Cambium Networks™

Reference Guide

PTP 850 Series MIB

System Release 10.9

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About This User Guide

This guide describes the PTP 820 Series products MIB tables and alarms.

This guide contains the following chapters:

- Chapter 1: Private MIB Reference
- Chapter 2: Standard MIB support
- Chapter 3: Common Tasks
- Chapter 4: MIB error table (Reserved for future use)
- Chapter 5: Alarms

Contacting Cambium Networks

Support website:	https://support.cambiumnetworks.com
Main website:	http://www.cambiumnetworks.com
Sales enquiries:	solutions@cambiumnetworks.com
Support enquiries:	https://support.cambiumnetworks.com
Repair inquiries	https://support.cambiumnetworks.com
Telephone number list:	http://www.cambiumnetworks.com/support/contact-support
Address:	Cambium Networks Limited, Linhay Business Park, Eastern Road, Ashburton, Devon, UK, TQ13 7UP

Purpose

Cambium Networks Point-To-Point (PTP) documents are intended to instruct and assist personnel in the operation, installation and maintenance of the Cambium PTP equipment and ancillary devices. It is recommended that all personnel engaged in such activities be properly trained.

Cambium disclaims all liability whatsoever, implied or express, for any risk of damage, loss or reduction in system performance arising directly or indirectly out of the failure of the customer, or anyone acting on the customer's behalf, to abide by the instructions, system parameters, or recommendations made in this document.

Cross references

References to external publications are shown in italics. Other cross references, emphasized in blue text in electronic versions, are active links to the references.

This document is divided into numbered chapters that are divided into sections. Sections are not numbered, but are individually named at the top of each page, and are listed in the table of contents.

Feedback

We appreciate feedback from the users of our documents. This includes feedback on the structure, content, accuracy, or completeness of our documents. Send feedback to support@cambiumnetworks.com.

Problems and warranty

Reporting problems

If any problems are encountered when installing or operating this equipment, follow this procedure to investigate and report:

1. Search this document and the software release notes of supported releases.
2. Visit the support website.
3. Ask for assistance from the Cambium product supplier.
4. Gather information from affected units, such as any available diagnostic downloads.
5. Escalate the problem by emailing or telephoning support.

Repair and service

If unit failure is suspected, obtain details of the Return Material Authorization (RMA) process from the support website.

Hardware warranty

Cambium's standard hardware warranty is for one (1) year from date of shipment from Cambium Networks or a Cambium distributor. Cambium Networks warrants that hardware will conform to the relevant published specifications and will be free from material defects in material and workmanship under normal use and service. Cambium shall within this time, at its own option, either repair or replace the defective product within thirty (30) days of receipt of the defective product. Repaired or replaced product will be subject to the original warranty period but not less than thirty (30) days.

To register PTP products or activate warranties, visit the support website. For warranty assistance, contact the reseller or distributor.

Caution

Using non-Cambium parts for repair could damage the equipment or void warranty. Contact Cambium for service and repair instructions.

Portions of Cambium equipment may be damaged from exposure to electrostatic discharge. Use precautions to prevent damage.

Security advice

Cambium Networks systems and equipment provide security parameters that can be configured by the operator based on their particular operating environment. Cambium recommends setting and using these parameters following industry recognized security practices. Security aspects to be considered are protecting the confidentiality, integrity, and availability of information and assets. Assets include the ability to communicate, information about the nature of the communications, and information about the parties involved.

In certain instances Cambium makes specific recommendations regarding security practices, however the implementation of these recommendations and final responsibility for the security of the system lies with the operator of the system.

Warnings, cautions, and notes

The following describes how warnings and cautions are used in this document and in all documents of the Cambium Networks document set.

Warnings

Warnings precede instructions that contain potentially hazardous situations. Warnings are used to alert the reader to possible hazards that could cause loss of life or physical injury. A warning has the following format:

Warning

Warning text and consequence for not following the instructions in the warning.

Cautions

Cautions precede instructions and are used when there is a possibility of damage to systems, software, or individual items of equipment within a system. However, this damage presents no danger to personnel. A caution has the following format:

Caution

Caution text and consequence for not following the instructions in the caution.

Notes

A note means that there is a possibility of an undesirable situation or provides additional information to help the reader understand a topic or concept. A note has the following format:

Note

Note text.

Caring for the environment

The following information describes national or regional requirements for the disposal of Cambium Networks supplied equipment and for the approved disposal of surplus packaging.

In EU countries

The following information is provided to enable regulatory compliance with the European Union (EU) directives identified and any amendments made to these directives when using Cambium equipment in EU countries.

Disposal of Cambium equipment

European Union (EU) Directive 2002/96/EC Waste Electrical and Electronic Equipment (WEEE)

Do not dispose of Cambium equipment in landfill sites. For disposal instructions, refer to http://www.cambiumnetworks.com/support

Disposal of surplus packaging

Do not dispose of surplus packaging in landfill sites. In the EU, it is the individual recipient's responsibility to ensure that packaging materials are collected and recycled according to the requirements of EU environmental law.

In non-EU countries

In non-EU countries, dispose of Cambium equipment and all surplus packaging in accordance with national and regional regulations.

Chapter 1: Private MIB Reference

The following table lists and describes the MIB files and file versions supported by IP-50E in release 10.9.

Table 1 MIB File Names and Versions

MIB File Name	MIB File Version	Description
MWRM-NETWORK-MIB	1.10.9.3	Networking related OIDs, including Ethernet switch configuration, forwarding, quality of service (QoS), policing, control protocols, and management.
MWRM-PM-MIB	1.10.9.2	Performance Monitoring OIDs for Ethernet and radio.
MWRM-RADIO-MIB	1.10.9.2	Radio related OIDs, including RFU and radio management, MRMC, radio group management (HSB, ABC), header de-duplication, and frame cut-through.
MWRM-TRAPS-MIB	1.10.9.1	Describes the IP-50E device-specific traps.
MWRM-UNIT-MIB	1.10.9.1	General platform-related OIDs, including alarm and event services, NTP, license, software version management, configuration management, and security and access control.
MWRM-DEFS.MIB		OID for microwave-radio (formerly in MMRM-RADIO-MIB).

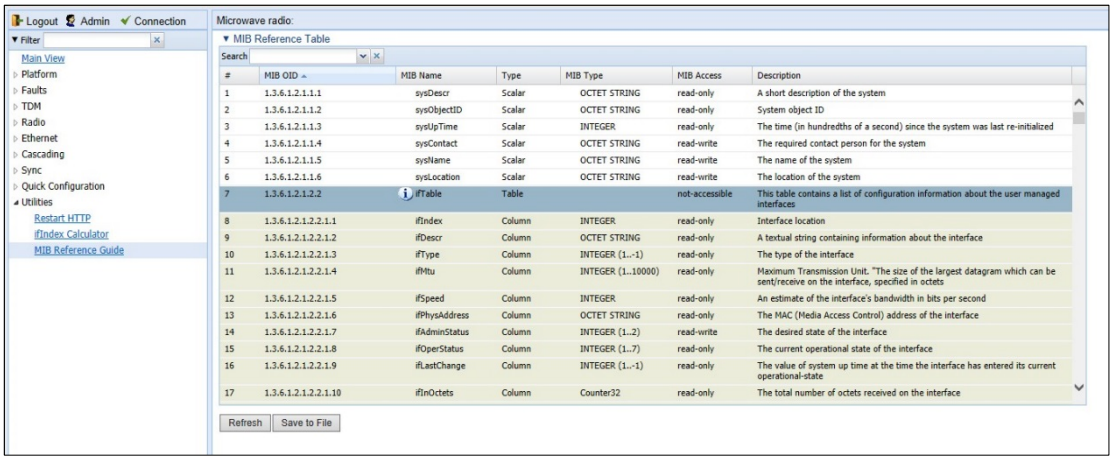
Note

Prior to release 10.7, the material in the MWRM-TRAPS-MIB file was contained in the MWRM-NETWORK-MIB file.

You can display a list of entities in the private MIB from the Web EMS of the PTP 850E unit:

1. From the Web EMS main menu, select **Utilities** -> **MIB Reference Guide**. The MIB Reference Table opens.

Figure 1 MIB Reference Table in Web EMS



Note

Some of the entities listed in the Table may not be relevant to the particular PTP 850E unit you are using. This may occur because of activation key restrictions, minor differences between hardware types, or simply because a certain feature is not used in a particular configuration.

- To search for a text string, enter the string in the Search field and press <Enter>. Items that contain the string are displayed in yellow. Searches are not case-sensitive.
- To save the MIB Reference Table as a .csv file, click **Save to File**.

Chapter 2: Standard MIB support

This chapter details the public MIB standards supported by the PTP 850E MIB.

This chapter includes:

- RFC-1213 (MIB II)
- Multiple Spanning Tree Protocol (MSTP)
- Traps

RFC-1213 (MIB II)

This section details the implementation of each area of the RFC-1213 standard within the context of the PTP 850E MIB.

System parameters

The table below details the legal values for each system parameter within RFC-1213 from implementation within the PTP 850E MIB.

Table 2 System parameters

Parameter	Access	Description
sysDescr	Read only	A description of the network element.
sysUpTime	Read only	The time (in hundredths of a second) since the network management portion of the system was last re-initialized
sysContact	Read write	The name of the contact person for this network element
sysName	Read write	An administratively assigned name for the network element. By convention, this is the node's fully qualified domain name
sysLocation	Read write	The physical location of the network element of this node

The table below details the System Object IDs (sysObjectID) within the PTP 8%0E MIB. The sysObjectID is a unique identifier for the product type.

Table 3 System Object IDs (sysObjectID)

Product	System Object ID
PTP 850E	1.3.6.1.4.1.2281.1.20.2.2.10

Interfaces

ifNumber - The number of network interfaces (regardless of their current state) present on this system.

ifTable

This section details ifTable support within the PTP 850E MIB.

Table 4 Supported IfTables

MIB Name	OID	Notes
Ifindex	1.3.6.1.2.1.2.2.1.1	
Ifdescr	1.3.6.1.2.1.2.2.1.2	
Iftype	1.3.6.1.2.1.2.2.1.3	
Ifspeed	1.3.6.1.2.1.2.2.1.5	
Ifadminstatus	1.3.6.1.2.1.2.2.1.7	
Ifoperstatus	1.3.6.1.2.1.2.2.1.8	
Iflastchange	1.3.6.1.2.1.2.2.1.9	
Ifindiscards	1.3.6.1.2.1.2.2.1.13	
Ifinerrors	1.3.6.1.2.1.2.2.1.14	
Ifoutdiscards	1.3.6.1.2.1.2.2.1.19	
Ifouterrors	1.3.6.1.2.1.2.2.1.20	

IfXTable

Table 5 Standard IfXtable support

MIB Name	OID	Notes
ifName	1.3.6.1.2.1.31.1.1.1.1	
ifInMulticastPkts	1.3.6.1.2.1.31.1.1.1.2	
ifInBroadcastPkts	1.3.6.1.2.1.31.1.1.1.3	
ifOutMulticastPkts	1.3.6.1.2.1.31.1.1.1.4	
ifOutBroadcastPkts	1.3.6.1.2.1.31.1.1.1.5	
ifHCInOctets	1.3.6.1.2.1.31.1.1.1.6	
ifHCOutOctets	1.3.6.1.2.1.31.1.1.1.10	
ifHighSpeed	1.3.6.1.2.1.31.1.1.1.15	
ifAlias	1.3.6.1.2.1.31.1.1.1.18	

RMON – etherStatsTable

Table 6 Standard IfXtable support

MIB Name	OID	Notes
etherStatsIndex	1.3.6.1.2.1.16.1.1.1.1	
etherStatsOctets	1.3.6.1.2.1.16.1.1.1.4	
etherStatsPkts	1.3.6.1.2.1.16.1.1.1.5	
etherStatsBroadcastPkts	1.3.6.1.2.1.16.1.1.1.6	
etherStatsMulticastPkts	1.3.6.1.2.1.16.1.1.1.7	
etherStatsCRCAlignPkts	1.3.6.1.2.1.16.1.1.1.8	
etherStatsUndersizePkts	1.3.6.1.2.1.16.1.1.1.9	
etherStatsOversizePkts	1.3.6.1.2.1.16.1.1.1.10	
etherStatsFragments	1.3.6.1.2.1.16.1.1.1.11	
etherStatsJabbers	1.3.6.1.2.1.16.1.1.1.12	
etherStatsPkts64Octest	1.3.6.1.2.1.16.1.1.1.14	
etherStatsPkts64Octest	1.3.6.1.2.1.16.1.1.1.15	
etherStatsPkts65to127Octest	1.3.6.1.2.1.16.1.1.1.16	
etherStatsPkts127to511Octest	1.3.6.1.2.1.16.1.1.1.17	
etherStatsPkts512to1023Octest	1.3.6.1.2.1.16.1.1.1.18	
etherStatsPkts1024to1518Octest	1.3.6.1.2.1.16.1.1.1.19	

RMON – etherStatsHighCapacityTable

Table 7 Standard IfXtable support

MIB Name	OID	Notes
EtherStatsHighCapacityOctets	1.3.6.1.2.1.16.1.7.1.4	

IfIndex

The IfIndex has the following structure:

Table 8 IfIndex Structure

	IfIndex (32 bit)		
Bit #	31 (MSB)	30..28	27..0 (LSB)
Function	**Reserved = 0**	**Format**	**Format Dependant Structure**
Bit Width	1 bit	3 bits	28 bits

Table 9 IfIndex "Format" Field Optional Values

Format Value	7..4	3	2	1	0
Function	Reserved	NG Service Format	Reserved	NG Interface Format	Legacy

NG Interface Format

Table 10 NG Interface Format IfIndex Structure

	IfIndex (32 bit)					
Bit #	31 (MSB)	30..28	27..17	16..13	12..6	5..0 (LSB)
Function	Reserved = 0	**Format=1**	**Instance**	**Interface Functional Type**	Slot	Port
Bit Width	1 bit	3 bits	11 bit	4 bits	7 bits	6 bits

Table 11 IfIndex "Interface Functional Type" Field Optional Values

Functional Type Value	**15**	**14**	**13**	**12**	**11**	**10**	**9**	**8**
Function	Group	Reserved	Reserved	Multiband (Enhanced ABC)	RFU-Based ABC Group	Radio Unit (RFU) Interface	FAN	PDC

Functional Type Value	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**0**
Function	STM-1/ OC-3	TDM-PWE	TDM	Sync	Management	Radio	Ethernet	N/A

Table 12 IfIndex "Slot" Field Optional Values

	Virtual Slots								
Slot Value	127	126..71	70	69	68	67	66	65	64
Function	IVM	Reserved	MIMO	PWE Protection	Radio Protection	XPIC	ABC	MR	LAG
	Physical Slots								
Slot Value	63	…	55	51	50	…	2	1	0
Function	Slot-63	…				…	Slot-2		Slot-1

Table 13 IfIndex "Port/Group" Field Optional Values

Port Value	63	62	….	2	1	0
Function	Port-63	Port-62	….	Port-2	Port-1	N/A

NG Service Format

Table 14 NG Service Format IfIndex Structure

	IfIndex (32 bit)						
Bit #	31 (MSB)	30..28	27..24	23..12	11..7	6..4 (LSB)	3..0(LSB)
Function	Reserved = 0	Format=3	Service type=1	Service Id	Service Point id	MEG Level	Reserved=0
Bit Width	1 bit	3 bits	4 bit	12 bits	5 bits	3bits	4 bits

Table 15 Service Type

Service Type Value	15..2	1	0
Function	Reserved	Soam MEP	N/A

- Service Id – Value from 1 to 4096
- Service Point id – Value from 1 to 32
- MEG level – Value from 1 to 7

Other parameters and tables

The following parameters and tables are answered by the CPU interface of the network element.

Table 16 Other Supported Networking Parameters

Parameters	Supported by PTP 820 MIB
AT (atTable)	Supported
IP	Supported (also defined in RFC 2011)
ICMP	Supported
TCP	Supported (also defined in RFC 2012)
UDP	Supported (also defined in RFC 2013)

Traps ID

The following table describes the Trap ID definition in NETWORK-MIB.

Table 17 Network MIB

SNMP Version	Trap type	Name	ID
V.1	Alarm / Event	alarmNGTrap	2281.0.2000
V.1	heartbeat	generalNGV3Trap	2281.11.2000
V.2/3	Alarm / Event	heartbeatNGTrap	2281.0.2001
V.2/3	heartbeat	heartbeatNGV3Trap	2281.11.2001

Trap Var Bind

Table 18 Trap Var-Bind Parameters

SNMP Version	Trap type	Name	OID	Comments
V.2/3	Alarm / Event	sysUpTime	1.3.6.1.2.1.1.3	The time (in hundredths of a second) since the network management portion of the system was last re-initialized.
V.2/3	Alarm / Event	snmpTrapOID	1.3.6.1.6.3.1.1.4.1	The authoritative identification of the notification currently being sent (Trap ID).
V.1/2/3	Alarm / Event / heartbeat	genEquipCurrentAlarmCounter	1.3.6.1.4.1.2281.10.3.1.2.1.1	Contains the information of a RAISED trap.
V.1/2/3	Alarm / Event	genEquipCurrentAlarmRaisedTimeT	1.3.6.1.4.1.2281.10.3.1.2.1.2	Time the alarm was raised.
V.1/2/3	Alarm / Event	genEquipNetworkAgentIp	1.3.6.1.4.1.2281.10.2.3	Agent IP address (IP V4)
V.1/2/3	Alarm / Event	genEquipCurrentAlarmId	1.3.6.1.4.1.2281.10.3.1.2.1.3	Alarm ID. For a complete list of Alarm IDs, see *Alarms* on page **Error! Bookmark not defined.**.
V.1/2/3	Alarm / Event	genEquipCurrentAlarmDesc	1.3.6.1.4.1.2281.10.3.1.2.1.9	Description of the alarm.

				For a complete list of alarms and their descriptions, see *Alarms* on page **Error! Bookmark not defined.**.
V.1/2/3	Alarm / Event	genEquipCurrentAlarmIfIndex	1.3.6.1.4.1.2281.10.3.1.2.1.7	Interface index that indicates where the alarm occurred.
V.1/2/3	Alarm / Event	genEquipCurrentAlarmInstance	1.3.6.1.4.1.2281.10.3.1.2.1.5	Alarm Instance. For most alarms, this parameter is not used because this information is reflected in the ifindex.
V.1/2/3	Alarm / Event	genEquipCurrentAlarmSeverity	1.3.6.1.4.1.2281.10.3.1.2.1.6	Severity of the current alarm. Possible values are: - Indeterminate (0) - Critical (1) - Major (2) - Minor (3) - Warning (4) - Cleared (5)
V.1/2/3	Alarm / Event	genEquipCurrentAlarmState	1.3.6.1.4.1.2281.10.3.1.2.1.12	Indicates whether the alarm is raised or cleared. Possible values are: Alarm cleared (0) Alarm raised (1) Event (2)
V.1/2/3	Alarm / Event	genEquipCurrentAlarmUserText	1.3.6.1.4.1.2281.10.3.1.2.1.15	User-defined alarm text. Does not need to contain a value.
V.1/2/3	Alarm / Event / heartbeat	genEquipTrapCfgMgrCLLI	1.3.6.1.4.1.2281.10.3.2.1.1.9	Configures the Common Language Location Identifier (CLLI). Does not need to contain a value.
V.1/2/3	Alarm / Event	genEquipNetworkAgentIpV6	1.3.6.1.4.1.2281.10.2.7	Agent IP address (IP V6)

Chapter 3: Common Tasks

The task descriptions in this chapter are presented from a functional perspective and represent how the commands and parameters would be used according to a common workflow.

Each task description contains a step by step procedure that explains how to use the MIB objects to perform that task.

This chapter includes:

- Software Management
- Configuration file management
- Enabling and configuring traps
- Viewing current alarms
- Performance monitoring and counters
- Managing radio configuration

Software Management

Downloading a software version

Software download procedural overview

This section describes the required procedure to download the software package for the PTP 820 unit.

To download and install a new software version:

1. Configure the FTP parameters using table genEquipMngSwFileTransferTable.
2. Download the desired software files with genEquipMngSwOperationOperation command using download (1) parameter. The new software files are added to the library.
3. Verify the download status in the genEquipMngSwFileTransferStatusResult object, until status is download success (4).

   The progress of the process (in percentage) can also be tracked using genEquipMngSwFileTransferPercentageDone.
4. Install the genEquipMngSwOperationOperation command using install (2) parameter. The software is installed in the system.
5. Verify the installation status in the genEquipMngSwInstallStatusResult object, until status is installation success (4).

   The progress of the process (in percentage) can also be tracked using genEquipMngSwInstall PercentageDone.
   - The PTP 820 unit automatically resets and applies the changes to all modules.

Verify that the unit is using the downloaded version. The version numbers are located in the genEquipMngSwIDUVersionsTabletable.

Configuring FTP parameters

The new software versions are located on a remote FTP server. In order to download a new software version, the server parameters must be configured.

Table 19 MIB Objects for Configuring FTP Parameters

Parameter	Function	OID
genEquipMngSwFileTransferProtocol	Chooses the protocol to be used (FTP, SFTP, HTTP, HTTPS).	1.3.6.1.4.1.2281.10.4.1.18.1.2
genEquipMngSwFileTransferUserName	User name for access to the configuration file location.	1.3.6.1.4.1.2281.10.4.1.18.1.3
genEquipMngSwFileTransferPassword	Password for the remote software update server.	1.3.6.1.4.1.2281.10.4.1.18.1.4

Parameter	Function	OID
genEquipMngSwFileTransferAddress	IP address of the computer where software version files are to be taken from.	1.3.6.1.4.1.2281.10.4.1.18.1.5
genEquipMngSwFileTransferPath	Location of the files in the external server.	1.3.6.1.4.1.2281.10.4.1.18.1.6

Managing software

There are two commands that help users to control the software versions: Download and install.

The genEquipMngSwOperationOperation MIB object has four values which execute four different commands:

- No action (0)
- Download (1) – download packages from the remote server.
- Install (2) –install the downloaded packages.
- Update backup (3) –Not supported
- Swap boot section (4) – Not supported
- Abort timer (5) – Not supported

Table 20 Managing software versions MIB object

Parameter	Function	OID
genEquipMngSwOperationOperation	Commands that can be executed to manage software versions: No action (0) Download (1) – download packages from the remote server. install (2) –install the downloaded packages. update backup (3) – Not supported Swap boot section (4) – Not supported Abort timer (5) – Not supported	1.3.6.1.4.1.2281.10.4.1.21.1

Checking software status

The status of the most recent software download and installation can be checked.

The genEquipMngSwFileTransferStatusTable display the following values to indicate the file transfer status:

- Ready (0)
- download-started (1)
- verifying-download-files (2)
- Download-in-progress (3)
- download-success (4)

- download-failure (5)
- all-components-exist (6)
- version-incompatible-with-system (7)
- incomplete-file-set (8)
- component-unsupported-by-hw (9)
- corrupt-sw-files (10)
- missing-dependencies (11)
- download-cancelled (12)

The genEquipMngSwInstallStatusTabletables display the following values to indicate the software status:

- ready (0)
- installation-started (1)
- verifying-installation-files (2)
- installation-in-progress (3)
- installation-success (4)
- installation-partial-success (5)
- installation-failure (6)
- incomplete-sw-version (7)
- cancelled-timed-installation (8)

Table 21 MIB objects for Checking IDU Software Status

Parameter	Function	OID
genEquipMngSwFileTransferStatusResult	Displays the status of the most recent software download.	1.3.6.1.4.1.2281.10.4.1.19.1.2
genEquipMngSwFileTransferPercentageDone	Displays the progress of the file transfer operation, in percentage	1.3.6.1.4.1.2281.10.4.1.19.1.3
genEquipMngSwInstallStatusResult	Displays the status of the most recent software installation.	1.3.6.1.4.1.2281.10.4.1.20.1.2
genEquipMngSwInstallPercentageDone	Displays the progress of the installation operation, in percentage.	1.3.6.1.4.1.2281.10.4.1.20.1.3

Configuration file management

The PTP 820 MIB file allows to view the current configuration of the PTP 820 unit. It also allows to create backup files of the system configuration and upload them to a FTP server. The archived backup file can be downloaded for later use.

System configuration FTP settings

The archived system configurations are stored on a FTP server. The server saves the file that contains the existing configuration. The system configuration file can be downloaded and installed on the desired system when necessary.

The FTP settings must be set in the MIB file before using FTP server.

Software download FTP parameters are located in genEquipMngCfgFileTransferTable.

Table 22 MIB objects for configuring FTP settings

Parameter	Function	OID
genEquipMngCfgFileTransferProtocol	Configures the protocol to be used (FTP, SFTP, HTTP, HTTPS)	1.3.6.1.4.1.2281.10.4.2.11.1.2
genEquipMngCfgFileTransferUserName	Configures the required user name for the FTP server.	1.3.6.1.4.1.2281.10.4.2.11.1.3
genEquipMngCfgFileTransferPassword	Configures the required password for the FTP server.	1.3.6.1.4.1.2281.10.4.2.11.1.4
genEquipMngCfgFileTransferAddress	Configures the host IP address of the FTP server.	1.3.6.1.4.1.2281.10.4.2.11.1.5
genEquipMngCfgFileTransferPath	Configures the path of the host directory on the FTP server.	1.3.6.1.4.1.2281.10.4.2.11.1.6
genEquipMngCfgFileTransferFileName	Configures the filename to be used in the server.	1.3.6.1.4.1.2281.10.4.2.11.1.7

Creating and uploading backup configuration archives

To create a backup file which contains all the details of the current PTP 820 configuration, use genEquipMngCfgOperationOperation with a value of (1) Backup.

Table 23 Creating Configuration Archive MIB Object

Parameter	Function	OID
genEquipMngCfgOperationOperation	Executes the Backup system configuration commands: Invalid-operation (0) Backup (1)	1.3.6.1.4.1.2281.10.4.2.13.1.2

Procedural overview of uploading a system configuration

This section describes the required procedure to save the current system configuration of the PTP 820 unit and export it to an FTP server.

To save and upload the current system configuration:

1 Verify the FTP settings.

2 Create the archive files of the current system configuration. The genEquipMngCfgOperationOperation with Backup (1) command creates an archive file. Up to three files can be stored, each identified by parameter genEquipMngCfgOperationFileNumber.

3 Verify that the configuration file generation has succeeded in the genEquipMngCfgBackupStatus object. The status should be download- success (3).

4 Upload the archive files to the FTP server with the genEquipMngCfgOperationOperation with export (5) command.5

Verify that the upload to the FTP server has succeeded in the genEquipMngCfgFileTransferStatus object. The status should be download success (4).

Exporting an archived configuration

To export an archived configuration of the PTP 820 unit to an FTP server use genEquipMngCfgOperationOperation with a value of (5) export.

Table 24 Uploading Archived Configuration MIB Object

Parameter	Function	OID
genEquipMngCfgOperation Operation	Executes the Backup system configuration commands: Export (1)	1.3.6.1.4.1.2281.10.4.2.13.1.2

Backup and Export status

The genEquipMngCfgFileTransferStatus and genEquipMngCfgUploadStatus objects display that backup and upload status of the system configuration.

Table 25 Backup and Upload Status MIB Object

Parameter	Function	OID
genEquipMngCfgBackupStatus	Status of the configuration backup file to the unit.	1.3.6.1.4.1.2281.10.4.2.1
genEquipMngCfgFileTransferStatus	Status of uploading the configuration backup file to the FTP server.	1.3.6.1.4.1.2281.10.4.2.21

Enabling and configuring traps

Enabling trap administration

To change the setup for a trap, the administrative state must be enabled for the specific trap manager.

Table 26 Enabling Trap Administration

Index: genEquipTrapCfgMgrId

Parameter	Function	OID
genEquipTrapCfgMgrAdmin	Set to Enable (2) in order to configure a specific trap manager.	1.3.6.1.4.1.2281.10.3.2.1.1.2

Managing a trap

Trap manager configuration:

- Trap manager IP address to which the traps are sent.
- Port number that sends the trap.
- Name of the trap manager.
- Community name to trap forwarding.
- Period (in minutes) of the heartbeat trap.
- CLLI (Common Language Location Identifier) free text that is sent with the trap.

Table 27 Managing a trap - Index: genEquipTrapCfgMgrId

Parameter	Function	OID
genEquipTrapCfgMgrId	The ID of the trap manager. User can define up to 4 independent trap managers	1.3.6.1.4.1.2281.10.3.2.1.1.1
genEquipTrapCfgMgrIP	Configures the trap manager's IP address.	1.3.6.1.4.1.2281.10.3.2.1.1.3
genEquipTrapCfgMgrPort	Configures the port that sends the trap for each manager.	1.3.6.1.4.1.2281.10.3.2.1.1.4
genEquipTrapCfgMgrName	Configures the name of the manager that receives the traps.	1.3.6.1.4.1.2281.10.3.2.1.1.5
genEquipTrapCfgMgrCommunity	Configures the name of the manager community that receives the traps.	1.3.6.1.4.1.2281.10.3.2.1.1.6
genEquipTrapCfgMgrCLLI	Configures the Common Language Location Identifier (CLLI).	1.3.6.1.4.1.2281.10.3.2.1.1.9

Parameter	Function	OID
genEquipTrapCfgMgrHeartbeatPeriod	Configures the minute interval between each heartbeat.	1.3.6.1.4.1.2281.10.3.2.1.1.10

Viewing current alarms

Alarm date and time

The date and time of an alarms can be viewed.

Table 28 Alarm date and time MIB object

Parameter	Function	OID
genEquipCurrentAlarmRaisedTimeT	Time the alarm was raised.	1.3.6.1.4.1.2281.10.3.1.2.1.2

Alarm severity

The alarm severity can be checked.

Table 29 Alarm severity MIB object

Parameter	Function	OID
genEquipCurrentAlarmSeverity	Severity of the current alarm: Indeterminate (0) Critical (1) Major (2) Minor (3) Warning (4) Cleared (5)	1.3.6.1.4.1.2281.10.3.1.2.1.6

Affected module

The module which is affected by the alarm, can be viewed.

Table 30 Affected Module MIB Object

Parameter	Function	OID
genEquipCurrentAlarmModule	Module of the alarm.	1.3.6.1.4.1.2281.10.3.1.2.1.8

Alarm description

The description of the alarm can viewed.

Table 31 Alarm Description MIB Object

Parameter	Function	OID
genEquipCurrentAlarmDesc	Description of the alarm.	1.3.6.1.4.1.2281.10.3.1.2.1.9

Probable cause

The probable cause for the alarm can be viewed.

Table 32 Probable Alarm Cause MIB Object

Parameter	Function	OID
genEquipCurrentAlarmProbableCause	Probable cause of the alarm.	1.3.6.1.4.1.2281.10.3.1.2.1.10

Corrective actions

The recommended corrective actions to solve the problem that caused the alarm, can be viewed.

Table 33 Corrective Actions MIB Object

Parameter	Function	OID
genEquipCurrentAlarmCorrectiveActions	Corrective actions that should be taken	1.3.6.1.4.1.2281.10.3.1.2.1.11

Performance monitoring and counters

The MIB file to configure and retrieve the performance monitoring data of the PTP 820 unit can be used.

Clearing all performance counter data

The genEquipPmClear command to clears the values for all of the performance monitoring tables can be used.

The Object ID is: 1.3.6.1.4.1.2281.10.6.3.1.

Managing radio configuration

The MIB file to manage the radio configuration data of the unit can be used.

Setting the radio threshold

This section explains how to set the Radio thresholds. After the thresholds are set, the system records the number of seconds that each of them was exceeded.

Table 34 Setting RSL Threshold

Parameter	Function	OID
genEquipPmRadioThresholdMSE	Configures which PM table is accessed.	1.3.6.1.4.1.2281.10.6.3.4.5.1.1
genEquipPmRadioThresholdRSL1	Configures which interface or port is monitored.	1.3.6.1.4.1.2281.10.6.3.4.5.1.2
genEquipPmRadioThresholdRSL2	Configures the time interval of the PM.	1.3.6.1.4.1.2281.10.6.3.4.5.1.3
GenEquipPmRadioThresholdTSL	Percentage of received frames that contained errors.	1.3.6.1.4.1.2281.10.6.3.4.5.1.5
genEquipPmRadioThresholdXPI	Maximum Ethernet throughput measured during the last interval.	1.3.6.1.4.1.2281.10.6.3.4.3.1.1.4

Setting the traffic PM thresholds

This section explains how to set radio capacity, throughput, and utilization PM thresholds. After the thresholds are set, the system records the number of seconds that each of them was exceeded.

Table 35 Setting Traffic PMThresholds

Parameter	Function	OID
genEquipRadioCompNGCfgCapacityPmThreshold	Configures the threshold for capacity PMs, in Mbps. The range of values is 0 to 4294967295. The default value for is 1000.	1.3.6.1.4.1.2281.10.7.5.4.1.1.6

enEquipRadioCompNGCfgThroughputPmThreshold	Configures the threshold for throughput PMs, in Mbps. The range of values is 0 to 4294967295. The default value for is 1000.	1.3.6.1.4.1.2281.10.7.5.4.1.1.7
genEquipRadioCompNGCfgUtilizationPmThreshold	Configures the radio capacity utilization threshold, in % (1-100). The default value for is 100.	1.3.6.1.4.1.2281.10.7.5.4.1.1.8

Chapter 4: MIB error table (Reserved for future use)

If there are any errors related to the PTP 820 unit, an errno is generated. Check the errno description in the following table to find a textual description of the error.

The table contains two columns:

- **Errno Fault Number** – genEquipFaultErrno (OID 1.3.6.1.4.1.2281.10.3.4)
- **Errno Description** – genEquipFaultErrDescr (OID 1.3.6.1.4.1.2281.10.3.5)

Chapter 5: Alarms

The following table lists all alarms used in PTP 850E products. The Supported Products column indicates which products use the alarm. Options are:

Table 36 PTP 850E Alarms

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
10	radio-digital-loopback	Alarm	Equipment	Framer digital loopback	Warning	User enabled framer digital loopback.	Disable framer digital loopback.
25	main-board-extreme-temperature-alarm	Alarm		This alarm is non-operational and has been superseded by Alarm 32002.	Warning		
28	main-board-warm-reset	Event		Unit warm reset.	Indeterminate		
29	main-board-cold-reset	Event		Unit reset.	Warning		
30	main-board-poe-low-voltage-alarm	Alarm		POE input voltage is too low	Warning		
31		Event		Change Remote request was sent	Major		
32		Event		Protection switchover due to remote request	Major		
33	protection-mimo-misconfiguration-alarm	Alarm			Major	Unit Redundancy and MIMO 4x4 can not operate simultaneously.	
100	lag-degraded	Alarm	Equipment	LAG is not fully functional - LAG Degraded.	Major		

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
101	lag-down	Alarm	Equipment	LAG operational state is down	Critical		
102	ethernet-loopback-active-alarm	Alarm	Equipment	Loopback is active	Major	Ethernet loopback is active.	Wait till loopback timeout expires or disable loopback.
103	port-mirroring-is-active	Alarm	Equipment	Slot X port XX is mirrored to slot Y port YY	Minor	Mirroring is enabled by user configuration.	Disable mirroring.
120	port-speed-mismatch-alarm	Alarm	Equipment	Port speed mismatch	Major	System reset is required after the port speed was changed.	Change the port speed to its previous value, OR Reset the system.
150	auto-state-propagation-interface-down-alarm	Alarm	Communications	Auto-state-propagation is triggered	Major	Failure of the radio interface which is monitored for automatic state propagation causes automatic shutdown of the controlled interface.	Check adjacent radio interface for failure conditions that caused automatic state propagation.
200	protection-communication-down-alarm	Alarm	Equipment	Protection communication is down	Major	Mate unit is absent/failure. Protection cable is disconnected. Unit failure.	Check existance of mate unit. Check protection cable connection between units. Reset mate unit. Replace mate unit.
201	protection-lockout-alarm	Alarm	Equipment	Protection in Lockout State	Major		
202	protection-switch-command	Event	Equipment	Protection switchover due to local failure	Major		
203	protection-mate-not-present-alarm	Alarm	Equipment	Mate does not exist	Major	Mate does not exist or cable unplugged.	
204	protection-hsb-insufficient-alarm	Alarm	Equipment	HSB insufficient configuration	Critical	External Protection configured both with HSB.	Remove External Protection and HSB configuration.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
307	tdm-link-up	Event	Equipment	TDM interface is up	Warning		
308	tdm-link-down	Event	Equipment	TDM interface is down	Warning		
401	TrafficPhyLocAlarm	Alarm	Equipment	Loss of Carrier	Major	Cable disconnected. Defective cable.	Check connection of cable Replace cable.
407	ethernet-link-up	Event	Equipment	Ethernet interface is up	Warning		
408	ethernet-link-down	Event	Equipment	Ethernet interface is down	Warning		
601	radio-excessive-ber	Alarm	Communications	Radio excessive BER	Major	Fade in the link. Defective IF cable. Fault in RFU. Fault in RMC (Radio Modem Card).	Check link performance. Check IF cable and replace if required. Replace RFU. Replace RMC (Radio Modem Card).
602	remote-link-id-mismatch	Alarm	Equipment	Link ID mismatch	Major	Link ID is not the same at both sides of link	Configure same Link ID for both sides of link
603	radio-lof	Alarm	Communications	Radio loss of frame	Critical	Fade in the link. Defective IF cable. Fault in RFU. Fault in RMC (Radio Modem Card). Different radio scripts at both ends of the link.	Check link performance. Check IF cable and replace if required. Replace RFU. Replace RMC (Radio Modem Card). Make sure same script is loaded at both ends of the link.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
604	radio-signal-degrade	Alarm	Communications	Radio signal degrade	Minor	Fade in the link. Defective IF cable. Fault in RFU. Fault in RMC (Radio Modem Card).	Check link performance. Check IF cable and replace if required. Replace RFU. Replace RMC (Radio Modem Card).
605	radio-link-up	Event	Equipment	Radio interface is up	Warning		
606	radio-link-down	Event	Equipment	Radio interface is down	Warning		
607	rfu-frequency-scanner-in-process	Alarm	Equipment	Frequency scanner in progress	Warning	The frequency scanner activated.	Stop the frequency scanner process.
801	corrupted-file-card-failure	Alarm	Equipment	Corrupted inventory file	Critical	The inventory file is corrupted	Reset the card. Reset the system. Replace the card.
802	file-not-found	Alarm	Equipment	Inventory file not found	Warning	The inventory file is missing	Reset the system. Reinstall the software.
803	sfp-rx-power-level-low	Alarm	Equipment	SFP port RX power level is below the rx power level low threshold	Warning	Remote SFP port Tx laser power is too low. Fiber length is too long or fiber type doesn't fit the installed SFP.	Verify remote SFP Tx laser power is within range. Check fiber type and length fit the installed SFP. If not, replace it with an appropriate one.
804	sfp-rx-power-level-high	Alarm	Equipment	SFP port RX power level is above the rx power level high threshold	Warning	Remote SFP Tx power is too high.	Add attenuator on Rx side.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
805	sfp-tx-power-level-low	Alarm	Equipment	SFP port TX power level is below the tx power level low threshold	Warning	SFP transmit laser power is too low	Check laser Bias current. If it is too low, replace SFP.
806	sfp-tx-power-level-high	Alarm	Equipment	SFP port TX power level is above the tx power level high threshold	Warning	SFP laser Tx power is too high.	Check laser Bias current and laser temperature values. If either of them is too high, replace SFP.
901	demo-license-alarm	Alarm	Equipment	Demo mode is active	Warning	Demo mode has been activated by the user	Disable demo mode
902	license-demo-expired	Event	Equipment	Demo mode is expired	Warning		
903	license-demo-start-by-user	Event	Processing	Demo mode is started	Warning		
904	license-demo-stop-by-user	Event	Processing	Demo mode is stopped	Warning		
905	license-load-fail	Event	Equipment	Activation key loading failure	Major		
906	license-load-successful	Event	Equipment	Activation key loaded successfully	Warning		
907	license-violation-alarm	Alarm	Equipment	Activation key violation	Critical	The current configuration does not match the activation-key-enabled feature set. 48 hours after an "activation-key-violation" alarm is raised, sanction mode is activated in which all alarms except the activation key violation alarm are cleared and no new alarms are raised.	Get the list of features' configurations that are violated via the "activation key information report". Install a new activation key that allows the use of all required features.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
908	demo-license-about-to-expire-alarm	Alarm	Equipment	Demo mode is about to expire	Major	Demo mode allowed period is about to end within 10 days	Disable demo mode and install a new valid activation key.
910	license-signature-failed-alarm	Alarm	Equipment	Activation key signature failure	Major	Activation key validation has failed due to invalid product serial number	Replace the IDU
911	license-violation-runtime-counter-expired	Event	Equipment	Activation key violation sanction is enforced	Major		
913	license-bad-xml-file-alarm	Alarm	Equipment	Activation key components are missing or corrupted	Major	Essential internal activation key components are missing or corrupted.	Reinstall software
1002	radio-protection-configuration-mismatch	Alarm	Equipment	Radio protection configuration mismatch	Major	The configuration between the radio protection members is not aligned	Apply a copy-to-mate command to copy the configuration from the required radio to the other one
1006	radio-protection-switchover-event	Event	Equipment	Radio protection switchover - reason	Warning	Protection decision machine initiated switchover due to local failure or user command	Check the system for local failures
1007	radio-protection-no-mate	Alarm	Equipment	Radio protection no mate	Major	Radio protection function is missing radio module, module defected or disabled	Add radio module. Replace a defective existing radio module. Make sure all radio interfaces are enabled.
1008	radio-protection-remote-switch-request	Event	Equipment	Remote switchover request was sent - reason	Warning		

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
1009	radio-protection-lockout	Alarm	Equipment	Radio protection lockout command is on	Major	The user has issued a lockout command	Clear the lockout command
1010	ethernet-protection-switchover	Event	Equipment	Ethernet Interface Group protection switchover	Warning	LOC event on an Ethernet interface. Protection group member was disabled or pulled out of the shelf.	Check the system for local failures. Check external equipment.
1011	interface-protection-lockout	Alarm	Equipment	Interface protection lockout is on	Major	The user has issued a lockout command	Clear the lockout command
1012	interface-protection-no-mate	Alarm	Equipment	Interface protection no mate: mate interface is missing or disabled	Major	Interface protection function is missing interface module, module defected or disabled.	Add interface module. Replace a defective existing interface module. Make sure all interface interfaces are enabled.
1102	software-installation-status	Event	Processing	Software installation status:	Warning		
1105	software-new-version-installed	Event	Processing	New version installed	Warning	A software version has been installed but system has not been reset.	
1111	software-user-confirmation-for-version	Event	Processing	User approved download of software version file	Warning		
1112	software-download-status	Event	Processing	Software download status:	Warning		
1113	software-download-missing-components	Event	Processing	Missing SW components:	Warning		
1114	software-management-incomplete-bundle	Event	Processing	Incomplete file set; missing components	Warning	Software bundle is missing components.	Get a complete software bundle

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
1150	backup-started	Event	Processing	Configuration file backup generation started	Warning	User command	
1151	backup-succeeded	Event	Processing	Configuration file backup created	Warning	Backup file creation finished successfully	
1152	backup-failure	Event	Processing	Failure in configuration file backup generation	Warning	System failed in attempt to create backup configuration file	
1153	restore-succeeded	Event	Processing	Configuration successfully restored from file backup	Warning	Configuration restore finished successfully	
1154	restore-failure	Event	Processing	Failure in configuration restoring from backup file	Warning	System failed in attempt to restore configuration from backup file	Configuration file system type mismatch Invalid or corrupted configuration file
1155	restore-canceled	Event	Processing	Configuration restore operation cancelled	Warning	Restore operation cancelled because of user command or execution of another configuration management operation	Try again
1156	file-transfer-issued	Event	Processing	User issued command for transfer of configuration file	Warning	User command	
1157	file-transfer-succeeded	Event	Processing	Configuration file transfer successful	Warning	Configuration file transfer successful	
1158	file-transfer-failure	Event	Processing	Configuration file transfer failure	Warning	Communications failure. File not found in server	Mark sure protocol details are properly configured. Make sure file exists.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
1159	file-transfer-in-progress	Event	Processing	Configuration file transfer in progress	Warning	File transfer started	
1163	cli-script-activation-started	Event	Processing	CLI configuration script activation started	Warning	User command	
1164	cli-script-activation-succeeded	Event	Processing	CLI Configuration script executed successfully	Warning		
1165	cli-script-activation-failure	Event	Processing	CLI Configuration script failed	Warning	Syntax Error. Error returned by system during runtime	Verify script in the relevant line, and run again. Note that script may assume pre-existing configuration.
1166	unit-info-file-transfer-status-changed	Event	Processing	Unit info file transfer status:	Warning		
1167	unit-info-file-creation-status-changed	Event	Processing	Unit info file creation status:	Warning		
1169	restore-started	Event	Processing	Configuration restore operation started	Warning	Restore operation started because of user command	
1201	file-missed	Alarm	Equipment	Modem firmware file not found	Critical	Modem file is missing	Download software package. Reset the system.
1202	load-failed	Alarm	Equipment	Modem firmware was not loaded successfully	Critical	Modem firmware file is corrupted. System failure.	Download software package. Reset the system.
1203	modem-wd-reset	Event	Equipment	Modem watch-dog reset event	Warning		
1301	fpga-file-currupt-alarm	Alarm	Equipment	Radio MRMC script LUT file is corrupted	Critical	Damaged radio MRMC script LUT file	Download the specific radio MRMC script LUT file

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
1302	fpga-file-not-found-alarm	Alarm	Equipment	Radio MRMC script LUT file is not found	Critical	Missing radio MRMC script LUT file	Download the specific radio MRMC script LUT file
1304	modem-script-file-corrupt-alarm	Alarm	Equipment	Radio MRMC script modem file is corrupted	Critical	Damaged radio MRMC script modem file	Download the specific radio MRMC script modem file
1305	modem-script-file-not-found-alarm	Alarm	Equipment	Radio MRMC script modem file is not found	Critical	Missing radio MRMC script modem file	Download the specific radio MRMC script modem file
1308	rfu-file-corrupt-alarm	Alarm	Equipment	Radio MRMC file is corrupted	Critical	Damaged Radio MRMC script LUT file	Download the specific radio MRMC RFU file
1309	rfu-file-not-found-alarm	Alarm	Equipment	Radio MRMC RFU file is not found	Major	Missing radio MRMC RFU file	Download the specific radio MRMC RFU file
1312	script-loading-failed	Alarm	Equipment	Radio errrror! MRMC script loading failed	Major	Damaged hardware module	Replace the radio hardware module
1401	incompatible-rfu-tx-calibration	Alarm	Equipment	Incompatible RFU TX calibration	Major	RFU calibration tables require SW upgrade	Upgrade IDU SW
1501	remote-communication-failure	Alarm	Equipment	Remote communication failure	Critical	Fade in the link	Check the link performance
1601	if-loopback	Alarm	Equipment	IF loopback	Warning	User enabled IF loopback	Disable IF loopback
1602	lock-detect	Alarm	Equipment	IF synthesizer is unlocked.	Critical	Extreme temperature condition. HW failure.	Check installation. Reset the RMC (Radio Modem Card) module. Replace the RMC (Radio Modem Card).

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
1610	rsl-degradation-threshold-out-of-range	Alarm	Equipment	Radio Receive Signal Level is below the configured threshold	Warning	RSL is very low due to: Weather conditions, obstruction in antenna line of sight, antennae alignment. Configured threshold needs to be adjusted.2.	Check for obstruction in link path. Check the antennae alignment and link planning. Recalculate the Path Loss and set the threshold accordingly. Check link settings - Tx Power and Tx Frequency. Hardware problem.
1651	atpc-override	Alarm	Communications	ATPC overridden: Tx level has been equal to the Max Tx level for a longer time than allowed	Warning	Actual transmitted signal level has been at its maximum value for longer than allowed. This is probably caused by a configuration error or link planning error.	Correct the transmission levels. The alarm will be cleared only upon manual clearing.
1697	radio-unit-extreme-temperature	Alarm	Equipment	Radio unit extreme temperature	Warning	Installation conditions. Defective RFU.	Check installation conditions. Verify operation as per product's specs. Replace RFU.
1698	radio-unit-low-voltage	Alarm	Equipment	Radio unit input voltage is too low	Warning	Power supply output too low. Power cable to RFU.	Check Power supply. Replace cable.
1699	radio-unit-high-voltage	Alarm	Equipment	Radio unit input voltage is too high	Warning	Power Supply output too high.	Check power supply.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
1700	fw-download-failure	Alarm	Communications	Radio unit not aligned to IDU	Critical	FW alignment interrupted, power disruption, ODU cable malfunction. Damaged ODU.	Reinitiate FW download by disable/enable the corresponding port. Replace RFU.
1701	cable-open	Alarm	Equipment	Cable open	Major	Cable is not connected to the IDU's radio interface or the RFU.	Check IF cable and connectors. Verify that the N-Type connector inner pin is not spliced. Replace RMC (Radio Modem Card). Replace RFU.
1702	cable-short	Alarm	Equipment	Cable short	Major	Physical short at the IF cable	Check IF cable and connectors. Verify that the N-Type connector inner pin is not spliced. Replace RMC (Radio Modem Card). Replace RFU.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
1703	communication-failure	Alarm	Equipment	RFU communication failure	Warning	Defective IF cable. IF cable not connected properly. Defective RMC (Radio Modem Card). Defective RFU. RFU software download in progress.	Check IF cable and connectors. Verify that N-Type connector inner pin is not spliced. Replace RMC (Radio Modem Card). Replace RFU. For a high power RF Unit: Check BMA connector on OCB Check BMA connector on RFU.
1704	delay-calibration-failure-1	Alarm	Equipment	RFU delay calibration failure 1	Warning	Defective RFU	Reset the RMC (Radio Modem Card) / RFU. Replace RFU.
1705	delay-calibration-failure-2	Alarm	Equipment	RFU delay calibration failure 2	Warning	Calibration cannot be completed due to notch detection	Enter delay calibration value manually.
1706	extreme-temp-cond	Alarm	Equipment	RFU extreme temperature	Warning	Installation conditions. Defective RFU.	Check installation conditions. Verify operation as per product's specs. Replace RFU.
1707	radio-unit-abc-incompatible-rfu	Alarm	Equipment	RFU is incompatible with ABC configuration	Warning	The RFU type does not support the type of Multi-Carrier ABC the user has configured.	Replace the RFU with an RFU type that supports the configured Multi-Carrier ABC type.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
1708	freq-set-automatically	Event	Equipment	RFU frequency was set automatically	Warning	Defective RFU	Check if problem repeats and if errors/alarms reported. Replace RFU.
1709	hardware-failure-1	Alarm	Equipment	RFU hardware failure 1	Critical	Defective RFU.	Replace RFU.
1710	hardware-failure-2	Alarm	Equipment	RFU hardware failure 2	Critical	Defective RFU.	Replace RFU.
1711	low-if-signal-to-rfu	Alarm	Equipment	Low IF signal to RFU	Major	IF cable connection. Defective RFU. Defective RMC (Radio Modem Card).	Check IF cable connectors. Verify that N-Type connector inner pin is not spliced. Replace RMC (Radio Modem Card). Replace RFU.
1712	no-signal-from-rfu	Alarm	Equipment	Low IF signal from RFU	Warning	Low RX IF signal (140 MHz) from RFU.	Check IF cable and connectors. Verify that N-Type connector inner pin is not spliced. Replace RMC (Radio Modem Card). Replace RFU.
1713	pa-extreme-temp-cond	Alarm	Equipment	RFU PA extreme temperature	Warning	Installation conditions. Defective RFU.	Check installation conditions. Replace RFU.
1721	reset-occurred	Event	Equipment	RFU reset	Major		
1722	rfu-loopback-active	Alarm	Equipment	RFU loopback is active	Major	User has activated RFU loopback.	Disable RFU loopback.
1723	rfu-mode-changed-to-combined	Event	Equipment	RFU mode changed to Combined	Indeterminate		

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
1724	rfu-mode-changed-to-diversity	Event	Equipment	RFU mode changed to Diversity	Indeterminate		
1725	rfu-mode-changed-to-main	Event	Equipment	RFU mode changed to Main	Indeterminate		
1726	rfu-power-supply-failure	Alarm	Equipment	RFU power supply failure	Major	At least one of the RFU's power supply voltages is too low.	Replace RFU.
1727	rx-level-out-of-range	Alarm	Equipment	RFU RX level out of range	Warning	RSL is very low, link is down.	Check antenna alignment & link planning. Check link settings (TX power, TX frequency). Check antenna connections. Replace local/remote RFU.
1728	rx-level-path1-out-of-range	Alarm	Equipment	RFU RX level path1 out of range	Warning	Improper installation. Fading event. Defective RFU.	Check that the fault is not due to rain/multi-path fading or lack of LOS. Check link settings (TX power, TX frequency). Check antenna alignment. Check antenna connections. Replace local/remote RFU.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
1729	rx-level-path2-out-of-range	Alarm	Equipment	RFU RX level path2 out of range	Warning	Improper installation. Fading event. Defective RFU.	Check that the fault is not due to rain/multi-path fading or lack of LOS. Check link settings (TX power, TX frequency). Check antenna alignment. Check antenna connections. Replace local/remote RFU.
1730	radio-unit-communication-failure	Alarm	Equipment	Radio unit communication failure	Critical	Defective RFU cable. RFU cable not connected properly. Defective RIC (Radio Interface Card). Defective RFU. RFU initialization in progress. RFU powered off.	Check RFU power supply. Check RFU cable and connectors. Replace RIC (Radio Interface Card). Replace RFU.
1731	power-supply-radio-unit-cable-open	Alarm	Equipment	Power supply cable open	Major	Power is enabled but consumption is lower than threshold.	Check ETH cable and connectors. Verify RFU is connected. If RFU connected with optical cable, disable power interface.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
1732	power-supply-radio-unit-cable-short	Alarm	Equipment	Power supply cable short	Major	Power is enabled but consumption reached the threshold. Physical short at the ETH cable.	Check ETH cable and connectors. Replace RIC (Radio Interface Card) Replace RFU. If RFU connected with optical cable, disable power interface.
1733	synthesizer-unlocked	Alarm	Equipment	RFU synthesizer unlocked	Major	At least one of the RFU synthesizers is unlocked	Replace RFU. In XPIC mode, replace mate RFU as well.
1734	tx-level-out-of-range	Alarm	Equipment	RFU TX level out of range	Minor	Defective RFU (the RFU cannot transmit the requested TX power)	Replace RFU. Intermediate solution - reduce TX power.
1735	tx-mute	Alarm	Equipment	RFU TX Mute	Warning	RFU Transmitter muted by user	Unmute the RFU transmitter
1736	unknown-rfu-type	Alarm	Equipment	IDU SW does not support this type of RFU	Major	IDC SW does not support the RFU	Upgrade IDC SW
1737	card-extracted-from-slot	Event	Equipment	Card was extracted from slot	Warning	Card was extracted from slot	NA
1738	card-failure	Alarm	Equipment	Card is in Failure state	Major	Card is down as a result of card failure	Reset Card. Check if slot was disabled.
1739	card-fpga-fw-not-found	Alarm	Equipment	FPGA Firmware file not found	Critical	There is no FPGA file found on the Main Board for the card on the slot	NA

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
1740	card-fw-load-fail	Alarm	Equipment	Download card firmware has failed	Major	Firmware download was unsuccessful.	Reset Card. Download software package. Try to insert another Card.
1741	card-inserted-to-slot	Event	Equipment	Card was inserted to slot	Warning	Card was inserted to slot	NA
1742	card-intermediate-channel-failure	Alarm	Equipment	Card is in interconnection failure state	Major	Card is down as a result of card interconnection failure	Reset Card. Check if the slot was disabled.
1743	card-missing	Alarm	Equipment	Expected Card is missing in slot	Major	Card is missing. Expected Card Type configured on empty slot.	Insert Expected Card. Clear Expected Card Type.
1744	card-not-supported-for-slot	Alarm	Equipment	This Card type is not supported in this slot	Major	The card is not on the Allowed Card Types list for this slot.	Reset. Insert Card belongs to Allowed Card Types list.
1745	card-state-is-down	Event	Equipment	Card operational state is Down	Indeterminate	Card state was change to Down state	NA
1746	card-state-is-up	Event	Equipment	Card operational state is Up	Indeterminate	Card state was change to Up state	NA
1747	card-state-is-up-with-alarms	Event	Equipment	Card operational state is Up with Alarms	Indeterminate	Card state was change to Up state but with Alarms indication	NA
1748	card-unexpected	Alarm	Equipment	Unexpected Card Type in slot	Minor	Expected card type is different than the actual card type	Insert Expected Card. Change Expected Card Type.
1749	slot-disabled	Event	Equipment	Slot was Disabled	Indeterminate	The user Disabled slot	NA

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
1750	slot-enabled	Event	Equipment	Slot was Enabled	Indeterminate	The user Enabled slot	NA
1751	slot-reseted	Event	Equipment	Card on slot was Reset	Indeterminate	The user Reset slot	NA
1752	fan-card-extraction-event	Event	Equipment	FAN Card was extracted from slot	Warning	FAN Card was extracted from slot	
1753	fan-card-failure-event	Event	Equipment	FAN failure	Major		
1754	fan-card-insertion-event	Event	Equipment	FAN Card was inserted to slot	Warning	FAN Card was inserted to slot	
1755	fan-card-missing	Alarm	Equipment	FAN Card is missing in slot	Critical	FAN Card is missing. Slot enabled when empty.	Insert FAN Card. Disable slot.
1756	fan-extreme-temperature	Alarm	Equipment	This alarm is non-operational and has been superseded by Alarm 32002.	Major	System Temperature not in allowed range.	NA
1757	fan-failure	Alarm	Equipment	FAN Card is in Failure state	Major	FAN Card is in Failure state	Change FAN Card
1758	pdc-card-extraction-event	Event	Equipment	Power Supply was extracted from slot	Warning	Power Supply was extracted from slot	
1759	pdc-card-insertion-event	Event	Equipment	Power Supply was inserted to slot	Warning	Power Supply was inserted to slot.	
1760	pdc-card-missing	Alarm	Equipment	Power Supply is missing in slot	Major	Power Supply is missing. Slot enabled when empty.	Insert Power Supply. Disable slot.
1761	pdc-over-voltage	Alarm	Equipment	Over voltage	Major	System Power Voltage higher than allowed.	NA

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
1762	pdc-under-voltage	Alarm	Equipment	Under voltage	Major	System Power Voltage Lower than allowed.	NA
1763	TCC-fpga-fw-not-found	Alarm	Equipment	The Main board firmware is not found	Warning		
1764	TCC-fw-load-fail	Alarm	Equipment	Download Main Board firmware has failed	Major	Firmware download was unsuccessful.	Reset board. Download software package. Try to insert another board.
1765	tcc-powerup-reset-event	Event	Equipment	Main Board was reset	Warning		
1766	upload-software-failed	Event	Equipment	RFU installation failure	Warning	Unsupported RFU type. IDU-RFU communications problem. RFU failure.	Make sure RFU is supported by SW version. Check IDU-RFU cable. Replace RFU.
1767	upload-software-started	Event	Equipment	RFU installation in progress	Warning	User command	
1768	upload-software-succeeded-event	Event	Equipment	RFU installation successfully completed	Warning	User command	
1769	unit-cold-reset-event	Event		Unit Perform Power up	Warning		
1770	cable-lof-rfu	Event	Equipment	Unit performing power-up.	Major		
1771	cable-error-rfu	Alarm	Equipment	RFU cable error.	Major	Errors in signal from IDU to XCVR.	Check the IF cable and connectors. Verify that the N-Type/TNC connector inner pin is not spliced. Replace RMC. Replace XCVR.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
1772	xpic-data-los	Alarm	Equipment	Radio XPIC sync loss	Major	Signalling between RMCs (Radio Modem Cards) for XPIC functionality has failed	Check that the RMCs are in allowed slots. Populate the RMCs in different allowed location in the chassis. Replace RMC/s. Replace chassis.
1773	early-warning	Alarm	Communications	Radio early warning.	Warning	The estimated radio BER (Bit Error Rate) is above 10E-12.	Check link performance. Check IF cable, and replace if required. Replace XCVR. Replace RMC.
1774	sw-download-incompatible-rfu	Alarm	Equipment	RFU software download cannot be initiated.	Critical	The hardware of the XCVR is OK, but is it running with METRO radio application.	Upgrade the XCVR software application via XPAND-IP and then reinitiate software download..
1775	hw-incompatible-rfu	Alarm	Equipment	RFU software download is not possible.	Critical	Wrong type of XCVR, the XCVR hardware is METRO.	Replace the XCVR
1776	pll-rmc	Alarm	Equipment	RMC hardware failure.	Major	RMC hardware failure of the clock distributor.	Replace the RMC.
1777	rfu-mute-with-timeout	Event	Equipment	RFU TX Mute with timeout	Warning	RFU Transmitter muted by user.	Unmute the RFU transmitter or wait for expiration of the timeout.
1778	rfu-power-decreased-due-to-pa-temp	Alarm	Equipment	RFU power decreased due to PA temperature	Major	Defective RFU (the RFU cannot transmit the requested TX power).	Replace RFU. Intermediate solution - reduce TX power.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
1780	mrmc-running-script-deleted	Event	Equipment	MRMC running script is deleted	Warning	New installed software package does not include the running MRMC radio script	Make sure the required software package include the running MRMC radio script. Download and install the correct software package.
1781	mrmc-running-script-updated	Event	Equipment	MRMC running script is updated	Warning	New installed software package does has an updated version of the running MRMC radio script	Reset the radio carrier to reacquire the new updated MRMC radio script
1782	radio-2_5gbps-mismatch-configuration	Alarm	Equipment	2.5Gbps mismatch configuration	Warning	The card can not function outside of an ABC group in 2.5Gbps mode.	Add the card to an ABC group, or change the Slot Section to 1Gbps.
1783	remote-fault-indication	Alarm	Communication	Radio remote fault indication (RFI)	Minor		
1790	np-hw-failure	Alarm	Equipment	Hardware failure	Critical	An internal hardware failure has been detected by the system.	Replace the card or unit reporting the hardware failure.
1794	interface-not-functional-until-reset	Alarm	equipment	Interface is not operational until chassis reset	Warning	Changes were made to platform due to user configuration	Reset chassis
1800	t3-loc-alarm	Alarm	Equipment	T3 sync interface Loss of Carrier	Major	Cable disconnected. Defective cable.	Check connection of the cable. Replace the cable.
2001	pwe3-pwc-s-card-reset	Alarm	Equipment	TDM-LIC has rebooted and is not in service now	Major	Recent TDM-LIC card reset; System malfunction.	Wait for card to reboot. Reset the TDM-LIC card.
2002	pwe3-pwc-s-config-mismatch	Alarm	Equipment	TDM-LIC configuration mismatch	Major	Recent warm reset of TDM-LIC; System malfunction.	Power cycle the TDM-LIC.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
2003	pwe3-pwc-s-front-panel-clock-los	Alarm	Equipment	Loss of Signal (LOS) on TDM-LIC's front panel clock port	Major	Line is not properly connected. External equipment is faulty.	Reconnect line. Check line cables. Check external equipment. Power cycle the TDM-LIC.
2004	pwe3-pwc-s-host-pw-lic-comm-disrupt	Alarm	Equipment	Communication with TDM-LIC is disrupted in Host-Card direction	Minor	System malfunction	Reset the TDM-LIC.
2005	pwe3-pwc-s-hw-failure	Alarm	Equipment	TDM-LIC hardware failure	Major	System malfunction	Reset the TDM-LIC.
2006	pwe3-pwc-s-pw-lic-host-comm-disrupt	Alarm	Equipment	No communication with TDM-LIC	Major	System malfunction	Reset the TDM-LIC.
2007	pwe3-pws-s-jitter-buffer-overrun	Alarm	Equipment	Jitter-buffer-overrun alarm on TDM service	Major	Something wrong on TDM service synchronization	Check TDM service configuration
2008	pwe3-pws-s-late-frame	Alarm	Equipment	Late-frame alarm on TDM service	Warning	Something wrong on TDM service	Check TDM service configuration
2009	pwe3-pws-s-loss-of-frames	Alarm	Equipment	Loss-of-frames alarm on TDM service	Major	Failure along the network path of TDM service	Check network or configuration for errors in the network transport side of the service
2010	pwe3-pws-s-malformed-frames	Alarm	Equipment	Malformed-frames alarm on TDM service	Major	Payload size does not correspond to the defined value. Mismatch in PT value in RTP header (if used)	Check TDM service configuration
2011	pwe3-pws-s-misconnection	Alarm	Equipment	Misconnection alarm on TDM service	Major	Stray packets with wrong RTP configurations are received and dropped.	Check TDM service configuration

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
2012	pwe3-tdm-port-s-ais	Alarm	Equipment	Alarm Indication Signal (AIS) on TDM-LIC TDM port	Major	Line is not properly connected. External equipment is faulty.	Reconnect line. Check line cables. Check external equipment.
2013	pwe3-tdm-port-s-lof	Alarm	Equipment	Loss Of Frame (LOF) on TDM-LIC TDM port	Major	Line is not properly connected. External equipment is faulty.	
2014	pwe3-tdm-port-s-lomf	Alarm	Equipment	Loss Of Multi-Frame (LOMF) on TDM-LIC TDM port	Major	Line is not properly connected. External equipment is faulty.	Reconnect line. Check line cables. Check external equipment.
2015	pwe3-tdm-port-s-loopback-alarm	Alarm	Equipment	Loopback on TDM-LIC TDM port	Warning	Line is not properly connected. External equipment is faulty.	Reconnect line. Check line cables. Check external equipment.
2016	pwe3-tdm-port-s-los	Alarm	Equipment	Loss Of Signal (LOS) on TDM-LIC TDM port	Major	Line is not properly connected. Cable is faulty. External equipment is faulty. Defective TDM-LIC.	Reconnect line. Check line cables. Check external equipment.
2017	pwe3-tdm-port-s-rai	Alarm	Equipment	Remote Alarm Indication (RAI) on TDM-LIC TDM port	Minor	Line is not properly connected. External equipment is faulty.	Reconnect line. Check line cables. Check external equipment.
2018	pwe3-tdm-port-s-unexpected-signal-alarm	Alarm	Equipment	E1/DS1 Unexpected signal on TDM-LIC TDM port	Warning	Port is disabled. Line is connected to a disabled port.	Enable relevant port. Disconnect cable from relevant port.
2021	pwe3-pwc-s-ssm-rx-changed	Event	Equipment	SSM received pattern change was discovered	Warning		No action is required.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
2022	pwe3-stm1oc3-s-excessive-ber-alarm	Alarm	Equipment	Excessive BER on TDM-LIC STM1/OC3 port	Major	Line is not properly connected. External equipment is faulty.	Reconnect line. Check line cables. Check external equipment. Power cycle the TDM-LIC.
2023	pwe3-stm1oc3-s-lof-alarm	Alarm	Equipment	Loss Of Frame (LOF) on TDM-LIC STM1/OC3 port	Major	Line is not properly connected. External equipment is faulty.	Reconnect line. Check line cables. Check external equipment. Power cycle the TDM-LIC.
2024	pwe3-stm1oc3-s-loopback-alarm	Alarm	Equipment	Loopback on TDM-LIC STM1/OC3 port	Warning	Line is not properly connected. External equipment is faulty.	Reconnect line. Check line cables. Check external equipment. Power cycle the TDM-LIC.
2025	pwe3-stm1oc3-s-los-alarm	Alarm	Equipment	Loss Of Signal (LOS) on TDM-LIC STM1/OC3 port	Critical	Line is not properly connected. External equipment is faulty.	Reconnect line. Check line cables. Check external equipment. Power cycle the TDM-LIC.
2026	pwe3-stm1oc3-s-mute-override-alarm	Alarm	Equipment	SFP is muted on TDM-LIC STM1/OC3 port	Warning		
2027	pwe3-stm1oc3-s-sfp-absent-alarm	Alarm	Equipment	SFP absent in TDM-LIC STM1/OC3 port	Critical	SFP is not properly installed. SFP is faulty.	Install SFP properly. Replace the card.
2028	pwe3-stm1oc3-s-sfp-failure-alarm	Alarm	Equipment	SFP failure on TDM-LIC STM1/OC3 port	Critical	SFP is not properly installed. SFP is faulty.	Install SFP properly. Replace the card.
2029	pwe3-stm1oc3-s-sfp-tx-fail-alarm	Alarm	Equipment	SFP transmit failure on TDM-LIC STM1/OC3 port	Critical	SFP is not properly installed. SFP is faulty.	Install SFP properly. Replace the card.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
2030	pwe3-stm1oc3-s-signal-degrade-alarm	Alarm	Equipment	Signal Degrade on TDM-LIC STM1/OC3 port	Minor	Line is not properly connected. SFP is not properly installed. SFP is faulty. External equipment is faulty	Install SFP properly. Reconnect line. Check line cables. Check external equipment. Power cycle the TDM-LIC.
2031	pwe3-stm1oc3-s-slm-alarm	Alarm	Equipment	J0 Trace Identifier Mismatch on TDM-LIC STM1/OC3 port	Minor	J0 misconfiguration. Line is not properly connected. SFP is not properly installed. External equipment is faulty.	Make sure expected and received J0 match. Install SFP properly. Reconnect line. Check line cables. Check external equipment. Power cycle the TDM-LIC.
2032	pwe3-stm1oc3-s-ssm-rx-changed	Event	Equipment	SSM pattern received on TDM-LIC STM1/OC3 port changed	Warning		
2033	pwe3-vc12vt15-s-ais-alarm	Alarm	Equipment	Alarm Indication Signal (AIS) on TDM-LIC VC12/VT1.5	Minor	Line is not properly connected. External equipment is faulty.	Reconnect line. Check line cables. Check external equipment. Power cycle the TDM-LIC.
2034	pwe3-vc12vt15-s-excessive-ber-alarm	Alarm	Equipment	Excessive BER on TDM-LIC VC12/VT1.5	Minor	Line is not properly connected. External equipment is faulty.	Reconnect line. Check line cables. Check external equipment. Power cycle the TDM-LIC.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
2035	pwe3-vc12vt15-s-loopback-alarm	Alarm	Equipment	Loopback on TDM-LIC VC12/VT1.5	Warning	Line is not properly connected. External equipment is faulty.	Reconnect line. Check line cables. Check external equipment. Power cycle the TDM-LIC.
2036	pwe3-vc12vt15-s-rcv-plm-alarm	Alarm	Equipment	Payload Mismatch Path (PLM) received on TDM-LIC VC12/VT1.5	Minor	Line is not properly connected. External equipment is faulty.	Reconnect line. Check line cables. Check external equipment. Power cycle the TDM-LIC.
2037	pwe3-vc12vt15-s-rcv-rdi-alarm	Alarm	Equipment	Remote Defect Indication (RDI) received on TDM-LIC VC12/VT1.5	Minor	Line is not properly connected. External equipment is faulty.	Reconnect line. Check line cables. Check external equipment. Power cycle the TDM-LIC.
2038	pwe3-vc12vt15-s-rcv-slm-alarm	Alarm	Equipment	Signal Label Mismatch (SLM) received on TDM-LIC VC12/VT1.5	Minor	J2 misconfiguration. Line is not properly connected. External equipment is faulty.	Make sure expected and receive J2 match. Reconnect line. Check line cables. Check external equipment. Power cycle the TDM-LIC.
2039	pwe3-vc12vt15-s-signal-degrade-alarm	Alarm	Equipment	Signal Degrade on TDM-LIC VC12/VT1.5	Minor	Line is not properly connected. External equipment is faulty.	Reconnect line. Check line cables. Check external equipment. Power cycle the TDM-LIC.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
2040	pwe3-vc12vt15-s-unequipped-alarm	Alarm	Equipment	Unequipped on TDM-LIC VC12/VT1.5	Minor	Line is not properly connected. External equipment is faulty.	Reconnect line. Check line cables. Check external equipment. Power cycle the TDM-LIC.
2041	pwe3-card-group-s-config-mismatch	Alarm	Equipment	TDM-LIC card protection configuration mismatch	Major	The configuration between the TDM-LIC card protection members is not aligned	Apply a copy-to-mate command to copy the configuration from the required TDM-LIC to the other one
2042	pwe3-card-group-s-lockout	Alarm	Equipment	TDM-LIC card protection group lockout command is on	Minor	The user has issued a lockout command	Clear the lockout command
2043	pwe3-card-group-s-no-mate	Alarm	Equipment	A member of TDM-LIC card protection group is missing	Minor	TDM-LIC card is not installed in the shelf	Install the missing TDM-LIC card
2044	pwe3-card-group-s-protection-switch-evt	Event	Equipment	TDM-LIC card protection switch over, priority	Warning	LOS alarm on a STM1 interface of the TDM-LIC card protection group member; A TDM-LIC card protection group member was disabled or pulled out of the shelf	Check line cables. Check external equipment.
2045	pwe3-vc12vt15-s-lop-alarm	Alarm	Equipment	Loss Of Pointer (LOP) received on TDM-LIC VC12/VT1.5	Minor	Line is not properly connected. External equipment is faulty.	Reconnect line. Check line cables. Check external equipment. Power cycle the TDM-LIC.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
2046	pwe3-tunnel-groups-s-protection-switch	Event	Equipment	Path protection switch on TDM service	Minor	Failure along service primary path. User command.	Check errors along primary path Check local service configuration.
2047	pwe3-tunnel-groups-s-revertive-switch	Event	Equipment	Path protection revertive switch on TDM service	Minor	Primary path has been operational for the duration of the defined WTR time	-
2100	STM-1-OC-3-IN-LOS	Alarm	Equipment	Loss of Signal on Line Interface (LOS) on STM-1/OC-3 port.	Critical	Line is not properly connected. External equipment is faulty.	Reconnect line. Check line cables. Check external equipment.
2101	STM-1-OC-3-IN-LOF	Alarm	Equipment	Loss of Frame on Line Interface (LOF) on STM-1/OC-3 port.	Major	Line is not properly connected. External equipment is faulty.	Reconnect line. Check line cables. Check external equipment.
2102	STM-1-OC-3-IN-MSAIS	Alarm	Equipment	Alarm Indication Signal on Line Interface (MS-AIS/AIS-L) received.	Minor	Line is not properly connected. External equipment is faulty.	Reconnect line. Check line cables. Check external equipment.
2103	STM-1-OC-3-IN-MSRDI	Alarm	Equipment	Remote Defect Indication on Line Interface (MS-RDI/RDI-L) received.	Minor	External equipment is faulty.	Check external equipment.
2104	STM-1-OC-3-RX-LOS	Alarm	Equipment	Loss of STM-1/OC-3 Frame on Radio Interface.	Major	All channels in Multi Carrier ABC group are down. Incorrect configuration on remote side.	Check link performance. Check radio alarms for channel. Check configuration.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
2105	STM-1-OC-3-RX-MSAIS	Alarm	Equipment	MS-AIS/AIS-L on Radio Interface detected.	Minor	Remote STM-1/OC-3 signal is missing (LOS/LOF/MS-AIS/AIS-L on remote STM-1/OC-3 interface). STM-1/OC-3 Channel removed due to reduced radio capacity on remote side.	Check remote equipment.
2106	STM-1-OC-3-RX-RDI	Alarm	Equipment	MS-RDI/RDI-L on Radio Interface detected.	Minor	External equipment is faulty.	Check remote equipment.
2107	STM-1-OC-3-LOOPBACK	Alarm	Equipment	STM-1/OC-3 Loopback	Warning	Looping.	Remove looping.
2108	STM-1/OC-3-CHANNEL-1-REMOVED	Alarm	Equipment	STM-1/OC-3 Channel Removed alarm (due to reduced radio capacity).	Warning	Reduced capacity. Fading	Check link performance. Check radio alarms for channel.
2109	STM-1-OC-3-PBRS-INSERTION	Alarm	Equipment	PRBS insertion.	Warning	PRBS insertion on STM-1/OC-3 card.	Remove PRBS insertion.
2110	STM-1-OC-3-SFP-NOT-DETECTED	Alarm	Equipment	SFP absent in STM-1/OC-3 port.	Critical	SFP is not properly installed. SFP is faulty.	Install SFP properly. Replace the card.
2111	STM-1-OC-3-SFP-TX-FAILURE	Alarm	Equipment	SFP Transmit Failure on STM-1/OC-3 port.	Critical	SFP is faulty.	Replace SFP or insert SFP if it is not inserted correctly. Replace the card.
2112	STM-1-OC-3-SFP-TX-MUTED	Alarm	Equipment	SFP is muted on STM-1/OC-3 port.	Warning	SFP is muted by configuration.	Remove muting.
2113	STM-1/OC-3-CHANNEL-2-REMOVED	Alarm	Equipment	STM-1/OC-3 Channel Removed alarm (due to reduced radio capacity).	Warning	Reduced capacity. Fading.	Check link performance. Check radio alarms for channel.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
2114	STM-1/OC-3-CHANNEL-3-REMOVED	Alarm	Equipment	STM-1/OC-3 Channel Removed alarm (due to reduced radio capacity).	Warning	Reduced capacity. Fading.	Check link performance. Check radio alarms for channel.
2115	STM-1/OC-3-CHANNEL-4-REMOVED	Alarm	Equipment	STM-1/OC-3 Channel Removed alarm (due to reduced radio capacity).	Warning	Reduced capacity. Fading.	Check link performance. Check radio alarms for channel.
2116	STM-1/OC-3-CHANNEL-5-REMOVED	Alarm	Equipment	STM-1/OC-3 Channel Removed alarm (due to reduced radio capacity).	Warning	Reduced capacity. Fading.	Check link performance. Check radio alarms for channel.
2117	STM-1/OC-3-CHANNEL-6-REMOVED	Alarm	Equipment	STM-1/OC-3 Channel Removed alarm (due to reduced radio capacity).	Warning	Reduced capacity. Fading.	Check link performance. Check radio alarms for channel.
2118	STM-1/OC-3-CHANNEL-7-REMOVED	Alarm	Equipment	STM-1/OC-3 Channel Removed alarm (due to reduced radio capacity).	Warning	Reduced capacity. Fading.	Check link performance. Check radio alarms for channel.
2119	STM-1/OC-3-CHANNEL-8-REMOVED	Alarm	Equipment	STM-1/OC-3 Channel Removed alarm (due to reduced radio capacity).	Warning	Reduced capacity. Fading.	Check link performance. Check radio alarms for channel.
2120	STM1-OC3-GROUP-ACTIVITY-CHANGED	Event	Equipment	STM-1/OC-3 Group protection switchover	Warning	LOS alarm on an STM-1/OC-3 interface. STM1-OC3 Group protection group member was disabled or pulled out of the shelf.	Check line cables. Check external equipment.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
2200	MC-ABC-Local-LOF	Alarm	Communications	Multi Carrier ABC LOF.	Critical	All channels in Multi Carrier ABC group are down.	Check link performance on all radio channels in Multi Carrier ABC group. Check radio alarms for channels in Multi Carrier ABC group. Check configuration of Multi Carrier ABC group.
2201	MC-ABC-local-cap-below	Alarm		Multi Carrier ABC bandwidth is below the threshold	Major	One of the radio channels in the Multi Carrier ABC group has a lower capacity than expected Minimum bandwidth threshold configuration is wrong	Check link performance on all radio channels in Multi Carrier ABC group Check radio alarms for channels in Multi Carrier ABC group Check configuration of Multi Carrier ABC group Minimum bandwidth threshold
2203	MC-ABC-Lvds-Error-Sl2	Alarm	Equipment	LVDS RX Error Slot 2.	Major	Hardware failure between RMC and TCC cards.	Replace RMC. Replace TCC. Replace chassis.
2204	MC-ABC-Lvds-Error-Sl3	Alarm	Equipment	LVDS RX Error Slot 3.	Major	Hardware failure between RMC and TCC cards.	Replace RMC. Replace TCC. Replace chassis.
2205	MC-ABC-Lvds-Error-Sl4	Alarm	Equipment	LVDS RX Error Slot 4.	Major	Hardware failure between RMC and TCC cards.	Replace RMC. Replace TCC. Replace chassis.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
2206	MC-ABC-Lvds-Error-Sl5	Alarm	Equipment	LVDS RX Error Slot 5.	Major	Hardware failure between RMC and TCC cards.	Replace RMC. Replace TCC. Replace chassis.
2207	MC-ABC-Lvds-Error-Sl6	Alarm	Equipment	LVDS RX Error Slot 6.	Major	Hardware failure between RMC and TCC cards.	Replace RMC. Replace TCC. Replace chassis.
2208	MC-ABC-Lvds-Error-Sl7	Alarm	Equipment	LVDS RX Error Slot 7.	Major	Hardware failure between RMC and TCC cards.	Replace RMC. Replace TCC. Replace chassis.
2209	MC-ABC-Lvds-Error-Sl8	Alarm	Equipment	LVDS RX Error Slot 8.	Major	Hardware failure between RMC and TCC cards.	Replace RMC. Replace TCC. Replace chassis.
2210	MC-ABC-Lvds-Error-Sl9	Alarm	Equipment	LVDS RX Error Slot 9.	Major	Hardware failure between RMC and TCC cards.	Replace RMC. Replace TCC. Replace chassis.
2211	MC-ABC-Lvds-Error-Sl10	Alarm	Equipment	LVDS RX Error Slot 10.	Major	Hardware failure between RMC and TCC cards.	Replace RMC. Replace TCC. Replace chassis.
2212	MC-ABC-Lvds-Error-Sl12	Alarm	Equipment	LVDS RX Error Slot 12.	Major	Hardware failure between RMC and TCC cards.	Replace RMC. Replace TCC. Replace chassis.
2219	MC-ABC-Ch-Id-Mismatch-Ch1	Alarm	Equipment	Multi Carrier ABC Channel Id Mismatch Ch1.	Warning	Configuration failure.	Compare Channel ID configuration with remote side.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
2220	MC-ABC-Ch-Id-Mismatch-Ch2	Alarm	Equipment	Multi Carrier ABC Channel Id Mismatch Ch2.	Warning	Configuration failure.	Compare Channel ID configuration with remote side.
2221	MC-ABC-Ch-Id-Mismatch-Ch3	Alarm	Equipment	Multi Carrier ABC Channel Id Mismatch Ch3.	Warning	Configuration failure.	Compare Channel ID configuration with remote side.
2222	MC-ABC-Ch-Id-Mismatch-Ch4	Alarm	Equipment	Multi Carrier ABC Channel Id Mismatch Ch4.	Warning	Configuration failure.	Compare Channel ID configuration with remote side.
2223	MC-ABC-Ch-Id-Mismatch-Ch5	Alarm	Equipment	Multi Carrier ABC Channel Id Mismatch Ch5.	Warning	Configuration failure.	Compare Channel ID configuration with remote side.
2224	MC-ABC-Ch-Id-Mismatch-Ch6	Alarm	Equipment	Multi Carrier ABC Channel Id Mismatch Ch6.	Warning	Configuration failure.	Compare Channel ID configuration with remote side.
2225	MC-ABC-Ch-Id-Mismatch-Ch7	Alarm	Equipment	Multi Carrier ABC Channel Id Mismatch Ch7.	Warning	Configuration failure.	Compare Channel ID configuration with remote side.
2226	MC-ABC-Ch-Id-Mismatch-Ch8	Alarm	Equipment	Multi Carrier ABC Channel Id Mismatch Ch8.	Warning	Configuration failure.	Compare Channel ID configuration with remote side.
2235	MC-ABC-Ch-Id-Disabled-Ch1	Alarm	Equipment	Multi Carrier ABC Channel Id Manual Disabled Ch1.	Warning	Admin state for channel is down.	Enable admin state for channel.
2236	MC-ABC-Ch-Id-Disabled-Ch2	Alarm	Equipment	Multi Carrier ABC Channel Id Manual Disabled Ch2.	Warning	Admin state for channel is down.	Enable admin state for channel.
2237	MC-ABC-Ch-Id-Disabled-Ch3	Alarm	Equipment	Multi Carrier ABC Channel Id Manual Disabled Ch3.	Warning	Admin state for channel is down.	Enable admin state for channel.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
2238	MC-ABC-Ch-Id-Disabled-Ch4	Alarm	Equipment	Multi Carrier ABC Channel Id Manual Disabled Ch4.	Warning	Admin state for channel is down.	Enable admin state for channel.
2239	MC-ABC-Ch-Id-Disabled-Ch5	Alarm	Equipment	Multi Carrier ABC Channel Id Manual Disabled Ch5.	Warning	Admin state for channel is down.	Enable admin state for channel.
2240	MC-ABC-Ch-Id-Disabled-Ch6	Alarm	Equipment	Multi Carrier ABC Channel Id Manual Disabled Ch6.	Warning	Admin state for channel is down.	Enable admin state for channel.
2241	MC-ABC-Ch-Id-Disabled-Ch7	Alarm	Equipment	Multi Carrier ABC Channel Id Manual Disabled Ch7.	Warning	Admin state for channel is down.	Enable admin state for channel.
2242	MC-ABC-Ch-Id-Disabled-Ch8	Alarm	Equipment	Multi Carrier ABC Channel Id Manual Disabled Ch8.	Warning	Admin state for channel is down.	Enable admin state for channel.
2250	CRB-Group-Entity	Alarm	communications	Enhanced Multi Carrier ABC LOF	Critical	All channels in Enhanced Multi Carrier ABC group are down	Check link performance on all channels in Enhanced Multi Carrier ABC group. Check alarms for channels in Enhanced Multi Carrier ABC group. Check configuration of Enhanced Multi Carrier ABC group.
2300	protection-configuration-mismatc	Alarm	Equipment	Protection configuration mismatch!	Major	The configuration between the protected devices is not aligned.	Apply copy-to-mate command to copy the configuration from the required device to the other one.
2301	protection-copytomate-started	Event	Processing	Copy to mate started	Indeterminate	The copy-to-mate command has just begun!	This is a notification

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
2302	protection-copytomate-completed	Event	Processing	Copy to mate completed	Indeterminate	The copy-to-mate command was completed.	This is a notification
3000	chassis-reset-event	Event	Equipment	Chassis was reset	Warning	User issued a command to reset the chassis.	Wait until the reset cycle is ended and the system is up and running.
3001	10gbps-mode-front-panel-ports-unavailable	Alarm	Equipment	Reset chassis to activate front panel Ethernet ports	Warning	Front panel Ethernet ports cannot work when slot 12 is configured in 10Gbps mode.	Reset chassis.
3002	slot-mode-front-panel-ports-not-functional	Alarm	Equipment	Front panel Ethernet port cannot function in current configured capacity mode	Warning	Front panel Ethernet port cannot work in a mode other than 1Gbps.	Configure the relevant capacity mode to 1 Gbps mode.
3003	abc-mode-not-functional	Alarm	Equipment	Multi Carrier ABC group is not functional in current configured capacity mode	Warning	Multi Carrier ABC group does not support the configured capacity mode.	Configure the relevant capacity mode to 1 Gbps mode.
3004	abc-mode-not-functional-until-reset	Alarm	Equipment	Multi Carrier ABC group is not functional in current configured capacity mode until chassis is reset	Warning	Multi Carrier ABC group capacity mode is different than the configured capacity mode.	Reset chassis.
4000	hw-failure	Alarm	Equipment	Card has one or more HW failures	Critical	One or more HW faults.	Replace card.
4001	slotsection-2_5gbps-compatibility	Alarm	Equipment	Card can not function in 2.5Gbps mode.	Warning	The user set an expected card that does not support 2.5Gbps.	Change the Slot Section to 1Gbps.
4002	slot-slotsection-10gbps-card-not-functional	Alarm	Equipment	Card is not functional until chassis is reset	Warning	Slot is not in 10Gbps mode.	Reset chassis.
5000	failure-login-event	Event	Equipment	User blocked due to consecutive failure login	Indeterminate	User blocked due to consecutive failure login	The user should wait few minutes until it account will be unblock

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
5001	g8032-protection-switching-alarm	Alarm	Processing	ERPI is either in protection state or forced protection state	Minor	Either user "force switch" command or one of the ring links has failed	Either clear force command or recover the link
5002	g8032-failure-of-protocol-pm-alarm	Alarm	Processing	More than a single RPL is configured in a ring	Warning	User configuration	Reconfigure the RPL
5003	lldp-topology-change	Event	Processing	LLDP topology change	Warning	New neighbor	None
5004	security-log-upload-started-event	Event	Equipment	Security log upload started	Indeterminate	Security log upload started	
5005	security-log-upload-failed-event	Event	Equipment	Security log upload failed	Indeterminate	Security log upload failed	
5006	security-log-upload-succeeded-event	Event	Equipment	Security log upload succeeded	Indeterminate	Security log upload succeeded	
5010	force-mode-alarm	Alarm	Equipment	System is in sync force mode state	Warning	User command	
5011	sync-quality-change-event	Event	Equipment	The sync-source quality level was changed	Major		
5012	system-clock-in-holdover-mode	Alarm	Equipment	System Synchronization Reference in Holdover Mode	Critical		
5013	sync-T0-quality-change-event	Event	Equipment	System sync reference T0 quality has changed	Major		
5014	sync-pipe-invalid-interface-clock-source	Alarm	Equipment	The pipe interface clock-source in signal-interface table is not system-clock	Major		
5015	sync-pipe-missing-edge	Alarm	Equipment	The pipe is missing an edge interface	Major	Regenerator contains less than 2 interfaces	Accomplish configuration by assigning second interface

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
5016	sync-pipe-interface-op-state-down	Alarm	Equipment	Pipe interface operational state is down	Major	At least one of Regenerator Interfaces status is down	Checking regenerator Admin status
5017	sync-pipe-invalid-pipe	Alarm	Equipment	Pipe is invalid	Major	Interfaces has Configuration or Operation fails	Configuration not accomplished
5018	sync-1588-tc-not-operational	Alarm	Equipment	1588TC is not operational	Major	System Failure	Reboot the unit
5019	sync-1588-tc-not-calibrated	Alarm	Sync	1588TC over the radio is not calibrated	Major	1588TC over the radio is enabled but could not be calibrated	Check that the radio link configuration have: TC enabled on both sides Frequency lock UP on both sides TC downstream at one side and upstream on the other side
5020	sync-T3-remote-loopback	Alarm	Equipment	T3 interface at loopback mode	Warning		
5021	sync-T4-analog-loopback	Alarm	Equipment	T4 interface at loopback mode	Warning		
5030	soam-connectivity-failure	Alarm	Processing	A connectivity failure in MA/MEG	Minor	Wrong link configurations.	Check the link in the traffic path
5031	soam-def-error-failure	Alarm	Processing	Error CCM received	Major	Invalid CCMs has been received	Check the link in the traffic path
5032	soam-def-mac-failure	Alarm	Processing	Remote mep MAC status not up	Minor	Remote MEP’s associated MAC is reporting an error status	Check remote MEP's MAC status
5033	soam-def-rdi-failure	Alarm	Processing	Mep Rdi received	Minor	Remote Defect indication has been received from remote MEP	Check the SOAM configurations

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
5034	soam-remote-ccm-failure	Alarm	Processing	Remote mep CCMs are not received	Major	The MEP is not receiving CCMs from at least one of the remote MEPs	Check that all remote MEPs are configured or enbaled
5035	soam-def-xcon-failure	Alarm	Processing	Cross Connect CCM received	Major	CCM from another MAID or lower MEG level have been received	Check MA/MEG and MEP configurations
5036	ptp-stream-state-change	Event	Processing	1588-BC port state changed	Warning		
5037	ptp-bmca-update	Event	Processing	1588-BC BMCA has been updated.	Warning		
5038	ptp-output-squelch	Event	Processing	1588-BC outputs are squelched.	Warning		
5039	ptp-parent-data-set-change	Event	Processing	1588-BC parent dataset has changed.	Warning		
5040	ptp-utc-offset-change	Event	Processing	1588-BC UTC offset value changed.	Warning		
5041	ptp-leap-seconds-flag-change	Event	Processing	1588-BC one of the leap seconds flags have changed.	Warning		
5042	ptp-message-interval-change	Event	Processing	1588-BC message interval change detected.	Warning		
5043	ptp-message-rate-announce	Alarm	Processing	1588-BC announce message rate is below expected.	Major	Misconfiguration of the peer system.	Check the configuration of the peer system.
5044	ptp-message-rate-sync	Alarm	Processing	1588-BC sync message rate is below expected.	Major	Misconfiguration of the peer system.	Check the configuration of the peer system.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
5045	ptp-message-rate-delay-req	Alarm	Processing	1588-BC delay request message rate is below expected.	Major	Misconfiguration of the peer system.	Check the configuration of the peer system.
5046	ptp-no-syncE	Alarm	Processing	1588-BC performance is degraded due to loss of system clock reference.	Critical	Loss of system clock reference.	Restore the system clock synchronization to a PRC-traceable source.
5047	soam-csf-ifc-down	Alarm	Processing	Auto-state-propagation indication received	Major	Remote system triggered auto-state-propagation	Resolve the problem on the .remote system.
5100	mkey-mismatch	Alarm	Equipment	Master key mismatch cross over the link	Critical	Master Key was not set correctly.	Verify the Master Key.
5101	mkey-no-exist	Alarm	Equipment	No Master Key set, default value used	Warning	Crypto module has been enabled, but no Master Key has been loaded.	Set the Master Key.
5102	general-encryption-failure	Alarm	Equipment	Payload Encryption failure	Critical	Radio LOF on Tx/Rx direction. The session key does not match across the link. The AES admin setting does not match across the link.	Validate the MSE on both sides of the link. Validate the session key on both sides of the link. Validate the AES admin setting on both sides of the link.
5104	kep-initiated	Event	Equipment	Key Exchange Protocol in progress, Traffic has been blocked	Indeterminate		
5105	kep-remote-initiated	Event	Equipment	Key Exchange Protocol initiated by remote side	Indeterminate		
5107	bypass-self-test-alarm	Alarm	Equipment	FIPS Bypass Self-Test failed	Critical	Disk failure	

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
5108	post-fail-alarm	Alarm	Equipment	Power On Self-Test Failed	Critical	System failure	Reboot the unit.
5109	main-board-non-fips-alarm	Alarm	Equipment	Main Board is not FIPS certified	Critical	Main Board used is not FIPS certified	Use a FIPS-certified TCC.
5110	radio-non-fips-alarm	Alarm	Equipment	Radio card is not FIPS certified	Major	Radio Card used is not FIPS certified	Use a FIPS-certified RMC.
5111	aes-self-test-fail-alarm	Alarm	Equipment	Radio crypto module fail	Critical	FIPS Radio Encryption Self-Test failed	Use different FIPS supported radio card
5112	hw-not-supported-alarm	Alarm	Equipment	Radio Encryption not supported	Major	No Payload Encryption Activation Key inserted	Insert suitable Activation Key and reboot the unit
30007	Clock-source-sharing-failure-event	Event	Equipment	Clock source sharing failure	Critical	Faulty coaxial cable between master and slave RFUs. Hardware failure in Master RFU. Hardware failure in Slave RFU.	Try re-initiation of MIMO. If still fails: Replace faulty coaxial cable and reset Master RFU. Replace faulty RFU.
31000	Insufficient-conditions-for-MIMO-alarm	Alarm	Equipment	Insufficient conditions for MIMO	Critical	Insufficient conditions for MIMO. Hardware failure.	Make sure all cables between master and slave are connected (MIMO 4x4 only). Replace faulty units and check that cables are plugged.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
31003	Unsuitable-hardware-for-MIMO-alarm	Alarm	Communications	Unsuitable hardware for MIMO	Critical	Unsuitable hardware for MIMO operation requirements. Dual carrier RFUs (MIMO 2x2 and 4x4). RFUs with MIMO bus interface (MIMO 4x4). Clock source sharing capability (MIMO 4x4).	Make sure both RFUs are compatible for MIMO operation.
31004	Unsuitable-software-configuration-for-MIMO-alarm	Alarm	Communications	Unsuitable software configuration for MIMO	Critical	Not all MIMO carriers are set to same radio script or script is not compatible for MIMO. Radio TX and RX frequency is not identical on all MIMO carriers. XPIC or Multi radio or ATPC features are enabled.	Load same MIMO compatible radio script to all MIMO carriers. Set same TX and RX frequency on all MIMO carriers. Disable XPIC, Multi radio and ATPC on all MIMO carriers.
31005	Clock-source-sharing-failure-alarm	Alarm	Equipment	Clock source sharing cable unplugged	Critical	Faulty coaxial cable between master and slave RFUs Mate does not exist	Replace faulty coaxial cable and reset Master RFU. Replace faulty RFU.
31100	AMCC-Incompatible-radio-script-alarm	Alarm	Communications	Radio script is incompatible to AMCC	Critical	MRMC Script selected does not support AMCC Group type/subtype	Set AFR Script in both Agg1 & Agg2 carriers
31101	AMCC-Inconsistent-MRMC-Script-alarm	Alarm	Communications	Inconsistent MRMC script between members	Critical	All members of a group must be configured to the same MRMC Script	Set the members to the appropriate MRMC script

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
31102	AMCC-Inconsistent-radio-frequency-alarm	Alarm	Communications	Inconsistent radio frequency	Critical	Radio TX/RX frequency is not identical on all AMCC carriers	Set same radio TX/RX frequency on all AMCC carriers
31103	AMCC-Failed-To-Load-Alarm	Alarm	Communications	Agg 1 failed Bring-up procedure	Critical	Agg1 did not complete Bring-up successfully	Drop both Agg1 & Agg2 into single carrier mode (Pre-Init)
31104	AMCC-Invalid-ACM-Configuration-alarm	Alarm	Communications	Invalid ACM configuration	Critical	AMCC member have been set to fixed profile	Set AMCC member to adaptive ACM profiles
31105	AMCC-Mimo-not-supported-alarm	Alarm	Equipment	AMCC/MIMO insufficient condition – configuration is not supported	Critical	MIMO script is not enabled on any radio member. Different TX/RX frequency. ATPC enabled. XPIC enabled. ACM mode (adaptive/Fixed) is not the same. Unit Redundancy enabled. Platform not supported.	Align MIMO script on all radio members. Align same frequency on all radio members. Disable ATPC. Disable XPIC. Align ACM mode. Disable Unit Redundancy. Replace unit.
31106	AMCC-Master-failure-alarm	Alarm	Equipment	AMCC insufficient condition – Master unit failure.	Critical	Master unit failure.	Verify Master unit power. Replace hardware.
31107	AMCC-Slave-failure-alarm	Alarm	Equipment	AMCC insufficient condition – Slave unit failure.	Critical	Slave unit failure.	Verify Slave unit power. Replace hardware.
31108	AMCC-Data-Sharing-cable-disconnected-alarm	Alarm	Equipment	AMCC insufficient condition – Data sharing cable failure.	Critical	Data sharing cable failure.	Verify Data sharing cable connected. Replace Data sharing cable.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
31109	AMCC-Prot-port-cable-disconnected-alarm	Alarm	Equipment	MIMO insufficient condition – Mate communication cable failure.	Critical	Mate communication cable failure.	Verify Mate communication cable connected. Replace Mate communication cable.
31110	AMCC-Source-Sharing-cable-disconnected-alarm	Alarm	Equipment	MIMO insufficient condition – Source sharing cable failure.	Critical	Source sharing cable failure.	Verify Source sharing cable connected. Replace Source sharing cable.
31111	AMCC-Master-Slave-config-mismatch-alarm	Alarm	Equipment	MIMO insufficient condition - Master/Slave configuration mismatch	Critical	Master/Slave configuration mismatch due to: Different TX/RX frequency. Different MIMO script ID. Different ACM mode (adaptive/Fixed).	Align Master/Slave configuration.
31112	AMCC-Remote-failure-alarm	Alarm	Equipment	AMCC insufficient condition – Remote failure	Critical	AMCC remote failure.	Handle AMCC remote failure.
31113	AMCC-Asd-not-supported-alarm	Alarm	Radio	AMCC/ASD insufficient condition - configuration is not supported	Critical	ASD script is not enabled on any radio member. Different TX/RX frequency. ATPC enabled. XPIC enabled. ACM mode is not adaptive on any radio member. Unit Redundancy enabled. Platform not supported.	Align ASD script on all radio members. Align same frequency on all radio members. Disable ATPC. Disable XPIC. Set ACM mode to adaptive on all radio members. Disable Unit Redundancy. Replace platform.

Alarm ID	Name	Type	Group	Description	Severity	Probable Cause	Corrective Action
31114	AMCC-SD-not-supported-alarm	Alarm	Radio	AMCC/SD insufficient condition - configuration is not supported	Critical	SD script is not enabled on any radio member. Different TX/RX frequency. ATPC enabled. XPIC enabled. ACM mode (adaptive/Fixed) is not the same. RFU not supported.	Align SD script on all radio members. Align same frequency on all radio members. Disable ATPC. Disable XPIC. Align ACM mode. Replace RFU.
32000	unit-mgr-undervoltage-alarm	Alarm	Equipment	Under voltage	Major	System Power Voltage lower than allowed.	
32001	unit-mgr-overvoltage-alarm	Alarm	Equipment	Over voltage	Major	System Power Voltage higher than allowed.	
32002	unit-mgr-extremeTemperature-alarm	Alarm	Management	System Temperature not in allowed range.	Major		