ATOM ECHO
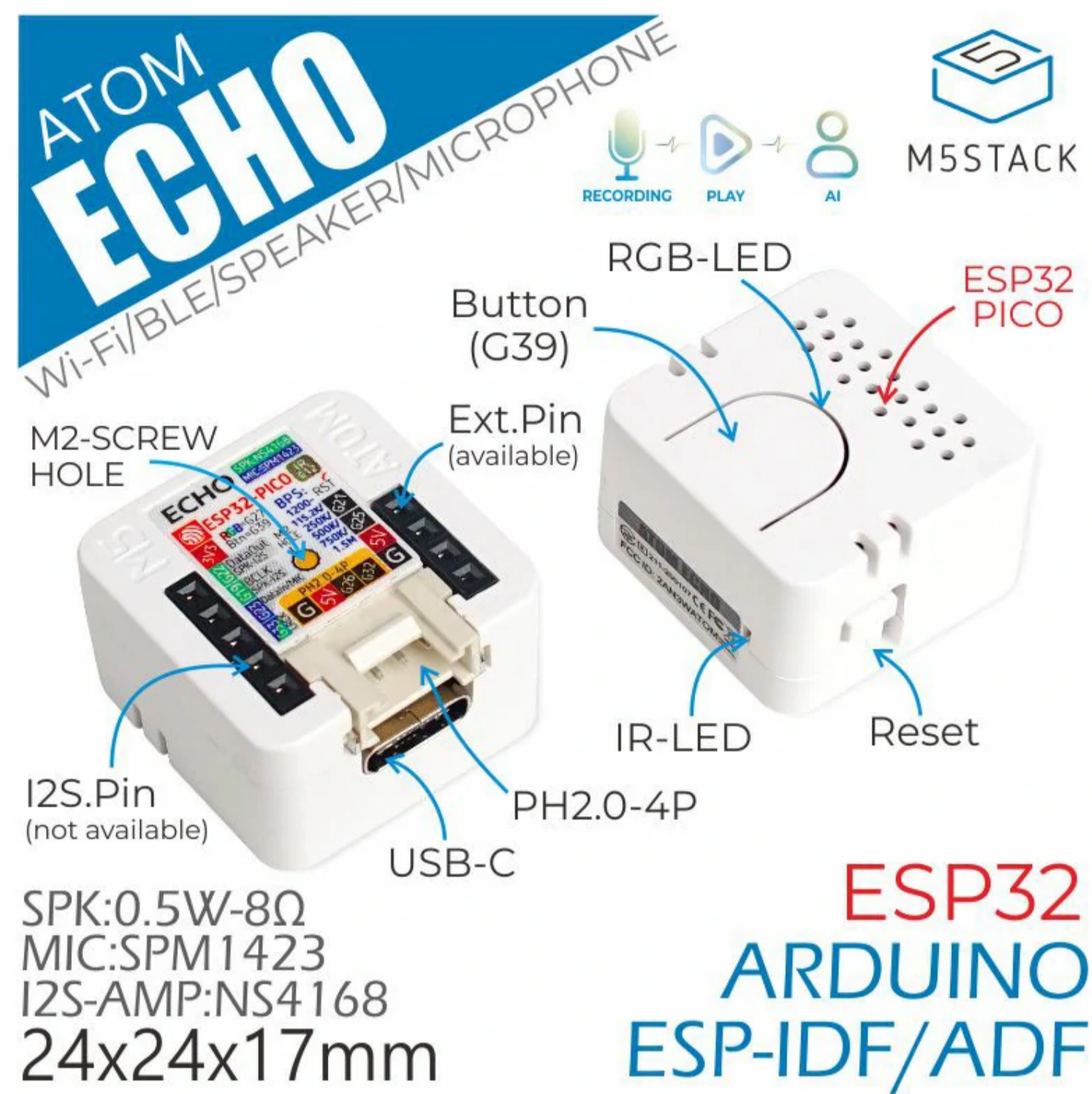
SKU:C008-C

Tutorial&Quick-Start

view the corresponding tutorial&quick-Start.

Bluetooth Speaker   EchoSTT Guide

Description

ATOM ECHO is a Programmable Smart Speaker based on the M5ATOM design. Its form factor is very small, its dimensions are only 24 * 24 * 17 mm. Music can be played using the bluetooth capabilities of the ESP32 from a mobile phone or tablet. The device could be programmed to access AWS, Baidu and other cloud platforms, using the built-in microphone and speaker for voice interaction, so that ATOM ECHO has certain AI capabilities, realizing voice control, story telling, Internet of things and other functions. The speaker is embedded with an RGB LED (SK6812), which can visually display the connection status. In addition to being used as a Bluetooth speaker, it still has the control ability of Atom series.Screw hole on the back is convenient for users to fix.

> **Note: please avoid such conditions with M5Stack Atom Echo.**

- DC output from I2S channel
- Playing white noise for a long time
- Playing full square-wave audio

ATTENTION

Please avoid such conditions with M5Stack Atom Echo:

- **DC output from I2S channel.**
- **Playing white noise for a long time.**
- **Playing full square-wave audio.**

Product Features

- Light and small
- Support STT services
- Based on ESP32, Support A2DP, BLE 4.0

- 2.4G WiFi IEEE 802.11b/g/n
- Built-in microphone and speaker
- RGB LED status display indication
- GROVE extension interface
- Record and playback
- Programmable key
- Programming platform:Arduino、ESP-IDF/ADF

Include

- 1x ATOM ECHO

Applications

- Bluetooth Speaker
- Voice control
- IoT

Specification

Resources	Parameter
SoC	ESP-PICO-D4,240MHz,Dual Core,BLE,Wi-Fi
Flash	4MB
Interface	1x IR-TX,1x Function Button,1x Reset Button
PinOut	G21/G25/5V/GND, 3V3/G22/G19/G23/G33
RGB LED	SK6812
Speaker	0.5W/NS4168 I2S
Micphone	SPM1423 PDM
Net weight	5g
Gross weight	10g
Product Size	24*24*17mm
Package Size	63*63*12mm
Case Material	Plastic (PC)

G19 / G22 / G23 / G33 has been defined, please do not reuse the above pins, otherwise ATOM ECHO will be damaged.

EasyLoader
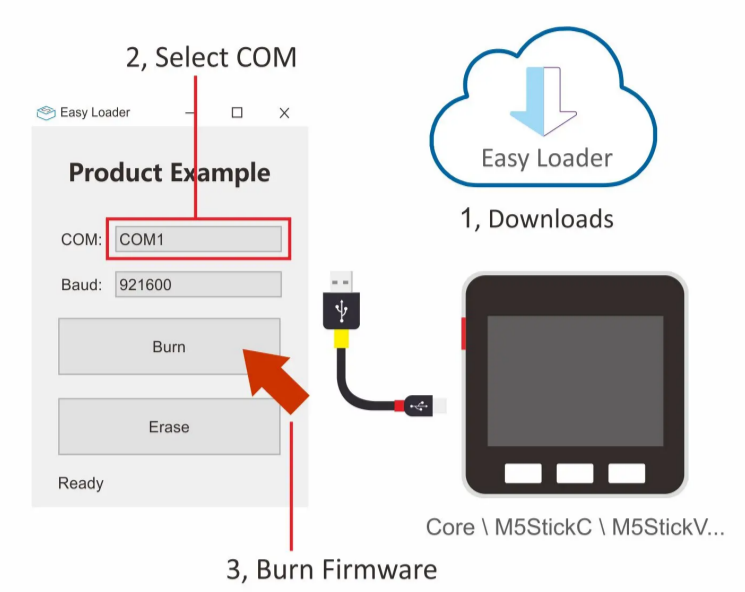
Windows   MacOS

Peripherals Pin Map

DataOut	BCLK	DataIn	LRCK	RGB	Btn
G22	G19	G23	G33	G27	G39

Related Link

- Datasheet
  - SPM1423
  - ESP32-PICO-D4
  - NS4168

Schematic

ATOM ECHO
C008-C
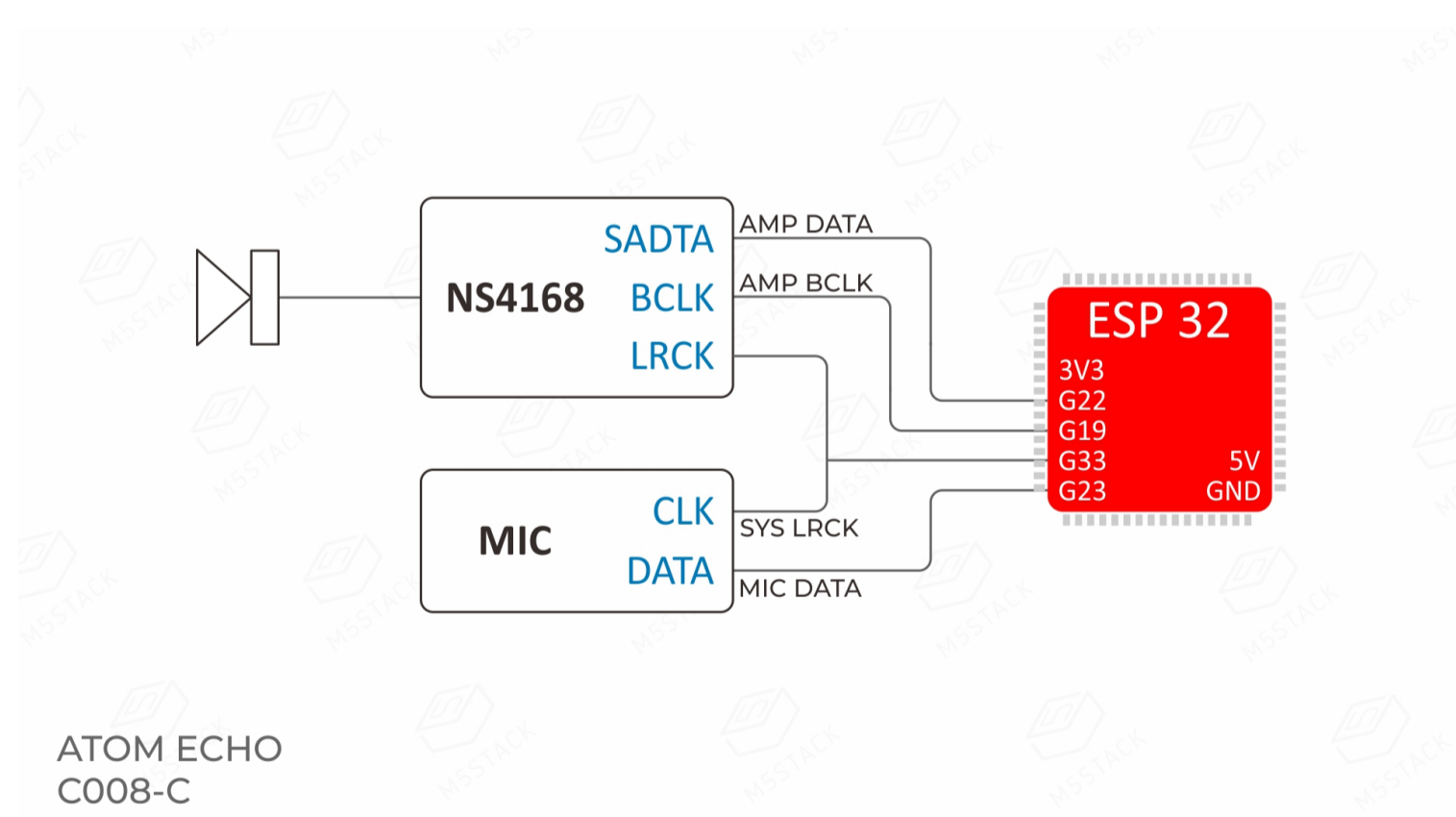
Usage

The factory default firmware is Bluetooth speaker, which uses A2DP protocol to transmit audio data (call reception is not supported). After power on, the red LED will be displayed. When the connection with Bluetooth device is established, the LED will turn green. At this time, the sound can be output through atom echo. The LED turns red when disconnected. The firmware is compiled on the esp-idf platform. If senior users need to develop other functions by themselves, they can build the environment according to the official documents of Lexin. See the following links for the source code of factory firmware and bin file, where the BIN file burning address is 0x0000.

Example

1. Arduino

- FactoryTest
- Recoder&Replay

- StreamHttpMP3
- EchoSTT service

Tutorial

- Bluetooth Speaker
- EchoSTT Guide

Video

The following video is an example