

AWA8800 SERIES PRODUCT BRIEF

Wireless 2.0CH Digital Hi-Fi SoC with USB/Digital Interface

AWA8800 Series contains the highest Integration of proven blocks in a single chip (SoC): MCU, SRC, **3Mbps RF PHY**, **Audio/Voice Processor**, Audio/Voice **Digital Interface**, USB 2.0 Full speed Interface, Regulator, and Power Saving Management.

For the best cost and performance result, AWA8800 series are divided into 3 members, namely **AWA8800**, **AWA8810**, and **AWA8820**.

AWA8800 in QFN40 package, delivers **uncompressed 2.0CH digital audio** via the Full Speed USB 2.0 interface, such as USB Nano dongle form factor, enabling wireless capabilities to Internet TV/Movie, PC gaming and Entertainment Audio.

AWA8810 in QFN48 package, delivers **uncompressed 2.0CH digital audio** via the I²S interface directly with Class D audio amplifier or ADC/DAC, enabling wireless capabilities to the world of Hi-Fidelity Audio equipment, speakers, subwoofers, Home Theater Surround audio, headphones, and headsets.

AWA8820 in QFN56 package offers both USB and I²S interfaces, enabling the "Combo USB/3.5mm Analog Dongle" applications.

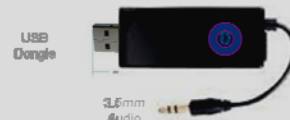
AWA8800 Wireless USB Host Controller In Nano Dongle form



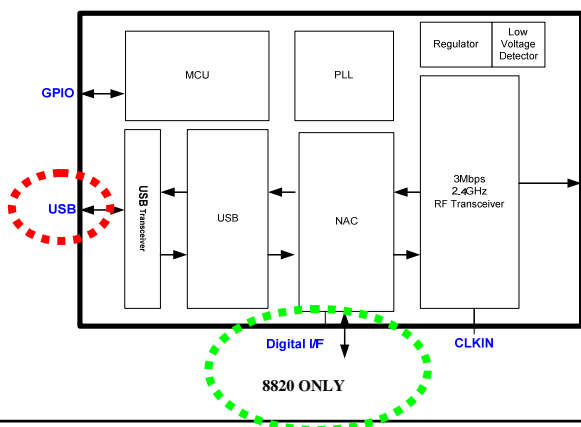
AWA8810 Wireless Audio/Voice SoC with Digital Interface



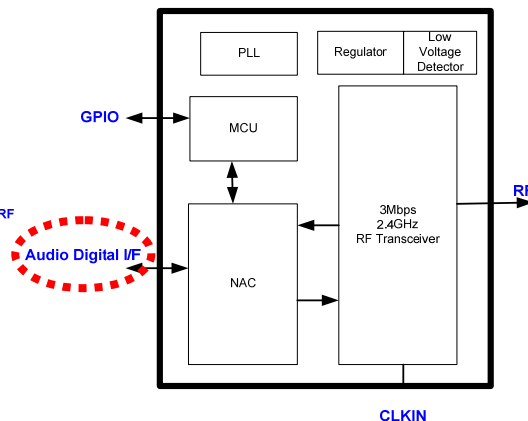
AWA8820 Wireless Audio/Voice SoC with USB / Digital Interface



AWA8800/AWA8820 Block Diagram



AWA8810 Block Diagram



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Important AWA8800 Series Features

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

Automatic Adaptive Frequency Change provides robust interference immunity

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

Full Speed USB 2.0 Interface to support Internet TV/Movie, 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

Built-in MCU minimizes design effort & enhances product differentiation

Key AWA8800 Series Specifications

Frequency Range	2.4GHz ~ 2.4835GHz
Current Consumption	Tx: 35mA@+4dBm; Rx: 30mA
Number of RF Channels	26 non-overlapped; 41 overlapped
Sampling Rate	48KHz/16Bit (Embedded Sampling-Rate-Converter Converting 192KHz and 96KHz to 48KHz)
Frequency Response	20Hz~23KHz
S/N Ratio	96dB
THD+N	- 95dB
TX RF Power	+4dBm
RX Sensitivity	- 81dBm with 1% P.E.R
Audio Latency	12.5ms

Useful AWA8800 Series Special Modes

Multi-Room Audio System with external RF Power Amplifier (**the Long Range Mode**)

Wireless Audio/VoIP Headphone offers Hi-Fi listening pleasure and relax VoIP talks with friends for hours, free of charge (**the 2-in-1 Mode**)

Combo USB / 3.5mm Dongle AWA8820 provides interfaces for both USB and I²S (**Combo Mode**)



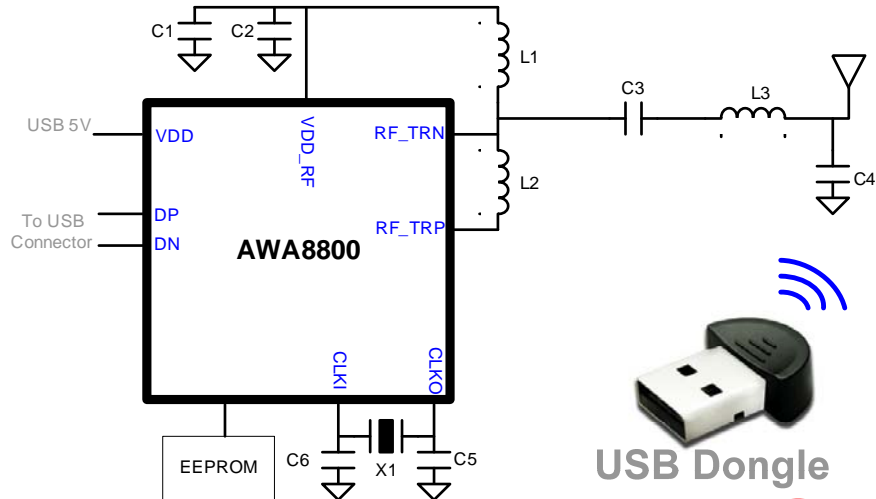
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AWA8800 Application Example

Mini size USB Dongle is possible with minimum external components

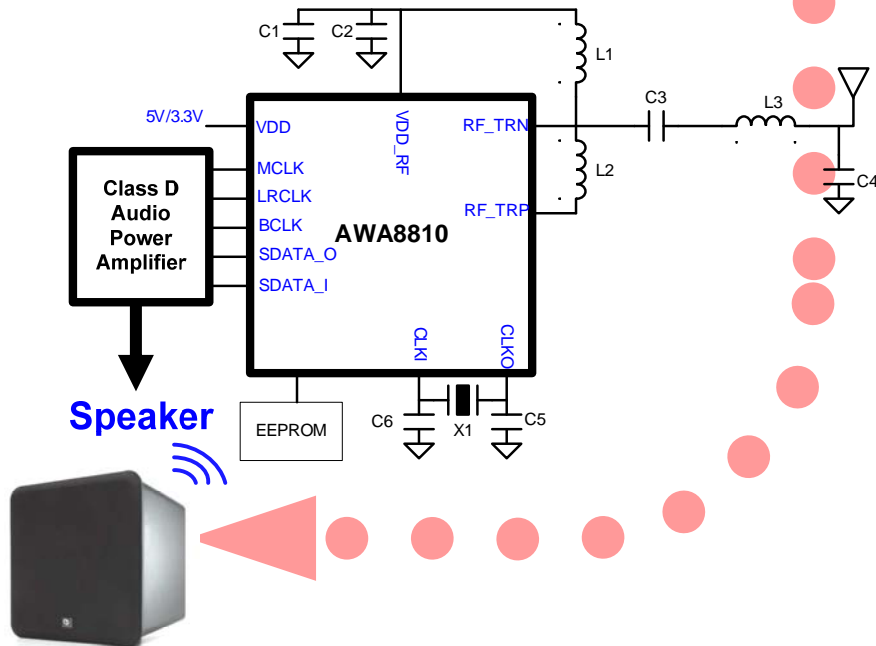
Audio/VoIP through Same Dongle brings in convenience and lower overall costs



AWA8810 Application Example

Low Cost Wireless Speaker can be easily done through I²S to a Class D audio AMP

Wireless Speaker for Any Wireless Audio Source with built-in MCU

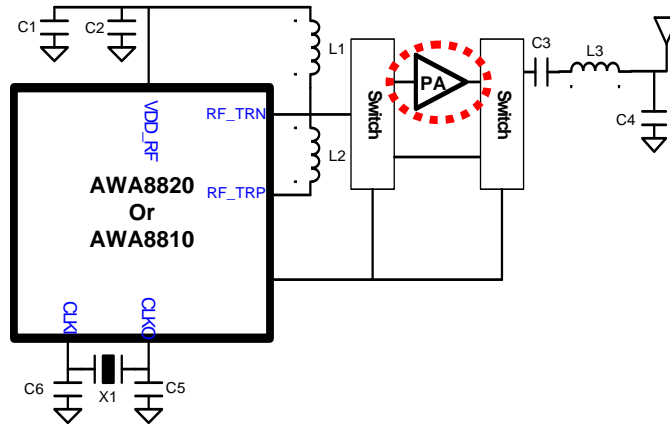


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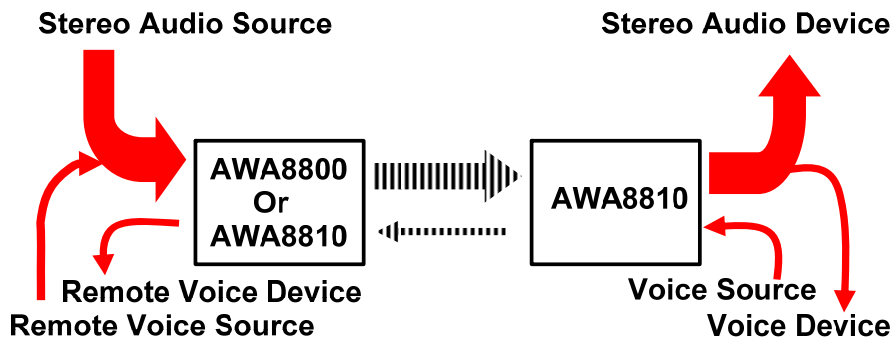
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AWA8820/8810 Long Range Mode

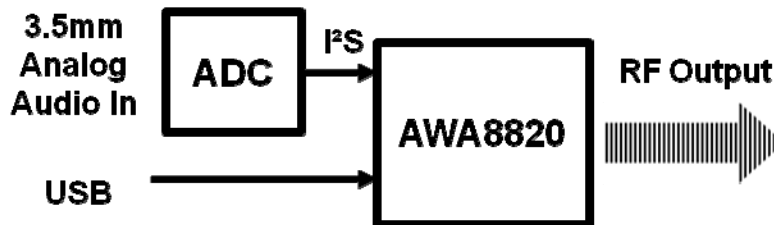
More than 100 Meters Range with an external RF PA and a good antenna



AWA8800 Series 2-in-1 Mode



New Combo USB / 3.5mm Mode



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