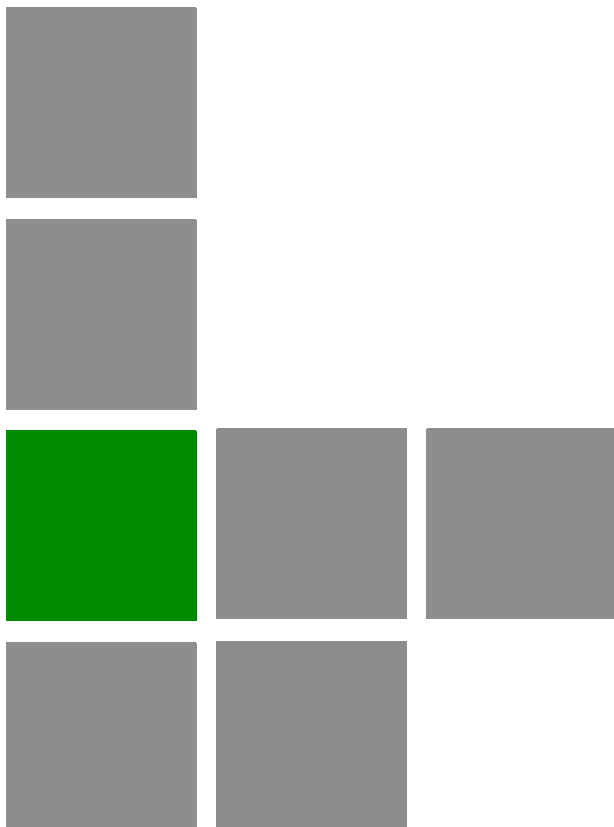


## BreezeMAX<sup>®</sup> FDD

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## Traps and Alarms

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Software Version 3.7  
January 2009  
P/N 215215

## Document History

Topic	Description	Date Issued
General	The Traps and Alarms (formerly an Appendix to the system manual) has been separated from the manual.	SW Version 2.0, February 2006
Additional Trap Sources <a href="#">Section 2</a>	Added Sources:  <ul style="list-style-type: none"> <li>■ AVU-FAN# (applicable for rbShelfPeripheralEquipmentFaultOn/Off Traps)</li> <li>■ Sources for the rbConfigurationChanged Trap</li> </ul>	SW Version 2.5, June 2006
rbConfigurationChanged Trap <a href="#">Section 5.3.1.</a>	Additional Sources added. Updated Additional Info options to support types of configuration changes: add, delete or modify.	SW Version 2.5, June 2006
New NPU/Micro Base Station related traps (License) <a href="#">Section 5.3.3,</a> <a href="#">Section 5.3.4,</a> <a href="#">Section 5.3.5</a>	New traps:  <ul style="list-style-type: none"> <li>■ rbMbstLicense</li> <li>■ rbMbstCPEQuantityExceed</li> <li>■ rbLicenseFileLoadStatus</li> </ul>	SW Version 2.5, June 2006
New ODU related trap <a href="#">Section 5.4.5.</a>	New trap: rbOduPowerMismatch.	SW Version 2.5, June 2006
New SU related trap <a href="#">Section 5.5.4.</a>	New trap: rbSuLicense	SW Version 2.5, June 2006
ODU CRC Error traps removed	rbOduCrcErrorOn and rbOduCrcErrorOff traps are obsolete from SW Version 2.6	SW Version 2.6 October 2006
General Traps <a href="#">Section 5.1.7</a>	New trap: rbModeConflictOn Trap	SW Version 3.0 April 2007
Changed trap severity <a href="#">Section 5.4.3</a>	Severity of rbOduBandMismatchOn trap has been changed to Major.	SW Version 3.0 April 2007
Service Related traps <a href="#">Section 5.7</a>	Source of Service Related traps (rbServiceDown, rbServiceUp, rbServiceChanged and rbServiceGeneralError) has been changed to NPU/μBST	SW Version 3.0 April 2007
New Alarms <a href="#">Section 6.6,</a> <a href="#">Section 6.7</a>	New Alarms: auOduComError (28) and auOduBandMismatch (29).	SW Version 3.0 April 2007

Topic	Description	Date Issued
Alarms <a href="#">Section 6</a>	Order of Alarms has been changed according to Alarm ID.	SW Version 3.0 April 2007
Trap Sources <a href="#">Section 2</a>	Added new sources for Configuration Change trap: QINQ, AUTH-MNG, TRAP	SW Version 3.5 November 2007
New Trap <a href="#">Section 5.1.8</a>	New Trap: rbSysUpdateAndTime (8)	SW Version 3.5 November 2007
Traps and Alarms Sources <a href="#">Section 2</a>	Updated list of Sources related to new traps	SW Version 3.7 September 2008
BER Test Traps <a href="#">Section 5.10</a>	BER Test Traps are supported	SW Version 3.7 September 2008
Spectrum Analyzer Related Trap <a href="#">Section 5.8</a>	A new trap to support a new feature	SW Version 3.7 September 2008
PF Server Related Traps <a href="#">Section 5.9</a>	New traps to support a new feature	SW Version 3.7 September 2008
SNTP Servers Related Traps <a href="#">Section 5.10</a>	New traps to support a new feature	SW Version 3.7 September 2008
Binding Parameters	An entry for Binding Parameter(s) has been added where applicable	SW Version 3.7 September 2008
Alarms Sections <a href="#">6.13</a> , <a href="#">6.14</a> , <a href="#">6.15</a>	New PF and SNTP Servers related alarms	SW Version 3.7 September 2008

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## 1. Traps and Alarms Structure

A BreezeMAX trap/alarm includes the following variables:

**Table 1: Trap/Alarm Variables**

Trap Variable	Alarm Variable	Description
rbTrapSeqNumber	NA	Trap Sequential Number: A sequential number for the trap/alarm.
rbTrapSource	src	Trap/Alarm Source: The device that is associated with the trap/alarm. For more information refer to Section 2.
rbTrapSeverity	sev	Trap/Alarm Severity: The severity of the trap/alarm. For more details refer to Section 3.
rbTrapCategory	cat	Trap/Alarm Category: The category of the trap/alarm. For more details refer to Section 4.
rbTrapAdditionalInfo	<Reason String>	Trap/Alarm Additional Info: Optional information on the reason for the trap/alarm, if applicable.
Binding Parameters		Additional parameters providing more details on the trap, if necessary.

## 2. Traps and Alarms Sources

The trap/alarm source indicates the device that originated the trap/alarm. Each trap/alarm message should include the full hierarchy of its source.

Possible sources and associated information are:

- NPU: Slot # (5. Slot 6 is not used currently).
- AU: Slot #. (1-4, 7-9)
- SU: AU slot #, SU's MAC address.
- Base Station/Micro Base Station
- PSU: PSU # (1-4).
- PIU: PIU # (1-2).
- AVU (ACU): ACU# (1).
- AVU FAN (ACU-FAN): Slot # (1-10).

<b>P I U #1</b>	<b>P S U #1</b>	<b>S L O T #1</b>	<b>S L O T #2</b>	<b>S L O T #3</b>	<b>S L O T #4</b>	<b>S L O T #5</b>	<b>S L O T #6</b>	<b>S L O T #7</b>	<b>S L O T #8</b>	<b>S L O T #9</b>	<b>P S U #3</b>
<b>P I U #2</b>	<b>P S U #2</b>										<b>P S U #4</b>

**Figure 1: Base Station's Chassis Slots Assignment**

- Service: Identified through binding parameters rather than the source. The binding parameters used to identify a Service are: Service Index, Service Name, Subscriber Index, and Subscriber ID.

- The following are used as Sources only for the rbConfigurationChanged TRAP:
  - » Radio Cluster (RC): RadioClusterId#.
  - » ODU: OduConfigId#.
  - » Channel (CHNL): AuSlot# ,ChannelId#.
  - » Subscriber (SBSCR): SubscriberIdx#.
  - » Service (SRVC): PipeIdx#>.
  - » Priority Classifier (POLICY): RuleIdx#>.
  - » QoS Profile (QOS): ProfileIdx#.
  - » Forwarding Rule (FRWRD): RuleIdx#.
  - » Service Profile (TMPL): ProfileIdx#.
  - » Layer 2 Filtering Rule (FLTR2): RuleIdx#.
  - » Layer 3/4 Filtering Rule (FLTR3): RuleIdx#.
  - » Interface Filter (FLTRIFC): FilteringIdx#.
  - » Filtering Rule (FLTR): RuleIdx#.
  - » Deny List (DENY): SU's MAC Address.
  - » Q in Q (QINQ): Idx (the index of the VLAN Range entry)
  - » Authorized Manager (AUTH-MNG): IpAddress
  - » Trap configuration (TRAP): TrapId
  - » Voice Domain (VOICE-DOMAIN): VoiceDomainId#
  - » PF Server (PF-SERV): IpAddress
  - » PF Configuration (PF-CONFIG): NPUSlot#

### 3. Traps and Alarms Severities

The trap/alarm severity level indicates how the capability of the managed object has been affected. It represents the severity of the alarm, as perceived by the managed object.

The default severity levels defined in the system, ordered from most severe to least severe, are:

**Table 2: Trap/Alarm Severities**

Severity	Description
Critical	Indicates that a service affecting condition has occurred and an immediate corrective action is required (e.g. when a managed object becomes completely out of service and its capability must be restored).
Major	Indicates that a service affecting condition has developed and an urgent corrective action is required (e.g. when there is severe degradation in the capability of the managed object and its full capability must be restored).
Minor	Indicates the existence of a non-service affecting fault condition and that a corrective action should be taken in order to prevent a more serious (for example, service affecting) fault.
Warning	Indicates the detection of a potential or impending service-affecting fault, before any significant effects have been felt. Action should be taken to further diagnose (if necessary) and correct the problem in order to prevent it from becoming a more serious service-affecting fault.
Info	Indicates a non service-affecting event, which doesn't require any further actions.

The severity of the alarm affects also the following:

- **Unit Fault Status:** The summarized severity of the unit's fault status. It reflects the severity of the alarm with the highest severity that is ON at a specific time. For a Base Station, this is the summarized severities of the NPU, AUs, PIUs, PSUs and AVU.
- **System Fault Status:** The summarized severity of the entire system fault status.

## 4. Trap/Alarm Categories

The type of trap/ alarm categorizes it into one of the following five basic categories (as stated in ITU - CCITT Rec. X.733):

**Table 3: Trap/Alarm Categories**

Category	Denoting String	Description
Communications	COMM	Associated with the procedures and/or processes required to convey information from one point to another.
Quality of service	QoS	Associated with degradation in the quality of a service.
Processing Error	PROC	Associated with software or processing fault.
Equipment	EQU	Associated with an equipment fault.
Environmental	ENVR	Associated with a condition relating to an enclosure in which the equipment resides.

## 5. BreezeMAX Traps

BreezeMAX traps include the following trap groups:

- “General Traps” on page 6
- “Chassis/Micro Base Station Related Traps” on page 11
- “NPU/Micro Base Station Related Traps” on page 14
- “ODU Related Traps” on page 18
- “SU Related Traps” on page 20
- “Software Download and BER Test Related Traps” on page 22
- “Service Related Traps” on page 26
- “MIB II Traps” on page 33

### 5.1 General Traps

#### 5.1.1 rbResetOn Trap

**Table 4: rbResetOn Trap Variables**

Variable	Description
Trap ID	1
Description	The device/card is about to perform reset.
Trap Source	μBST/NPU/AU/SU
Trap Severity	Info
Trap Category	Equipment
Additional Info	1, 2 (see details in the following table)

**Table 5: rbResetOn Trap Additional Info**

No.	Description
1	External Reset
2	Internal Fault Reset



## 5.1.2 rbDiagnosticsHwFaultOn Trap

Table 6: rbDiagnosticsHwFaultOn Trap Variables

Variable	Description
Trap ID	2
Description	The device/card has detected a hardware fault.
Trap Source	μBST/NPU/AU/SU
Trap Severity	Major
Trap Category	Equipment
Additional Info	3...8, 23...27 (see details in the following table)

**Table 7: rbDiagnosticsHwFaultOn/Off Trap Additional Info**

No.	Description
3	SU HW fault. Manta's (ASIC) PLL is not locked for more than 5 msec.
4	SU HW fault. Manta's (ASIC) PLL is not locked in steady state.
5	SU HW fault. Host failed to download Manta's firmware (complete with CRC errors, or handshake error).
6	SU HW fault. Radio's PLL is not locked after power up sequence.
7	SU HW fault. Radio's PLL is not locked in steady state.
8	SU, AU, NPU or $\mu$ BST HW fault. A Built In Test (BIT) has failed.
23	$\mu$ BST/AU HW fault. Output Tx Power exceeds P <sub>MAX</sub> +5dB for more than 5 minutes.
24	$\mu$ BST/AU HW fault. When a process to burn IDU table fails (CRC check on finish fails, FTP session failed, no place in FFS).
25	$\mu$ BST/AU HW fault. IF synthesizer failed to lock on the frequency set on the synthesizer.
26	$\mu$ BST/AU HW fault. $\mu$ BST/AU detected an error while downloading the ODU table. The string includes also the byte number of the ODU table where the error was detected.
27	$\mu$ BST/AU HW fault. Connection between $\mu$ BST/AU and ODU has been lost.

### 5.1.3 rbDiagnosticsHwFaultOff Trap

**Table 8: rbDiagnosticsHwFaultOff Trap Variables**

Variable	Description
Trap ID	3
Description	A previously detected hardware fault has been fixed.
Trap Source	$\mu$ BST/NPU/AU/SU
Trap Severity	Equipment
Trap Category	Info
Additional Info	3...8, 23...27. For details see Additional Info in rbDiagnosticsHwFaultOn/Off Trap Additional Info table above.

## 5.1.4 rbMonitorAccessOn Trap

**Table 9: rbMonitorAccessOn Trap Variables**

Variable	Description
Trap ID	4
Description	The device is accessed via LCI (Monitor port) or Telnet.
Trap Source	μBST/NPU/SU
Trap Severity	Info
Trap Category	Equipment
Additional Info	140, 141. For details see the following table.
Binding Parameter	The IP Address of the station accessing the device (rbTrapIpAddress)

**Table 10: RbMonitorAccessOn/Off Trap Additional Info**

No.	Description
140	LCI (Monitor port) access has been detected.
141	Telnet access has been detected.

## 5.1.5 rbMonitorAccessOff Trap

**Table 11: rbMonitorAccessOff Trap Variables**

Variable	Description
Trap ID	5
Description	LCI (Monitor port) or Telnet access to the device has been terminated.
Trap Source	μBST/NPU/SU
Trap Severity	Info
Trap Category	Equipment
Additional Info	140, 141. For details see rbMonitorAccessOn/Off Trap Additional Info table above.
Binding Parameter	The IP Address of the station that accessed the device (rbTrapIpAddress)

## 5.1.6 rbAuNetworkEntryStatus Trap

**Table 12: rbAuNetworkEntryStatus Trap Variables**

Variable	Description
Trap ID	6
Description	μBST/AU Network Entry status has been changed
Trap Source	μBST/AU
Trap Severity	Info
Trap Category	Communication
Additional Info	135...139

**Table 13: rbAuNetworkEntryStatus Trap Additional Info**

No.	Description
135	μBST/AU DHCP process failed
136	μBST/AU configuration download failed
137	μBST/AU set parameters failed
138	μBST/AU firmware download failed
139	μBST/AU is in service

## 5.1.7 rbModeConflictOn Trap

**Table 14: rbModeConflictOn Trap Variables**

Variable	Description
Trap ID	7
Description	Conflict between configuration and unit's capabilities has been detected.
Trap Source	AU/SU
Trap Severity	Major
Trap Category	Communication
Additional Info	144: Diversity Mode Mismatch: the AU does not support the configured diversity mode.

## 5.1.8 rbSysUpdateAndTime Trap

**Table 15: rbSysUpdateAndTime Trap Variables**

Variable	Description
Trap ID	8
Description	Sent after reset of the $\mu$ BST/NPU, indicating the reboot time based on the local clock settings configured in the device.
Trap Source	$\mu$ BST/NPU
Trap Severity	Info
Trap Category	Communication
Binding Parameter	rbLocalClockDateAndTime: The Date and Time format is dd.mm.yyyy hh:mm:ss (hh=1-23, using 24 hours clock]

## 5.2 Chassis/Micro Base Station Related Traps

### NOTE



In  $\mu$ BST, Slot# will always be 1, and PSU# will always be 1.

### 5.2.1 rbShelfCardExtractionOn Trap

**Table 16: rbShelfCardExtractionOn Trap Variables**

Variable	Description
Trap ID	21
Description	The card is being extracted from the chassis.
Trap Source	NPU/AU/PIU/PSU/AVU
Trap Severity	Info
Trap Category	Equipment

### 5.2.2 rbShelfCardInsertionOn Trap

**Table 17: rbShelfCardInsertionOn Trap Variables**

Variable	Description
Trap ID	22
Description	The card is being inserted into the chassis.

Table 17: rbShelfCardInsertionOn Trap Variables

Variable	Description
Trap Source	NPU/AU/PIU/AU/AVU
Trap Severity	Info
Trap Category	Equipment

### 5.2.3 rbShelfPeripheralEquipmentFaultOn Trap

Table 18: rbShelfPeripheralEquipmentFaultOn Trap Variables

Variable	Description
Trap ID	23
Description	A fault has been detected in a peripheral unit or a $\mu$ BST component.
Trap Source	$\mu$ BST/PIU/PSU/AVU/AVU-FAN
Trap Severity	Minor
Trap Category	Equipment
Additional Info	53...55

Table 19: rbShelfPeripheralEquipmentFaultOn Trap Additional Info

No.	Description
53	A fault has been detected in a PSU, or $\mu$ BST has detected a power supply failure.
54	A fault has been detected in a PIU (not applicable to $\mu$ BST).
55	A fault has been detected in the AVU, or the $\mu$ BST has detected a problem in at least one of its fans.

### 5.2.4 rbShelfPeripheralEquipmentFaultOff Trap

Table 20: rbShelfPeripheralEquipmentFaultOff Trap

Variable	Description
Trap ID	24
Description	A fault in a peripheral unit has been corrected.
Trap Source	$\mu$ BST/PIU/PSU/AVU/AVU-FAN
Trap Severity	Info
Trap Category	Equipment
Additional Info	53...55. See details in the following table.

**Table 21: rbShelfPeripheralEquipmentFaultOff Trap Additional Info**

No.	Description
53	NPU/ $\mu$ BST has detected that the faulty PSU/power supply has become fully operational.
54	NPU has detected that the faulty PIU has become fully operational.
55	NPU/ $\mu$ BST has detected that the faulty AVU/fan has become fully operational

### 5.2.5 rbShelfEnvParamFaultOn Trap

**Table 22: rbShelfEnvParamFaultOn Trap Variables**

Variable	Description
Trap ID	25
Description	A fault has been detected in a chassis environmental parameter.
Trap Source	$\mu$ BST/NPU
Trap Severity	Info
Trap Category	Equipment
Additional Info	73...76. For details see the following table.

**Table 23: rbShelfEnvParamFaultOn/Off Trap Additional Info**

No.	Description
73	A fault has been detected in the dry contacts of NPU/ $\mu$ BST.
74	An NPU/ $\mu$ BST temperature fault has been detected.
75	An AU-IDU temperature fault has been detected.
73	An AU-ODU temperature fault has been detected.

### 5.2.6 rbShelfEnvParamFaultOff Trap

**Table 24: rbShelfEnvParamFaultOff Trap**

Variable	Description
Trap ID	26
Description	A previously detected fault in a chassis environmental parameter has been fixed.
Trap Source	$\mu$ BST/NPU
Trap Severity	Info
Trap Category	Equipment

**Table 24: rbShelfEnvParamFaultOff Trap**

Variable	Description
Additional Info	73...76. For details see rbShelfEnvParamFaultOn/Off Trap Additional Info table above.

## 5.3 NPU/Micro Base Station Related Traps

### 5.3.1 rbConfigurationChanged Trap

**Table 25: rbConfigurationChanged Trap Variables**

Variable	Description
Trap ID	41
Description	A configuration change has been detected.
Trap Source	μBST/NPU/AU/SU/PSU/PIU/AVU/AVU-FAN/Radio Cluster/ODU/Channel/Subscriber/Service/Priority Classifier/(Policy Rule)/QoS Profile/ Forwarding Rule/Service Profile (Template)/Layer 2 Filtering Rule, Layer 3/4 Filtering Rule/Interface Filtering/ Filtering Rule/MAC Address Deny List
Trap Severity	Info
Trap Category	Equipment
Additional Info	30...33. For details see the following table.

**Table 26: rbConfigurationChanged Trap Additional Info**

No.	Description
30	Configuration changed - element added event.
31	Configuration changed - element deleted event.
32	Configuration changed - element modified event.
33	A Management Port parameter has been changed.

### 5.3.2 rbParameterSetFailure Trap

**Table 27: rbParameterSetFailure Trap Variables**

Variable	Description
Trap ID	42
Description	An error in configuration change has been detected.
Trap Source	μBST/NPU/AU/SU
Trap Severity	Info



**Table 27: rbParameterSetFailure Trap Variables**

Variable	Description
Trap Category	Equipment
Additional Info	Provided in <a href="#">Table 28</a> below.

**Table 28: rbTrapSetFailureReason**

No.	Description
1	General Error
2	Failed to update parameters CRC
3	Set defaults to unknown type (internal error)
4	Failed to set defaults (internal error)
5	Log prefix is too long
6	Failed to set Log Prefix (internal error)
7	Cell Radius is invalid
8	Failed to set Cell Radius
9	Failed to set Base Station ID (internal error)
10	Failed to set Base Station Mask (internal error)
11	Failed to set ARQ mode (internal error)
12	Failed to set Band (internal error)
13	Tx Frequency is out of calculated limited range
14	Tx frequency is invalid
15	Tx frequency is out of maximum permitted range
16	Tx Frequency set failed (internal error)
17	Tx Power value is invalid
18	Set Tx Power Failed (internal error)
19	UL Basic rate is invalid
20	Failed to set Uplink Basic Rate (internal error)
21	DL Basic rate is invalid
22	Failed to set Downlink Basic Rate (internal error)
23	It is forbidden to set SU rate while Multirate is enabled
24	Invalid Downlink rate
25	Invalid Uplink rate
26	Invalid Optimal RSSI

**Table 28: rbTrapSetFailureReason**

No.	Description
27	Set Optimal RSSI failed (internal error)
28	BER Test data size is less than minimum allowed
29	BER Test data size is higher than the maximum allowed
30	BER Test is already running
31	Invalid BER Test Rate
32	Invalid BER Test Priority
33	Failed to set Test Priority for BER Test (internal error)
34	Invalid BER Test packet size
35	Failed to set BER Test packet size (internal error)
36	Failed to create connection for the BER test
37	Failed to disconnect Telnet session
38	Invalid Ethernet Port configuration mode
39	Set Ethernet Port mode failed (internal error)
40	SU Installer password is too long
41	Set SU Installer password failed (internal error)
42	Invalid Band
43	Invalid Aging Time or internal error
44	Invalid Limit of Supported devices or internal error
45	Failed to set Limit mode - invalid value or internal error

### 5.3.3 rbMbstLicense Trap

**Table 29: rbMbstLicense Trap Variables**

Variable	Description
Trap ID	50
Description	License Grace Period warning.
Trap Source	μBST
Trap Severity	Info
Trap Category	PROC
Additional Info	184, 185. For details see the following table.

**Table 30: rbMbstLicense Trap Additional Info**

No.	Description
184	Grace Period started
185	Grace Period expired

### 5.3.4 rbMbstCPEQuantityExceed Trap

**Table 31: rbMbstCPEQuantityExceed Trap Variables**

Variable	Description
Trap ID	51
Description	Allowed quantity of CPEs has been exceeded.
Trap Source	μBST
Trap Severity	Info
Trap Category	PROC
Binding Parameter	The MAC Address of the rejected SU (rbSuMacAddr)

### 5.3.5 rbLicenseFileLoadStatus Trap

**Table 32: rbLicenseFileLoadStatus Trap Variables**

Variable	Description
Trap ID	52
Description	License file loading process status.
Trap Source	μBST/NPU
Trap Severity	Info
Trap Category	PROC
Additional Info	187...191. For details see the following table.

**Table 33: rbLicenseFileLoadStatus Trap Additional Info**

No.	Description
187	License file loaded to wrong device (MAC address conflict).
188	Wrong signature of license file.
189	License file syntax error.
190	Wrong number of CPEs in Micro Base station Number of Supported CPEs license file.

**Table 33: rbLicenseFileLoadStatus Trap Additional Info**

No.	Description
191	License file already exists in database.

## 5.4 ODU Related Traps

The ODU related traps are generated by the AU/ $\mu$ BST. The ODU related traps include the rbChannelId as a binding parameter, identifying the number of the Channel associated with the ODU.

### 5.4.1 rbOduCommErrorOn Trap

**Table 34: rbOduCommErrorOn Trap Variables**

Variable	Description
Trap ID	63
Description	An error has been detected in the communication with the ODU associated with the specified Channel ID.
Trap Source	$\mu$ BST/AU
Trap Severity	Minor
Trap Category	Communication

### 5.4.2 rbOduCommErrorOff Trap

**Table 35: rbOduCommErrorOff Trap Variables**

Variable	Description
Trap ID	64
Description	A previously detected error in the communication with the ODU associated with the specified Channel ID has been fixed.
Trap Source	$\mu$ BST/AU
Trap Severity	Info
Trap Category	Communication

### 5.4.3 rbOduBandMismatchOn Trap

**Table 36: rbOduBandMismatchOn Trap Variables**

Variable	Description
Trap ID	65
Description	A mismatch was detected between the Configured Frequency Band and actual band supported by the HW of the ODU associated with the specified Channel ID.
Trap Source	μBST/AU
Trap Severity	Major
Trap Category	Communication

### 5.4.4 rbOduBandMismatchOff Trap

**Table 37: rbOduBandMismatchOff Trap Variables**

Variable	Description
Trap ID	66
Description	A previously detected mismatch between the Configured Frequency Band and actual band supported by the HW of the ODU associated with the specified Channel ID was fixed.
Trap Source	μBST/AU
Trap Severity	Info
Trap Category	Communication

### 5.4.5 rbOduPowerMismatch Trap

**Table 38: rbOduPowerMismatch Trap Variables**

Variable	Description
Trap ID	67
Description	Configured Tx Power of the ODU associated with the specified Channel ID is higher than the actual Maximum Tx Power of the ODU.
Trap Source	μBST/AU
Trap Severity	Info
Trap Category	Communication

## 5.5 SU Related Traps

### 5.5.1 rbSuMaxTxPowerReached Trap

**Table 39: rbSuMaxTxPowerReached Trap Variables**

Variable	Description
Trap ID	81
Description	The SU has reached the maximum allowed output power.
Trap Source	SU
Trap Severity	Info
Trap Category	PROC
Binding Parameter	The Tx Power (rbSuTxPower)

### 5.5.2 rbSuMinTxPowerReached Trap

**Table 40: rbSuMinTxPowerReached Trap Variables**

Variable	Description
Trap ID	82
Description	The SU has reached the minimum allowed output power.
Trap Source	SU
Trap Severity	Info
Trap Category	PROC
Binding Parameter	The Tx Power (rbSuTxPower)

### 5.5.3 rbSuNetworkEntryStatus Trap

**Table 41: rbSuNetworkEntryStatus Trap Variables**

Variable	Description
Trap ID	83
Description	SU's network entry status has been changed.
Trap Source	SU
Trap Severity	Info
Trap Category	PROC
Additional Info	132...134. For details see the following table.

**Table 42: rbSuNetworkEntryStatus Trap Additional Info**

No.	Description
132	Authentication process failed
133	Registration process failed
134	Registration process completed successfully

## 5.5.4 rbSuLicense Trap

**Table 43: rrbSuLicense Trap Variables**

Variable	Description
Trap ID	84
Description	License Grace Period warning.
Trap Source	SU
Trap Severity	Info
Trap Category	PROC
Additional Info	182...186. For details see the following table.
Binding Parameter	rbLicenseId (Type of License). The currently supported value for rbLicenseId is bandwidth (1)

**Table 44: rbSuLicense Trap Additional Info**

No.	Description
182	Temporary Grace Period started.
183	Temporary Grace Period expired.
184	Grace Period started.
185	Grace Period expired.
186	Grace Period will expire in 3 days.

## 5.5.5 rbSuDuplicateName Trap

**Table 45: 5.5.4rbSuDuplicateName Trap Variables**

Variable	Description
Trap ID	85
Description	The SU Name is already in use by another SU. Services to the SU will be denied until another, unique name is configured for the SU. The SU's name in the database is changed temporarily to SU@<MAC Address> until a new name is configured. The binding parameters include the MAC Address of the other SU with the same name, the duplicate name and the new temporary name.
Trap Source	SU
Trap Severity	Major
Trap Category	PROC
Binding Parameters	The MAC Address of the other SU with the same name, the duplicate name and the new temporary name.

## 5.6 Software Download and BER Test Related Traps

### 5.6.1 rbSwDownloadStart Trap

**Table 46: rbSwDownloadStart Trap Variables**

Variable	Description
Trap ID	101
Description	SW download process has started.
Trap Source	μBST/NPU/AU/SU
Trap Severity	Info
Trap Category	PROC



## 5.6.2 rbSwDownloadEnd Trap

**Table 47: rbSwDownloadEnd Trap Variables**

Variable	Description
Trap ID	102
Description	SW download process has been finished.
Trap Source	μBST/NPU/AU/SU
Trap Severity	Info
Trap Category	PROC

## 5.6.3 rbSwDownloadError Trap

**Table 48: rbSwDownloadError Trap Variables**

Variable	Description
Trap ID	103
Description	An error has been detected in the SW download process.
Trap Source	μBST/NPU/AU/SU
Trap Severity	Minor
Trap Category	PROC
Additional Info	100...103, 150..181. See details in the following table.

**NOTE**



Additional Info 150...181 details reasons for AU/SU SW download failures.

**Table 49: rbSwDownloadError Trap Additional Info**

No.	Description
100	Unsupported Software version has been detected. This trap is generated by a μBST/NPU when there is no compatibility between versions (μBST/NPU, AU or SU). It is generated by AU and SU when there is no compatibility with corresponding SU or AU versions.
101	The requested SW version is not available at μBST/NPU site. This trap is generated only by μBST/NPU.
102	SW download process failed.
103	No space available in disk. There are already 3 SW versions in μBST/NPU for AU/SU, and another version is being downloaded.

**Table 49: rbSwDownloadError Trap Additional Info**

No.	Description
150	Download is aborted by an external event.
151	Header's "HW Version" is not compatible with the real unit's HW
152	Header's "HW Config" is not compatible with the real unit's HW
153	Failure to create a new file on Flash
154	Failure to open file on Flash
155	Failure to get file statistics (size..)
156	Failure to read from file
157	Failure to write to file
158	Failure to write information about SW file to the "Info" file
159	Can not Access Flash using File System
160	Old Shadow file is not accessible and can not be removed
161	NPU/ $\mu$ BST File Signature is not recognized
162	File does not contain header
163	File's header is too long
164	Some header's field title or format is not recognized
165	Header's "Unit Type" field does not match current Unit (Trying to Download wrong SW)
166	RF Version should be checked but is not found in header
167	Header's "RF Revision" is not compatible with the real unit's RF
168	CRC calculation failed
169	Calculated CRC does not match CRC in the header
170	Calculated file size does not match file size in the header
171	Failure to start TFTP client
172	Error is received during TFTP
173	Failure to read received data from TFTP data socket
174	TFTP data socket is empty
175	Another TFTP session is already in process
176	File name is not set properly
177	File size exceeds the maximum size that can be downloaded to AU/SU
178	Files with extension other than ".bz" can not be downloaded to AU/SU
179	File exists as Main and can not be removed

**Table 49: rbSwDownloadError Trap Additional Info**

No.	Description
180	File is not available
181	Communication timeout

## 5.6.4 rbSwSwitchFailed Trap

**Table 50: rbSwSwitchFailed Trap Variables**

Variable	Description
Trap ID	104
Description	Software switch-over failed
Trap Source	μBST/NPU/AU/SU
Trap Severity	Minor
Trap Category	PROC
Additional Info	104, 105. See details in the following table

**Table 51: rbSwSwitchFailed Trap Additional Info**

No.	Description
104	Run from shadow action
105	Set as Main action

## 5.6.5 rbSwSwitchSucceed Trap

**Table 52: rbSwSwitchSucceed Trap Variables**

Variable	Description
Trap ID	105
Description	Software switch-over succeeded
Trap Source	μBST/NPU/AU/SU
Trap Severity	Info
Trap Category	PROC
Additional Info	105 (Set as Main action)

## 5.6.6 rbBERTestFinished Trap

**Table 53: rbBERTestFinished Trap Variables**

Variable	Description
Trap ID	106
Description	BER Test finished
Trap Source	SU
Trap Severity	Info
Trap Category	PROC

## 5.6.7 rbBERTestStarted Trap

**Table 54: rbBERTestStarted Trap Variables**

Variable	Description
Trap ID	107
Description	BER Test has started
Trap Source	SU
Trap Severity	Info
Trap Category	PROC

## 5.7 Service Related Traps

### 5.7.1 rbServiceDown Trap

**Table 55: rbServiceDown TrapVariables**

Variable	Description
Trap ID	111
Description	The Service is down
Trap Source	NPU/μBST
Trap Severity	Major
Trap Category	QoS
Binding Parameters	rbServiceIdx, rbSubscriberIdx, rbServiceName, rbSubscriberID

## 5.7.2 rbServiceUp Trap

**Table 56: rbServiceUp Trap Variables**

Variable	Description
Trap ID	112
Description	The service has become operational
Trap Source	NPU/μBST
Trap Severity	Info
Trap Category	QoS
Binding Parameters	rbServiceIdx, rbSubscriberIdx, rbServiceName, rbSubscriberID

## 5.7.3 rbServiceChanged Trap

**Table 57: rbServiceChanged Trap Variables**

Variable	Description
Trap ID	113
Description	The Service properties have been modified
Trap Source	NPU/μBST
Trap Severity	Info
Trap Category	QoS
Additional Info	119...122. See details in the following table.
Binding Parameters	rbServiceIdx, rbSubscriberIdx, rbServiceName, rbSubscriberID

**Table 58: rbServiceChanged Trap Additional Info**

No.	Description
119	Service Admin Status has been changed
120	Service SU MAC Address has been changed
121	Service VLAN List has been changed
122	Service Profile has been changed (implies that another Service Profile has been set)

## 5.7.4 rbServiceGeneralError Trap

**Table 59: rbServiceGeneralError Trap Variables**

Variable	Description
Trap ID	114
Description	A Service error has been detected
Trap Source	NPU/μBST
Trap Severity	Minor
Trap Category	QoS
Additional Info	111...118. See details in the following table
Binding Parameters	rbServiceIdx, rbSubscriberIdx, rbServiceName, rbSubscriberID

**Table 60: rbServiceGeneralError Trap Additional Info**

No.	Description
111	The maximum allowed number of Subscribers has been reached
112	The maximum allowed number of Service configurations has been reached
113	The maximum allowed number of Service Profile configurations has been reached
114	The maximum allowed number of Forwarding Rules configurations has been reached
115	The maximum allowed number of Policy Rules configurations has been reached
116	The maximum allowed number of QoS Profiles configurations has been reached
117	The maximum allowed number of calls has been reached
118	There is no available bandwidth to allocate to a new VoIP call

## 5.7.5 rbNetworkingError Trap

**Table 61: rbNetworkingError Trap Variables**

Variable	Description
Trap ID	115
Description	Networking error has been detected. Services to the SU are denied until the SU is reset from the wireless link side by the NPU/μBST.
Trap Source	SU

**Table 61: rbNetworkingError Trap Variables**

Variable	Description
Trap Severity	Info
Trap Category	PROC
Additional Info	10: Loop was detected on SU Ethernet port.

## 5.8 Spectrum Analyzer Related Traps

### 5.8.1 rbAUSpecAnalyzerTestStatus Trap

**Table 62: rbAUSpecAnalyzerTestStatus Trap Variables**

Variable	Description
Trap ID	161
Description	Spectrum Analyzer Test has been started, aborted or finished.
Trap Source	AU
Trap Severity	Info
Trap Category	PROC
Additional Info	229..232. See details in the following table.

**Table 63: rbAUSpecAnalyzerTestStatus Trap Additional Info**

No.	Description
229	Test Started
230	Test stopped
231	Test Aborted
232	Test Not Ready

## 5.9 PF Server Related Traps

### 5.9.1 rbPFServerKeepAliveTimeoutOn Trap

**Table 64: rbPFServerKeepAliveTimeoutOn Trap Variables**

Variable	Description
Trap ID	170
Description	PF Server Keep Alive Timeout has been detected
Trap Source	μBST/NPU

**Table 64: rbPFServerKeepAliveTimeoutOn Trap Variables**

Variable	Description
Trap Severity	Major
Trap Category	Equipment
Binding Parameters	rbPMPFServerIpAddress

## 5.9.2 rbPFServerKeepAliveTimeoutOff Trap

**Table 65: rbPFServerKeepAliveTimeoutOff Trap Variables**

Variable	Description
Trap ID	171
Description	A previously detected PF Server Keep Alive Timeout has terminated
Trap Source	μBST/NPU
Trap Severity	Info
Trap Category	Equipment
Binding Parameters	rbPMPFServerIpAddress

## 5.10 SNTP Servers Related Traps

### 5.10.1 rbSNTPPrimaryServerFailureOn Trap

**Table 66: rSNTPPrimaryServerFailureOn Trap Variables**

Variable	Description
Trap ID	176
Description	SNTP Primary Server Keep Alive Timeout has been detected.
Trap Source	NPU/μBST
Trap Severity	Minor (when no SNTP responds, the severity level of rbSNTPPrimaryServerFailureOn and rbSNTPSecondaryServerFailure will change to Major)
Trap Category	Equipment
Binding Parameter(s)	rbSNTPPrimaryServerIP



## 5.10.2 rbSNTPPrimaryServerFailureOff Trap

**Table 67: rSNTPPrimaryServerFailureOff Trap Variables**

Variable	Description
Trap ID	177
Description	A previously detected SNTP Primary Server Keep Alive Timeout has terminated.
Trap Source	NPU/μBST
Trap Severity	Info
Trap Category	Equipment
Binding Parameter(s)	rbSNTPPrimaryServerIP

## 5.10.3 rbSNTPSecondaryServerFailureOn Trap

**Table 68: rSNTPSecondaryServerFailureOn Trap Variables**

Variable	Description
Trap ID	178
Description	SNTP Secondary Server Keep Alive Timeout has been detected.
Trap Source	NPU/μBST
Trap Severity	Minor (when no SNTP responds, the severity level of rbSNTPPrimaryServerFailureOn and rbSNTPSecondaryServerFailure will change to Major).
Trap Category	Equipment
Binding Parameter(s)	rbSNTPSecondaryServerIP

## 5.10.4 rbSNTPSecondaryServerFailureOff Trap

**Table 69: rSNTPSecondaryServerFailureOff Trap Variables**

Variable	Description
Trap ID	179
Description	A previously detected SNTP Secondary Server Keep Alive Timeout has terminated.
Trap Source	NPU/μBST
Trap Severity	Info
Trap Category	Equipment

**Table 69: rSNTPSecondaryServerFailureOff Trap Variables**

Variable	Description
Binding Parameter(s)	rbSNTPSecondaryServerIP

## 5.10.5 rbSNTPSynch Trap

**Table 70: rbSNTPSynch Trap Variables**

Variable	Description
Trap ID	180
Description	A time synchronization using SNTP was accomplished.
Trap Source	NPU/ $\mu$ BST
Trap Severity	Info
Trap Category	Equipment
Binding Parameter(s)	rbSNTPInternalClockTimeTimeClicks=BS internal clock (A.K.A. time ticks) rbSNTPUTCtime=UTC Time rbSNTPLocalTime=LocalTime]

## 5.11 MIB II Traps

### 5.11.1 coldStart Trap

**Table 71: coldStart Trap Variables**

Variable	Description
Trap ID	0
Description	The device is rebooting itself and may change its configuration or the SNMP agent's configuration
Trap Source	$\mu$ BST/NPU
Trap Severity	Info
Trap Category	Equipment

### 5.11.2 warmStart Trap

**Table 72: warmStart Trap Variables**

Variable	Description
Trap ID	1
Description	The device is rebooting itself but neither the device's nor the SNMP agent's configuration will change
Trap Source	$\mu$ BST/NPU
Trap Severity	Info

**Table 72: warmStart Trap Variables**

Variable	Description
Trap Category	Equipment

### 5.11.3 linkDown Trap

**Table 73: linkDown Trap Variables**

Variable	Description
Trap ID	2
Description	A communication link failure
Trap Source	μBST/NPU/AU/SU
Trap Severity	Info
Trap Category	Communication
Additional Info	127...131. See details in the following table.

**Table 74: linkDown Trap Additional Info**

No.	Description
127	The Ethernet connection to the backbone has been found to be down. A μBST/NPU trap.
128	The Management connection has been found to be down. A μBST/NPU trap.
129	The communication to an AU has failed. An AU trap.
130	Radio link has failed completely (loss of communication to all SUs). A μBST/AU trap.
131	Radio link to a specific SU has failed. An SU trap.

### 5.11.4 linkUp Trap

**Table 75: linkUp Trap Variables**

Variable	Description
Trap ID	3
Description	A communication link that previously failed has become operational.
Trap Source	μBST/NPU/AU/SU
Trap Severity	Info
Trap Category	Communication
Additional Info	127...131. See details in the following table.

**Table 76: linkUp Trap Additional Info**

No.	Description
127	The Ethernet connection to the backbone has been found to be active. A $\mu$ BST/NPU trap.
128	The Management connection has been found to be active. A $\mu$ BST/NPU trap.
129	The communication to an AU has become active. An AU trap.
130	Radio link has become active (at least one SU is synchronized). A $\mu$ BST/AU trap.
131	A new SU has become synchronized (not necessarily registered). An SU trap.

### 5.11.5 authenticationFailure Trap

**Table 77: authenticationFailure Trap Variables**

Variable	Description
Trap ID	4
Description	An authentication process has failed
Trap Source	$\mu$ BST/NPU/SU
Trap Severity	Warning
Trap Category	Communication
Additional Info	142...143. See details in the following table.

**Table 78: authenticationFailure Trap Additional Info**

No.	Description
142	LCI (Monitor port) authentication failure. A $\mu$ BST/NPU trap.
143	Telnet authentication failure. A $\mu$ BST/NPU or SU trap.

## 6. Active Alarms

Active alarms can be viewed in the Alarms Log of NPU/ $\mu$ BST, which includes all the alarms that are currently on.

The alarms are displayed in the format:

ID=<id>,name=<Name>,cat=<Category>,sev=<Severity>,src=<Source>, <Reason String>

Example: ID=21, name=ShelfCardExtractionOn, cat=EQU, sev=Info, src=PIU#1, PIU CARD EXTR

## 6.1 DiagnosticsHwFaultOn Alarm

**Table 79: DiagnosticsHwFaultOn Alarm Variables**

Variable	Description
ID	2
Description	The device/card has detected a hardware fault
Trap Source	μBST/NPU
Trap Severity	Major
Trap Category	Equipment
Reason String	BIT Failed

## 6.2 MonitorAccessOn Alarm

**Table 80: MonitorAccessOn Alarm Variables**

Variable	Description
ID	4
Description	The device is accessed via LCI (Monitor port) or Telnet
Trap Source	μBST/NPU
Trap Severity	Info
Trap Category	Equipment
Reason String	NPU/μBST LCI ACCESS: LCI (Monitor port) access has been detected. NPU/μBST TELNET ACCESS: Telnet access has been detected.

## 6.3 ShelfCardExtractionOn Alarm

**Table 81: ShelfCardExtractionOn Alarm Variables**

Variable	Description
ID	21
Description	The card is being extracted from the chassis
Trap Source	NPU/AU
Trap Severity	Info
Trap Category	Equipment

**Table 81: ShelfCardExtractionOn Alarm Variables**

Variable	Description
Reason String	AU CARD EXTR NPU CARD EXTR PIU CARD EXTR PSU CARD EXTR AVU CARD EXTR

## 6.4 ShelfPeripheralEquipmentFaultOn Alarm

**Table 82: ShelfPeripheralEquipmentFaultOn Alarm Variables**

Variable	Description
ID	23
Description	A fault has been detected in a peripheral unit or a $\mu$ BST components
Trap Source	$\mu$ BST/PIU/PSU/AVU
Trap Severity	Minor
Trap Category	Equipment
Reason String	BST PER FAULT

## 6.5 ShelfEnvParamFaultOn Alarm

**Table 83: ShelfEnvParamFaultOn Alarm Variables**

Variable	Description
ID	25
Description	A fault has been detected in a chassis environmental parameter
Trap Source	$\mu$ BST/NPU
Trap Severity	Info
Trap Category	Equipment
Reason String	BST ENV FAULT

## 6.6 OduCommErrorOn Alarm

**Table 84: OduCommErrorOn Alarm Variables**

Variable	Description
ID	63
Description	An error has been detected in the communication with the ODU associated with the specified Channel ID.
alarm Source	μBST/AU
Alarm Severity	Minor
Alarm Category	Communication
Reason String	ODU COMMUNICATION ERROR

## 6.7 OduBandMismatchOn Alarm

**Table 85: OduBandMismatchOn Alarm Variables**

Variable	Description
ID	65
Description	A mismatch was detected between the Configured Frequency Band and actual band supported by the HW of the ODU associated with the specified Channel ID.
Alarm Source	μBST/AU
Alarm Severity	Major
Alarm Category	Communication
Reason String	AU ODU BAND MISMATCH

## 6.8 SwDownloadStart Alarm

**Table 86: SwDownloadStart Alarm Variables**

Variable	Description
ID	101
Description	SW download process has started
Trap Source	μBST/NPU/AU
Trap Severity	Info
Trap Category	PROC



**Table 86: SwDownloadStart Alarm Variables**

Variable	Description
Reason String	SW DNL START

## 6.9 SwDownloadError Alarm

**Table 87: SwDownloadError Alarm Variables**

Variable	Description
ID	103
Description	An error has been detected in the SW download process
Trap Source	μBST/NPU/AU
Trap Severity	Minor
Trap Category	PROC
Reason String	SW DNL FAIL

## 6.10 SwSwitchFailed Alarm

**Table 88: SwSwitchFailed Alarm Variables**

Variable	Description
ID	104
Description	Software switch-over failed
Trap Source	μBST/NPU/AU
Trap Severity	Minor
Trap Category	PROC
Reason String	SW SWITCH

## 6.11 LinkDown Alarm

**Table 89: LinkDown Alarm Variables**

Variable	Description
ID	130
Description	A communication link failure
Trap Source	μBST/NPU/AU

**Table 89: LinkDown Alarm Variables**

Variable	Description
Trap Severity	Info
Trap Category	Communication
Reason String	<p>NPU/μBST ETH CONN: The Ethernet connection to the backbone has been found to be down. A μBST/NPU alarm.</p> <p>NPU/μBST MNG CONN: The Management connection has been found to be down. A μBST/NPU alarm.</p> <p>NPU AU CONN: The communication to an AU has failed. An AU alarm.</p> <p>AU RLNK LOSS: Radio link has failed completely (loss of communication to all SUs). A μBST/AU alarm.</p>

## 6.12 AuthenticationFailure Alarm

**Table 90: AuthenticationFailure Alarm Variables**

Variable	Description
ID	132
Description	An access authentication process has failed
Trap Source	μBST/NPU
Trap Severity	Warning
Trap Category	Communication
Reason String	<p>NPU LCI UNAUTH ACC: LCI (Monitor port) authentication failure.</p> <p>NPU TELNET UNAUTH ACC: Telnet authentication failure.</p>

**NOTE**

Authentication Alarms remain on until expiration of the timeout.

## 6.13 PFServerKeepAliveTimeoutOn Alarm

**Table 91: PFServerKeepAliveTimeoutOn Alarm Variables**

Variable	Description
ID	170
Description	PF Server Keep Alive Timeout has been detected
Alarm Source	μBST/NPU

**Table 91: PFServerKeepAliveTimeoutOn Alarm Variables**

Variable	Description
Alarm Severity	Major
Alarm Category	Equipment
Reason String	PF SRV KEEP ALIVE FAULT

## 6.14 rbSNTPPrimaryServerFailureOn Alarm

**Table 92: rSNTPPrimaryServerFailureOn Alarm Variables**

Variable	Description
Trap ID	176
Description	SNTP Primary Server Keep Alive Timeout has been detected.
Trap Source	NPU/ $\mu$ BST
Trap Severity	Minor
Trap Category	Equipment
Reason String	SNTP PRIMARY SRV KEEP ALIVE FAULT

## 6.15 rbSNTPSecondaryServerFailureOn Alarm

**Table 93: rSNTPSecondaryServerFailureOn Alarm Variables**

Variable	Description
Trap ID	178
Description	SNTP Secondary Server Keep Alive Timeout has been detected.
Trap Source	NPU/ $\mu$ BST
Trap Severity	Major
Trap Category	Equipment
Reason String	SNTP SECONDARY SRV KEEP ALIVE FAULT