

How to Enable and View GNSS Satellites

To enable and view GNSS satellites with BG77/BG95/BG96/EG91/EG95 USB dongles or miniPCle, or hardware boards, do the following:

- 1- Install the following driver for Modem on Windows: <u>5G-NB-IoT/Driver/Quectel LTE&5G Windows USB Driver V2.1 at master · 5ghub/5G-NB-IoT</u> (github.com)
- Install QCOM V1.6: <u>5G-NB-IoT/Tools at master · 5ghub/5G-NB-IoT (github.com)</u>
- 3- Install QGNSS V1.7: <u>5G-NB-IoT/Tools at master · 5ghub/5G-NB-IoT (github.com)</u>
- 4- Make sure to connect GPS/GNSS antenna to the GNSS UFL connector on the hardware board. You can use either a passive or active antenna.
- 5- Plug the USB dongle into a USB port. Or connect the USB port, through a USB cable, to USB port on a computer.
- 6- Launch Windows device manager, you shall see the following ports:





Figure 1: EG91/EG95 Devices



7- You can connect to the COM port of either **USB AT Port** or **USB Modem**. If the latter, right-click the **USB Modem**, choose **Properties** and select the **Modem** tab to find the COM port.



Figure 2: BG77/BG95 Devices

8- Launch QCOM tool and connect to the **USB AT port** or **USB Modem** port and click **Open Port**. Run **AT+QPS=1** and this will enable the GNSS on the modem.



Q QCOM_V1.6	- 0	×
About		
COM Port Setting	Command List	
COM Port: 45 🔽 Baudrate: 115200 💌 StopBits: 1 💌 Parity: None 💌	Choose All Commands HEX Enter Delay(mS)
	✓ 1: AT+QIACT=1	
ByteSize: 8 The Control: No Ctrl Flow Control: Close Port		
	▼ 3 AT+QGPS=1	
[2023-05-13_18:14:51:873]ATI	▼ 4: AT+QGPSLOC=0 □ ▼ 4	
[2023-05-13_18:14:51:873]Quectel [2023-05-13_18:14:51:873]BG77	▼ 5: AT+QGPSGNMEA?	
[2023-05-13_18:14:51:873]Revision: BG77LAR02A04	Image: Figure 6: AT+QGPSCFG="outport","usbnmea" Image: Figure 6	
[2023-05-13 18:14:51:873]DK	▼ 7: AT+QGPS?	
[2023-05-13_18:14:52:558]AT+QGPS=1		_
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	□ 13: AT+CGDCONT? □ 🔽 13	_
	□ 14: AT+QCFG="roamservice",2 □ 🔽 14	_
	□ 15: AT+CFUN=0 □ 🔽 15	_
	□ 16: AT+CFUN=1 □ 🔽 16	_
	□ 17: AT+CGDCONT=1,"IP","super" □ 🔽 17	_
	□ 18: AT+CSQ □ 🔽 18	_
	□ 19: AT+qcfg="NWSCANMODE",3 □ 🔽 19	_
	□ 20: AT+qcfg="IOTOPMODE",1 □ 🔽 20	_
[2023-05-13_18:14:48:493] Open COM Port Success	□ 21: AT+QIOPEN=1,0,"TCP","220.180.239.212", □ 🔽 21	_
	□ 22: AT+qcfg="NWSCANSEQ",020301 □ 22	_
	□ 23: AT+QCFG="USBNET",0 □ 🔽 23	_
	□ 24: AT+CGDCONT=3 □ 🔽 24	_
Operation	□ 25: AT+QCCID □ 🔽 25	_
Clear Information 🗌 DTR 📄 RTS 📄 View File 🔽 Show Time	□ 26: AT+CGDCONT=1,"IP","m2mNB16.com.attz' □ 🔽 26	_
Input String Show In HEX V Send With Enter	□ 27: AT+QDSIM? □ 🔽 27	_
mpa sung.	□ 28: AT+CPIN? □ 🔽 28	_
Send Command	29: AT+QCFG="NCCCONF",5 29	
	Load Test Script Clear All Commands Run Times: 10	
Select File Send File	Delay Time(mS): 1000	
Save Log C:\NB_loT_Projects\PCBandGitHub\Quectel\LC29D\QCOM_LOG_2.txt	Save As Script Run Stop	

Figure 3: BG77 Device



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About			
COM Port Setting	Command List		
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ByteSize: 8 🗸 Flow Control: No Ctrl Flow 🗹 Close Port	▼ 2: ATI	2	_
	▼ 3: AT+QGPS=1		
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[2023-05-13]18:46:07:606]Quectel	▼ 5: AT+QGPSGNMEA?	5	
[2023-05-13_18:46:07:606]Revision: BG95M3LAR02A03	G: AT+QGPSCFG="outport","usbnmea" □		
[2023-05-13] 18:46:07:60610K	▼ 7: AT+QGPS?		
[2023-05-13_18:46:08:154] [2023-15-13_18:46:08:154]	▼ 8: AT+QGPSCFG?	8 9	
2023-03-13_10.46.06.134)0K	9: AT+QGPSLOC?	9	
	▼ 10: AT+QGPSCFG="gnssconfig",1	10	
	▼ 11: AT+QGPSGNMEA="nmeasrc",1	11	
	□ 12: AT+CEREG? □	12	
	□ 13: AT+CGDCONT?	13	
	14: AT+QCFG="roamservice",2	14	
	□ 15: AT+CFUN=0	15	
	□ 16: AT+CFUN=1	16	
	Time 17: AT+CGDCONT=1,"IP","super"	17	
	□ 18: AT+CSQ □	18	
	19: AT+qcfg="NWSCANMODE",3	19	
	20: AT+qcfg="IOTOPMODE",1	20	
[2023-05-13_18:46:06:517] Open COM Port Success	21: AT+QIOPEN=1,0,"TCP","220.180.239.212".	21	
	22: AT+qcfg="NWSCANSEQ",020301	22	
	23: AT+QCFG="USBNET",0	23	
	24: AT+CGDCONT=3	24	
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		Run Times: 10	
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Save Log C:\NB_IoT_Projects\PCBandGitHub\Quectel\LC23D\QCOM_LOG_2.txt	Save As Script	Run Sti	op

Figure 4: BG95 Device



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Figure 5: EG91NA/NAX Device



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COM Port Setting	Command List		
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ByteSize: 8 👻 Flow Control: No Ctrl Flow 👻 Close Port	☑ 2: ATI	2	1
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	18: AT+CSQ		
	19: AT+qcfg="NWSCANMODE",3	<u> </u>	
	20: AT+qcfg="IOTOPMODE",1	20	
023-05-13_18:23:04:513] Open COM Port Success	21: AT+QIOPEN=1,0,"TCP","220.180.239.212",		
	22: AT+qcfg="NWSCANSEQ",020301		
	23: AT+QCFG="USBNET",0	23	
Operation	1 24: AT+CGDCONT=3	24	
Class Information	25: AT+QCCID		
	26: AT+CGDCUNT=1,"IP","m2mNB16.com.attz"		
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	Load Test Script Clear All Commands	Run Times	s: 10
Select File	·	Delay Time(mS)): 1000

Figure 6: EG95NA/NAX Device

9- Launch QGNSS tool, select **Device->Connect** from top menu bar, and select the **Quectel USB NMEA Port**. Click **OK**



	- 0	×
Data Dock Longtude Lathtode Attitude HDOP PDOP PDOP Fix Mode Qualit indicato Date Time Total Time Total Time Total Time Total Time Total Time Total Time TriFfab 2D Acc(m) 3D Acc(m)		

Figure 7: QNSS Tool

- 10- Choose the following from the QGNSS menu bar: View->Data Dock View->Binary Data View->Online Map View->GNSS Signal View View-> Sky View
- 11- Wait a few seconds, GNSS will lock to satellites and display all NMEA sentences and positing information. This is how it looks when GNSS is locked and displaying satellites and positing information.





Figure 8: BG77 Device



Figure 9: EG91NA/NAX Device





Figure 10: EG95EX Device



Figure 11: EG95NAX Device





Figure 12: BG95 Device