

eAN9810A

V100R001C00

User Manual

Issue **01**

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1 Instructions

1.1 Intended Audience

This document is intended for:

- eAN9810A technical engineers
- Field engineers

1.2 Intended Scenario

This document is suitable for certification based on eAN9810A.

1.3 Highlights

The operation of this equipment is subject to the following two conditions:

- (1) it is possible that this equipment or device may not cause harmful interference and
- (2) this equipment or device must accept any interference, including interference that may cause its undesired operation .

2 Installation

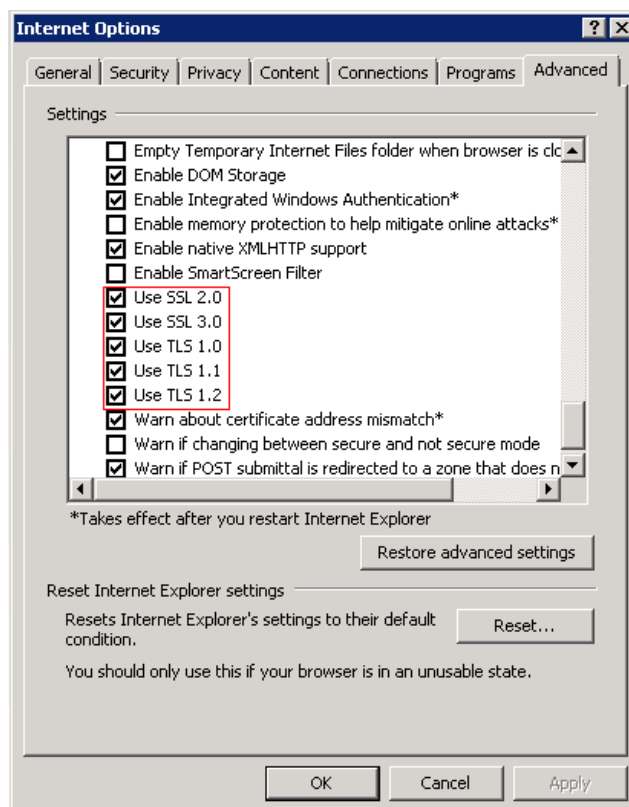
Please refer to *eAN9810A V100R001C00 Product Description 01.doc*.

3 Configuration

3.1 Preparation

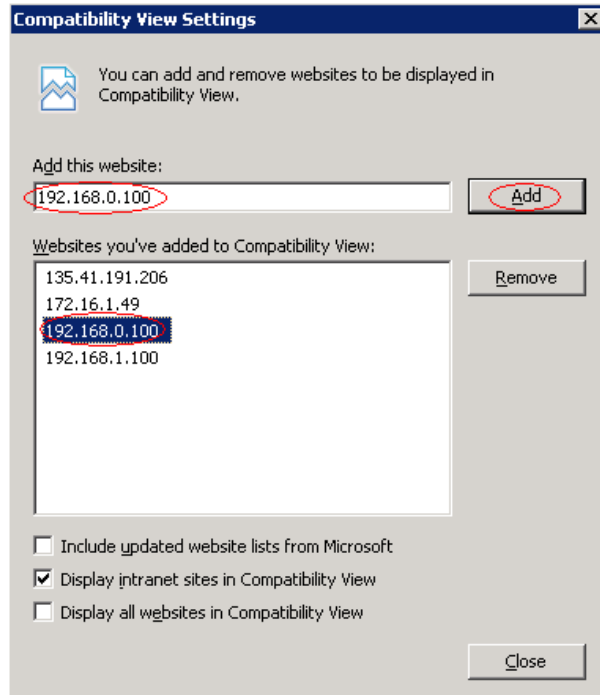
3.1.1 Modifying IE settings

Tools->Internet Options, we must change the settings as the bellowing picture:



3.1.2 Compatibility View Settings(for the first time)

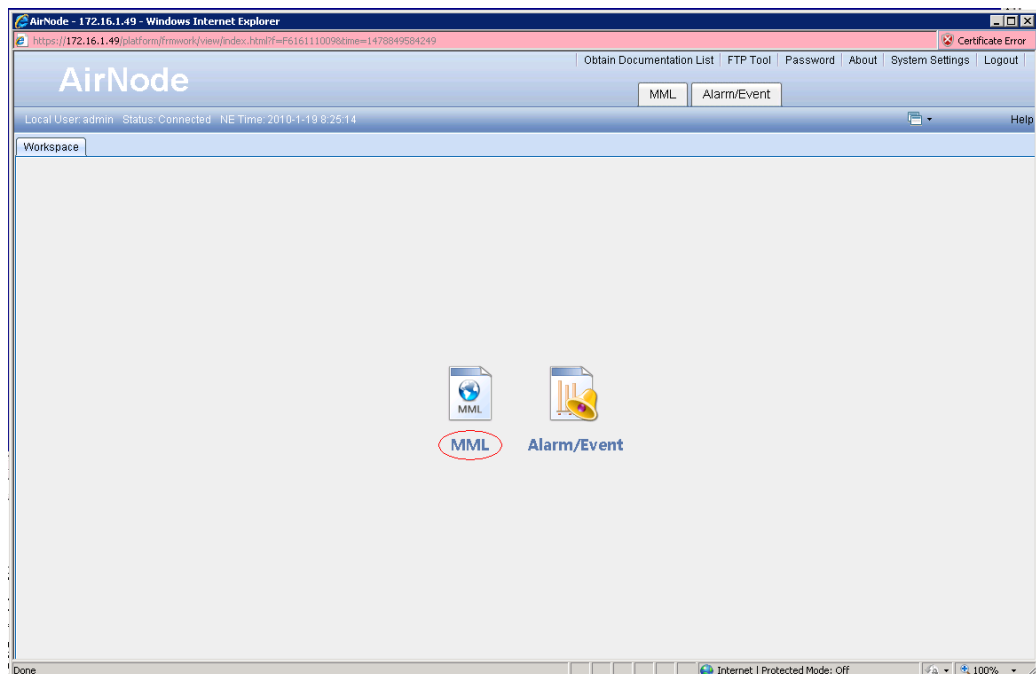
Tools->Compatibility view settings, add the default IP:192.168.0.100.



3.1.3 Log in LMT by Default IP

Link Address: <https://192.168.0.100>

User name/Password: admin/hwbs@com



3.1.4 Configuration Plan

PLMN: 46090

Local Cell ID: 0

Band: 60

3.2 MML Configuration

3.2.1 Add Operator and TA

ADD

CNOPERATOR:CNOPERATORID=0,CNOPERATORNAME="CMCC",CNOPERATORATYPE=CNOPE
RATOR_PRIMARY,MCC="460",MNC="90";

Command History: ADD CNOPERATOR:CNOPERATORID=0,CNOPERATORNA
Command (F5): ADD CNOPERATOR Assist Exec
CN Operator ID 0 CN Operator name CMCC
CN Operator type CNOPE RATOR_PRIMARY Mobile country code 460
Mobile network code 90

Executable result:

```
+++ 0 2017-03-09 17:11:51  
O&M #4  
%%ADD CNOPERATOR:CNOPERATORID=0,CNOPERATORNAME="CMCC",CNOPERATORATYPE=CNOPE  
RATOR_PRIMARY,MCC="460",MNC="90";%%  
RETCODE = 0 Operation succeeded.  
--- END
```

ADD CNOPERATORATA:TRACKINGAREAID=0,CNOPERATORID=0,TAC=1;

Command History: ADD CNOPERATORATA:TRACKINGAREAID=0,CNOPERAT
Command (F5): ADD CNOPERATORATA Assist Exec
Local tracking area ID 0 CN Operator ID 0
Tracking area code 1

Executable result:

```
+++ 0 2017-03-09 17:12:46  
O&M #5  
%%ADD CNOPERATORATA:TRACKINGAREAID=0,CNOPERATORID=0,TAC=1;%%  
RETCODE = 0 Operation succeeded.  
--- END
```

3.2.2 Add Sector Equipment and Sector Antenna

Note: The system may have this default configurations. We can run command like LST SECTOREQM::, LST
TXSECTORANTENNA::, LST RXSECTORANTENNA::; to make sure this.

Executable result:

```
+++ 0      2017-03-09 17:13:54
O&M #8
%%LST SECTOREQM:;%
RETCODE = 0 Operation succeeded.

List Configurations About Sector Equipment
-----
Sector Equipment No.

0
1
(Number of results = 2)

--- END
```

```
+++ 0      2017-03-09 17:18:59
O&M #11
%%LST TXSECTORANTENNA:;%
RETCODE = 0 Operation succeeded.

List Configurations About TX Sector Antennas
-----
TX Sector Antenna No.  Sector Equipment No.  TxBranch Reference
0                      0                      0
1                      0                      1
2                      1                      2
3                      1                      3
(Number of results = 4)

--- END
```

```
+++ 0      2017-03-09 17:25:21
O&M #16
%%LST RXSECTORANTENNA:;%
RETCODE = 0 Operation succeeded.

List Configurations RX Sector Antennas
-----
RX Sector Antenna No.  Sector Equipment No.  RxBranch Reference
0                      0                      0
1                      0                      1
2                      1                      2
3                      1                      3
(Number of results = 4)

--- END
```

(1) Add two Sector Equipments

ADD SECTOREQM: sectorEqmNo=0;

Command History:

Command (F5):

Sector Equipment No.

ADD SECTOREQM: sectorEqmNo=1;

Command History:

Command (F5):

Sector Equipment No.

(2) ADD four Tx Sector Atennas

ADD

TXSECTORANTENNA:TXSECTORANTENNANO=0,SECTOREQMNO=0,TXBRANCHREF=0;

Command History:

Command (F5):

TX Sector Antenna No. Sector Equipment No.

TxBranh Reference

Command History:

Command (F5):

TX Sector Antenna No. Sector Equipment No.

TxBranh Reference

Command History:

Command (F5):

TX Sector Antenna No. Sector Equipment No.

TxBranh Reference

Command History:

Command (F5):

TX Sector Antenna No. Sector Equipment No.

TxBranh Reference

(3) ADD four Rx Sector Atennas

ADD

RXSECTORANTENNA:RXSECTORANTENNANO=0,SECTOREQMNO=0,RXBRANCHREF=0;

The image displays four sequential screenshots of the 'ADD RXSECTORANTENNA' command interface. Each screenshot shows the following fields and values:

- Command History: LST RXSECTORANTENNA;;
- Command (F5): ADD RXSECTORANTENNA
- RX Sector Antenna No. (red text): 0, 1, 2, 3
- Sector Equipment No. (red text): 0, 0, 1, 1
- RxBranch Reference: 0, 1, 2, 3

3.2.3 Add cell、 sectoreqm and cellop

(1) Add cell

ADD

```
CELL:LOCALCELLID=0,CELLNAME="Cell10",FREQBAND=60,ULEARFCNCFGIND=NOT_CFG,D  
LEARFCN=61836,ULBANDWIDTH=CELL_BW_N100,DLBANDWIDTH=CELL_BW_N100,CELLID  
=0,PHYCELLID=115,FDDTDDIND=CELL_TDD,ROOTSEQUENCEIDX=0,EMERGENCYAREAIDC  
FGIND=NOT_CFG,UEPOWERMAXCFGIND=NOT_CFG,SubframeAssignment=SA0,SpecialSubframe  
Patterns=SSP7;
```

Command History:	ADD CELL:LOCALCELLID=0,CELLNAME="Cell0",FREQBAN		←	→
Command (F5):	ADD CELL		Assist	Exec
Local Cell ID	0	Cell Name	Cell0	
Frequency band	60	Uplink EARFCN indication	NOT_CFG(Not configure)	
Downlink EARFCN	61836	Uplink bandwidth	CELL_BW_N100(20M)	
Downlink bandwidth	CELL_BW_N100(20M)	Cell ID	0	
Physical cell ID	115	Additional spectrum emission	1	
Cell FDD TDD indication	CELL_TDD(TDD)	Cell specific offset(dB)	DB0(0dB)	
Frequency offset(dB)	DB0(0dB)	Root sequence index	0	
Preamble format	0	Cell radius(m)	50	
Emergency Area Id indicator	NOT_CFG(Not configure)	Ue max power allowed configure indicator	NOT_CFG(Not configure)	
User label		Intra Frequency RAN Sharing Indication	BOOLEAN_TRUE(True)	

Executable result:

```
+++ 0 2017-03-09 17:40:39
OM #24
**ADD CELL:LOCALCELLID=0,CELLNAME="Cell0",FREQBAND=60,ULEARFCNCFGIND=NOT_CFG,DLEARFCN=61836,ULBANDWIDTH=CELL_BW_N100,DLBANDWIDTH=CELL_BW_N100,CELLID=0,PHYCELLID=115,FDDTDDIND=CELL_TDD,RO
RETCODE = 0 Operation succeeded.
--- END
```

ADD

CELL:LOCALCELLID=1,CELLNAME="Cell1",FREQBAND=60,ULEARFCNCFGIND=NOT_CFG,DLEARFCN=62836,ULBANDWIDTH=CELL_BW_N100,DLBANDWIDTH=CELL_BW_N100,CELLID=1,PHYCELLID=116,FDDTDDIND=CELL_TDD,ROOTSEQUENCEIDX=0,EMERGENCYAREAIDCFGIND=NOT_CFG,UEPOWERMAXCFGIND=NOT_CFG,SubframeAssignment=SA0,SpecialSubframe Patterns=SSP7;

Command History: ADD CELL:LOCALCELLID=1,CELLNAME="Cell1",FREQBAN [v] [←] [→]

Command (F5): ADD CELL [Assist] [Exec]

Local Cell ID 1 [v]

Cell Name Cell1 [v]

Frequency band 60 [v]

Uplink EARFCN indication NOT_CFG(Not configure) [v]

Downlink EARFCN 62836 [v]

Uplink bandwidth CELL_BW_N100(20M) [v]

Downlink bandwidth CELL_BW_N100(20M) [v]

Cell ID 1 [v]

Physical cell ID 116 [v]

Additional spectrum emission 1 [v]

Cell FDD TDD indication CELL_TDD(TDD) [v]

Cell specific offset(dB) DB0(0dB) [v]

Frequency offset(dB) DB0(0dB) [v]

Root sequence index 0 [v]

Preamble format 0 [v]

Cell radius(m) 50 [v]

Emergency Area Id indicator NOT_CFG(Not configure) [v]

Ue max power allowed configure indicator NOT_CFG(Not configure) [v]

User label [v]

Intra Frequency RAN Sharing Indication BOOLEAN_TRUE(True) [v]

Executable result:

```
+++ 0 2017-03-09 17:43:02
O&M #28
%%ADD CELL:LOCALCELLID=1,CELLNAME="Cell1",FREQBAND=60,ULEARFCNCFGIND=NOT_CFG,DLARFCN=62836,ULBANDWIDTH=CELL_BW_N100,DLBANDWIDTH=CELL_BW_N100,CELLID=1,PHYCELLID=116,
RETCODE = 0 Operation succeeded.
--- END
```

(2) Add cell sectoreqm

ADD EUCELLSECTOREQM:LOCALCELLID=0,SECTOREQMID=0;

Command History: ADD CELL:LOCALCELLID=1,CELLNAME="Cell1",FREQBAN [v] [←] [→]

Command (F5): ADD EUCELLSECTOREQM [Assist] [Exec]

Local cell ID 0 [v]

Sector equipment ID 0 [v]

Executable result:

```
+++ 0 2017-03-09 17:45:12
O&M #31
%%ADD EUCELLSECTOREQM: LocalCellId=0, SectorEqmId=0;%%
RETCODE = 0 Operation succeeded.
--- END
```

ADD EUCELLSECTOREQM:LOCALCELLID=1,SECTOREQMID=1;

Command History: ADD EUCELLSECTOREQM: LocalCellId=0, SectorEqmId=1 [v] [←] [→]

Command (F5): ADD EUCELLSECTOREQM [Assist] [Exec]

Local cell ID 1 [v]

Sector equipment ID 1 [v]

Executable result:


```
+++ 0      2017-03-09 17:46:02
O&M #32
%%ADD EUCELLSECTOREQM: LocalCellId=1, SectorEqmId=1;%%
RETCODE = 0  Operation succeeded.

---  END
```

(3) Add cellop

ADD

CELLOP:LOCALCELLID=0,TRACKINGAREAID=0,MMECFGNUM=CELL_MME_CFG_NUM_0;

Command History: ADD CELLOP:LOCALCELLID=0,TRACKINGAREAID=0,MME

Command (F5): ADD CELLOP

Local cell ID: 0

Local tracking area ID: 0

Cell reserved for operator: CELL_NOT_RESERVED_f

Operator uplink RB used ratio(%): 16

Operator downlink RB used ratio(%): 16

MME configure number: CELL_MME_CFG_NUM_0

Executable result:

```
+++ 0      2017-03-09 17:46:45
O&M #33
%%ADD CELLOP: LOCALCELLID=0, TRACKINGAREAID=0, MMECFGNUM=CELL_MME_CFG_NUM_0;%%
RETCODE = 0  Operation succeeded.

---  END
```

Command History: ADD CELLOP:LOCALCELLID=0,TRACKINGAREAID=0,MME

Command (F5): ADD CELLOP

Local cell ID: 1

Local tracking area ID: 0

Cell reserved for operator: CELL_NOT_RESERVED_f

Operator uplink RB used ratio(%): 16

Operator downlink RB used ratio(%): 16

MME configure number: CELL_MME_CFG_NUM_0

Executable result:

```
+++ 0      2017-03-09 17:47:30
O&M #35
%%ADD CELLOP: LocalCellId=1, TrackingAreaId=0, MMECfgNum=CELL_MME_CFG_NUM_0;%%
RETCODE = 0  Operation succeeded.

---  END
```

3.2.4 Activate Cell

ACT CELL:LOCALCELLID=0;

Command History:

Command (F5):

Local Cell ID

ACT CELL:LOCALCELLID=1;

Command History:

Command (F5):

Local Cell ID

3.2.5 Query Cell status

Command History:

Command (F5):

Local Cell ID

Executable result:

```

**DSP CELL:**
RETCODE = 0 Operation succeeded.

Display dynamic parameters of cells
-----
Local Cell ID Cell instance state Cell latest setup time Cell transmission and reception mode
0 Barred 2017-03-09 17:48:15 2T2R
1 Barred 2017-03-09 17:48:50 2T2R
(Number of results = 2)

--- END
    
```

arrive here, cell is OK

3.2.6 Full power test

(1) Config max power of two cells

Command History:

Command (F5):

Local cell ID Reference signal power(0.1dBm)

PB

Command History:

Command (F5):

Local cell ID PA adjusting switch

PA for even power distribution(dB)

Note: According to the same method, config cell 1

(2) Config cell to transmit full power

Command History:

Command (F5):

Local cell ID:

Configure Index:

SimuLoad transmission mode:

Executable result:

```
+++ 0      2017-03-09 20:23:43
O&M #53
%%ADD CELLSIMULOAD: LocalCellId=0, SimLoadCfgIndex=9;%%
RETCODE = 0 Operation succeeded.

--- END
```

Note: According to the same method, config cell 1

(3) Query cell full power status

Command History:

Command (F5):

Local cell ID:

Executable result:

```
+++ 0      2017-03-09 20:26:29
O&M #59
%%LST CELLSIMULOAD:;%%
RETCODE = 0 Operation succeeded.

List Configuration of Cell Simulated Load
-----
Local cell ID  Configure Index  SimuLoad transmission mode
-----
0              9              TM2
1              9              TM2
(Number of results = 2)

--- END
```