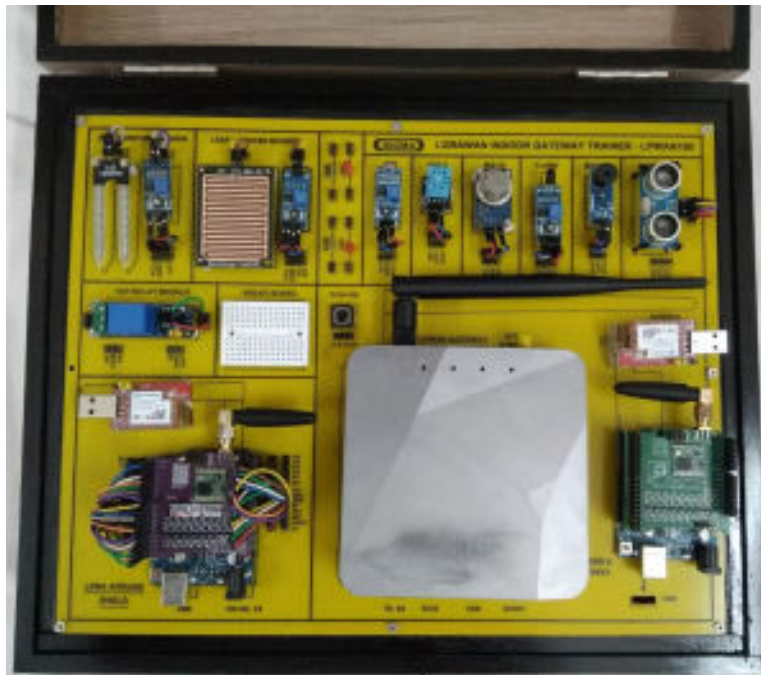




## **ESP32 LORAWAN IOT TRAINER**

### **MODEL-LORA-ESP-MINI100**

#### **SPECIFICATIONS**



This trainer has been designed with a view to provide practical and experimental knowledge of Internet of Things (IOT) with Sensors programming with ESP32 LoRaWAN IOT Board.

## **SPECIFICATIONS**

### **A. Main Specs**

1. Following Parts and Modules are assembled on Single PCB of size - 18 Inch x 15 Inch.
2. The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place.
3. The PCB with components on front side is fitted in elegant wooden box having lock and key arrangement.
4. Modules and Parts should be removable without desoldering for easy repair / replacement
5. The acrylic cover is fitted on PCB to safeguard main parts.

### **B. Micro Controllers**

1. Wifi IOT Gateway Module - ESP32 - WROOM : 1 No

### **C. Multiple Onboard Embedded Communication Protocols**

1. LoRaWAN®
2. Wi-Fi 802.11b/g/n Bit rate: 802.11n up to 150 Mbps
3. Bluetooth V4.2 BR/EDR
4. Bluetooth LE

### **D. Programming Examples**

1. Embedded C Programming

### **E. Tools Used**

1. Arduino IDE
2. STM8 Visual Programmer (STVP)
3. Serial Port Utility

## F. Other Parts

1. LED
2. SHT31 Temperature & Humidity Sensor
3. Digital GPIO
4. Analog GPIO
5. Rechargeable Circuit
6. Battery Over Charge Protection Circuit
7. 5V Booster for Battery Power with Software Enable / Disable option
8. Dedicated GPIO pin to read Battery Level
9. Switch to select Battery Power (or) External Power
10. Reverse Polarity Protection
11. Short Circuit Protection
12. ESD Protected Micro USB Port for Programming
13. LoRaWAN®- Class A & Class C Support
14. LoRaWAN® Activation Method - ABP & OTAA
15. 865 MHz LoRaWAN Antenna
16. 2600mAh Rechargeable Battery
17. USB Programming Cable

## G. Accessories

- |                                 |  |
|---------------------------------|--|
| 1. All Cables and Adaptors      |  |
| 2. Pen Drive                    | : 16 GB with All Codes and Soft copy of Manual     |
| 3. E-Books for IOT Subject      | : 100 Nos. in PDF Format                           |
| 4. Mp4 Video for IOT Subject    | : 100 Nos  |
| 5. Online Cloud/Server Services | : For 1 Years on Cloud Server                      |
| 6. Live Training at College     | : For 2 Days for 4 Hours per Day                   |
| 7. After Sale Training support  | : By Online Zoom Meeting or By Whatsapp Video Call |

## **EXPERIMENTS**

1. To explain theory of All Micro Controller Boards, All Wireless Gateways and All Sensors Parts
2. To measure all Sensors data using ESP32 Board
3. To setup and configure LoRaWAN Cloud Server
4. To send live Sensors Data to LoRaWAN Cloud and View on Website Page Dashboard
5. To send live Sensors Data to LoRaWAN Cloud and View on Android Mobile App
6. To send live Sensors Data to LoRaWAN Cloud and save on MySQL Cloud Server and then store and export it in xls file
7. To send Sensors data to Local Host Server, store and export it in xls file
8. To send Sensors data to Local Host Server and Display on website html page

## Contact us

### Registered Office

SIGMA TRAINERS AND KITS  
E-113, Jai Ambe Nagar,  
Near Udgam School,  
Drive-in Road,  
Thaltej,  
AHMEDABAD-380054. INDIA.

### Factory

SIGMA TRAINERS AND KITS  
B-6, Hindola Complex,  
Below Nishan Medical Store,  
Lad Society Road,  
Near Vastrapur Lake,  
AHMEDABAD-380015. INDIA.

### Contact Person

**Prof. D R Luhar – Director**

Mobile : 9824001168

Whatsapp : 9824001168

### Phones:

Office : +91-79-26852427

Factory : +91-79-26767512  
+91-79-26767648  
+91-79-26767649

### E-Mails :

sales@sigmatrainers.com

drluhar@gmail.com