



u-center 21.09

GNSS evaluation software for Windows

Release note

Abstract

This release note contains general information, features, improvements, changes and known limitations for u-center 21.09.

Document information

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Contents

1 General information.....	4
1.1 Released files.....	4
1.2 Version and checksum of files.....	4
1.3 Released documentation.....	4
2 Features.....	5
2.1 Supported Microsoft Windows versions.....	5
2.2 Supported receiver generations.....	5
2.3 Supported protocol specification version.....	5
2.4 External hardware support.....	5
2.5 Multiple GNSS AssistNow Service.....	5
2.6 Debug messages.....	5
3 Improvements and changes.....	7
3.1 Version 21.09.....	7
3.2 Version 21.05.....	7
3.3 Version 21.02.....	7
3.4 Version 20.10.....	8
3.5 Version 20.06.01.....	8
3.6 Version 20.01.....	8
4 Known limitations.....	9
4.1 Known issues.....	9
5 Licenses.....	10
5.1 Licenses.....	10

1 General information

The u-center GNSS evaluation software for automotive, mobile terminal and infrastructure applications provides a powerful tool for evaluation, performance analysis and configuration of the u-blox GNSS receiver.

1.1 Released files

The following table lists the files that have been released.

File	Description
u-center_v21.09.exe	u-center installer including u-blox CDC-ACM (USB) (x64 bit) driver v1.2.0.8 for Windows 7 and 8
u-center-v21.09_ReleaseNote_(UBX-21043046).pdf	Release note
u-center_UserGuide_(UBX-13005250).pdf	User guide



For Windows 10, the CDC-ACM (USB) driver from Microsoft should be used, which is available from Windows Update.



u-blox Sensor and VCP drivers are deprecated, so they have been removed from the release package.

1.2 Version and checksum of files

The following table lists the versions and the checksums of the [Released files](#).

File	Version	MD5
u-blox GNSS Standard Driver for Windows	1.2.0.8	
u-center.exe	21.09	980c2d1ea35d424fe02e6ff5036981b2
bssndrpt.exe		cc672cec579490e6cfb92726a81287c1
bugsplat.dll		24e4da53ab6b3b7bb924eacbd46a59ec
bugsplatrc.dll		efa8f6d360edf491e1de52798bdacce6
flash.xml	200061	52dc2335917d87e9c53be2daca44a155
flash.xml_changelog.txt		458ac61a574fd0d7d56ae48dc5238265
flash.txt	101098	b49a4b5d33efa113737208e788cf3afc
NMEA.dll	21.09	bd7408507336ca308446c3fc9526187a
paho-mqtt3c.dll	21.09	a6353c9edb1216a4ae90376b62766d72
RTCM.dll	21.09	babc307d9032691f577d6835826c30cb
sqlite3.dll	3.21.0.0	07fb6d31f37fb1b4164bef301306c288
UBX.dll	21.09	4e85ebbfe141e391be5f664ca57702ac
ubxfwupdate.exe	21.05	

1.3 Released documentation

- Public release note (UBX-21043046)
- u-center user guide (UBX-13005250)

2 Features

2.1 Supported Microsoft Windows versions

u-center 21.09 runs on Microsoft Windows Vista and later versions up to (including) Windows 10.

2.2 Supported receiver generations

u-center 21.09 supports the following receiver generations:

- u-blox 6
- u-blox 7
- u-blox 8/M8
- u-blox 9
- u-blox 10

2.3 Supported protocol specification version

u-center 21.09 supports the u-blox protocol specification from version 10.00 and later versions up to (including) version 38.

2.4 External hardware support

The following external hardware is supported to interface with the receiver:

Interface	Device	DLL version
DDC/I2C	Totalphase Aardvark I2C/SPI Host Adapter	aardvark.dll v5.15 for Windows 32-bit
DDC/I2C	Diolan U2C-12 USB-I2C/SPI/GPIO Adapter	i2cbrdg.dll v1.0.0.9 for Windows 32-bit
SPI	Totalphase Aardvark I2C/SPI Host Adapter	aardvark.dll v5.15 for Windows 32-bit
SPI	Totalphase Cheetah SPI Host Adapter	aardvark.dll v5.15 for Windows 32-bit
SPI	Diolan U2C-12 USB-I2C/SPI/GPIO Adapter	i2cbrdg.dll v1.0.0.9 for Windows 32-bit

2.5 Multiple GNSS AssistNow Service

u-center 21.09 includes the multiple GNSS AssistNow Service (libMGA) version 20.08.

2.6 Debug messages

The following messages will be enabled or polled when pressing the "Debug Messages" button:

- Any UBX-INF
- UBX-MON-MSGPP
- UBX-NAV-CLOCK
- UBX-NAV-PVT
- UBX-NAV-SIG
- UBX-NAV-ORB
- UBX-NAV-SAT
- UBX-RXM-SVSI (every 30 seconds)
- UBX-MON-HW (polled)
- UBX-MON-EXCEPT (polled)
- and additional u-blox debug messages

The following messages will additionally be enabled or polled when pressing the "Debug Messages" button for ADR product line:

- UBX-ESF-MEAS
- UBX-ESF-STATUS

The following messages will additionally be enabled or polled when pressing the "Debug Messages" button for HPG product line:

- UBX-NAV-RELPOSNEED
- UBX-NAV-SVIN
- UBX-MON-IO
- UBX-NAV-SOL
- UBX-NAV-AOPSTATUS

The following messages will additionally be enabled or polled when pressing the "Debug Messages" button for SPG product line:

- UBX-MON-IO
- UBX-NAV-SOL
- UBX-NAV-AOPSTATUS

3 Improvements and changes

For detailed information on any new messages or protocols, contact u-blox support or see product interface description.

3.1 Version 21.09

- Feature: Added MQTT client to receive PointPerfect correction data.
- Feature: Added new message UBX-ESF-CAL for showing the calibrated external sensor fusion data.

3.2 Version 21.05

- Feature: Added support for secondary output NMEA-NAV2-* messages (NMEA-NAV2-GGA, NMEA-NAV2-GLL, NMEA-NAV2-GNS, NMEA-NAV2-GSA, NMEA-NAV2-RMC, NMEA-NAV2-VTG, NMEA-NAV2-ZDA).
- Feature: Added new message UBX-SEC-SIGLOG.
- Feature: Added new message UBX-NAV-PL, new message for showing the Protection Level information.
- Feature: Added MQTT client in Receiver > MQTT client for high precision GNSS service.
- Improvement: Checkbox for NAV2 messages in Receiver > Epoch detection is renamed to indicate the behavior better.
- Improvement: New field "Age of the most recently received differential correction" added in messages UBX-NAV-PVT and UBX-NAV2-PVT.

3.3 Version 21.02

- Feature: Relevant UBX-NAV2-* messages are available including UBX-CFG-NAV2 configuration group and CFG-MSGOUT-UBX-NAV2-* configuration items. This will enable the support for the secondary navigation solution output messages.
- Feature: Display data from UBX-NAV2-* messages in views 'Receiver' > 'Epoch detection' is available for dual band receiver.
- Feature: Added UBX-RXM-SPARTN message to monitor SPARTN input status.
- Feature: SPARTN protocol reported as a correction source in messages like UBX-NAV-SAT, UBX-NAV-SIG and reported as an input protocol in messages like UBX-MON-COMMS, UBX-MON-MSGPP.
- Feature: Added new messages UBX-CFG-ESFALG, UBX-CFG-ESFA, UBX-CFG-ESFG, UBX-CFG-ESFWT, UBX-CFG-SENIF, UBX-CFG-SPT, UBX-ESF-ALG, UBX-HNR-ATT, UBX-MON-SPT, UBX-NAV-COV, UBX-NAV-EELL, NMEA-GxTHS, UBX-NAV2-CLOCK, UBX-NAV2-COV, UBX-NAV2-DOP, UBX-NAV2-EELL, UBX-NAV2-ODO, UBX-NAV2-POSECEF, UBX-NAV2-POSLLH, UBX-NAV2-PVT, UBX-NAV2-SAT, UBX-NAV2-SBAS, UBX-NAV2-SIG, UBX-NAV2-SLAS, UBX-NAV2-STATUS, UBX-NAV2-SVIN, UBX-NAV2-TIMEBEIDOU, UBX-NAV2-TIMEGAL, UBX-NAV2-TIMEGLO, UBX-NAV2-TIMEGPS, UBX-NAV2-TIMEELS, UBX-NAV2-TIMEQZSS, UBX-NAV2-TIMEUTC, UBX-NAV2-VELECEF, UBX-NAV2-VELNED, UBX-RXM-SPARTN, UBX-SEC-SIG, UBX-RXM-TM, UBX-CFG-HW-RF_LNA_MODE.
- Feature: Added support for BeiDou SVs with PRN 38 - PRN 63.
- Feature: Added support in UBX-NAV-SAT to report SLAS as a correction source.
- Feature: Added new flag in UBX-NAV-SBAS and UBX-NAV2-SBAS messages as 'SBAS integrity used' to indicate if SBAS integrity feature has been used by the receiver or not.
- Bug fix: Fixed issue with reading/writing values for configuration items of type I4.

- Bug fix: UBX-CFG-RATE no longer marks invalid input values. Before it would mark measurement periods and navigation rate values as not acceptable, while the receiver would accept them fine as expected.
- Bug fix: Fixed issue where in NMEA 4.11 some BeiDou SVs could be misidentified as GLONASS.

3.4 Version 20.10

- Improvement: Changed some ADR/UDR messages from confidential to PUB.
- Improvement: Added protocol version 33 used by ZED-F9R (HPS 1.0) to u-center Receiver > Protocol Filter > u-blox Generation 9.
- Bug fix: Fixed bug for the u-center crash when NTRIP server/caster is opened.
- Bug fix: Fixed UBX-CFG-NMEA reporting of version number when V4.11 is selected.
- Bug fix: Fixed for crashes when changing GNSS configuration.

3.5 Version 20.06.01

- Feature: Added remaining NMEA 4.11 specific features such as support for QZSS and NavIC talker/signal IDs in NMEA-GBS and NMEA-GRS messages. Also new child messages added to all NMEA message views for the fore-mentioned constellations.
- Feature: u-center support for UBX-NAV-NMI.
- Bug fix: Fixed the bug of reporting IMU-mount Alignment Status flag on ESF-STATUS message.
- Bug fix: u-center side panes now correctly show fix information for receivers that only have UBX-NAV-RELPOSNED output enabled.
- Bug fix: Fixed "Receiver > Protocol Filter" tab, it shows the menu properly when user selects it for the second time.
- Bug fix: Fixed the NTRIP connection problem.
- Bug fix: Fixed GNSS ID letter (G->Q) in NMEA-GQGSV and fixed QZSS and NAVIC GNSS ID letters in NMEA-GNGSA which were crossed.

3.6 Version 20.01

- Feature: Added new NMEA SV IDs to support NMEA 4.11.
- Improvement: Replaced data and satellite signal level view with new logic of getting data for satellites (multi-band) and improved satellite signal history view.
- Bug fix: UBX-CFG-VALGET messages are now displayed when playing log file.
- Bug fix: Fixed crashing of u-center when AssistNow Online GNSS runs in the background.
- Bug fix: Copyright date updated to 2020 in "Help > About u-center..." dialog.

4 Known limitations

4.1 Known issues

- Enumerating the ports on a computer with many ports can take a long time.
- Using the protocol filter with "silent" or "no receiver" results in an empty message tree.
- Full support for u-blox 10 generation receiver is not yet available.

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5.1 Licenses

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The basic library functions are written in C and are freestanding. Also included in the distribution is a just-in-time compiler that can be used to optimize pattern matching. This is an optional feature that can be omitted when the library is built.

THE BASIC LIBRARY FUNCTIONS

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