GL521M Firmware Release Note

EGPRS/LTE Cat-M1/LTE Cat-NB2/GNSS Tracker

Firmware Version: R00A13V03

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0. Preface

This Release Note introduces the latest change of GL521M firmware and briefly describes the improvements over preceding versions. You can also find the whole history of all the changes of GL521M Firmware in this document.

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1. For Firmware Version R00A13V03

GL521M Firmware Version	GL521M_ R00A13V03
BLE Firmware Version	GL521M_BT_R03A02V03
Applicable @Track Air Protocol Version	GL521M Series @Track Air Interface Protocol_V3.00 GL521M Series @Track Air Interface Safe Flight Manager Protocol_V1.01
Applicable Manage Tool Version	Queclink_GL521M_Manage_Tool_V1.2.0
Problems Fixed	N/A
New Features	1. Added <DNS Lookup Interval> to AT+GTSRI. 2. Added AT+GTAAC command to enable or disable automatic APN changeover function. 3. Added AT+GTAPN command for setting of APN lists.
Firmware Optimization	1. Optimized the working logic of AT+GTNTS, that is, the operator(s) set inside the allowed (white) operator list are just the operators the device will try first, not the operators that the device will only try and empty setting does not mean not trying any operator. 2. When AT+GTDMS command is sent from the data sever, this command can have/use its own password for QMS, such as “queclinkDM”.

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2. For Firmware Version R00A12V01

GL521M Firmware Version	GL521M_ R00A12V01
BLE Firmware Version	GL521M_BT_R03A02V02
Applicable @Track Air Protocol Version	GL521M Series @Track Air Interface Protocol_V2.04 GL521M Series @Track Air Interface Safe Flight Manager Protocol_V1.01
Applicable Manage Tool Version	Queclink_GL521M_Manage_Tool_V1.1.2
Problems Fixed	N/A
New Features	1, Beacon model WTH301 is added. 2. <Standard Beacon> is added to AT+GTBID. **Note:** to use above BLE functions, the device must have GL521M_BT_R03A02V02 BLE firmware inside. 3. Using G-sensor to detect flight mode is supported. Enable in the AT+GTSFM command. And once the device is in flight mode, the module and GPS chipset will be turned off. 4. Added command AT+GTCMD and AT+GTUDF.
Firmware Optimization	1. If <Continuous Send Interval> in AT+GTCFG is 0, no +RESP:GTFRI will be generated when the device transfers from power saving mode to continuous mode. 2. If GPRS APN is empty, the device will use the LTE APN for both 4G and 2G. 3. Temporary operator blacklist function is added, if the device registers to a network that allows it register but not provides data service, this network will be blacklisted by the device temporarily and the device will try other networks. 4. The timing of turning on GPS beforehand as per the sending interval is adjusted as per following: Sending interval <= 60s, turning on GPS 55s beforehand 60< sending interval <=150s, turning on GPS 60s beforehand Sending interval >150s, turning on GPS 150s beforehand

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3. For Firmware Version R00A10V02

GL521M Firmware Version	GL521M_ R00A10V02
BLE Firmware Version	GL521M_BT_R03A01V07
Applicable @Track Air Protocol Version	GL521M Series @Track Air Interface Protocol_V2.02 GL521M Series @Track Air Interface Safe Flight Manager Protocol_V1.01
Applicable Manage Tool Version	Queclink_GL521M_Manage_Tool_V1.1.0
Problems Fixed	N/A
New Features	N/A
Firmware Optimization	Optimized the firmware logic to get the +SACK message from modem in the case the server closes the TCP socket quickly, before the +SACK message is got.

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4. For Firmware Version R00A09V03

GL521M Firmware Version	GL521M_ R00A09V03
BLE Firmware Version	GL521M_BT_R03A01V07
Applicable @Track Air Protocol Version	GL521M Series @Track Air Interface Protocol_V2.02 GL521M Series @Track Air Interface Safe Flight Manager Protocol_V1.01
Applicable Manage Tool Version	Queclink_GL521M_Manage_Tool_V1.0.21
Problems Fixed	N/A
New Features	N/A
Firmware Optimization	1. Modified the neighbor cell info filling logic in +RESP:GTGSM, when no neighbor cell info is found, no info will be filled in the +RESP:GTGSM report. 2, Report the +RESP:GTLSA/GTLTA message (triggered) immediately if not-triggering happens in the midway when the device is still trying to get GPS fix info for +RESP:GTLSA/GTLTA. 3. Added WID310 in AT+GTBID. **Note:** Please write in GL521M_BT_R03A01V07 BLE firmware so that beacon WID310 can be used. 4. Removed <Number of Satellites> in AT+GTCFG. 5. Removed <Number of Satellites> in <+RSP Mask>. 6. Removed <Number of Satellites> in <+EVT Mask>. 7. <Manual Netreg> is workable when Cat-NB2 is enabled in LET Mode of AT+GTBSI.

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5. For Firmware Version R00A08V02

GL521M Firmware Version	GL521M_ R00A08V02
Applicable @Track Air Protocol Version	GL521M Series @Track Air Interface Protocol_V2.01
Applicable Manage Tool Version	Queclink_GL521M_Manage_Tool_V1.0.18
Problems Fixed	N/A
New Features	N/A
Firmware Optimization	1. Modified the range of <Duration> in AT+GTLSA. 2. Modified the range of <Duration> in AT+GTLTA. 3. Move Physical Web Beacon (WID300) in AT+GTBAS to AT+GTBID. 4. Added a new accessory model, WMS301. 5. Added <Number of Satellites> in AT+GTCFG. 6. Added <Number of Satellites> in <+RSP Mask>. 7. Added <Number of Satellites> in <+EVT Mask>.

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6. For Firmware Version R00A07V03

GL521M Firmware Version	GL521M_ R00A07V03
Applicable @Track Air Protocol Version	GL521M Series @Track Air Interface Protocol_V1.07
Applicable Manage Tool Version	Queclink_GL521M_Manage_Tool_V1.0.15
Problems Fixed	N/A
New Features	N/A
Firmware Optimization	1. For TCP Short Connection in continuous mode, instead of trying all the time, the maximum timeout for network registration is 5 minutes. 2. If AT+GTPOC is enabled, the device will be powered on when the voltage is above 3.56V during wireless charging.

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7. For Firmware Version R00A07V02

GL521M Firmware Version	GL521M_ R00A07V02
Applicable @Track Air Protocol Version	GL521M Series @Track Air Interface Protocol_V1.07
Applicable Manage Tool Version	Queclink_GL521M_Manage_Tool_V1.0.14
Problems Fixed	N/A
New Features	1. GNSS mode can be configured in AT+GTCFG command. 2. GPS timeout can be configured in AT+GTCFG command. 3. Added command AT+GTNTS to set the priority of selecting the network to get registered and set the blacklist of the operators that will not be registered. 4. Added command AT+GTPOC to enable/disable whether the device is powered on when charging after battery depletion. 5. Added flight mode.
Firmware Optimization	N/A

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8. For Firmware Version R00A06V03

GL521M Firmware Version	GL521M_ R00A06V03
Applicable @Track Air Protocol Version	GL521M Series @Track Air Interface Protocol_V1.05
Applicable Manage Tool Version	Queclink_GL521M_Manage_Tool_V1.0.12
Problems Fixed	1. Fixed the bug device can not wake up in start mode 0
New Features	1. PSM Network Hold Time is also available for TCP short connection mode 2. Optimized TCP short connection 3. Added mode 3 in AT+GTCFG command: Device will report at <Specified Time of Day> + random time between 0-60mins 4. GTFRI timer will not be reset after watchdog reboot 5. Added the HEX format of the GTGSM
Firmware Optimization	1. Optimized the watchdog logic

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9. For Firmware Version R00A06V01

GL521M Firmware Version	GL521M_ R00A06V01
Applicable @Track Air Protocol Version	GL521M Series @Track Air Interface Protocol_V1.04
Applicable Manage Tool Version	Queclink_GL521M_Manage_Tool_V1.0.11
Problems Fixed	N/A
New Features	1. Added the HEX format of the GTGSM and GTINF message 2. Integrated BLE accessory WID300
Firmware Optimization	1. Optimized the GNSS fix 2. Optimized the wireless charge

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10. For Firmware Version R00A04V01

GL521M Firmware Version	GL521M_R00A04V01
Applicable @Track Air Protocol Version	GL521M Series @Track Air Interface Protocol_V1.03
Applicable Manage Tool Version	Queclink_GL521M_Manage_Tool_V1.0.10
Problems Fixed	1. Fixed the issue GTPNA-8 is not reported after FW upgrade success OTA 2. Fixed the issue the GNSS accuracy is not correct in GTERI message
New Features	N/A
Firmware Optimization	N/A

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11. For Firmware Version R00A03V07 (Initial Version)

GL521M Firmware Version	GL521M_R00A03V07
Applicable @Track Air Protocol Version	GL521M Series @Track Air Interface Protocol_V1.03
Applicable Manage Tool Version	Queclink_GL521M_Manage_Tool_V1.0.10
Problems Fixed	N/A
New Features	N/A
Firmware Optimization	N/A

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