

UE Can't Search 5G Femto Network Due to PLMN Incompatibility

Equipment: nCell F2240

Terminal: CPX80P-2A

Version: V2.5.1+V503

Core : IPlook 4/5G integrated version

Plmn: 46000

1. Issue Description

UE can't search signal from 5G femto, femto status is normal.

2. Troubleshooting procedure

2.1 Fapi and qxdm log analysis.

Fapi log:

gNB can send MIB and SIB1 messages.

8	0.002956	Nov	2,	2023	03:45:45.3338...	10.88.120...	127.0.0.1	FSM_IN...	82	10.88.120.103	RACH_IND
9	0.020010	Nov	2,	2023	03:45:45.3508...	10.88.120...	127.0.0.1	NR RRC	61	10.88.120.103	MIB
10	0.020531	Nov	2,	2023	03:45:45.3514...	10.88.120...	127.0.0.1	NR RRC	159	10.88.120.103	SIB1
11	0.020871	Nov	2,	2023	03:45:45.3517...	10.88.120...	127.0.0.1	FSM_IN...	88	10.88.120.103	TX_CONTROL_MESSAGE
12	0.020894	Nov	2,	2023	03:45:45.3517...	10.88.120...	127.0.0.1	FSM_IN...	214	10.88.120.103	[DCI_DATA]
13	0.021372	Nov	2,	2023	03:45:45.3522...	10.88.120...	127.0.0.1	FSM_IN...	232	10.88.120.103	TX_CONTROL_MESSAGE

message: mib (0)

mib

systemFrameNumber: ec [bit length 6, 2 LSB pad bits, 1110 11.. decimal value 59]
subCarrierSpacingCommon: scs30or120 (1)
ssb-SubcarrierOffset: 2
dmrs-TypeA-Position: pos2 (0)
pdccch-ConfigSIB1
cellBarred: notBarred (1)
intraFreqReselection: allowed (0)
snare: 00 [bit length 1, 7 LSB pad bits, 0... decimal value 0]

QXDM log:

UE can't receive MIB messages from gNB PCI 1, but can get from PCI 109 which belongs to another operator.

Time	Type	Description	Subtitle
1980 Jan 6 03:...	0xb822	NR5G RRC MIB Info	
1980 Jan 6 03:...	0xb822	NR5G RRC MIB Info	
1980 Jan 6 03:...	0xb822	NR5G RRC MIB Info	
1980 Jan 6 03:...	0xb822	NR5G RRC MIB Info	

1980 Jan 6 03:57:48.330 [F3] 0xb822 NR5G RRC MIB Info

Subscription ID = 1
Misc ID = 0
Major.Minor Version = 2. 0
Mib Info
Physical Cell ID = 109
DL Frequency = 620736
SFN = 384
Block Index = 0
Half Number = 0
Intra Freq Reselection = ALLOWED
Cell Barred = NOT_BARRED
PDCCCH Config SIB1 = 196
DMRS TypeA Position = POS2
SSB Subcarrier Offset = 6
MSB for k_ssb = 0
Subcarrier Spacing Common = SCSC30

2.1 TX power check.

Both TX channel is transmitting power normally.

```
txPowerReqIdx      19
carrierId          1
scs                2
txPathId           2
sfn                464
slot               1
startSymbol        0
numSymbols          1
txPowerdBm10       125

-----odiSetPhySelfInfo --RF_INFO_FCN:  notsupport: 2result: 1

odi: rx 360 bytes (1 msgs) from /tmp/odsServer.sock.7588
odi: command time measured: 0.001942120 sec
odi: ok ( odi -n duapp0 set-fsm 2 2 2 )
root@localhost:/opt/bbu/oam/log# odi -n duapp0 set-fsm 2 2 2
odi: tx 38 bytes to port 0 on

***** rfGetTxPower Req sent successfully *****
txPowerReqIdx      1
carrierId          1
scs                2
txPathId           2
sfn                794
slot               0
startSymbol        2
numSymbols          1
txPowerdBm10       86

-----odiSetPhySelfInfo --RF_INFO_FCN:  notsupport: 2result: 1
```

3. Solution

Change the PLMN from 46000 to 46011 for both Core Netowrk and gNB.

UE registers successfully.