A.IR Shield ESP8266/ESP32 TRx for AnalysIR

Features

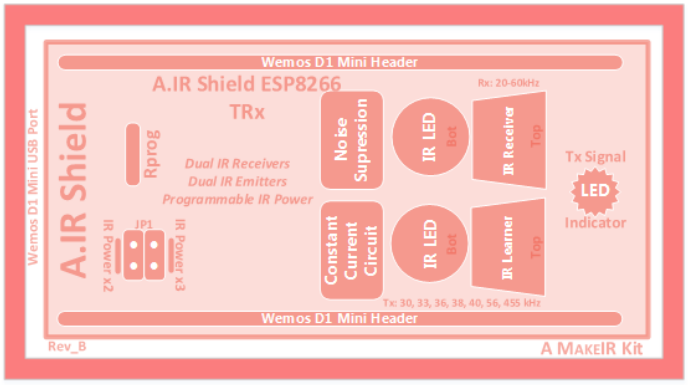
A.IR, the Advanced Infrared shield for ESP8266/ESP32 TRx includes:

- Configuration Options as:
  - x1, x2, x3+ IR Power
  - AnalysIR source device support with IR Tx & Rx
  - Dual Vishay IR emitters
- Noise suppression Rx circuit
- Visual IR Tx signal indicator.
- High quality IR Receiver
- High quality IR Learner
- Typical Rx Range: <45m
- 'Wemos' D1 Mini footprint
- Bonus Features:
  - Programmable IR power.
  - Hardware PWM carrier
- Wide 20kHz to 60kHz carrier frequency Rx bandwidth
- 20-60kHz & 455kHz carrier frequency Tx range
- Works via WiFi or Serial USB
- PCB Size: 26x25x15mm *(LxWxH)*

Applications

A.IR - the Advanced Infrared transceiver module for ESP8266/ESP32 can be used in the following:

- Use with AnalysIR for Tx & Rx
- Powerful IR emitters for extended range and quality
- High quality receiver modules for IR remote control
- Testing & monitoring
- Integration into 3rd party IR & non-IR projects
- Your own custom IR sketches by customising the supplied firmware.
- IRremote Supported.



A.IR Shield ESP8266/ESP32 TRx Overview

A.IR is a high-spec shield which operates seamlessly with AnalysIR, IRremote or your own custom sketches – supporting IR send and receive. Carrier frequency measurement and reporting is supported by AnalysIR. By default, A.IR is supplied with headers soldered and the AnalysIR firmware, for both ESP8266 & ESP32, is available for download after purchase. Users can load any custom sketch onto A.IR using the standard Arduino IDE by reusing the supplied firmware. The A.IR shield works over the serial USB interface or WiFi.

A.IR allows makers, hobbyists and professionals record and send a large range of IR signals using quality Vishay IR components and excellent design features. A.IR provides excellent reception range and signal quality. It is powered directly from the Wemos D1 Mini and makes use of the available on-board supplies.

Wemos D1 Mini Ready!

What is the A.IR Shield ESP8266/ESP32 TRx

A.IR is made up of the following key components:

- The A.IR shield with integrated high quality IR receivers, which can provide a range of functionality from IR decoding, remote control or measurement of IR carrier frequency.
- A Wemos D1 Mini or pin-compatible clone, into which the shield plugs and which makes use of the Arduino IDE. *(not included)*
- Dual high-power IR emitters backed up by a power selection header – providing an effective selection of x1, x2, x3+ IR power levels**.** (IR current of 104mA, 184mA, 221mA with single IR emitter or 208mA, 368mA, 442mA equivalent with Dual IR emitters).

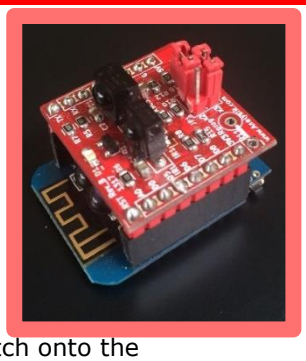
A.IR is an excellent companion device for any project and is specifically designed to work as a plug and play solution with AnalysIR. It will also operate with most other IR projects.

A.IR uses the best design and IR components for modern Infrared remote control ensuring optimum performance in all environments.

Advanced Infrared Transceiver — A.IR Shield ESP8266/ESP32 TRx

Product Datasheet

What's Included



Each A.IR shield is configured with high quality IR components, from Vishay, to ensure the best quality & performance. You can opt to have the receivers, emitters and headers soldered or not *(subject to availability).* They come pre-soldered by default. A.IR now comes with firmware, ESP8266 & ESP32, for operation with AnalysIR, which provides the best performance. Users can easily load any other compatible sketch onto the ESP8266/ESP32. *Note: Wemos D1 Mini not included.*
A getting started guide is also provided, with every order.
The A.IR Shield ESP8266/ESP32 TRx is also pin compatible with the ESP32 Mini D1. Firmware & AnalysIR support for both the ESP8266 and ESP32 Mini D1 is available now & provided with each purchase.

Develop your own Custom Applications

Although the shield was designed for use with AnalysIR you can create some interesting projects using the shield by extending the supplied firmware. For example:

- Networked remote - controlled from your Phone.
- Control devices remotely over the Internet.
- Logging of IR commands to cloud storage, EEPROM/SD or external Flash.
- Control AIR Conditioners in homes and workplaces.
- Integrate with basic and advanced home entertainment systems, including Alexa type devices.

In order the get the maximum benefit from the shield we recommend picking up a copy of AnalysIR, which will save many hours in trying to understand & troubleshoot your IR signals.

Licensing Model & Purchase

The A.IR shield ESP8266/ESP32 TRx, is supplied under a single licence which covers both non-commercial and commercial use of supplied hardware & software with an original A.IR shield. You can purchase your own A.IR module via: http://www.ANALYSIR.com/ and other outlets. The A.IR shield design & hardware is also available for integration into 3rd party systems or bundling with kits. Custom designs are possible with bulk orders.
Any trade-marks referenced in this document are the property of their respective owners. *In particular, there is no commercial relationship or endorsements between AnalysIR and Vishay, any Wemos entity, Amazon or IRremote.*

Service and Support

Support is provided for the A.IR shield via email or our on-line IRforum. Contact details for support are provided at time of purchase. Support is available only using your registered email address.

A MAKEIR Kit

A.IR Shield ESP8266/ESP32 TRx is part of the MAKEIR series which comprises a range of innovative infrared remote control modules for makers, hobbyists & professionals.
(Available now – visit www.ANALYSIR.com for more details)

Minimum Requirements

- An A.IR Shield ESP8266/ESP32 TRx
- A Wemos D1 Mini with headers or clone *(not included)*
- A PC or equivalent with USB and/or WiFi/LAN connection.
- A WiFi network
- Power Supply, usually via USB. (5v)
- Arduino IDE1.6.5 or later

Quality IR Components

A.IR uses the highest quality infrared components available from Vishay.

Carrier Frequencies

A.IR supports all of the common IR receiver carrier frequencies: 30kHz, 33kHz, 36kHz, 38kHz, 40kHz, 56kHz at the Infrared 940nm wavelength (i.e. 20-60kHz). In addition, the emitter can transmit at 455kHz.

IR formats

A.IR works with all common modulated remote control signals and formats, including very long Air Conditioner signals, which covers the vast majority of systems in the market. It performs very well with difficult signals.

What is Included

- 1 x A.IR Shield ESP8266/ESP32 TRx
- 2 x IR on-board emitters
- Getting started instructions.
- A.IR ESP8266/ESP32 TRx firmware sketch for AnalysIR.
- Example firmware for sending & receiving IR signals.
- IRremote library supported
- Online Support.

About ANALYSIR

ANALYSIR is committed to providing leading edge Infrared solutions & technology to our Maker, Hobbyist, EDU and Professional users globally.

03-October-2017

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