General Description:

RF Arrays has designed & developed **Wireless Audio Streamer Analog High Power Transmitter (RAHT521)** hat takes audio input and transmits it over 2.4 GHz RF frequency. The Audio streamer transmitter takes audio input from audio port of PC or other audio source.

Features:

- Uses global 2.4GHz band
- 4Mbit/sec RF link
- Input sample rate up to 96kHz, 24 bits
- Output sample rate up to 48kHz, 24 bits

RAHT521

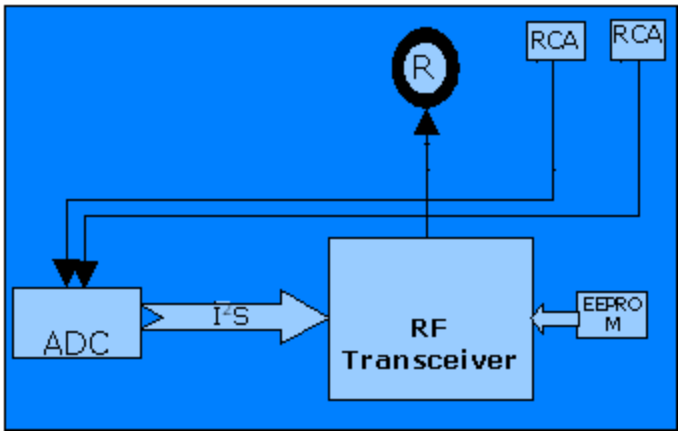
Analog Interface:

- Direct Audio Signal Output for
- Audio players
- Sample rate up to 48kHz, 24 bits
- Battery operated(4.5V to 12V)

Applications:

- Compact Disk, CD quality headset
- MP3 / Mini Disk headset
- Speakers
- Surround speakers
- Audio streaming to HiFi system

Block Diagram: Over view of Analog Tx



Specifications

Specification	Value	Units
Operating Frequency	2.4	GHz
Transmitter Power	18	dBm
Antenna Impedance	50	Ohms
Antenna Type	SMA Antenna	
Range	800	meters
Operating Voltage	4.5	Volts

Absolute Maximum Ratings*

Symbols	Min.	Max.	Units
V_{cc}	4.5	12.0	Volts
Operating Temperature	-20	+80	^{o}C
Analog Audio Output		2.0	V p/p

DC Electrical Parameters

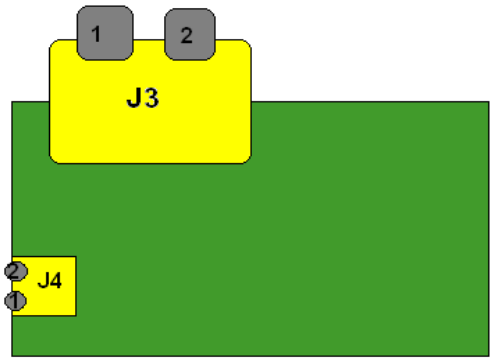
Parameter	Symbol	Min.	Typ.	Max.	Units
Supply Voltage	V_{cc}	4.5	-	12	Volts

Current Parameters

Parameter	Min.	Typ.	Max.	Units
Transmitter Current	140	150	170	mA

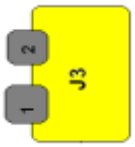
CONNECTOR PIN-OUTS AND INTERFACE

Analog Transmitter



Connector J3:

Connector Pin	Input/Output	Signal Name
2	Input	Left Channel Audio Input
1	Input	Right Channel Audio Input



Connector Type:- Dual RCA
Connected to:- RCA cable Audio In

Connector J4:

Connector Pin	Input/Output	Signal Name
2	Input	Vcc
1	Ground	Ground

Connector Type:- 2 Pin SIP
Connected to:- 2 Pin SIP Power Input

RF ARRAYS Wireless Audio Streamer Transmitter System Overview

RAHT521 audio module transmitter has a 4 Mbit/s RF transceiver that operates in the 2.4 GHz ISM band. This RF transceiver provides a true system for CD quality audio streaming of up to 16-bit 48 kHz audio with support of up to 24 bit 96 kHz input. I2S and S/PDIF interfaces are supported for audio I/O. RAHT521 supports low power A/D seamless interface for analog audio input and output.

The audio transmitter offers a wireless channel for seamless streaming of LPCM or compressed audio in parallel with a low data rate control channel. As all processing related to audio I/O, RF protocol and RF link management is embedded, the module offers a transparent audio channel with capacity of up to 1.54 Mbit/s, where no true time processing is needed.

A wireless system streaming audio will have an asymmetrical load on the RF link since audio data is fed from an audio source (CD player) to a destination (loud speakers). From the destination back to the audio source only service and control communication is needed.

For Audio source low power, low cost ADC are used. The A/D supports the I2S-bus data format with word lengths of up to 24 bits and the LSB-justified serial data format with word lengths of 16, 20 and 24 bits at 44.1 kHz sampling rate