EC2x&AG35-Quecopen On-device Logging User Guide

LTE Standard/Automotive Module Series

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About the Document

History

Revision	Date	Author	Description
1.0	2018-05-02	Matthew MA	Initial

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1 Introduction

Diag is the tool for outputting all kinds of messages in Linux system. With Diag, various information can be logged to the device file system. This feature is called on-device logging. It is very useful for on-site testing because it does not need to use the USB UART on the device during testing.

This document mainly applies for global market. Currently LTE Standard/Automotive module that supports this includes:

- EC2x: EC20 R2.1/EC25/EC21
- AG35

2 On-device Logging

On-device logging can record log messages in the Linux file system, including SD card and eMMC. Then it downloads and converts the recorded data file and uses it to analyse system problems mainly by tools such as Qualcomm, Diag, configuration files, ADB, QCAT etc... The process to use on-device logging can be divided into three parts: Select item filter file, Linux configuration, and record and download the data.

Preparation: Enable log recording function to send **AT+qcfg="dbgctl",0** by Qualcomm network AT Port.

2.1. Selecting Item Filter File

When performing on-device logging, users can record all messages or just those selected. Before recording, users need to upload a filter configuration file which describes those messages that need to be recorded in order to filter out unnecessary messages. Different filter configuration files are used in different situations. Here are some examples of filter configuration files that are commonly used:

PS uses ; Audio uses ; CS uses ; default to use .

NOTE

The configuration file name that Diag defaults is Diag.cfg. If another name is applied, please specify it when recording the log in ***Chapter 2.3***.

2.2. Linux Configuration

Linux configuration is mainly used to create folders in the Linux system of the module and upload the selected configuration file *Diag.cfg* to the new directory.

The steps are as follows:

a) Create a folder.

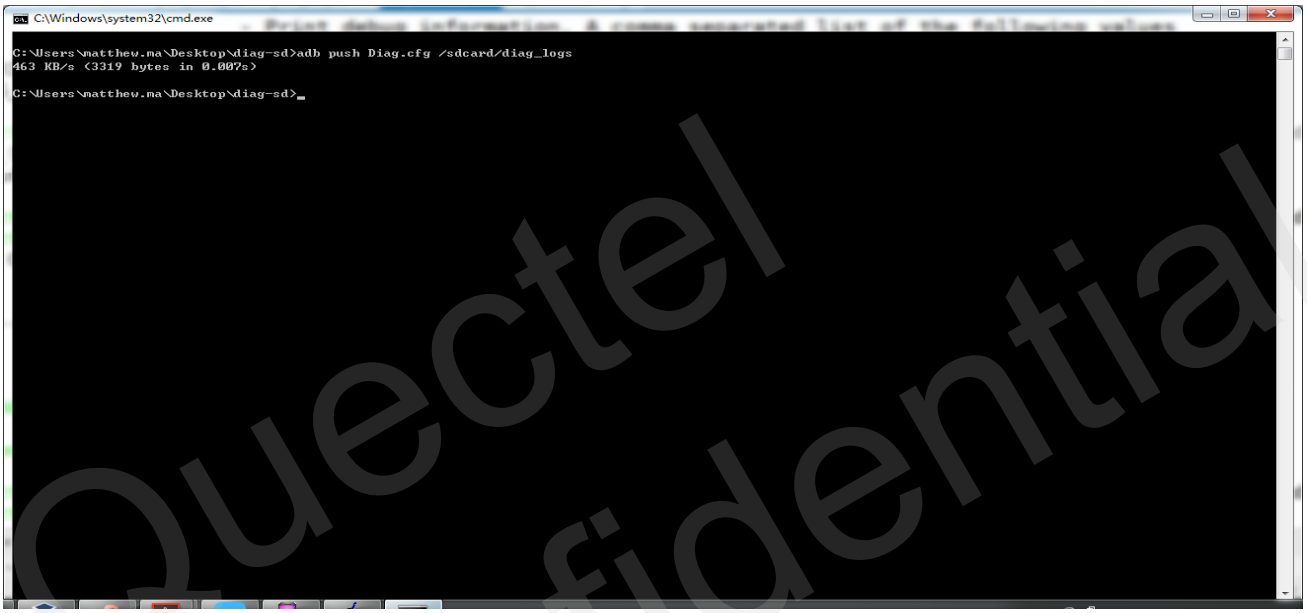
```
# mkdir -p /sdcard/diag_logs
# chmod 777 /sdcard/diag_logs –R
```

b) Upload configuration file Diag.cfg via ADB in the Windows.

```
Cmd:adb push Diag.cfg /sdcard/diag_logs
```

NOTE

The directory that Diag defaults is */sdcard/diag_logs*. If another directory is applied, please specify it when recording the log in ***Chapter 2.3***.



2.3. Recording and Downloading Data

After the two steps above, the configuration file has been uploaded to Linux file system. Please execute the command **diag_mdlog** to start recording and end recording by pressing Ctrl+C. After that, download the recorded log files to the PC.

Please note that the steps above have created a place where log files are restored. If users also put SD card to this directory, the generated log files will be restored in SD card.

The steps are as follows:

a) Record

Log in to the Linux system of the module via Debug UART and execute command **diag_mdlog** to record.

 # diag_mdlog

```
root@mdm9607-perf:/# diag_mdlog
diag_mdlog: successfully created pid file, pid: 1739

diag_mdlog: Continuing with default directory path /sdcard/diag_logs/19800106_064913

diag_mdlog: Diag_LSM_Init succeeded.

 REMOTE PROCESSOR MASK 0
 logging switched
Output dirs /sdcard/diag_logs/19800106_064913 --- /sdcard/diag_logs/19800106_064913

diag_mdlog: Reading mask for MSM, proc_type: 0
diag_mdlog: Default mask file being read for proc_type: 0
Reading the mask file: /sdcard/diag_logs/Diag.cfg
diag: Determining contents of directory /sdcard/diag_logs/19800106_064913 for circular logging ...
 creating new file /sdcard/diag_logs/19800106_064913/diag_log_19800006_064924315989364235.qmdl
```

Press Ctrl+C to end this recording. View the log files in the directory */sdcard/diag_logs/xxx* (xxx is the exact date (of year/month/day)+PID number)

 # ls /sdcard/diag_logs/xxx

```
root@mdm9607-perf:/# ls /sdcard/diag_logs/19800106_064913/
diag_log_19800006_064924315989364235.qmdl
diag_qsr4_guid_list_19800106_064913.xml
root@mdm9607-perf:/#
```

NOTE

This document uses the default configuration file name and default log directory. However, if users specify them according to their specific needs, please execute **diag_mdlog -f <mask_file name> -o <output dir>** to confirm the configuration file name and the directory for restoring the log. Please view more information via command **diag_mdlog**.

For example: If the configuration file that the users apply is 1.cfg in */log* directory, the specified directory to output is */log* and the specified log file size is 1MB:

 # diag_mdlog -m /log/1.cfg -o /log -s 1

```
root@mdm9607-perf:/log# diag_mdlog  -f /log/1.cfg -o /log -s 1
diag_mdlog: successfully created pid file, pid: 1926
diag_mdlog: Warning output directory already exists: /log
diag_mdlog: Proceeding...

diag_mdlog: Diag_LSM_Init succeeded.

 REMOTE PROCESSOR MASK 0
 logging switched
Output dirs /log --- /log

diag_mdlog: Reading mask for MSM, proc_type: 0
Reading the mask file: /log/1.cfg
diag: Determining contents of directory /log for circular logging ...
 creating new file /log/diag_log_19800006_110048316004448114.qmdl
```

b) Download the file diag_log_xxx.qmdl

Download via ADB:

Cmd: adb pull /sdcard/diag_logs/19800106_064913/diag_log_19800006_064924315989364235.qmdl diag_log_19800006_064924315989364235.qmdl