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Nokia UltraSite Solution Customer Documentation, Release 5

Alarm Descriptions

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CE

CE 0523 ⓘ	Hereby, Nokia Corporation declares that this Nokia UltraSite EDGE Base Station is in compliance with the essential requirements and other relevant provisions of Directive : 1999/5/EC. The product is marked with the CE marking and Notified Body number according to the Directive 1999/5/EC.

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1 About this document

This document provides information on the Nokia UltraSite EDGE Base Station (BTS) alarms. The alarms are used as a base for internal fault recovery and fault reporting to the BSC, NMS/2000 and/or the Nokia BTS Manager.

Also, the document gives instructions for the operator how to correct the faults in order to maintain traffic in the air interface and/or to protect the units in the base station.

Note

This document does not include transmission unit alarms. Please refer to the *Nokia ITN C2.0 Integrated Transmission Node Release, Alarm Description.*

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2 Nokia UltraSite EDGE Base Station alarm handling

This chapter describes Nokia UltraSite EDGE Base Station alarm handling and alarm reclassification. The fields in the alarm description table are also described.

2.1 Nokia UltraSite EDGE Base Station alarm examples

Nokia UltraSite EDGE Base Station alarms issued at the BSC or NMS/2000 have a four-digit alarm number and an alarm name, and an optional fault reason (see Figure *1*). For other fields in Figure *1*, please refer to BSC documentation.

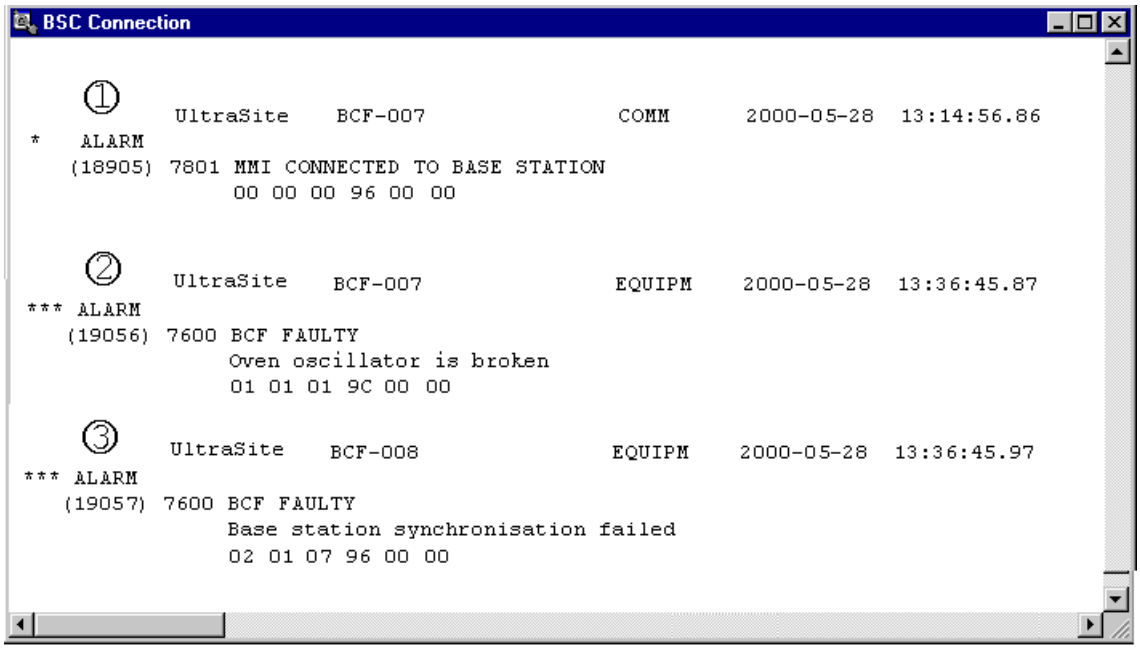

Figure 1. Examples of active alarms as seen at the BSC

The text under the alarm name gives the fault reason that has caused the alarm, e. g. see 2. in Figure *1*: `Oven oscillator is broken`.

Note

One alarm can have many different fault reasons:

In 2. in Figure *1* the fault reason is different although the alarm number is the same as in 3. in Figure *1*. Different faults may have the same effect on the operation of a base station object, therefore they have the same alarm number and name. The fault reason specifies the fault and helps in troubleshooting.

2.2 Identifying faulty units

Faulty units can be identified on the Nokia BTS Manager desktop. The BTS Manager shows an Alarms window with an Object column giving the object (e.g. BCF), that the alarm refers to, and also specifiying the unit, rack, shelf and slot. The Severity column in the Alarms window indicates the level of the alarm (e.g. critical, minor). The Equipment view in the Supervision window shows the location of the units in the cabinet.

Unit location numbers are used in alarm information to locate a failed unit.The main principle for numbering locations is from top to bottom and from the left to the right. Location numbers are defined with the following parameters:

RACK	specifies the rack of the cabinet
SHELF	specifies the shelf in the cabinet
SLOT	specifies the location on the shelf

Figure *2* shows how alarms (number, name and fault reason) are seen in the Alarms window on Nokia BTS Manager desktop. See e.g. BOI's location (location number 2/1/7) in the rack 2, shelf 1, slot 7, in Figure *2*.

For identifying the faulty transmission unit, and for checking the transmission related alarms, use the Nokia UltraSite BTS Hub Manager.

For location of the fan units, refer to the *Nokia UltraSite EDGE Base Station Product Descriptions Manual, Temperature Control System Description.*

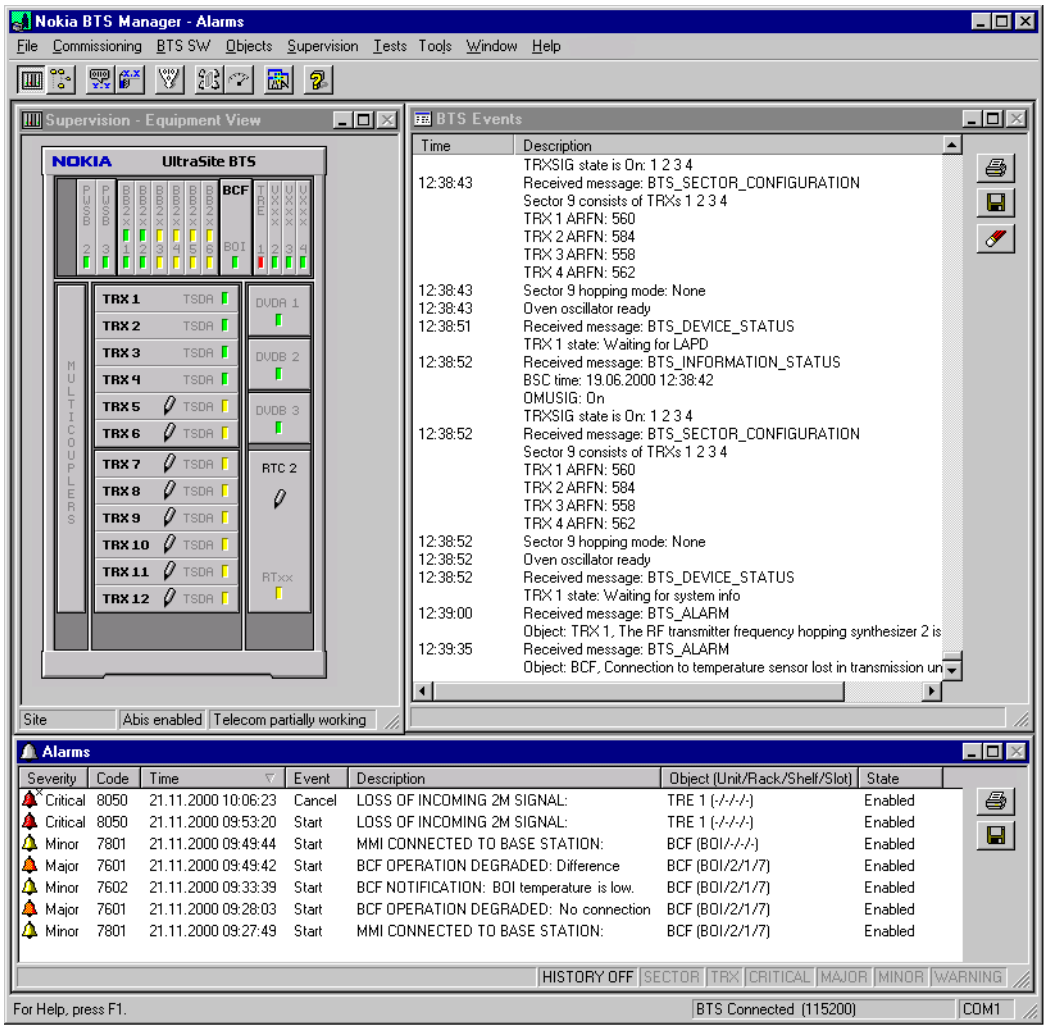

Figure 2. Nokia BTS Manager desktop showing the alarms in the Alarms window

Note

Figure *2* does not represent a real situation and should be taken only as an example.

2.3 Troubleshooting

The fault reason can be used for troubleshooting as follows:

1. Check the alarm number and alarm name and refer to the list of tables to find the correct alarm description table in Chapter *4* in this document.
2. Find the fault reason (see 2. in Figure *1*, or Alarms window in Figure *2*) in the *Fault reason* field in the alarm description table.
3. Follow the instructions given in the *Instruction* field. See also alarm cancelling information in the *Cancelling* field.
4. If the fault reason cannot be found in the *Fault reason* field, follow the instructions given for *Other faults.*

Note

Instructions given for *Other faults* apply to several different fault reasons.

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5. If there is no fault reason text with the alarm (see 1. in Figure *1*), refer to the correct alarm description table and follow the possible instructions given in the *Instruction* field.

2.4 Nokia UltraSite EDGE Base Station alarm reclassification

In fault situations, Nokia UltraSite EDGE Base Station runs an automatic reclassification procedure for major (**) and critical (***) alarms before it sends an alarm to the BSC. When an object becomes faulty, only one critical (***) alarm from the object can be active at a time.

In reclassification the alarm handling detects which logical base station object is affected by a unit level fault. After reclassification, an object level alarm is issued according to a certain hierarchy, as described in Figure *3*.

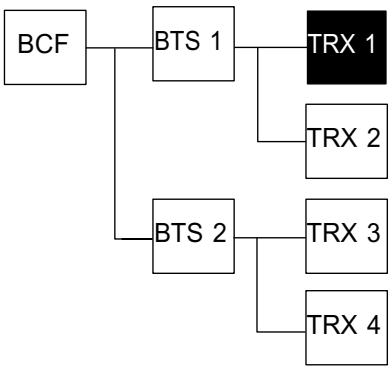
Note

After reclassification only one object level alarm with only one fault reason is sent to the BSC. However, the same alarm can be caused by several different fault reasons.

Alarm Output in Figure *3* shows the number and the name of the alarm(s) issued at the BSC in such a fault situation. Also, the object that is the alarm origin is given in brackets.

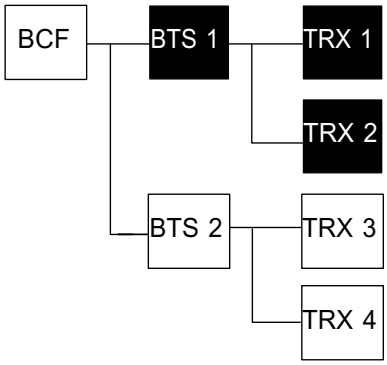
(1) Alarm Output:

7606 TRX FAULTY (TRX 1)



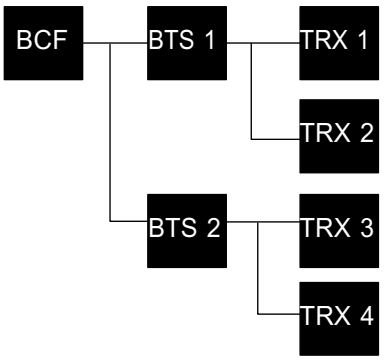
(2) Alarm Output, in this order:

7606 TRX FAULTY (TRX 1)
7606 TRX FAULTY (TRX 2)
7603 BTS FAULTY (BTS 1)



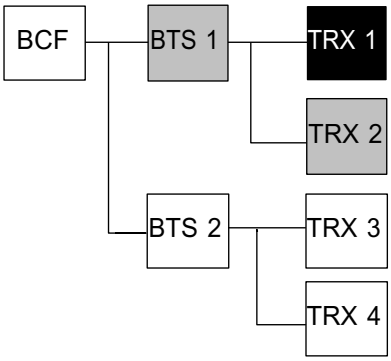
(3) Alarm Output, in this order:

7606 TRX FAULTY (TRX 1)
7606 TRX FAULTY (TRX 2)
7603 BTS FAULTY (BTS 1)
7606 TRX FAULTY (TRX 3)
7606 TRX FAULTY (TRX 4)
7600 BCF FAULTY (BCF)



(4) Alarm Output, in this order:

7606 TRX FAULTY (TRX 1)
7607 TRX DEGRADED (TRX 2)
7604 BTS OPERATION DEGRADED (BTS 1)



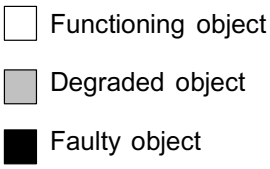


Figure 3. Faulty and degraded object alarm reclassification

Fault situation 1:

1. TRX 1 becomes faulty and ceases to operate. 7606 TRX FAULTY alarm is issued.

Fault situation 2:

1. TRX 1 becomes faulty and ceases to operate. 7606 TRX FAULTY alarm is issued.
2. TRX 2 becomes faulty and ceases to operate. 7606 TRX FAULTY alarm is issued.
3. Now both TRXs are not operating, which causes BTS 1 cease to operate. A BTS alarm, 7603 BTS FAULTY, is issued.

Fault situation 3:

1. TRX 1 becomes faulty and ceases to operate. 7606 TRX FAULTY alarm is issued.
2. TRX 2 becomes faulty and ceases to operate. 7606 TRX FAULTY alarm is issued.
3. Now both TRXs are not operating, which causes BTS 1 cease to operate. A BTS alarm, 7603 BTS FAULTY, is issued.
4. TRX 3 becomes faulty, and another 7606 TRX FAULTY alarm is issued.
5. TRX 4 becomes faulty, and another 7606 TRX FAULTY alarm is issued. BTS 2 ceases to operate.
6. Now both sectors in the BCF are not operating, and a BCF alarm, 7600 BCF FAULTY, is issued.

Fault situation 4:

1. TRX 1 becomes faulty and ceases to operate. 7606 TRX FAULTY alarm is issued.
2. TRX 2 becomes partially faulty but calls are getting through. 7607 TRX DEGRADED alarm is issued.
3. Now the sector is partially faulty, and a BTS alarm, 7604 BTS OPERATION DEGRADED, is issued.

3 Nokia UltraSite EDGE Base Station alarm table

Table *1* describes the fields in the alarm table.

Table 1. Description of the fields in the alarm table

1234 ALARM NAME			
Severity:	**Object affected:**	**Object state:**	**Unit:**
Shows the alarm severity as displayed at the BSC or NMS/2000. The options are: • * = minor • ** = major • *** = critical • User definition	The logical object affected by the fault. The options are: BCF, BTS, TRX, TRE, RTS	The state of the affected object at the time the alarm is issued. The options are: • Enabled • Disabled	The alarm origin(s). The unit is given an acronym, e. g.: BOI, RTxx, TSxx, BB2x
Fault reason:	**Instruction:**		**Alarm cancelling:**
This field describes the cause of the alarm, for example: BOI temperature is dangerously high.	This field gives instructions for the operator (at the NMS/2000 or at the BSC) how to correct the fault reason causing the alarm, for example: 1. Ensure that the ambient temperature of the base station is within specified limits. 2. Check the cabinet fans. 3. If they are OK, replace the BOI.		This field describes how the alarm is cancelled. The options are: • Automatic • Manual

Note

If the fault reason cannot be found in the *Fault reason* field, the instructions given for *Other faults* apply for the current fault.

Note

For instructions on how to replace units or carry out other maintenance tasks, refer to *Nokia UltraSite EDGE Base Station Maintenance* and *Nokia UltraSite EDGE Base Station Requirements for Installation and Operation*.

4 Nokia UltraSite EDGE Base Station alarms

This chapter defines the alarms collected from the objects in Nokia UltraSite EDGE Base Station.

Note

When baseband hopping is used, alarms do not cancel automatically when a fault is corrected. Sector reset from Nokia BTS Manager or BTS lock/unlock from the BSC is required to clear the active alarms.

Table 2. 7208 LOCAL BLOCK

7208 LOCAL BLOCK			
Severity:	**Object affected:**	**Object state:**	**Unit:**
*	BCF, or BTS, or TRX	Disabled	—
Fault reason:	**Instruction:**		**Alarm cancelling:**
No fault reason text with the alarm. Nokia UltraSite EDGE Base Station BTS object is blocked with Nokia BTS Manager.	1. No actions required.		Automatic.

Note

In alarm 7208 the alarms from the blocked object are cancelled.

Table 3. 7401 EXTERNAL ALARM 7401-7424, EXTERNAL ALARM 1-24

7401 EXTERNAL ALARM 7401 - 7424, EXTERNAL ALARM 1 - 24			
Severity:	**Object affected:**	**Object state:**	**Unit:**
User definition	BCF	Enabled	BOI
Fault reason:	**Instruction:**		**Alarm cancelling:**
No fault reason text with the alarm. This is an external user-definable alarm.	1. Check the settings at the BSC. 2. Check the cable connected to the Interface Module. 3. Check the unit connected to the external alarm line. 4. If all of the above are OK, check the Interface Module and replace it if faulty.		Automatic.

Table 4. 7600 BCF FAULTY

7600 BCF FAULTY			
Severity:	**Object affected:**	**Object state:**	**Unit:**
***	BCF	Disabled	BB2x, BOI, DVxx, PWSx, RTxx, TSxx, MNxx
Fault reason:	**Instruction:**		**Alarm cancelling:**
Oven oscillator is broken.	1. Replace the BOI.		Automatic.
Base station synchronisation failed.	1. Check the synchronisation cabling. 2. If the cabling is OK, replace the BOI. 3. Reset BCF.		Automatic.
BOI temperature is dangerously high.	1. Ensure that the ambient temperature of the base station is within specified limits.		Automatic.

Table 4. 7600 BCF FAULTY (cont.)

7600 BCF FAULTY		
	2. Check the cabinet fans. 3. If they are OK, replace the BOI.	
Other faults.	1. Check whether either of the following alarms is active: 7606 TRX FAULTY 7603 BTS FAULTY and follow the instructions given for the active alarm(s). If necessary, replace all faulty units indicated in the active alarm(s).	Automatic.

Table 5. 7601 BCF OPERATION DEGRADED

7601 BCF OPERATION DEGRADED			
Severity:	**Object affected:**	**Object state:**	**Unit:**
**	BCF	Enabled	BB2x, BOI, DVxx, MNxx, PWSx, RTxx, SISU, TSxx
Fault reason:	**Instruction:**		**Alarm cancelling:**
Power unit output voltage fault.	1. Replace all faulty power units. More than one power unit is broken, or there is only one power unit in the configuration.		Automatic.
Power unit input voltage fault.	1. Replace all faulty power units. More than one power unit is broken, or there is only one power unit in the configuration.		Automatic.
No connection to power unit.	1. Replace all faulty power units. More than one power unit is broken, or there is only one power unit in the configuration.		Automatic.
Power unit temperature is dangerously high.	1. Ensure that the ambient temperature of the base station is within specified limits. 2. Check the cabinet fans. 3. Replace the faulty power unit(s).		Automatic.
Transmission unit temperature is dangerously high.	1. Ensure that the ambient temperature of the base station is within specified limits. 2. Check the cabinet fans.		Automatic.

Table 5. 7601 BCF OPERATION DEGRADED (cont.)

7601 BCF OPERATION DEGRADED		
	3. Replace the faulty transmission unit.	
Difference between PCM and base station frequency reference.	1. Check the cabling. 2. If the cabling is OK, replace the BOI.	Automatic.
Flash operation failed in BOI or TRX.	1. Replace the BOI.	Automatic.
BOI detected that the site support is dumb.	1. Check the SISU cabinet and the connection.	Automatic.
Other faults.	1. Check whether one or several of the following alarms are active: 7606 TRX FAULTY 7603 BTS FAULTY 7607 TRX OPERATION DEGRADED 7604 BTS OPERATION DEGRADED and follow the instructions given for the active alarm(s).	Automatic.

Table 6. 7602 BCF NOTIFICATION

7602 BCF NOTIFICATION			
Severity:	**Object affected:**	**Object state:**	**Unit:**
*	BCF	Enabled	BB2x, BOI, Cabinet, Cabinet fan, DVxx, HETx, PWSx, RTxx, SISU, TRE, TSxx, Unit fan
Fault reason:	**Instruction:**		**Alarm cancelling:**
BOI temperature is low.	1. Ensure that the ambient temperature of the base station is within specified limits. 2. Check the cabinet heater if it is installed. 3. Replace the BOI.		Automatic.
Power unit temperature is low.	1. Ensure that the ambient temperature of the base station is within specified limits. 2. Check the cabinet heater if it is installed. 3. Replace the power unit.		Automatic.

Table 6. 7602 BCF NOTIFICATION (cont.)

7602 BCF NOTIFICATION		
Transmission unit temperature is low.	1. Ensure that the ambient temperature of the base station is within specified limits. 2. Check the cabinet heater if it is installed. 3. Replace the transmission unit.	Automatic.
BOI has lost connection to temperature sensor.	1. Temperature sensor is probably broken. Temperature changes cannot be measured. Replace the BOI.	Automatic.
Power unit has lost connection to temperature sensor.	1. Temperature sensor is probably broken. Temperature changes cannot be measured. Replace the power unit.	Automatic.
Transmission unit has lost connection to temperature sensor.	1. Temperature sensor is probably broken. Temperature changes cannot be measured. Replace the transmission unit.	Automatic.
BOI detected that connection to transmission unit is lost.	1. Open the Nokia UltraSite BTS Hub Manager and check the active alarms. If this base station or other base stations beyond it otherwise operate properly, there is no need for an immediate repair. However, the transmission alarms for the faulty unit are not reported to the BSC nor the Nokia BTS Manager. 2. Reset the faulty transmission unit. Note: Resetting the unit affects the traffic routed through it. 3. If the alarm reappears after the transmission unit reset, switch the cabinet power off and on. 4. If the alarm reappears after the recovery actions above, replace the faulty transmission plug-in unit.	Automatic.
Cooling fan is broken.	1. If something has jammed the cooling fan unit, remove the jamming object. Otherwise replace the fan unit.	Automatic.
Cabinet fan is broken.	1. If something has jammed the cabinet fan unit, remove the jamming object. Otherwise replace the fan unit.	Automatic.
Cooling fan speed has reduced from the set speed.	1. If something has jammed the cooling fan unit, remove the jamming object. Otherwise replace the fan unit.	Automatic.
Cabinet fan speed has reduced from the set	1. If something has jammed the cabinet fan unit, remove the jamming object. Otherwise replace	Automatic.

Table 6. 7602 BCF NOTIFICATION (cont.)

7602 BCF NOTIFICATION		
speed.	the fan unit.	
Heater is broken.	1. Replace the faulty heater, or the heater is not installed although it is defined in the configuration file, therefore an alarm is issued. Install the heater.	Automatic.
Power unit output voltage fault.	1. Replace the faulty power unit. Other power units are still functioning.	Automatic.
Power unit input voltage fault.	1. Replace the faulty power unit. Other power units are still functioning.	Automatic.
Common rack PWS I^2C bus is jammed.	1. Check the power unit(s) and power connections, and replace if faulty.	Automatic.
Common rack EAC I^2C bus is jammed.	1. If the cabling is OK, replace the Interface Module.	Automatic.
TSxx rack I^2C bus is jammed.	1. Check the DVxx and cabling, and replace if necessary. 2. Check the TSxx, and replace if faulty. 3. Replace the faulty RFU backplane.	Automatic.
CCUA PSM alarm 1	1. Use the Node Manager software to check the active SISU alarms and follow the instructions given in the SISU operating manual.	Automatic.
CCUA PSM alarm 2	1. Use the Node Manager software to check the active SISU alarms and follow the instructions given in the SISU operating manual.	Automatic.
CCUA PSM alarm 3	1. Use the Node Manager software to check the active SISU alarms and follow the instructions given in the SISU operating manual.	Automatic.
No connection to power unit.	1. Check if the power unit is switched off. 2. If the power unit is on, replace the faulty power unit.	Automatic.
Mismatch between BSC/MMI configuration file and the actual configuration.	1. Check the base station configuration and the configuration file. Make necessary corrections.	Automatic.

Table 7. 7603 BTS FAULTY

7603 BTS FAULTY			
Severity:	**Object affected:**	**Object state:**	**Unit:**
***	BTS	Disabled	BB2x, DVxx, RTxx, TSxx, MNxx
Fault reason:	**Instruction:**		**Alarm cancelling:**
Other faults.	1. Check whether the following alarm is active: 7606 TRX FAULTY and follow the instructions given for the alarm. If necessary, replace all faulty units indicated in the active alarm(s).		Automatic.

Table 8. 7604 BTS OPERATION DEGRADED

7604 BTS OPERATION DEGRADED			
Severity:	**Object affected:**	**Object state:**	**Unit:**
**	BTS	Enabled	BOI, DVxx, MNxx, RTxx
Fault reason:	**Instruction:**		**Alarm cancelling:**
Remote tune combiner temperature is dangerously high.	1. Ensure that the ambient temperature of the base station is within specified limits. 2. Check the cabinet fans. 3. Replace the remote tune combiner.		Automatic.
Remote tune combiner temperature is low.	1. Ensure that the ambient temperature of the base station is within specified limits. 2. Check the cabinet heater if it is installed. 3. Replace the remote tune combiner.		Automatic.
Rx levels differ too much between main and diversity antennas.	1. Check the RSSI measurements by BTS Manager. 2. Locate the cause of the alarm (unit, cable, antennas). 3. Replace the cause of alarm.		Automatic.
Other faults.	1. Check whether either of the following alarms is active:		Automatic.

Table 8. 7604 BTS OPERATION DEGRADED (cont.)

7604 BTS OPERATION DEGRADED		
	7606 TRX FAULTY 7607 TRX OPERATION DEGRADED and follow the instructions given for the active alarm(s).	

Table 9. 7605 BTS NOTIFICATION

7605 BTS NOTIFICATION			
Severity:	**Object affected:**	**Object state:**	**Unit:**
*	BTS	Enabled	BOI, RTxx
Fault reason:	**Instruction:**		**Alarm cancelling:**
Remote tune combiner flash checksum is invalid and the code is corrupted.	1. Reset BCF. 2. If the fault reappears, replace the remote tune combiner.		Automatic.
Cavity stepper motor cannot tune the remote tune combiner.	1. Reset BCF. 2. If the fault reappears, replace the remote tune combiner.		Automatic.
Remote tune combiner has lost connection to temperature sensor.	1. Replace the remote tune combiner.		Automatic.
Sector is reconfiguring after baseband hopping disturbance.	1. Check if baseband hopping reconfiguration has completed. 2. If there is no service, reset the sector.		Automatic.

Table 10. 7606 TRX FAULTY

7606 TRX FAULTY			
Severity:	**Object affected:**	**Object state:**	**Unit:**
**	TRX	Disabled	BB2x, DVxx, RTxx,

Table 10. 7606 TRX FAULTY (cont.)

7606 TRX FAULTY			
			TSxx, MNxx
Fault reason:	**Instruction:**		**Alarm cancelling:**
Antenna connection faulty.	Note: An alarm reports only if the PMAX value is 0 or 2 (two highest power levels). If a sector configured with RTxx is reset, while the antenna cable is disconnected, and if there is no traffic in the current TRX, Alarm 7606 TRX FAULTY with a fault reason 'Tuning carrier is not detected in remote tune combiner' is issued. 1. Check the antenna and cabling. If either the antenna or cabling are faulty, replace the faulty units and reset TRX to cancel the alarm. 2. If the antenna and cabling are OK, the TSxx is faulty. Replace the faulty TSxx.		Automatic.
Fault in VSWR antenna monitoring.	1. Check the antenna and cabling. If either the antenna or cabling are faulty, replace the faulty units and reset TRX to cancel the alarm. 2. If the antenna and cabling are OK, the TSxx is faulty. Replace the faulty TSxx.		Manual (BTS lock/un-lock).
Fault in the chain between power unit and MHA.	1. Check the chain between the power unit and the MHA. 2. If the chain is OK, replace the MHA.		Automatic.
Failure detected during TRX configuring.	1. The TSxx is either faulty or its frequency band is different from the one that was configured into BSC. Replace the TSxx with a functional TSxx or with another TSxx with correct frequency band.		Automatic.
BOI detected that connection to TRX is lost.	1. Check the BTS configuration and install the BB2x if it is missing.		Automatic.
Failure in 26 MHz clock input.	1. If all TRXs indicate this fault, replace the BOI. 2. If only one TRX indicates this fault, replace the faulty BB2x.		Automatic.
BOI or TRX has detected a failure in the incoming frame clock signal.	1. If all TRXs indicate this fault, replace the BOI. 2. If only one TRX indicates this fault, replace the faulty BB2x.		Automatic.
Interface problems between O&M and DSP SW.	1. Reset the TRX. 2. If the fault reappears, replace the BB2x.		Automatic.

Table 10. 7606 TRX FAULTY (cont.)

7606 TRX FAULTY		
Failure in internal DSP monitoring loop.	1. Reset the TRX. 2. If the fault reappears, replace the BB2x.	Automatic.
The synthesizer in remote tune combiner is faulty.	1. Replace the remote tune combiner that is connected to the alarming TRX.	Automatic.
The controller in remote tune combiner is faulty.	1. Replace the remote tune combiner that is connected to the alarming TRX.	Automatic.
The tuning of a cavity has failed in remote tune combiner.	1. Check the remote tune combiner cabling. 2. If cabling is OK, replace the remote tune combiner connected to the alarming TRX.	Automatic.
Cavity reset has failed, cavity is not available in remote tune combiner.	1. Reset BCF. 2. If the fault reappears, replace the remote tune combiner connected to the alarming TRX.	Automatic.
Tuning carrier is not detected in remote tune combiner.	1. Check the remote tune combiner cabling. 2. If cabling is OK, replace the faulty TRX. 3. If the fault reappears, replace the remote tune combiner connected to the alarming TRX.	Automatic.
LNA main branch in remote tune combiner is faulty.	1. Both the main branch and the diversity branch are faulty. Replace the remote tune combiner connected to the alarming TRX.	Automatic.
LNA diversity branch in remote tune combiner is faulty.	1. Both the main branch and the diversity branch are faulty. Replace the remote tune combiner connected to the alarming TRX.	Automatic.
The reflected power of remote tune combiner is too high.	1. Check the antenna connection to the remote tune combiner. 2. If the antenna connection is OK, replace the remote tune combiner.	Automatic.
Software downloading to remote tune combiner failed.	1. Reset BCF. 2. If the fault reappears, replace the remote tune combiner.	Automatic.
Remote tune combiner initialisation failed.	1. Reset BCF. 2. If the fault reappears, replace the remote tune combiner.	Automatic.
No connection to remote tune combiner.	1. Check that the remote tune combiner is properly connected.	Automatic.

Table 10. 7606 TRX FAULTY (cont.)

7606 TRX FAULTY		
	2. If the connection is OK, replace the remote tune combiner.	
1st branch LNA in dual variable gain duplex unit is faulty.	1. 2nd branch is not in use. Activate the 2nd branch or replace the DVxx.	Automatic.
2nd branch LNA in dual variable gain duplex unit is faulty.	1. 1st branch is not in use. Activate the 1st branch or replace the DVxx.	Automatic.
No connection to dual variable gain duplex unit.	1. Check the BTS configuration and install the DVxx if it is missing.	Automatic.
BB2x temperature is dangerously high.	1. Ensure that the ambient temperature of the base station is within specified limits. 2. Check the cabinet fans. 3. Replace the BB2x.	Automatic.
TSxx temperature is dangerously high.	1. Ensure that the ambient temperature of the base station is within specified limits. 2. Check the cabinet fans. 3. Replace the faulty TSxx.	Automatic.
There is disturbance in the serial DL bus or bus is broken.	1. TSxx is not properly installed or is missing. Install it properly. 2. TSxx is broken. Replace it.	Automatic.
No data is received from DIBA Asic traffic channels to CHDSP.	1. Replace the BB2x.	Automatic.
IDD main/auxiliary TRX frequency band mismatch.	Note: main TRX. 1. Check the IDD configuration of the BCF. 2. Check the configuration of the TRX. 3. Replace the IDD auxiliary TSxx with one of the same frequency as the IDD main TSxx unit.	Automatic.
Non EDGE TRX device type used accidentally in IDD mode.	Note: main TRX. 1. Check the IDD configuration of the BCF. 2. Check the configuration of the TRX. 3. Replace the IDD auxiliary TSxx with an EDGE capable unit.	Automatic.
Other faults.	1. Replace the faulty TSxx.	Automatic.

Note

When baseband hopping is used, the alarm cancelling is manual.

Note

In case of alarm 7606, if a BCCH TRX is affected, the BSC performs a BCCH reconfiguration if possible.

Table 11. 7607 TRX OPERATION DEGRADED

7607 TRX OPERATION DEGRADED			
Severity:	**Object affected:**	**Object state:**	**Unit:**
**	TRX	Enabled	BB2x, DVxx, MNxx, RTxx, TSxx
Fault reason:	**Instruction:**		**Alarm cancelling:**
Flash operation failed in BOI or TRX.	1. Replace the BB2x.		Automatic.
Remote tune combiner controller is faulty.	1. Replace the remote tune combiner.		Automatic.
The reflected power of remote tune combiner is too high.	1. Check the antenna connection to the remote tune combiner. 2. If the antenna connection is OK, replace the remote tune combiner. Diversity branch is still working and calls are getting through.		Automatic.
LNA main branch in remote tune combiner is faulty.	1. Replace the remote tune combiner. Diversity branch is still working and calls are getting through.		Automatic.
LNA diversity branch in	1. Replace the remote tune combiner.		Automatic.

Table 11. 7607 TRX OPERATION DEGRADED (cont.)

7607 TRX OPERATION DEGRADED		
remote tune combiner is faulty.	Main branch is still working and calls are getting through.	
The synthesizer in remote tune combiner is faulty.	1. Replace the remote tune combiner. Diversity branch is still working and calls are getting through.	Automatic.
The controller in remote tune combiner is faulty.	1. Replace the remote tune combiner. Diversity branch is still working and calls are getting through.	Automatic.
Performance of the main branch LNA in remote tune combiner is degraded.	1. Replace the remote tune combiner. Diversity branch is still working and calls are getting through.	Automatic.
Performance of the diversity branch LNA in remote tune combiner is degraded.	1. Replace the remote tune combiner. Main branch is still working and calls are getting through.	Automatic.
1st branch LNA in dual variable gain duplex unit is faulty.	1. Replace the DVxx. 2nd branch is still working and calls are getting through.	Automatic.
2nd branch LNA in dual variable gain duplex unit is faulty.	1. Replace the DVxx. 1st branch is still working and calls are getting through.	Automatic.
Performance of the 1st branch LNA in dual variable gain duplex unit is degraded.	1. Replace the DVxx. 2nd branch is still working and calls are getting through.	Automatic.
Performance of the 2nd branch LNA in dual variable gain duplex unit is degraded.	1. Replace the DVxx. 1st branch is still working and calls are getting through.	Automatic.
No connection to dual variable gain duplex unit.	1. Check the BTS configuration and install the DVxx if it is missing.	Automatic.
Fault in the chain between power unit and MHA.	1. Check the chain between the power unit and the MHA. 2. If the chain is OK, replace the MHA.	Automatic.
Fault in VSWR antenna monitoring.	1. Check the antenna and cabling. If either the antenna or cabling are faulty, replace the faulty units and	Manual (BTS lock/unlock).

Table 11. 7607 TRX OPERATION DEGRADED (cont.)

7607 TRX OPERATION DEGRADED		
	reset TRX to cancel the alarm. 2. If the antenna and cabling are OK, the TSxx is faulty. Replace the faulty TSxx. Diversity RX branch is still working and calls are getting through.	
TRX is unable to implement EDGE services.	1. Check the configuration of TRXs. 2. Upgrade the TSxx/BB2x units to EDGE capability.	Automatic.
IDD main/auxiliary TRX frequency band mismatch.	Note: auxiliary TRX. 1. Check the IDD configuration of the BCF. 2. Check the configuration of the TRX. 3. Replace the IDD auxiliary TSxx with one of the same frequency as the IDD main TSxx unit. The TSxx units used for an IDD pair must be of the same type.	Automatic.
Mismatch between BSC/MMI configuration and/or IDD TRX.	Note: IDD auxiliary TRX. 1. Delete the IDD auxiliary TRX from the BSC configuration. 2. Reset the IDD main TRX. IDD auxiliary TRXs are not to be defined at the BSC.	Automatic.
Non EDGE TRX device type used accidentally in IDD mode.	Note: auxiliary TRX. 1. Check the IDD configuration of the BCF. 2. Check the configuration of the TRX. 3. Replace the IDD auxiliary TSxx with an EDGE capable unit. IDD TRXs must be EDGE capable.	Automatic.
Diversity branch runtime loop failure between CHDSP and EQDSP via Fbus.	Note: auxiliary TRX. 1. Cancel alarm manually. 2. If the alarm reappears, reset the IDD main TRX. 3. Replace the BB2E unit. This alarm may appear when the IDD auxiliary TRX is reset.	Automatic.
Diversity branch FBUS HW failure.	Note: auxiliary TRX. 1. Reset the IDD main TRX. 2. Replace the BB2E unit. This alarm may appear when the IDD auxiliary TRX is reset.	Automatic.

Table 11. 7607 TRX OPERATION DEGRADED (cont.)

7607 TRX OPERATION DEGRADED		
TSxx software download failure.	1. Reset the TRX. 2. If the fault reappears, replace the TSxx.	Automatic.

Note

Rack/Shelf/Slot information gives the position of the IDD auxiliary TRX.

Table 12. 7608 TRX NOTIFICATION

7608 TRX NOTIFICATION			
Severity:	**Object affected:**	**Object state:**	**Unit:**
*	TRX	Enabled	BB2x, BOI, DVxx, RTxx, TSxx
Fault reason:	**Instruction:**		**Alarm cancelling:**
TSxx internal I^2C bus is jammed.	1. Reset the TRX. 2. If the fault reappears, replace the TSxx.		Automatic.
Impossible to execute TRX loop.	1. Reset the TRX. 2. If the fault reappears, replace the TSxx.		Automatic.
BB2x temperature is low.	1. Replace the BB2x.		Automatic.
TSxx temperature is low.	1. Replace the TSxx.		Automatic.
BB2x has lost connection to temperature sensor.	1. Temperature sensor is probably broken. Temperature changes cannot be measured. Replace the BB2x.		Automatic.
TSxx has lost connection to temperature sensor.	1. Temperature sensor is probably broken. Temperature changes cannot be measured. Replace the TSxx.		Automatic.

Table 13. 7609 TRE FAULTY

7609 TRE FAULTY			
Severity:	**Object affected:**	**Object state:**	**Unit:**
***	BCF	Disabled	TRE
Fault reason:	**Instruction:**		**Alarm cancelling:**
BOI detected that connection to transmission unit is lost.	1. If the base station otherwise operates properly, there is no need for an immediate repair. However, the transmission alarms for the node are not reported to the BSC nor the Nokia BTS Manager. 2. Reset BCF. 3. If the alarm reappears after the BCF reset, switch the cabinet power off and on. 4. If the alarm reappears after the recovery actions above, replace the faulty transmission plug-in unit located in slot 1. Note: Replacing the unit blocks the base station and cuts off the traffic routed through it.		Automatic.

Table 14. 7615 RTS IN TEST USE

7615 RTS IN TEST USE			
Severity:	**Object affected:**	**Object state:**	**Unit:**
*	RTS	Disabled	TSxx
Fault reason:	**Instruction:**		**Alarm cancelling:**
No fault reason text with the alarm. Internal O&M SW is testing the timeslots during TRX test.	1. No actions required.		Automatic.

Note

Alarm 7615 is sent to the BSC only when the abis loop or TRX test is started from the BTS Manager.

Table 15. 7616 OSCILLATOR ADJUSTMENT TEMPORARILY INTERRUPTED

7616 OSCILLATOR ADJUSTMENT TEMPORARILY INTERRUPTED			
Severity:	**Object affected:**	**Object state:**	**Unit:**
*	BCF	Enabled	BOI
Fault reason:	**Instruction:**		**Alarm cancelling:**
Oven oscillator adjustment function interrupted.	1. Check the Abis connection. 2. If the Abis connection is OK, replace the BOI.		Automatic.

Table 16. 7617 SEVERAL CALLS DROPPED DUE PROBLEM WITH TRANSCODER

7617 SEVERAL CALLS DROPPED DUE PROBLEM WITH TRANSCODER			
Severity:	**Object affected:**	**Object state:**	**Unit:**
**	TRX	Enabled	BB2, TSxx
Fault reason:	**Instruction:**		**Alarm cancelling:**
There is an error with the connection between the BTS and the transcoder.	1. Check the transmission path between the base station and the transcoder.		Automatic.

Table 17. 7622 CABINET OPEN

7622 CABINET OPEN			
Severity:	**Object affected:**	**Object state:**	**Unit:**
*	BCF	Enabled	BOI
Fault reason:	**Instruction:**		**Alarm cancelling:**
Cabinet door is open.	1. Ensure the cabinet door is properly closed and secured.		Automatic.

Note

Alarm 7622 applies to outdoor cabinets only. Indoor cabinets do not issue alarm 7622.

Table 18. 7801 MMI CONNECTED TO BASE STATION

7801 MMI CONNECTED TO BASE STATION			
Severity:	**Object affected:**	**Object state:**	**Unit:**
*	BCF	Enabled	BOI
Fault reason:	**Instruction:**		**Alarm cancelling:**
No fault reason text with the alarm. Nokia BTS Manager is connected to Nokia Ultra-Site EDGE Base Station.	1. No actions required.		Automatic.

Table 19. 7995 MAINS BREAKDOWN WITH BATTERY BACK-UP

7995 MAINS BREAKDOWN WITH BATTERY BACK-UP			

Table 19. 7995 MAINS BREAKDOWN WITH BATTERY BACK-UP (cont.)

7995 MAINS BREAKDOWN WITH BATTERY BACK-UP			
Severity:	**Object affected:**	**Object state:**	**Unit:**
*	BCF	Enabled	SISU
Fault reason:	**Instruction:**		**Alarm cancelling:**
Other faults.	1. Check the mains supply. 2. If the mains supply is OK, check the cabling between the BTS and the BBUx. 3. If the cabling is OK, replace the BBUx.		Automatic.

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4. Nokia ITN C2.0 Integrated Transmission Node Release, Alarm Description, DN0172602.