

LTE eNodeB V2.1 Commissioning for M1

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LTE Training Team



Objectives

- ◆ **On completion of this course, you should be able to:**
 - Know the way to do the commissioning with USB
 - Know the commissioning procedure

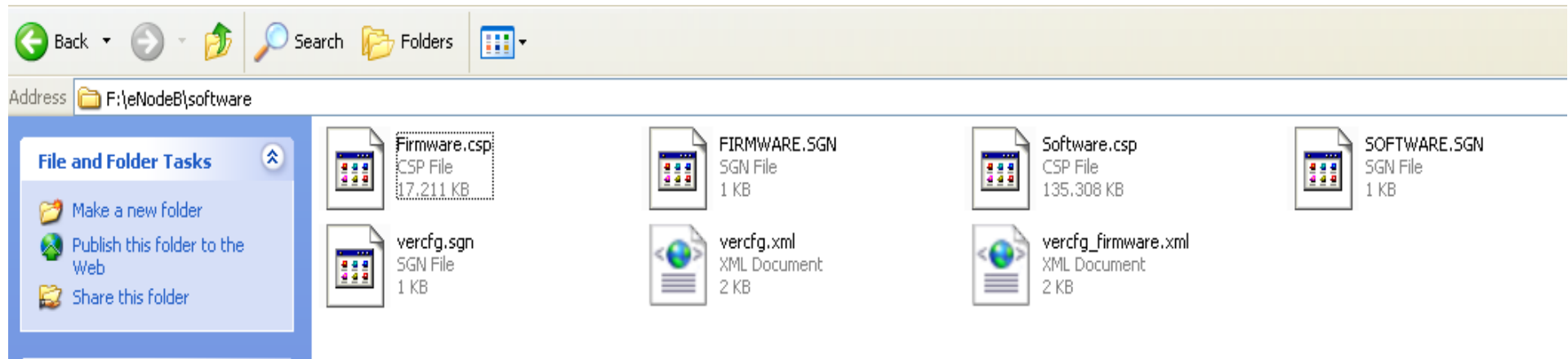


Preparation before going to the site

- ◆ a) Get USB Stick >256MB (Recommended models: Netac U208, Netac U180, Netac U215, and Netac U210)
- ◆ b) The USB storage device has no additional function. The additional functions include but are not limited to encryption, antivirus, bootstrap, MP3, MP4, and smart mobile phone.
- ◆ c) When you save the eNodeB software and data configuration file to the USB storage device, ensure that the locking switch on the USB storage device is disabled.
- ◆ d) eNodeB software is copied to USB:/eNodeB/software/ (Software is already stored on the USB Stick for Subcontractors)

Preparation before going to the site

- ◆ d) eNodeB software is copied to USB:/eNodeB/software/ (Software is already stored on the USB Stick for Subcontractors)



- e) Subcontractor will get eNodeB configuration script and PreInfo.xml from Huawei engineer and then copy it to USB directory : /eNodeB/

Preparation before going to the site

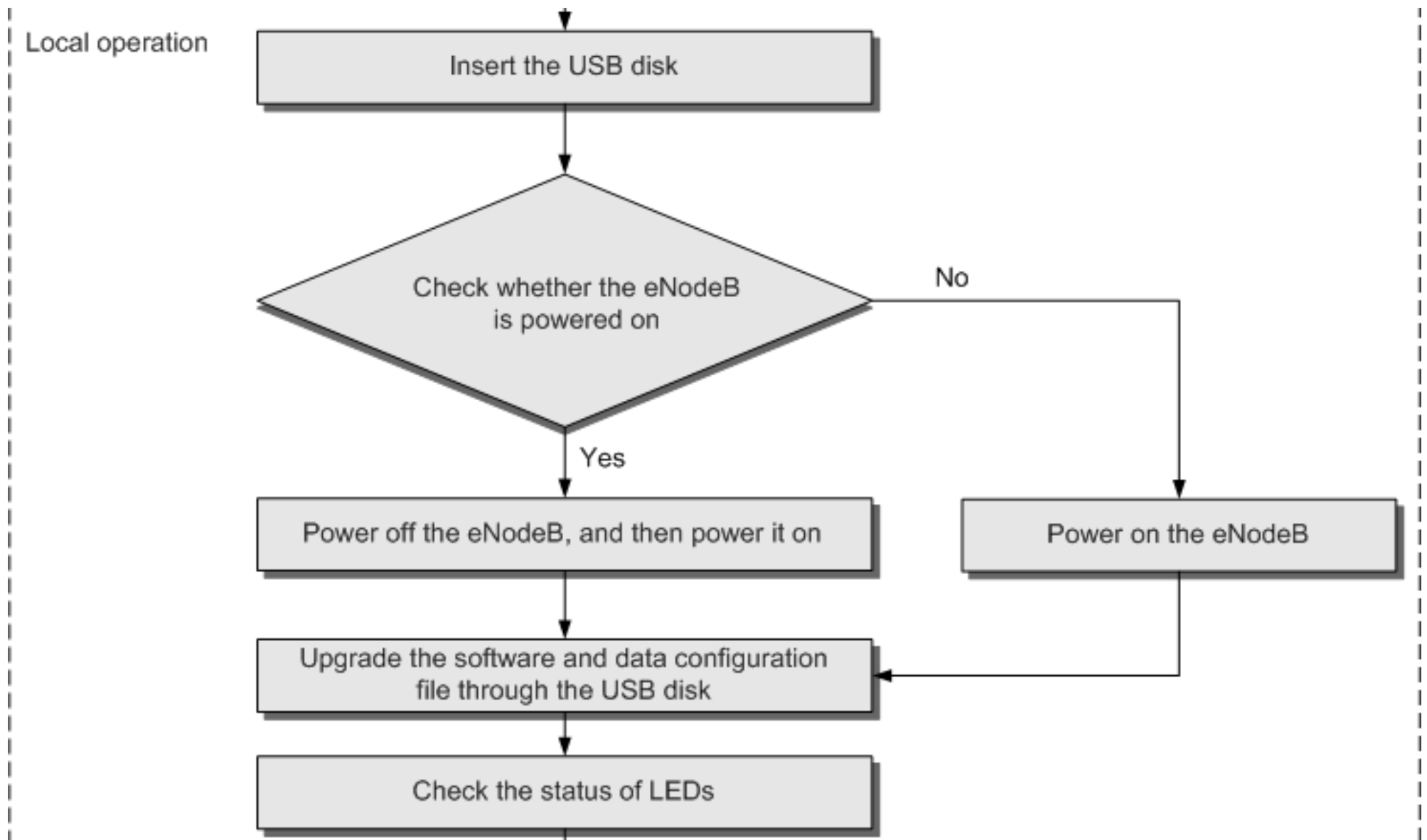
The USB final directory structure looks like this

```
eNodeB+
-PreInfo.xml+
-CFGDATA.xml+
-Software+
  -Software.csp+
  -Firmware.csp+
  - FIRMWARE.SGN+
  - SOFTWARE.SGN+
  - vercfg.sgn+
  -vercfg.xml+
  - vercfg_firmware.xml+
```

Note: The name of the configuration file must be CFGDATA.xml

Please verify the eNodeB ID and Name by opening the CFG file before the Commissioning (right-click on file and select edit)!!!

Software&Configuration File



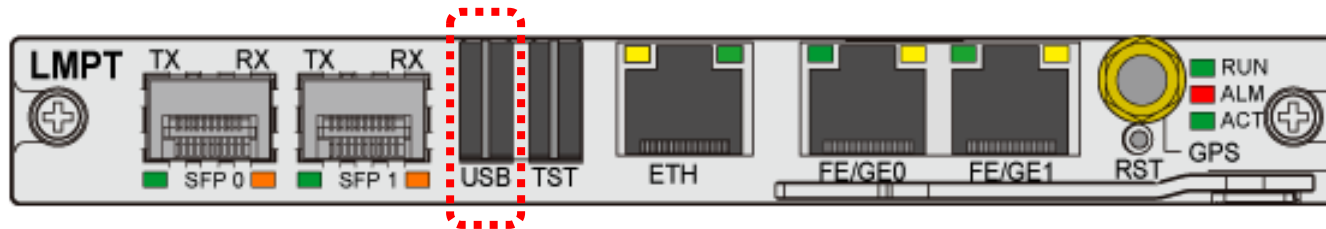
Software&Configuration File

- ◆ a) Ensure that RRU has been already powered on and connected with BBU by CPRI fiber cable. Check eNodeB hardware and make sure that the LED light is normal.

LED	Status
RUN LED on each board in the BBU	Blinking (ON for 1s and OFF for 1s)
Status of the ALM LEDs on the LMPT, LBBP, UTRP	OFF
STATE LED on the FAN of the BBU3900	Blinking (green, ON for 1s and OFF for 1s)
CPRI LED on the LBBP	ON (green)
VSWR LED on the RRU or LRFU	OFF

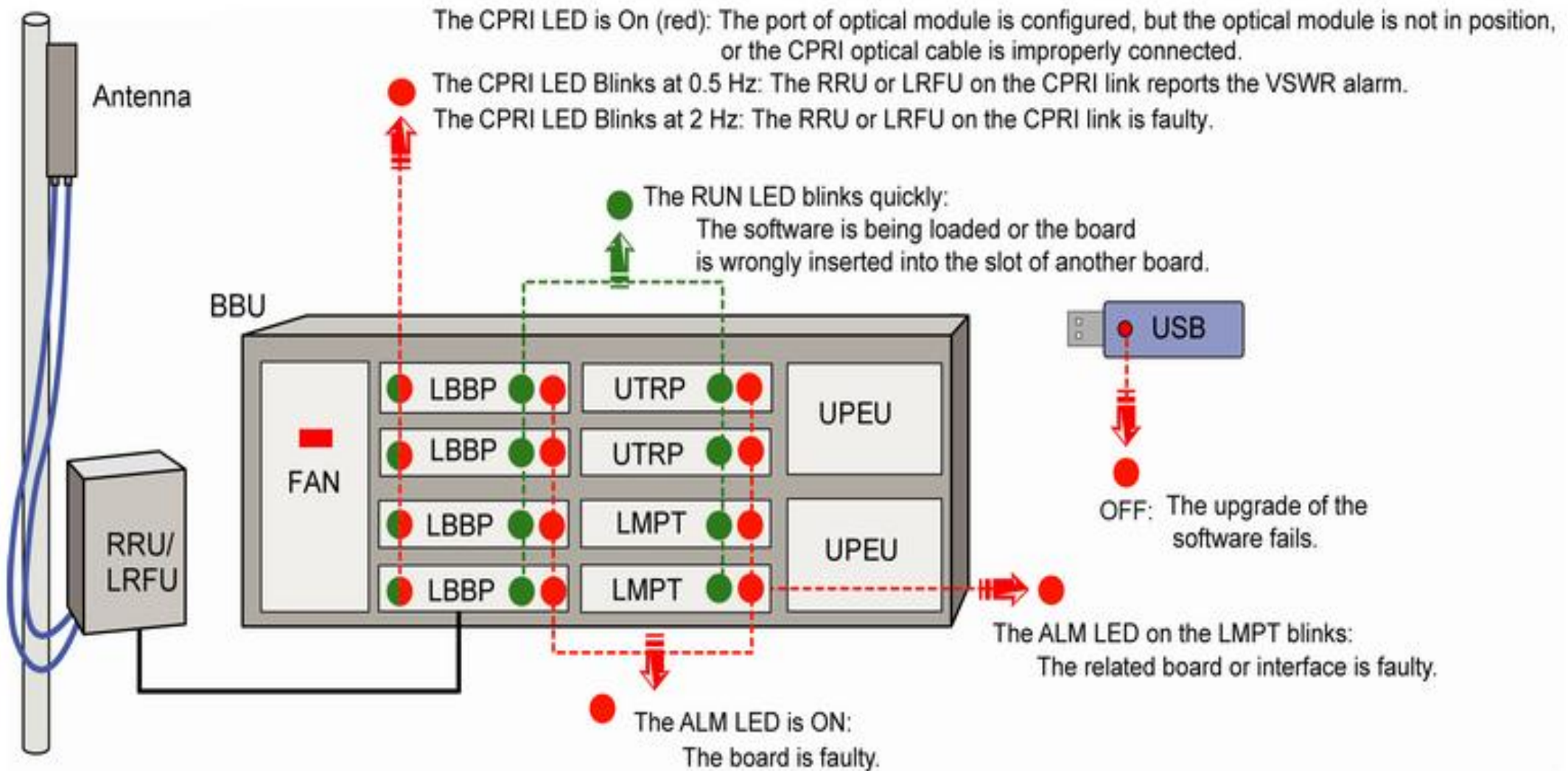
Software Upgrading and Data Configuration

- ◆ Insert the USB disk into the USB port on the LMPT of the BBU3900.



- ◆ Power on the eNodeB
- ◆ After the eNodeB is started, it automatically upgrades the software and download the data configuration file.
 - **LED will be flashing fast on both USB and LMPT board (RUN).**
- ◆ After about 20 minutes, check the status of the LED on the USB disk.
 - **LED being red for long means the upgrade succeeds.**
- ◆ After Checking the Status of LEDs and ensuring that the eNodeB is running properly,
- ◆ Unplug the USB disk.

Reference: LED status of the common faults

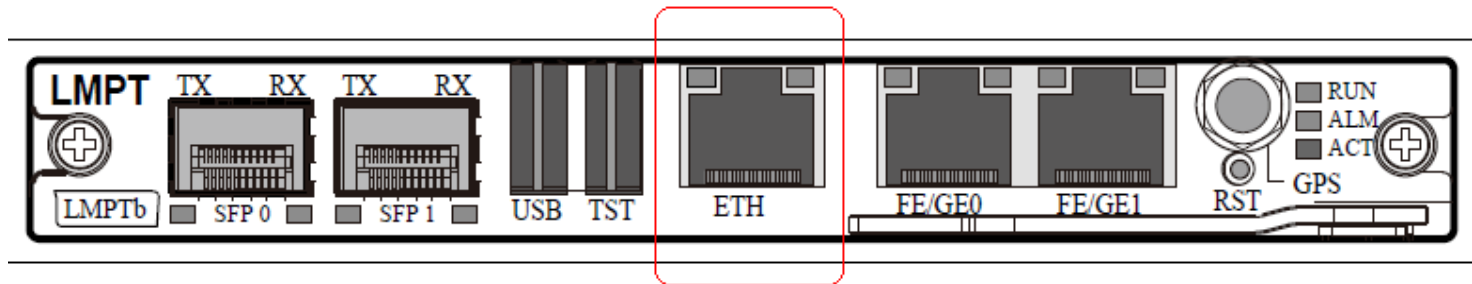


eNodeB Commissioning Tasks

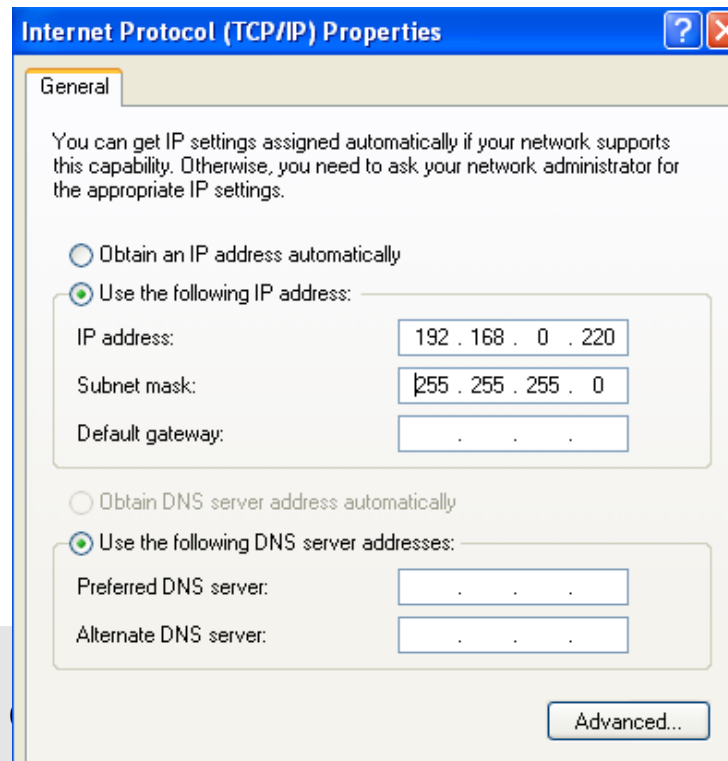
(Subcontractor/Huawei Engineer)

Connection of PC/Laptop to eNodeB

a) Connect PC to eNodeB ETH port with Ethernet cable



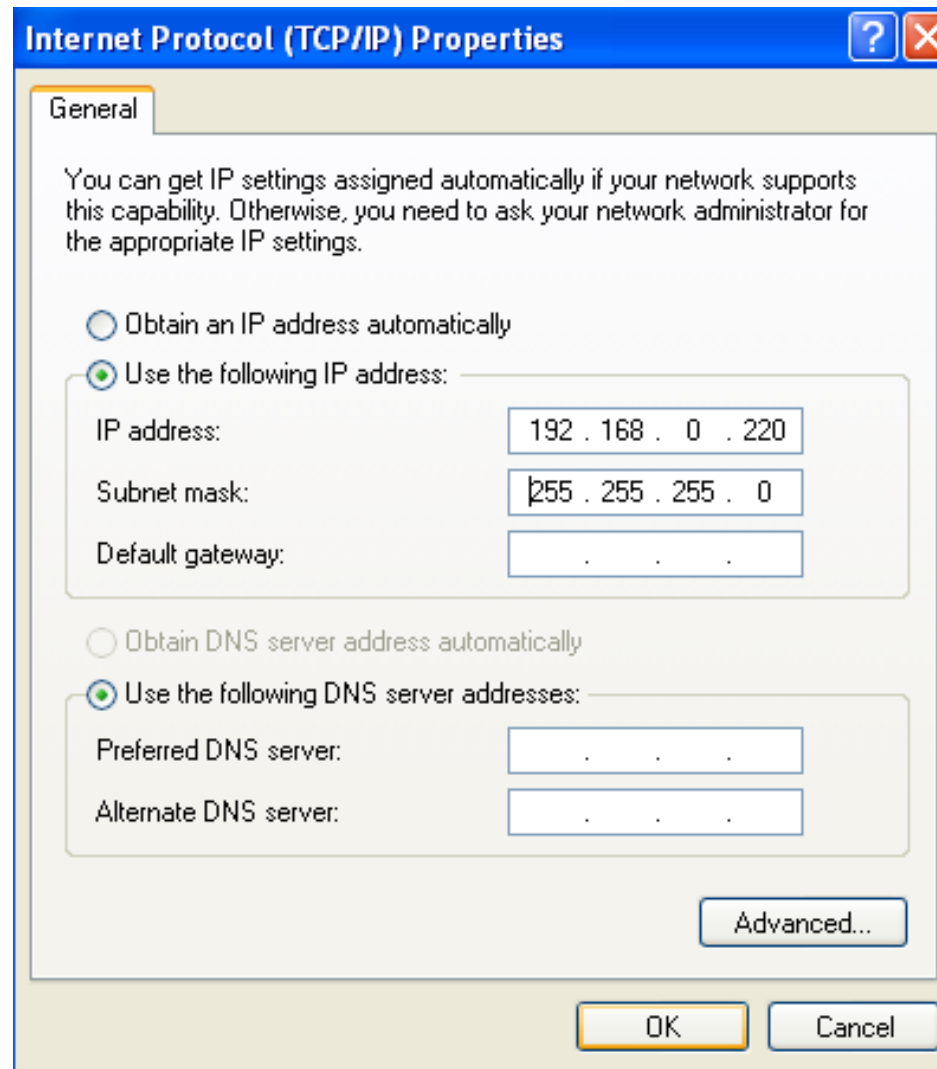
b) Change IP settings of Laptop as seen below & disable any proxy server settings



eNodeB Commissioning Tasks

(Subcontractor/Huawei Engineer)

b) Change IP settings of Laptop as seen below & disable any proxy server settings



eNodeB Commissioning Tasks

(Subcontractor/Huawei Engineer)

c) Ping default eNodeB IP address “192.168.0.49” for local connection

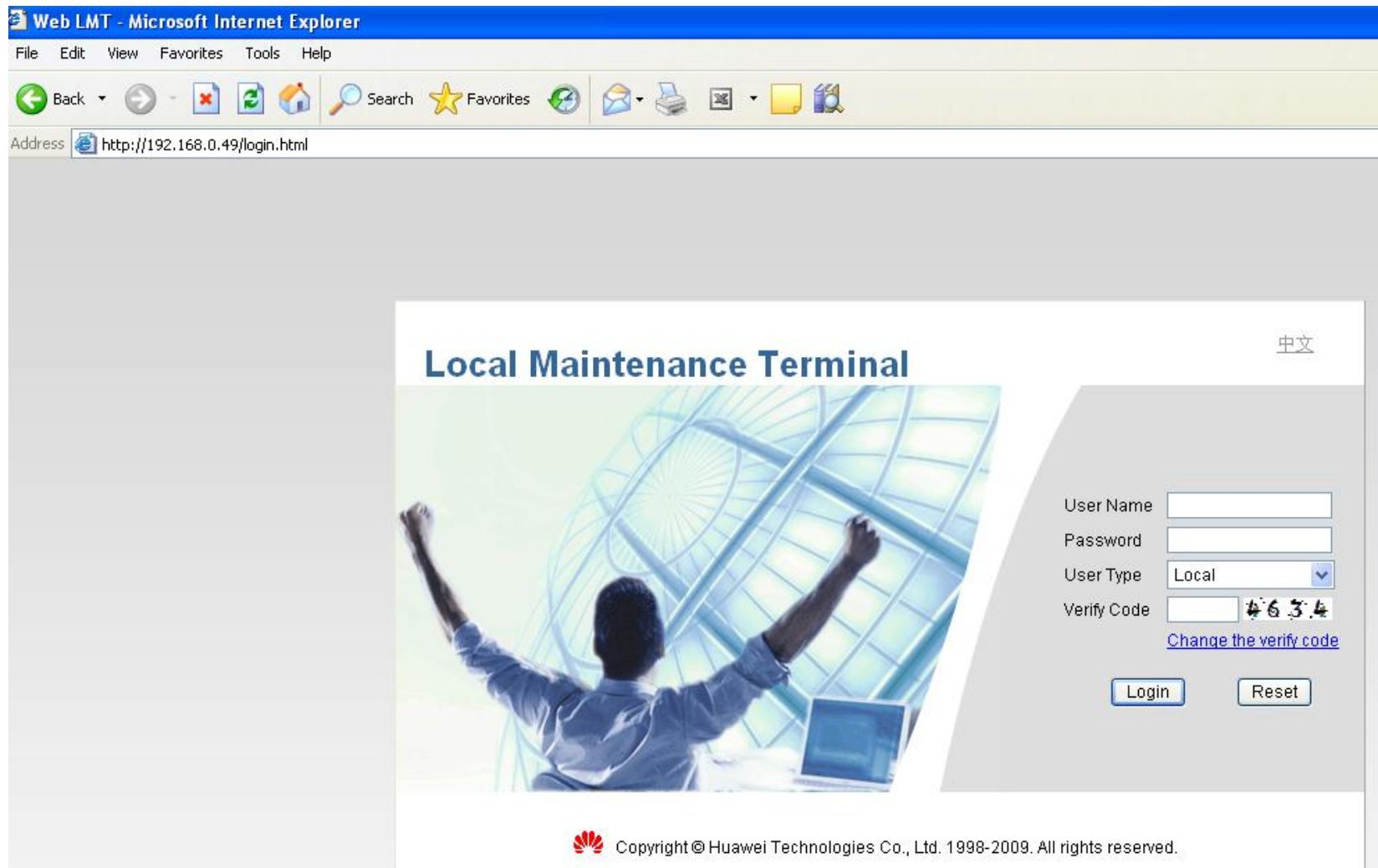
See below a successful connection

```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.
C:\Documents and Settings\m00717638>ping 192.168.0.49
Pinging 192.168.0.49 with 32 bytes of data:
Reply from 192.168.0.49: bytes=32 time=1ms TTL=64
Reply from 192.168.0.49: bytes=32 time<1ms TTL=64
Reply from 192.168.0.49: bytes=32 time<1ms TTL=64
Reply from 192.168.0.49: bytes=32 time<1ms TTL=64
Ping statistics for 192.168.0.49:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\Documents and Settings\m00717638>_
```

eNodeB Commissioning Tasks

(Subcontractor/Huawei Engineer)

- d) Open Internet Explorer and type in “192.168.0.49” to login to eNodeB
Username:admin // Password:admin123



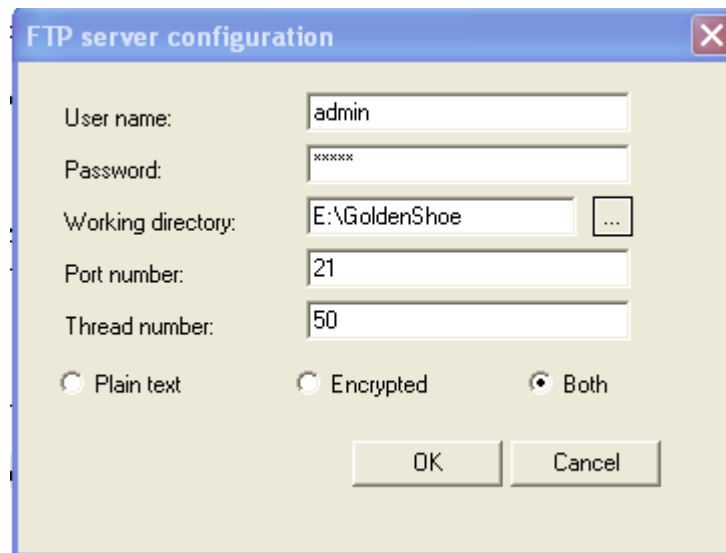
eNodeB Commissioning Tasks

(Subcontractor/Huawei Engineer)

d) Open SFTP tool



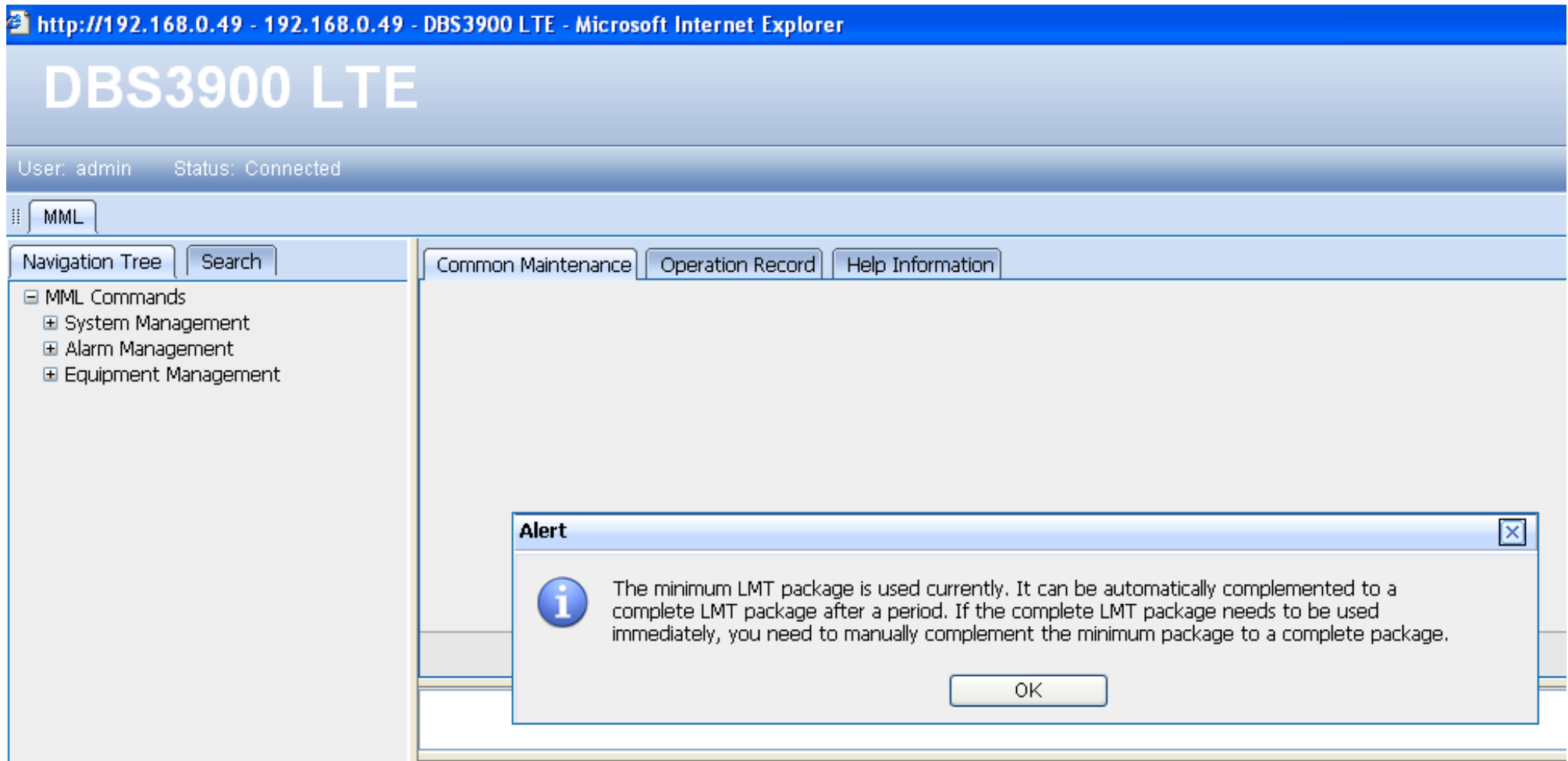
Then set the FTP server setting in your laptop.



eNodeB Commissioning Tasks

(Subcontractor/Huawei Engineer)

e) Click “OK”. If this message appears during the WebLMT Start, a Software Supplement needs to be done



eNodeB Commissioning Tasks

(Subcontractor/Huawei Engineer)

Supplement Software

a) Check Software Version (LST VER:;)

Updated Software Version has to be V100R003C00SPC300.

b) Check Software Areas (LST SOFTWARE:;) -Main Area is the active Software Area

c) activate the SFTP server.

d) Supplement Software (SPL SOFTWARE) – Supplement Software can be done remotely via M2000 or locally via WebLMT, it will take approx.5-15Min.

eNodeB Commissioning Tasks

(Subcontractor/Huawei Engineer)

FTP Server Directory Name could be the Folder of the USB Stick

USB:/eNodeB/software/ or a folder on the Laptop with the Software files.

User Password:admin

History Command:	<input type="text"/>	<input type="button" value="←"/>	<input type="button" value="→"/>
Command Input:	<input type="text" value="SPL SOFTWARE"/>	<input type="button" value="Assist"/>	<input type="button" value="Exec"/>
IP Mode	<input type="text" value="IPV4(IPv4)"/>	FTPServer IP	<input type="text" value="192.168.0.220"/>
FTPServer User	<input type="text" value="admin"/>	User Password	<input type="text" value="*****"/>
FTP Server Directory Name	<input type="text" value="2.0\V100R002C00\Package"/>	Patch Directory Name	<input type="text"/>
Delay Download File Supply Flag	<input type="text" value="YES(Supply File that Sup"/>		

eNodeB Commissioning Tasks

(Subcontractor/Huawei Engineer)

e) Check Supplement Software Progress (Progress needs to be 100%)

```
+++   HUawei           2010-06-01 08:57:08
O&M   #34
%%SPL SOFTWARE: MODE=IPV4, IP="192.168.0.220", USR="admin", PWD="*****", DIR="F:\eNodeB\software", SDL=YES;%%
RETcode = 0   Progress report, Operation succeeded.

Report Type   =   Supply Software
      Status   =   Progressing
      Progress =   0%
      Session ID = 65537
```


f) Open Internet Explorer and type in “192.168.0.49” to re-login to eNodeB again Username:admin Password:admin123

*Notes: If you are prompted to change the password, please change to “Enodeb123”

eNodeB Commissioning Tasks

(Subcontractor/Huawei Engineer)

Install New license

History Command:	<input type="text"/>	<input type="button" value="←"/>	<input type="button" value="→"/>
Command Input(F5):	<input type="text" value="INS LICENSE"/>	<input type="button" value="Assist"/>	<input type="button" value="Save"/>
Directory Name	<input type="text" value="E:\GoldenShoe"/> 	File Name	<input type="text" value="license.dat"/>
Force Flag	<input type="text" value="YES(Yes)"/> <input type="button" value="v"/>	IP Mode	<input type="text" value="IPV4(IPv4)"/> <input type="button" value="v"/>
FTPServer IP	<input type="text" value="192.168.0.220"/>	User Name	<input type="text" value="admin"/>
User Password	<input type="text" value="*****"/>		

List license by typing “LST LICENSE”.

eNodeB Status Check

5.1 Hardware & Cell Status

a) Display Board Information. (DSP BRD:;) - //only 1 LBBPc Board in Slot 3 will be used, all additional LBBPc Boards need to be removed and returned to Huawei

```
+++ HUAWEI 2010-11-02 11:15:38
O&M #11188
%%DSP BRD:;%
RETCODE = 0 Operation succeeded.

Display Board Information
-----
Cabinet No. Subrack No. Slot No. Board Type Administrative state Availability Status Standby Status Operational State Alarm State
0 0 1 NULL Invalid Unconfigured Invalid Disabled Normal
0 0 2 NULL Invalid Unconfigured Invalid Disabled Normal
0 0 3 LBBP Unlocked Normal Invalid Enabled Normal
0 0 7 LMPT Invalid Normal Active Enabled Normal
0 0 16 FAN Invalid Normal Invalid Enabled Normal
0 0 19 UPEU Invalid Normal Invalid Enabled Normal
0 60 0 LRRU Unlocked Normal Invalid Enabled Normal
0 61 0 LRRU Unlocked Normal Invalid Enabled Normal
0 62 0 LRRU Unlocked Normal Invalid Enabled Normal
(Number of results = 9)

--- END
```

eNodeB Status Check

b) Display Optical Port Informations (DSP CPRIPORT:;)

```
%%DSP CPRIPORT:;%%
```

```
RETCODE = 0 Operation succeeded.
```

```
Display CPRI Port Dynamic Information
```

```
-----
```

Cabinet No.	Subrack No.	Slot No.	Port No.	Cpri line bit rate (Gbit/s)	Administrative state
0	0	3	0	2.5	UNBLOCK
0	0	3	1	2.5	UNBLOCK
0	0	3	2	2.5	UNBLOCK
0	0	3	3	NULL	UNBLOCK
0	0	3	4	NULL	UNBLOCK
0	0	3	5	NULL	UNBLOCK
0	60	0	0	2.5	UNBLOCK
0	60	0	1	NULL	UNBLOCK
0	61	0	0	2.5	UNBLOCK
0	61	0	1	NULL	UNBLOCK
0	62	0	0	2.5	UNBLOCK
0	62	0	1	NULL	UNBLOCK

eNodeB Status Check

e) Check RRU (LST RRU::)

```
+++ HUAWEI 2010-06-01 09:45:24
O&M #103
%%LST RRU::%%
RETCODE = 0 Operation succeeded.

List RRU Configuration
-----
Cabinet No. Subrack No. Slot No. Number of TX channels Number of RX channels Administrative state RRU Topo Position RRU Chain No.
0 60 0 2 2 Unlocked TRUNK 0
0 61 0 2 2 Unlocked TRUNK 1
0 62 0 2 2 Unlocked TRUNK 2
(Number of results = 3)
```

d) Check Cell Status (DSP CELL::)

```
+++ HUAWEI 2010-11-02 11:18:12
TRAFFIC #11195
%%DSP CELL::%%
RETCODE = 0 Operation succeeded.

Display Cell
-----
Local cell identity Cell instance state Cell latest avail state Cell latest setup time Cell latest setup operate type Cell latest remove time Cell latest remove operate type Cell power
0 Normal Cell Active Success 2010-10-28 12:09:13 Cell Healthy Check 2010-10-28 12:09:10 Cell Setup Fail Uninstall
1 Normal Cell Active Success 2010-10-28 12:09:13 Cell Healthy Check 2010-10-28 12:09:10 Cell Setup Fail Uninstall
2 Normal Cell Active Success 2010-10-28 12:09:13 Cell Healthy Check 2010-10-28 12:09:10 Cell Setup Fail Uninstall
(Number of results = 3)

--- END
```

eNodeB Status Check

- e) Check Active Alarms via MML command (**LST ALMAF:;**) , there should be no active alarm.

```
+++   HUawei           2010-11-02 11:21:41
O&M   #11209
%%LST ALMAF:;%
RETcode = 0  Operation succeeded

No record exists

---   END
```

- f) Check Active Alarms by clicking on Alarm Tab, then Engineering – should be the same alarm status as in alarm list)

Serial No.	Alarm Name	Alarm Severity	Raised Time	Cleared Time	Alarm ID	Event Type	Alarm Type	Location Info
86	Time Synchronization Failure	Minor	2010-06-01 08:20:46		26266	Communicati	Fault	Time Source Type=NTP
85	System Clock Failure	Major	2010-06-01 08:20:16		26260	Hardware	Fault	
84	BBU CPRI Optical Module or Ele	Major	2010-06-01 08:02:12		26231	Hardware	Fault	Cabinet No.=0, Subrack No.=0,
83	BBU CPRI Optical Module or Ele	Major	2010-06-01 08:02:12		26231	Hardware	Fault	Cabinet No.=0, Subrack No.=0,
82	BBU CPRI Optical Module or Ele	Major	2010-06-01 08:02:12		26231	Hardware	Fault	Cabinet No.=0, Subrack No.=0,
81	Data Configuration Exceeding L	Warning	2010-06-01 08:01:24		26819	Software	Fault	
80	External Clock Reference Not C	Minor	2010-06-01 08:01:24		26261	Hardware	Fault	
79	No License Running in System	Critical	2010-06-01 08:01:24		26818	Software	Fault	

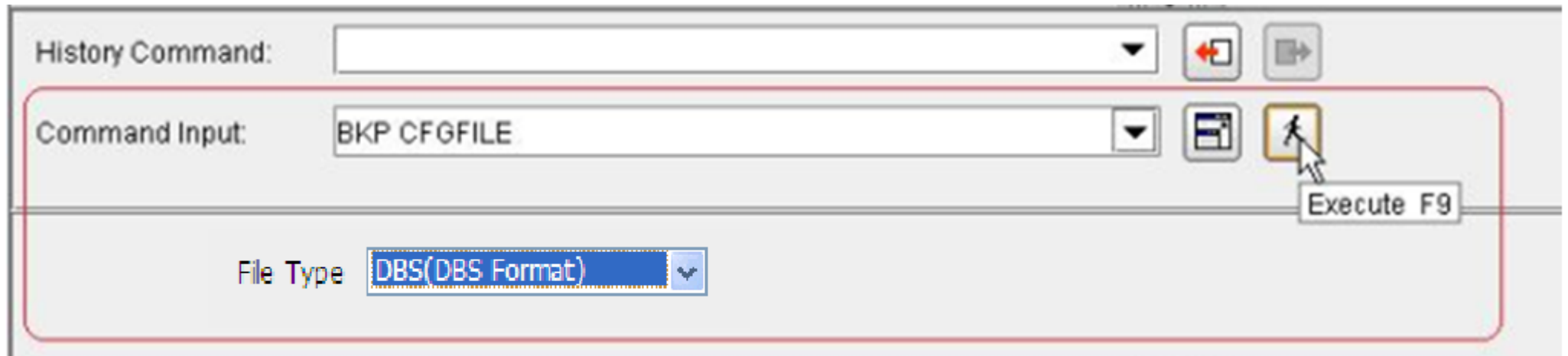
Backup the eNodeB Configuration File

- a) Backup the eNodeB Configuration File (**BKP CFGFILE::;**) –only LMT.xml will be updated



Backup the eNodeB Configuration File

- a) Backup the eNodeB Configuration File (**BKP CFGFILE::;**) –only LMT.DBS will be updated



Thank You

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