NOKIA

Nokia Technologies

# Flexi Multiradio BTS Hardware

Software Upgrade and Commissioning

Method of Procedure

| | |
|---|---|
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## Change History

| Version | Status | Date | Author | Owner | Reviewed by | Reviewed date | Approver | Approval date | Description of changes |
|---|---|---|---|---|---|---|---|---|---|
| 1.0 | Approved | 15-11-2016 | Sheryl Yao | Sheryl Yao | Ibtisam Qurashi | 15-11-2016 | Ibtisam Qurashi | 15-11-2016 | First Version |

# Contents

# 1 Introduction

The purpose of this MOP is to provide step-by-step instruction for Flexi Multiradio Hardware onsite operation. This document focus on the SW upgrade and commissioning on BTS hardware. The operation should only be done by trained personnel. Safety gears are required for all site technicians and engineers.

The software version can be obtained from NOLS.

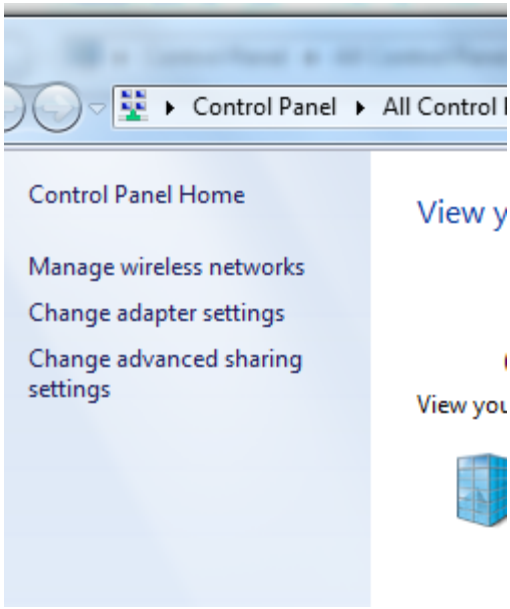
# 2 SW Upgrade

## 2.1 Connect to System Modules

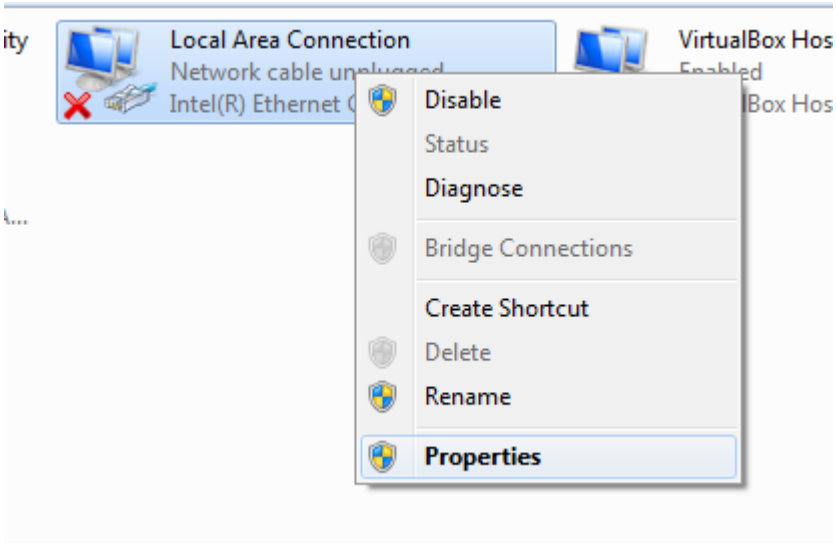
- Power up the system module. The system module is using -47v.
- Unplug the rubber boot on LMP port.
- Connect the Ethernet cable to LMP port
- Connect the other end of the cable to your LAN port on the laptop.

Follow the steps below to set your adaptor setting:

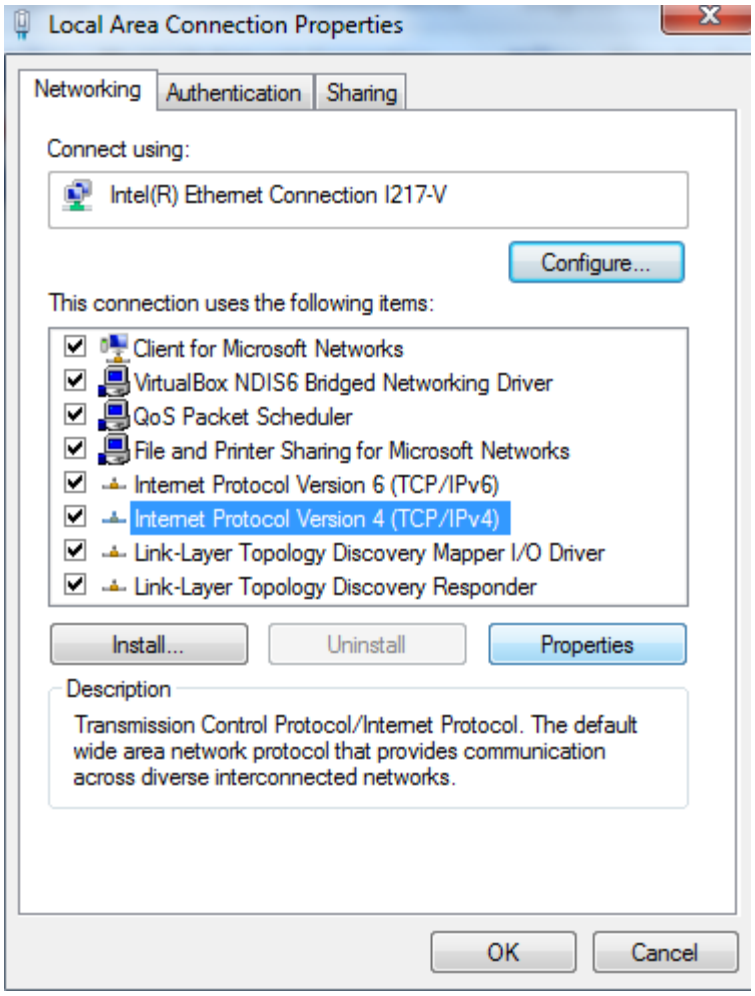
- Go to Network and Sharing Centre, select change adaptor settings



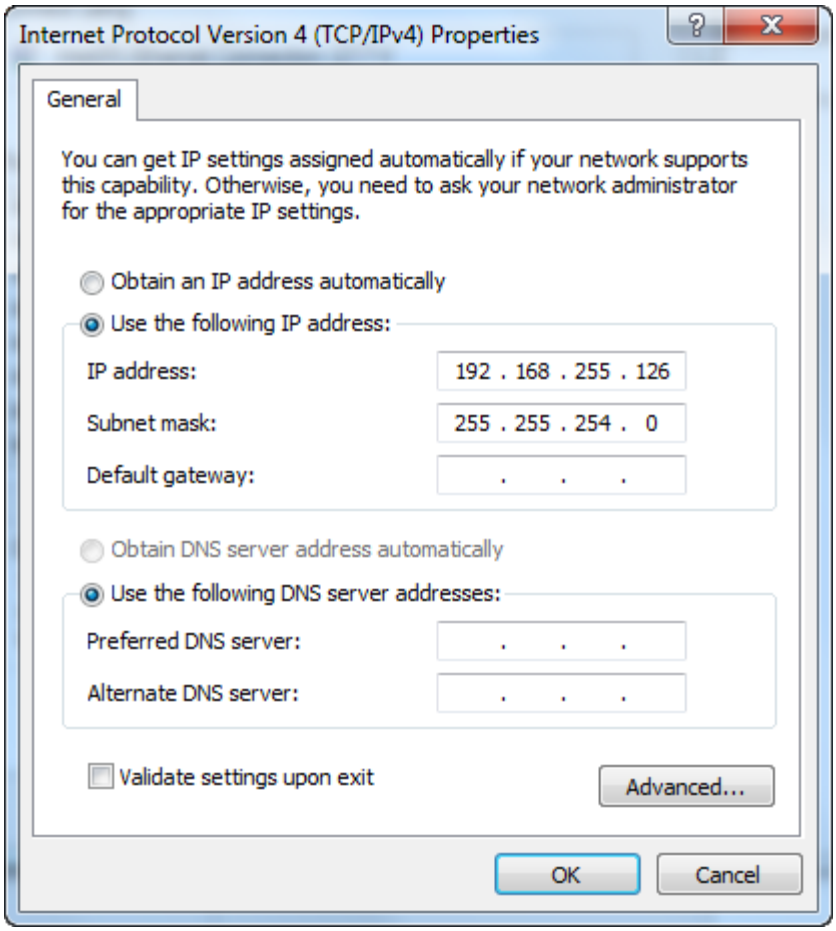

- Right click on your Local Area Network, select properties.




- Click IPv4, select Properties

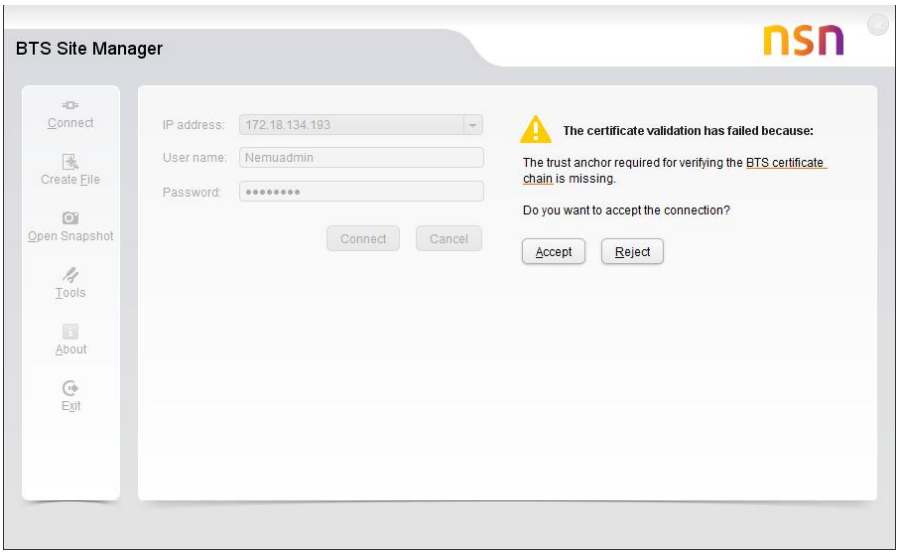



- Modify the IP as follows

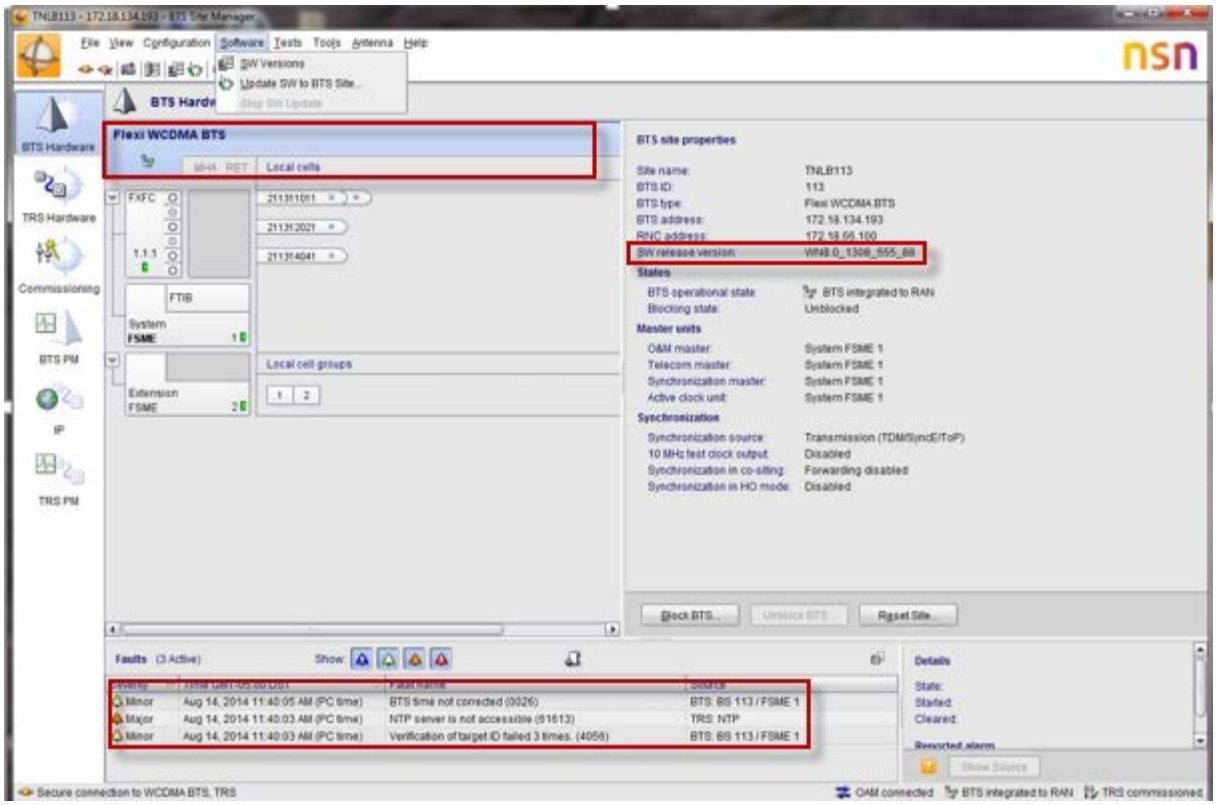



## 2.2 Update System Module

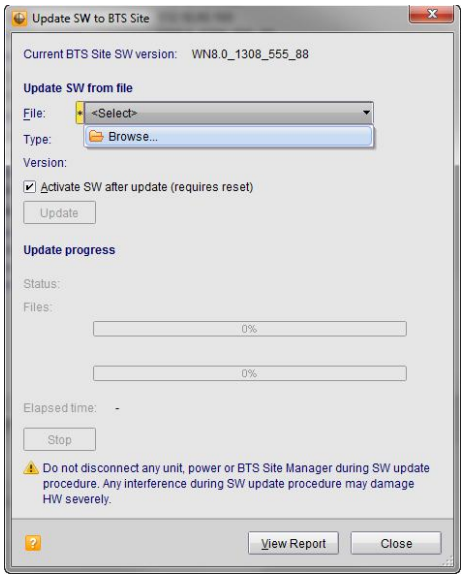
- Enter login credentials Nemuadmin/nemuuser and click CONNECT
- A warning message may appear:



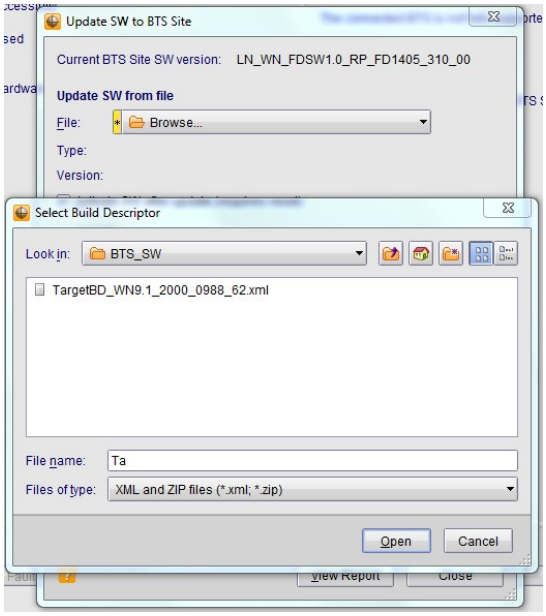

- Click on ACCEPT to continue.
- Verify BTS SW from the right panel view. Click on Software -> Update SW to BTS Site if mismatch from expected BTS SW



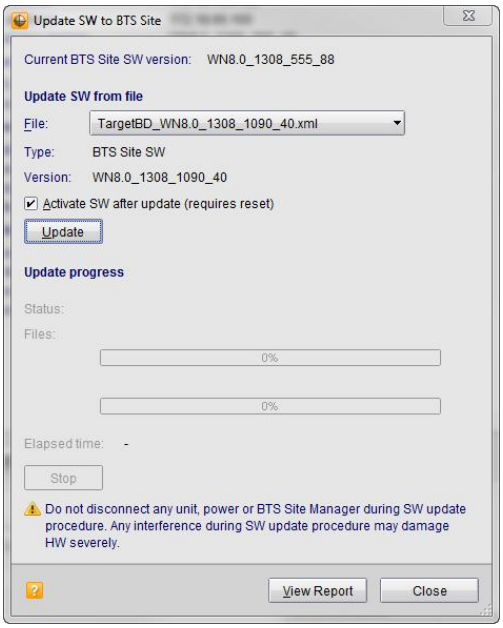

- Extract SW package (WBTS16_3000_1122_17) on local hard drive (for example C:¥temp¥)
- On the next window click on SELECT and then BROWSE




- Go to the folder where SW package has been unzipped, then select subfolder BTS_SW (in this example C:¥temp¥BTS_SW¥) then select file TargetBD_ WBTS16_3000_1122_17
- Following screenshot is an example from another SW version

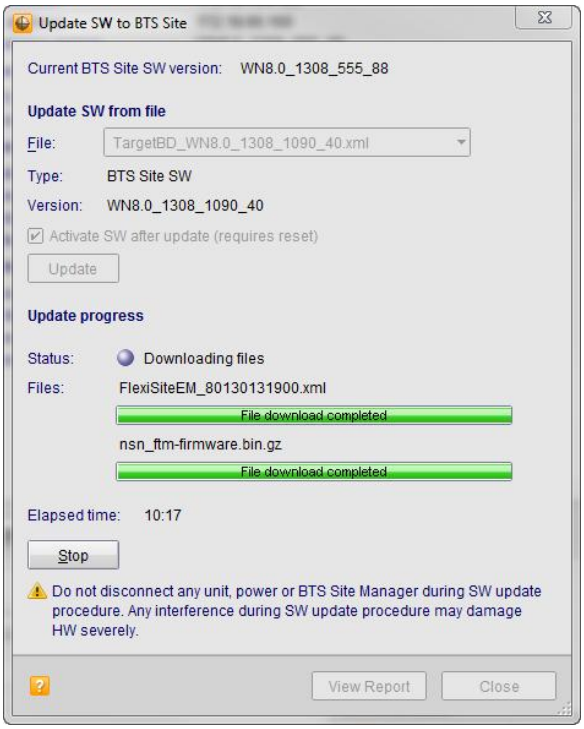


- Check Activate SW after update (require reset) and click Update.

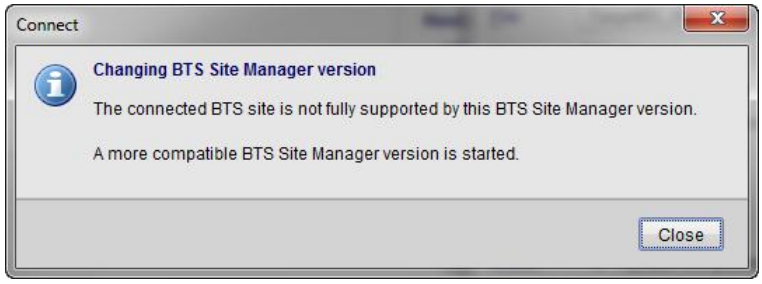



- Site Element Manager will load new SW on WBTS and activate.

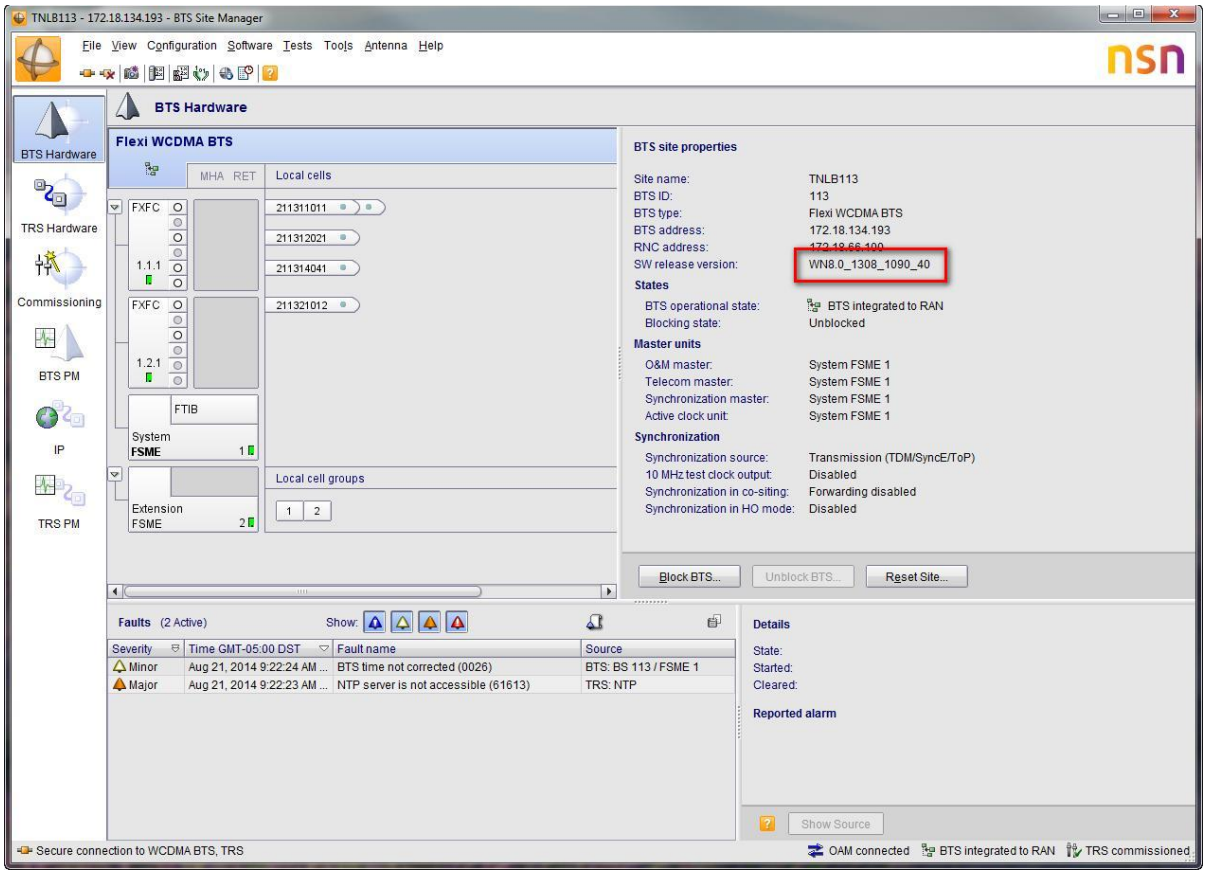
  This step may take 15 minutes or more to complete




- WBTS will automatically restart and connection will be re-established automatically.
- On the next window click CLOSE



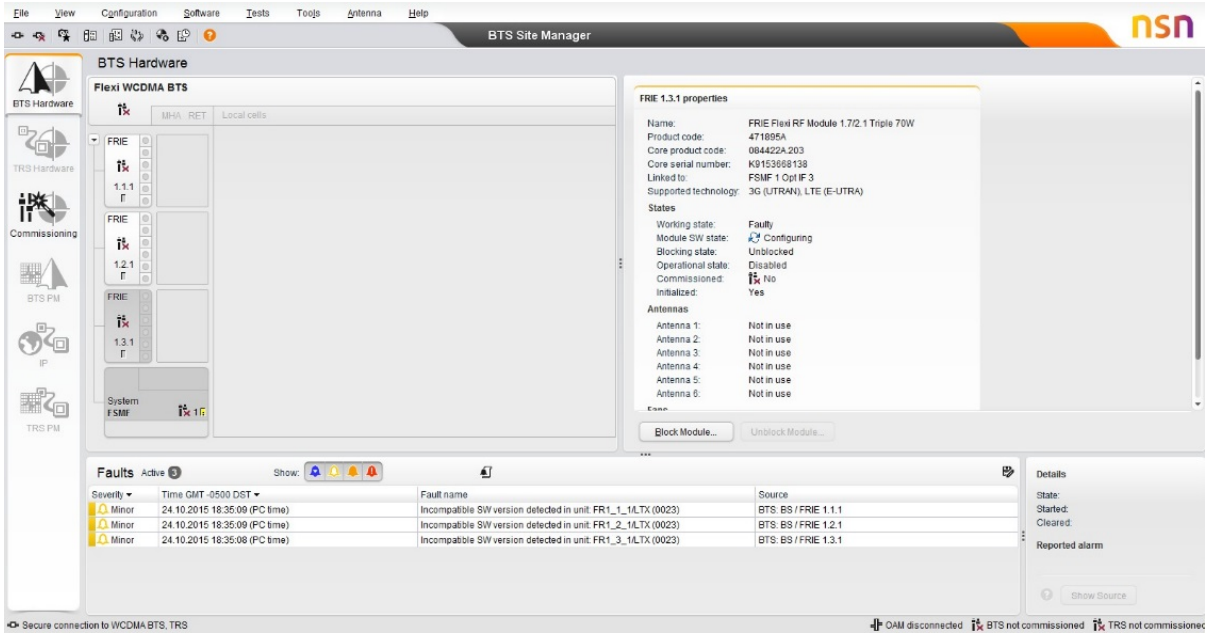

- Site Element Manager will restart and will auto-reconnect.
- Check if new SW is loaded
- Following screenshot is an example. SW Release version should be WBTS16_3000_1122_17



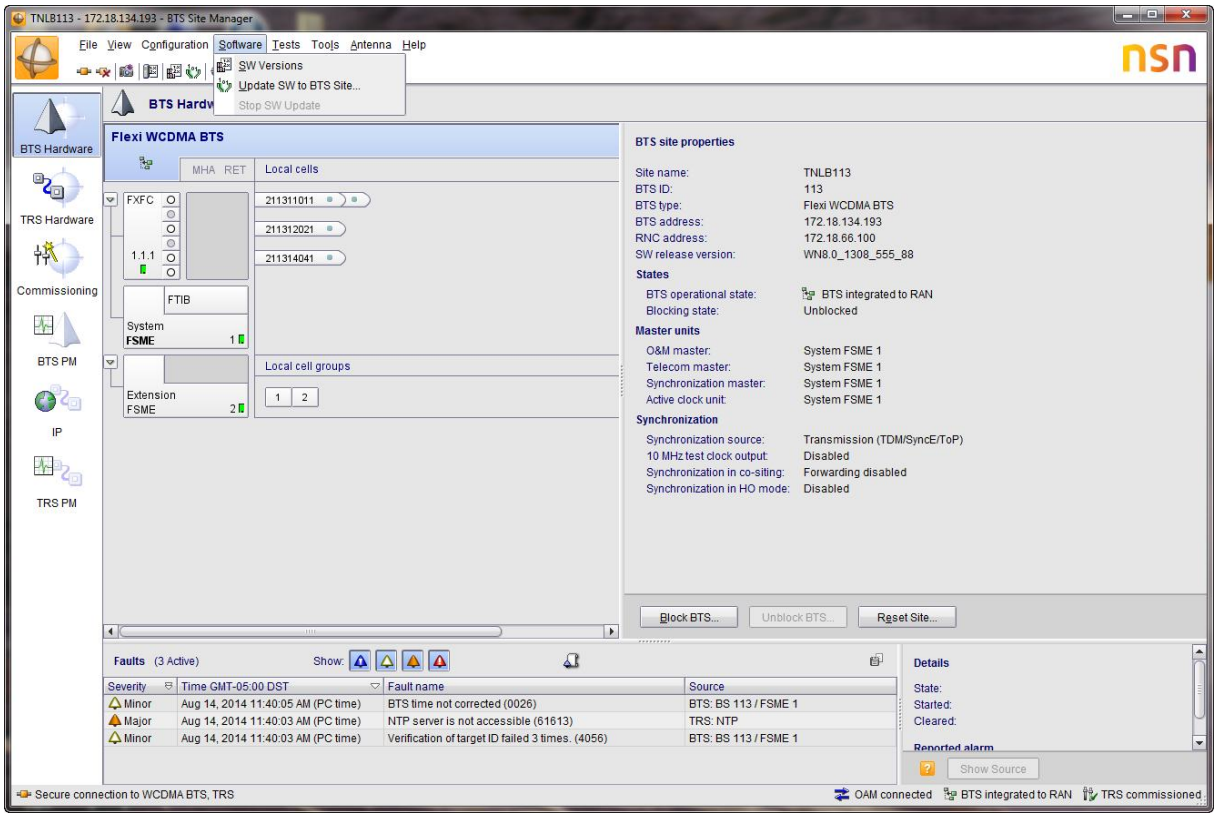

## 2.3 Connect and Upgrade RF Modules

- Connect RF modules and wait until all RF are detected on the main Site Element Manager window. Refer to Appendix F for hardware and ports information
- In case any module cannot be detected, check SFP filters and optical cables
    - Clean up SFP on RF module and System module
    - Replace SFP if necessary
    - Check if optical cable is faulty by interchanging it with functional cable on other RF modules
    - Make sure RF module is powered up correctly

- RF modules should appear with a “X” symbol, indicating modules are detected
- Alarm should also appear on the bottom of the screen indicating SW is not compatible with current SW used by BTS



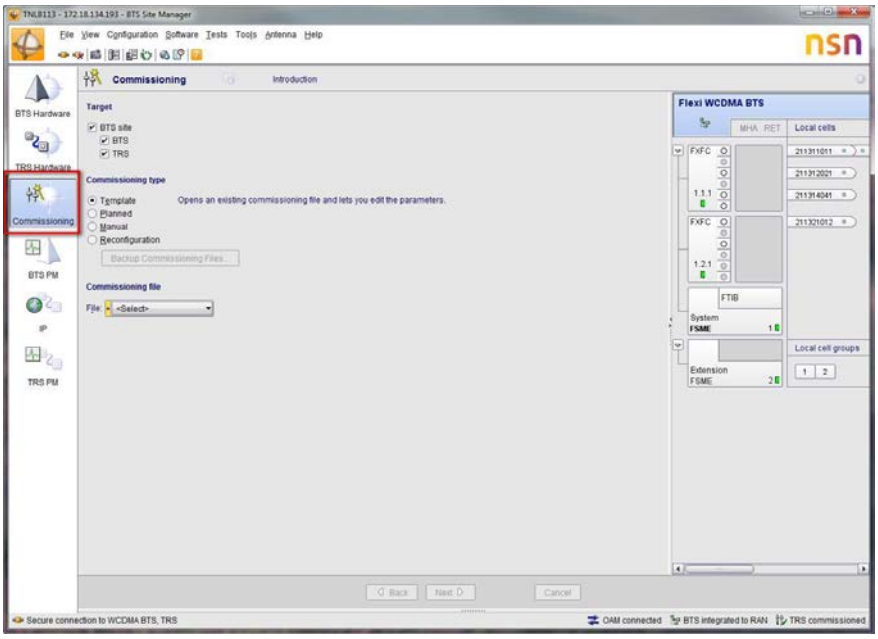

- Once all RF modules are detected, on the top menu, select SOFTWARE then UPDATE SW TO BTS



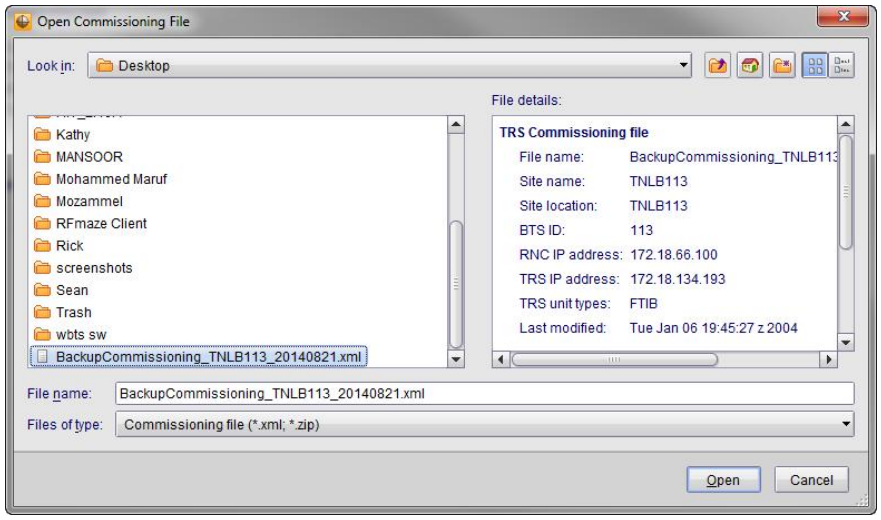

- Upgrade RF SW following the same steps indicated in 10.1, make sure that "Incompatible "SW Version" alarm is cleared after upgrade.

# 3 SCF Commissioning

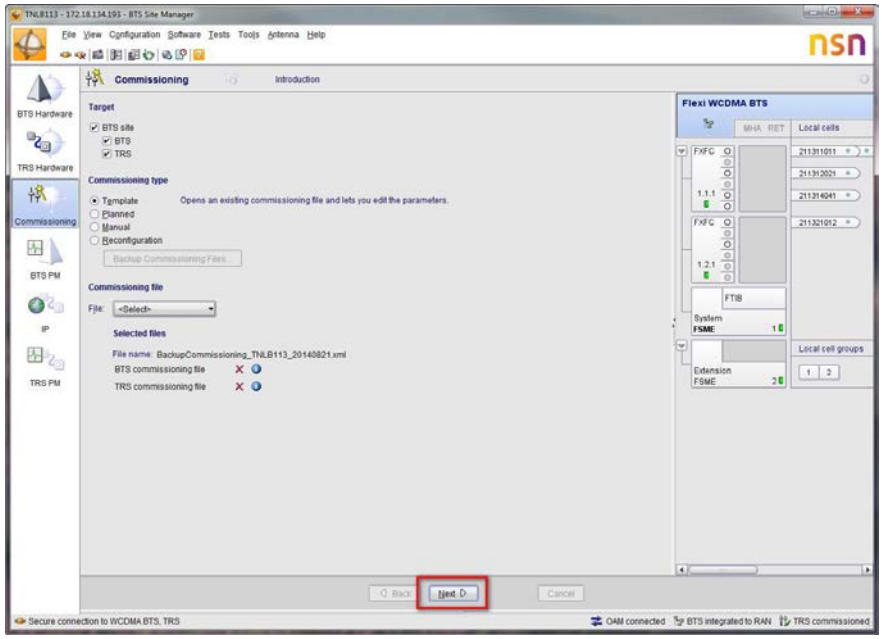
- From Site Element Manager main window click on COMMISSIONING.



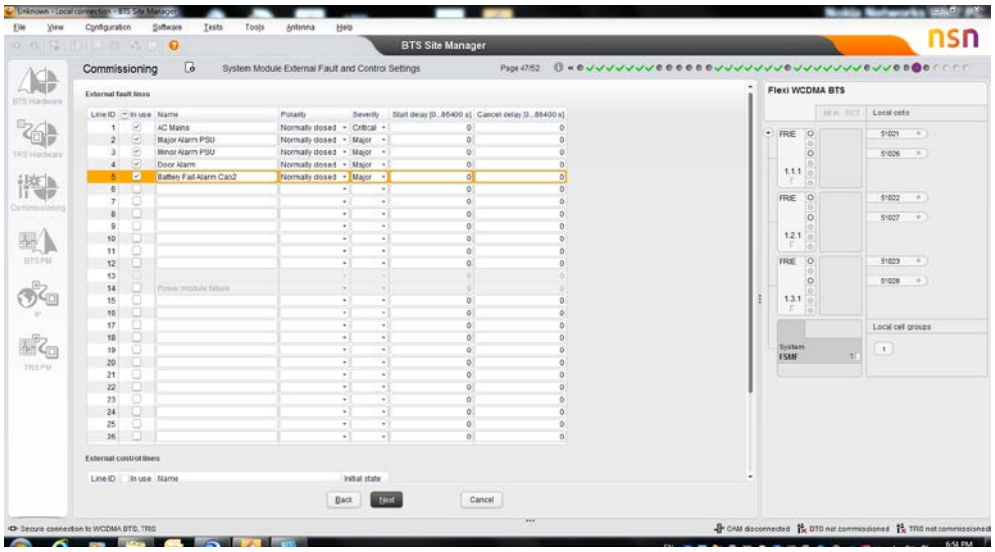

- Ensure following objects are checked:
  - BTS SITE →BTS
  - BTS SITE →TRS
- Select COMMISSIONING TYPE → TEMPLATE and click on SELECT
- On the following window select correct SCF file for the site and click OPEN



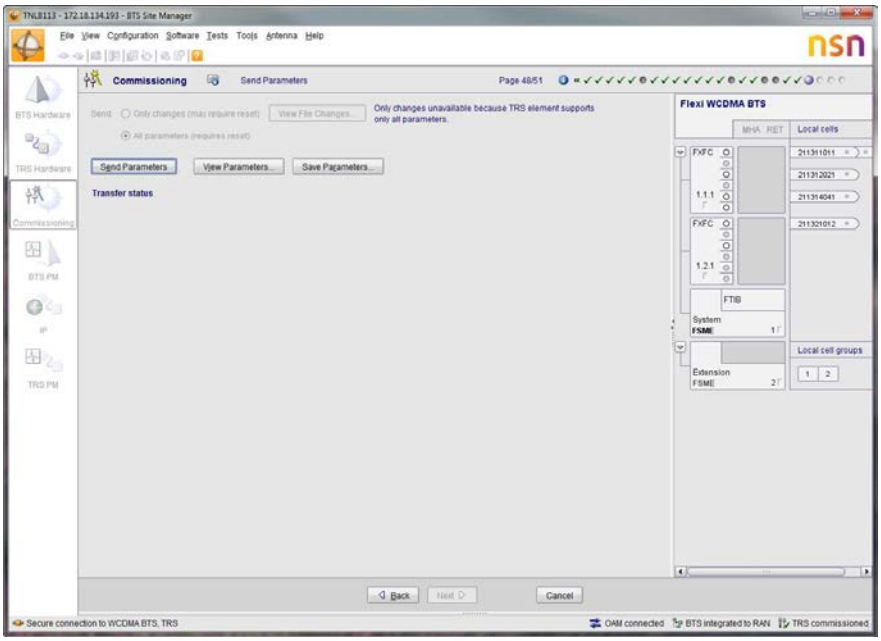

- On the following windows continue clicking on Next



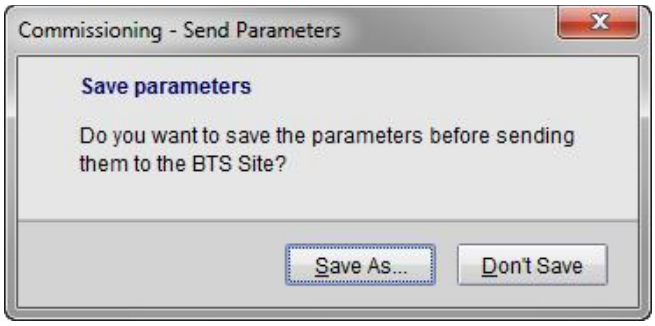

- Continue clicking on NEXT until you reach page 47 (System Module External Fault and Control Setting), double check that all parameters appear **OK** on each page.
- Check alarms are configured properly for cabinet 1 and, if present, cabinet 2



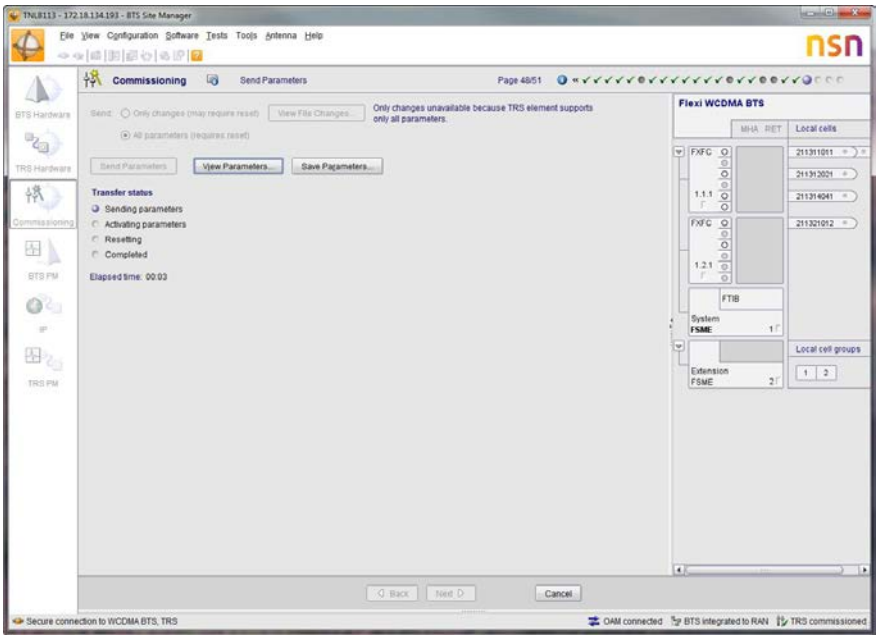

- Click on NEXT and, on following page, click on SEND PARAMETERS



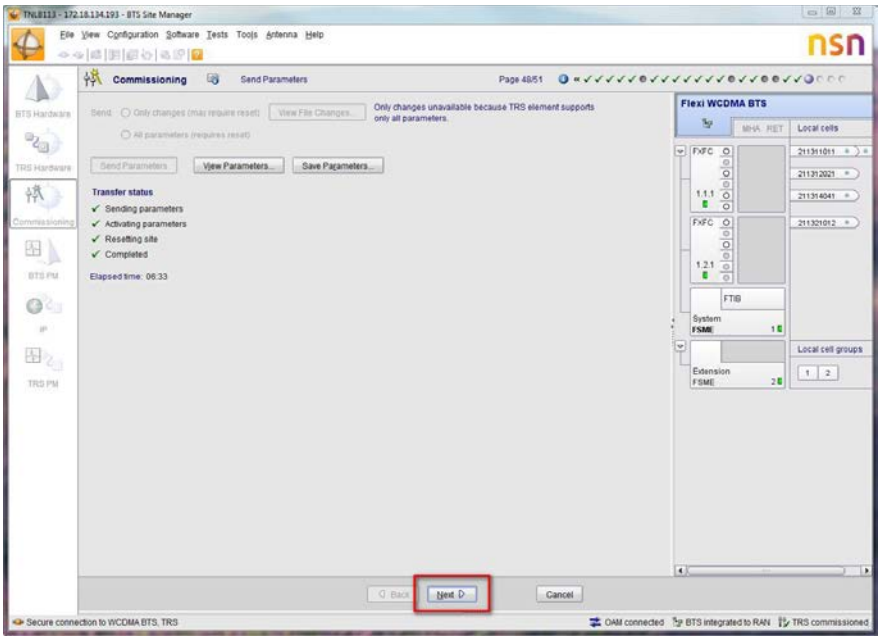

- On the following popup, click DON'T SAVE



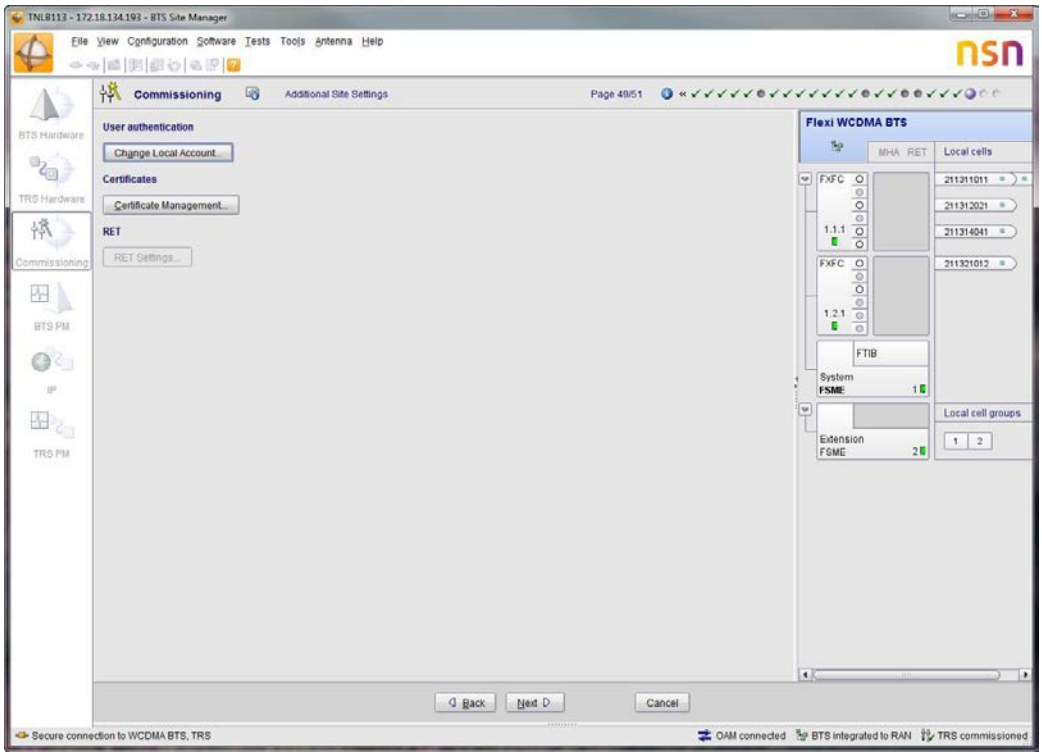

- Site Element Manager will load the configuration and WBTS will reset.
- This step will require some minutes

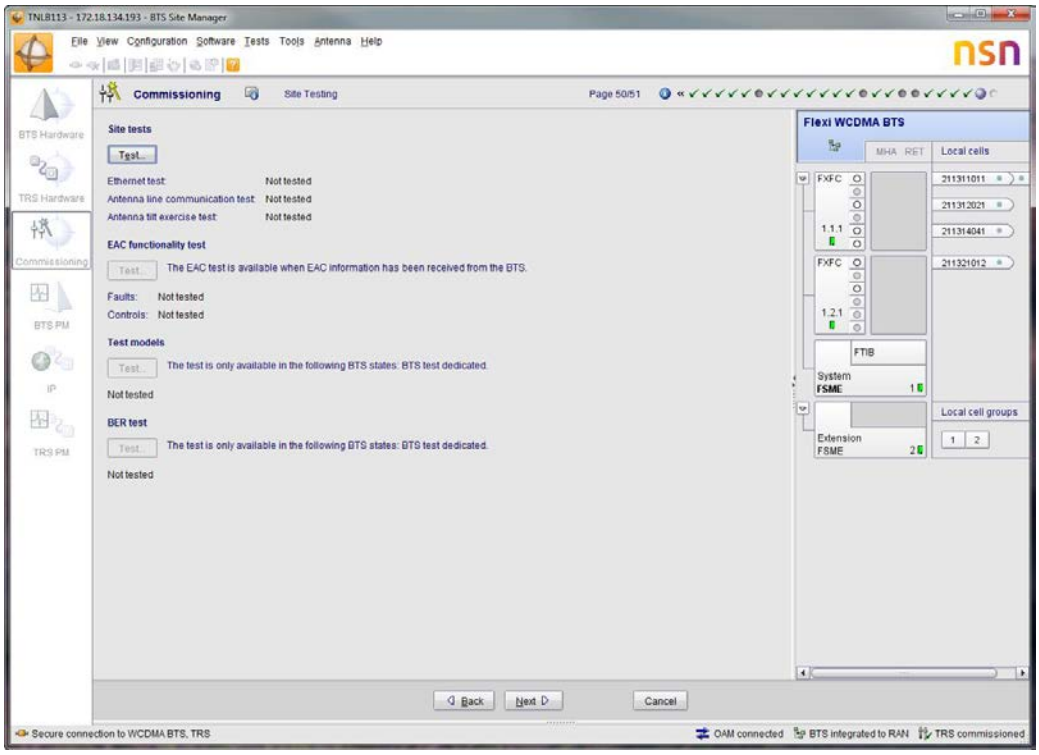


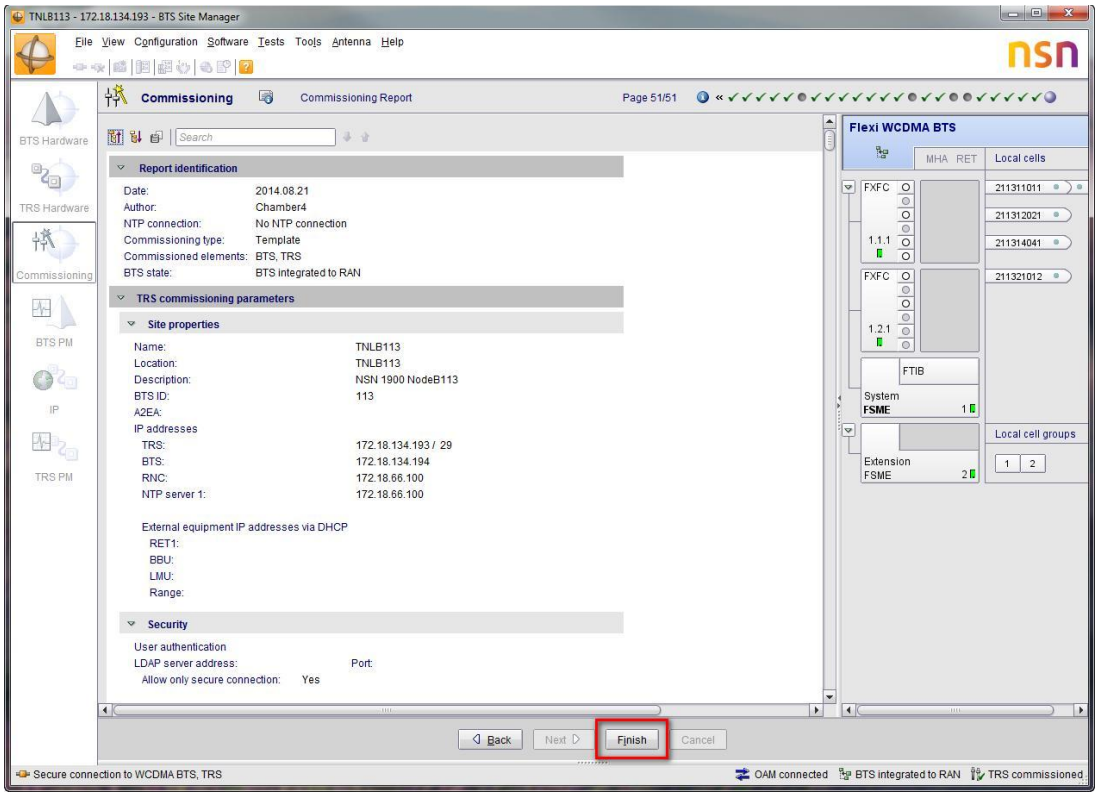

- When step is completed click on NEXT



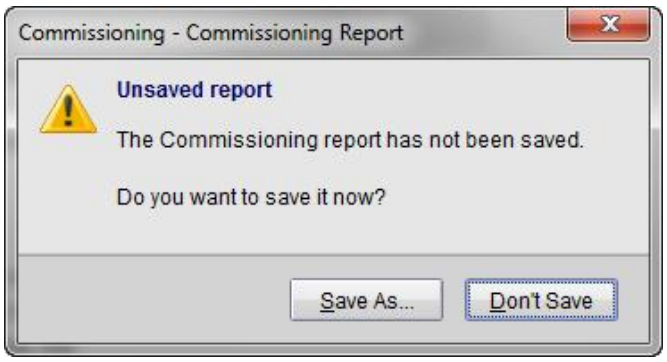

- Continue clicking on NEXT until last page then click FINISH




TNL8113 - 172.18.134.193 - BTS Site Manager
File View Configuration Software Tests Tools Antenna Help
nsn
BTS Hardware
TRS Hardware
Commissioning
BTS PM
IP
TRS PM
Commissioning
Site Testing
Page 50/51
Site tests
Test...
Ethernet test: Not tested
Antenna line communication test: Not tested
Antenna tilt exercise test: Not tested
EAC functionality test
Test...
The EAC test is available when EAC information has been received from the BTS.
Faults: Not tested
Controls: Not tested
Test models
Test...
The test is only available in the following BTS states: BTS test dedicated.
Not tested
BER test
Test...
The test is only available in the following BTS states: BTS test dedicated.
Not tested
Flexi WCDMA BTS
MHA RET
Local cells
FXFC
1.1.1
211311011
211312021
211314041
FXFC
1.2.1
211321012
FTIB
System
FSME
Local cell groups
Extension
FSME
1
2
Back
Next
Cancel
Secure connection to WCDMA BTS, TRS
OAM connected
BTS integrated to RAN
TRS commissioned




- On the next window click SAVE AS and save Commissioning Report on your local hard disk




- Site is now commissioned.
- Check the status of the site to make sure all cells are functional

# 4 Troubleshooting

## 4.1 Not all cells are coming up On-Air in WCDMA

In case some cells cannot come to On-Air status and the RF module gives a configuration alarm, check the following items:

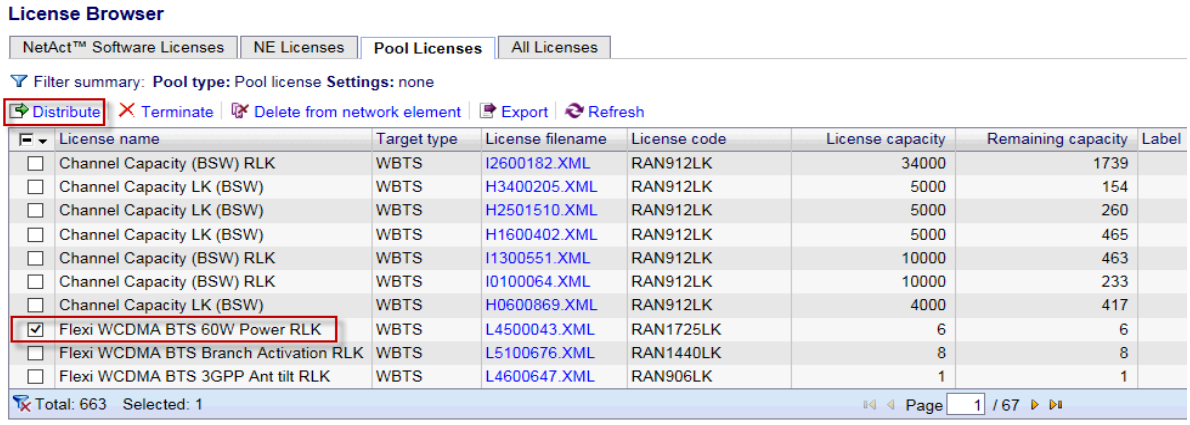
- No cells in the same sector/port have the same UARFCN assigned.
- The Tx/Rx port assignments are created according to plan i.e. no conflicts in the WCDMA configuration.
- Check the radio network configuration to see if there are any wrong parameters set.

## 4.2 Some licenses are not downloaded automatically to the WBTS

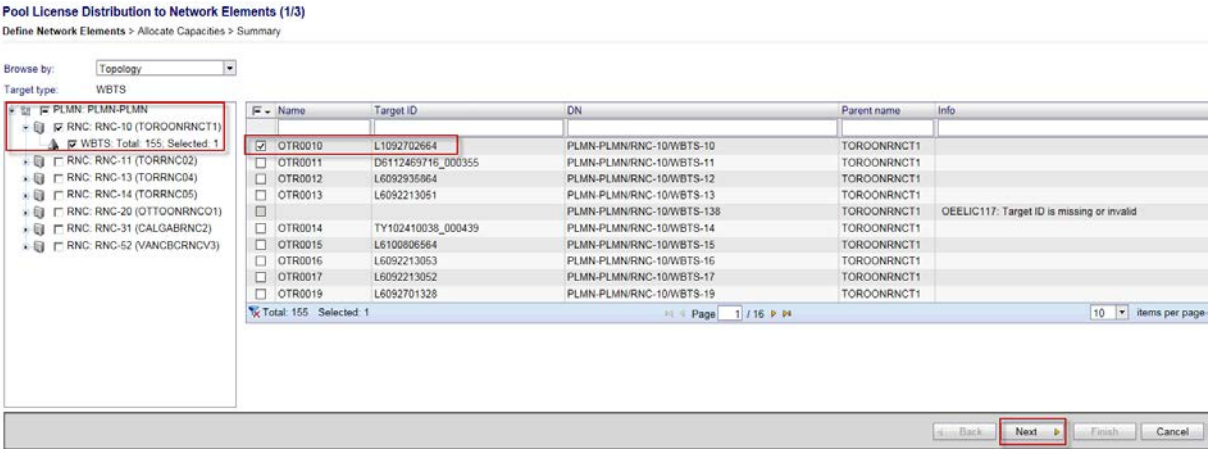
In case some licenses are not downloaded automatically, check the following items:

- At least one cell is on-air in the site. The BTS triggers the automatic license request to NetAct as soon as the cells go on-air.
- Check that there is enough capacity remaining in the license pool.
- When BTS requests for a license, NetAct information might not be consistent as its records shows that it had already distributed the license to the network element, hence no license is distributed.
- It’s important to note that BTS resends LK request every hour.

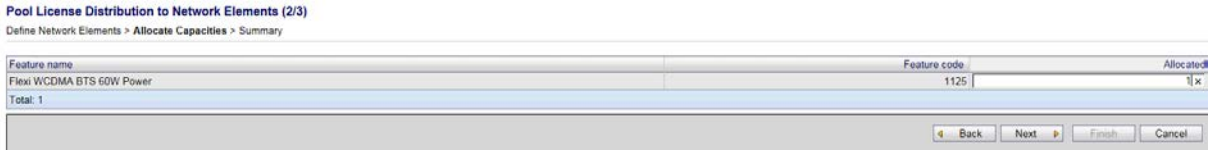
- The workaround is to distribute licenses manually. Login to Netact License Manager and choose Pool Licenses. Then select the licenses (say 60W) and click Distribute.



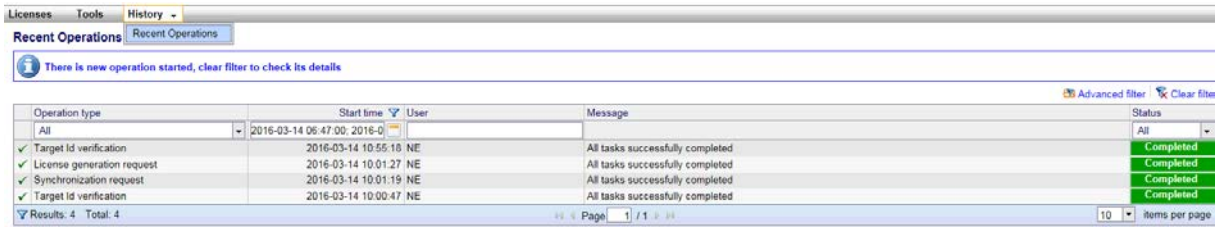

- Next, choose the Site that licenses need to be sent to:




- Choose the number of licenses required.



- Go to History -> Recent Operations, and check status of operation.




# 5 Hardware Information

The figures below illustrate the port layouts of the FSME and FRIE. FSMD has the same port layout as FSME. Please refer to LTE overlay and GTA modernization guide for details cabling and cable identification.

LTE overlay and GTA modernization guid

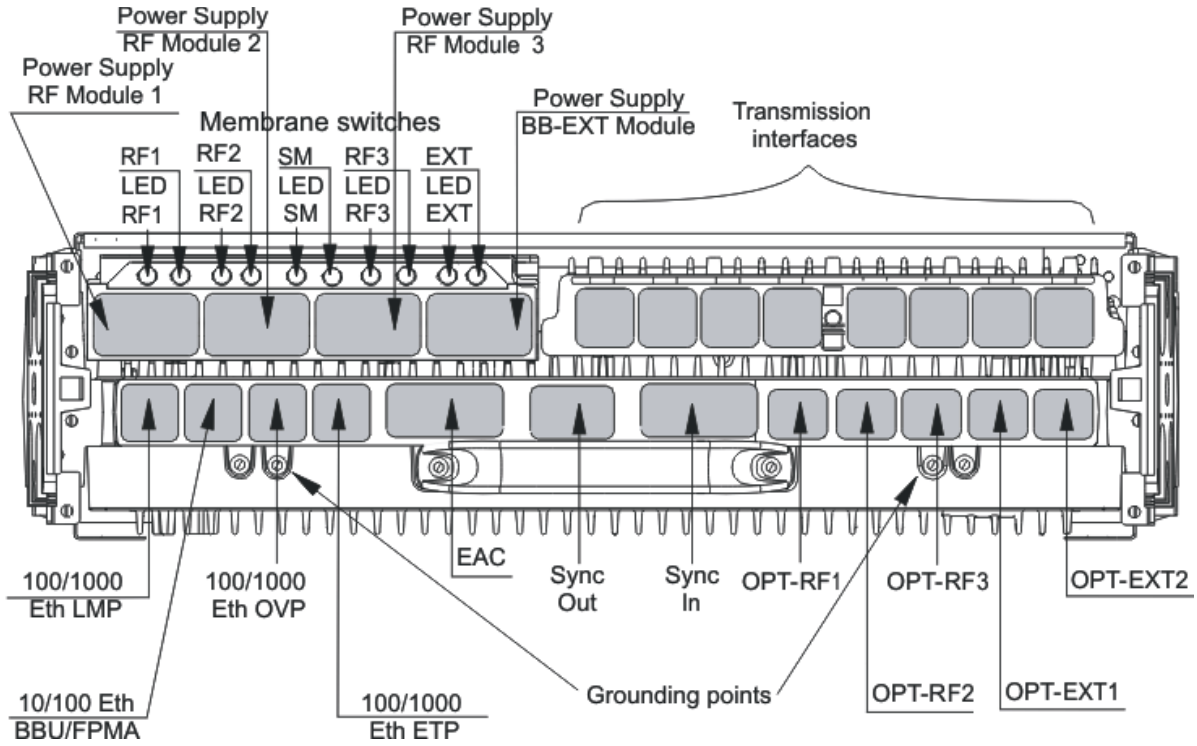



**Figure:** FSME

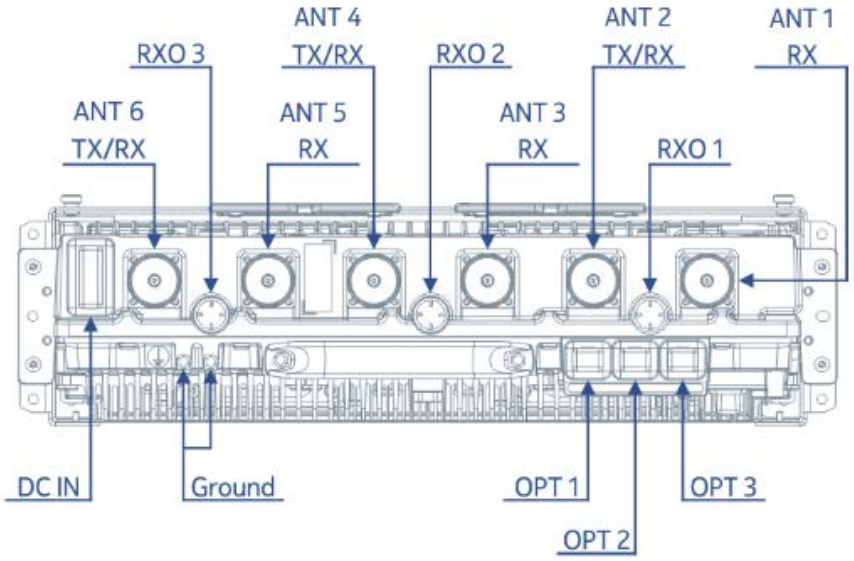


**Figure**: FRIE

# 6 Restore Factory Setting

This step is required when there is version issue with the FSMD/E/F. It is necessary to restore to factory settings.

## 6.1 Prerequisite

- RFSToolV3 (current version: RFSToolv3_1.39)
- FSME System Module with transmission module FTIB
- Destination version of SW, for WN8, use BTS SW packages for WCDMA WBTS16_3000_1122_17
- PC or laptop installed with the right version of BTS Site Manager
- RATSwap

## 6.2 Restore factory setting using RFSTool

- Unzip RFSToolv3_1.39.zip
- Place the SW in the BTSSW folder in the unzipped RFSToolv3_1.39
- Connect FTIB to the FSME
- Connect laptop or pc to FSME via LMP port
- Ping 192.168.255.129 in the command prompt to make sure there is a connection to the system module

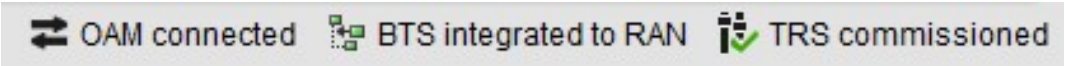
- Double click RFSToolv3.exe and follow the instruction. The process can take approximately 20-40 minutes
- After the upgrade is done, verify the active SW in the FSME by opening BTS Site Manager and check BTS site properties

### 6.3 Down grade FSMD/E from LTE to 3G using RATSwap

- Unzip RATSwap.zip in your disk C
- Read through the Quick Guide
- Using command prompt, navigate to the unzipped folder.
- Connect Ethernet cable to your FSMD/E
- Power up the system module
- In the command window, type in:
  RATSwap.exe --LteToWcdma

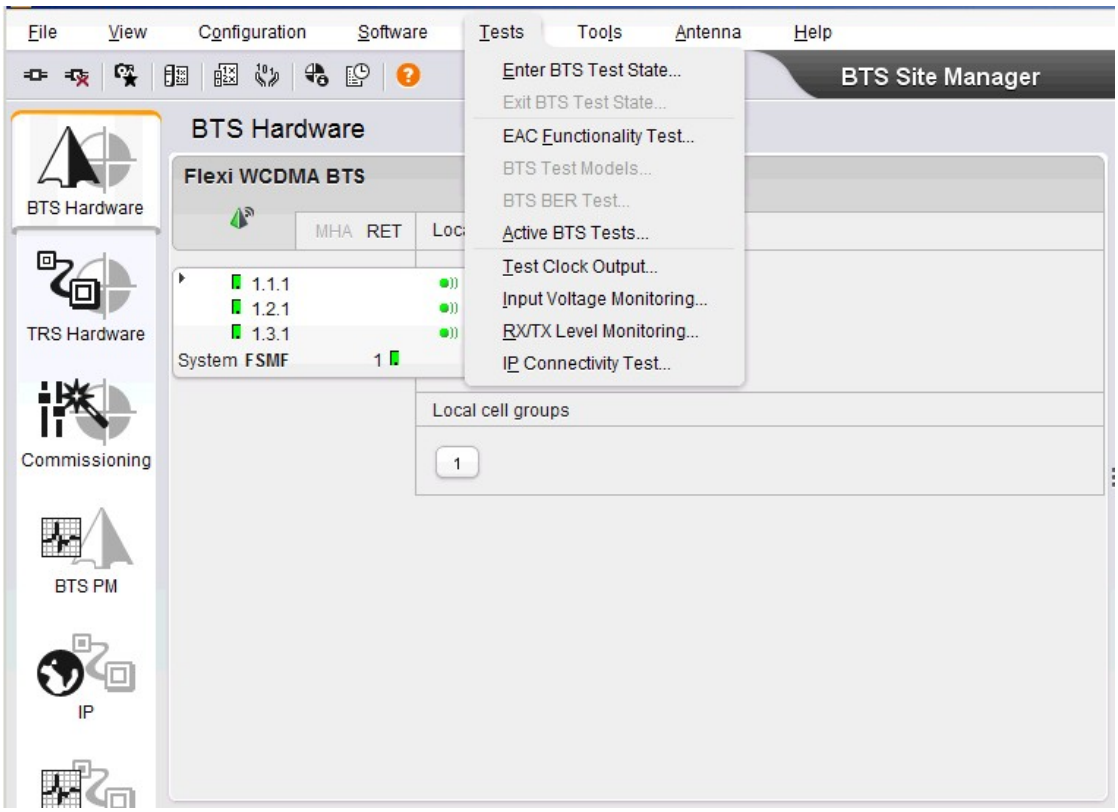
# 7 Test Connectivity

- Connect Ethernet cable from System Module to Router
  Once BTS is connected, on the lower side of the screen, check following items
  - OAM → connected
  - BTS → integrated to RAN
  - TRS → commissioned

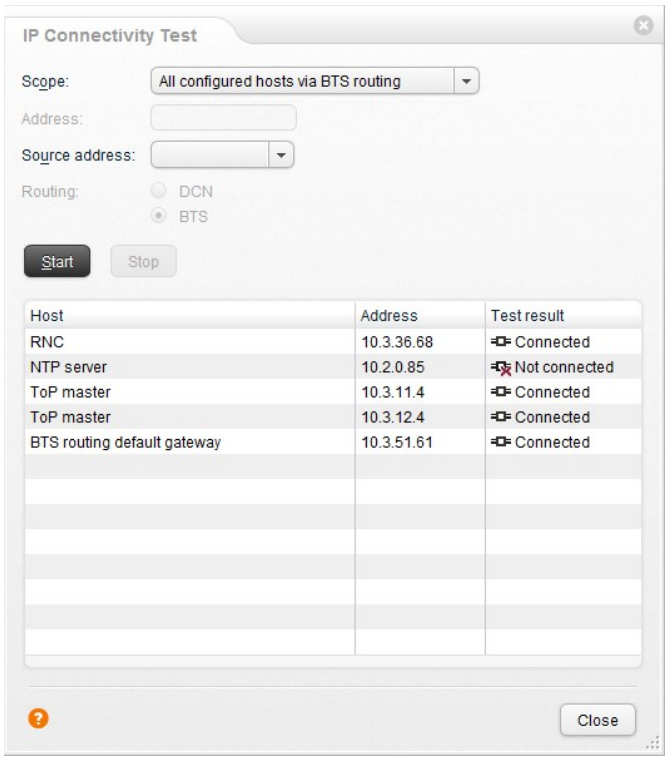



- From top menu select TESTS and then IP Connectivity Test

- If this menu entry is not present, close Site Element Manager, re-open and reconnect




- Select ALL CONFIGURED HOSTS VIA BTS ROUTING and click START




- If everything is fine all network elements will be reachable except NTP server