

EB35W2MB Bluetooth Stereo Audio Module

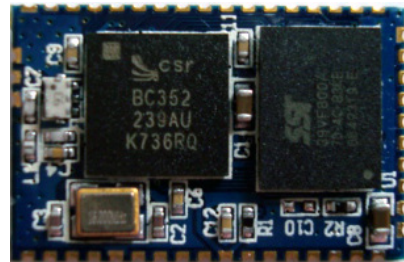
Product Description

The EB35W2M Bluetooth stereo audio module is based on CSR BC03 chip BC352239. The module has been integrated with most of the peripheral components and fully tuned to obtain best RF and audio performance, thus make it a simple plug and play solution for Bluetooth products design. This mass production proven module helps OEM customers to achieve high yield rate and reduce the time to market.

EB35W2M is compliant with Bluetooth V1.2, and supports A2DP, AVRCP, HS, HF profiles, it mainly targets on Bluetooth stereo applications like Bluetooth speakers, Car-kits, it has been designed with the stereo application specified requirements in mind. The embedded Kalimba DSP enables sound effects as echo cancellation, noise cancellation, SRS sound functions. The module also features a UART connection to let the master MCU to have the full access of the Bluetooth functions.

Applications

- Stereo Speakers
- Stereo Headsets
- Stereo Car-kits
- Stereo Audio Dongles
- Microphones



Features

- Complete Stereo Bluetooth Function Module
- Based on CSR BC03 chip BC352239
- Compliant with Bluetooth V1.2
- Highly integrated, small form factor
- Class 2 RF with range up to 15m
- Embedded DSP for sound processing support
- Full Bluetooth functions through UART control
- Integrated 16 bit codec for Stereo input and output
- Flexible design, custom functions supported

Electrical Specification

	Description	Min/Typical/Max
General	Supply voltage	3.3V / 4..3V / 5.0V
	Supply current	50mA
	Audio Format	SBC
	Operation temperature	-10 ~ +60°C
RF	RF Frequency	2400 ~ 2483MHZ
	RF Channels	79 Channels
	Bluetooth Spec.	V1.2
	Output Power Class	Class 2
	TX Power	0dBm / +4dBm
	RX Sensitivity	-80dBm
Audio	Input level	1.0Vrms
	Input impedance	10K Ohm
	Output level	1.0Vrms
	Output impedance	1K Ohm
	Frequency response	20Hz ~ 20KHz(-3dB)
	Latency	200ms, Configurable
	Sampling accuracy	44.1KHz, 16bit
	S/N ratio	70dB
	THD	<0.1% @ 1KHz
	Dynamic range	85dB
	Channel separation	65dB

Table [1]: Electrical Specification

Pin Assignments

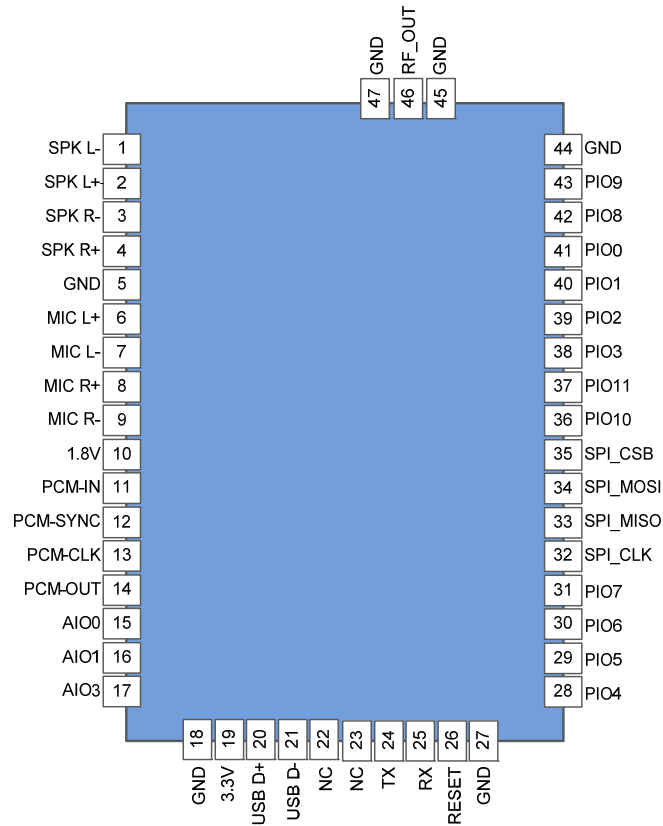


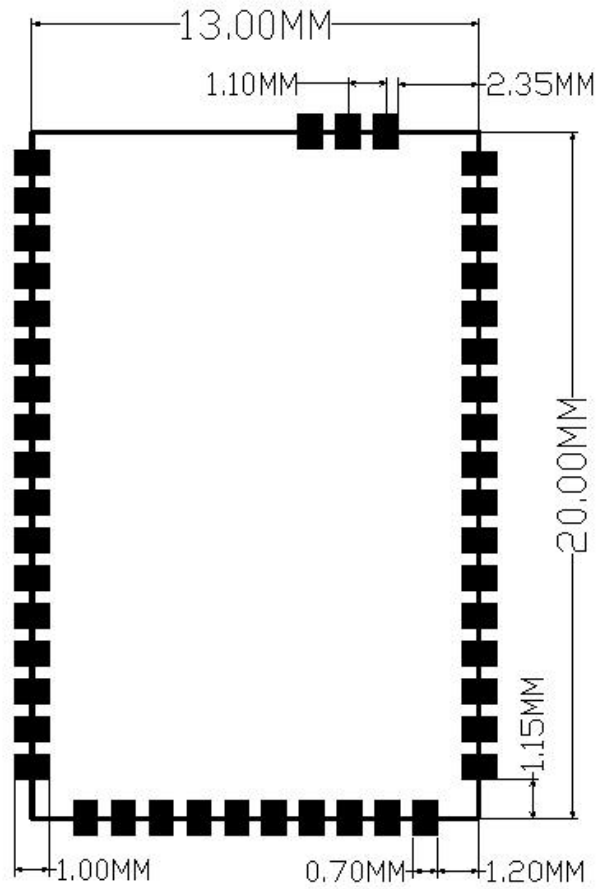
Figure [1]: Pin out

Pin #	Pin name	Type	Description
1	SPKL-	A	Speaker output negative, left
2	SPKL+	A	Speaker output negative, left
3	SPKR-	A	Speaker output positive, right
4	SPKR+	A	Speaker output positive, right
5	GND	P	Ground Power
6	MICL+	A	Microphone input positive, left
7	MICL-	A	Microphone input negative, left
8	MICR+	A	Microphone input positive, right
9	MICR-	A	Microphone input negative, right
10	1.8V	P	1.8V DC output
11	PCM_IN	I	Synchronous data input
12	PCM_SYNC	I/O	Synchronous data sync
13	PCM_CLK	I/O	Synchronous data clock

14	PCM_OUT	O	Synchronous data output
15	AIO0	I/O	Analog programmable I/O
16	AIO1	I/O	Analog programmable I/O
17	AIO3	I/O	Analog programmable I/O
18	GND	P	Ground Power
19	3.3V	P	3.3V DC input
20	USB_D+	I	USB data input positive
21	USB_D-	I	USB data input negative
22	NC		
23	NC		
24	UART_TX	O	UART data output
25	UART_RX	I	UART data input
26	#RESET	I	Reset, active low
27	GND	P	Ground Power
28	PIO4	I/O	General purpose I/O
29	PIO5	I/O	General purpose I/O
30	PIO6	I/O	General purpose I/O
31	PIO7	I/O	General purpose I/O
32	SPI_CLK	I/O	SPI clock
33	SPI_MISO	I/O	SPI data out
34	SPI_MOSI	I/O	SPI data in
35	SPI_CSB	I/O	Chip select for SPI bus, active low
36	PIO10	I/O	General purpose I/O
37	PIO11	I/O	General purpose I/O
38	PIO3	I/O	General purpose I/O
39	PIO2	I/O	General purpose I/O
40	PIO1	I/O	General purpose I/O
41	PIO0	I/O	General purpose I/O
42	PIO8	I/O	General purpose I/O
43	PIO9	I/O	General purpose I/O
44	GND	P	Ground Power
45	GND	P	Ground Power
46	RF_OUT	I/O	RF signal output
47	GND	P	Ground Power

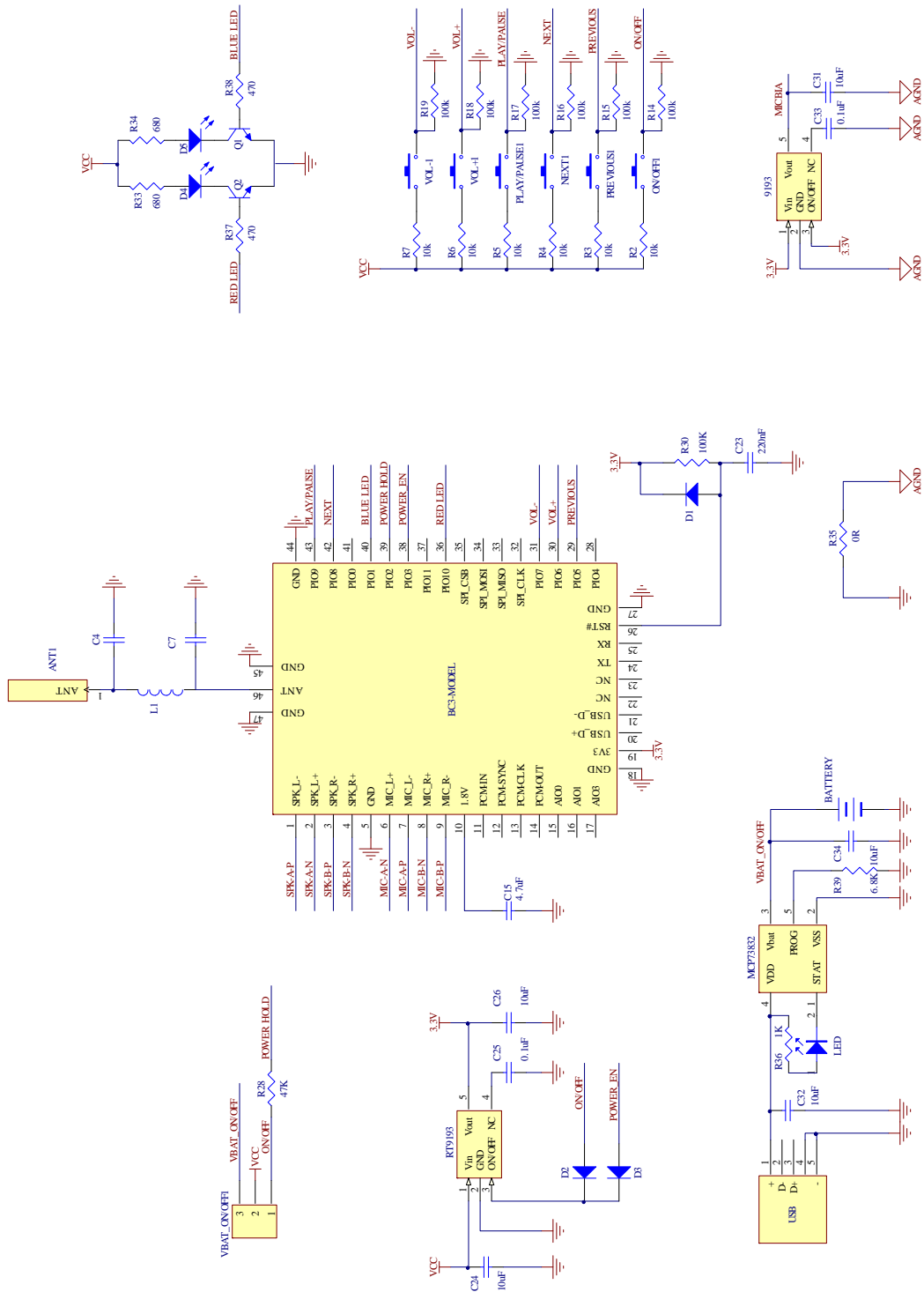
Table [2]: Pin assignments

Physical Dimension

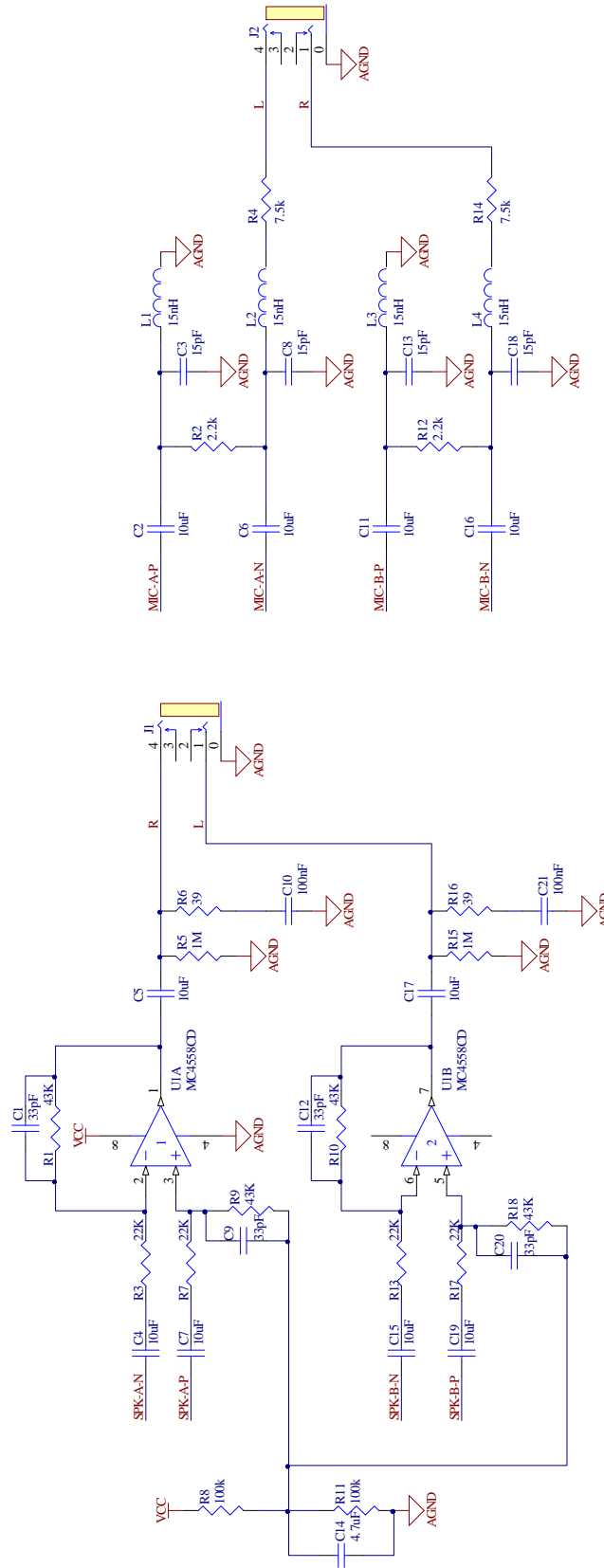


Figure[2]: Dimensions

Application Circuit



Figure[3]: Application Schematic



Figure[4]: Application Schematic

Ordering Information

Gigawit ID.	Description
EB35W2MB	Bluetooth Stereo based on CSR BC03 chip BC352239AU Outline Version B

Notes: