



ZXSDR B8200 GU360

Indoor GSM&UMTS Dual Mode Baseband Unit

Alarm and Notification Handling Reference

Version 4.00.100

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Revision History

Date	Revision No.	Serial No.	Reason for Issue
Feb. 20, 2009	R1.0	sjzl20092538	First edition (ZXSDR B8200 GU360 V4.00.100 b2+OMMB V 4.00.100 d2+NetnumenM31 V3.10.410d)
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About This Manual

Purpose

ZXWR 3G mobile telecommunication system is the ZTE WCDMA Radio Network Subsystem which consists of ZXWR RNC (Radio Network Controller) and ZXWR Node B. ZXWR is responsible for call processing, radio resource distribution management, terminal mobility management, cell handover control and radio access management. ZXSDR B8200 GU360 is the baseband unit in ZTE WCDMA base station series.

This manual introduces the alarms and notifications that might occur during the installation, operation and maintenance of ZTE ZXSDR B8200 GU360 product. Alarm/Notification code and description displayed by NetNumen M31 centralized NMS, probable cause for the alarm/notification, and the corresponding handling suggestion are covered in this manual.

What Is in This Manual

This manual contains the following chapters:

TABLE 1 CHAPTER SUMMARY

Chapter	Summary
Chapter 1, Overview of Fault Management	Introduces the concept of fault management, as well as the definition, type, level classification of alarm and notification.
Chapter 2, Equipment Alarm	Introduces ZXSDR B8200 GU360 equipment alarms with respect to alarm property, probable cause, system impact, and handling suggestion.
Chapter 3, Communication Alarm	Introduces ZXSDR B8200 GU360 communication alarms with respect to alarm property, probable cause, system impact, and handling suggestion.
Chapter 4, Processing Alarm	Introduces ZXSDR B8200 GU360 processing alarms with respect to alarm property, probable cause, system impact, and handling suggestion.




Chapter	Summary
Chapter 5, Environment Alarm	Introduces ZXSDR B8200 GU360 environment alarms with respect to alarm property, probable cause, system impact, and handling suggestion.
Chapter 6, QoS Alarm	Introduces ZXSDR B8200 GU360QoS alarms with respect to alarm property, probable cause, system impact, and handling suggestion.
Chapter 7, Notification	Introduces ZXSDR B8200 GU360 notifications with respect to notification property, probable cause, system impact, and handling suggestion.

Conventions

Typographical Conventions

ZTE documents employ the following typographical conventions.

TABLE 2 TYPOGRAPHICAL CONVENTIONS

Typeface	Meaning
<i>Italics</i>	References to other Manuals and documents.
"Quotes"	Links on screens.
Bold	Menus, menu options, function names, input fields, radio button names, check boxes, drop-down lists, dialog box names, window names.
CAPS	Keys on the keyboard and buttons on screens and company name.
Constant width	Text that you type, program code, files and directory names, and function names.
[]	Optional parameters.
{ }	Mandatory parameters.
	Select one of the parameters that are delimited by it.
	Note: Provides additional information about a certain topic.
	Checkpoint: Indicates that a particular step needs to be checked before proceeding further.
	Tip: Indicates a suggestion or hint to make things easier or more productive for the reader.

Mouse Operation Conventions

TABLE 3 MOUSE OPERATION CONVENTIONS

Typeface	Meaning
Click	Refers to clicking the primary mouse button (usually

Typeface	Meaning
	the left mouse button) once.
Double-click	Refers to quickly clicking the primary mouse button (usually the left mouse button) twice.
Right-click	Refers to clicking the secondary mouse button (usually the right mouse button) once.
Drag	Refers to pressing and holding a mouse button and moving the mouse.

How to Get in Touch

The following sections provide information on how to obtain support for the documentation and the software.

Customer Support

If you have problems, questions, comments, or suggestions regarding your product, contact us by e-mail at support@zte.com.cn. You can also call our customer support center at (86) 755 26771900.

Documentation Support

ZTE welcomes your comments and suggestions on the quality and usefulness of this document. For further questions, comments, or suggestions on the documentation, you can contact us by e-mail at doc@zte.com.cn; or you can fax your comments and suggestions to (86) 755 26772236. You can also browse our website at <http://ensupport.zte.com.cn>, which contains various interesting subjects like documentation, knowledge base, forum and service request.

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Chapter 1

Overview

This chapter introduces the concept of fault management, as well as the definition, type, level classification of alarm and notification.

Overview of Fault Management

Fault management is responsible for collecting information of failures and events that occur during system operation or service processing.

The information, in the form of alarm or notification, is stored in database or displayed on realtime basis via a user-oriented fault monitoring platform. Means such as visual-interface monitor or history information query can be used to view current or historical system operation and service processing status. Fault management enables maintenance personnel to troubleshoot and take preventive measures to remove potential fault and restore system and services as early as possible.

Fault View

Fault is displayed in the form of alarm or notification.

Alarm

The fault that persists during system operation and affects system reliability and normal services is referred to as an alarm. Alarm usually lasts until fault removal.

Due to its possible impact on normal system operation, alarm requires timely troubleshooting in which alarm cause is identified, and the fault is located and handled.

Notification

Notification refers to the non-repeated/instantaneous fault or event that occurs during system operation. Examples include board reset, signaling overload, etc.

Notification is mostly caused by sudden environment change or other accidental factors. No special handling is required for the notification, which can be automatically removed by the system. Only the notification that occurs persistently requires troubleshooting.

Alarm

Alarm Property

Alarm Code

Alarm code is the identifier which differentiates alarms.

Alarm code is defined by a 32-bit field indicating the specific code value.

Description

Alarm description reflects such content as fault cause and fault phenomenon in a simple and straightforward way.

Severity

There are four alarm levels, which are indicated in descending order of severity as **Critical**, **Major**, **Minor**, and **Warning**.

- Critical alarm causes system breakdown and service interruption. It requires immediate troubleshooting.
- Major alarm significantly affects system operation or weakens network service capability. It requires troubleshooting as soon as possible.
- Minor alarm affects system operation and network service capability in a non-significant way. It requires timely troubleshooting so as to avoid severity escalation.
- Warning poses a potential hazard to system operation and network service capability. It requires troubleshooting at an appropriate time so as to avoid severity escalation.

The degree of impact as described in the definition of alarm severity refers to the impact of a single index, such as reliability and security. Once the impact on any of the index reaches the specified threshold, the severity level of the alarm can be roughly determined. If an alarm has an impact on multiple indices, alarm severity should be escalated accordingly.

**Note:**

- Alarm severity can be modified in NetNumenM31 NMS (network management system) if necessary.
 - Generally speaking, the default alarm severity is reasonably set. Users should think twice before making any modification.
-

In addition, the severity of a few alarms is undefined. It is up to users to define the severity of such alarms.

Alarm Type

Alarm is classified into six types according to alarm trigger condition and its system impact.

- **Equipment alarm:** related with device hardware.
- **Communication alarm:** related with information transmission (ITU-T Recommendation X.733).
- **Processing alarm:** related with software or process fault (ITU-T Recommendation X.733).
- **Environment alarm:** related with the environment where the equipment is located (ITU-T Recommendation X.733).
- **QoS alarm:** related with degradation of service quality (ITU-T Recommendation X.733).
- **OMS alarm:** related with the NMS.

Probable Cause

Probable alarm causes are enumerated to help users troubleshoot, find preventive measures, and restore the system to normal state in a timely manner.

System Impact

System impact refers to the impact that the alarm incurs on system or services.

Handling Suggestion

Troubleshooting measures and suggestions are provided. Pay attention to the following tips when handling alarms.

- After recording the fault phenomenon, O&M personnel may handle the fault step by step as described in the Handling Suggestion Section of this manual. If the fault is removed (alarm restored) at any handling step, terminate the handling process. If the fault is not removed, go ahead to the next handling step.
- If the fault cannot be removed, contact the local ZTE office as soon as possible.

Notification

Notification Property

Notification Code

Notification code is the identifier to differentiate notifications.

Notification code is defined by a 32-bit field indicating the specific code value.

Description

Notification description reflects such content as fault cause and fault phenomenon in a simple and straightforward way.

Importance

There are two levels of notification importance: **Important** and **Ordinary**.

Notification Type

No notification type exists.

Probable Cause

Probable notification causes are enumerated to help users troubleshoot, find preventive measures, and restore the system to normal state in a timely manner.

System Impact

System impact refers to the impact that the notification incurs on system or services.

Handling Suggestion

Troubleshooting measures and suggestions are provided.

Pay attention to the following tips when handling notifications.

- After recording the fault phenomenon, O&M personnel may handle the fault step by step as described in the Handling Suggestion Section of this manual. If the fault is removed at any handling step, terminate the handling process. If the fault is not removed, go ahead to the next handling step.
- If the fault cannot be removed, or the system normal operation cannot be restored, contact the local ZTE office as soon as possible.

Chapter 2

Equipment Alarm

This chapter introduces equipment alarms with respect to alarm property, probable cause, system impact, and handling suggestion. The information is intended for system maintenance personnel to have a clear understanding of each equipment alarm item.

198084034 PPP Link Broken

Alarm Property

- Alarm Code: 198084034
- Description: PPP Link Broken
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

lub interface PPP link is faulty.

System Impact

The services on this PPP link are unavailable.

Handling Suggestion

1. On NMS fault management interface (realtime monitor), check if the following alarm occurs. If yes, refer to the corresponding alarm handling suggestion.

Related alarms:

- ▶ 198084019 E1/T1 LOS (Loss Of Signal) alarm
 - ▶ 198084020 E1/T1 link loss of frame alarm
 - ▶ 198084021 E1/T1 loss of cell delineation alarm
 - ▶ 198084024 E1/T1 remote receiving fault
2. Check the jumper setting of SA/SE board. Ensure that the jumper of SA/SE board is properly configured in terms of E1 cable type.
 3. On Node B side, use physical cable to perform local Node B self-loop. Check if the alarm can be restored on Node B side. If no, reset or replace board.
 4. On RNC side, use physical cable to perform Node B E1/T1 self-loop. Check if the PPP alarm on Node B side can be restored. If no, transmission link must be faulty. Check cable connection. Ensure that the cabling is correct.

5. Check transmission on RNC side.

198084035 PPP Link Unusable

Alarm Property

- Alarm Code: 198084035
- Description: PPP Link Unusable
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

Iub interface PPP link is faulty.

System Impact

The services on this PPP link are unavailable.

Handling Suggestion

1. On NMS fault management interface (realtime monitor), check if the following alarm occurs. If yes, refer to the corresponding alarm handling suggestion.

Related alarms:

- ▶ 198084019 E1/T1 LOS (Loss Of Signal) alarm
 - ▶ 198084020 E1/T1 link loss of frame alarm
 - ▶ 198084021 E1/T1 loss of cell delineation alarm
 - ▶ 198084024 E1/T1 remote receiving fault
2. Check the jumper setting of SA/SE board. Ensure that the jumper of SA/SE board is properly configured in terms of E1 cable type.
 3. On Node B side, use physical cable to perform local Node B self-loop. Check if the alarm can be restored on Node B side. If no, reset or replace board.

4. On RNC side, use physical cable to perform Node B E1/T1 self-loop. Check if the PPP alarm on Node B side can be restored. If no, transmission link must be faulty. Check cable connection. Ensure that the cabling is correct.
5. Check transmission on RNC side.

198084260 HDLC link has CRC alarm

Alarm Property

- Alarm Code: 198084260
- Description: HDLC link has CRC alarm
- Severity: Minor
- Alarm Type: Equipment alarm

Probable Cause

1. Contact between fiber and optical port is poor. FS/RRU optical module is faulty.
2. FS board clock is abnormal.
3. RRU clock is abnormal.

System Impact

In serious case, links and services on the board are down.

Handling Suggestion

1. Ensure that the contact between fiber and optical port is good.
2. Replace FS optical module and RRU optical module.
3. Unplug and plug board.
4. Replace board.

198084290 ETH port mode is unmatched with peer end

Alarm Property

- Alarm Code: 198084290
- Description: ETH port mode is unmatched with peer end
- Severity: Warning
- Alarm Type: Equipment alarm

Probable Cause

Port mode configured at local end and that configured at opposite end are inconsistent.

System Impact

Packet loss occurs to data communication at the network port. Service interruption might occur.

Handling Suggestion

1. Check if the following alarm occurs to board. If yes, refer to the corresponding alarm handling suggestion.

Related alarm: 198084271 Ethernet light and electricity lose

2. On NMS configuration management interface (Ethernet configuration in IUB Transmission (Full IP)), check the port working mode configured at local end. Check the corresponding configuration at opposite end.
 - ▶ If the configuration at both ends is inconsistent, modify configuration to keep consistency.
 - ▶ If the configuration at both ends is consistent, first modify the port working mode at local end, then re-modify it to the previous mode.

198084045 Antenna VSWR alarm

Alarm Property

- Alarm Code: 198084045
- Description: Antenna VSWR alarm
- Severity: Minor
- Alarm Type: Equipment alarm

Probable Cause

1. Antenna feeder is faulty.
2. Board is faulty.

System Impact

Cell coverage area shrinks.

Handling Suggestion

1. Check antenna feeder.
 - i. Check if RRU is connected to antenna. If no, connect RRU and the antenna.
 - ii. Check the cabling of antenna feeder. If the cabling is incorrect, reconnect the cable according to the corresponding installation drawing.
 - iii. Check if the connectors of antenna feeder are tightly screwed down. If not, screw down the connectors tight.
2. Check the VSWR of antenna feeder by level.
 - i. Check if the feeder VSWR is normal. If no, replace feeder.
 - ii. If antenna feeder is connected to combiner, check if the combiner VSWR is normal. If abnormal, replace combiner.
 - iii. Check antenna integrity. If the antenna is damaged, replace or repair antenna.
3. Check RRU.

- i. Reset board.
- ii. Check the cabling of RF cable in RRU. If the connection is loose or disconnected, replace or properly install RF cable.
- iii. Check if the power amplifier is faulty. If yes, replace power amplifier.
- iv. Check if the duplexer is faulty. If yes, replace duplexer.
- v. Replace board.

198084046 Antenna over VSWR alarm

Alarm Property

- Alarm Code: 198084046
- Description: Antenna over VSWR alarm
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

1. Antenna feeder is faulty.
2. Board is faulty.

System Impact

There is no transmission power output for the RF channel. Service interruption occurs.

Handling Suggestion

1. Check antenna feeder.
 - i. Check if RRU is connected to antenna. If no, connect RRU and the antenna.
 - ii. Check the cabling of antenna feeder. If the cabling is incorrect, reconnect the cable according to the corresponding installation drawing.

- iii. Check if the connectors of antenna feeder are tightly screwed down. If not, screw down the connectors tight.
2. Check the VSWR of antenna feeder by level.
 - i. Check if the feeder VSWR is normal. If no, replace feeder.
 - ii. If antenna feeder is connected to combiner, check if the combiner VSWR is normal. If abnormal, replace combiner.
 - iii. Check antenna integrity. If the antenna is damaged, replace or repair antenna.
3. Check RRU.
 - i. Reset board.
 - ii. Check the cabling of RF cable in RRU. If the connection is loose or disconnected, replace or properly install RF cable.
 - iii. Check if the power amplifier is faulty. If yes, replace power amplifier.
 - iv. Check if the duplexer is faulty. If yes, replace duplexer.
 - v. Replace board.

198084048 Calibration file on TRx board is abnormal

Alarm Property

- Alarm Code: 198084048
- Description: Calibration file on TRx board is abnormal
- Severity: Minor
- Alarm Type: Equipment alarm

Probable Cause

Board calibration data is missing or damaged.

System Impact

1. Case 1

Downlink calibration file is abnormal, possibly leading to inaccurate transmission power and diminishing system coverage area.

2. Case 2

Uplink calibration file is abnormal, possibly leading to greater error of the reported Received Signal Strength Indicator (RSSI) and degrading service performance.

Handling Suggestion

1. Reset board.
2. Replace board.

198084056 Downlink digital IF pre-distortion alarm

Alarm Property

- Alarm Code: 198084056
- Description: Downlink digital IF pre-distortion alarm
- Severity: Critical
- Alarm Type: Equipment alarm

Probable Cause

1. DPD Flash loading fails.
2. DPD initialization fails.
3. Channel self-test fails.
4. DPD startup fails.
5. FPGA OP SPI operation fails.

System Impact

RF output quality is affected. Board services are down.

Handling Suggestion

1. On NMS fault management interface, check if the following alarm (related to abnormal power and VSWR) occurs. If yes, refer to the corresponding alarm handling suggestion.

Related alarms:

- ▶ 198084065 Abnormal power
 - ▶ 198084232 Digital power abnormal
 - ▶ 198084045 Antenna VSWR alarm
 - ▶ 198084046 Antenna over VSWR alarm
 - ▶ 198084093 Remote antenna over VSWR alarm
 - ▶ 198084094 Remote antenna VSWR alarm
2. Reset RF board.
 3. Replace RF board.

198084058 Downlink digital power exceeds rated power slightly

Alarm Property

- Alarm Code: 198084058
- Description: Downlink digital power exceeds rated power slightly
- Severity: Warning
- Alarm Type: Equipment alarm

Probable Cause

The digital power of DUC-combined IQ channel exceeds threshold.

System Impact

RF output quality is degraded.

Handling Suggestion

1. Reset board.
2. Replace board.

198084078 Surge protection device has a fault alarm

Alarm Property

- Alarm Code: 198084078
- Description: Surge protection device has a fault alarm
- Severity: Minor
- Alarm Type: Equipment alarm

Probable Cause

1. Surge protection device is faulty.
2. Environment Monitor Unit is faulty.

System Impact

Operation of the surge protection device is abnormal. The equipment becomes unprotected against lightning strokes. Service is not affected.

Handling Suggestion

1. Replace surge protection device.
2. Reset SA board.

3. Replace dry contact cable.
4. Replace SA board.

198084085 Main power supply has a fault alarm

Alarm Property

- Alarm Code: 198084085
- Description: Main power supply has a fault alarm
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

1. Main power supply is faulty.
2. Environment Monitor Unit is faulty.

System Impact

1. Case 1

When this alarm is declared in non-RRU board, system operation will not be affected temporarily. In the long run, system powers supply might become inadequate, leading to degradation of service performance, or even service interruption.

2. Case 2

When this alarm is declared in RRU board, power amplifier will be automatically shut down by the system. Services on the RRU are down.

Handling Suggestion

1. Replace main power supply.
2. Reset SA board.
3. Replace the relevant dry contact cable.

4. Replace SA board.

198084086 External device fault connected via dry contact

Alarm Property

- Alarm Code: 198084086
- Description: External device fault connected via dry contact
- Severity: Minor
- Alarm Type: Equipment alarm

Probable Cause

1. Surge protection device is faulty.
2. Environment Monitor Unit is faulty.

System Impact

No impact on service.

Handling Suggestion

1. Replace surge protection device.
2. Reset SA board.
3. Replace dry contact cable.
4. Replace SA board.

198084087 Surge protection device in cabinet has a fault alarm

Alarm Property

- Alarm Code: 198084087
- Description: Surge protection device in cabinet has a fault alarm
- Severity: Minor
- Alarm Type: Equipment alarm

Probable Cause

1. Surge protection device is faulty.
2. Environment Monitor Unit is faulty.

System Impact

Operation of the surge protection device is abnormal. The equipment becomes vulnerable to lightning strokes. Service is not affected.

Handling Suggestion

1. Replace surge protection device.
2. Reset SA board.
3. Replace dry contact cable.
4. Replace SA board.

198084311 Hardware alarm

Alarm Property

- Alarm Code: 198084311
- Description: Hardware alarm
- Severity: Critical
- Alarm Type: Equipment alarm

Probable Cause

1. Contact between FS board and backplane is poor.
2. Contact between BPC board and backplane is poor.
3. FS board hardware is faulty.
4. BPC board hardware is faulty.

System Impact

IQ channel becomes abnormal, affecting service quality. In serious case, link interruption occurs.

Handling Suggestion

1. Wait for 10 seconds until automatic board reset.
2. Unplug and plug FS board.
3. Reset board.
4. Replace board.

198084293 RU board has high temperature

Alarm Property

- Alarm Code: 198084293
- Description: RU board has high temperature
- Severity: Minor
- Alarm Type: Equipment alarm

Probable Cause

1. Equipment temperature is too high.
2. Fan is faulty.
3. Air conditioner is faulty.
4. The temperature sensor in control-layer Fan subrack is faulty.

System Impact

Board operation might be abnormal in the system.

Handling Suggestion

1. Check if the following alarms occur. If yes, refer to the corresponding alarm handling suggestion.

Related alarm: 198084075 Fan alarm

2. Unplug and plug EMC (Environment Monitor&Control Board).
3. Check the connectors of Environment Monitor Unit. Ensure that the connectors are normal.
4. Replace the FCC (Fan Control Centrifugal Board) in control-layer Fan subrack.
5. Check cable connection between Environment Monitor Unit and Fan module.
6. Check cable connection between Environment Monitor Unit and Fan module. Ensure that the cable connection is proper.

7. Replace Environment Monitor Unit.

198084294 PA slight over-temperature alarm

Alarm Property

- Alarm Code: 198084294
- Description: PA slight over-temperature alarm
- Severity: Minor
- Alarm Type: Equipment alarm

Probable Cause

1. Board temperature is too high.
2. Fan is abnormal.

System Impact

No impact on service.

Handling Suggestion

1. Check if the following alarms occur. If yes, refer to the corresponding alarm handling suggestion.

Related alarm: 198084075 Fan alarm

2. Check if Fan operation is normal and if board temperature is too high.

198084295 DL IQ channel checking block alarm

Alarm Property

- Alarm Code: 198084295
- Description: DL IQ channel checking block alarm
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

Data reception error occurs on downlink IQ channel.

System Impact

Communication link between UBPG to RRU downlink might be faulty.

Handling Suggestion

1. Check if the following alarm (clock abnormal) occurs in BBU.

Related alarms:

- ▶ 198084003 Clock module fault
- ▶ 198084004 Clock reference source is lost
- ▶ 198084006 Clock reference source is degraded
- ▶ 198084266 Clock has a critical alarm
- ▶ 198084301 Transport clock reference source is fault
- ▶ 198084303 Clock has significant alarm
- ▶ 198084060 RF board PLL alarm
- ▶ 198084231 RRU clock frequency drift
- ▶ 198084299 PLL unlock alarm

2. Reset board.

198084296 60ms tag lost alarm

Alarm Property

- Alarm Code: 198084296
- Description: 60ms tag lost alarm
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

Downlink 60 ms tag is not received.

System Impact

Communication link between UBPG and RRU downlink might be faulty.

Handling Suggestion

1. Check if the IQ distribution of the subcarrier of relevant RRU board is normal. The IQ distribution can be queried on CC via "ShowIQCfg".
2. Check if the following alarm (clock abnormal) occurs in BBU.

Related alarms:

- ▶ 198084003 Clock module fault
- ▶ 198084004 Clock reference source is lost
- ▶ 198084006 Clock reference source is degraded
- ▶ 198084266 Clock has a critical alarm
- ▶ 198084301 Transport clock reference source is fault
- ▶ 198084303 Clock has significant alarm
- ▶ 198084060 RF board PLL alarm
- ▶ 198084231 RRU clock frequency drift
- ▶ 198084299 PLL unlock alarm

3. Reset board.

198084297 The configured operating frequency is out of range

Alarm Property

- Alarm Code: 198084297
- Description: The configured operating frequency is out of range
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

The difference between configured frequency and central frequency is over 10 M.

System Impact

The services related to the faulty frequency are interrupted.

Handling Suggestion

Configure the frequency in such a way that the difference between the configured frequency and central frequency is within 5 M. Then the alarm will be restored.

198084298 Test source file is abnormal

Alarm Property

- Alarm Code: 198084298
- Description: Test source file is abnormal
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

The file does not exist. The file is damaged or faulty.

System Impact

IQ test source data loading fails.

Handling Suggestion

Replace the relevant test source file.

198084299 PLL unlock alarm

Alarm Property

- Alarm Code: 198084299
- Description: PLL unlock alarm
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

1. Corresponding subcode PLL circuit is abnormal.
2. Input clock is abnormal.

System Impact

Normal service is affected.

Handling Suggestion

1. Unplug and plug board. Wait for 2 minutes.
2. Replace board.

198084300 Dry contact status alarm

Alarm Property

- Alarm Code: 198084300
- Description: Dry contact status alarm
- Severity: Minor
- Alarm Type: Equipment alarm

Probable Cause

The nature of this alarm is an external environment input alarm that is not related with the equipment itself, such as smog, temperature, flood, external power, etc.

System Impact

No impact on service.

Handling Suggestion

1. Check if the equipment related to this dry contact is faulty.
2. Perform dry contact self-loop. Check if the dry contact is faulty. If yes, replace board.

198084000 Failed to run FPGA software

Alarm Property

- Alarm code: 198084000
- Description: Failed to run FPGA software
- Severity: Critical
- Alarm Type: Equipment alarm

Probable Cause

1. Incorrect FPGA software version of this alarm board on the Main Control board
2. Board failure.

System Impact

The services provided by this board are completely interrupted.

Handling Suggestion

1. Re-download the software version on the software management interface.
2. Replace the board.

198084001 Failed to run DSP software

Alarm Property

- Alarm code: 198084001
- Description: Failed to run DSP software
- Severity: Critical
- Alarm Type: Equipment alarm

Probable Cause

1. Incorrect DSP software version of this alarm board on the Main Control board
2. Board failure.

System Impact

The services provided by this board are completely interrupted.

Handling Suggestion

1. Re-download the software version on the software management interface.
2. Replace the board.

198084003 Clock module fault

Alarm Property

- Alarm code: 198084003
- Description: Clock module fault

- Severity: Critical
- Alarm Type: Equipment alarm

Probable Cause

Hardware failure.

System Impact

In the case of the active main control board failure, the system does not provide normal operation, and the peripheral boards might have alarm of the corresponding clock module which causes interruption to all the services on this board. In the case of the standby main control board failure, the system may provide normal operation but the active board and standby boards switching over will not succeed which reduces the reliability of the system.

Handling Suggestion

1. Reset the board.
2. Plug/unplug the board.

198084012 Board hardware fault

Alarm Property

- Alarm code: 198084012
- Description: Hardware failure on the board.
- Severity: Critical
- Alarm Type: Equipment alarm

Probable Cause

The 64MHz clock is lost on the board.

System Impact

The board fails to provide bearer service.

Handling Suggestion

1. Reset the board.
2. Replace the board.

198084013 Loss of Signal at Ir interface

Alarm Property

- Alarm code: 198084013
- Description: Loss of Signal at Ir interface
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

1. Failure in the fiber optics, the optical module, or the connection on this level board.
2. The board on the lower level is not properly powered on.
3. Failure in the fiber optics, the optical module on the lower level board.
4. Hardware failure on the lower level board.

System Impact

The board with the failure works normally, but the board with optical port has failure.

The "Loss of Signal at Ir interface" alarm occurred to the FS board during the RRU reset process is an accompanying alarm. The services beared by the system will be interrupted during the reset process.

If the alarm occurs to the FS board, all the services of the system will be interrupted.

If the alarm occurs to the RTR, the services beard on the lower level RRU will be interrupted.

Handling Suggestion

Check the Fault Management window for the RRU corresponding alarms. Perform the recommended solution to process the alarm, if any.

Related alarm: 198084315 Board reboots alarm

1. Check for the failure in the fiber optics, the optical module, or the connection on this board.
 - i. Check for failure in the fiber optics connection between the lower level RRU and the BBU (when the alarm is with FS), or the local level RRU (when the alarm is on RTR).Self-loop or replace the fiber if the physical appearance of the fiber does not bear any visible damage.
 - ii. Replace the optical port corresponding to FS, or the optical module corresponding to the optical port 1 of the local RRU.
2. Check the power supply to the lower level board.

Check the power supply to the lower level board and check the RUN indicator on the RMB board.
3. Check for the failure in the fiber optics, the optical module.
 - i. Check for the possible failure in the fiber optics connection between the optical port 0 of the lower level RRU and the optical port 1 of the FS board, or the local level RRU. Replace the fiber if the physical appearance of the fiber does not bear any visible damage.
 - ii. Replace the board with alarm and the optical module of the lower level RRU.
4. Check for the possible hardware failure with the lower level RRU.
 - i. Check the fiber optics and the optical module of the lower level RRU. If the fiber optics and the optical module are both normal, then
 - ii. Reset the lower level RRU.
 - iii. Replace the lower level RRU.

198084060 RF board PLL alarm

Alarm Property

- Alarm code: 198084060
- Description: RF board PLL alarm
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

1. The base station software version is incorrect.
2. Hardware failure with the board.

System Impact

The RF output is influenced and the RF channel does not operate normally which completely interrupts the services provided by this board.

Handling Suggestion

1. Check the current software version of BS and ensure it is the correct version.
2. Reset the board.
3. Replace the board.

198084062 Transmission RF channel fault

Alarm Property

- Alarm code: 198084062
- Description: Transmission RF channel fault
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

It failed to initialize the local board IC.

System Impact

The transmission channel of the RX/TX board does not operate normally which completely interrupts the services provided by this board.

Handling Suggestion

1. Reset the board.
2. Replace the board.

198084063 Receiving RF channel fault

Alarm Property

- Alarm code: 198084063
- Description: Receiving RF channel fault
- Severity: Major

- Alarm Type: Equipment alarm

Probable Cause

It failed to initialize the board IC.

System Impact

The receiving channel of the RX/TX board does not operate normally which completely interrupts the services provided by this board.

Handling Suggestion

1. Reset the board.
2. Replace the board.

198084064 LNA alarm

Alarm Property

- Alarm code: 198084064
- Description: LNA alarm
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

1. The internal LNA of RRU is damaged.
2. The internal LNA alarm detector circuit of RRU is damaged.

System Impact

The service coverage range is influence.

Handling Suggestion

1. Replace the internal LNA of RRU.
2. Reset the board.
3. Replace the internal LNA of the board.
4. Replace the board.

198084065 Improper power

Alarm Property

- Alarm code: 198084065
- Description: Improper power
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

1. The power amplifier is not turn on.
2. The power of the power amplifier is improper.
3. The board failure.

System Impact

The transmission power might be improper which affects the quality of downlink service.

Handling Suggestion

1. Turn on the power amplifier.
2. Replace the power amplifier.

198084066 The loading of DSP software failed

Alarm Property

- Alarm code: 198084066
- Description: The loading of DSP software failed
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

1. FPGA detection fails.
2. SDRAM detection fails

System Impact

The pre-distortion feature is not available which reduces the analogy transmission power. The services provided by this board may be completely interrupted under extreme condition.

Handling Suggestion

1. Reset the board.
2. Replace the board.

198084067 DSP run error

Alarm Property

- Alarm code: 198084067
- Description: DSP run error
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

1. The DSP response to command times out.
2. DSP running error

System Impact

The pre-distortion parameter fails to update dynamically. It may reduce the analog transmission power.

Handling Suggestion

1. Wait 10 minutes for the system to recover automatically.
2. Reset the board.
3. Replace the board.

198084073 Temperature sensor abnormality alarm

Alarm Property

- Alarm code: 198084073
- Description: temperature sensor abnormality alarm
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

Temperature sensor failure.

System Impact

System is unable to monitor the environment temperature and the device temperature, but no impact to the services.

Handling Suggestion

Replace the board.

198084074 Temperature sensor not on-duty alarm

Alarm Property

- Alarm code: 198084074
- Description: temperature sensor not on-duty alarm
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

1. Temperature sensor failure.
2. The fault with the environment monitoring unit.

System Impact

System is unable to monitor the environment temperature and the device temperature, but no impact to the services.

Handling Suggestion

1. Replace the board.
2. Replace the cable connecting FCE.
3. Replace the FCE board.

198084075 Fan alarm

Alarm Property

- Alarm code: 198084075
- Description: Fan alarm
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

1. Fan failure.
2. The fault with the environment monitoring unit.

System Impact

The equipment temperature may become over high which may cause the board of the system to work improperly.

Handling Suggestion

1. Replace FA
2. Replace the SA board.

198084076 Heat exchanger alarm

Alarm Property

- Alarm code: 198084076
- Description: Heat exchanger alarm
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

1. The heater exchange temperature is overhigh.
2. The heat exchanger has failure.
3. The heater of heat exchanger has failure.
4. The heat exchanger control board has failure.

System Impact

The heat exchanger works improperly which may cause overhigh or overlow temperature of the equipments and affect the normal services.

Handling Suggestion

1. Replace the heat exchanger fan.
2. Replace the heat exchanger heater.
3. Replace the heat exchanger control board.
4. Replace the heat exchanger.

198084098 Battery Fault

Alarm Property

- Alarm code: 198084098
- Description: Battery Fault
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

1. Battery fault is detected by Node B.
2. The fault with the environment monitoring unit.

System Impact

The battery fault impairs the normal operation of the system and causes service interruption.

Handling Suggestion

1. Check the dry contact configuration in the dry contact alarm configuration in the configuration resource management interface.

Make sure the configuration of the dry contact is in accordance with the actual equipments installed.

2. Check the monitor cable connection with the dry contact. Replace the cable in case of cable error.
3. Check the active battery.
4. Reset the board.
5. Replace the board.

198084100 Remote output power improper voltage alarm

Alarm Property

- Alarm code: 198084100
- Description: Remote output power improper voltage alarm
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

The power module output is improper.

The normal range of the power module output is: 25V-32V

System Impact

The system is unable to operate normally, and the services provided by this board are interrupted.

Handling Suggestion

1. Check the power input voltage of the power module. Replace the power supply in case of voltage error.

The normal rang of the power supply is:

- ▶ DC voltage: -36 V - -60 V
 - ▶ AC voltage: 80 V - 280 V
2. Replace the RRU power unit and wire the power unit to the RRU interior module properly.

198084132 PPP Link Configurer is unmatched with peer end

Alarm Property

- Alarm code: 198084132
- Description: PPP Link Configurer is unmatched with peer end
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

1. The PPP protocol types of the two ends are inconsistent.
2. 2. When the protocol type is MLPPP, the protocols on the ends of the HDLC link are not consistent.

System Impact

The SCTP link based on PPP protocol type fails to establish.

Handling Suggestion

1. Check the PPP protocol type configuration.

Check the PPP protocol type configured at the local end to make sure it is consistent with the remote end.

To check the PPP protocol type: open the configuration management interface and select IUB Transmission(Full IP) and select Global Port Layer Management and check the PPP protocol type.

2. Check the HDLC link configuration.

Check the HLC protocol type configured at the local end to make sure it is consistent with the remote end.

To check the HDLC protocol type: open the configuration management interface and select the IUB Transmission(Full IP) and select Physical Layer Management and check the HDLC link included in the MLPPP.

3. Reset the board.
4. Replace the board.

198084133 PPP Failed to configure PPP link group

Alarm Property

- Alarm code: 198084133
- Description: Failed to configure PPP link group
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

The failure of the PPP link group parameter configuration on the board.

System Impact

The PPP link group does not operate normally, and the SCTP board on the PPP fails to setup the communication link.

Handling Suggestion

1. Check the PPP protocol type configuration.

Check the PPP protocol type configured at the local end to make sure it is consistent with the remote end.

To check the PPP protocol type: open the configuration management interface and select IUB Transmission(Full IP) and select Global Port Layer Management and check the PPP protocol type.

2. Check the HDLC link configuration.

Check the HDLC protocol type configured at the local end to make sure it is consistent with the remote end.

To check the HDLC protocol type: open the configuration management interface and select the IUB Transmission(Full IP) and select Physical Layer Management and check the HDLC link included in the MLPPP.

3. Delete the PPP link group and reconfigure it.
4. Reset the board.
5. Replace the board.

198084200 Main input power over-voltage alarm

Alarm Property

- Alarm code: 198084200
- Description: Main input power over-voltage alarm
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

1. The improper voltage input of the active power supply.
2. The fault with the environment monitoring unit.

System Impact

The system is unable to operate normally, and the services provided by this board are interrupted.

Handling Suggestion

1. Check the active power module for the proper voltage input. Replace the active power supply in case of voltage error.

The normal rang of the power supply is:

- ▶ DC voltage: -36 V - -60 V
 - ▶ AC voltage: 80 V - 280 V
2. Check the dry contact cable to ensure the cable is intact, and is securely connected.
 3. Reset the board.
 4. Replace the board.

198084201 Main input power under-voltage alarm

Alarm Property

- Alarm code: 198084201
- Description: Main input power under-voltage alarm
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

1. The improper voltage input of the active power supply.

2. The fault with the environment monitoring unit.

System Impact

The system is unable to operate normally, and the services provided by this board are interrupted.

Handling Suggestion

1. Check the active power module for the proper voltage input. Replace the active power supply in case of voltage error.

The normal rang of the power supply is:

- ▶ DC voltage: -36 V - -60 V
- ▶ AC voltage: 80 V - 280 V

Check the dry contact cable to ensure the cable is intact, and is securely connected.

3. Reset the board.
4. Replace the board.

198084202 Main input power powered-down alarm

Alarm Property

- Alarm code: 198084202
- Description: Main input power powered-down alarm
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

1. The improper voltage input of the active power supply.
2. The fault with the environment monitoring unit.

System Impact

The system is unable to operate normally, and the services provided by this board are interrupted.

Handling Suggestion

1. Check the dry contact configuration in the dry contact alarm configuration in the configuration resource management interface.

Make sure the configuration of the dry contact is in accordance with the actual equipments installed.

2. Check the monitor cable connection with the dry contact. Replace the cable in case of cable error.
3. Check the active power module for the proper voltage input. Replace the active power supply in case of voltage error.

The normal rang of the power supply is:

- ▶ DC voltage: -36 V - -60 V
- ▶ AC voltage: 80 V - 280 V

4. Reset the board.
5. Replace the board.

198084231 RRU clock frequency drift

Alarm Property

- Alarm code: 198084231
- Description: RRU clock frequency drift
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

1. BBU Clock Fault
2. RRU Clock Fault

System Impact

There is no impact to the service for the current drift range. If the drift continues to increase, the BBU-RRU communication link might be interrupted and the service will be interrupted.

Handling Suggestion

1. Open the Fault Management Interface to see if the alarm occurs to other RRU too. If this alarm occurs to other RRU too, replace the FS board.
 2. Replace the CC board.
 3. Replace the local level RRU.
-
1. Check for BBU clock fault.
Open the Fault Management Interface to see if the alarm occurs to other RRU too. If this alarm occurs to other RRU, then reset or replace the FS board; if no similar alarm occurs to other RRU, then replace the CC board.
 2. Replace the RRU.
 3. Check for RRU clock fault. Replace the local level RRU if this alarm occurs to the local level RRU only.

198084232 Digital power improper

Alarm Property

- Alarm code: 198084232
- Description: Digital power improper
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

1. Realtime cell block.

2. IQ Configuration error.

System Impact

The downlink transmission becomes improper and RRU loses digital power output. The Node B becomes faulty status and the UE fails to access.

Handling Suggestion

1. Unblock the realtime cell.
2. Reset the board.

198084235 Cpri signal of port 0 lost

Alarm Property

- Alarm code: 198084235
- Cpri signal of port 0 lost
- Severity: Critical
- Alarm Type: Equipment alarm

Probable Cause

1. (When the local RRU is the first level) Failure with the fiber optics and the optical module between the FS board and the local RRU.
2. (When the local RRU is not the first level) Failure with the fiber optics and the optical module of the local RRU.
3. (When the local RRU is not the first level) Failure with the higher level RRU.
4. Reset the FS when the system is in normal operation, the RRU will report this alarm which will recover after the FS is rebooted. In this case the alarm does not require any processing.

System Impact

Reset the FS when the system is in normal operation, the RRU will report this alarm which will recover after the FS is rebooted. In this case the alarm does not perform impact the services. In other cases, the communication link of the board is off of connection, and the board does not bear any service.

Handling Suggestion

1. (When the local RRU is the first level) Check the possible failure with the fiber optics and the optical module between the FS board and the local RRU.
 - i. Check for the possible failure in the fiber optics connection between the local level RRU and the FS board. Replace the fiber if the physical appearance of the fiber does not bear any visible damage.
 - ii. Replace the optical module between the FS board and the local RRU.
2. (When the local RRU is not the first level) Check for the possible failure with the fiber optics and the optical module of the higher level RRU.
 - i. Check for the possible failure in the fiber optics connection between the local level RRU and the higher level RRU. Replace the fiber if the physical appearance of the fiber does not bear any visible damage.
 - ii. Replace the optical module between the local RRU and the higher level RRU.
3. (When the local RRU is not the first level) Check for the possible failure with the higher level RRU.
 - i. Check the power supply to the higher level RRU to ensure its normal power supply.
 - ii. Reset the higher level RRU.

198084236 Ir link FIFO improper

Alarm Property

- Alarm code: 198084236

- Description: Ir link FIFO improper
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

1. Failure with the local RRU in the star networking mode.
2. Failure with the higher level RRU in the chain networking mode.
3. Ignore this alarm from the RTR when error occurs with the BPC channel.

System Impact

It might realign the FIFO and cause instant improper IQ signal and reduces the service performance.

Handling Suggestion

1. Reset this level RRU.
2. Check if this level RRU is the first level. When this level RRU is the first level, reset the associated FS board; when this level RRU is not the first level, reset the higher level RRU.

198084237 RRU RTWP improper

Alarm Property

- Alarm code: 198084237
- Description: RRU RTWP improper
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

1. Diversity antenna that is configured in the system does not exist (such as indoor coverage and outdoor full direction site) and there is no load connected to the RRU diversity.
2. The antenna feeder system is faulty and Antenna VSWR alarm or Remote antenna over VSWR alarm occurs. Check the antenna feeder system as it is possibly caused by the antenna feeder system.
3. The board failure.

System Impact

The service coverage range might be reduced.

Handling Suggestion

1. Diversity antenna that is configured in the system does not exist (such as indoor coverage and outdoor full direction site) and there is no load connected to the RRU diversity. Connect the diversity with proper load.
2. The antenna feeder system is faulty and Antenna VSWR alarm or Remote antenna over VSWR alarm occurs. Resolve the two alarms first.
3. Check the RF board for possible failure.
 - i. Check the RRU interior RF cable and its connection. Fasten the cable or replace it if any problem is found.
 - ii. Check the duplex for possible damage. Replace the duplex in case of any damage.
 - iii. Replace the board.

198084257 UL IQ improper

Alarm Property

- Alarm code: 198084257
- Description: UL IQ improper
- Severity: Critical

- Alarm Type: Equipment alarm

Probable Cause

Error with the TDM channel.

- The error with the clock of the BPC board or the FS board.
- The error with the socket of the BPC board or the FS board.
- The BPC board or the FS board connection is not secure and firm.
- The hardware failure with the backplane connection cable.
- The hardware failure with the FS board or the BPC board

System Impact

It provides potential impact to the system and may possibly decrease the service quality.

Handling Suggestion

1. Re-plug the associated FS board.
2. Plug/unplug the board.
3. Replace the board.

198084262 TDM CRC alarm

Alarm Property

- Alarm code: 198084262
- Description: TDM CRC alarm
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

1. Poor contact between the FS board and the backplane.

2. Poor contact between the BPC board and the backplane.
3. The FS board hardware failure
4. The BPC board hardware failure.

System Impact

It may possibly decrease the service quality or cause interruption the service in the extreme conditions.

Handling Suggestion

1. Check the contact between the FS board and the backplane, re-plug the FS board firmly.
2. Check the contact between the BPC board and the backplane, re-plug the BPC board firmly.
3. Check for the possible FS board hardware failure
 - i. Reset the board.
 - ii. Replace the board.
4. Check for the possible BPC board hardware failure
 - i. Reset the board.
 - ii. Replace the board.

198084263 RRU LOS alarm

Alarm Property

- Alarm code: 198084263
- Description: RRU LOS alarm
- Severity: Critical
- Alarm Type: Equipment alarm

Probable Cause

1. The poor connection with the fiber optics or the optical module between the alarming RRU and the higher level board.

2. The connection failure with the fiber optics or the optical module between the alarming RRU and the higher level board.

System Impact

The communication link on this board is off connection and the services provided by this board is completely interrupted.

Handling Suggestion

1. Check the possible failure with the fiber optics and the optical module between the alarming RRU and the higher level FS board.

Check the possible failure with the fiber optics and the optical module between the RRU and the FS board, and re-plug the fiber and the optical module firmly.

2. Check for the possible connection failure with the fiber optics or the optical module between the alarming RRU and the higher level board.
 - i. Check the possible failure with the fiber optics and the optical module between the RRU and the FS board, make sure the fiber and the optical module are connected firmly.
 - ii. Replace the fiber optics and the optical module of the RRU and the FS separately.

198084264 RRU LOF Alarm

Alarm Property

- Alarm code: 198084264
- Description: RRU LOF alarm
- Severity: Critical
- Alarm Type: Equipment alarm

Probable Cause

1. The poor connection with the fiber optics or the optical module between the alarming RRU and the higher level board.
2. The connection failure with the fiber optics or the optical module between the alarming RRU and the higher level board.

System Impact

The communication link on this board is off connection and the services provided by this board is completely interrupted.

Handling Suggestion

1. Check the possible failure with the fiber optics and the optical module between the alarming RRU and the higher level FS board.

Check the possible failure with the fiber optics and the optical module between the RRU and the FS board, and re-plug the fiber and the optical module firmly.

2. Check for the possible connection failure with the fiber optics or the optical module between the alarming RRU and the higher level board.
 - i. Check the possible failure with the fiber optics and the optical module between the RRU and the FS board, make sure the fiber and the optical module are connected firmly.
 - ii. Replace the fiber optics and the optical module of the RRU and the FS separately.

198084265 RRU powered-down alarm

Alarm Property

- Alarm code: 198084265
- Description: RRU powered-down alarm

- Severity: Critical
- Alarm Type: Equipment alarm

Probable Cause

1. The corresponding RRU is powered down.
2. RRU power supply is unstable.

System Impact

The communication link on this board is off connection and the services provided by this board is completely interrupted.

Handling Suggestion

1. The power supply to the corresponding RRU is interrupted, it is required to check and resume the RRU power supply at the station.
2. Check the voltage of RRU power supply and ensure stable voltage.

198084266 Clock has a critical alarm

Alarm Property

- Alarm code: 198084266
- Description: Clock has a critical alarm.
- Severity: Critical
- Alarm Type: Equipment alarm

Probable Cause

1. AD9516 is unlocked.
 - i. Hardware failure with the active main control board.

- ii. Board hardware fault
2. FPGA clock alarm.
 - i. The active main control board is reset.
 - ii. Hardware failure with the active main control board.
 - iii. Hardware failure with the board.
3. Frame error.
 - i. The active main control board is reset.
 - ii. Hardware failure with the active main control board.
 - iii. Hardware failure with the board.
4. The Fsync clock is lost
 - i. The active main control board is reset.
 - ii. Hardware failure with the active main control board.
 - iii. Hardware failure with the board.
5. 10M is lost.

The hardware failure with the local board.
6. 80M is lost.

The hardware failure with the board.
7. The serdes clock is lost
 - i. The active main control board is reset.
 - ii. Hardware failure with the board.

System Impact

The error with the clock module may possibly decrease the service quality or cause interruption the service in the extreme conditions.

Handling Suggestion

Check the detailed information of this alarm on the fault management interface. The detailed information of this alarm presents the cause of the alarm which helps to find the processing method quickly.

The suggested process method for each alarm cause is described below:

- Alarm cause: AD9516 unlock,80M lost, serdes clock lost.
 - i. Reset the active main control board.
 - ii. Replace the active main control board.

- iii. Reset the board.
- iv. Replace the board.
- The causes of the alarm: FPGA clock alarm, frame error, Fsync clock lost.
 - i. Check if the active CC is reset. If it is reset, then this alarm is a normal response that requires no processing.
 - ii. Reset the active main control board.
 - iii. Replace the active main control board.
 - iv. Reset the board.
 - v. Replace the board.
- The cause of the alarm: 10M lost.
 - i. Reset the board.
 - ii. Replace the board.

198084272 Lightning arrester alarm at indoor lightning protection box

Alarm Property

- Alarm code: 198084272
- Description: Lightning arrester alarm at indoor lightning protection box
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

1. The fault with the environment monitoring unit.
2. Failure with the lightning arrester caused by lightning damage, poor grounding or parts aging, etc.

System Impact

None.

Handling Suggestion

1. Check the dry contact configuration in the dry contact alarm configuration in the configuration resource management interface.

Make sure the configuration of the dry contact is in accordance with the actual equipments installed.

2. Check the monitor cable connection with the dry contact. Replace the cable in case of cable error.
3. Check the active power module for the proper voltage input. Replace the active power supply in case of voltage error.

The normal rang of the power supply is:

- ▶ DC voltage: -36 V - -60 V
 - ▶ AC voltage: 80 V - 280 V
4. Reset the board.
 5. Replace the board.
 6. Check the grounding of the lightning arrester to ensure secure grounding.
 7. Replace the lightning arrester

198084273 Circuit breaker alarm at indoor lightning protection box

Alarm Property

- Alarm code: 198084273
- Description: Circuit breaker alarm at indoor lightning protection box
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

1. The circuit breaker is in over-current protected status, or is open circuited.

2. The fault with the environment monitoring unit.

System Impact

Power supply interruption occurs to the corresponding power line. The RRU service interruption occurs if the faulty power line is provided to the RRU.

Handling Suggestion

1. Check the dry contact configuration in the dry contact alarm configuration in the configuration resource management interface.

Make sure the configuration of the dry contact is in accordance with the actual equipments installed.

2. Check the monitor cable connection with the dry contact. Replace the cable in case of cable failure.
3. Check the switch of the circuit breaker to find out the cause of the over-current protection or open circuit and resolve the defect.
4. Replace the circuit breaker.
5. Reset the board.
6. Replace the board.

198084274 Outdoor lightning protection box alarm

Alarm Property

- Alarm code: 198084274
- Description: Outdoor lightning protection box alarm
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

1. Failure with the outdoor lightning protection boThe failure with the outdoor lightning arrester caused by lightning damage, poor grounding or parts aging, etc.
2. The fault with the environment monitoring unit.

System Impact

The lightning protection is invalid.

Handling Suggestion

1. Check the dry contact configuration in the dry contact alarm configuration in the configuration resource management interface.

Make sure the configuration of the dry contact is in accordance with the actual equipments installed.

2. Check the monitor cable connection with the dry contact. Replace the cable in case of cable failure.
3. Replace the dry contact connection cable between the RRU and the outdoor lightning protection bo
4. Replace the lightning arrester
5. Replace the RRU.

198084275 Failed to download software

Alarm Property

- Alarm code: 198084275
- Description: Download software failed
- Severity: Critical
- Alarm Type: Equipment alarm

Probable Cause

1. Incorrect software version of this alarm board on the Main Control board.
2. Board failure.

System Impact

The board software update fails and the services provided by this board is completely interrupted.

Handling Suggestion

1. Re-download the software version on the software management interface.
2. Replace the board.

198084276 Downlink DAC PLL unlock

Alarm Property

- Alarm code: 198084276
- Description: Downlink DAC PLL unlock
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

RRU hardware failure.

System Impact

The downlink link is disconnected, and the system is out of operation. The services provided by this board are completely interrupted.

Handling Suggestion

1. Reset the board.
2. Replace the board.

198084286 PWR monitoring unit alarm

Alarm Property

- Alarm code: 198084286
- Description: PWR monitoring unit alarm
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

1. The dry contact connection cable is disconnected.
2. The monitoring unit is damaged.

System Impact

The power monitoring unit operates improperly, and fails to report the power data.

Handling Suggestion

1. Check the monitor cable connection with the dry contact. Replace the cable in case of cable failure.

2. Replace the monitoring unit.

198084287 AC power-cut alarm

Alarm Property

- Alarm code: 198084287
- Description: AC power-cut alarm
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

1. The dry contact connection cable is disconnected.
2. The AC power supply is interrupted, or the other defects that cause interruption to the AC supply.

System Impact

The AC power is offline, the system works on the temporary battery supply.

Handling Suggestion

1. Check the monitor cable connection with the dry contact. Replace the cable in case of cable failure.
2. Use the emergency generator.
3. Recover the AC power supply as soon as possible.

198084288 Battery in low-voltage alarm

Alarm Property

- Alarm code: 198084288
- Description: Battery in low-voltage alarm
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

1. The dry contact connection cable is disconnected.
2. The AC power supply is interrupted, or the other defects that cause interruption to the AC supply.

System Impact

The battery lifetime could be shortened by low voltage operation. The system is unreliable and may cease operation and service immediately when the power supply is exhausted.

Handling Suggestion

1. Check the monitor cable connection with the dry contact. Replace the cable in case of cable failure.
2. Recharge the battery as soon as possible until the battery voltage is higher than the normal value.

198084289 Rectifier alarm

Alarm Property

- Alarm code: 198084289
- Description: Rectifier alarm

- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

1. The dry contact connection cable is disconnected.
2. The rectifier works improperly.

System Impact

The power supply is unreliable and may cause interruption to the operation and service.

Handling Suggestion

1. Check the monitor cable connection with the dry contact. Replace the cable in case of cable failure.
2. Replace the Rectifier module.

198084301 Transport clock reference source is fault

Alarm Property

- Alarm code: 198084301
- Description: Transport clock reference source is fault
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

1. The frequency offset of MT9040 8K clock reference source is over large.
2. Board failure.

System Impact

Error with the E1/T1 link, may impair the transmission quality and impair the service quality.

Handling Suggestion

1. Check if the higher level E1/T1 equipments (including the RNC, the microwave, etc)is in normal operation. Open the rack map on the Configuration Management window and check if the DTB board is in normal operation.
2. Reset the board.
3. Replace the board.

198084302 DSP AIF is improper

Alarm Property

- Alarm code: 198084302
- Description DSP AIF is improper
- Severity: Critical
- Alarm Type: Equipment alarm

Probable Cause

The BPC board hardware failure.

System Impact

The random access does not work. The board is reset and the link is interrupted which completely interrupts the services provided by this board.

Handling Suggestion

1. Wait for 10 seconds. The board will reset automatically if the alarm persists.
2. Replace the board.

198084306 Improper DPD running status

Alarm Property

- Alarm code: 198084306
- Description: Improper DPD running status
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

1. DPD soft reset fails.
2. The expected DPD signal is improper.
3. The DPD feedback signal is out of range.
4. The DPD delay device fails.
5. The DPD adaptive detection error is too high.

System Impact

The downlink power output drops and the quality of RF output declines.

Handling Suggestion

The system can recover automatically without manual intervention.

198084307 MP over-current alarm

Alarm Property

- Alarm code: 198084307
- Description: MP over-current alarm
- Severity: Critical
- Alarm Type: Equipment alarm

Probable Cause

1. Failure with the board.
2. Failure with the PM board.

System Impact

The power to the over-current board is turn off and the services provided by this board is completely interrupted.

Handling Suggestion

1. Re-plug the over-current board.
2. Replace the over-current board.
3. Switch the active board and the standby board.
4. Replace the board.

198084308 PP over-current alarm

Alarm Property

- Alarm code: 198084308

- Description: PP over-current alarm
- Severity: Critical
- Alarm Type: Equipment alarm

Probable Cause

1. Failure with the board.
2. Failure with the PM board.

System Impact

The power to the over-current board is turn off and the services provided by this board is completely interrupted.

Handling Suggestion

1. Re-plug the over-current board.
2. Replace the over-current board.
3. Switch the active board and the standby board.
4. Replace the board.

198084310 The reported power has a CRC error

Alarm Property

- Alarm code: 198084310
- Description: The reported power has a CRC error
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

1. Error with the crc power data reported.

2. The RRU board failure.

System Impact

It may possibly decrease the service quality of the PA service (the UPA/DPA service) or cause interruption the service at the extreme conditions.

Handling Suggestion

1. Check if the UL IQ improper alarm occurs.
If this alarm occurs, follow the suggestion to this alarm.
Related alarm: 198084257 UL IQ improper
2. Review the topology structure and check the fiber optics connection between the FS board and the RU boards connected with it.
3. Replace the optical module on the associated FS board.
Replace the optical module on the RU board connected with the associated FS board if the alarm persists.
4. Reset the RU board connected with the associated FS board.
5. Replace the RU board connected with the associated FS board.

198084317 Self-defined dry contact alarm

Alarm Property

- Alarm code: 198084317
- Description: Self-defined dry contact alarm
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

The exterior device failure connected to the dry contact.

System Impact

It has no impact to the services.

Handling Suggestion

Perform different process methods according to the type of the exterior devices.

198084088 Remote input power over-voltage alarm

Alarm Property

- Alarm code: 198084088
- Description: Remote input power over-voltage alarm
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

1. The AC input voltage of power module is higher than the alarm threshold 280v (the tolerance is +/-1V).
2. The DC input voltage of power module is higher than the alarm threshold 60v (the tolerance is +/-1V).

System Impact

There is no impact on the system if it is short time operation only. For long period operation, the board or the system might fail to operate properly and the service on this board will be interrupted.

Handling Suggestion

1. The AC input voltage of power module is higher than the alarm threshold 280v (the tolerance is +/-1V).
 - i. Shut down the RRU and disconnect it from power socket. Check whether the voltage of the AC input is higher than 281V (the tolerance is +/- 1V).
 - ii. Replace the voltage module RPWDC of RRU.
2. The DC input voltage of power module is higher than the alarm threshold 60v (the tolerance is +/-1V).
 - i. Shut down the RRU and disconnect it from power socket. Check whether the voltage of the DC input is higher than 61V (the tolerance is +/- 1V).
 - ii. Replace the voltage module RPWDC of RRU.

198084089 Remote input power under-voltage alarm

Alarm Property

- Alarm code: 198084089
- Description: Remote input power under-voltage alarm
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

1. The AC input voltage of power module is lower than the alarm threshold 80v (the tolerance is +/-1V).
2. The DC input voltage of power module is higher than the alarm threshold 36v (the tolerance is +/-1V).

System Impact

There is no impact on the system if it is short time operation only. For long period operation, the board or the system might

fail to operate properly and the service on this board will be interrupted.

Handling Suggestion

1. The AC input voltage of power module is lower than the alarm threshold 80v (the tolerance is +/-1V).
 - i. Shut down the RRU and disconnect it from power socket. Check whether the voltage of the AC input is lower than 81V (the tolerance is +/- 1V).
 - ii. Replace the voltage module RPWDC of RRU.
2. The DC input voltage of power module is lower than the alarm threshold 36v (the tolerance is +/-1V).
 - i. Shut down the RRU and disconnect it from power socket. Check whether the voltage of the DC input is lower than 37V (the tolerance is +/- 1V).
 - ii. Replace the voltage module RPWDC of RRU.

198084090 Remote input power powered-down alarm

Alarm Property

- Alarm code: 198084090
- Description: Remote input power powered-down alarm
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

1. The power module is not working abnormally.
2. Failure with the RRU power module RPWDC.

System Impact

The board or the system fails to operate normally, and the services provided by this board are interrupted.

Handling Suggestion

1. Check if the power module is working abnormally.
Shut down RRU and remove the -48V power plug. Check the power socket with multi-meter for the voltage difference between the -48V terminal and the -48VGND terminal.
2. Check for the possible failure with the RRU power module RPWDC.
Replace the voltage module RPWDC of RRU, and connect the interior modules in RPWDC and RRU properly. Turn on the system.

198084091 Remote output power over-current alarm

Alarm Property

- Alarm code: 198084091
- Description: Remote output power over-current alarm
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

The power module output is abnormal.

System Impact

The board or the system may fail to operate normally, and the services provided by this board are interrupted.

Handling Suggestion

Replace the voltage module of the board, and connect the interior modules in RPWDC and RF board properly. Turn on the system.

198084092 Remote power output under-voltage alarm

Alarm Property

- Alarm code: 198084092
- Description: Remote power output under-voltage alarm
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

1. The power module input is not normal.
2. The power module output is abnormal.

System Impact

The board or the system may fail to operate normally, and the services provided by this board are interrupted.

Handling Suggestion

1. The power module input voltage is low or not normal.
2. Replace the voltage module RPWDC of RRU, and connect the interior modules in RPWDC and RRU properly. Turn on the system.

198084093 Remote antenna over VSWR alarm

Alarm Property

- Alarm code: 198084093

- 198084093 Remote antenna over VSWR alarm
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

1. The antenna failure
2. The board failure.

System Impact

The board or the system fails to operate normally, and the services provided by this board are interrupted.

Handling Suggestion

1. Check the antenna failure.
 - i. Check if RRU is connected to the antenna properly. Connect the antenna in case it is not connected.
 - ii. Check if antenna feeder is properly connected. If there is any problem with the connection, correct the problem according to the construction diagram.
 - iii. Verify that the connector of the antenna feeder is tightened securely. Fasten the connector if the connection is loose.
2. Check the feeder standing waves of each level.
 - i. Check if the standing wave of feeder is normal. Replace the feeder if the standing wave is not normal.
 - ii. If combiner is connected to the feeder, check if the standing wave of the combiner is normal. Replace it if the standing wave is not normal
 - iii. Check if the antenna is normal. Replace or repair it if there is any problem with the antenna.
3. Check the RRU for possible failure.
 - i. Reset the board.
 - ii. Check the RRU for the poor connection of the RF cable. Fasten the cable or replace it if any loose or disconnection is found.
 - iii. Check the power amplifier for possible failure. Replace the power amplifier in case of any damage.

- iv. Check the duplex for possible damage. Replace the duplex in case of any damage.
- v. Replace the board.

198084094 Remote antenna VSWR

Alarm Property

- Alarm code: 198084094
- Description: Remote antenna over VSWR alarm
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

1. The antenna failure
2. The board failure.

System Impact

No influence to the services on this board.

Handling Suggestion

1. Check the antenna failure.
 - i. Check if RRU is connected to the antenna properly. Connect the antenna in case it is not connected.
 - ii. Check if antenna feeder is properly connected. If there is any problem with the connection, correct the problem according to the construction diagram.
 - iii. Verify that the connector of the antenna feeder is tightened securely. Fasten the connector if the connection is loose.
2. Check the feeder standing waves of each level.

- i. Check if the standing wave of feeder is normal. Replace the feeder if the standing wave is not normal.
 - ii. If combiner is connected to the feeder, check if the standing wave of the combiner is normal. Replace it if the standing wave is not normal
 - iii. Check if the antenna is normal. Replace or repair it if there is any problem with the antenna.
3. Check the RRU for possible failure.
 - i. Reset the board.
 - ii. Check the RRU for the poor connection of the RF cable. Fasten the cable or replace it if any loose or disconnection is found.
 - iii. Check the amplifier for possible failure. Replace the power amplifier in case of any damage.
 - iv. Check the duplex for possible damage. Replace the duplex in case of any damage.
 - v. Replace the board.

198084136 Uplink channel runs abnormally

Alarm Property

- Alarm code: 198084136
- Description: Uplink channel runs abnormally
- Severity: Critical
- Alarm Type: Equipment alarm

Probable Cause

The clock is not working properly.

System Impact

The board failure.

The system will release all subscribers and reset the board. The failure will be recovered after board restarts, and normal operation will resume.

Handling Suggestion

Replace the board.

198084137 Downlink channel runs abnormally

Alarm Property

- Alarm code: 198084137
- Description: Downlink channel runs abnormally
- Severity: Critical
- Alarm Type: Equipment alarm

Probable Cause

The clock is not working properly.

System Impact

The board failure.

The system will release all subscribers and reset the board. The failure will be recovered after board restarts, and normal operation will resume.

Handling Suggestion

Replace the board.

198084139 PA over power alarm

Alarm Property

- Alarm code: 198084139
- Description: PA over power alarm
- Severity: Critical
- Alarm Type: Equipment alarm

Probable Cause

1. The RRU board failure.
2. The BPC board failure.1.

System Impact

The power output is turned off and no transmission power output is supplied on this RF channel which completely interrupts the services provided by this board.

Handling Suggestion

1. Reset the board.
2. Replace the board.

198084141 PA over temperature alarm

Alarm Property

- Alarm code: 198084141
- Description: PA over temperature alarm

- Severity: Critical
- Alarm Type: Equipment alarm

Probable Cause

1. The environmental temperature is over high.
2. The RRU failure.

System Impact

The power output is turned off and no transmission power output is supplied on this RF channel which completely interrupts the services provided by this board.

Handling Suggestion

1. The environmental temperature is over high.
 - i. Ensure the normal operation of the indoor air conditioning.
 - ii. Ensure the normal operation of the environment fan.
2. The RRU failure.
 - i. Replace the power amplifier.
 - ii. Replace the board.

198084145 PA communication fault

Alarm Property

- Alarm code: 198084145
- Description: PA communication fault
- Severity: Critical
- Alarm Type: Equipment alarm

Probable Cause

The PA communication failure.

The connection wire between the power amplifier and the monitor module is loose.

System Impact

The board failure.

The system fails to set the power amplifier which completely interrupts the services provided by this board.

Handling Suggestion

1. Reset the board.
2. Check the connection wire between the power amplifier and the monitor module and ensure it is securely connected.
3. Replace the power amplifier module.
4. Replace the monitor module.

198084146 RET motor fault

Alarm Property

- Alarm code: 198084146
- Description: RET motor fault
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

Failed to find the adjusting motor of the power adjusted antenna.

System Impact

The RET motor malfunctions and cause the performance drop in the cell.

Handling Suggestion

Check the adjusting motor.

198084147 RET hardware fault

Alarm Property

- Alarm code: 198084147
- Description: RET hardware fault.
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

The failure with the power adjusted antenna.

System Impact

The RET motor malfunctions and cause the performance drop in the cell.

Handling Suggestion

Check the power adjusted antenna hardware.

198084148 RET software fault

Alarm Property

- Alarm code: 198084148
- Description: RET software fault.
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

The power adjusted antenna parameter is not configured properly.

System Impact

The RET motor malfunctions and cause the performance drop in the cell.

Handling Suggestion

Check the system parameters.

198084151 ATMA communication link is interrupted.

Alarm Property

- Alarm code: 198084151
- Description: ATMA communication link is interrupted.

- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

1. Failure with the ATMA equipment.
2. Failure with the communication cable between the ATMA equipment and the system.
3. Failure with the environment monitoring board.

System Impact

The system fails to communicate with the ATMA equipment.

If the equipment has failure, the operation performance of the cell will drop.

Handling Suggestion

1. Check the communication cable between ATMA equipment and Node B and ensure the connection is proper and secure.
2. Reset the RRU board.
3. Replacement the equipment

**198084152 RET
communication link is
interrupted.**

Alarm Property

- Alarm code: 198084152
- Description: RET communication link is interrupted.
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

1. Failure with the RET equipment.
2. Failure with the communication cable between the RET equipment and the system.
3. Failure with the environment monitoring board.

System Impact

The system fails to communicate with the AISG device and fails to manage and detect alarm.

If the equipment has any failure, the operation performance of the cell will drop.

Handling Suggestion

1. Check the communication cable between RET equipment and Node B and ensure the connection is proper and secure.
2. Reset the RRU board.
3. Replacement the equipment

198084153 ACOM hardware fault

Alarm Property

- Alarm code: 198084153
- Description: ACOM hardware fault.
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

The hardware configuration parameter is incorrect.

System Impact

The ACOM malfunctions and cause the performance drop in the cell.

Handling Suggestion

1. Reset the associated RRU board.
2. Replacement the equipment

198084153 ACOM software fault

Alarm Property

- Alarm code: 198084154
- Description: ACOM software fault.
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

The software configuration parameter is incorrect.

System Impact

The ACOM malfunctions and cause the performance drop in the cell.

Handling Suggestion

1. Reset the associated RRU board.
2. Replacement the equipment

198084151 ACOM communication link is interrupted.

Alarm Property

- Alarm code: 198084156
- Description: ACOM communication link is interrupted.
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

1. The equipment fails.
2. Failure with the communication cable between equipment and Node B
3. Failure with the environment monitoring board.

System Impact

Node B fails to communicate with the ACOM equipment which causes the operation performance drop with the cell.

Handling Suggestion

1. Check the communication cable between RET equipment and Node B and ensure the connection is proper and secure.
2. Reset the RRU board.
3. Replacement the equipment

198084208 AISG EEPROM error

Alarm Property

- Alarm code: 198084208
- Description: AISG EEPROM error
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

The AISG-EEPROM parameter is incorrect.

System Impact

The AISG malfunctions and cause the performance drop in the cell.

Handling Suggestion

1. Reset the equipment.
2. Replacement the equipment

198084209 AISG flash erase error

Alarm Property

- Alarm code: 198084209
- Description: AISG flash erase error
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

The AISG-FLASH parameter is incorrect.

System Impact

The AISG malfunctions and cause the performance drop in the cell.

Handling Suggestion

1. Reset the equipment.
2. Replacement the equipment

198084210 AISG flash error

Alarm Property

- Alarm code: 198084210
- Description: AISG flash error
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

The AISG-FLASH parameter is incorrect.

System Impact

The AISG malfunctions and cause the performance drop in the cell.

Handling Suggestion

1. Reset the equipment.

2. Replace the equipment.

198084211 AISG other hardware error

Alarm Property

- Alarm code: 198084211
- Description: AISG other hardware error.
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

The AISG configuration parameter is incorrect.

System Impact

The AISG malfunctions and cause the performance drop in the cell.

Handling Suggestion

1. Reset the equipment.
2. Replace the equipment.

198084215 RET motor fault

Alarm Property

- Alarm code: 198084215
- Description: RET motor fault
- Severity: Major

- Alarm Type: Equipment alarm

Probable Cause

The failure with the RET motor.

System Impact

The RET motor malfunctions and cause the performance drop in the cell.

Handling Suggestion

1. Open the Base station Configuration Management window, open AISC equipment centralized management, select automatic calibrate the RET equipment again .
2. Remount the RET motor and automatically calibrate it.
3. Replace the RET motor.

198084211 AISG other software error

Alarm Property

- Alarm code: 198084212
- Description: AISG other software error.
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

The AISG software configuration parameter is incorrect.

System Impact

The AISG malfunctions and cause the performance drop in the cell.

Handling Suggestion

1. Reset the equipment.
2. Replace the equipment.

198084213 AISG RAM error

Alarm Property

- Alarm code: 198084213
- Description: AISG RAM error
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

The AISG-RAM parameter is incorrect.

System Impact

The AISG malfunctions and cause the performance drop in the cell.

Handling Suggestion

1. Reset the equipment.
2. Replace the equipment.

198084214 AISG UART error

Alarm Property

- Alarm code: 198084214
- Description: AISG UART error
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

The AISG-UART parameter is incorrect.

System Impact

The AISG malfunctions and cause the performance drop in the cell.

Handling Suggestion

1. Reset the equipment.
2. Replace the equipment.

198084216 RET motor can't adjust

Alarm Property

- Alarm code: 198084216
- Description: RET motor can't adjust
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

RET motor does not work to adjust the antenna.

System Impact

The RET motor malfunctions and cause the performance drop in the cell.

Handling Suggestion

1. Open the Base station Configuration Management window, open AISC equipment centralized management, select automatic calibrate the RET equipment again.
2. Remount the RET motor.
3. Replace the RET motor.

198084217 RET motor don't responed the adjusting command

Alarm Property

Alarm code: 198084217

Description: RET motor don't responed the adjusting command

Alarm level: Minor

Alarm Type: Equipment alarm

Probable Cause

RET motor does not respond to the adjusting command.

System Impact

The RET motor malfunctions and cause the performance drop in the cell.

Handling Suggestion

1. Open the Base station Configuration Management window, open AISC equipment centralized management, select automatic calibrate the RET equipment again.
2. Remount the RET motor and automatically calibrate it.
3. Replace the RET motor.

198084218 RET don't calibrated

Alarm Property

- Alarm code: 198084218
- Description: RET don't calibrated
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

RET fails to calibrate.

System Impact

The RET motor malfunctions and cause the performance drop in the cell.

Handling Suggestion

1. Open the Base station Configuration Management window, open AISC equipment centralized management, select automatic calibrate the RET equipment again.
2. Remount the RET motor and automatically calibrate it.
3. Replace the RET motor.

198084219 RET data don't scaled

Alarm Property

- Alarm code: 198084219
- Description: RET data don't scaled.
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

RET data fails to scale.

System Impact

The RET motor malfunctions and cause the performance drop in the cell.

Handling Suggestion

1. Open the Base station Configuration Management window, open AISC equipment centralized management, select send the configuration data for the RET equipment again.
2. Replace the motor.

198084220 RET position lost

Alarm Property

- Alarm code: 198084220
- Description: RET position lost
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

The RET position data is lost.

System Impact

The RET motor malfunctions and cause the performance drop in the cell.

Handling Suggestion

1. Open the Base station Configuration Management window, open AISC equipment centralized management, select automatic calibrate the RET equipment again.
2. Remount the motor and calibrate it automatically.
3. Replace the motor.

198084221 ATMA minor alarm

Alarm Property

- Alarm code: 198084221
- Description: ATMA minor alarm
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

The minor failure with ATMA.

System Impact

The operation performance drops in the cell.

Handling Suggestion

1. Reset the equipment.
2. Replace the equipment.

198084222 ATMA major alarm

Alarm Property

- Alarm code: 198084222
- Description: ATMA major alarm
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

The ATMA has a major failure.

System Impact

The operation performance drops in the cell

Handling Suggestion

1. Reset the equipment.
2. Replace the equipment.

198084221 ACOM minor alarm

Alarm Property

- Alarm code: 198084223
- Description: ACOM minor alarm
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

The ACOM has a minor failure

System Impact

The operation performance drops in the cell.

Handling Suggestion

1. Reset the equipment.
2. Replace the equipment.

198084224 ACOM major alarm

Alarm Property

- Alarm code: 198084224
- Description: ACOM major alarm
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

The ACOM has a major failure.

System Impact

The operation performance drops in the cell.

Handling Suggestion

1. Reset the equipment.
2. Replace the equipment.

198084234 PA Run Failed alarm

Alarm Property

- Alarm code: 198084234
- Description: A Run Failed alarm
- Severity: Major
- Alarm Type: Equipment alarm

Probable Cause

The RRU failure.

System Impact

The entire system loses power output and the subscriber fails to access.

Handling Suggestion

1. Reset the board.
2. Replace the board.

198084255 E1T1 sliding code

Alarm Property

- Alarm code: 198084255
- Description: E1T1 sliding code
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

The hardware failure or the link failure.

System Impact

The board may work normally.

When multiple clock references are configured, select the available clock reference per priority sequence, and the system will operate normally. When all the clock references configured are lost, the system clock will choose to remain or return to free-run mode and the impact to the system is as below:

1. Iub interface
 - ▶ STM-1 connection.
There is no influence to the operation of Node B, but the next level of cascaded Node B might be influenced.
 - ▶ E1 connection.
No impact for the ITC mode, the periodical slide code might occur to the Iub interface after long period operation at CTC mode.
2. Handover between Node B base stations.

If the clock accuracy of Node B fails to meet 3GPP requirement, the success rate of the handover might drop.

Handling Suggestion

1. Reset the board.
2. Replace the board.

198084278 Board doesn't support such configuration.

Alarm Property

- Alarm code: 198084278
- Description: Board doesn't support such configuration.
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

The CC board does not support this function.

System Impact

It has no impact to the services.

Handling Suggestion

1. Acquire the actual name of the CC board

Method of acquiring: open Asset Management Report window and run "Get the hardware Information of the Board "Then the CCType item is the actual name of the CC board.

The relations between the actual name and the configuration supported are as below:

- i. CC0: E1 0 to 15 channels and embedded GPS supported; 2MHz clock configuration not supported.

- ii. CC0: E1 0 to 7 channels and embedded GPS supported; 2MHz clock configuration not supported.
 - iii. CC0: E1 0 to 7 channels supported; embedded GPS not supported; 2MHz clock configuration supported.
2. Replace the board with compatible boards or modify the configuration to meet the actual boards used.

198084238 Frame SeqNo Failed

Alarm Property

- Alarm code: 198084238
- Description: Frame SeqNo Failed
- Severity: Critical
- Alarm Type: Equipment alarm

Probable Cause

1. The backplane 61.44M is lost.
3. The backplane 10ms has error.
4. The backplane frame no. has error.
5. The backplane 60ms has error.

System Impact

When the error is minor, there is no impact on the system; when the error is serious, all services on this board will be interrupted

Handling Suggestion

1. Check the active CC board for any possible alarms about phase-lock loop and or clock. If there is any alarm, wait 5 minutes for the system to recover.

Related Alarms

- ▶ 198084003 Clock module fault
 - ▶ 198084004 Clock reference source is lost.
 - ▶ 198084006 Clock reference source is degraded
 - ▶ 198084266 Clock has a critical alarm
 - ▶ 198084301 Transport clock reference source is fault
 - ▶ 198084303 Clock has significant alarm
 - ▶ 198084060 RF board PLL alarm
 - ▶ 198084231 RRU clock frequency drift
 - ▶ 198084299 PLL unlock alarm
2. Reset the board.
 3. Replace the board.

198084240 AIF Interface Failed

Alarm Property

- Alarm code: 198084240
- Description: AIF Interface Failed
- Severity: Critical
- Alarm Type: Equipment alarm

Probable Cause

1. Uplink error.
2. Downlink error.

System Impact

When the error is minor, there is no impact on the uplink/downlink services. When the error is serious, the uplink error will congest the corresponding IQ channel by, all services will be interrupted; the downlink error could interrupt the carrier frequency of the entire board.

Handling Suggestion

1. Check the Fault Management window for the alarms corresponding to UBPG board, FS board, RRU board. Perform the recommended solution to process the alarm, if any.

Related Alarms

- ▶ 198084238 Frame SeqNo Failed
- ▶ 198084292 AD9516 unlock alarm

2. Check if there is any alarm related to IQ configuration failure. If there is such alarm, then the IQ configuration is incorrect. Perform the recommended solution to process the alarm(s) and make sure that the BBU board and the RRU board is in normal operation.

Related alarm: 198084250 IQ Config Failed

3. Open Version Manage interface and reload the DSP/FPGA version of this board, then wait for the base station to reboot.

198084244 Software Load Abnormal

Alarm Property

- Alarm code: 198084244
- Description: Software Load Abnormal
- Severity: Critical
- Alarm Type: Equipment alarm

Probable Cause

1. The DSP or FPGA software version of the board is incorrect.
2. Hardware failure with the board.

System Impact

The board software does not operate properly and the services provided by this board is completely interrupted.

Handling Suggestion

1. Open Version Manage interface and update the DSP/FPGA version of this board.
2. Reset the board.

198084239 HardWare TimeSlot Terminate Failed

Alarm Property

- Alarm code: 198084239
- Description: HardWare TimeSlot Terminate Failed
- Severity: Critical
- Alarm Type: Equipment alarm

Probable Cause

1. FPGA software operation error.
2. 61.44M clock error.

System Impact

The UBPG board software does not operate properly and the services provided by this board are completely interrupted.

Handling Suggestion

1. Check the board for the related alarms. Perform the recommended solution to process the possible alarms.
Related alarm : 198084238 Frame SeqNo Failed.
2. Open Version Manage interface and update the FPGA version of this board.

198084241 Out RAM Read/Write Failed

Alarm Property

- Alarm code: 198084241
- Description: Out RAM Read/Write Failed
- Alarm level: Minor
- Alarm Type: Equipment alarm

Probable Cause

The UBPG board hardware has failure.

System Impact

The UBPG board software does not operate properly and the services provided by this board are completely interrupted.

Handling Suggestion

1. Reset the board.
2. Replace the board.

198084242 Dsp watchdog overflow

Alarm Property

- Alarm code: 198084242
- Description: Dsp watchdog overflow
- Severity: Critical
- Alarm Type: Equipment alarm

Probable Cause

1. The optical switching board does not work properly.
2. The link is disconnected between baseband and RF.
3. The RF board does not work properly.

System Impact

The UBPG board software does not operate properly and the services provided by this board are completely interrupted.

Handling Suggestion

1. Check the local board fiber connection and make sure the connection is correct and secure.
2. Check whether the opposite RF board is in proper operation.
3. Check whether the opposite optical switch board is in normal operation.
4. Reset the board.
5. Reset the opposite RF board.
6. Reset the opposite optical switch board
7. Replace the board.
8. Reset the opposite RF board.
9. Reset the opposite optical switch board

198084243 Uplink Trx 60ms Abnormal

Alarm Property

- Alarm code: 198084243
- Description: Uplink Trx 60ms Abnormal
- Severity: Critical
- Alarm Type: Equipment alarm

Probable Cause

1. The optical switching board does not work properly.
2. The link is disconnected between baseband and RF.
3. The RF board does not work properly.

System Impact

The corresponding IQ channel is congested which causes interruption to its services.

Handling Suggestion

1. Check the local board fiber connection and make sure the connection is correct and secure.
2. Check whether the opposite RF board is in proper operation.
3. Check whether the opposite optical switch board is in normal operation.
4. Reset the board.
5. Reset the opposite RF board.
6. Reset the opposite optical switch board
7. Replace the board.
8. Reset the opposite RF board.
9. Reset the opposite optical switch board

Chapter 3

Communication Alarm

This chapter introduces communication alarms with respect to alarm property, probable cause, system impact, and handling suggestion. The information is intended for system maintenance personnel to have a clear understanding of each communication alarm item.

198084036 SCTP stream number mismatch

Alarm Property

- Alarm Code: 198084036
- Description: SCTP stream number mismatch
- Severity: Major
- Alarm Type: Communication alarm

Probable Cause

The number of in/out SCTP streams configured at Node B and that configured at RRN are inconsistent.

System Impact

The cell can be established, but subsequent NBAP process might fail. UE access fails.

Handling Suggestion

On NMS configuration management interface (Transmission Layer Management in IUB Transmission (Full IP)), check the number of in/out SCTP streams configured at Node B. Check the corresponding configuration at RNC. Ensure that the configuration at both ends is consistent.

198084291 Configuration parameter of O&M Channel is wrong

Alarm Property

- Alarm Code: 198084291
- Description: Configuration parameter of O&M Channel is wrong
- Severity: Critical
- Alarm Type: Communication alarm

Probable Cause

OMM Gateway IP address and Node B IP address configured at NMS might be wrong. BSC NE restores OMM Gateway IP address and Node B IP address with backup data.

System Impact

Only whole table configuration is permitted by the system. Other services are unavailable.

Handling Suggestion

Configure the system with the correct whole table data. Wait for the system to reboot. Re-access the system after reset.

198084312 E1/T1 link configuration is failed

Alarm Property

- Alarm Code: 198084312
- Description: E1/T1 link configuration is failed
- Severity: Major
- Alarm Type: Communication alarm

Probable Cause

E1/T1 link configuration error leads to E1/T1 link configuration failure at BSP.

System Impact

E1/T1 fails to function properly, leading to failure in sending and receiving NBAP signaling.

Handling Suggestion

1. On NMS configuration management interface (Physical Layer Management in IUB Transmission (Full IP)), delete the E1/T1 configuration. Perform reconfiguration.
2. Reset board.
3. Replace board.

198084313 Qos bandwidth configuration is failed

Alarm Property

- Alarm Code: 198084313

- Description: Qos bandwidth configuration is failed
- Severity: Major
- Alarm Type: Communication alarm

Probable Cause

QoS bandwidth configuration error leads to QoS bandwidth configuration failure at BSP.

System Impact

BSP fails to distribute bandwidth based on QoS. QoS priority cannot be guaranteed.

Handling Suggestion

1. On NMS configuration management interface (Global Port Layer Management in IUB Transmission (Full IP)), delete the QoS configuration. Perform reconfiguration.
2. Reset board.
3. Replace board.

198084314 IP clock configuration is failed

Alarm Property

- Alarm Code: 198084314
- Description: IP clock configuration is failed
- Severity: Major
- Alarm Type: Communication alarm

Probable Cause

IP clock configuration is wrong.

System Impact

IP clock fails to function properly. Node B fails to obtain clock information from RNC.

Handling Suggestion

1. On NMS configuration management interface (IP Clock configuration in IUB Transmission (Full IP)), check the IP clock configured at Node B side. Check if the IP clock configured at Node B side and that configured at RNC side are consistent. Ensure that the configuration at both sides is consistent.
2. On NMS configuration management interface (IP Clock configuration in IUB Transmission (Full IP)), delete the IP clock configuration on Node B side. Perform reconfiguration.
3. Reset board.
4. Replace board.

198084282 Lost of frame number at optical port

Alarm Property

- Alarm Code: 198084282
- Description: Lost of frame number at optical port
- Severity: Minor
- Alarm Type: Communication alarm

Probable Cause

1. Optical module of the board is not in place.
2. Frame number loss occurs at the board optical port that is connected to FS/upper-layer board.

System Impact

Board communication link is down. Board services are interrupted.

Handling Suggestion

1. Check if optical module and fiber have been installed at local board and FS board. Ensure that optical module and fiber have been installed.
2. Replace the optical module/fiber of FS board. Replace the optical module used by the faulty optical port.

198084283 Lost of frame rate and frame number

Alarm Property

- Alarm Code: 198084283
- Description: Lost of frame rate and frame number
- Severity: Minor
- Alarm Type: Communication alarm

Probable Cause

1. The frame number received at the board optical interface connected to FS/upper-layer board is discontinuous.
2. The board optical interface connected to FS board fails to receive frame frequency for 160 consecutive milliseconds.

System Impact

Board communication link is down. Board services are interrupted.

Handling Suggestion

Replace the optical module/fiber of FS board. Replace the optical module used by the faulty optical port.

198084248 Dsp software on UBPG not response

Alarm Property

- Alarm Code: 198084248
- Description: Dsp software on UBPG not response
- Severity: Critical
- Alarm Type: Communication alarm

Probable Cause

Operation of the board DSP software is abnormal.

System Impact

The carrier frequency on this DSP is unavailable.

Handling Suggestion

1. On NMS software management interface, update DSP software.
2. Reset board.

198084249 DBB param response error

Alarm Property

- Alarm Code: 198084249
- Description: DBB param response error
- Severity: Minor
- Alarm Type: Communication alarm

Probable Cause

1. Operation of the board DSP software is abnormal.
2. Parameter configuration error exists.

System Impact

The carrier frequency on this DSP is unavailable.

Handling Suggestion

1. Check if the radio parameter configuration on OMCR side is correct.
2. On NMS software management interface, update the board DSP software.
3. Reset board.

198084245 Physical param not consistant with radio param

Alarm Property

- Alarm Code: 198084245
- Description: Physical param not consistant with radio param
- Severity: Critical
- Alarm Type: Communication alarm

Probable Cause

Parameter configuration between OMCB and OMCR is inconsistent.

System Impact

New radio configuration fails to take effect. The whole system will be unavailable after power-on startup.

Handling Suggestion

1. Check if the parameter configuration between OMCB and OMCR is inconsistent. Main checking items include GSM-related radio parameters, such as cell, carrier frequency, frequency band, etc..
2. Reset board.

198084246 Radio param error

Alarm Property

- Alarm Code: 198084246
- Description: Radio param error
- Severity: Critical
- Alarm Type: Communication alarm

Probable Cause

OMCR radio parameter configuration is incorrect.

System Impact

Carrier frequency is unavailable.

Handling Suggestion

1. Check the link between CC board and BSC. Ensure that the link is normal.
2. Reset board.

198084247 Link3 of BUC software not response

Alarm Property

- Alarm Code: 198084247
- Description: Link3 of BUC software not response
- Severity: Minor
- Alarm Type: Communication alarm

Probable Cause

1. Operation of the upper layer software of baseband board is abnormal.
2. The communication link between master CC board and baseband board is down.

System Impact

The corresponding UBPG board services are interrupted.

Handling Suggestion

1. Check if the following alarm occurs in the baseband board. If yes, refer to the corresponding alarm handling suggestion.

Related alarm: 198084123 Board communication link is interrupted.

2. Reset the entire BS.

198084019 E1/T1 LOS (Loss Of Signal) alarm

Alarm Property

- Alarm code: 198084019
- Description: E1/T1 LOS (Loss Of Signal) alarm
- Severity: Major
- Alarm Type: Communication alarm

Probable Cause

Hardware fault or link fault

System Impact

The physical bandwidth available will decrease, which poses no impact to the service in most cases. If signal on all link is lost, then all services will be interrupted.

Handling Suggestion

1. Check the local E1/T1 connection.
 - i. Check if the E1/T1 connection is correct.
 - ii. Check if the local E1/T1 device is faulty.
 - iii. Open the physical bear window of the configuration management interface and check the settings of E1/T1.
2. Check the counterpart E1/T1 connection. For the detailed procedure please refer to the RNC section.
3. Reset the board.
4. Replace the board.

198084020 E1/T1 link loss of frame alarm

Alarm Property

- Alarm code: 198084020
- Description: E1/T1 link loss of frame alarm
- Severity: Major
- Alarm Type: Communication alarm

Probable Cause

Hardware fault or link fault

System Impact

1. The impact to the clock: 2Mbis clock is lost if the alarm occurs with the 8th E1; the line clock is lost if the alarm occurs to all E1.
2. The impact to the lub interface: no impact for Node B when STM-1 connection is used at lub interface, the lower level Node B might be affected. If E1 connection is used, no impact for the ITC mode, the periodical slide code might occur to the lub interface after long period operation. at CTC mode.
3. The impact to the handover between Node B base station: the accuracy of the Node B clock might degenerate and fail to meet the 3GPP requirement and reduces the success rate of the handover when the Node B clock is extracted from this E1 link..

Handling Suggestion

1. Check the local E1/T1 connection.
 - i. Check if the E1/T1 connection is correct.
 - ii. Check if the local E1/T1 device is faulty.
 - iii. Open the physical bear window of the configuration management interface and check the settings of E1/T1.
2. Check the counterpart E1/T1 connection. For the detailed procedure please refer to the RNC section.
3. Reset the board.
4. Replace the board.

198084021 E1/T1 loss of cell delineation alarm

Alarm Property

- Alarm code: 198084021
- Description: E1/T1 loss of cell delineation alarm
- Severity: Major
- Alarm Type: Communication alarm

Probable Cause

1. The E1/T1 configuration is not correct.
2. The E1/T1 transmission link is improper.
3. The E1/T1 transmission relay is improper.
4. The counterpart equipment is improper.

System Impact

1. For the Iub interface of UNI mode (TC mode), the services beard on the E1/T1 link will be interrupted. If NCP is beard on this E1/T1 link, this Node b is not able to operate. If CCP is beard on this E1/T1 link, and only one CCP is configured for the Node B, this Node b is not able to operate
2. For the Iub interface of IMA mode, if there is normal other normal E1/T1 available in the same group, then the service will not be interrupted, but congestion due to shortened bandwidth might occur.
3. For the E1/T1 link for cascading, the cascaded service might be interrupted.

Handling Suggestion

1. Check the local E1/T1 connection.
 - i. Check if the E1/T1 connection is correct.
 - ii. Check if the local E1/T1 device is faulty.
 - iii. Open the physical bear window of the configuration management interface and check the settings of E1/T1.
2. Check the counterpart E1/T1 connection. For the detailed procedure please refer to the RNC section.
3. Reset the board.
4. Replace the board.

198084022 E1/T1 link loss of IMA frame alarm

Alarm Property

- Alarm code: 198084022
- Description: E1/T1 link loss of IMA frame alarm
- Severity: Major
- Alarm Type: Communication alarm

Probable Cause

1. E1/T1 failure
2. The group configuration of the IMA link is not correct
3. Local IMA failure.
4. The counterpart IMA failure.
5. Clock synchronization error.

System Impact

This IMA link becomes out of service, and the bandwidth of the IMA group of this link is decreased. Cell loss might occur if the original transmission bandwidth is wider than the original IMA group bandwidth after the removal of the faulty IMA link; if the bandwidth is not wider, then the communication remains normal.

Handling Suggestion

1. Check the local interfacing board for the E1/T1 alarms. Perform the recommended solution to process the possible alarms.

Related Alarms

- ▶ 198084020 E1/T1 link loss of frame alarm
 - ▶ 198084021 E1/T1 loss of cell delineation alarm
2. Check the local interfacing board for clock associated alarms. Perform the recommended solution to process the possible alarms.

Related Alarms

- ▶ 198084006 Clock reference source is degraded
 - ▶ 198084004 Clock reference source is lost.
3. Check if the local IMA group is faulty.
 4. Check the failure with the E1/T1 relay line or the remote counterpart IMA group.

198084023 E1/T1 IMA group is not operational

Alarm Property

- Alarm code: 198084023
- Description: E1/T1 IMA group is not operational
- Severity: Major
- Alarm Type: Communication alarm

Probable Cause

1. E1/T1 failure
2. The group configuration of the IMA link is not correct
3. Local IMA failure.
4. The counterpart IMA failure.

System Impact

This IMA group becomes out of service, and the services beard by this IMA group are interrupted.

Handling Suggestion

1. Check the local interfacing board for the E1/T1 alarms. Perform the recommended solution to process the possible alarms.

Related Alarms

- ▶ 198084020 E1/T1 link loss of frame alarm
 - ▶ 198084021 E1/T1 loss of cell delineation alarm
 - ▶ 198084022 E1/T1 link loss of IMA frame alarm
2. Check the local interfacing board for clock associated alarms. Perform the recommended solution to process the possible alarms.

Related Alarms

- ▶ 198084006 Clock reference source is degraded
 - ▶ 198084004 Clock reference source is lost.
3. Open the physical bear window of the configuration management interface and check the settings of E1/T1.
 4. Check if the local E1/T1 device is faulty.
 5. Check the E1/T1 trunk line to the remote end for any failure.

198084024 E1/T1 remote receiving fault

Alarm Property

- Alarm code: 198084024
- Description: E1/T1 remote receiving fault
- Alarm level: Minor
- Alarm Type: Communication alarm

Probable Cause

1. The E1/T1 transmission link is improper.
2. The E1/T1 transmission trunk line is improper.
3. The remote end equipment failure
4. The local end equipment failure

System Impact

1. For the lub interface of UNI mode, the services beard on the E1/T1 link will be interrupted. If NCP is beard on this UNI link, this Node b is not able to operate. If CCP is beard on this UNI

link, and only one CCP is configured for the Node B, then this Node B is not able to operate

2. For the lub interface of IMA mode, if there is normal other normal E1/T1 available in the same group, then the service will not be interrupted, but congestion due to shortened bandwidth might occur.
3. For the E1/T1 link for cascading, the cascaded service might be interrupted.

Handling Suggestion

1. Check if the E1/T1 connection is correct.
2. Check if the local E1/T1 device is faulty.
3. Check the E1/T1 trunk line to the remote end for any failure.

198084025 E1/T1 link self-loop

Alarm Property

- Alarm code: 198084025
- Description: E1/T1 link self-loop
- Alarm level: Minor
- Alarm Type: Communication alarm

Probable Cause

Customer has set E1 link to be looped back locally or remotely.

System Impact

1. For the lub interface of UNI mode (TC mode), the services beard on the E1/T1 link will be interrupted.
2. For the lub interface of IMA mode, if there is normal other normal E1/T1 available in the same group, then the service will not be interrupted, but congestion due to shortened bandwidth might occur.

3. For the E1/T1 link for cascading, the cascaded service might be interrupted.

Handling Suggestion

Check whether the E1/T1 link is in self-looping status.

198084026 PVC fault

Alarm Property

- Alarm code: 198084026
- Description: PVC fault
- Severity: Major
- Alarm Type: Communication alarm

Probable Cause

1. Failure with the Iub port that bears this PVC.
2. The PVC parameter configuration is incorrect.
3. The remote end does not support OAM F5 loop back test.

System Impact

The services provided by this PVC are interrupted.

Handling Suggestion

1. Check the local interfacing board for IUB alarms affecting PVC link. Perform the recommended solution to process the possible alarms.

Related Alarms

- ▶ 198084023 E1/T1 IMA group is not operational
- ▶ E1/T1 link loss of IMA frame alarm
- ▶ 198084021 E1/T1 loss of cell delineation alarm

2. Check for whether the configurations of VPI and VCI are correct in the AAL2 link and the AAL5 link in the transmission resource interface.
3. Check for whether the remote end supports OAM F5 loop back test.
4. Perform self-loop test. If the alarm disappears, it means the failure is with the transmission line or the remote end. Check for whether the failure is with the remote end equipments.
5. Reset the board.
6. Replace the board.

198084028 SSCOP signaling link is broken

Alarm Property

- Alarm code: 198084028
- Description: SSCOP signaling link is broken
- Severity: Major
- Alarm Type: Communication alarm

Probable Cause

1. Physical link failure with the Node B for the PVC link.
2. The Node B PVC parameter configuration is incorrect.
3. The board failure.

System Impact

The transmission of Nsap signaling and Alcap signaling might fail and the services provided by this PVC might be interrupted. If there is no other PVC of the same type available between RNC and Node B, the entire Node B operation will fail.

Handling Suggestion

1. Check the Fault Management window for the corresponding alarms. Perform the recommended solution to process the alarm, if any.

Related Alarms

- ▶ 198084019 E1/T1 LOS (Loss Of Signal) alarm
 - ▶ 198084020 E1/T1 link loss of frame alarm
 - ▶ 198084021 E1/T1 loss of cell delineation alarm
 - ▶ 198084022 E1/T1 link loss of IMA frame alarm
 - ▶ 198084023 E1/T1 IMA group is not operational
 - ▶ 198084024 E1/T1 remote receiving fault
 - ▶ 198084026 PVC fault
2. Open the IUB Transmission(Full IP) and select Link Layer Management in configuration management interface and check if the port no used by Node B, the bandwidth of VPI, VCI, PVC are with the parameter configured at RNC.
 3. Re configure the PVC link.
 - i. Delete the faulty PVC link configured in the IUB Transmission(Full IP) and select Link Layer Management in configuration management interface.
 - ii. Add the PVC link in the IUB Transmission(Full IP) and select Link Layer Management in configuration management interface.
 4. Use physical cable at Node end to self-loop test the remote RNC, and check if the SSCOP alarm disappear at the RNC end.
 5. Use physical cable at Node end to self-loop test the E1/T1 cable, and check if the SSCOP alarm disappear at the RNC end.
 6. Reset the board.
 7. Replace the board.
 8. Use physical cable at RNC end to self-loop test the local RNC, and check if the SSCOP alarm disappear at the RNC end.
 9. Use physical cable at RNC end to self-loop test the remote Node B, and check if the SSCOP alarm disappears at the Node B end.

198084029 SSCOP transmission buffer is overflow

Alarm Property

- Alarm code: 198084029
- Description: SSCOP transmission buffer is overflow
- Severity: Major
- Alarm Type: Communication alarm

Probable Cause

1. Node B clock failure.
2. The link bandwidth is under-configured.
3. Poor transmission quality.
4. The board failure.

System Impact

SSCOP discards the higher level signaling data requiring transmission when transmission buffer overflow is detected. Part of the higher level signaling data sent to RNC is lost.

Handling Suggestion

1. Check the Fault Management window for the clock corresponding alarms. Perform the recommended solution to process the alarm, if any.

Related Alarms

- ▶ 198084006 Clock reference source is degraded
 - ▶ 198084004 Clock reference source is lost.
2. Open the IUB Transmission(Full IP) and select Link Layer Management in configuration management interface and check if the PVC bandwidth configured at Node B are with the parameter configured at RNC.

3. Reset the board.
4. Replace the board.

198084030 SCTP associate association is interrupted

Alarm Property

- Alarm code: 198084030
- Description: Sctp associate association is interrupted.
- Severity: Major
- Alarm Type: Communication alarm

Probable Cause

1. The local FE parameter configuration is incorrect.
2. The association parameter configuration of the local end or the remote end is incorrect.
3. The bottom layer fails to communicate with the counterpart end.
4. The board failure.

System Impact

The transmission of Nsap signaling might fail and the services provided by this association might be interrupted.

Handling Suggestion

1. Check the Fault Management window for the corresponding alarms. Perform the recommended solution to process the alarm, if any.

Related Alarms

- ▶ FE loss of signal alarm
- ▶ E1/T1 loss of signal alarm

2. Open the IUB Transmission(Full IP) and select Transmission Layer Management in configuration management interface and check the Node B configuration for whether the local end address, local port, remote address, remote port are consistent with the parameters configured at RNC.
3. Re-configure SCTP association
 - i. Delete the faulty association in the IUB Transmission(Full IP) and select Transmission Layer Management in configuration management interface.
 - ii. Add the SCTP association in the IUB Transmission(Full IP) and select Transmission Layer Management in configuration management interface.
4. Reset the board.
5. Replace the board.

198084031 SCTP associate stream buffer is congestion

Alarm Property

- Alarm code: 198084031
- Description: SCTP associate stream buffer is congestion
- Severity: Major
- Alarm Type: Communication alarm

Probable Cause

The frequency of the application layer sending data to a certain stream of SCTP associate is over-high

System Impact

The NBAP signaling data will be discarded when the stream buffer is full, and the service quality drops.

Handling Suggestion

1. Wait 15 minutes for the system to recover.
2. Reset the board.
3. Replace the board.

198084032 SCTP associate network is congestion

Alarm Property

- Alarm code: 198084032
- Description: SCTP associate network is congestion
- Severity: Major
- Alarm Type: Communication alarm

Probable Cause

1. The counterpart system is overloaded and unable to respond in time.
2. Physical link failure.

System Impact

The NBAP signaling interaction efficiency will drop, and continuous network congestion will cause interruption to association.

Handling Suggestion

1. Wait 15 minutes for the system to recover.
2. Reset the board.
3. Replace the board.

198084230 Ir link LCV(line code violation) alarm

Alarm Property

- Alarm code: 198084230
- Description: Ir link LCV(line code violation) alarm
- Alarm level: Minor
- Alarm Type: Communication alarm

Probable Cause

1. Check the possible failure with the fiber optics and the optical module between the local board and the higher level board.
2. The fiber damage between the boards.

System Impact

Bit error might occur to the signaling tracing and the IQ, which may decrease the service quality or cause interruption the service in extreme conditions.

Handling Suggestion

1. Check the possible failure with the fiber optics and the optical module between the local board and the higher level board.
 - i. Check the detailed information of this alarm on the fault management interface. The detailed information of the alarm presents the detailed information of defective optical port.

In the case of optical port 0 alarm, check the connection of the fiber optics and the optical module between the local RRU and the higher level board. Reconnect the fiber and the module if any insecure connection is found.

In the case of optical port 1 alarm, check the connection of the fiber optics and the optical module between the local RRU and the lower level RRU. Reconnect the fiber and the module if any insecure connection is found.
 - ii. Replace the fiber optics.

2. Check the fiber optics between the boards for possible damage. Replace the fiber if any damage is found.

198084271 Ethernet light and electricity lose

Alarm Property

- Alarm code: 198084271
- Description: Ethernet light and electricity lose
- Severity: Major
- Alarm Type: Communication alarm

Probable Cause

1. Net cable failure
2. The opposite net port is faulty.
3. The local net port is faulty.

System Impact

The net port data transmission is interrupted, and the service is not available.

Handling Suggestion

1. Check the net cable for any failure
 - i. Check the local net cable and the counterpart net cable and ensure the network connection is firm and secure.
 - ii. Replacing the net cable. Use proper 1000M net cable if 1000m net port is adopted.
2. Check the counterpart net port for any failure.

Connect the counterpart net port with another net port with a good net cable. If the network connection is normal, then the failure is with the local net port; if the network connection fails, then the failure is with the counterpart net

port. Try connecting the base station later when the counterpart net port is ok.

3. Check the local net port for any failure.
Reset the board.

198084305 Heat exchanger's communication data lost alarm

Alarm Property

- Alarm code: 198084305
- Description: Heat exchanger's communication data lost alarm
- Alarm level: Minor
- Alarm Type: Communication alarm

Probable Cause

1. The heat exchanger is not turned on.
2. The 485 wire between heat exchanger and SA is absent.
3. The 485 wire is connected to the 232 port of SA.
4. Heat exchanger operation failure.

System Impact

The data enquiry and alarm report of heat exchanger is affected and no impact on the services may result.

Handling Suggestion

1. Turn on the heat exchanger.
2. Check the wire between heat exchanger and SA to secure the connection.
3. Replace the heat exchanger.

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Chapter 4

Processing Alarm

This chapter introduces processing alarms with respect to alarm property, probable cause, system impact, and handling suggestion. The information is intended for system maintenance personnel to have a clear understanding of each processing alarm item.

198084268 IQ delay compensation value exceeds limitation

Alarm Property

- Alarm Code: 198084268
- Description: IQ delay compensation value exceeds limitation
- Severity: Minor
- Alarm Type: Processing alarm

Probable Cause



Note:

- A refers to the fiber distance between BBU and the furthest RRU. B refers to the fiber distance between BBU and the nearest RRU.
-

1. In OTSR cell (low frequency carrier or medium frequency carrier), A is longer than B by more than 56 km.
2. In OTSR cell (low frequency carrier or medium frequency carrier), A is longer than B by more than 28 km.

System Impact

Near the RRU where the alarm is declared, there is not signal coverage. Service coverage area shrinks.

Handling Suggestion

1. On NMS configuration management interface, modify topology structure in such a way that the distance difference between A and B is within the accepted range.

2. Relocate RRU to make the RRU fiber distance within the accepted range.

198084107 Board parameter synchronization abnormality

Alarm Property

- Alarm Code: 198084107
- Description: Board parameter synchronization abnormality
- Severity: Major
- Alarm Type: Processing alarm

Probable Cause

1. The board is not inserted.
2. Board link is interrupted.

System Impact

The board fails to work based on the reconfigured parameters. Board services are down.

Handling Suggestion

1. Ensure that the board is inserted in place.
2. Reset board.

198084108 Board wrong insertion alarm

Alarm Property

- Alarm Code: 198084108
- Description: Board wrong insertion alarm
- Severity: Major
- Alarm Type: Processing alarm

Probable Cause

The configured board type is inconsistent with the type of board on rack.

System Impact

Board resets repeatedly. Board services are interrupted.

Handling Suggestion

Ensure that the configured board type and the type of board on rack are consistent.

198084109 SNTP time adjustment failure alarm

Alarm Property

- Alarm Code: 198084109
- Description: SNTP time adjustment failure alarm
- Severity: Minor
- Alarm Type: Processing alarm

Probable Cause

1. IP address configuration for SNTP time adjustment server is wrong.
2. SNTP server is faulty.
3. Network problem exists.

System Impact

System time is inaccurate, but service is not affected.

Handling Suggestion

1. On NMS configuration management interface (BS equipment resource management), perform SNTP time adjustment.
2. On NMS configuration management interface, check if the configuration of SNTP server IP address is correct.
3. End the "Windows Time" service of SNTP server. Modify the service startup mode to manual startup.
4. Shut down Windows firewall at SNTP server.
5. Check the network quality between NE and SNTP server.

198084110 Running software version synchronization failure

Alarm Property

- Alarm Code: 198084110
- Description: Running software version synchronization failure
- Severity: Major
- Alarm Type: Processing alarm

Probable Cause

1. Software version of CC board is wrong.
2. Hard disk space of slave CC board is insufficient.
3. Slave CC board is faulty.

System Impact

- Master/Slave switching does not occur.
The service is not affected, but system reliability is affected, which means that master/slave switching function is disabled.
- Master/Slave switching occurs.
Software-related board might function improperly. Board services might be interrupted.

Handling Suggestion

1. Delete the special software version that has not been test-activated on slave CC board.
2. On NMS software management interface, download the proper special software version.
3. Replace board.

198084111 Slave software version synchronization failure

Alarm Property

- Alarm Code: 198084111
- Description: Slave software version synchronization failure
- Severity: Minor
- Alarm Type: Processing alarm

Probable Cause

1. Software version of CC board is wrong.
2. Hard disk space of slave CC board is insufficient.
3. Slave CC board is faulty.

System Impact

No impact on service.

Handling Suggestion

1. Delete the special software version that has not been test-activated on slave CC board.
2. On NMS software management interface, download the proper special software version.
3. Replace board.

198084112 Special software version synchronization failure

Alarm Property

- Alarm Code: 198084112
- Description: Special software version synchronization failure
- Severity: Minor
- Alarm Type: Processing alarm

Probable Cause

1. Software version of CC board is wrong.
2. Hard disk space of slave CC board is insufficient.
3. Slave CC board is faulty.

System Impact

No impact on service.

Handling Suggestion

1. Delete the special software version that has not been test-activated on slave CC board.
2. On NMS software management interface, download the proper special software version.
3. Replace board.

198084113 Running Software version fault

Alarm Property

- Alarm Code: 198084113
- Description: Running Software version fault
- Severity: Major
- Alarm Type: Processing alarm

Probable Cause

1. Running software is damaged.
2. After downloading running software version package, add configuration of the board that corresponds to the software

System Impact

Board functions improperly, and board services are down.

Handling Suggestion

On NMS software management interface, download the proper version package.

198084114 Slave Software version fault

Alarm Property

- Alarm Code: 198084114
- Description: Slave Software version fault
- Severity: Minor
- Alarm Type: Processing alarm

Probable Cause

Slave software version file is damaged.

System Impact

No impact on service.

Handling Suggestion

On NMS software management interface, download the proper version package.

198084115 Special Software version fault

Alarm Property

- Alarm Code: 198084115
- Description: Special Software version fault
- Severity: Minor
- Alarm Type: Processing alarm

Probable Cause

The special software version file in the hard disk of master CC board is damaged.

System Impact

- If the software is not test-activated, service will not be affected.
- The board whose software has been test-activated fails to work properly. Board services are down.

Handling Suggestion

On NMS software management interface, re-download special software version package.

198084116 Insufficient DOM space alarm

Alarm Property

- Alarm Code: 198084116
- Description: Insufficient DOM space alarm

- Severity: Major
- Alarm Type: Processing alarm

Probable Cause

There is no available DOM (Disk on Module) space.

System Impact

No impact on service.

Handling Suggestion

1. On NMS software management interface, delete slave version package file.
2. On NMS software management interface, delete the special software version file that has not been test-activated.

198084118 Failed to set gain

Alarm Property

- Alarm Code: 198084118
- Description: Failed to set gain
- Severity: Major
- Alarm Type: Processing alarm

Probable Cause

1. Gain parameter configuration is wrong.
2. Link interruption occurs to ATMA(ACOM) equipment.
3. ATMA(ACOM) equipment is not in place.

System Impact

The ATMA(ACOM) gain is inconsistent with gain parameter configuration, leading to inaccurate RSSI value reported by NMS.

Handling Suggestion

1. On NMS configuration management interface (tower top amplifier configuration), check power gain configuration. If the configuration is incorrect, please correct the configuration.
2. Reset equipment.
3. Replace equipment.

198084119 Board configuration parameter error

Alarm Property

- Alarm Code: 198084119
- Description: Board configuration parameter error
- Severity: Major
- Alarm Type: Processing alarm

Probable Cause

1. Parameter configuration does not exist.
2. Parameter configuration is wrong.
3. Hardware is faulty.

System Impact

The board is faulty, and board services are interrupted.

Handling Suggestion

Reset board.

198084122 CPU over loading

Alarm Property

- Alarm Code: 198084122
- Description: CPU over loading
- Severity: Major
- Alarm Type: Processing alarm

Probable Cause

The system is in traffic peak period. The traffic is heavy.

System Impact

Board processing capability declines, probably leading to radio link or service establishment failure.

Handling Suggestion

Check if the system is in traffic peak period.

- Peak Period
It is recommended to evaluate network planning in depth and optimize network planning.
- Non-Peak Period

198084123 Board communication link is interrupted

Alarm Property

- Alarm Code: 198084123
- Description: Board communication link is interrupted
- Severity: Critical
- Alarm Type: Processing alarm

Probable Cause

1. The board that has been configured does not exist on the rack.
2. The link between this board and master CC board is faulty.

System Impact

- Board is faulty.
- The board fails to communicate with the master CC board, leading to interruption of board services.

Handling Suggestion

1. Insert the configured board into the corresponding slot of the BS.
2. Board link is interrupted. Reset board.
3. Board transfer link is interrupted. Check if link interruption alarm exists in the transfer board located between the faulty board and master CC board. If yes, please refer to the corresponding alarm handling suggestion.

198084124 Database saved on master/slave board is failed to be kept synchronous

Alarm Property

- Alarm Code: 198084124
- Description: Database saved on master/slave board is failed to be kept synchronous
- Severity: Major
- Alarm Type: Processing alarm

Probable Cause

The link between master board and slave board is congested or interrupted, leading to timeout of data synchronization.

System Impact

- Master board is faulty.
Master board will be faulty when any of the following two conditions are satisfied.
 - ▶ Master board fails to boot properly.
 - ▶ Master board database and slave board database are inconsistent.In this case, master/slave switching will fail, affecting system reliability.
- Master board is normal.
No impact on service.

Handling Suggestion

Reset slave board.

198084125 Database save failure

Alarm Property

- Alarm Code: 198084125
- Description: Database save failure
- Severity: Major
- Alarm Type: Processing alarm

Probable Cause

1. Available DOM space is insufficient.
2. DOM file system is faulty.
3. DOM hardware is faulty.

System Impact

- The board is faulty.
- Updated data fail to be saved. Application of the updated data fails after Node B reset, leading to service failure.

Handling Suggestion

1. On NMS software management interface, delete slave version package file.
2. Reset board.
3. Replace board.

198084206 Software file is not identical with the DataBase record

Alarm Property

- Alarm Code: 198084206
- Description: Software file is not identical with the DataBase record
- Severity: Major
- Alarm Type: Processing alarm

Probable Cause

Software file does not exist, but relevant database record exists.

System Impact

- When the inconsistency exists in the running version file and the corresponding database record, the corresponding peripheral board will function improperly. Board services will be down.
- When the inconsistency exists in the slave version file and the corresponding database record, service will not be affected.
- When the inconsistency exists in the special version file and the corresponding database record and the special version is test activated, the corresponding peripheral board will function improperly. Board services will be down.

Handling Suggestion

On NMS software management interface, download the proper software version.

198084207 Firmware file is not identical with the DataBase record

Alarm Property

- Alarm Code: 198084207
- Description: Firmware file is not identical with the DataBase record
- Severity: Major
- Alarm Type: Processing alarm

Probable Cause

Firmware file does not exist, or the file size is not the same with that in the database record.

System Impact

- Firmware upgrade fails.
- No impact on service.

Handling Suggestion

On NMS software management interface, download the firmware version package which

is consistent with that in the database record.

198084315 Board reboots alarm

Alarm Property

- Alarm Code: 198084315
- Description: Board reboots alarm
- Severity: Major
- Alarm Type: Processing alarm

Probable Cause

1. Reset board command is issued by user.
2. The board is powered on and reboots.
3. Automatic board reset is caused by software error.

System Impact

Board services are interrupted during board initialization.

Handling Suggestion

The alarm will be restored after board initialization. No handling is necessary.

198084316 Firmware version is failed to be synchronized

Alarm Property

- Alarm Code: 198084316
- Description: Firmware version is failed to be synchronized
- Severity: Major

- Alarm Type: Processing alarm

Probable Cause

1. Firmware version of CC board is wrong.
2. On slave CC board, DOM space is insufficient.
3. Slave CC board is faulty.

System Impact

No impact on service.

Handling Suggestion

1. Delete the special version that has not been test activated on slave CC board.
2. On software management interface, download the proper version package.
3. Replace board.

198084292 AD9516 unlock alarm

Alarm Property

- Alarm Code: 198084292
- Description: AD9516 unlock alarm
- Severity: Critical
- Alarm Type: Processing alarm

Probable Cause

1. AIF GTP 122.88M clock loss occurs.
2. Loss of lock occurs to AD9516.

System Impact

Baseband board automatically resets. All services are interrupted.

Handling Suggestion

1. Wait for automatic board reset.
2. If the alarm persists after the board resets three times, replace board.

198084250 IQ Config Failed

Alarm Property

- Alarm Code: 198084250
- Description: IQ Config Failed
- Severity: Critical
- Alarm Type: Processing alarm

Probable Cause

1. Database access error occurs.
2. Software is abnormal during creation of binding relationship.
3. Baseband resource is insufficient.
4. Sending of IQ configuration request fails.
5. Physical logic distributed by MDB is wrong.

System Impact

The carrier frequency whose configuration fails is unavailable.

Handling Suggestion

1. Check if baseband resource are sufficient. If insufficient, check if UBPG configuration is proper.

2. Reset board.

198084251 IPTB Setup Link Failed

Alarm Property

- Alarm Code: 198084251
- Description: IPTB Setup Link Failed
- Severity: Critical
- Alarm Type: Processing alarm

Probable Cause

1. SCTP link is unstable.
2. Software is faulty.

System Impact

Voice channel is unavailable.

Handling Suggestion

1. Check if SCTP link is stable.
2. Reset board.

198084252 Require Radio Param timeout for times

Alarm Property

- Alarm Code: 198084252

- Description: Require Radio Param timeout for times
- Severity: Minor
- Alarm Type: Processing alarm

Probable Cause

1. Required parameters are unconfigured at OMCR.
2. SCTP link is interrupted.

System Impact

The whole system is unavailable.

Handling Suggestion

1. Check if the configuration of GSM-related radio parameters is correct at OMCR.
2. On NMS configuration management interface, delete the configuration of carrier frequency or cell. Perform parameter reconfiguration.
3. Reset board.

198084253 Control face Emac Interface Error

Alarm Property

- Alarm Code: 198084253
- Description: Control face Emac Interface Error
- Severity: Critical
- Alarm Type: Processing alarm

Probable Cause

Packet loss at EMAC interface.

System Impact

The carrier frequency of the faulty board is unavailable.

Handling Suggestion

1. Reset board.
2. Replace board.

198084254 User face Emac Interface Error

Alarm Property

- Alarm Code: 198084254
- Description: User face Emac Interface Error
- Severity: Critical
- Alarm Type: Processing alarm

Probable Cause

1. Transmission is faulty.
2. Microcode processing error exists.

System Impact

Silence fault occurs in both directions.

Handling Suggestion

1. Check the transmission link between CC board and BSC. Ensure that SCTP association is normal and no link interruption exists.
2. Reset board.

3. Replace board.

198084004 Clock reference source is lost

Alarm Property

- Alarm code: 198084004
- Description: Clock reference source is lost.
- Alarm level: Minor
- Alarm Type: Processing alarm

Probable Cause

1. The configured clock reference source does not exist.
2. Failure with the external reference clock or its cable.
3. The board failure.

System Impact

1. Case 1: When multiple clock references are configured, select the available clock reference per priority sequence, and the system will operate normally.
2. Case 2: when all the clock references configured are lost, the system clock will choose to remain or return to free-run mode and the impact to the system is as below:
 - i. For the Iub interface: When E1 connection is used by Iub interface, then periodical slide code might occur to the Iub interface. When FE connection is used by Iub, then there is no System Impact.
 - ii. The impact to the soft handover between Node B base station: over a long period of the alarm, the accuracy of the Node B clock might degenerate and fail to meet the 3GPP requirement and reduces the success rate of soft handover.

Handling Suggestion

Check the detailed information of this alarm on the fault management interface. The detailed information of the alarm presents the detailed information of Clock reference source lost.

1. Check if an incorrect reference source is configured.

Check if an unavailable reference source is configured (such as a GPS configuration whereas no actual GPC source is available in the system.) If yes, open the clock priority configuration in the configuration management interface, modify the setting of clock reference source to the actual system condition.

2. Check if the external clock reference is correct.

- i. When the clock reference is a line clock and active/standby main control board is used, reset the local board if no alarm occurs to the corresponding board; check the E1 interface for any physical connection failure if a same alarm occurs to the corresponding board, such as the secure connection of each connector, the open-circuitry in the cables. Use loopback method to test the connection by directly connecting the RX end to the TX end. If a 198084025 E1/T1 link self-loop alarm occurs on the alarm monitor interface of the network management application, it means the link is physically connected, otherwise means a physical connection failure.

- ii. When the clock reference is a GPS clock and active/standby main control board is used, replace the GPS card if no alarm occurs to the corresponding board; check the power divider and the cables for any physical connection failure if a same alarm occurs to the corresponding board, such as the connector between the GPS antenna and the GPS feeder, the connector between the GPS jumper and the GPS feeder. If a lightning arrester exists, check for any damage to it, and check the proper and secure connection between the SMA connector of GPS jumper and the REF interface on the main control board.

- iii. When the clock reference is a BITS-2MHz clock and active/standby main control board is used, reset the main control board if no alarm occurs to the corresponding board; if a same alarm occurs to the corresponding board, check the BITS-2MHz clock connection interface for any physical connection failure, such as the secure connection of each connector, the proper and secure connection between the SMA connector of GPS jumper and the REF interface on the main control board, and the operation status of the BITS-2MHz clock source and its output to the board.

- iv. When the clock reference is a BITS-2Mbps clock and active/standby main control board is used, reset the main control board if no alarm occurs to the corresponding board; if a same alarm occurs to the corresponding board, check the BITS-2Mbps clock connection interface for any physical connection failure, such as the secure connection of each connector, the cable, and the operation status of the BITS-2MHz clock source and its output to the board. Use loopback method to test the connection by directly connecting the RX end to the TX end. Please refer to the case of line clock as BITS-2Mbps clock uses the 8th channel of E1 channel.
 - v. When the clock reference is IP clock, check first the net cable connection. If the net cable is free of damage, then pin the server IP on the Node machine. If the ping command failed, check the networks configuration, including verifying both the IP in the configuration management interface and the IP ID in the router management lead to the FE port, and check if the base station clock ID on the network manager interface is greater than 3. If it is greater than 3, delete this parameter and configure again. Check if the clock resource configuration is consistent with the parameter of the station scheduled, with the focus on if the IP on configuration management interface and the IP and subnet mask code in the router management are consistent with the schedule.
3. The board failure.
 - i. Reset the board.
 - ii. Replace the board.

198084006 Clock reference source is degraded

Alarm Property

- Alarm code: 198084006
- Description: Clock reference source is degraded.
- Alarm level: Minor
- Alarm Type: Processing alarm

Probable Cause

1. The poor quality of the clock reference source.
2. Failure with the cable connection.
3. The board failure.

System Impact

The system clock will choose free-run mode and the impact to the system is as below:

1. For the Iub interface: if E1 is used by Iub interface, then periodical slide code might occur to the Iub interface. When FE connection is used by Iub, then there is no System Impact.
2. The impact to the soft handover between Node B base station: over a long period of the alarm, the accuracy of the Node B clock might degenerate and fail to meet the 3GPP requirement and reduces the success rate of soft handover.

Handling Suggestion

Check the detailed information of this alarm on the fault management interface. The detailed information of the alarm presents the detailed information of Clock reference source degeneration.

1. In the case of degeneration of the GPS clock integrated or externally connected.
 - i. Check the GPS feeder and the GPS card. Check the connector between the GPS antenna and the GPS feeder, the connector between the GPS jumper and the GPS feeder. If a lightning arrestor exists, check for any damage to it, and check the proper and secure connection or the feeder for possible damage. The proper and secure connection between SMA connector of GPS jumper to the REF interface on the CC board.
 - ii. If alarms occur to both the active board and the standby board, check the lightning arrestor and the GPS antenna. If the connection and feeder are both normal, replace the lightning arrestor and/or the GPS antenna.
 - iii. Reinstall the GPS card and the antenna feeder
 - iv. Replace the board.
2. In the case of degeneration of the cascaded GPS clock

- i. Check if the high level device has lock the clock. Check the clock reference output device for the clock locking status.
 - ii. Reinstall the cable.
 - iii. Replace the board.
3. In the case of degeneration of the BITS-2MHz clock
 - i. Check if the external clock reference is correct.
 - ii. Reinstall the cable.
 - iii. Replace the board.
4. In the case of degeneration of the BITS-2Mbps clock
 - i. Check whether the clock reference is normal. Check the clock reference output device for the clock locking status.
 - ii. Check whether the transmission is normal.
 - iii. Reinstall the cable.
 - iv. Replace the board.
5. In the case of degeneration of the line clock on local board.
 - i. Check if the external clock reference is correct. Check the clock reference output device for the clock locking status.
 - ii. Check if the synchronization networks is normal. Check if the external transmission equipment is properly wired and configured.
 - iii. Reinstall the cable.
 - iv. Replace the board.
 - v. Contac transmission engineer to check for possible failure with the external transmission equipment.
6. In the case of degeneration of the line clock on other board or the IEEE1588 clock.
 - i. Check if the external clock reference is correct. Check the clock reference output device for the clock locking status.
 - ii. Check if the synchronization networks is normal. Check if the external transmission equipment is properly wired and configured.
 - iii. Reinstall the cable.
 - iv. Replace the board.
 - v. Contac transmission engineer to check for possible failure with the external transmission equipment.

198084101 Failed to configure TC port

Alarm Property

- Alarm code: 198084101
- Description: Failed to configure TC port
- Severity: Major
- Alarm Type: Processing alarm

Probable Cause

The TC parameter configuration is wrong.

System Impact

The TC port is out of normal operation.

1. If this TC port is used to bear signaling link, then the corresponding signaling link is disconnected.
 - ▶ For NCP link, the cell fails to set up.
 - ▶ For CCP link, user access is impaired.
2. If this TC port is used to bear user data, then the user access is impaired.

Handling Suggestion

1. Open the IUB Transmission(Full IP) and select Physical Layer Management in configuration management interface and check if the E1 link ID of TC is configured.
2. Delete the TC data configured in the IUB Transmission(Full IP) and select IP/Static Router Layer Management in configuration management interface, set up another configuration.
3. Reset the board.
4. Replace the board.

198084102 Failed to configure PVC

Alarm Property

- Alarm code: 198084102
- Description: Failed to configure PVC
- Severity: Major
- Alarm Type: Processing alarm

Probable Cause

The PVC parameter configuration is wrong.

System Impact

The PVC link is out of normal operation.

1. If this PVC link is used to bear signaling link, then the corresponding signaling link is disconnected.
 - ▶ For NCP link, the cell fails to set up.
 - ▶ For CCP link, user access is impaired.
2. If this PVC link is used to bear user data, then the user access is impaired.

Handling Suggestion

1. Open the IUB Transmission(Full IP) and select Link Layer Management in configuration management interface and check if the PVC parameter used by the Node B is consistent with the PVC parameter configured at the RNC.
2. Delete the PVC parameter configured in the IUB Transmission(Full IP) and select Link Layer Management in configuration management interface, set up another configuration.
3. Reset the board.
4. Replace the board.

198084103 Failed to configure FE port

Alarm Property

- Alarm code: 198084103
- Description: Failed to configure FE port
- Severity: Major
- Alarm Type: Processing alarm

Probable Cause

1. The board is out of normal status.
2. The FE parameter configuration is wrong.

System Impact

- FE is out of normal operation, the SCTP association based on FE fails to work normally.
- The signaling link beard by the FE is disconnected and the cell fails to set up, and the user access fails.

Handling Suggestion

1. Open the IUB Transmission(Full IP) and select Transmission Layer Management in configuration management interface and check if the FE parameter by Node B is correct.
2. Delete the FE parameter configured in the IUB Transmission(Full IP) and select Transmission Layer Management in configuration management interface, set up another configuration.
3. Reset the board.
4. Replace the board.

198084104 Failed to configure OMCB channel

Alarm Property

- Alarm code: 198084104
- Description: Failed to configure OMCB channel
- Severity: Major
- Alarm Type: Processing alarm

Probable Cause

The OMCB channel parameter configuration is wrong.

System Impact

The OMC B background NM fails to access, the base station is disconnected.

Handling Suggestion

1. Open the IUB Transmission(Full IP) and select Transmission Layer Management in configuration management interface and check if the OM gateway IP used by the Node B is consistent with the IP configured at the RNC.
2. Delete the OMC-B parameter configured in the IUB Transmission(Full IP) and select Transmission Layer Management in configuration management interface, set up another configuration.
3. Reset the board.
4. Replace the board.

198084105 Failed to configure SCTP associate

Alarm Property

- Alarm code: 198084105
- Description: Failed to configure SCTP associate
- Severity: Major
- Alarm Type: Processing alarm

Probable Cause

The SCTP associate parameter configuration is incorrect.

System Impact

The associate is out of normal operation and the cell fails to set up, and the user access fails.

Handling Suggestion

1. Open the IUB Transmission(Full IP) and select Transmission Layer Management in configuration management interface and check if the Node B SCTP associate parameter. Check if the parameters are consistent with the SCTP configured at RNC, including Local Port ID, Remote Port ID, Local IP, Remote IP, Traffic No. etc.
2. Delete the SCTP parameter configured in the IUB Transmission(Full IP) and select Transmission Layer Management in configuration management interface, set up another configuration.
3. Reset the board.
4. Replace the board.

198084106 Failed to configure TSI

Alarm Property

- Alarm code: 198084106
- Description: Failed to configure TSI
- Severity: Major
- Alarm Type: Processing alarm

Probable Cause

The TSI parameter configuration is incorrect.

System Impact

When TSI is out of normal operation, the base station services of cross-connection based control plane and user plane might be interrupted.

Handling Suggestion

1. Delete the TSI parameter configured in the IUB Transmission(Full IP) and select IP/Static Router Layer Management in configuration management interface, set up another configuration.
2. Reset the board.
3. Replace the board.

198084117 Monitor alarm of application software

Alarm Property

- Alarm code: 198084117
- Description: Monitor alarm of application software
- Severity: Critical
- Alarm Type: Processing alarm

Probable Cause

1. The communication error with the main control board.
2. The board parameter configuration is incorrect.
3. The board software is running improperly.

System Impact

The services provided by this board are completely interrupted.

Handling Suggestion

1. Check if the board has “Board communication link is interrupted” alarm.

Step: Open the Fault Management interface and check if an alarm “communication link is interrupted alarm” appears to this board.

2. Check if the board has “The board parameter configuration is incorrect” alarm.

Step: Open the Fault Management interface and check if an alarm “The board parameter configuration is incorrect.” appears to this board.

3. Reset the board.
4. Replace the board.

198084126 Failed to configure STM-1

Alarm Property

- Alarm code: 198084126
- Description: Failed to configure STM-1
- Severity: Major
- Alarm Type: Processing alarm

Probable Cause

The STM-1 parameter configuration is incorrect.

System Impact

STM-1 is out of normal operation.

The signaling link beard by STM-1 is disconnected and the cell fails to set up, and the user access fails.

Handling Suggestion

1. Delete the STM-1 parameter configured in the IUB Transmission(Full IP) and select Physical Layer Management in configuration management interface, set up another configuration. Configure the parameter attribute per the network topology.
2. Reset the board.
3. Replace the board.

198084128 Failed to configure channelized STM-1

Alarm Property

- Alarm code: 198084128
- Description: Failed to configure channelized STM-1
- Severity: Major
- Alarm Type: Processing alarm

Probable Cause

Channelized STM-1 parameter configuration error

System Impact

Channelized STM-1 is out of normal operation.

The signaling link beard by STM-1 is disconnected and the cell fails to set up, and the user access fails.

Handling Suggestion

1. Delete the channelized STM-1 parameter configured in the IUB Transmission(Full IP) and select Physical Layer Management in configuration management interface, set up another configuration. Configure the parameter attribute per the network topology.
2. Reset the board.
3. Replace the board.

198084256 GPS receiver alarm

Alarm Property

- Alarm code: 198084256
- Description: GPS receiver alarm
- Alarm level: Minor
- Alarm Type: Processing alarm

Probable Cause

1. The antenna failure
2. The GPS receiver failure.

System Impact

The processing performance of the board declines, and some features do not operate normally, and the wireless link establishing might fail in extreme conditions.

Handling Suggestion

1. Check the antenna failure.
 - i. Check and ensure the GPS antenna feeder connection.
 - ii. Check the direction of the feeder and ensure it is free of obstacle.
 - iii. Connect or replace the feeder.
2. Check the GPS receiver failure.
 - i. Reset the board.
 - ii. Replace the board.

198084129 Board startup notify

Alarm Property

- Alarm code: 198084129
- Description: Board startup notify
- Alarm level: Minor
- Alarm Type: Processing alarm

Probable Cause

1. Reset board command is executed by user.
2. The board is being rebooted.
3. The board is rebooted by software error.

System Impact

The services provided by this board are interrupted.

Handling Suggestion

Open the fault management interface and check the history alarm of the board for cause of the board's reset. No process is required if the reset is caused by the user's operation.

198084227 Failed to configure IMA group

Alarm Property

- Alarm code: 198084227
- Description: Failed to configure IMA group

- Severity: Major
- Alarm Type: Processing alarm

Probable Cause

The Iub port already exists or the parameter is wrong, both ends of IMA group parameters are not configured consistently.

System Impact

The IMA group is out of normal operation.

The signaling link beard by the IMA group is disconnected and the cell fails to set up, and the user access fails.

Handling Suggestion

1. Open the IUB Transmission(Full IP) and select Physical Layer Management in configuration management interface and check if the E1 link ID of IMA group is configured.
2. Delete the IMA group parameter configured in the IUB Transmission(Full IP) and select Layer Management in configuration management interface, set up another configuration
3. Reset the board.
4. Replace the board.

198084228 IpVlan Configer Failed

Alarm Property

- Alarm code: 198084228
- Description: Vlan Configuration Failed
- Severity: Major
- Alarm Type: Processing alarm

Probable Cause

The failure in performing Vlan parameter to the board.

System Impact

Vlan is out of normal operation.

The signaling link beard by the IpVlan is disconnected and the cell fails to set up, and the user access fails.

Handling Suggestion

1. Delete the Global Port parameter configured in the IUB Transmission(Full IP) and Global Port Layer Management in configuration management interface, set up another configuration.
2. Reset the board.
3. Replace the board.

198084233 Digital PA over power alarm

Alarm Property

- Alarm code: 198084233
- Description Digital PA over power alarm
- Alarm level: Minor
- Alarm Type: Processing alarm

Probable Cause

1. Error occurs with the data transmission of RRU due to exterior intervene and system detects the digit power is 2 dbm higher than the rated power.
2. Error occurs with the FS data transmission and system detects the digit power is 2 dbm higher than the rated power.

3. The BPC transmission signal of the local RRU is over high, and system detects the digit power is 2 dbm higher than the rated power.

System Impact

The analog power rises with the results of power amplifier switching off, deleting cell, UE disconnection, and the services provided by this RRU are interrupted.

Handling Suggestion

1. Reset the FS connected to the physical channel of this board.
2. Reset the BPC of the cell of the board.
3. Reset the board.
4. Replace the board.

198084259 UL buffer is used up

Alarm Property

- Alarm code: 198084259
- Description: UL buffer is used up
- Severity: Critical
- Alarm Type: Processing alarm

Probable Cause

The UL buffer is full and unable to store new data.

System Impact

1. Impact to the board.
The board failure.

2. Impact to the service.

The system will release associated user and reset the board.

Handling Suggestion

System will reset the board if the alarm lasts for over 10 seconds. No process is needed.

198084284 PM under-voltage alarm

Alarm Property

- Alarm code: 198084284
- Description: PM under-voltage alarm
- Severity: Major
- Alarm Type: Processing alarm

Probable Cause

1. Poor connection of power cable.
2. The board is damaged.

System Impact

The board is out of power and the system operation becomes improper, the service will be interrupted.

Handling Suggestion

1. Reconnect or replace the power cable to this board.
2. Replace the board.

198084285 PM over-voltage alarm

Alarm Property

- Alarm code: 198084285
- Description: PM over-voltage alarm
- Severity: Major
- Alarm Type: Processing alarm

Probable Cause

1. Poor connection of power cable.
2. The board is damaged.

System Impact

The board is out of power and the system operation becomes improper, the service will be interrupted.

Handling Suggestion

1. Reconnect or replace the power cable to this board.
2. Replace the board.

198084130 Dry contact configuration Failed

Alarm Property

- Alarm code: 198084130
- Description: Dry contact configuration Failed

- Alarm level: Minor
- Alarm Type: Processing alarm

Probable Cause

The operation of dry contact configuration failed

System Impact

The dry contact will report alarm.

Handling Suggestion

Check the dry contact configuration in the dry contact alarm configuration in the configuration resource management interface.

Make sure the configuration of the dry contact is in accordance with the actual equipments installed.

198084131 Node B reboot notification

Alarm Property

- Alarm code: 198084131
- Description: Node B reboot notification
- Alarm level: Minor
- Alarm Type: Processing alarm

Probable Cause

The base station is reset.

- ▶ The base station is reset by user.
- ▶ The base station is power interrupted and is reset.

System Impact

The board reboots.

The service is not available until the reboot finishes.

Handling Suggestion

1. No process is needed if the base station is reset by user.
2. If the base station is power interrupted and reset, ensure the normal power supply to the base station.

198084134 Master/slave changeover alarm

Alarm Property

- Alarm code: 198084134
- Description: Master/slave changeover alarm
- Alarm level: Minor
- Alarm Type: Processing alarm

Probable Cause

The changeover operation is initiated by user or it is because the master main control board has a fault.

System Impact

The changeover between the master/slave boards may cause interruption to the services.

Handling Suggestion

1. No process is needed if the changeover is performed by user.

2. Check the master main control board for possible failure if the changeover is performed by the system.

198084280 Write MDB and DBS failure

Alarm Property

- Alarm code: 198084280
- Description: Write MDB and DBS failure
- Severity: Critical
- Alarm Type: Processing alarm

Probable Cause

Database operation error.

System Impact

Fail to write to database platform and the database platform is empty. The LMT\OMCB display is influenced, the GSM service is not influenced.

Handling Suggestion

1. Check and ensure the normal operation of the CC and the BSC transmission link.
2. Reset the board.
3. Replace the board.

198084281 Failed to allocate physical logic

Alarm Property

- Alarm code: 198084281
- Description: Failed to allocate physical logic
- Severity: Critical
- Alarm Type: Processing alarm

Probable Cause

The RF resource is insufficient during OMCB configuration.

System Impact

The carrier frequency not successfully distributed is not able to perform service. If it is in the system starting process, all the services fail to start.

Handling Suggestion

1. Check whether the radio parameter configurations of OMCR and OMCB are consistent, including the GSM related cell, carrier frequency, frequency band etc.
2. Reset the CC board.

198084321 Physical parameters synchronization is failure

Alarm Property

- Alarm code: 198084321
- Description: Physical parameters synchronization is failure
- Severity: Critical
- Alarm Type: Processing alarm

Probable Cause

The UBPG board of GSM is not configured in the net manager.

System Impact

The system fails to work.

Handling Suggestion

If the current mode is GSM single mode or GW dual mode, configure the UBPG board at the configuration management interface; otherwise change the mode to W single mode.

Chapter 5

Environment Alarm

This chapter introduces environment alarms with respect to alarm property, probable cause, system impact, and handling suggestion. The information is intended for system maintenance personnel to have a clear understanding of each environment alarm item.

198084068 Environmental temperature is high

Alarm Property

- Alarm Code: 198084068
- Description: Environmental temperature is high
- Severity: Major
- Alarm Type: Environment alarm

Probable Cause

1. Dustproof net is blocked.
2. Air conditioner is faulty.
3. Heat exchanger is faulty.
4. Configuration error exists.
5. Environment Monitor Unit is faulty.

System Impact

Board/System operation might become abnormal, leading to degradation of service performance, or even service interruption.

Handling Suggestion

1. Clean dustproof net.
2. Ensure that air conditioner operation is normal.
3. Check if the heat exchanger is faulty. If yes, please refer to the corresponding handling manual.
4. Check environment monitoring configuration to see if the upper limit of environment temperature is 50 °C. If no, correct the configuration.
5. Reset SA board.
6. Replace Fan module.

7. Replace SA board.

198084069 Environmental temperature is low

Alarm Property

- Alarm Code: 198084069
- Description: Environmental temperature is low
- Severity: Major
- Alarm Type: Environment alarm

Probable Cause

1. Temperature of the environment where the rack is located is below the configured lower limit of environment temperature.
2. Heat exchanger is faulty.
3. Environment Monitor Unit is faulty.

System Impact

The board might be damaged. System operation might become abnormal, leading to degradation of service performance, or even service interruption.

Handling Suggestion

1. Check if the actual temperature of the environment where the rack is located is too low (below $-25\text{ }^{\circ}\text{C}$). If yes, no handling is necessary.
2. Replace heat exchanger.
3. Check environment monitoring configuration to see if the lower limit of environment temperature is $-25\text{ }^{\circ}\text{C}$. If no, correct the configuration.
4. Reset SA board.
5. Replace Fan module.

6. Replace SA board.

198084070 Device temperature is high

Alarm Property

- Alarm Code: 198084070
- Description: Device temperature is high
- Severity: Major
- Alarm Type: Environment alarm

Probable Cause

1. Dustproof net is blocked.
2. Environment temperature exceeds the upper threshold.

System Impact

Board/System operation might become abnormal, leading to degradation of service performance, or even service interruption.

Handling Suggestion

1. Clean dustproof net.
2. Ensure that air conditioner operation is normal.

198084071 Device temperature is low

Alarm Property

- Alarm Code: 198084071
- Description: Device temperature is low
- Severity: Major
- Alarm Type: Environment alarm

Probable Cause

Environment temperature is below lower threshold, leading to degradation of service performance, or even service interruption.

System Impact

Board/System operation might become abnormal.

Handling Suggestion

1. Check if the actual temperature of the environment where the rack is located is too low (below -25 °C). If yes, no handling is necessary.
2. Unplug and plug SA board.
3. Replace SA board.

198084072 Whole set temperature rising alarm

Alarm Property

- Alarm Code: 198084072

- Description: Whole set temperature rising alarm
- Severity: Major
- Alarm Type: Environment alarm

Probable Cause

1. Dustproof net is blocked.
2. Environment Monitor Unit is faulty.

System Impact

Board/System operation might become abnormal, leading to degradation of service performance, or even service interruption.

Handling Suggestion

1. Clean dustproof net.
2. Reset SA board.
3. Replace Fan module.
4. Replace SA board.

198084077 Gate safety alarm

Alarm Property

- Alarm Code: 198084077
- Description: Gate safety alarm
- Severity: Minor
- Alarm Type: Environment alarm

Probable Cause

1. Rack door is not closed.

2. Environment Monitor Unit is faulty.

System Impact

The cable might be stolen or vulnerable to water inflow, leading to degradation of service performance and service interruption.

Handling Suggestion

1. Ensure that the rack door is closed.
2. Replace the sensor cable of door access control.
3. Replace FCE board.

198084096 Flooded Fault

Alarm Property

- Alarm Code: 198084096
- Description: Flooded Fault
- Severity: Minor
- Alarm Type: Environment alarm

Probable Cause

1. Node B is flooded.
2. Environment Monitor Unit is faulty.

System Impact

The board or system might fail to work properly. Board services might be interrupted.

Handling Suggestion

1. Check if Node B is flooded. If yes, power off Node B. Clear the water away. Wait until the equipment is dry. Then power on the equipment.
2. Replace water sensor.
3. Reset FCE board.
4. Replace FCE board.

198084097 Smog Fault

Alarm Property

- Alarm code: 198084097
- Description: Smog Fault
- Alarm level: Minor
- Alarm Type: Environment alarm

Probable Cause

1. Smog is detected by Node B.
2. The fault with the environment monitoring unit.

System Impact

None.

Handling Suggestion

1. Check if there is smog in Node B.
If yes, switch off the base station and isolate the source of smog. Switch on the system after the smog source is removed.
2. Replace the smog sensor.
3. Reset the board.
4. Replace the board.

Chapter 6

QoS Alarm

This chapter introduces QoS alarms with respect to alarm property, probable cause, system impact, and handling suggestion. The information is intended for system maintenance personnel to have a clear understanding of each QoS alarm item.

198084303 Clock has significant alarm

Alarm Property

- Alarm code: 198084303
- Description: Clock has significant alarm.
- Severity: Major
- Alarm Type: QoS alarm

Probable Cause

1. FS Clock has a significant alarm
 - i. The active main control board is reset.
 - ii. Hardware failure with the active main control board.
 - iii. Hardware failure with the board.
2. BPC clock has a significant alarm
 - i. The active main control board is reset.
 - ii. Hardware failure with the active main control board.
 - iii. Hardware failure with the board.

System Impact

It may decrease the service quality or cause interruption the service in the extreme conditions.

Handling Suggestion

Check the detailed information of this alarm on the fault management interface. The detailed information of this alarm presents the cause of the alarm which helps to find the processing method quickly.

The suggested process method for each alarm cause is described below:

1. No processing is needed if the master main control board is reset.
2. Hardware failure with the active main control board.
 - i. Reset the active main control board.
 - ii. Replace the master main control board.
3. Hardware failure with the local board.
 - i. Reset the board.
 - ii. Replace the board.

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Chapter 7

Notification

This chapter introduces SDR notifications with respect to notification property, probable cause, system impact, and handling suggestion. The information is intended for system maintenance personnel to have a clear understanding of each SDR notification item.

198084183 SSCOP fault

Notification Property

- Notification Code: 198084183
- Description: SSCOP fault
- Importance: Ordinary

Probable Cause

1. Node B clock is faulty.
2. The PVC bandwidth configured for AAL5 at Node B side is too small.
3. The transmission is of inferior quality.

System Impact

NBAP and AICAP signaling data fails to be transmitted and received normally. The service is interrupted.

Handling Suggestion

1. On NMS fault management interface (Realtime Alarm Monitor), check if related alarms exist. If yes, follow the corresponding alarm handling suggestions.

Related alarms:

- ▶ 198084019 E1/T1 LOS (Loss Of Signal) alarm
- ▶ 198084022 E1/T1 link loss of IMA frame alarm
- ▶ 198084026 PVC fault

2. Check the configuration of PVC bandwidth.

On Base station configuration management interface management interface, choose **IUB Transmission (ATM) > Link Layer Management**, and check the PVC bandwidth at local end and ensure that it is consistent with the peer end.

3. Reset the board.
4. Replace the board.

198084184 ALCAP link fault

Notification Property

- Notification Code: 198084184
- Description: ALCAP link fault
- Importance: Ordinary

Probable Cause

- ALCAP link is congested.
- ALCAP message is invalid.
- ALCAP message is lack of necessary parameters.
- ALCAP message contains invalid factors.
- ALCAP timer times out.
- ALCAP message contains strange parameters.

System Impact

This notification has impact on the process of establishing bearer and thus affects service access.

Handling Suggestion

1. Check AAL2 Path status.

Do as follows:

On Base station configuration management interface management interface, choose **IUB Transmission (ATM) > Link Layer Management**, and check if the AAL2 Path at local end is in blocked state. If yes, unblock it.

2. Check the Alcap protocol version configuration.

Check the Alcap protocol version configured at local side and ensure the configurations at both ends are consistent. If they are inconsistent, change the Node B or RNC software version.

3. Reset the board.
4. Replace the board.

198084185 SCTP association fault

Notification Property

- Notification Code: 198084185
- Description: SCTP association fault
- Importance: Ordinary

Probable Cause

SCTP fails to apply for resources.

System Impact

This notification has impact on association establishment and the transmission and receipt of NBAP signaling.

Handling Suggestion

1. Wait for 15 minutes and then check if the fault is eliminated.
2. On Base station configuration management interface management interface, choose **IUB Transmission (Full IP) > Transmission Layer Management**, and delete the SCTP association and re-configure it.
3. Reset the board.
4. Replace the board.

198084186 Error PATHID alarm is received.

Notification Property

- Notification Code: 198084186

- Description: Error PATHID alarm is received.
- Importance: Ordinary

Probable Cause

The received PathId parameter does not exist at Node B side.

System Impact

This notification has impact on the process of establishing bearer and thus affects service access.

Handling Suggestion

1. Check AAL2 Path configuration.
Check the AAL2 Path configuration at local end and ensure that it is consistent with the peer end.
2. Reset the board.
3. Replace the board.

198084188 PPP Link Recycle

Notification Property

- Notification Code: 198084188
- Description: PPP Link Recycle
- Importance: Ordinary

Probable Cause

Loopback connection exists in the physical link at Iub interface.

System Impact

None.

Handling Suggestion

1. Check real-time alarm information.

Do as follows:

On NMS fault management interface (Realtime Alarm Monitor), check if the related alarm exists. If yes, follow the corresponding handling suggestion.

Related alarm:

198084025 E1/T1 link self-loop

2. Reset the board.
3. Replace the board.

198084189 PAP authorize failed

Notification Property

- Notification Code: 198084189
- Description: PAP authorize failed
- Importance: Ordinary

Probable Cause

The authentication user name and password are wrong.

System Impact

PPP link fails to be established.

Handling Suggestion

1. Check PPP authentication parameters.

Check the PPP authentication parameters configured at local end. The authentication user name and password must be consistent with those at peer end.

2. Reset the board.
3. Replace the board.

198084190 CHAP authorize failed

Notification Property

- Notification Code: 198084190
- Description: CHAP authorize failed
- Importance: Ordinary

Probable Cause

The authentication user name and password are wrong.

System Impact

PPP link fails to be established.

Handling Suggestion

1. Check PPP authentication parameters.

Check the PPP authentication parameters configured at local end. The authentication user name and password must be consistent with those at peer end.

2. Reset the board.
3. Replace the board.

198084191 CHAP oppose authorize failed

Notification Property

- Notification Code: 198084191
- Description: CHAP oppose authorize failed
- Importance: Ordinary

Probable Cause

The authentication user name and password are wrong.

System Impact

PPP link fails to be established.

Handling Suggestion

1. On Base station configuration management interface management interface, choose **IUB Transmission (Full IP) > Global Port Layer Management**, and set the PPP authentication parameter to **Authentication Disabled**.
2. Reset the board.
3. Replace the board.

198084192 Alarm storm notification

Notification Property

- Notification Code: 198084192
- Description: Alarm storm notification

- Importance: Ordinary

Probable Cause

Alarm and alarm restoration occurs alternately.

System Impact

None.

Handling Suggestion

1. Locate the original alarm.

Do as follows:

On NMS fault management interface, view the alarm details (that is, the alarm code and subcode of the storm) of the notification to determine the original alarm causing the alarm storm. If the alarm storm restores automatically after a period of time, no handling operation is required.

2. Follow the suggestions for handling the source alarm to handle this alarm.

198084258 Intra-board network port error

Notification Property

- Notification Code: 198084258
- Description: Intra-board network port error
- Importance: Ordinary

Probable Cause

DSP runs abnormally or network port is faulty. As a result, the data packets received from DSP are not continuous and some packets are lost.

System Impact

Some DSP upper link data is lost. In most serious case, the service processing capacity is degraded.

Handling Suggestion

1. Reset the board.
2. Replace the board.

198084269 MAC address conflict

Notification Property

- Notification Code: 198084269
- Description: MAC address conflict
- Importance: Ordinary

Probable Cause

MAC addresses conflict.

System Impact

The communication is interrupted or abnormal. All services are totally interrupted.

Handling Suggestion

1. Locate the two boards or hosts whose MAC addresses conflict.
2. Change the MAC addresses of the conflicting boards or hosts. Or, disconnect them from the network.
3. Reset the board.
4. Replace the board.

198084155 ACOM address conflict

Notification Property

- Notification Code: 198084155
- Description: ACOM address conflict
- Importance: Ordinary

Probable Cause

The address of the newly connected AISG device is the same as that of the existing one.

System Impact

The service is not affected. The existing AISG device restores normal communication. The newly connected device is not identified.

Handling Suggestion

On Base station configuration management interface management interface, scan **AISG** in **AISG Devices Centralized Management** dialog box then add a new device.

198084180 E1/T1 HDB3 coding violation alarm

Notification Property

- Notification Code: 198084180
- Description: E1/T1 HDB3 coding violation alarm
- Importance: Ordinary

Probable Cause

1. E1/T1 setting is incorrect.
2. E1/T1 transmission link connection is exceptional.
3. E1/T1 transmission trunk has a problem.
4. The peer-end device is abnormal.
5. E1/T1 grounding does not meet relevant criterion.

System Impact

E1/T1 link data reception is affected. Data is lost, and in most serious case, the service carried by the link is interrupted.

Handling Suggestion

1. Check if alarms related to E1/T1 link exists on local interface board.
Related alarms:
198084020 E1/T1 link loss of frame alarm
198084021 E1/T1 loss of cell delineation alarm
198084022 E1/T1 link loss of IMA frame alarm
2. Check if transmission clock alarm exists on local interface board.
3. Check if local interface board is faulty.
4. Check and ensure the device is correctly grounded.
5. Check and ensure the clock of RNC or transmission device is in normal state.

198084193 Cell deletion notification

Notification Property

- Notification Code: 198084193
- Description: Cell deletion notification

- Importance: Ordinary

Probable Cause

1. The local cell is faulty.
2. The local cell is congested.
3. RNC initiates cell deletion.

System Impact

All services carried by the cell are interrupted.

Handling Suggestion

1. Check and ensure the local cell works normally.
2. Check and ensure that RNC and Node B are correctly connected.

198084196 ATMA device address conflict

Notification Property

- Notification Code: 198084196
- Description: ATMA device address conflict
- Importance: Ordinary

Probable Cause

The address of the newly connected AISG device is the same as that of the existing ATMA device.

System Impact

The affected AISG device restores normal communication. The newly connected device, however, is not identified. It can be identified and managed by Node B only after being scanned.

Handling Suggestion

On Base station configuration management interface management interface, scan **AISG** in **AISG Devices Centralized Management** dialog box then add a new device.

198084197 RET device address conflict

Notification Property

- Notification Code: 198084197
- Description: RET device address conflict
- Importance: Ordinary

Probable Cause

The address of the newly connected AISG device is the same as that of the existing RET device.

System Impact

The affected AISG device restores normal communication. The newly connected device, however, is not identified. It can be identified and managed by Node B only after being scanned.

Handling Suggestion

On base station configuration management interface, scan **AISG** in **AISG Devices Centralized Management** dialog box then add a new device.

198084261 The received frame number is not continuous

Notification Property

- Notification Code: 198084261
- Description: The received frame number is not continuous
- Importance: Ordinary

Probable Cause

1. RRU is faulty and the generated frame number is incorrect.
2. FS board is faulty.
3. The link between RRU and FS hardware is faulty.

System Impact

Increase the BER of uplink access users.

Handling Suggestion

1. By referring to the topology structure, reset the RF board linked with the board.
2. Check and ensure that fibers, optical modules, and cables between the board and its linked RF board are correctly connected.
3. Replace the RF board linked with the board.
4. Reset the board.
5. Replace the board.

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Glossary

Glossary	Full Name
A	
AAL2	ATM Adaptation Layer 2
AAL5	ATM Adaptation Layer type 5
ACL	Access Control List
AEM	Antenna Equipment Module
AIS	Alarm Indication Signal
AIU	A Interface Unit
AMR	Adaptive Multi Rate
APBE	ATM Process Board Enhanced version
APP	Agere Processor Product
APS	Automatic Protection Switching
AS	Application Server
ASP	Application Server Process
ATM	Asynchronous Transfer Mode
B	
BBU	BaseBand Unit
BCCH	Broadcast Control Channel
BCSN	Backplane of Circuit Switch Network
BCTC	Backplane of Control Center
BFD	Bidirectional Forwarding Detection
BGP	Border Gateway protocol
BGSN	Backplane of Giga Universal Service Network
BHCA	Busy-Hour Call Attempts
BIOS	Basic Input/Output System
BIPB	Abis Interface Processing board
BIPI	BSC IP Interface board
BIU	Abis Interface Unit
BPC	Baseband Processing board type C
BPSN	Backplane of Packet Switch Network

Glossary	Full Name
BSC	Base Station Controller
BSS	Base Station System
BSSAP	Base Station System Application Part
BSSGP	Base Station System EDGE/GPRS Protocol
BTS	Base Transceiver Station
BUSN	Backplane of Universal Switch Network
C	
CAS	Channel Associated Signaling
CC	Calling Control
CC	Control and Clock Module
CCS	Common Channel Signaling
CCS7	Common Channel Signaling System NO.7
CDU	Combiner Distribution Unit
CEU	Combiner Extension Unit
CHP	Channel Processor
CHUB	Control plane HUB
CIP	Carrier Interface Part
CLKG	Clock Generator
CM	Communication Management
CMB	Control & Maintenance Board
CMM	Controller & Maintenance Module
CMP	Control Main Processor
CN	Core Network
CP	Channel Processor
CPU	Central Processing Unit
CRC	Cyclic Redundancy Check
CS	Circuit Switch
CSU	Channel Service Unit
CTC	Common Transmit Clock
CU	Carrier Unit
D	
DBS	Data Base Subsystem
DC	Direct Current
DCE	Data Circuit terminating Equipment
DDF	Digital Distribution Frame
DDN	Digital Data Network

Glossary	Full Name
DFCM	Dual -carrier Fan Control Module
DH	Dual Homing
dRCU	Double Radio Carrier Unit
DRTB	Dual Rate Transcoder Board
DSP	Digital Signal Processor
DTB	Digital Trunk Board
DTE	Data Terminal Equipment
dTPB	Dual-carrier Transceiver Process Board
DTRU	Dual -carrier Transceiver Unit
DTU	Digital Trunk Unit
DTX	Discontinuous Transmission
DXC	Digital Cross Connection
E	
EAM	External Alarm Module
EIPI	E1 IP Interface
EIR	Equipment Identification Register
EMC	ElectroMagnetic Compatibility
EMI	Electro Magnetic Interference
EPLD	Erasable Programmable Logic Device
EPU	Epilogue protocol Process Unit
ETSI	European Telecommunications Standards Institute
ETSN	Enhanced TDM Switch Network Board
F	
FAM	Fan Alarm Module
FCLK	Frame Clock
FCM	Fan Control Module
FCU	Fused Combiner Unit
FDM	Fan Driver Module
FE	Fast Ethernet
FIB	Fast-Ethernet Interface Board
FN	Frame Number
FNCB	Fan Control Board
FNIB	Fan Interface Board
FPGA	Field Programmable Gate Array
FR	Frame Relay
FRS	Full Rate Service

Glossary	Full Name
FSMU	Far SubMultiplexing Unit
FU	Frame Unit
FUC	Frame Unit Controller
G	
GERAN	GSM/EDGE Radio Access Network
GIPB	Gb Interface Processing board
GIPI	GE IP Interface
GIU	Gb Interface Unit
GLI	Gigabit Line Interface
GND	Ground
GNDP	Ground Protection
GOV	Global Overflow
GPRS	General Packet Radio Service
GPS	Global Position System
GSM	Global System for Mobile Communication
GT	Global Title
GUIM	Gigabit universal Interface Module
GUN	Global Underflow
GUP	GSM Universal Processing board
GUP2	GSM Universal Processing board
H	
HBTS	Home-BTS
HDLC	High-level Data Link Control protocol
HEC	Header Error Check
HLR	Home Location Register
HPI	Host Port Interface
HSCSD	High Speed Circuit Switched Data
HTRG	Home-BTS Transceiver Unit for GSM900/DCS1800
HTRP	Home-BTS Transceiver Unit for GSM850/PCS1900
HTRU	Home-BTS Transceiver Unit
HW	High Way line
I	
ICM	Integrated Clock Module
ICP	IMA Control Protocol
ICT	Independence Clock Template
IFB	IP interface control Block

Glossary	Full Name
IMA	Inverse Multiplexing for ATM
IMAB	IMA Board
IMSI	International Mobile Subscriber Identity
IP	Internet Protocol
IPCP	IP Control Protocol
ISNI	Intermediate Signaling Network Identification
ISIS	Intermediate System to Intermediate System
ITU	International Telecommunication Union
L	
LAN	Local Area Network
LAPD	Link Access Protocol on the D channel
LCD	Loss of Cell Delineation defect
LLC	Logical Link Control
LMT	Local Management Terminal
LNA	Low Noise Amplifier
LOF	Lose Of Frame
LOM	Loss of Multiframe
LOP	Loss of Pointer
LOS	Lose Of Signal
LSA	Link State Advertisement
LVDS	Low Voltage Differential Signaling
M	
MAC	Medium Access Control
MCC	Multi-Channel Control
MM	Mobility Management
MNIC	Multi-Service Network Interface Card
MO	Management Object
MS	Mobile Station
MSC	Mobile Services Switching Center
MSS	Mobile Switch System
MTP	Message Transfer Protocol
M2PA	MTP2 Peer-to-Peer User Adaptation
M3UA	MTP3 User Adapter Layer
N	
NEF	Network Element Function
NID	Network Identifier

Glossary	Full Name
NS	Network Service
NSE	Network Service Entity
NSEI	Network Service Entity Identifier
NSMU	Near SubMultiplexing Unit
NSVC	Network Service Virtual Connection
NSVCI	Network Service Virtual Connection Identifier
NTP	Network Time Protocol
O	
OAM	Operation Administration and Maintenance
ODF	Optical Distribution Frame
OMC	Operation and Maintenance Center
OMP	Operation Main Processor
OMS	Operating Maintenance Subsystem
OSI	Open System Interconnection
OSS	Operating & Support Subsystem
P	
PA	Power Amplifier
PACCH	Packet Associated Control Channel
PAGCH	Packet Access Granted Channel
PBCCH	Packet Broadcast Control Channel
PCH	Paging Channel
PCM	Pulse Code Modulation
PCU	Packet Control Unit
PDP	Packet Date Protocol
PDTCH	Packet Data Traffic Channel
PDU	Packet Data Unit
PE	Protective Earthing
PHY	Physical Layer
PLL	Phase Locked Loop
PLMN	Public Land Mobile Network
PPCH	Packet Paging Channel
PPP	Point to Point Protocol
PS	Packet Switch
PSN	Packet Switch Network
PSPDN	Packet Switched Public Data Network
PSTN	Public Switching Telephone Network

Glossary	Full Name
PTP	Point To Point
PVC	Permanent Virtual Circuit
PWR	Power Module
PWRD	Power Distributor
PWRDB	Power Distributor Backplane
Q	
QoS	Quality of Service
R	
RACH	Random Access Channel
RBID	Rearboard of ID Interface
RCBU	Resources Board Configuration Basal Unit
RCHB1	Rear Board 1 of CHUB
RCHB2	Rear Board 2 of CHUB
RCKG1	Rear Board 1 of CLKG
RCKG2	Rear Board 2 of CLKG
RDI	Remote Defect Indication
RDTB	Rear Board of DTB
RGER	Rear Card of GE for BUSN and BGSN
RGIM1	Rear General Interface Module 1
RGUM1	Rear Board 1 of GUIM
RGUM2	Rear Board 2 of GUIM
RIP	Routing Information Protocol
RLC	Radio Link Control
RMPB	Rear Board of OMP
RMNIC	Rear Board of MNIC
RPU	Route Protocol Process Unit
RR	Radio Resource
RRU	Remote Radio Unit
RS	Regenerator Section
RSPB	Rear Board of SPB
RSVB	Rear Board of Server
RTU	Radio Transceiver Unit
RUIM1	Rear Board 1 of UIM
RUIM2	Rear Board 2 of UIM
RUIM3	Rear Board 3 of UIM
S	

Glossary	Full Name
SACCH	Slow Associated Control Channel
SAPI	Service Access Point Indicator
SAR	Segment And Reassemble
SBCX	Single Board Computer of X86
SCCP	Signal Connect Control Part
SD	Signal Degrade
SDCCH	Stand-Alone Dedicated Control Channel
SDH	Synchronous Digital Hierarchy
SDTB	Sonet Digital Trunk Board
SDTB2	Sonet Digital Trunk Board
SF	Signal Fail
SIO	Service Information Octet
SLC	Signaling Link Code
SM	SubMultiplexing
SMBUS	System Management BUS
SMC	Short Message Center
SMLC	Serving Mobile Location Centre
SMS	Short Message Service
SMU	Subchannel Multiplexing Unit
SNTP	Simple Network Time Protocol
SONET	Synchronous Optical Network
SPB	Signaling Processing Board
SPB2	Signaling Processing Board
SSM	Subjoin Service Management
SSN	SubSystem Number
SST	Subsystem Status Test
STC	Signalling Transfer Converter
STM-1	Synchronous Transfer Mode 1
SUA	SCCP User Adaptation
SVR	Server Board
SYNCLK	Synchronous Clock
T	
TBF	Temporary Block Flow
TC	TransCoder
TCB	TCP Control Block
TCH	Traffic Channel

Glossary	Full Name
TCP	Transmission Control Protocol
TCU	TransCoder Unit
TDM	Time Division Multiplex
TEI	Terminal Equipment Identification
TFI	TDM Fiber Interface Board
TFO	Tandem Free Operation
TIM	Trace Identifier Mismatch
TPU	Transceiver Process Unit
TRM	Transceiver Module
TRX	Transmitter & Receiver
TS	Time Slot
TTL	Transistor-Transistor Logic
TU	Tributary Unit
U	
UBPG	UTCA Baseband Processing Board for GSM
UDP	User Datagram Protocol
UID	User Identifier
UIMC	Universal Interface Module for Control plane (BCTC or BPSN)
UIMU	Universal Interface Module for User plane
UNEQ	Unequipped
UPPB	User Plane Processing Board
UPU	User Plane Process Unit
Um	Um Interface
V	
VLR	Visitor Location Register
X	
XP	Executive Processor

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