

AWA89x0 SERIES PRODUCT BRIEF

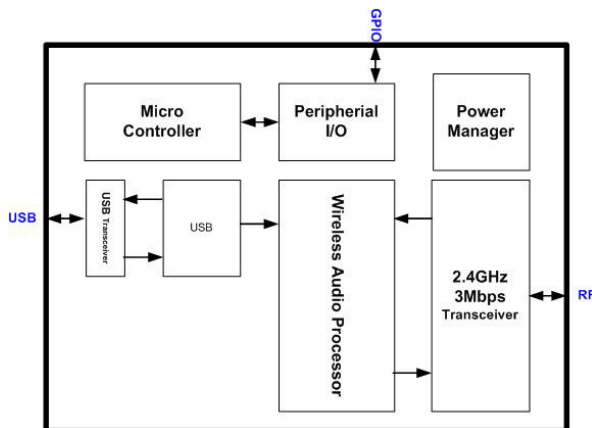


4-in-1 Integrated Smart Wireless Device / Wideband Skype Voice

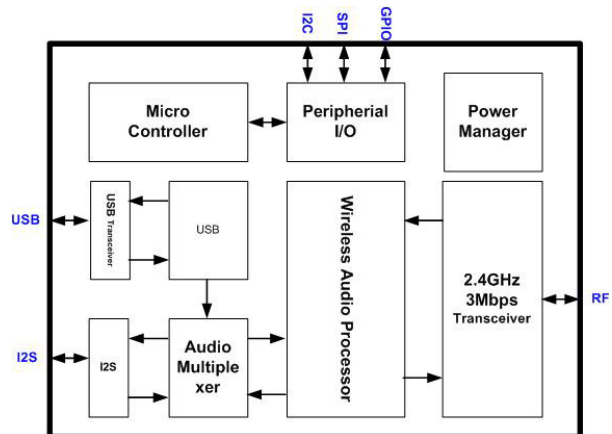
AWA89x0 series operates in 2.4GHz ISM band. It is a low power, Non-compressed digital audio sound quality SOC (System On Chip). Its architecture contains built-in 2.4GHz 3Mbps Air Data Rate radio frequency Transceiver, power management, audio control unit, and microcontrollers. AWA8900 series adopt the use of low-power design architecture, for low power consumption products, such as remote control (Remote), mouse (MICE), Keyboard, and other products. Moreover, One host can simultaneously link to Many Wireless Devices, the so-called many-in-one application.

AWA89x0 series includes two Chips. **AWA8900** is in a QFN40 package, delivers uncompressed 2.0 CH digital audio via the Full Speed USB2.0 interface, especially for Nano-Dongle applications. **AWA8920** uses QFN56 package, suitable for the host (Host) or device (Device) designs. AWA8920 audio function supports two digital audio interfaces, **USB** and **I²S**. Built-in audio mixing multiplexer allows designers the freedom of switching audio sources and outputs in his application. In addition to general wireless audio products, such as wireless headsets wireless speakers, subwoofers. AWA8920 also reduces the cost of wireless MIC applications, and achieves the design of Two in 1.

AWA8900 block diagram



AWA8920 block diagram



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AWA89x0 Series Features

Wireless 2.0CH Digital Audio connection to unlimited multiple receivers from 1 transmitter

Automatic Adaptive Frequency Hopping provides robust interference immunity

Minimum Audio Latency Time ensures audio and video consistency in gaming and movies

Full Speed 2.0 USB Interface to support internet TV, PC gaming and PC audio

Digital Interface demonstrates the full scale beauty and capability of pure digital audio

I2S Interface allows the choice of the most preferred ADC/DAC/Class D Audio AMP brands

Forward Error Correction ensures high integrity of the audio transmission

Auto Mute when signal received is “mute”

Digital Volume Control for precision volume control

Auto Power Down when no signal is received for a preset period of time

Programmable Output Power Level offering flexibility in applications

Built-in Regulator for minimum BOM overall and PCB size

Build-in MCU minimizes design effort & enhances product differentiation

Wideband Skype voice 16KHZ sampling rate for chat

AWA89x0 Series Specifications

Power Supply Range	1.9V ~ 5.25V
Frequency Range	2.4GHZ~2.4835GHZ
Current consumption	Host Tx: 35mA@ +7dBm Device Rx: 25mA@+7dBm
Number of RF Channels	26 non-overlapped
Audio Sampling Rate	48K/44K/44.1K with 16bit@Master mode (Embedded sampling rate converter support 192KHZ and 96KHZ@Slave mode)
Audio Frequency Response	20HZ~23KHZ
S/N Ratio	95dB
THD+N	-95dB
TX RF Power	+7dBm
RX Sensitivity	-82dBm with 1% PER
Audio Latency	12.5ms~33ms
Voice Sampling Rate	16KHZ with 16bit (Mono)
Voice Frequency Response	20HZ~8KHZ

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AWA89x0 Series Special Mode

4-in1 innovative application: Keyboard / Mouse / Headset with 1 USB Dongle



2Mic with 1Rx for Karaoke:



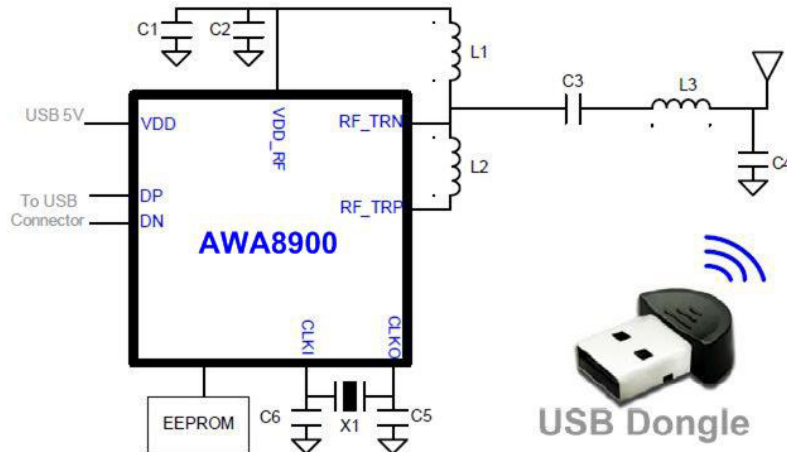
Wideband Skype Voice



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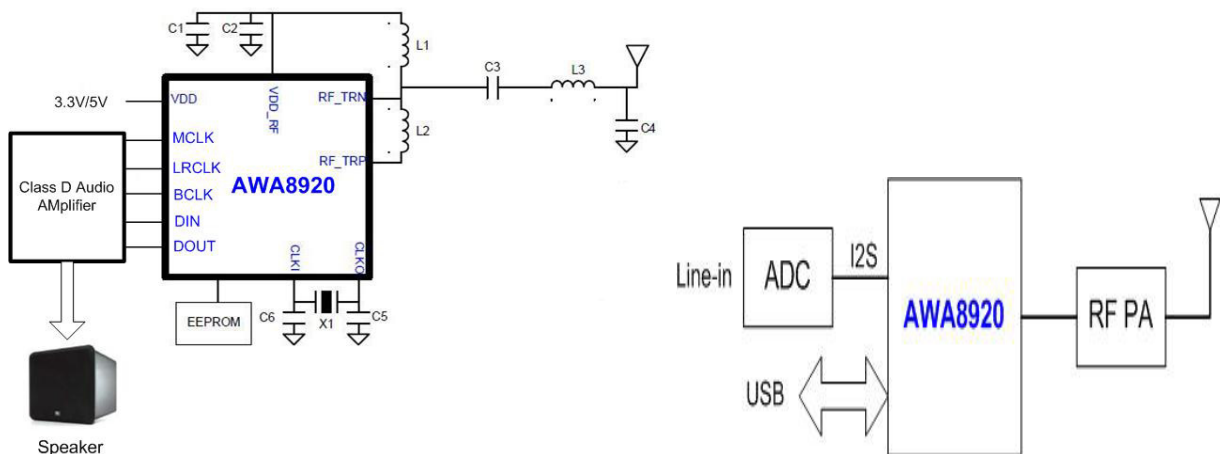
AWA8900 Application Example

Mini size USB Dongle is possible with minimum external components
Audio/Skype through Same Dongle bring in convenience and lower overall costs



AWA8920 Application Example

Low Cost Wireless Speaker can be easily done through I2S to a class D audio AMP
Combo USB/Line-in mode can support 2 audio source input for selection
More than 100 Meter Range with an external RF PA and a good antenna



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