General Description:

RF Arrays has designed & developed **Wireless Audio Streamer Analog High Power Receiver (RAHR521)** that receives the audio signal over 2.4 GHz RF frequency. The transmitted audio signal is reproduced using any stereo speaker system.

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

RAHR521

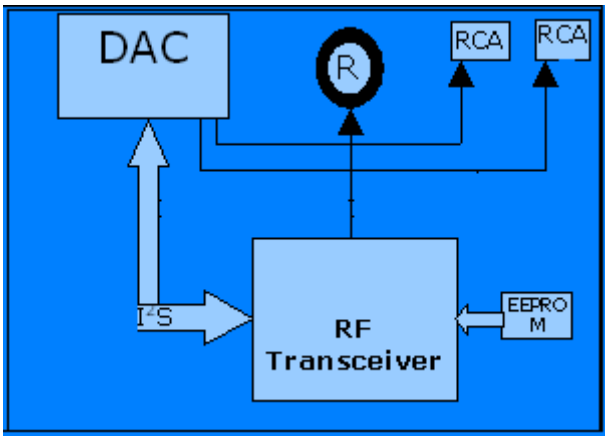
Analog Interface:

- 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 Rx



Specifications

Specification	Value	Units
Operating Frequency	2.4	GHz
Antenna Impedance	50	Ohms
Antenna Type	SMA Antenna	
Receiver Sencitivity	>-80	dBm
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

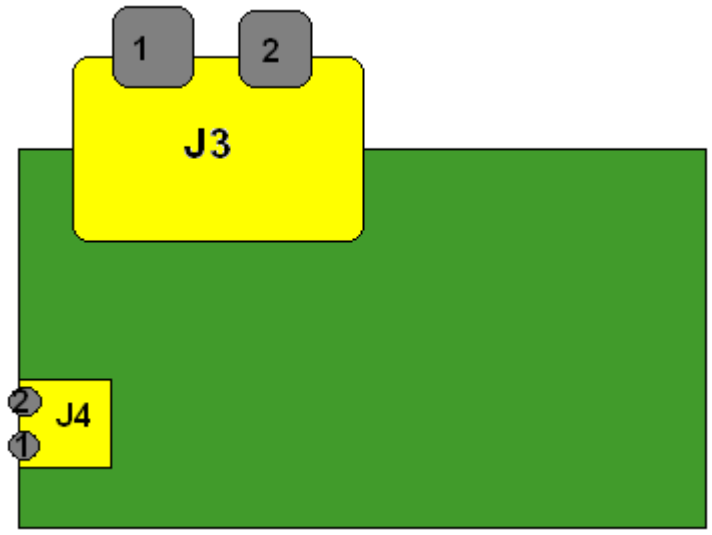
Parameter	Symbol	Min.	Typ.	Max.	Units
Supply Voltage	V_{cc}	4.5	-	12	Volts

Current Parameters

Parameter	Min.	Typ.	Max.	Units
Receiver Current	50	65	75	mA

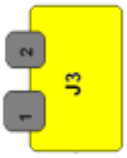
CONNECTOR PIN-OUTS AND INTERFACE

Analog Receiver



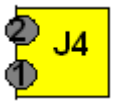
Connector J3:

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



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

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 RECEIVER SYSTEM OVERVIEW

RAHR521 audio module receiver has a 4 Mbit/s RF transceiver that operates in the 2.4 GHz ISM band. This module receiver 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. RAHR521 supports low power D/A seamless interface for analog audio output.

The audio module receiver 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 device 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 destination low power, low cost DAC is used. The D/A 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