GL320M Firmware Release Note

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

Firmware Version: R01A12V09

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0. Preface

This Release Note introduces the latest change of GL320M firmware and briefly describes the improvements over preceding versions. You can also find the whole history of all the changes of GL320M Firmware in this document.

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1. For Firmware Version R01A12V09

GL320M Firmware Version	GL320M_B7K1_R01A12V09
Applicable @Track Air Protocol Version	GL320M Series @Track Air Interface Protocol_V3.03
Applicable Manage Tool Version	Queclink_GL320M_Manage_Tool_V1.1.15
Problems Fixed	1. Fixed the issue that the version info in +RESP:GTDMR is in Hex format, should be in decimal format. 2. Fixed the issue that the value 5 may appear for <RAT>.
New Features	1. Added mask SIM card is failure in <Input ID Mask> of AT+GTUDF. 2. Modified the range of <Distance> and <Mileage> in GTFRI. 3. Added bit 11 <SV Count > and bit 12 <CSQ RSSI > to <ERI Mask> of AT+GTFRI. 4. This is the first bridge version with the feature that in the future when the 2 in 1 version firmware (to cover two MCUs (firmware branches)) is released, it will know which half part of the integrated firmware will be downloaded.
Firmware Optimization	1. Modified the logic of Pure Charging Mode. 2. Modified the filling logic of multiple GPS point in the multi-point +RESP:GTFRI report. 3. Optimized the socket creation for the data server when NTP sever parsing fails in private network. 4. Optimized the nearby base station searching when +RESP:GTGSM report is selected. 5. The +RESP:GTDMR report will not affect the logic that if there is no network signal and the device is in stillness, the device will not try to scan and register all the time to save power.

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2. For Firmware Version R01A11V14

GL320M Firmware Version	GL320M_B7K1_R01A11V14
Applicable @Track Air Protocol Version	GL320M Series @Track Air Interface Protocol_V2.09
Applicable Manage Tool Version	Queclink_GL320M_Manage_Tool_V1.1.7
Problems Fixed	/
New Features	1. Modified the range of <Distance> and <Mileage> to minimum 20 meters in AT+GTFRI. 2. Added the AT+GTJDC command. 3. Added the AT+GTHBM command. 4. Added +RESP:GTPFL and +RESP:GTHBM. 5. Modified the fourth parameter from <Reserved> to <Output Direction> in AT+GTRTO. 6. Added 'Pure charging mode' in <Full Power On> of AT+GTFKS. 7. Temporary network blacklist logic is added to cope with the problem that the network allows to register but no service can be provided. 8. Added AT+GTAPN and AT+GTAAC commands for automatic APN switchover. 9. When the external battery kit is used, there is no power-off voltage limitation, and the device will totally exhaust the external battery. 10. +RESP:GTBAT report added a field to tell whether external battery is connected or not. 11. Added AT+GTRPC command to control adding extra <External Battery Percentage> and <Internal Battery Percentage> fields in messages. 12. Added <Current APN> to +RESP:GTAIF. 13. Added <Number Filter> mode 3 to AT+GTWLT. 14. Added <Report Mode>to AT+GTDIS.
Firmware Optimization	1. When 2G APN is empty, the device will use the 4G APN; 2. Reporting of FRI as per <Distance> or <Mileage> is more accurate; 3. <Manual Netreg> is workable even when Cat-NB2 is selected in <LTE Mode> in AT+GTBSI; 4. Autonomous mode of GPS is turned on by default; 5. Optimized the working logic that if there is no network signal and the device is in stillness, after enabling *<Manual Netreg>,* the device will not try to scan and register all the time to save power, instead, it will try periodically. But if the device is in movement/vibrating status, it will try all the time. But when AT+GTAAC command is enabled, this logic works only after the device registers to the network successfully

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	once to allow the device to have enough time trying the APNs. 6. 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. 7. Optimized the GPS working logic for the case that the device works in a place long time without signal and then moves to a place with signal. 8. Optimized the GPS point filtering strategy in case the device travels in very high speed. 9. Optimized the timing to execute the judgment AT+GTUDF and AT+GTCMD after power on, that is, the device will delay for certain time and then execute the judgment of the conditions set inside the AT+GTUDF. 10. 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. 11. When the external battery kit is used and charged at the same time, it allows the battery percentage is the report to go from low to high. 12. Modified the description about <Report Mask>, <External Battery Percentage> and <Internal Battery Percentage> in AT+GTRPC.

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3. For Firmware Version R01A10V01

GL320M Firmware Version	GL320M_B7K1_ R01A10V01
Applicable @Track Air Protocol Version	GL320M Series @Track Air Interface Protocol_V2.05
Applicable Manage Tool Version	Queclink_GL320M_Manage_Tool_V1.0.15
Problems Fixed	Fixed the issue that there is no timestamp for remote log.
New Features	N/A
Firmware Optimization	N/A

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4. For Firmware Version R01A09V13

GL320M Firmware Version	GL320M_B7K1_ R01A09V13
Applicable @Track Air Protocol Version	GL320M Series @Track Air Interface Protocol_V2.05
Applicable Manage Tool Version	Queclink_GL320M_Manage_Tool_V1.0.15
Problems Fixed	1. Solved the problem that when <Mode> in AT+GTNMD command is set to 0: Suspend the report of FRI and Geo-fence when it detects non-movement, there is the chance the first +RESP:GTFRI may have multiple GPS points inside when the device moves again. 2. Solved the issue that if a reboot command is given in the midway when the device is in moving status, the device cannot detect movement again because the reboot command has interrupted the device to have a stillness event to form the complete stillness-movement status transfer cycle.
New Features	1. Added black list to AT+GTNTS command. 2. Added <Outside-working-hours Event> and <Inside-working-hours Event> in the Input ID Mask in AT+GTUDF. 3. Turned off the LAPI feature of the module. 4. Added <Walking Mode> to AT+GTCFG. It will help the device to obtain the positioning azimuth and speed information better during walking when the using scenarios include walking. 5. Added the <RAT and Band Data> to the <ERI Mask> in the AT+GTFRI Command. 6. Added <G-sensor Mode> to command AT+GTSFM, the device can use G-sensor to detect flight mode. 7. Added EDRX related configurations in AT+GTBSI. 8. Changed the range of <Radius> and <Check Interval> in AT+GTGEO. 9. Firmware is compatible with MC3632 G-sensor.
Firmware Optimization	1. The +RESP:GTBPL will be reported only one time when the device detects it is in low power status. 2. The status of G-sensor can be saved by command AT+GTPDS precisely.

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5. For Firmware Version R01A08V01

GL320M Firmware Version	GL320M_B7K1_ R01A08V01
Applicable @Track Air Protocol Version	GL320M Series @Track Air Interface Protocol_V2.03
Applicable Manage Tool Version	Queclink_GL320M_Manage_Tool_V1.0.11
Problems Fixed	N/A
New Features	N/A
Firmware Optimization	1. Further optimized the motion sensor.

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6. For Firmware Version R01A07V03

GL320M Firmware Version	GL320M_B7K1_ R01A07V03
Applicable @Track Air Protocol Version	GL320M Series @Track Air Interface Protocol_V2.03
Applicable Manage Tool Version	Queclink_GL320M_Manage_Tool_V1.0.11
Problems Fixed	N/A
New Features	1. Added the field of <DNS Lookup Interval> in AT+GTSRI command
Firmware Optimization	1. Optimized the motion sensor, improved the sensitivity of motion sensor.

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7. For Firmware Version R01A05V07

GL320M Firmware Version	GL320M_B7K1_R01A05V07
Applicable @Track Air Protocol Version	GL320M Series @Track Air Interface Protocol_V2.02
Applicable Manage Tool Version	Queclink_GL320M_Manage_Tool_V1.0.7
Problems Fixed	N/A
New Features	N/A
Firmware Optimization	1. Further optimized GPS fix 2. Optimized the motion sensor

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8. For Firmware Version R01A04V04

GL320M Firmware Version	GL320M_B7K1_R01A04V04
Applicable @Track Air Protocol Version	GL320M Series @Track Air Interface Protocol_V2.02
Applicable Manage Tool Version	Queclink_GL320M_Manage_Tool_V1.0.7
Problems Fixed	1. Fixed the issue that device can not exit after entering Ultra-low power consumption
New Features	N/A
Firmware Optimization	1. Optimized GPS fix

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9. For Firmware Version R01A03V04

GL320M Firmware Version	GL320M_B7K1_R01A03V04
Applicable @Track Air Protocol Version	GL320M Series @Track Air Interface Protocol_V2.02
Applicable Manage Tool Version	Queclink_GL320M_Manage_Tool_V1.0.7
Problems Fixed	1. The field of mileage is also included in GTERI message
New Features	1. The function of LTE base station location is added, it will be auto turned ON and OFF as the GTGSM message is enabled and disabled.
Firmware Optimization	1. Buffer messages can not be sent out thru SMS but will not be cleared

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10. For Firmware Version R01A02V02 (initial version)

GL320M Firmware Version	GL320M_B7K1_R01A02V02
Applicable @Track Air Protocol Version	GL320M Series @Track Air Interface Protocol_V2.02
Applicable Manage Tool Version	Queclink_GL320M_Manage_Tool_V1.0.7
Problems Fixed	N/A
New Features	N/A
Firmware Optimization	N/A

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