

High Quality Auracast™ Audio – Powered by Cloud2GND and Ezurio!

New: Digital Audio-Only variant of our proven AW100 Series board!

The Aurawave AW100 series modules combined with the Aurawave Audio Framework v1.3 AT command software provide a complete 2-channel **Auracast™ transmitter and receiver** including analog and digital audio input and output, flexible AT command interface, and hosted and stand-alone modes of operation.

Auracast™ technology is at the forefront of wireless audio streaming, offering a seamless and reliable user experience in environments such as public venues, conference halls, and personal audio setups.

In addition to its Auracast™ capabilities, the module is engineered to act as a flexible Bluetooth LE Audio device, intended to reduce time and design cost to integrate Bluetooth LE audio functionality into customer end devices. This dual functionality allows the module to be integrated into a wide range of use cases, from consumer electronics to industrial applications, where reliable Bluetooth LE connectivity is essential.



Bluetooth® Auracast™

Standalone Mode

- Initial configuration using AT commands over USB serial port
- Persist configuration for Auracast Source or Sink to control power-on behavior.
- Factory defaults to Auracast broadcasting via USB for easy demonstration purposes
- Powered via USB-C Connector (5v) using power supply or direct from audio host
- Line-level analog audio input and output from any device with a 3.5mm jack
- Digital input and output over USB from any device that supports USB Audio Class 2 drivers (Windows, macOS, Linux, Android, iOS).
- Configure, deploy, and forget!
- Graphical Configuration Tool (Windows/Mac) for easy configuration, operation, and firmware updates.

Host Mode

- Integrate the AW100 into products with an external host
- Standard 40-Pin header for easy integration
- Powered via I/O pins or USB
- AT control interface via UART/GPIO or USB
- Flexible control of stream meta data and configuration
- Audio over I2S, USB, or line-level analog via 40-Pin header

Key Features



Bluetooth Core 6.2

Seamlessly integrate with third-party Bluetooth LE devices, offering flexibility for various applications, including audio, data transfer, sensor connectivity



Auracast™ Source/Sink Capability

Broadcast high-quality audio to multiple receivers at once, supporting public and private use cases. environments. Receive broadcasts from any source. Supports full stream discovery, connect by prefix, name, or ID, and automatic stream reconnect.



Audio Input & Output

I2S, USB, and onboard codec to handle analog and digital audio I/O.



40 Pin Expansion Header

Integrate LE audio into your product via the 40-pin header, which exposes power, serial, audio, GPIO and more



Easy AT Command Interface

Ships with firmware that enables straight forward configuration and control of Bluetooth Auracast™ broadcasts via AT commands.



USB-C Interface

The Aurawave module can be powered and controlled by a USB-C host device using AT-Commands over a virtual serial port while also exposing a digital audio interface



Customizable Firmware

Ships with pre-built binaries for out-of-the-box AT command use. Customized firmware available to meet your specific application needs. A standard 10-pin SWD header is available for the user to flash custom binaries using standard Nordic tools



Compact and Modular Design

The module is designed for easy integration into existing hardware setups, with a form factor that suits both consumer and industrial applications



Hosted Operation

Drive from an external MCU using AT control interface via UART/GPIO or USB. Flexible control of stream meta data and configuration with audio over I2S*, USB, or line-level analog via 40-Pin header.



Standalone Operation

When powered by common power adapters (USB-C), the Bluetooth LE Auracast™ module operates without the need for other supporting hardware to broadcast analog audio

Specifications

Category	Feature	Specification
Aurawave	AT Command Interface	- Select between Source/Broadcast and Sink/Receiver modes - Configure audio inputs and output - Configure broadcast parameters and preferred receiver configuration
	Audio Source Options	2 Channels of Analog I/O at 48kHz or 16kHz sampling rate 2 Channels of Digital Audio via USB at 48kHz sampling rate
	Auracast™ Transmitter (Public Broadcast Profile)	- Standard Quality Broadcast (16kHz) - Low latency: 16_2_1, - High reliability: 16_2_2 - Standard Quality Broadcast (24kHz) - Low latency: 24_2_1, - High reliability: 24_2_2 - High Quality Broadcast (48kHz) - Low latency: 48_2_1 - High reliability: 48_2_2
	Auracast™ Receiver (Public Broadcast Profile)	- Discover nearby Auracast™ broadcast streams - Connect to broadcasts by prefix, ID, or name - Stream 48kHz, 24kHz, or 16kHz broadcasts
	LE Features & Roles	- Public Broadcast Profile (PBP) - Public Broadcast Source - Common Audio Profile (CAP) - Initiator
	FW Upgrade	Firmware upgrade initiated via AT command or push button and MCUMgr
	Push Button Input	- Factory Reset - Press and hold - Firmware upgrade mode - hold on boot
	Development	Additional services and custom support available for firmware / feature development
	Bluetooth Module	Ezurio BL5340PA Series Module: - Nordic nRF5340, Nordic nRF21540 Front End Module 128/64 MHz Arm Cortex-M33 application processor with 1 MB Flash & 512 KB RAM 64 MHz Arm Cortex-M33 network processor with 256 KB Flash & 64 KB RAM - Internal Antenna
	Audio Codec	AKM AK4558 Digital Sigma-Delta CODEC 32Bit 108dB Dynamic Range S/N DAC 100dB S/(N+D) DAC
Hardware	Flash	32MBit QSPI Flash
	Voltage	5Vdc Operating Voltage
	Bluetooth	Bluetooth Core 6.2
	USB	USB-C Connector: 5VDC, Audio I/O, AT Control
	Analog Audio	Via AKM4558 Codec: 3.5mm TRS Stereo Line input, 3.5mm TRS Stereo Line output
	I/O	40-pin header (2x20 2.54mm pitch): I2S In/Out, Line Audio In/Out, USB, I2C, SPI, UART x2, GPIO x 5, PDM multiplexed with GPIO pins, +5V DC
	Inputs	Pushbutton Control
	LED	2-color green/blue LED
	Programming	SWD Programming Interface
	Analog/PCM Audio	- nRF5340 I2S Controller --> AK4558EN I2S Target --> Line Out - Header I2S Controller --> BL5340 I2S Target --> LE Audio - Line In --> AK4558EN I2S Controller --> BL5340I2S Target --> LE Audio
Aurawave	Discover Auracast streams in Sink/Receiver mode	
	Factory reset	
	Enter firmware upgrade mode	
	See Aurawave AT Interface Specification for more information.	
	1 x Broadcast isochronous group, up to 2 Subgroups	
	Encode up to 2 audio input channels simultaneously	
	2 x Broadcast Isochronous Streams with one audio channel per BIS	
	Configurable BAP Audio Locations (Mono, Left, Right, Center, etc.)	
	Configurable Audio Language and Stream Name	
	Broadcast Encryption	
Aurawave	Output audio over USB, I2S, or Analog 3.5mm jack	
	True Wireless Audio support (1 AW100 per channel)	
	Persist receiver mode to flash, search for stream at power-on.	
	Basic Audio Profile (BAP) - Broadcast Source / Sink	
	Bluetooth Core 6.2	

Ordering Information – AW100 Series Modules

Ezurio Part #	Cloud2GND Part #	I/O Option	Antenna Option	Availability
453-00068-K2	AW100PA-A-INT	Analog + Digital	Internal	Digikey, Mouser
453-00068-K3	AW100PA-D-INT	Digital Only	Internal	Digikey, Mouser
TBC	AW100PA-A-EXT	Analog + Digital	External	Special Order

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