

FOR ENERGY EFFICIENT INNOVATIONS

THINK ON.

www.onsemi.com

Asset Tracking Asset Monitoring

BLE beacon-based active documentation



ON Semiconductor / Tatwah Collaboration

<https://www.rfidjournal.com/articles/view?19231/2>

TATWAH OFFERS ULTRA-LOW-POWER BLUETOOTH 5 BEACONS

Tatwah, an Internet of Things (IoT) solutions company, has announced a new generation of its Bluetooth Low Energy (BLE) beacons. The latest beacons are designed to enable systems integrators to monitor and track the activities of industrial assets, as well as analyze data and run AI algorithms on on-prem or cloud servers.

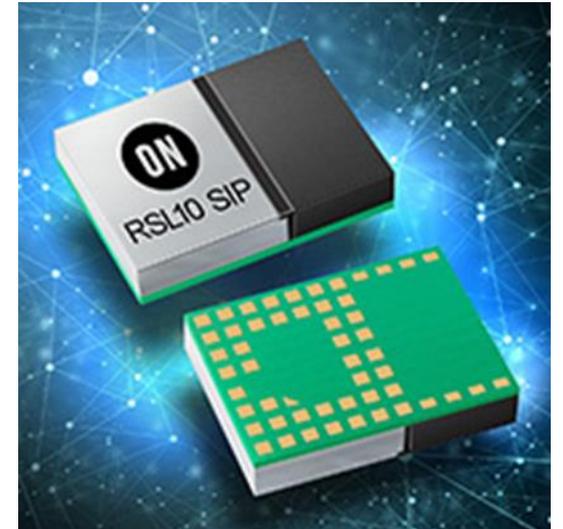
Tatwah's MANGO-branded BLE beacons support iBeacon, Eddystone, AltBeacon and proprietary formats. They feature configuration options, operational parameters and an [NFC tag](#) interface that can be used to store information about an asset, maintenance data or localization. The beacons are designed with a modular approach for multi-[sensor](#) capabilities, security enhancements and customization, the company reports.



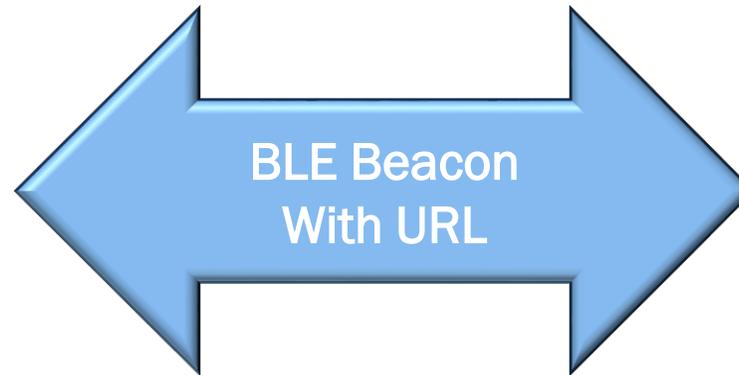
The devices are based on the RSL10 radio from [ON Semiconductor](#), which provides ultra-low-power BLE connectivity, while helping to reduce overall system size and bill of materials (BoM). The RSL10 come with a suite of [firmware](#), software and mobile app offerings.

The beacons have been deployed in various ecosystems, according to the company, and are supported by such IoT cloud platforms as AWS, Ayla and EVERYTHING. They have been adopted by a range of systems integrators and end customers, and are intended to help companies connect their smart products via BLE, [RFID](#), [NFC](#) and other

RF connectivity options.



BLE Beacon Product Portfolio (RSL10 based)



Demo guide with one URL per Beacons

Power and Motor Control
 - BLDC
 - USB-PD
 - NFC - EE

Wireless Communication
 - Quantenna
 - SubGHz sensor
 - ZigBee Dongle

IoT Applications
 - Smart Speaker
 - Voice shield
 - Lighting Kit

URL sent by each beacon

Application	Anchor Product	URL
Wireless sensing control	AXMOF243	https://www.onsemi.com/support/evaluation-board/dvk-axm0f243-868-1-gevk
Smart Home / Building lighting	Multiple	https://www.onsemi.com/support/evaluation-board/lighting-1-gevk
Light & Smart Home control	LC823455	https://www.onsemi.com/products/audio-video-ssp/audio-dsp-systems/lc823455
asset tracking	RSL10	https://www.onsemi.com/support/evaluation-board/rsl10-coin-gevb
Wifi	QSR10G-AX	https://www.onsemi.com/products/connectivity/wifi-solutions/qsr10g-ax
NFC EEPROM	N24RF64	https://www.onsemi.com/products/memory/EEPROM-memory/n24rf64



Examples of ASSET MONITORING & TRACKING

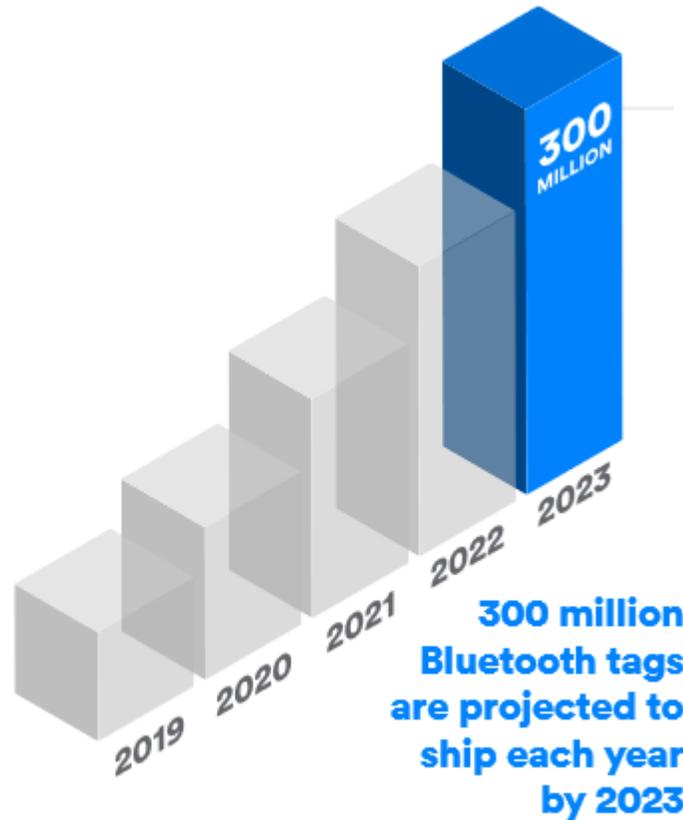
Tools and construction Tracking
Parcel Pallet Tracker
Conveyors and Container Tracker
Hospital Bed & Instruments Tracker
Blood Poach Tracker

Asset Tracking

Predictive Maintenance
Cold chain Monitor
Luxe Pack Industry
Perishable goods

Asset Monitoring

Bluetooth Org asset tracking / monitoring vision



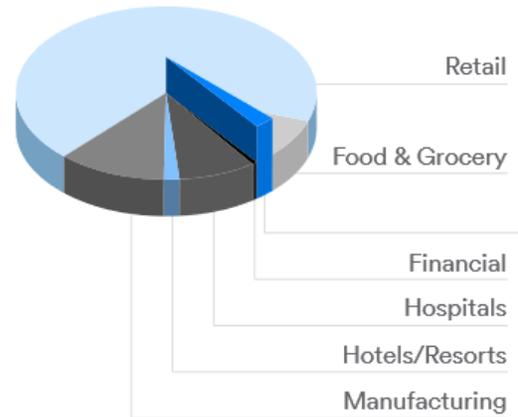
Location Services is the Fastest Growing Bluetooth Solution Area

From general proximity to high-accuracy positioning, *Bluetooth*® powers a range of reliable location services that enhance the visitor experience and improve operational efficiencies.

6x GROWTH
in annual shipments of Bluetooth location services devices by 2023

431 MILLION
Bluetooth location services devices will ship annually by 2023

Leading Categories of Bluetooth Location Services Implementations



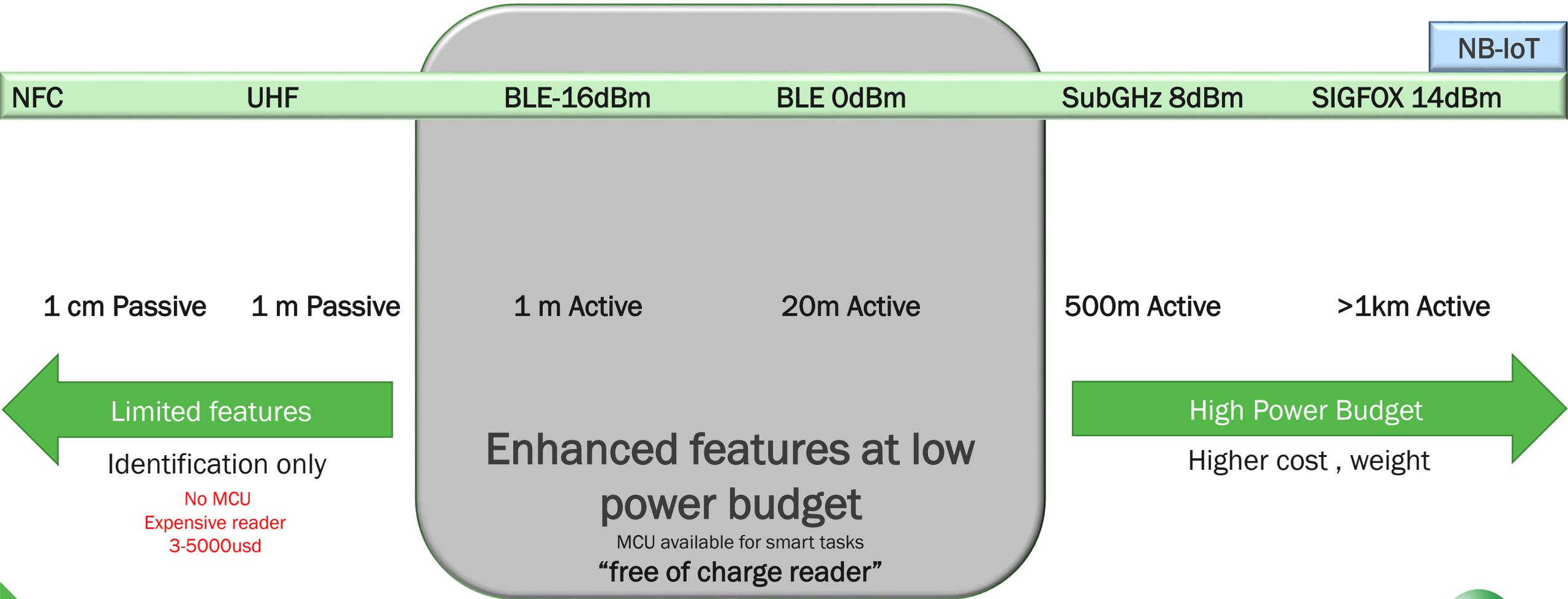
Source Bluetooth org 2019

https://3pl46c46ctx02p7rzdsvsg21-wpengine.netdna-ssl.com/wp-content/uploads/2019/09/1907_Location_Services_Infographic_FINAL-compressed-1.pdf

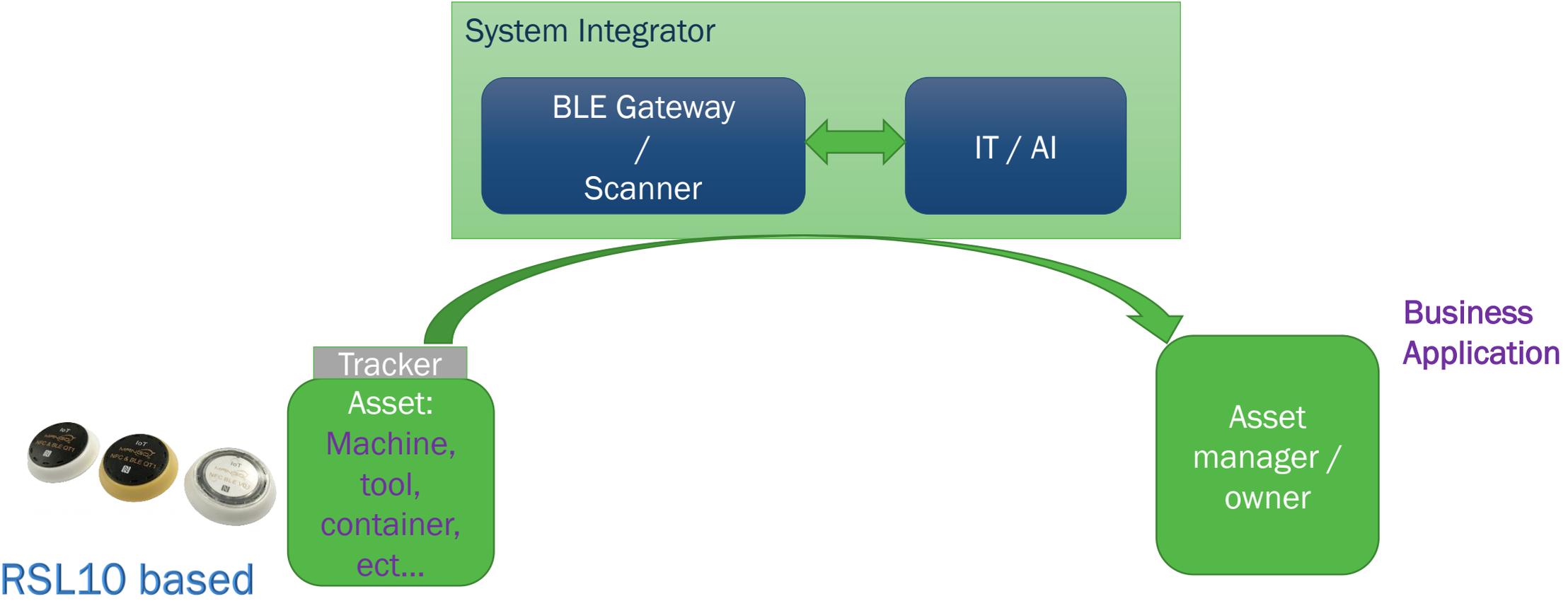
https://www.bluetooth.com/bluetooth-resources/location-services-infographic/?utm_campaign=location-services&utm_source=internal&utm_medium=web&utm_content=locserv-infog-location-services-page



Positioning BLE Beacon vs Radio Range



Addressing Asset tracking eco-system, End to End



RSL10 based

Business Application



RSL10 Key Specifications



RSL10 is designed for lowest power consumption across a wide range of power supply voltages

Industry's Lowest Power

- 1090 EEMBC® ULPMark™ CP @ 3V
- 3mA Rx peak current (-94dBm) @ 3V
- 4.6mA Tx peak current (0dBm) @ 3V
- 25nA deep sleep current @ 3V

Advanced Wireless

- Supports Bluetooth Low Energy
- Supports 2.4 GHz custom protocols
- -94 dBm Rx Sensitivity (WLCSP/QFN)
- -17 to +6 dBm Tx power (WLCSP/QFN)

Flexible, Powerful Radio SoC

- Voltage supply range 1.1 to 3.3 V
- User-Programmable Dual-core (Cortex-M3 / DSP) Architecture
- Firmware Over The Air (FOTA)

