM cancellation
- Reduced Opex
- Flexible mounting options
- Lean Site solution
- Power sharing across bands

Feature description

Radio characteristics

- RF Output Power: 4x40W. Dynamic power sharing between B5 and B13
- 4TX & 4RX for both band B5 & B13, 4* 4.3-10 connector
- Band 5: TX 869 - 894 MHz, RX 824 - 849 MHz
- Band 13: TX 746 – 756 MHz, RX 777 – 787 MHz
- Fullband iBW & oBW
- 5G HW

Other characteristics

- Supported Technologies: FDD-LTE
- Supported System Module: AirScale SM
- Optical Interface Type: 2 * 9.8 Gb/s CPRI with compression
- Mount: Wall, Pole, Book, Horizontal with Fan

Target dimensions:

<28 liters, <33 kg

IP65. -40°C to +55°C

NOKIA

AirScale Dual RRH 4T4R B5/13 320W AHBCC

Multiradio Dual band RRH for band 5 and band 13

Benefits for the operator

- Optimized for dual band / single sector deployment 4TX MIMO
- PIM cancellation
- Reduced Opex
- Flexible mounting options
- Lean Site solution

Feature description

Radio characteristics

- RF Output Power: 4x40W per band.
- 4TX & 4RX for both band B5 & B13, 4* 4.3-10 connector
- Band 5: TX 869 - 894 MHz, RX 824 - 849 MHz
- Band 13: TX 746 – 756 MHz, RX 777 – 787 MHz
- NB IOT: TX 756- 757 MHz, RX 776 - 777 MHz
- Fullband iBW & oBW
- 5G HW

Other characteristics

- Supported Technologies: FDD-LTE
- Supported System Module: AirScale SM
- Optical Interface Type: 2 * 9.8 Gb/s CPRI with compression
- Mount: Wall, Pole, Book, Horizontal with Fan

Target dimensions:

<33 liters, <38 kg

IP65. -40°C to +55°C

AirScale Dual RRH 4T4R B12/71 240W AHLOA

Multiradio Dual band RRH for band 12 and band 71

Benefits for the operator

- Optimized for dual band / single sector deployment 4TX MIMO
- PIM cancellation
- Reduced Opex
- Flexible mounting options
- Lean Site
- Power sharing across bands

Feature description

Radio characteristics

- RF Output Power: 4x60W. Dynamic power sharing between B12 and B71
- 4TX & 4RX for both band B12 & B71, 4* 4.3-10 connector
- Band 12: TX 729 - 746 MHz, RX 699 -716 MHz
- Band 71: TX 617 - 652 MHz, RX 663 -698 MHz
- Fullband iBW & oBW
- 5G ready

Other characteristics

- Supported Technologies: FDD-LTE
- Supported System Module: FSMF, AirScale SM
- Optical Interface Type: 2 * 9.8 Gb/s CPRI with compression
- Mount: Wall, Pole, Book, Horizontal with Fan

Target dimensions:

32.6 liters, 38 kg

IP65. -40°C to +55°C

Flexi RRH dual band 2T2R RRH 160W

HW details and SW support

Name	Module name	SW Support	TX bandwidth	RX bandwidth	OBSAI RP-3	Comments
FRBE	FRBE Flexi RRH 2T2R/2T 700 473111A	FDD-LTE 15A SRAN 17A	2 * TX: 10 MHz 2 * TX: 10 MHz	2 * RX: 10 MHz	3 x 6 Gb	BC13 UL : 777-787 MHz , DL: 746-756 MHz BC29 DL: 718 - 728 8 MHz 4*40W
FRBG	Flexi RRH 2T2R 730 /2T 760 473188A	FDD-LTE 15A SRAN 17A	2 * TX: 16 MHz 2 * TX: 10 MHz	2 * RX: 16 MHz	3 x 6 Gb	BC12 UL : 699-715 MHz , DL: 729-745 MHz BC29 DL: 718-728 MHz 4*40W

AirScale dual band 2T4R RRH 240W and 4T4R 320W

HW details and SW support

Name	Module name	SW Support	TX bandwidth	RX bandwidth	CPRI	Comments
AHEGA	AHEGA AirScale Dual RRH 2T4R B1/3 240W, 473995A	FDD-LTE 18 SRAN 18 SP	2 * TX: 75 MHz 2 * TX: 60 MHz	4 * RX: 75 MHz 4 * RX: 60 MHz	2 x 9.8 Gb/s + compress	B1 (2100) & B3(1800). 4.3-10 connector
AHEGB	AHEGB AirScale Dual RRH 4T4R B1/3 320W, 474090A	FDD-LTE 18 SRAN 18 SP	4 * TX: 75 MHz 4 * TX: 60 MHz	4 * RX: 75 MHz 4 * RX: 60 MHz	2 x 9.8 Gb/s + compress	B1 (2100) & B3(1800): 4.3-10 connector
AHEGC	AHEGC AirScale Dual RRH 4T4R B1/3 400W, 474914A	SRAN 19A	4 * TX: 75 MHz 4 * TX: 60 MHz	4 * RX: 75 MHz 4 * RX: 60 MHz	2 x 9.8 Gb/s + compress	B1 (2100) & B3(1800): 4.3-10 connector
AHLBA	AHLBA AirScale Dual RRH 4T4R B12/14 320W, 474240A	FDD-LTE 18	4 * TX: 16 MHz 4 * TX: 10 MHz	4 * RX: 16 MHz 4 * RX: 10 MHz	2 x 9.8 Gb/s + compress	Band 12: TX 729–745 MHz, RX 699-715 MHz Band 14: TX 758–768 MHz, RX 788 - 798 MHz. 4.3-10 connector
AHFIB	AHFIB AirScale Dual RRH 4T4R B25/B66 320W, 474216A	FDD-LTE 17A SP1 SRAN 18 SP 5G 19	4 * TX: 65 MHz 4 * TX: 80 MHz	4 * RX: 65 MHz 4 * RX: 80 MHz	2 x 9.8 Gb/s + compress	B25&66: 4.3-10 connector
AHBCA	AirScale Dual RRH 4T4R B5/13 160W AHBCA, 474241A	FDD-LTE 18SP 5G 19B	4 * TX: 25 MHz 4 * TX: 10 MHz	4 * RX: 25 MHz 4 * RX: 10 MHz	2 x 9.8 Gb/s + compress	B5 (850) TX 869 – 894MHz RX: B5: 824 – 849MHz B13 TX : 746 – 756 MHz , RX: 777 – 787 MHz. 4x80w, 4.3-10 connector

AirScale dual band 2T4R RRH 240W and 4T4R 320W

HW details and SW support

Name	Module name	SW Support	TX bandwidth	RX bandwidth	CPRI	Comments
AHLOA	AirScale Dual RRH 4T4R B12/71 240W 474331A	FDD-LTE 18 5G 19	4 * TX: 17 MHz 4 * TX: 35 MHz	4 * RX: 17 MHz 4 * RX: 35 MHz	2 x 9.8 Gb/s + compress	Band 12: TX 729 - 746 MHz, RX 699 - 716 MHz, Band 71: TX 617 – 652 MHz, RX 663 – 698 MHz. (Support also Band 17: TX 734 - 746 MHzRX 704 - 716 MHz,) 4.3-10 connector
AHBCC	AirScale Dual RRH 4T4R B5/13 320W AHBCC 474341A	FDD-LTE 18 5G 19B	4 * TX: 25 MHz 4 * TX: 10 MHz	4 * RX: 25 MHz 4 * RX: 10 MHz	2 x 9.8 Gb/s + compress	Band 5: TX 869 MHz – 894 MHz, RX 824 MHz – 849 MHz - Band 13: TX 746 MHz – 756 MHz, RX 777 MHz – 787 MHz. 4.3-10 connector
AHFIC	AirScale Dual RRH 4T4R B2/66a 320W AHFIC 474239A	FDD-LTE 18	4 * TX: 60 MHz 4 * TX: 70 MHz	4 * RX: 60 MHz 4 * RX: 70 MHz	2 x 9.8 Gb/s + compress	Band 2: TX 1930 MHz – 1990 MHz, RX 1850 MHz – 1910 MHz, - Band 66a: TX 2110 MHz – 2180 MHz, RX 1710 MHz – 1780 MHz. 4.3-10 connector
AHFIA	AHFIA AirScale Dual RRH 4T4R B25/66 160W	FDD-LTE 18	4 * TX: 65 MHz 4 * TX: 70 MHz	4 * RX: 65 MHz 4 * RX: 70 MHz	2 x 9.8 Gb/s + compress	Band 25:TX 1930 – 1995 MHz, RX 1850 – 1915 MHz Band 66a: TX 2110 – 2180 MHz, RX 1710 – 1780 MHz. 4.3-10 connector

AirScale RRH 2T2R B8/20/28 240W AHPMDA

3 band (700/800/900) radio for compact site solutions

Benefits for the operator

- Lean Site solution
- Reduced Opex
- Multiband PIM cancellation
- CPRI support
- Power sharing across bands

Feature description

Radio characteristics

- RF Output Power: 2x120W. Dynamic power sharing between B8, B20 and B28
- 2TX & 2RX for B20/28, 2TX & 2RX for B8, 4* 4.3-10 connectors
- Band 8: TX 925 – 960 MHz, RX 880 – 915 MHz
- Band 20: TX 791 – 821 MHz, RX 832 – 862 MHz
- Band 28: TX 758 – 788 MHz, RX 703 – 733 MHz
- Fullband iBW
- oBW 80 MHz per RRH
- 5G

Other characteristics

- Supported Technologies: B20/28(FDD-LTE), B8(GSM/WCDMA/FDD-LTE)
- Supported System Module: FSMF, AirScale SM
- Optical Interface Type: 2* 9.8 Gb/s CPRI with compression
- Mount: Wall, Pole, Book, RAS, horizontal with Fan

Target dimensions:

<21 liters, <24 kg

IP65. -40°C to +55°C

NOKIA

AirScale multiband 2T2R RRH 240W

HW details and SW support

Name	Module name	SW Support	TX bandwidth	RX bandwidth	CIPRI	Comments
AHPMDA	AHPMDA AirScale RRH 2T2R B8/20/28 240W 473997A	FDD-LTE 18 SRAN 18 SP 5G 19B	2 * TX: 35 MHz 2 * TX: 30 MHz 2 * TX: 30 MHz	2 * RX: 35 MHz 2 * RX: 30 MHz 2 * RX: 30 MHz	2 x 9.8 Gb/s + compress	B 8 (900): 2TX/2RX B 20 (EU800) & 28 (A700): 2TX/2RX 2*120W, both 120w power can be shared dynamically 4.3-10 connector

ANEGA_A AirScale Dual CAA 2T2R B1/B3 60W

Compact active antenna solution for 1800 and 2100 MHz

Benefits for the operator

- Compact and high performance dual-band active antenna
- Fully integrated Dual-Band Radio unit and Wideband Antenna
- Cable-less integration for maximal performance and efficiency
- Enhanced site TCO
- Minimal footprint with single-point mounting

Feature description

Radio characteristics

- RF Output Power: 2x2x12W
- 2TX & 2RX
- Band 1: TX 2110 - 2170 MHz, RX 1920 - 1980 MHz
- Band 3: TX 1805-1880 MHz, RX 1710 – 1785 MHz
- iBW and oBW Full band/Band
- Support for 256 QAM
- Antenna gain average 16 dBi
- Cross-polarized with 65 degree horizontal beam width
- 5G ready HW

Other characteristics

- Supported Technologies: LTE FDD, WCDMA
- Supported System Module: FSMF/ AirScale
- Optical Interface Type: 2 * 9.8 Gb/s CPRI with compression
- Mount: pole, Wall

AirScale CAA

HW details and SW support

Name	Module name	SW Support	TX bandwidth	RX bandwidth	CIPRI	Comments
ANEGA_A	ANEGA_A AirScale Dual CAA 2T2R B1/B3 60W474393A	FDD-LTE 18A SRAN 18A	2 * TX: 60 MHz 2 * TX: 75 MHz	4 * RX: 60 MHz 4 * RX: 75 MHz	2 x 9.8 Gb/s + compress	– B1 (2100) & B3 (1800). 2*2*12W.

AAFIA AirScale Dual MAA 16T16R n25/n66 200W

5GC000766

FDD mMIMO active antenna solution for bands 25 and 66

Radio and Antenna Characteristics

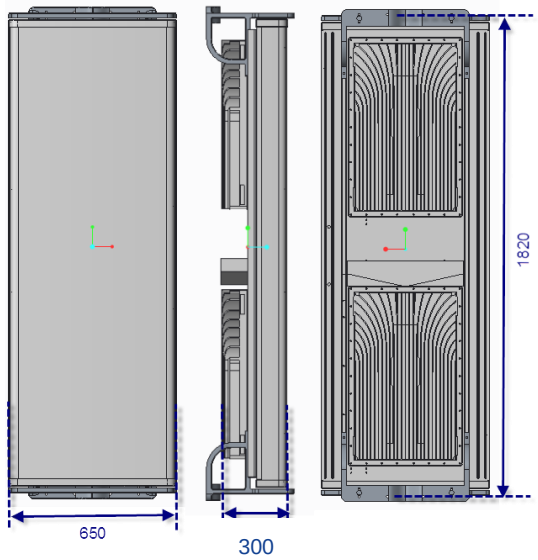
- Supported 3GPP TDD bands
  - n25: UL 1850 MHz - 1915 MHz ; DL 1930 MHz – 1995 MHz (AAFB)
  - n66: UL 1710 MHz – 1780 MHz; DL 2110 MHz – 2200 MHz (AAIB)
- Integrated antenna with eight +/-45 degree cross polarized columns shared by both bands
- Antenna gain with beamforming in use: 23 dBi
- 8 MiMo Layers are supported on total 16 Tx/Rx path per band:
- Max occupied BW: 40 MHz for each band
- Max output power per band:
  - 100 W for Band n25
  - 100 W for Band n66

NR feature support

- DL modulation schemes up to QAM1024
- UL modulation schemes up to QAM64
- NR carrier bandwidths supported: 5, 10, 15, 20 MHz

Others Characteristics

- Supported Technologies: 5G NR and concurrent operation with LTE TDD
- Optical Interface Type: 4* SFP+ slot, 2 dedicated for each band supporting 9.8 Gbps CPRI
- Natural convection cooling
- Mount: Wall, Pole



dimensions:
1820 x 650 x 300mm
115 kg
IP65. -40°C to +55°C

AAFIB AirScale Dual MAA 16T16R B25/66 250W

FDD mMIMO active antenna solution for bands 25 and 66 with reduced width

Radio and Antenna Characteristics

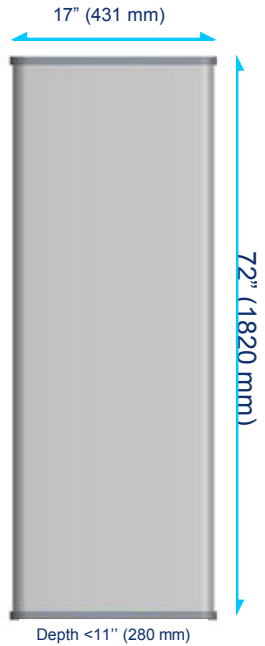
- Supported 3GPP TDD bands
  - n25: UL 1850 MHz - 1915 MHz ; DL 1930 MHz – 1995 MHz (AAFB)
  - n66: UL 1710 MHz – 1780 MHz; DL 2110 MHz – 2200 MHz (AAIC)
- Integrated antenna with two sub-panels of four +/-45 degree cross polarized columns shared by both bands
- Antenna gain with beamforming in use: 18 dBi
- 8 MiMo Layers are supported on total 16 Tx/Rx path per band:
- Max occupied BW: 40 MHz for each band
- Max output power per band:
  - 100 W for Band n25
  - 150 W for Band n66

NR feature support

- DL modulation schemes up to QAM1024
- UL modulation schemes up to QAM64
- NR carrier bandwidths supported: 5, 10, 15, 20 MHz

Others Characteristics

- Supported Technologies: 5G NR and concurrent operation with LTE TDD
- Optical Interface Type: 4* SFP+ slot, 2 dedicated for each band supporting 9.8 Gbps CPRI
- Natural convection cooling
- Mount: Wall, Pole



dimensions:
1820 x 431 x 280 mm
107 kg
IP65. -40°C to +55°C

AirScale Dual MAA 16T16R B1/3 160W AAEGA

FDD mMIMO active antenna solution for 1800 and 2100 MHz

Benefits for the operator

- AAEGA is dualband 16TRX massive MIMO active antenna solution

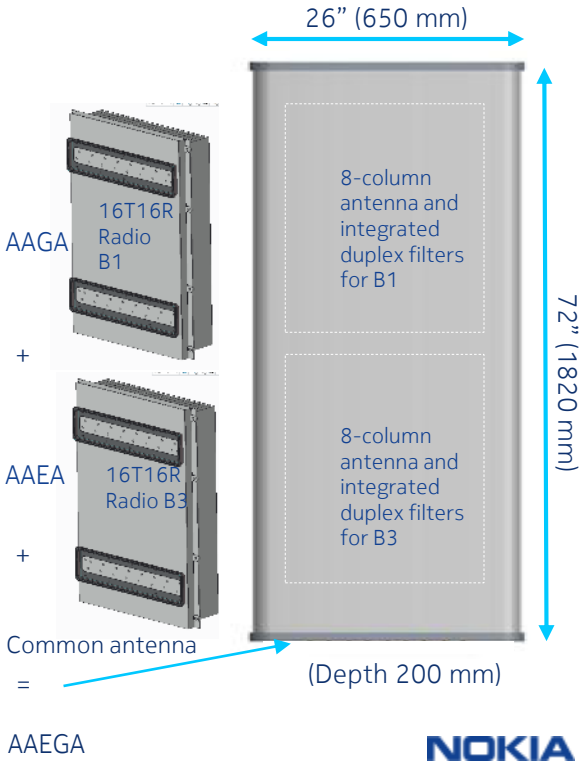
Feature description

Radio characteristics

- RF Output Power: 16x5W
- 16TX & 16RX
- Band 1: TX 2110 – 2170 MHz, RX 1920 - 1980 MHz (AAGA)
- Band 3: TX 1805 - 1880 MHz, RX 1710 - 1785 MHz (AAEA)
- iBW Fullband
- oBW 40 MHz/band
- Support for 256 QAM
- Antenna gain is 20dBi and Column gain 15 dBi (tbd).
- Horizontal 3dB Beamwidth (degrees) 65°.
- Polarization is X-pol +45°/–45°. Horizontal steering Range +30°/–30° and Vertical Tilting Range 3°....6°.
- 5G ready HW

Other characteristics

- Supported Technologies: LTE FDD, 5G NR, 5G NR + LTE FDD RF Sharing
- Supported System Module: AirScale
- Optical Interface Type: 2x 2 * 9.8 Gb/s CPRI
- Mount: pole



AirScale MAA

HW details and SW support

Name	Module name	SW Support	TX bandwidth	RX bandwidth	CIPRI	Comments
AAFIA	AirScale Dual MAA 16T16R B25/66 200W AAFIA 474486A	FDD-LTE 18SP (trial) FDD-LTE 18A 5G 19B				Common frame for AAFB&AAIB
AAFB	AAFB Airscale MAA 16T16R B25 100W		16 * TX: 65 MHz	16 * RX: 65 MHz	2 x 9.8 Gb/s	Band 25 (1900+5MHz): 16*6.3W. Part of AAFIA
AAIB	AAIB Airscale MAA 16T16R B66 100W		16 * TX: 70 MHz	16 * RX: 70 MHz	2 x 9.8 Gb	Band 66 (AWS ext.): 16*6.3W. Part of AAFIA
AAFIB	AirScale Dual MAA 16T16R B25/66 250W AAFIB 474706A	FDD-LTE 18A 5G 19B				Common frame for AAFB&AAIB
AAFB	AAFB Airscale MAA 16T16R B25 100W		16 * TX: 65 MHz	16 * RX: 65 MHz	2 x 9.8 Gb/s	Band 25 (1900+5MHz): 16*6.3W. Part of AAFIA
AAIC	AAIB Airscale MAA 16T16R B66 150W		16 * TX: 70 MHz	16 * RX: 70 MHz	2 x 9.8 Gb	Band 66 (AWS ext.): 16*9.4W. Part of AAFIA
AAEGA	AirScale Dual MAA 16T16R B1/3 160W AAEGA 474654A	LTE 19 (trial) LTE 19				Common frame for AAGA&AAEA
AAGA	AAGA Airscale MAA 16T16R B1 80W		16 * TX: 60 MHz	16 * RX: 60 MHz	2 x 9.8 Gb/s	Band 1 (2100): 16*5W. Part of AAEGA
AAEA	AAGA Airscale MAA 16T16R B3 80W		16 * TX: 75 MHz	16 * RX: 75 MHz	2 x 9.8 Gb/	Band 3 (1800): 16*5W. Part of AAEGA

Flexi RRH 2T2R B1 10W FHGA

SBTS support for Low Power RRH for 2100 MHz

Benefits for the operator

- Better Solution for indoor coverage for small cell
- Re-use LTE Metro-RRH solution for LTE-WCDMA RF Sharing

Feature description

Radio characteristics

- RF Output Power: 2x5W
- 2TX & 2RX, 2* 4.3-10 connectors
- Band 1: TX 2110 – 2170 MHz, RX 1920 – 1980 MHz
- Fullband iBW & oBW 40 MHz

Other characteristics

- Supported Technologies: WCDMA/FDD-LTE
- Supported System Module: FSMF, AirScale
- Optical Interface Type: 3*6 Gb/s OBSAI
- Mount: Wall, Pole, Book, horizontal with Fan

Dimensions:

4.2 liters, 5kg

IP 65. -40°C to +55°C

Flexi RRH 2T2R 10W

HW details and SW support

Name	Module name	SW Support	TX bandwidth	RX bandwidth	OBSAI RP-3	Comments
FHEE	FHEE Flexi Metro RRH 2-pipe 1800 10W E 473032A	FDD-LTE 16 SRAN 17A	2 * TX: 60 MHz	2 * RX: 60 MHz	2 x 6 Gb	Band 3 (1800). 5W+5W. 4.3-10 connector. AC- feed
FHGA	FHGA Flexi Metro RRH 2-pipe 2100 10W A 473033A	FDD-LTE 15 SRAN 17A	2 * TX: 60 MHz	2 * RX: 60 MHz	2 x 6 Gb	Band 1. (2100) 5W+5W. 4.3-10 connector. AC- feed

Flexi Lite BTS 2T2R 10W and 2T2R 20W

Overview

Compact micro BTS for coverage and capacity enhancements

- Flexi Lite output power range:
  - Flexi Lite 2100: 2 x 250mW up to 2 x 10W output power
  - Flexi Lite 1900: 2 x 250mW up to 2 x 5W output power
- Flexi Lite weight & volume characterizes:
  - Flexi Lite 2100: Weight 11Kg, Volume 10L
  - Flexi Lite 1900: Weight 12,5Kg, Volume 12,5L
- Common characterizes for Flexi Lite variants:
- MIMO support
- AC power feed
- Fan cooled
- IP transport with Ethernet is supported

Indoors and outdoors

Flexi Lite BTS 2T2R 10W and 2T2R 20W

HW details and SW support

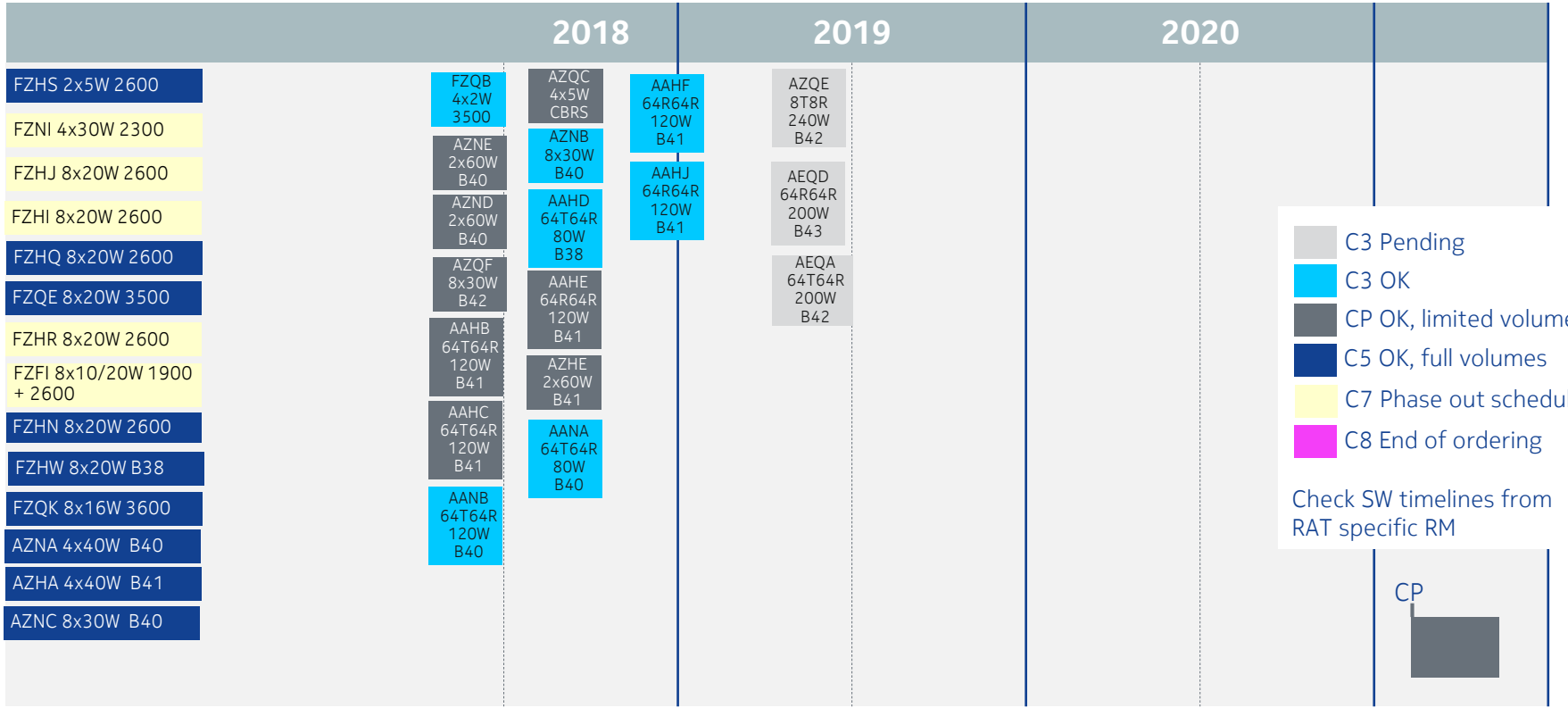
Name	Module name	SW Support	TX bandwidth*	RX bandwidth*	Comments
FQFA	Flexi Lite BTS 1900 (FQFA) 472751A	WCDMA: RU50EP1	TX: 20+20 MHz	RX: 40 MHz	Band 2. (1900) 5+5 W
FQGA	Flexi Lite BTS 2100 (FQGA) 472467A	WCDMA: RU40	TX: 20 +20 MHz	RX: 40 MHz	Band 1. (2100) 10+10 W

*) Sliding frequency window over the whole operational band, all sectors can have different frequency window

TD-LTE

Flexi multiradio BTS and AirScale BTS TD-LTE Radios

Hardware availability



Flexi RRH 8T8R 2600 160W FZHN

High Power 8T8R Beamforming Capable Full-BD41 RRH

Benefits for the operator

- Beamform support
- Split mode to enable 2x60MHz oBW
- RET

Feature description

Radio characteristics (Preliminary values)

- RF Output Power: 8x20W
- 8TX/RX
- Band 41: TX/RX 2496-2690MHz
- oBW/iBW 8T8R 60MHz or 2x4T4R 120MHz in split-mode

Other characteristics

- Supported System Module: FSMF, FSIH, AirScale
- Optical Interface Type: 2 x 9.8 Gb/s CPRI with compression
- Mount: Pole/Wall/tower/rooftop installation
- Natural convection cooling
- -48DVC

Dimensions:
19.9L, 20.5kg
IP 65. -40°C to +55°C

Flexi RRH 8T8R 2600 160W FZHR

High Power 8T8R Beamforming Capable China BD41 RRH

Benefits for the operator
- Beamform support
- RET

Feature description
Radio characteristics (Preliminary values)
- RF Output Power: 8x20W
- 8TX/RX
- Band 41: TX/RX 2575-2635MHz
- oBW/iBW 60MHz

Other characteristics
- Supported System Module: FSIH, AirScale
- Optical Interface Type: 2 x 9.8 Gb/s CPRI with compression
- Mount: Pole/Wall/tower/rooftop installation
- Natural convection cooling
- -48DVC

Dimensions:
18.9L, 19.5kg
IP 65. -40°C to +55°C

Flexi RRH 8T8R 3600 128W FZQK

8T8R Beamforming Capable BD43 RRH

Benefits for the operator
- Beamforming support
- RET

Feature description
Radio characteristics
- RF Output Power: 8x16W
- 8TX/RX
- Band 43: TX/RX subband 3600-3700 MHz
- oBW/iBW 60 MHz

Other characteristics
- Supported System Module: FSIH, AirScale
- Optical Interface Type: 2 x 9.8 Gb/s CPRI with compression
- Mount: Pole/Wall/tower/rooftop installation
- Natural convection cooling
- -48DVC

Dimensions:
23.8L, 22 kg
IP 65. -40°C to +55°C

Flexi RRH 8T8R 3500 160W FZQC

High Power 8T8R Beamforming Capable BD42 RRH

Benefits for the operator

- Japan sub-Band42
- Beamforming support
- RET

Feature description

Radio characteristics

- RF Output Power: 8x20W
- 8TX/RX
- Band 42: TX/RX 3520-3560 MHz
- oBW/iBW 40MHz

Other characteristics

- Supported System Module: AirScale
- Optical Interface Type: 2 x 9.8 Gb/s CPRI with compression
- Mount: Pole/Wall/tower/rooftop installation
- Natural convection cooling
- -48DVC

Dimensions:
23.8L, 22kg
IP 65. -40°C to +55°C

Flexi RRH 8T8R B38 160W FZHW

High Output Power RF for 8 path Beamforming with CEPT compliance

Benefits for the operator
- CEPT019 compliance
- Beamforming support
- RET

Feature description
Radio characteristics
- RF Output Power: 8x20W
- 8TX/RX
- Band 38: 2575-2615MHz (CEPT019 compliant)
- oBW/iBW 40MHz

Other characteristics
- Supported System Module: FSMF, FSIH, AirScale
- Optical Interface Type: 2 x 9.8 Gb/s CPRI with compression
- Mount: Pole/Wall/tower/rooftop installation
- Natural convection cooling
- -48DVC

Dimensions:
21.8L, 22kg
IP 65. -40°C to +55°C

Flexi RRH 4T4R 3500 8W FZQB

Low power Remote Radio Head for Japan B42

Benefits for the operator
- 3GPP Medium Area air-interface
- Chaining support

Feature description
Radio characteristics
- RF Output Power: 4x2W
- 4TX/RX
- Band 42: TX/RX 3520-3560 MHz
- oBW/iBW 40MHz

Other characteristics
- Supported System Module: AirScale
- Optical Interface Type: 2 x 9.8 Gb/s CPRI with compression
- Mount: Pole/Wall/tower/rooftop installation
- Natural convection cooling
- AC power supply

Dimensions:
4.9L, 4.4kg
IP 65. -40°C to +55°C

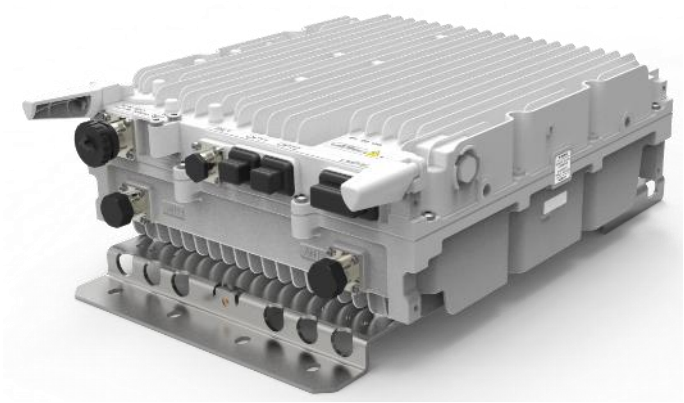
Airscale RRH 2T2R B40 120W AZND/AZNE

AirScale radio optimized for indoor DAS applications at China B40

Benefits for the operator
- Indoor passive DAS
- Chaining support
- Energy saving features

Feature description
Radio characteristics
- RF Output Power: 2x60W
- 2TX/RX
- Sub-Band 40: TX/RX 2320-2370 MHz
- oBW/iBW 50MHz
- 5G ready HW

Other characteristics
- Supported System Module: FSIH, AirScale
- 4.3-10 antenna connectors
- Optical Interface Type: 2 x 9.8Gbps CPRI with compression
- Mount: Pole/Wall/tower/rooftop/installation
- Natural convection cooling
- -Power feed AZND (220V AC) and AZNE (- 48V DC)



Dimensions:
AZND:11L, 9.7kg
AZNE: 11L, 9.5kg
IP 65. -40°C to +55°C

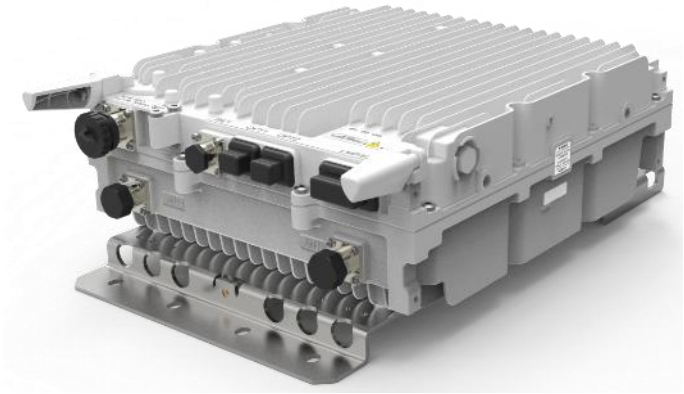
Airscale RRH 2T2R B41 120W AZHE

Optimized Airscale RF for deep coverage and high speed train coverage use cases

Benefits for the operator
- Chaining support
- RET
- Energy saving features

Feature description
Radio characteristics
- RF Output Power: 2x60W
- 2TX/RX
- Band 41: TX/RX 2575-2635 MHz
- oBW/iBW 60MHz
- 5G ready HW

Other characteristics
- Supported System Module: FSIH, AirScale
- 4.3-10 antenna connectors
- Optical Interface Type: 2 x 9.8Gbps CPRI with compression
- Mount: Pole/Wall/tower/rooftop/installation
- Natural convection cooling
- AC power feed



Dimensions:
10kg, 11L
IP 65. -40°C to +55°C

AirScale RRH 4T4R B40 160W AZNA

Optimized High Power RF for 4 path MIMO Single Sector Deployment

Benefits for the operator
- Chaining support
- RET
- Energy saving features

Feature description
Radio characteristics
- RF Output Power: 4x40W
- 4TX/RX
- Band 40: TX/RX 2300-2400 MHz
- oBW 80 MHz, iBW 100 MHz
- 5G ready HW

Other characteristics
- Supported System Module: FSMF, FSIH, AirScale
- 4.3-10 antenna connectors
- Optical Interface Type: 3 x 9.8Gbps CPRI with compression
- Mount: Pole/Wall/tower/rooftop/RAS installation, Horizontal with Fan
- Natural convection cooling
- -48DVC

Dimensions:
12L, 11kg
IP 65. -40°C to +55°C

AirScale RRH 4T4R B41 160W AZHA

Optimized High Power RF for 4 path MIMO Single Sector Deployment

Benefits for the operator
- Chaining support
- RET
- Energy saving features

Feature description
Radio characteristics
- RF Output Power: 4x40W
- 4TX/RX
- Band 41: TX/RX 2496-2690 MHz
- oBW 80 MHz iBW 194MHz
- 5G ready HW

Other characteristics
- Supported System Module: FSMF, FSIH, AirScale
- 4.3-10 antenna connectors
- Optical Interface Type: 3 x 9.8Gbps CPRI with compression
- Mount: Pole/Wall/tower/rooftop/RAS installation, Horizontal with Fan
- Natural convection cooling
- -48DVC

Dimensions:
15.6L, 13kg
IP 65. -40°C to +55°C

AirScale Micro 4T4R B48 20W AZQC

Low Power RRH for CBRS Applications

Benefits for the operator
- Chaining support
- Energy saving features
- Support external & integrated antenna

Feature description
Radio characteristics
- RF Output Power: 4x5W=20W
- 4TX/RX
- Band 48 : TX/RX 3550-3700 MHz
- oBW 80 MHz , iBW 110MHz
- 5G ready HW

Other characteristics
- Supported System Module: AirScale
- NEX 10 antenna connectors
- Optical Interface Type: 2 x 9.8Gbps CPRI with compression
- Mount: Pole/Wall/tower/rooftop/ installation, strand, shroud mounting.
- Natural convection cooling
- -48VDC(AZQC) and 100/230VAC (AZQC+APAE)

Dimensions:
AZQC: 5.42L, 6kg (DC)
AZQC+APAE 5.97L, 7.1kg (AC)
IP 65. -40°C to +55°C

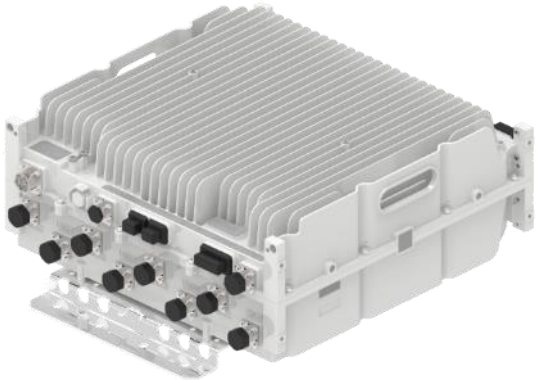
AirScale RRH 8T8R 2300 240W AZNC

Optimized Airscale RF for 8 path MIMO Single Sector Deployment at UK B40

Benefits for the operator
- Beamform support
- RET
- Energy saving features

Feature description
Radio characteristics
- RF Output Power: 8x30W
- 8TX/RX
- Sub-Band 40: TX/RX 2350-2390 MHz
- oBW/iBW 40 MHz
- 5G ready HW

Other characteristics
- Supported System Module: FSMF, AirScale
- 4.3-10 antenna connectors
- Optical Interface Type: 2 x 9.8Gbps CPRI with compression
- Mount: Pole/Wall/tower/rooftop installation, Horizontal with Fan
- Natural convection cooling
- -48DVC



Dimensions:
23.8L, 21 kg
IP 65. -40°C to +55°C

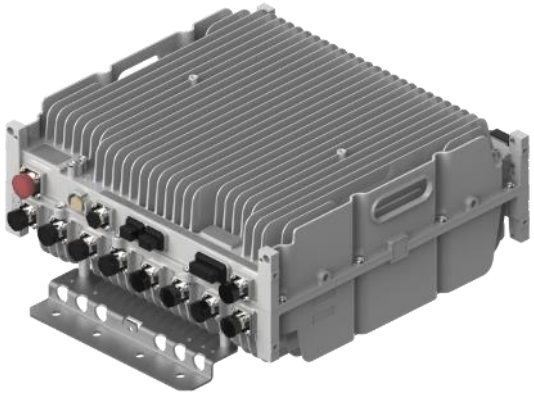
AirScale RRH 8T8R B42 3500 240W AZQF

Optimized Airscale RF for 8 path MIMO Single Sector Deployment at UK B42

Benefits for the operator
- Beamform support
- RET
- Energy saving features

Feature description
Radio characteristics
- RF Output Power: 8x30W
- 8TX/RX
- Band 42: TX/RX 3410-3590 MHz
- oBW 80 MHz / iBW 100MHz
- 5G ready HW

Other characteristics
- Supported System Module: FSMF, AirScale
- 4.3-10 antenna connectors
- Optical Interface Type: 2 x 9.8Gbps CPRI with compression
- Mount: Pole/Wall/tower/rooftop installation, Horizontal with Fan
- Natural convection cooling
- -48DVC



Dimensions:
25.9L, 24kg
IP 65. -40°C to +55°C

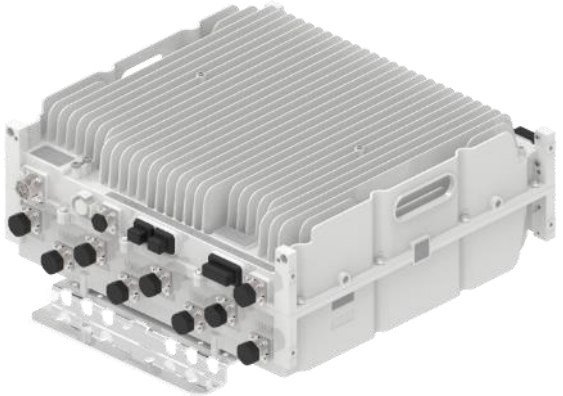
Airscale RRH 8T8R B40 240W AZNB

High Output Power and Optimized Four Carrier RF for 8 path Beamforming

Benefits for the operator
- Beamform support
- RET
- Energy saving features

Feature description
Radio characteristics
- RF Output Power: 8x30W
- 4TX/RX
- Band 40: TX/RX 2300-2400 MHz
- oBW 80 MHz/iBW 100MHz
- 5G ready HW

Other characteristics
- Supported System Module: FSIH, AirScale
- 4.3-10 antenna connectors
- Optical Interface Type: 2 x 9.8Gbps CPRI with compression
- Mount: Pole/Wall/tower/rooftop/installation, Horizontal with Fan
- Natural convection cooling
- -48DVC



Dimensions:
24.3L, 21kg
IP 65. -40°C to +55°C

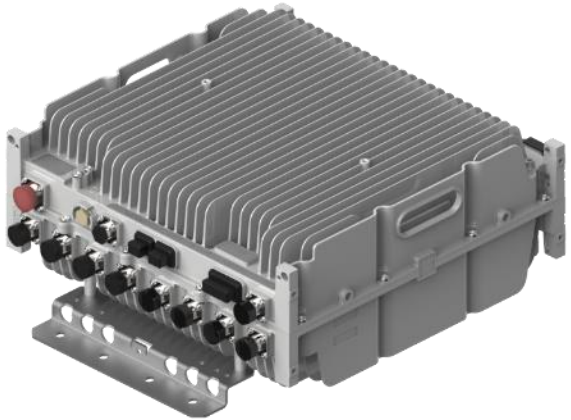
AirScale RRH 8T8R B42 240W AZQE

High Output Power and Optimized Four Carrier RF for 8 path Beamforming

Benefits for the operator
- Beamform support
- RET
- Energy saving features

Feature description
Radio characteristics
- RF Output Power: 8x30W
- 8TX/RX
- Band 42: TX/RX 3400-3600 MHz
- iBW 140MHz, oBW 80MHz
- 5G ready HW

Other characteristics
- Supported System Module: AirScale
- 4.3-10 antenna connectors
- Optical Interface Type: 2 x 9.8Gbps CPRI with compression
- Mount: Pole/Wall/tower/rooftop/installation
- Natural convection cooling
- -48DVC



Dimensions:
24L, 25.9kg
IP 65. -40°C to +55°C

AirScale MAA 64T64R 128AE B41 120W AAHB

High Power 64T64R Massive MIMO at China B41

Benefits for the operator
- Beamforming support
- Antenna integrated
- Up to 16 layers MU-MIMO

Feature description
Radio characteristics
- RF Output Power: 64x1,875W=120W
- 64TX/RX, 128 AE
- Sub Band 41: 2575-2635MHz (CMCC sub-band of 3GPP BD41)
- oBW/iBW 60MHz
- EIRP 74.8dBm
- 5G ready HW

Other characteristics
- Supported System Module: AirScale
- Optical Interface Type: 3 x 40G QSFP+
- Mount: Pole/Wall/tower/rooftop installation
- Natural convection cooling
- -48DVC

Dimensions:
80L, 47kg
Windward Area < 0.33 m2
IP 65. -40°C to +55°C

AirScale MAA 64T64R 128AE B41 120W AAHC

High Power 64T64R Massive MIMO at B41

Benefits for the operator
- Beamforming support
- Antenna integrated
- 3GPP and FCC compliance
- Up to 16 MU-MIMO layers

Feature description
Radio characteristics
- RF Output Power: 64x1,875W=120W
- 64TX/RX, 128 AE
- Sub Band 41: 2496-2690 MHz
- oBW/iBW 60MHz
- EIRP 74.8dBm
- 5G ready

Other characteristics
- Supported System Module: AirScale
- Optical Interface Type: 3 x 40G QSFP+
- Mount: Pole/Wall/tower/rooftop installation
- Natural convection cooling
- -48DVC

Dimensions:
80L, 47kg
Windward Area < 0.33 m2
IP 65. -40°C to +55°C

AirScale MAA 64T64R 128AE B40 120W AANB

High Power 64T64R Massive MIMO at B40

Benefits for the operator
- Beamforming support
- Antenna integrated
- Up to 16 MU-MIMO layers

Feature description
Radio characteristics
- RF Output Power: 64x1,875W=120W
- 64TX/RX, 128 AE
- Sub Band 40: 2300-2400 MHz
- oBW/iBW 60MHz
- EIRP 74.8dBm
- 5G ready HW

Other characteristics
- Supported System Module: AirScale
- Optical Interface Type: 3 x 40G QSFP+
- Mount: Pole/Wall/tower/rooftop installation
- Natural convection cooling
- -48DVC

Dimensions:
80L, 47kg
Windward Area < 0.33 m2
IP 65. -40°C to +55°C

AirScale MAA 64T64R 128AE B41 80W AAHD

High Power 64T64R Massive MIMO at B38 with CEPT019 compliance

Benefits for the operator
- Beamforming support
- Antenna integrated
- Up to 16 MU-MIMO layers
- CEPT019 compliance

Feature description
Radio characteristics
- RF Output Power: 64x1,25W=80W
- 64TX/RX, 128 AE
- Sub Band 38: 2575-2615MHz with CEPT019 compliance
- oBW/iBW 40MHz
- EIRP 73dBm
- 5G ready HW

Other characteristics
- Supported System Module: AirScale
- Optical Interface Type: 2 x 40G QSFP+
- Mount: Pole/Wall/tower/rooftop installation
- Natural convection cooling
- -48DVC

Dimensions:
100L, 71kg
Windward Area < 0.33 m2
IP 65. -40°C to +55°C

AirScale MAA 64T64R 128AE B40 80W AANA

High Power 64T64R Massive MIMO for UK B40

Benefits for the operator

- Beamforming support
- Antenna integrated
- Up to 16 MU-MIMO layers
- Ofcom compliance

Feature description

Radio characteristics

- RF Output Power: 64x1,25W=80W
- 64TX/RX,128 AE
- Sub Band 40: 2350-2390MHz
- oBW/iBW 40MHz
- EIRP 73dBm
- 5G ready HW

Other characteristics

- Supported System Module: AirScale
- Optical Interface Type: 2 x 40G QSFP+
- Mount: Pole/Wall/tower/rooftop installation
- Natural convection cooling
- -48DVC

Dimensions:
80L, 47kg
Windward Area < 0.33 m2
IP 65. -40°C to +55°C

NOKIA

AirScale MAA 64T64R B41 120W AAHE

High Power 64T64R Massive MIMO for NYC Application in the US

Benefits for the operator

- Beamforming support
- Antenna integrated
- FCC compliance
- Up to 16 MU-MIMO layers

Feature description

Radio characteristics

- RF Output Power: 64x1,875W=120W
- 64TX/RX, 128 AE
- Sub Band 41: 2628.8-2690 MHz
- oBW/iBW 60MHz
- EIRP 74.8dBm
- 5G ready HW

Other characteristics

- Supported System Module: AirScale
- Optical Interface Type: 3 x 40G QSFP+
- Mount: Pole/Wall/tower/rooftop installation
- Natural convection cooling
- -48DVC

Dimensions:
<47kg, <80L
Windward Area < 0.33 m2
IP 65. -40°C to +55°C

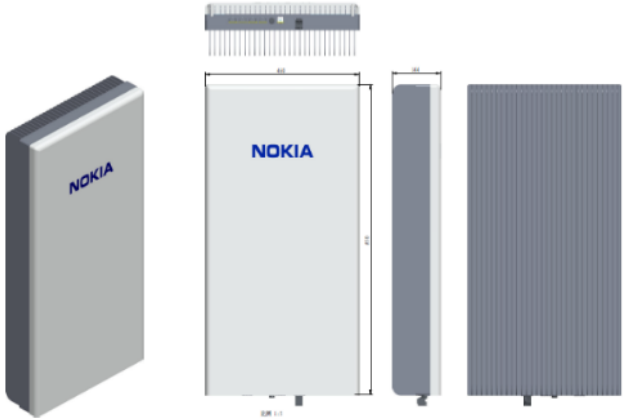
AirScale MAA 64T64R 3600 200W AEQD

High Power 64T64R Massive MIMO at B43

Benefits for the operator
- Beamforming support
- Antenna integrated
- Up to 16 MU-MIMO layers

Feature description
Radio characteristics
- RF Output Power: 64x3.125W=200W
- 64TX/RX, 128 AE
- Band 43: 3600-3800 MHz
- oBW/iBW 60MHz
- EIRP 76dBm
- 5G ready HW

Other characteristics
- Supported System Module: AirScale
- Optical Interface Type: 4 x 40G QSFP+
- Mount: Pole/Wall/tower/rooftop installation
- Natural convection cooling
- -48DVC



Dimensions:
64L, 45kg
Windward Area 0.43 m2
IP 65. -40°C to +55°C

AirScale MAA 64T64R 128AE B41 120W AAHF

High Power 64T64R Massive MIMO at B41

Benefits for the operator

- Beamforming support
- Antenna integrated
- FCC compliance
- Up to 16 MU-MIMO layers
- Split mode support into 2 x 32TRx sub-arrays

Feature description

Radio characteristics

- RF Output Power: 64x1.875W=120W
- 64TX/RX, 128 AE
- Band 41: 2496-2690 MHz
- oBW/iBW 60MHz
- EIRP 74.8dBm
- 5G HW

Other characteristics

- Supported System Module: AirScale
- Optical Interface Type: 3 * 40G QSFP+
- Mount: Pole/Wall/tower/rooftop installation
- Natural convection cooling
- -48DVC

Dimensions:
Weight <47kg; Size 85L
IP 65. -40°C to +55°C

NOKIA

AirScale MAA 64T64R 128AE B41 120W AAHJ

High Power 64T64R Massive MIMO at B41

Benefits for the operator

- Beamforming support
- Antenna integrated
- FCC compliance
- Up to 16 MU-MIMO layers
- Split mode support into 2 x 32TRx sub-arrays

Feature description

Radio characteristics

- RF Output Power: 64x1.875W=120W
- 64TX/RX, 128 AE
- Band 41: 2590-2690 MHz
- oBW/iBW 60MHz
- EIRP 74.8dBm
- 5G HW

Other characteristics

- Supported System Module: AirScale
- Optical Interface Type: 3 * 40G QSFP+
- Mount: Pole/Wall/tower/rooftop installation
- Natural convection cooling
- -48DVC

Dimensions:
Weight <47kg; Size 85L
IP 65. -40°C to +55°C

NOKIA

Flexi Multiradio TD-LTE Radios
HW details and SW support

Name	Module name	SW support	TX bandwidth	RX bandwidth	OBSAI/CPRI speed	Output power	Comments
FZNI	FZNI RRH 4TX 2300 (FZNI) 472652A	TD-LTE: RL25	TX: 40 MHz	RX: 40 MHz	2 * 6Gb OBSAI	4x30W	2300-2400 MHz (Band40)
FZNC	Flexi RFM 6TX 2300 (FZNC) 472530A	TD-LTE: RL15	TX:40 MHz	RX: 40 MHz	3 * 6Gb OBSAI	6x10W	2300-2400 MHz (Band 40)
FZFI	Flexi RRH 8-pipe 1900+2600 Dual-Band 240W I 473382A	TD-LTE 16A	TX:30 MHz TX:60 MHz	RX: 30 MHz RX:60 MHz	3 * 9.8Gb CPRI	8x10W + 8x20W	1885-1915 MHz (band 39) + 2575-2635 MHz (band 41)
FZHJ	Flexi RF Head 8TX 2600 (FZHJ) 472833A	TD-LTE: RL45	TX:60 MHz	RX: 60 MHz	6 * 6Gb OBSAI	8x20W	2496-2690 MHz (Band 41) up to 8T8R 60MHz bandwidth or 2x4T4R 120MHz bandwidth, configurable within BD41
FZHI	Flexi RF Head 8TX 2600 (FZHI 472954A	TD-LTE: RL55	TX:40 MHz	RX: 40 MHz	4 * 6Gb OBSAI	8x20W	2575-2615 MHz (Band 38)
FZHM	Flexi RF Head 8TX 2600 (FZHM) 473011A	TD-LTE: RL55	TX:60 MHz	RX: 60 MHz	3 * 9.8 Gb CPRI	8x20W	2555-2655 MHz (Band 41)
FZHA	Flexi RFM 8TX 2600 (FZHA) 472313A	TD-LTE: RL15	TX:40 MHz	RX: 40 MHz	4 * 6Gb OBSAI	8x10W	2575-2615 MHz (Band 38)
FZHQ	Flexi RRH 8T8R 2600 20W (FZHQ) 473106A	TD-LTE 15A	TX:50 MHz	RX: 50 MHz	3 * 9.8Gb CPRI	8x20W	2595-2645 MHz (band 41)
FZHS	Flexi RRH 2-pipe 2600 10W S 473175A	TD-LTE 15A	TX:60 MHz	RX: 60 MHz	2* 9.8Gb CPRI	2x5W	2555-2655 MHz (Band 41)
FZHN	Flexi RRH 8-pipe 2600 160W N 473262A	TD-LTE 17A	TX:60 MHz	RX: 60 MHz	2* 9.8Gb CPRI	8x20W	2496-2690 MHz (band 41)

Flexi Multiradio TD-LTE Radios
HW details and SW support

Name	Module name	SW support	TX bandwidth	RX bandwidth	CPRI	Output power	Comments
FZQE	Flexi RRH 8T8R 3500 160W (FZQE) 473196A	TD-LTE 16	TX:60 MHz	RX: 60 MHz	2* 9.8Gb CPRI	8x20W	3400-3600 MHz (band 42)
FZQC	Flexi RRH 8T8R 3500 20W (FZQC) 473195A	TD-LTE 17A	TX:40 MHz	RX: 40 MHz	2 * 9.8Gb CPRI	8x20W	3520-3560 MHz (band 42)
FZQB	Flexi RRH 4TX 3500 4x2W (FZQB) 473101A	TD-LTE 18 (trial)	TX:40 MHz	RX: 40 MHz	2 * 9.8Gb CPRI	4x2W	3520-3560 MHz (band 42)
FZQK	Flexi RRH 8-pipe 3600 128W K 474018A	TD-LTE 17A	TX:60 MHz	RX: 60 MHz	2 * 9.8Gb CPRI	8x16W	Band 43 (sub-band 3600-3700)
FZHR	Flexi RRH 8-pipe 2600 160W R (FZHR) 473791A	TD-LTE 16A	TX:60 MHz	RX: 60 MHz	2 * 9.8Gb CPRI	8x20W	2575-2635MHz (band 41)
FZHW	Flexi RRH 8-pipe B38 160W FZHW 473836A	TD-LTE 17A	TX:60 MHz	RX: 60 MHz	2 * 9.8Gb CPRI	8 x 20W	B38: 2575-2615MHz (band 41)

*) this feature is late HW

AirScale TD-LTE Radios
HW details and SW support

Name	Module name	SW support	TX bandwidth	RX bandwidth	CPRI	Output power	Comments
AZHA	AZHA AirScale RRH 4T4R B41 160W 473941A	TD-LTE 17A	TX:194 MHz	RX: 194 MHz	3 * 9.8Gb CPRI	4x40W	B41:2496-2690MHz. 48 VDC
AZNA	AZNA AirScale RRH 4T4R B40 160W 473914A	TD-LTE 17A	TX:100 MHz	RX: 100 MHz	3 * 9.8Gb CPRI	4x40W	B40: 2300-2400 MHz. 48 VDC
AZNC	AZNC AirScale RRH 8T8R B40 240W 474052A	TD-LTE 18	TX:40 MHz	RX: 40 MHz	2 * 9.8 Gb/s + compress	8x30W	B40 UK: 2350-2390 MHz. 48 VDC
AZND	AirScale RRH 2T2R B40 120W AZND 474348A	TD-LTE 18	TX:50 MHz	RX: 50 MHz	2 * 9.8 Gb/s + compress	2x60W	B40: 2320-2370 MHz. 230 VAC
AZNE	AirScale RRH 2T2R B40 120W AZNE 474350A	TD-LTE 18	TX:50 MHz	RX: 50 MHz	2 * 9.8 Gb/s + compress	2x60W	B40: 2320-2370 MHz. 48VDC
AZQC	AirScale Micro 4T4R CBRS 20W AZQC 474156A	TD-LTE 18 SP	TX:150 MHz	RX: 150 MHz	2 * 9.8 Gb/s + compress	4x5W	US CBRS band: 3550 – 3700 MHz. 48 VDC
AZNB	AirScale RRH 8T8R B40 240W AZNB 474051A	TD-LTE 18 SP	TX:80 MHz	RX: 80 MHz	2 * 9.8 Gb/s + compress	8x30W	B40: 2300-2400 MHz. 48VDC
AZHE	AirScale RRH 2T2R B41 120W AZHE 474622A	TD-LTE 18SP	TX:60 MHz	RX: 60 MHz	2 * 9.8 Gb/s + compress	2x60W	B41: 2575 - 2635 MHz. 230 VAC
AZQF	AirScale RRH 8T8R B42 240W AZQF 474188A	TD-LTE 18	TX:190 MHz	RX: 190 MHz	2 * 9.8 Gb/s + compress	8x30W	B42: 3410 – 3590 MHz. 48 VDC
AZQE	AirScale RRH 8T8R B42 240W AZQE 474717A	TD-LTE 18A MP	TX:140 MHz	RX: 140 MHz	2 * 9.8 Gb/s + compress	8x30W	B42: 3400-3600MHz MHz. 48 VDC

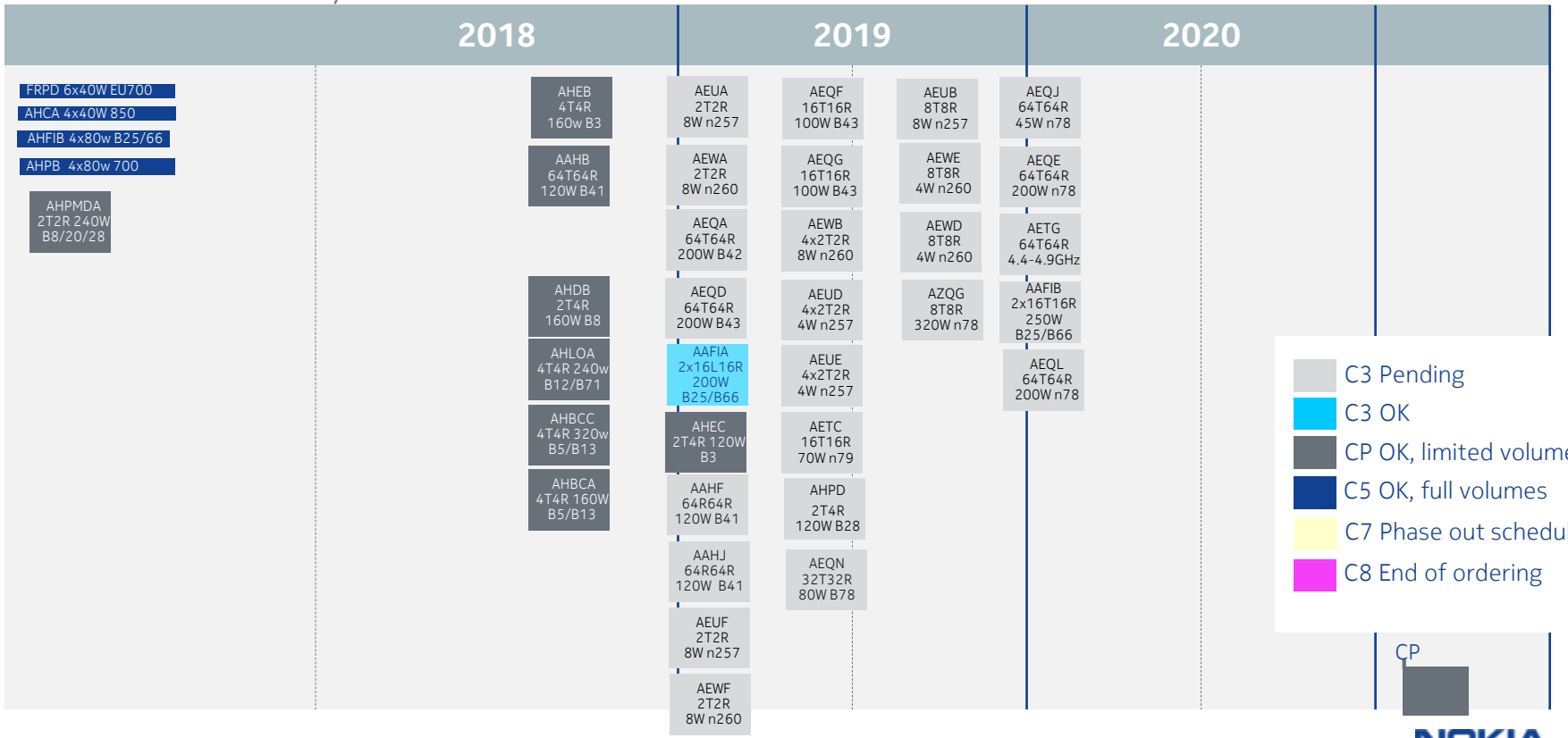
AirScale Massive MIMO MAA TD-LTE Radios
HW details and SW support

Name	Module name	SW support	TX bandwidth	RX bandwidth	CPRI	Output power	Comments
AAHB	AAHB AirScale MAA 64T64R 128AE B41 120W, 474011A	TD-LTE 18	TX:60 MHz	RX: 60 MHz	3 * 40Gbps QSFP+	120W	B41: 2575-2635MHz.
AAHC	AAHC AirScale MAA 64T64R 128AE B41 120W, 474155A	TD-LTE 18	TX:60 MHz	RX: 60 MHz	3 * 40Gbps QSFP+	120W	B41: 2496 - 2690MHz.
AANB	AANB AirScale MAA 64T64R 128AE B40 120W, 474517A	TD-LTE 18	TX:60 MHz	RX: 60 MHz	3 * 40Gbps QSFP+	120W	B40: 2300 – 2400 MHz.
AAHD	AAHD AirScale MAA 64T64R 128AE B38 80W 474396A	TD-LTE 18 (Trial) TD-LTE 18SP	TX:40 MHz	RX: 40 MHz	2 * 40Gbps QSFP+	80W	B38: 2575-2615MHz.
AAHE	AirScale MAA 64T64R B41 120W AAHE 474658A	TD-LTE 18SP	TX:60 MHz	RX: 60 MHz	3 * 40Gbps QSFP+	120W	B41: 2628.8-2690MHz
AANA	AANA AirScale MAA 64T64R 128AE B40 80W, 474397A	TD-LTE 18(Trial) TD-LTE 18A	TX:40 MHz	RX: 40 MHz	2 * 40Gbps QSFP+	80W	B40 UK: 2350 - 2390 MHz.
AEQD	AirScale MAA 64T64R 3600 200W AEQD 474473A	LTE 19 (trial) 5G 18A	TX:60 MHz	RX: 60 MHz	4 * 40Gbps QSFP+	200W	B43: 3600 - 3800 MHz.
AAHF	AirScale MAA 64T64R 128AE B41 120W AAHF 474715A	TD-LTE 18A 5G 19	TX:60 MHz	RX: 60 MHz	3 * 40Gbps QSFP+	8x30W	B41: 2496-2690 MHz
AAHJ	AirScale MAA 64T64R 128AE B41 120W AAHJ 474795A	TD-LTE 18A 5G 19	TX:60 MHz	RX: 60 MHz	3 * 40Gbps QSFP+	8x30W	B41: 2590-2690 MHz

5G

AirScale BTS 5G Radios

Hardware availability



AEQA AirScale MAA 64T64R 192AE B42 200W

5G Adaptive Antenna System for optimized capacity and coverage

- 5G RF Unit with an integrated antenna
- 192 antenna elements
- Digital beamforming for multi-user MIMO
- Operating bandwidth (Band 42): 3.4 GHz ... 3.6 GHz
- Instantaneous bandwidth: 100 MHz
- Occupied bandwidth: 100 MHz
- Max carrier bandwidth: 100 MHz
- DL/UL modulation schemes up to 256 QAM /64 QAM
- Number of TX / RX layer/ports per carrier: 64
- Number of MIMO streams / beams: 16
- Max output power: 35 dBm per TX (200 W in total)
- Max EIRP: 77.5 dBm

- IP65 -40 ... 55 °C
- 47 kg
- 79 liters
- Natural convection cooling
- DC power

NOKIA

AEQD AirScale MAA 64T64R 128AE B43 200W

5G Adaptive Antenna System for optimized capacity and coverage

- 5G RF Unit with an integrated antenna
- 128 element antenna
- Digital beamforming for multi-user MIMO

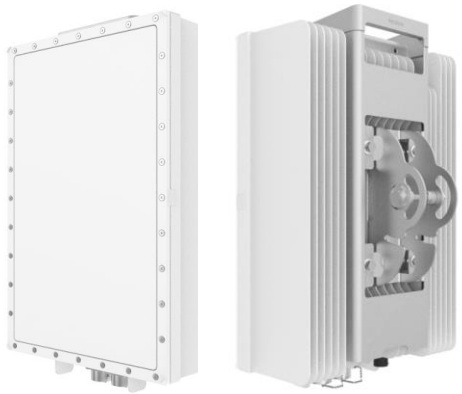
Operating bandwidth (Band 43):	3.6 GHz ... 3.8 GHz
Instantaneous bandwidth:	100 MHz
Occupied bandwidth:	100 MHz
Max carrier bandwidth:	100 MHz
DL/UL modulation schemes up to	256 QAM /64 QAM
Number of TX / RX layer/ports per carrier:	64
Number of MIMO streams / beams:	16
Max output power:	35 dBm per TX (200 W in total)
Max EIRP:	76 dBm

- IP65 -40 ... 55 °C
- 40 kg
- 59 liters
- Natural convection cooling
- DC power

AEUA AirScale MAA 2T2R 512AE n257 8W

5G Adaptive Antenna System for optimized capacity

- 5G RF Unit with an integrated antenna supporting analog beamforming
- Operating bandwidth: 26.5 GHz ... 29.5 GHz
- Instantaneous bandwidth: 800 MHz
- Occupied bandwidth 800 MHz
- Carrier bandwidth: 100 MHz
- Number of carriers: up to 8
- DL/UL modulation schemes up to 64 QAM /64 QAM
- Number of TX / RX layers/ports per carrier: 2
- Number of MIMO streams / beams: 2
- Total EIRP (typical): 54 dBm (60 dBm)*



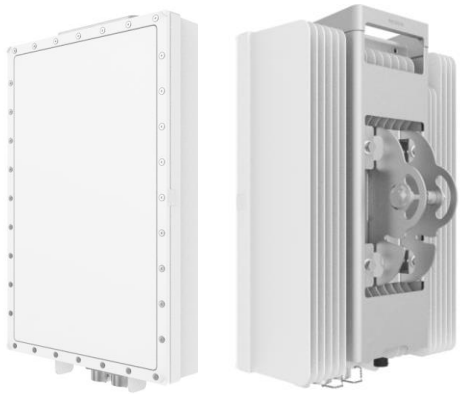
- IP65 -40 ... 55 °C
- 22 kg (24 kg)*
- 23 liters (25.5 l)*
- Natural convection cooling*
- AC power

* With optional AFMA AirScale Fan MAA unit (474443A)

AEWA AirScale MAA 2T2R 512AE n260 8W

5G Adaptive Antenna System for optimized capacity

- 5G RF Unit with an integrated antenna supporting analog beamforming
- Operating bandwidth: 38.6 GHz ... 40.0 GHz
- Instantaneous bandwidth: 800 MHz
- Occupied bandwidth: 800 MHz
- Carrier bandwidth: 100 MHz
- Number of carriers (contiguous, non-contiguous): up to 8
- DL/UL modulation schemes up to 64 QAM /64 QAM
- Number of TX / RX layers /ports per carrier: 2
- Number of MIMO streams / beams: 2
- Total EIRP (typical): 51 dBm (57 dBm)*



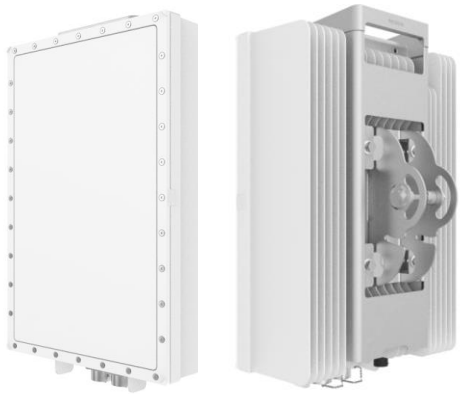
- IP65 -40 ... 55 °C
- 22 kg (24 kg)*
- 23 liters (25.5 l)*
- Natural convection cooling*
- AC power

* With optional AFMA AirScale Fan MAA unit (474443A)

AEUF AirScale MAA 2T2R 512AE n257 8W

5G Adaptive Antenna System for optimized capacity

- 5G RF Unit with an integrated antenna supporting analog beamforming
- Operating bandwidth: 26.5 GHz ... 29.5 GHz
- Instantaneous bandwidth: 800 MHz
- Occupied bandwidth 800 MHz
- Carrier bandwidth: 100 MHz
- Number of carriers: up to 8
- DL/UL modulation schemes up to 64 QAM /64 QAM
- Number of TX / RX layers/ports per carrier: 2
- Number of MIMO streams / beams: 2
- Total EIRP (typical): 54 dBm (60 dBm)*



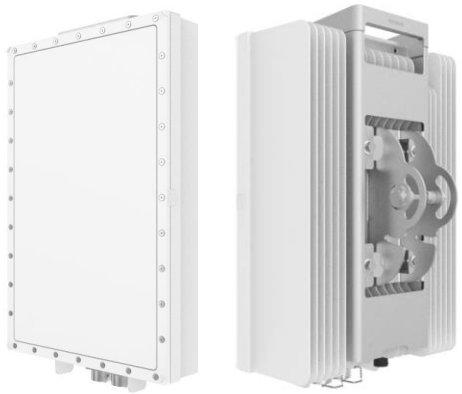
- IP65 -40 ... 55 °C
- 22 kg (24 kg)*
- 23 liters (25 l)*
- Natural convection cooling*
- DC power

* With optional AFMA AirScale Fan MAA unit (474443A)

AEWF AirScale MAA 2T2R 512AE n260 8W

5G Adaptive Antenna System for optimized capacity

- 5G RF Unit with an integrated antenna supporting analog beamforming
- Operating bandwidth: 37.0 GHz ... 40.0 GHz
- Instantaneous bandwidth: 800 MHz
- Occupied bandwidth: 800 MHz
- Carrier bandwidth: 100 MHz
- Number of carriers (contiguous, non-contiguous): up to 8
- DL/UL modulation schemes up to 64 QAM /64 QAM
- Number of TX / RX layers /ports per carrier: 2
- Number of MIMO streams / beams: 2
- Total EIRP (typical): 51 dBm (57 dBm)*



- IP65 -40 ... 55 °C
- 22 kg (24 kg)*
- 23 liters (25.5 l)*
- Natural convection cooling*
- DC power

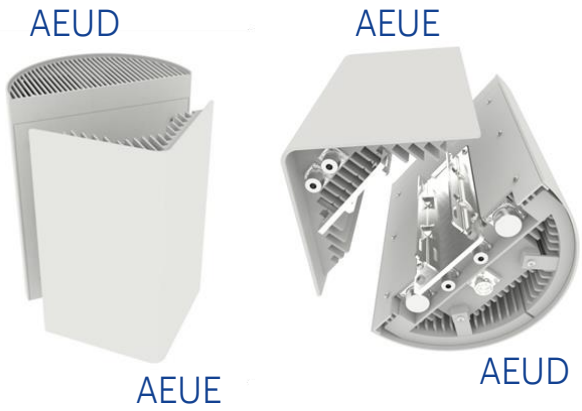
* With optional AFMA AirScale Fan MAA unit (474443A)

AEUD / AEUE AirScale MAA 2*2T2R 256AE n257 4W

5G Ultra Deployable hot spot capacity site solution

- 5G RF Unit with an integrated beamforming antenna
- 180° sector (AEUD) and omni 360° site solutions (AEUD + AEUE)
- Analog beamforming
- Operating bandwidth: 26.5 GHz ... 29.5 GHz
- Instantaneous bandwidth: 800 MHz
- Occupied bandwidth 1400 MHz
- Carrier bandwidth: 50/100/200/400 MHz
- Number of carriers: up to 8
- DL/UL modulation schemes up to 256 QAM /64 QAM
- Number of TX / RX layers/ports per carrier: 2 or 4
- Number of MIMO streams / beams: 2
- Total EIRP (typical): 51 dBm

Note: Subject to change according to 3GGP 5G specifications and product optimization



- IP65 -40 ... 55 °C
- 10 kg (AEUD), 5 kg (AEUE)
- 10.5 L (AEUD), 5 L (AEUE)
- forced cooling with fan for AEUD. Convection cooling w/o fan for AEUE
- DC or AC power

AEWB AirScale MAA 8T8R 512AE n260 8W

5G Adaptive Antenna System for capacity and coverage

- 5G RF Unit with an integrated antenna supporting analog beamforming
- 2TX SU-MIMO mode for optimized coverage
- 8TX MU-MIMO mode for capacity
- Operating bandwidth: 37 GHz ... 40.0 GHz
- Instantaneous bandwidth: 1400 MHz
- Occupied bandwidth: 800 MHz
- Carrier bandwidth: 50/100/200/400 MHz
- Number of carriers: up to 8
- DL/UL modulation schemes up to 256 QAM /64 QAM
- Number of TX / RX layers /ports per carrier: 2/8
- Number of MIMO streams / beams: 2/8
- Total EIRP (typical): 60 dBm (2T2R) & 54 dBm (8T8R)

- IP65 -40 ... 55 °C
- 19 kg
- 22 liters
- Natural convection cooling
- DC or AC power

Note: Subject to change according to 3GGP 5G specifications and product optimization

AEQF AirScale MAA 16T16R 192AE B42 100W

5G optimized performance with low power consumption

- 5G RF Unit with an integrated antenna
- 192 element antenna
- Digital beamforming for multi-user MIMO
- Operating bandwidth (Band 42): 3.42 GHz ... 3.6 GHz
- Instantaneous bandwidth: 200 MHz
- Occupied bandwidth: 100 MHz
- Max carrier bandwidth: 100 MHz
- DL/UL modulation schemes up to 256 QAM /64 QAM
- Number of TX / RX layer/ports per carrier: 16
- Number of MIMO streams / beams: 8
- Max output power: 38 dBm per TX (100 W in total)
- Max EIRP: 74 dBm

- IP65 -40 ... 55 °C
- <40 kg
- 60 liters
- Natural convection cooling
- DC power

Note: Subject to change according to 3GGP 5G specifications and product optimization

AEQG AirScale MAA 16T16R 192AE B43 100W

5G optimized performance with low power consumption

- 5G RF Unit with an integrated antenna
- 192 element antenna
- Digital beamforming for multi-user MIMO
- Operating bandwidth (Band 43): 3.6 GHz ... 3.8 GHz
- Instantaneous bandwidth: 200 MHz
- Occupied bandwidth: 100 MHz
- Max carrier bandwidth: 100 MHz
- DL/UL modulation schemes up to 256 QAM /64 QAM
- Number of TX / RX layer/ports per carrier: 16
- Number of MIMO streams / beams: 8
- Max output power: 38 dBm per TX (100 W in total)
- Max EIRP: 74 dBm

- IP65 -40 ... 55 °C
- <40 kg
- 60 liters
- Natural convection cooling
- DC power

Note: Subject to change according to 3GGP 5G specifications and product optimization

AETC AirScale MAA 16T16R 192AE n79 70W

5G optimized performance with low power consumption

- 5G RF Unit with an integrated antenna
- 192 element antenna
- Digital beamforming for multi-user MIMO
- Operating bandwidth (Band n79): 4.4 GHz ... 4.9 GHz
- Instantaneous bandwidth: 200 MHz
- Occupied bandwidth: 100 MHz
- Max carrier bandwidth: 100 MHz
- DL/UL modulation schemes up to 256 QAM /64 QAM
- Number of TX / RX layer/ports per carrier: 16
- Number of MIMO streams / beams: 8
- Max output power; 36 dBm per TX (70 W in total)
- Max EIRP: 74 dBm

- IP65 -40 ... 55 °C
- < 40 kg
- 60 liters
- No fans

Note: Subject to change according to 3GGP 5G specifications and product optimization

NOKIA

AHCA AirScale RRH 4T4R n5 160W

Multiradio RRH for band 5/n5

Radio Characteristics

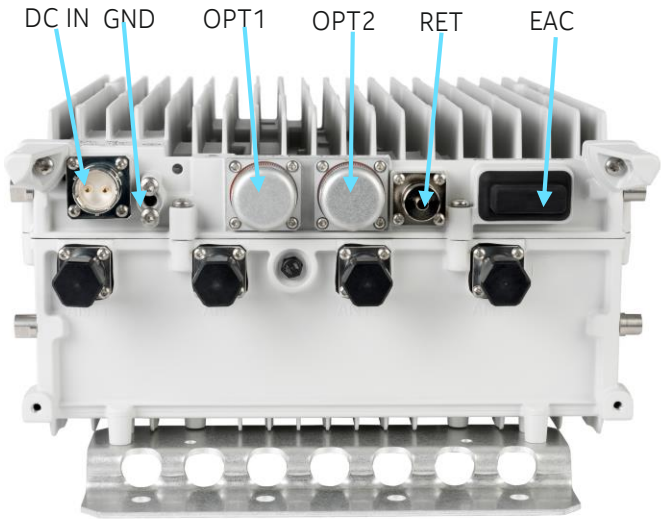
- max output power per Tx:
  - 40W in 4Tx mode
  - 60W in 2Tx mode
- Supported 3GPP FDD bands 5/n5:
  - UL (RX) 824 - 849 MHz
  - DL (TX) 869 - 894 MHz
- Fullband iBW & oBW

Others Characteristics

- Supported Technologies: FDD-LTE, NR
- Optical Interface Type: 2 * 9.8 Gb/s CPRI with optional compression
- Mount: Wall, Pole, Book, Horizontal with Fan

NR feature support

- DL modulation schemes up to QAM256
- UL modulation schemes up to QAM64
- NR carrier bandwidths supported: 5MHz, 10MHz, 15MHz, 20MHz
- Up to 4 carriers (NR, LTE or mixed NR+LTE) are supported



Target dimensions:
16.4 liters, 16.7 kg
IP65. -40°C to +55°C

AAHF AirScale MAA 64T64R 128AE B41 120W

64T64R 120W total power massive MIMO AAS

Radio and Antenna Characteristics

- Supported 3GPP TDD band n41:
  - UL and DL 2496 MHz – 2690 MHz
- Integrated antenna with 128 antenna elements, +/-45 degree cross polarized, 8 columns, 8 rows
- MIMO layers supported:
  - Full-Panel mode with 64 TRX: up to 16 MIMO layers
  - Split-Panel mode with 2 * 32 TRX: two sub-sectors with up to 8 MIMO layers
- Max occupied BW: 60 MHz in Full-Panel mode, 120 MHz in Split-Panel mode
- Max output power per TRX: 1.875W, total: 120W
- Antenna gain: 24 dBi in Full-Panel mode, 21 dBi in Split-Panel mode

NR feature support

- DL modulation schemes up to QAM256
- UL modulation schemes up to QAM64
- NR carrier bandwidths supported: 20, 40, 50, 60 MHz
- Split-Panel mode supports concurrent operation NR + LTE with 8 MIMO layers per technology

Others Characteristics

- Supported Technologies: 5G NR and concurrent operation with LTE TDD
- Optical Interface Type: 3* QSFP for 4*9.8 Gb/s CPRI each
- Natural convection cooling
- Mount: Wall, Pole

Target dimensions:
<85 liters, <47 kg
IP65. -40°C to +55°C

NOKIA

AEUB AirScale MAA 8T8R 512AE n257 8W

5G Adaptive Antenna System for capacity and coverage

- 5G RF Unit with an integrated antenna supporting analog beamforming
- 2TX SU-MIMO mode for optimized coverage
- 8TX MU-MIMO mode for capacity
- Operating bandwidth: 26.5 GHz ... 29.5 GHz
- Instantaneous bandwidth: 1400 MHz
- Occupied bandwidth: 800 MHz
- Carrier bandwidth: 50/100/200/400 MHz
- Number of carriers: up to 8
- DL/UL modulation schemes up to 256 QAM /64 QAM
- Number of TX / RX layers /ports per carrier: 2 or 8
- Number of MIMO streams / beams: 2 or 8
- Total EIRP (typical): 60 dBm (2T2R) – 54 dBm (8T8R)

- IP65 -40 ... 55 °C
- 19 kg
- 22 liters
- Natural convection cooling
- DC or AC power

NOKIA

AAHJ AirScale MAA 64T64R 128AE B41 120W

64T64R 120W total power massive MIMO AAS

Radio and Antenna Characteristics

- Supported 3GPP TDD band n41:
  - UL and DL 2590 MHz – 2690 MHz
- Integrated antenna with 128 antenna elements, +/-45 degree cross polarized, 8 columns, 8 rows
- MIMO layers supported:
  - Full-Panel mode with 64 TRX: up to 16 MIMO layers
  - Split-Panel mode with 2 * 32 TRX: two sub-sectors with up to 8 MIMO layers
- Max occupied BW: 60 MHz in Full-Panel mode, 100 MHz in Split-Panel mode
- Max output power per TRX: 1.875W, total: 120W
- Antenna gain: 24 dBi in Full-Panel mode, 21 dBi in Split-Panel mode

NR feature support

- DL modulation schemes up to QAM256
- UL modulation schemes up to QAM64
- NR carrier bandwidths supported: 20, 40, 50, 60 MHz
- Split-Panel mode supports concurrent operation NR + LTE with 8 MIMO layers per technology

Others Characteristics

- Supported Technologies: 5G NR and concurrent operation with LTE TDD
- Optical Interface Type: 3* QSFP for 4*9.8 Gb/s CPRI each
- Natural convection cooling
- Mount: Wall, Pole

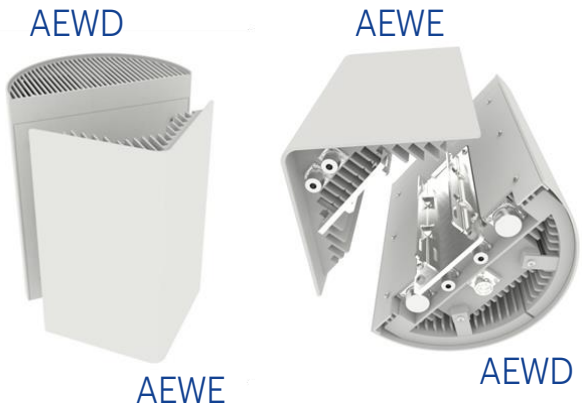
Target dimensions:
<85 liters, <47 kg
IP65. -40°C to +55°C

NOKIA

AEWD / AEWE AirScale MAA 2*2T2R 256AE n260 4W AEWE

5G Ultra Deployable hot spot capacity site solution

- 5G RF Unit with an integrated beamforming antenna
- 180° sector (AEWD) and omni 360° site solutions (AEWD + AEWE)
- Analog beamforming
- Operating bandwidth: 37.0 GHz ... 40.0 GHz
- Instantaneous bandwidth: 1400 MHz
- Occupied bandwidth 800 MHz
- Carrier bandwidth: 50/100/200/400 MHz
- Number of carriers: up to 8
- DL/UL modulation schemes up to 256 QAM /64 QAM
- Number of TX / RX layers/ports per carrier: 2 or 4
- Number of MIMO streams / beams: 2
- Total EIRP (typical): 51 dBm



- IP65 -40 ... 55 °C
- 10 kg (AEWD), 5 kg (AEWE)
- 10.5 L (AEWD), 5 L (AEWE)
- forced cooling with fan for AEUD. Convection cooling w/o fan for AEUE
- DC or AC power

AirScale RRH 8T8R n78 360W AZQG

Wide band 8T8R RRH for 5G coverage & capacity

Benefits for the operator

- 8T8R enables 5G on existing sites where Massive Mimo radios cannot be installed.
- Efficient 5G coverage and cost with existing sites and 3.5 GHz antennas.

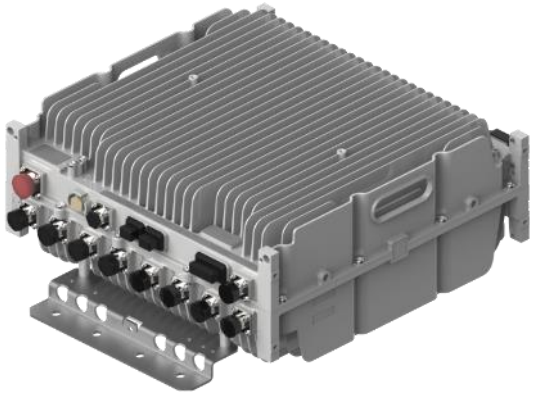
Feature description

Radio characteristics

- RF Output Power: 8x40W
- 8TX/RX
- Bandn78: TX/RX 3420-3700 MHz
- oBW 100 MHz / iBW 200MHz

Other characteristics

- Supported System Module: FSMF, AirScale
- 4.3-10 antenna connectors
- Optical Interface Type: 2 x 25Gbps eCPRI
- Mount: Pole/Wall/tower/rooftop installation
- Natural convection cooling
- -48DVC



Dimensions:
28L, <25kg
IP 65. -40°C to +55°C

AEQN AirScale MAA 32T32R 64AE n78 80W

5G Adaptive Antenna System for optimized capacity and coverage

- 5G RF Unit with an integrated antenna
- 96 antenna elements
- Digital beamforming for multi-user MIMO
- Operating bandwidth (n78): 3.4 GHz ... 3.7 GHz
- Instantaneous bandwidth: 100 MHz
- Occupied bandwidth: 100 MHz
- Max carrier bandwidth: 100 MHz
- DL/UL modulation schemes up to 256 QAM /64 QAM
- Number of TX / RX layer/ports per carrier: 32
- Number of MIMO streams / beams: 8
- Max output power: 34 dBm per TX (80 W in total)
- Max EIRP: 71.5 dBm

- IP65 -40 ... 55 °C
- 21.5 kg
- 50 liters
- Natural convection cooling
- DC power

NOKIA

AEQJ AirScale MAA 64T64R 128AE n78 45W

5G optimized performance with low power consumption

- 5G RF Unit with an integrated antenna
- 128 element antenna
- Digital beamforming for multi-user MIMO
- Operating bandwidth (extended Band 42): 3.4 GHz ... 3.7 GHz
- Instantaneous bandwidth: 200 MHz
- Occupied bandwidth: 100 MHz (100+100 in Split array)
- Max carrier bandwidth: 100 MHz
- DL/UL modulation schemes up to 256 QAM /64 QAM
- Number of TX / RX layer/ports per carrier: 64
- Number of MIMO streams / beams: 16
- Max output power: 45W in total
- Max EIRP: 70.5 dBm

- IP65 -40 ... 55 °C
- 23 kg
- 60 liters
- Natural convection cooling
- DC power

AEQE AirScale MAA 64T64R 192AE n78 200W

5G optimized performance with low power consumption

- 5G RF Unit with an integrated antenna
- 192 element antenna
- Digital beamforming for multi-user MIMO
- Operating bandwidth (extended Band 42): 3.42 GHz ... 3.8 GHz
- Instantaneous bandwidth: 200MHz
- Occupied bandwidth: 100 MHz (100+100 in Split array)
- Max carrier bandwidth: 100 MHz
- DL/UL modulation schemes up to 256 QAM /64 QAM
- Number of TX / RX layer/ports per carrier: 64
- Number of MIMO streams / beams: 16
- Max output power: >35 dBm per TX (200W in total)
- Max EIRP: 78 dBm

- IP65 -40 ... 55 °C
- 50 kg
- 79 liters
- Natural convection cooling
- DC power

AEQL AirScale MAA 64T64R 192AE n78 200W

5G Adaptive Antenna System for optimized capacity and coverage

- 5G RF Unit with an integrated antenna
- 192 antenna elements
- Digital beamforming for multi-user MIMO
- Operating bandwidth (n78): 3.4 GHz ... 3.8 GHz
- Instantaneous bandwidth: 200 MHz
- Occupied bandwidth: 200 MHz
- Max carrier bandwidth: 100 MHz
- DL/UL modulation schemes up to 256 QAM /64 QAM
- Number of TX / RX layer/ports per carrier: 64
- Number of MIMO streams / beams: 16
- Max output power: 35 dBm per TX (200 W in total)
- Max EIRP: 77.0 dBm

- IP65 -40 ... 55 °C
- 45 kg
- 67 liters
- Natural convection cooling
- DC power

AirScale 5G Radios

HW details and SW support

Name	Module name	SW support	Instantaneous bandwidth	Occupied bandwidth	Comments
AEUA	AEUA AirScale MAA 2T2R 512AE n257 8W 474214A	5G 18A	800 MHz	800 MHz	26.5 GHz ... 29.5 GHz
AEWA	AEWA AirScale MAA 2T2R 512AE n260 8W 474215A	5G 18A	800 MHz	800 MHz	38.6 GHz ... 40.0 GHz
AEQA	AEQA AirScale MAA 64T64R 192AE B42 200W 474212A	5G 18A LTE 19 (trial)	100 MHz	100 MHz	3.4 GHz ... 3.6 GHz
AEQD	AEQD AirScale MAA 64T64R 128AE B43 200W 474473A	5G 18A LTE 19 (trial)	100 MHz	100 MHz	3.6 GHz ... 3.8 GHz
AEUF	AEUF AirScale MAA 2T2R 512AE n257 8W 474864A	5G 18A	800 MHz	800 MHz	26.5 GHz ... 29.5 GHz
AEWF	AEWF AirScale MAA 2T2R 512AE n260 8W 474870A	5G 18A	800 MHz	800 MHz	37 GHz ... 40.0 GHz
AEQL	AEQL AirScale MAA 64T64R n78 200MHz OBW 475024A	5G 19B	400 MHz	200 MHz	3.4 GHz ... 3.8GHz
AEQF	AEQF AirScale MAA 16T16R 192AE B43 100W 474577A	5G 19	100 MHz	100 MHz	3.4 GHz ... 3.7 GHz
AEQG	AEQG AirScale MAA 16T16R 192AE B43 100W 474578A	5G 19	100 MHz	100 MHz	3.5 GHz ... 3.8 GHz

AirScale 5G Radios

HW details and SW support

Name	Module name	SW support	Instantaneous bandwidth	Occupied bandwidth	Comments
AETC	AETC AirScale MAA 16T16R 192AE N79 70W 474589A	5G 19 (trial)	100 MHz	100 MHz	4.4 GHz ... 5 GHz
AEUD	AEUD AirScale MAA 2*2T2R 256AE n257 4W 474611A	5G 19	800 MHz	800 MHz	26.5 GHz ... 29.5 GHz. 180° sector site solutions
AEUE	AEUE AirScale MAA 2*2T2R 256AE n257 4W 474690A	5G 19	800 MHz	800 MHz	26.5 GHz ... 29.5 GHz Omni 360° site solutions (AEUD + AEUE)
AEWB	AEWB AirScale MAA 8T8R 512AE n260 8W 474609A	5G 19	1400 MHz	800 MHz	38.6 GHz ... 40.0 GHz
AEUB	AEUB AirScale MAA 8T8R 512AE n257 8W 474608A	5G 19A	1400 MHz	800 MHz	26.5 GHz ... 29.5 GHz
AEWD/E	AEWD / AEWE AirScale MAA 2*2T2R 256AE n260 4W, AEWD 474612A and AEWE 474691A	5G 19A	1400 MHz	800 MHz	37.0 GHz ... 40.0 GHz
AZQG	AZQG AirScale RRH 8T8R n78 320W 474994A	5G 19A	200 MHz	100 MHz	3.4 GHz ... 3.7 GHz
AEQJ	AEQJ AirScale MAA 64T64R 128AE n78 45W	5G 19B	200 MHz	100 MHz	3.4 GHz ... 3.7 GHz
AEQE	AEQE AirScale MAA 64T64R 192AE n78 200W 474750A	5G 19B	200 MHz	100 MHz	3.42 GHz ... 3.8 GHz
AETG	AETG AirScale MAA 64T64R n79 (4.4-4.9GHz)	5G 19B			4.4 GHz... 4.9 GHz

