MOP for RADIO_RSL_LOW alarm clearance

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A. Introduction

This document outlines the step-by-step process involved in MOP for RADIO_RSL_LOW alarm clearance.

The RADIO_RSL_LOW is an alarm indicating that the radio receive power is very low. This alarm is reported if the detected receive power is equal to or lower than the lower threshold of the ODU (The upper threshold is −80 dBm for the 112 MHz channel bandwidth and −90 dBm for the other channel bandwidths).

B. PRE-CHECK

1. *Check for the mandatory fields in Standard CR Template for if any of the mandatory fields is not duly filled, CR should not be taken for execution.*

2. *Check the data received from authorized Transmission engineer for correctness & all essential data.*

3. *If Circle Head/ CR form does not approve the CR is not duly filled, CR should not be taken for execution.*

4. *Every Outage involve activity should be performed in Night Shift Only.*

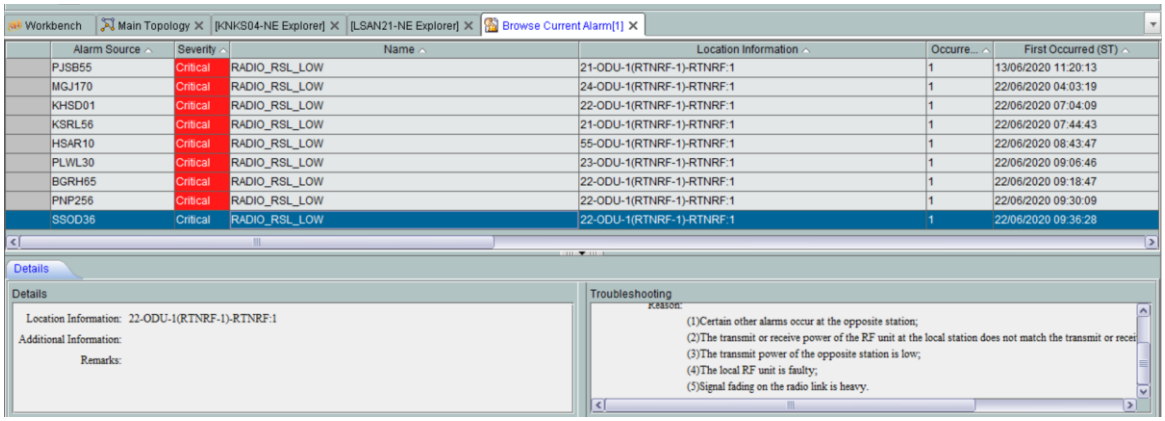
5. *Need backup of Node where the activity is performed before any activity.*

6. *If any Critical/SA alarms, Don't perform activity on the node and ask circle to clear the Alarm.*

7. *In case of latency, Don't perform activity on the node*

❖ *Please note that the method of procedure is prepared as the current scenario, available devices, and deployed software version. So activity steps and impact can vary depending upon the scenario.*

Current Alarms before activity



C. *Procedure:*

Possible Causes

- *Cause 1: Other alarms occur at the opposite station.*
- *Cause 2: The transmit power of the opposite station is very low.*
- *Cause 3: The local ODU is faulty.*
- *Cause 4: Signal attenuation on the radio link is very heavy.*

Procedure

1. ***Cause 1: Other alarms occur at the opposite station.***

Check whether any of the following alarms is generated in the equipment of the opposite station. If yes, take priority to clear the alarm.

- *RADIO_MUTE*
- *CONFIG_NOSUPPORT*
- *RADIO_TSL_LOW*
- *BD_STATUS*

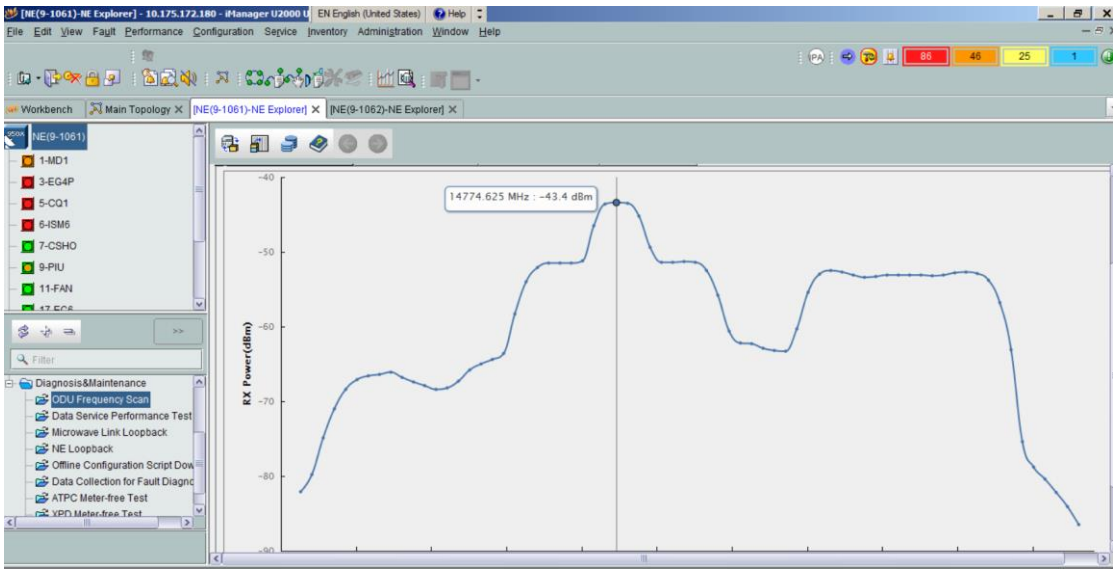
2. ***Cause 2: The transmit power of the opposite station is very low.***

   Check whether the transmit power of the opposite station is normal. If not, replace the ODU of the opposite station.

3. ***Cause 3: The local ODU is faulty.***

Procedure to check the ODU and IF board perform the ODU/IF loopback and same can be carried out at both the ends using the below mentioned guidelines:

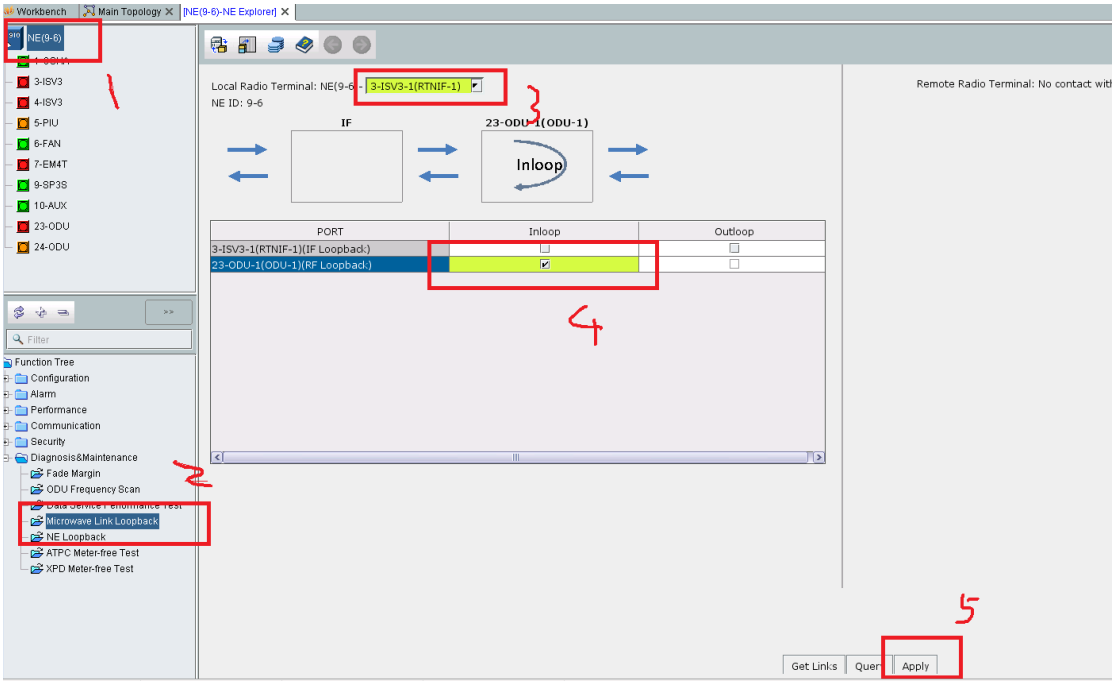
Interference check: firstly check the if MW link have interference, if have, try to change the frequency to avoid the interference; if does not have, please go to the next step



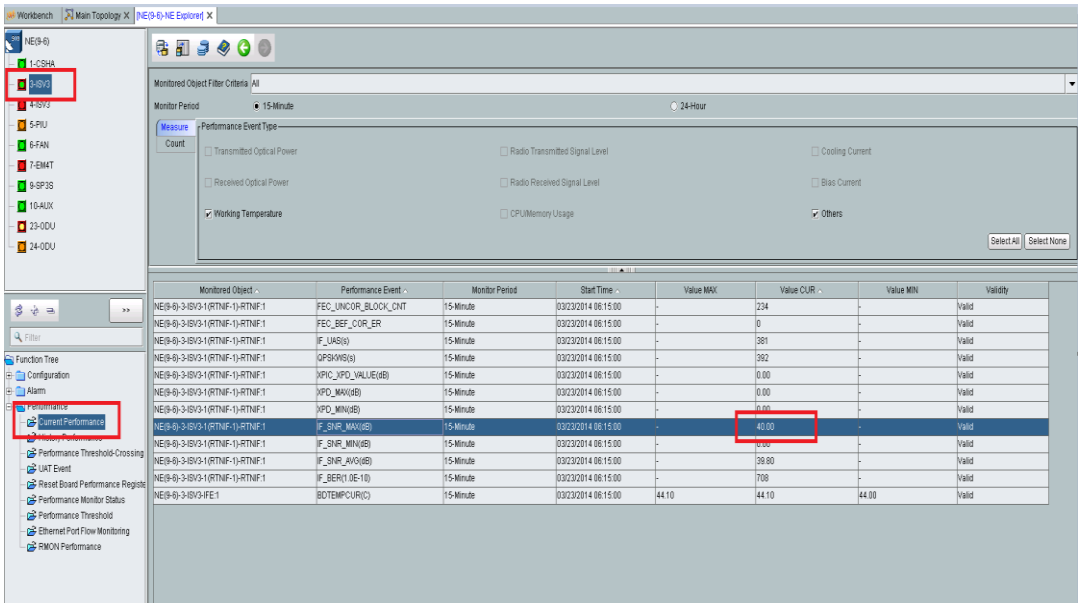
Note: loopback will interrupt service

before inloop, should mute all other ODUs in same link, except the one will inloop

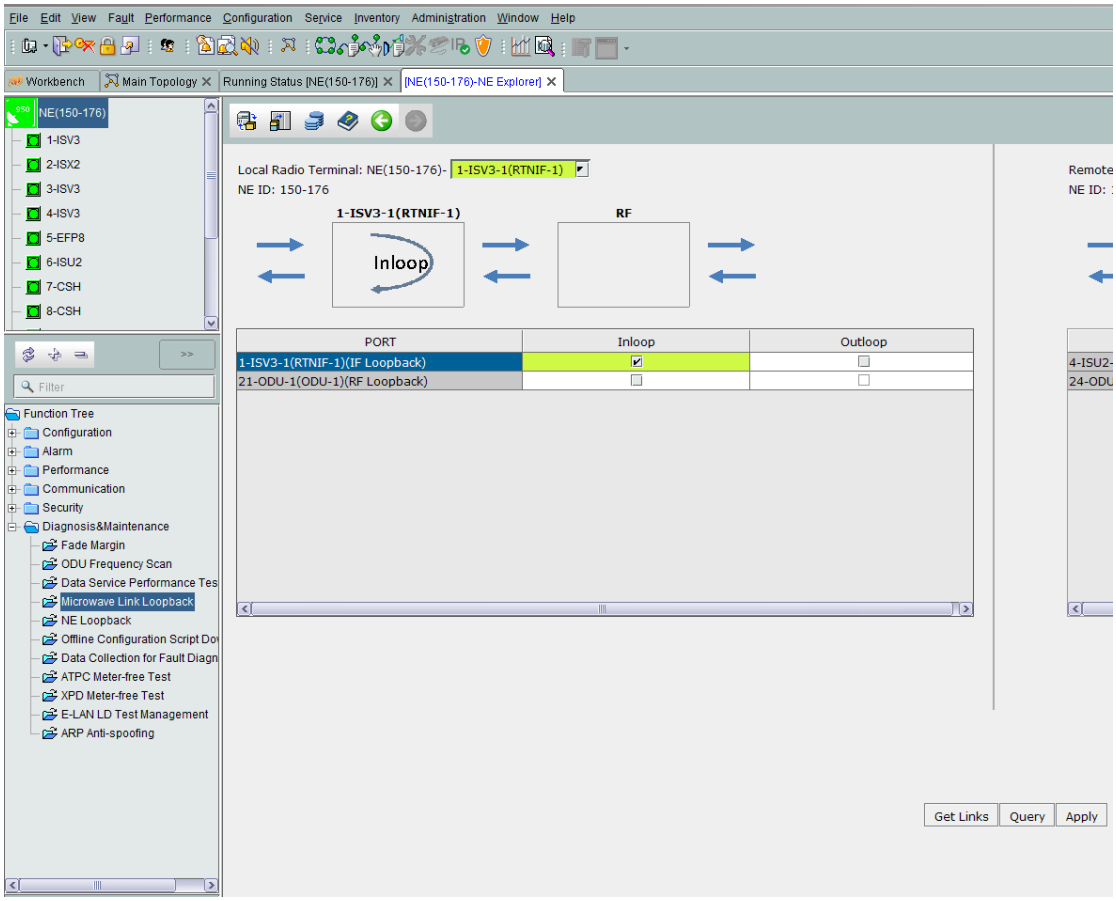
Select the NE, do inloop;

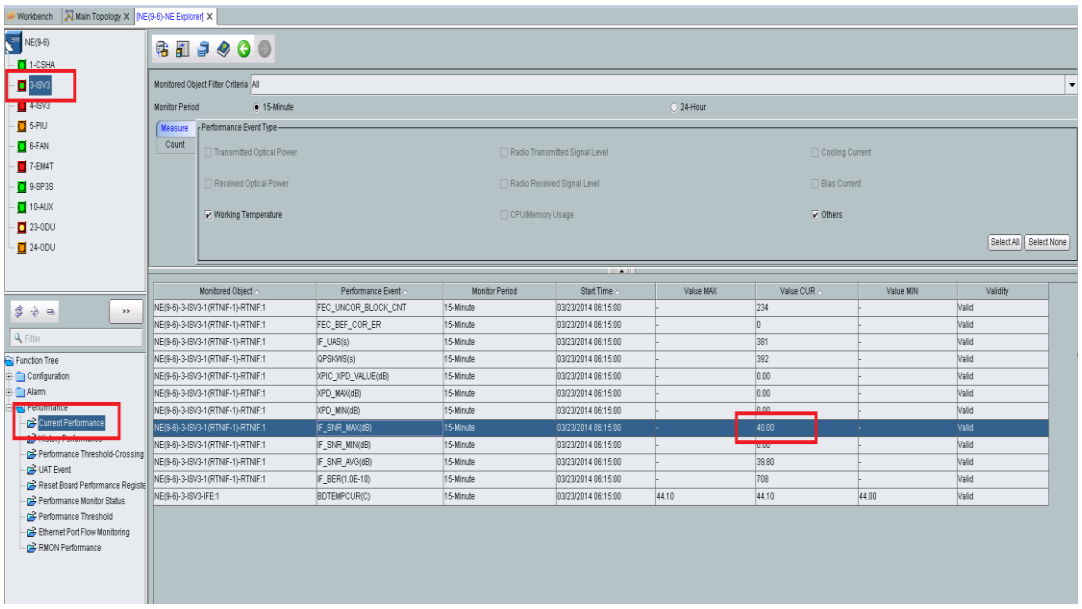


Then check the MSE(Or SNR) current; if the MSE is lower than 32dB (if your U2000 shows MSE, the value should be negative),go to the step 3; f the MSE is bigger than 32dB, means these side does not have problem, need check the other side;



Then do the IF board port inloop,if the MSE is big than 37dB (if your U2000 shows MSE, the value should be negative),means the ODU has problem, need replace the ODU; if the MSE is less than 37dB,means the IF board has problem, need replace the IF board


File Edit View Fault Performance Configuration Service Inventory Administration Window Help
Workbench
Main Topology
Running Status [NE(150-176)]
[NE(150-176)-NE Explorer]
NE(150-176)
1-ISV3
2-ISX2
3-ISV3
4-ISV3
5-EFP8
6-ISU2
7-CSH
8-CSH
Filter
Function Tree
Configuration
Alarm
Performance
Communication
Security
Diagnosis&Maintenance
Fade Margin
ODU Frequency Scan
Data Service Performance Tes
Microwave Link Loopback
NE Loopback
Offline Configuration Script Do
Data Collection for Fault Diagn
ATPC Meter-free Test
XPD Meter-free Test
E-LAN LD Test Management
ARP Anti-spoofing
Local Radio Terminal: NE(150-176)-
1-ISV3-1(RTNIF-1)
NE ID: 150-176
1-ISV3-1(RTNIF-1)
RF
Inloop
PORT
Inloop
Outloop
1-ISV3-1(RTNIF-1)(IF Loopback)
21-ODU-1(ODU-1)(RF Loopback)
Get Links
Query
Apply


Workbench
Main Topology
Monitored Object Filter Criteria
Monitor Period
15-Minute
24-Hour
Performance Event Type
Working Temperature
Others
Select All
Select None
Monitored Object
Performance Event
Monitor Period
Start Time
Value MAX
Value CUR
Value MIN
Validity
Current Performance
Historical Performance
Performance Threshold-Crossing
UAT Event
Performance Monitor Status
Performance Threshold
Ethernet Port Flow Monitoring
RMON Performance

Cause 4: Signal attenuation on the radio link is very heavy.

a. *Browse history alarms and check whether the alarm is generated continuously.*

   If the alarm is generated occasionally, contact the network planning department to change the design to increase the anti-fading performance.

b. *Check whether the antennas at both ends are adjusted properly.*

   If not, align the antennas again.

c. *Check whether any mountain or building obstacle exists in the transmit direction.*

   If yes, contact the network planning department for proper modification of the planning design, hence preventing the block of the mountain or building obstacle.

d. *Check whether the polarization direction of the antenna, ODU, and hybrid coupler is set correctly.*

   If not, correct the polarization direction.

e. *Check whether the outdoor units such as antennas, hybrid coupler, ODU, and waveguide are wet, damp, or damaged.*

   If yes, replace the unit that is wet, damp, or damaged. For the operations, see Part Replacement

f. *Check whether the antenna gain at both the transmit and receive ends meets the requirement.*

   If not, replace the antenna.

D. Post Activity Health Check:

Please check alarm will be clear and services also restored. Need to confirm the service status with all the stake holders.

E. Fall Back Procedure: -

Need to shift the link to another vacant slot and configure the link as per the requirement.