

BTM005

Bluetooth Module Specification

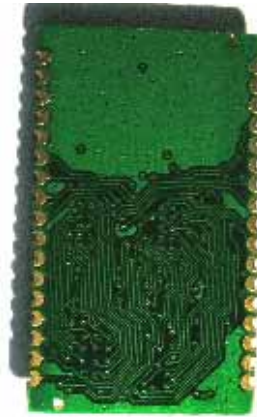
Ver1.0

Shenzhen V-Sun Electronics CO.,LTD

PRODUCT DESCRIPTION AND SPECIFICATION



Top View



Bottom View

Product Description

This product is a Class 2 Bluetooth Module used CSR BC4 Chipset .It provides data communications with a host through USB or UART.

General Features

- CSR BlueCore4, single chip Bluetooth™ system
- Class 2 Bluetooth version 2.0 +EDR
- Range in excess of 10 meters
- Data transfer rate up to 300 kbps
- On board voltage regulator
- UART and USB Supports
- Simple AT style command set control
- Adaptive frequency hopping
- SPI interface can upgrade firmware
- Size 25x14.5x2.2mm
- Lead free - RoHS compliant

Applications

- Headset, Handset, Hands-Free
- Mouse, Keyboards and Joysticks
- Digital Cameras and Camcorders
- PDA, Computer & peripheral
- Hand-held devices
- Transportation systems
- Cable replacement
- Other Bluetooth production

SPECIFICATION:

Output Power	Class 2
Frequency	2.400 – 2.485 GHz
Low power sniff mode	2.5mA
Receive Sensitivity	Better than -80dB
Range	10M
Data Transfer rate	Up to 300Kbps
Serial Interface	RS-232 bi-directional for Commands and data
Serial parameters	Default 9600,n,8,1 Configurable from 9600 to 921600bps DTR, DSR, DCD , RI , RTS, CTS
Physical size	25 x 14.5 x 2.2mm, 6g
Fully Bluetooth qualified	Bluetooth 2.0 +EDR
Current consumption	Less than 36mA
Temperature Range	-40°C to +85°C
Interface Levels	3.3V
Multipoint	supported
Field upgradeable	Over SPI
Protocols	UART AT command set
GPIO	7 x digital 2 x analogue
RoHS Compliant	yes

Electrical Characteristics

Recommended Operating Conditions	Min	Max
Operating Temperature Range	-25°C	+75°C
Supply Voltage, (VCC)	3.15V	3.45V

Power Consumption	Units	Average
SCO Connection HV3 (30ms interval sniff mode)	mA	36
SCO Connection HV1	mA	42
ACL Data Transfer 115.2Kbps UART no traffic(Master)	mA	5
ACL Data Transfer 115.2Kbps UART no traffic(Slave)	mA	22
ACL Data Transfer 721Kbps USB	mA	45
Standby	mA	0.15

VDD = 3.3V; f = 2.45GHz; T=20 ° C

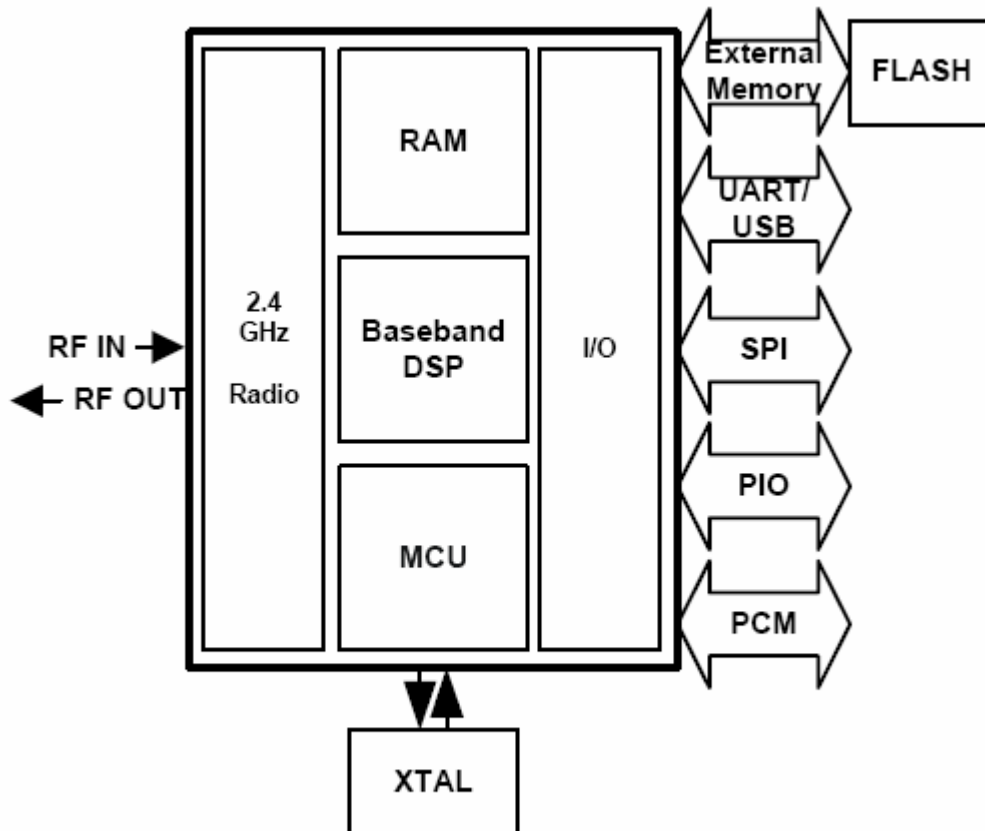
Receiver	Units	Min	Type	Max	Bluetooth Spec
Sensitivity at 0.1% BER	dBm	-	-80	-78	-70
Maximum Receiver Signal	dBm	-	-	-8	-20
C/I Co-Channel	dB	-	9	-	11
Adjacent Channel Selectivity C/I 1MHz	dB	-	-	0	0
2nd Adjacent Channel Selectivity C/I 2MHz	dB	-	-	-30	-30
3rd Adjacent Channel Selectivity C/I >3MHz	dB	-	-	-40	-40
Image Rejection C/I	dB	-	-	-9	-9

RF Characteristics

Transmitter	Units	Min	Type	Max	Bluetooth Spec
RF Output Power	dBm	-	3	-	-6 to +4
RF Power Control Range	dB	-	30	-	> 16
RF Power Range Control Resolution	dB	2	-	6	-
20dB Bandwidth for Modulated Carrier	KHz	-	850	-	<1000
2nd Adjacent Channel Power (+/- 2MHz)	dBc	-	-	-	-20
3rd Adjacent Channel Power (+/- 3MHz)	dBc	-	-	-	-40

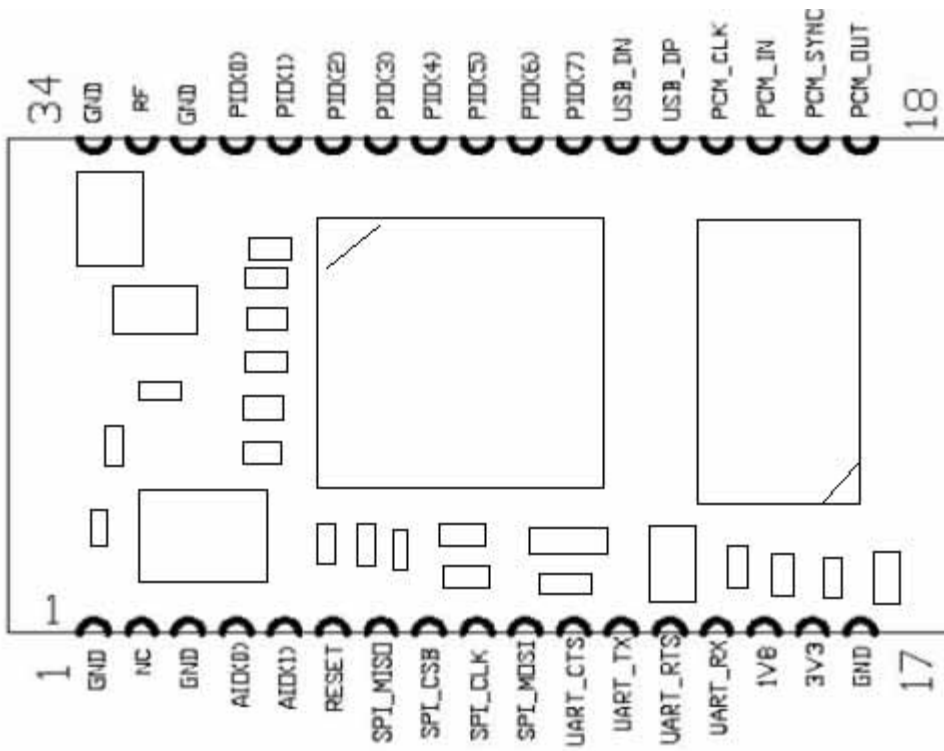
HARDWARE DESCRIPTION

Block Diagram



System Architecture

Pin Configuration and Mechanical Dimension



Pin Description

No	Pin Name	I/O	Description
1	GND	GND	Ground
2	NC	-	Not connected
3	GND	GND	Ground
4	AIO(0)	A I/O	Programmable I/O
5	AIO(1)	A I/O	Programmable I/O
6	RESET	I	Low active reset high level must be maintained 5ms
7	SPI_MISO	O	Serial Peripheral interface(SPI)data output
8	SPI_CSB	I	Serial peripheral interface(SPI)chip select, active low
9	SPI_CLK	I	Serial peripheral interface(SPI)clock
10	SPI_MOSI	I	Serial peripheral interface(SPI)data input
11	UART_CTS	I	UART clear to send, active low
12	UART_TX	O	UART data output, active high
13	UART_RTS	O	UART require to send, active low
14	UART_RX	I	UART data input ,active high
15	1V8	VDD	Voltage output
16	3V3	I	Module supply voltage
17	GND	GND	Ground
18	PCM_OUT	O	Synchronous data output
19	PCM_SYNC	I/O	Synchronous data SYNC
20	PCM_IN	I	Synchronous data input
21	PCM_CLK	I	Synchronous clock
22	USB_DP	I/O	USB data positive
23	USB_DN	I/O	USB data negative
24	PIO(7)	I/O	Programmable I/O
25	PIO(6)	I/O	Programmable I/O or clock request to enable external clock for external clock line
26	PIO(5)	I/O	Programmable I/O or chip detaches from USB when this input is high
27	PIO(4)	I/O	Programmable I/O or input sense when VBUS is high, wake up Bluetooth module
28	PIO(3)	I/O	Programmable I/O or active high wake up PC when in USB mode or external Ram chip select
29	PIO(2)	I/O	Programmable I/O or USB Pull up(1k5 to USB D+ for full speed
30	PIO(1)	I/O	Programmable I/O
31	PIO(0)	I/O	Programmable I/O
32	GND	GND	Ground
33	RF	O	Antenna interface
34	GND	GND	Ground