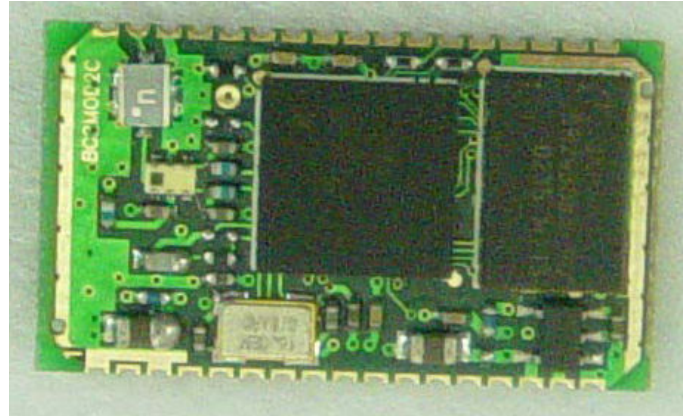


- Bluetooth Spec. v1.1 Compliant
- Class 2 type Output Power
- Support Firmware Upgrade
- Support Piconet, up to 7 Slaves
- Full Speed Bluetooth, 723K/57.6Kbps
- USB 1.1 and UART Host Interface
- PCM Audio Interface
- Low Voltage Power Supply, 2.7V to 3.6V
- Nominal Supply Voltage at 3.3V
- Built-in 8Mbit Flash Memory
- Low Power : Park, Sniff, Hold and Deep Sleep
- Surface-mount, Size: 25.0 x 14.5 x 2.3 mm



### **Product Description**

The MODSMTC201 is a Class 2 Bluetooth sub-system using BlueCore2-External chipset from leading Bluetooth chipset supplier, Cambridge Silicon Radio.

It provides a fully compliant Bluetooth system for data and voice communications.

Interfaces with a host via USB or UART and support full data rate up to 723.2K/57.6Kbps.

Voice interface supported PCM protocol. The module and device firmware is fully compliant with the Bluetooth specification v1.1.

### **Applications**

- PCs, PDAs
- Computer Accessories (CF Cards, USB Dongles PCMCIA, RS232 Adaptors, etc.)
- Embedded systems
- Cordless Audio application
- FAX, Printer Adaptors
- RS232 converters
- Industrial and consumer boards
- Headset , Hands-free

**Electrical and RF datasheet**

<b>Absolute Maximum Rating</b>	<b>Min</b>	<b>Max</b>
Storage Temperature	-40°C	+85°C
Supply Voltage, (VDD, VPA)	-0.30V	+3.60V

<b>Recommended Operating Conditions</b>	<b>Min</b>	<b>Max</b>
Operating Temperature Range	-25°C	+75°C
Supply Voltage, (VDD, VPA)	2.70V	+3.60V

<b>Power Consumption</b>	<b>Units</b>	<b>Average</b>	<b>Peak</b>
SCO Connection HV3 (1s interval sniff mode)	mA	32	-
SCO Connection HV1 (1s interval sniff mode)	mA	32	-
ACL Data Transfer 115.2Kbps UART	mA	28	-
ACL Data Transfer 721Kbps USB	mA	62	-
Peak Current during RF Burst	mA	78	-
Leakage Current (all off) supply connected	mA	NA	-

VDD = 3.3V; f = 2.45GHz; T=20°C

**RF Specifications**

<b>Receiver</b>	<b>Units</b>	<b>Min</b>	<b>Typ</b>	<b>Max</b>	<b>Bluetooth Req</b>
Sensitivity at 0.1% BER	dBm	Min	-80	-78	-70
Maximum Receiver Signal	dBm	-	-	-8	-8
C/I Co-Channel	dB	-	9	-	0
Adjacent Channel Selectivity C/I 1MHz	dB	-	-	0	11
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

VDD = 3.3V; f = 2.45GHz; T=20°C

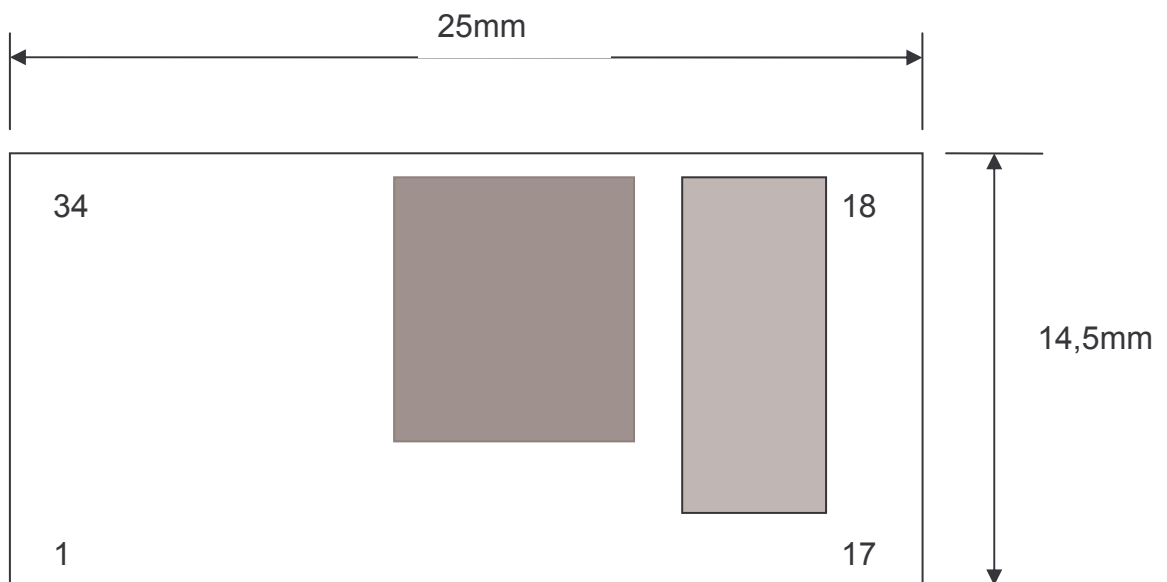
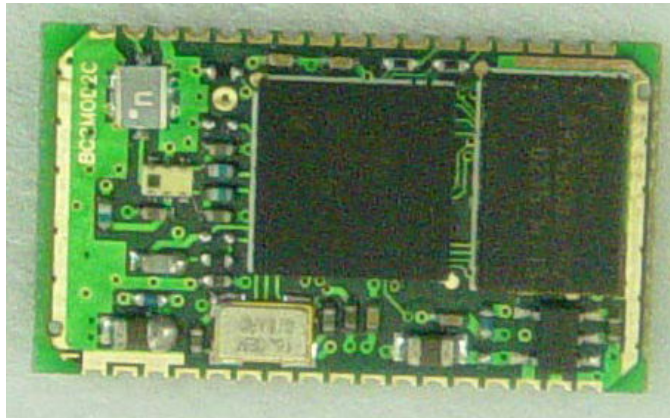
<b>Transmitter</b>	<b>Units</b>	<b>Min</b>	<b>Typ</b>	<b>Max</b>	<b>Bluetooth Req</b>
RF Output Power	dBm	-	-3	-	-6 to +4
RF Power Control Range	dB	-	NA	-	>16
RF Power Range Control Resolution	dB	-	-	-	-
20dB Bandwidth for Modulated Carrier	KHz	-	850	-	<1000
2nd Adjacent Channel Power (+/- 2MHz)	dBc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

VDD = 3.3V; f = 2.45GHz; T=20°C

## Pin assignment

Pin	Name	Type	Function	Note
1	GND	GND	Ground	
2	PIO9	Bi-directional	Programmable Input/Output Line	
3	GND	GND	Ground	
4	AIO0	Bi-directional	Programmable Input/Output Line	
5	PIO8	Bi-directional	Programmable Input/Output Line	
6	RESET	CMOS Input	Reset If High	
7	SPI_MISO	CMOS Output	Serial Peripheral Interface Data Output	
8	SPI_CSB	CMOS Input	Chip Select For Synchronous Serial Interface (Active Low)	
9	SPI_CLK	CMOS Input	Serial Peripheral Interface Clock	
10	SPI_MOSI	CMOS Input	Serial Peripheral Interface Data Input	
11	UART_CTS	CMOS Input	UART Clear To Send (Active Low)	UART
12	UART_TX	CMOS Output	UART Data Output (Active High)	UART
13	UART_RTS	CMOS Output	UART Request To Send (Active Low)	UART
14	UART_RX	CMOS Input	UART Data Input (Active High)	UART
15	1.8V Filter	-	Filter Capacitor for 1.8V	
16	VDD	Power Supply	+3.3V Power Supply	
17	GND	GND	Ground	
18	PCM_OUT	CMOS Output	Synchronous Data Output	
19	PCM_SYNC	Bi-directional	Synchronous Data Sync	
20	PCM_IN	CMOS Input	Synchronous Data Input	
21	PCM_CLK	Bi-directional	Synchronous Data Clock	
22	USB_DP	Bi-directional	USB Data Plus	USB
23	USB_DM	Bi-directional	USB Data Minus	USB
24	PIO7	Bi-directional	Programmable Input/Output Line	
25	PIO6	Bi-directional	Programmable Input/Output Line	
26	PIO5	Bi-directional	Programmable Input/Output line	
	USBDetach	CMOS Input	Detaches From USB When This Input Is High	USB
27	PIO4	Bi-directional	Programmable Input / Output Line	
	USB_ON	CMOS Input	USB On (Input Senses When VBUS Is High)	USB
28	PIO3	Bi-directional	Programmable Input/Output Line	
	USB_WAKE_UP	CMOS Output	Output Goes High To Wake Up PC When In USB Mode	USB
29	PIO2	Bi-directional	Programmable Input/Output Line	
30	PIO1	Bi-directional	Programmable Input/Output Line	
31	PIO0	Bi-directional	Programmable Input/Output Line	
32	GND	GND	Ground	
33	ANT	Antenna	50 Ohm antenna interface	
34	GND	GND	Ground	

**Mechanical dimensions**



**PCB pad**

**Pad dimensions** 1mm by 1mm (on the PCB)

**Pad Distance** 1,27 mm (center by center)

Ask us directly for design support, Examples and Antenna issues.