## 一、不插SIM卡，不能拨打紧急电话

**[DESCRIPTION]**

不插SIM卡，手机不能拨打紧急电话

**Root Cause**

手机没有写入合法的**IMEI**；或者当地的某个**运营商**不支持紧急电话，而手机正好选上了这个运营商；或者当地的某个运营商不支持无SIM卡的紧急电话，而手机正好选上了这个运营商

**[SOLUTION]**

检查手机是否有写入合法的IMEI

用对比机切换到同一制式（与测试机同为2G或者同为3G），同样不插卡看对比机是否能拨打。

Note: 由于不插卡情况下手机会忽略运营商而只按照信号强度选择小区，不同的手机由于硬件差异可能选择上不同的小区，所以在拿做对比测试的时候，可以多换几个地点来测，在每个地点都重新开关机再试。另外可以通过察看log中消息MSG\_ID\_MMI\_NW\_ATTACH\_IND来知道手机连接到的网络。

**Example**

 深圳移动2G支持紧急电话，联通2G不支持拨打紧急电话，手机不插卡情况下在有些地区会选择上移动小区就能打紧急电话，在另一些地区会选择上联通小区就不能打紧急电话。深圳电信不能无卡拨打120。

无卡时拨打紧急电话失败原因可能有三：

1.    当网络发送回来的reject cause为CM\_MM\_INVALID\_MM\_MAND\_INFO或CM\_MM\_IMEI\_NOT\_ACCEPTED等cause时，与IMEI有关；无卡情况下拨打紧急电话时，需要IMEI来给网络鉴权，如果网络判断IMEI非法，会reject；

2.    当网络发送回来的reject cause为2173 即CM\_MM\_EMERGENCY\_NOT\_ALLOWED或

3175 即CM\_MM\_ACCESS\_CLASS\_BARRED等cause时; 与手机当时连接的cell有关：

3.    在没有插SIM卡时，手机根据当前网络信号强度来注册，如果联通网信号比较强，手机注册的是联通网，而联通网不支持拨打112，所以无法拨通； 如果移动网信号强，则注册移动网，则可以拨通112；可以通过察看消息MSG\_ID\_MMI\_NW\_ATTACH\_IND来知道手机连接到的网络, 中国移动: 46000, 中国联通: 46001。

    第1点GSM 04.08 中的4.5.15节的说明：

If the network does not accept the emergency call request, e.g., because IMEI was used as identification and this capability is not supported by the network, the network will reject the request by returning a CM SERVICE REJECT message to the Mobile Station.

Normally, the mobile station will be identified by an IMSI or a TMSI. However, if none of these identifiers is available in the mobile station, then the mobile station shall use the IMEI for identification purposes. The network may in that case reject the request by returning a CM SERVICE REJECT message with reject cause:

#5 "IMEI not accepted".

    第2点GSM 02.11中4.4节的说明：

 An additional control bit known as "Access Class 10" is also signalled over the air interface to the MS. This indicates whether or not network access for Emergency Calls is allowed for MSs with access classes 0 to 9 or without an IMSI. For MSs with access classes 11 to 15, Emergency Calls are not allowed if both "Access class 10" and the relevant Access Class (11 to 15) are barred (GSM 04.08 [6] refers). Otherwise, Emergency Calls are allowed.

## 二、本机电信卡主叫，本机显示在拨号但未能拨通，1min后自动挂断电话

**//**从APLOG(APLog\_2015\_1104\_140618)看到14：21左右失败的CALL状态：

11-04 14:20:58.716   944   945 D C2K\_RIL :   AT > AT+CDV=13076938903

11-04 14:20:58.721   944   951 D C2K\_RIL :   AT < ^ORIG:0,0

11-04 14:21:00.105   944   951 D C2K\_RIL :   AT < ^CONN:0,0

11-04 14:21:00.318   944   951 D C2K\_RIL :   AT < +CLCC:0,0,0,0,0,13076938903,129,255,255

11-04 14:21:11.977   944   951 D C2K\_RIL :   AT < +CSQ:4

11-04 14:21:54.557   944   951 D C2K\_RIL :   AT < +CSQ:5,99

11-04 14:21:54.568   944   951 D C2K\_RIL :   AT < +CREG:1,1

11-04 14:22:11.156   944   951 D C2K\_RIL :   AT < +CEND:6

11-04 14:22:11.158   944   951 D C2K\_RIL :   AT < ^CEND:0,71,25

79779：, <<< Msg Id=AC - Origination

...

84070：, >>> Msg Id=FTC - Service Connect

84177：, <<< Msg Id=RTC - Service Connect Completion

**//在终端空口信令建立好之后，MS探测到当前网络信号变弱发起测量并将测报上报给网络**

86129: , Stale.0=0, Pilot PN.0=438, Phase.0=28032, Strength.0=-14.3482

86139: , <<< Msg Id=RTC - Pilot Strength measurement

87668: , Stale.0=0, Pilot PN.0=438, Phase.0=28032, Strength.0=-15.3864    ,

**//**网络认为当前终端所处网络环境较差，让其切换到更好的小区上,后续网络环境一直不稳定，

**//**MS一直处于不停的切换过程中

89338：, >>> Msg Id=FTC - Universal Handoff Direction

...

**//**在（2015.11.04\_14.22.19）看到网络释放此CALL前的最后一次切换消息，MS一直未收到

85793：, >>> Msg Id=FTC - Universal Handoff Direction

85985：, >>> Msg Id=FTC - Order （Release order）

86566：Id=CP Spy, SpyId=CP IOP ATC recvd data, N=2, SysTime.0=(1x) 0x0d299c0eb6 (11/04/2015 14:22:25.720 TC:1965254223 L1dStates=TRAFFIC), SysTime.1=(DO) 0x09df350b09 (11/04/2015 14:22:25.733 TC:1965278801 RmcModemStateT=RMC\_INACTIVE), Data= +CEND:6

86603：Id=CP Spy, SpyId=CP IOP ATC recvd data, N=2, SysTime.0=(1x) 0x0d299c0eb6 (11/04/2015 14:22:25.720 TC:1965256140 L1dStates=TRAFFIC), SysTime.1=(DO) 0x09df350b09 (11/04/2015 14:22:25.733 TC:1965280718 RmcModemStateT=RMC\_INACTIVE), Data= ^CEND:0,71,25

注：从AP和MDLog看到当前MS所处的网络环境属于**弱场**，导致在CALL的过程中不断的发起切换的行为，后续网络release了此CALL.

## 三、不起数据网

从modem log看，NW侧行为异常，具体状况如下：

1.做GPRS attach，MS第一次发送ATTACH\_REQUEST给NW侧，NW一直未回复ATTACH ACCEPT，然后timer超时，MS retry发送ATTACH\_REQUEST（所带参数与上一条ATTACH REQUEST一样），但是这次NW却回复了；

OTA, 832997, 61414, 14:51:59:710, MM\_2, [MS->NW] GMM\_\_ATTACH\_REQUEST,

OTA, 833439, 61571, 14:52:00:510, MM\_2, [NW->MS] GMM\_\_AUTHENTICATION\_AND\_CIPHERING\_REQ,

OTA, 833513, 61592, 14:52:00:510, MM\_2, [MS->NW] GMM\_\_AUTHENTICATION\_AND\_CIPHERING\_RSP,

OTA, 836576, 64547, 14:52:15:460, MM\_2, [MS->NW] GMM\_\_ATTACH\_REQUEST,

OTA, 836882, 64732, 14:52:16:260, MM\_2, [NW->MS] GMM\_\_ATTACH\_ACCEPT,

OTA, 836899, 64732, 14:52:16:260, MM\_2, [MS->NW] GMM\_\_ATTACH\_COMPLETE,

2.**GPRS attach成功之后，NW侧仍然一直发送ATTACH ACCEPT**，而这时MS已经开始PDP activation流程，而且NW一直未回复ACTIVATE\_PDP\_CONTEXT\_REQUEST消息：

OTA, 837324, 64739, 14:52:16:260, MM\_2, [NW->MS] GMM\_\_ATTACH\_ACCEPT,

OTA, 837325, 64739, 14:52:16:260, MM\_2, [MS->NW] GMM\_\_ATTACH\_COMPLETE,

OTA, 838582, 64775, 14:52:16:460, SM\_2, [MS->NW] SM\_\_ACTIVATE\_PDP\_CONTEXT\_REQUEST,

OTA, 838791, 64852, 14:52:16:860, MM\_2, [NW->MS] GMM\_\_ATTACH\_ACCEPT,

OTA, 838792, 64852, 14:52:16:860, MM\_2, [MS->NW] GMM\_\_ATTACH\_COMPLETE,

OTA, 839194, 64979, 14:52:17:460, MM\_2, [NW->MS] GMM\_\_ATTACH\_ACCEPT,

从log上看，**NW侧的GPRS ATTACH流程可能没有完成**，这种状况的原因可能是.NW侧可能未有收到ATTACH\_COMPLETE消息；而从modem log看，ATTACH COMPLETE消息都有成功发送至基站，并有得到ACK，因此可能是基站将该消息弄丢，没有传送给对应的网元；

因此网络侧也可能没有收到基站发送的ACTIVATE\_PDP\_CONTEXT\_REQUEST消息；或者该ACTIVATE\_PDP\_CONTEXT\_REQUEST消息有发送至对应的网元，但是由于NW侧GPRS ATTACH流程一直未完成，因此不会回应ACTIVATE\_PDP\_CONTEXT\_REQUEST；

综上所述，手机侧行为流程都是正常的，发送的信令所带参数正常，是由于**网络侧异常**导致PDP activation一直不成功。

## 四、开机注册到3G，数据业务不自动打开

1.卡一电信4G卡，卡二联通卡，测试手机开机，卡一，卡二正常注册到网络。 11:29分开机

2.办公室弱4G环境下开机后卡一注册到3G，卡二注册到2G。11:30分注网正正常

3.开机后数据业务没有自动打开，状态栏也不显示数据业务图标，检查手机设置数据开关为开启状态。尝试使用数据业务上网浏览网页失败。

4.等待至11:35分数据业务仍然无法自动打开，开关飞行模式后恢复正常。

4G弱信，切到3G下，EHRPD下，数据业务被网络拒绝

18 2015-11-13 11:30:07.280000 DTE DCE VSNCP 17 Configuration Reject

38 2015-11-13 11:30:19.573000 DTE DCE VSNCP 17 Configuration Reject

58 2015-11-13 11:30:42.720000 DTE DCE VSNCP 17 Configuration Reject

78 2015-11-13 11:31:24.373000 DTE DCE VSNCP 17 **Configuration Reject**

error code是P-GW reject

这种情况一般是**网络拥塞，而拒绝**，应该是网络的问题

## 五、从无信号区域移动至网络环境正常区域，测试机器长时间无信号

从modem1 log来看，

对比机在18:03:33出现SIGNAL\_APPEAR\_IND

154352, 663569, 20215739, 18:03:33:365 2015/11/18, MOD\_NWSEL, MOD\_GMSS, GMSS\_NWSEL\_SAP, MSG\_ID\_GMSS\_NWSEL\_SIGNAL\_APPEAR\_IND

对比机在18:03:45注册网络

181146, 666068, 20218238, 18:03:45:965 2015/11/18, MOD\_EMM\_NASMSG, , TRACE\_PEER, [MS->NW] EMM\_Attach\_Complete

测试机在18:04:06注册网络，时间相隔约20s

494864, 2147188, 2093147, 18:04:06:330 2015/11/18, MOD\_EMM\_NASMSG, , TRACE\_PEER, [MS->NW] EMM\_Attach\_Complete

查看测试机log发现在18:02:37发生电信2，3G的sys loss，而之后切换小区因为没有信号而失败，导致\_SYS\_LOSS\_DELAY\_TIMER\_ID Timer超时，在18:03:00重新在md3搜索CDMA2000\_1x网络，电信4G的信号恰好在18:03:33回复，而在md3搜网期间，md1不会有搜网的动作，因此直到18:04:00md3返回CNF之后，md1才会去进行搜网rat: GMSS\_RAT\_EUTRAN，log中也看到md3返回搜网的CNF之后，测试机在约6s时间内注册上网络。

462342, 542632, 2075403, 18:02:37:720 2015/11/18, MOD\_CSS\_MD3, MOD\_GMSS, INVALID\_SAP, MSG\_ID\_GMSS\_CSS\_SYS\_LOST\_IND

469058, 547240, 2080011, 18:03:00:755 2015/11/18, MOD\_GMSS, , TRACE\_INFO, GMSS\_SYS\_LOSS\_DELAY\_TIMER\_ID Timer expires in state GMSS\_STATE\_ATTACHED

[ACCESS\_TABLE] index: 0, rat: GMSS\_RAT\_CDMA2000\_1xRTT

[ACCESS\_TABLE] index: 1, rat: GMSS\_RAT\_GERAN

[ACCESS\_TABLE] index: 2, rat: GMSS\_RAT\_EUTRAN

469066, 547240, 2080011, 18:03:00:755 2015/11/18, MOD\_GMSS\_MD1, MOD\_CSS\_MD3, GMSS\_CSS\_SAP, MSG\_ID\_GMSS\_CSS\_MCC\_SEARCH\_REQ

472372, 559254, 2092025, 18:04:00:830 2015/11/18, MOD\_CSS\_MD3, MOD\_GMSS, INVALID\_SAP, MSG\_ID\_GMSS\_CSS\_MCC\_SEARCH\_CNF

综上，测试机由于**在电信的md3进行CDMA2000\_1x网络的搜索，而没有及时在md1反馈4G信号已经appear，导致有约20s的延时**，但是md3完成搜索之后很快切回md1驻网，因此现象应属正常。

## 六、关于关闭4G开关，测试机驻留3G网络，PS业务5分钟以后才能自动激活

先建链成功，Xon也发了，后来AT发Xoff断了数据；这之后，发生了subnet change，需要做UATI更新，那个CP SMP AMP FAILURE MSG是触发作UATI更新的。

结论：**几次建链不成功也是正常的信号不好或者正好发生handoff引起的**，软件与modem 没有异常，请贵司再测试确认。

, <<< MessageId=ConnectionRequest

, >>> MessageId=QuickConfig

, ColorCode=0x26

, >>> MessageId=Sync

, >>> MessageId=AccessParameters

, >>> MessageId=BroadcastReverseRateLimit\_NotUsed

, >>> MessageId=ACAck

, >>> MessageId=TrafficChannelAssignment

, >>> MessageId=RTCAck

, <<< MessageId=XonRequest

, <<< MessageId=TrafficChannelComplete

, <<< MessageId=RouteUpdate

, >>> Msg Id=QPCH - Indicator

, <<< MessageId=XonRequest

, <<< MessageId=RouteUpdate

, >>> MessageId=NeighborList

, >>> MessageId=AttributeOverride

, >>> MessageId=AttributeUpdateRequest

, <<< MessageId=AttributeUpdateAccept

, <<< MessageId=AttributeOverrideResponse

, <<< MessageId=Nak

, >>> MessageId=XonResponse

, >>> MessageId=TrafficChannelAssignment

, <<< MessageId=TrafficChannelComplete

, >>> MessageId=NeighborList

, <<< MessageId=XoffRequest

, >>> MessageId=XoffResponse

, >>> MessageId=XoffResponse

, <<< MessageId=ConnectionClose

, <<< MessageId=ConnectionClose

, >>> MessageId=QuickConfig

, ColorCode=0x26

, >>> MessageId=Sync

, >>> MessageId=AccessParameters

, >>> Msg Id=QPCH - Indicator

, >>> Msg Id=QPCH - Indicator

, >>> Msg Id=QPCH - Indicator

, >>> MessageId=OtherRATNeighborList

, >>> MessageId=QuickConfig

, ColorCode=0x65

, >>> MessageId=Sync

, >>> MessageId=AccessParameters

00:00:00.000> ETS, Id=CP Trace, TraceId=CP SLC MSGID TRACE, N=0x00000002, SysTime.0=(1x) 0x0d2d3d471c (11/18/2015 16:41:33.360 TC:3953498508 L1dStates=IDLE), SysTime.1=(DO) 0x09e1edf555 (11/18/2015 16:41:33.360 TC:3953498512 RmcModemStateT=RMC\_ONLINE\_SEARCH), MsgName=**CP SMP AMP FAILURE MSG**

00:00:00.000> ETS, Id=CP Trace, TraceId=CP SMP STATE TRACE, N=0x00000002, SysTime.0=(1x) 0x0d2d3d471c (11/18/2015 16:41:33.360 TC:3953498523 L1dStates=IDLE), SysTime.1=(DO) 0x09e1edf555 (11/18/2015 16:41:33.360 TC:3953498527 RmcModemStateT=RMC\_ONLINE\_SEARCH), State=Open, MessageId=CP SMP AMP FAILURE MSG

, >>> Msg Id=QPCH - Indicator

, >>> MessageId=OtherRATNeighborList

, >>> MessageId=QuickConfig

, ColorCode=0x22

, >>> MessageId=Sync

, >>> MessageId=SectorParameters

00:00:00.000> ETS, Id=CP Trace, TraceId=CP SLC MSGID TRACE, N=0x00000002, SysTime.0=(1x) 0x0d2d3d472c (11/18/2015 16:41:33.680 TC:3953894794 L1dStates=IDLE), SysTime.1=(DO) 0x09e1edf573 (11/18/2015 16:41:34.160 TC:3954484620 RmcModemStateT=RMC\_MINI\_ACQ), MsgName=CP SMP AMP FAILURE MSG

00:00:00.000> ETS, Id=CP Trace, TraceId=CP SMP STATE TRACE, N=0x00000002, SysTime.0=(1x) 0x0d2d3d472c (11/18/2015 16:41:33.680 TC:3953894809 L1dStates=IDLE), SysTime.1=(DO) 0x09e1edf573 (11/18/2015 16:41:34.160 TC:3954484635 RmcModemStateT=RMC\_MINI\_ACQ), State=Open, MessageId=CP SMP AMP FAILURE MSG

, >>> MessageId=QuickConfig

, ColorCode=0x22

, >>> MessageId=Sync

, >>> MessageId=AccessParameters

, >>> MessageId=OtherRATNeighborList

, >>> MessageId=QuickConfig

, ColorCode=0x22

, >>> MessageId=Sync

, >>> MessageId=SectorParameters

, <<< MessageId=RouteUpdate

, <<< MessageId=UATIRequest

, >>> MessageId=QuickConfig

## 七、压力测试拨打电话，出现拨出去的电话号码和实际接通的号码不同

从AP侧看在出现问题的时间点之前有一通10000的CALL，从拨到挂只有了3s

11-25 14:01:26.757 975 976 D C2K\_RIL : AT > AT+CDV=10000

11-25 14:01:26.761 975 982 D C2K\_RIL : AT < ^ORIG:1,0

11-25 14:01:29.343 975 982 D C2K\_RIL : AT < +CLCC:1,0,2,0,0,10000,129,255,255

11-25 14:01:29.751 975 976 D C2K\_RIL : AT > AT+CHV

11-25 14:01:29.759 975 982 D C2K\_RIL : AT < +CEND:12

11-25 14:01:29.759 975 982 D C2K\_RIL : AT < ^CEND:1,33209,12

**//**从前面看到此时10000还未接通，在挂断后2s不到立即拨打如下号码

11-25 14:01:31.584 975 976 D C2K\_RIL : AT > AT+CDV=13277935978

11-25 14:01:31.587 975 982 D C2K\_RIL : AT < ^ORIG:2,0

11-25 14:01:33.152 975 982 D C2K\_RIL : AT < ^CONN:2,0

11-25 14:02:15.133 975 982 D C2K\_RIL : AT < +CEND:3

11-25 14:02:15.134 975 982 D C2K\_RIL : AT < ^CEND:2,40,22

从MDLOG(2015.11.25\_14.01.27)看：

177538： Id=CP Spy, SpyId=CP IOP req ATC xmit data, N=2, SysTime.0=(1x) 0x0d2f03600f (11/25/2015 14:01:27.980 TC:0900450832 L1dStates=IDLE), SysTime.1=(DO) 0x09e3428763 (11/25/2015 14:01:23.493 TC:0894945816 RmcModemStateT=RMC\_INACTIVE), Data=AT+CDV=10000

**//**MDLOG(2015.11.25\_14.01.58)接续上面的CALL

3313: , <<< Msg Id=AC - Origination

5887: , <<< Msg Id=AC - Origination

**//**还未等到网络端的ACK,此时MS已下发挂断AT:

7234: Id=CP Spy, SpyId=CP IOP req ATC xmit data, N=2, SysTime.0=(1x) 0x0d2f0360a5 (11/25/2015 14:01:30.980 TC:0904131139 L1dStates=IDLE), SysTime.1=(DO) 0x09e3428763 (11/25/2015 14:01:23.493 TC:0894956108 RmcModemStateT=RMC\_INACTIVE), Data=AT+CHV

7298: , <<< Msg Id=AC - Order (Release Order)

7382: Id=CP Spy, SpyId=CP IOP ATC recvd data, N=2, SysTime.0=(1x) 0x0d2f0360a5 (11/25/2015 14:01:30.980 TC:0904136106 L1dStates=ACCESS\_PREAMBLE\_SETUP), SysTime.1=(DO) 0x09e3428763 (11/25/2015 14:01:23.493 TC:0894928307 RmcModemStateT=RMC\_INACTIVE), Data=+CEND:12

7410: Id=CP Spy, SpyId=CP IOP ATC recvd data, N=2, SysTime.0=(1x) 0x0d2f0360a5 (11/25/2015 14:01:30.980 TC:0904136892 L1dStates=ACCESS\_PREAMBLE\_SETUP), SysTime.1=(DO) 0x09e3428763 (11/25/2015 14:01:23.493 TC:0894929093 RmcModemStateT=RMC\_INACTIVE), Data=^CEND:1,33209,12

**//**此时网络下发针对10000CALL的ACK

7700:, >>> Msg Id=PC - Order Message (BS ACK)

**//**此时MS再次发起一个联通的CALL

9879: Id=CP Spy, SpyId=CP IOP req ATC xmit data, N=2, SysTime.0=(1x) 0x0d2f036100 (11/25/2015 14:01:32.800 TC:0906381092 L1dStates=IDLE), SysTime.1=(DO) 0x09e3428763 (11/25/2015 14:01:23.493 TC:0894945072 RmcModemStateT=RMC\_INACTIVE), Data=AT+CDV=13277935978

11911: , <<< Msg Id=AC - Origination

...

15113: , <<< Msg Id=RTC - Service Connect Completion

注：从上面MDLog可以看到在网络端还未会BS ACK的时候，MS下发挂断CALL的AT,紧接着又发起一通CALL，这样会MS会先响应之前的那通CALL，也就是说line:7700此时收到的BS ACK是之前10000的CALL，所以出现界面显示13277935978，而实际语音承载的是10000的语音，希望以后测试尽量不要这样测试，因为**MS与BS的空口信令交互没有那么快，这样造成的“错话”的问题**。

## 八、不能上网

手机有手动关开数据网，在打开数据网开关时当时数据网没有attached，所以不允许激活PDP，等到16:46:05时数据网attached，然后开始自动重新激活PDP，但由于当时网络状态在MDIrat状态，激活PDP的请求被suspend，后面没有看到网络状态的恢复。

**手动关闭数据网：**

09-26 16:45:22.059   836  1735 V ActivityManager: Broadcast: Intent { act=android.intent.action.ACTION\_MOBILE\_DATA\_ENABLE flg=0x10 (has extras) } ordered=false userid=0 callerApp=ProcessRecord{265e5af7 1759:com.android.phone/1001}

09-26 16:45:22.058  1759  1759 D DCT     : [0]notifyMobileDataChange, enable = 0

09-26 16:45:22.077  1759  2051 D DC-1    : tearDownData radio is on, call deactivateDataCall

09-26 16:45:22.078  1759  2051 D RILJ    : [2391]> DEACTIVATE\_DATA\_CALL 0 0 [SUB0]

09-26 16:45:22.116  1759  1894 D RILJ    : [2391]< DEACTIVATE\_DATA\_CALL {} [SUB0]

**手动开启数据网，但由于数据网一直没有attached，所以不允许激活PDP：**

09-26 16:45:26.414   836  1758 V ActivityManager: Broadcast: Intent { act=android.intent.action.ACTION\_MOBILE\_DATA\_ENABLE flg=0x10 (has extras) } ordered=false userid=0 callerApp=ProcessRecord{265e5af7 1759:com.android.phone/1001}

09-26 16:45:26.404  1759  1759 D DCT     : [0]notifyMobileDataChange, enable = 1

09-26 16:45:26.415  1759  1759 D DCT     : [0]onTrySetupData: reason=dataEnabled

09-26 16:45:26.415  1759  1759 D DCT     : [0]setupDataOnConnectableApns: dataEnabled

09-26 16:45:26.415  1759  1759 D DCT     : [0]trySetupData for type:mms due to dataEnabled apnContext={mApnType=mms mState=RETRYING mWaitingApns={[[ApnSettingV3] CTWAP, 1154, 46011, ctwap, , http: **//**mmsc.vnet.mobi, 10.0.0.200, 80, , 3, mms, IP, IP, true, 0, 0, false, 0, 0, 0, 0, , ]} mWaitingApnsPermanentFailureCountDown=1 mApnSetting={null} mReason=dataEnabled mDataEnabled=true mDependencyMet=true}

09-26 16:45:26.415  1759  1759 D DCT     : [0]trySetupData with mIsPsRestricted=false

09-26 16:45:26.415  1759  1759 D DCT     : [0]isDataAllowed getRecordsLoaded=true

09-26 16:45:26.416  1759  1759 D DCT     : [0]**isDataAllowed: not allowed due to - Attached= false**

09-26 16:45:26.416  1759  1759 D DCT     : [0]Wait for attach

**一直到16:46:05数据网才attached：**

09-26 16:46:05.097  1759  1759 D CDMA    : [MD\_IRAT\_Controller] processMessage: EVENT\_CDMA\_DATA\_REG\_STATE\_OR\_RAT\_CHANGE newRat = 13, regstate = 0

09-26 16:46:05.097  1759  1759 D CDMA    : [MD\_IRAT\_Controller] onCdmaDataRegStateOrRatChange, drs=0, rat=13, lteState=1

09-26 16:46:05.097  1759  1759 D CDMA    : [MD\_IRAT\_Controller] Skip the unwanted CdmaDataRegStateOrRatChange, mIsDuringIrat is true

09-26 16:46:05.098  1759  1759 D DCT     : [0]handleMessage msg={ when=-2ms what=270352 obj=android.os.AsyncResult@35650290 target=com.android.internal.telephony.dataconnection.DcTracker obj=android.os.AsyncResult@35650290 }

09-26 16:46:05.098  1759  1759 D DCT     : [0]**onDataConnectionAttached**

**然后开始重新偿试激活PDP：**

09-26 16:46:05.132  1759  1759 D DCT     : [0]trySetupData for type:mms due to dataAttached apnContext={mApnType=mms mState=RETRYING mWaitingApns={[[ApnSettingV3] CTWAP, 1154, 46011, ctwap, , http: **//**mmsc.vnet.mobi, 10.0.0.200, 80, , 3, mms, IP, IP, true, 0, 0, false, 0, 0, 0, 0, , ]} mWaitingApnsPermanentFailureCountDown=1 mApnSetting={null} mReason=dataAttached mDataEnabled=true mDependencyMet=true}

09-26 16:46:05.132  1759  1759 D DCT     : [0]trySetupData with mIsPsRestricted=false

09-26 16:46:05.132  1759  1759 D DCT     : [0]isDataAllowed getRecordsLoaded=true

09-26 16:46:05.133  1759  1759 D DCT     : [0]getAnyDataEnabled2 return true, apn = default

09-26 16:46:05.133  1759  1759 D DCT     : [0]isEmergency: result=false

09-26 16:46:05.133  1759  1759 D DCT     : [0]buildWaitingApns: E requestedApnType=mms

09-26 16:46:05.134  1759  1759 D DCT     : [0]trySetupData: Create from mAllApnSettings : [[ApnSettingV3] CTLTE, 1153, 46011, ctlte, , , , , , 3, default | dun | supl, IPV4V6, IP, true, 0, 0, false, 0, 0, 0, 0, , ][[ApnSettingV3] CTWAP, 1154, 46011, ctwap, , http: **//**mmsc.vnet.mobi, 10.0.0.200, 80, , 3, mms, IP, IP, true, 0, 0, false, 0, 0, 0, 0, , ]

09-26 16:46:05.134  1759  1759 D DCT     : [0]trySetupData: call setupData, waitingApns : [[ApnSettingV3] CTWAP, 1154, 46011, ctwap, , http: **//**mmsc.vnet.mobi, 10.0.0.200, 80, , 3, mms, IP, IP, true, 0, 0, false, 0, 0, 0, 0, , ]

**但此时在MDIRat状态，激活PDP请求被suspend，后面没有看到有网络状态恢复的LOG：**

09-26 16:46:05.142  1759  2051 I PHONE   : [IRAT\_SvlteRilArbitrator] **setupDataCall: mSuspendDataRequest = true**,mPsCi = com.android.internal.telephony.RIL@11ab7f23, apn = ctwap

## 九、动态语音长保掉话后移动4G驻网异常

分析结论：由于combine TAU网络只接受TA更新，没接收CS域的LU更新，导致UE短时间内无法进行CS业务。属于网络问题，UE表现正常。

**//**TAU更新，网络只接受TA更新，LA更新没成功。

OTA, 169551, 2495288429, 10:59:39:896, EMM\_NASMSG, [MS->NW] EMM\_Tracking\_Area\_Update\_Request(EPS update type="EMM\_UPDATE\_TYPE\_COMBINED\_TAU\_IMSI\_ATTACH", active flag="KAL\_FALSE"),

--->网络只接受TA

OTA, 169808, 2495288704, 10:59:39:896, EMM\_NASMSG, [NW->MS] EMM\_Tracking\_Area\_Update\_Accept(EPS update result="EMM\_UPDATE\_RESULT\_TA\_UPDATED"),

**//**网络要求12分钟后重新再做Combine TAU

PS, 169865, 2495288704, 10:59:39:896, EMM, [EMM TIMER] TIMER ID: EMM\_T3402 (isd:0)is started by EMM on PLMN(46000f), (GPRS Timer - T3402 value GPRS Timer: 12 min)

**//**CS注册状态异常，所以打不了电话

SYS, 170238, 2495288755, 10:59:39:896, NIL, [AT\_U p19, s8]+CREG: 0,"1145","0124FC02",7,0,22,

SYS, 233947, 2497824127, 11:02:22:261, NIL, [AT\_U p19, s8]+CREG: 0,"1145","0124FC02",7,0,22,

SYS, 246306, 2498314887, 11:02:53:666, NIL, [AT\_I p21, s10]ATD13001330821;,

SYS, 246951, 2498315226, 11:02:53:666, NIL, [AT\_R p21, s10]+CEER: 63,CM\_SER\_UNAVAILABLE,

@11:05:47:972换TAI区域，做TAU，所以恢复过来

OTA, 317845, 2501038406, 11:05:47:972, EMM\_NASMSG, [MS->NW] EMM\_Tracking\_Area\_Update\_Request(EPS update type="EMM\_UPDATE\_TYPE\_COMBINED\_TAU\_IMSI\_ATTACH", active flag="KAL\_FALSE"),

OTA, 318099, 2501038848, 11:05:47:972, EMM\_NASMSG, [NW->MS] EMM\_Tracking\_Area\_Update\_Accept(EPS update result="EMM\_UPDATE\_RESULT\_COMBINED\_UPDATED"),

SYS, 318741, 2501039038, 11:05:47:972, NIL, [AT\_U p19, s8]+CREG: 1,"10A8","015F8802",7,0,0,

Spec（24.301） 参考：

2) The EPS update result IE value indicates "TA updated": Tracking area updating is successful, but location area updating for non-EPS services or "SMS only" is not successful.

a UE operating in CS/PS mode 2 of operation shall start timer T3402, shall set the EPS update status to EU1 UPDATED and shall enter state EMM-REGISTERED.ATTEMPTING-TO-UPDATE-MM. When timer T3402 expires the combined tracking area updating procedure indicating "combined TA/LA updating with IMSI attach" is triggered again;

## 十、关闭wifi，长时间不起数据业务

由于Android 5.0以上的版本建立数据的机制是，先将所有符合条件的数据连线建起来，然后比较这些不同网络的分数。分数高的会被保留，分数低的会被断开。

目前GPRS的网络分数是低于wifi的，所以同时建立wifi和GPRS时，GPRS会被断开。断开后我们会设置一个delay timer, 这里取的是google默认的20s。

17:07:25，同样是因为Android的网络评分机制，WIFI：60 > CELLULAR：50，所以eHRPD网络被release：

Line 13650: 01-27 17:07:25.733 1956 1956 D DctController: [TNF 1]new score 60 for exisiting request NetworkRequest [ id=1, legacyType=-1, [ Capabilities: INTERNET&NOT\_RESTRICTED&TRUSTED&NOT\_VPN] ]

Line 13651: 01-27 17:07:25.734 1956 1956 D DctController: [TNF 1] my score=50, my filter=[ Transports: CELLULAR Capabilities: MMS&SUPL&DUN&FOTA&IMS&CBS&IA&RCS&XCAP&EIMS&INTERNET&NOT\_RESTRICTED&TRUSTED&NOT\_VPN&DM&WAP&NET&CMMAIL&TETHERING&RCSE Specifier: <1>]

Line 13652: 01-27 17:07:25.734 1956 1956 D DctController: [TNF 1]evalRequest request = NetworkRequest [ id=1, legacyType=-1, [ Capabilities: INTERNET&NOT\_RESTRICTED&TRUSTED&NOT\_VPN] ] with requested = true(60) my score:50

Line 13653: 01-27 17:07:25.734 1956 1956 D DctController: [TNF 1] releaseNetworkFor

Line 13654: 01-27 17:07:25.734 1956 1956 D DctController: [TNF 1]Cellular releasing Network for NetworkRequest [ id=1, legacyType=-1, [ Capabilities: INTERNET&NOT\_RESTRICTED&TRUSTED&NOT\_VPN] ]

eHRPD网络被release之后，同时启动了20s的delay：

Line 19800: 01-27 17:08:07.056 1956 1956 D DCT : [0]startAlarmForReconnect: delay=20000 action=com.android.internal.telephony.data-reconnect.default apn={mApnType=default mState=IDLE mWaitingApns={[[ApnSettingV3] 中国电信互联网设置CTNET, 1153, 46011, ctnet, , , , , , 3, default | dun | supl, IPV4V6, IP, true, 0, 0, false, 0, 0, 0, 0, , ]} mWaitingApnsPermanentFailureCountDown=1 mApnSetting={[ApnSettingV3] 中国电信互联网设置CTNET, 1153, 46011, ctnet, , , , , , 3, default | dun | supl, IPV4V6, IP, true, 0, 0, false, 0, 0, 0, 0, , } mReason=connected mDataEnabled=true mDependencyMet=true}

同时WIFI断开，这时已经完全断网：

Line 13011: 01-27 17:08:08.929 845 1048 D ConnectivityService: NetworkAgentInfo [WIFI () - 301] EVENT\_NETWORK\_INFO\_CHANGED, going from CONNECTED to DISCONNECTED

Line 13012: 01-27 17:08:08.930 845 1048 D ConnectivityService: NetworkAgentInfo [WIFI () - 301] got DISCONNECTED, was satisfying 2

Line 13104: 01-27 17:08:09.020 845 1048 D ConnectivityService: notifyType LOST for NetworkAgentInfo [WIFI () - 301]

20s之后，eHRPD网络重新Connected：

Line 14437: 01-27 17:08:27.229 845 1301 D ConnectivityService: registerNetworkAgent NetworkAgentInfo{ ni{[type: MOBILE[CDMA - eHRPD], state: CONNECTING/CONNECTING, reason: connected, extra: ctnet, roaming: false, failover: false, isAvailable: true, isConnectedToProvisioningNetwork: false]} network{null} lp{{LinkAddresses: [] Routes: [] DnsAddresses: [] Domains: null MTU: 0 PcscfAddresses: [] }} nc{[ Transports: CELLULAR Capabilities: SUPL&DUN&INTERNET&NOT\_RESTRICTED&TRUSTED&NOT\_VPN LinkUpBandwidth>=153Kbps LinkDnBandwidth>=2516Kbps Specifier: <1>]} Score{10} everValidated{false} lastValidated{false} created{false} explicitlySelected{false} subscriberId{460030787013038} }

Line 14438: 01-27 17:08:27.229 845 1048 D ConnectivityService: NetworkAgentInfo [MOBILE (CDMA - eHRPD) - 303] EVENT\_NETWORK\_INFO\_CHANGED, going from null to CONNECTING

Line 14471: 01-27 17:08:31.346 845 1048 D ConnectivityService: NetworkAgentInfo [MOBILE (CDMA - eHRPD) - 303] EVENT\_NETWORK\_INFO\_CHANGED, going from CONNECTING to CONNECTED

## 十一、开启飞行模式后不能打通112

从客户log看，在开启飞行模式后，拨打112

015126 01-29 11:22:13.491 1069 1069 D Telecom : MtkCallAudioManagerUtil: setModeForCdma newMode:2, oldMode:0, mode=2

Audio的mode会从0切到2；

然后有看到关闭飞行模式的log

015191 01-29 11:22:13.507 1069 1069 D AudioSystem: +setParameters(): SetFlightMode=0

同时，audio这边会把mode从0切到2

015892 01-29 11:22:13.718 368 3047 D AudioALSAStreamManager: +setMode(), mAudioMode: 0 => 2

但此时 modem的status还是MD EPOF，并没有ready

015936 01-29 11:22:13.721 368 3047 D SpeechMessengerECCCI: GetModemCurrentStatus() MD EPOF!

015937 01-29 11:22:13.721 368 3047 W SpeechMessengerECCCI: Wait CCCI open #1 times, modem current status = 0, errno: 19

027521 01-29 11:22:16.077 4661 4661 D MTKLogger/MTKLoggerService: Modem restart finished, update log running status now. resetModemIndex=1, taglogRunningFlag=false

028583 01-29 11:22:16.227 368 3047 D SpeechDriverLAD: SpeechOn()

在这个时候，audio这边下speech on的MSG给modem，去开启speech部分，但此时modem仍在reset，还不ready

028624 01-29 11:22:16.228 368 3047 D SpeechMessengerECCCI: GetMDResetFlag(), mIsModemReset=1

028641 01-29 11:22:16.228 368 3047 D SpeechMessengerECCCI: GetMDResetFlag(), mIsModemReset=1

028695 01-29 11:22:16.229 368 3047 D SpeechMessengerECCCI: GetMDResetFlag(), mIsModemReset=1

028699 01-29 11:22:16.229 368 3047 D SpeechMessengerECCCI: SendMessageInQueue(), mModemIndex = 0, need ack message: 0x2f200000, reserved param: 0x0

028701 01-29 11:22:16.229 368 3047 D SpeechMessengerECCCI: GetModemCurrentStatus() MD EPOF!

028702 01-29 11:22:16.229 368 3047 E SpeechMessengerECCCI: SendMessage(), modem\_status(0) != MODEM\_STATUS\_READY, errno: 19, mIsModemEPOF = 1

028703 01-29 11:22:16.229 368 3047 D SpeechMessengerECCCI: ResetSpeechParamAckCount(), NB(0)/DMNR(0)/WB(0)/MAGICON(0)/HAC(0)/DynamicSPH(0)

028704 01-29 11:22:16.229 368 3047 E SpeechMessengerECCCI: SendMessage(), mIsModemResetDuringPhoneCall == true, drop on/off message: 0x2f200000

028705 01-29 11:22:16.229 368 3047 E SpeechMessengerECCCI: SendMsgFailErrorHandling(), message: 0x2f200000

等到AP这边setmode完了后

028764 01-29 11:22:16.233 368 3047 D AudioALSAStreamManager: -setMode(), mAudioMode = 2

才印出来modem reset完成，问AP这边要speech的参数

037659 01-29 11:22:17.857 368 1036 W SpeechMessengerECCCI: ..[MD Reset Notify(MSG\_M2A\_EM\_DATA\_REQUEST: 0xaf700000)]..

综上，就是AP给modem发speech on的MSG，modem还处于reset状态，等到modem reset完成后，这个MSG已经丢掉了；

所以就没有建立起通话~

保证**modem 状态是ready后，再去调用set mode**，就不会有问题：

61355 02-02 15:00:54.830 367 964 W SpeechMessengerECCCI: ..[MD Reset Notify(MSG\_M2A\_EM\_DATA\_REQUEST: 0xaf700000)]..

61372 02-02 15:00:54.830 367 3514 D SpeechMessengerECCCI: WaitUntilModemReady(): Modem ready

72791 02-02 15:01:04.124 970 970 D AudioManager: setMode: mode = 2

72792 02-02 15:01:04.124 970 970 V AudioService: setMode(mode=2)

73061 02-02 15:01:04.168 367 1287 D AudioALSAStreamManager: +setMode(), mAudioMode: 0 => 2

## 十二、开机PS、CS attach耗时

### （1）modem

SYS, 99675, 365588, 17:17:36:555, NIL, [AT\_I p22, s11]AT+EFUN=2,

[Time Diff] 00:00:00:000(base)

[Comment]

SIM2 radio on

PS, 99932, 365605, 17:17:36:555, NWSEL\_2, idx 0, 46000f, NWSEL\_GSM, NWSEL\_NOT\_SEARCHED, NWSEL\_RAT\_NONE, NWSEL\_STATUS\_FAST\_SCANNED, NWSEL\_RAT\_NONE, NWSEL\_STATUS\_FAST\_SCANNED, NWSEL\_RAT\_NONE, NWSEL\_STATUS\_FAST\_SCANNED, KAL\_TRUE, KAL\_FALSE,

[Time Diff] 00:00:00:001

PS, 99937, 365605, 17:17:36:555, NWSEL\_2, [NWSEL] PLMN\_SEARCH\_INDEX 0, RAT\_GSM,

[Time Diff] 00:00:00:001

PS, 99938, 365622, 17:17:36:555, NWSEL\_2 - MM\_2, MSG\_ID\_NWSEL\_MM\_PLMN\_SEARCH\_REQ,

[Time Diff] 00:00:00:002

[Comment]

SIM2 begin PLMN search procedure

SYS, 105290, 376358, 17:17:37:174, NIL, [AT\_I p22, s11]AT+EFUN=3,

[Time Diff] 00:00:00:689

[Comment]

Dual SIM radio on

PS, 112760, 389101, 17:17:37:987, CSS\_MD3 - GMSS, MSG\_ID\_GMSS\_CSS\_READY\_IND,

[Time Diff] 00:00:01:504

PS, 113286, 389624, 17:17:37:987, MM\_2 - NWSEL\_2, MSG\_ID\_NWSEL\_MM\_PLMN\_SEARCH\_CNF,

[Time Diff] 00:00:01:538

[Comment]

SIM2 PLMN found

OTA, 113348, 389641, 17:17:37:987, MM\_2, [MS->NW] MM\_\_LOCATION\_UPDATING\_REQUEST (LU type: MM\_IMSI\_ATTACH\_LU),

[Time Diff] 00:00:01:539

SYS, 124359, 430022, 17:17:40:662, NIL, [AT\_I p22, s11]AT+ECTMODE=0,

[Time Diff] 00:00:04:123

PS, 124379, 430022, 17:17:40:662, RAC - GMSS, MSG\_ID\_RAC\_GMSS\_SET\_CT\_MODE\_REQ,

[Time Diff] 00:00:04:123

PS, 124380, 430022, 17:17:40:662, GMSS - RAC, MSG\_ID\_RAC\_GMSS\_SET\_CT\_MODE\_CNF,

[Time Diff] 00:00:04:123

SYS, 124457, 430082, 17:17:40:662, NIL, [AT\_I p22, s11]AT+ERAT=14,

[Time Diff] 00:00:04:127

OTA, 128976, 445362, 17:17:41:680, MM\_2, [NW->MS] MM\_\_LOCATION\_UPDATING\_ACCEPT,

[Time Diff] 00:00:05:105

[Comment]

SIM2 attach success

PS, 134160, 463930, 17:17:42:769, NWSEL - MM, MSG\_ID\_NWSEL\_MM\_RESUME\_REQ,

[Time Diff] 00:00:06:293

PS, 134635, 463990, 17:17:42:769, CSS\_MD3 - GMSS, MSG\_ID\_GMSS\_CSS\_SUSPEND\_STATUS\_IND,

[Time Diff] 00:00:06:297

PS, 134731, 463990, 17:17:42:769, GMSS\_MD1 - CSS\_MD3, MSG\_ID\_GMSS\_CSS\_MCC\_SEARCH\_REQ,

[Time Diff] 00:00:06:297

PS, 146239, 492391, 17:17:44:599, CSS\_MD3 - GMSS, MSG\_ID\_GMSS\_CSS\_MCC\_SEARCH\_CNF,

[Time Diff] 00:00:08:115

PS, 146256, 492391, 17:17:44:599, GMSS\_MD1 - CSS\_MD3, MSG\_ID\_GMSS\_CSS\_CS\_REG\_REQ,

[Time Diff] 00:00:08:115

PS, 146266, 492391, 17:17:44:599, GMSS - NWSEL, MSG\_ID\_GMSS\_NWSEL\_PLMN\_SEARCH\_REQ,

[Time Diff] 00:00:08:115

[Comment]

SIM1 begin PLMN search(PS)

PS, 146276, 492391, 17:17:44:599, NWSEL, idx 0, 46011f, NWSEL\_TD\_FDD\_LTE, NWSEL\_NOT\_SEARCHED, NWSEL\_RAT\_NONE, NWSEL\_STATUS\_FAST\_SCANNED, NWSEL\_RAT\_NONE, NWSEL\_STATUS\_FAST\_SCANNED, NWSEL\_RAT\_NONE, NWSEL\_STATUS\_FAST\_SCANNED, KAL\_TRUE, KAL\_FALSE,

[Time Diff] 00:00:08:115

PS, 146279, 492391, 17:17:44:599, NWSEL, [NWSEL] PLMN\_SEARCH\_INDEX 0, RAT\_LTE,

[Time Diff] 00:00:08:115

PS, 146316, 492391, 17:17:44:599, CSS\_MD3 - GMSS, MSG\_ID\_GMSS\_CSS\_CS\_REG\_CNF,

[Time Diff] 00:00:08:115

[Comment]

SIM1 CS attach success

PS, 152666, 509438, 17:17:45:810, EVAL - NWSEL, MSG\_ID\_NWSEL\_EVAL\_PLMN\_SEARCH\_CNF,

[Time Diff] 00:00:09:206

[Comment]

PLMN found

OTA, 153186, 509489, 17:17:45:810, ESM, [MS->NW] ESM\_MSG\_PDN\_CONNECTIVITY\_REQUEST (PTI:1, EBI:0),

[Time Diff] 00:00:09:209

OTA, 155141, 510766, 17:17:45:810, EMM\_NASMSG, [MS->NW] EMM\_Attach\_Request(EPS attach type="EMM\_ATTACH\_TYPE\_EPS\_ATTACH"),

[Time Diff] 00:00:09:291

OTA, 157277, 512970, 17:17:46:015, EMM\_NASMSG, [NW->MS] EMM\_Attach\_Accept(EPS attach result="EMM\_ATTACH\_RESULT\_EPS\_ONLY\_ATTACHED"),

[Time Diff] 00:00:09:432

OTA, 157560, 513004, 17:17:46:015, EMM\_NASMSG, [MS->NW] EMM\_Attach\_Complete,

[Time Diff] 00:00:09:434

[Comment]

SIM1 4G PS attach success

OTA, 265542, 1014038, 17:18:18:075, EMM\_NASMSG, [MS->NW] EMM\_Service\_Request,

[Time Diff] 00:00:41:500

[Comment]

PS service request(SIM1)

**手机在该过程的主要耗时如下：**

1，SIM ready到双卡radio on时间：15s

PS, 14969, 119894, 17:17:20:872, SIM - GMSS, MSG\_ID\_SIM\_GMSS\_READY\_IND,

[Time Diff] 00:00:00:208

SYS, 99675, 365588, 17:17:36:555, NIL, [AT\_I p22, s11]AT+EFUN=2,

[Time Diff] 00:00:15:932

[Comment]

SIM2 radio on

SYS, 105290, 376358, 17:17:37:174, NIL, [AT\_I p22, s11]AT+EFUN=3,

[Time Diff] 00:00:16:621

[Comment]

Dual SIM radio on

2，手机搜网注网时间(radio on后开始计时)：9s

SYS, 99675, 365588, 17:17:36:555, NIL, [AT\_I p22, s11]AT+EFUN=2,

[Time Diff] 00:00:00:000(base)

[Comment]

SIM2 radio on

SYS, 105290, 376358, 17:17:37:174, NIL, [AT\_I p22, s11]AT+EFUN=3,

[Time Diff] 00:00:00:689

[Comment]

Dual SIM radio on

OTA, 113348, 389641, 17:17:37:987, MM\_2, [MS->NW] MM\_\_LOCATION\_UPDATING\_REQUEST (LU type: MM\_IMSI\_ATTACH\_LU),

[Time Diff] 00:00:01:539

OTA, 128976, 445362, 17:17:41:680, MM\_2, [NW->MS] MM\_\_LOCATION\_UPDATING\_ACCEPT,

[Time Diff] 00:00:05:105

[Comment]

SIM2 attach success

OTA, 155141, 510766, 17:17:45:810, EMM\_NASMSG, [MS->NW] EMM\_Attach\_Request(EPS attach type="EMM\_ATTACH\_TYPE\_EPS\_ATTACH"),

[Time Diff] 00:00:09:291

OTA, 157560, 513004, 17:17:46:015, EMM\_NASMSG, [MS->NW] EMM\_Attach\_Complete,

[Time Diff] 00:00:09:434

[Comment]

SIM1 4G PS attach success

3，注网成功后到收到第一个PS service(ping)时间间隔（attach complete开始计时）：32s

OTA, 157560, 513004, 17:17:46:015, EMM\_NASMSG, [MS->NW] EMM\_Attach\_Complete,

[Time Diff] 00:00:00:000(base)

[Comment]

SIM1 4G PS attach success

OTA, 265542, 1014038, 17:18:18:075, EMM\_NASMSG, [MS->NW] EMM\_Service\_Request,

[Time Diff] 00:00:32:066

[Comment]

PS service request(SIM1)

如前面分析，手机注册成功到user触发第一个PS业务时间间隔即有31s之长，请帮忙确认tester在测试过程中是否按照case所要求，在attach成功后“第一时间”访问网页或ping？

另一个耗时较长的点是卡ready之后到radio on的时间间隔，该点需要AP端进一步分析。

### （2）AP

// main\_log.boot, 开机的第一条log，这就是开机的时间点

01-24 16:09:09.014 315 315 I McDaemon: Daemon starting up...

// radio\_log.boot, RILD初始化的时间点，RILD启动后，会等待Phone进程启动，来跟RILD交互

01-24 16:09:13.671 914 914 D RILD : RILD started

01-24 16:09:16.867 914 927 D AT : AT> AT+EFUN=0

// sys\_log.boot，Phone进程由Android系统自动启动

// 可以看到，在 16:09:25 启动Phone进程，而 main\_log.boot的第一条log时间点是16:09:09，

// 即，从开机开始，到phone进程启动，花了 16秒，这是一个正常的时间点

01-24 16:09:25.391 1000 1000 I ActivityManager: Start proc 1597:com.android.phone/1001 for added application com.android.phone

// radio\_log.boot，Phone进程后，创建RILJ对象，以便跟RILD交互

// C2K项目上，会创建4个RILJ对象。可以看到，创建这四个RILJ对象，耗时 3秒

01-24 16:09:26.879 1597 1597 D RILJ : RIL(context, preferredNetworkType=9 cdmaSubscription=0)

01-24 16:09:26.905 1597 1597 D RILJ : RIL(context, preferredNetworkType=4 cdmaSubscription=0)

01-24 16:09:28.159 1597 1597 D RILJ : RIL(context, preferredNetworkType=4 cdmaSubscription=0)

01-24 16:09:29.384 1597 1597 D RILJ : RIL(context, preferredNetworkType=1 cdmaSubscription=0)

// RILJ对象创建完后，开始跟RILD交互，打开卡1的 radio，跟RILJ创建完的时间相比，耗时 4秒

01-24 16:09:33.741 914 918 D AT : AT> AT+EFUN=1

// 打开卡1 的 radio后，卡1 开始注网，modem上报注册上网络，耗时 3秒多

01-24 16:09:37.017 914 929 D AT : AT< +CREG: 1,"8354","0EAAD204",7,0,0

01-24 16:09:37.017 914 929 D AT : RIL\_URC\_READER:+CREG: 1,"8354","0EAAD204",7,0,0

01-24 16:09:37.219 1597 1597 D GsmSST : [GsmSST0] RAT switched Unknown -> LTE at cell 246075908

总的来说，开机的时间点是16:09:09，framework查询到注册上网络是16:09:37，耗时 28秒，

并没有贵司所说的“超过1分钟”的情况。

其中，Android系统启动Phone进程耗时 16秒。

由于Phone进程由Android自动启动，具体启动时间取决于系统运行情况。

作为对比，原生版本分析如下：

// main\_log.boot, 开机的第一条log，这就是开机的时间点

02-22 10:09:05.635 316 316 I McDaemon: Daemon starting up...

// radio\_log.boot, RILD初始化的时间点，RILD启动后，会等待Phone进程启动，来跟RILD交互

02-22 10:09:10.667 907 907 D RILD : RILD started

02-22 10:09:13.604 907 920 D AT : AT> AT+EFUN=0

// sys\_log.boot，Phone进程由Android系统自动启动

// 上面main\_log.boot的第一条log时间点是 10:09:05，Phone进程启动时间点是 10:09:18

// 耗时 13秒

02-22 10:09:18.279 935 935 I ActivityManager: Start proc 1533:com.android.phone/1001 for added application com.android.phone

// radio\_log.boot，Phone进程后，创建RILJ对象，以便跟RILD交互

// C2K项目上，会创建4个RILJ对象。可以看到，创建这四个RILJ对象，耗时 1秒

02-22 10:09:19.153 1533 1533 D RILJ : RIL(context, preferredNetworkType=9 cdmaSubscription=0)

02-22 10:09:19.248 1533 1533 D RILJ : RIL(context, preferredNetworkType=4 cdmaSubscription=0)

02-22 10:09:19.577 1533 1533 D RILJ : RIL(context, preferredNetworkType=4 cdmaSubscription=0)

02-22 10:09:20.102 1533 1533 D RILJ : RIL(context, preferredNetworkType=1 cdmaSubscription=0)

// RILJ对象创建完后，开始跟RILD交互，打开卡1的 radio，跟RILJ创建完的时间相比，耗时 1秒

02-22 10:09:21.043 907 911 D AT : AT> AT+EFUN=1

// 打开卡1 的 radio后，卡1 开始注网，modem上报注册上网络，耗时 1秒多

02-22 10:09:22.117 907 923 D AT : AT< +CREG: 1,"2637","02BB2802",7,0,0

02-22 10:09:22.117 907 923 D AT : RIL\_URC\_READER:+CREG: 1,"2637","02BB2802",7,0,0

02-22 10:09:22.083 1533 1533 D GsmSST : [GsmSST0] RAT switched Unknown -> LTE at cell 45819906

即，开机的时间点是10:09:05，framework查询到注册上网络是10:09:22，耗时 17秒，比测试机快了11秒

测试机启动Phone进程，耗时18秒，原生版本耗时13秒，测试机多 3秒

测试机创建RILJ对象，耗时3秒，原生版本耗时1秒，测试机多 2秒

测试机打开卡1 radio，耗时4秒，原生版本耗时1秒，测试机多 3秒

测试机上报注册网络，耗时3秒，原声版本耗时 1秒，测试机多 2秒

对测试机来说，从Phone进程启动后，framework、RILD的相关流程都在5秒以内，是正常的时间点。

Phone进程启动、创建RLIJ对象的快慢，跟系统的运行快慢有关，不同的机器、不同版本、预装APK的数目都会对这个造成影响，

可以从这方面排查看看，例如减少预装的APK，再验证看看。

## 十三、手机睡眠时，外线无法呼入电话

1、從log分析看，此時的信號和接收功率都比較好，如下log：

00:00:00.000> ETS, Id=CP Spy, SpyId=CP Search Results Active, N=2, SysTime.0=(1x) 0x0d4144487d (02/04/2016 11:22:41.860 TC:2477580314 L1dStates=IDLE), SysTime.1=(DO) 0x09f0f33647 (02/04/2016 11:22:41.253 TC:2476846239 RmcModemStateT=RMC\_INACTIVE), Num Act=0x01, Num Cand=0x00, Num Nghbr=0x1e

, Stale.0=0, Pilot PN.0=220, Phase.0=14080, Strength.0=-8.2331

00:00:00.000> ETS, Id=DSPM Spy, SpyId=DSPM Rfc RxAgcDc, N=2, SysTime.0=(1x) 0x0d4144487c (02/04/2016 11:22:41.840 TC:2477568256 L1dStates=IDLE), SysTime.1=(DO) 0x09f0f33647 (02/04/2016 11:22:41.253 TC:2476867257 RmcModemStateT=RMC\_INACTIVE), rxPath=0x0000, pwrRef(dBm)=-95.00, gainRef(Lg2)=16.94, RxPower(dBm)=-82.00, RxPowerComp(dB)=2.00, LnaMode=0x0000, NewGainState=0x0004, OldGainState=0x0004, StepGain(Lg2)=11.96, ReqDcI=-52, ReqDcQ=-59, ResDcI=52, ResDcQ=59, PhaseJump=0, AdcSat=0, WBandRssi=0, DigiGain(Lg2)=1.32, BitSel=0, DigiGainIdx=75, HwValue=0x004b, PhaseJumpMsb=0x0000, gainUp=0, RxPowerMode=0

2、但是在回復paging response的時候，由於等待網絡回復的order超時導致搜網，從而MT CALL fail，如下log：

00:00:00.000> ETS, Id=CP Trace, TraceId=CP PE ENG\_CP\_TR 8 1, N=0x00000002, SysTime.0=(1x) 0x0d414448cb (02/04/2016 11:22:43.420 TC:2479499875 L1dStates=TRAFFIC), SysTime.1=(DO) 0x09f0f33647 (02/04/2016 11:22:41.253 TC:2476857064 RmcModemStateT=RMC\_INACTIVE), CP State=TC Waiting for Order

00:00:00.000> ETS, Id=CP Trace, TraceId=CP VAL Process CP Event, N=0x00000002, SysTime.0=(1x) 0x0d41445237 (02/04/2016 11:23:31.660 TC:2538794151 L1dStates=TRAFFIC), SysTime.1=(DO) 0x09f0f33cad (02/04/2016 11:23:24.933 TC:2530528429 RmcModemStateT=RMC\_INACTIVE), EventId=VAL\_EV\_TC\_RELEASE\_TIMEOUT

00:00:00.000> ETS, Id=CP Trace, TraceId=CP FSM SCC CPC, N=0x00000002, SysTime.0=(1x) 0x0d41445237 (02/04/2016 11:23:31.660 TC:2538793744 L1dStates=TRAFFIC), SysTime.1=(DO) 0x09f0f33cad (02/04/2016 11:23:24.933 TC:2530528022 RmcModemStateT=RMC\_INACTIVE), State1=Idle, State2=receive, Event=Release Ind

00:00:00.000> ETS, Id=CP Trace, TraceId=CP FSM SCC VSC, N=0x00000002, SysTime.0=(1x) 0x0d41445237 (02/04/2016 11:23:31.660 TC:2538793765 L1dStates=TRAFFIC), SysTime.1=(DO) 0x09f0f33cad (02/04/2016 11:23:24.933 TC:2530528042 RmcModemStateT=RMC\_INACTIVE), State1=Idle, State2=receive, Event=CPC DisconnectInd

等待網絡回復的order（該order是網絡回復的service connect 消息）超時，屬網絡側行為。

## 十四：设置APN之后才能注册4G

手机给网络的空口消息带的内容相同，只是网络端将问题卡注册给拒绝，至于拒绝的逻辑是网络端决定的，这里敝司仅能判断手机的行为是正常的。

[MS->NW] ESM\_MSG\_PDN\_CONNECTIVITY\_REQUEST (PTI:3, EBI:0)

[MS->NW] EMM\_Attach\_Request(EPS attach type="EMM\_ATTACH\_TYPE\_EPS\_ATTACH")

[NW->MS] EMM\_Authentication\_Request

[MS->NW] EMM\_Authentication\_Response

[NW->MS] EMM\_Security\_Mode\_Command(integrity algorithm="INT\_128\_EIA2", ciphering algorithm="ENC\_128\_EEA2")

[MS->NW] EMM\_Security\_Mode\_Complete

**//**前面的消息内容都一样，只是在这里问题卡直接被reject，而对其他卡则直接accept，是网络决定的（即网络可能认为问题卡没有正确apn直接给reject，而其他卡没有apn网络也没有reject，与卡的业务类型等都可能有关系）

[NW->MS] EMM\_Attach\_Reject(EMM cause="EMM\_CAUSE\_ESM\_FAILURE")

而写入APN之后，在注册过程中网络主动下发了ESM\_INFORMATION\_REQUEST 向UE要APN等信息，所以能被网络接受

[NW->MS] ESM\_MSG\_ESM\_INFORMATION\_REQUEST (PTI:4, EBI:0)

[MS->NW] ESM\_MSG\_ESM\_INFORMATION\_RESPONSE (PTI:4, EBI:0)

[NW->MS] EMM\_Attach\_Accept(EPS attach result="EMM\_ATTACH\_RESULT\_EPS\_ONLY\_ATTACHED")

## 十五：VoLTE

### （1）VOLTE终端MO Call

Line 14217: 02-28 10:35:48.976 908 911 D AT : AT> ATD15867120723;

Line 14269: 02-28 10:35:48.985 908 924 D AT : AT< +ECPI: 1,130,0,0,0,0,"15867120723",129,""

Line 14294: 02-28 10:35:48.992 908 924 D AT : AT< +ESIPCPI: 1,0,0,1,0,"" **//**invite

Line 14784: 02-28 10:35:49.180 908 924 D AT : AT< +ESIPCPI: 1,1,1,1,100,"" **//**100

Line 14974: 02-28 10:35:50.417 908 924 D AT : AT< +ESIPCPI: 1,1,1,1,183,"" **//**183

Line 14987: 02-28 10:35:50.417 908 924 D AT : AT< +ESIPCPI: 1,0,0,13,0,"" **//**prack

Line 15469: 02-28 10:35:50.571 908 924 D AT : AT< +ESIPCPI: 1,1,1,13,200,"" **//**200

Line 15490: 02-28 10:35:50.574 908 924 D AT : AT< +ESIPCPI: 1,0,0,3,0,"" **//**update

Line 15506: 02-28 10:35:50.912 908 924 D AT : AT< +ESIPCPI: 1,1,1,3,200,"" **//**200

Line 16233: 02-28 10:35:54.209 908 924 D AT : AT< +ESIPCPI: 1,1,1,1,180,"" **//**180 ringing

Line 16254: 02-28 10:35:54.218 908 924 D AT : AT< +ESIPCPI: 1,0,0,13,0,"" **//**prack

Line 16268: 02-28 10:35:54.219 908 924 D AT : AT< +ECPI: 1,2,0,1,0,20,"15867120723",129,""

Line 16407: 02-28 10:35:54.349 908 924 D AT : AT< +ESIPCPI: 1,1,1,13,200,"" **//**200

Line 16530: 02-28 10:35:56.292 908 924 D AT : AT< +ESIPCPI: 1,1,1,1,200,"" **//**200

Line 16551: 02-28 10:35:56.300 908 924 D AT : AT< +ESIPCPI: 1,0,0,6,0,"" **//**ack

Line 16565: 02-28 10:35:56.301 908 924 D AT : AT< +ECPI: 1,132,0,1,0,20,"15867120723",129,""

Line 16595: 02-28 10:35:56.303 908 924 D AT : AT< +ECPI: 1,6,0,1,0,20,"15867120723",129,""

Line 18222: 02-28 10:36:27.813 908 909 D AT : AT> AT+CHLD=11

Line 18253: 02-28 10:36:27.830 908 924 D AT : AT< +ESIPCPI: 1,0,0,7,0,"" **//**bye

Line 18284: 02-28 10:36:27.848 908 924 D AT : AT< +ECPI: 1,133,0,0,0,20,"15867120723",129,"",16

Line 18357: 02-28 10:36:27.958 908 911 D AT : AT> AT+CEER

Line 18369: 02-28 10:36:27.960 908 926 D AT : AT< +CEER: 16,CM\_NORMAL\_CALL\_CLR

### （2）eSRVCC，语音业务切换到2G

971506, 0, 10310403, 11:42:48:032 2016/02/26,

MOD\_ERRC\_CONN, , TRACE\_PEER, [NW->MS] **ERRC\_MobilityFromEUTRACommand**(CSFB:[0],purpose:[MobilityFromEUTRACommand\_r8\_IEs\_purpose\_handover\_selected],targetRAT:[Handover\_targetRAT\_Type\_geran])

972904, 0, 10311827, 11:42:48:032 2016/02/26, MOD\_RRM\_TDD, , TRACE\_PEER, [NW->MS] RR\_\_PHYSICAL\_INFORMATION

972912, 0, 10311827, 11:42:48:032 2016/02/26, MOD\_RRM\_TDD, , TRACE\_PEER, [MS->NW] RR\_\_HANDOVER\_COMPLETE

### （3）差点环境回落

MTK目前不是取两路信号最大值。而Q平台是，并且测试环境附近的信号正好在-115附近变动，特别容易触发B2引起handover:

PS, 319120, 79014929, 11:09:58:903, ERRC\_MOB, [RPT] B2 enter cond1 (ms[-464]+hys[0])=-464 < thresh1[-460]) rslt=1,

PS, 319121, 79014929, 11:09:58:903, ERRC\_MOB, [RPT] B2 enter cond2 cell\_id[88] (mn[-312]+ofn[0]-hys[0])=-312 > thresh2[-380]) rslt=1,

OTA, 319165, 79014929, 11:09:58:903, ERRC\_MOB, [MS->NW] ERRC\_MeasurementReport[6] eventB2 GSM ncell[88/57] pcell[38098/176],

OTA, 325680, 79026194, 11:09:59:508, ERRC\_CONN, [NW->MS] ERRC\_MobilityFromEUTRACommand(CSFB:[0],purpose:[MobilityFromEUTRACommand\_r8\_IEs\_purpose\_handover\_selected],targetRAT:[Handover\_targetRAT\_Type\_geran]),

OTA, 327075, 79027763, 11:09:59:715, RRM\_TDD, [NW->MS] RR\_\_PHYSICAL\_INFORMATION,

Q platform 测量出来的RSRP都在-115以下，也就是不满足B2的门限。

贵司请先检查RF/ANT/校准，MTK同样环境下测量到的信号强度在-115左右，很容易满足B2条件。

36.331里面有B2 condition定义。

Inst Measured RSRP = -110.69 dBm

Inst Measured RSRP = -112.75 dBm

Inst Measured RSRP = -113.63 dBm

Inst Measured RSRP = -112.25 dBm

Inst Measured RSRP = -111.69 dBm

Inst Measured RSRP = -109.94 dBm

Inst Measured RSRP = -109.81 dBm

Inst Measured RSRP = -108.63 dBm

### （4）动态环境下终端语音呼叫时，切2G

最终CSFB原因是由于4G的信号质量在那段时间非常差导致的，从而导致之后modem这边Dedicated EPS Bearer的信息无法传输到上层这边从而导致VoLTE这边进行TFT match的时候failure。最后UE 有retry CS进行拨打电话出去。

SYS, 1202567, 32459340, 20:32:23:834, NIL, [AT\_I p21, s10]ATD13975838732;,

OTA, 1204275, 32463748, 20:32:24:042, ESM, [NW->MS] ESM\_MSG\_ACTIVATE\_DEDICATED\_EPS\_BEARER\_CONTEXT\_REQUEST (PTI:0, EBI:7),

OTA, 1204537, 32463765, 20:32:24:042, ESM, [MS->NW] ESM\_MSG\_ACTIVATE\_DEDICATED\_EPS\_BEARER\_CONTEXT\_ACCEPT (PTI:0, EBI:7),

PS, 1204576, 32463782, 20:32:24:042, EMM - ESM, MSG\_ID\_ESM\_EMM\_DATA\_SEND\_IND,

PS, 1204585, 32463782, 20:32:24:042, EMM - ERRC, MSG\_ID\_EMM\_ERRC\_DATA\_REQ,

PS, 1204597, 32463782, 20:32:24:042, ERRC - EPDCP, MSG\_ID\_ERRC\_EPDCP\_DCCH\_DATA\_REQ,

PS, 1204914, 32464695, 20:32:24:042, ERRC\_MOB, [MRM] store PCell: earfcn[37900] pci[31] rsrp[-423] rsrq[-90] cell\_off[0],

PS, 1236226, 32534579, 20:32:28:496, EPDCP - ERRC, MSG\_ID\_ERRC\_EPDCP\_DCCH\_DATA\_CNF,

OTA, 1262753, 32651654, 20:32:36:019, EMM\_NASMSG, [MS->NW] EMM\_Extended\_Service\_Request(service type="MO\_CSFB", CSFB response="CSFB\_UNUSED"),

从SIP消息也可以看到：

UE直到6s之后才有收到网络的183，之后VoLTE这边由于没有确认到网络下发的Dedicated EPS Bearer的信息故主动下发Cancel中断这通VoLTE call。

03-04 20:32:24.354 3825 3837 D VoLTE SIPTX: [SIPTX-IO] Send SIP (2409:8019:230:5100:1009::1: 5062 )[655365:3538959] ==> { INVITE tel:13975838732;phone-context=ims.mnc000.mcc460.3gppnetwork.org SIP/2.0 }

03-04 20:32:30.437 3825 3837 D VoLTE SIPTX: [SIPTX-IO] Recv SIP (2409:8019:230:5100:1009::1: 5062 )[655365:3538959] <== { SIP/2.0 100 Trying }

03-04 20:32:30.533 3825 3837 D VoLTE SIPTX: [SIPTX-IO] Recv SIP (2409:8019:230:5100:1009::1: 5062 )[655365:3538959] <== { SIP/2.0 183 Session Progress }

03-04 20:32:30.534 3825 3837 D VoLTE SIPTX: [SIPTX-IO] Recv SIP (2409:8019:230:5100:1009::1: 5062 )[655365:3538959] <== { SIP/2.0 183 Session Progress }

03-04 20:32:36.549 3827 3827 D VoLTE IMCB: stream match TFT FAILED!! No any bearer with QCI:1 can satisfty TFT matching!! imcb\_bearer\_context\_mngr\_stream\_matching (vendor/mediatek/proprietary/protect-app/external/volte/volte\_imcb/sub\_imcb/bearer/src/imcb\_bearer\_context\_mngr.c, 1697)

03-04 20:32:36.551 3827 3827 D VoLTE IMCB: a timeout case imcb\_bearer\_msg\_stream\_update\_tmo\_hdlr (vendor/mediatek/proprietary/protect-app/external/volte/volte\_imcb/sub\_imcb/bearer/src/imcb\_bearer\_media\_tmo.c, 188)

03-04 20:32:36.554 3826 3939 I VoLTE\_Auto\_Testing: [0][call] event/recv/0/1/bw\_cnf/0

03-04 20:32:36.558 3825 3837 D VoLTE SIPTX: [SIPTX-IO] Send SIP (2409:8019:230:5100:1009::1: 5062 )[655365:3538959] ==> { CANCEL tel:13975838732;phone-context=ims.mnc000.mcc460.3gppnetwork.org SIP/2.0 }

故整体来说是网络信号质量太差导致的这通VoLTE电话拨打失败之后通过CSFB方式拨打出去，UE端的行为都是正确的

### （5）通话切换

1.终端A呼叫终端B，B接听

2.终端C呼叫终端A，A接听

3终端A切换通话，跟终端B通话

4.终端A依次挂断通话

其中：

A:15243681616

B:15867120723

C:15867120981

**1、测试过程：**

**log A:**

**拨打B，至connected状态：**

    Line 98848: 02-26 10:49:45.108  1521  1521 D IMS\_RILA: [3802]> DIAL

    Line 98909: 02-26 10:49:45.112   910   913 D AT      : AT> ATD15867120723;

    Line 98960: 02-26 10:49:45.120   910   926 D AT      : AT< +ECPI: 1,130,0,0,0,0,"15867120723",129,""

    Line 101808: 02-26 10:49:48.776   910   926 D AT      : AT< +ECPI: 1,2,0,1,0,20,"15867120723",129,""

    Line 102428: 02-26 10:49:51.018   910   926 D AT      : AT< +ECPI: 1,132,0,1,0,20,"15867120723",129,""

    Line 102466: 02-26 10:49:51.019   910   926 D AT      : AT< +ECPI: 1,6,0,1,0,20,"15867120723",129,""    //connected

**C接入：**

    Line 103976: 02-26 10:49:55.476   910   926 D AT      : AT< +ECPI: 2,0,0,1,1,20,"15867120981",129,"<sip:15867120981@zj.ims.mnc000.mcc460.3gppnetwork.org>"

    Line 107556: 02-26 10:49:56.319   910   926 D AT      : AT< +CRING: VOICE

**B held：**

    Line 108477: 02-26 10:49:58.118  1521  1521 D IMS\_RILA: [3804]> RIL\_REQUEST\_HOLD\_CALL

    Line 108508: 02-26 10:49:58.120   910   913 D AT      : AT> AT+ECCTRL=1,131

    Line 108726: 02-26 10:49:58.874   910   926 D AT      : AT< +ECPI: 1,131,0,1,0,20,"15867120723",129,""    //held

**C connected：**

    Line 109259: 02-26 10:49:58.928  1521  1521 D IMS\_RILA: [3805]> ANSWER

    Line 109507: 02-26 10:49:58.962   910   926 D AT      : AT< +ECPI: 2,132,0,1,1,20,"15867120981",129,"<sip:15867120981@zj.ims.mnc000.mcc460.3gppnetwork.org>"

    Line 109548: 02-26 10:49:58.967   910   926 D AT      : AT< +ECPI: 2,6,0,1,1,20,"15867120981",129,"<sip:15867120981@zj.ims.mnc000.mcc460.3gppnetwork.org>"    //connected

**C held：**

    Line 111154: 02-26 10:50:03.333  1521  1521 D IMS\_RILA: [3806]> RIL\_REQUEST\_HOLD\_CALL

    Line 111189: 02-26 10:50:03.335   910   913 D AT      : AT> AT+ECCTRL=2,131

    Line 111591: 02-26 10:50:04.161   910   926 D AT      : AT< +ECPI: 2,131,0,1,1,20,"15867120981",129,"<sip:15867120981@zj.ims.mnc000.mcc460.3gppnetwork.org>"    //held

**切换至B：**

    Line 111923: 02-26 10:50:04.188  1521  1521 D IMS\_RILA: [3807]> RIL\_REQUEST\_RESUNME\_CALL

    Line 111958: 02-26 10:50:04.190   910   913 D AT      : AT> AT+ECCTRL=1,132

**B没有active，而是直接disconnected：**

    Line 112818: 02-26 10:50:04.936   910   926 D AT      : AT< +ECPI: 1,133,0,0,0,20,"15867120723",129,"",16

**C disconnected：**

    Line 117218: 02-26 10:50:19.280  1521  1521 D IMS\_RILA: [3809]> HANGUP 2

    Line 117255: 02-26 10:50:19.284   910   911 D AT      : AT> AT+CHLD=12

    Line 117297: 02-26 10:50:19.296   910   926 D AT      : AT< +ECPI: 2,133,0,1,1,20,"15867120981",129,"<sip:15867120981@zj.ims.mnc000.mcc460.3gppnetwork.org>",16

**log B:**

**A接入，至connected状态：**

    Line 86398: 02-26 10:49:46.403   908   924 D AT      : AT< +ECPI: 1,0,0,1,1,20,"15243681616",129,"<tel:15243681616>"

    Line 87147: 02-26 10:49:47.408   908   924 D AT      : AT< +CRING: VOICE

    Line 88013: 02-26 10:49:49.807  1559  1559 D IMS\_RILA: [3742]> ANSWER

    Line 88082: 02-26 10:49:49.823   908   924 D AT      : AT< +ECPI: 1,132,0,1,1,20,"15243681616",129,"<tel:15243681616>"

    Line 88118: 02-26 10:49:49.829   908   924 D AT      : AT< +ECPI: 1,6,0,1,1,20,"15243681616",129,"<tel:15243681616>"    //connected

**A disconnected：**

    Line 105992: 02-26 10:50:03.775   908   924 D AT      : AT< +ECPI: 1,133,0,1,1,20,"15243681616",129,"<tel:15243681616>",17    //disconnected

    Line 106066: 02-26 10:50:03.784   908   926 D AT      : AT< +CEER: **17,CM\_USER\_BUSY**

**log C:**

**拨打A，至connected状态：**

    Line 45623: 02-26 10:49:54.322  1554  1554 D IMS\_RILA: [3711]> DIAL

    Line 45693: 02-26 10:49:54.328   909   912 D AT      : AT> ATD15243681616;

    Line 45743: 02-26 10:49:54.335   909   925 D AT      : AT< +ECPI: 1,130,0,0,0,0,"15243681616",129,""

    Line 46965: 02-26 10:49:55.749   909   925 D AT      : AT< +ECPI: 1,2,1,1,0,20,"15243681616",129,""

    Line 47783: 02-26 10:49:56.472   909   925 D AT      : AT< +ECPI: 1,2,1,1,0,20,"15243681616",129,""

    Line 48558: 02-26 10:49:59.562   909   925 D AT      : AT< +ECPI: 1,132,1,1,0,20,"15243681616",129,""

    Line 48577: 02-26 10:49:59.564   909   925 D AT      : AT< +ECPI: 1,6,1,1,0,20,"15243681616",129,""    //connected

**A主动disconnected：**

    Line 54899: 02-26 10:50:19.391   909   925 D AT      : AT< +ECPI: 1,133,0,0,0,20,"15243681616",129,"",16    //disconnected

    Line 54972: 02-26 10:50:19.411   909   927 D AT      : AT< +CEER: **16,CM\_NORMAL\_CALL\_CLR**

**2、对于切换至B时，电话直接挂断，是因为此次挂断的发起者是B，并不是A意外挂断：**

**log A:**

    Line 134111: 02-26 10:50:04.909  2525  2537 D VoLTE SIPTX: [SIPTX-IO] Recv SIP (2409:8015:8029:15:ffff::41: 9950  )[131073:1638409] <== { BYE sip:+8615243681616@[2409:8805:8350:92F2:0001:0001:FB3D:F255]:50001;transport=tcp SIP/2.0 }

    Line 134112: 02-26 10:50:04.909  2525  2537 D VoLTE SIPTX: [SIPTX-SIP] {

    Line 134113: 02-26 10:50:04.909  2525  2537 D VoLTE SIPTX: [SIPTX-SIP] <==  BYE sip:+8615243681616@[2409:8805:8350:92F2:0001:0001:FB3D:F255]:50001;transport=tcp SIP/2.0

    Line 134114: 02-26 10:50:04.909  2525  2537 D VoLTE SIPTX: [SIPTX-SIP] <==  Via: SIP/2.0/TCP [2409:8015:8029:0015:FFFF:0000:0000:0041]:9900;branch=z9hG4bK0oecd3be1l770lf4fd42nfl74;Role=3;Hpt=8f42\_36;TRC=ffffffff-ffffffff

    Line 134115: 02-26 10:50:04.909  2525  2537 D VoLTE SIPTX: [SIPTX-SIP] <==  Call-ID: Ezf13b1UbM0cC73uIAS

    Line 134116: 02-26 10:50:04.909  2525  2537 D VoLTE SIPTX: [SIPTX-SIP] <==  **From: <tel:15867120723**;phone-context=ims.mnc002.mcc460.3gppnetwork.org>;tag=ztesiptD7rRkBoXdgfJL9b\*2-9-20481\*ccea.2

    Line 134117: 02-26 10:50:04.909  2525  2537 D VoLTE SIPTX: [SIPTX-SIP] <==  To: <sip:+8615243681616@hn.ims.mnc000.mcc460.3gppnetwork.org>;tag=IlssWWNKM956H6

    Line 134118: 02-26 10:50:04.909  2525  2537 D VoLTE SIPTX: [SIPTX-SIP] <==  CSeq: 1 BYE

    Line 134119: 02-26 10:50:04.909  2525  2537 D VoLTE SIPTX: [SIPTX-SIP] <==  Max-Forwards: 62

    Line 134120: 02-26 10:50:04.909  2525  2537 D VoLTE SIPTX: [SIPTX-SIP] <==  Reason: SIP;cause=487,Q.850;cause=16

    Line 134121: 02-26 10:50:04.909  2525  2537 D VoLTE SIPTX: [SIPTX-SIP] <==  P-Asserted-Identity: <tel:15867120723;phone-context=ims.mnc002.mcc460.3gppnetwork.org>

    Line 134122: 02-26 10:50:04.909  2525  2537 D VoLTE SIPTX: [SIPTX-SIP] <==  Content-Length: 0

    Line 134123: 02-26 10:50:04.909  2525  2537 D VoLTE SIPTX: [SIPTX-SIP] }

**log B:**

    Line 106066: 02-26 10:50:03.784   908   926 D AT      : AT< +CEER: **17,CM\_USER\_BUSY**

    //Cause No.17 "user busy":

    //This cause is used when the called user has indicated the inability to accept another call.

    //It is noted that the user equipment is compatible with the call.

    1108579, 0, 25236649, 10:50:03:963 2016/02/26, MOD\_VDM\_TRK, , TRACE\_GROUP\_1, [VDM TRK] Call release from IMS (call\_id\_ims = 1, disc\_cause =**IMS\_EXT\_ERROR\_REPORT\_USER\_BUSY**)

## 十六、不能接打电话，一段时间后恢复

目前从log看是21:14时刻已经找到1x且正常注册，随后QPCH:off。

21:14~21:16时刻，QPCH:ON时收paging但是没有收到给0x020008de06的paging，收到给其他用户的paging，且能正常响应ack order。说明QPCH监听正常。

21:16:10时刻收到0x020008de06的paging，21:16:11终端响应了page response消息，在21:16:24时刻网络侧在PCH下发了Release Order。所以被叫失败。

21:16:42时刻建立主叫，终端发送origination，重发18次，接入失败，此时Ec/Io与RSSI较好，TX的发送正常，Req Pwr和Target Pwr的差异不大；PCH的解码消息也没有出现解码失败，推测是网络负载原因。

//MT

(03/01/2016 21:16:11.120 TC:2039709831 L1dStates=IDLE), CP State=Page Response

00:00:00.000> ETS, Id=CP Spy, SpyId=CP PE ENG\_LAYER2\_TR 13 13, N=2, SysTime.0=(1x) 0x0d48115412

(03/01/2016 21:16:24.680 TC:2056373488 L1dStates=IDLE), SysTime.1=(!DO) 0x09f60c7dc6 (03/01/2016

21:01:42.133 TC:0971910826 RmcModemStateT=RMC\_INACTIVE), FORCHTYPE=0x00, PREV=0x06, Length=14

, >>> Msg Id=PC - Order Message

, ACK\_SEQ=5

, MSG\_SEQ=7

, IMSI\_S=0x020310680c

, ORDER=BS Ack Order

(03/01/2016 21:16:24.760 TC:2056472410

, >>> Msg Id=PC - Order Message

, ACK\_SEQ=5

, MSG\_SEQ=0

, ACK\_REQ=0

, VALID\_ACK=1

, IMSI\_S=0x020310680c

, ORDER=Release Order

//MO

(03/01/2016 21:16:42.800 TC:2078638277

, <<< Msg Id=AC - Origination

...

origination重发了18次，最后ENG\_ACCESS\_FAIL

00:00:00.000> ETS, Id=CP Spy, SpyId=CP Search Results Active, N=2, SysTime.0=(1x) 0x0d48115a2b

(03/01/2016 21:16:55.900 TC:2094748734 L1dStates=IDLE), SysTime.1=(!DO) 0x09f60c7ff6 (03/01/2016

21:01:57.066 TC:0990261269 RmcModemStateT=RMC\_INACTIVE), Num Act=0x01, Num Cand=0x00, Num Nghbr=0x2c

, Stale.0=0, Pilot PN.0=36, Phase.0=2304, Strength.0=-5.1372

00:00:00.000> ETS, Id=DSPM Spy, SpyId=DSPM Rfc TxAgcNew, N=2, SysTime.0=(1x) 0x0d4811586c

(03/01/2016 21:16:46.960 TC:2083771392 L1dStates=ACCESS\_PREAMBLE\_SETUP), SysTime.1=(!DO)

0x09f60c7ff6 (03/01/2016 21:01:57.066 TC:0990261689 RmcModemStateT=RMC\_INACTIVE), rxPwrFilt=-71.84,

fistTx=1, OpenLoop=1, EnableDdpc=0, txPwrReq=24.00, txPwrTaget=24.00, Gbb0(dB)=-1.13, GBB1(dB)=-

2.50, paGain=33.94, pgaGain=-8.81, deltaGain=0.00, DeltaRel=0.00, txupcTargetAb=0,

txupcTargetGain=-13.50, DdpcGain=-13.50, CouplerLoss=25.94, TxDetGain=-9.13, TxAgcCalErr=0.00,

PwrTagMinusPwrReq=0.00, closeLoopAcc=0.00, stepSize=1.00, pwrDac=4.31, pwrOffset=-44.25, KsErr=0.00,

GainScale=0.00, PdmValue=0, RpcSymPos=-1, PACompensation=1.22, phaseComp=0, txupcThresh=2.00

时间点(20:55:52.600)看到MS在PN=36尝试多次接入都未成功，而此时PN=36的EC/IO维持在-7dB左右，RSSI和TX都维持在较好的值，但始终未能得到网络的ACK.

//在20:56:08发送的接入达到最大次数，发送接入失败。

Id=CP Trace, TraceId=CP PE\_ACCESS\_STATE\_ENTRY\_TRACE\_ID, N=0x00000002, SysTime.0=(1x) 0x0d48106682 (03/01/2016 20:56:08.360 TC:0561775757 L1dStates=IDLE), SysTime.1=(!DO) 0x09f60becef (03/01/2016 20:45:13.360 TC:4051803984 RmcModemStateT=RMC\_INACTIVE), CurrentState=Page Response, Event=ENG\_ACCESS\_FAIL

在21:12:56.400这通被叫，和20:55:52.600出现的现象是一样的。

在21:13:11发送的接入达到最大次数，发送接入失败。

Id=CP Trace, TraceId=CP PE\_ACCESS\_STATE\_ENTRY\_TRACE\_ID, N=0x00000002, SysTime.0=(1x) 0x0d48112e65 (03/01/2016 21:13:11.780 TC:1819347694 L1dStates=IDLE), SysTime.1=(!DO) 0x09f60c6c4c (03/01/2016 20:59:42.826 TC:0825297648 RmcModemStateT=RMC\_INACTIVE), CurrentState=Page Response, Event=ENG\_ACCESS\_FAIL

注：这两通被叫在当前信号质量和TX都正常的情况下发起多次接入都未得到网络的 ACK,怀疑和当前MS所处网络负载有关。

## 十七、手机待机掉网，唤醒后才注网

脱网是信号强度差导致的,而且脱网时刻邻近2G小区的信号强度都在-450dbm左右，16:44:04恢复正常，信号强度-398dbm。因此这次掉网是由于网络信号的波动。

若贵司有疑问，建议检查手机的天线性能和RF校准，确认后与性能OK的MTK平台对比机做对比试验，在同样的时间、地点，测试机和对比机使用同样的运营商SIM卡以及设置相同网络模式，对比联通2G驻网的情况。并且上传对比机测试机log，谢谢！

261404, 0, 311208638, 16:43:19:234 2016/03/18, MOD\_MPAL\_TDD\_2, MOD\_RRM\_TDD\_2, RRM\_MPAL\_SAP, MSG\_ID\_MPAL\_RR\_SERV\_IDLE\_MEAS\_IND

            rla\_in\_quarter\_dbm = 0xfe3f -449dbm

PS (PCORE)    261986    311235952    16:43:20:982    RATCM\_2 - MM\_2    MSG\_ID\_MM\_RATCM\_PLMN\_LOSS\_IND

271658, 0, 311855256, 16:44:00:618 2016/03/18, MOD\_MPAL\_TDD\_2, MOD\_RRM\_TDD\_2, RRM\_MPAL\_SAP, MSG\_ID\_MPAL\_RR\_SERV\_IDLE\_MEAS\_IND

            rla\_in\_quarter\_dbm = 0xfe72 -398dbm

## 十八、“权限控制设置不允许拨打常规电话”

这里出现不能拨打电话原因是RRC\_CONNECTION\_REQUEST没有网络的回应，当前的小区UARFCN: 10713, PSC: 49信号质量和信号强度突然变差。可能的原因有：网络信号问题 或者 RF配置、硬件天线问题。

若贵司还有疑问，建议检查手机的天线性能和RF校准，确认后与性能OK的MTK平台对比机做对比试验，在同样的时间、地点，测试机和对比机使用同样的运营商SIM卡以及网络模式，对比联通3G驻网以及拨打电话的情况。并且上传对比机测试机log，谢谢！

另外可参考FAQ17779 拨打电话提示"权限控制设置不允许拨打常规电话”原因分析

PS (PCORE)    667369    14288061    11:30:14:581    CSCE\_FDD    [Serving Cell] UARFCN: 10713, PSC: 49

SYS (PCORE)    600013    13843543    11:29:46:116    NIL    [AT\_I p21, s10]ATD10010;

OTA (PCORE)    600461    13843743    11:29:46:116    MM    [MS->NW] MM\_\_CM\_SERVICE\_REQUEST

OTA (PCORE)    602107    13850252    11:29:46:524    ADR\_FDD    [MS->NW] FDD\_RRC\_\_RRC\_CONNECTION\_REQUEST

OTA (PCORE)    610291    13875418    11:29:48:143    ADR\_FDD    [MS->NW] FDD\_RRC\_\_RRC\_CONNECTION\_REQUEST

OTA (PCORE)    647110    14036691    11:29:58:439    MM    [MS->NW] MM\_\_CM\_SERVICE\_REQUEST

OTA (PCORE)    648016    14038714    11:29:58:439    ADR\_FDD    [MS->NW] FDD\_RRC\_\_RRC\_CONNECTION\_REQUEST

OTA (PCORE)    650046    14065552    11:30:00:259    ADR\_FDD    [MS->NW] FDD\_RRC\_\_RRC\_CONNECTION\_REQUEST

OTA (PCORE)    651839    14092449    11:30:02:060    ADR\_FDD    [MS->NW] FDD\_RRC\_\_RRC\_CONNECTION\_REQUEST

PS (PCORE)    656344    14160562    11:30:06:303    MEME\_FDD    MEME: PSC 49, RSCP -118, EcN0 -19, RRC\_FDD\_DB\_CellType\_monitored, SyncInfo(0), TM(-28160), OFF(7), CIO 0, dbIdx 36, active 0

OTA (PCORE)    661777    14219194    11:30:10:149    MM    [MS->NW] MM\_\_CM\_SERVICE\_REQUEST

OTA (PCORE)    662680    14221052    11:30:10:149    ADR\_FDD    [MS->NW] FDD\_RRC\_\_RRC\_CONNECTION\_REQUEST

PS (PCORE)    663868    14235552    11:30:11:159    CSCE\_FDD    CS\_Evaluate\_S\_Criterion\_ServingCell(): [The cell passed S criteria? KAL\_FALSE], [connected = KAL\_FALSE, cell's validity = 16, q\_RxLevMin = -115, q\_QualMin = -24, maxRachPwr = 24, technology = RRC\_FDD\_DB\_Cell\_cellTechnology\_umts\_selected, RSCP = -491520, EcN0 = -98304]

OTA (PCORE)    664360    14243699    11:30:11:560    ADR\_FDD    [MS->NW] FDD\_RRC\_\_RRC\_CONNECTION\_REQUEST

## 十九、动态测试掉话

14:42时刻，由于此时Ebnt较差，下行crc错，FADE timer超时EV\_TC\_RELEASE\_FADE，掉话。

15:35时刻，RTC的测量报告，一直没有收到网络侧的响应，VAL\_EV\_TC\_RELEASE\_ACK\_FAIL，掉话。

终端没有异常。

EbNt一般在200以下为较差。

//14:42

04-11 14:25:38.161 880 890 D C2K\_RIL : <fd 7> AT < RING

04-11 14:45:06.186 880 890 D C2K\_RIL : <fd 7> AT < +CEND:3 //Call faded/dropped

04-11 14:45:06.188 880 890 D C2K\_RIL : <fd 7> AT < ^CEND:3,1164,22

00:00:00.000> ETS, Id=DSPM Trace, TraceId=DSPM FWD D0 EbNt, N=0x00000002, SysTime.0=(1x) 0x0d528e0c9c (04/11/2016 14:45:02.000 TC:1135903744 L1dStates=TRAFFIC), SysTime.1=(!DO) 0x09fdea893d (04/11/2016 14:45:00.506 TC:1134074369 RmcModemStateT=RMC\_INITIAL\_SEARCH), RcType=0x0002, Rate=0x000e, EbNtLinerQ7=0x0068, EsNtLinerQ10=0x0346

00:00:00.000> ETS, Id=CP Trace, TraceId=CP Report Event, N=0x00000002, SysTime.0=(1x) 0x0d528e0db1 (04/11/2016 14:45:07.540 TC:1142720282 L1dStates=TRAFFIC), SysTime.1=(!DO) 0x09fdea8a0d (04/11/2016 14:45:06.053 TC:1140887413 RmcModemStateT=RMC\_INITIAL\_SEARCH), Event=EV\_TC\_RELEASE\_FADE

//15:35

04-11 14:51:08.905 880 890 D C2K\_RIL : <fd 7> AT < RING

04-11 15:34:45.274 880 890 D C2K\_RIL : <fd 7> AT < +CEND:10 //Call is ended normally by the client end.

, <<< Msg Id=RTC - Pilot Strength measurement

00:00:00.000> ETS, Id=CP Trace, TraceId=CP VAL Process CP Event, N=0x00000002, SysTime.0=(1x) 0x0d52905395 (04/11/2016 15:34:46.820 TC:0508771719 L1dStates=TRAFFIC), SysTime.1=(!DO) 0x09fdec3ea5 (04/11/2016 15:34:46.533 TC:0508413236 RmcModemStateT=RMC\_INITIAL\_SEARCH), EventId=VAL\_EV\_TC\_RELEASE\_ACK\_FAIL

## 二十、主卡电信3G卡，副卡移动4G，主卡连续发送短信呼叫主卡，呼入失败

从贵司提供的log中可看到如下信息：

//在09:28:01.740发送SMS

Id=CP Spy, SpyId=CP IOP req ATC xmit data, N=2, SysTime.0=(1x) 0x0d561a63b7 (04/25/2016 09:28:01.740 TC:3853700697 L1dStates=IDLE), SysTime.1=(DO) 0x0a0093ca2f (04/25/2016 09:27:57.626 TC:3848654375 RmcModemStateT=RMC\_INACTIVE), Data=AT+CMGS="0", "0000021002040702c55a5928965c060100080d0003200a0001

//在09:28:02.220发起接入，并未得到BS ACK的，此时的TX已达到最大发送功率

<<< Msg Id=AC - Origination

...

//在09:28:03收到寻呼

Id=CP Trace, TraceId=CP Report Event, N=0x00000002, SysTime.0=(1x) 0x0d561a6412 (04/25/2016 09:28:03.560 TC:3855926639 L1dStates=IDLE), SysTime.1=(DO) 0x0a0093caef (04/25/2016 09:28:02.746 TC:3854943545 RmcModemStateT=RMC\_INACTIVE), Event=EV\_PAGE\_RECEIVED

//发起的寻呼接入一直发送不成功

<<< Msg Id=AC - Page Response

...

//当前MS的RSSI =-84.20dB，但是此时的TX已达到MS自身最大发送功率(24dB) (pwrOffset=-58.38) - (rxPwrFilt=-84.20) = 26dB

Id=DSPM Spy, SpyId=DSPM Rfc TxAgcJade, N=2, SysTime.0=(1x) 0x0d561a6564 (04/25/2016 09:28:10.320 TC:3864245760 L1dStates=IDLE), SysTime.1=(DO) 0x0a0093cbaf (04/25/2016 09:28:07.866 TC:3861231141 RmcModemStateT=RMC\_INACTIVE), rxPwrFilt=-84.20, fistTx=0, OpenLoop=1, EnableDdpc=1, txPwrReq=24.00, txPwrTaget=25.00, PwrTagMinusPwrReq=1.00, TxAgcCalErr=0.19, paGain=30.28, pgaType=0, pgaGain=-4.75, Gbb0(dB)=-0.72, Gbb0Comp(Linear)=1799, txupcTargetGain=19.97, DdpcGain=20.38, deltaGain=-0.19, DeltaRel=0.00, CouplerLoss=21.78, TxDetGain=-6.88, pwrDac=4.75, pwrOffset=-58.38, KsErr=0.00, GainScale=0.00, closeLoopAcc=0.00, RpcSymPos=-1, stepSize=1.00, PACompensation=-0.31, phaseComp=0, txDCI=-0.02, txDCQ=-0.00, txIQGainErr=-0.01, txIQPhaseErr=0.00, txDetDCI=-0.02, txDetDCQ=-0.01, txDetIQGainErr=0.01, txDetIQPhaseErr=0.00, debug1=-9456, debug2=5599, debug3=-29625, debug4=675

...

<<< Msg Id=AC - Page Response

//最终发送的接入响应失败

Id=CP Trace, TraceId=CP Report Event, N=0x00000002, SysTime.0=(1x) 0x0d561a6729 (04/25/2016 09:28:19.380 TC:3875372032 L1dStates=IDLE), SysTime.1=(DO) 0x0a0093cd2f (04/25/2016 09:28:18.106 TC:3873831869 RmcModemStateT=RMC\_INACTIVE), Event=EV\_PAGE\_FAIL

//后续MS继续之前发送SMS的接入，但一直未能得到网络ACK,

<<< Msg Id=AC - Origination

...

Id=CP Trace, TraceId=CP PE ENG\_LAYER2\_TR 13 14, N=0x00000002, SysTime.0=(1x) 0x0d561a6810 (04/25/2016 09:28:24.000 TC:3881043206 L1dStates=IDLE), SysTime.1=(DO) 0x0a0093cdef (04/25/2016 09:28:23.226 TC:3880092862 RmcModemStateT=RMC\_INACTIVE), CRC failed on PAGE message=

注：从上面分析可知此时MS处于弱信环境下，导致MS在第一次收到pageing的情况下，在发送pageing response一直发送不成功 此时MS的发送功率已达到最大，后续MS发送的SMS的接入也因为弱信下发送一直不成功，下行PCH上的CRC错包较多而导致丢失后续的寻呼。建议测试此场景选取信号相对较好的网络环境下测试，且这种case之前贵司也报过，连续发送和接收SMS容易造成信道资源被占，导致此时无法接收寻呼的情况。

**二十一、掉话严重**

Action Item:

REF has RXD enabled which will always give good results. DUT has RXD disabled.

RXD settings needs to be uniform in both REF & DUT while testing. Either enable in both or disable in both. And then retest. Please re-calibrate the UE once RXD enable/disable is done. Also, share the read back calibration file from both DUT/REF.

Detailed analysis:

1st call – 11:32:08

2G Analysis for Radio link failure @ time 11:32:08:600

•    In DUT at time 628507, Radio Link failure happened on ARFCN 59 because of bad SACCH blocks.

•    Checked RX status and it is found that in this duration hopping channels are enabled and ARFCN 65, 70, 78 are hopping channels. But for some hopping channels we see that BCCH arfcn level (bcch arfcn is 59) is less than that of the hopping channels. So it suggest that there is some interference in the channel because of which SACCH blocks are not getting decoded successfully which leads to Radio link failure.[timing and frequency error is within acceptable range].

•    Checked TX status and found that TA value = 24 QB, UE is transmitting with TX Power 29 dbm NB which indicates UE is very far from network.

•    Radio link failure happened because of bad radio conditions. It seems to be network issue.

2nd call - 11:42:37-11:51:21

•    Call drops because network sent RRC\_CONNECTION\_RELEASE with cause unspecified. REF didn’t receive RRC\_CONNECTION\_RELEASE message. Seems to be a network phenomenon.

3rd call - 11:54:26

•    RLF occurred due to bad radio conditions.

•    UE initiated cell selection and select 10807/175.

•    UE triggers cell\_update but network sent re-est reject in RRC\_CONNECTION\_RELEASE.

•    Seems network issue. REF logs doesn’t have RLF, both DUT/REF are on different cells.

4th call – 12:29:04

•    Radio conditions were very bad, the time RLF occurred.

•    UE triggered MR 1A for PSCs 49/384/461 to be added into the active set but no active set update message received from network.

•    Finally, RLF occurred.

•    UE started cell selection but there’s no good 3G cell available. All cells available were very bad.

•    This call couldn’t be saved because of bad 3G coverage. Also, REF logs available doesn’t contain this time-stamp.