

Product Change Notification Software Release Notes Long Range LoRa® Modules

AT Command Firmware MultiTech xDot® v4.1.32 MultiTech mDot™ v4.1.32



Date: May 7, 2024

Product Change Notification (PCN) Number
PCN 05072024-00 (Dot)

I. Overview

New firmware version 4.1.32 (replacing 4.1.5)

Firmware Version Information

- LoRaWAN - 1.0.4
- Regional Parameters - RP2 1.0.3
- Fragmentation - v1.0
- Multicast Setup - v1.0
- library - v4.1.30
- mts-lora - v4.1.21
- Bootloader
- mDot 1.1.0
- xDot 1.1.2

Channel plans

- US915, EU868, AU915, AS923-1, AS923-2, AS923-3, AS923-4
- AS923-JAPAN1, AS923-JAPAN2
- KR920 (mDot only), IN865 (mDot only)

Date of Manufacture (DOM) change over

- xDot DOM of **xxxx y,** 2024 or later
- mDot DOM of **xxxx y,** 2024 or later

II. Firmware

New Features:

1. xDot Bootloader: Added RTC flag to signal external flash read for FOTA image
2. xDot Bootloader: Allows xDot without attached flash to boot without delay of detecting non-existent flash hardware, indeterminate delay times were seen if SPI pins were not grounded.

Changes and/or Bug Fixes:

1. Updates to LoRaWAN protocol for compliance to LCTT v2.7.0 Tech Package 3.12.0_R1 LoRaWAN 1.0.4 Certification tests for US/EU/AU/KR/IN
2. fallback to SF7BW125 if trying to use 500KHz channel with US915/AU915 channel plan but the server has disabled them in Join Accept CHMASK
3. Wait for MC ClassCSetupReq before starting MC session to prevent a session attempting to start with invalid time, dr, and freq.

Known Behavior

1. Note: AS923-2,3,4 LCTT tests have a bug in test BV_015_A which fail DR4 with Rx1Offset 7 and DR5 with Rx1Offset 6 which should be allowed to be rejected when DR6 and DR7 are not supported
2. Only the first three multicast sessions can be saved/restored

III. Suggested Action Plan

Customers

- Review the information in this PCN and forward to others within your organization who are actively involved with the development of IoT applications using the MultiTech xDot and MultiTech mDot.
- Consider downloading the firmware available on MultiTech or Mbed websites to check compatibility with existing deployments.
- Review the release schedule for the upcoming firmware release and understand the effect on your manufacturing and deployment schedules.

Distributors

- Forward this announcement to others within your organization who are actively involved in the sale or support of LoRa-enabled modules.
- Notify existing customers of this change and encourage them to evaluate the new firmware with their custom application.

IV. Ordering Part Numbers Impacted

The following ordering part numbers are impacted by these updates:

Model Name	Ordering Part Numbers	
MultiTech xDot® Long Range LoRa® Modules (MTXDOT Series Devices)		
MTXDOT-AS1-A00-1 MTXDOT-AS1-A00-100 MTXDOT-AS1-A01-100 MTXDOT-AU1-A00-1 MTXDOT-AU1-A00-100 MTXDOT-AU1-A00-1000 MTXDOT-AU1-A01-100	MTXDOT-EU1-A00-1 MTXDOT-EU1-A00-100 MTXDOT-EU1-A00-1000 MTXDOT-EU1-A01-100 MTXDOT-EU1-IN1-A00-1 MTXDOT-EU1-IN1-A00-100 MTXDOT-JP1-A00-1 MTXDOT-JP1-A00-100	MTXDOT-KR1-A00-1 MTXDOT-KR1-A00-100 MTXDOT-NA1-A00-1 MTXDOT-NA1-A00-100 MTXDOT-NA1-A00-1000 MTXDOT-NA1-A01-1000 MTXDOT-NA1-A01-100
MultiTech mDot™ Long Range LoRa® Modules (MTDOT Series Devices)		
MTDOT-923-AS1-M1-UFL-1 MTDOT-923-AS1-M1-UFL-100 MTDOT-923-AS1-X1P-SMA-1 MTDOT-923-AS1-X1-SMA-50 MTDOT-923-AS1-X1-UFL-1 MTDOT-923-AS1-X1-UFL-50 MTDOT-915-AU-M1-TRC-1 MTDOT-915-AU-M1-TRC-100 MTDOT-915-AU-M1-UFL-1 MTDOT-915-AU-M1-UFL-100 MTDOT-915-AU-X1P-SMA-1 MTDOT-915-AU-X1-SMA-1 MTDOT-915-AU-X1-SMA-50 MTDOT-915-AU-X1-UFL-1 MTDOT-915-AU-X1-UFL-50	MTDOT-868-M1-TRC-1 MTDOT-868-M1-TRC-100 MTDOT-868-M1-UFL-1 MTDOT-868-M1-UFL-100 MTDOT-868-X1P-SMA-1 MTDOT-868-X1-SMA-1 MTDOT-868-X1-SMA-50 MTDOT-868-X1-UFL-1 MTDOT-868-X1-UFL-50 MTDOT-923-JP1-X1P-SMA-1 MTDOT-920-KR1-X1P-SMA-1	MTDOT-915-M1-TRC-1 MTDOT-915-M1-TRC-100 MTDOT-915-M1-UFL-1 MTDOT-915-M1-UFL-100 MTDOT-915-X1P-SMA-1 MTDOT-915-X1P-SMA-50 MTDOT-915-X1-SMA-1 MTDOT-915-X1-SMA-50 MTDOT-915-X1-UFL-1 MTDOT-915-X1-UFL-50
MultiTech xDot® Micro Developer Kit: LoRa USB Dongle Developer Kit (MTMDK Series Devices)		
MTMDK-XDOT-AS1-A00 MTMDK-XDOT-AU1-A00 MTMDK-XDOT-EU1-IN1-A00	MTMDK-XDOT-EU1-A00 MTMDK-XDOT-JP1-A00 MTMDK-XDOT-KR1-A00	MTMDK-XDOT-NA1-A00

V. Additional Information

If you have any questions regarding this Product Change Notification/Software Release Notes, please contact your MultiTech sales representative or visit the technical resources listed below:

World Headquarters – USA

+1 (763) 785-3500 | sales@multitech.com

EMEA Headquarters – UK

+(44) 118 959 7774 | sales@multitech.co.uk

MultiTech Developer Resources:

www.multitech.net

An open environment where you can ask development related questions and hear back from MultiTech engineering or a member of this community.

Knowledge Base:

<http://www.multitech.com/kb.go>

Immediate access to support information and resolutions for all MultiTech products. MultiTech Support Portal:

<https://support.multitech.com/support/login.html>

Create an account and submit a support case directly to our technical support team.

MultiTech Website:

www.multitech.com

MultiTech/Mbed Partnership:

<https://os.mbed.com/mbed-os/>

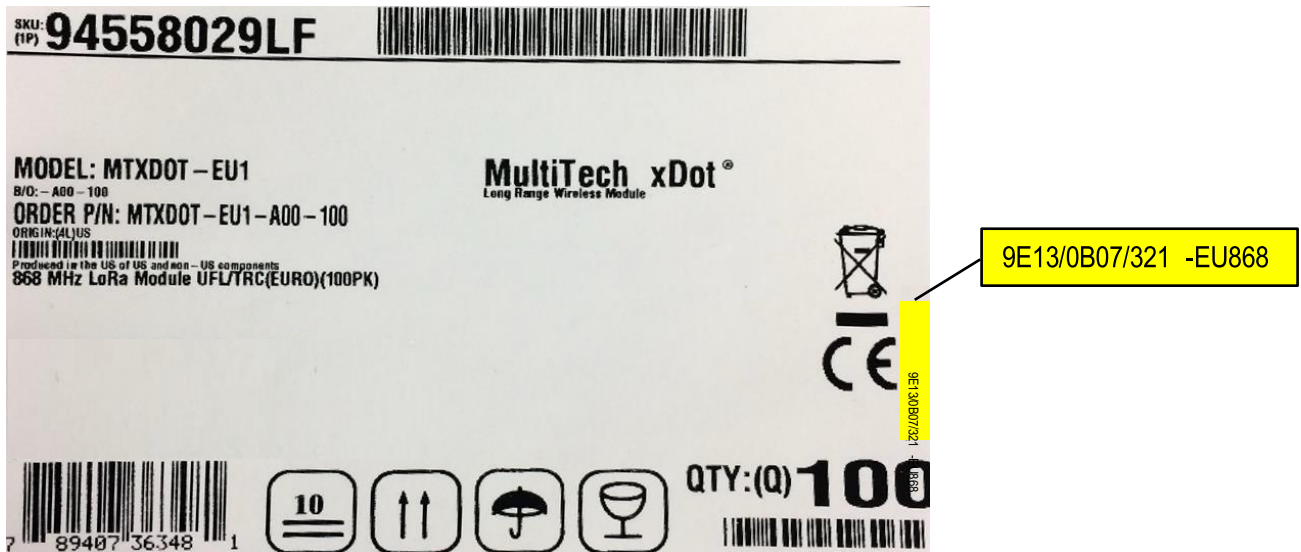
<https://os.mbed.com/teams/MultiTech/>

ATTACHMENT 1 Identifying Dot Firmware Version

There are two ways to identify the firmware version that has been programmed into the xDot or mDot.

1. Product Packaging

- The carton label for each xDot and mDot includes an indication of the firmware version included.



9E13/0B07/321	Dot Firmware Version 321 = Dot Version 3.2.1
-EU868	LoRa Channel Plan

2. AT Command

- The AT Command “ATI Request ID” returns the product and software identification information.
- Syntax Command: ATI, help ATI, ATI=?
- Parameters and Values: None
- Command with Response Examples
 - ATI
 - MultiTech mDot
Firmware: 3.2.0-mbed51101
Library: 3.2.0-mbed51101
MTS-Lora: 3.2.0-mbed51101
 - OK

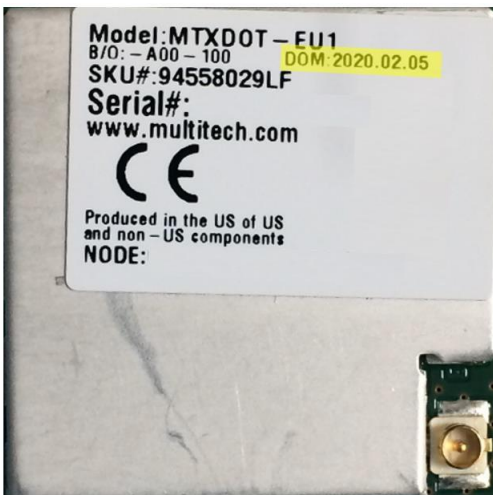
ATTACHMENT 2 Identifying Date of Manufacture (DOM)

Each individual product that ships from MultiTech is identified with its unique Date of Manufacture (DOM). Below are photos that demonstrate the format and placement of the DOM information.

Product: MultiTech xDot

Model Number: MTXDOT-EU1-A00-100

Example: DOM 2020.02.05 = February 5, 2020



Product: MultiTech mDot

Model Number: MTDOT-868-M1-UFL-100

Example: DOM 2017.10.12 = October 12, 2017

