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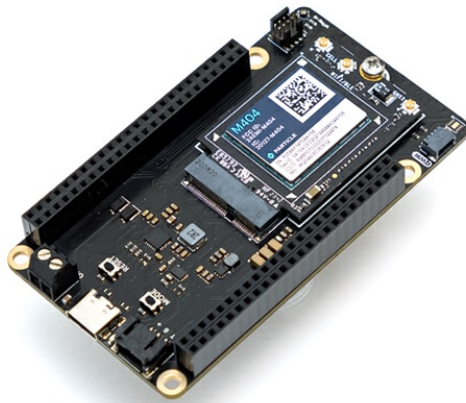
Muon datasheet

This is a preliminary overview of the Muon. A full datasheet will be released at a later date.

Overview

The Muon is a developer kit based on the M-SoM with additional peripherals for easy prototyping.

- LoRaWAN module (Quectel KG200Z, 862 – 928 MHz)
- 96-pin expansion connector
- Temperature sensor (TMP112A)
- Configuration EEPROM (24CW640T)
- Real-time clock and watchdog chip (AM1805)
- Reset and mode buttons
- RGB status LED
- Power input options
 - USB-C
 - VIN (6-12 VDC)
 - LiPo battery with temperature sensor (3-pin JST-PH)



M-SOM

The Muon contains a Particle M-SoM that the following functional units:

- M.2 SoM form-factor, like the B-Series SoM
- Can use cellular or Wi-Fi (2.4 GHz or 5 GHz) for the cloud connection
- Realtek RTL8722DM MCU (BLE and Wi-Fi)
- Cellular modem
 - M404: Quectel BG95-M5 LTE Cat M1/2G (Global)
 - M524: Quectel EG91-EX LTE Cat 1 with 2G/3G fallback (EMEA)
 - M635: Quectel BG95-M5 LTE Cat M1/2G (Global with satellite)

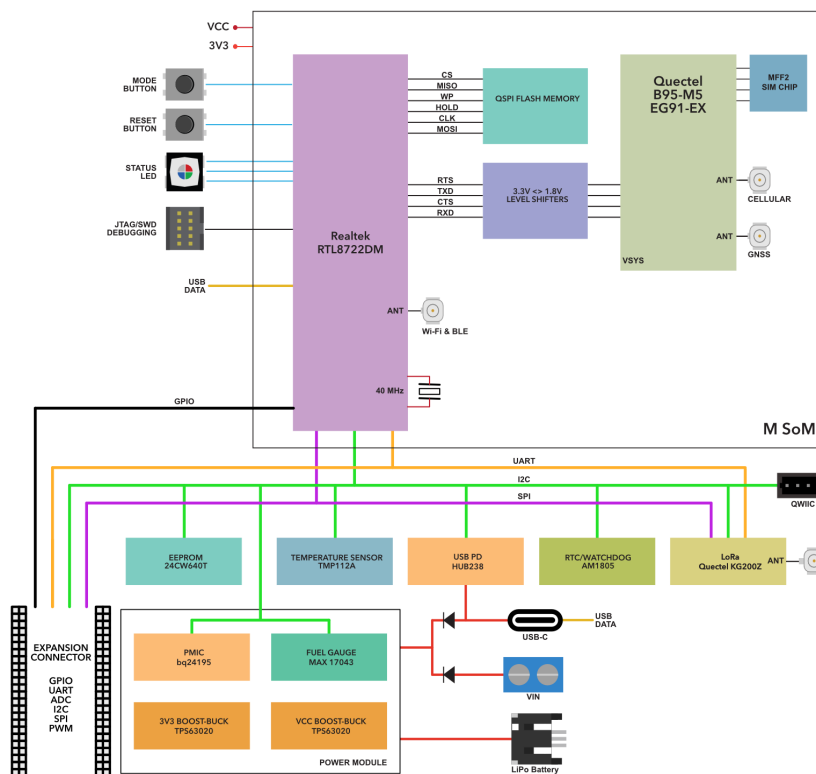
The M404 is fully supported in the United States, Canada, and Mexico. It is in beta testing in other locations. See the [carrier list](#) for country compatibility information.

MCU

The Realtek RTL8722DM is in the same family as the P2 and Photon 2 modules (RTL8721DM), but has additional GPIO.

- 802.11a/b/g/n Wi-Fi, 2.4 GHz and 5 GHz
 - U.FL connector for external antenna
- BLE 5 using same antenna as Wi-Fi
- Realtek RTL8722DM MCU
 - ARM Cortex M33 CPU, 200 MHz
- 2048 KB (2 MB) user application maximum size
- 3072 KB (3 MB) of RAM available to user applications
- 8 MB flash file system
- FCC (United States), ISED (Canada), and CE (European Union) certified

BLOCK DIAGRAM



DEVICE FAMILIES

	Cellular Only	Cellular & Wi-Fi	Wi-Fi Only
Developer devices	Boron	Muon	Photon 2
Production module	B-SoM	M-SoM	P2

Ordering information

SKU	Description	Region	Modem	EtherSIM	Lifecycle	Replacement
MUON404EA	Muon LTE-M/2G Kit (Global, EtherSIM), [x1]	Global	BG95-M5	✓	In development	
MUON404KIT	Muon LTE M1/2G Kit (Global, EtherSIM), [x1]	Global	BG95-M5	✓	In development	
MUON524EA	Muon LTE CAT1/3G/2G Kit (Europe, EtherSIM), [x1]	Global	EG91-EX	✓	In development	
MUON524KIT	Muon LTE CAT1/3G/2G Kit (Europe, EtherSIM), [x1]	Global	EG91-EX	✓	In development	
MUON635EA	Muon LTE M1/2G/Satellite Kit (Global, EtherSIM), [x1]	Global	BG95-M5	✓	In development	
MUON635KIT	Muon LTE M1/2G/Satellite Kit (Global, EtherSIM), [x1]	Global	BG95-M5	✓	In development	

- EMEAA: Selected countries in Europe, Middle East, Africa, and Asia, including Australia and New Zealand. See the [cellular carrier list](#) for more information.