LITE-ON TECH. CORP.

PRODUCT REQUIREMENT SPECIFICATION

MZ0100S-0

ZigBee Module

Version 1.0

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Change History

Revision	Date	Author	Change List
1	Aug.10, 2015	Rocky Chen	Initial

CONTENT

1. Product Overview

1.1 Description

The MZ0100S-0, ZigBee Module is using 32-bit ARM® Cortex®-M3 microprocessor and an integrated ultra-low power 2.4GHz ISM band, compliance with IEEE 802.15.4 transceiver. These ZigBee Module is available in 33-pin stamp holes packages with up to 512KB Flash, and 64KB of SRAM. MZ0100S is based on SILICON LABS EM3585 single chip ZigBee solution the Wireless sensor networking, Industrial control, Machine-to-Machine (M2M) and emerging Internet of Things (IoT) markets.

1.2 Features

- 32-bit ARM Cortex-M3 Processor
- Frequency 2.4 GHz, IEEE 802.15.4 compliant RF transceiver
- 64KB of RAM
- 512KB Flash
- Support on-chip OTA, over-the-air, upgrade
- Excellent Receiver Sensitivity of -100dBm
- Programmable Output Power up to +7dBm, configurable
- Operating temp: -40~85 °C
- Total 33-pin Stamp Holes, SMT
- Type A form factor: 24x17mm
- RoHS Compliant

1.3 General Specifications

RF Chipset	SILICON LABS EM3585
Standard	2.4 GHz IEEE 802.15.4-2003 ZigBee
Bus Interface	Data: SPI, UART and I2C (SW configurable)
RF Frequency Range	2.405~2.475 GHz (channel 11 -26)
Power Amplify	N/A
Transmit Output Power	+7dBm
Receiver Sensitivity	-100dBm
Operating Voltage	2.1V~3.6V
Operation temperature	-40~+85 °C
Power Consumption	Transmit Mode: TBC Receive Mode: TBC Deep Sleep Mode: 7uA
Antenna Type	1. Print Antenna 2. Feed Point

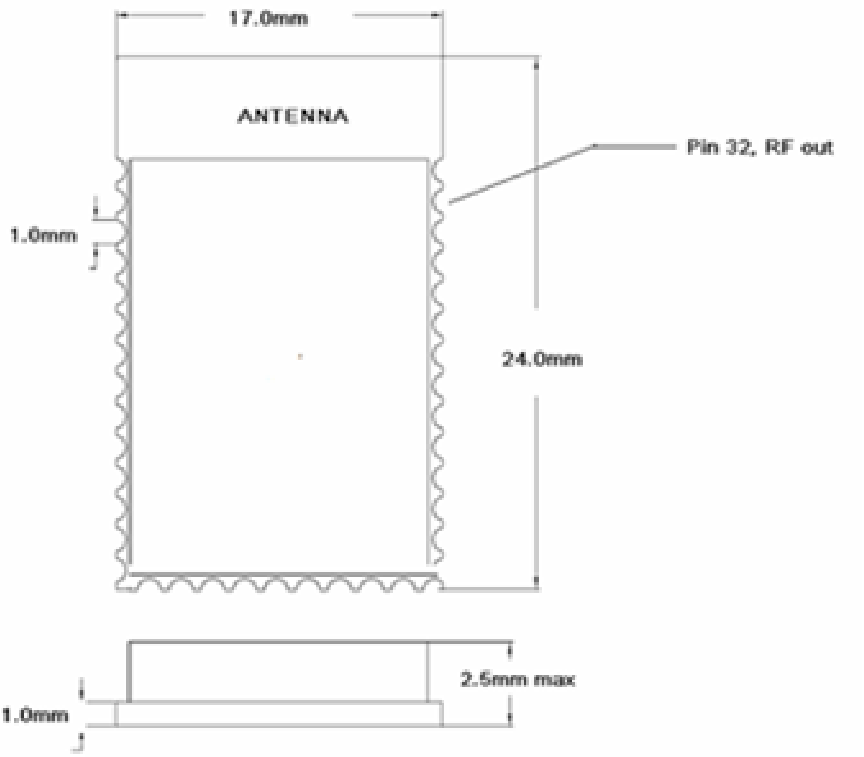
Certification & Environmental Requirements	FCC/IC/CE ZigBee RoHS

2. Pin Assignment and Description

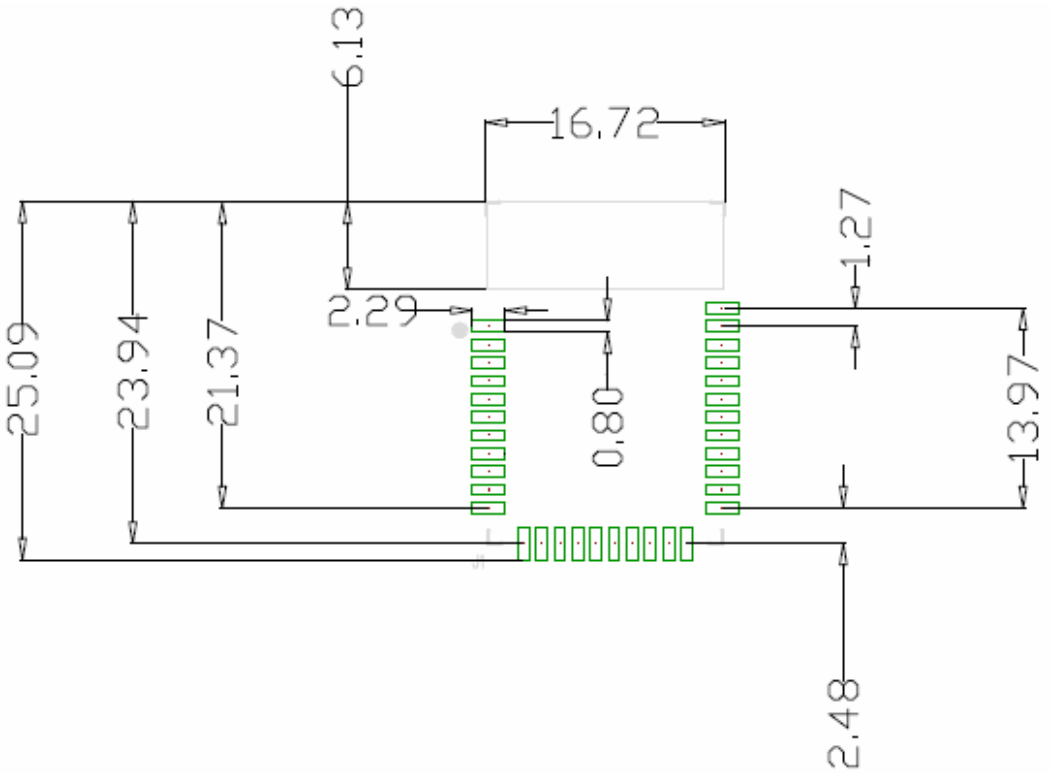
Pin Number	Module Pin Name	Pin Description	I/O
1	GND	Ground	P
2	GND	Ground	P
3	NC	NC	--
4	nRST	Reset Pin. Active Low	I
5	PC6	Digital I/O	I/O
6	PC7	Digital I/O	I/O
7	PA7	Digital I/O	I/O
8	PB3	Digital I/O	I/O
9	PB4	Digital I/O	I/O
10	PA0	Digital I/O	I/O
11	PA1/I2C_SDA	Digital I/O. I2C_Serial Data	I/O
12	GND	Ground	P
13	VDD	Power Source for Module	P
14	PA2/I2C_SCL	Digital I/O. I2C_Serial Clock	I/O
15	PA3	Digital I/O	I/O
16	PA4	Digital I/O	I/O
17	PA5	Digital I/O	I/O
18	PA6	Digital I/O	I/O
19	PB1/UART_TX	Digital I/O . UART_Tx	I/O
20	PB2/UART_RX	Digital I/O . UART_Rx	I/O
21	JTCLK	JTAG Clock Pin. For Debug and programming.	I
22	PC2	Digital I/O	I/O
23	PC3	Digital I/O	I/O
24	PC4	JTAG Data Pin. For Debug and programming.	I/O
25	PB0	Digital I/O	I/O
26	PC1	Digital I/O	I/O
27	PC0	Digital I/O	I/O
28	PB7	Digital I/O	I/O
29	PB6	Digital I/O	I/O
30	PB5	Digital I/O	I/O
31	GND	Ground	P
32	RF	RF feed point. Connect to Antenna	O
33	GND	Ground	P

Liteon Type A module

Dimension : 24 x 17 x 2.5mm



3. Recommended FootPrint



FCC WARING STATEMENT

This equipment has been tested and found to comply with the limit s 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 of f 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.

CAUTION:

Any changes or modifications not expressly approved by the p arty responsible for compliance could void the user's authority to operate the equipment.

This device 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.

FCC RF Radiation Exposure Statement:

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.

   This equipment should be installed and operated with a minimum distance of 20 centimeters between

   the radiator and your body.

Information to OEM integrator

The OEM integrator has to be aware not to provide information to the end user regarding how to install or re move this RF module in the user manual of the end product. The user manual which is provided by OEM inte grators for end users must include the following information in a prominent location.
1. To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must be i nstalled to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other
antenna or transmitter, except in accordance with FCC multi-transmitter product
transmitter product procedures.

2. Only those antennas with same type and lesser gain filed under this FCC ID number can be used with this device.
3. The regulatory label on the final system must include the statement: “Contains FCC ID: PPQ-MZ0100S-0 “.
4. The final system integrator must ensure there is no instruction provided in the user manual or customer documentation indicating how to install or remove the transmitter module except such device has implemented two-ways authentication between module and the host system.

IC WARING STATEMENT

Canada, Industry Canada (IC) Notices
This Class B digital apparatus complies with Canadian ICES-003 and RSS-247.
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.
Canada, avis d'Industry Canada (IC)
Cet appareil numerique de classe B est conforme aux normes canadiennes ICES-003 et RSS-247.IC
Son fonctionnement est soumis aux deux conditions suivantes : (1) cet appareil ne doit pas causer d'interference et (2) cet appareil doit accepter toute interference, notamment les interferences qui peuvent affecter son fonctionnement.
Radio Frequency (RF) Exposure Information
The radiated output power of the Wireless Device is below the Industry Canada (IC) radio frequency exposure limits. The Wireless Device should be used in such a manner such that the potential for human contact during normal operation is minimized.

This device has also been evaluated and shown compliant with the IC RF Exposure limits under mobile exposure conditions. (antennas are greater than 20cm from a person's body).
Informations concernant l'exposition aux frequences radio (RF)
La puissance de sortie emise par l'appareil de sans fil est inferieure a la limite d'exposition aux frequences radio d'Industry Canada (IC). Utilisez l'appareil de sans fil de facon a minimiser les contacts humains lors du fonctionnement normal.
Ce peripherique a egalement ete evalue et demontre conforme aux limites d'exposition aux RF d'IC dans des conditions d'exposition a des appareils mobiles (les antennes se situent a moins de 20 cm du corps d'une personne).