

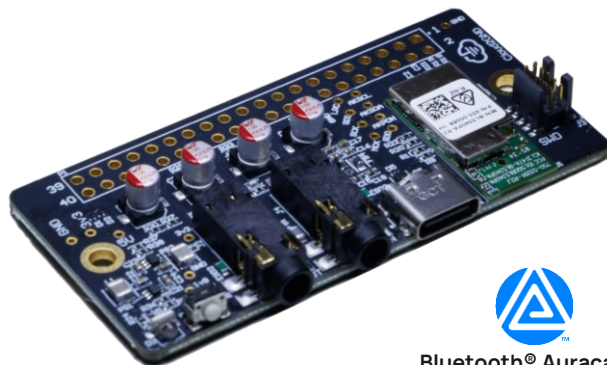
## High Quality Auracast™ Audio – Powered by Cloud2GND and Ezurio!

The primary function of the **Aurawave AW100 series** modules when combined with the **Aurawave Audio Framework AT** command software is to serve as an **Auracast™** transmitter, enabling the wireless broadcasting of high-quality audio to multiple Bluetooth receivers simultaneously.

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.

Get started with your Broadcast audio experience with the AurawaveAW100:

- Simple and easy to use, in both HW and SW
- You don't need to be an LE Audio expert!
- Reduce your time to market
- Minimize your design risk and certifications
- From development board to prototypes to volume – ready to go now.
- Need a tweak or customisations – no problem for the Cloud2GND team



## Key Features



### Bluetooth Core 6.0

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



### Audio Input & Output

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



### Easy AT Command Interface

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



### 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



### 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.



### Auracast™ Source Capability

Broadcast high-quality audio streams to multiple Bluetooth receivers simultaneously, supporting use cases in public and private environments



### 40 Pin Expansion Header

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



### 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



### 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



### Standalone Operation

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

## Specifications

Category	Feature	Specification
Aurawave	AT Command Interface	<ul style="list-style-type: none"> <li>• Configure audio inputs</li> <li>• Configure broadcast parameters</li> <li>• Selectable audio source per broadcast channel</li> <li>• Configuration persistence</li> <li>• Factory reset</li> <li>• Enter firmware upgrade mode</li> <li>• See Aurawave AT Interface Specification for more information.</li> </ul>
	Audio Source Options	<ul style="list-style-type: none"> <li>• 2 Channels of Analog I/O at 48kHz or 16kHz sampling rate</li> <li>• 2 Channels of Digital Audio via USB at 48kHz sampling rate</li> </ul>
	Auracast™ Transmitter (Public Broadcast Profile)	<ul style="list-style-type: none"> <li>• Standard Quality Broadcast (16kHz) <ul style="list-style-type: none"> <li>– Low latency: 16_2_1,</li> <li>– High reliability: 16_2_2</li> </ul> </li> <li>• High Quality Broadcast (48kHz) <ul style="list-style-type: none"> <li>– Low latency: 48_2_1</li> <li>– High reliability: 48_2_2</li> </ul> </li> <li>• 1 x Broadcast isochronous group, up to 2 Subgroups</li> <li>• Encode up to 2 audio input channels simultaneously</li> <li>• 2 x Broadcast Isochronous Streams with one audio channel per BIS</li> <li>• Configurable BAP Audio Locations (Mono, Left, Right, Center, etc.)</li> <li>• Broadcast Encryption</li> </ul>
	Supported Bluetooth LE Features & Roles	<ul style="list-style-type: none"> <li>• Public Broadcast Profile (PBP) - Public Broadcast Source</li> <li>• Common Audio Profile (CAP) - Initiator</li> <li>• Basic Audio Profile (BAP) - Broadcast Source</li> <li>• Bluetooth Core 6.0</li> </ul>
	Firmware Upgrade	<ul style="list-style-type: none"> <li>• Firmware upgrade via provided tools</li> </ul>
	Push Button Input	<ul style="list-style-type: none"> <li>• Factory Reset - Press and hold</li> <li>• Firmware upgrade mode - hold on boot</li> </ul>
	Custom Firmware / Feature Development	<ul style="list-style-type: none"> <li>• Additional services and custom support available.</li> </ul>
Hardware	Bluetooth Module	<a href="#">Ezurio BL5340PA Series Module:</a> <ul style="list-style-type: none"> <li>• <a href="#">Nordic nRF5340</a></li> <li>• <a href="#">Nordic nRF21540 Front End Module</a></li> <li>• 128/64 MHz Arm Cortex-M33 application processor with 1 MB Flash &amp; 512 KB RAM</li> <li>• 64 MHz Arm Cortex-M33 network processor with 256 KB Flash &amp; 64 KB RAM</li> <li>• Internal Antenna</li> </ul>
	Audio Codec	<a href="#">AKM AK4558 Digital Sigma-Delta CODEC</a> <ul style="list-style-type: none"> <li>• 32Bit</li> <li>• 108dB Dynamic Range S/N DAC</li> <li>• 100dB S/(N+D) DAC</li> <li>• 108dB Dynamic Range S/N ADC</li> <li>• 92dB S/(N+D) ADC</li> </ul>
	Flash	32MBit QSPI Flash
	Voltage	5Vdc Operating Voltage
Interfaces	Bluetooth	Bluetooth Core 6.0
	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): <ul style="list-style-type: none"> <li>• I2S In/Out</li> <li>• Line Audio In/Out</li> <li>• UWB</li> <li>• I2C</li> <li>• SPI</li> <li>• UART x2</li> <li>• GPIO x 5</li> <li>• PDM multiplexed with GPIO pins</li> <li>• +5V DC</li> </ul>
	Physical Input	Pushbutton Control
	LED	2-color green/blue LED
	Programming	SWD Programming Interface
	Analog/PCM Audio	<ul style="list-style-type: none"> <li>• nRF5340 I2S Controller --&gt; AK4558EN I2S Target --&gt; Line Out</li> <li>• Header I2S Controller --&gt; BL5340 I2S Target --&gt; LE Audio</li> <li>• Line In --&gt; AK4558EN I2S Controller --&gt; BL5340 I2S Target --&gt; LE Audio</li> </ul>
Physical	Dimensions	32 x 65 x 10mm (LxWxH)

## Ordering Information – AW100 Series Modules

Ezurio Part #	Cloud2GND Part #	I/O Option	Antenna Option	Availability
453-00068-K2	AW100PA-A-INT	Analog + Digital	Internal	Stock Q3 2025
TBC	AW100PA-D-INT	Digital Only	Internal	Special Order
TBC	AW100PA-A-EXT	Analog + Digital	External	Special Order
TBC	AW100PA-D-EXT	Digital Only	External	Special Order

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