

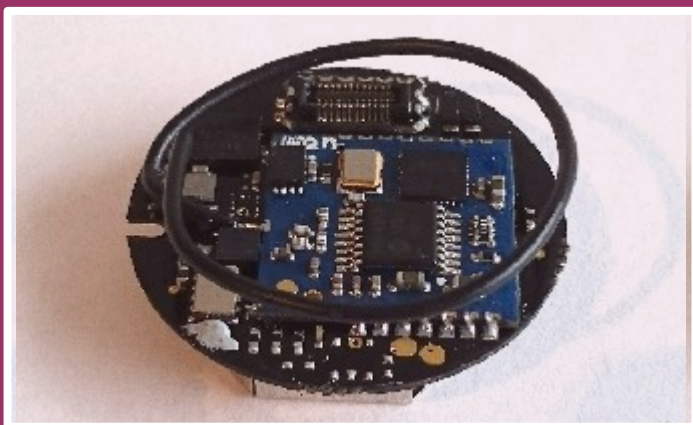
## Aistin Owl Hoot iQRF Sensor Node (BUQ212)

This coin-cell battery operated small sensor unit can be placed almost anywhere. It is based on a low power 868 MHz iQRF radio module, making possible to reach a year and beyond operating time. Because of radio frequency, very long signal ranges can be achieved.

The unit has integrated 3D-accelerometer, barometer and humidity sensor with temperature measurement. In addition, board includes three sets of red, green and blue indication leds, placed circularly. For storing measurements, there is also 256 kbit EEPROM and as with all Aistin hosts, more sensors can be added using Bus24 add-on boards.

You can use Aistin BUQ212 with Aistin BT-LE gateway to connect the unit to internet. With the provided firmware, up to 16 Owl Hoots can share the same gateway.

### Technical Overview



Dimensions:  $\varnothing$  27 mm x 7 mm

iQRF TR-56D, wire antenna

8 MHz clock speed

256 kbit EEPROM (32 kbytes)

Aistin Bus24 Host Connector\*

Coin cell powered, with CR2032 battery slot

Accelerometer and Air Pressure Sensor

Humidity with Temperature Sensor

9 x Programmable LEDs, 3 x R, 3 x G, 3 x B

# BUQ212

## Technical Details

BUQ212 sensor node is powered by iQRF's low-power 868 MHz radio module TR-56D. There's Microchip's radio circuitry, 8 MHz PIC16LF1938 processor core with 16 kwords of program flash and a kilobyte of RAM. In addition, the board includes 32 kbytes of EEPROM for logging measurements. Aistin Bus24 host connector is placed on the top of the device, making possible to use compatible add-on boards. At the bottom there is CR2032 battery holder and three sets of red, green and blue LEDs. The features of the integrated sensors are described in the table below.

	BUQ212
Humidity Sensor (SI7013-A10-GM1)	0 to 100% RH Range, $\pm 3\%$ RH (max), 0–80% RH
Temperature (SI7013-A10-GM1)	-10 to 85 °C Temperature Range, $\pm 0.4$ °C (max),
Air Pressure Sensor (LPS25H)	260 to 1260 hPa Absolute Pressure Range
3-axis Accelerometer (LIS2DH12)	$\pm 2g/\pm 4g/\pm 6g/\pm 8g/\pm 16g$

BUQ212 can be connected to an Aistin CPU2x2-based 868 MHz iQRF gateway to function as an Internet-of-Things device with the pre-loaded firmware. Configuration parameters include measurement interval, sensor reaction and logging thresholds, and alarming limits. This way, things like knocking, door opening, temperature dropping or humidity limit exceeding can be detected.

If the provided firmware is not enough for a specific application, it is also possible to use free software tools (SDK) to develop a fully custom application. For that purpose you will need Aistin Owl Touch IQP212 and iQRF programmer CK-USB-04A (for more information, see [www.iqrf.org](http://www.iqrf.org)).

