



TELEMATICS  
MOBILE INFORMATION EXCHANGE

Version 1: 25 July 2022



**MiX 4000**  
Release Notes

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## New features and enhancements

Description	Component	Version
Nordic nRF52832 Bluetooth Module Support	Bluetooth	4.12.1
Added new APNs for Nigeria (best.net, moove.net, obctracking.net).	Comms	4.12.1
Added new Telenor APN (tlnr01.mixtel.cxn) for new IMSI prefix.	Comms	4.12.1
uBlox G350 Jamming: Implemented an improved GSM jamming detection algorithm. The unit will now differentiate between possible jamming status and actual jamming status which are configurable on Config events.	Events, Comms	4.12.3
Diagnostics: Added AT Command Log uploading via reverse BTS on request.	Diagnostics, BTS	4.12.3
Monitor GSM signal strength now independent of being registered on the network which will add comms loss investigations.	Diagnostics, GSM	4.12.3
Quectel LTE DFOTA support for both requested updates and network provider triggered updates.	Comms	4.12.4
Devices updating from below 4.10.12 to >= 4.10.12 will update the GRPS session limit to 1000 if it was set to 100 once only, immediately following the firmware update.	Comms	4.12.4

## Fixes

Description	Component	Version
<b>Quectel EG912 GSM jamming will now be able to detect every subsequent jamming event after having detected "possible jamming" previously.</b>	Comms	4.12.1
<b>Addressed a uBlox U201 modem specific flash wear leveling vulnerability by limiting the unit from resetting the modem to more often than every 2 hours.</b>	GSM, Comms	4.12.1
<b>LTE Commissioning will no longer back off for 15 minutes between APN selection retries.</b>	Comms	4.12..1
The GSM modem is rebooted after having lost registration for 10 minutes.  Previously the time from losing registration to the modem rebooting was nondeterministic, but generally very quick. This change prevents unnecessary reboots and allows more time for the modem to recover by itself.	Comms	4.12.2
Non-Smart Stoneridge DTCO Driver IDs will now consistently report the correct driver ID.	Driver ID, DTCO	4.12.3
<b>A previous change in 4.10.10 that disabled passive scripts TX affected installs that required at least one device to ACK on the bus. New filter file format created to allow for the ACK messages to be transmitted on the CAN bus, but never make any active requests.</b>	CAN	4.12.3
To reduce comms delays the cgatt AT command was removed from modem initialisation. Failing to attach will therefore not result in modem reboots (init failures) anymore.	Comms	4.12.3

All Application Framework parameters will now be correctly created during the start phase of the system. Some applications used to create the parameters in the thread itself, which previously could lead to blocking and undefined behavior.	Events, GPS	4.12.3
The Real time clock (RTC) has been instrumented with additional logging and recovery from being frozen.	Time, RTC	4.12.3
Improved the decision-making criteria that determines when a modem will reboot by weighting the errors differently.	Comms, GSM	4.12.3
DTCO driver ID will now be properly cleared when the driver ID source is from CAN (as opposed to D8 which was functioning correctly).	DTCO, Driver ID	4.12.3
Fixed a condition where an old, no longer valid, socket was attempted to be used after a modem reboot, which previously led to comms delays of a few minutes.	Comms, GSM	4.12.3
Compensated for a new MiX 4000 and MiX 6000 LTE HW where the 12V external supply measured did not drop to below 1V. Firmware will now consider less than 6V as disconnected on the pin (up from 1V) to address primary disconnect events.	Events, Power Management	4.12.4
Fixed old Iridium messages from being spammed. Limited the number of unsent Iridium messages in event storage to be similar to the FM: maximum 10 SAT messages and 4 SAT_UNLIMITED messages.	Iridium, Comms	4.12.4
Addressed a race condition between commsPinger watchdog GPRS connection status which could cause unnecessary modem resets.	Comms, GSM	4.12.4
Removed excessing spamming of Diagnostics Status messages, specifically containing modem FW version.	Diagnostics, GSM	4.12.4
<b>Regression 4.10.x CAN fixed - New MiX 4000 Nordic (MK3) hardware, MiX 3000 and MiX 6000 LTE will now enforce the appropriate CAN listening mode for scripts where listen mode is required. The old MiX 4000 and MiX 6000 will continue to be active on the CAN bus regardless of script type to ensure current installs remain operational.</b>	CAN	4.12.4
Units with Quectel modems would report the jamming status as unknown until the modem saw jamming for the first time. The jamming state is now queried during initialization, right after enabling jamming.	Events	4.12.4
"GSM Serving Cell Access Technology" parameter would keep reporting the RAT of the last tower even after the modem lost coverage. The parameter will now return '0' when the modem is not registered.	Events	4.12.4
The config bit value GPRS_CONNECTED would be false while the unit has comms. This is fixed by querying the current IP address every time a socket is opened.	Events	4.12.4
Enhanced Beame MK6 Network frequency calibration to improve calibration accuracy to within 400Hz while Dual Baud is enabled and within 200Hz accuracy while disabled.	Magix	4.12.4
Improved OBC data requests handling timeouts via Reverse BTS to ensure more successful uploads of said requested blocks (e.g. AT command logs, syslogs).	BTS, Diagnostics	4.12.4
Increased the GPS no lock 4min watchdog to 15 minutes to allow the GPS more time to get a fix before cold booting the device in case it got stuck.	GPS	4.12.4
Fixed odometer jump when switching sources from GPS to something else and then back to GPS again.	Odometer	4.12.4
The unit will no long spam GPRS status changes messages every 2 minutes while in SMS (GSM only) mode.	Events	4.12.5

Quectel BG96 modem low power mode support will now be disabled so that the modem never tries to enter low power mode	GSM	4.12.6
Cached Driver ID's will now be cleared when new config is loaded. Previously a cached driver ID would still be treated as on the list due to it still being cached, resulting in undesirable "whitelist" or "blacklist" behavior.	Driver ID	4.12.6

## Known issues

Description	Severity
Comms delays on MIX4000 seemingly resulting from bad network conditions	High
Power loss (cold boot) mid trip can lead to missing tacho for section prior to cold boot.	High
GPS time to first fix improvement to address jumps from garages or Tunnels	Med