



Fast tracking design and implementation of Myriota-enabled IoT solutions.

Get up and running in minutes on the Myriota Network with our Development Board, which comes equipped with antennas, GNSS, battery, and sensor interface breakouts.

The Myriota Development Board is a key part of the developer tools platform for the Myriota Module. Combined with the Myriota Software Development Kit (SDK) and Application Programming Interface (API), the board allows you to get familiar with the behaviour and performance of the Network, and prototype any type of application you can imagine for remote IoT.

Network Ready

The Development Board has a Myriota Module onboard, providing access to our low cost, low bandwidth, direct-to-orbit satellite network.

Myriota SDK

The Myriota [Software Development Kit](#) (SDK) provides tools, code samples, and documentation to help you build your Myriota-enabled product as quickly as possible.

Application Programming Interface (API)

The Myriota API provides job scheduling, sensor input/output, diagnostics, access to Myriota's communication stack, and more.

Developer Site

The Myriota [Developer Site](#) (developer.myriota.com) is a one-stop-shop for the most up-to-date technical guides, tutorials, API documentation and example code for using the Developer Board to its greatest potential.



Revision History

Rev	Date	Description of Change
1.0	Mar 2020	Initial version
1.1	Mar 2020	Added missing board image. Updated link to technical documentation
1.2	July 2020	Updated availability date for DB2-2x. Updated various links
1.3	Jan 2021	Updated with information for V2

Related Documentation

Find the latest versions of all Myriota documentation at developer.myriota.com

How to Contact Us

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Safety and Compliance

FCC Compliance Information

This equipment has been tested and found to comply with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

WARNING: Changes or modifications not expressly approved by Myriota may render the device non-compliant to FCC and other regulatory body standards for operation and may void the user's authority to operate the equipment.

Operation under the provisions of this section is restricted to devices that use radio frequency energy to identify the contents of commercial shipping containers. Operations must be limited to commercial and industrial areas such as ports, rail terminals and warehouses.

Two-way operation is permitted to interrogate and to load data into devices. Devices operated pursuant to the provisions of this section shall not be used for voice communications.

To prevent interference to Federal Government radar systems, operation under the provisions of this section is not permitted within 40 kilometers of the following locations:



RF Exposure Warning Statement: In accordance with 47 CFR §2.1091 and Canada’s Health Safety Code 6, this device shall be installed to provide a separation distance of 32cm (12.6”) between the antenna and any persons.

DoD Radar Site	Latitude	Longitude
Beale Air Force Base	39°08'10" N	121°21'04" W
Cape Cod Air Force Station	41°45'07" N	070°32'17" W
Clear Air Force Station	64°55'16" N	143°05'02" W
Cavalier Air Force Station	48°43'12" N	097°54'00" W
Eglin Air Force Base	30°43'12" N	086°12'36" W

ISED Compliance Information

This device complies with Industry Canada’s license-exempt RSSs. Operation is subject to the following two conditions:

1. This device may not cause interference; and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. l'appareil ne doit pas produire de brouillage, et
2. l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

RF Exposure Compliance Information

This equipment complies with the FCC §2.1091 and ISED RSS-102 RF Exposure Limits. A minimum of 13 centimeters (5 inches) separation between the device and the user and all other persons should be maintained.

Variants

Part Number	Band	Frequency (MHz)
DB2-2x	UHF TX UHF RX	399.9 - 400.05 400.15 - 401

System Overview

Global Navigation Satellite System (GNSS)

- SAM-M8Q-0-10 GNSS module
- GPS and GLONASS
- Acquisition Time 1s (hot start) or 30s (cold start)
- Accuracy 2.5m CEP 50% (24 hours static, good sky view)
- Sensitivity -164 dBm (tracking)

Connectors (common to V1 and V2)

- Power ON/OFF header (J200)
- GNSS backup power supply header (J500)
- Onboard GNSS antennas
- MMCX connector for external VHF/UHF antenna (J503)
- 2 x AA battery holders (BH200)
- Micro USB (J403)
- 2x17 pin male 100mil (2.54mm) pitch
- Breakout Header (J401)

Connectors (V1 only)

- Onboard ISM antenna for lab testing with the Satellite Simulator (AN501)

Connectors (V2 only)

- SMA antenna connector (J501)
- MMCX surface mount connectors for RF testing (J502 and J505)

Power

- Battery 3V to 3.6V



- USB

Programming

- Serial port via micro USB or [SWD](#)

Environmental

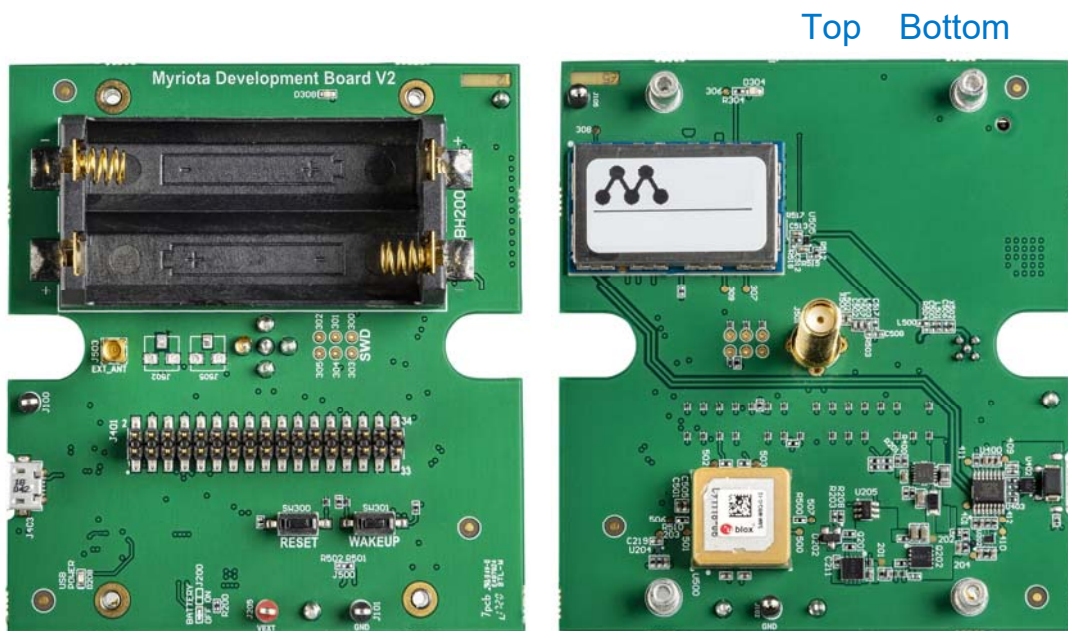
- Operating temperature -30°C to +70°C
- RoHS compliant

Buttons

- RESET (SW300)
- WAKE UP (SW301)

Dimensions

- 130mm X 90mm x 200mm (height with antenna)



Breakout Header Pins

Breakout header J401 breaks out some of the module pins

Header Pin	Module Pin	Note
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Number	Name	
1	VEXT	
2	VUSB	
3	I2C_SDA	
4	UART0_CTS	
5	I2C_SCL	
6	GND	
7	ADC0	Two 10k ohm divider resistors to double the input voltage range
8	UART0_TX	
9	GND	
10	UART0_RX	
11	ADC1	Two 10k ohm divider resistors to double the input voltage range
12	UART0_RTS	
13	GPIO7	
14	NRST	
15	GPIO8	
16	SWCLK	
17	VIO_REF	
18	SWDIO	
19	SPI_MOSI	
20	GND	
21	SPI_MISO	
22	GPIO1_WKUP	
23	SPI_SCK	
24	SPI_CS	
25	GND	
26	LEUART_TX	
27	GPIO0_WKUP	



28	LEUART_RX	
29	UART1_TX	
30	PULSE0	
31	UART1_RX	
32	PULSE1	
33	RF_TEST2	
34	RF_TEST1	

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