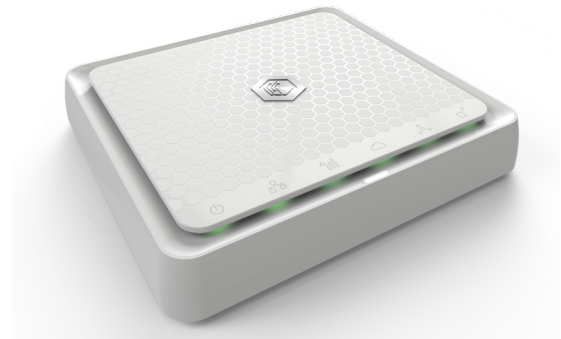


The MMB Networks Linux-based RapidConnect Multiprotocol Gateway offers the most features and flexibility for future upgrades. This is a powerful device that can handle rules and logic for 100s of devices if necessary and also has large amounts of storage for logging data and offline functionality.

MMB Networks offers a variety of hardware and software development tools to facilitate integration. For more information, please visit <http://www.mmbnetworks.com>



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1 | General Information

This is a Preliminary Datasheet and specifications are subject to change.

The multiprotocol gateway is based on our industry leading Z357 module family offering significant protocol support, including:

ZigBee HA Support, ZigBee SE Support, Dual PAN SE/HA Support.

This product utilizes the Silicon Labs EM357 ZigBee SoC.

2 | Processor and Memory

Processor	RAM	Flash Memory
Marvell Armada 370 (ARMv7) Processor @ 800MHz	up to 512MB DDR3 SDRAM	1 GB

3 | Electrical Specifications

3.1 | Absolute Maximum Ratings

Parameter	Minimum	Typical	Maximum	Units
Supply Voltage (VCC)	-0.3		6	V
Storage Temperature	-20		50	°C

3.2 | Recommended Operating Conditions

Parameter	Minimum	Typical	Maximum	Units
Supply Voltage (VCC)	4.7	5.0	5.3	V
Temperature Range	0	25	50	°C

3.3 | DC Electrical Characteristics

Parameter	Test Condition	Minimum	Typical	Maximum	Units
Input Voltage Supply	At the input to the gateway	4.7	5	5.3	V
Current Consumption	At 25 °C		1.2	2.4	A
Power Consumption	At 25 °C		6	12	W

4 | RF Specifications

4.1.1 | ZigBee Receive Specifications

Note: The Typical number indicates one standard deviation above the mean, measured at room temperature (25°C). The Min and Max numbers were measured over process corners at room temperature.

Parameter	Test Condition	Min	Typical	Max	Units
Frequency range		2400	2450	2500	MHz
Sensitivity	1% PER, 20 byte packet defined by IEEE 802.15.4-2003		-102		dBm

4.1.2 | ZigBee Transmit Specifications

Parameter	Test Condition	Min	Typical	Max	Units
Output Power at highest FCC-compliant power setting			20		dBm
Error vector magnitude as per IEEE 802.15.4		0	5	15	%
Carrier frequency error		-40	0	40	ppm

4.2.1 | WiFi Receive Specifications

Parameter	Test Condition	Min	Typical	Max	Units
Frequency range	2.4GHz ISM Bands	2412		2472	MHz
Sensitivity	802.11b at 11Mbps		-76		dBm
	802.11g at 54Mbps		-65		dBm
	802.11n at HT20 MCS7		-64		dBm
	802.11n at HT40 MCS7		-61		dBm

4.2.2 | WiFi Transmit Specifications

Parameter	Test Condition	Min	Typical	Max	Units
Supported Datarates	802.11b	1	1, 2, 5.5, 11	11	Mbps
	802.11g	6	6, 9, 12, 18, 24, 36, 48, 54	54	Mbps
	802.11n			150	Mbps

5 | Functional Options

5.1 | Button

A single soft button whose function is defined in software.

5.2 | Status LEDs

7 status LEDs which can be defined in software. The LEDs can be directed to either be front or top facing.

The LED colours and quantities are:

Red - 5

Yellow - 1

Bi-colour (Green/White) - 1 (two separate on-board LEDs which can be combined to a single status location)

Note: the colour of the LEDs can be modified easily, whereas the location cannot.

5.3 | WiFi

An internal WiFi antenna that supports antenna diversity. Supported protocols are:

802.11b/g/n with WPS

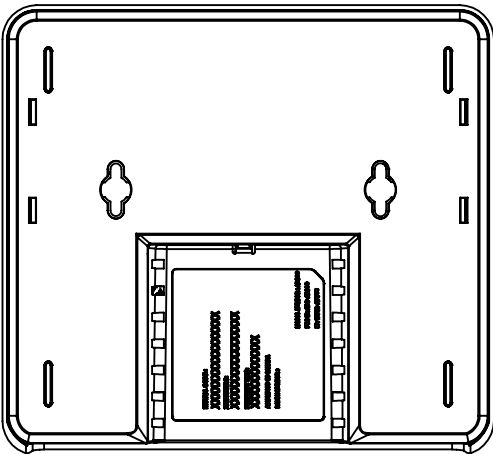
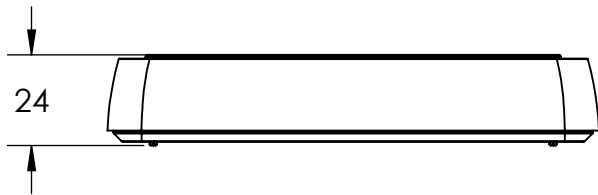
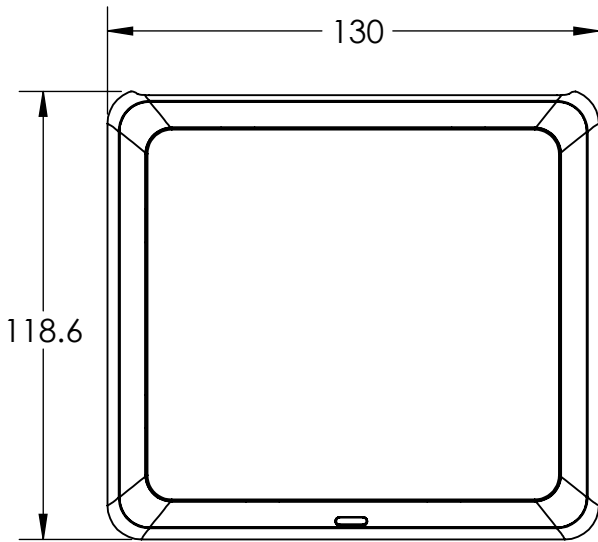
5.4 | Ethernet

Supports 10BASE-T (IEEE802.3i) and 100BASE-TX (IEEE802.3u) ethernet protocols.

5.5 | Real-Time Clock

There is an on-board 32kHz Lithium CR2032 battery backup.

6 | Mechanical Specifications



7 | Regulatory Approvals

7.1 | Federal Communications Commission (FCC - US)

NOTE: 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: (1) Reorient or relocate the receiving antenna. (2) Increase the separation between the equipment and receiver. (3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. (4) Consult the dealer or an experienced radio/TV technician for help.

Federal Communications Commission (FCC - US): The GWY10 complies 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. To comply with FCC RF Exposure requirements, users of this device must ensure that the module be installed and/or configured to operate with a separation distance of 20cm or more from all persons.

7.2 | Industry Canada (IC)

Industry Canada (IC) : The GWY10 complies with Industry Canada licence-exempt RSS standard(s). 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. CAN ICES-3 (B)/NMB-3(B)

7.3 | RoHS Compliance

This device (GWY10) does not contain any substances in excess of the maximum concentration allowed by Directive 2002/95/EC.

8 | Ordering Information

SKU	RAM	Flash Memory	Description
GWY10-1-8-N-xxx	128MB (1Gb)	1GB (8Gb)	Multiprotocol Gateway
GWY10-4-8-N-xxx	512MB (4Gb)	1GB (8Gb)	Multiprotocol Gateway

The above table provides the HW SKU which forms the first part of the complete part number. The complete part number requires a three digit programming code (xxx)

Contact your local MMB sales representative to determine the correct programming code for your application.

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