

# 高通标准 Rmnet Loopback 测试方法（NV）

注：本文档方法目前仅做过对 SDX20、SDX55 的测试，其他平台还未测试过。该方法不需要使用 EFS 推入 loopback\_config.txt 文件，直接执行下列步骤即可。

- 打开 QXDM 的 NV 控制，修改以下 NV 值：
  - NV 66052；改为 TRUE
  - NV 73516；
    - 8 = dl\_replicate\_cnt -> This would replicate the packet for loopback test （回环数据倍数）
    - 0xFF = ipa loopback enabled
    - 1 = is\_pdcn
    - 1 = loopback\_idx
    - 0xFF = peak clk vote
  - 配置完成后，重启模组
- 如上两个 NV 修改也可以通过 AT 进行修改，无需 Qxdm 工具，依次下发如下 AT：
  - at+qnvfw="/nv/item\_files/modem/data/3gpp/ps/3gpp\_test\_loopback\_enable",01
  - at+qnvfw="/nv/item\_files/modem/datamodem/quec\_loopback.txt",01
  - at+qnvfw="/nv/item\_files/modem/datamodem/ipa/ipa\_loopback\_cfg",08FF11FF
  - 执行命令后重启模组
- AP 端执行命令（高通要求，实测几乎没有差异，可以忽略）：
  - echo performance > /sys/devices/system/cpu/cpu0/cpufreq/scaling\_governor
- Quectel-CM 工具加上 -l 参数拨号，获取到 192.168.48.xxx （一般为 171）地址即为成功。如下样例 log：
  - ozzy@Dev:~\$ sudo ./quectel-CM -l 8  
[09-01\_13:44:52:275] Quectel\_QConnectManager\_Linux\_V1.6.0.26  
[09-01\_13:44:52:275] Find /sys/bus/usb/devices/2-5 idVendor=0x2c7c idProduct=0x800, bus=0x002, dev=0x003  
[09-01\_13:44:52:276] Auto find qmichannel = /dev/qcqmio

[09-01\_13:44:52:276] Auto find usbnet\_adapter = usb0  
[09-01\_13:44:52:276] netcard driver = GobiNet, driver version = V1.6.2.15  
[09-01\_13:44:56:807] qmap\_mode = 1, qmap\_version = 9, qmap\_size = 31744, muxid = 0x81, qmap\_netcard = usb0  
[09-01\_13:44:56:807] Modem works in QMI mode  
[09-01\_13:44:56:839] Get clientWDS = 7  
[09-01\_13:44:56:871] Get clientDMS = 8  
[09-01\_13:44:56:903] Get clientNAS = 9  
[09-01\_13:44:56:935] Get clientUIM = 10  
[09-01\_13:44:56:967] Get clientWDA = 11  
[09-01\_13:44:56:999] requestBaseBandVersion RM502QAEAAR11A02M4G  
[09-01\_13:44:57:031] qmap\_settings.rx\_urb\_size = 31744  
[09-01\_13:44:57:031] qmap\_settings.ul\_data\_aggregation\_max\_datagrams = 11  
[09-01\_13:44:57:031] qmap\_settings.ul\_data\_aggregation\_max\_size = 4096  
[09-01\_13:44:57:031] qmap\_settings.dl\_minimum\_padding = 0  
[09-01\_13:44:57:127] requestSetLoopBackState(loopback\_state=1, replication\_factor=8)  
[09-01\_13:44:57:287] requestGetSIMStatus SIMStatus: SIM\_ABSENT  
[09-01\_13:44:57:319] requestGetProfile[1] ///0  
[09-01\_13:44:57:415] requestRegistrationState2 MCC: 0, MNC: 0, PS: Detached, DataCap: UNKNOWN  
[09-01\_13:44:57:479] requestQueryDataCall IPv4ConnectionStatus: DISCONNECTED  
[09-01\_13:44:57:479] ifconfig usb0 0.0.0.0  
[09-01\_13:44:57:480] ifconfig usb0 down  
[09-01\_13:44:57:511] requestRegistrationState2 MCC: 0, MNC: 0, PS: Detached, DataCap: UNKNOWN  
[09-01\_13:44:57:543] requestRegistrationState2 MCC: 0, MNC: 0, PS: Detached, DataCap: UNKNOWN  
[09-01\_13:44:57:575] requestRegistrationState2 MCC: 0, MNC: 0, PS: Detached, DataCap: UNKNOWN  
[09-01\_13:44:57:607] requestRegistrationState2 MCC: 0, MNC: 0, PS: Detached, DataCap: UNKNOWN  
[09-01\_13:44:57:639] requestRegistrationState2 MCC: 0, MNC: 0, PS: Detached, DataCap: UNKNOWN  
[09-01\_13:44:57:639] SetLoopBackInd: loopback\_state=1, replication\_factor=8  
[09-01\_13:44:57:671] requestSetupDataCall WdsConnectionIPv4Handle:

0x23456c90

```
[09-01_13:44:57:799] ifconfig usb0 up
[09-01_13:44:57:800] busybox udhcpc -f -n -q -t 5 -i usb0
[09-01_13:44:57:801] udhcpc (v1.22.1) started
[09-01_13:44:57:837] Sending discover...
[09-01_13:44:57:897] Sending select for 192.168.48.171...
[09-01_13:44:57:957] Lease of 192.168.48.171 obtained, lease time
7200
[09-01_13:44:57:959] /etc/udhcpc/default.script: Resetting default
routes
```

- UDP 流测
  - 直接使用 `iperf -c 192.168.48.172 -u -b 150M -w2m -p 5001 -i 1 -t 100` 向模块发送即可
  - 使用 `nload` 监控对应网卡流量情况
- 使用 `nload` 工具检测对应网卡的流量情况
  - `nload usb0`
- 取消模组的 Loopback 测试模式
  - 修改 NV 66052 为 FALSE; 或者执行 AT:  
`at+qnvfw="/nv/item_files/modem/data/3gpp/ps/3gpp_test_loopback_enable",00`
  - 其他配置不用动