

Guide on Capturing GNSS Module Log on L-Series

GNSS L- Series

Version: 1.0

Date: 2023-1-13

Status: Released







At Quectel, our aim is to provide timely and comprehensive services to our customers. If you require any assistance, please contact our headquarters:

Quectel Wireless Solutions Co., Ltd.

Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai 200233, China Tel: +86 21 5108 6236 Email: <u>info@quectel.com</u>

Or our local offices. For more information, please visit:

http://www.quectel.com/support/sales.htm.

For technical support, or to report documentation errors, please visit:

http://www.quectel.com/support/technical.htm.

Or email us at: support@quectel.com.

Legal Notices

We offer information as a service to you. The provided information is based on your requirements and we make every effort to ensure its quality. You agree that you are responsible for using independent analysis and evaluation in designing intended products, and we provide reference designs for illustrative purposes only. Before using any hardware, software or service guided by this document, please read this notice carefully. Even though we employ commercially reasonable efforts to provide the best possible experience, you hereby acknowledge and agree that this document and related services hereunder are provided to you on an "as available" basis. We may revise or restate this document from time to time at our sole discretion without any prior notice to you.

Use and Disclosure Restrictions

License Agreements

Documents and information provided by us shall be kept confidential, unless specific permission is granted. They shall not be accessed or used for any purpose except as expressly provided herein.

Copyright

Our and third-party products hereunder may contain copyrighted material. Such copyrighted material shall not be copied, reproduced, distributed, merged, published, translated, or modified without prior written consent. We and the third party have exclusive rights over copyrighted material. No license shall be granted or conveyed under any patents, copyrights, trademarks, or service mark rights. To avoid ambiguities, purchasing in any form cannot be deemed as granting a license other than the normal non-exclusive, royalty-free license to use the material. We reserve the right to take legal action for noncompliance with abovementioned requirements, unauthorized use, or other illegal or malicious use of the material.



Trademarks

Except as otherwise set forth herein, nothing in this document shall be construed as conferring any rights to use any trademark, trade name or name, abbreviation, or counterfeit product thereof owned by Quectel or any third party in advertising, publicity, or other aspects.

Third-Party Rights

This document may refer to hardware, software and/or documentation owned by one or more third parties ("third-party materials"). Use of such third-party materials shall be governed by all restrictions and obligations applicable thereto.

We make no warranty or representation, either express or implied, regarding the third-party materials, including but not limited to any implied or statutory, warranties of merchantability or fitness for a particular purpose, quiet enjoyment, system integration, information accuracy, and non-infringement of any third-party intellectual property rights with regard to the licensed technology or use thereof. Nothing herein constitutes a representation or warranty by us to either develop, enhance, modify, distribute, market, sell, offer for sale, or otherwise maintain production of any our products or any other hardware, software, device, tool, information, or product. We moreover disclaim any and all warranties arising from the course of dealing or usage of trade.

Privacy Policy

To implement module functionality, certain device data are uploaded to Quectel's or third-party's servers, including carriers, chipset suppliers or customer-designated servers. Quectel, strictly abiding by the relevant laws and regulations, shall retain, use, disclose or otherwise process relevant data for the purpose of performing the service only or as permitted by applicable laws. Before data interaction with third parties, please be informed of their privacy and data security policy.

Disclaimer

- a) We acknowledge no liability for any injury or damage arising from the reliance upon the information.
- b) We shall bear no liability resulting from any inaccuracies or omissions, or from the use of the information contained herein.
- c) While we have made every effort to ensure that the functions and features under development are free from errors, it is possible that they could contain errors, inaccuracies, and omissions. Unless otherwise provided by valid agreement, we make no warranties of any kind, either implied or express, and exclude all liability for any loss or damage suffered in connection with the use of features and functions under development, to the maximum extent permitted by law, regardless of whether such loss or damage may have been foreseeable.
- d) We are not responsible for the accessibility, safety, accuracy, availability, legality, or completeness of information, advertising, commercial offers, products, services, and materials on third-party websites and third-party resources.

Copyright © Quectel Wireless Solutions Co., Ltd. 2022. All rights reserved.

About Document

Revision History

Version	Date	Author	Description
1.0	2023-1-13	Raphael Wu	Creation of the document

Contents

Abo	out Do	cument3
Со	ntents	4
1	Prefa	ce5
2	Spec	ification6
3	Intro	duction on QGNSS Viewer6
	3.1.	Signal Level Window6
	3.2.	Text Window7
	3.3.	Original Data Window8
	3.4.	Command Debugging Console8
	3.5.	Sky View
	3.6.	Online Map Window9
4	Obtai	n NMEA log via QGNSS10
	4.1.	Connect to module
	4.2.	Capture NMEA Log 11
5	Capti	ure RTCM log via QGNSS12
	5.1.	Connect to module
	5.2.	Read RTCM12
	5.3.	Read RTCM Log15
6	Capti	ure RTK log via Ntrip Client Terminal16
	6.1.	Carry out RTK test via Ntrip client terminal16
	6.2.	Capture RTK log
7	Capti	ure Debug Log19
	7.1.	Configure & Output Debug log19
	7.2.	Capture Debug Log21



1 Preface

In this document, it mainly illustrates how to capture different logs on GNSS modules of L Series such as L76/L26-DR/LC76G/LG69T in a fast and effective way. By this way, it will facilitate searching via module type and do a great favor on capturing relevant logs and analyzing issues for users. All specifications in this document shall be aligned with <<u>QGNSS_V1.7_Build1202></u>.



2 Specification

As one SW to test serial port, the QGNSS plays a role to connect Quectel GNSS module or EVB for systematical integration manufacturer and terminal user in a fast and simple way, which is available to evaluate, test, develop and debug GNSS smoothly.

In order to facilitate the connection between module and user device, a series of features are provided in QGNSS to query, record or analyze, including:

- Communicate with receiver via Quectel Protocol or NMEA-0183 Standard Specification.
- Receiver that deploying Standard NMEA string
- All info collected when running GNSS device, including position, time, speed and relevant constellations. Moreover, it is available to analyze the collected data and performance such as accuracy, position, constellations trace and TTFF. All above data can be captured in a format of ASCII or Binary.
- AGNSS Feature
- Record data and playback logs in a format of NMEA and RTCM
- Real-time or playback structure and visualized graphical data
- Download FW to GNSS module
- NTRIP Server and NTRIP client terminal
- Online map

Download QGNSS

All specifications in this document shall be aligned with < <u>QGNSS_V1.7_Build1202></u>.

3 Introduction on QGNSS Viewer

3.1. Signal Level Window

In this window, it displays the constellation signal level received by module. The number above the flag icon refers to the CN of signal level.



Untick the checkbox ahead of the idicator to filter constellation system.



3.2. Text Window

This window displays NMEA data.

Since the second terms of the second second

Elick icon to stop updating data in window. (The module data will be updated continuously)

Input keywords in option Filter to filter the outputted NMEA data.

Text data	
\$GNVTG,104.26,T,,M,0.04,N,0.07,K,D*24 \$GNGGA,085015.000,2516.132626,N,11020.047614,E,2,19,1.38,11 \$GNGL,2516.132626,N,11020.047614,E,085015.000,A,D*48 \$GNGSA,A,3,195,194,199,21,27,01,16,,,,,,1.77,1.38,1.11,1*34 \$GNGSA,A,3,82,79,81,78,,,,,,1.77,1.38,1.11,2*0A \$GNGSA,A,3,13,27,15,07,,,,,,1.77,1.38,1.11,3*0D \$GNGSA,A,3,29,59,01,30,,,,,,1.77,1.38,1.11,4*0B \$GPGSV,4,1,15,08,64,015,20,195,59,100,38,194,55,063,36,50,5	79.254,M
\$GPGSV,4,2,15,199,55,145,27,07,50,324,,21,47,143,37,09,36,2 \$GPGSV,4,3,15,27,31,036,36,04,29,200,,01,27,169,23,16,21,00 \$GPGSV,4,4,15,30,15,318,,14,05,283,18,196,,,27,1*56 \$GLGSV,2,1,07,82,69,154,26,79,48,047,45,81,47,040,40,80,30 \$GLGSV,2,2,07,83,27,190,,78,17,100,35,70,11,284,,1*4E \$GAGSV,3,1,09,13,50,136,36,27,46,045,36,21,43,324,,15,35,00 \$GAGSV,3,2,09,19,30,276,,26,15,187,13,07,08,176,16,01,08,25 \$GAGSV,3,2,09,19,30,276,,26,75,187,13,07,08,176,16,01,08,25 \$GAGSV,3,2,09,19,30,276,,26,75,187,13,07,08,176,16,01,08,25 \$GAGSV,3,2,09,19,30,276,26,75,187,13,07,08,176,16,01,08,25 \$GAGSV,3,2,09,19,30,276,26,75,187,13,07,08,176,16,01,08,25 \$GAGSV,3,2,09,19,30,276,26,75,187,13,07,08,176,16,01,08,25 \$GAGSV,3,2,09,19,30,276,26,75,187,13,07,08,176,16,01,08,25 \$GAGSV,3,2,09,19,30,276,26,75,187,13,07,08,176,16,01,08,25 \$GAGSV,3,2,09,19,30,276,26,75,187,13,07,08,176,16,01,08,25 \$GAGSV,3,2,09,19,30,276,26,75,187,13,07,08,176,16,01,08,25 \$GAGSV,3,2,09,19,30,276,26,75,187,13,07,08,176,16,01,08,25 \$GAGSV,3,2,09,19,30,276,26,75,187,13,07,08,176,16,01,08,25 \$GAGSV,3,2,09,19,30,276,26,75,187,13,07,08,176,16,01,08,25 \$GAGSV,3,2,09,19,30,276,26,75,187,13,07,08,176,16,01,08,25 \$GAGSV,3,2,09,19,30,276,26,75,187,13,07,08,176,16,01,08,25 \$GAGSV,3,20,09,19,30,276,26,75,187,13,07,08,176,16,01,08,25 \$GAGSV,3,20,09,10,20,20,20,20,20,20,20,20,20,20,20,20,20	243,13,1 56,33,1* ,337,15, 62,30,7* 90,,7*75
\$GBGSV,3,1,11,29,78,072,28,09,75,220,16,06,64,186,15,07,64 \$GBGSV,3,2,11,10,59,304,,03,58,180,,59,45,128,36,01,41,123 \$GBGSV,3,3,11,30,23,040,34,26,13,313,15,21,06,256,,1*40 \$GNRMC,085015.000,A,2516.132626,N,11020.047614,E,0.04,104.2 \$GNVTG,104.26,T,,M,0.04,N,0.08,K,D*2B	,324,14, ,32,1*7C 26,12012
<	> ~



3.3. Original Data Window

This window illustrates the raw GNSS data.

Unp	ars	ed	dat	ta														×
																		^
0000	2C	36	32	2C	31	38	37	2C	31	34	2C	31	2A	37	42	ØD	,62,187,14,1*7B.	
0001	ØA	24	47	42	47	53	56	2C	33	2C	32	2C	31	31	2C	31	.\$GBGSV,3,2,11,1	
0002	30	2C	35	39	2C	33	30	35	2C	2C	33	35	2C	34	36	2C	0,59,305,,35,46,	
0003	32	31	30	2C	31	34	2C	35	39	2C	34	35	2C	31	32	38	210,14,59,45,128	
0004	2C	33	34	2C	33	36	2C	34	35	2C	30	39	38	2C	33	34	,34,36,45,098,34	
0005	2C	31	2A	37	44	0D	ØA	24	47	42	47	53	56	2C	33	2C	,1*7D\$GBGSV,3,	
0006	33	2C	31	31	2C	30	31	2C	34	31	2C	31	32	33	2C	33	3,11,01,41,123,3	
0007	30	2C	33	30	2C	32	31	2C	30	34	30	2C	33	31	2C	32	0,30,21,040,31,2	
0008	36	2C	31	35	2C	33	31	34	2C	2C	31	2A	34	31	ØD	ØA	6,15,314,,1*41	
0009	24	47	4E	52	4D	43	2C	30	38	35	36	35	30	2E	30	30	\$GNRMC,085650.00	
000A	30	2C	41	2C	32	35	31	36	2E	31	33	32	35	30	36	2C	0,A,2516.132506,	
000B	4E	2C	31	31	30	32	30	2 E	30	34	36	30	34	38	2C	45	N,11020.046048,E	
000C																		
00001	20	30	2F	30	33	20	31	30	3/1	2F	30	36	20	31	30	30	0 03 104 26 120	
00001	20	30	22	20	20	20	11	20	56	21	30	16		91	24	17	123 D V*0E C	
0001		56	57	17	20	31	30	3/	2E	32	36	20	5/	20	24	40	INVTG 104 26 T M	
00021	4Ľ 2C	30	25	30	20	20	JU AE	20	30	25	30	20	20	ZC AR	20	40		
0003	20	20	2L 21	90	22	20	4L	20	50	۷L	50	55	20	40	20	44	,0.05,m,0.05,K,D *01	
00041	ZH	52	51	00	UA												1.51	
																		~
<u>h0</u>		Fi	lter															\sim

3.4. Command Debugging Console

Open command debugging console via Command console in the drop-list of View.

- Enter -- The <CR><LF> is appended after inputting command
- Adds --Add command textbox
- NMEACS --Auto Checksum calculation, the *<checksum> is not implemented when inputting NMEA command
- Run --Cooperate with the checkbox ahead of number, which is available to transfer multiple commands for one time
- Save Load --Save/Load command configuration
- HEX -- If it is needed to transfer command in HEX to module, please tick it.



Command console	×
Choose all commands	Enter HEX Delay(ms)
01 \$PAIR864,0,0,921600*10	Send 1000
02	Send 1000
D3 00 10 3E 70 20 04 10 70 00 00 00 00 00 FFC	C 🗹 Send 🗹 1000
04	Send 1000
05	Send 1000
06	Send 1000
07	Send 1000
08	Send 1000
Adds NMEACS Save Load	Run Clear

3.5. Sky View

Following items are shown in this window

- Visible constellation counts
- Azimuth of the constellation (0~359.99°)
- Elevation of the constellation (0~90.00°)



3.6. Online Map Window





4 Obtain NMEA log via QGNSS

4.1. Connect to module

- Click **Device Information** under **Device** or click icon with to configure port
- Input or select corresponding module type in Model
- Select corresponding serial port number in Port (If 2 ports number are detected by one GNSS module, please connect via Enhanced Port)
- Select corresponding value in **Baud-rate**
- Click **OK** to connect to module (In terms of V1.7 or before, after configuring port, it is needed to

click icon March . Once it turns to March means it is connected to module successfully.)



Q Device II	nformatio	on	×
Model	1.0766		
Model	20700		· ·
Port	COM40	Silicon Labs CP210x USB to UART Bridge	~
Developte		Silicon Labs CP210x USB to UART Bridge	
Baudrate	115200		~
Advance			OK Cancel

4.2. Capture NMEA Log

The QGNSS will record and generate **.log** file automatically after connecting to module and outputting NMEA data normally.



Click **Show Logfile in Explorer** under **File**, the **logfile folder** under the directory of QGNSS will be opened automatically. Please select corresponding log in accordance with configured type and time when generating log.



名称	修改日期	类型	大小
LC76G-0112_163610_COM40.log	2023/1/12 17:07	文本文档	2,135 KB



5 Capture RTCM log via QGNSS

5.1. Connect to module

See Chapter 4.1

5.2. Read RTCM

Click Binary data under View

This viewer displays the outputted RTCM in module.

- RTCM Version
- RTCM Message Type
- Size of each RTCM message

```
\mathbf{x}
Binary data
0003
        77 8D F1 42 69 7C E8 77 A1 EB 10 10 3B 5F DE AA
                                                                         ~
0004
        90 50 46 FF EF C3 C3 12 C4 B1 27 F3 12 09 72 28
0005
        70 97 89 23 93 78 A3 AF 31 DE 1A F9 D8 00 79 0D
0006
        E1
RTCM3:1117
              Size:52
      D3 00 2E 45 D0 01 5A 61 68 92 00 00 10 00 00 00
0000
        00 00 00 00 20 00 01 00 6F E0 7C 80 F7 FE 6E BE
0001
0002
        13 FB FE 80 5D 00 00 00 C4 80 0C 7A A1 F3 43 E8
0003
       D0 BC 89 04
RTCM3:1127
              Size:87
0000 D3 00 51 46 70 01 5A 60 8D D0 00 00 40 00 00 02
        0A 00 00 00 20 00 01 00 55 3E 2A A7 42 00 00 6E
0001
0002
       F8 F6 33 3F 7F F4 12 30 25 7F 5E 6E F7 39 E8 FF
0003
       EA 4F 6E 3D D0 C0 00 00 07 98 D6 FA 89 B5 C0 00
0004
       00 00 09 8A C8 00 4B 8E E8 B8 C9 DF 74 DD E7 82
0005
       59 04 89 80 A7 BC 6C
                                                                         v
H 🖓 🕕 Filter
```

Click "Message View" under the menu of "View".

In this viewer, it displays the encrypted message based on original observation, including:

RTCM3 1006: Module position message (ECEF coordinate)



Protocol	Count	R	FCM3 - 1006				
1006	7		Parameter	Value	Unit	Description	
✓ 999 1 (BSS)	205	1	х	-2005567.941500	m		
2 (RCC)	205 64	2	Y	5411834.054600	m		
21 (EPVT)	207	3	Z	2706114.343700	m		
		4	Antenna Height	0.000000	m		

RSS (Receiver Status and Safety)

Messages View	N						×					
Protocol Count	RT	RTCM3 - 999 - 1 (RSS)										
✓ RTCM3 1006 ✓ 999	16	1	Parameter	Value 379804200	Unit ms	Description	^					
2 (RCC)	2 (RCC) 64	2	GPS Ext. Week Number	2244		Best time converted to GPS system time						
21 (EPVT) 289	3	Leap Seconds	18	s							
		4	Safety info	0		0 = not available						
		5	5 ProtocolVersionFlags 3 0, 1 or 2 6 Firmware Version 0xffffff 0xffffff	0, 1 or 2								
		6		0xffffff		0xffffff = N/A						
		7	PPS Status	1		0=ok 1=not available						
		8	Time Validity	1								
		9	Constellation Alarm Mask	0x0		0=ok 1=excluded						
		10	GNSS Constellation Mask	0x1588d			~					
						1						

RCC (Receiver Configuration and Control)



rotocol	Count	RT	CM3 - 999 - 2 (RCC)			
 RTCM3 1006 999 	22	1	Parameter Version	Value LG69TADNR01A03V03_ASG	Unit	Description
1 (RSS) 2 (RCC)	351 64	2	Response ID	0x0		
21 (EPVT) 353	3	Config. Page Number	63		
		4	Continue	0		

EPVT (Extended Process Verification Test)

Messages View	I						\times	
Protocol	Count	RT	CM3 - 999 - 21 (EPVT)	//3 - 999 - 21 (EPVT)				
1006 999 1 (RSS) 2 (RCC) 21 (FPVT)	39 518 64 521	1 2	Parameter Reference Station ID ITRF Realization Year	Value 0x1 63	Unit	Description Invalid = 0x3FF		
	21 (EPVT) 521		GPS Quality Indicator Data status Fix frequency mode Fix integrity RFU Number of satellites in use Number of satellites in view	1 0 0 1 0 13 42		0 = Data valid,1 = Navigation receiver warning		
		10	HDOP VDOP	14 10				

5.3. Read RTCM Log

Click to disconnect tool and port to interrupt recording log.

Click **Show Logfile in Explorer** under **File**, the **logfile folder** under the directory of QGNSS will be opened automatically. Please select corresponding log in accordance with configured type and time when generating log.





6 Capture RTK log via Ntrip Client Ter minal

6.1. Carry out RTK test via Ntrip client terminal

After connecting to the module that supportig RTK, click to open Ntrip Client •

- Configure RTK Server account •
- Click Update NTRIP source table
- Select corresponding value in NTRIP mount point •
- Click Connect to host to connect to Ntrip Server •

QGNSS V1.7 File Device View Setting Tools DR AGNSS Window Help Open N O	Itrip Client
Signal Level S ⊕ BDS S ⊕ GLONASS S ⊕ GLO	Arrent Client 1. Input RTK account Caster settings Adress: Port: B0002 Usemanne: caeh6784 Password: NTRIP caster mount point configuration Update NTRIP source table Mount point details NTRIP mount point: Request Interval (sec): Use manual position Longitude(degree): 0
Text data \$6Q65V,1,1,02,02,,,20,03,,,19,8*65 \$PQTMDRCAL,1,0,0*50 \$6M6G4,07219.000,V,,,0,00,99.99,V,M,V,,*41 \$6M6WK,074219.000,V,,,120123,,V,V*23 \$6M6L1,V,7,74219.000,V,V,*60 \$6MVTG,T,T,N,N,K,N*32 \$CutcK5 A \$60,000 + 100	Latitude(degree): 0 Altitude (meter): 0 Geoid sep(meter): 0 Connect To Hos

Query data window in the right. Meanwhile, if the GGA of the module is sent to server and relevant RTK data delivered by server is received, which means the connection between module and Ntrip is a success.



Q N	TRIP Client					?	×
Cas	ster settings			(1071)byt	es from serve	er Server	^
Add	dress:	120.253.239.161			Received	J SCIVCI.	
Por	t:	8002		(1071)byt	es from serve	er Server	
Hee			17:19:07 Received				
050	ername.	caello7 o4		(1071)byt	es from serve	er Sonvor	
Pas	Password:				Received	SCIVEI.	
NTE	NTRIP caster mount point configuration			(1071)byt 17:19:09	er) server.		
Up	Update NTRIP source table Mount point details				es from serve	er	
NT	VTRIP mount point: TCM33_GRCEJ ~			17:19:10 Send GGA to server. 17:19:10 Received			
Re	Request Interval (sec):				Send GGA to	server.	
U 🗌	se manual position			(1071)byt	es from serve	er	
Longi	itude(degree):	odule se	ends GGA to Server.	17:19:12 17:19:12 (1071)but	Send GGA to Received	server.	
Latitu	ide(degree):	0		17:19:13	Send GGA to) server.	
Altitud	de (meter):	0		17:19:13 (1071)byt	Received es from serve	er	
Geoio	d sep(meter):	0		17:19:13	Disconnecte Active	ed.	
(Conne	ct To Host OFF	disconnee	ction.		~
6.0017	20. 5. 2. 14. 2. 12. 1	2. /	20.1.0.1.0.	0		-	

Observe the <Quality> bit of GGA sentence in **Text data**. If the value is 4 or 5, which means the module has entered the RTK encryption status.

		-		
	GNGGA,095206.000,2516.167376,N,11020.049080,E	5	43,0.56,178.7,M,-20.1,M,2.0,*74	^
	GNGGA,095207.000,2516.167376,N,11020.049075,E	5	43,0.67,178.7,M,-20.1,M,1.0,*7E	
	GNGGA,095208.000,2516.167377,N,11020.049074,E	5	42,0.60,178.7,M,-20.1,M,1.0,*77	
	GNGGA,095209.000,2516.167378,N,11020.049072,E	5	42,0.53,178.7,M,-20.1,M,1.0,*7F	
	GNGGA,095210.000,2516.167380,N,11020.049068,E	5	42,0.55,178.7,M,-20.1,M,1.0,*7D	
l	GNGGA,095211.000,2516.167381,N,11020.049065,E	5	42,0.62,178.7,M,-20.1,M,1.0,*74	
	GNGGA,095212.000,2516.167382,N,11020.049063,E	5	42,0.57,178.7,M,-20.1,M,1.0,*74	
l	GNGGA,095213.000,2516.167384,N,11020.049063,E	5	42,0.52,178.7,M,-20.1,M,1.0,*76	
L	GNGGA,095214.000,2516.167385,N,11020.049061,E	5	43,0.53,178.7,M,-20.1,M,1.0,*72	
l	GNGGA,095215.000,2516.167386,N,11020.049057,E	5	43,0.62,178.7,M,-20.1,M,1.0,*77	
l	GNGGA,095216.000,2516.167386,N,11020.049058,E	5	43,0.51,178.7,M,-20.1,M,1.0,*7B	
	GNGGA,095217.000,2516.167387,N,11020.049056,E	5	43,0.60,178.7,M,-20.1,M,1.0,*77	
l	GNGGA,095218.000,2516.167389,N,11020.049053,E	5	42,0.62,178.7,M,-20.1,M,1.0,*70	
	GNGGA,095219.000,2516.167390,N,11020.049049,E	5	44,0.67,178.7,M,-20.1,M,1.0,*71	
	GNGGA,095220.000,2516.167391,N,11020.049046,E	5	44,0.61,178.7,M,-20.1,M,1.0,*73	
l	GNGGA,095221.000,2516.167390,N,11020.049043,E	5	44,0.48,178.7,M,-20.1,M,1.0,*7D	
	GNGGA,095222.000,2516.167391,N,11020.049041,E	5	44,0.64,178.7,M,-20.1,M,1.0,*73	
	GNGGA,095223.000,2516.167390,N,11020.049038,E	5	44,0.61,178.7,M,-20.1,M,1.0,*78	
	GNGGA,095224.000,2516.167390,N,11020.049035,E	5	44,0.48,178.7,M,-20.1,M,1.0,*79	~



6.2. Capture RTK log

Connect To Host OFF -- Disconnect

Disconnect with NTrip Server

Click to disconnect tool and port to interrupt recording log.

Click **Show Logfile in Explorer** under **File**, the **logfile folder** under the directory of QGNSS will be opened automatically. Please select corresponding log in accordance with configured type and time when generating log.

The Ntrip_Server file that adjacent to the time of test module indicates the RTK log been tested synchronously.

名称	修改日期	类型	大小
LC29HBA-1213_171011_COM16.log	2022/12/13 17:19	文本文档	527 KB
NTRIP_Server1213_171017.log	2022/12/13 17:19	文本文档	247 KB

7 Capture Debug Log

7.1. Configure & Output Debug log

Please note the methods to enable Debug mode on modules of individual platform are varied. In this article, it just takes LC76GAB module as an example. For specific configurations on certain type, please apply for SW development engineer.

Due to the huge quantity on Debug data, the module can only work in high baud-rate (Normally, 921600 is suggested). Meanwhile, the size of Debug log file that generated by module is huger than ordinary log, please pay attention to the storage space of HDD under the circumstance of long-time test.

Procedure to enable Debug mode of LC76GAB via QGNSS

- 1) \$PAIR864,0,0,921600*10 //Set baud-rate as 921600
- 2) \$PAIR086,1*29 //Output Debug log
- 3) \$PAIR513*3D //Save Setting
- 4) Reboot to take effect

Command console	×
Choose all commands	Enter HEX Delay(ms)
01 \$PAIR864,0,0,921600*10	Send 1000
02 \$PAIR086,1*29	Send 1000
03 \$PAIR513*3D	✓ Send 1000
04	Send 1000
05	Send 1000
<u> </u>	Send 1000 Y
Adds NMEACS Save Load	Run Clear

After enabling Debug mode, the feedback of Debug message in Text data viewer is vivid.



Text data
\$GAGSV,1,1,03,21,65,028,28,27,32,103,41,19,08,233,,7*41
\$GBGSV,2,1,07,26,56,319,17,59,45,128,33,01,42,123,31,04,28,110,29,1*7E
\$GBGSV,2,2,07,13,23,178,28,36,12,139,31,24,10,320,,1*4+
\$GNKMC,105022.000,A,2516.130436,N,11020.08/154,E,0.07,0.00,120123,,,A,V*04
\$FAINEUD;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0;0
SCNG1 2516 130466 N 11020 086950 F 105023 000 A 1444
SGNGSL A. 3. 01, 195, 194, 199, 21, 08, 03,, 1, 60, 1, 39, 0, 79, 1*3A
\$GNG5A, A, 3, 80, 82, 79,, 1, 60, 1, 39, 0, 79, 2*00
\$GNGSA, A, 3, 21, 27,, 1.60, 1.39, 0.79, 3*07
\$GNGSA,A,3,59,13,36,,,,,,,,1.60,1.39,0.79,4*0D
\$GPGSV, 3, 1, 10, 01, 72, 082, 38, 195, 65, 064, 35, 194, 57, 092, 42, 199, 55, 145, 33, 1*5A
\$GPGSV,3,2,10,50,54,144,35,21,47,046,40,17,36,274,,08,19,051,35,1*61
\$GPGSV,3,3,10,03,16,139,37,19,09,253,,1*6B
\$GLGSV,1,1,03,80,71,078,35,82,36,021,38,79,25,132,43,1*45
\$GAGSV,1,1,03,21,65,028,28,27,32,103,41,19,08,233,,7*41
\$GBGSV,2,1,07,26,56,319,17,59,45,128,33,01,42,123,31,04,28,110,29,1*7E
\$GBGSV,2,2,07,13,23,178,28,36,12,139,31,24,10,320,,1*4F
\$GNRMC,105023.000,A,2516.130466,N,11020.086950,E,0.10,0.00,120123,,,A,V*0B
3FAIREDD,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
< >>
Filter V

By investigating log, the error codes are obvious, which indicates Debug data.



Disable Debug mode

1) \$PAIR086,0*28

//Disable Debug mode



2) \$PAIR513*3D

//Save Setting

Command console	×
Choose all commands	Enter HEX Delay(ms)
01 \$PAIR086,0*28	Send 1000
02 \$PAIR513*3D	Send 1000
03	✓ Send 1000
04	✓ Send 1000
05	✓ Send 1000
106	Send 1000 Y
Adds NMEACS Save Load	Run Clear

7.2. Capture Debug Log

The QGNSS will record and generate **.log** file automatically after connecting to module and outputting NMEA data normally.

Elick to disconnect tool and port to interrupt recording log

Click **Show Logfile in Explorer** under **File**, the logfile folder under the directory of QGNSS will be opened automatically. Please select corresponding log in accordance with configured type and time when generating log.



名称	修改日期	类型	大小
LC76G-0112_163610_COM40.log	2023/1/12 17:07	文本文档	2,135 KB