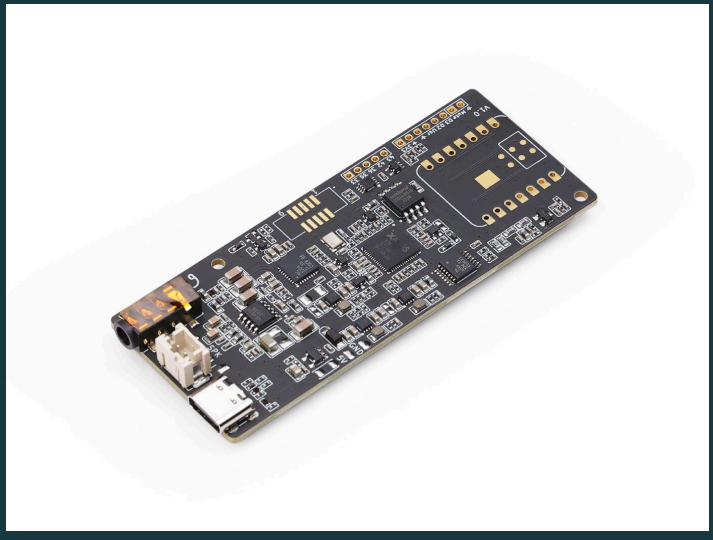
seeed studio

INDUSTRIAL PRODUCT DATASHEET

reSpeaker Lite - USB 2-Mic Array with Onboard AI Audio Processing Algorithms, compatible with Seeed Studio XIAO ESP32S3 (Sense), Raspberry Pi, Adafruit QT Py

Powered by XMOS XU316 AI Sound and Audio chipset, this dev board excels in audio processing with its integrated dual microphone array, ideal for speech recognition and voice control.

SKU	UPDATED	PRICE
107990273	2026-11-11 09:41:03	$24.90(Excl. VAT)



Overview



Powered by XMOS XU316 AI Sound and Audio chipset, this dev board excels in audio processing with its integrated dual microphone array, ideal for speech recognition and voice control. Featuring advanced onboard NLU algorithms, the XU316 chip provides interference cancellation, echo cancellation, and noise suppression. It supports I2S and USB connections and is compatible with Seeed Studio XIAO ESP32S3 (Sense), Adafruit QT Py, Raspberry Pi, and PC.

Key Features

01 **Dual Microphone Array for Far-Field Voice Capture**

The 2 high performance digital microphones capture and extract far-field speech and voice (up to 3 meters) even in noisy environments as it cancels point noise using two microphone input.

02 **Onboard Audio front-end Algorithms**

: Powered by XMOS XU-316 AI sound and audio chip, the kit includes Natural Language Understanding algorithms for Interference Cancellation (IC) , Acoustic Echo Cancellation, Noise Suppression, Voice-to-Noise Ratio (VNR), and Automatic Gain Control (AGC), enabling high quality voice capture.

03 **Embracing Open Source**

This board is compatible with popular hardware platforms (XIAO ESP32S3 (Sense), Adafruit QT Py) via I2S, and compatible with Raspberry Pi, PC via USB (Audio Class 2.0 (UAC2)).

04 **Onboard RGB LED**

The board features a programmable WS2812 RGB LED, supporting custom effects and offering a visual interface for your applications.

05 **External Power Supply Support**

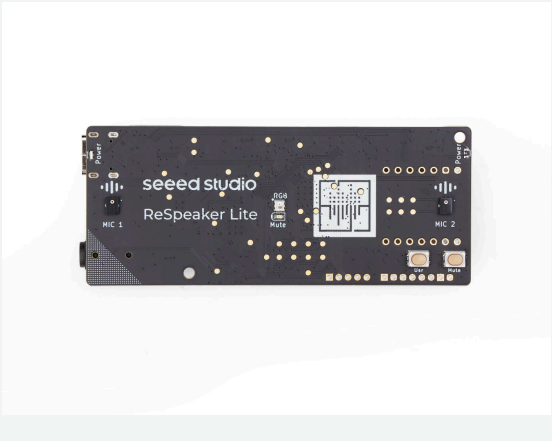
this board supports external 5V power supply, which can be flexibly applied in different scenarios.

06 **DFU for Custom Development**

the board supports custom firmware update via DFU-Util.

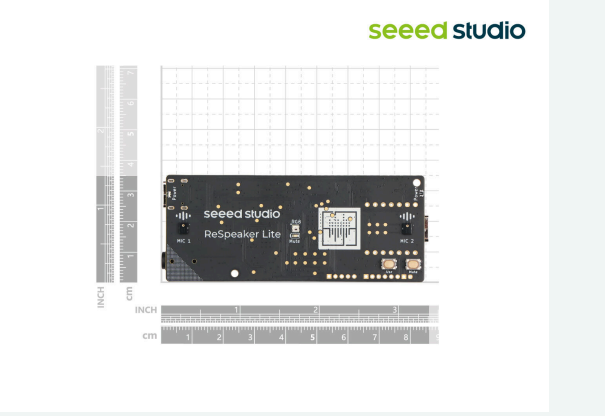
Product Gallery



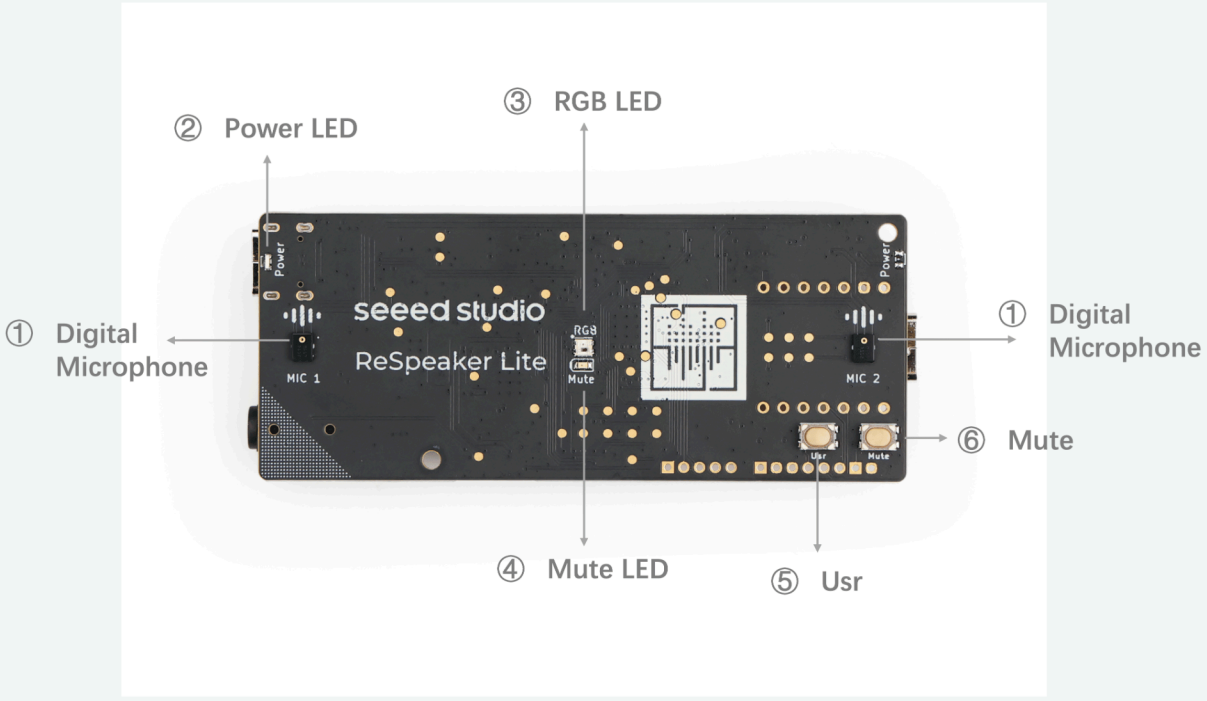


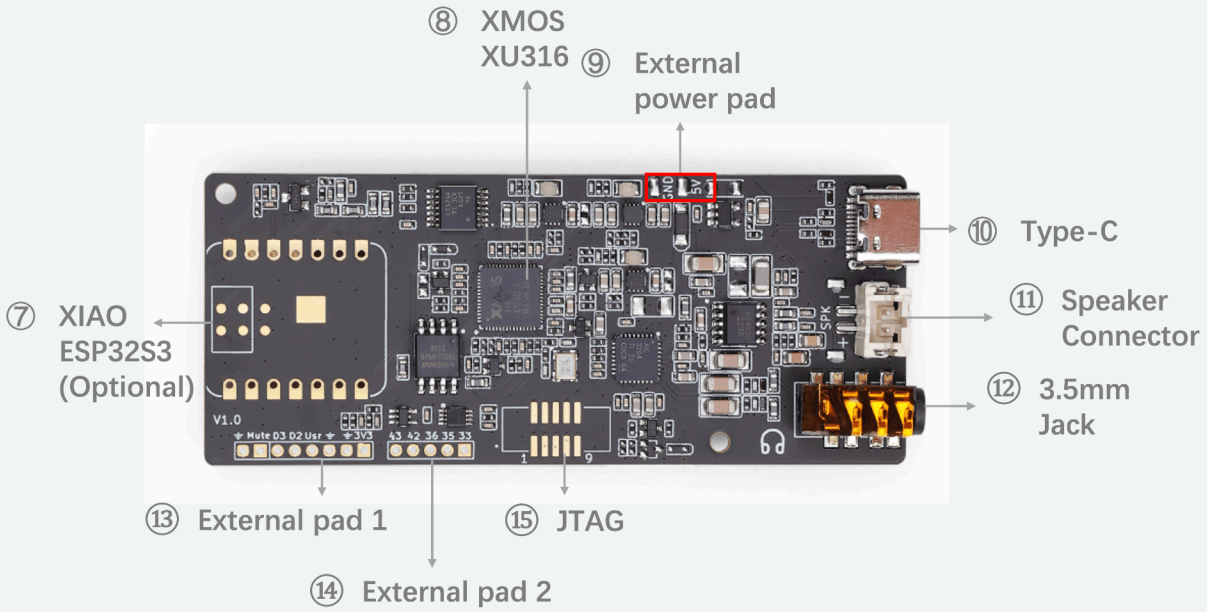


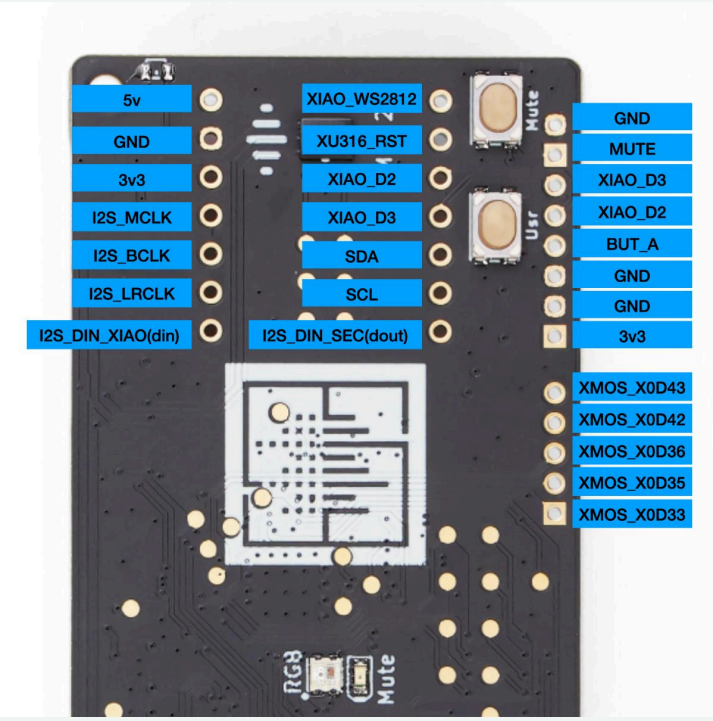




Hardware Overview







Applications

- Far-Field Voice Control
- Offline Voice Processing
- Local Command Processing
- Custom Wake-Up Words
- Low Power Voice Offload
- Industrial Voice Control
- Voice Recognition and Control for Home Assistant, Google Assistant, Amazon Alexa and more

Resource Links

- https://www.seeedstudio.com/ReSpeaker-Lite-p-5928.html
- reSpeaker Series Flyer
- Product-Brief of XMOS XU316
- reSpeaker Lite - CE certifications
- reSpeaker Lite - FCC certifications
- Schematic diagram of reSpeaker Lite

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