

Coolwatcher_User Guide

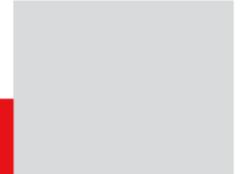
BC25&BC32&BC65&BC92&BC95B5R&BC95B8R&BC35GR

Module Series

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About the Document

Revision History

Version	Date	Author	Description
-	2022-12-01	Herbert Pan	Creation of the document

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1 Foreword

In this document, it illustrates how to capture DEBUG log on BC25/BC32/BC35GR/BC95B5R/BC95B8R /BC65/BC92 Series under LPWA modules. In addition, it can be available to capture DEBUG log of such above modules in a fast and effective way via this document. Finally, it can be implemented on relevant applicable analysis based on certain contents.

1.1. Scope

Tools	Manufacturer Revision	Applicable Module Type
Coolwatcher	AT+CGMI/RDA_89xx	BC25/BC32/BC35-GR/BC95-B5R/BC95-B8R/BC65/BC92

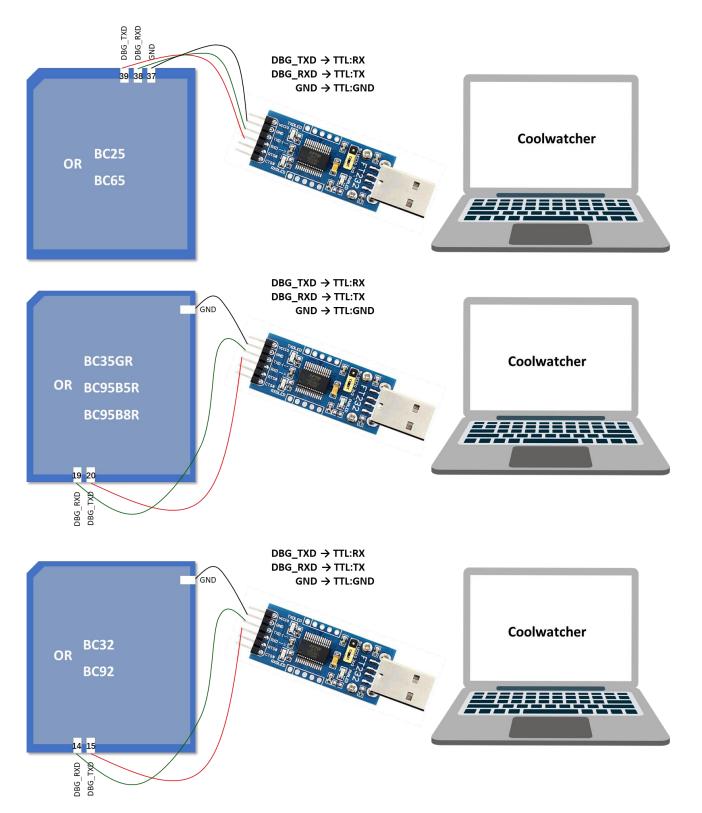
1.2. Download

atcher cooltools-win32_custom_P3.R2.0.0005.ra
cooltools-win32_custom_P3.R2.0.00

1.3. Device Connection

If the module has been welded or debugged separately, it is recommended to connect to the Coolwatcher and capture log as shown below.





If the TE-B corresponding to BC25/BC32/BC35-GR/BC95-B5R/BC95-B8R/BC65/BC92 module is used, please select the second COM port (XR21V1412 USB UART ChB) in the "Port" under the drop-list of "Device Manager".



2 Installation

Being installation-free, it is available to run Coolwatcher after being tarried. Run *coolwatcher_debughost.exe* in the directory of *\cooltools-win32_custom_P3.R2.0.0005*.



Coolwatcher icon

3 Connection

Before connecting to the device, run AT command **AT^TRACECTRL=1** via the main UART to enable debugging output. It is recommended to disable it via executing AT command **AT^TRACECTRL=0** after capturing log.

AT^TRACECTRL=1

Click the Coolwatcher icon above and following that the configuration window as shown below will be displayed. Select "8910" for Profiles; while for "lastcomport", please select corresponding debug port. See following figure for specific.



5	The following list displays t	he pairs of key/values contained in	each of the available profiles.	
fpga	Five of them are mandatory	y:		
ipga	* hardXmd : root XMD file * softXmd : root XMD file o * project : name of the pro	of your software environment. describing the hardware memory describing the software memory n ject you're working on. ript. Put 'CoolWatcher/cwuser.rb' if	nap of the target's code.	
	Кеу		Value	
	chipDie	8910		
	elfdumpSetting	chipgen/Modem2G/toolpool/r	map/elfdump/8910.xml	
	gdbExe	E:/NB_Firmware/EC200UCNAA	R01A04M08/EC200UCNAAR01A04M08/8915DM_cat1_EC200UCNAAR01A04M08.pac	
	lastBlueScreenDumpDirNa	me BlueScreen		
	lastBlueScreenDumpMode	STUB_PERI		
	lastElfFileName	E:/NB_Firmware/EC200UCNAA	R01A04M08/EC200UCNAAR01A04M08/8915DM_cat1.elf	
	lastElfForDebug	E:/NB_Firmware/EC200UCNAA	R01A04M08/EC200UCNAAR01A04M08/8915DM_cat1.elf	
	lastFlashProgForFastpf	E:/???/cooltools-win32_custom	_P3.R2.0.0005/chipgen/Modem2G/toolpool/plugins/fastpf/flash_programmers/h	
	lastLodForRomburn			
	lastParsePrfForRecord	E:/LOG/day0409.prf		
	lastcomport	43	Debug Port	
	pathToGDB	/cygwin/coolgdb/bin		
	restartAfterCrashDump	0		× 1
New	tracerSetting	rbbase/common/plugins/trace	er/default2g.ini	

If it succeeds to connect to device, following window will be outputted.

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Ruby Script General Desc HW Lib SW Lib		Address 0x	Size 32	Regroup 🗌 32 🔲 16 🗹 8	🐚 🗌 Auto
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Select "Activate Tracer" in "Plugins" as described below and open log trace window.



🥙 CoolWatcher Developer with profile 8910

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<u>ግ ዋ</u>	Activate BufferProfile Activate Flamulator				
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> load 'Cooli	Watcher/cwuser.rb'	/in32_custom_P3.R2.0.0005/profil	.es"		
[Project set	to 8809 for [CT8851]] on plugin BufferProfile				
Loading comm	on plugin disassembly	-			
	on plugin flamulator on plugin keypad				
Loading comm	on plugin tracer				
Loading plug: Loading plug:	in cwmodem2ggui				
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Opening Chip	on COM43				
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Connecti	on RegWatch Connection (C	COM43) opened.			
Connectio	on Event Sniffer (COM43)	opened.			
Connection	on BufWatch Connection (C	COM43) opened.			
Done.					
🖉 [COM OPEI	N OK]				
Event sniffer	r (re)starting. (Connecti ile script : 8910.rb	lon: Event Sniffer (COM43))			
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Click "Set Trace Levels" in the menu of "Tracer" or the icon shown in "Trace tool" to select all log types correspondingly. In addition, it is suggested to tick "Save Pcap".



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	RUP 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 All None	
	HAL WARN TIM IO RF AU LCD SD CAM SPI UART USB VOC DMA SIM LPS DBG All None	
	BCPU 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 All None	
	CSW 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 All None	
	EDRV WARN PMD MEMD RFD AUD LCDD MCD CAMD FMD BTD TSD 12 13 14 15 DBG All None	
	MCI 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 All None	
	SVC1 WARN AVCTLS AVPS AVRS CAMS FMG FSS IMSG MPS MRS UCTLS CMSS TRACE VOIS VIDEO SCMD AIL (None)	
	SVC2 VVP 2 3 4 5 6 7 8 9 10 11 12 13 APS ARS DBG AII None	
	All None	
	Save Load Ok Cancel	

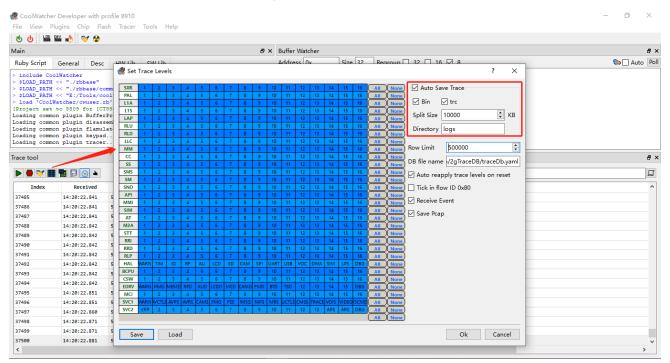
Click "Start/Stop Tracer" in the menu bar or the icon as shown below to start or stop tracing log.

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Index	Received	Tick	Level	Description	
5244	14:17:37.161	30460		Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x302D0=2,0x302C8=18369,0x302C4=50376	
	14:17:37.161 14:17:37.172	30460 30624		Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IinNo 1248, 0x302D0=2,0x302C8=18360,0x302C4=50376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IinNo 1248, 0x302D0=2,0x302C8=18360,0x302C4=50376	
5245					
5245 5246	14:17:37.172	30624		Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x302D0=2,0x302C8=18369,0x302C4=50376	
5245 5246 5247	14:17:37.172 14:17:37.172	30624 30788		Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200=2,0x302C8=18369,0x302C4=50376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x302D0=2,0x302C8=18369,0x302C4=50376	
5245 5246 5247 5248	14:17:37.172 14:17:37.172 14:17:37.182	30624 30788 30788		Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0X30200=2,0X302C8=18369,0X302C4=58376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0X30200=2,0X302C8=18369,0X302C4=58376 Longterm LIIF_FINE_TM_RSP: sSTMErr=-13, adjTimeErr=0, uSSfn =893, uCSf =8, adjCnt = 255	
5245 5246 5247 5248 5249	14:17:37.172 14:17:37.172 14:17:37.182 14:17:37.182	30624 30788 30788 30952		Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0X30200=2,0X302C8=18369,0X302C4=58376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0X30200=2,0X302C8=18369,0X302C4=58376 Longterm LIIF_FINE_TM_RSP: sSTMErr=-13, adjTimeErr=0, uSSFn =893, uCSF =8, adjCnt = 255 Longterm LIIF_AFC_CAL_RSP: sSAFCval=6, adjFreqErr = 0, count = 76 255 255, uSSFn = 894, CalDur = 4, AGC -71	
5245 5246 5247 5248 5249 5250	14:17:37.172 14:17:37.172 14:17:37.182 14:17:37.182 14:17:37.187	30624 30788 30788 30952 30952		Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200=2,0x302C8=18369,0x302C4=50376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200=2,0x302C8=18369,0x302C4=50376 Longterm LIFF_FINE_TM_RSP: sSTMErr=-13, adjTimeErr=0, uSSfn =803, uCSf =8, adjCnt = 255 Longterm LIFF_AFC_CAL.RSP: sSAfCVal=6, adjFreqErr 0, contr = 76 255 525, USSfn =804, CalDur = 4, AGC -71 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x3020=2,0x302C8=18369,0x302C4=50376	
5245 5246 5247 5248 5249 5250 5250 5251	14:17:37.172 14:17:37.172 14:17:37.182 14:17:37.182 14:17:37.182 14:17:37.187 14:17:37.191	30624 30788 30788 30952 30952 31066		Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200=2,0x302C8=18369,0x302C4=50376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200=2,0x302C8=18369,0x302C4=50376 Longterm: LITF_FINE_TM_RSP: ssTmETr=-13, adjTimeEtr=0, usfn =893, ucsf =8, adjCnt = 255 Longterm: LITF_FC_CAL_RSP: ssAfcVal=6, adjFreqErr = 0, count = 76 255 255, ussfn = 894, CalDur = 4, AGC -71 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200=2,0x302C8=18369,0x302C4=50376 DL: MEAS_SPECIAL_COM_CFG, func=4, SsSGenEn=0, MibGenEn=0, pbchPayload[0]=0x28	
5245 5246 5247 5248 5249 5250 5251 5251 5252	14:17:37.172 14:17:37.172 14:17:37.182 14:17:37.182 14:17:37.187 14:17:37.187 14:17:37.191 14:17:37.282	30624 30788 30788 30952 30952 31066 31116		Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x302D0=2,0x302C8=18369,0x302C4=50376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x302D0=2,0x302C8=18369,0x302C4=50376 Longterm LITF_FINE_MLRSP: sSTmErr=-13, adjimetr=0, usSfn =893, ucSf =8, adjCnt = 255 Longterm LITF_FICAL_RSP: ssAfcVal=6, adjFreqErr = 0, count = 76 255 255, usSfn = 894, CalDur = 4, A6C -71 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x302Da=2,0x302C8=18369,0x302C4=50376 DL: MEAS_SPECIAL_COM_CFG, func=4, SsS6enEn=0, MibGenEn=0, pbchPayload[0]=0x88 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x302Da=2,0x302C8=18369,0x302C4=50376	
5245 5246 5247 5248 5249 5250 5250 5251 5252 5252 5253	14:17:37.172 14:17:37.172 14:17:37.182 14:17:37.182 14:17:37.187 14:17:37.187 14:17:37.187 14:17:37.202 14:17:37.202	30624 30788 30788 30952 30952 31066 31116 31279		Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200+2,0x302C8+18369,0x302C4+58376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200+2,0x302C8+18369,0x302C4+58376 Longterm LIFF_FIME_TM_RSP: ssTMErr+-13, adjTimeErr+0, usSfn =893, uSSf =8, adjCnt = 255 Longterm LIFF_FIME_TM_RSP: ssTMErr+-13, adjTreEFr+0, uSSfn =893, uSSf =894, CalDur = 4, AGC -71 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200+2,0x302C8+18369,0x302C4+58376 DL: MEA_SPECIAL_COM_CFG, func+4, SSGenEnd-0, MibGenEnd-0, pbchPayload[0]=0x88 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200+2,0x302C8+18369,0x302C4+58376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200+2,0x302C8+18369,0x302C4+58376	
5245 5246 5247 5248 5249 5250 5251 5252 5252 5253 5253 5254	14:17:37.172 14:17:37.172 14:17:37.182 14:17:37.182 14:17:37.182 14:17:37.191 14:17:37.202 14:17:37.202 14:17:37.202	30624 30788 30788 30952 30952 31066 31116 31279 31280		Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200=2,0x302C8=18369,0x302C4=50376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200=2,0x302C8=18369,0x302C4=50376 Longterm LIF_FINE_TM_RSP: ssTmErr=-13, adjTimeErr=0, ussfn =039, ucsf =8, adjCnt = 255 Longterm LIF_FAC_CLA.ERP: ssAfCval6=, adjFreeErr =0, count = 76 255 255, ussfn = 834, Calour = 4, AGC -71 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200=2,0x302C8=18369,0x302C4=50376 DL: MEAS_SFECTAL_COM_CFG, func=4, ssSenen=0, MtDbenen=0, pbchPayload[0]=0x86 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1240, 0x30200=2,0x302C8=18369,0x302C4=50376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1240, 0x30200=2,0x302C8=18369,0x302C4=50376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1240, 0x30200=2,0x302C8=18369,0x302C4=50376 TIMING(rRX_GLB_CNT, rTX_GLB_CNT, rTX_RF_DELAY):(0x35e9,0x25e9,0x12f0)	
5245 5246 5247 5248 5259 5250 5251 5252 5253 5254 5255	14:17:37.172 14:17:37.172 14:17:37.182 14:17:37.182 14:17:37.181 14:17:37.181 14:17:37.191 14:17:37.202 14:17:37.202 14:17:37.202 14:17:37.211	30624 30788 30788 30952 30952 31966 31116 31279 31280 31296		Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x302D0=2,0x302C8=18369,0x302C4=50376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x302D0=2,0x302C8=18369,0x302C4=50376 Longterm: LIT_FINETM_RSP: ssTmErr=13, adjTimetr=0, usfn =839, ucsf =8, adjCnt = 255 Longterm: LIT_FC_CAL_RSP: ssAfcVal=6, adjFreqErr =0, count = 76 255 255, ussfn = 894, calDur = 4, AGC -71 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x302D0=2,0x302C8=18369,0x302C4=50376 DL: MEAS_SPECIAL_COM_CFG, func=4, SsSGenEn=0, MibGenEn=0, pbchPayload[0]=0x68 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x302D0=2,0x302C8=18369,0x302C4=50376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x302D0=2,0x302C8=18369,0x302C4=50376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x302D0=2,0x302C8=18369,0x302C4=50376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x302D0=2,0x302C8=18369,0x302C4=50376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248,0x302D0=2,0x302C8=18369,0x302C4=50376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248,0x302D0=2,0x302C8=18369,0x302C4=50376 LINING(RKZ,LB_CMT,FTX_RE,DLHY):(0x356+0,0xc5e9,0xc5e9,0x12f0) DL: LIIF_RS_SF_CFG(896,9), cur 0x3df, next 0x1df	
5245 5246 5247 5248 5249 5250 5251 5252 5253 5253 5254 5255 5256	14:17:37.172 14:17:37.172 14:17:37.182 14:17:37.182 14:17:37.187 14:17:37.187 14:17:37.202 14:17:37.202 14:17:37.202 14:17:37.201 14:17:37.211	30624 30788 30788 30952 31066 31116 31279 31280 31296 31243		Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200+2,0x302C8+18369,0x302C4=58376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200+2,0x302C8+18369,0x302C4=58376 Longterm LIF_FLNE_TMLRSP: ssRFCral-3, adjfreqErr =0, usSfn =893, uSSf =8, adjCnt = 255 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200+2,0x302C8+18369,0x302C4=58376 DL: MEA_SPECIAL_COM_CFG, func=4, SsSGenEn=0, MibGenEn=0, pbchrayload[0]=0x88 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200+2,0x302C8+18369,0x302C4=58376 DL: MEA_SPECIAL_COM_CFG, func=4, SSSGenEn=0, MibGenEn=0, pbchrayload[0]=0x88 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200+2,0x302C8+18369,0x302C4=58376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200+2,0x302C8+18369,0x302C4=58376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200+2,0x302C8+18369,0x302C4=58376 DL: LIF_SR_SF_CFG(0S6,0), Cnt 0x3df, mcxt 0xidf Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200+2,0x302C8+18369,0x302C4=58376 DL: LIF_SR_SF_CFG(0S6,0), Cnt 0x3df, mcxt 0xidf Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200+2,0x302C8+18369,0x302C4=58376	
5244 5245 5246 5247 5248 5250 5250 5251 5253 5253 5255 5256 5255 5256	14:17:37.172 14:17:37.172 14:17:37.182 14:17:37.182 14:17:37.187 14:17:37.187 14:17:37.202 14:17:37.202 14:17:37.202 14:17:37.202 14:17:37.212 14:17:37.212	30624 30788 30788 30952 30952 31066 31116 31279 31280 31296 31296 31243 31244		Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200=2,0x302C8=18369,0x302C4=50376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200=2,0x302C8=18369,0x302C4=50376 Longterm LIF_FINE_TM_RSP: ssTMErr=-13, adjTimeErr=0, ussfn =039, ucsf =0, adjCnt = 255 Longterm LIF_AFC_CAL_RSP: ssAftvale, a differefir =0, cont = 76 255 255, ussfn = 834, CalDur = 4, AGC -71 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200=2,0x302C8=18369,0x302C4=50376 DL: MEX_SPECTAL_COM_CF6, func=4, SsSGenEn=0, MibSenEn=0, pbchPayload[0]=0x88 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200=2,0x302C8=18369,0x302C4=50376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200=2,0x302C8=18369,0x302C4=50376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IirNo 1248, 0x30200=2,0x302C8=18369,0x302C4=50376 TURING(FRX_GLB_CNT,FTX_GLB_CNT,FTX_GF_DELYY):(0x35e9,0xC5e9,0x12f0) DL: LIF_RS_SF_CFG(896,9), Cut 0, codf, nett 0xdf Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IIrNo 1248, 0x3020=2,0x302C8=18369,0x302C4=50376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IIrNo 1248, 0x3020=2,0x302C8=18369,0x302C4=50376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IIrNo 1248, 0x3020=2,0x302C8=18369,0x302C4=50376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IIrNo 1248, 0x3020=2,0x302C8=18369,0x302C4=50376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IIrNo 1248, 0x3020=2,0x302C8=18369,0x302C4=50376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IIrNo 1248, 0x3020=2,0x302C8=18369,0x302C4=50376 Longterm: SNR 18, signal 12, noise -7, Md 0, Cnt 0, IIrNO 1248, 0x3020=2,0x302C8=18369,0x302C4=50376 Longterm LIF_FINE_TM_RSP: ssTMErr=-13, adjTimeErr=0, usSfn =037, ucSf =8, adjCnt = 255	

4 Save Log

4.1. Auto Save

Select "Set Trace Levels" in the menu of "Tracer" or the icon shown as below, tick Auto Save, and set the path to save log correspondingly. Normally, the \coolTools-win32_custom_P3.R2.0.0005 \logs will serve as the default path to save log; under which the Pcap file is located in the directory of \cooltools-win32_custom_P3.R2.0.0005 \logs \cap.



4.2. Manual Save

It is available to select "Save Trace" in the menu of "Tracer" or save by the method as described below.



CoolWatcher Developer with profile 8910

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File View I	Plugins Chip Fl	ash Tracer Tool	s Help					
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Main				8 ×	Buffer Watcher			8 ×
Ruby Script	General Desc	HW Lib SW	/ Lib		Address 0x	Size 32	Regroup 🗌 32 🔲 16 🗹 8	🐚 🗌 Auto 🛛 Pol
<pre>> \$LOAD_PATH > \$LOAD_PATH > load 'Cool [Project set Loading comm Loading comm Loading comm</pre>	H << "./rbbase" H << "./rbbase/c	ooltools-win32_c rb' T8851]] rProfile sembly lator d	rustom_P3.R2.(>.0005/profiles"				
Trace tool	Save	Log						e ×
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Index	Received	Tick	Level				Description	^
37485	14:20:22.841	57976		NL1C_MEAS: RSRP CFG 0, M	leasType 6			
37486	14:20:22.841	57979		Longterm L1IF_AFC_CAL_RS	SP: ssAfcVal=-1, adjF	reqErr = 0, co	unt = 255 255 255, usSfn = 51, CalDur = 4, AGC -71	
37487	14:20:22.841	57979		Longterm: SNR 15, signal	l 12, noise -3, Md 0,	Cnt 0, IirNo	1248, 0x302D0=2,0x302C8=18369,0x302C4=50469	
37488	14:20:22.842	57982		err curState and optype	2 440d			
37489	14:20:22.842	57982		asn20_20setRrcMemory v_a	asn_memStartIndexRrc	0, v_asn_memIr	dex 0	
37490	14:20:22.842	57982		errc03_21EL1_IDLE_MEAS_F	RESULT_IND			
37491	14:20:22.842	57983		errc33_182isIdleMeasResu	ultvalid			
37492	14:20:22.842	57984		errc33_108 (3688 -1, 12	21) rsrp 63 rsrq 2	7 sV 44 sQ	39 rn -75 snr15	
37493	14:20:22.842	57984		errc33_101saveNbLteFreqM	MeasResult			
37494	14:20:22.842	57985		asn20_10freeAllRrcMemory	/ v_asn_memStartIndex	Rnc 0, v_asn_r	emIndex 0	
37495	14:20:22.851	58135		Longterm: SNR 14, signal	l 12, noise -3, Md 0,	Cnt 0, IirNo	1248, 0x302D0=2,0x302C8=18369,0x302C4=50469	
37496	14:20:22.851	58299		Longterm: SNR 15, signal	l 12, noise -3, Md 0,	Cnt 0, IirNo	1248, 0x302D0=2,0x302C8=18369,0x302C4=50469	
37497	14:20:22.860	58299		Longterm L1IF_FINE_TM_RS	5P: ssTmErr≡7, adj⊤in	eErr=0, usSfn	=53, ucSf =8, adjCnt = 255	
37498	14:20:22.871	58462		Longterm: SNR 15, signal	l 12, noise -3, Md 0,	Cnt 0, IirNo	1248, 0x302D0=2,0x302C8=18369,0x302C4=50469	
37499	14:20:22.871	58626		Longterm L1IF_AFC_CAL_RS	5P: ssAfcVal=-2, adjF	reqErr = 0, co	unt = 255 255 255, usSfn = 55, CalDur = 4, AGC -71	
37500	14:20:22.881	58627		Longterm: SNR 15, signal	l 12, noise -3, Md 0,	Cnt 0, IirNo	1248, 0x302D0=2,0x302C8=18369,0x302C4=50469	×
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5 Common Analytical Application

5.1. Import Log

Currently, Notepad++ or UltraEdit can be applied to query or analyse Log; Or it is also available to import log via Coolwatcher. In the menu of "Tracer", choose "Load Trace (bin)" and select corresponding *xxx.bin* file.



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Main			Stop Tracer	🗗 🗙 Buffer Watcher	Ð
Ruby Script	General Desc		Clear Trace	Address 🔯 Size 32 Regroup 🗌 32 🔲 16 🗹 8	🐚 🗌 Auto 🛛
> \$LOAD_PATH	<< "./rbbase" << "./rbbase/co		Clear Search Show/Hide •		
> load 'CoolW [Project set Loading commo Loading commo Loading commo Loading commo	<< "E:/Tools/co Natcher/cwuser.r to 8809 for [CT un plugin Buffer un plugin disass n plugin flamul un plugin keypad un plugin tracer	b' 885 Pro emb ato	Set Trace Levels Reapply Trace Levels Reload DB Load Settings Save Settings	0005/profiles"	
Trace tool			Load TFG		Ð
			Save TFG		
🕨 🛑 🏹 🖩	1		Load Trace (bin)		E
Index	Received		Save Trace (bin/trc)	Description	,
1	15:43:28.724	59937		Longterm: SNR 17, signal 12, noise -6, Md 0, Cnt 0, IirNo 1248, 0x302D0=2,0x302C8=18369,0x302C4=50469	
2	15:43:28.724	60101		Longterm: SNR 17, signal 12, noise -5, Md 0, Cnt 0, IirNo 1248, 0x302D0=2,0x302C8=18369,0x302C4=50469	
3	15:43:28.724	60101		TIMING(rRX_GLB_CNT,rTX_GLB_CNT,rTX_RF_DELAY):(0x85e7,0xc5e7,0x12f0)	
4	15:43:28.724	60264		Longterm: SNR 17, signal 12, noise -6, Md 0, Cnt 0, IirNo 1248, 0x302D0=2,0x302C8=18369,0x302C4=50469	
5	15:43:28.724	60265		Longterm L1IF_FINE_TM_RSP: ssTmErr=7, adjTimeErr=0, usSfn =465, ucSf =8, adjCnt = 255	
6	15:43:28.724	60428		Longterm: SNR 17, signal 12, noise -6, Md 0, Cnt 0, IirNo 1248, 0x302D0=2,0x302C8=18369,0x302C4=50469	
7	15:43:28.724	60592		Longterm L1IF_AFC_CAL_RSP: ssAfcVal=1, adjFreqErr = 0, count = 255 255 255, usSfn = 467, CalDur = 4, AGC -71	
8	15:43:28.724	60593		Longterm: SNR 17, signal 12, noise -6, Md 0, Cnt 0, IirNo 1248, 0x302D0=2,0x302C8=18369,0x302C4=50469	
9	15:43:28.724	60756		Longterm: SNR 17, signal 12, noise -5, Md 0, Cnt 0, IirNo 1248, 0x302D0=2,0x302C8=18369,0x302C4=50469	
10	15:43:28.724	60920		Longterm: SNR 17, signal 12, noise -6, Md 0, Cnt 0, IirNo 1248, 0x302D0=2,0x302C8=18369,0x302C4=50469	
11	15:43:28.724	60920		Longterm L1IF_FINE_TM_RSP: ssTmErr=7, adjTimeErr=0, usSfn =469, ucSf =8, adjCnt = 255	
12	15:43:28.724	61084		Longterm: SNR 17, signal 12, noise -6, Md 0, Cnt 0, IirNo 1248, 0x302D0=2,0x302C8=18369,0x302C4=50469	
13	15:43:28.724	61247		Longterm L1IF_AFC_CAL_RSP: ssAfcVal=0, adjFreqErr = 0, count = 255 255 255, usSfn = 471, CalDur = 4, AGC -71	
14	15:43:28.724	61248		Longterm: SNR 17, signal 12, noise -6, Md 0, Cnt 0, IirNo 1248, 0x302D0=2,0x302C8=18369,0x302C4=50469	
15	15:43:28.724	61411		Longterm: SNR 17, signal 12, noise -6, Md 0, Cnt 0, IirNo 1248, 0x302D0=2,0x302C8=18369,0x302C4=50469	
16	15:43:28.724	61575		Longterm: SNR 17, signal 12, noise -6, Md 0, Cnt 0, IirNo 1248, 0x302D0=2,0x302C8=18369,0x302C4=50469	

5.2. Filter Log

In this chapter, it tells how to filter log in Coolwatcher via inputting corresponding keywords. In addition, it

supports filtering in a way of RE (Regular Expression) based on vertical bar "|".

Image: State of the state o	sc HW Lib S consmon" cooltools-win32 creesl] sembly ulator ad er	cols-win32_custom_P? iii) ii	evel NAS f5mmc mmc cur5 1, cur5 NAS f5mmc mmc cur5 1, cur5	iuffer Watcher ddress Ox Size 32 5 1, pre5 1, opt 0x00001732 y ERAD_CNF: index=0x0125, iem=2	Regroup 32 16 8 input keywords then press Enter [Eventr[nas]servingcell Description	ð Auto Po
<pre>> include ColWatcher > iLOAD_PATH << "./tbbase/c iLOAD_PATH <!-- r--> </pre>	common" cooltools-win32 .rb' CT0051]) ssemby ulator ad er	on" cools-win32_custom_Pi iii) ii	evel NAS f5mmc mmc curS 1, curS NAS f5mmc mmc curS 1, curS	5 1, pre5 1, opT @x00001732	input keywords then press Enter Eventr nas servingcell Description	6
<pre>> include ColWatcher > iLOAD_PATH << "./tbbase/c iLOAD_PATH <!-- r--> </pre>	common" cooltools-win32 cree5i]] erProfile ssembly ulator ad er fick 45431 45441 45442	cols-win32_custom_P? iii) ii	evel NAS fsmmc mmc curs 1, curs NAS:mmc82_81H08I_SAP_BINAR		Eventr[nas servingcell Description	Ø
Image Received 1 15:59:27,340 2 15:59:27,340 3 15:59:27,340 4 15:59:27,340 5 15:59:27,340 c 15:59:27,340 2 15:59:27,340 5 15:59:27,340 4 15:59:27,340 5 15:59:27,340 4 15:59:27,340	Tick 45437 45441 45442	5437 5441 5442	NAS fsmmmc mmc curS 1, curS NAS:mmc02_01MOBI_SAP_BINARY		Eventr[nas servingcell Description	
Index Received 1 15:59:27,340 2 15:59:27,340 3 15:59:27,340 4 15:59:27,340 5 15:59:27,340 c 15:59:27,340 1 15:59:27,340 1 15:59:27,340 1 15:59:27,340 1 15:59:27,340 1 15:59:27,340	Tick 45437 45441 45442	5437 5441 5442	NAS fsmmmc mmc curS 1, curS NAS:mmc02_01MOBI_SAP_BINARY		Description	
1 15:59:27,340 2 15:59:27,340 3 15:59:27,340 4 15:59:27,340 5 15:59:27,340 5 15:59:27,340 5 15:59:27,340 5 15:59:27,342	45437 45441 45442	5437 5441 5442	NAS fsmmmc mmc curS 1, curS NAS:mmc02_01MOBI_SAP_BINARY			^
2 15:59:27,340 3 15:59:27,340 4 15:59:27,340 5 15:59:27,340 5 15:59:27,340 15:59:27,340 231 15:59:27,342	45441 45442	5441 5442	NAS:mmc02_01MOBI_SAP_BINAR)			
3 15:59:27.340 4 15:59:27.340 5 15:59:27.340 2 Index Index Received 231 15:59:27.342	45442	5442	NAS:mmc02_01MOBI_SAP_BINAR)			
4 15:59:27.340 5 15:59:27.340 Comparison of the second s				Y_READ_CNF: index=0x0125, len=1		
5 15:59:27.340 Index Received 231 15:59:27.342	45446				L	
Index Received 231 15:59:27.342	+5440	5446	MOBI_SAP_BINARY_READ_CNF Da			
Index Received 231 15:59:27.342	45447	5447	NAS:sdb plmnStoreHpplmnTime	er: timerInterval=80. HolmnTime	erLen=864000000	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
231 15:59:27.342	Tick	wish is	evel		Description	
	48367			5 1, preS 1, opT 0x00001729	bescription	
	48367			D READ CNF: index=0x0171, recNu	m 1 Jan 100	
234 15:59:27.342	48380		NAS:sdb_simStoreEpsNsc: inv		m=1, 18n=100	
235 15:59:27.342	48380			dFile: optionalCardFile=0x00000	1000 index-200	
236 15:59:27.342	48380		NAS:mmc96_194RestoreTimerBa		2000) 2000-202	
237 15:59:27.342	48381			num=0, duration=0, powernOn=1		
238 15:59:27.342	48381		NAS:mmc99_61createEMM_STATU			
241 15:59:27.342	48386		NAS:mmc96_93traceInformatic			
242 15:59:27.342		8386	-		=0, UplmnNum=0, OplmnNum=9, FplmnNum=0	

5.3. Common Keywords for Filtering

Camp Cell	II cell search Servcell frequency ServingRSRP			
AT Command	AT CMD0			
NAS/AS message	EventReport NAS:data			
Data Analysis	AT CMD0 RAB:rab03 NAS:esm03 NAS:esm11 NAS:esm10 NAS:emm00 EventReport NAS:data errc06_26 errc00_32 cpDataCnfCount CFN:			

5.4. Export Pcap

Select "Set Trace Levels" in the menu of "Tracer" and tick "Save Pcap". See default path to save log: \cooltools-win32_custom_P3.R2.0.0005\logs\cap; In this situation, Pcap is valid to analyse data interaction via Wireshark.

📕 lo	g_pubendyn1_220504-160837.pcap						– 0 ×			
File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help										
📶 🔳 🔬 📵 📘 🚵 🖄 🔍 🗢 🕾 😨 🕭 其 🧮 🔍 🔍 🖽										
📕 keply a display filter 🚥 @trl=/>										
No.	Time	Source	Destination	Protocol	Length	Payload	ad Info			
	1 2022-05-04 16:08:37.060000	10.163.3.209	211.136.17.107	DNS	7	'3	Standard query 0x3aca A www.baidu.com			
-	2 2022-05-04 16:08:37.501000	211.136.17.107	10.163.3.209	DNS	13	2	Standard query response 0x3aca A www.baidu.com CNAME www.a.shif			
	3 2022-05-04 16:08:37.568000	10.163.3.209	39.156.66.14	ICMP	6	6	Echo (ping) request id=0x0002, seq=1/256, ttl=255 (reply in 4)			
	4 2022-05-04 16:08:37.789000	39.156.66.14	10.163.3.209	ICMP	6	6	Echo (ping) reply id=0x0002, seq=1/256, ttl=52 (request in 3			
	5 2022-05-04 16:08:37.918000	10.163.3.209	39.156.66.14	ICMP	6	6	Echo (ping) request id=0x0003, seq=2/512, ttl=255 (reply in 6)			
	6 2022-05-04 16:08:38.139000	39.156.66.14	10.163.3.209	ICMP	6	6	Echo (ping) reply id=0x0003, seq=2/512, ttl=52 (request in 5			
	7 2022-05-04 16:08:38.227000	10.163.3.209	39.156.66.14	ICMP	6	6	Echo (ping) request id=0x0004, seq=3/768, ttl=255 (no response			
<										
> Frame 2: 132 bytes on wire (1056 bits), 132 bytes captured (1056 bits)										
	Ethernet II, Src: GaliMot le:38:c1 (00:50:4c:1e:38:c1), Dst: Infolibr 2c:10:58 (00:50:48:2c:10:58)									
> Internet Protocol Version 4, Src: 211.136.17.107, Dst: 10.163.3.209										

> User Datagram Protocol, Src Port: 53, Dst Port: 21150
 > Domain Name System (response)



6 Notes

If the issue that debugging or analyzing can be attributed to the event of registration, please run AT command AT+CFUN=0/AT+CFUN=1 or reboot module/terminal after connecting to Coolwatcher to capture the complete registration network process, which can be applied for the possible cause of the failure to current registration network.