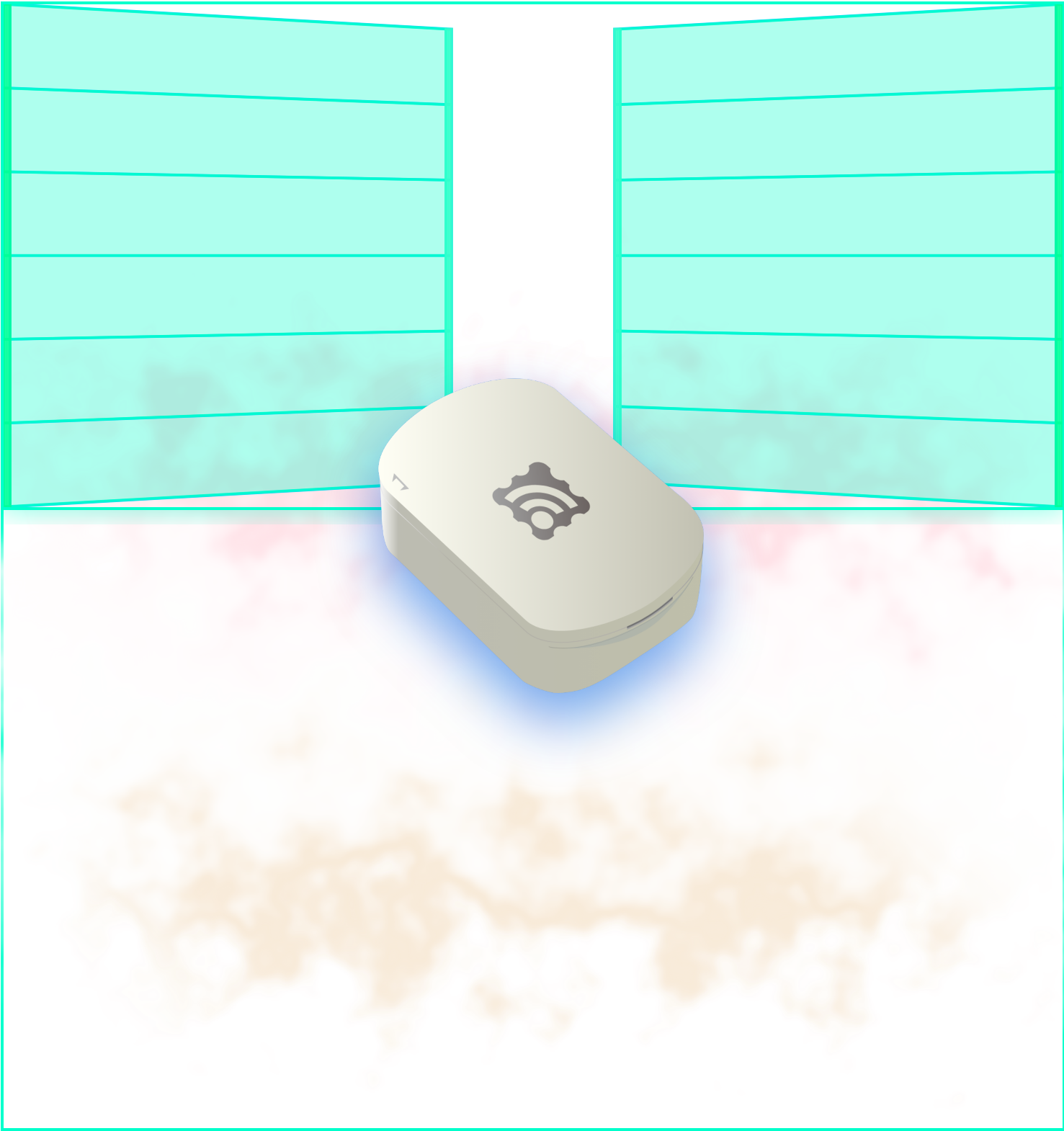




TWELITE ⇄ Wireless LAN Gateway
TWELITE SPOT

Twilight
TWELITE This device connects your network () to a wireless LAN. It allows communication



When connected to a USB power source, it starts operating in its initial state, but it can be customized using the ESP32 development environment.



Product name: TWELITE SPOT

Model number: MW-B-SPOT-0

JAN: 4589512171423

Transmission output



Standard output



High output

antenna



Circuit board antenna

Initial app



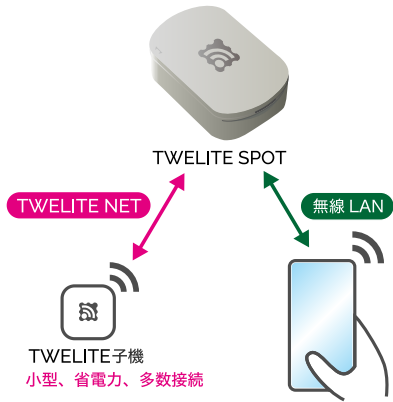
APP_Wings



Flyer

To make it happen

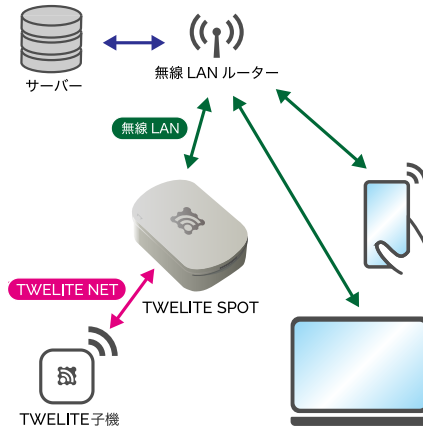
This wireless microcontroller, which is small, power-efficient, and can connect to numerous client devices, is ideal for wireless devices. By connecting it to a wireless LAN, it becomes possible to



Standalone communication

Server Function

Twilight Spot
TWELITE SPOT By using it as a web server, you can connect to a wireless LAN with your PC or smartphone and read sensor information from the TWELITE client device or control the TWELITE client device using a browser.

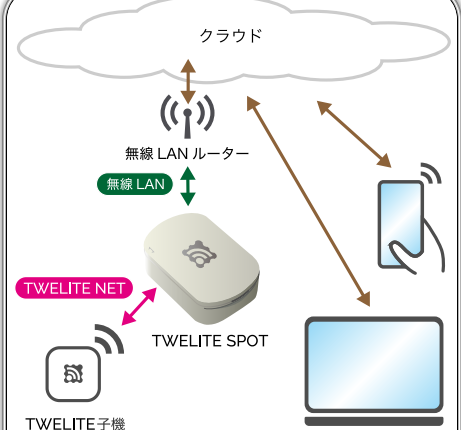


Local communication

Router function

Twilight Spot
TWELITE SPOT This allows data exchange between TWELITE client devices and terminals on the LAN.

Within the LAN, you can read sensor information from TWELITE client devices using a browser on your PC or smartphone, and control TWELITE client devices from your PC or smartphone.



Cloud communication

Cloud connectivity

Twilight Spot
TWELITE SPOT By using this, data can be exchanged via the cloud, enabling IoT.

Sensor information from TWELITE slave units can be read via the internet using a browser on a PC or smartphone, and TWELITE slave units can be controlled from a PC or smartphone.

Features

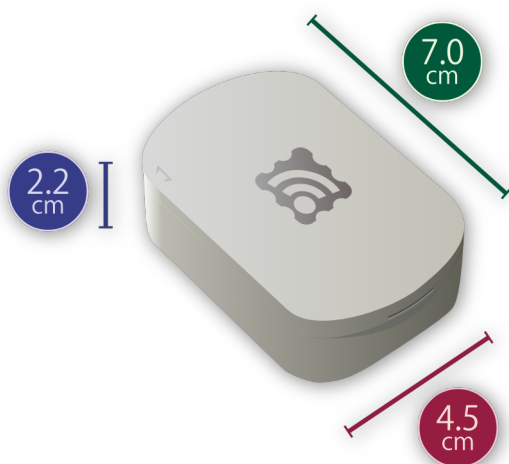
- 👍 Functions as a TWELITE base station or repeater.
- 👍 Wireless LAN connectivity available
- 👍 Power is supplied via the USB-C connector.



The source code can be edited and built using a software development environment (SDK).

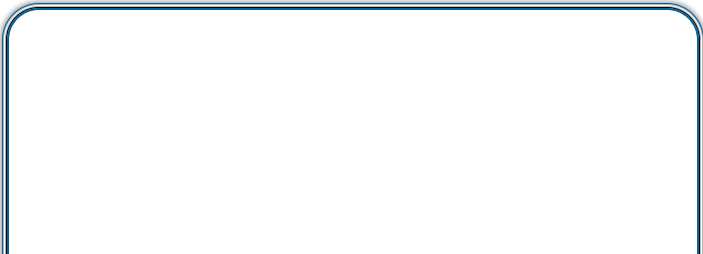
👍 The software can be rewritten by connecting the separately sold TWELITE R to the 7P interface.

Outline drawing

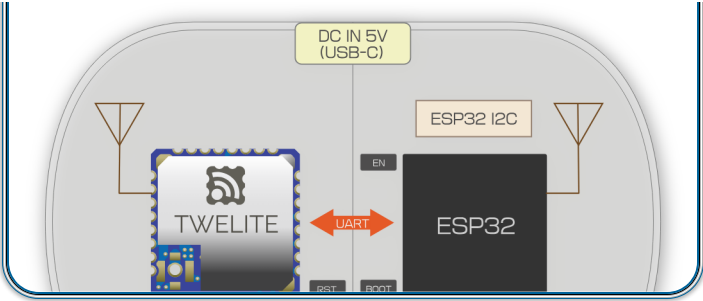




Block diagram



Twilight Spot
TWELITE SPOT It is equipped with a wireless microcontroller and an ESP32 microcontroller with wireless LAN capabilities.



specification

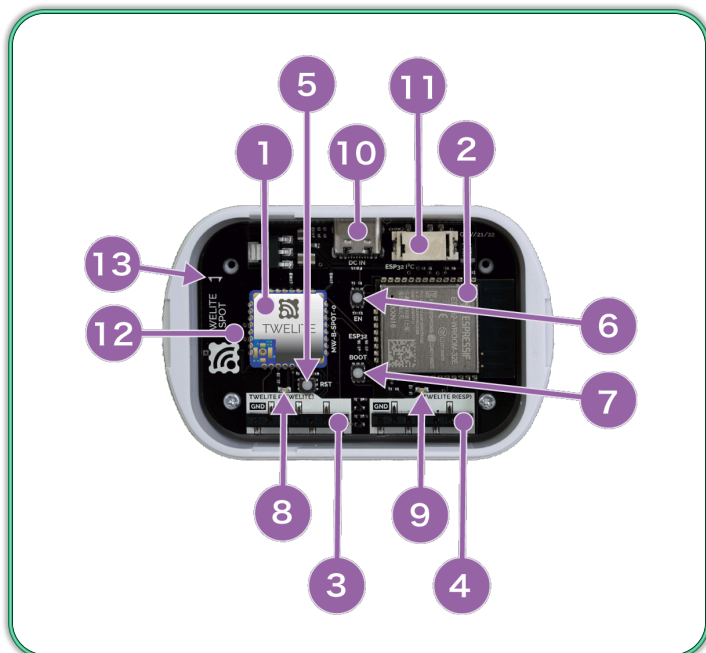
size	45 x 70 x 22 cm
weight	32.5 g
Power supply voltage	5V (USB-C connector)

TWELITE Radio Department	
module	Monowireless TWE-L-WX
SoC	NXP JN5164
memory	32KB SRAM 160KB Flash
Wireless standards	IEEE802.15.4

ESP32 radio section	
module	Espressif Systems ESP32-WROOM-32E
SoC	ESP32-D0WD-V3
CPU	Xtensa LX6 240MHz
memory	520KB SRAM 16MB Flash



Explanation of each part



- 1 TWELITE
- 2 ESP32
- 3 7P interface
- 4 7P interface (ESP32)
- 5 Reset switch (TWELITE)
- 6 Reset switch (ESP32)
- 7 Boot switch (ESP32)
- 8 TWELITE LED
- 9 LED (ESP32)
- 10 USB-C connector (5V power supply)
- 11 Globe connector (ESP32)
- 12 Circuit board antenna
- 13 Antenna direction mark

1 TWELITE

Twilight
TWELITE This is a wireless microcontroller that reads sensor values and sends and

2 ESP32

This is the ESP32-WROOM-32E wireless communication module from Espressif



3 7P interface (TWELITE)

^{Twilighter}
TWELITE R This is the terminal for connecting to the ESP32. It's a standard interface used when writing applications. Interactive mode is not supported. (Application settings can be configured from the ESP32.)

4 7P interface (ESP32)

This is an interface for writing software to the ESP32. It allows you to connect [devices/devices]. ^{Twilighter}
TWELITE R

5 Reset switch (TWELITE)

Reset TWELITE.

6 Reset switch (ESP32)

This is the EN switch for the ESP32. It resets the ESP32.

7 Boot switch (ESP32)

This is the BOOT switch for the ESP32.

8 LED (TWELITE)

^{Twilight}
TWELITE This indicates the operating status.

9 LED (ESP32)

This shows the operating status of the ESP32.

10 USB-C connector (5V power supply)

This is a power supply connector. It only contains power; signal lines are not connected. Please input 5V.

11 Globe connector (ESP32)

It is connected to the I2C signals (IO21, IO22) of the ESP32.

12 Circuit board antenna

This is a circuit board antenna (MW-A-P1934). It's an antenna constructed from circuit patterns on a circuit board.



This indicates the polarization direction of the antenna.

How to use

^{Twilight} TWELITE SPOT ^{Spot} The ESP32 , when installed in this device, comes with the following software pre-installed at the time of shipment.^{Twilight} TWELITE

These software programs can be customized or rewritten.

This is necessary when rewriting .^{Twilighter} TWELITE R

TWELITE side

TWELITE: [Main unit/repeater app](#)
([App_Wings](#))

^{Twilight} ^{Net} TWELITE NET This is an application for communication between the device and a slave device. It communicates with the ESP32 via UART (serial communication) and exchanges data.^{Twilight} ^{Spot} TWELITE SPOT

Initial value	
frequency channel	18
Application ID	0x67720102



Please set the frequency channel and application ID of the connected client device to the same value. Communication will not be possible if the values are different.^{Twilight} ^{Spot} TWELITE SPOT

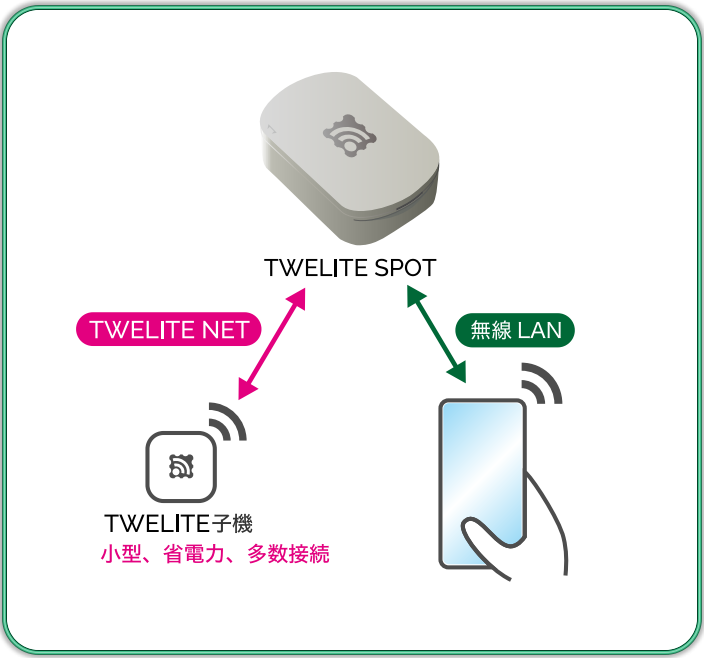


The default settings for TWELITE SPOT/DIP/CUE/ARIA are the same, so you can connect without changing any settings.



ESP32: [spot-server](#) (standalone communication sample)

^{Twilight} TWELITE ^{Spot} SPOT By using it as a web server, you can connect to the wireless LAN with your PC or smartphone and read the sensor information from the TWELITE slave unit using a browser.



Initial value	
SSID	TWELITE SPOT (XXXX)
password	twelitespot
IP address	192.168.1.1
hostname	spot.local

In TWELITE SPOT (XXXX), XXXX will display the model-specific ID.

You can make it work by following these steps.

Things to prepare



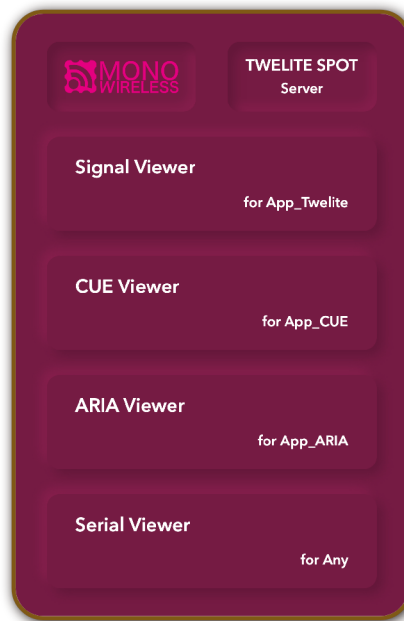
USB power supply

- USB cable (with a USB-C connector on one end)^{Twilight} TWELITE SPOT^{Spot}
- TWELITE handset (TWELITE DIP/CUE/ARIA, etc.)
- smartphone

Operating Procedure

- 1 ^{Twilight} TWELITE SPOT^{Spot} Connect the USB power supply and cable to supply power.
- 2 This supplies power to the TWELITE slave unit (TWELITE DIP/CUE/ARIA, etc.) with its initial settings.
- 3 Connect to "TWELITE SPOT (XXXX)" from your smartphone's Wi-Fi settings.
- 4 Open "spot.local" or "192.168.1.1" in your web browser.

The following page will appear in your web browser.

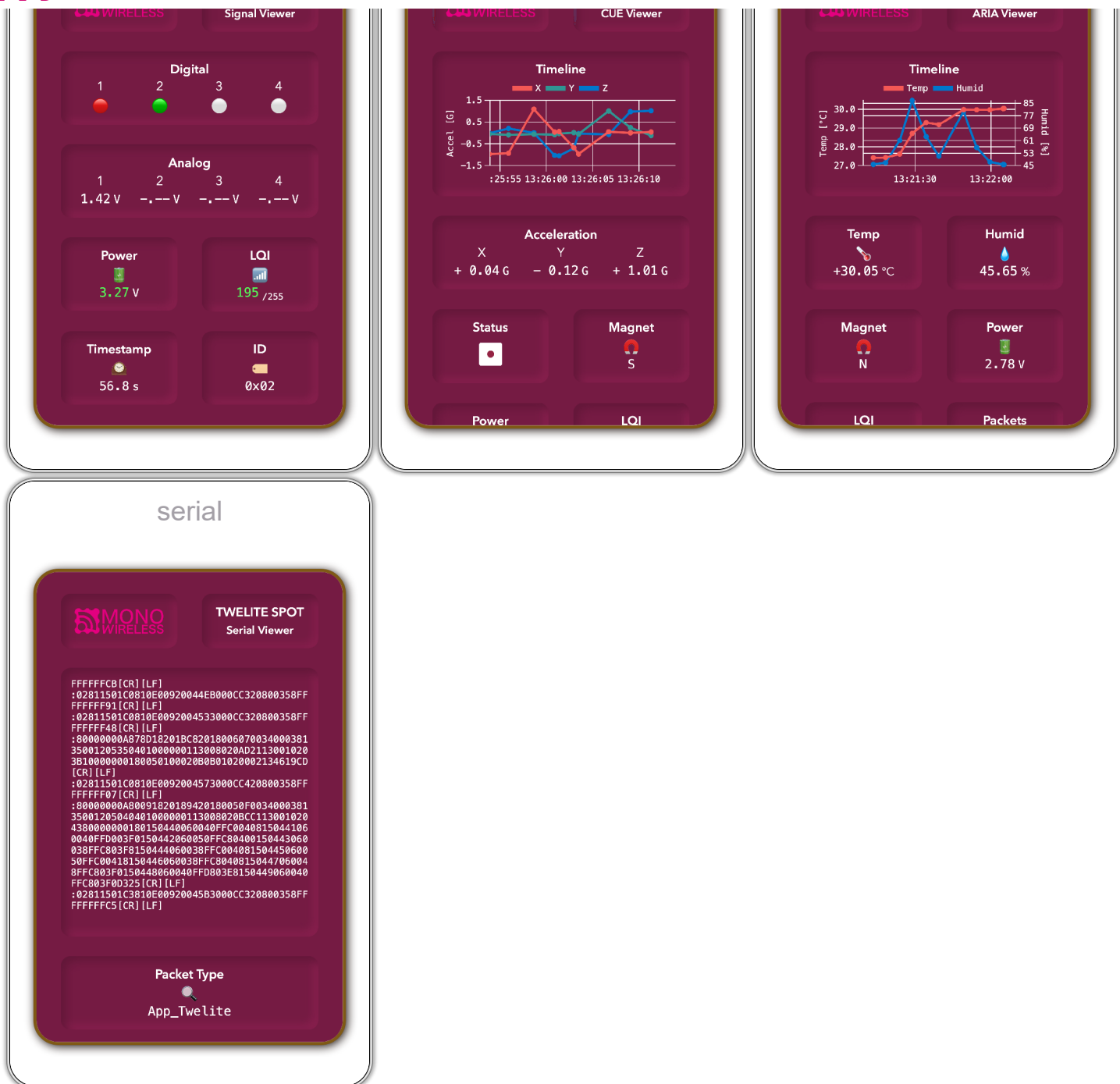


Selecting a viewer for a connected slave device will display the respective values.

App_Twelite

CUE

ARIA



ESP32 Libraries & Samples



used in this project is edited and developed using the Arduino IDE. Various libraries and sample code for UART communication with TWELITE are available as open source on GitHub.

Sample

- ^{Twilight} TWELITE ^{Spot} SPOT Connect it to a wireless LAN and use it as a web server to display sensor information from the TWELITE slave unit in a web browser.
- ^{Twilight} TWELITE ^{Spot} SPOT Use it as a router and connect the TWELITE client to the wireless LAN.
- Read and write sensor information from the TWELITE slave unit using Google Sheets.
- It behaves as a wireless LAN client and sends the data of the packets it receives to a mock server on the web, httpbin.org.

Please see [the Getting Started guide](#) for details .

[Start Guide >](#)

Online Manual

Start Guide

Please read this first before using the product.

data sheet

Hardware specifications are described here.

Graph display (ThingSpeak)

^{Twilight} [TWELITE AREA](#) ^{Aria} This explains how to send data received from a device to a server and display it as a graph on a remote terminal. This is a


[Start Guide >](#)
[data sheet >](#)

service to graph temperature and humidity data.

Graph display
(ThingSpeak) >

Wireless connection of things



Wireless
technology



Case Studies



How to choose



How to get started



small size



Energy saving



Maximum number
of connections



control



monitoring



Master unit



Repeater



Cordless handset

Evaluation and development environment



STAGE



STAGE APP



App settings



Application
rewriting



programming



Software

Frequently Asked Questions (FAQ)

For frequently asked questions from our customers and their answers, please see our "Frequently Asked Questions" section.



retailers

Monowireless products can be purchased at physical stores or online.

