

Release note

Topic	Release note firmware HPG 2.02 for ZED-F20P and ZED-X20P UBXDOC-304424225-20040
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1 General information

1.1 Scope

This release note applies to u-blox firmware version HPG 2.02 running on ZED-X20P-00B or ZED-F20P-00B modules.

1.2 Released firmware image

Released firmware image	Audience
File	UBX_20_HPG_202_ZED_F20P.329facb56ce18631d607fe15177834dc.bin
Firmware version	EXT HPG 2.02 (43e74c3) FWVER=HPG 2.02
Protocol version	50.10
ROM base support	ROM 1.11 - ROM BASE 0x00A9D329 ROM 1.00 - ROM BASE 0x22018AE9

1.3 Released software tools

Use u-center 2 version 25.06 or later with this firmware.

1.4 Open-source declaration

This u-blox positioning product described in this release note, comprising the company's proprietary software, does not contain open-source software to declare.

1.5 Related documentation

- [1] ZED-F20P Integration manual, [UBXDOC-304424225-19671](#)
- [2] ZED-F20P-00B Data sheet, [UBXDOC-304424225-18270](#)
- [3] ZED-X20P Integration manual, [UBXDOC-963802114-12901](#)
- [4] ZED-X20P Data sheet, [UBXDOC-963802114-12690](#)
- [5] u-blox X20 HPG 2.02 Interface description, [UBXDOC-304424225-19967](#)
- [6] u-blox EVK-X20P user guide, [UBXDOC-963802114-12969](#)
- [7] u-blox GPS L5 configuration Application note, [UBX-21038688](#)
- [8] u-center 2 GNSS evaluation software, <https://www.u-blox.com/en/u-center-2>

2 Firmware description

This section highlights selected features supported by this firmware.

- This firmware contains triple-band high-precision GNSS with RTK and PPP-RTK functionality.
- This firmware supports raw code and carrier phase measurement outputs for all supported GNSS signals.

This firmware is for u-blox ZED-F20P and ZED-X20P products.

Compared to HPG2.00 released with ZED-X20P-00B, the differences are:

- Performance improvements in terms to ambiguity fixing when used with SPARTN protocol for services such as u-blox PointPerfect Flex during periods of high ionospheric activity. RTCM performance is unchanged.
- “MOWER” dynamic model to clearly denote the model to be used for robotic lawn mower type of applications.
- “Signal Plan 6” to optimize RF resources when the application is used only with SPARTN corrections

2.1 Supported GNSS constellations and signals

This firmware supports the following GNSS signals:

- GPS: L1C/A, L2C, L5
- BeiDou: B1I, B1C, B2a
- Galileo: E1B/C, E5a
- QZSS: L1C/A, L1S, L2C, L5
- NavIC: L5
- SBAS: L1C/A



Note that the GPS L5 signals are flagged as unhealthy at the time of this release. The receiver does not use unhealthy signals for navigation by default. See the GPS L5 configuration application note [7] for further details.



Regional constellations, such as QZSS and NavIC, are disabled by default. They can be enabled on demand.

2.2 GNSS features

- RTK high-precision positioning
- PPP-RTK high-precision positioning
- 25 Hz output rate with code and carrier phase (UBX-RXM-RAWX) measurements
- Local base station functionality with RTCM output
- Assisted GNSS, AssistNow Online
- Spectrum analyzer, Monitor RF environment for possible interference and anomalies
- Geofencing, Supports location-restriction and anti-theft functionality
- Monitoring and management functions, Extensive functions to monitor embedded system health such as I/O queues, pin status and correction status
- Personalization, Individualized identity to access high value features and subscriptions
- Backup modes, Hardware and software
- Anti-jamming, RF interference and jamming detection and reporting
- Anti-spoofing, Spoofing detection and reporting
- Galileo OSNMA, Galileo Open Service Navigation Message Authentication
- Configuration lockdown, Receiver configuration can be locked by command
- Secure boot where only signed firmware images are executed
- Secured storage, Tamper-resistant secure storage with end-to-end security

2.3 Message interface

For a detailed description of the available message interfaces of the first release for ZED-F20P, see the Interface description [5].

2.3.1 NMEA

The default NMEA version is 4.11. Alternatively, versions 4.10, 4.0, 2.3, and 2.1 can also be enabled.

2.3.2 UBX

This firmware supports UBX protocol version 50.10.

2.3.3 RTCM

The released firmware supports up to RTCM3 standard version 3.4.

2.3.4 SPARTN

The released firmware supports up to SPARTN protocol version 2.0.2.

3 Known limitations

Some NMEA-TXT information messages can be missing. UBX-INF messages can be used as a work-around.