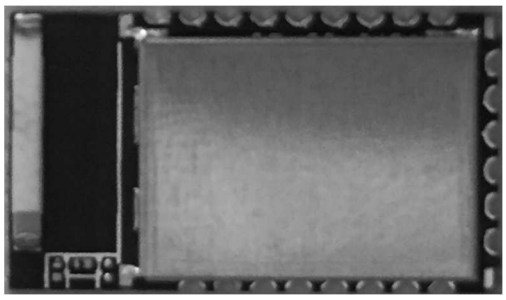
MERCURY.A

User Manual Preliminary



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REVISION HISTORY

Version		Description
0.1		Draft

1. GENERAL DESCRIPTION

MERCURY.A Bluetooth Smart module supports:

- Bluetooth v.4.0 single mode compliant
- Complete Power-Optimized Stack: GAP, GATT, SMP, L2CAP
- Multiple configuration options:
  - Single-chip operation as a host
  - Controlled by an external microcontroller as a slave
- Flexible hardware interfaces:
  - UART/SPI/I2C
  - PWM/ADC/GPIO
- Low current consumption:
  - <1uA @Sleep mode (external interrupts);
  - TX (0dBm) <20mA

APPLICATIONS:

- Human-Interface Devices (Keyboard, Mouse, Remote Control)
- Sports and Leisure Equipment
- Mobile Phone Accessories
- Consumer Electronics

2. MECHANICAL INFORMATION

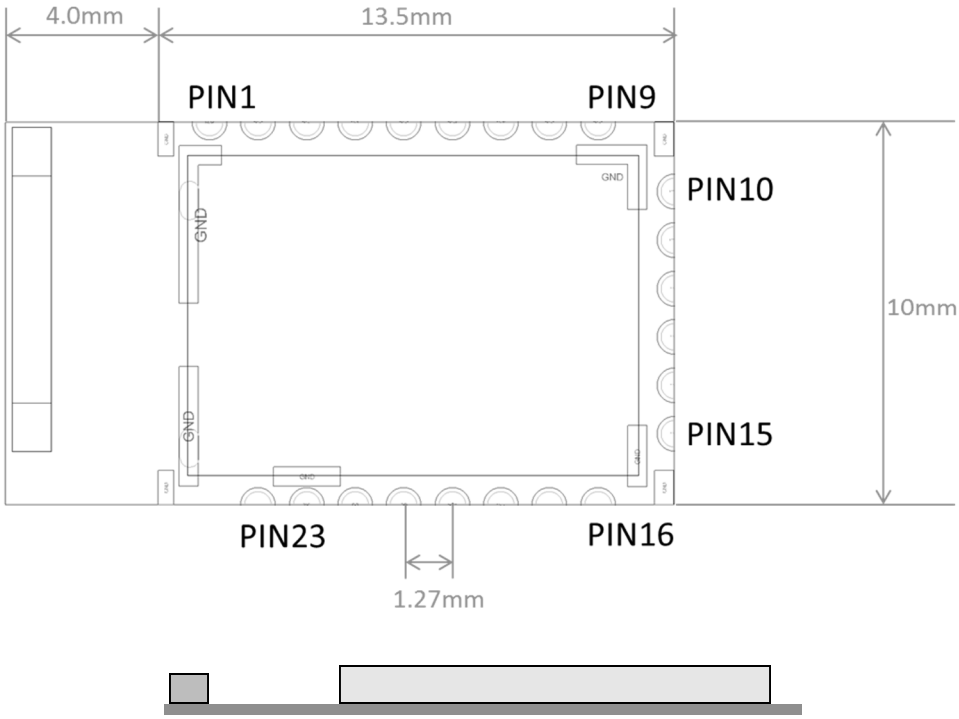

Figure 1. Physical Dimensions (W: 10.0mm, L: 17.5mm, T: 2.0mm)

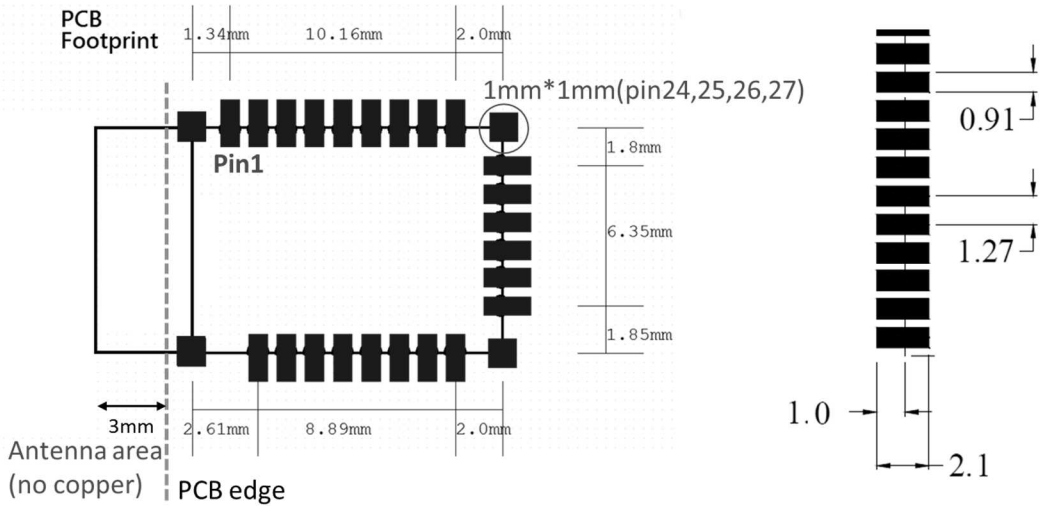

Figure 2. Recommended PCB Footprint (unit: mm)

3. PIN DEFINITION

PIN	NAME	Description
1	RST#	Reset, active-low
2	PIO_00	I/O Port 0.0
3	PIO_01	I/O Port 0.1
4	PIO_02	I/O Port 0.2
5	PIO_03	I/O Port 0.3
6	PIO_04	I/O Port 0.4
7	PIO_05	I/O Port 0.5
8	PIO_06	I/O Port 0.6
9	PIO_07	I/O Port 0.7
10	PIO_10	I/O Port 1.0
11	PIO_11	I/O Port 1.1
12	PIO_12	I/O Port 1.2
13	PIO_13	I/O Port 1.3
14	PIO_14	I/O Port 1.4
15	PIO_15	I/O Port 1.5
16	SDA	I2C data
17	SCL	I2C clock
18	PIO_16	I/O Port 1.6
19	PIO_17	I/O Port 1.7
20	DD	Debug data
21	DC	Debug clock
22	GND	Connect to GND
23	3V3_BLE	2V-3.6V Power Supply
24	GND	GND
25	GND	GND
26	GND	GND
27	GND	GND

4. TECHNICAL INFORMATION

ABSOLUTE MAXIMUM RATINGS

	MIN	MAX	UNIT
Supply voltage	–0.3	3.9	V
Voltage on any digital pin	–0.3	VDD + 0.3 ≤ 3.9	V
Storage temperature	-30	80	°C

*Stresses beyond those listed under Absolute Maximum Ratings may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under Recommended Operating Conditions is not implied. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.

RECOMMENDED OPERATING CONDITIONS

	MIN	MAX	UNIT
Operating supply voltage	2	3.6	V
Operating temperature	-20	70	°C

DC CHARACTERISTICS

	MIN	MAX	UNIT
Logic-0 input voltage		0.5	V
Logic-1 input voltage	2.5		V

Federal Communications Commission (FCC) Statement
The final end product must be labeled in a visible area with the following: “Contains FCC ID: 2AI6W-MCRYA01”.

The Original Equipment Manufacturer (OEM) must ensure that the OEM modular transmitter must be labeled with its own FCC ID number. This includes a clearly visible label on the outside of the final product enclosure that displays the contents shown below. If the FCC ID is not visible when the equipment is installed inside another device, then the outside of the device into which the equipment is installed must also display a label referring to the enclosed equipment.

You are cautioned that changes or modifications not expressly approved by the part 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 of the device.

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.

FCC RF Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.