

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 Aurawave AW100:

- 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.



Bluetooth® Auracast™



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"> Configure audio inputs Configure broadcast parameters Selectable audio source per broadcast channel Configuration persistence 	<ul style="list-style-type: none"> Factory reset Enter firmware upgrade mode See Aurawave AT Interface Specification for more information.
	Audio Source Options	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> Standard Quality Broadcast (16kHz) <ul style="list-style-type: none"> Low latency: 16_2_1, High reliability: 16_2_2 High Quality Broadcast (48kHz) <ul style="list-style-type: none"> Low latency: 48_2_1 High reliability: 48_2_2 1 x Broadcast isochronous group, up to 2 Subgroups 	<ul style="list-style-type: none"> 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.) Broadcast Encryption
	Supported Bluetooth LE Features & Roles	<ul style="list-style-type: none"> Public Broadcast Profile (PBP) - Public Broadcast Source Common Audio Profile (CAP) - Initiator 	<ul style="list-style-type: none"> Basic Audio Profile (BAP) - Broadcast Source Bluetooth Core 6.0
	Firmware Upgrade	<ul style="list-style-type: none"> Firmware upgrade via provided tools 	
	Push Button Input	<ul style="list-style-type: none"> Factory Reset - Press and hold Firmware upgrade mode - hold on boot 	
	Custom Firmware / Feature Development	<ul style="list-style-type: none"> Additional services and custom support available. 	
	Bluetooth Module	<p>Ezurio BL5340PA Series Module:</p> <ul style="list-style-type: none"> Nordic nRF5340 Nordic nRF21540 Front End Module 128/64 MHz Arm Cortex-M33 application processor with 1 MB Flash & 512 KB RAM 	<ul style="list-style-type: none"> 64 MHz Arm Cortex-M33 network processor with 256 KB Flash & 64 KB RAM Internal Antenna
Hardware	Audio Codec	<p>AKM AK4558 Digital Sigma-Delta CODEC</p> <ul style="list-style-type: none"> 32Bit 108dB Dynamic Range S/N ADC 100dB S/(N+D) DAC 	<ul style="list-style-type: none"> 108dB Dynamic Range S/N ADC 92dB S/(N+D) ADC
	Flash	32MBit QSPI Flash	
	Voltage	5Vdc Operating Voltage	
	Bluetooth	Bluetooth Core 6.0	
	USB	USB-C Connector: 5VDC, Audio I/O, AT Control	
Interfaces	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"> I2S In/Out Line Audio In/Out UWB I2C SPI UART x2 	<ul style="list-style-type: none"> GPIO x5 PDM multiplexed with GPIO pins +5V DC
	Physical Input	Pushbutton Control	
	LED	2-color green/blue LED	
	Programming	SWD Programming Interface	
	Analog/PCM Audio	<ul style="list-style-type: none"> 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 	
	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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