



PRODUCT SUMMARY

SKY76360-22 Cognitive Wireless Gaming Arbiter System on a Chip (SoC)

Applications

- Wireless gaming headsets and gaming accessories
 - Controllers
 - Mice
 - Keyboards
 - Wireless headphones

Features

- Ultra-low-power 2.4 GHz radio transceiver:
 - 30-meter indoor line-of-sight range
- Skyworks UL2X Cognitive Wireless Audio Communication System¹
 - 3/6 Mbps over-the-air (OTA) data rate
 - Up to eight channels of uncompressed OTA audio
 - Up to 40 kHz OTA audio bandwidth
 - Low and fixed audio latency < 9 ms
 - Synchronized client audio (<1 μ s latency diff.)
 - Robust wireless performance
 - Link has Signal to Noise Ratio (SNR) to 140 dB
- Low-latency and high bandwidth data transport
- 32-bit RISC processor subsystem
- Complete, highly integrated power system
- Full-speed USB interface
- Digital IO peripherals: JTAG, SPI, I²C, and UART
- Digital audio interface: I²S and USB
- Integrated RF switch drive
- Package: 88 pin, aQFN
7 mm x 7 mm x 0.8 mm
- Commercial temperature range of 0 °C to 70 °C
- For RoHS and other product compliance information, see the [Skyworks Certificate of Conformance](#).

Description

The SKY76360-22 is an ultra-low-power, high performance wireless gaming SoC that operates in the 2.4 GHz ISM band. It provides a high dynamic range, uncompressed wireless digital audio/data link with robust interference rejection and excellent coexistence with other 2.4 GHz applications (such as Wi-Fi® devices).

The SKY76360-22 is an arbiter in the embedded wireless communication system known as UL2X and supports multiple OTA usage scenarios with different numbers of channels, audio bandwidth, data bandwidth, and numbers of clients.

The OTA audio link features a low, fixed latency of < 9 ms while rejecting a multitude of possible interference sources in the 2.4 GHz band. The link can provide up to 138 dB dynamic range and up to 40 kHz audio bandwidth. Audio is inherently synchronized between network clients with < 1 μ s latency difference.

The UL2X wireless communication system also provides a wireless data link for low latency data transport applications. The SKY76360-22 SoC is designed to provide a streamlined system solution with minimal external components. It includes digital I/O peripherals, power management, and I²S audio interfaces. The digital audio interface over I²S supports up to 24-bit, 96 kHz PCM digital audio.

Figure 1 shows an application diagram of a typical cognitive wireless gaming arbiter design. Blocks in blue represent Skyworks products.

1. Subject to constraints for specific usage scenarios.

Ordering Information

Part Number	Description	Evaluation Board Part Number
SKY76360-22	Cognitive Wireless Gaming Arbiter System on a Chip (SOC), aQFN Package	SKY76360-22REK1

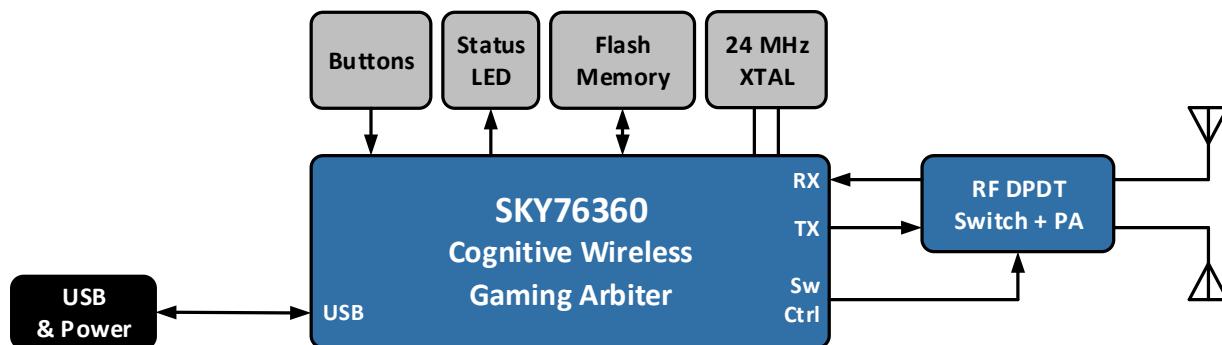


Figure 1. Typical SKY76360 Cognitive Wireless Gaming Arbiter Application Diagram

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