SKY76303-21: High-Resolution Wireless Audio System-on-Chip (SoC)

Applications

- Wireless subwoofers
- Soundbar with wireless surround speakers
- Home theater wireless speakers
- Wireless gaming headsets
- Wireless microphones

Features

- Complete I^2S-to-I^2S audio communication system
- 24-bit I^2S audio interface and 117 dB SNR over-the-air link
- Up to 117 dB over-the-air dynamic range
- 5.15 to 5.25 GHz and
  5.725 to 5.825 GHz operation
- 3 or 6 Mbps over-the-air data rate
- Supports up to five client receivers per transmitter
- Low, fixed latency (typically less than 20 ms)
- Separate RF transmit and receive RF I/O
- I^2S digital audio capability
- Multiple GPIO with selectable functions
- Single 3.3 V or 5 V supply
- 56-pin, 8 x 8 x 0.9 mm QFN package
  - Specified for use over a commercial temperature range of 0 °C to 70 °C
- For RoHS and other product compliance information, see the Skyworks Certificate of Conformance.

Description

The SKY76303-21 High-Resolution Wireless Audio SoC is optimized for building point-to-multi-point digital wireless audio solutions (such as wireless subwoofers and wireless rear speakers for in-home theater systems), and wireless gaming headsets and wireless microphones.

The SKY76303-21 leverages the proven Skyworks proprietary RF protocol, providing the same excellent coexistence performance found in the AV62xx/63xx wireless SoC product family. The SKY76303-21 SoC also expands the capabilities of world-class wireless audio protocol by providing increased audio resolution, digital I/O and over-the-air (OTA) signal routing flexibility to accommodate a wide range of wireless audio applications.

The SKY76303-21 contains all the necessary radio transceiver and digital baseband circuitry to form a complete digital wireless node without external processing. The SKY76303-21 can operate in the lower and upper bands of the 5 GHz spectrum, enabling worldwide coverage.

The SKY76303-21 contains all the necessary power management and analog circuitry needed to operate the chip. The chip is powered from either a +5 V supply input (powering the internal +3.3 V output LDO) or an externally regulated 3.3 V supply.

The SKY76303-21 also contains a set of General-Purpose Inputs/Outputs (GPIOs) for various control and interface functions.

In various module and product implementations, the SKY76303-21 RF section and wireless protocol has been certified globally, including North America, Europe, China, Japan, and Korea.

Ordering Information

Part Number	Description	Evaluation Board Part Number
SKY76303-21	High-Resolution Wireless System on a Chip	AVTF0206
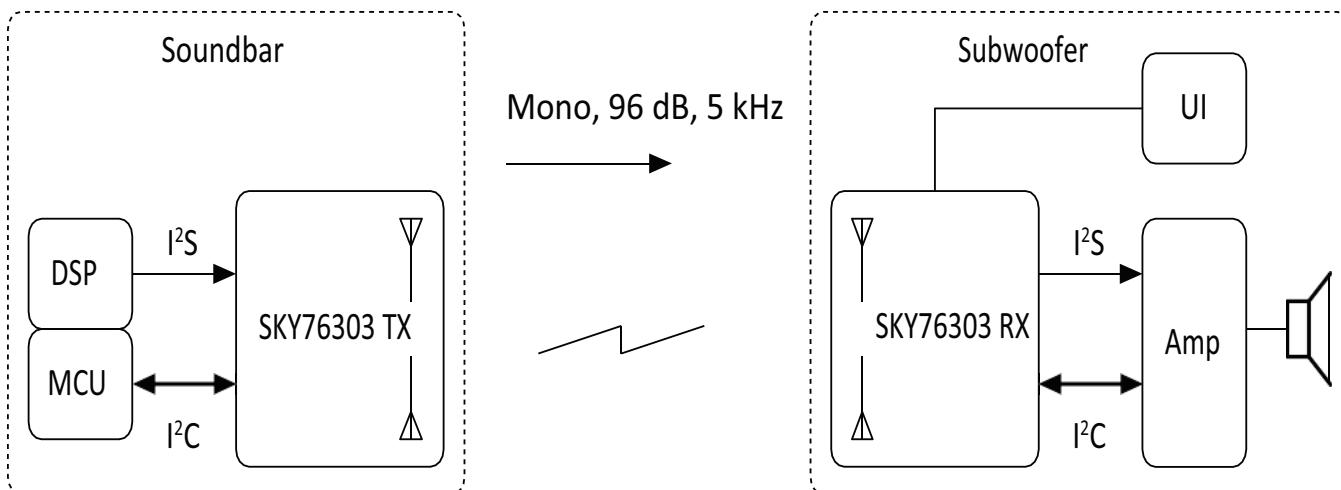
Figure 1. SKY76303-21 Wireless Subwoofer Solution Diagram