Release note

Topic **u-blox M8 UDR 1.50 firmware for UDR products**

UBX-21007462 C1-Public

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Contents

1 General information

This firmware operates with u-blox M8-based UDR products.

1.1 Scope

This release note covers the changes to the UDR 1.50 firmware compared to the UDR 1.31 firmware version. For a comprehensive list of changes with respect to earlier versions, this release note should be read in conjunction with the UDR 1.31 release note.

1.2 Released firmware image

1.2.1 EVA-M8E firmware

Image file for software-interfaced sensor data:

`UBX_M8_301_UDR150_EVA_M8E_SWIF.ed9c5b71f85b388f5a5cc9abc28cf863.bin`

Image file pre-configured for directly-connected sensor (hardware sensor interface):

`UBX_M8_301_UDR150_EVA_M8E_HWIF.606eeb4212e35c074adfa9c8e5ab47b2.bin`

FW ID string:
```
EXT CORE 3.01 (86c0ce)
FWVER=UDR 1.50
PROTVER=19.20
```
Supports ROM base: `2.01, 3.01`

1.2.2 NEO-M8U firmware

Image file pre-configured for the NEO-M8U module:

`UBX_M8_301_UDR150_NEO_M8U_HWIF.1cf89ef8749bc05861840050e83dce02.bin`

FW ID string:
```
EXT CORE 3.01 (86c0ce)
FWVER=UDR 1.50
PROTVER=19.20
```
Supports ROM base: `2.01, 3.01`

1.3 Related documentation

[1] u-blox M8 Receiver Description including Protocol Specification, UBX-13003221
[2] GNSS firmware 3.01 release notes, UBX-16000319
[3] UDR 1.31 firmware release notes, UBX-20013174

1.4 u-center

u-center for Windows v20.01 or later should be used together with this firmware.

1.5 Firmware update tool

The firmware update utility tool v. 2.01 supports this product.

☞ Earlier versions of the firmware update tool will not operate with this release.

1.6 USB drivers

- u-blox GNSS Standard Driver for Windows v. 1.2.0.8
- u-blox GNSS Sensor Device Driver for Windows v. 2.40 and later

- u-blox GNSS VCP Device Driver for Windows v. 3.10

The latest drivers are available in the Product resources section of the u-blox website - http://www.u-blox.com

1.7 USB identification u-blox M8

Vendor ID: `0x1546`
Product ID: `0x01A8`
Driver string: `u-blox GNSS receiver`

1.8 Built-in driver support for directly connected sensors

This release includes built-in support for the following sensors connected via a two-wire interface (hardware sensor interface). Additional sensors may be supported on request in the future firmware releases.

Sensor type	Address	Configuration	Notes
Bosch BMI160	0x68	SD0 connected to GND	Connect CSB to VDDIO
Bosch BMI055	0x18 and 0x68	SDO1 and SDO2 connected to GND	PS connected to VDDIO
Bosch SMI130	0x18 and 0x68	SDO1 and SDO2 connected to GND	PS connected to VDDIO
Bosch SMG130	0x18 and 0x68	SDO1 and SDO2 connected to GND	PS connected to VDDIO
Bosch SMI230	0x18 and 0x68	SDO1 and SDO2 connected to GND	PS connected to VDDIO
Invensense MPU6515	0x68	ADO/SDO to GND	PS connected to VDDIO
Invensense MPU6500	0x68	ADO/SDO to GND	PS connected to VDDIO
ST LSM6DSL	0x6A	SDO/SA0 to GND	PS connected to VDDIO
ST LSM6DS3	0x6A	SDO/SA0 to GND	PS connected to VDDIO
ST LSM6DS0	0x6A	SDO/SA0 to GND	PS connected to VDDIO
STm LSM6DSR	0xD4	SDO connected to GND	CSB connected to VDDIO
TDK ICM-42605	0xD0	SDO connected to GND	AP_CS connected to VDDIO

2 New features with UDR 1.50

The only changes with UDR 1.50 compared to previous release UDR 1.31 are two additional drivers for the IMU sensors, TDK ICM-42605 and ST LSM6DSR.

3 IMU axis rotation

To make it fully compatible with the existing NEO-M8U modules with Bosch BMI160, the axis of ST LSM6DSR and TDK ICM-42605 have been rotated 90 degree counterclockwise on the z-axis on the internal sensor driver. Note that the self-test values still refer to the original IMU axis. Customers not using the IMU self-test feature will not notice any difference with previous product types.

4 Specialties and known limitations

4.1 Special vehicle types

This release has been optimized and tested for light road vehicles including motorbikes. Performance and behavior has not been characterized for trains, trams or trolleybuses.