



Smart Wireless Devices

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Smart devices and smart solutions

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Smart WIN Boards

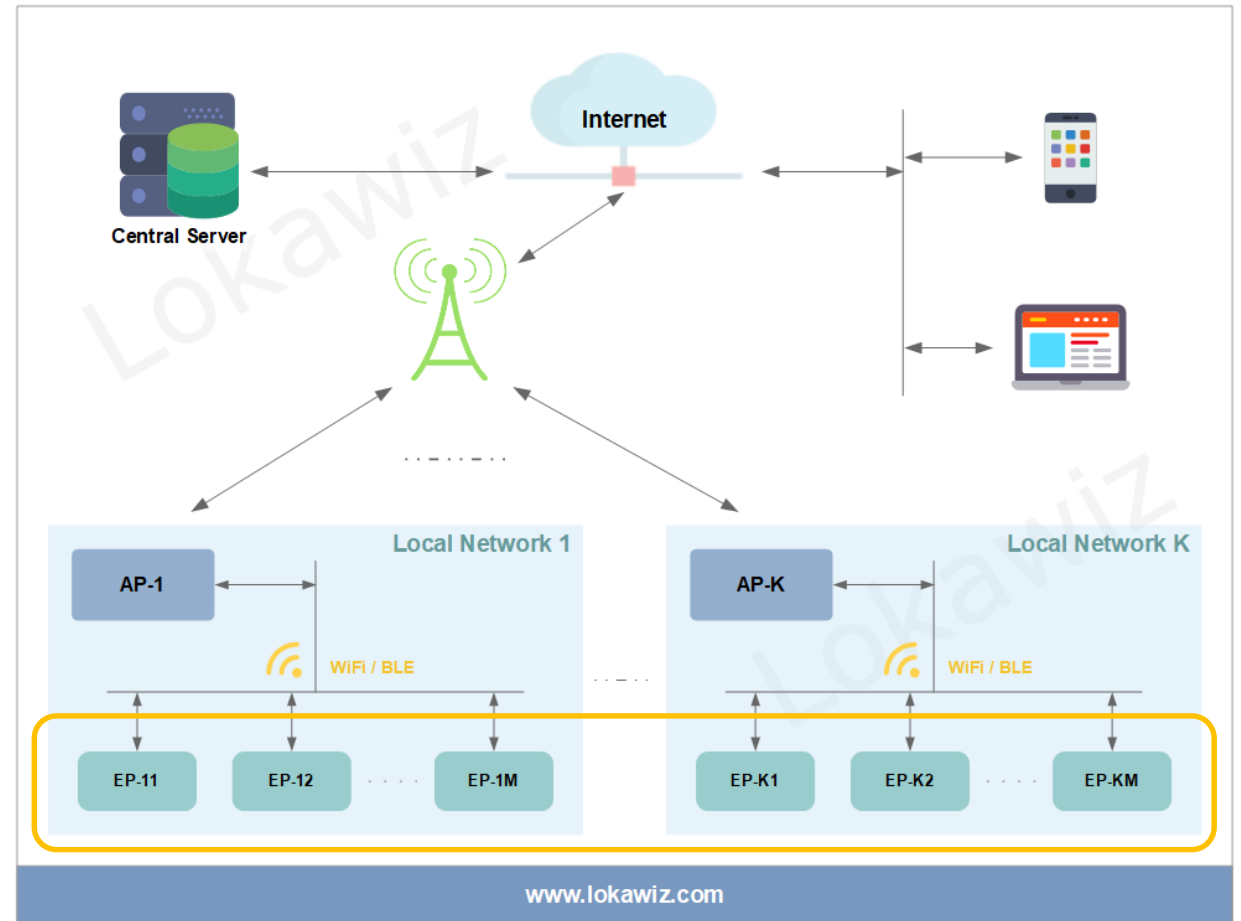
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Introduction

End Point (WiFi)

Summary

- Access Point, End Point and Central Server
- WiFi devices with 802.11 b/g/n configuration
- Range, Battery and Frequency
 - Long Range, Long Battery Life & Low Transmit Frequency or
 - Long Range, Short Battery Life & High Transmit Frequency.
- Designed for a range of home and industrial IoT applications
- Suitable for most WSN (Wireless Sensor Network) applications



General End Point (WiFi)

Features

- ▶ Size within 43x33mm²
- ▶ Temperature Range -40-85°C
- ▶ Board modules and features
 - ▶ Microcontroller & WiFi modem
 - ▶ Battery charging & monitoring
 - ▶ Power configurations – low & normal power modes
 - ▶ On board timer and voltage regulator
 - ▶ Program & config interfaces
 - ▶ Sensor & peripheral interfaces.
- ▶ To make a range of industrial & consumer IoT devices

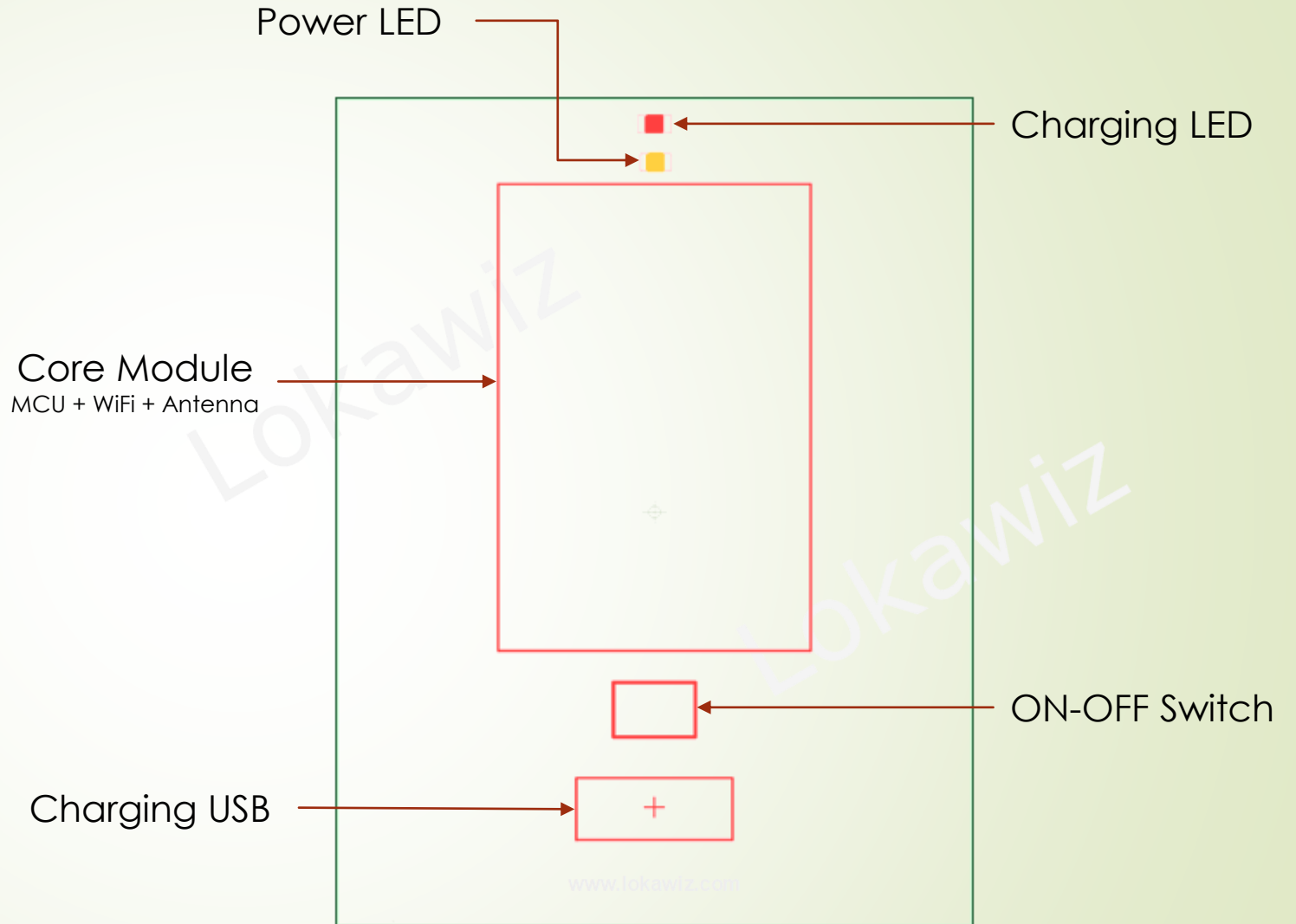


Modules

End Point (WiFi)

Core

- Power ON and Start-up indication
- Charging indication
- Integrated MCU + WiFi Module
- On board 2.5 GHz antenna
- Arduino based development environment
- Press ON - Hold OFF Switch
- Micro USB charging and external power interface
- Usable with available cell phone USB charging cable

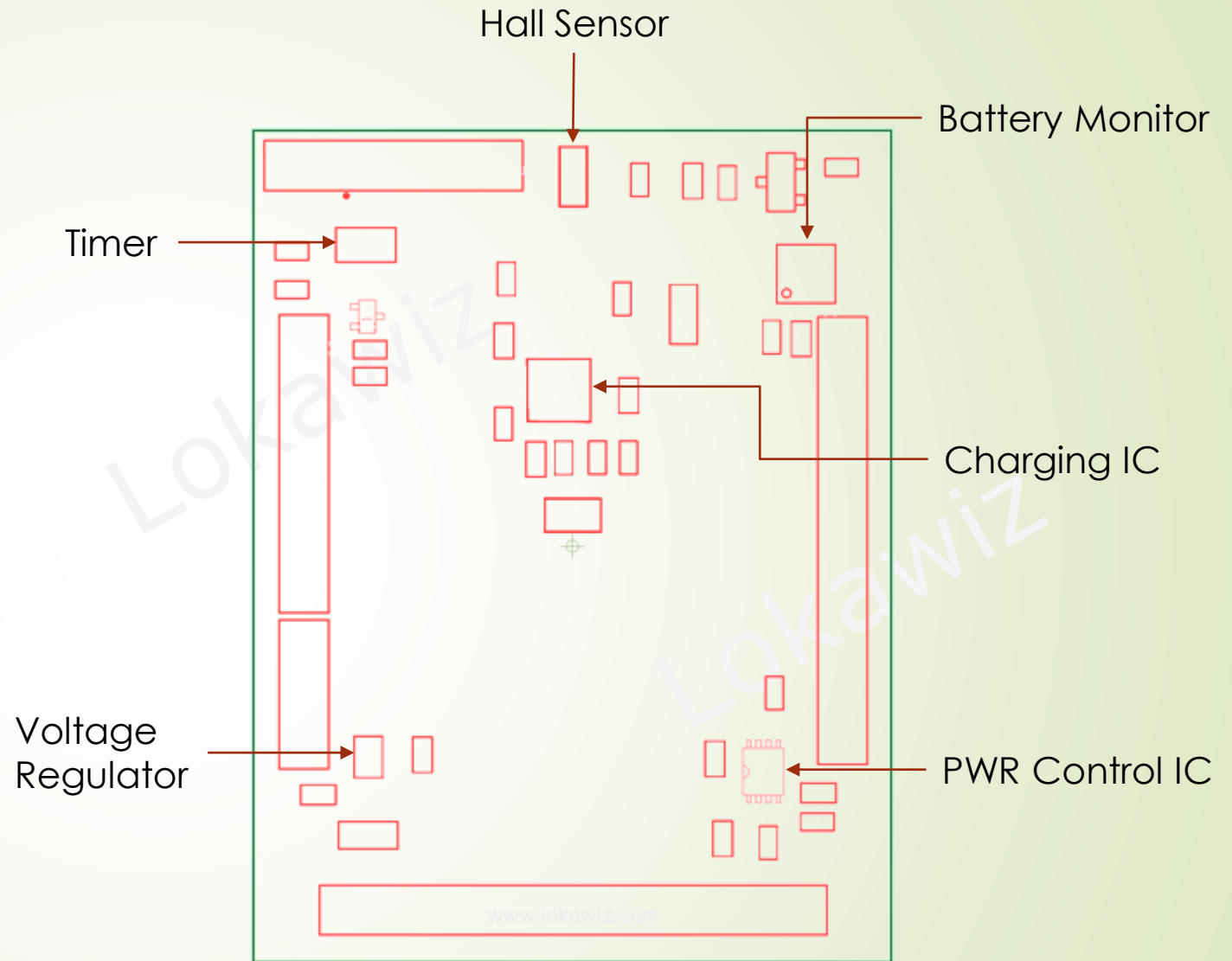


Modules

End Point (WiFi)

Add-On

- Magnetic Hall Sensor for range of IoT application
- On-board Timer for MCU interrupts and control
- Configurable battery monitor with fuel-gauge, voltage and temperature sense
- Charging module safe for battery over 630mAh capacity
- Bypass voltage regulator for 3.6V battery for long life
- Avoid accidental power OFF by ON-OFF switch press

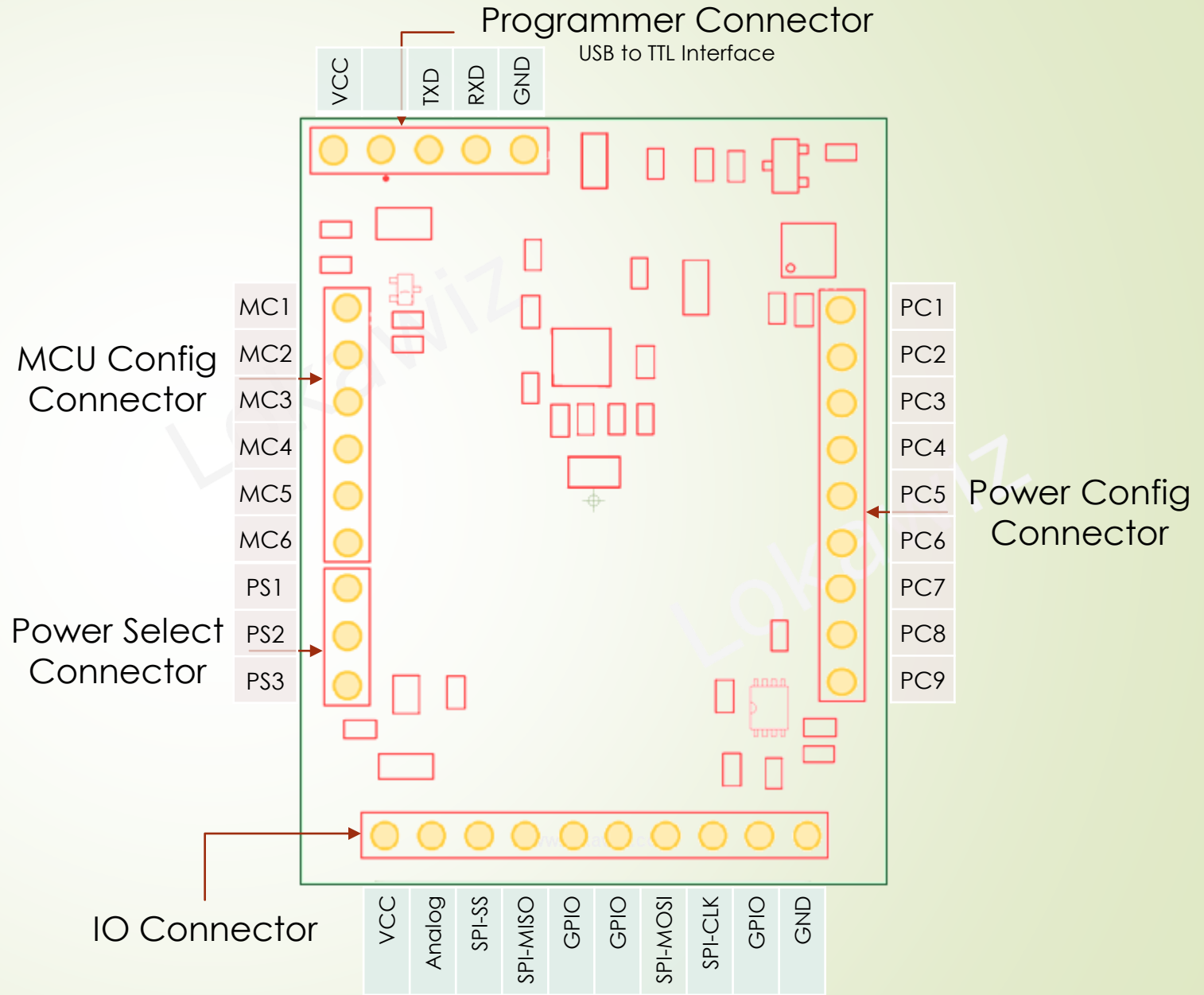


Connectors

End Point (WiFi)

Interfaces

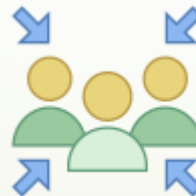
- USB to TTL Programming Interface
- Manual and automatic MCU reset with Hall Sensor
- Timer configuration options
- Power select options for normal & long battery life
- Re-chargeable and single use battery configuration
- Full normal and low power battery monitoring
- Analog sensor interface
- Master/Slave SPI interface
- GPIOs (3) for external sensors



Application End Point

Use Cases

- Home IoT and Automation
- Industrial IoT and M2M
- Medical and Healthcare
- Data Transmission for IoT
- Low Power Sensing
- High Speed Data Terminals
- Public Safety Applications
- Contactless Diagnostics and Activation
- Wireless Monitoring and Tracking

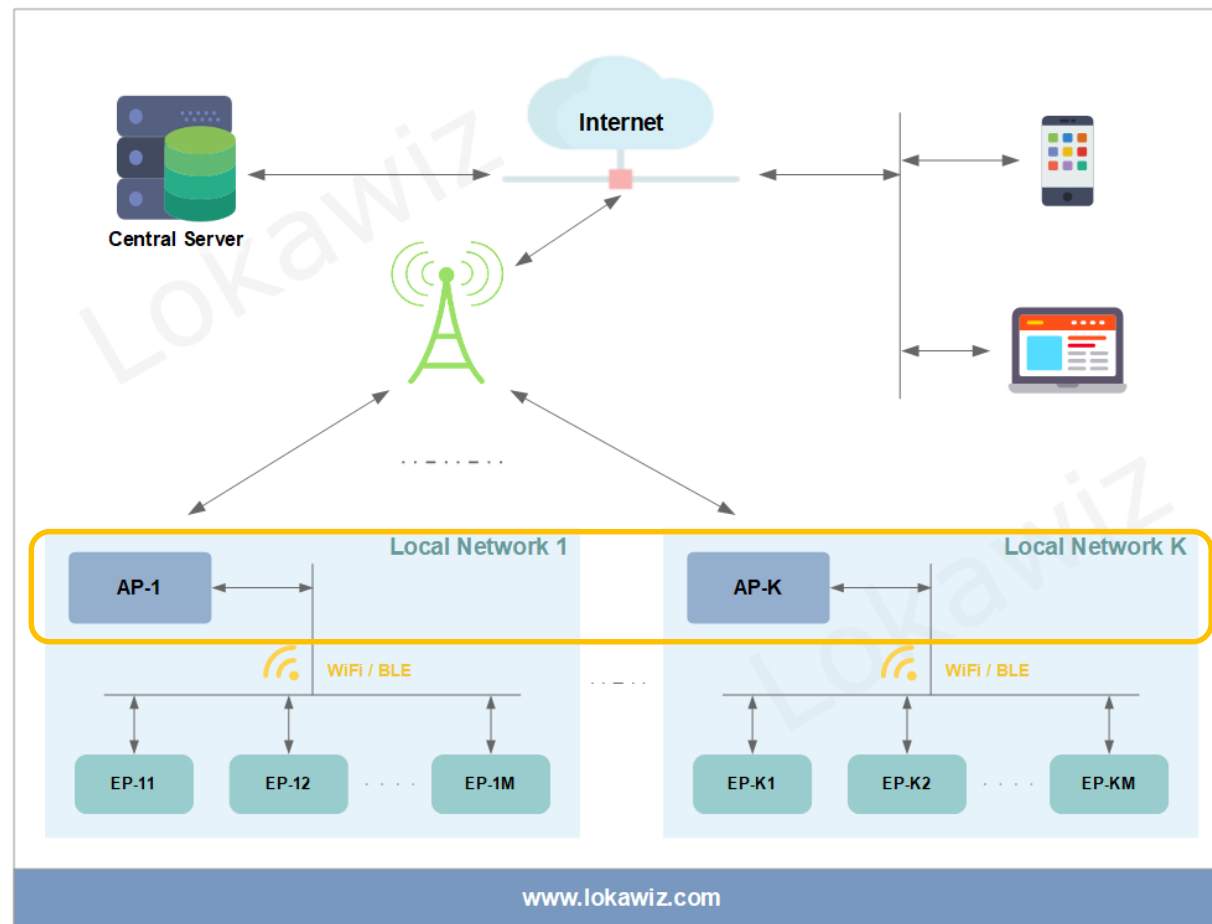


Introduction

Access Point

Summary

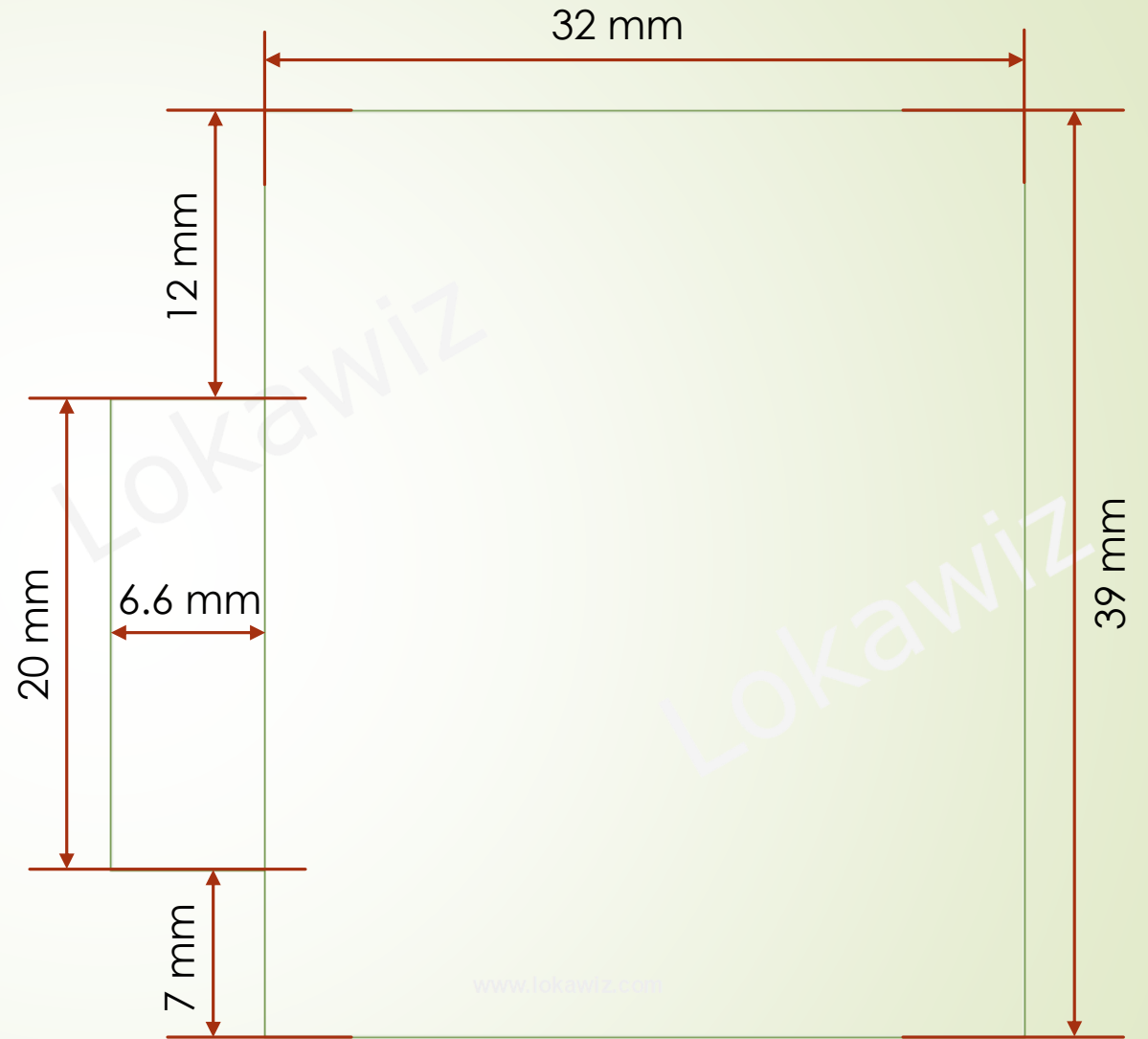
- Access Point, End Point and Central Server
- WiFi+BLE enabled core device boards (Network Gateway)
 - Handles both WiFi and BLE End Point (EP) devices
- Cloud connectivity options
 - Via WiFi router in the Stand Alone mode
 - Via Cellular network using 2G / 3G / 4G Smart LocATe boards
 - Via Ethernet using an external Ethernet PHY peripheral
- Powered by Mains or Battery
- Designed for a range of home and Industrial IoT applications



General Access Point

Features

- Small board Size
 - Within $39 \times 32 \text{ mm}^2$ Core board
 - Within $39 \times 39 \text{ mm}^2$ w/ Antenna
- Temperature Range -40 - 85°C
- Board modules and features
 - Integrated Microcontroller, WiFi and Bluetooth module
 - USB Boot and Power input
 - USB batter charging and Power control option
 - On board voltage regulator
 - Sensor & peripheral interfaces

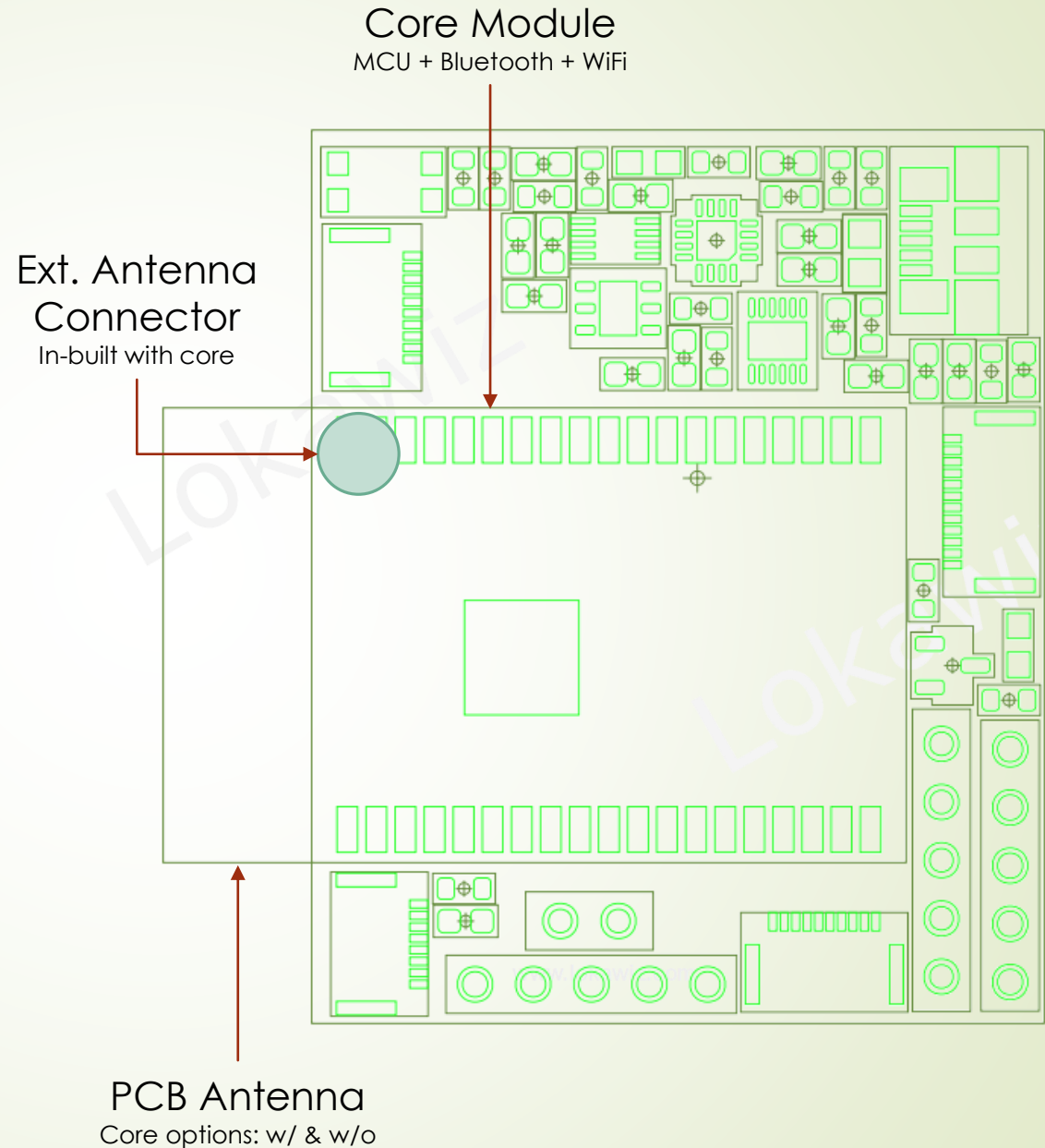


Modules

Access Point

Core

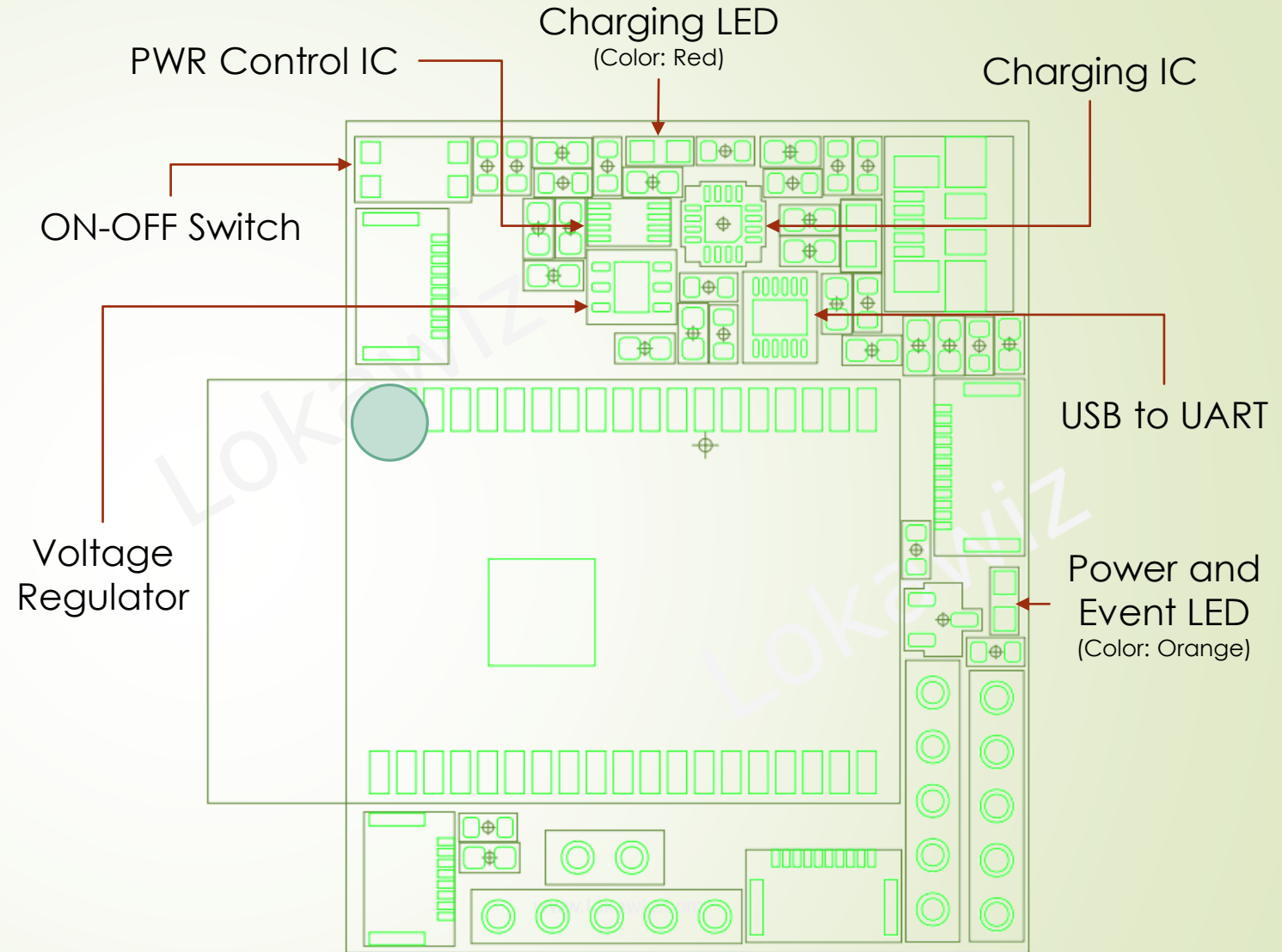
- MCU + Bluetooth + WiFi Core
 - Two versions: with or without On-board PCB antenna
 - External Antenna connector in both core module versions
 - WiFi 802.11 b/g/n (up to 150 Mbps, 2.4 ~ 2.5 GHz)
 - Bluetooth (BT) V4.2 and BLE (Radio Class 1, 2 & 3)
 - Ethernet MAC
 - Hall Sensor & 40MHz crystal
 - 4 MB SPI Flash & 8 MB PSRAM
 - Rich peripheral interfaces
- Development Environment
 - Support for Linux and Windows based Eclipse or Arduino IDE



Modules Access Point

Core

- ▶ Power ON, Start-up and event indication LED
- ▶ Press ON - Hold OFF Switch and Power Control module
 - ▶ Avoid accidental power OFF by ON-OFF switch press
- ▶ Charging indication LED
- ▶ Charging module safe for battery over 630mAh capacity
- ▶ Advance USB to UART module
- ▶ Voltage Regulator
 - ▶ Ultra Low Dropout, Max 200mv
 - ▶ Low standby power, low noise

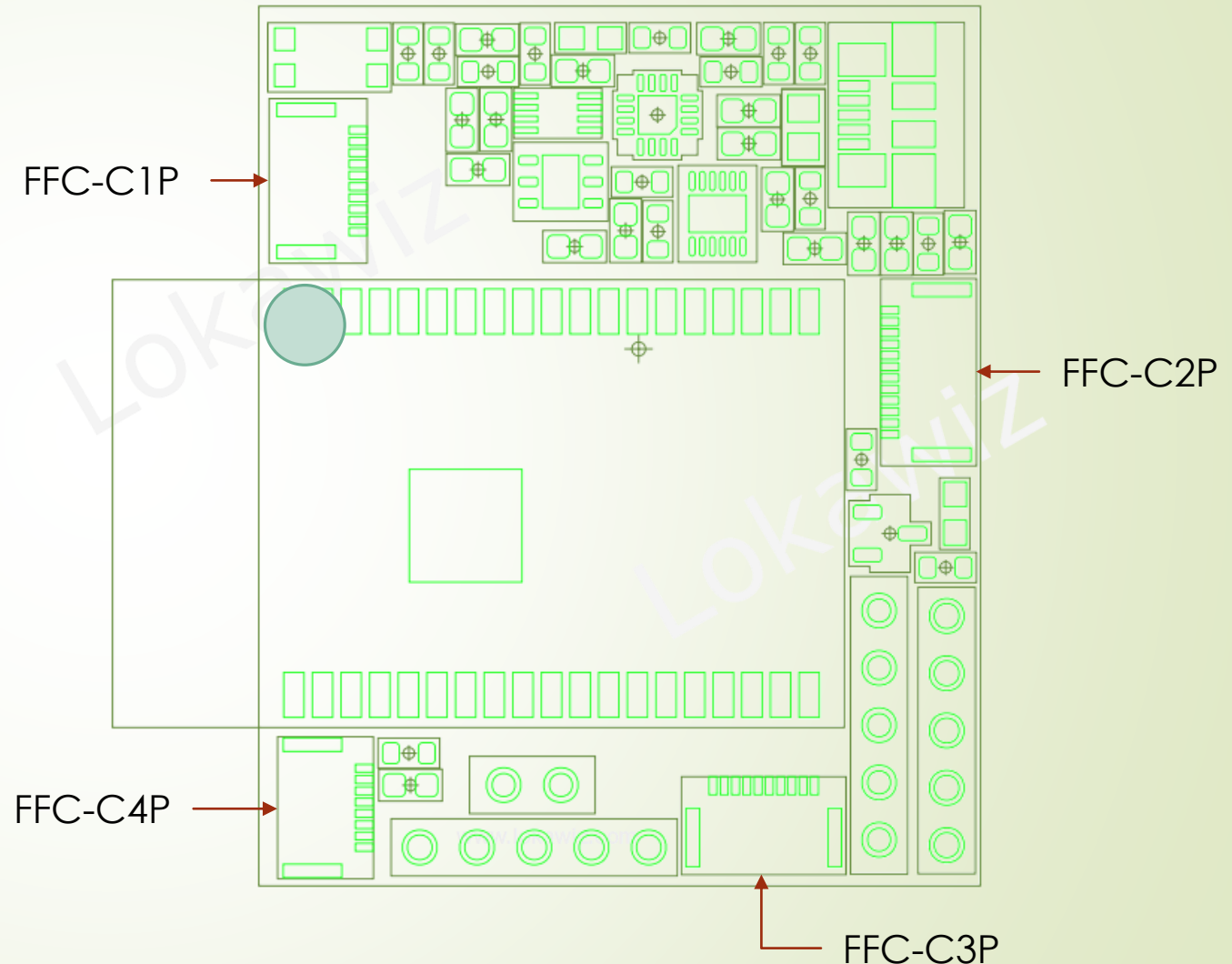


Connectors

Access Point

Interfaces

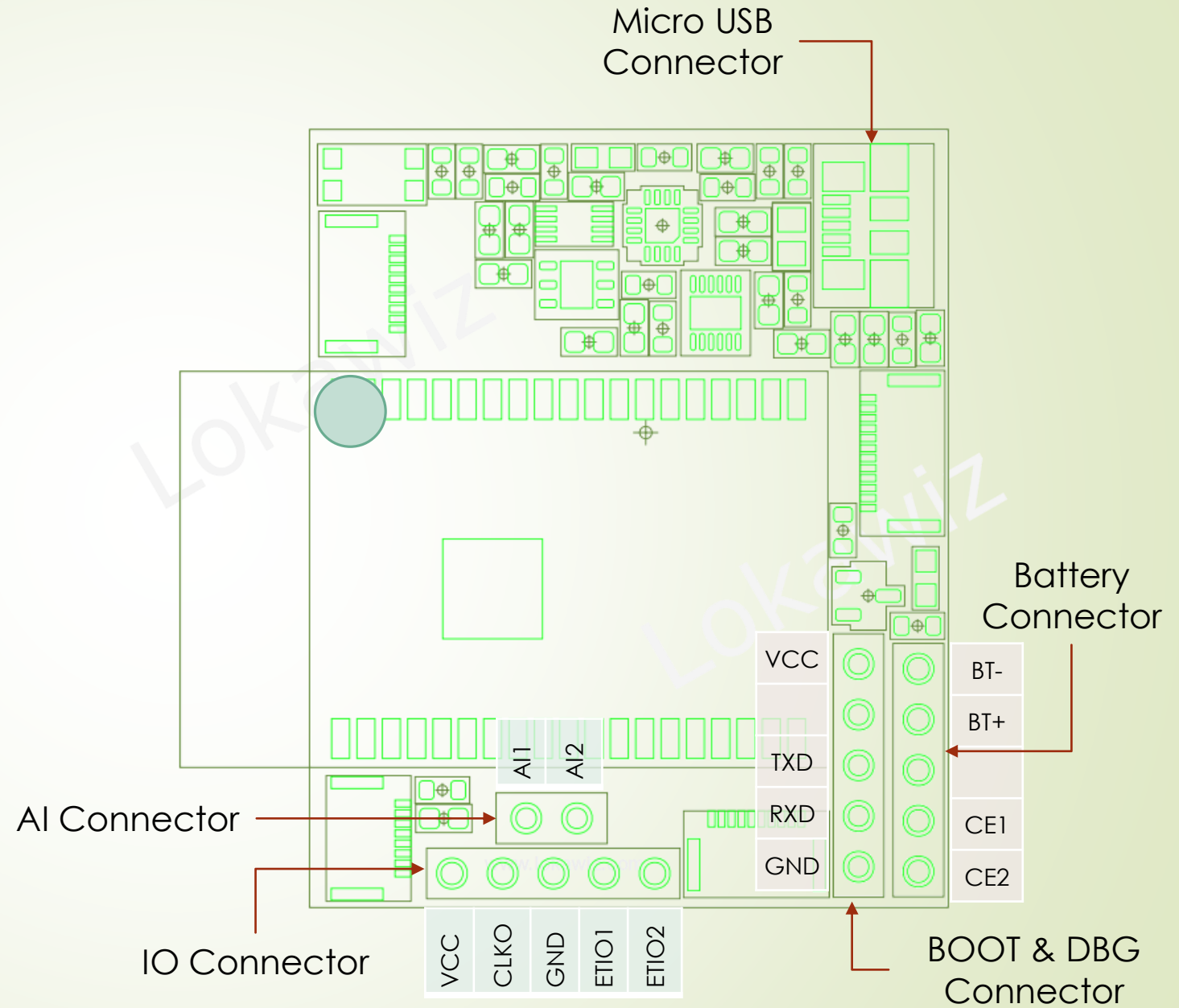
- FFC-C1P (10-pin)
 - UART with 2GPIOs
- FFC-C2P (12-pin)
 - UART, I2C, I2S and GPIOs or
 - Ethernet MAC Interface
- FFC-C3P (10-pin)
 - SPI with Write Protect & Hold or
 - SPI + UART (without CTS, RTS) or I2C or 2GPIOs
- FFC-C4P (8-pin)
 - ADCs, Sensor Interface or GPIOs



Connectors Access Point

Interfaces

- Micro USB Connector for ext. power input, boot & charging
 - Compatible with common cell phone USB B charging cables
- Boot and Debug Connector
 - USB to TTL flash and debug or use as UART (without CTS, RTS)
- Battery connector
 - Re-chargeable and protected single use battery options.
- Analog Input (AI) Connector
 - Crystal, ADC, Touch or GPIOs
- IO Connector
 - Core module Clock Out
 - Ethernet Test, Touch or GPIOs



Application Access Point

Use Cases

- Industrial Automation
- Home IoT and Automation
- Medical and Healthcare
- Service Robots and Droids
- Wearables and Consumer Electronics devices
- Drones and Wireless Toys
- Wireless Mesh Network and IoT Sensor Hubs
- Consumer Retail and Catering
- Smart Energy and Utility Monitoring





Contact

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Thank You

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