

EC200U Series QuecOpen Log Capture Guide

LTE Standard Module Series

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About the Document

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Contents

Abo	About the Document										
Cor	Contents										
Tab	Table Index										
Fig	ure Ind	ex		. 6							
1	Introduction7										
2	Enviro	onmer	nt Setup	. 8							
	2.1.	Sof	tware Environment	. 8							
	2.	1.1.	Driver Installation	. 8							
	2.	1.2.	Tool Acquisition	. 9							
	2.	1.3.	Log Capture Tool	. 9							
	2.2.	Hai	dware Environment	10							
3	Proce	dures		11							
	3.1.	AP	Log Capture with cooltools	.11							
	3.	1.1.	Configuration in cooltools	.11							
	3.	1.2.	AP Log Capture	13							
	3.2.	CP	Log Capture with ArmTracer	16							
	3.3.	AP	Dump Analysis and Saving	18							
	3.	3.1.	GDB Analysis of AP Dump	18							
	3.	3.2.	AP Dump Saving	19							
	3.	3.3.	Offline Analysis of AP Dump	20							
4	AP Lo	og Por	t Configuration	21							
	4.1.	AP	Log Port Configuration API	21							
	4.	1.1.	ql_log_set_port()	21							
	4.2. AP Log Port Configuration AT Command										
	4.2.1. AT Command Introduction										
		4.2	.1.1. Definitions	22							
		4.2	.1.2. AT Command Syntax	22							
	4.	2.2.	AT Command Description	23							
		4.2	.2.1. AT+QDBGCFG="tracecfg"	23							
5	Apper	ndix R	eferences	24							



Table Index

Table 1: Tool Overview		9
Table 2: Related Document	. 2	4
Table 3: Terms and Abbreviations	. 2	4



Figure Index

Figure 1: Ports in Device Manager	8
Figure 2: cooltools	9
Figure 3: ArmTracer 1	10
Figure 4: Module Type and Serial Port Configuration in cooltools	11
Figure 5: Coolhost Window 1	12
Figure 6: cooltools Home Page	13
Figure 7: Trace tool Window	14
Figure 8: Set Trace Levels 1	15
Figure 9: Open and Configure ArmTracer 1	16
Figure 10: Log File Parameter Configuration 1	17
Figure 11: ArmTracer.ini File Configuration 1	17
Figure 12: Automatic Detect CP Port 1	18
Figure 13: Launch GDB 1	19
Figure 14: Start Blue Screen Dump 1	19

1 Introduction

Quectel EC200U series module supports QuecOpen[®] solution. QuecOpen[®] is an embedded development platform based on RTOS, which is intended to simplify the design and development of IoT applications. For more information on QuecOpen[®], see *document [1]*.

This document takes EC200U-CN as an example to introduce how to capture log information on the EC200U series module in QuecOpen[®] solution, including environment setup, log capture tool acquisition and specific operation steps, and dump analysis and saving. In the process of module debugging, if there are problems such as abnormal restart, network registration and data service or module crash, you can refer to this document to further analyze the cause of the problems.



2 Environment Setup

2.1. Software Environment

2.1.1. Driver Installation

Driver installation is the main task to set up software environment. The USB driver package *Quectel_Windows_USB_Driver(U)_For_ECM_RNDIS_V1.0.11.zip* is taken as an example in the following content. Compress the package and install the USB driver according to the installation instructions.

NOTE

Please contact Quectel Technical Support (<u>support@quectel.com</u>) to obtain the latest USB driver package.

After the driver is installed, you can check whether the ports work normally in the Device Manager, as shown below:



Figure 1: Ports in Device Manager

Among the ports shown in the above figure, Quectel USB AP Log Port is an AP log port and Quectel USB CP Log Port is a CP log port. The USB Serial Port (COM4) in this document is Debug UART, which can be used to output AP log.



2.1.2. Tool Acquisition

The tools mentioned in this document are shown in the following table. Please contact Quectel Technical Support (<u>support@quectel.com</u>) to obtain the latest version of the tools if necessary.

Table 1: Tool Overview

ΤοοΙ	Description
cooltools-win32_custom_P3.R2.0.0005.7z	AP log capture tool, installation-free.
ArmTracer_V6.2.4_User.7z	CP log capture tool, installation-free.
gdb-win32_custom_P3.R2.0.0005.7z	Dump analysis tool.

2.1.3. Log Capture Tool

The AP log capture tool used is *cooltools-win32_custom_P3.R2.0.0005.7z*. It is an installation-free tool and can run directly after decompressing. If you use the Debug UART to capture AP log, run *coolwatcher_debughost.exe*. If you use Quectel USB AP Log Port to capture AP log, run *coolwatcher_usb.exe*.

If AP dump analysis is needed, you should place the decompressed subdirectories and files of *gdb-win32_custom_P3.R2.0.0005.7z* in the root directory of *cooltools*.

N	> Tools > cooltools-win32_custom_	P3.R2.0.0005 ~	Ū
	^		
	dia coolgdb2.exe	2020/07/23 15:58	
	coolhost.exe	2020/07/23 15:58	
ł.	🗟 coolhost_library.dll	2020/07/23 15:58	
L	建 coolpkg.exe	2020/07/23 15:58	
L	🐔 coolprofile.exe	2020/07/23 15:58	
L	🗟 cooltrace.dll	2020/07/23 15:58	
	🥙 coolwatcher_debughost.exe	2020/07/23 15:58	
	🥙 coolwatcher_usb.exe	2020/07/23 15:58	

Figure 2: cooltools

The CP log capture tool used is *ArmTracer_V6.2.4_User.7z*. It is an installation-free tool and you can execute *ArmTracer.exe* after decompressing.



> Tools > Ar	rmTracer_V6.2.4_User	> V6.2.4_User	ٽ ~
	^		
ATCmd	l	2020/10/2	1 19:10
DII		2020/10/2	1 19:10
Doc		2020/10/2	1 19:10
Export	BSD	2020/10/2	1 19:10
🔤 FeedBa	ick	2017/09/2	3 11:15
Fooler		2020/10/2	1 19:10
log		2019/07/1	1 10:49
LogSpli	itter	2020/10/2	1 19:10
📙 MsgDe	fine	2020/10/2	1 19:10
🔤 syslog		2020/06/1	7 11:33
TCP-Se	rver	2020/10/2	1 19:10
🗟 AboutE	x.dll	2019/07/1	9 14:09
🗷 ArmTra	icer.exe	2020/08/1	8 11:08

Figure 3: ArmTracer

2.2. Hardware Environment

You can use Quectel EC200U-CN TE-A or your device to capture log.

The default output port of AP log of EC200U-CN module is Quectel USB AP Log Port (currently the log is outputted from Debug UART during the startup of the module). If you use Debug UART to capture AP log, note that the baud rate of Debug UART of the module needs to be set to 921600 bps. However, because RS-232 serial port chip on LTE OPEN EVB does not support 921600 bps, AP log cannot be captured on DB9 of EVB when you use EC200U-CN TE-A. If you must use Debug UART to capture AP log, you need to separately jump a wire to the serial port conversion board supporting 921600 bps. Note that the level of the module is 1.8 V when you jump the wire.

If you use your device to capture log, you need to reserve serial port or USB port. It is recommended to reserve some test points when you design the hardware circuit, otherwise you need to jump a wire to TX and RX pins of Debug UART when capturing log.



3 Procedures

3.1. AP Log Capture with cooltools

This chapter takes Debug UART as an example to introduce the procedures of capturing AP log with cooltools. Please refer to *Coolwatcher User Guide* in the *cooltools/doc* directory for details.

3.1.1. Configuration in cooltools

After opening cooltools, you first need to manually configure the module type and log port. As shown in the figure below, the module type on the left is fixed to "**8910**", and the log port (lastcomport) is configured according to the actual port number. Click "**OK**" to go to the next step after the configuration is completed.

💈 P3.R2.0.0005 by 202	20-07-23		?	Х					
Profiles 8909L 8909L_fpga 8910 Blank	The following list displays the pairs of key/values contained in each of the available profiles. Five of them are mandatory : * softDir : basic directory of your software environment. * hardXmd : root XMD file describing the hardware memory map of the chip. * softXmd : root XMD file describing the software memory map of the target's code. * project : name of the project you're working on. * mainScript : main ruby script. Put 'CoolWatcher/cwuser.rb' if you're puzzled.								
	Key Value								
	autoRunTracer	0							
	chipDie	8910							
	elfdumpSetting chipgen/Modem2G/toolpool/map/elfdump/8910.xml								
	lastBlueScreenDumpDirName	BlueScreen							
	lastBlueScreenDumpMode	STUB_PERI							
	lastElfFileName	G:/A_chip/8910/lod/8910C_catm/8910C_catm_em610_V1.elf							
	lastLodForRomburn	1							
	lastcomport 4								
	/cygwin/coolgdb/bin								
	restartAfterCrashDump	0							
New tracerSetting rbbase/common/plugins/tracer/default2g.ini									
			Ok	c					

Figure 4: Module Type and Serial Port Configuration in cooltools



If the above configuration fails, the Coolhost window will appear, which may be caused by an invalid port number. You can check whether the port number is correct on Device Manager and modify it on Coolhost window. As shown in the following figure, enter the COM configuration page, select the corresponding port (configured as COM4 in this document), confirm and click the "**Reconnect**" to reconnect the port. Among the configurations presented in the following figure, Flow control cannot be modified and the flow control of Debug UART is fixed as XON/XOFF and that of USB AP Log port is fixed as None. For Debug UART, the baud rate needs to be set to 921600 bps and cannot be remodified. Note that the serial port chip also needs to support 921600 bps. See **Chapter 2.2** for details.

Scoolhost (COM4)			_		×
Port 7704	Stop	CID 1 connect from 127.0.0.1:50045 CID 1 disconnected			^
COM DATA Other	Disconnect	CID 2 connect from 127.0.0.1:50046 CID 2 ping CID 2 reconnect Close COM4 Open COM4 baud 921600 XON/XOFF 8N1 CID 2 status request CID 3 connect from 127.0.0.1:50047 CID 3 status request CID 3 status request			
Flow Control XON/XOFF Send to Com 0 B/s Received 0 B/s Parsed (0) 0 B/s Send to Client 0 B/s	Reconnect	CID 4 connect from 127.0.0.1:50048 CID 4 ping CID 4 status request CID 5 connect from 127.0.0.1:50049 CID 5 ping CID 5 status request CID 5 disable event CID 5 disable event CID 5 enable event CID 5 enable event CID 5 constle event CID 5 enable event	80 58		
COW Break	Reconnect	do creconnect	50 F8		~
Verbose 🗹 Server 🗹 Client 🗌 Read 🗌 Host Read	✓ Host Write	Drop Clear Log	Persistent	Exit	

Figure 5: Coolhost Window

NOTE

See Chapter 4 for details on the methods to configure AP log port.



3.1.2. AP Log Capture

Enter the cooltools home page after having opened the cooltools and finished the configuration, and select **"Activate Tracer"** in the **"Plugins"** menu drop-down box to start the Trace tool plug-in, as shown in the following figure:



Figure 6: cooltools Home Page



Enter the Trace tool window after starting the Trace tool plug-in, as shows below:

Trace tool	1. Toolbar			2. Filter String Settings, supporting " "	ð ×
▶ ● ♥ ■				ql_init	g
Index	Received	Tick	Level	Description	^
1290	19:59:24.003	3901	QUEC/I	[QUSBNET][quec_usbnet_connect_enable_with_cid, 148] usbnet disable @ 0	
1291	19:59:24.003	3906	IPCD/I	IPC ISR status/0x00000002	
1292	19:59:24.003	3906	RPCD/D	RPC notif 0x0000001 3. All Logs	
1293	19:59:24.003	3906	RPCD/D	RPC channel avail/56 packet size/56	
1294	19:59:24.003	3907	RPCD/D	RPC: recv response tag/0x6d2f4987(CFW_GprsGetstatus) rsp/0x80DC6498	
1295	19:59:24.003	3907	RPCD/D	<pre>RPC: send call 0xa2cd3816(CFW_NWGetStackRat)</pre>	
1296	19:59:24.003	3907	IPCD/I	ipc: ch2 write len/32 ret/32	
1297	19:59:24.003	3909	IPCD/I	IPC ISR status/0x00000002	
1298	19:59:24.003	3909	RPCD/D	RPC notif 0x00000001	
1299	19:59:24.003	3909	RPCD/D	RPC channel avail/32 packet size/32	~
<					>
Index	Received	Tick	Level	Description	
538	19:59:19.723	485	QOPN/I	<pre>[ql_INIT][appimg_enter, 128] init demo enter</pre>	
540	19:59:19.763	489	QOPN/I	[ql_INIT][ql_init_demo_thread, 77] init demo thread enter, param 0x0	
				4. Log Filter Results Pane	

Figure 7: Trace tool Window

The functions of the toolbar icons in the upper left corner from left to right are respectively "Start", "Stop", "Clear", "Set Trace Levels", "Reapply Trace Levels", "Save", "Open/Close the Received column", and "Enable/Disable Comment". You can input keyword strings for log filtering in the bar in the upper right corner, which supports searching multiple keywords at the same time by adding "|".

Click "IIII" to open "Set Trace Levels" window. You can set automatic log saving, single log file size, the directory where the log is stored, row limit of log to be displayed, automatic capture of Wireshark log and so on, as shown below:

?

 \times

Set Trace Levels

QUECTEL

SXR	1	2	3	4	5	6	7	8	9	10	11	12	13	- 14	15	16	None	🛛 🗹 Auto Save Trace 🔫 🗸
PAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	None	
L1A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	None	Bin 🗹 trc 🗡
L1S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	None	Split Size 100000
LAP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	None	
RLU	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	None	Directory logs
RLD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	None	
шс	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	None	
MM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	None	Row Limit p00000
<u> </u>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	None	DB file name //2gTraceDB/traceDb.yaml
SS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	None	bb me name yzg racebb/tracebb.yann
SMS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	None	Auto reapply trace levels on reset
SM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	None	
SND	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	None	Tick in flow ID 0x80
API	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	None	Parative Event
MMI	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	None	
SIM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	None	Save Pcap
AT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	None	
M2A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	None)
STT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	None)
RRI	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	None	1. Automatic log saving
RRD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	None	2. Single log file size
RLP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	None	3. Log saving directory
HAL	WARN	TIM	10	RF	AU	LCD	SD	CAM	SPI	UART	USB	VOC	DMA	SIM	LPS	DBG	None	4. Row limit of log displaying
BCPU	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	None	5. Wireshark log automatic capture
CSW	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	None	
EDRV	WARN	PMD	MEMD	RFD	AUD	LCDD	MCD	CAMD	FMD	BTD	TSD	12	13	14	15	DBG	None)
MCI	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	None)
SVC1	WARN	AVCTLS	AVPS	AVRS	CAMS	FMG	FSS	IMSG	MPS	MRS	UCTLS	CMSS	TRACE	VOIS	VIDEO	rscmd	None	
SVC2	VPP	2	3	4	5	6	7	8	9	10	11	12	13	APS	ARS	DBG	None)
																	None)
_																		
Sa	ve		Load	1														Ok Cancel

Figure 8: Set Trace Levels

If it will take a long time to capture the log, it is recommended to set a greater value for "**Split Size**" and "**Row Limit**". The default storage directory of log is the *logs* in cooltools directory. You can modify this directory name, but please pay attention to the size of the disk space where the directory is located. You can click "**Save**" to save the log to a customized directory or copy the log from the default directory to the target directory.

NOTE

The default location of Wireshark log is the same as that of the AP log, so the Wireshark log can be automatically captured when AP log is captured.

3.2. CP Log Capture with ArmTracer

CP log is protocol stack-related log outputted by Modem. Problems related to data transmission and network need to be analyzed and solved with the captured CP log. You can capture CP log via Quectel USB CP Log Port with ArmTracer. Please refer to *ArmTracer User Guide* in the *ArmTracer/doc* directory for details.

Run *ArmTracer.exe* to open the ArmTracer. You first need to configure and confirm the log port. Generally, only the port number of "**Device Port**" needs to be configured. If it takes a long time to capture the log, it is recommended to increase the single file size (for example, 100 MB), that is, modify the value in "**Trace File Size**". After configuring, click "**OK**" to go to the next step.

If there is no CP log output, check whether the module is in dump state; if not, check whether the log output port is consistent with the port opened by the ArmTracer.

ARN - ArmTracer - Arm Tracer Tool V6.2.4 (2020.08.18)	- 🗆 ×							
	T 📧 SFT 🚺 👃 🎿 🂾 🔅 🗙 🔋 Search 🕞 🗸							
Parse Detail All	5							
Parse Window	line line line line line line line line							
COM Setting	× 1. Configure Port and File Size 2. Start							
Device Port: COM1	3. Stop							
SimType Baud Rate: 8000000	 ✓ 4. Configure Logs 							
Data Bits: 8	J. Save							
Stop Bits: 1	SC SC							
Parity Check: None Receive Buffer 20480								
Size[KB]:	Dhi							
Send Suffer 2040 Size[KB]:								
Bytes to Begin 62 Receive:								
Trace File Size 10 (Max: 100MB):	IPC IPC							
Flow Control: Off	▼ STR							
	For							
	TAK							
	SHC							
Message Detail Window	▼ ₽ ×							
Bytes 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23	24 25 26 27 28 29 30 31 ASCII							
D:\Log\Arm(21-22-11-50-640).Sn(0).tra, Sizes: 0 Speed: 0 Byte ARM LossRate ZSP LossRate: Mode: COM, Rec NUM								

Figure 9: Open and Configure ArmTracer



Then click ">" in the toolbar and the "**log setting.....**" dialog box will pop up, as shown in the following figure; or directly click "log" and the following dialog box will pop up, too. After the configuration is completed, ArmTracer starts capturing log.

ARN log setting		\times
File Info		
Saved Path:	C:\Desktop\	
Filename:	888	
Note: (year-month-day	-hour-minute-second) will be added in the logfile end)	
Extended name:	tra 🗸	
capture Data	start capture data function	
	Reconvert default OK	

Figure 10: Log File Parameter Configuration

Once the option of "**start capture data function**" in the "**log setting**....." dialog box is enabled, log is only received and saved but it cannot be decoded in real time and displayed. When the amount of data is large or when the log is saved abnormally, you can tick "**start capture data function**".

ArmTracer automatically saves the log according to the configured "**Trace File Size**". When the log capture stops, some log information may not be saved successfully because it do not reach the configured size.

At this time, click "]" in the toolbar to save the log.

If you need ArmTracer to automatically detect the CP port and save the CP log after the module boots, open the *ArmTracer.ini* file in the directory after decompressing ArmTracer package, add "Quectel USB CP Log Port" to "DeviceList", and set "DeviceSel" to "Quectel USB CP Log Port", as shown below:







Restart ArmTracer and click "I in the toolbar and "Software Setting" dialog box will pop up, as shown below. In the drop-down box of "USB Device Description", select "Quectel USB CP Log Port", tick "Automatic Detect CP Port" and click "OK".

- ArmTracer - Arm Tracer Tool	V6.1.9 (2020.03.27)	1 📼 🛤 AT 🛤 SFT 🕅 👃 🙏 🎮 🚳 🔀
Parse Detail All Lay3	NC SIM 1 NC SIM 2	
Parse Window 🔻 🖣 🗙	ARM Software Setting: Software Setting: Frame Head ID:	OxBBBB ~
	USB Device Description: USB Device:	Quectel USB CP Log Port
	OK	Cancel

Figure 12: Automatic Detect CP Port

Having modified ArmTracer software configuration, you can reset "**Device Port**" and "**Trace File Size**", as shown in *Figure 9*. Click "▶" to start capturing CP log. In this setting, CP log is automatically saved when the module shuts down. When the module boots next time, ArmTracer will automatically detect the CP port and save the log.

3.3. AP Dump Analysis and Saving

This chapter introduces how to analyze and save the AP dump. To get the information about how to analyze CP dump, please contact Quectel Technical Support (<u>support@quectel.com</u>).

3.3.1. GDB Analysis of AP Dump

When there is a dump in AP, click **"Tools"** in navigation bar, select **"GDB Launcher**" in the drop-down box and perform real-time analysis with the software version ELF file. Please refer to *Coolwatcher User Guide* in the *cooltools/doc* directory for details.



Tools Help						
Access Mode	1					
GDB Launcher			Ð	× Re	gister \	M
Load ELF File				Re	gister '	N
SX Heap Report			1		- ame	v
Heap Report (new)						
Elf Data Check						
Register Viewer						
Profile Dump (v2.0)						
Blue Screen Dump	1	🦉 GDB Launcher		ſ	×	
Memory dump				_		
	,	GDB Executable			Ø	
4) opened (#CURRENTCONNE	CTION).	GDB server port	26331			
M4) opened.		ELF	17_XXXX_SDK/target/appimage_release/appimage	e.elf	Ø	
M4) opened.		Mode	8910 AP	•		
ened.			[Laur	nch	

Figure 13: Launch GDB

In the "GDB Launcher" dialog box, select the "ELF" file corresponding to the software version package, select "8910 AP" for "Mode", and click "Launch" to start analyzing.

3.3.2. AP Dump Saving

Use cooltools to save dump file for offline analysis. Click "**Tools**" in the navigation bar, select "**Blue Screen Dump**" in the drop-down box, and configure the ELF file and output path in the pop-up dialog box. Please refer to *Coolwatcher User Guide* in the *cooltools/doc* directory for details. The Blue Screen Dump startup steps are shown in the following figure:

Tools	Help								
A	ccess Mo	ode 🔸 📔							
G	iDB Laund	her		ē>	Regis	ter Watche	er		
Lo	oad ELF F	ile			Regis	ter Watch	🔄 🔠 🤝		
S	X Heap R	leport		^	Nam	e Value	Address	Size	Re
н	leap Repo	ort (new)							
E	lf Data Cl	neck							
R	egister Vi	iewer							
Pi	rofile Dur	mp (v2.0)							
B	lue Scree	n Dump							
N	1emory d	lump							
		Blue Scree	en Dump	?	×	Watcher			
		Mode	8910 (FreeRTOS)			ss Ox	Size	32	R
		XML file nam	chipgen/Modem2G/toolpool/map/elfdump/8910.xml						
		Elf file name	G:/A_chip/8910/lod/8910C_catm/8910C_catm_em610_V1.elf						
		Output Direc	tory BlueScreen						
		STUB_PER	Start	St	op				





3.3.3. Offline Analysis of AP Dump

Please refer to **Chapter 4.5** and **Chapter 4.7** in Coolwatcher User Guide in the cooltools/doc directory for analysis.

4 AP Log Port Configuration

4.1. AP Log Port Configuration API

4.1.1. ql_log_set_port()

This function configures AP log port.

• Prototype

ql_errcode_log_e ql_log_set_port(ql_log_port_e dst_port)

• Parameter

dst_port:

[In] The AP log port to be set.

- 0 Disable AP log port
- 1 Debug Port
- 2 USB AP Log Port (default)

Return Value

QL_LOG_SUCCESS QL_LOG_PORT_SET_ERR QL_LOG_INVALID_PARAM_ERR Successful execution Failed execution Parameter error

4.2. AP Log Port Configuration AT Command

4.2.1. AT Command Introduction

4.2.1.1. Definitions

- **<CR>** Carriage return character.
- **<LF>** Line feed character.
- <...> Parameter name. Angle brackets do not appear on the command line.
- [...] Optional parameter of a command or an optional part of TA information response. Square brackets do not appear on the command line. When an optional parameter is not given in a command, the new value equals to its previous value or the default settings, unless otherwise specified.
- **<u>Underline</u>** Default setting of a parameter.

4.2.1.2. AT Command Syntax

All command lines must start with **AT** or **at** and end with **<CR>**. Information responses and result codes always start and end with a carriage return character and a line feed character: **<CR><LF><response><CR><LF>**. In tables presenting commands and responses throughout this document, only the commands and responses are presented, and **<CR>** and **<LF>** are deliberately omitted.

Table 1: Types	of AT	Commands
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Command Type	Syntax	Description
Test Command	AT+ <cmd>=?</cmd>	Test the existence of corresponding Write Command and return information about the type, value, or range of its parameter.
Read Command	AT+ <cmd>?</cmd>	Check the current parameter value of a corresponding Write Command.
Write Command	AT+ <cmd>=<p1>[,<p2>[,<p3>[]]]</p3></p2></p1></cmd>	Set user-definable parameter value.
Execution Command	AT+ <cmd></cmd>	Return a specific information parameter or perform a specific action.

4.2.2. AT Command Description

4.2.2.1. AT+QDBGCFG="tracecfg"

AT+QDBGCFG="tracecfg" Conf	igure AP Log Port
Write Command	Response
AT+QDBGCFG="tracecfg", <type>,<p< td=""><td>OK</td></p<></type>	OK
ort>	Or
	ERROR
Maximum Response Time	300 ms
Characteristics	This command takes effect after the module is booted.
Characteristics	The configuration will be saved automatically.

Parameter

<type></type>	Integer type. Log type.			
	0	AP log		
	1	CP log		
<port></port>	Integer	type. Serial port number.		
	When <	type> is 0:		
	0	No AP log is outputted.		
	1	Debug UART		
	<u>2</u>	USB AP log port		
	When <	type> is 1:		
	0	CP UART		
	2	No CP log is outputted.		
	<u>5</u>	USB CP log port		



5 Appendix References

Table 2: Related Document

Document Name

[1] Quectel_EC200U_Series_QuecOpen_CSDK_Quick_Start_Guide

Table 3: Terms and Abbreviations

Abbreviation	Description
AP	Application Processor
API	Application Programming Interface
СР	Communication Processor
EVB	Evaluation Board
GDB	GNU Debugger
IoT	Internet of Things
RTOS	Real-Time Operating System
USB	Universal Serial Bus