



# u-center 22.07

## GNSS evaluation software for Windows

### Release note

#### Abstract

This release note contains general information, features, improvements, changes and known limitations for u-center 22.07.

## Document information

<b>Title</b>	<b>u-center 22.07</b>	
<b>Subtitle</b>	GNSS evaluation software for Windows	
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# 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_v22.07.exe	u-center installer including u-blox CDC-ACM (USB) (x64 bit) driver v1.2.0.8 for Windows 7 and 8
u-center-v22.07_ReleaseNote_(UBX-22022476).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	22.07	2174efae9b218695e32a583eb21e28a7
bssndrpt.exe		cc672cec579490e6cfb92726a81287c1
bugsplat.dll		24e4da53ab6b3b7bb924eacbd46a59ec
bugsplatrc.dll		efa8f6d360edf491e1de52798bdacce6
flash.xml	200062	67aee07b0308cc275bc7247006252501
flash.xml_changelog.txt		18431489a7e11d3993aac941fccb30aa
flash.txt	101098	b49a4b5d33efa113737208e788cf3afc
NMEA.dll	22.07	552292d5a0f841ff90fcfc95ed54d49a
paho-mqtt3cs.dll	22.07	0a3e9d5dec5b2a26096fbb8bb56328a3
RTCM.dll	22.07	babc307d9032691f577d6835826c30cb
sqlite3.dll	3.21.0.0	07fb6d31f37fb1b4164bef301306c288
UBX.dll	22.07	1ac2576046d0ba009e5d5eef106472eb
ubxfwupdate.exe	21.05	

## 1.3 Released documentation

- Public release note (UBX-22022476)
- u-center user guide (UBX-13005250)

## 2 Features

### 2.1 Supported Microsoft Windows versions

u-center 22.07 runs on Microsoft Windows Vista and later versions up to (including) Windows 10.

### 2.2 Supported receiver generations

u-center 22.07 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 22.07 supports the u-blox protocol specification from version 10.00 and later versions up to (including) version 42.

### 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 22.07 includes the multiple GNSS AssistNow Service (libMGA) version 22.05.

### 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 22.07

- Feature: AssistNow offline tool now provides MGA data for BeiDou and Galileo.

### 3.2 Version 22.05

- Improvement: Improved MQTT tool with options to subscribe to key, AssistNow and data topics.
- Improvement: Adjusted UBX-RXM-SPARTNKEY message so users can't enable/disable it anymore as being only the pollable message.
- Improvement: Fixed faulty RewindField in AssistNowOffline tool to update the string accordingly.

### 3.3 Version 22.02

- Feature: Added new messages UBX-MGA-INIT-ATT, UBX-MGA-SF-INIT, UBX-MGA-SF-INIT2 to support "Advanced calibration handling" feature.
- Feature: Added new message UBX-RXM-COR to support multiple correction sources.
- Feature: Position protection level reported values from message UBX-NAV-PL are added in chart and statistic views.
- Improvement: At successful MQTT connection, the client can now connect to the PointPerfect and AssistNow Online services.

### 3.4 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.

### 3.5 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.

### 3.6 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-TIMELS, 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 satellites 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 satellites could be misidentified as GLONASS.



## 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.
- Message UBX-CFG-TMODE2 is missing from u-center v22.05 and v22.07.

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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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