

RMD02-A128/B256

Bluetooth 4.0 Low Energy
2.4GHz SoC Module

DATA SHEET
Version A

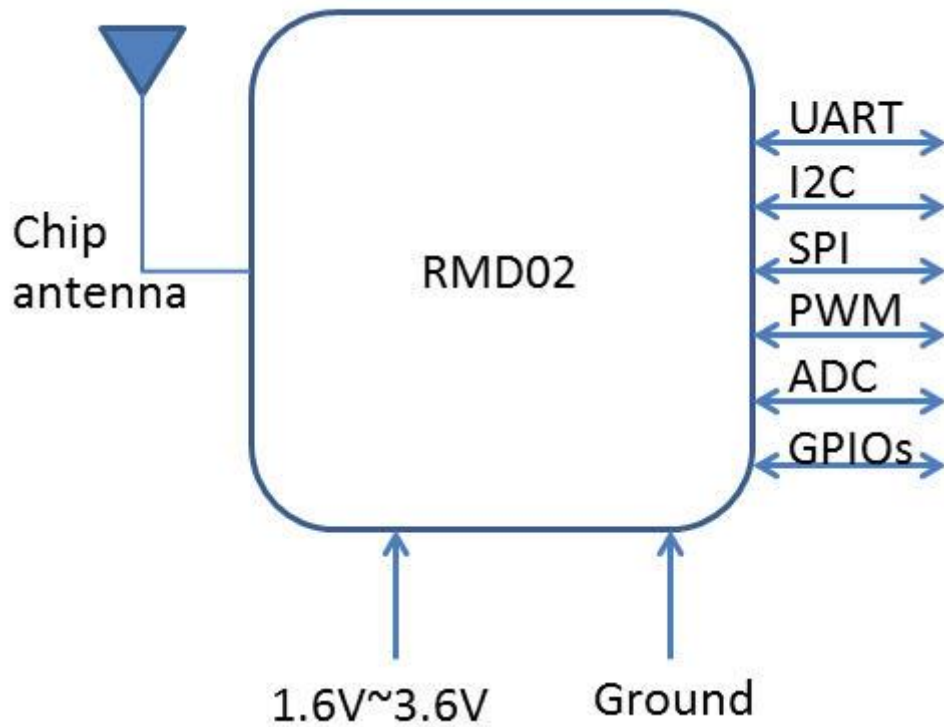
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RMD02 Features

- 2.4GHz Bluetooth low energy compliant module
- RF output power: -15dBm ~ 0 dBm.
- Bluetooth v4.0 compliant protocol stack
- Very low power consumption. Average current is 9.7uA(One communication every 1 second).
- In-system-programmable main flash memory, 128KB or 256KB
- 12KB/20KB RAM with retention in all power modes
- Data flash with 1Million erase cycles. Size 8KB.
- Compact size with chip antenna on board (12.2mmX15.5mm)
- Connectors: SMT Land Grid Array (Stamp holes)
- Multiple Communication Interfaces
 - I2C master x 2
 - CSI/SPI x 2
 - UART x 2
 - Multi-master I2C x 1
 - 8/10-bit A/D converter x 8
- General Purpose I/O
 - Total I/O ports: 22
 - N-ch open drain I/O withstand voltage of 6V:2
 - N-ch open drain I/O withstang voltage of VDD: 9
 - Able to connect with 1.8/2.5 V devices
- Low voltage detection(LVD) with 12 setting options (Notification to Interrupt and/or reset function)
- Safety Functions: Comply with the IEC60730 and IEC61508 safety standards
- Operating Voltage: 1.6V to 3.6V
- Working Ambient Temperature: -40 to +85°C
- FCC and Telec compliant
- Providing application firmware customization service.

Block Diagram



Specifications:

- Dimensions

	Minimum	Typical	Maximum	Unit
Length	12.15	12.20	12.25	mm
Width	15.45	15.50	15.55	mm
Height	1.65	1.70	1.80	mm

- Antenna

On board chip antenna

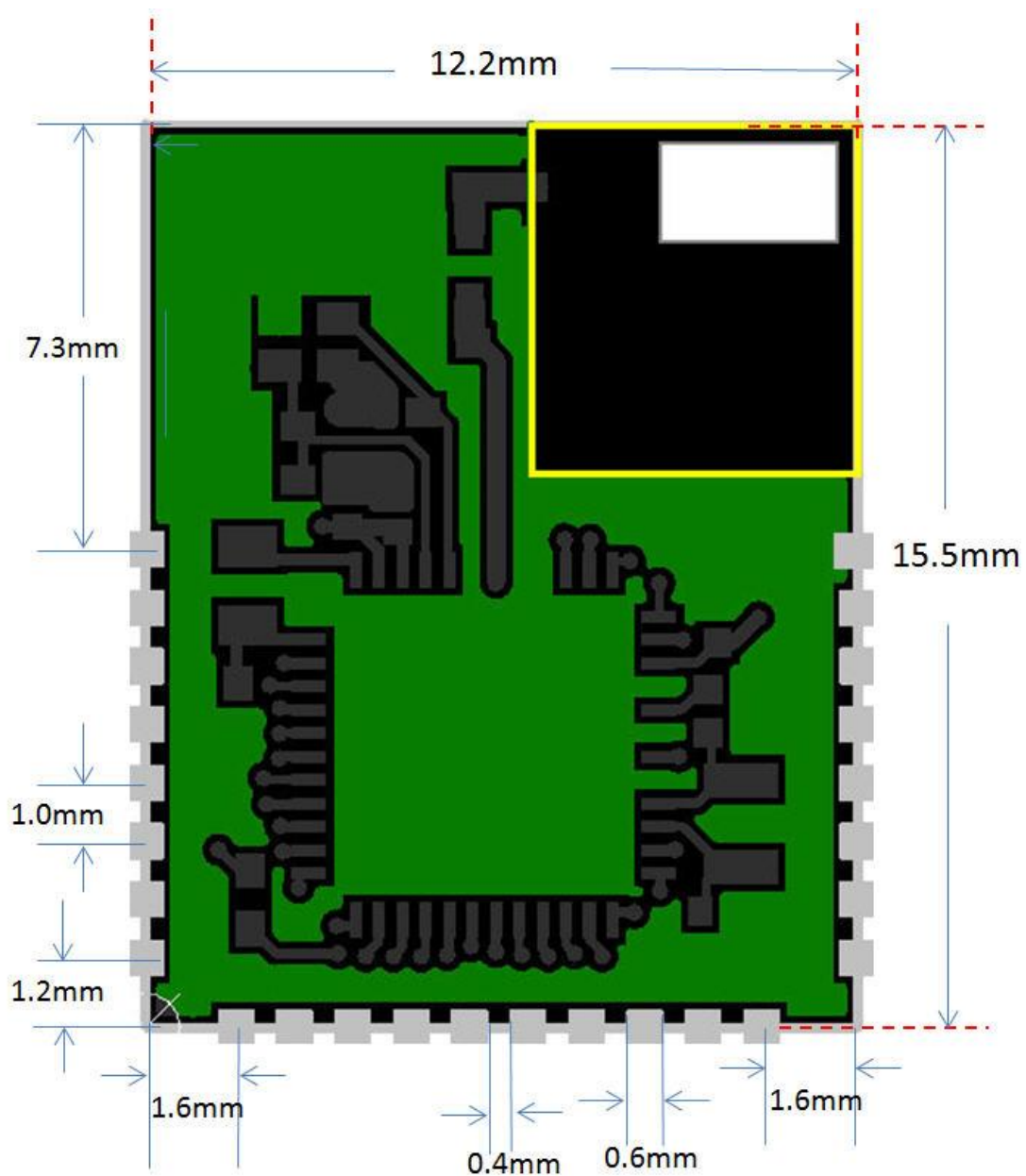
- Operating Condition

	Minimum	Typical	Maximum	Unit
Voltage	1.6	3.3	3.6	V
Temperature	-40	25	85	°C
Storage temperature	-40	25	125	°C
Storage Humidity	0	45	70	%

- RF Specifications:

Frequency range	2402-2480 MHz
Data rate	1 Mbps
Channel	79 sub-channels
Bluetooth Standard	V4.1 Specification(Low Energy Single mode)
Modulation	GFSK
Output Power Class II	+0dBm
Receiver Sensitivity	-80 dBm @ PER<30.8%

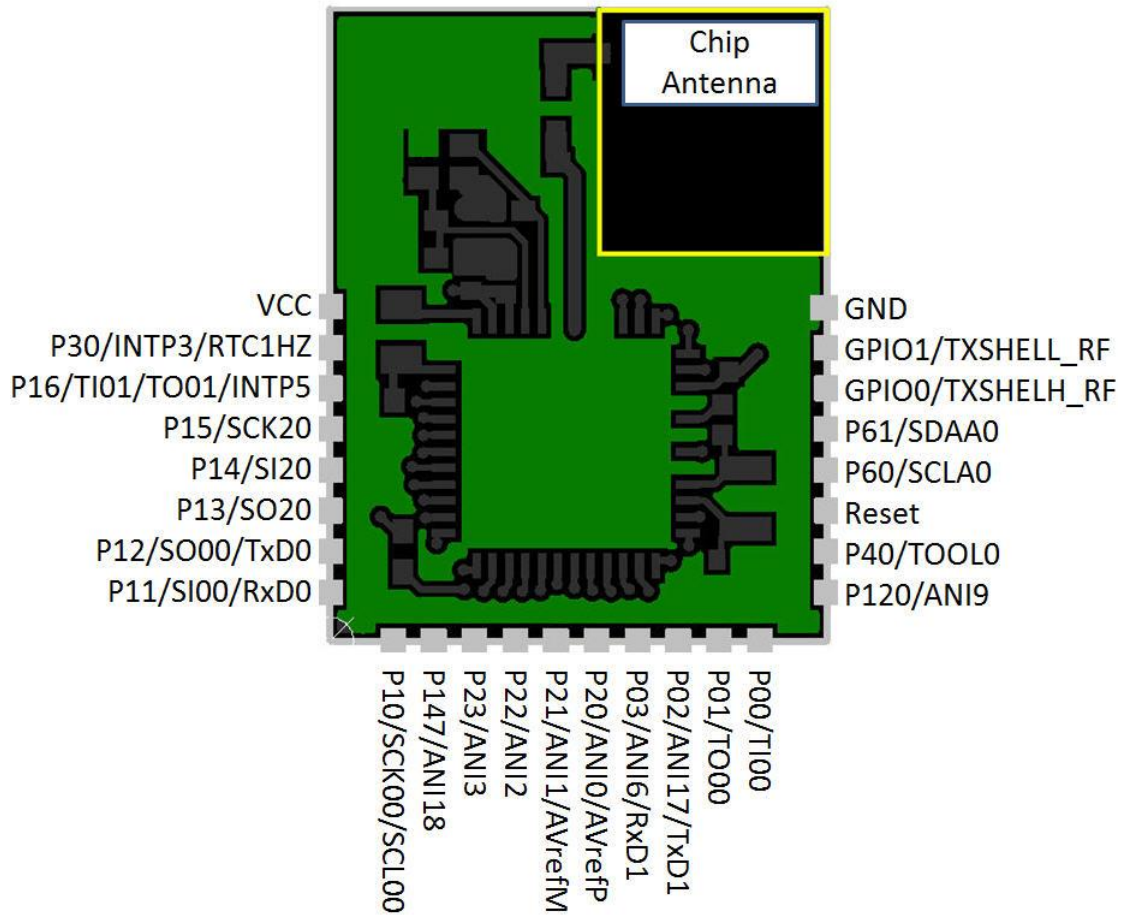
Dimensions



Pad Pitch: 1.0mm

Pad width: 0.6mm

Pin Diagram



Pin Definitions

Pin	Pin Name	Pin Type	Description
1	VCC	Power Pin	Connect to power supply
2	P30/INTP3/RTC1HZ	Digital I/O	Port 2.2/debug clock
3	P16/TI01/TO01/INTP5	Digital I/O	Port 2.1/debug data
4	P15/SCK20	Digital I/O	Port 15
5	P14/SI20	Digital I/O	Port 14
6	P13/SO20	Digital I/O	Port 13
7	P12/SO00/TxD0	Digital I/O	Port 12
8	P11/SI00/RxD0	Digital I/O	Port 11
9	P10/SCK00/SCL00	Digital I/O	Port 10
10	P147/ANI18	Digital I/O	Port 147
11	P23/ANI3	Digital I/O	Port 23
12	P22/ANI2	Digital I/O	Port 22
13	P21/ANI1/AvrefM	Digital I/O	Port 21
14	P20/ANI0/AvrefP	Digital I/O	Port 20
15	P03/ANI6/RxD1	Digital I/O	Port 03
16	P02/ANI1/TxD1	Digital I/O	Port 02
17	P01/TO00	Digital I/O	Port 01
18	P00/TI00	Digital I/O	Port 00
19	P120/ANI9	Digital I/O	Port 120
20	P40/TOOL0	Digital I/O	Port 40
21	Reset	Digital I/O	Chip reset, active low
22	P60/SCLA0	Digital I/O	Port 60
23	P61/SDAA0	Digital I/O	Port 161
24	GPIO0/TXSHELLH_RF	Digital I/O	GPIO0
25	GPIO1/TXSHELL_RF	Digital I/O	GPIO1
26	GND	Ground Pin	Connected to ground

Clearance Area for Antenna

Please leave the white area(6x6mm) clear of metal/parts in order to get the best RF performance.

