Honeywell BW CONNECT/BEACON

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Author(s)	WangKai
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1. Section1:

1.1 Summary:

Honeywell BW CONNECT/BEACON is based on BLE chips and IRDA module providing a quick, easy and cost effective way to add BLE capabilities for BW gas products with IRDA. It is an IRDA to BLE adapter (dongle) which allows existing BW instruments to become IoT enabled devices and instantly kick start the Connected Worker ecosystem, customers can read gas information by a wireless way on a phone.

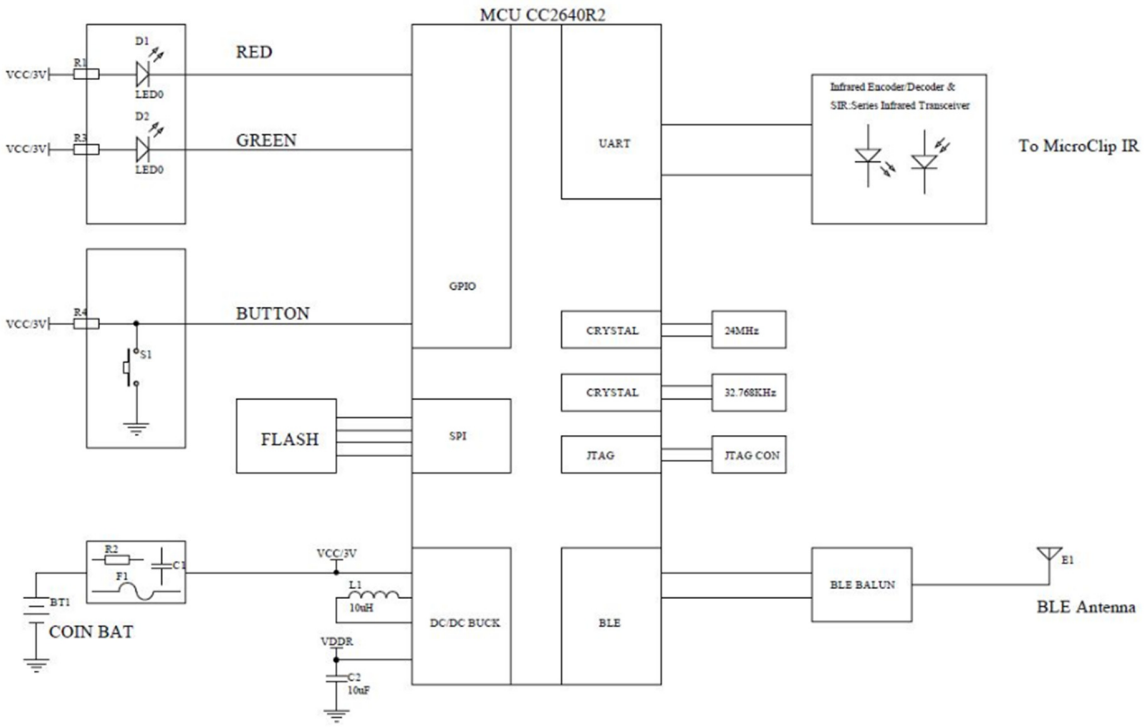
The differences between BWC-1001 and BWC-1002 are that: BWC-1002 has a different enclosure with power key which allow EUT sleep or be waked up.

1.2 Key Features:

- BLE with internal antenna
- Support BLE4.2 and 5.0
- Support 2.0Mbps data rate
- AES-128 security
- IRDA
- Low power consumption
- FCC and RED compliant, BQB compliant
- RoHS compliant, certified lead- and halogen-free

2. Section2:

2.1 Block Diagram:



3. Section3:

3.1 Voltage:

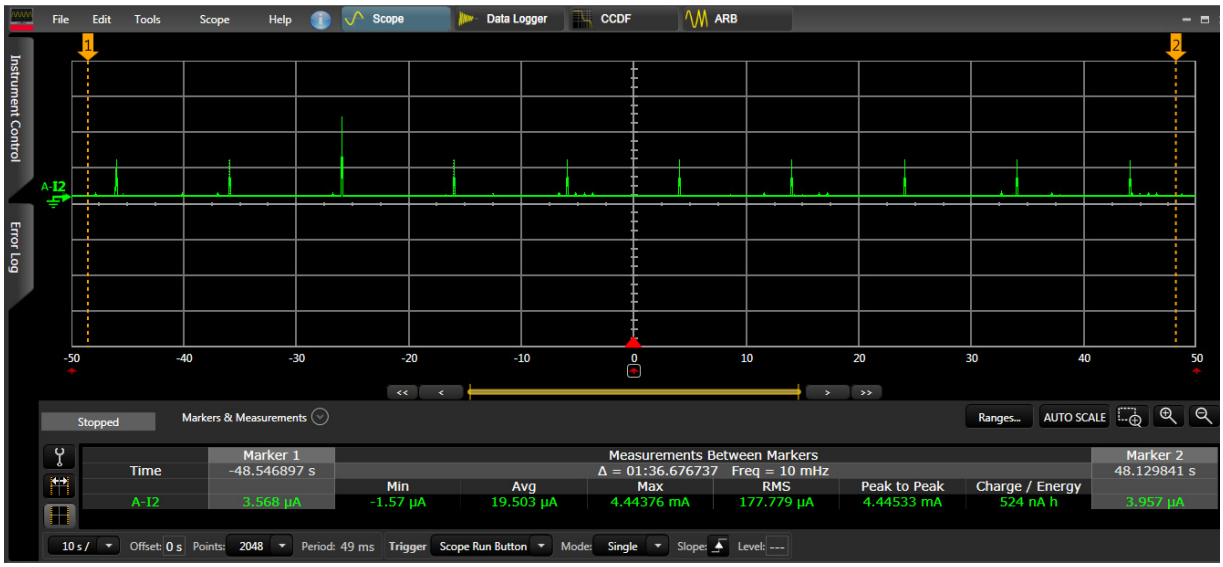
Power supply for the RMWIFI-M3 module will be provided by the host power pins.

Symbol	Min	Typ	Max	Unit
VCC	1.9	3.0	3.6	V

3.2 Current Consumption:

Condition: 25deg.C. The default voltage is 3.0V.

Item	Condition	Min	Nom	Max	Unit
Max	Sending data peak value		7		mA
Average	IRDA Interval 10s, BLE interval 30ms		50		uA
Sleep	Average		20		uA



3.3 RF Specification:

The RF performance of RMWIFI-M5 is given as follows. The default voltage is 3.3V.

Parameter	Condition	Min	Nom	Max	Unit
Frequency Range		2402		2480	MHz
Channel Space			2		MHz
RX sensitivity	PER 1%		-85		dBm
TX Power	RBW=1M, VBW=3M		3	4	dBm

3.4 Antenna Specification:

"High Frequency Ceramic Solutions"

2.45 GHz wide band, small form factor SMD chip antenna P/N 2450AT43F0100
Detail Specification: 4/22/2016 Page 1 of 5

General Specifications			
Part Number	2450AT43F0100	Reel Quanity	2,000 pcs
Operating Frequency (MHz)	2400 - 2500 Mhz	Operating Temperature	-40 to +85°C
Peak Gain (XZ-total)	2.1 dBi typ.	Recommended Storage Conditions	+5 ~ +35 °C, Humidity 45~75%RH 12 months
Average Gain (XZ-total)	1.0 dBi typ.		
Impedance	50 Ω	Power Capacity	2W max. (CW)

Part Number Explanation				
P/N Suffix	Packing Style	Bulk	Suffix = S	eg. 2450AT43F0100S
		T & R	Suffix = E	eg. 2450AT43F0100E
		100% Tin	Suffix = E or S	eg. 2450AT43F0100 (E or S)
	Evaluation Board	Bulk	2450AT43F0100-EB1SMA (with female SMA connector)	

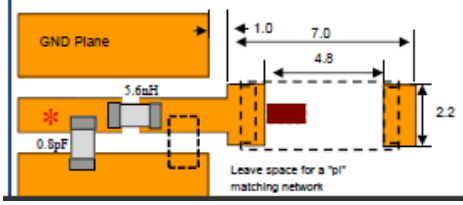
Mechanical Dimensions		
	In	mm
L	0.236 ± 0.008	6.00 ± 0.20
W	0.079 ± 0.008	2.00 ± 0.20
T	0.047 0.2 +.004 / -.008	1.20 + 0.1 / -0.2
a	0.020 ± 0.012	0.50 ± 0.30

Terminal Configuration	
No.	Function
1	Feeding Point
2	NC

Mounting Considerations

Mount these devices with brown mark facing up. Units: mm

*Line width should be designed to provide 50 Ω impedance matching characteristics.



It is recommended that the designer leave available slots for a "pi" (or shunt-series-shunt) network. The antenna matching network values above are used when antenna is mounted on Johanson's evaluation board. The matching values on client's PCB will be different. Go to: www.johansontechnology.com/tuning.html and see how to obtain the new values.

4. Section3:

4.1 Physical Characteristics:

Parameter	Range	Unit
Size	35.5 * 32*7.2	mm
Operation Temperature	-40 to +55	℃

5. Regulatory:

Caution:

This device complies with Part 15 of the FCC Rules / Industry Canada licence-exempt RSS standard(s). 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.

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.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut
fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.