



# u-center 24.04

## GNSS evaluation software for Windows

### Release note

#### **Abstract**

This release note contains general information, features, improvements, changes and known limitations for u-center 24.04.

[www.u-blox.com](http://www.u-blox.com)

UBXDOC-586767278-72867 - R01  
C1-Public



## Document information

<b>Title</b>	<b>u-center 24.04</b>	
<b>Subtitle</b>	GNSS evaluation software for Windows	
<b>Document type</b>	Release note	
<b>Document number</b>	UBXDOC-586767278-72867	
<b>Revision and date</b>	R01	10-May-2024
<b>Disclosure restriction</b>	C1-Public	

u-blox or third parties may hold intellectual property rights in the products, names, logos and designs included in this document. Copying, reproduction, or modification of this document or any part thereof is only permitted with the express written permission of u-blox. Disclosure to third parties is permitted for clearly public documents only.

The information contained herein is provided "as is" and u-blox assumes no liability for its use. No warranty, either express or implied, is given, including but not limited to, with respect to the accuracy, correctness, reliability and fitness for a particular purpose of the information. This document may be revised by u-blox at any time without notice. For the most recent documents, visit [www.u-blox.com](http://www.u-blox.com).

Copyright © 2024, u-blox AG.

# Contents

<b>1 General information.....</b>	<b>4</b>
1.1 Released files.....	4
1.2 Related documents.....	4
<b>2 Features.....</b>	<b>5</b>
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
<b>3 Improvements and changes.....</b>	<b>6</b>
3.1 Version 24.04.....	6
3.2 Version 24.02.....	6
3.3 Version 23.08.....	6
3.4 Version 22.07.....	6
3.5 Version 22.05.....	6
3.6 Version 22.02.....	7
<b>4 Known limitations.....</b>	<b>8</b>
4.1 Known issues.....	8
<b>5 Open source software licenses.....</b>	<b>9</b>
5.1 Licenses.....	9

# 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_v24.04.exe	u-center installer including u-blox CDC-ACM (USB) (x64 bit) driver v1.2.0.8 for Windows 7 and 8
u-center-v24.04_ReleaseNote_UBXDOC-586767278-72867.pdf	Release note
u-center_UserGuide_UBX-13005250.pdf	User guide



For Windows 10, use the Microsoft CDC-ACM (USB) driver available from the Windows Update.



u-blox Sensor and VCP drivers are deprecated and removed from the release package.

## 1.2 Related documents

- u-center user guide, [UBX-13005250](#)

## 2 Features

### 2.1 Supported Microsoft Windows versions

u-center 24.04 runs on Microsoft Windows Vista and later versions including Windows 11.

### 2.2 Supported receiver generations

u-center 24.04 supports the following receiver generations:

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

### 2.3 Supported protocol specification version

u-center 24.04 supports the u-blox protocol specification from version 10.00 and later versions up to (including) version 43.

### 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 24.04 includes the multiple GNSS AssistNow Service (libMGA) version 24.02.

## 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 24.04

- Features
  - Added support for u-blox A9 FW SME (Safe Measurement Engine) 1.6 and related UBX-SUBX-\* messages.

### 3.2 Version 24.02

- Features
  - Added new messages UBX-MGA-GAL-OSNMA MERKELE and UBX-MGA-GAL-OSNMA PUBLIC to improve Galileo OS-NMA support.
- Improvements
  - Updated UBX-SEC-OSNMA with new key status and other improvements.
- Bug fixes
  - Fixed the I2C PER SCK virtual pin number in message UBX-CFG-VP.
  - Fixed wrong payload structure for generation 10 in message UBX-MON-HW.
  - Fixed to make UBX-NAV-PVT message field nmaFixStatus visible.

### 3.3 Version 23.08

- Features
- Improvements
  - Added support for L5 band signals in table view.
  - Added Galileo OS-NMA flags in messages UBX-NAV-PVT, UBX-NAV2-SIG, and added new message UBX-SEC-OSNMA.
  - Fixed PointPerfect timeout issue for network unavailability. Implemented initial logic for tile and node changes and support for AssistNow updates.
  - Added protection level invalidity reason in case signal attenuation compensation (SAC) has been enabled and correct message version for pTime field in message UBX-NAV-PL.
  - Added authentication in message UBX-NAV-TIMEUTC to make sure that the conversion between GNSS time and UTC time has been performed using OSNMA authenticated conversion parameters.
  - Added initState field in message UBX-ESF-STATUS.
- Bug fixes
  - Message UBX-CFG-TMODE2 is available now which was missing in u-center v22.05 and v22.07.

### 3.4 Version 22.07

- Features
  - AssistNow Offline tool now provides MGA data for BeiDou and Galileo.
- Bug fixes

### 3.5 Version 22.05

- Improvements
  - Improved MQTT tool with options to subscribe to key, AssistNow and data topics.

- Adjusted UBX-RXM-SPARTNKEY message so users can't enable/disable it anymore as being only the pollable message.
- Bug fixes

### **3.6 Version 22.02**

- Features
  - Added new messages UBX-MGA-INI-ATT, UBX-MGA-SF-INI, UBX-MGA-SF-INI2 to support "Advanced calibration handling" feature.
  - Added new message UBX-RXM-COR to support multiple correction sources.
  - Position protection level reported values from message UBX-NAV-PL are added in chart and statistic views.
- Improvements
  - At successful MQTT connection, the client can now connect to the PointPerfect and AssistNow Online services.

## 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.
- Content in the MSG column of message UBX-RXM-SFRBX is specific to each constellation.



# 5 Open source software licenses

This chapter provides license information for the open source software components included in the u-center software package.

## 5.1 Licenses

License number	License
1	<p>paho.mqtt license Eclipse Distribution License - v 1.0 Copyright (c) 2007, Eclipse Foundation, Inc. and its licensors.</p> <p>All rights reserved.</p> <p>Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:</p> <p>Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution. Neither the name of the Eclipse Foundation, Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission. THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.</p>
2	<p>SQLite license, <a href="https://www.sqlite.org/copyright.html">https://www.sqlite.org/copyright.html</a></p>
3	<p>Libjpeg license LICENSE TERMS (ships as a part of the libjpeg package in the README file) =====</p> <ol style="list-style-type: none"> <li>1. We don't promise that this software works. (But if you find any bugs, please let us know!)</li> <li>2. You can use this software for whatever you want. You don't have to pay us.</li> <li>3. You may not pretend that you wrote this software. If you use it in a program, you must acknowledge somewhere in your documentation that you've used the IJG code.</li> </ol> <p>In legalese:</p>

---

**License number License**

---

The authors make NO WARRANTY or representation, either express or implied, with respect to this software, its quality, accuracy, merchantability, or fitness for a particular purpose. This software is provided "AS IS", and you, its user, assume the entire risk as to its quality and accuracy.

This software is copyright (C) 1991-2016, Thomas G. Lane, Guido Vollbeding. All Rights Reserved except as specified below.

Permission is hereby granted to use, copy, modify, and distribute this software (or portions thereof) for any purpose, without fee, subject to these conditions:

- (1) If any part of the source code for this software is distributed, then this README file must be included, with this copyright and no-warranty notice unaltered; and any additions, deletions, or changes to the original files must be clearly indicated in accompanying documentation.
- (2) If only executable code is distributed, then the accompanying documentation must state that "this software is based in part on the work of the Independent JPEG Group".
- (3) Permission for use of this software is granted only if the user accepts full responsibility for any undesirable consequences; the authors accept NO LIABILITY for damages of any kind.

These conditions apply to any software derived from or based on the IJG code, not just to the unmodified library. If you use our work, you ought to acknowledge us.

Permission is NOT granted for the use of any IJG author's name or company name in advertising or publicity relating to this software or products derived from it. This software may be referred to only as "the Independent JPEG Group's software".

We specifically permit and encourage the use of this software as the basis of commercial products, provided that all warranty or liability claims are assumed by the product vendor.

---

**4****Libcurl license  
COPYRIGHT AND PERMISSION NOTICE**

Copyright (c) 1996 - 2021, Daniel Stenberg, daniel@haxx.se, and many contributors, see the THANKS file.

All rights reserved.

Permission to use, copy, modify, and distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES

License number	License
	<p>OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.</p> <p>Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization of the copyright holder.</p>
5	<p>Tinyxml license, <a href="https://github.com/leethomason/tinyxml2/blob/master/LICENSE.txt">https://github.com/leethomason/tinyxml2/blob/master/LICENSE.txt</a></p>
6	<p>Libtiff license Copyright (c) 1988-1997 Sam Leffler</p> <p>Copyright (c) 1991-1997 Silicon Graphics, Inc.</p> <p>Permission to use, copy, modify, distribute, and sell this software and its documentation for any purpose is hereby granted without fee, provided that (i) the above copyright notices and this permission notice appear in all copies of the software and related documentation, and (ii) the names of Sam Leffler and Silicon Graphics may not be used in any advertising or publicity relating to the software without the specific, prior written permission of Sam Leffler and Silicon Graphics.</p> <p>THE SOFTWARE IS PROVIDED "AS-IS" AND WITHOUT WARRANTY OF ANY KIND, EXPRESS, IMPLIED OR OTHERWISE, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.</p> <p>IN NO EVENT SHALL SAM LEFFLER OR SILICON GRAPHICS BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES OF ANY KIND, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER OR NOT ADVISED OF THE POSSIBILITY OF DAMAGE, AND ON ANY THEORY OF LIABILITY, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.</p>
7	<p>Libpng license, <a href="http://www.libpng.org/pub/png/src/libpng-LICENSE.txt">http://www.libpng.org/pub/png/src/libpng-LICENSE.txt</a></p>
8	<p>Zlib license, <a href="http://www.zlib.net/zlib_license.html">http://www.zlib.net/zlib_license.html</a></p>
9	<p>pcre license PCRE2 LICENCE -----</p> <p>PCRE2 is a library of functions to support regular expressions whose syntax and semantics are as close as possible to those of the Perl 5 language.</p> <p>Releases 10.00 and above of PCRE2 are distributed under the terms of the "BSD" licence, as specified below, with one exemption for certain binary redistributions. The documentation for PCRE2, supplied in the "doc" directory, is distributed under the same terms as the software itself. The data in the testdata directory is not copyrighted and is in the public domain.</p>

---

**License number License**

---

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

-----

Written by: Philip Hazel  
Email local part: Philip.Hazel  
Email domain: gmail.com

University of Cambridge Computing Service,  
Cambridge, England.

Copyright (c) 1997-2020 University of Cambridge  
All rights reserved.

#### PCRE2 JUST-IN-TIME COMPILATION SUPPORT

-----

Written by: Zoltan Herczeg  
Email local part: hzmester  
Email domain: freemail.hu

Copyright(c) 2010-2020 Zoltan Herczeg  
All rights reserved.

#### STACK-LESS JUST-IN-TIME COMPILER

-----

Written by: Zoltan Herczeg  
Email local part: hzmester  
Email domain: freemail.hu

Copyright(c) 2009-2020 Zoltan Herczeg  
All rights reserved.

#### THE "BSD" LICENCE

-----

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

\* Redistributions of source code must retain the above copyright notices, this list of conditions and the following disclaimer.

\* Redistributions in binary form must reproduce the above copyright notices, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

---

**License number** **License**

---

\* Neither the name of the University of Cambridge nor the names of any contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

**EXEMPTION FOR BINARY LIBRARY-LIKE PACKAGES**  
-----

The second condition in the BSD licence (covering binary redistributions) does not apply all the way down a chain of software. If binary package A includes PCRE2, it must respect the condition, but if package B is software that includes package A, the condition is not imposed on package B unless it uses PCRE2 independently.

End

---

## Contact

### **u-blox AG**

Address:       Zürcherstrasse 68  
                  8800 Thalwil  
                  Switzerland

For further support and contact information, visit us at [www.u-blox.com/support](http://www.u-blox.com/support).