Aurel 300 Wireless Audio Module

WIRELESS AUDIO STREAMING

Broadcast or receive audio streams in real-time. Share context-aware audio content with a designated or unlimited set of receivers.

PUBLIC BROADCASTING

Serve annotated audio content to general audiences. Tittle, label, and content rate to facilitate audio program search, description, and selection.

PRIVATE BROADCASTING

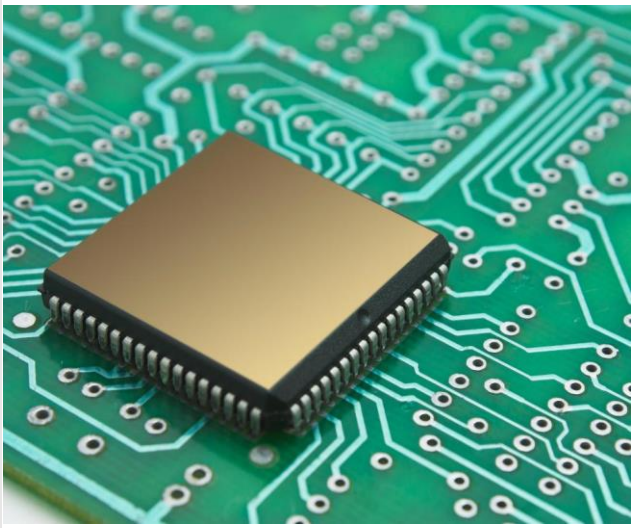
Direct broadcast transmission to limited audiences. Encrypt content to preserve data privacy, and insure secure access. Enable receivers to control anonymity individually.

STREAM CHANNELS

Broadcast one or more audio streams, each containing unique (program) or related (channel) content.

STREAM MODES

Boost stream quality for higher fidelity, or reduce to assist low-power receivers (e.g. hearing aids). Set high reliability modes to improve performance in noisy environments. with modest to no effect on latency.



Applications

- Highly integrated array microphones for enterprise teleconferencing
- Live event wireless audio streaming to an unlimited number of listeners
- Studio-quality lapel-size directional microphones for interviews / presentations
- External / remote accessibility appliances for hearing assistance
- Television streaming of multi-language, multi-channel, mono or stereo audio
- Public broadcast systems with context-aware content
- Multi-way secure group communications

Aurel 300 provides seamless and reliable wireless audio streaming for broadcast and point-to-point configurations. Aurel 300 replaces wired and power-hungry wireless solutions, and ushers in a new era of use cases with a low energy footprint and highly modular approach to generating and delivering real-time audio streams.

Designed for bi-directional wireless audio transport, and multiple channels for language and content, the highly integrated Aurel 300 fulfills the promise of faster, more convenient, and shared access made by wireless audio broadcasting with a single module

Purpose-built configuration sets (Presets) provide autonomous operation, while a rich set of dynamic options enable adaptation to more custom environments and fine-tuned control..

The integrated LC3 codec is constructed for a high-quality low latency audio environment, and standards compatibility. Multiple streams and compression ratios support added control for, levels of quality and bandwidth management. Reliability within congested environments is increased by transport options and optimizations, and audio quality enhanced by packet loss concealment (PLC).

Native interfaces to transport streams of audio devices (I2S, PDM) and hosted environments (USB) simplify integration and configuration. A modular audio pipeline provides access points for AI and additional customer and product-dependent audio processing.

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STREAM CONTROL

Independently control broadcast discoverability, receiver stream synchronization, and audio stream transmission. Receiver scan may be direct or externally-assisted to reduce power.

WIRELESS SECURITY

Determine degree of data privacy and access security. Broadcast streams may use AES-128 bit encryption. Each indiviidual module contains unique security keys.

AUDIO INPUTS

PDM microphone, I2S, or USB 2.0 in mono or stereo modes.

AUDIO OUTUTS

I2S or USB 2.0 in mono or stereo modes.

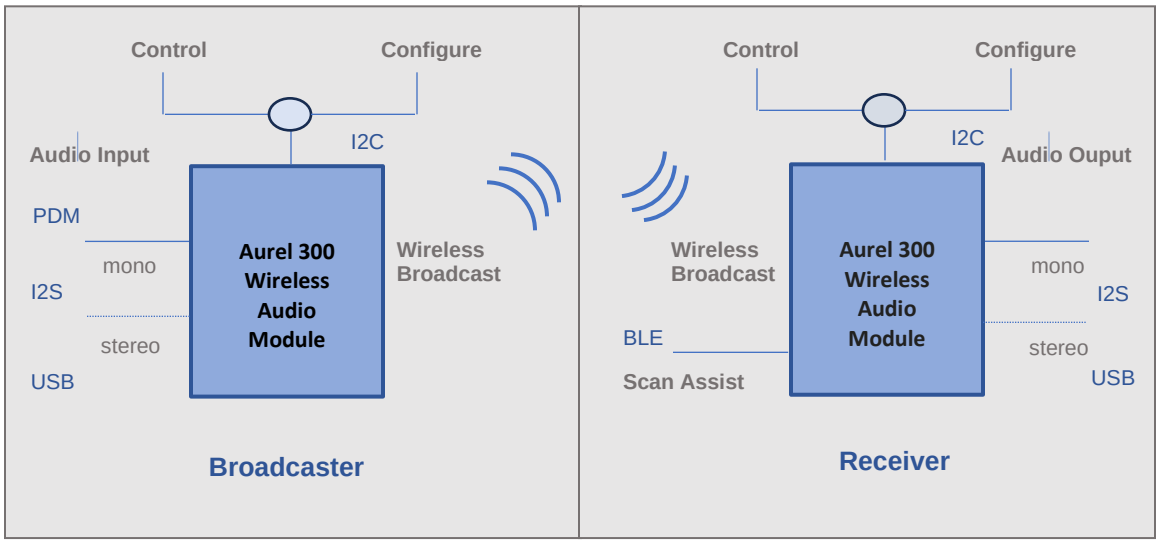
UPGRADEABILITY

OTA and USB DFU with verified signed, encrypted binary images.

PACKAGING OPTIONS

Module may be packaged as standard, small footprint, and extended range. Internal or u.FL connector for external antenna available.

For more information on any of our products or services please visit us on the Web at: www.axiomware.com



Simplicity

Ful set of product presets to define complete system configuration.

Hardware standard I2C control and I2S audio data interfaces.

Managed wireless protocol and data compression pipeline.

Auto-detect devices and data streams.

Flexibility

Broadcast and receive modes set by run-time configuration.

OTA-DFU enables feature and security updates.

Low-power modes improve battery longevity.

Uni / multi-stream (channel) language, audio context, and content.

Standard, low latency, and high reliability wireless modes.

Scaleability

Deploy multiple modules to increase capacity, capability, and performance

Security

Trusted, identifiable, and authenticated devices.

Encrypted broadcasting streams.

Private / public audio stream identification.

Verified, signed and encrypted firmware updates.

KEY FEATURES

Bluetooth Low Energy 5.4

Wireless broadcast

Extended range package(optional)

LC3, LC3+, ASHA (G.722), lossless[1]

Multiple broadcast streams / channels

Audio broadcaster / receiver quality modes

Low latency / high reliability transport modes

Encrypted data, secure access, and privacy

I2C, SPI, UART[1] control / configuration

I2S audio data interface (bi-directional)

PDM digital microphone interface

Asynchronous sample rate converter (ASRC)

OTA and USB DFU

USB 2.0

Note 1: future optionality

DEVELOPMENT

Aurel 300 Audio Development Kit

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