

MOS_BTS & DSP_AMAS-2 Bluetooth Module for audio Streaming

Features:

- Fully qualified Bluetooth® version 3.0 module, fully compatible with version 2.1+EDR, 1.2, and 1.1
- Dimensions 35 x 13 x 5 mm
- Embedded Bluetooth stack profiles: A2DP and SPP
- Dual-channel, digital output for highest quality audio
- Supports iAP profile to discover iOS devices and apps
- UART (SPP) data connection interface
- External audio CODECs supported via S/PDIF interface
- Environmentally friendly, RoHS compliant
- Certifications: FCC, ICS, CE
- Bluetooth SIG certified

Applications:

- High-quality, 2-channel audio streaming

GENERAL SPECIFICATIONS BLUETOOTH CORE

Specification	Description
Standard	Bluetooth 3.0, class 2
Frequency Band	2.4 ~ 2.48 GHz
Modulation Method	GFSK, PI/4-DQPSK, 8 DPSK
Maximum Data Rate	3 Mbps
RF Input Impedance	50 ohms
Interface	UART, GPIO, AIO, USB, SPI, speaker, microphone
Operation Range	10 meters (33 feet)
Sensitivity	-85 dBm at 0.1 % BER
RF TX Power	4 dBm

ELECTRICAL CHARACTERISTICS BLUETOOTH CORE

Specification	Description
Supply Voltage	1.8 ~ 3.6 V DC
Working current	Depends on profiles, 30 mA typical
Standby current (disconnected)	< 0.5 mA
Temperature	-40°C to +85°C
ESD	JESD22-A224 class 0 product
Humidity	10% ~ 90% non-condensing

SUPPORTED BLUETOOTH PROFILES

Profile Type Comments

- **A2DP Audio:** The advanced audio distribution profile (A2DP) defines how high quality audio (stereo or mono) can be streamed from one device to another over a Bluetooth connection.
- **SPP Data:** SPP defines a virtual serial port between two Bluetooth-enabled devices. SPP emulates a bidirectional serial link.
- **iAP Data:** The module natively supports iPod Accessory Protocol (iAP) data connections and directly manages authentication with the MFI authentication chip (not included).

Strong Point

The **MOS_BTS** is different than other Bluetooth modules in that it can stream audio. It does this via an on-board Digital Signal Processing (DSP) chip. When streaming audio *to* the MOS_BTS, the DSP converts the radio waves sent from the transmitter device (phone, computer, etc.) into electrical signals that can then be sent to the amplifier and then to your audio output (speakers/headphones). When streaming audio *from* the module, it converts the electrical signals from the audio input device (mic/line-in) to radio waves for the receiver device (stereo, computer, phone).

Many people ask why it isn't possible to send audio over just any old Bluetooth connection. The lack of an on-board DSP is the main reason most "regular" modules cannot support audio streaming.