Qualcomm_5G Modem Log_Guide and Reference

RG5xxQ&RG5xxN&RM5xxN&RG5xxF Module Series

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About Document

Revision History

Version	Date	Author	Description
-	2022-12-01	Duncan Xu	Creation of the document

Contents

1 Preface

In this document, it mainly illustrates how to capture modem log based on 5G module such as RG50xQ&RG520N&RG52xF.

1.1. Applicable Scope

Manufacturer Version	Tool	Log Output	Applicable Module Types
Qualcomm 5G	QWinLog	Modem LOG	RG5xxQ&RG5xxN&RM5xxN&RG5xxF
	QXDM		

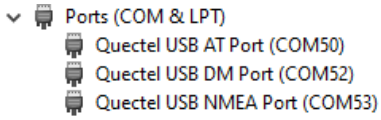
1.2. Download

QCOM	QCOM_V1.6.zip
USB Driver	Quectel_LTE&5G_Windows_USB_Driver_V2.2.4.zip
QPST	qpst.win.2.7_installer_00496.2.zip
QLOG	QLog_Linux_Android_V1.5.14.zip
QWinLog	QWinLog_V1.8.7.zip

2 In Windows

2.1. Install USB Driver

Install USB driver as above link, initiate device and connect to USB port, the Quectel COM port will be visible correspondingly.



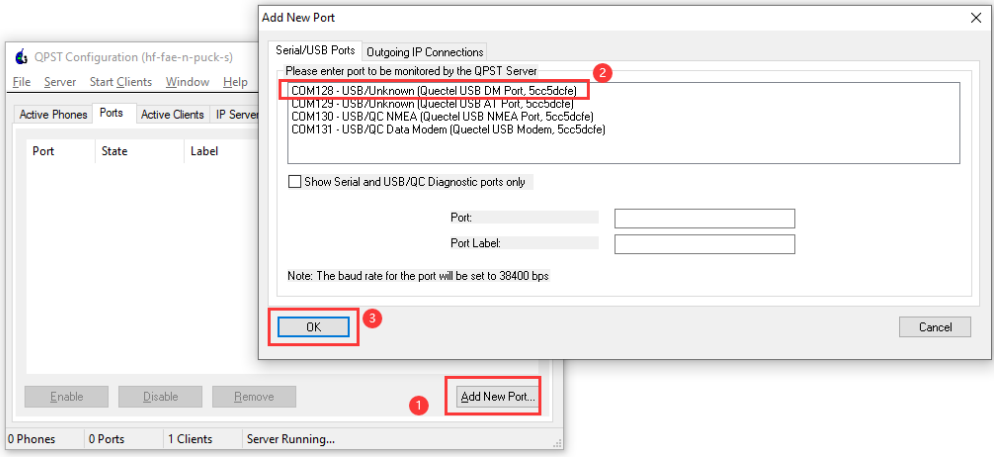
2.2. Capture dump log

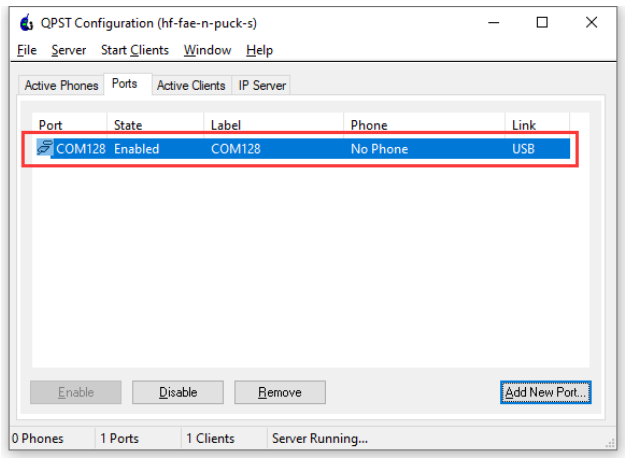
- Configure it as Dump mode via following AT commands
  at+qcfg="modemrstlevel",0
  at+qcfg="aprstlevel",0

Note

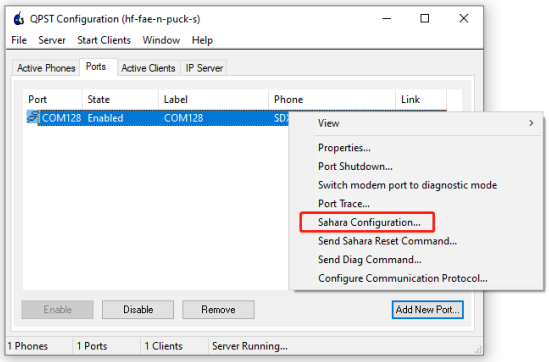
All above commands will be valid instantly. Moreover, these commands will not be saved, as a result, it is not allowed to reboot module after setting.

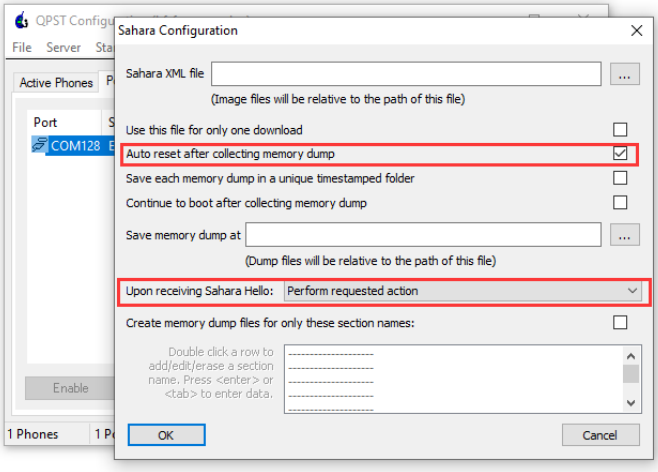
- Install QPST
- Power on and connect to USB port
- Open QPST to attach DM port



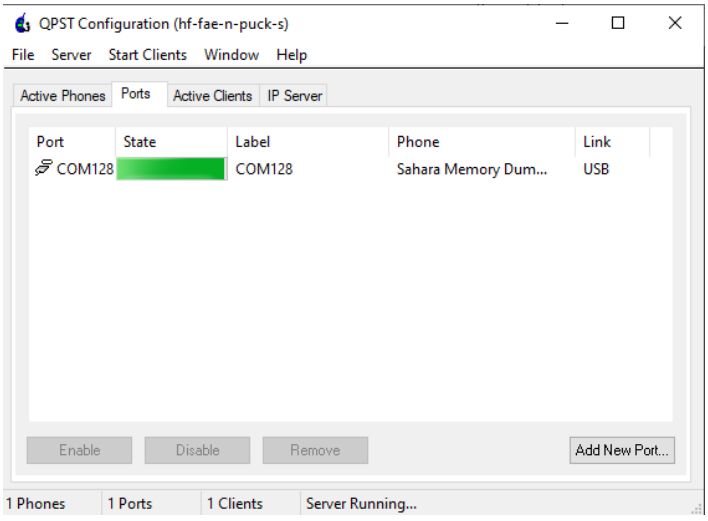


- Configure DM port as the mode to capture dump via right-click “Saraha Configuration”.

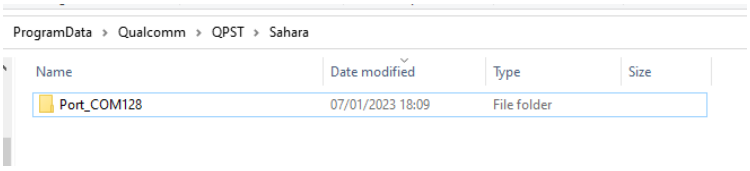




- Reproduce issue via making the module dump, the module will capture relevant dump log automatically.



- Open the directory where dump log is saved and provide it to R&D.
  C:\ProgramData\Qualcomm\QPST\Sahara



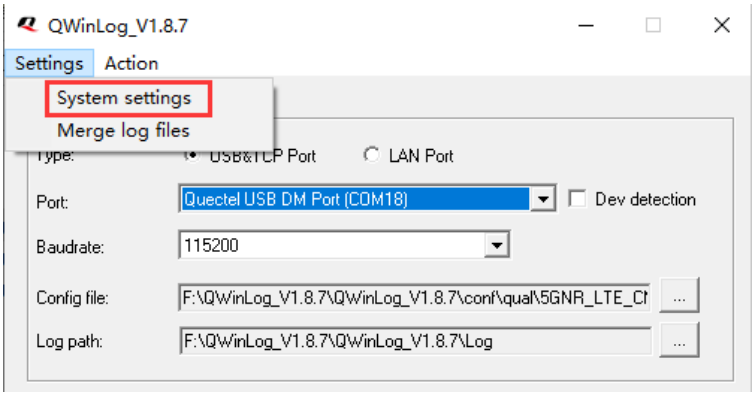
2.3. Capture modem log

In Windows, it is available to capture Qualcomm modem log via QWinLog provided by Quectel, or capture corresponding log via QXDM released by Qualcomm itself. In following figure, it will display how to capture modem log of Qualcomm modules via QWinLog and QXDM.

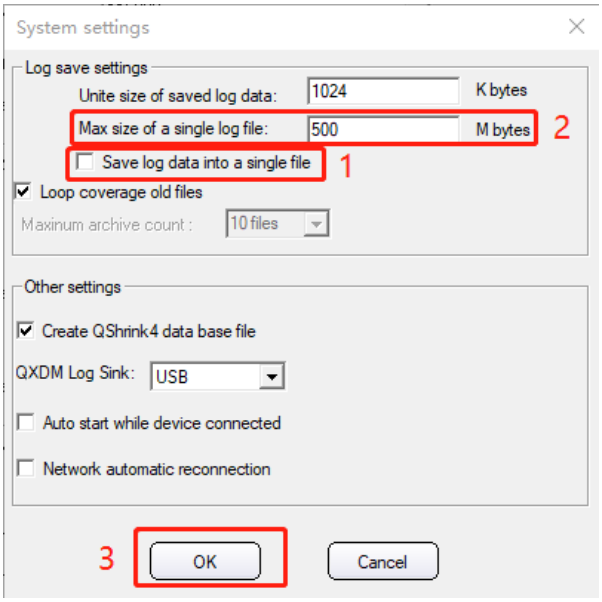
2.3.1. QWinLog

The QWinLog is valid to capture mode log in real-time and save the log into the path selected by yourself.

1. Log Configuration: Click “System Settings” in the drop-list of “Settings”.

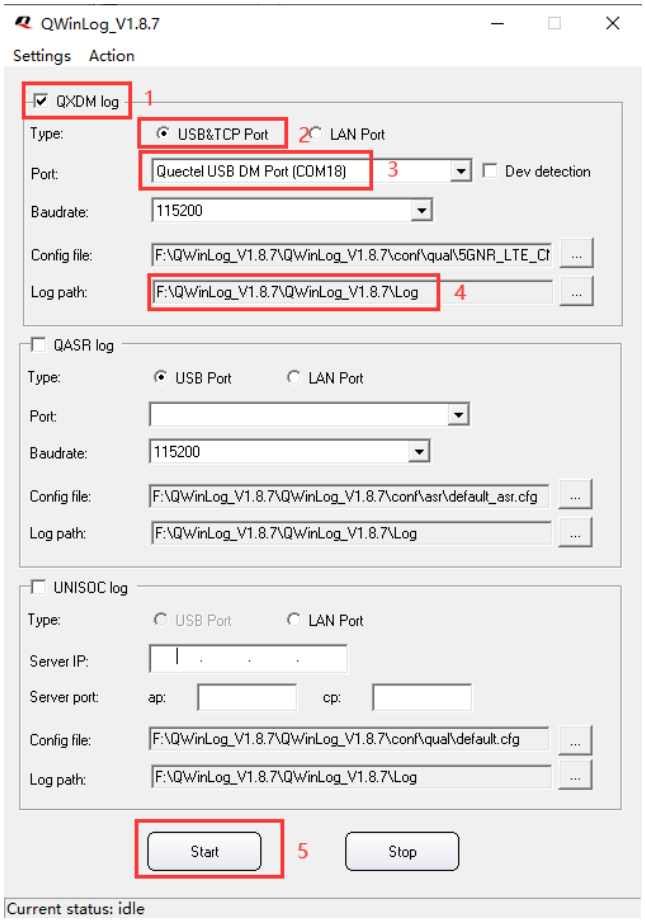


If it is hoped to save log data to other files, do not tick option “Save log data into a single file”. In this situation, the maximum size of a single log file can be set.



2. Capture modem log

Preliminarily, insert module, install USB driver in Windows, open QWinLog, configure as shown below and click “Start” to capture modem log.



Click “Stop” to pause capturing log. Thus, it is available to see corresponding log file in the path to save it.

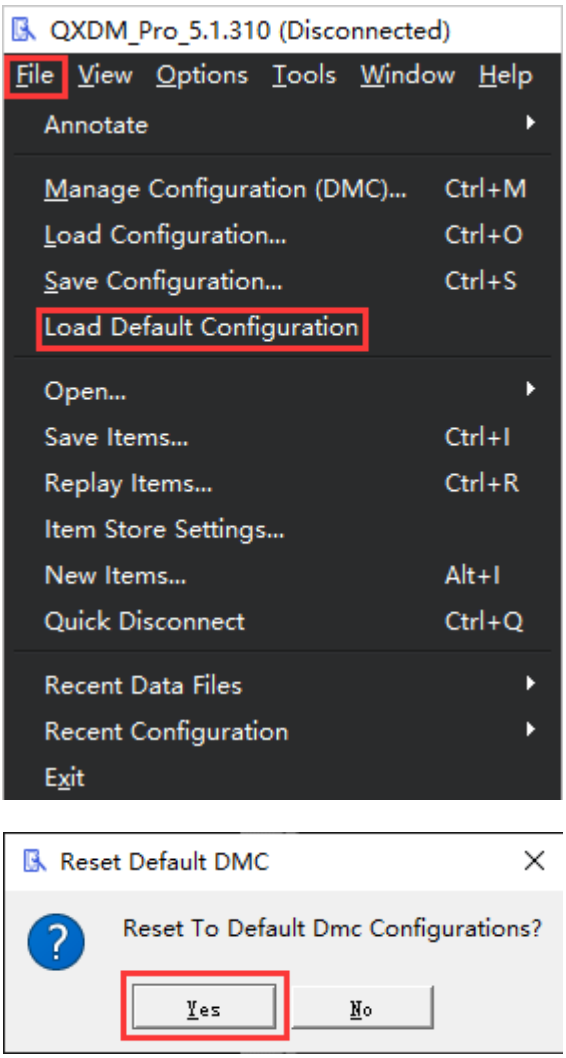
Note

It is necessary to transfer AT command **AT+QCFG= “DBGCTL”, 0** before above operation. If it succeeds to execute, both “Error” and “OK” will be returned. As for “Error”, which indicates it is opened by default. Please keep in mind that this command is limited to capture log of Qualcomm 4G modules. In terms of 5G modules, it is no necessity to execute this command.

2.3.2. About QXDM

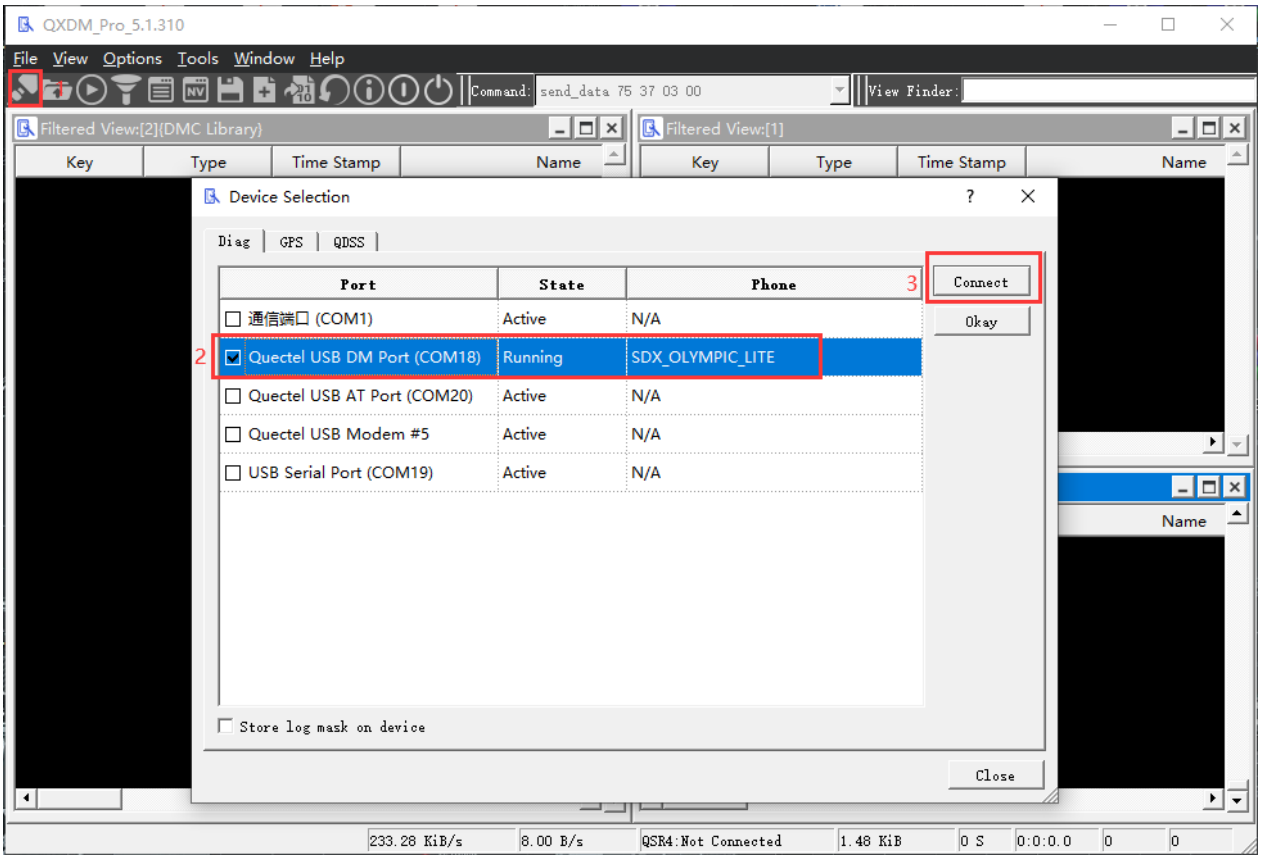
1 Configuration

Initially, it is needed to load default configuration before capturing log via QXDM. Click the option “Load Default Configuration” in the menu of “File”. After that, it is capable to reset to default configuration via clicking “Yes”.



2 Capture log via QXDM

Open QXDM, click “Connect” to capture relevant log in accordance with configuration as shown below.

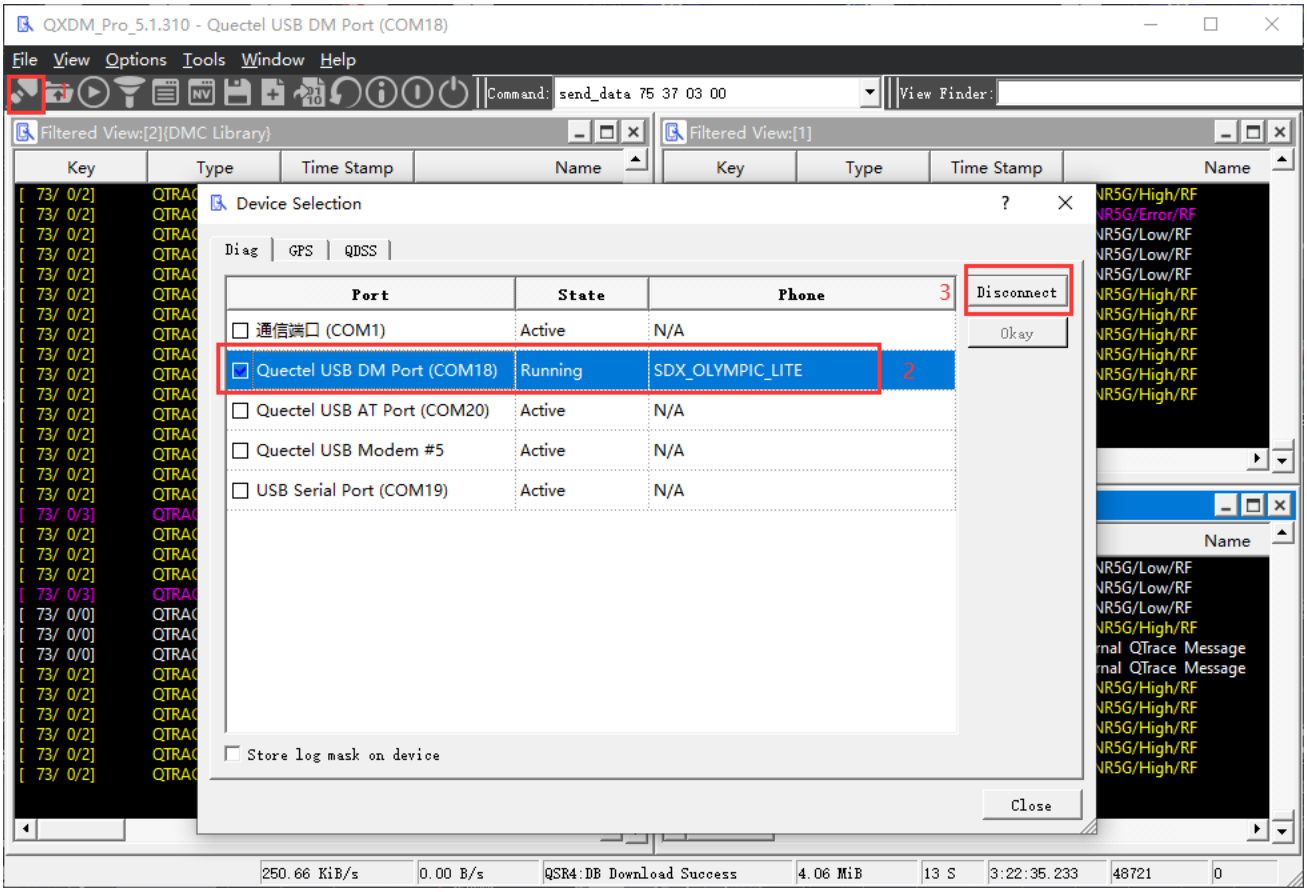


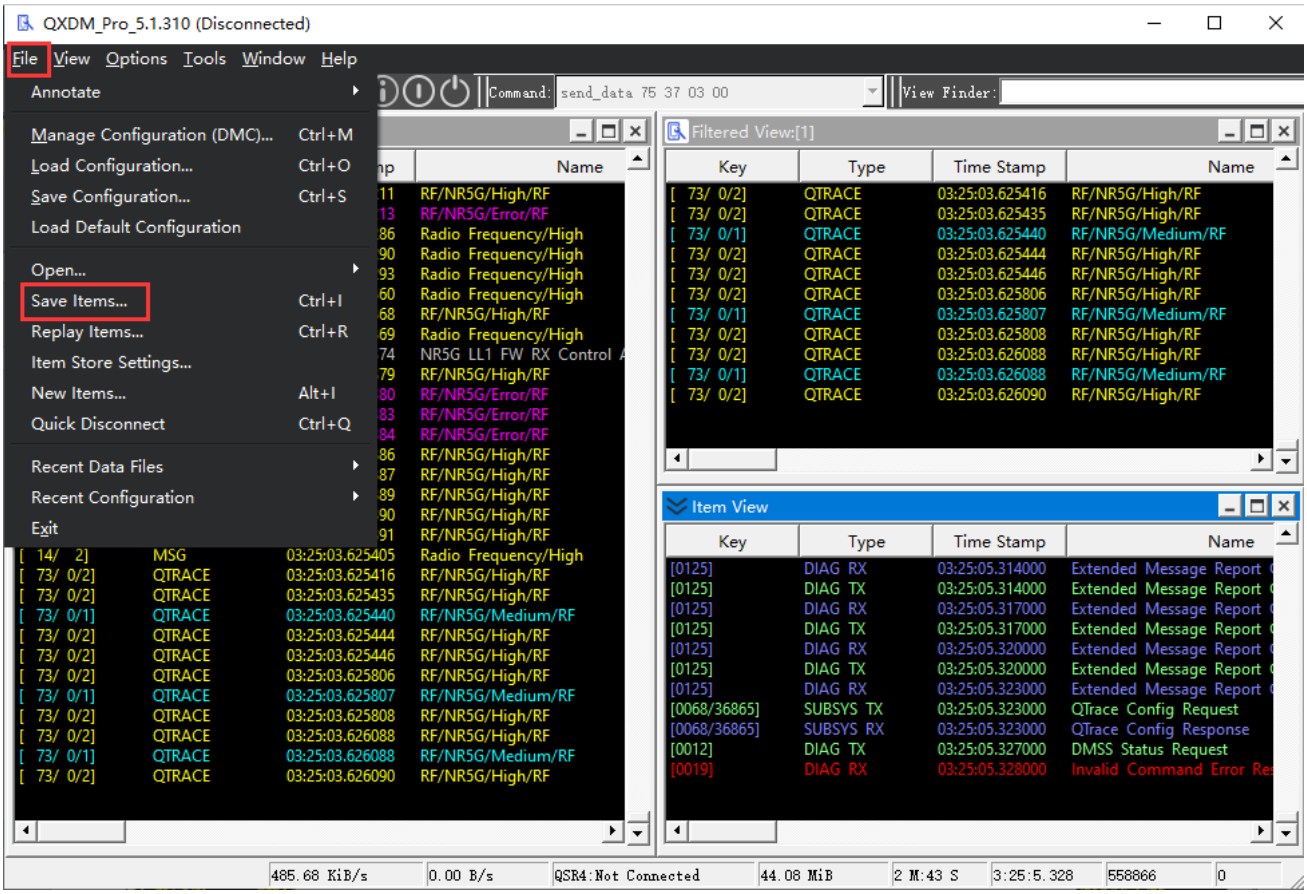
3 Save log

Once the issue is reproduced, it is approachable to stop capturing log via “disconnect” in “Device Selection” viewer. In addition, it is also valid to save log into suitable path via “Save Items” in the drop-list of “File”.

Note

It is necessary to transfer AT command **AT+QCFG= “DBGCTL”, 0** before above operation. If it succeeds to execute, both “Error” and “OK” will be returned. As for “Error”, which indicates it is opened by default. Please keep in mind that this command is limited to capture log of Qualcomm 4G modules. In terms of 5G modules, it is no necessity to execute this command.


QXDM_Pro_5.1.310 - Quectel USB DM Port (COM18)
File View Options Tools Window Help
Command: send_data 75 37 03 00
View Finder:
Filtered View:[2]{DMC Library}
Filtered View:[1]
Key Type Time Stamp Name
Device Selection
Diag GPS QDSS
Port State Phone
通信端口 (COM1) Active N/A
Quectel USB DM Port (COM18) Running SDX_OLYMPIC_LITE
Quectel USB AT Port (COM20) Active N/A
Quectel USB Modem #5 Active N/A
USB Serial Port (COM19) Active N/A
Disconnect
Okay
Store log mask on device
Close
250.66 KiB/s
0.00 B/s
QSR4:DB Download Success
4.06 MiB
13 S
3:22:35.233
48721
0


QXDM_Pro_5.1.310 (Disconnected)
File View Options Tools Window Help
Annotate
Manage Configuration (DMC)... Ctrl+M
Load Configuration... Ctrl+O
Save Configuration... Ctrl+S
Load Default Configuration
Open...
Save Items... Ctrl+I
Replay Items... Ctrl+R
Item Store Settings...
New Items... Alt+I
Quick Disconnect Ctrl+Q
Recent Data Files
Recent Configuration
Exit
Command: send_data 75 37 03 00
View Finder:
Filtered View:[1]
Item View
Key Type Time Stamp Name
485.68 KiB/s
0.00 B/s
QSR4:Not Connected
44.08 MiB
2 M:43 S
3:25:5.328
558866
0

3 In Linux&Android

3.1. Install USB Driver

For details, see <Quectel_LTE&5G_Linux_USB_Driver_User_Guide_V2.0.pdf>.
After that, following contents will be displayed when booting and connecting to USB.

```
root@ubuntu:/home/sr# lsusb
Bus 004 Device 001: ID 1d6b:0003 Linux Foundation 3.0 root hub
Bus 003 Device 004: ID 0e0f:0002 VMware, Inc. Virtual USB Hub
Bus 003 Device 003: ID 0e0f:0002 VMware, Inc. Virtual USB Hub
Bus 003 Device 007: ID 2c7c:0125
Bus 003 Device 002: ID 0e0f:0003 VMware, Inc. Virtual Mouse
Bus 003 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
Bus 002 Device 002: ID 0e0f:0002 VMware, Inc. Virtual USB Hub
Bus 002 Device 001: ID 1d6b:0001 Linux Foundation 1.1 root hub
root@ubuntu:/home/sr# lsusb -t
/:  Bus 04.Port 1: Dev 1, Class=root_hub, Driver=xhci_hcd/4p, 10000M
/:  Bus 03.Port 1: Dev 1, Class=root_hub, Driver=xhci_hcd/4p, 480M
    |__ Port 1: Dev 2, If 0, Class=Human Interface Device, Driver=usbhid, 12M
    |__ Port 2: Dev 7, If 3, Class=Vendor Specific Class, Driver=option, 480M
    |__ Port 2: Dev 7, If 1, Class=Vendor Specific Class, Driver=option, 480M
    |__ Port 2: Dev 7, If 4, Class=Vendor Specific Class, Driver=qmi_wwan, 480M
    |__ Port 2: Dev 7, If 2, Class=Vendor Specific Class, Driver=option, 480M
    |__ Port 2: Dev 7, If 0, Class=Vendor Specific Class, Driver=option, 480M
    |__ Port 3: Dev 3, If 0, Class=Hub, Driver=hub/7p, 12M
    |__ Port 4: Dev 4, If 0, Class=Hub, Driver=hub/7p, 480M
/:  Bus 02.Port 1: Dev 1, Class=root_hub, Driver=uhci_hcd/2p, 12M
    |__ Port 2: Dev 2, If 0, Class=Hub, Driver=hub/7p, 12M
/:  Bus 01.Port 1: Dev 1, Class=root_hub, Driver=ehci-pci/6p, 480M
```

3.2. Capture dump log

Copy QLog to Linux host. For specific procedure, see following link.
Quectel_QLog_Linux&Android_User_Guide_V1.1.pdf

3.3. Capture modem log

Copy QLog to Linux host. For specific procedure, see following link.
Quectel_QLog_Linux&Android_User_Guide_V1.1.pdf