Nokia Siemens Networks

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Nokia FlexiHopper (Plus) Product Doc, Rel. 2.7

Nokia FlexiHopper (Plus) 2.7 Outdoor Unit Alarms

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Hereby, Nokia Corporation, declares that this Nokia FlexiHopper (Plus) Microwave Radio Family 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.

CE

Contents

1 Summary of changes to Nokia FlexiHopper (Plus) 2.7 Outdoor Unit Alarms

1.1 Changes between release 2.5 and release 2.7

- Alarms 45, 59 and 141 have been modified.
- Alarm 141 (step 3), 267, 268, 269 are for Nokia FlexiHopper Plus only.

2 General alarm information

This document lists the descriptions of all Nokia FlexiHopper (Plus) alarms with their fault codes. The alarms are classified by the alarm number and title.

The fault code and alarm name are shown in the title of the alarm description.

The alarm descriptions give the following information:

Severity shows the severity class of the alarm as it appears in the node manager.

Fault reason shows the supervision block giving the alarm.

Description gives information related to the alarm.

Instructions guide you in finding the actual reason for the alarm and how to correct it.

Cancelling gives information on how to cancel the alarm.

3 Functional entity: FlexiHopper (Plus) outdoor unit

3.1 186 Configuration error

Severity

Minor

Fault reason

SB 1-2: SW setup

SB 3: Identifications

Alarm cause:

1. No back-up is available for this unit.
2. Back-up is available for this unit and needs activation.
3. Product-related items are missing.

Description

Fault code: 186

Alarm explanation 1: Configuration back-up was not stored for the Outdoor Unit (OU).

Alarm explanation 2: This cause can only appear if the "automatic back-up restore" setting is turned off. The default value for the setting is *on* and editing this setting is not supported by the graphical interface in Hopper Manager. It is not recommended to turn off the "automatic back-up restore". When the automatic restore is off, the manually restored back-ups need to be activated manually.

Alarm explanation 3: Product-related identifications are missing (for example, product code, serial number, or HW version).

Instructions

Instructions 1: If needed, store the configuration back-up from Hopper Manager.

Instructions 2: Activate the restored back-up manually. Manual back-up restore and activation is not supported by the graphical interface of Hopper Manager.

Instructions 3: Contact your local Nokia representative.

Cancelling

N/A

3.2 185 Connection or settings have changed

Severity

Warning

Fault reason

SB 1: FM setup

SB 2: Identifications

Alarm cause:

1. The FE FH (Fault Handler) Checksum has changed.
2. The FE Identification has changed or the EEPROM reading has failed.

Description

Fault code: 185

Alarm explanation:

1. The user has changed the alarm settings.
2. The user has changed the settings in the node or the EEPROM reading has failed.

Instructions

Instructions 1-2:

N/A

Cancelling

The warning resets automatically.

3.3 162 Database full

Severity

Warning

Fault reason

SB: FM Event history

Alarm cause: Event history overflow

Description

Fault code: 162

Alarm explanation: The database for storing the alarm event history is full.

Consequence: New alarms/warnings are not stored in the history anymore.

Instructions

The alarm history is flushed by remote alarm polling.

Cancelling

The warning resets automatically.

3.4 148 Equipment reset

Severity

Warning

Fault reason

SB: HW setup

Alarm cause: FE Equipment Reset

Description

Fault code: 148

Alarm explanation: The outdoor unit has been reset.

Consequence: The traffic is interrupted until the outdoor unit has started up again (max 60 seconds).

Instructions

N/A

Cancelling

The warning resets automatically.

3.5 179 Far-end alarm

Severity

Major

Fault reason

SB: Radio interface

Alarm cause:

1. The far-end loopback to the air interface is on.
2. The far-end loopback to the Flexbus interface is on.

Description

Fault code: 179

Alarm explanation:

1. The far-end loopback to the air interface is on.
2. The far-end loopback to the Flexbus interface is on.

Consequence:

1. Payload AIS to far-end IU
2. Payload AIS to near-end OU

Instructions

Instructions 1:

1. Wait for the control timeout of the far-end OU to expire. The control time-out value can be defined by the user (the default value is 10 minutes).
2. Reboot the far-end OU (switch the Flexbus power off and on again at the far-end IU).

It is not possible to deactivate the loop manually via the node manager.

Instructions 2:

1. Deactivate the far-end loopback to the Flexbus interface manually via the node manager.
2. Wait for the control timeout of the far-end OU to expire. The control time-out value can be defined by the user (the default value is 10 minutes).

Cancelling

N/A

3.6 128 Fault in equipment

Severity

Major

Fault reason

SB: SW setup

Alarm cause:

1. File system checksum error
2. File system writing or erasing error
3. File system full error

Description

Fault code: 128

Alarm explanation 1-2: Internal fault

Alarm explanation 3: File system error

Consequence 1-2: N/A

Instructions

Instructions 1-2:

Replace the faulty unit and send it to the HW repair center.

Instructions 3: Contact the local help desk for instructions about deleting backups from the unit.

Cancelling

N/A

3.7 142 Fault in installation of equipment

Severity

Critical

Fault reason

SB: HW setup

Alarm cause:

1. There is a compatibility problem with the fixed HW module CIPSU.
2. There is a compatibility problem with the fixed HW module MODEM.
3. There is a compatibility problem with the fixed HW module IFU.

Description

Fault code: 142

Alarm explanation:

1. A compatibility problem is detected between the outdoor unit HW and the activated outdoor SW.
2. A compatibility problem is detected between the outdoor unit HW and the activated outdoor unit SW.
3. A compatibility problem is detected between the outdoor unit HW and the activated outdoor unit SW.

Instructions

Instructions 1-3:

1. Check whether the HW version is too old (not supported by the downloaded SW) and needs to be upgraded.
2. The software version is incorrect. Contact your local Nokia representative to get the correct software version.

Cancelling

N/A

3.8 0 Fault in power supply

Severity

Critical

Fault reason

SB: Radio interface

Alarm cause:

1. Power supply +1.80V measurement is out of range.
2. Power supply +3.30V measurement is out of range.
3. Power supply +5.25V measurement is out of range.
4. Power supply +6.50V measurement is out of range.
5. Power supply +27.00V measurement is out of range.
6. Power supply –5.00V measurement is out of range.

Description

Fault code: 0

Alarm explanation:

1. The internal derived voltage in FlexiHopper Plus is out of the specified range.

2.-6. The internal derived voltage is out of the specified range.

Instructions

The following instructons are valid for all fault causes:

1. Check the Flexbus voltage from the node manager.
2. Check that the IU supply voltage is within the required range.
3. Check the Flexbus cabling.
4. Replace the radio.

Cancelling

N/A

3.9 150 Fault in unit

Severity

Critical

Fault reason

SB: Radio interface

Alarm cause:

1. The ALC measurement is out of range.
2. The MPA measurement is out of range.
3. The IFPLL database is missing.
4. The band database is missing.
5. The band database line is missing.
6. There is a subband conflict between the modem and the MWU.
7. There is an IF conflict between the IFU and the MWU.
8. The duplex frequency for the subband is incorrect.
9. For Nokia FlexiHopper, The temperature measurement is out of range.

Description

Fault code: 150

Alarm explanation 1-2, 9: The internal measurement is out of range.

Alarm explanation 3-8: An internal fault in the radio OU has been detected.

Consequence 1-2: None.

Consequence 3-8: There is no radio transmit signal. Payload AIS to near-end IU.

Instructions

Instructions 1-2, 9:

N/A

Instructions 3-8:

Replace the faulty unit and send it to the HW repair center.

Cancelling

N/A

3.10 141 Forced control on

Severity

Critical

Fault reason

SB: Radio interface

Alarm cause:

1. The fading margin measurement is ongoing.
2. The user has set the TX power off.
3. Mute forced control is on.

Description

Fault code: 141

Alarm explanation:

1. The user-initiated automatic fading margin measurement (AFMM) is ongoing.
2. The user has forced the TX power off via the node manager.
3. The user activated *Mute forced control with timeout*.

Consequence:

1. Payload AIS is connected to the near-end IU and TX power is switched off during the measurement.
2. There is no radio transmit signal.
3. There is no radio transmit signal.

Instructions

1. Wait for the fading margin measurement to finish.
2. Set the TX power on via the node manager.
3. Deactivate *Mute forced control with timeout* or wait for the time out.

Cancelling

N/A

3.11 59 Incoming signal level incorrect

Severity

Critical

Fault reason

SB: Radio interface

Alarm cause: The RX input level minimum threshold has been crossed during the last measurement period.

Description

Fault code: 59

Alarm explanation: The minimum RX level measured during the last 15-minute period is below the threshold (default values: alarm activation if RXmin ≤-120dBm, alarm clearing if RXmin ≥-118dBm). The alarm limits can be defined by the user.

Instructions

1. Check that the alarm thresholds are configured correctly (low enough).
2. Check that the far-end transmitter is turned on.
3. Check that the TX frequency is set correctly in the far-end and near-end OUs.
4. Check the far-end transmit power and increase it if needed.
5. Check the line of sight to the far-end (look for line of sight obstacles, such as trees).

6. Adjust the alignment of the near- and far-end OUs.
7. If instructions 1.-6. do not help, replace the faulty unit and send it to the HW repair center.

Cancelling

The alarm is cancelled after the RX level has raised above the clearing threshold and stayed above the activation threshold for a full 15 minutes period.

The alarm can also be cancelled from the node manager manually if the RX level has raised above the clearing threshold and stayed above the activation threshold.

3.12 267 Licence expired

Severity

Critical

Fault reason

SB: SW setup

Description

Fault code: 267

*Alarm explanation:*This alarm is valid for Nokia FlexiHopper Plus. The feature's short-term licence has expired.

Instructions

Obtain a new licence file for this feature or turn off the feature.

Cancelling

The alarm is cancelled when a new licence has been installed or the feature is no longer in use.

3.13 269 Licence for feature is not available

Severity

Critical

Fault reason

SB: SW setup

Description

Fault code: 269

Alarm explanation: This alarm is valid for Nokia FlexiHopper Plus. A license for the enabled feature is not available. The feature was most likely activated from a configuration backup during a unit replacement and the replacement unit does not contain a licence.

Instructions

Obtain a new licence file for this feature or turn off the feature.

Cancelling

The alarm is cancelled when a new licence has been installed or the feature is no longer in use.

3.14 268 Licence will expire in near future

Severity

Major

Fault reason

SB: SW setup

Description

Fault code: 268

Alarm explanation: This alarm is valid for Nokia FlexiHopper Plus. The time limited licence for the feature will expire in the near future.

Instructions

Obtain a new licence file for this feature or turn off the feature before the expiry time.

Cancelling

The alarm is cancelled when a new licence has been installed or the feature is no longer in use.

3.15 22 Loop to equipment

Severity

Major

Fault reason

SB: Radio interface

Alarm cause: The near-end loopback to Flexbus interface is on.

Description

Fault code: 22

Alarm explanation: The near-end loopback to Flexbus interface is on.

Consequence: Payload AIS to far-end OU.

Instructions

1. Deactivate the near-end loopback to Flexbus interface manually via the node manager.
2. Wait for the control timeout of the near-end OU to expire. The control time-out value can be defined by the user (the default value is 10 minutes).

Cancelling

N/A

3.16 21 Loop to interface

Severity

Major

Fault reason

SB: Radio interface

Alarm cause: The near-end loopback to the air interface is on.

Description

Fault code: 21

Alarm explanation: The near-end loopback to the air interface is on.

Consequence: Payload AIS to near-end IU.

Instructions

1. Wait for the control timeout of the near-end OU to expire. The control time-out value can be defined by the user (the default value is 10 minutes).
2. Reboot the near-end OU by switching the Flexbus power off and on again.

It is not possible to deactivate the loop manually via the node manager.

Cancelling

N/A

3.17 60 No incoming radio signal

Severity

Critical

Fault reason

SB: Radio interface

Alarm cause:

1. The RX framelock is lost.
2. The MWU phaselock is lost.
3. The IFU phaselock is lost.

Description

Fault code: 60

Alarm explanation:

1. The radio receiver cannot lock to a radio signal.
2. The TX frequency is not set or there is an internal fault.
3. There is an internal fault.

Consequence 1-3: Payload AIS to near-end IU.

Instructions

Indstructions 1:

1. Check that the received signal level is sufficient.

   If not, check:
   - that the far-end transmitter is turned on.
   - the far-end transmit power level.
   - the line of sight to the far-end (look for line of sight obstacles such as trees or new buildings).
   - the alignment of the near- and far-end OUs.
2. Check that the IU Flexbus capacity is set correct (the same IU capacity must be configured at the near-end and far-end).
3. Check that the modulation mode is set correct in the OU (the same modulation must be configured at the near-end and far-end OU).
4. Check that the TX frequency is set correctly (corresponding settings at the near-end and far-end).
5. Check that the modulation type is the same for both near-end and far-end (for FlexiHopper Plus)

Instructions 2:

1. Set the TX frequency.
2. If this does not help, replace the faulty unit and send it to the HW repair center.

Instructions 3:

Replace the faulty unit and send it to the HW repair center.

Cancelling

N/A

3.18 45 No outgoing radio signal

Severity

Critical

Fault reason

SB: Radio interface

Alarm cause:

1. The user has set the TX power off.
2. The TX frequency setting is missing.
3. The TX framelock is lost.
4. Simultaneous OU modulation mode and IU capacity mismatch.
5. The MWU phaselock is lost.
6. User activated *Mute forced control with timeout*.
7. No valid licence.

Description

Fault code: 45

Alarm explanation:

1. The TX power was turned off by the user.
2. The TX frequency has not been set.

3. During normal operation this alarm is activated when a change in capacity is initiated (the TX framelock is lost and as a consequence the TX power is muted). The TX power is automatically switched back on again when the capacity has been successfully changed (takes max 60 seconds).
4. This alarm is valid for Nokia FlexiHopper plus. The current OU modulation mode does not support the selected IU capacity. In 16-state modulation mode only 8 x 2M and 16 x 2M capacities are supported.
5. The TX frequency is not set or there is an internal fault.
6. There is no radio transmit signal.
7. This alarm is valid for Nokia FlexiHopper plus. A licence for unit is not available.

Consequence 1-3, 6 and 7: No radio signal is transmitted.

Consequence 4-5: No radio signal is transmitted. No radio signal is received.

Instructions

Instructions 1:

Turn the TX power on via the node manager.

Instructions 2:

1. Set the TX frequency via the node manager.
2. Replace the faulty unit and send it to the HW repair center.

Instructions 3:

1. After changing the capacity, wait for 60 seconds until the TX power is activated again.
2. If the alarm is still active, replace the faulty unit and send it to the HW repair center.

Instructions 4:

1. Check that the correct modulation mode is configured in the OU settings.
2. Check that the correct capacity is selected in the IU settings and that the capacity is supported by the selected OU modulation mode.

Instructions 5:

1. Set the TX frequency.
2. If this does not help, replace the faulty unit and send it to the HW repair center.

Instruction 6: Deactivate *Mute forced control with timeout* or wait for the time out.

Instruction 7: Install valid licence.

Cancelling

N/A

3.19 165 Real time lost fault

Severity

Major

Fault reason

SB: Real time clock

Alarm cause: The FE RTC is not set.

Description

Fault code: 165

Alarm explanation: The real time clock has not been set after the IU power has been switched on (the default RTC value is 01.01.1970 00:00).

Consequence: The alarms and statistics are timestamped with the wrong time.

Instructions

1. Set the IU real time clock. The OU real time clock is synchronised automatically.
2. Wait until the RTC value is set automatically via the NMS. This depends on the NMS and the used protocol. The time between the automatic RTC updates depends on the NMS.

Note

The real-time clock (RTC) value is lost when the power is switched off. When the power fails only at one end of the hop, the RTC value is recovered from the far end after the power has been recovered.

Cancelling

N/A

3.20 184 Real time updated

Severity

Warning

Fault reason

SB: Real time clock

Alarm cause: FE RTC time difference is over 5 s.

Description

Fault code: 184

Alarm explanation: OU real time clock time difference is over 5 s when it is automatically updated.

Instructions

N/A

Cancelling

The warning resets automatically.

3.21 23 Test mode active

Severity

Major

Fault reason

SB: SW setup

Description

Fault code: 23

Alarm explanation: This alarm is valid for Nokia FlexiHopper Plus. The unit is operating in the factory test mode. This mode should not be visible to customers.

Instructions

N/A.

Cancelling

N/A