

XBee3 DigiMesh 2.4 GHz

Customer Release Notes

Copyright (C) 2018, Digi International

Overview:

These release notes document changes made to the DigiMesh 2.4 firmware on the XBee3 modules

Links:

- [Product Information](<http://www.digi.com/> "Product Information")
- [Documentation](<http://www.digi.com/> "Documentation")
- [Support](<http://www.digi.com/> "Support")

Compatible Hardware:

- * XBee3
 - * XB3-24

Release Files:

- * Firmware
 - * GBL: Firmware image for gateways and OEM updates
 - * OTA: Firmware image for OTA firmware updates
 - * EHX: Encrypted firmware for Legacy X-CTU
 - * EHX2: Encrypted firmware for XCTU-NG
- * Configuration
 - * MXI: Legacy X-CTU configuration file
 - * XML: XCTU-NG configuration file
 - * TXT: Release Notes

Release Version

- * 3000 - XBee3 DigiMesh 2.4 GHz

Release Date:

- * 2018-Mar-28

XB3_DM_3_0_FW_RN

New Features:

- * Initial Release

Enhancements compared with DM2.4 on XBee S2C and S1:

- * Much smaller footprint
- * Expanded channel selection
- * Lower operating receive current
- * Higher TX power on channel 26 for PRO and no channel 26 power cap for non-PRO
- * Ability to choose different protocols on the same XBee3 hardware (e.g. ZigBee, 802.15.4, and DigiMesh 2.4)
- * Counter mode encryption that protects against replay attacks
- * 256-bit key for AES encryption when using counter mode

AT command differences with DM2.4 on XBee S2C and S1:

- * **GT** maximum guard time changed from 3.3 seconds to 1.75 seconds.
The default guard time didn't change from 1 second.
- * **C8** Compatibility command added. Bit 2 (0x04) enables 128-bit encryption for operation with S2C and S1 devices. All other **C8** bits are reserved.
- * **CA** has a new max value of 0x64 (-100dBm).
- * **PP** now outputs maximum output power in dBm based on current settings of **PL** and **R?**. **PP** is a read only command.
- * **R?** indicates region number (read only).
 - * 0 indicates USA region and full power (equivalent to S2C PRO).
 - * 1 indicates Europe region with limited power (equivalent to S2C non-PRO).
- * **BD** now includes standard baud rates 0x9 (460800bps) and 0xA (921600bps). Custom baudrate can now be set up to 0xEC400 (967680bps).
- * **KY** can now support 256 bits if **C8** bit 2 is not set.

Features excluded from initial release

- * Sleep support
- * I/O support
- * SPI support
- * OTA firmware updates

Features excluded that probably won't be included later

- * Space parity and Mark Parity on the UART are no longer supported

Features excluded that might be included later

- * Synchronous sleep

Bug Fixes:

- * N/A (new firmware)

Known Issues / Errata:

XB3_DM_3_0_FW_RN

- * The Diagnostic counts for transmissions (EA and TR) are not always as expected because sometimes there is an extra network retry.
- * Input data can be interpreted as a serial break when an API frame is held back from being sent to the module by hardware flow control. This can be demonstrated by sending an API frame while the reset button is held and then releasing the reset button.
- * PWM RSSI output does not have the right high to low ratio.

- - - - -