GV350CEU Firmware Release Notes

GSM/GPRS/LTE CAT1/GNSS Tracker

TRACGV350CEURNR01A09V32

Version: 1.9.32

Driving Smarter IoT

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General Notes

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Contents

1 Preamble

This Release Note introduces GV350CEU firmware version **GV350CEUR01A09V32M128** and briefly describes the benefits over preceding release. Also you can find difference compared with preceding release.

Note

- **1** - Firmware versions A01/A02/A03/04 cannot be upgraded directly to A07 over-the-air, please upgrade version A01/A02/A03/04 to A05/A06 first and then from version A05/A06 to A07.
- **2** - Firmware versions earlier than A07V23 cannot be upgraded directly to A07V26 or higher versions over-the-air, please upgrade to A07V23 first and then from version A07V23 to a higher version.

2 Current Release

2.1 GV350CEUR01A09V32M128

2.1.1 @Track Protocol Support

GV350CEU firmware **GV350CEUR01A09V32M128** supports @Track air interface protocol version 9.04. For detailed information about the protocol, please refer to the document **GV350CEU@Track_Air_Interface_Protocol_v0904**.

2.1.2 New Features

The following table lists new features compared with the preceding firmware release, version **GV350CEUR01A08V35M128**.

Item	Brief Description
1	Added the AT+GTIDS command and added option 2 to parameter <ID List Type> in AT+GTIDA to support setting ID Numbers for driver authentication.
2	Added Bit 0 <Accessory Name> to the parameter <Accessory Append Mask> in the AT+GTBID command.
3	Added type 2 to the parameter <Satellite Terminal Type> in the command AT+GTURT to support Iridium accessory.
4	Added parameter <PDP Type> to AT+GTBSI command to support IPV6 feature.
5	Added parameter <ID Reader Type> to the command AT+GTACD to support 1-wire keyboard.
6	Added bit 1 in the <+RSP Expansion Mask> and Bit 0 in the <+EVT Expansion Mask> in the AT+GTHRM command to extend the range of <Satellite in Use> to 72.
7	Added Bit 3 to the parameter <Satellite Information Mask> in the command AT+GTRTO to support reporting Galileo satellite information.
8	Added Bit 5 to the parameter <INF Expansion2 Mask> in the command AT+GTHRM to support reporting +RESP:GTASV message in hex format.
9	Added Bit 9 to the parameter <Alarm Mask 3> in the command AT+GTCLT to support charge status alarm when <Charging State> changes.
10	Added Bit 28 to the parameter <CAN Data Mask> in the command AT+GTCLT to support enabling <Electric Report Mask> and added the parameter <Electric Report Mask> to the AT+GTCLT command.
11	Added type 3 to parameter <ID Report Type> in the message +RESP:GTIDA.

Item	Brief Description
12	Added parameter <Reboot Switch Mask> to the command AT+GTDOG to support configuring the device to reboot periodically according to the configuration.
13	Modified the maximum range of parameters <Samples Before Crash> and <Samples After Crash> to 3200 in the command AT+GTCRA.
14	Added the command AT+GTGPJ to support detecting GPS jamming.
15	Added the parameter <Mileage> to the message +RESP:GTDTT Long Format.
16	Added %IMEI% to the parameters <Subscribe Topic> and <Publish Topic> in the command AT+GTMQT to support batch setting of IMEI numbers as Topic for devices.

2.1.3 Improved Features

The following table lists features or parameters that have been changed or improved compared with preceding firmware release, version **GV350CEUR01A08V35M128**.

Item	Brief Description
1	Fixed an issue where the <Analog Input VCC1> was displayed incorrectly in the +RESP:GTUDT and +RESP:GTIOS messages when the <Mode> in the GTAIS command was set to 3.
2	Fixed an issue where both <APN> and <Backup APN> in the GTBSI command were cleared after being set to empty and executed by the device.
3	Fixed an issue where a report type of Tire data changes in the GTTPM message would be reported when the RTO-3C command was issued to clear the tire pressure sensor data.
4	Fixed an issue where the parameters <APN>, <APN User Name>, <APN Password>, <Backup APN>, <Backup APN User Name> and <Backup APN Password> could not be cleared using the %CLR% wildcard in the GTBSI command.
5	Fixed an issue where the device would not report the +RESP:GTVGF message after resetting VMS configuration when in the virtual ignition on state.
6	Fixed an issue where the Bit 0 - <Additional Number> parameter in the <+ACK Expand Mask> was not added to the HEX-formatted +ACK:GTIDS message.
7	Fixed an issue where the <Frame Number> reported in the +RESP:GTCRD message was greater than the <Total Frame> when the device was continuously in the CRA state due to flipping.
8	Fixed an issue where the +RESP:GTUDT message was still reported even though both GTTOW and GTFRI <Mode> were turned off and the <IGF Sending Mode> was set to 1.

Item	Brief Description
9	Fixed an issue where the <Ghost Battery Percentage> in the +RESP:GTBTI message was reported as 0 instead of empty when there was no data.
10	Fixed an issue where the PEO with an ID greater than 19 did not trigger output when the PEO/PEG function was enabled and the ID configuration exceeded 19.
11	Fixed an issue where some special SIM cards could not register to the network when <Network Mode> was set to 0-Auto mode in the GTBSI command.
12	Fixed an issue where the MAC address reported in the BAA message was incorrect when WKF300, WID310, and ID ELA were configured simultaneously in the command AT+GTBID.
13	Fixed an issue where setting the output ID from 0 to a non-zero value would not trigger the corresponding output after the engine was turned off and the vehicle became stationary when the device was in tow state.
14	Modified the description of <SACK Mode> in the command AT+GTSRI.
15	Optimized the ID Authentication Alarm feature by splitting the report type 0 in the IDA message into two types: 0-disable and 3-unauthorized.
16	Fixed an issue where the message sequence number was lost after an abnormal reboot of the device.
17	Fixed an issue where the <Report Mask> in the +ACK message returned was inconsistent with the protocol after the GTHRM command was issued for the first time.
18	Fixed an issue where protocol commands issued from the MQTT server might not be parsed correctly when the MQT function was enabled.
19	Optimized the sensor motion detection to prevent the issue where the device failed to update the GPS location while in motion during ignition on.
20	Optimized the self-calibration strategy for obtaining steady-state values by incorporating external power detection.
21	Fixed an issue where the device did not report in the order of IGN-CAN-STR-ERI-ERI-STP-CAN-IGF before and after ignition.
22	Improved the speed of detecting door and central locking status with GTCLT function to less than 1 second.
23	Fixed an issue where fake Handbrake alarm reported when GTCLT function was enabled after the vehicle's ignition was turned off.
24	Fixed an issue where several additional 'Reserved' fields, which were inconsistent with the protocol, were displayed at the end of the AT+GTCAR command.
25	Fixed an issue where the device might report a duplicate CRD message after triggering a collision.
26	Fixed an issue where the <Tacho RTC> parameters were not updated during the DDD file download.

Item	Brief Description
27	Fixed an issue where the <Subscribe Topic> in the GTMQT command did not support the wildcard '#'.
28	Fixed an issue where the GTCMD was not triggered upon TCP server disconnection and connection when configuring Bit 53 and Bit 54 in the AT+GTUDF command.
29	Fixed an issue where the information of Bluetooth accessory configured via the AT+GTBID command was incorrectly reported in the +RESP:GTERI message.

3 Release History

3.1 GV350CEUR01A08V35M128

3.1.1 @Track Protocol Support

GV350CEU firmware **GV350CEUR01A08V35M128** supports @Track air interface protocol version 8.08. For detailed information about the protocol, please refer to the document **GV350CEU@Track_Air_Interface_Protocol_v0808**.

3.1.2 New Features

The following table lists new features compared with the preceding firmware release, version **GV350CEUR01A07V26M128**.

Item	Brief Description
1	Added parameters <UUID>/<NAME> and modes 2/3 to the command AT+GTBID.
2	Expanded the length of <MQTT Password> to 150 bytes in the AT+GTMQT command to support access to Azure IoT Hub.
3	Added a feature that allows the device to disconnect and re-pair with the current Bluetooth accessory when the <PIN> in the BTS command is changed.
4	Added parameter <ID Filter Mode> to the command AT+GTIDA to check whether the same read ID would be filtered out.
5	Added a feature to the +RESP:GTTPM message that extends the <Report Type> field to <Accessory Type/Report Type> to differentiate between various TPMS accessories.
6	Added model 2/3 to parameter <Accessory Model> when <Accessory Type> is 10 in the command AT+GTBAS.
7	Added <Accessory Type> to mode 41 in the command AT+GTURT to support new TPMS accessory for heavy duty vehicles.
8	Added <Time Out>, <RF Quality> and <Reference Pressure> to <Append Mask> in the command AT+GTTPM.
9	Added parameters <Operation Mask>, <Independent Password Mode>, <Independent Password> and <New Independent Password> to the command AT+GTSIM to support the binding of SIM card and device.
10	Added Bit4 - Bit12 to parameter <CAN Report Expansion Mask1> in the AT+GTCAN command to support brake linings and other new CAN parameters.

Item	Brief Description
11	Added a feature to support not resetting the configuration of AT+GTSIM when setting <Sub Command> of AT+GTRTO to 4.
12	Removed mode 14 from <GNSS Working Mode> in the AT+GTCFG command.
13	Added parameter <Message Type> to the AT+GTBID command.
14	Added +RESP:GTBIE message to support expand BID Report.
15	Added command AT+GTBFS, and deleted the parameters <NAME> and <UUID> from the command AT+GTBID to support the expansion of the number of name/UUID fields in each GTBID index option.
16	Added Bit8 to <CAN Information Mask> in the command AT+GTRTO to support querying CAN Configure Deep Sleep Mode Switch.
17	Added parameter <IDA Trigger> to the command AT+GTBID.
18	Added the parameters <RPM>, <Total Revolutions Counter> and <Angle Sensor Mode> to the message +RESP:GTERI to support the retrieval of more data from the Escort angle sensor.
19	Added the command AT+GTSVR to support stolen vehicle recovery.
20	Added type 14 to parameter <Sub Command> in the AT+GTRTO command to support sending Bluetooth commands.
21	Deleted the parameter <Read Interval> from the command AT+GTBAS.
22	Added type 13 to <Command Type> in the AT+GTTTR command, and added type 10 to <Message Type> in the +RESP:GTTTR message to support querying driver2 name/id/time related status.
23	Added the parameter <Total Fuel or Idle Fuel Used Expand> to <CAN Report Expansion Mask1> in the command AT+GTCAN to support the tracking of total fuel usage for petrol/diesel and gas.

3.1.3 Improved Features

The following table lists features or parameters that have been changed or improved compared with preceding firmware release, version **GV350CEUR01A07V26M128**.

Item	Brief Description
1	Fixed an issue where the upgrade process could sometimes fail to report messages when the GTCFU command was used to cancel the upgrade.
2	Fixed an issue where the UUID reported in the +RESP:GTBID message was incorrect when the <Mode> was configured to 1 or 3 in the AT+GTBID command.
3	Fixed an issue where the OUTPUT was triggered when the AT+GTRMD function was not enabled.

Item	Brief Description
4	Fixed an issue where the +ACK:GTSRI message format remained unchanged after changing the <Protocol Format> in the AT+GTSRI command.
5	Fixed an issue where the parameters were abnormal and did not take immediate effect after the GTUPC upgrade failed.
6	Optimized the GTTAP function to continue taking photos with automatic cancellation of the sending process if the photo is not successfully uploaded within 30 seconds.
7	Fixed an issue where the +RESP:GTUPC-300-302 messages might be reported repeatedly when updating FVR file with command AT+GTUPC.
8	Fixed an issue where the parameter <Enhanced Temperature> in the message was still controlled by the <Accessory Append Mask> of the AT+GTBAS command after the GTBTD function was enabled.
9	Fixed an issue where configuring <ICCID> with different case for the same string in the GTSIM command still triggered an output.
10	Fixed an issue where the output1 was still triggered after reboot even if the PEO configuration was reset to its default value.
11	Fixed an issue where the AT+GTSIM command could be sent successfully even if the <Mode> was set to a value outside the specified range.
12	Fixed an issue that caused the device to reboot abnormally when sending a misspelled "Get Posion" to the device.
13	Fixed an issue where the <File Name> reported in the +RESP:GTFTP message was incorrect when the photo was successfully uploaded to FTP server.
14	Fixed an issue where the <Send Time> reported in +RESP:GTPNR/+RESP:GTPNA messages did not include the time zone information set by the AT+GTTMA command.
15	Fixed an issue where the <System Status Health> reported in the HEX format GTCAN message was incorrect.
16	Fixed an issue where the <Current Hour Meter Count> was not cleared in the HEX format GTIGN and GTSTT messages after the vehicle transitioned from ignition off to ignition on.
17	Fixed an issue where the <Backup Battery Charge State> in the HEX format GTDMR message incorrectly reported FF instead of 00 when the device was not connected to the internal battery.
18	Optimized the logic of the parameter <Cell Report> in the AT+GTCFG command to reduce power consumption when the device is in a no-network environment or stationary.
19	Fixed an issue where the <GNSS Satellite Number> in +RESP:GTUDT was greater than the <GSV Number>.
20	Optimized the GTDOG function to enable the device to reboot the RF to check if the network is restored before triggering the GTDOG reboot.

Item	Brief Description
21	Fixed an issue where the UDF-CMD would be triggered again if Bit51 of the <Input ID Mask> in the UDF command was configured when the device's GPS transitioned from a successful fix to being turned off and then back to a successful fix.
22	Fixed an issue where the <RX Level> reported in +RESP:GTGSM messages was always 99 when the <Cell Report> was enabled in the AT+GTCFG command.

3.2 GV350CEUR01A07V26M128

3.2.1 @Track Protocol Support

GV350CEU firmware **GV350CEUR01A07V26M128** supports @Track air interface protocol version 7.05. For detailed information about the protocol, please refer to the document **GV350CEU@Track_Air_Interface_Protocol_v0705**.

3.2.2 New Features

The following table lists new features compared with the preceding firmware release, version **GV350CEUR01A07V23M128**.

Item	Brief Description
1	NA

3.2.3 Improved Features

The following table lists features or parameters that have been changed or improved compared with preceding firmware release, version **GV350CEUR01A07V23M128**.

Item	Brief Description
1	Improved production efficiency.

3.3 GV350CEUR01A07V23M128

3.3.1 @Track Protocol Support

GV350CEU firmware **GV350CEUR01A07V23M128** supports @Track air interface protocol version 7.05. For detailed information about the protocol, please refer to the document **GV350CEU@Track_Air_Interface_Protocol_v0705**.

3.3.2 New Features

The following table lists new features compared with the preceding firmware release, version **GV350CEUR01A06V25M128**.

Item	Brief Description
1	Added the parameters <Machine Model>, <E-GENSET Report Mask> and mode 6 to the command AT+GTCAN.
2	Added the parameters <Expand Organization Unique Identifier Numbers> and <Organization Unique Identifier> to the command AT+GTBID.
3	Integrated the battery percentage of BLE ELA Blue Puck MAG.
4	Added option 4 to the parameter <Output Direction> in the command AT+GTRTO.
5	Added the parameters <Primary DNS Server> and <Secondary DNS Server> to the commands AT+GTSRI and AT+GTQSS.
6	Added the command AT+GTTPM to support RS232 TPMS accessory.
7	Added type 3C to parameter <Sub Command> in the command AT+GTRTO.
8	Added mode 41 to the command AT+GTURT.
9	Added Bit16 (<Charge State Optimization>) to <Electric Report Mask> in the AT+GTCAN command.
10	Added parameter <Charge State Optimization> to the message +RESP:GTCAN.
11	Changed the parameters name from <Cornering and Braking Threshold> and <Cornering and Braking Duration> to <Cornering Threshold> and <Cornering Duration>.

3.3.3 Improved Features

The following table lists features or parameters that have been changed or improved compared with preceding firmware release, version **GV350CEUR01A06V25M128**.

Item	Brief Description
1	Fixed an issue where the data would continue to be read according to the parameter <Ex Detection Frequency IGF> after the ignition was switched from off to on.
2	Fixed an issue where AT+GTEPS was unable to close <Output ID> output.
3	Fixed an issue where the device could reboot abnormally if multiple non-ASCII strings were added before the command when sending command via SMS.
4	Fixed an issue with a memory leak when writing data to the serial port.
5	Fixed an issue where GNSS positioning information could not be obtained in the reported +RESP:GTCRG message.
6	Fixed an issue where a new MAC address might carry out the authorization of a new GTIDA in ignition off state.

Item	Brief Description
7	Fixed an issue where the reporting interval of +RESP:GTBID messages was incorrect after the device state was changed from stationary to moving when the parameter <Keyfob Detection Mode> was set to 5.
8	Fixed an issue where the range of <Output Status> in AT+GTBID was inconsistent with the protocol.
9	Fixed an issue where the length of the parameter <CAN Report Expansion Mask> in command AT+GTCAN was inconsistent with the protocol.
10	Optimized the logic of AT+GTPEO/AT+GTGEO functions to solve the problem of device not reporting messages.
11	Fixed an issue where the parameter <ID> of AT+GTGEO would be restored to the default value after the device rebooted in ignition on state.
12	Fixed an issue where the reported mask bits in the +RESP:GTCAN message were inconsistent when all masks have only a single bit checked.
13	Fixed an issue where the parameter <CAN Module Operation Mode> in mode 22 of the GTRTO command could be issued successfully even if it was set to an out-of-range value.
14	Fixed an issue where an out-of-range value of the parameter <Output Status> in the AT+GTCLT command could be issued successfully.
15	Fixed an issue where the device could report message +RESP:GTUPC-305 after a normal reboot if the device failed to update the device configuration and reported +RESP:GTUPC-302.
16	Fixed an issue where the device stopped reporting messages in serial when using the ST2100.
17	Reduced the number of files that save parameters of the AT commands.
18	Fixed an issue where the corresponding command saved in AT+GTCMD could not be triggered when input 3 of <Input ID Mask> in AT+GTUDF was selected.
19	Fixed an issue where the device could not report message +RESP:GTDIS after reboot if AT+GTPDS was enabled to save AT+GTDIS state and the DIS state was changed during the reboot.
20	Fixed an issue where the serial number might start from 0 after reboot.
21	Fixed an issue where the value of parameter <Crash Counter> in the HEX-formatted message +RESP:GTCRA was incorrect.
22	Optimized the problem of large jumps in temperature sensor values.
23	Fixed an issue where the AT+GIDC function did not work when the parameter <Report Mode> in the AT+GTIDA command was not enabled.
24	Fixed an issue where the ID reported in +RESP:GTIDA was inconsistent with the printed ID on DR200 card.
25	Optimized the parsing process of GSV data in NMEA data.
26	Optimized command issuance logic for the new Queclink @Track MT.

Item	Brief Description
27	Fixed an issue where the device would stop working after receiving a text message containing garbled characters.
28	Fixed an issue where the device could not trigger AT+GTCMD after reboot when the parameter <Input ID Mask> was triggered in command AT+GTUDF.
29	Fixed an issue where the values of 3-axis might be 0 in message +RESP:GTACC.
30	Fixed an issue where no messages would be reported to the original SMS number when AT+GTRTO command was sent via SMS if the parameter <Output Direction> was set to 3.
31	Fixed an issue where the reported +RESP:GTBAT message was inconsistent with the protocol.
32	Fixed an issue where the AT+GTPDS command did not save the device state before the reboot.
33	Fixed an issue where the device could not parse commands sent via SMS that contained Chinese text fields.
34	Fixed an issue where the OEX status reported in the +RESP:GTFRI message was incorrect after the <Status> in AT+GTOEX command was set to 0.
35	Fixed an issue where the EIO100 could not be detected and it took a long time to reported the +RESP:GTIDA message after reboot if using the 1-wire to connect the device to iButton/EIO100/temperature sensor and changing <EIO100 Connection> in the AT+GTACD command.
36	Fixed an issue where the parameter <GNSS Accuracy> in the +RESP:GTIDC message was 0 in a positioning success environment.
37	Fixed an issue where the <Total Packets> and <Current Packets> of an +RESP:GTALM message were inconsistent.
38	Fixed an issue where the device reported HEX-formatted messages to cell phone via SMS.
39	Fixed an issue where the reported message +RESP:GTFRI was incorrect when the command AT+GTOWH was enabled and the parameter <Position Append Mask> in command AT+GTCFG was enabled.
40	Fixed an issue where the AT+GTBTD command could be issued when the parameter <Bind BAS Index> was set to a null value.
41	Fixed an issue where the <Data Mask Length> reported in the HEX-formatted +RESP:GTBTD message was incorrect.

3.4 GV350CEUR01A06V25M128

3.4.1 @Track Protocol Support

GV350CEU firmware **GV350CEUR01A06V25M128** supports @Track air interface protocol version 6.07. For detailed information about the protocol, please refer to the document **GV350CEU @Track Air Interface Protocol V6.07**.

3.4.2 New Features

The following table lists new features compared with the preceding firmware release, version **GV350CEUR01A05V28M128**.

Item	Brief Description
1	Added <Validity Time> to the AT+GTDIS command.
2	Added Bit3 and Bit6 to <Erased Counters Mask> in the AT+GTRTO command to support clear duration and maintenance related counters.
3	Added the parameter <ID Report Format> to the message +RESP:GTGIN/+RESP:GTGOT for compatibility reporting of GEO and PEO messages.
4	Added parameters <Scan Interval> and <Scan Window> to the command AT+GTBTS.
5	Added mode 12/14 to the parameter <GNSS Working Mode> in the command AT+GTCFG to support GPS, GLONASS, Galileo and Beidou positioning systems in combination.
6	Added Bit1, Bit2, Bit3, Bit4 and Bit6 to <Additional Event Mask> in the AT+GTCAN command to support reporting +RESP:GTCAN message when Tacho info changed.
7	Added the command AT+GTCDS to set buzzer and LED state of DR100 Card Reader.
8	Added the AT+GTPEG command to support expanding PEO number to 200.
9	Added <Format> to Mode 8 of <Working Mode> in the command AT+GTURT.
10	Added mode 14 to the command AT+GTURT to support transmission of specified reports via satellite terminal when GSM was not available.
11	Added an interface to make it possible to display CAN BUS information in the new MT (Queclink @Track MT).
12	Added the parameter <Fast STP Mode> to the command AT+GTSSR to support reporting +RESP:GTSTP message immediately when the engine was turned off.
13	Added the parameter <Index> to the command AT+GTRTO to support querying a specific set of information for AT+GTCLT command.

3.4.3 Improved Features

The following table lists features or parameters that have been changed or improved compared with preceding firmware release, version **GV350CEUR01A05V28M128**.

Item	Brief Description
1	Fixed an issue where the <Command ID> was empty when reporting GTUPC-306 or GTUPC-302 message.
2	Fixed an issue where the output continued to be activated when the WTH300 configuration was switched from satisfying the low power alarm to not satisfying.
3	Fixed an issue where the new output id would not be re-triggered when modifying the output id after the output was triggered in the AT+GTBAS function.
4	Fixed an issue where the GTASC configuration was inconsistent with protocol after Fota upgrade.
5	Fixed an issue where it was difficult for a device to trigger a CRA message after the device's self-calibration was completed.
6	Fixed an issue where the parameters <Backup Battery Voltage> and <Backup Battery Percentage> were inconsistent between ASCII and HEX format in +RESP:GTDMR message.
7	Fixed an issue where the <Power On Reason> reported in message +RESP:GTPNR was not 6 after the device was rebooted with GTUPC-301.
8	Optimized the processing flow of AT commands sent by SMS.
9	Fixed an issue where the parameter <Backup Battery Voltage> was 0 in the HEX format +RESP:GTDMR message when the device was not connected to the internal battery.
10	Fixed an issue where the <Digital Output Status> reported in message +RESP:GTCLT and +RESP:GTDOS was inconsistent.
11	Fixed an issue where the <Tacho Driver1 Name> parameter was reported as a non-ASCII value in the +RESP:GTCAN message.
12	Fixed an issue where the bit14 in <Detailed Information/Indicates> was incorrect in the CAN messages.
13	Optimized Jamming detection function for 2G/3G network.
14	Fixed an issue where the <ID> in +ACK:GTFFC was inconsistent with the protocol.
15	Fixed an issue where the output was still activated but no photo was actually uploaded when <Camera ID> in AT+GTTAP command was misconfigured.
16	Fixed an issue where the <Doors> in the +RESP:GTCAN messages was inconsistent with the protocol during driving period after the device have been successfully synchronized.
17	Fixed an issue where the +RESP:GTDOS message was still reported after reboot when the Bit5 in the AT+GTPDS command was enabled to record state of wave shape 1 and all outputs in OEX were triggered.

Item	Brief Description
18	Fixed an issue where the <Network Type> in +RESP:GTINF was displayed incorrectly when the SIM card was removed.
19	Fixed an issue where the +RESP:GTSPE message 01 type was reported incorrectly after entering the circle for the first time but not reached <Validity> time when multiple PEO IDs were set in AT+GTPEG command.
20	Fixed an issue where the query result of AT+GTURT command missed a reserved field.
21	Fixed an issue where the file format reported to GTFTP did not match the set value after the file format was set via GTTTR-11.
22	Fixed an issue where the output was still active when the AT+GTACD command was reset by the AT+GTRTO-4 command.
23	Fixed an issue where the <Accessory Temperature> was 0 instead of null in the +RESP:GTERI message when no temperature value was scanned after the WID320G accessory was enabled by AT+GTBAS command.
24	Fixed an issue where the parameters <Retarder Usage> and <Power Mode> reported in the HEX format message +RESP:GTCAN were not consistent with the protocol if those parameters couldn't be got.
25	Fixed an issue where the device could not self-calibrate after it was cleared by the command AT+GTRTO-25-1.
26	Fixed an issue where the commands with double % in the header sent by SMS channel could not be parsed correctly.
27	Fixed an issue where the device might reboot when high power internal battery was connected.
28	Optimized the UPC upgrade time.
29	Fixed an issue where the state of IEX reported in the +RESP:GTFRI message was still active after IEX was deactivated.
30	Fixed an issue where the reporting interval of the message +RESP:GTBID was incorrect when the <Keyfob Detection Mode> was set to 5 and <Keyfob Detection Interval> was set to 60.
31	Fixed an issue where the device would not immediately send a READ command to the fuel sensor and read data based on <Ex Detection Frequency> or <Ex Detection Frequency IGF> when the device's ignition state changed (from off to on or on to off).
32	Fixed an issue where the output state reported in the +RESP:GTCLT message might be 0 when the output was activated for the first time.
33	Optimized the AT+GTCFU function to shorten the time to upgrade CAN firmware when the network was not good.
34	Fixed an issue where a new MAC might carry out IDA authorization when the previous MAC authorization did not expire if the device was in ignition off state.
35	Fixed an issue where the values outside the specified range of parameter <Output Status> in AT+GTCLT command could be issued successfully.

Item	Brief Description
36	Fixed an issue where the <GNSS Accuracy> reported in the HEX format +RESP:GTIDC message was 0 when the device fixed GNSS successfully.
37	Fixed an issue where the device with only the internal battery connection might shut down directly after connecting to an external power supply via the USB cable.
38	Fixed several potential issues related to accelerate self-calibration.

3.5 GV350CEUR01A05V28M128

3.5.1 @Track Protocol Support

GV350CEU firmware **GV350CEUR01A05V28M128** supports @Track air interface protocol version 5.08. For detailed information about the protocol, please refer to the document **GV350CEU @Track Air Interface Protocol V5.08**.

3.5.2 New Features

The following table lists new features compared with the preceding firmware release, version **GV350CEUR01A04V24M128**.

Item	Brief Description
1	Added type 15 to parameter <Accessory Type> and model 0 to parameter <Accessory Model> in the command AT+GTBAS to support WID320G Bluetooth sensor accessory.
2	Added Bit 11 to <Accessory Append Mask> in the AT+GTBAS command to support reporting temperatures with decimal.
3	Added the command AT+GTBTD to support reporting Bluetooth accessory data.
4	Added “OUT” information to parameter <Tachograph Information Expand> in the +RESP:GTCAN message.
5	Added mode 6 and 7 to the command AT+GTAIS.
6	Added the command AT+GTMSI.
7	Deleted mode 1 of <Virtual Ignition Mode> from the AT+GTVMS command.
8	Added type 15 and model 1 to the parameters <Accessory Type> and <Accessory Model> in the command AT+GTBAS to support MOV ELA Bluetooth sensor accessory.
9	Added Bit 36/37 to the parameter <Input ID Mask> in the command AT+GTUDF.
10	Added parameters <Battery Instantaneous Voltage>, < Battery Charging Cycles Count>, <Total Energy Recuperated>, <Battery Temperature>, <Battery Charging Current>, <Battery Instantaneous Power>, <Battery State of Health (SoH)>, <Total Energy Used>, <Total Energy Used When Idling> and <Total Energy Charged > to <Electric Report Mask> in the AT+GTCAN command.

Item	Brief Description
11	Added mode 4 to <CAN Module Operation Mode> in the AT+GTRTO command.
12	Deleted the parameters <Brake Speed Threshold>, <Delta Speed Threshold>, <Delta Heading Threshold>, <Working Mode>, <Output ID>, <Output Status>, <Duration> and <Toggle Times> from the command AT+GTASC.
13	Added the parameter <Report Mode> to the command AT+GTASC.
14	Added the parameter <Format Version> to the command AT+GTRTO.
15	Added the parameter <Network Type> to the message +RESP:GTINF.

3.5.3 Improved Features

The following table lists features or parameters that have been changed or improved compared with preceding firmware release, version **GV350CEUR01A04V24M128**.

Item	Brief Description
1	Fixed an issue where the <Send Time> could be reported incorrectly in messages.
2	Fixed an issue where the device did not report message with type TTR-8,0 when the THR100 accessory was rebooted manually during the authentication process or reading file process.
3	Fixed an issue where <Power Mode> could be reported incorrectly in the +RESP:GTCAN message.
4	Fixed an issue where the Bit22 in the <CAN Data Mask> of the AT+GTCLT command was still valid.
5	Optimized the Protocol Application triggered output feature so that when a new output configuration was changed, the old output only stopped when an exit or entry condition was met.
6	Fixed an issue where DDD files uploaded via FTP did not report the FTP server connection success message.
7	Optimized the AT+GTOWL function to disconnect from the operator when illegal PLMN was detected.
8	Fixed an issue where the AT+GTOWL function was abnormal when the <Mode> was switched.
9	Fixed an issue where the +RESP:GTFRI report type was not reported based on the <GNSS Trigger Type> of the last point when configuring AT+GTFRI multipoint report.
10	Fixed an issue where the WTH300/WBC300/WTS300/WMS301/WRL300/WTH301/WID320G accessories could be scanned by name.
11	Fixed an issue where it was unable to register on the network when using some SIM cards with a private APN and authenticating with a registered user and password.
12	Fixed an issue where the configuration of AT+GTLTP could be queried by AT+GTRTO.

Item	Brief Description
13	Fixed an issue where the scan failure status was not reported until 3 minutes later in the +RESP:GTERI message when the WID320G Bluetooth accessory was turned off after a successful scan.
14	Fixed an issue where the +RESP:GTIOB message would not be reported when the AT+GTIOB was configured to use EIO100 and digital input while the AT+GTIEX and AT+GTDIS functions were not enabled.
15	Fixed an issue where +RESP:GTBAA message was still be reported if the alarm conditions were not met when the new AT+GTBAS was issued after the Accessory Name was changed but the MAC was not changed during normal Bluetooth scanning.
16	Modified the default value of the parameter <Accessory Append Mask> in the AT+GTBAS command to 7FFF.
17	Optimized Jamming detection function.
18	Fixed an issue where the +RESP:GTUPD message with code 341 could not be reported to the QMS server after BLE was successfully upgraded.
19	Fixed an issue where the device would reboot abnormally after sending multiple commands via the serial port when AT+GTURT mode was set to 28.
20	Fixed an issue where the <LED State> might be reported as 0 in the +RESP:GTINF message.
21	Optimized AGPS online function.
22	Optimized BLE upgrades to prevent crashes during upgrades.
23	Optimized the RTC time backup logic to prevent the problem of time regression after the device was rebooted.
24	Fixed an issue where the device could be rebooted abnormally when some SIM cards were in roaming state.
25	Fixed an issue where the <RAW DATA> reported in +RESP:GTERI was incorrect when the temperature was below 0℃.
26	Fixed an issue where a message would be reported to the backup server duplicated when the primary server did not support TLS but the backup server supported TLS if the primary server before the backup server.
27	Fixed an issue where the device did not report +RESP:GTSTR after reboot in motion state if AT+GTPDS was enabled to save AT+GTSSR state.
28	Fixed an issue where the WTH300's output1 would not be stopped when the low-power alarm condition was changed to not satisfied after the new AT+GTBAS command was changed.
29	Fixed an issue where the range of parameter <Client ID> in AT+GTMQT was inconsistent with the protocol.
30	Fixed an issue where the state was not exited for a long time after bad driving behavior was detected when AT+GTHBM mode was set to 5.

Item	Brief Description
31	Fixed an issue where it was unable to save the file of <Discard Unknown Event> in AT+GTHBM if it was changed.
32	Modified the range of parameter <Initial Hour Meter Count> to 00000:00:00 – 1193000:00:00 in the command AT+GTHMC.
33	Fixed an issue where the +RESP:GTBAA message was not reported after the state of WMS301 was detected.
34	Fixed an issue where the values of 1-wire temperature sensor were abnormal but still being reported.
35	Fixed an issue where the <GNSS Trigger Point> would not be influenced by AT+GTOWH when AT+GTOWH was enabled.
36	Fixed an issue where the secondary serial port would not return "OK" or "Error" when the AT+GTDAT command was issued from the secondary serial port after the <Mode> was set to 1 in the AT+GTURT command.
37	Fixed an issue where the GPS would still be turned off when the device kept in motion from ignition on to ignition off and the <Tow Distance> was not met but the <Engine Off Tow> condition was met while <Mode> was set to 2 in the AT+GTVMS command.
38	Fixed an issue where GPS would remain on until the device exited the TOW state when <Power Saving Mode> was set to 1 or 2 and <Tow Interval> was set greater than 60 seconds.
39	Fixed an issue where the +RESP:GTSTP message was still reported when it reached the time to stop but stop status condition was not met after the device kept moving and rebooted while the device entered start status and saved by AT+GTPDS command.
40	Fixed an issue where there was no further CAN synchronization when the ignition was turned off if an automatic synchronization was performed after the CAN profile was successfully upgraded by the AT+GTCFU command.
41	Fixed an issue where a +RESP:GTGSM message contained multiple identical cell information.
42	Fixed an issue where there was a small chance that the messages were not reported until a DOG reboot was triggered after the device was upgraded with erasing all the parameters by tool.
43	Fixed an issue where <Backup APN> in the AT+GTBSI command did not take effect when the network was abnormal.
44	Modified the minimum range of the parameter <Min Threshold> in the AT+GTEPS command to 0.
45	Fixed an issue where the ACK of AT+GTIDC in HEX format was inconsistent with the protocol.
46	Fixed an issue where the device's Bluetooth was turned on but scanning could fail.
47	Fixed an issue where the buffer sequence number was not consecutive on the QMS side after a DOG reboot was occurred on the tracker side when the buffers were stored in tracker and QMS side at the same time.

Item	Brief Description
48	Fixed an issue where the +RESP:GTACC reporting interval changed from 3 seconds to 12 seconds.

3.6 GV350CEUR01A04V24M128

3.6.1 @Track Protocol Support

GV350CEU firmware **GV350CEUR01A04V24M128** supports @Track air interface protocol version 4.10. For detailed information about the protocol, please refer to the document **GV350CEU @Track Air Interface Protocol V4.10**.

3.6.2 New Features

The following table lists new features compared with the preceding firmware release, version **GV350CEUR01A04V12M128**.

Item	Brief Description
1	Adjusted the message report order according to IGN --> CAN (Ignition event report) --> STR --> ERI --> ... -->ERI-->STP-->CAN (Ignition event report)-->IGF order.
2	Added Bit13 and Bit14 to <Expansion Information> in the +RESP:GTCAN message.
3	Extended parameter <Additional Event> to parameter <Additional Event Mask> and added Bit 5 to the parameter <Additional Event Mask> in the AT+GTCAN command.
4	Added <Extended Debug Information>, <Standard Debug Information> and <Hardware Information> to parameter <CAN Information Mask> in the AT+GTRTO command.
5	Added Bit 51 <The device fixes GNSS successfully>, Bit 52 <The device fails to fix GNSS>, Bit 53 <TCP server connected>, Bit 54 <TCP server disconnected> to parameter <Input ID Mask> in the command AT+GTUDF.
6	Added the parameter <CAN Report Expansion Mask1> to the AT+GTCAN command.
7	Added the parameter <Retarder Usage> to the <CAN Report Expansion Mask1> in the AT+GTCAN command.
8	Added the parameter <Power Mode> to the <CAN Report Expansion Mask1> in the AT+GTCAN command.
9	Added <Tachograph Information Expand> to parameter <CAN Report Expansion Mask> in the AT+GTCAN command.

3.6.3 Improved Features

The following table lists features or parameters that have been changed or improved compared with preceding firmware release, version **GV350CEUR01A04V12M128**.

Item	Brief Description
1	Fixed an issue where the parameter <Report ID / Report Type> reported in the +RESP:GTFRI message was incorrect after reboot if the device entered the parking fence.
2	Fixed an issue where GAM would still work when <Speed Mode> was disabled.
3	Fixed an issue where the +RESP:GTIDA message would be reported with a null ID has logged out after the ignition was switched off if AT+GTIDA command was issued while the device was in the ignition on state.
4	Fixed an issue where the output waveform 1 would still be triggered after the low power alarm was detected when the <Output Status> of output1 in AT+GTBID command was set to 0.
5	Fixed an issue where the device status directly changed to 12 (Ignition Off Motion) after moving when <Fake Tow Delay> was set to 0 and the device went from stationary to motion in ignition off state.
6	Fixed an issue where the device would not report +RESP:GTVGF when it was stationary if <Virtual Ignition On Logic> was set to 1 and the voltage was not satisfied.
7	Fixed an issue where it failed to download large files of 3-month DDD by using AT+GTTTR function.
8	Fixed an issue where the command returned an error when the parameter <URL> was set to null in the AT+GTRTP command.
9	Fixed an issue where the message would not be reported until reboot if <Certificate Verification> was changed from 1 to 2 in the AT+GTTLS command.
10	Fixed an issue where the upgrade file could not be downloaded successfully when upgrading UFS via AT+GTUPD command after the message server was closed.
11	Fixed an issue where the Bit 14 was still selected when Bit 14 in the <INF Expansion Mask> parameter was unselected in the AT+GTHRM command.
12	Optimized the Protocol Application triggered output feature so that when a new output configuration was changed, the old output only stopped when an exit or entry condition was met.
13	Fixed an issue where the <Configuration Version> would still be changed in the +RESP:GTDMR message when the AT+GTFVR command was issued but the AT+GTUPC command was not performed.
14	Fixed an issue where the device did not report TTR-8,0 type message when the THR100 accessory was rebooted manually in the authentication process or reading a file.

Item	Brief Description
15	Fixed an issue where the reserved Bit 22 in the <CAN Data Mask> was still valid after it was selected in the AT+GTCLT command.
16	Optimized the AT+GTOWL function to disconnect from the operator when illegal PLMN was detected.
17	Fixed an issue where the <Report ID / Report Type> was reported incorrectly when <Wrap Corner Point> and <Mode> were set to 1 and multipoint reporting was enabled.
18	Fixed an issue where the +RESP:GTIOB message would not be reported when the AT+GTIOB was configured to use EIO100 and digital input while the AT+GTIEX and AT+GTDIS functions were not enabled.
19	Optimized an issue where the 4G network was not registered successfully when a private APN contained a username and password was used.
20	Fixed an issue where the data was received in +RESP:GTDTT long format messages were not converted to HEX format.
21	Fixed an issue where the +RESP:GTCLT message would be triggered when the <Inverse Alarm Mask 1> was enabled but no CAN data was actually read.
22	Fixed an issue where the <Format> in mode7 of the AT+GTURT command was issued successfully but read incorrectly.
23	Fixed an issue where the target ID could still be written successfully via AT+GTIDC command after <IDC Timeout> timeout.

3.7 GV350CEUR01A04V12M128

3.7.1 @Track Protocol Support

GV350CEU firmware **GV350CEUR01A04V12M128** supports @Track air interface protocol version 4.07. For detailed information about the protocol, please refer to the document **GV350CEU @Track Air Interface Protocol V4.07**.

3.7.2 New Features

The following table lists new features compared with the preceding firmware release, version **GV350CEUR01A03V20M128**.

Item	Brief Description
1	Added Bit47 and Bit48 to the parameter <Input ID Mask> in the command AT+GTUDF to support triggering message when Driver ID was authorized or unauthorized.
2	Added the +RESP:GTEUC message in HEX format.

Item	Brief Description
3	Added the command AT+GTTLS to support TLS encryption.
4	Added the command AT+GTRTP to support downloading CA certificate file from the backend server.
5	Added the command AT+GTLTP to support writing the CA certificate file to the device by subcontracting.
6	Modified the default value of parameter <Bluetooth Name> in AT+GTBTS from GV350CEU_BT to GV350CEU%IMEI.
7	Added parameter <Reboot Device Type> to the command AT+GTDOG to set the category that needs to be rebooted.
8	Added type 6 to <Power On Reason> in the message +RESP:GTPNR to indicate the reason for power on.
9	Added mode 5 to the parameter <Keyfob Detection Mode> in the command AT+GTBID to support the device to scan continuously after entering ignition on.
10	Added model 5 to parameter <Accessory Model> in the command AT+GTBAS to support WTH301 sensor.
11	Added support for reporting message +RESP:GTIDA when BID Bluetooth accessory was scanned.
12	Added the parameter <Client ID> to the command AT+GTMQT to support the configuration of different Client IDs.
13	Added the parameter <Inverse Alarm Mask 1> to the AT+GTCLT command.
14	Added bit29 to <Alarm Mask1> in the AT+GTCLT command to support monitoring battery charging for electric vehicles.
15	Added mode 3 to the parameter <Mode> in the AT+GTEPS command to support monitoring in-range or out-of-range alarms.
16	Added the command AT+GTIDC to support to delete or verify the authorization status of the target ID.
17	Added the parameters <IDC Enable>, <IDC Output> and <IDC Timeout> to the AT+GTIDA command.
18	Added mode 2 to parameter <Report Mode> in the AT+GTHBM command.
19	Added the parameter <CRA Debounce Time> to the AT+GTCRA command.
20	Added the parameter <Fixed Temperature Report> to the AT+GTACD command.
21	Added type 2 to the parameter <Certificate Verification> in the AT+GTTLS command to support two-way certification between server and client and support to access AWS IOT service.
22	Added <Format> to mode 7 of <Working Mode> in the AT+GTURT command to control the format of data.
23	Modified <Alarm Mask 1> to <Combined Alarm Mask1> in the +RESP:GTCLT message.
24	Added WR200 sensor type to the parameter <ID Read Timer> in the AT+GTACD command.

Item	Brief Description
25	Extended the range of parameter <CAN Information Mask> from 0xFF to 0xFFFF to support getting CAN configuration version.
26	Added wildcards "+" and "#" for parameter <Subscribe Topic> in the AT+GTMQT command.
27	Added mode 2 to parameter <RFID Report Mode> in the AT+GTIDA command to support reporting the latest RFID number when in an authorized state in HEX messages.

3.7.3 Improved Features

The following table lists features or parameters that have been changed or improved compared with preceding firmware release, version **GV350CEUR01A03V20M128**.

Item	Brief Description
1	Fixed an issue where the range of parameter <Data> in the command AT+GTDAT did not support more than 1247 bytes.
2	Optimized the AGPS Online function to improve positioning effect.
3	Optimized the Bluetooth UPD upgrade process.
4	Fixed an issue where the device might reboot abnormally when it was taken out after working properly for 11 days without GPS and GSM.
5	Fixed an issue where only 1 decimal place was reported when the unit of parameter <Fuel Level> in +RESP:GTCAN was liter in some vehicles.
6	Fixed an issue where the output was not exited if the Bluetooth accessory could not be scanned after +RESP:GTBAA was reported and the output was triggered.
7	Optimized the output performance of EIO100 after the device was rebooted.
8	Fixed an issue where the reserved bit of parameter <UPD Fields Mask> in the command AT+GTUPD read back was incorrect.
9	Fixed an issue where the configuration of some parameters was not updated after the AT+GTUPC upgrade.
10	Fixed an issue where the waveform 1 would not stop output after the device re-entered the speed range specified by <Min Speed> and <Max Speed> after reboot when the <Mode> was set to 2 in the AT+GTSPD command and the waveform 1 was triggered after the current speed exited the speed range specified by <Min Speed> and <Max Speed>.
11	Fixed an issue where the RFID number was not reported if the ignition was turned on and the card was authorized after reboot when authorization ID was issued with ignition off and <RFID Report Mode> was set to 1.

Item	Brief Description
12	Fixed an issue where the device did not report the latest card number after reboot if another card was swiped after the card was authorized when <RFID Report Mode> was set to 1.
13	Fixed an issue where two +RESP:GTUDT messages with the same time were reported after rebooting in ignition on state when the <Power Saving Mode> was set to 0.
14	Fixed an issued where the device would not detect the new sensor unless it was rebooted when changing 1-wire temperature sensor or adding new 1-wire temperature sensor.
15	Fixed an issue where the AT+GTTOW would change the status of output LED when the device engine was on.
16	Optimized the logic of WKF300 accessories judgment.
17	Optimized message reporting order to support reporting +RESP:GTHBM/+RESP:GTHBE before +RESP:GTCRA when both HBM and CRA were triggered.
18	Fixed an issue where the interval between <GNSS UTC Time> and <Send Time> in the message +RESP:GTTOW was incorrect.
19	Fixed an issue where the interval between the first and second +RESP:GTTOW message was incorrect when the <Power Saving Mode> was not set to 0.
20	Fixed an issue where the messages +RESP:GTSTR and +RESP:GTSTP would be reported when the device engine was switched off.
21	Fixed an issue where the device would stop reporting +RESP:GTUDT message when it entered the 41 state after reboot in ignition off state if the AT+GTUDT command was issued in ignition on state.
22	Fixed an issue where the values of <RFID> and <RFID Length> in +RESP:GTPNA messages were empty when the device was rebooted in the authorized state.
23	Fixed an issue where the device lost authorization but did not report +RESP:GTIDA-2 after the ignition was turned off if the device was authorized while the ignition was on and the AT+GTIDA command was resent to change the authorization ID.
24	Fixed an issue where the device would report the ID has been logged out twice after the authorization card was swiped again when the <ID number list> was changed in ignition off state if the ID had been authorized.
25	Fixed an issue where the output1 could not output square waves.
26	Optimized the auto-synchronization process so that once the model has been set via RTO-22-1, the device will no longer auto-synchronize after the ignition is turned on as long as the model has been set successfully.
27	Fixed an issue where the reported +RESP:GTTKS message could be inconsistent with the protocol.
28	Fixed an issue where the <Unique ID> and <Report Type> reported in +RESP:GTUDT messages were incorrect after AT+GTUDT function was enabled.

Item	Brief Description
29	Fixed an issue where the device would fail to send the AT+GTAIS command if the value of <Min Threshold> was set bigger than <Max Threshold>.

3.8 GV350CEUR01A03V20M128

3.8.1 @Track Protocol Support

GV350CEU firmware **GV350CEUR01A03V20M128** supports @Track air interface protocol version 3.03. For detailed information about the protocol, please refer to the document **GV350CEU @Track Air Interface Protocol V3.03**.

3.8.2 New Features

The following table lists new features compared with the preceding firmware release, version **GV350CEUR01A02V22M128**.

Item	Brief Description
1	Added the parameter <Accelerator Pedal Pressure High Threshold> to the command AT+GTCLT to support Kick-Down alarm.
2	Added type 13 to the parameter <Accessory Type> in the command AT+GTBAS to support WRL300 accessories.
3	Added model 4 to the parameter <Accessory Model> in the command AT+GTBAS to support WMS301 accessories.
4	Added model 4 to the parameter <Beacon ID Model> in the command AT+GTBID to support WID310 accessories.
5	Added type 3A to the parameter <Sub Command> in the command AT+GTRTO.
6	Added the parameter <Electric Report Mask> to the command AT+GTCAN to support reading some parameters of the electric vehicles.
7	Added the parameter <Gaseous Fuel Level> to the <CAN Report Expansion Mask> in the command AT+GTCAN.
8	Added mode 9 to the parameter <Report Mode> in the command AT+GTSRI.
9	Added the command AT+GTMQT to support MQTT protocol reporting.
10	Added mode 2 to the parameter <ODO Enable> in the command AT+GTCFG.
11	Added the parameter <Server ID> to the command AT+GTMQT to support the configuration of different server IDs.
12	Added operations of rebooting the device after upgrading the configuration over the air.

Item	Brief Description
13	Modified the range of parameters <Start Index> and <End Index> from 1-300/N to 1-300 in the command AT+GTBID, and deleted the parameter <Index> from the message +RESP:GTBID.
14	AT+GTUPD and other remote upgrade commands support HTTPS protocol downloads.
15	Modified the range of parameter <Bluetooth Name> from <=25 to <=18 and the default value of <Mode> from 0 to 1 in AT+GTBTS command.

3.8.3 Improved Features

The following table lists features or parameters that have been changed or improved compared with preceding firmware release, version **GV350CEUR01A02V22M128**.

Item	Brief Description
1	Fixed an issue where all EVT masks were cancelled in the AT+GTHRM command and the +RESP:GTFLA message was still reported after the AIS was triggered.
2	Fixed an issue where the device name did not match the settings when the AT+GTBTS command was switched on/off after the mobile phone APP established a connection with GV350CEU via Bluetooth.
3	Fixed an issue where the +RESP:GTGSM message triggered by the AT+GTRTO-C command did not contain neighborhood cells information when the parameter <Cell Info Report> was not enabled.
4	Fixed an issue where the +RESP:GTBID message was not reported when the number of ELA accessories was changed after the device was changed from motion to motionless if <DELA Detection Mode> was configured to 3.
5	Fixed an issue where there was no result returned from the main serial port when AT+GTRTO-2B was issued through the main serial port and <Output Direction> was configured to 1.
6	Fixed an issue where the <RFID Length> and <RFID> in the HEX format messages +RESP:GTIDA, +RESP:GTIGF, +RESP:GTIGN, +RESP:GTVGF and +RESP:GTVGN were cleared after the device was rebooted.
7	Fixed an issue where the AT+GTIEX configuration was displayed incorrectly when the parameter <Sample Period> in AT+GTIEX command was configured to empty.
8	Fixed an issue where <ODO Initial Mileage> was not reset in the AT+GTCFG command when the parameter was reset via AT+GTRTO-4-heavy.
9	Fixed an issue where the device failed to be turned off with the AT+GTRTO-5 command if the device was disconnected from the external power supply and only the internal battery was used.
10	Fixed an issue where the device could not detect the ignition status when the parameter <Virtual Ignition Mode> in the AT+GTVMS command was switched from other modes to mode 4 or 7.

Item	Brief Description
11	Fixed an issue where the ignition report interval of +RESP:GTUDT message was incorrect when the parameter <Mode> in AT+GTFRI was turned on/off.
12	Fixed an issue where the device could not report +RESP:GTDAT messages to the server when the AT+GTDAT command was issued via secondary serial port.
13	Fixed an issue where the <Firmware Update Time> in +RESP:GTDMR was inconsistent with the actual upgrade time of the device.
14	Fixed an issue where the +RESP:GTGSM message did not get the neighboring cell information after the device was rebooted in 4G network mode.
15	Fixed an issue where +RESP:GTUPD messages might be reported ahead of +ACK:GTUPD messages.
16	Fixed an issue where the device would not trigger output1 when it went from motion to rest and <Motion Sensor> in AT+GTJBS command was set to 1.
17	Optimized the long upgrade time required to close the server for UPD upgrades.
18	Optimized crash detection logic.
19	Fixed an issue where hardware ignition was not detected for the first time when the device was powered up for the first time.
20	Fixed an issue where the Car Model ID could still be queried through AT+GTRTO-2F command after the AT+GTRTO-22-3 command was sent to clear the car model.
21	Fixed an issue where the device did not report +RESP:GTDAT message after the AT+GTDAT command was issued with HEX format report configured.
22	Fixed an issue where the first +RESP:GTFRI report type was wrong when configuring AT+GTFRI multi-point reporting and triggering AT+GTFFC function.
23	Fixed an issue where the value of parameter <CAN Service Distance> in message +RESP:GTCAN was incorrect.
24	Fixed an issue where some parameters could be lost after upgrading the device firmware.
25	Optimized the SMS reporting process.
26	Fixed an issue where the value of parameter <CAN Data> in the message +RESP:GTPDP was incorrect in HEX format.
27	Fixed an issue where the device would abnormally report +RESP:GTDIS after reboot.
28	Optimized power consumption performance.
29	Fixed an issue where the value of parameter <RFID> in the HEX format messages +RESP:GTIDF/+RESP:GTAIS were not cleared when the device lost authorization.
30	Fixed an issue where the message +RESP:GTHBE was not reported when AT+GTHBM mode was set to 5.
31	Fixed an issue where the function AT+GTTMA worked abnormally.
32	Fixed an issue where the messages +RESP:GTCRD and +RESP:GTACC were repeatedly reported when protocol format was set to HEX format.

Item	Brief Description
33	Fixed an issue where the message +RESP:GTGIN/+RESP:GTGOT was not reported when the parameter <State Mode> in AT+GTGEO was set to 1.
34	Fixed an issue where the value of parameter <Area Mask> in the first message +RESP:GTGIN was incorrect when the parameter <State Mode> in AT+GTGEO was set to 1.
35	Fixed an issue where the value of parameter <Duration of Ignition Off> in the messages +RESP:GTIGN/+RESP:GTVGN was incorrect for the first ignition event after upgrading firmware.
36	Fixed an issue where the corresponding UPD-50X message was not reported when authentication error occurred if upgrading BLE firmware through QMS server.
37	Fixed an issue where the device would abnormally report message +RESP:GTCRD when AT+GTCRA was triggered.
38	Fixed an issue where the google link SMS was not reported when the parameter <Location Request Mask> in AT+GTCFG was set to 23.
39	Fixed an issue where the values of parameters <RFID>/<RFID Length> in the HEX format messages were empty when the parameter <RFID Report Mode> in AT+GTIDA was set to 1.
40	Optimized the Bluetooth UPD upgrade process.
41	Fixed an issue where the value of parameter <GNSS UTC Time>/<Send Time> in all messages was default value.
42	Fixed an issue where the device did not detect stationary state when AT+GTGAM was disabled and the device got GNSS information from GNSS recorder.
43	Fixed an issue where the data could be lost when outputting HEX data to serial port by configuring the AT+GTRTO command.
44	Optimized BLE communication to prevent command execution failure due to abnormal BLE communication.
45	Optimized the problem that messages might not be reported during BLE firmware upgrade process.
46	Fixed an issue where +RESP:GTIOB message was still reported after triggering the INPUT event when the AT+GTIOB function was not enabled.
47	Fixed an issue where <Last Firmware Version> was incorrect when the device was upgraded to a different version via the tool without erasing parameters and then upgraded to the same version over the air.
48	Fixed an issue where the reboot was not triggered again after reboot when input status did not change if <Input ID> in AT+GTDOG was set to trigger reboot and AT+GTDIS function was enabled.

3.9 GV350CEUR01A02V22M128

3.9.1 @Track Protocol Support

GV350CEU firmware **GV350CEUR01A02V22M128** supports @Track air interface protocol version 2.03. For detailed information about the protocol, please refer to the document **GV350CEU @Track Air Interface Protocol V2.03**.

3.9.2 New Features

The following table lists new features compared with the preceding firmware release, version **GV350CEUR01A01V35M128**.

Item	Brief Description
1	Added mode 3 to <CAN Module Operation Mode> in the command AT+GTRTO to support clearing the current car model.
2	Enabled the Assist Now Autonomous function to improve TTFF performance.
3	Added <Encrypt Type> to the command AT+GTSRI to implement AES256 message encryption.
4	Added parameters <Service distance>, <Engine Cold Starts Count>, <Engine All Starts Count>, <Engine Starts by Ignition Count>, <Total Engine Cold Running Time> and <Handbrake Applies During Ride Count> to the message +RESP:GTCAN.
5	Added mode 1 to <Output Direction> in the AT+GTRTO command to support message being output to the main serial port.
6	Added the parameters 5/6/9/10 to <update type> in the command AT+GTUPD to support the upgrade of CAN modules, THR100 peripherals and UFS sensor.
7	Added <Working Mode> to the command AT+GTASC to support clearing the steady state every time when external power was connected.
8	Added mode 2 to <LED On> in the command AT+GTCFG.
9	Added type 1/2/7/10/11 to <Accessory Type> in the command AT+GTBAS.
10	Added the parameter <Index> to the command AT+GTBID.
11	Added model 1/2 to <Beacon ID Model> in the command AT+GTBID.
12	Added parameters related to Digital Output in the command AT+GTBID.
13	Modified the range of the parameter <AT Command> in the command AT+GTRTO.
14	Added the parameter <ID List Type> to the command AT+GTIDA.
15	Added the parameter <Modem IMEI> to the message +RESP:GTATI.
16	Deleted the parameter <Configuration Mask> from the command AT+GTRTO.
17	Added mode 2 to the parameter <AGPS Mode> in the command AT+GTCFG to support AGPS online function.

Item	Brief Description
18	Added the parameters <RAT> and <Band> to the message +RESP:GTERI.
19	Added parameters related to Digital Output in the command AT+GTBAS.

3.9.3 Improved Features

The following table lists features or parameters that have been changed or improved compared with preceding firmware release, version **GV350CEUR01A01V35M128**.

Item	Brief Description
1	Fixed an issue where the value of <Fuel Temperature> was reported incorrectly in the HEX format message +RESP:GTERI when connected to the UFSxxx fuel sensor.
2	Optimized Jamming detection algorithm.
3	Fixed an issue where the logical state specified by <Mask> was still reset after the device was rebooted 30 seconds later when the value of <Mode> in AT+GTPDS was switched from 1 to 2.
4	Optimized CAN automatic synchronization process to reduce fake positives.
5	Fixed an issue where a crash event could not be triggered in the 42 (Sensor Motion) state when <Sampling Start> was set to 1 in AT+GTCRA and <Virtual Ignition Mode> was set to 1 in AT+GTVMS.
6	Fixed an issue where the functions AT+GTTOW, AT+GTGEO, AT+GTPEO and AT+GTSPD did not stop output when they were reset separately after triggering waveform 1 output.
7	Fixed an issue where the device sometimes did not respond to the command AT+GTOEX.
8	Fixed an issue where the value of <Self Calibration Status> in +RESP:GTSCS queried by command AT+GTRTO-25 was incorrect when AT+GTCRA function was disabled.
9	Fixed an issue where the <Validity Time> did not work for digital input 2 ports in the command AT+GTDIS.
10	Fixed an issue where the TCP connection would not be disconnected after 2 minutes when <SACK Enable> in AT+GTSRI was disabled on the device side and the +SACK:GTHBD reply from the server side was a wrong format or did not reply.
11	Fixed an issue where the hold stationary time did not consist with the <Time to Stationary> when the device re-entered the idle status after exiting from the idle status.
12	Fixed an issue where the value of <Report Mask> in HEX format message +RESP:GTPDP was incorrect when <+EVT MASK> was configured to 0 in AT+GTHRM.
13	Fixed an issue where the <Report Type> in the message +RESP:GTDAT was inconsistent with the protocol.
14	Optimized motion sensor detection.

Item	Brief Description
15	Optimized power consumption performance.
16	Fixed an issue where the BAS, BID and IDL outputs could not be reset individually.
17	Optimized the performance of +RESP:GTMPN and +RESP:GTMPF reports.
18	Fixed an issue where the AGPS did not work as expected immediately when the GPS was turned off for more than two hours.
19	Optimized 1-wire search device logic.
20	Fixed an issue where the message +RESP:GTCLT was still reported when RPM data was not captured after reboot.
21	Optimized the logic of the AT+GTSSR function.
22	Fixed an issue where the virtual ignition status (42) did not count the hour meter counts in the AT+GTHMC function.
23	Fixed an issue where the device would report a +RESP:GTFRI message with <Report ID/Report Type> type 12 when the <FRI Mode> was changed after FFC function was triggered.
24	Optimized AT+GTDOS function logic.
25	Fixed an issue where the parameters <Input Mask> and <Trigger Mask> of IOB ID1 and IOB ID2 in AT+GTIOB would become the same as IOB ID0 after being set to null.
26	Fixed an issue where the <Inpeo Mask> and <Outpeo Mask> in AT+GTUDF were not the same as the previous settings after being set to null.
27	Optimized the performance of the output in the AT+GTGEO function.
28	Fixed an issue where the range of <Bluetooth Report Mask> in AT+GTBTS was not consistent with the protocol.
29	Fixed an issue where HBM could not be triggered after a successful self-calibration when <Mode> in the command AT+GTHBM was set to 5.
30	Fixed an issue where the AT+GTIEX command configuration read via the command AT+GTRTO was not consistent with the protocol.
31	Fixed an issue where DOG periodic reboot was inaccurate when other types of reboots occurred during the DOG periodic reboot count.
32	Fixed an issue where the current consumption was high when the AT+GTCAN function was enabled after ignition off.
33	Optimized RTO-2F command algorithm to reduce query time.
34	Fixed an issue where a jamming state was triggered after removing the SIM card.
35	Fixed an issue where there would be no +RESP:GTGOT message but +RESP:GTUDT message after exiting the zone when <Mode> in AT+GTGEO was set to 1 and no +RESP:GTGIN message but +RESP:GTUDT message after entering the zone when <Mode> in AT+GTGEO was set to 2.
36	Fixed an issue where messages were being sent a few seconds faster than the server time by optimizing the RTC clock configuration.

Item	Brief Description
37	Fixed an issue where the AT+GTOEX command configuration read via the command AT+GTRTO was not consistent with the protocol.
38	Fixed an issue where the digital output state in the HEX format message +RESP:GTDOS was inconsistent with the actual performance when the IDN or IDF function was triggered.
39	Fixed an issue where <GNSS Trigger Type> was always reported as 01 in the HEX format message +RESP:GTFRI when <Corner Report> in AT+GTFRI was set to 0.
40	Fixed an issue where the message +RESP:GTUDT would be reported according to the <IGF Report Interval> in AT+GTFRI when the <Mode> in AT+GTFRI was set to 0 and <Enable IGF Sending> in AT+GTUDT was set to 1.
41	Fixed an issue where the device still took pictures according to the previous configuration after AT+GTCMS configuration was reset by AT+GTRTO with resetting CMS only.
42	Fixed an issue where the +RESP:GTCAN messages might not be reported when the AT+GTFFC function was enabled.
43	Fixed an issue where the output was not triggered when the <Mode> was set to 1 or 2 in AT+GTGEO and AT+GTPDS was enabled.
44	Optimized AT+GTBTS function.
45	Fixed an issue where the reported +RESP:GTCAN message was incorrect after switching the units (m) and (l) of the parameter <Total Distance> from one to the other.
46	Fixed an issue where the first +RESP:GTUDT message was repeatedly reported and the interval of the second +RESP:GTUDT message was incorrect after device reboot.
47	Fixed an issue where the device did not report the message +RESP:GTTOW after the TOW function was enabled again if it was reset by AT+GTRTO-4 after the +RESP:GTTOW message was triggered.
48	Fixed an issue where the value of <Digital Fuel Sensor Data> was reported as empty instead of 0000 in +RESP:GTERI when the fuel level value was detected as 0 or <Ex Full Value> was set to 0.
49	Fixed an issue where the parameter <GNSS Trigger Type> was reported as 00 in the HEX message +RESP:GTFRI when <Corner Report> and privacy protection was enabled.
50	Fixed an issue where there was a small probability that two +RESP:GTPNA messages would be repeatedly reported after a device reboot.
51	Fixed an issue where the length of the Service Cell ID in the +RESP:GTGSM message was only 7 digits.
52	Fixed an issue where the output2 could not stop after exiting jamming when <Check Speed> in AT+GTJBS was set to 0.
53	Fixed an issue where an AGPS ephemeris data update might be triggered when the AT+GTCFG configuration was changed.

Item	Brief Description
54	Optimized the driver of BLE feature.
55	Fixed an issue where the value of the parameter <Last Fuel Level> was abnormal in the message +RESP:GTFLA when the engine was off.

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3.10.1 @Track Protocol Support

GV350CEU firmware **GV350CEUR01A01V35M128** supports @Track air interface protocol version 1.00. For detailed information about the protocol, please refer to the document **GV350CEU @Track Air Interface Protocol V1.00**.

This is the initial firmware release of GV350CEU.