

Rayson Bluetooth® Module

Low Energy Smart Module

BTM-800

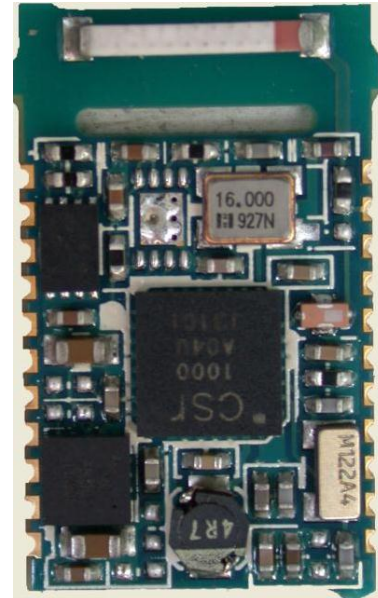
Features

- Bluetooth standard V4.0 conformity.
- Programmable general purpose PIO controller :
- Switch-mode power supply.
- I2C/SPI for EEPROM/flash memory ICs peripherals.
- -92.5dBm Bluetooth low energy RX sensitivity.
- 12 digital PIOs
- 3 analogue AIOs with 10-bit ADC
- Watchdog timer
- Option for built-in G-sensor
- RoHS Compliant
- Small outline. 20(16) x 12 x2.0mm (option wo/antenna)

Applications

- Sports and fitness
- Healthcare
- Automotive
- Home entertainment
- Office and mobile accessories
- Commercial

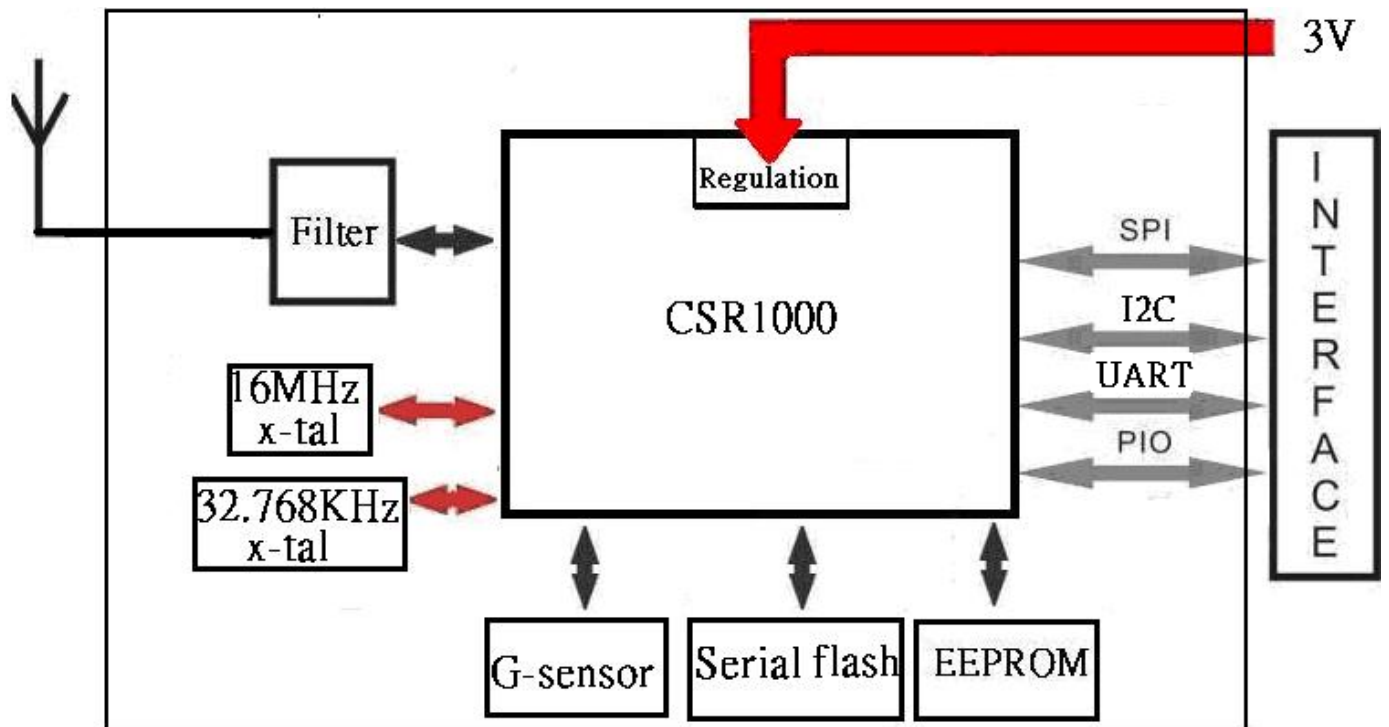
Outline



Electrical Characteristics

Absolute Maximum Ratings		
Ratings	Min.	Max.
Storage Temperature	-40 °C	+85°C
Supply Voltage : 3V	1.8V	3.6 V
Recommended Operating Condition		
Operating Condition	Min.	Max.
Operating Temperature range	-30 °C	+85°C
Supply voltage: 3V	1.8V	3.6V

Block Diagram



Radio Characteristics

Note: (a) Up to five exceptions are allowed in the Bluetooth V4.0+EDR specification on receiver part..

(b) Measured at $F_0 = 2441\text{MHz}$.

(c) Measured at $f_1-f_2=5\text{MHz}$. Measurement is performed in accordance with Bluetooth RF test RCV/CV/05.., i.e., wanted signal at -64dBm

(d) Measured at unbalanced port of balun. Integrated in 100KHz bandwidth and normalised to 1Hz . actual figure is typically below -130dBm/Hz except for peaks -80dBm at 1600MHz , -80dBm in band at 2.4GHz and -80dBm at 3.2GHz

Radio Characteristics – Enhanced Data Rate

Note: (1) BlueCore8510 ROM firmware maintains the transmit power to be within the Bluetooth V4.0+EDR specification limits.

(2) Class1 RF transmit power range, Bluetooth V4.0+EDR specification.

(3) Measurements methods are in accordance with the Bluetooth V4.0+EDR specification.

(4) Modulation accuracy utilises differential error vector magnitude(DEVM) with tracking of frequency drift.

(5) Bluetooth specification value are for 8DPSK. Three exception are allowed in Bluetooth V4.0+EDR specification.

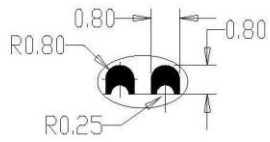
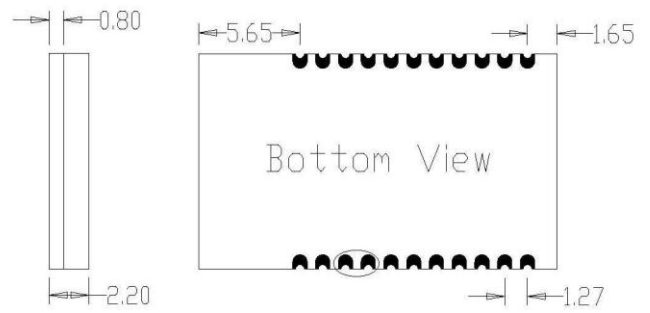
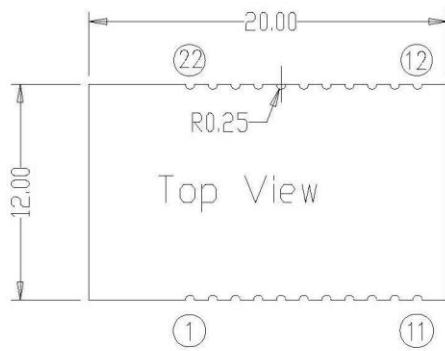
Note: (1) Measurements methods are in accordance with the Bluetooth V4.0+EDR specification.

(2) Up to five exceptions are allowed in the Bluetooth V4.0+EDR specification on receiver part.

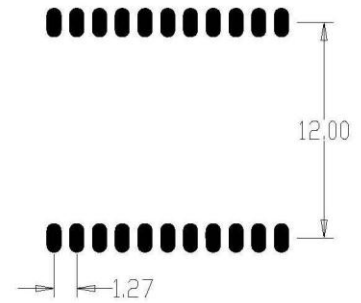
(3) Measured at $F_0 = 2405\text{MHz}$, 2441MHz , 2477MHz .

Dimension:

Unit: mm



2 : 1



PCB Layout(Top View)