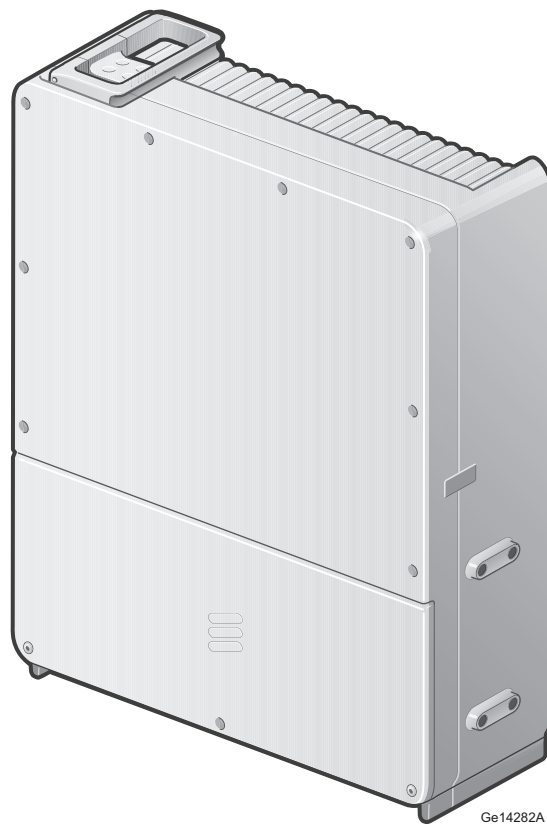


Baseband Description

Baseband 6318

Description



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1 Introduction

This document describes the Baseband 6318 unit.

1.1 Warranty Seal

The product is equipped with a warranty seal sticker.

Note: Seals that have been implemented by Ericsson must not be broken or removed, as it otherwise voids warranty.

2 Product Overview

Baseband 6318 is a zero footprint, integrated outdoor baseband unit. It is a member of the Ericsson Radio System, designed for radio systems where optical cables connect remote radios to the baseband units. Optical cables are available in standard lengths, from a few meters up to several hundred meters.

The cables can also be extended or built using leased cable. However, the extension and delay of the cable must be considered. The equivalent supported distance between the baseband unit and the radios can be up to 15 km. For supported length, consult the market representative.

For a description of the optical cables for the radios, see [Site Installation Products Overview](#) and [Installing Optical Cables for Main-Remote Solutions](#).

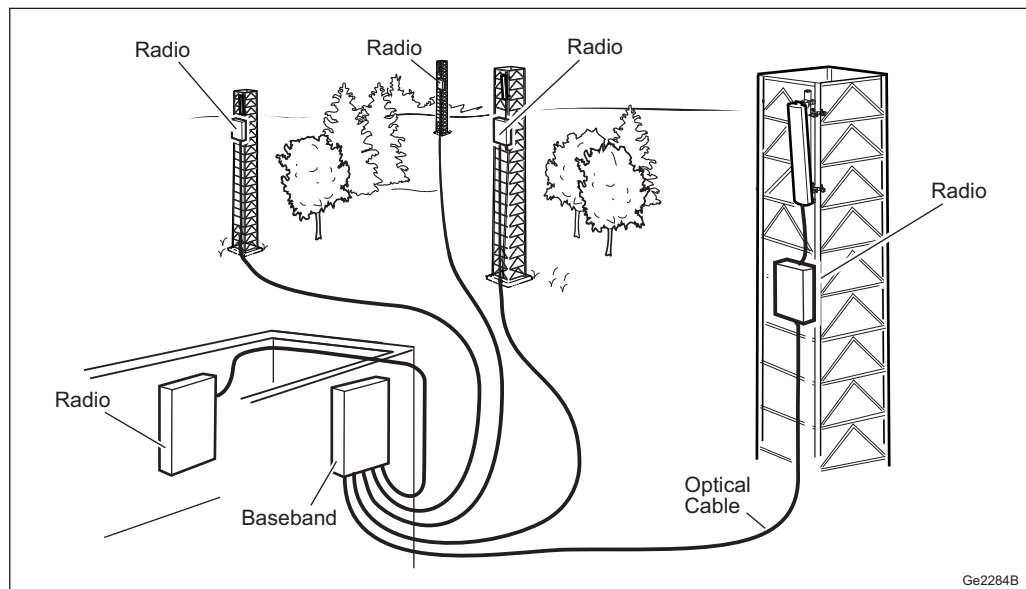
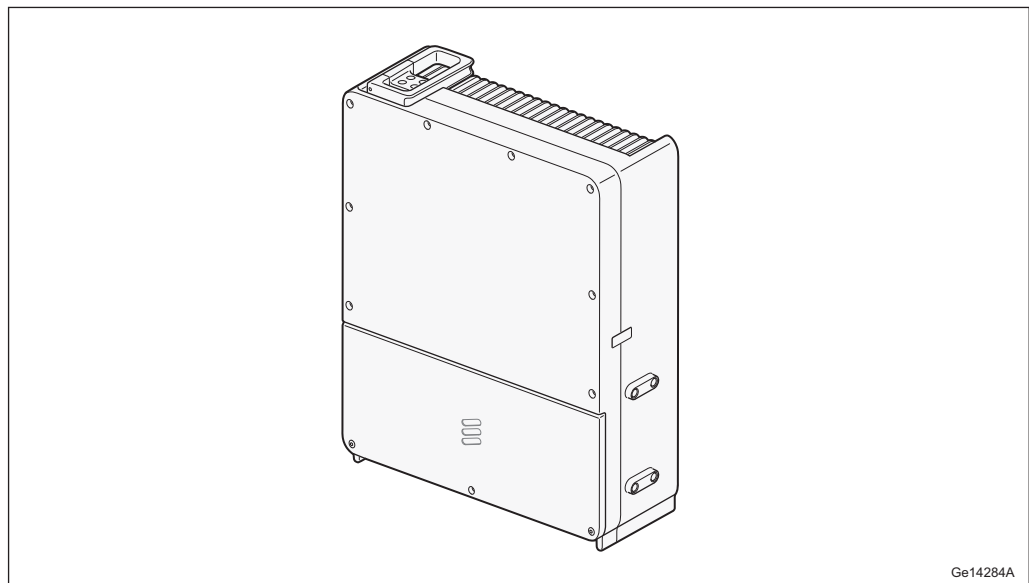


Figure 1 Baseband 6318 with Radios

The baseband can support up to six physical radio connections. For a total number of supported radio units and the currently available configurations, including cascade configurations, see [RBS Configurations](#).



Ge14284A

Figure 2 Baseband 6318

2.1 Main Features

This section describes the main features of the baseband.

Not all features are supported by all equipment configurations. For a description of the current equipment configurations, see [RBS Configurations](#).

The main features of the baseband are the following:

- Supports the following:
 - NR
 - LTE (FDD and TDD), WCDMA, GSM
 - Ericsson Spectrum Sharing
 - 5G Plug ins
 - Massive-IoT
 - NR Upper Layer vRAN
 - Elastic RAN
 - Mixed Mode
 - Backhaul cascading
- Up to eight integrated external alarms

- Integrated GNSS receiver
- Has the following power supply alternatives:
 - -48 V DC (two-wire)
 - -48 V DC (three-wire) with an optional PSU DC
 - 100–250 V AC with an optional PSU AC

2.2 Integrated Baseband

The Baseband has the following functions:

- Timing function
- Loadable software
- Downlink (DL) baseband processing
- Uplink (UL) baseband processing
- IP traffic management
- Radio interface
- Backhaul handling
- External synchronization

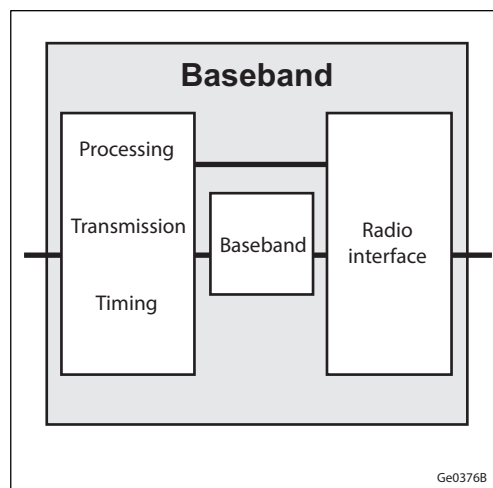


Figure 3 Baseband Block Diagram

For more information about the external synchronization, see the following documents:



- GNSS Receiver System Description
- GNSS Receiver System User Guide
- Manage Network Synchronization
- Manage Node Group Synchronization
- Manage LTE RAN Synchronization

2.3 Integrated Support Control Unit

The baseband is equipped with an integrated SCU.

The main functions of the SCU are as follows:

- Interface for external alarms
- Transient protected EC bus port for external connection
- Houses the integrated GNSS receiver

2.4 Integrated GNSS Receiver

The baseband is equipped with an integrated GNSS receiver for timing synchronization of the baseband.

For more information about the GNSS system, see [GNSS Receiver System User Guide](#) and [GNSS Receiver System Description](#)



3 Technical Data

3.1 Dimensions

Table 1 Dimensions, Weight, and Color

Dimensions	
Height	420 mm (445 ⁽¹⁾ mm)
Width	350 mm (357.5 ⁽²⁾ mm)
Depth	123 mm (130 ⁽²⁾ mm)
Weight	16 Kg
Color	
Baseband unit	Reference number: NCS S 1002-B

- (1) Including handle and feet
(2) Including mounting distances

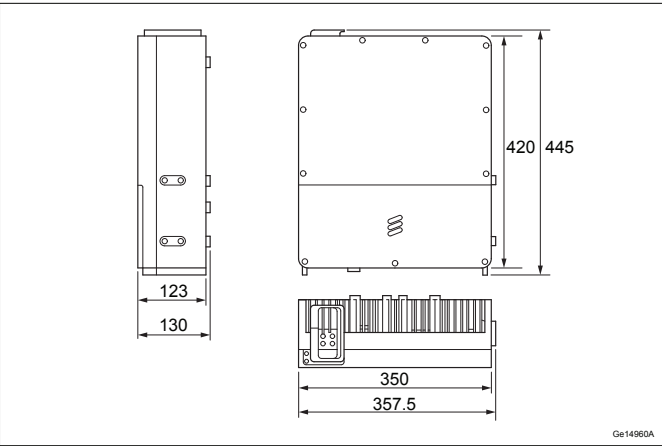


Figure 4 Baseband Dimensions

3.2 Radio Interface Line Rates

Table 2 Technical Data

Baseband	Radio Interface Line Rate	
	CPRI	eCPRI
Baseband 6318	2.5 Gbps, 4.9 Gbps ⁽¹⁾ , 9.8 Gbps ⁽¹⁾ , and 10.1 Gbps ⁽¹⁾	10.3 Gbps ⁽¹⁾

(1) Depending on the Software Package



For more information about capacity data, refer to RBS Configurations

3.3 Installation Recommendations

To achieve reliable operation, and maximum performance, an appropriate installation location must be chosen.

3.3.1 Indoor Locations to Avoid

Although the unit is designed for outdoor use, it can also operate in an indoor environment according to ETSI EN 300 019-1-3 class 3.1, 3.2, 3.3, and 3.6. This does not cover installation with heat traps or installation in lofts, where air ventilation does not exist. To ensure smooth performance of the product, it is recommended to ensure that the planned installation site for the unit is not a potential microclimate location. This typically occurs in places such as unventilated lofts, sites with heat traps, or sites where the product is exposed to direct sunlight through windows. Ensure proper ventilation and avoid installing the equipment under glass covers or skylight windows.

3.3.2 Outdoor Locations to Avoid

Although Ericsson declares this product suitable for most outdoor environments, this does not cover installations where the planned installation site for the unit is a potential microclimate location. Typical examples of these microclimate locations are sites where the products are not only exposed to the actual temperature, but also additional temperature coming from dark-colored planes, for example, reflections from the floor or walls. The additional temperature can generate heat traps with temperatures up to 10°C higher than expected.

Avoid installing equipment in the following locations:

- Near the exhaust of a building ventilation system
- Near the exhaust of the chimney
- Opposite large surfaces made of glass or new concrete

3.3.3 Painting Disclaimer

Ericsson recommends to not paint the product as it can affect performance of the product.

Ericsson applies limitations to the warranty and service contract if the product is painted.

If the product is painted, the following commercial limitations apply:

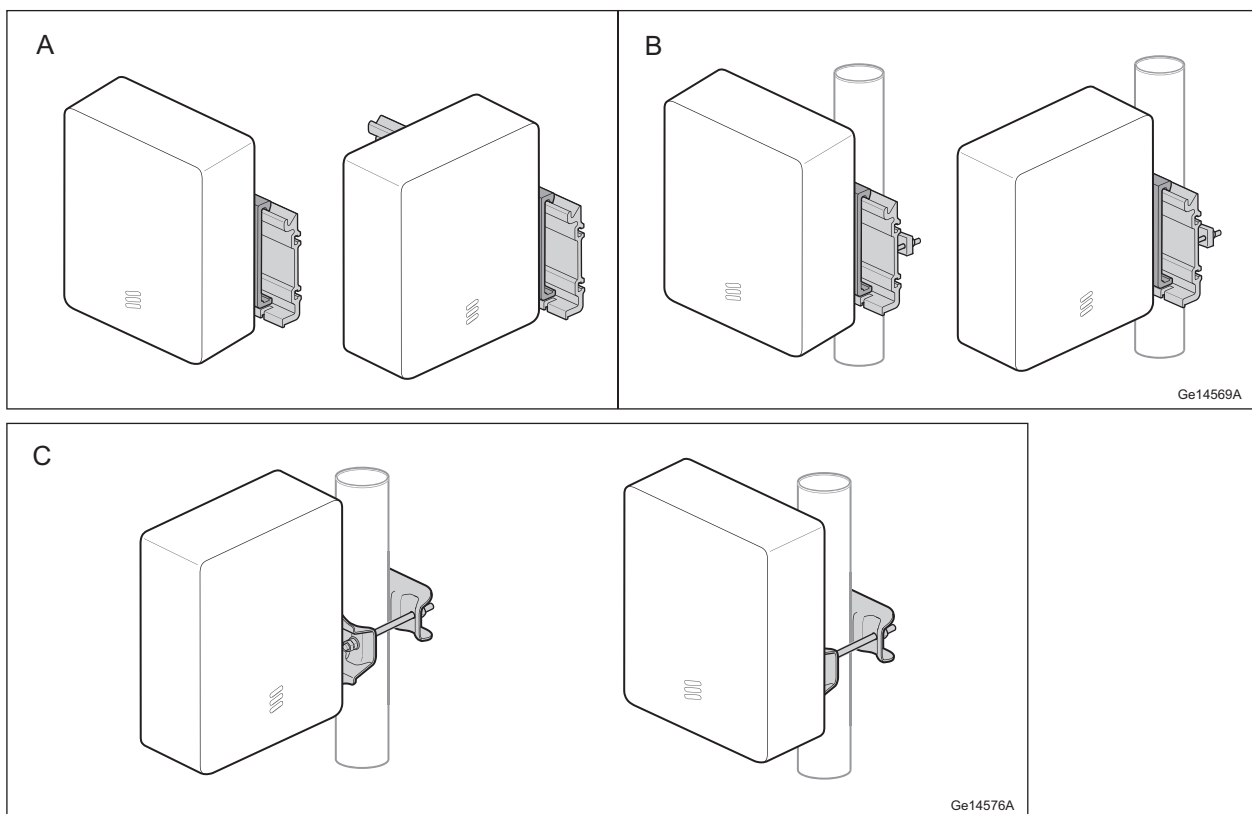
- Failure modes directly related to overheating because of painting are not valid for repair within the scope of the warranty or standard service contract.

- Product failures related to paint contamination of components of the unit are not valid for repair within the scope of warranty or standard service contract.
- When a painted unit is repaired, it might be restored to the standard color before being returned to the market. It is not possible to guarantee that the same unit is sent back to the same place. This is also valid for units repaired under a service contract.
- For repairs within the warranty period or a standard service contract, the customer is charged the additional costs for replacing all painted parts of the unit or the complete unit.

If adaptations are required, contact Ericsson for information.

3.3.4 Installation Alternatives

The unit supports both brackets and rail installation, on a pole or a wall. Make sure to install the unit vertically, with the cable inlets always pointing downwards.



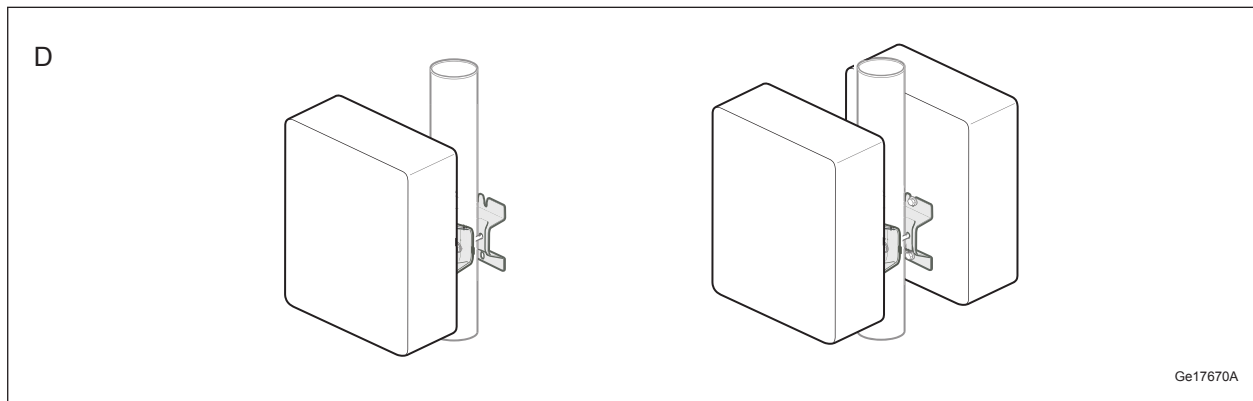


Figure 5 Installation Alternatives

Table 3 Pole or Mast Dimensions

Installation Method	Description
A	Wall installation
B	Pole installation on rail
C	Pole installation with single pole clamp
D	Pole installation with dual ERS bracket

The unit supports bookshelf and portrait mounting directions. Install the mounting brackets based on the selected mounting direction.

Make sure the unit is placed furthest to the right on the rail, if possible.

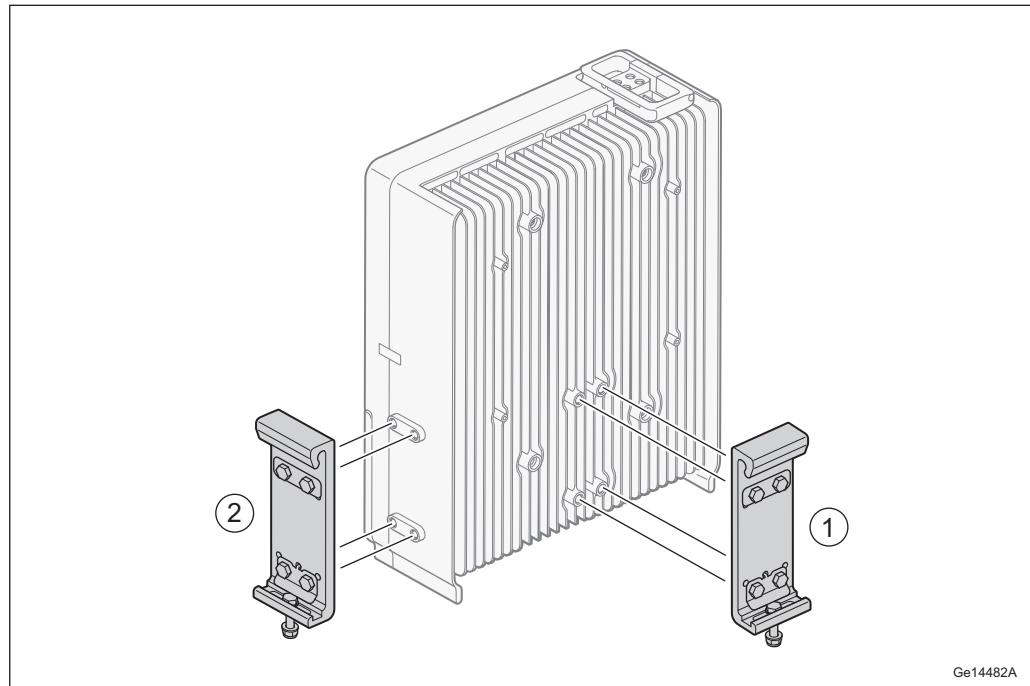
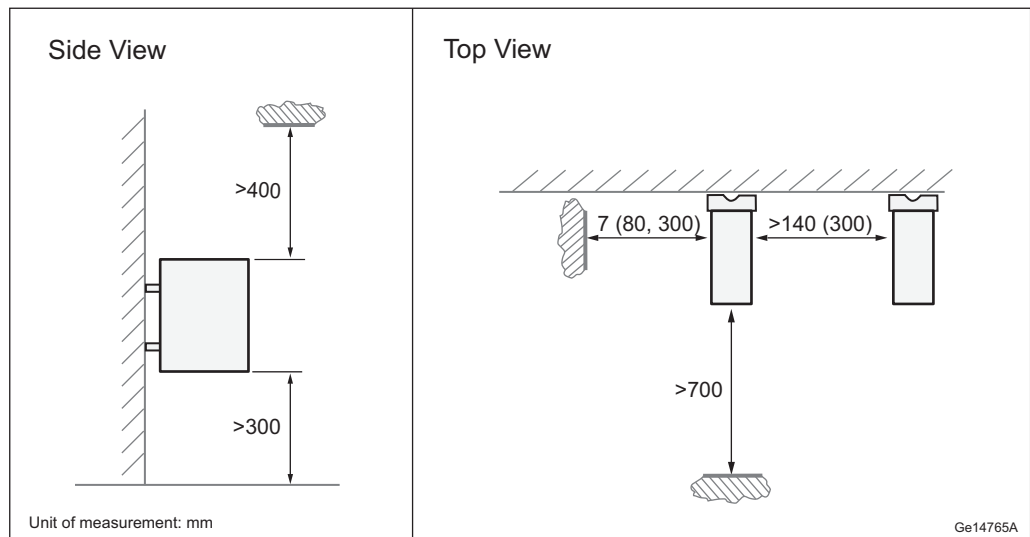


Figure 6 Mounting Bracket Positions

Make sure to follow the required minimum distances for climate and maintenance.



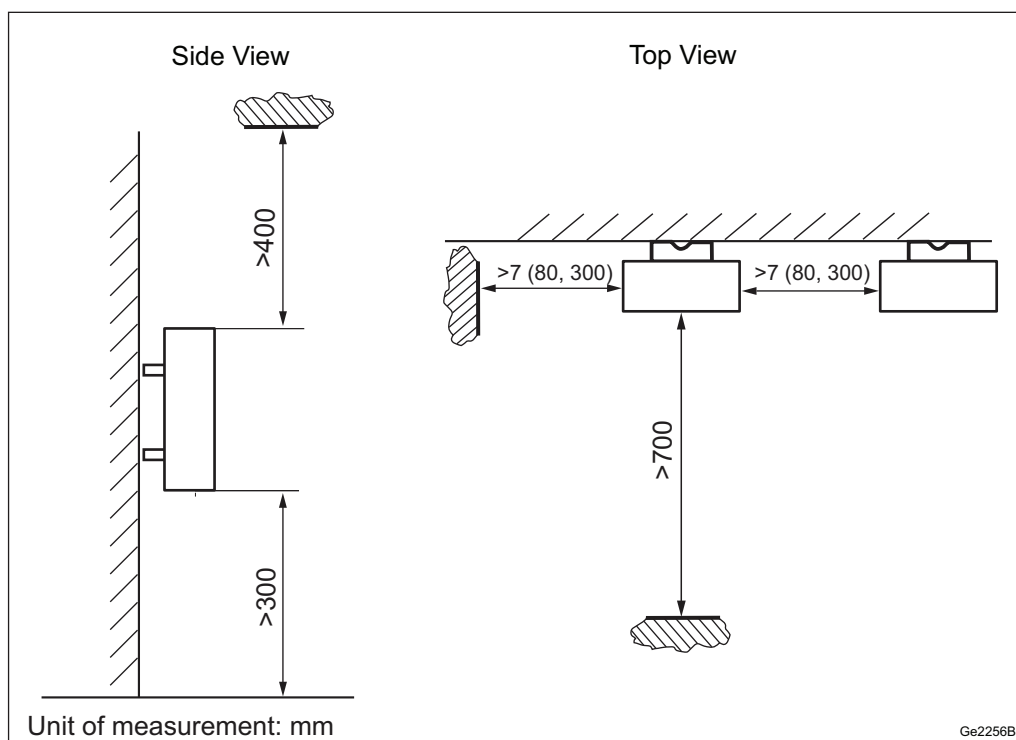


Figure 7 Climate and Maintenance Requirements

Allow a minimum of 7 mm free space between units installed side by side on the rail.

Allow for a minimum of 80 mm free space between units installed side by side on the rail when ambient temperature is expected to be above +45°C.

When installed with units with a heat dissipation over 500 W, allow for a minimum free space of 300 mm.

To be able to access the hatch and install cables, 140 mm is the recommended minimum distance. For a sufficient working space for general handling of the unit, 700 mm is the recommended minimum distance.

3.3.4.1

Legacy Installation Alternatives

Baseband 6318 also supports all installation alternatives that RBS 6302 supports. For details about those installation alternatives, see [RBS Description](#), [Installing RBS](#), and [Replacing RBS](#) for RBS 6302.

Note: When replacing an RBS 6302 with a Baseband 6318 it is recommended to use the Ericsson grounding adapter used to convert single hole cable lugs to fit the new dual hole grounding access point. The adapter has product number: SXA120769/1.



3.4 Environmental Characteristics

This section describes the environmental characteristics of the baseband unit.

3.4.1 Operating Environment

The following is a list of values for the baseband unit in normal operating environment:

Temperature range	-40°C through +55°C
Relative humidity	5–100%
Absolute humidity	0.26 g/m ³ through 40 g/m ³
Maximum temperature change	1°C/min

3.4.2 Heat Dissipation

The maximum heat dissipation value represents the worst-case heat dissipation of a fully equipped baseband unit, taking optional equipment and future expansion into account as follows:

Maximum heat dissipation without PSU	200 W ⁽¹⁾
Typical heat dissipation	See Power Consumption Calculations for more information.

(1) At -54.5 V DC

3.4.3 Acoustic Noise Summary

The baseband does not generate acoustic noise.

3.4.4 Vibration

This section describes the baseband tolerance to vibrations.

The baseband operates reliably during seismic activity as specified by test method IEC 60 068-2-57 Ff.

Maximum level of RRS	50 m/s ² within 2–5 Hz for DR=2%
Frequency range	1–35 Hz
Time history signal	VERTEQ II



The baseband operates reliably during random vibration as specified by test method IEC 60 068-2-64 Fh method 1.

Random vibration, normal operation	$0.05 \text{ m}^2/\text{s}^3$
Random vibration, safe operation	$0.1 \text{ m}^2/\text{s}^3$
Random vibration, non-destruction operation	$0.2 \text{ m}^2/\text{s}^3$

The baseband operates reliably during shock as specified by test method IEC 60 068-2-27 Ea.

Peak acceleration	100 m/s^2
Duration	11 ms

3.4.5 Earthquake Requirements

To fulfill earthquake requirements, the installation requirement must be fulfilled.

3.4.6 Materials

The materials in the baseband are managed through the Ericsson lists of banned and restricted substances, based on legal and market requirements.

3.5 Power Supply Characteristics

This section describes the power supply, power consumption, and fuse and circuit breaker recommendations for the unit.

3.5.1 Power Requirements

A disconnect device, such as a mains switch or an external circuit breaker, must be installed.

Note: The local electrical installation code must also be considered.

3.5.2 DC Power Supply Characteristics

The DC-powered baseband unit is available with a two-wire -48 V DC power system.

A three-wire -48 V DC power system is optional; it requires an optional PSU DC.



Table 4 Power Supply DC

DC Power	Conditions	Values and Ranges
-48 V DC, two-wire	Nominal voltage	-48 V DC
	Operating voltage range	-58.5 V DC through -36.0 V DC
	Non-destructive voltage range	-60.0 V DC through 0 V DC
	Maximum prospective short circuit current	5 kA

Fuse and Circuit Breakers for a DC-Powered Baseband

The baseband external DC power fusing must meet the following characteristics:

- Fuse, type gL-gG-gD, in accordance with IEC/EN 60 269-1 and UL 248-8.
- Circuit breaker in accordance with IEC 60 947-2 and UL 489A.

The fuse and circuit breaker recommendations are based on peak power consumption. The table does not include information on power consumption during normal operation.

Table 5 Fuse and Circuit Breaker Recommendations for a DC-Powered Baseband Unit

DC Power -48 V, Two-Wire	Minimum Fuses or Circuit Breakers Recommended for Reliable Operation (A) ⁽¹⁾	Maximum Fuses or Circuit Breakers (A) ⁽²⁾
Temperature range: -40°C through +55°C	10	25

(1) The recommended fuse and circuit breakers correspond to peak load.

(2) The absolute maximum fuse and circuit breaker class is according to the baseband unit design restrictions.

The power cable conductor has a wire for the 0 V DC conductor and a wire for the -48 V DC conductor. The wire color code for both is market-dependent.

All cables are recommended to be multi-stranded.

Table 6 Power Cable Recommendation

Cable Length (m)	Recommended Cross-Sectional Area of Each Conductor (mm ²)
0–60	2.5
60–100	6

3.5.3

AC Power Characteristics

The AC power source must provide protection for overcurrent, short circuit, and ground fault. For more information about the AC power, see [PSU Description](#).



3.5.4 Power Consumption

For information on power consumption, see [Power Consumption Calculations](#).

3.6 System Characteristics

This section describes the system characteristics of the unit.

3.6.1 Software

For information on software dependencies, see [Compatibilities for Hardware and Software](#).

3.6.2 Radio Configurations

For information about available radio configurations, see [RBS Configurations](#).

4 Hardware Architecture

This section contains an overview of the standard hardware units.

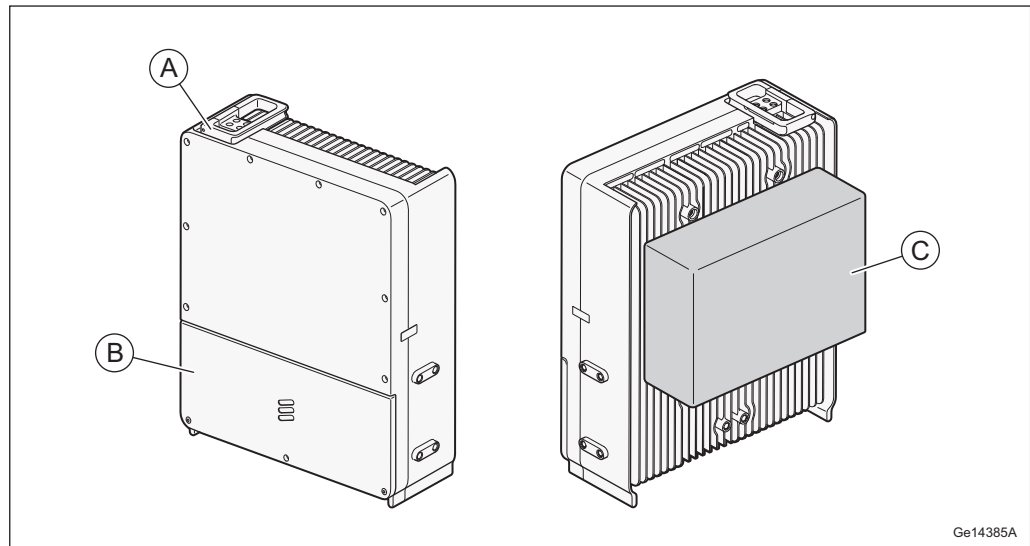


Figure 8 Hardware Units

Table 7 Hardware Units

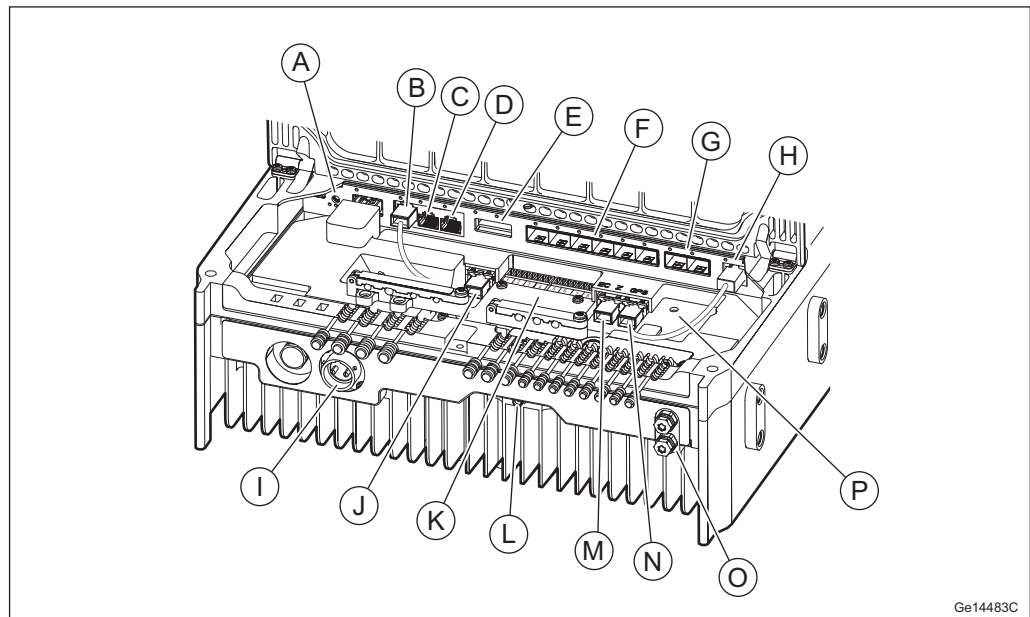
Position	Name of Unit	No. of Units	Description
A	Handle	1	The handle is used when lifting or hoisting the baseband unit.
B	Hatch	1	The hatch hides the optical indicators and connection interfaces.
C	PSU AC (optional)	1	The PSU converts AC to -48 V DC or from -48 V DC 3-wire to -48 V DC 2-wire. For more information about the PSU AC, see PSU Description.

For a description of the currently available configurations, see [RBS Configurations](#).



5 Connection Interfaces

This section contains information about the connection interfaces of the baseband unit, including optical indicators and cable inlets.





Ge14483C

Figure 9 Connection Interfaces


Table 8 Connection Interfaces and Indicators

Position	Marking	Connector	Description	Optical Indicator ⁽¹⁾
A	!	-	Fault Optical indicator, red	Yes
	✓	-	Operation Optical indicator, green	Yes
	🔧	-	Maintenance Optical indicator, blue For information about the maintenance button, see	Yes




Position	Marking	Connector	Description	Optical Indicator ⁽¹⁾
			Indicators, Buttons, and Switches.	
		-	Status Optical indicator, yellow	Yes
B	EC	RJ-45	ECB Internal EC and APC light connection from EC X port	Yes
C	LMT	RJ-45	LMT A interface ⁽²⁾⁽³⁾ LMT B Interface ⁽³⁾⁽⁴⁾ Sync test interface ⁽⁵⁾⁽⁶⁾ Internal and external interfaces	Yes ⁽⁷⁾
D	TN A ⁽⁸⁾⁽⁹⁾	RJ-45	100 Mbps/1 Gbps Ethernet transport interface External interface, electrical	Yes
E	IDL A	Xcede	IDLe, Elastic RAN connection Baseband to Baseband interface	Yes
	IDL B	Xcede	IDLe, Elastic RAN connection Baseband to Baseband interface	Yes
F	 A - F	SFP+ ⁽¹⁰⁾	Radio interface × 6	Yes



Position	Marking	Connector	Description	Optical Indicator ⁽¹⁾
			<p>External interface between Baseband and external radios, optical</p> <p>All of the ports (A - F) support NR using CPRI⁽¹¹⁾⁽¹²⁾</p> <p>All of the ports (A - F) support NR using eCPRI⁽¹¹⁾⁽¹³⁾</p>	
G	TN B and TN C ⁽⁸⁾⁽⁹⁾⁽¹⁴⁾	SFP+ ⁽¹⁵⁾	<p>1 Gbps/10 Gbps Ethernet transport interface</p> <p>External interface, electrical/optical</p>	Yes
H	SYNC	RJ-45	<p>Synchronization Interface</p> <p>Connected to the integrated GNSS receiver through the GPS port. Can also be used for external GNSS input.</p> <p>Internal and external interface</p>	Yes
I	-48V 	-48 V DC power connector	-48 V DC Power	No
J	EC X	RJ-45	Enclosure Control Bus (ECB)	Yes



Position	Marking	Connector	Description	Optical Indicator ⁽¹⁾
			Internal EC and APC light connection to EC port	
K	1–8	Screw terminal	External alarm connectors: up to eight external alarms can be connected.	
L		SMA	GNSS antenna cable connector	
M	EC Z	RJ-45	ECB External EC and EC light connection port	Yes
N	GPS	RJ-45	Synchronization Interface Connect the integrated GNSS receiver to the SYNC port. Internal interface	Yes
O		Dual lug with two M6 screws	Ground	
P		Optical indicator for the GNSS receiver	For information about the GNSS optical indicator, see Indicators, Buttons, and Switches description for GPS 03.	

(1) For more information about optical indicators, see [Indicators, Buttons, and Switches](#)

(2) RS-232 interface. Accessed with the LMT splitter cable.

(3) For more information about the LMT interfaces, see [Connect Client](#).

(4) 100-Mbps electrical Ethernet interface.

(5) Compliant with 1PPS 50-Ω phase synchronization measurement interface. Accessed with an adaptor.

(6) For more information about the sync test interface, see [Manage Network Synchronization](#).



- (7) The optical indicator indicates the status of the LMT B interface.
- (8) Supports synchronization over the transport network.
- (9) Hardware Activation Codes are required for use of multiple TN ports simultaneously.
- (10) SFP+ is needed for CPRI rates higher than 2.5 Gbps.
- (11) Depending on the Software Package
- (12) In CPRI NR configurations, all of the ports carry CPRI NR. Can not be mixed with other configurations.
- (13) In eCPRI NR configurations, all of the ports carry eCPRI NR. Can not be mixed with other configurations.
- (14) Hardware Activation Codes are required for use of 10-Gbps transmission rates.
- (15) SFP+ is needed for transmission rates higher than 2.5 Gbps.

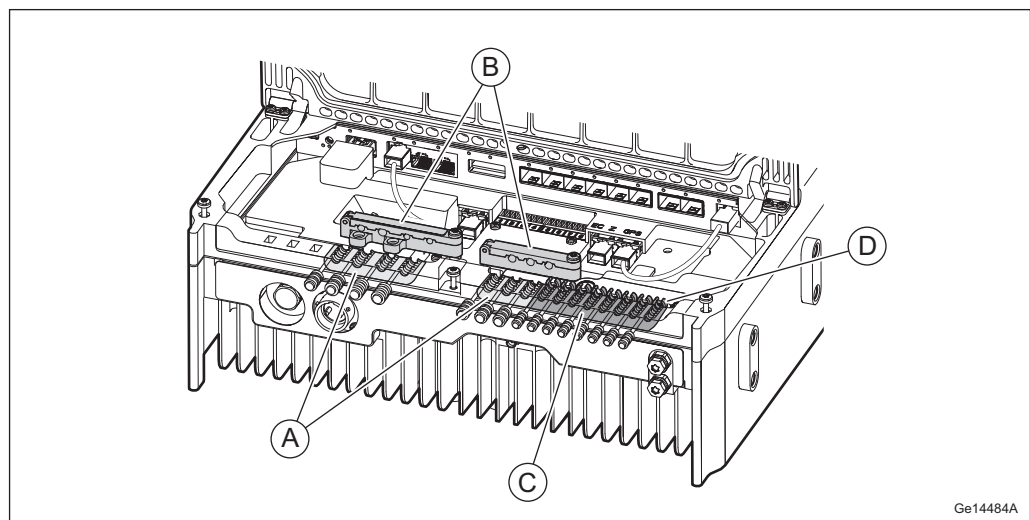


Figure 10 Cable Inlets

Table 9 Cable Inlets

Position	Description
A	Seven thick cable glands for the electrical interfaces LMT, TN A, IDL A and B, external alarms, external GNSS, EC Z.
B	Shield terminal for the electrical cables.
C	Eight thin cable glands for the optical interfaces CPRI A to F, TN B, and TN C.

For information about the cables for the different interfaces, see [Site Installation Products Overview](#).

5.1 Position A and P, Optical Indicators and Maintenance Button

The baseband unit is equipped with optical indicators that show the system status. The optical indicators and the maintenance button are located underneath the installation cover.

For more information on optical indicators, see [Indicators, Buttons, and Switches](#).

Use the maintenance button for hardware reset only.

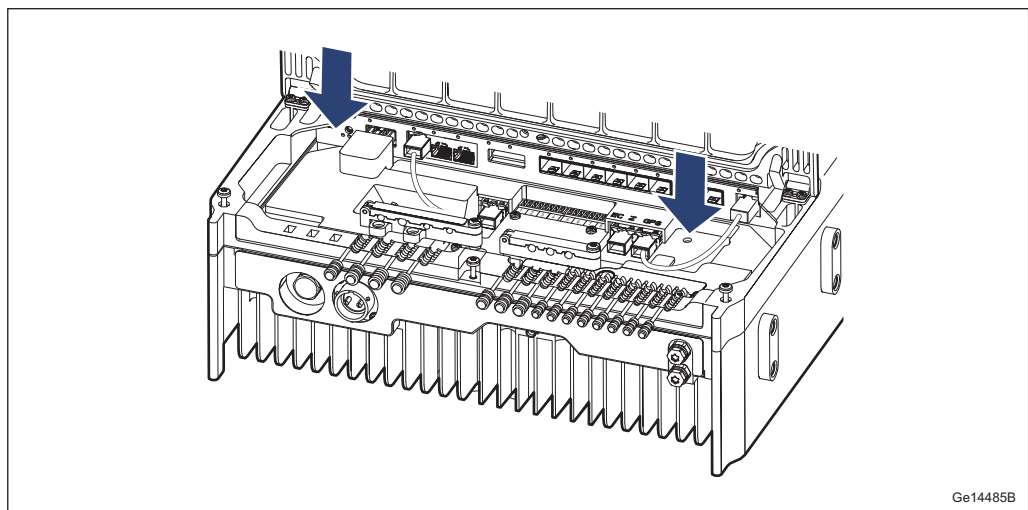


Figure 11 Optical Indicators

5.2 Position B, J, and M EC Interface

The port marked EC is by default connected to EC X with a pre-installed internal cable.

EC Z is used for connection of EC and APC light interfaces. It is mainly used for alarm handling over APC light from power units.

The EC ports are RJ-45 connectors.

5.3 Position C, LMT Interface

The client is connected to the LMT port on the baseband for configuration and service purposes.

For information on connecting a client to the baseband for configuration and service purposes, see [Connect Client](#).



5.4 Position D and G Transport Interface

Several transport alternatives are available.

— RELATED INFORMATION —

[6. Transport Standards on page 37](#)

5.4.1 Backhaul Cascading

The backhaul connection can be cascaded for up to three units.

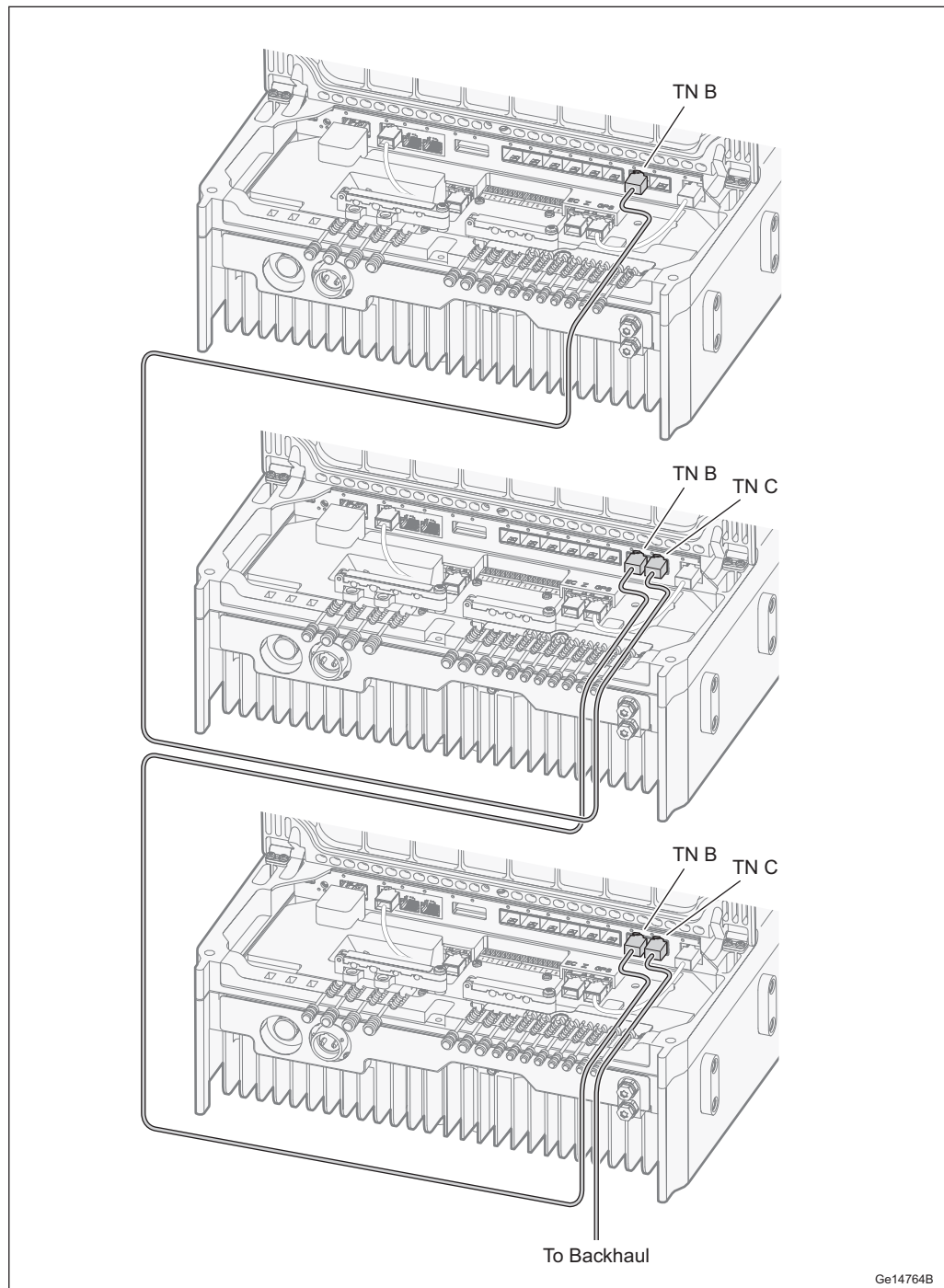


Figure 12 Backhaul Cascading

For more information about cascading the backhaul connections, see Baseband Native Transport Cell Site Connectivity Guidelines, Manage Transport Network, and Manage Routing Features.



5.4.2

Backhaul Cables



Danger!

Equipment that transmits laser light can cause permanent eye damage. Never look directly into the end of a fiber optic cable or other laser source. Switch off the laser before starting work on laser equipment.

[Figure 13](#) shows and [Table 10](#) describes a configuration example with backhaul and Elastic RAN cables between baseband units.

For more information about Elastic RAN, see [Elastic RAN](#).

For more information about supported configurations and capacity for Elastic RAN, see [RBS Configurations](#).

For more information about SFP modules and optical cables, see [Handling SFP Modules and Optical Cables](#).

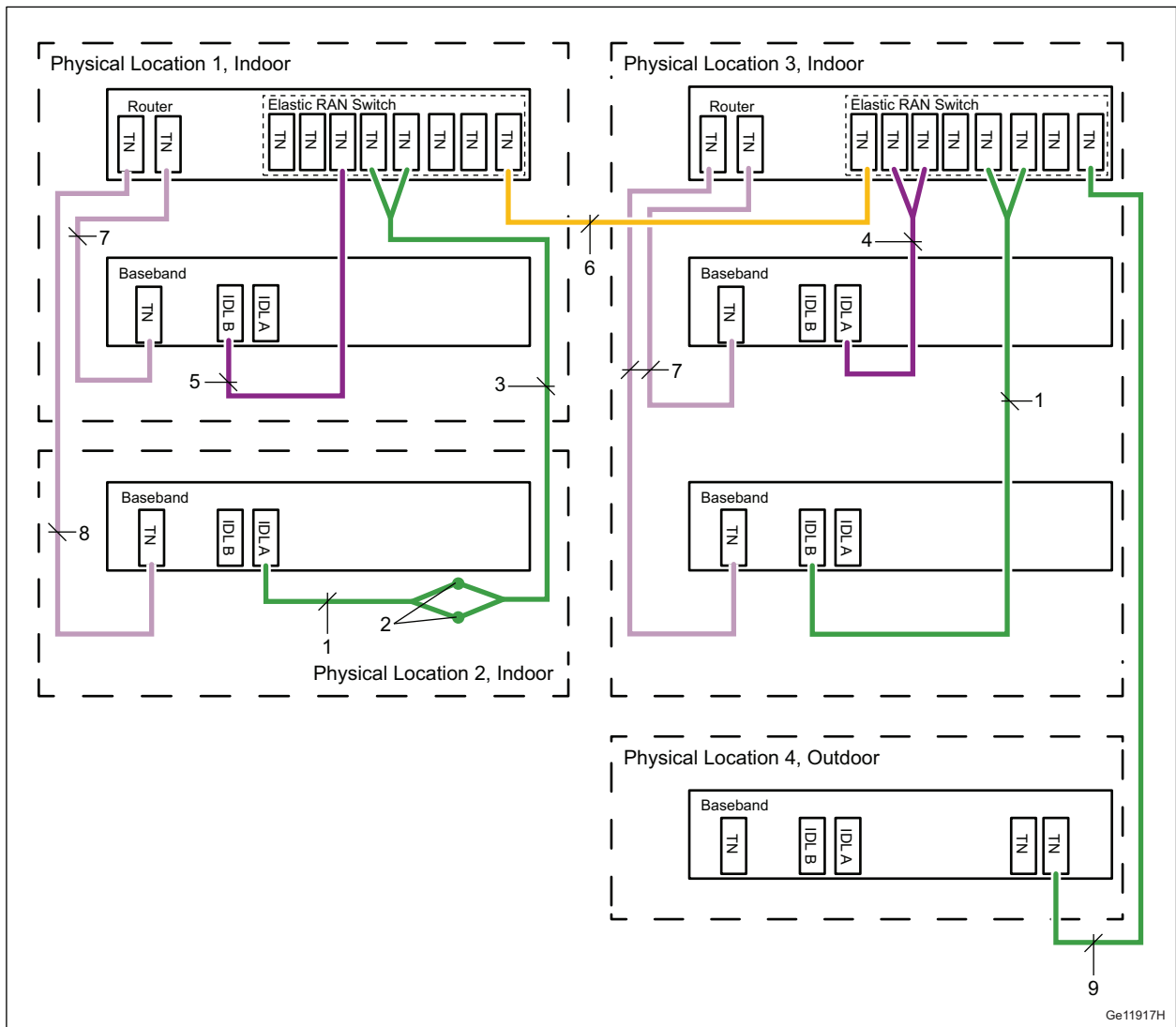


Figure 13 Backhaul and Elastic RAN Signal Cables

Table 10 Backhaul and Elastic RAN Signal Cables

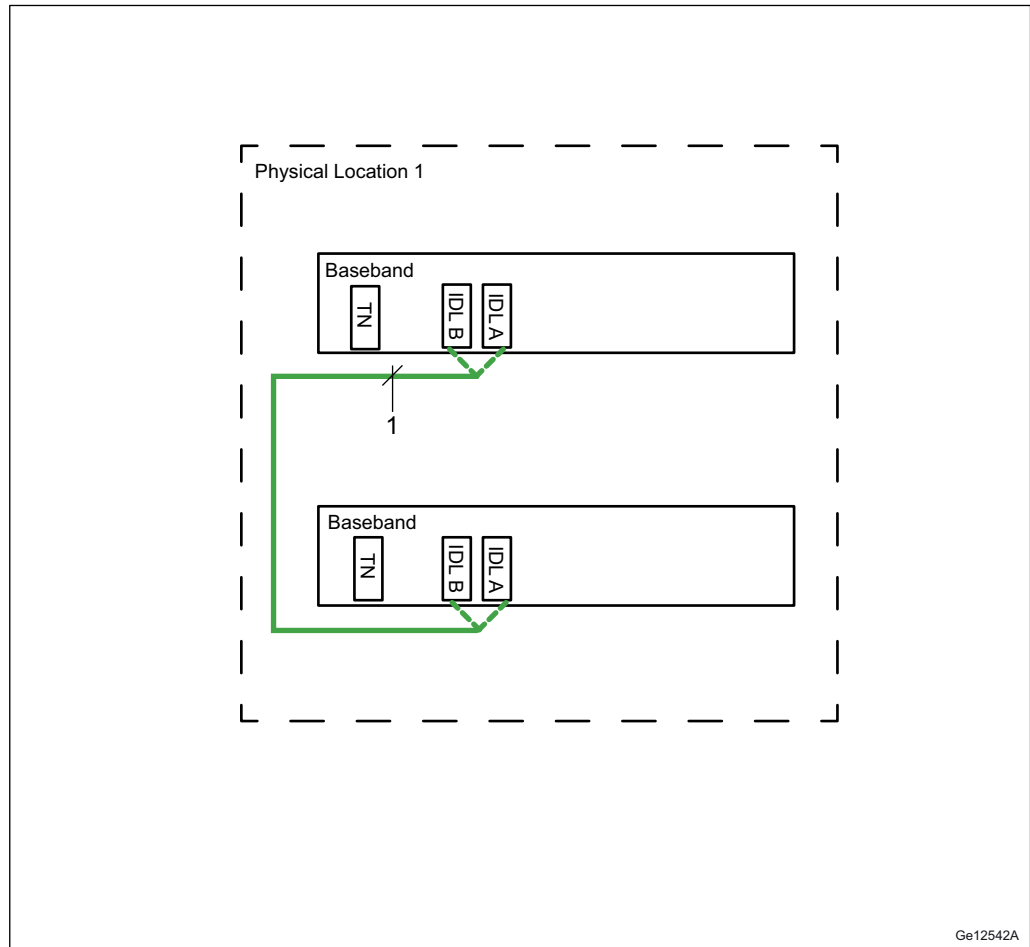
Pos.	Connections		Product	Product No.	L (m)	Comments	Connectors
	From	To					
1	Baseband ⁽¹⁾ IDL A or IDL B	Router ⁽²⁾ TN E to TN S	Optical cable, Multimode	RPM 777 811 ⁽³⁾	3 or 5	Remote ⁽⁴⁾ Elastic RAN connection, CA and Uplink CoMP	One Xcede with electrical to optical converter to two LC
2	Baseband ⁽¹⁾ IDL A or IDL B	Router ⁽²⁾ TN E to TN S	LC Adapter		NA	LC adapter to connect two male LC connectors	



Pos.	Connections		Product	Product No.	L (m)	Comments	Connectors
	From	To					
3	Baseband ⁽¹⁾ IDL A or IDL B	Router ⁽²⁾ TN E to TN S	Optical cable, Multimode	RPM 253 3209 ⁽³⁾ , RPM 253 4801 ⁽³⁾ , or RPM 253 4980 ⁽³⁾	100	Remote Elastic RAN connection, CA and Uplink CoMP	Two LC to two LC
4	Baseband ⁽¹⁾ IDL A or IDL B	Router ⁽²⁾ TN E to TN S	Electrical cable	RPM 777 544/L	1 and 2 for standalone installation 1, 1.5, and 2 for RBS installation	Local Elastic RAN connection, CA and Uplink CoMP	One Xcede to two SFP
5	Baseband ⁽¹⁾ IDL A or IDL B	Router ⁽²⁾ TN E to TN S	Electrical cable	RPM 777 543/L	1 and 2 for standalone installation 1, 1.5, and 2 for RBS installation	Local Elastic RAN connection, CA or Uplink CoMP	One Xcede to one SFP
6	Router ⁽²⁾ TN A to TN S	Router ⁽²⁾ TN A to TN S	Indoor optical patch cable, single mode	TSR 391 3072/L ⁽³⁾	Up to 60	Router to Router remote interconnectio n	One LC to one LC
			Outdoor optical patch cable, single mode	RPM 253 3512/L ⁽³⁾	Up to 5000	Router to Router remote interconnectio n	One LC to one LC
7	Baseband 6620 or Baseband 6630 TN C or TN D Baseband 5212 or Baseband 5216 TN A	Correspondin g ports on the Router ⁽²⁾	Electrical cable	RPM 777 341/L	0.65, 1.1, 1.8, or 2.6	Local backhaul connection	RJ-45 to RJ-45
				TSR 432 151	Up to 100		
	Baseband 6620 or Baseband 6630 TN A or TN B Baseband 5212 or Baseband 5216 TN B or TN C	Correspondin g ports on the Router ⁽²⁾	Electrical cable	RPM 777 579/L	1, 2, and 3 for standalone installation 0.8, 1, 1.5, and 2 for RBS installation	Local backhaul connection	One SFP to one SFP
8		Correspondin g ports on the Router ⁽²⁾	Optical cable, single mode	RPM 253 3512/L ⁽³⁾	Up to 5000	Remote backhaul connection	One SFP to one SFP
9	An outdoor Baseband: Baseband 6318 TN B or TN C, Baseband 6303 TN A or TN B An indoor Baseband in a small outdoor enclosure: Baseband 5212 TN B, Baseband 5216 TN B or TN C, Baseband 6620 or Baseband 6630 TN A or TN B	Router ⁽²⁾ TN E to TN S	Optical cable, single mode	RPM 253 3512/L ⁽³⁾	Up to 5000	Remote backhaul and remote Elastic RAN connection, CA only	One SFP to one SFP



- (1) Baseband 5212, Baseband 5216, Baseband 6303, Baseband 6318, Baseband 6620, or Baseband 6630. Baseband 6502 does not support Elastic RAN.
- (2) Router 6675
- (3) Minimum bending radius is 40 mm.
- (4) Can also be used without RPM 253 3209 for local Elastic RAN connections.



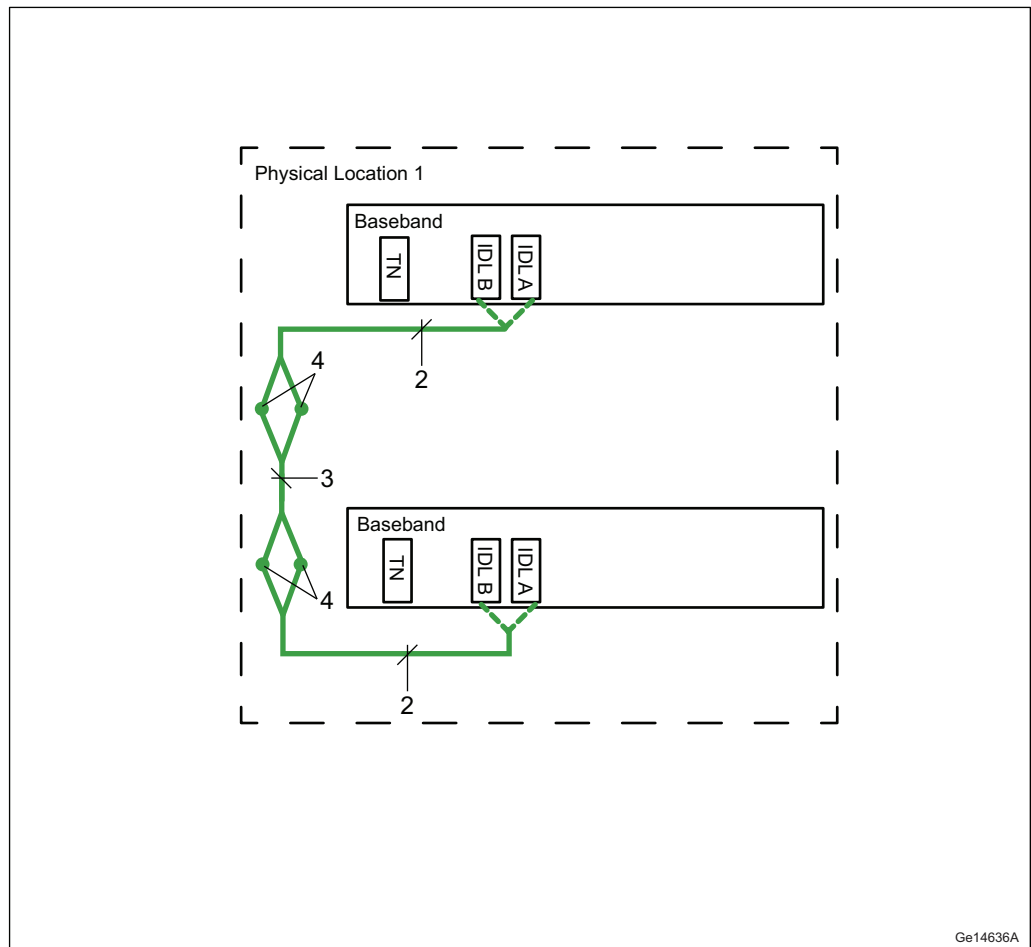


Figure 14 Elastic RAN Local Signal Cables



Table 11 Elastic RAN Local Signal Cables

Pos.	Connections		Product	Product No.	Length (m)	Comments	Connectors
	From	To					
1	Baseband 5216 IDL A or IDL B	Baseband 5216 IDL A or IDL B	Electrical cable	RPM 777 417/L	3	Local Elastic RAN connection	One Xcede to Xcede.
	Baseband 6630 IDL A or IDL B	Baseband 6630 IDL A or IDL B			1.8		
	Baseband 6318 IDL A or IDL B	Baseband 6318 IDL A or IDL B		RPM 901 807	1		
2	Baseband 5216 IDL A or IDL B	Baseband 5216 IDL A or IDL B	Optical cable, Multimode	RPM 777 811 ⁽¹⁾	3 or 5	Local Elastic RAN connection	One Xcede to two LC (connected to LC Adapters)
	Baseband 6630 IDL A or IDL B	Baseband 6630 IDL A or IDL B					
3	Baseband 5216 IDL A or IDL B	Baseband 5216 IDL A or IDL B	Optical cable, Multimode	RPM 253 3209 ⁽¹⁾ , RPM 253 4801 ⁽¹⁾ , or RPM 253 4980 ⁽¹⁾	100		Local Elastic RAN connection
	Baseband 6630 IDL A or IDL B	Baseband 6630 IDL A or IDL B					
4	LC Adapter						

(1) Minimum bending radius is 40 mm.

5.5 Position E, IDL Interface

The IDL interface is an interface for connecting baseband units in an Elastic RAN configuration.

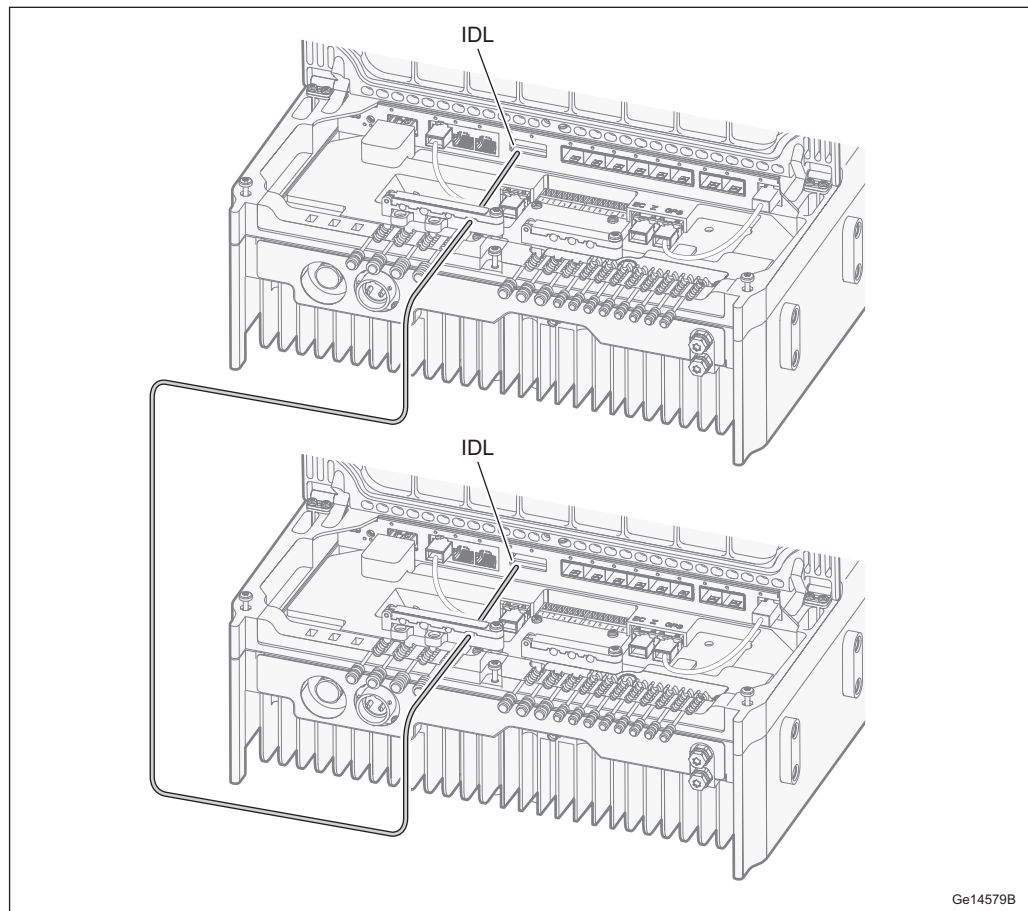


Figure 15 Elastic RAN Connection

Table 12 Elastic RAN Connection

Connections		Product	Product No.	Length (m)	Connectors
From	To				
Baseband 6318 IDL A or IDL B	Baseband 6318 IDL A or IDL B	Outdoor electrical cable	RPM 901 807	1	One Xcede to one Xcede

For more information about the Elastic RAN feature and configuration, see Elastic RAN and RBS Configurations.

5.6 Position F, Radio Interface

The baseband and the radio are connected with an optical cable through a supported SFP module. Optical cables are available in standard lengths, from a few meters up to several hundred meters.

For longer distances between the baseband and the radio, the optical connection can be extended by using extension cables or leased line. The total connection

must not exceed the maximum allowed length or distance between the baseband and the radio.

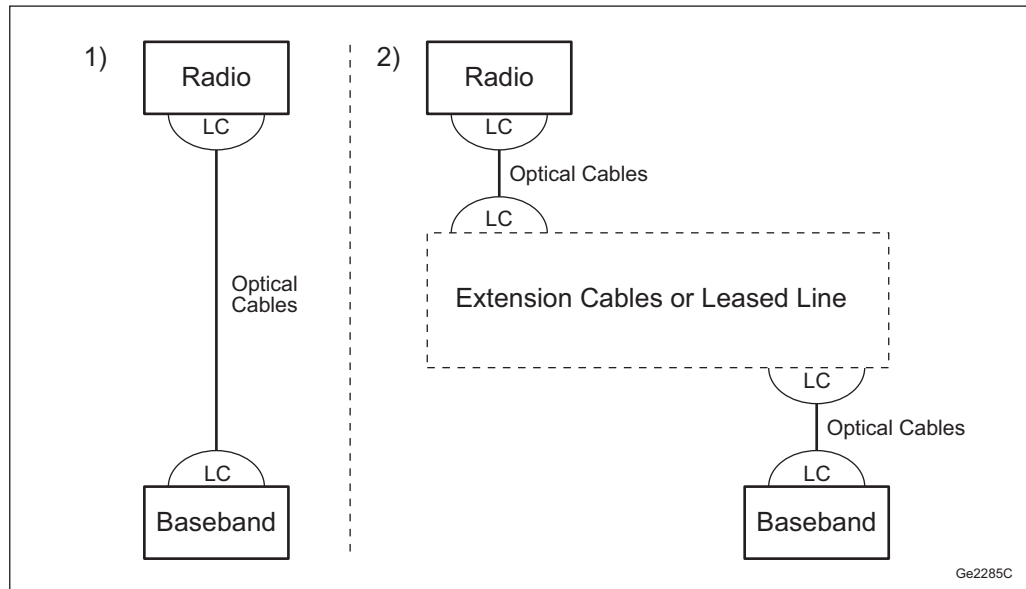


Figure 16 Optical Cables Connection Scenarios

When choosing SFP modules, the optical cable distance and type must be considered.

This baseband uses SFP modules for optical transport and optical radio interfaces.

Only use SFP modules approved by Ericsson. These modules fulfill the following:

- Compliance with Class 1 laser product safety requirements defined in standard IEC 60825-1.
- Certification according to general safety requirements defined in standard IEC 60950-1.
- Functionality and performance verified to comply with baseband specifications.

Recommended SFP modules are obtained from the product packages for the baseband and the Main Remote Installation products. See [Spare Parts Catalog](#) and [Site Installation Products Overview](#) for more information. For detailed information on SFP modules, see [SFP Module Selector Guide](#).

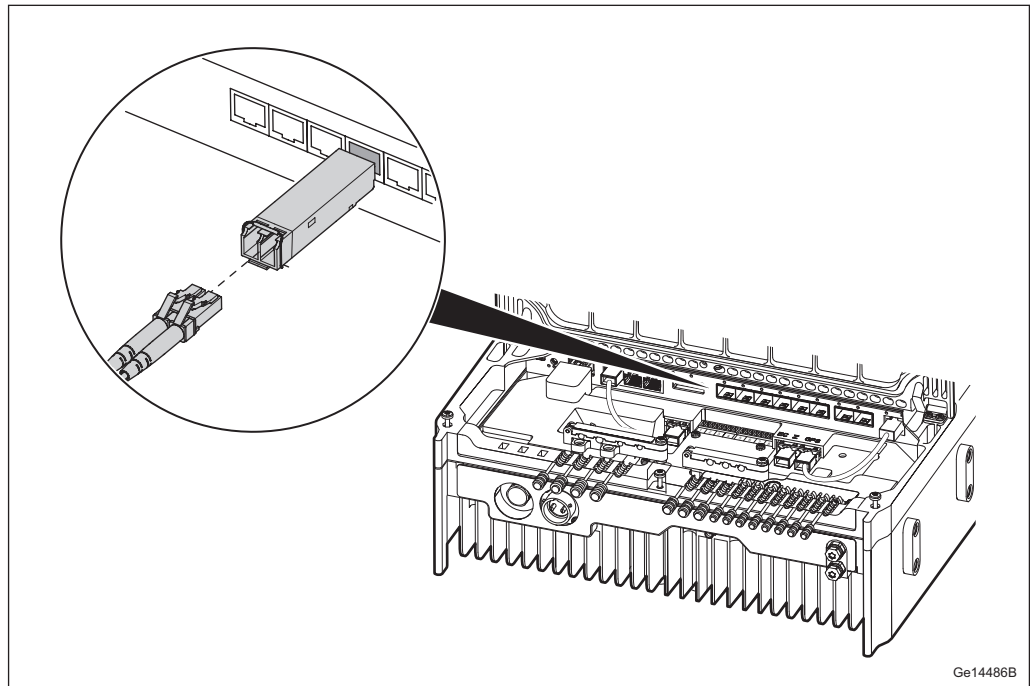


Figure 17 Optical Cable Interface

For specific information about optical cables, see *Installing Optical Cables for Main-Remote Solutions*.

5.7 Position H and N, Sync Interface

A built-in GNSS system is used for timing synchronization of the baseband.

The SYNC port is by default connected to the GPS port with a pre-installed cable.

The SYNC and GPS ports are RJ-45 connectors.

5.8 Position I, Power –48 V DC Interface

Note: For outdoor use, the power cable must be shielded and protected from lightning.

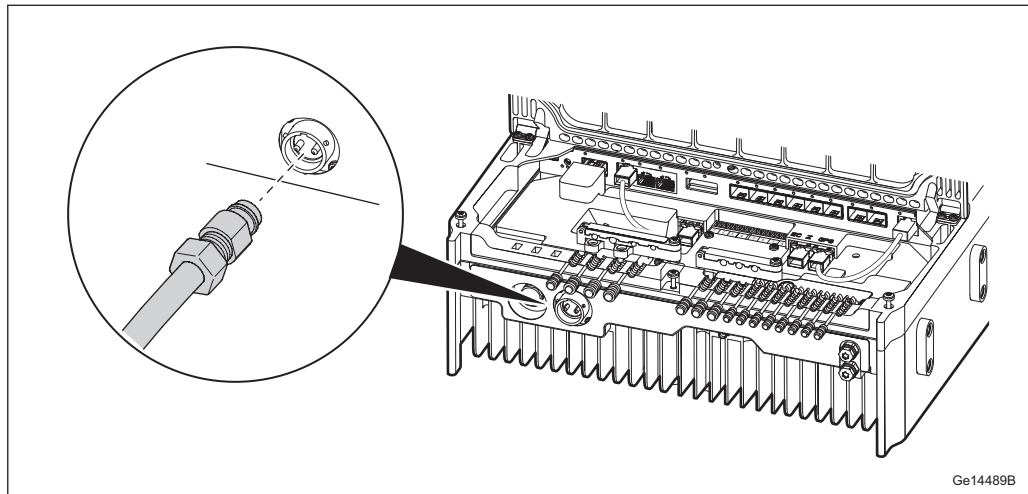


Figure 18 -48 V DC Connection

The -48 V DC power connection is made through a connector. The connector accepts cables with various cross-sectional areas depending on the cable length.

5.9 Position K, Built-in External Alarm Interface

The baseband unit supports eight built-in alarm ports for customer-specific external alarms. .

The external alarms are connected to two 4×2 pole detachable socket connectors.

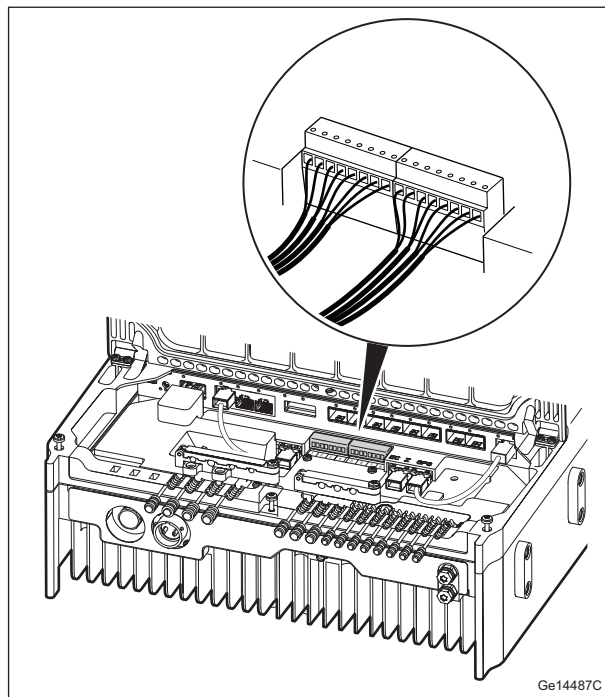


Figure 19 Built-in External Alarm Interface

5.10 Position L, GNSS RF Cable Interface

The baseband has a built-in GPS receiver, which is used for timing synchronization of the baseband.

The GPS RF cable Interface consists of an SMA connector.

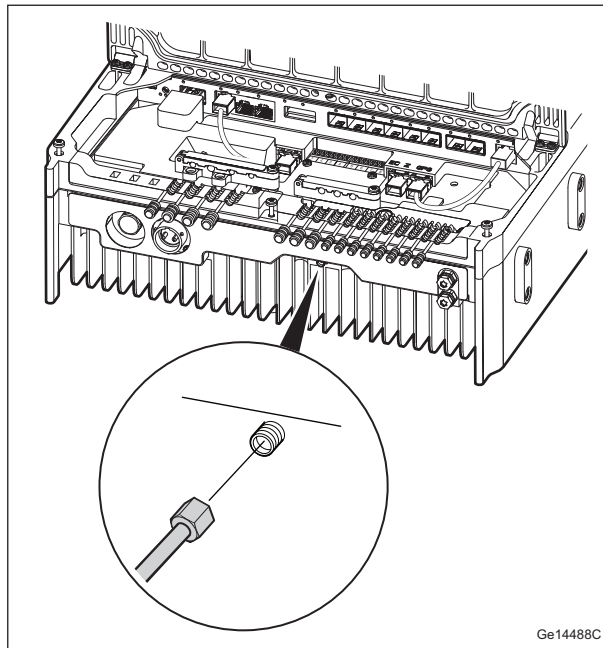


Figure 20 GNSS RF Cable Interface

5.11

Position O, Ground and ESD Wrist Strap Interface

All equipment must be connected to the same Main Earthing Terminal (MET) using a 16 mm² grounding cable.

The ground point consists of two M6 screws with lock washers.

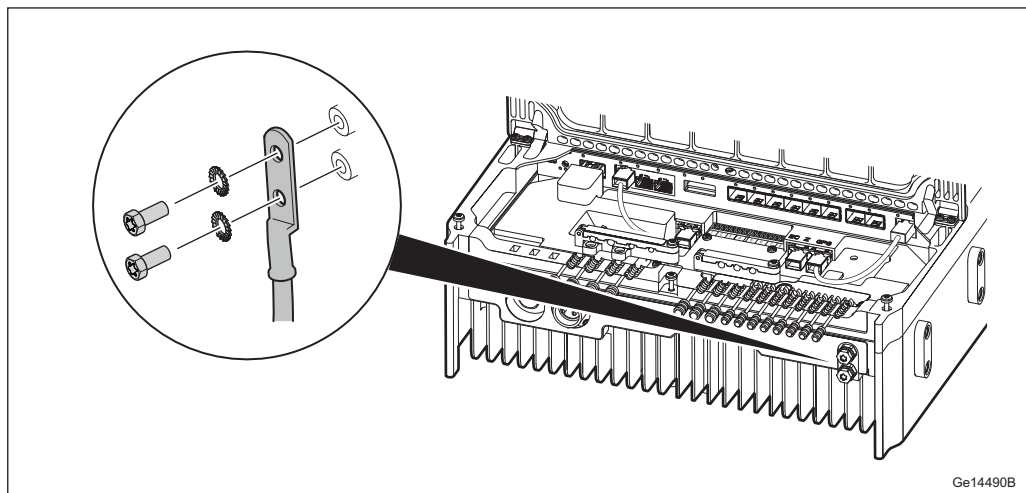


Figure 21 Ground and ESD Interface

The grounding point also provides a connection point for the ESD wrist strap. The ESD wrist strap protects the unit from being damaged by ESD from the person working with the unit.



6 Transport Standards

This section describes the transmission standards supported by the baseband.

The following transmission alternatives are available:

- Electrical Ethernet transmission
- Optical Ethernet transmission

[Table 13](#) lists the transmission standards.

Table 13 Transmission Standards

Transmission Standard	Transmission Capacity	Cable Impedance (Ω)	Cable Type
Ethernet (electrical)	100/1000 Mbps	100	Balanced lines
Ethernet (optical)	1000 Mbps 10 Gbps	Maximum attenuation 0.5 dB/ cabling	Optical

6.1 Electrical Ethernet

The electrical Ethernet transmission cable from the baseband must be routed through the left cable glands.

Note: For outdoor use, the Ethernet cable must be shielded and protected from lightning.

A solution without using OVP modules has the following limitations:

- Maximum cable length for the electrical cable is ≤ 100 m.
- No part of the cable must be exposed to lightning.
- The electrical Ethernet cables must be shielded and grounded at the cabinet entry.
- Common MET must be used for both the baseband and the server or router.

The electrical Ethernet connection interface on the baseband unit is equipped with an RJ-45 female connector, which occupies the TN A port.

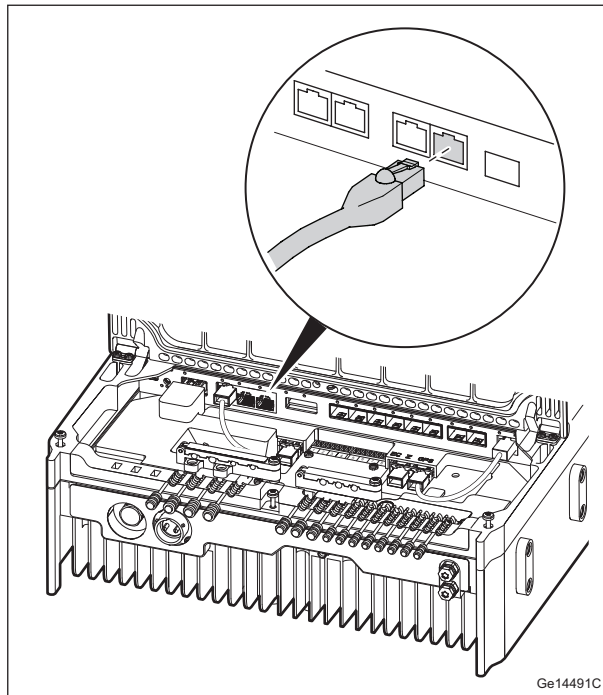


Figure 22 Electrical Ethernet Connection

6.2 Optical Ethernet

The baseband uses SFP modules for optical transport and optical radio interfaces.

The optical Ethernet connection interface on the baseband occupies the TN B and TN C ports.

Use only SFP modules approved by Ericsson. These modules fulfill the following:

- Compliance with Class 1 laser product safety requirements defined in standard IEC 60825-1.
- Certification according to general safety requirements defined in standard IEC 60950-1.
- Functionality and performance verified to comply with baseband specifications.

For more information on how to handle SFP modules and optical cables, see [Handling SFP Modules and Optical Cables](#).

Recommended SFP modules are obtained from the product packages of the baseband and the Main Remote Installation products. See [Spare Parts Catalog](#) and [Site Installation Products Overview](#) for more information. For detailed information on SFP modules, see [SFP Module Selector Guide](#).

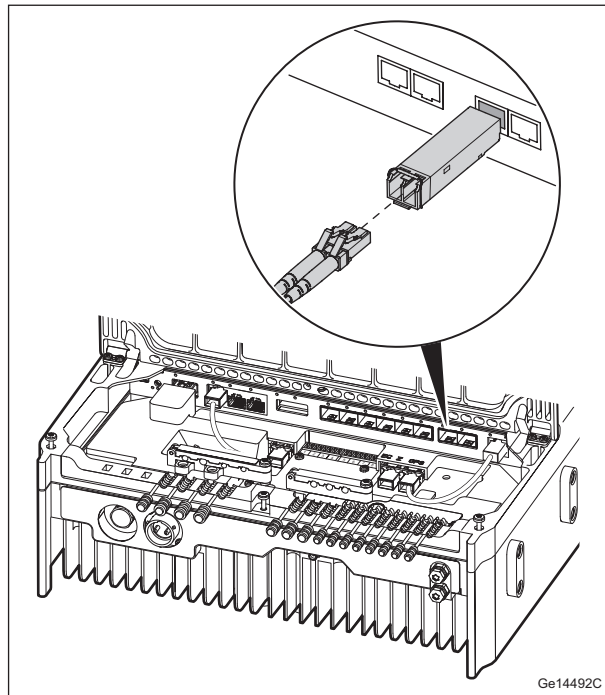


Figure 23 Optical Ethernet Connection



7 External Alarms

This section describes customer-specific external alarms.

The baseband unit provides built-in ports for external alarms.

Alarm ports are also provided by most radios. More information can be found in the corresponding radio documents.

These radio alarm ports are currently supported in Single Mode node configurations.

7.1 Built-in Ports for External Alarms

The baseband unit provides built-in ports for eight external alarms.

Each alarm can be configured to be triggered by the following two alarm conditions:

- Closed loop condition

An alarm is triggered when an open switch is closed.

- Open loop condition

An alarm is triggered when a closed switch is opened (default alarm condition).

Table 14 External Alarms and Output Characteristics

Alarm Input Port Details	Characteristics
Number of input ports	8
Maximum sensed impedance for a closed loop condition	Closed (less than 3 k Ω)
Minimum sensed impedance for an open loop condition	Open (greater than 100 k Ω)
Maximum current sourced from port interface	5.0 mA
Maximum voltage sourced from port interface	15 V



8 Standards and Regulations

This section presents a brief overview of standards, regulatory product approval, and declaration of conformity.

Declaration of Conformity

"Hereby, Ericsson AB, declares that this Product is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU and 2011/65/EU."

8.1 Regulatory Approval

The baseband complies with the following market requirements:

- European Community (EC) market requirements, Radio Equipment Directive 2014/53/EU and Directive 2011/65/EU.
- The apparatus may include Radio Transceivers with support for frequency bands not allowed or not harmonized within the EC.
- Restriction of Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive (2011/65/EU).
- North American market requirements.
- Products containing Radio Equipment outside North America and in countries not recognizing the CE-mark may be labeled according to national requirements or standards.

8.1.1 Environmental Standards Compliance

The product complies with the following environmental standard:

Europe

- EN 50581 (RoHS)

8.1.2 Safety Standards Compliance

In accordance with market requirements, the baseband complies with the following product safety standards and directives:



International

- IEC 62368-1 Ed.2

Europe

- EN 50 385
- IEC 62368-1 Ed.2

North America

- CSA C22.2 No.62368-1 Ed.2
- FCC CFR 47 Part 1.1310
- Health Canada Safety Code 6
- UL 62368-1 Ed.2

8.1.2.1

Outdoor Specific Requirements

The baseband complies with the following outdoor specific requirements:

International

- IEC 60 529 (IP55)
- IEC 60 950-22

Europe

- EN 60 529 (IP55)
- EN 60 950-22

North America

- CSA-C22.2 No. 60950-22-07
- UL 50E
- UL 60950-22

8.1.3

EMC Standards Compliance

The baseband complies with the following Electromagnetic Compatibility (EMC) standards:

**International**

- 3GPP TS25.113
- 3GPP TS36.113

Europe

- ETSI EN 301 489-1
- ETSI EN 301 489-23

North America

- FCC CFR 47 Part 15 B
- IC ICES-003 B

8.1.4**Radio Standards Compliance**

The RBS complies with the following radio standards:

International

- 3GPP TS25.141
- 3GPP TS36.141
- 3GPP TS37.141

Europe

- ETSI EN 301 908-1
- ETSI EN 301 908-3
- ETSI EN 301 908-14
- ETSI EN 301 908-18

North America

- FCC CFR 47 Part 2 (USA)
- FCC CFR 47 Part 22, 24, and 27 (USA frequency dependent)
- IC RSS-132, 133, and 139 (Canada frequency dependent)
- IC RSS-Gen (Canada)



8.1.5 Marking

To show compliance with legal requirements, the product is marked with the following labels:

Europe

- CE mark

North America

- cETLus
- FCC CFR 47 Part 15 Statement
- IC ICES-003 Statement
- FCC ID (located on RRU/AIR)
- IC ID (located on RRU/AIR)

8.2 Spare Parts

The product adheres to the Ericsson Serviceability and Spare Part Strategy.

8.3 Vandal Resistance

Unauthorized access is not possible without damaging the unit.