

Bluetooth® Audio Module KB11R

KB11R is a Bluetooth® audio multimedia applications module with CSR® BlueCore3 single chipset. It contains Radio Frequency, Base-band DSP and Audio profiles embedded. It supports several interfaces over USB as well as UART, SPI and PCM interface for SCO connections.

It is the ready-to-go design for customers to provide time-to-market Bluetooth® audio products. Due to fast implementation feature, the module allows devices to wirelessly and seamlessly communicate with other Bluetooth®-enabled devices. The module supports fully pin definitions, high receiving sensitivity, very low power consumption, and low cost. Customers can benefit from this module to save engineering cost and time on wireless products development over Bluetooth® technology.

Features :

- Fully compliant with Bluetooth® specification V1.2
- Support AFH(Adaptive Frequency Hopping) and faster connection
- Full speed Bluetooth® operation with full Piconet Support
- Support class 2 (-6 ~ +4 dBm) RF output power
- Support up to 3 SCO connections
- Support up to 12 programmable PIO and 3 AIO pins
- 16-bit stereo audio CODEC
- Very compact package size (21*14*2 mm) can be fit any type of audio products
- Minimum external components
- Transmission range up to 10 meters
- Full support for Bluetooth® power saving modes: Park and Sniff

Applications :

- ◆ Stereo Headsets / Stereo Headphones
- ◆ Automotive Hands-free Kits
- ◆ Stereo Audio Gateway
- ◆ Echo Cancellation
- ◆ MP3
- ◆ PMP
- ◆ Digital TVs
- ◆ DVD Players
- ◆ Home Audio System
- ◆ Mobile Audio Handheld Devices
- ◆ High Performance Telephony Headsets



- ◆ Wireless Speaker
- ◆ Wireless Microphone
- ◆ Other enhanced audio wireless applications

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Specifications :

Chipset	Bluetooth® version 1.2 single Multimedia chip
Firmware(Profiles)	Built-in audio application firmware (A2DP,AVRCP,HSP/HFP)
Radio Frequency	2402 MHz ~ 2480 MHz
Modulation Method	GFSK 1 Mbps, 0.5BT Gaussian
Hopping Channel	79 channels, 1 MHz channel space, 1600 hops/sec
Maximum Data Rate	723 Kbps
User Interfaces	UART – UART interface signals USB – conforms to full-speed 12Mbps of USB spec. 1.1 (USB V2.0 Compatible) SPI – Firmware upgrade 13bit PCM – Codec interface signals PIO – 12 PIO signals AIO – 3 AIO signals
Transmitter Power	Class 2 / Class 3 (max +4dBm)
Transmission Range	Up to 10 meters
Receiving Sensitivity	-79 dBm
Operating Temperature	-30°C to 65°C
DC Supply Voltage	1.8V and 3.3V
Power Consumption	Under 35 mA
Board material	FR4
Number of copper layers	4
Dimension	21 x 14 x 2 (mm)
Weight	0.8 g

(Specifications are subject to change without notice.)

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PIN Description :

PIN No.	PIN Name	I/O	Description
T1	GND	--	Ground
T2	GND	--	Ground
T3	SPK_L-	O	Speaker Left – signal
T4	SPK_L+	O	Speaker Left + signal
T5	SPK_R-	O	Speaker Right - signal
T6	SPK_R+	O	Speaker Right + signal
T7	AIO[0]	I/O	Asynchronous input/output line
T8	MIC_R-	I	Microphone Right – signal
T9	MIC_R+	I	Microphone Right + signal
T10	MIC_L-	I	Microphone Left - signal
T11	MIC_L+	I	Microphone Left + signal
T12	AIO[3]	I/O	Asynchronous input/output line
T13	AIO[1]	I/O	Asynchronous input/output line
T14	UART_RX	I	UART Asynchronous serial data input
T15	UART_TX	O	UART Asynchronous serial data output
T16	USB +	I/O	USB data + signal
T17	USB -	I/O	USB data - signal
T18	3V3	I	For module DC 3.3V Power
T19	1V8	I	For module DC 1.8V Power
T20	GND	--	Ground
T21	PCM_IN	I	Synchronous data input
T22	PCM_SYNC	I/O	Synchronous data strobe
T23	PIO[7]	I/O	Programmable input/output line
T24	PIO[5]	I/O	Programmable input/output line
T25	PIO[4]	I/O	Programmable input/output line
T26	PCM_CLK	I/O	Synchronous data clock
T27	PCM_OUT	O	Synchronous data output
T28	PIO[6]	I/O	Programmable input/output line
T29	SPI_MOSI	I	Serial Peripheral Interface data input
T30	SPI_CLK	I	Serial Peripheral Interface clock
T31	SPI_MISO	O	Serial Peripheral Interface data output
T32	SPI_CSB	I	Chip select for Synchronous Serial Interface
T33	CSR_HRST	I	Chipset high reset
T34	CSR_LRST	I	Chipset low reset

<i>PIN No.</i>	<i>PIN Name</i>	<i>I/O</i>	<i>Description</i>
T35	PIO[9]	I/O	Programmable input/output line
T36	PIO[8]	I/O	Programmable input/output line
T37	PIO[2]	I/O	Programmable input/output line
T38	PIO[10]	I/O	Programmable input/output line
T39	PIO[3]	I/O	Programmable input/output line
T40	PIO[11]	I/O	Programmable input/output line
T41	PIO[1]	I/O	Programmable input/output line
T42	PIO[0]	I/O	Programmable input/output line
T43	GND	--	Ground
T44	GND	--	Ground
T45	ANT	I/O	Antenna for RF transmit and receive

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 UNDESIRE D OPERATION.

NOTE: THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.