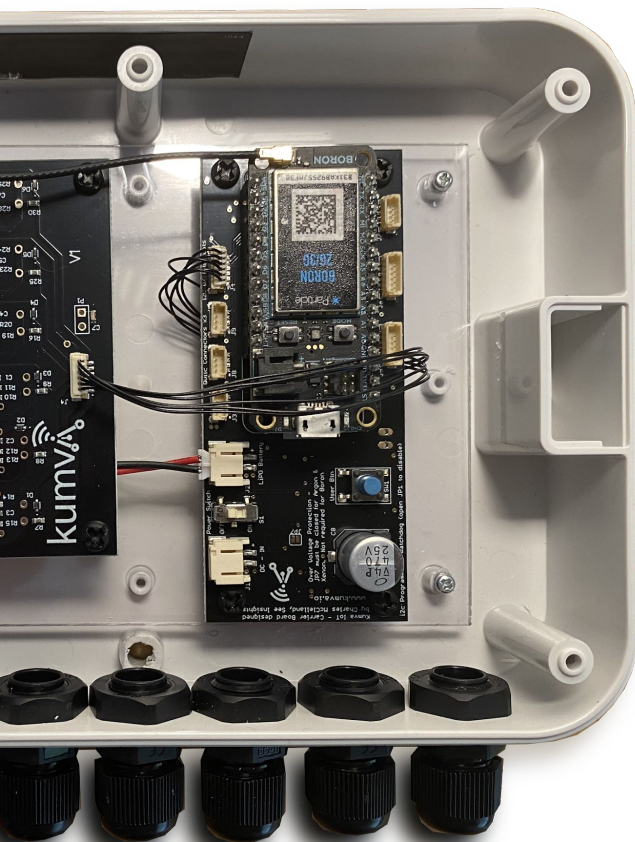
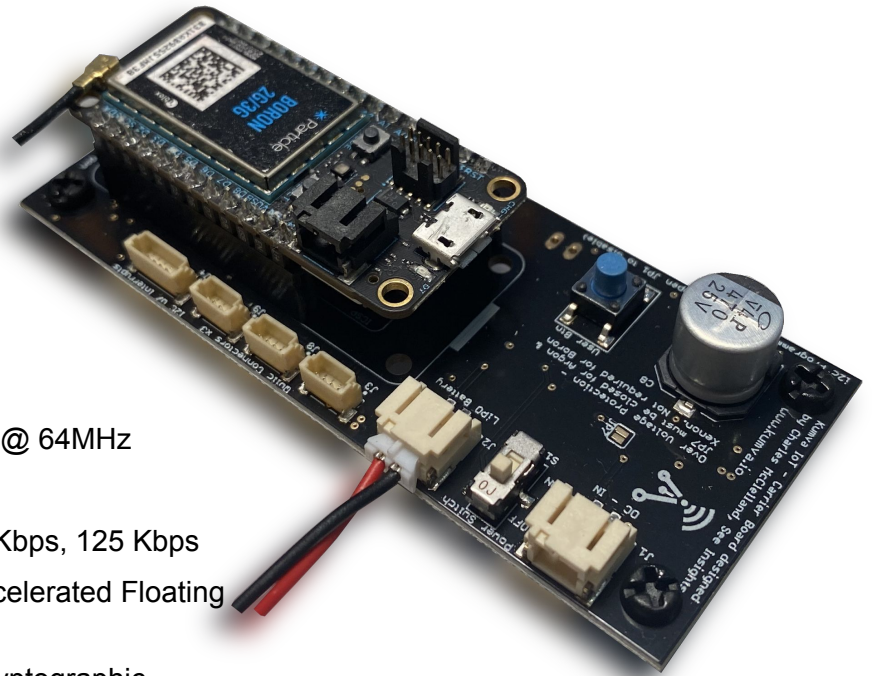


System Data Sheet



General Specifications

- **IP67 rated plastic housing**
- **u-blox SARA U201 2G/3G modem**
 - HSPA/GSM with global hardware and SIM support
 - Bands 850/900/1900/2100MHz
 - 3GPP Release 7
- **Nordic Semiconductor nRF52840 SoC**
 - ARM Cortex-M4F 32-bit processor @ 64MHz
 - 1MB flash, 256KB RAM
 - Bluetooth 5: 2 Mbps, 1 Mbps, 500 Kbps, 125 Kbps
 - Supports DSP instructions, HW accelerated Floating Point Unit (FPU) calculations
 - ARM TrustZone CryptoCell-310 Cryptographic and security module
 - Up to +8 dBm TX power (down to -20 dBm in 4 dB steps)
 - NFC-A tag



- On-board additional 4MB SPI flash
- 20 mixed signal GPIO (6 x Analog, 8 x PWM), UART, I2C, SPI
- Micro USB 2.0 full speed (12 Mbps)
- Integrated Li-Po charging and battery connector
- JTAG (SWD) Connector
- RGB status LED
- User Reset and Mode buttons
- On/Off switch
- Dual SIM support: Nano 4FF and MFF2
- On-board PCB antenna
- U.FL connector for external antenna
- FCC and PTCRB certified
- RoHS compliant (lead-free)
- DC in for solar and mains charging capabilities
- Quicc / I2C connectivity
- Integrated watchdog

A photograph of a woman in a yellow and black patterned dress working in a greenhouse. She is looking down at plants in a raised bed. The greenhouse has a metal frame and a translucent covering. In the background, there are more plants and the structure of the greenhouse.

Agricultural Monitoring and Automation System

- Includes SHT-31 (see page 3), VEML7700 (see page 4), pressure, soil sensor and latching solenoid

Pressure Sensor Specifications

- Detailed specifications upon request

Latching Solenoid Specifications

- Detailed specifications upon request

Soil Sensor Specifications

- Detailed specifications upon request

System Specifications

- Solar powered
- Low power sleep mode between data collection
- Collects data every 1 hour
- Automates irrigation process as per soil moisture levels
- Connects to local network of choice through 2G/3G (data included in some packages)
- Data visualisation in mobile responsive dashboard
- SMS alerting
- Automated weekly and monthly reports
- Monthly raw data (CSV) as requested

A photograph showing a cardboard box with a shipping label and two upward-pointing arrows. To the right of the box is a white, rectangular monitoring device with the Kumva logo on it. The text "Cold Chain Monitoring System" is overlaid in white on the left side of the image.

Cold Chain Monitoring System

SHT-31 Sensor Specifications

- Accurate temperature and humidity sensor
- Fully [calibrated](#), linearised, and temperature compensated digital output
- Wide supply voltage range, from 2.15 V to 5.5 V
- I2C Interface with communication speeds up to 1 MHz and two user selectable addresses
- Very fast start-up and measurement time
- Weatherproof sintered metal mesh casing
- Typ. RH Accuracy (%RH) = ± 2 @0-100% RH
- Typ. Temperature ($^{\circ}\text{C}$) = ± 0.2 @0-90 $^{\circ}\text{C}$

System Specifications

- Mains powered
- Collects data every 20 minutes
- Connects to local network of choice through 2G/3G (data included in some packages)
- Data visualisation in mobile responsive dashboard
 - Location, highs + lows over chosen period of time, graphs to see trends
- SMS alerting
- Automated weekly and monthly reports
- Monthly raw data (CSV) as requested

Environmental (general) Monitoring System

- Includes SHT-31 (see page 3 for specifications) and VEML7700 sensors

VEML7700 Sensor Specifications

- High accuracy ambient light sensor
- High sensitive photodiode
- Low noise amplifier
- 16-bit A/D converter
- I2C Interface

System Specifications

- Solar powered
- Low power sleep mode between data collection
- Collects data every 20 minutes
- Connects to local network of choice through 2G/3G (data included in some packages)
- Data visualisation in mobile responsive dashboard
 - Location, highs + lows over chosen period of time, graphs to see trends
- SMS alerting
- Automated weekly and monthly reports
- Monthly raw data (CSV) as requested

A photograph of an electrical control panel. It features two rows of circuit breakers. The top row has five breakers, and the bottom row has four. Various colored wires (red, black, blue) are connected to the terminals. The panel is mounted on a light-colored wall.

Commercial Electrical Load Monitoring System

Current Sensor Specifications

- Current transformers as per site surveying needs
- Detailed specifications upon request

System Specifications

- Electrical load monitoring for industrial infrastructure and commercial buildings
- Mains powered
- Nonintrusive sensor setup
- High speed data capture
- Connects to local network of choice through 2G/3G (data included in some packages)
- Data visualisation in mobile responsive dashboard
 - Location, highs + lows over chosen period of time, graphs to see trends
 - Consumption by zone and / or machinery
- SMS alerting
- Automated weekly and monthly reports
- Monthly raw data (CSV) as requested