

Release Note

Topic u-connectXpress software 7.0.0 for ODIN-W2
UBX-19010343
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Contents

| | | |
|----------|---|----------|
| 1 | General Information | 1 |
| 1.1 | Released software image | 1 |
| 1.2 | Scope | 1 |
| 1.3 | Related documentation | 2 |
| 2 | New features and improvements | 2 |
| 2.1 | End-to-end security | 2 |
| 2.2 | MQTT and MQTT-SN protocol | 2 |
| 2.3 | Improved Wi-Fi Configuration options, +UWCFG | 2 |
| 2.4 | Wi-Fi Roaming, PMK Caching and OKC | 2 |
| 2.5 | Always connected timeout, +UDCFG | 2 |
| 2.6 | TCP out of sequence queue length, +UDCFG | 2 |
| 2.7 | LPO detection, +UMLPO | 2 |
| 2.8 | List connected peers, +UDLP | 2 |
| 3 | Solved issues | 3 |
| 4 | Known limitations | 3 |
| 5 | Changed default configuration | 3 |
| 5.1 | Wi-Fi transmission retry limit | 3 |
| 5.2 | PPP DHCP relay | 3 |
| 5.3 | Bridge IP interface list | 3 |
| 5.4 | Wi-Fi Access Point station-to-station communication | 3 |
| 5.5 | Bluetooth PAN, PANU-to-PANU communication | 3 |

1 General Information

1.1 Released software image

File: ODIN-W26X-SW-7.0.0-090.bin

1.2 Scope

This release note describes the u-connectXpress software version 7.0.0 for the stand-alone multiradio ODIN-W2 module. It covers changes compared to the u-connectXpress software version 6.0.1.

1.3 Related documentation

- [1] u-connect AT Commands Manual, UBX-14044127
- [2] Using u-connectXpress User Guide, UBX-16024251
- [3] u-connectXpress MQTT Application Note, UBX-19005066

2 New features and improvements

2.1 End-to-end security

Connections using Transport Layer Security (TLS) enabling encrypted end-to-end communication over TCP is supported. The TLS versions 1.0, 1.1 and 1.2 are supported.

2.2 MQTT and MQTT-SN protocol

MQTT is a publish/subscribe messaging protocol supported in this version of the software. ODIN-W2 can be set up as an MQTT client allowing the host to transmit and receive MQTT data directly over the UART.

With the support for MQTT-SN (SN=Sensor Network), ODIN-W2 can act as a gateway for devices without TCP support to communicate with an MQTT broker.

This feature has been tested against IBM IoT Platforms, AWS IoT Core, Azure IoT Hub and Eclipse Mosquitto.

MQTT and MQTT-SN over Bluetooth in combination with TLS encryption is not a supported use case due to memory limitations.

2.3 Improved Wi-Fi Configuration options, +UWCFG

Additional configuration tags have been added for +UWCFG. See the AT commands manual for further information.

2.4 Wi-Fi Roaming, PMK Caching and OKC

PMK caching and Opportunistic Key Caching has been added to enable fast roaming for networks without support for 802.11r.

2.5 Always connected timeout, +UDCFG

Added support for configuration of the reconnect timeout for default remote peers.

2.6 TCP out of sequence queue length, +UDCFG

Added support for configuration of the TCP out of sequence queue length in order to improve TCP transmission behavior.

2.7 LPO detection, +UMLPO

Added command to read out whether an external Low Power Oscillator (LPO) is detected or not.

2.8 List connected peers, +UDLP

Added possibility to read the currently connected peers.

3 Solved issues

| Area | Description | Reference |
|-------------|--|---------------|
| Wi-Fi | 4k and chained certificates not working for PEAP and EAP-TLS | TE_OW2_FW-19 |
| Wi-Fi | Slow or interrupted file download from some web/ftp-servers | TE_OW2_FW-579 |
| Wi-Fi | Data lost if TCP connection is disconnected before all data has been transmitted over the UART | TE_OW2_FW-725 |
| Bluetooth | Module resets if the SPP connection is received from an OS X device | TE_OW2_FW-35 |
| Bluetooth | Bluetooth SIG Errata 10734 on security vulnerability in Secure Simple Pairing | TE_OW2_FW-630 |
| Bluetooth | Bluetooth low energy 128 bit UUIDs not working in all cases | TE_OW2_FW-639 |
| Application | Default remote peer in EDM mode fails for always connected configuration | TE_OW2_FW-342 |
| Application | +UUWLD returns wrong error code | TE_OW2_FW-643 |

4 Known limitations

| Area | Description | Reference |
|-------------|---|-------------|
| Application | Crash during EDM transfer with larger payload | UCS_DEV-127 |
| Application | Receiving TLS buffers larger than 8 k is not working | UCS_DEV-205 |
| Application | Sending too many AT commands without waiting for an ok response may cause a crash | UCS_DEV-206 |
| Application | AT+UDCP accepts too long host names but connection will fail | UCS_DEV-207 |
| Application | Server certificate validation not stable when using 4k certificates, or larger Workaround: Disable use of certificate authority in ODIN-W2 | UCS_DEV-214 |

5 Changed default configuration

5.1 Wi-Fi transmission retry limit

The default value has been updated from 10 to 20. This will provide slightly better range and delivery of packets over Wi-Fi.

5.2 PPP DHCP relay

DHCP relaying in PPP mode has been disabled to favor a more robust solution. The drawback is that the device will only have one IP interface over Wi-Fi that will be routed to the PPP interface. No internal IP services can be accessed over Wi-Fi.

5.3 Bridge IP interface list

The IP interface list has been removed. This makes configuration easier but removes the possibility to access individual interfaces once added to the bridge. Instead, the bridge IP address is used to access ODIN-W2.

5.4 Wi-Fi Access Point station-to-station communication

Station to station communication is enabled by default when activating Access Point mode. There is no need to enable bridge for this interface.

5.5 Bluetooth PAN, PANU-to-PANU communication

Bluetooth PAN PANU-to-PANU communication is enabled by default when activating Bluetooth PAN NAP. There is no need to enable bridge for this interface.