

Wireless Audio Module

● Overview

AMO32001 is ready to use wireless digital audio modules with superior quality.

It can be connected to any digital audio sources, codec, and D-class amplifiers through industry standard digital audio interface I2S bus. In addition, digital data can be transmitted via industry standard I2C interface.

It is suitable for hi-fi audio system, home theater system, and portable devices. Customers can enjoy great sound with maximum freedom.

● Specialty

- Variety of topology: 1:1, 1:2, broadcasting.
- Pop-up noise reduction function.
- 8051 MCU embedded for user programming.
- Low battery detection and connection indicator.
- Full duplex digital data channel.
- Digital volume control.
- Broadcasting Topology.
- Customers are enable to have audio source selection.

● Features

- Superior audio quality.
- Small form factor.
- Higher QoS, more resistant to interference, and lower latency.
- Patented LFH, AAFS for RF operation.

● Benefit to develop

- Easier and Faster development:
 - You can save your time, cost and efforts with this ready to use tailored design modules.
- Quality Control for production is guaranteed.
 - Accumulated real experience can make it possible.
- Software tool kit is all set for simple prototyping.

● Application

- Wireless Headphone
- Wireless Speaker
- Wireless Microphone
- Wireless Keyboard/Mouse
- Wireless Game Pad
- Wireless smart toy
- Short distance audio broadcasting

● Pin Assignment

No.	Name	Pin Description	No.	Name	Pin Description
1	GPIO0	DWM3200 Internal MCU GPIO	24	GPIO1	DWM3200 Internal MCU GPIO
2	F_SYNC	DWM3200 Sync mode Pin	23	GPIO3	DWM3200 Internal MCU GPIO
3	GPIO2	DWM3200 Internal MCU GPIO	22	GPIO5	DWM3200 Internal MCU GPIO
4	GPIO4	DWM3200 Internal MCU GPIO	21	EINT	DWM3200 Interrupt signal for external MCU
5	ID_SET	Enter the ID SET Mode (Active Low)	20	SDA	DWM3200 IIC Data
6	LRCLK	I ² S Sample Rate Clock	19	SCL	DWM3200 IIC Clock
7	ADATA	I ² S Data	18	VDD	System Power Supply Voltage (4~6V)
8	BCLK	I ² S Bit Clock	17	GND	Ground
9	MCLK	I ² S Master Clock	16	GND	Ground
10	GND(RF)	Ground (RF)	15	Connect (Link)	DWM3200 Connect Status Pin (H: Connect L: Disconnect)
11	NRST(Reset)	System Reset (H: Normal L: Power Down)	14	LDB_OUT	DWM3200 Internal Low Battery Detect Pin (H: Normal L: Low Battery State)
12	Reserved (3.0V)	Digital Power Supply Voltage (3.0V – If you use the VDD(Pin@18), this Pin must be NC)	13	Reserved (GND Analog)	Analog Ground

● Specification

SIZE (mm)	37 X 18 X 5.7
Audio Dynamic Range	20~ 20,000Hz
THD+N	0.04%
Audio SNR	-92dB
Factory Selectable Audio Latency	7.6 ~ 165.6ms(Factory set with 2msec grid)
Audio Bit Resolution	16/20/24 bit
Operating Range	15M(Indoor) /up to 100M(Outdoor)
Audio Sampling Rate	32/44.1/48/88.2/96/172.4/192Khz
Tx Power	13dBm±3dB
Receiver sensitivity	TYP.-83dBm @ *FER<0.007%
Operating frequencies	2402MHz ~ 2480MHz
Operating Temperature	0 ~ 85°C
Weight	3.7g
Antenna Type	Embedded chip antenna Coaxial antenna connector No antenna
Digital High Level Voltage	2.0V ~ 3.0V
Digital Low Level Voltage	0V ~ 0.8V
Usable ID	0x00001 ~ 0xFFFFF
Power Consumption	100mA

*FER (Frame Error Rate)
 1Frame = 2ms
 Audio frame error rate per minute

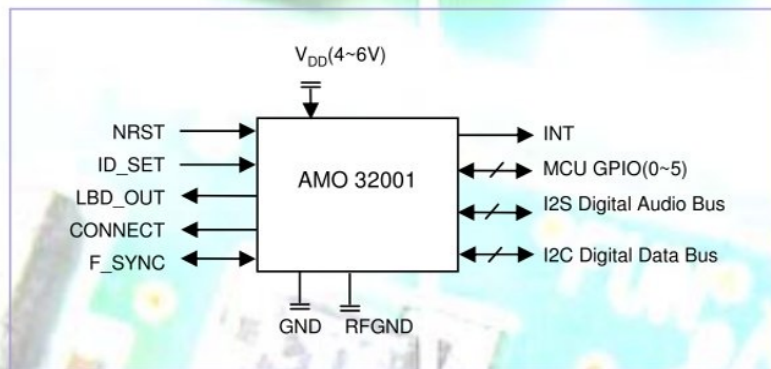
PRODUCTS

● Product list

- AMO32001T : Digital audio interfaced transmitter
- AMO32001R : Digital audio interfaced receiver
- Developer Kit: DKAMO320D

* More options are available. Please contact us for detail.

<External Interface>

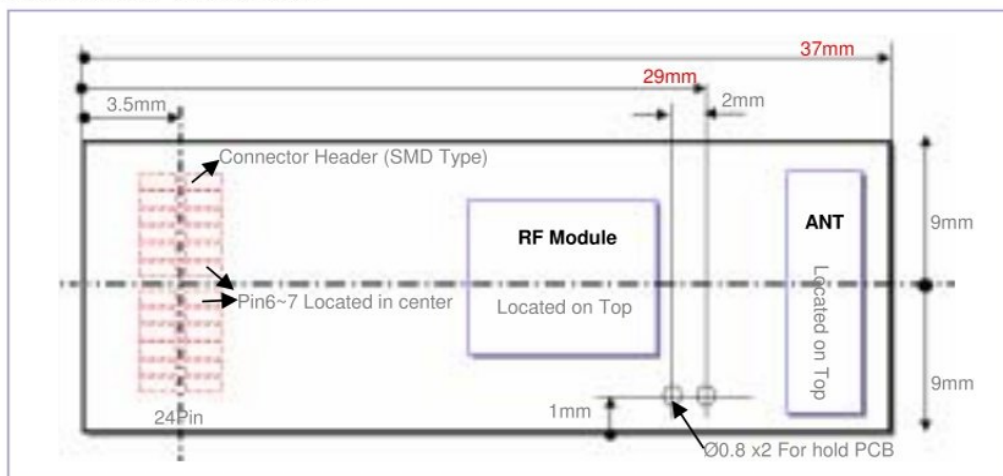


<Digital audio interface>

AMO32001 can interface audio device with characteristic shown on Table.

Parameters	Supported Value
Sampling rate	32 / 44.1 / 48 / 88.2 / 96 / 176.4 / 192kHz
Data Resolution	16, 20, 24 bits
Format	Left justified, Right justified I²S
BCK mode	32, 64 fs
MCLK mode	256, 512 fs
Clock Direction	IN, OUT

<Physical Dimension- Illustration >



FCC Statement

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.

Caution

To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

To comply with FCC RF exposure compliance requirements, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons. This device must not be co-located or operation in conjunction with any other antenna or transmitter.

Labeling

FCC ID: ZB6EAM2400

The proposed with FCC ID Label format is to be placed on the module. If FCC ID is not visible when the module is installed into the system, "Contains FCC ID: ZB6EAM2400" shall be placed on the outside of final host system.

Module user requirements

1. This module must be integrated into a device where the user cannot access the antenna connector and should not be able to remove or install the module.
2. Sleeve antenna (Under 1.46 dBi) can be used with this module. The antenna gain must not exceed it.
3. The device contain the following permanent labeling on the exterior of the device as follows;

ETERHI, Inc.(Model: EAM2400)

Contains FCC ID:ZB6EAM2400

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.