

Software release note

Topic	Updated software packages for EMMY-W1 series modules, 2019-11-04 UBX-19054080
Author	mzes
Date	20 November 2019

Copying, reproduction, modification or disclosure to third parties of this document or any part thereof is only permitted with the express written permission of u-blox. 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, 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. For most recent documents, visit www.u-blox.com. Copyright© u-blox AG.

Contents

1	General Information	1
1.1	Released software version	1
1.2	Scope	1
1.3	Obtaining the software packages	1
2	List of changes	2
3	EMMY-W1 release notes	2
3.1	emmy-w1-driver-sdiosdio	2

1 General Information

1.1 Released software version

File: meta-ublox-modules-2019-11-04.tar.gz

This is the Yocto layer containing the metadata for the updated software packages described in this release note.

1.2 Scope

This release note describes the software packages updated in the meta-ublox-modules Yocto layer release - version 2019-11-04 for the u-blox host-based short range radio chips and modules. It covers the changes compared to the meta-ublox-modules version 2019-10-07.

Please see the List of changes, section 2, for an overview of the updated software packages for each module. Detailed release notes with supported features, changes, fixed bugs and known issues/limitations are provided in the EMMY-W1 release notes section.

1.3 Obtaining the software packages

The Yocto layer release file is available through u-blox support. The third party driver/firmware packages, which are not part of the Yocto layer release, have to be obtained separately. Please contact u-blox support for information about how to obtain these software packages.

Please note that additional license and distribution requirements might apply for the third party software packages:

- Limited use license agreement (LULA-M) for the driver/firmware packages for the Marvell based products (LILY-W1, ELLA-W1, EMMY-W1)

2 List of changes

- EMMY-W1
 - emmy-w1-driver-sdiosdio: update to SD-UAPSTA-BT-8887-U16-MMC-W15.68.19.p22-15.26.19.p22-C4X15635_A2-MGPL

Important updates:

- Fixes for the Bluetooth KNOB Security Vulnerability CVE 2019-9506, Erratum 11838: Encryption Key Size Updates, are provided with the following software packages: emmy-w1-driver-sdiosdio

3 EMMY-W1 release notes

3.1 emmy-w1-driver-sdiosdio

Version: SD-UAPSTA-BT-8887-U16-MMC-W15.68.19.p22-15.26.19.p22-C4X15635_A2-MGPL

WLAN SOC/RF chipset: 88W8887 (8887-AG1-QFN-V3.0)

Supported features:

- Wireless Client 802.11a/b/g/n/ac
- Mobile AP 802.11a/b/g/n/ac
- WPA3
- Wi-Fi Aware / Neighbor Awareness Network (NAN)
- Wi-Fi Direct / P2P
- 802.1AS -- Time Sync
- Simultaneous AP-STA Operation
- Dynamic Rapid Channel Switch (DRCS)
- EU conformance (EU Adaptivity 2.4 and 5 GHz)
- Bluetooth Classic / 2.1 / 3.0 / 4.0 / 4.1
- Bluetooth LE 4.0 / 4.1 / 4.2 / 5.0
- Bluetooth + WLAN Coexistence

Bug Fixes WLAN:

- Two Country code IEs are seen in Beacon frames.
- MMH in WAPI security, external clients are not able connect.

Bug Fixes Bluetooth:

- Failure to blacklist upper BT channels using "Set AFH Host Channel Classification".
- BT Vulnerability Fix has been integrated and test cases have been validated.
- BT Pairing Failure during connect-disconnect stress test has been resolved.
- Link loss with reason "Connection Timeout" observed when DUT goes to SNIFF mode.

Known Issues WLAN:

- WPA3 throughput optimization is in progress.

Simultaneous Mode Operation Limitations:

- MMH/P2P-GO beacons are paused unconditionally whenever STA/P2P-GC performs scan and are resumed automatically once the scan is complete.
- TX power settings, Radio control commands, Antenna configuration commands, 802.11d – Country Info are not unified across two interfaces.
- Custom IE Buffers are shared between two interfaces. IE-Buffer Index used by one interface cannot be used by other interface.
- STA can operate only in Infrastructure mode.

DRCS Mode Performance Limitations:

- The Beacon Interval of MMH/Ex-AP/P2P-GO has to be 100 TU (102.4ms).
- STA can operate only in Infrastructure mode.
- Device Power save Modes are not supported.
- Using Null Data packets with NAV will have an adverse impact on neighboring BSS present on same channel
- Performance cannot be guaranteed across different clients & environment. Limitations are protocol and eco system related and not Marvell specific.
- The DRCS timing configuration for 50% Duty cycle on both channels use below values:
./mlanutl mlan0 mc_cfg_ext 20 5 4 0 20 5 4 0
- For Latency dependent applications – It needs to be calculated and configured taking into consideration of Availability Time on Channel + 2x Channel Switching Time.

NBS/WBS Audio support over I2S Interface:

- The NBS/WBS Audio support is integrated over I2S Interface.
- I 2 S, also known as Inter-IC Sound, Integrated Interchip Sound, or IIS, is an electrical serial bus interface standard used for connecting digital audio devices together.
- Using this feature, voice data (SCO/eSCO) will be routed over I 2 S interface. The 88W8887 Audio Interface Unit (AIU) provides the interface bridge between industry audio codecs and the SRAM memory Unit (SQU) of the device through an I2S, MSB-Justified, or LSB-justified interface.
- The I2S interface feature 88W8887 support includes:
 - Standard record and playback for I2S Justified, Left-justified, and right-justified serial interfaces.
 - Master and Slave mode for I2S justified.
 - I2S Slave mode using internal CCLK.
 - I2S Slave mode using external synchronous or asynchronous CCLK – For sync mode the external CCLK should be at least 4 times faster than the BCLK & in sync with BCLK. For async mode the external CCLK should be at least 8 times faster than the BCLK.
- Only Mono speech (NBS/WBS) is supported over I2S interface.

BT/BLE Notes:

- BT Deep Sleep supported only during wake on BT configuration
- BT Deep Sleep also supported as per Specific use-case described in the Appnote “Dynamic Deep Sleep”
 - Folder Location: My Products/ Wireless/ 88W8887/ Automotive/ Application Notes