



Product Specification

Product:	Bluetooth module, Class 1
Model Number:	BM-394
Doc version:	1.1

Note : All electrical and mechanical specification may be changed by CC&C Technologies incorporation without notice.

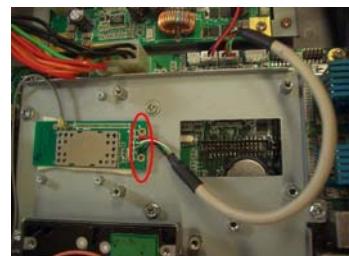
BM-394 Bluetooth module, Class 1

Description

The Bluetooth module BM-394 adopts CSR BlueCore 4 External chip solution which includes an 8Mbit flash memory. When used with CSR Bluetooth stack, it provides a fully compliant Bluetooth system to v2.0 + EDR of the specification for data and voice communications.

Features

- (1) Fully Qualified Bluetooth v2.0+EDR
- (2) Enhanced Data Rate (EDR) compliant with v2.0.E.2 of specification for both 2Mbps and 3Mbps modulation modes
- (3) Full Speed Bluetooth Operation with Full Piconet support
- (4) Scatternet Support
- (5) Full speed USB v1.1 interface supports OHCI and UHCI host interfaces. Compliant with USB v2.0
- (6) UART interface with programmable baud rate up to 3Mbaud with USB and an optional bypass mode
- (7) Support for 802.11 Co-Existence
- (8) Support for 8Mbit External Flash
- (9) RoHS compliant
- (10) Bluetooth class 1 RF output
- (11) 2.4GHz~2.483GHZ ISM band
- (12) Interface to host system through 21-pins on PCB edge
- (13) Bluetooth stack runs on-chip in a variety of configurations, includes Standard HCI (UART or USB), fully embedded to RFCOMM, or customized builds with embedded application code.
- (14) IpeX Connector on board
- (15) USB Cable: 20cm, one side with shrink sleeve to connect PCBA, with 4pin connector (pitch 2.0mm) in another side.



Specification

Product Name	Bluetooth Module, Class 1
Model Number	BM-394
Standard	Bluetooth v2.0+EDR
Frequency Band	2.402GHz ~ 2.480GHz unlicensed ISM band
Modulation Method	GFSK for 1Mbps; $\Pi/4$ -DQPSK for 2Mbps; 8-DPSK for 3Mbps
Spread Spectrum	FHSS (Frequency Hopping Spread Spectrum)
Transfer rates (Max)	Max UART baud rates of 3Mbps
RF Output Power	Class 1 (under 20 dBm)
Antenna terminal	50 Ohms
Input DC power	DC 5V
Dimension	58 x 22 mm
Operating Temperature	0 ~ +60°C
Storage Temperature	-10 ~ +70°C
Humidity	5 ~ 90% (non-condensing)

The interface between the module and the host system is through PCB pads defined below.

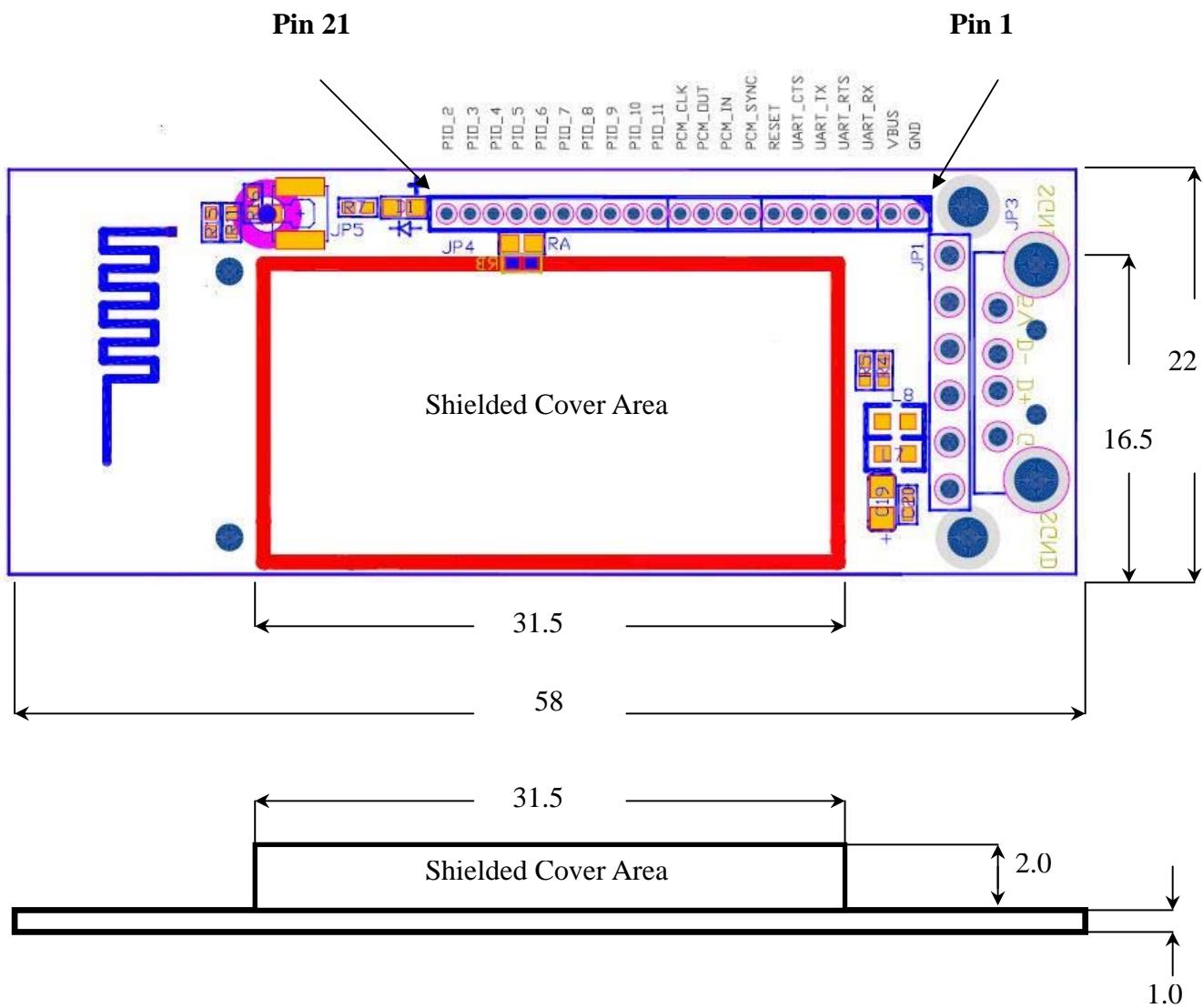
Pin	Signal	Pin Type	Description
1	GND		Power ground
2	VBUS	5V input	DC 5V power supply
3	UART_RX	CMOS input, with weak internal pull-down	UART data input
4	UART_RTS	CMOS output, tri-state, with weak internal pull-up	UART request to send active low
5	UART_TX	CMOS output, tri-state, with weak internal pull-up	UART data output
6	UART_CTS	CMOS input with weak internal pull-down	UART clear to send active low
7	RESET		Reset signal input, active high
8	PCM_SYNC	Bi-directional with weak internal pull-down	Synchronous data sync
9	PCM_IN	CMOS input, with weak internal pull-down	Synchronous data input
10	PCM_OUT	CMOS output, tri-state, with weak internal pull-down	Synchronous data output
11	PCM_CLK	Bi-directional with weak internal pull-down	Synchronous data clock
12	PIO11	Bi-directional with programmable strength internal pull-up/down	Programmable input/output line 11
13	PIO10	Bi-directional with programmable strength internal pull-up/down	Programmable input/output line 10
14	PIO9	Bi-directional with programmable strength internal pull-up/down	Programmable input/output line 9
15	PIO8	Bi-directional with programmable strength internal pull-up/down	Programmable input/output line 8
16	PIO7	Bi-directional with programmable strength internal pull-up/down	Programmable input/output line 7
17	PIO6	Bi-directional with programmable strength internal pull-up/down	Programmable input/output line 6
18	PIO5	Bi-directional with programmable strength internal pull-up/down	Programmable input/output line 5



19	PIO4	Bi-directional with programmable strength internal pull-up/down	Programmable input/output line 4
20	PIO3	Bi-directional with programmable strength internal pull-up/down	Programmable input/output line 3
21	PIO2	Bi-directional with programmable strength internal pull-up/down	Programmable input/output line 2

Recommended Operating Conditions				
Operating Condition	Min	Typ	Max	Unit
Supply voltage: VBUS	4	5	6	V
Supply voltage: AIO	-0.4	0 to 3.3	3.3+0.4	V
Supply voltage: PIO[3:0] and PIO[11:8]	-0.4	0 to 3.3	3.3+0.4	V
Supply voltage: PIO[7:4], SPI and PCM	-0.4	0 to 3.3	3.3+0.4	V
Supply voltage: UART	-0.4	0 to 3.3	3.3+0.4	V

Mechanical Specification



Cable Connection Drawing