SPECIFICATION SHEET
BluFi™ Solar

Ver 1.1

HARDWARE SPECIFICATION

Battery	Dual Batteries: 5V / 20.5Ah - Lithium Ion Rechargeable 12V /9Ah Valve Regulated Sealed Lead Acid
Solar Panel size and capacity	14"X12" (355 x 305mm); 30W
Battery Charge Time	3 days to recover to full charge, in Seattle in Dec (worst case) based on 1.67hrs per day average sunlight.
Enclosure Size	17.5 x 12.5 x 6" (445x318x152mm)
Wind Speed rating	110MPH (49m/s)
Battery Life	15 days without power management or Sun With power management, 6 months using internal buffers and transmitting updates to the cloud every 10 min
Weight	23 lbs

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Operating Temperature Range	-30°C to +60°C (-22°F to 140°F)
Bluetooth Type	Bluetooth Low Energy 4.1
Bluetooth Sensitivity	-98 dBm
Bluetooth Max Power Output	+5 dBm
Bluetooth Antenna	+10 dBm Directional Path Antenna with LNA or Omni-Directional antenna 0dBm Software/Cloud switchable
Frequency Supported	• 2.4 Ghz ISM • Bluetooth LE channels: 1- 40 & Adv Ch: 37;38;39 Non-Bluetooth Channels: SDR from 2400Mhz to 2500Mhz
Bluetooth Data Rate	1Mbit/s (2Mbit/s)
Bluetooth Security	128 bit AES
WiFi Type	802.11 b/g/n
WiFi Security	WPA2 Personal and Enterprise Security
WiFi TX Power	20.5dBm @ 1DSSS and 11 CCK 15.0 dBm @ 54 OFDM
WiFi RX Sensitivity	-97.5dBm @ 1DSSS -88.5 dBm @ 11 CCK
WiFi Frequency	2.4 Ghz with coexistence built-in with Bluetooth
WiFi Antenna	0 dBm Single Antenna, Omni Directional
Power Consumption	200mA when TX 20mA on sleep
Power Consumption - TX	9mA at 0dBm
Power Consumption – Sleep	1.2 µA (SRAM retention and RTC running)
CPU	ARM Cortex M4 and ARM Cortex M3
Memory	256 KB Flash (100KB free for custom applications)
Managed services	Cloud real-time managed
Data output to cloud	0.1 to 1Mbit Up data
Certifications	FCC/CE (Q1 2018)
Environmental Resistance	Sealed: Water Resistant, IP 67

10W Solar Mount

Inside Enclosure

Solar Charging Projections

Based on geography the following table should provide guidelines of battery charging efficiencies based on Solar charging. The internal battery inside the Battery BluFi is also 20Ah, that will last approximately 20 days if not charged in complete darkness. Based on worst case scenario location installation, Seattle in December, with only 1.67 Hours of daylight per day, the solar panel system will charge the internal battery of the Battery BluFi in 3 days.
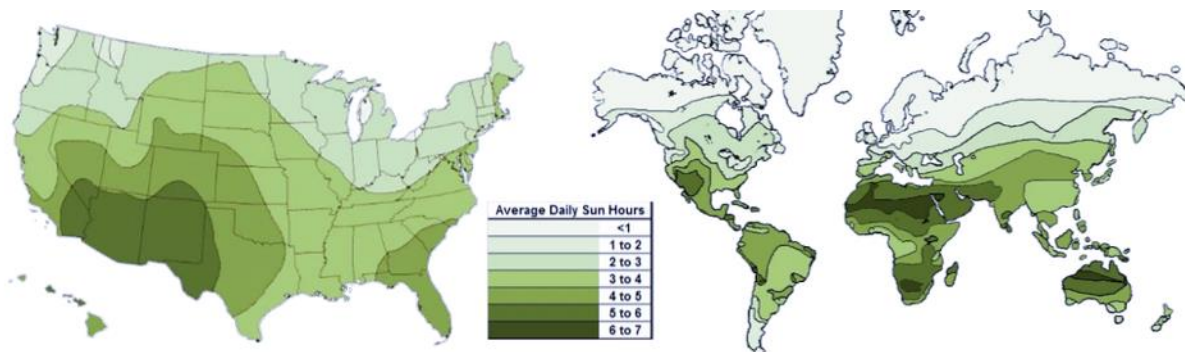
SOFTWARE SPECIFICATION

Embedded RTOS running on both ARM Cortex M4 and M3

WiFi:

- Real-time RAW sockets to Bluzone cloud
- Easy to setup WiFi security key. No need for ad hoc setup; rapid setup and wireless provisioning

Bluetooth:

- Simultaneous support iBeacon + full Eddystone frames
- Bluetooth band support and Out-Of-Band (2.4Ghz ISM) support with auto scan for noise
- Fully compliant with Bluetooth Smart 4.1
- Dual Mode Support: Central and Peripheral
- Central supports multiple BLE connections at the same time with peripherals (Supports connecting at the same time to multiple beacons)

- Peripheral supports multiple BLE connections at the same time with Central devices (Supports connecting at the same time to multiple phones)
- Supports Multiple Peripheral Protocols (iBeacon, Eddystone, sBeacon, etc. in same frames)
- Supports Peripheral Reverse RSSI
- Fully Configurable

Security:
- Bluzone Cloud – Key-vault managed security
- Unique internal key per individual beacon
- Unique Device ID per individual beacon (sBV2 ID)
- Internal Unix time clock/timer since 'On' (Manufacture)
- RSA Private/Public (With Bluzone Cloud key-vault) - Communication from/to beacon encrypted using RSA

RTLS Mode:

- RTLS Mode with per beacon advertisement millisecond Unix time
- Out-Of-Band adaptive scan advertisement
- 1dB TX Output Accuracy