

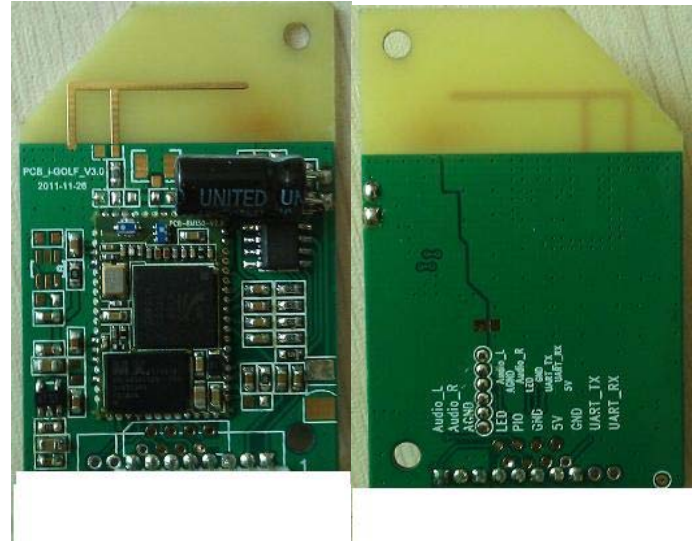
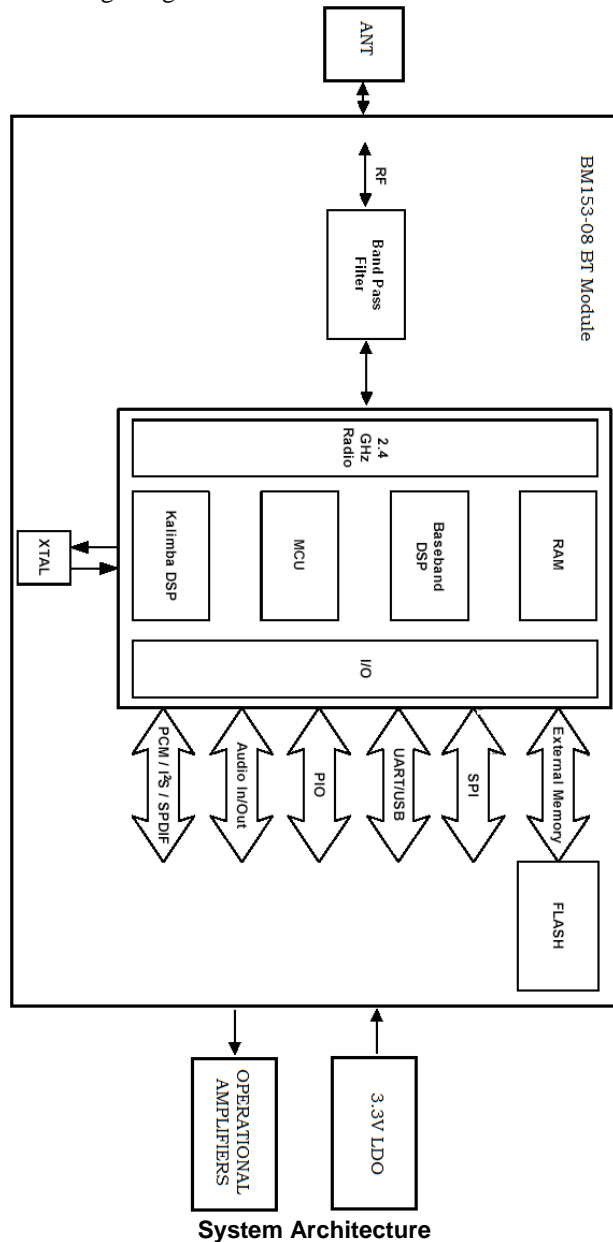
Features:

- Bluetooth Spec. V2.1+EDR Compliant
- Class 2 type Output Power
- Support Firmware Upgrade
- Integrated LED Driver
- Built in 16-bit Stereo Codec- 95dB SNR for DAC
- Size: 54mm x 33.1 mm x 8.2mm
- Weight: 6g

BM153-CB1 Class 2 Multimedia Module


CSR, BC57E687C

Dec 2011


Product Description:

The BM153-CB1 is a Class 2 Bluetooth sub-system using BlueCore5-Multimedia External chipset from leading Bluetooth chipset supplier Cambridge Silicon Radio.

BM153-CB1 interfaces to 8Mbit of external Flash memory. When used with the CSR Bluetooth software stack, it provides a fully compliant Bluetooth system to v2.1+EDR of the specification for data and voice communications.

The module and device firmware is fully compliant with the Bluetooth specification v2.1+EDR.

Applications:

- Stereo Headset
- Wireless Speakers

Specifications:

Operating Frequency Band	2.4GHz ~ 2.48GHz unlicensed ISM band
Bluetooth Specification	V2.1+EDR
Output Power Class	Class 2
Operating Voltage	5V
Audio Interface	Analog
Flash Memory Size	8M
Dimension	54mm x 33.1 mm x 8.2mm

Specifications are subject to change without prior notice



Electrical Characteristics

Absolute Maximum Rating	Min	Max
Storage Temperature	-40°C	+85°C
Supply Voltage	-0.30V	+6.5V

Recommended Operating Conditions	Min	Max
Operating Temperature Range	-20°C	+70°C
Supply Voltage	4.5V	5.5V

Power Consumption	Units	Average
SCO Connection HV3 (30ms interval sniff mode)	mA	21
SCO Connection HV1	mA	40
ACL Data Transfer 115.2Kbps UART no traffic (Master)	mA	4.4
ACL Data Transfer 115.2Kbps UART no traffic (Slave)	mA	15

VCC = 5V; f = 2.441GHz; T=20°C

RF Characteristics

Receiver	Units	Min	Typ	Max	Bluetooth Spec
Sensitivity at 0.1% BER	dBm	-	-90	-86	≤ -70
Maximum Receiver Signal	dBm	-20	-10	-	≥ -20
C/I Co-Channel	dB	-	6	11	≤ 11
Adjacent Channel Selectivity C/I -1MHz	dB	-	-6	0	≤ 0
2nd Adjacent Channel Selectivity C/I -2MHz	dB	-	-38	-30	≤ -30
3rd Adjacent Channel Selectivity C/I -3MHz	dB	-	-45	-40	≤ -40
Image Rejection C/I	dB	-	-16	-9	≤ -9

VCC = 5V; f = 2.441GHz; T=20°C

Transmitter	Units	Min	Typ	Max	Bluetooth Spec
RF Output Power	dBm	0	3	-	-6 to +4
RF Power Control Range	dB	16	24	-	> 16
RF Power Range Control Resolution	dB	-	0.5	-	-
20dB Bandwidth for Modulated Carrier	KHz	-	940	1000	<1000
2nd Adjacent Channel Power (+/- 2MHz)	dBm	-	-36	-20	≤ -20
3rd Adjacent Channel Power (+/- 3MHz)	dBm	-	-45	-40	≤ -40

VCC = 5V; f = 2.441GHz; T=20°C

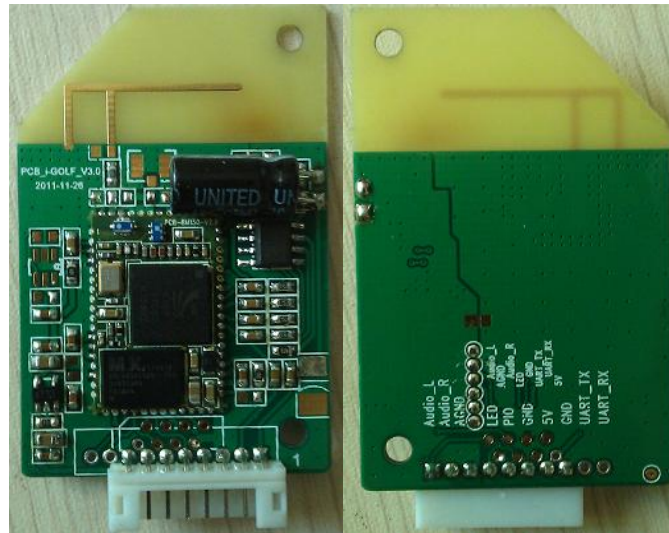
All specifications including pinouts and electrical specifications may be changed without prior notice

Pin Configurations

PIN NO.	NAME	TYPE	FUNCTION	RE-MARK
1	Audio_L	Analogue	Speaker output, left	
2	Audio_R	Analogue	Speaker output, right	
3	AGND	GND	Analogue Ground	
4	LED	Open drain output	LED Driver	
5	PIO	Bi-directional	Programmable Input/Output Line	
6	GND	GND	Ground	
7	5V	Power	+5V Supply	
8	GND	GND	Ground	
9	UART_RX	CMOS Input	UART Data Input (Active High)	
10	UART_TX	CMOS Output	UART Data Output (Active High)	

Ordering Information

No	Items	Ordering Code (Class 2)	Description
1	i-Golf	i-Golf	8M Flash Operating Voltage is DC5V, without CVC
2			
3			
4			



i-Golf

Document History

Revision	Date	History
Draft V1.0	2011-9-15	
Draft V2.0	2011-12-3	

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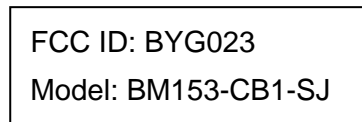
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Notice: The user should not modify or change this equipment without written approval from SANGEAN ELECTRONICS INC. Modification could void authority to use this equipment.

Label for end product must include “Contains FCC ID: BYG023” or “A RF transmitter inside, FCC ID: BYG023”.

FCC ID Label Graph:



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note:

If the product is too small to make so many text labels, only need to indicate the FCC ID number on the label, but the above text will be printed in the manual or packaging box.

IMPORTANT NOTE: To comply with the FCC RF exposure compliance requirements, the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. No change to the antenna or the device is permitted. Any change to the antenna or the device could result in the device exceeding the RF exposure requirements and void user’s authority to operate the device.

The module has been regulatory approved for integrations which meet the following conditions:

1. The radio integration is embedded
2. The antenna must be installed such that 20 cm is maintained between the antenna and users
3. The ‘Type’ and ‘Gain’ of the antenna selected for the integration of the external antenna must meet the requirements as detailed in section.

Used outside of these conditions will trigger re-approval.