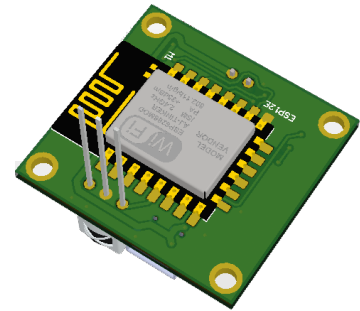




KS019 Wifi IR Remote

• DESCRIPTION

The KS019 Wifi IR Remote Board is a compact, USB-powered infrared transceiver module based on the Espressif ESP8266 (ESP-12E) Wi-Fi SoC. It can receive and decode infrared remote control signals (NEC, Sony SIRC, Panasonic, Coolix, and others) and transmit/replay IR commands to control TVs, air conditioners, AV receivers, and other IR-controlled appliances. Onboard USB-to-serial (CH340G) allows direct programming from the Arduino IDE, and the board can be controlled remotely over Wi-Fi via MQTT, enabling integration with home automation platforms such as Home Assistant and openHAB.



• FEATURES

- ESP8266 (ESP-12E) Wi-Fi microcontroller
- Onboard IR receiver (TL1838) for capturing and decoding remote signals
- Onboard 940nm IR LED for transmitting/replaying IR commands
- USB Micro-B powered, with onboard CH340G USB-to-UART for programming
- Onboard 3.3V regulation (AMS1117-3.3)
- Wi-Fi / MQTT remote control support
- 3x status LEDs (red/green/yellow)
- Arduino IDE compatible (IRremoteESP8266 library)
- 10m operational range (line of sight)

• ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Supply voltage	V_{IN}	4	5	6	VDC
Supply current	I_{IN}	15	80	300	mA
Digital high level input voltage	V_{IH}	2.3	3.3		V
Digital low level input voltage	V_{IL}		0	0.9	VDC
IR operational range			10		m

• ARDUINO OPERATION

The KS019 can be programmed using the Arduino IDE with the ESP8266 board package. The onboard CH340G provides USB-to-serial programming over the USB Micro-B connector. Example sketches for receiving, decoding, and transmitting common IR protocols (NEC, Sony SIRC, Panasonic, and others) are provided in the project firmware repository:

<https://github.com/LekElectronics/Wifi-IR-Remote>

Arduino IDE Setup

- Add the ESP8266 board package: File → Preferences → Additional Boards Manager URLs → http://arduino.esp8266.com/stable/package_esp8266com_index.json
- Install “esp8266” (by ESP8266 Community) via Tools → Board → Boards Manager
- Select Tools → Board → esp8266 → Generic ESP8266 Module (or NodeMCU 1.0)
- Install the CH340G USB driver if the board’s serial port is not automatically detected
- Install the “IRremoteESP8266” library via Sketch → Include Library → Manage Libraries

Pin Usage

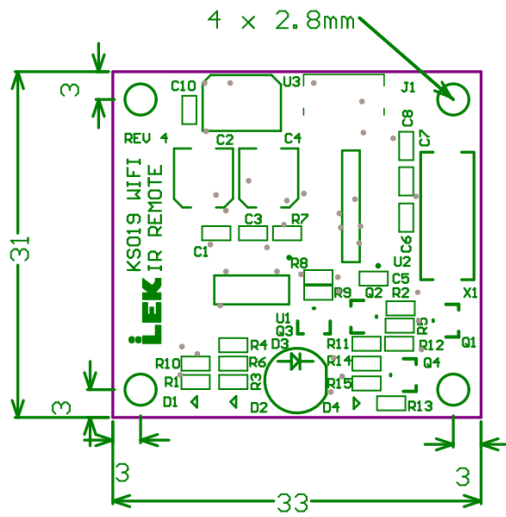
- IR receiver (TL1838) signal: GPIO14
- IR transmit LED: GPIO16
- Status LED: GPIO5

Example Sketches

- IRrecvDemo — basic IR receive/print example
- IRrecvDumpV2 — detailed protocol decode tool used to identify an unknown remote’s protocol, bits, address, and command
- Protocol-specific send sketches (e.g. SonySend, PanasonicSend, MideaSend) — replay captured IR codes to control real devices

- **PACKAGE DIMENSIONS**

(ALL DIMENSIONS IN MM)



- **SCHEMATIC**

