

# Wireless Sensor Endpoint

Sensor Connectivity Solution

WSE-1210



## Connectivity

- LoRa
- Bluetooth® 5
- NFC
- 802.15.4

## Features

- Cortex M4F 32-bit application processor with 1MB flash memory / 256K RAM
- 4MB external flash memory
- LED indicator
- Lithium-Ion Polymer battery pack

## Sensors

- 6-axis Inertial Measurement Unit
- Gas, Air Quality, Pressure, Temperature and Humidity
- Microphone



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The PCTEL® Wireless Sensor Endpoint (WSE) family are versatile Industrial IoT products that offer multiple radio connectivity options including LoRa, Bluetooth® 5, NFC as well as 802.15.4 support.

In addition to several radios, the PCTEL WSE family includes several sensors to monitor a variety of physical conditions. These sensors can detect air quality, acceleration, angular rate of change, and sound.

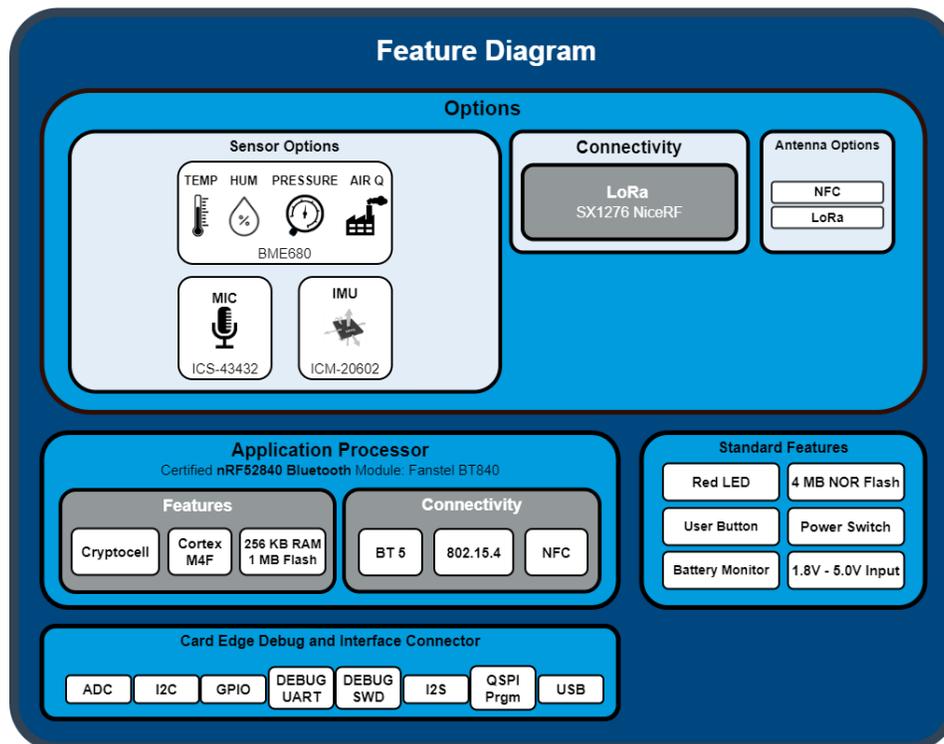
The PCTEL WSE is powered by a high capacity Lithium-Ion Polymer battery pack. The enclosure also has two mounting tabs for easy installation.

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### Features and Benefits

Feature	Benefit
ARM Mbed Enabled	Faster time to market leveraging ARM Mbed OS to accelerate application software development.
Internal Radio Antennas	No external connections with each radio having an individual antenna.
Rechargeable Battery Pack	Easily recharge the battery via USB Micro-B connector.
Mounting Tabs	Enclosure with two integrated tabs for easy installation.
Integrated Debug Interface	Ease of software development using the Wireless Sensor Development System.
Power Switch	WSE can be turned on and off as needed.
Push Button	User defined operation.



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### General Specifications

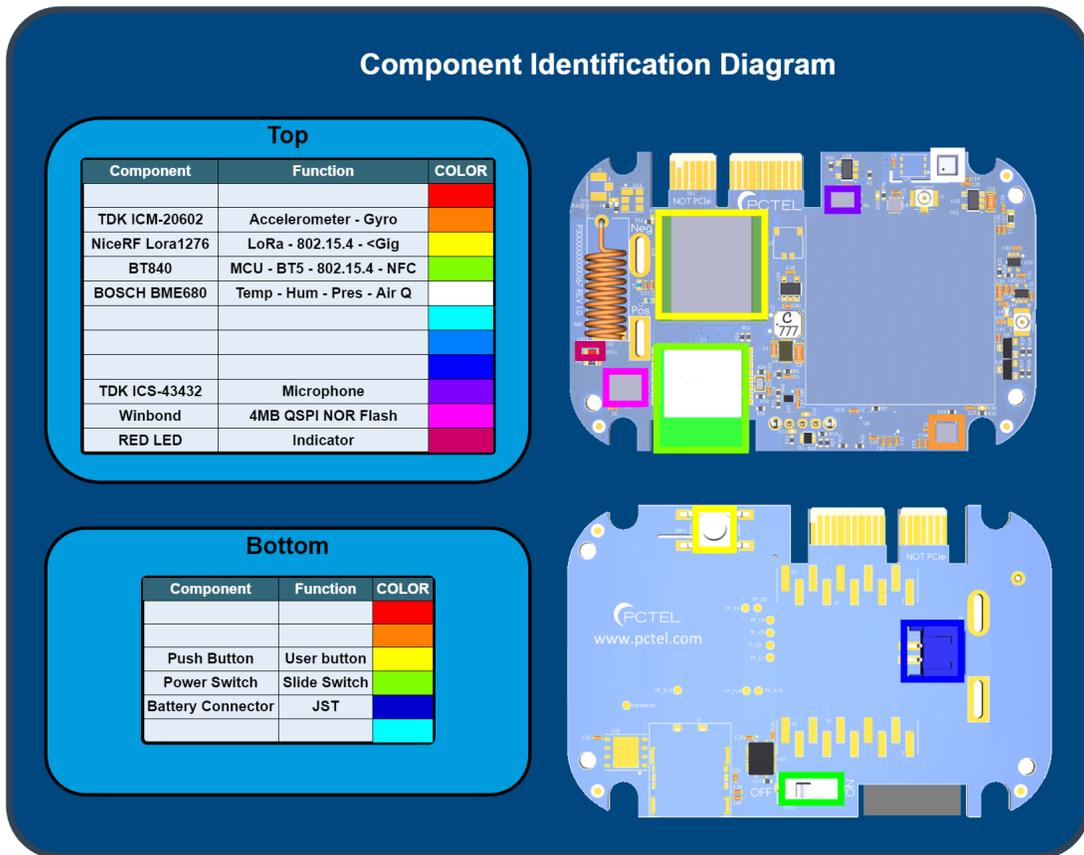
Parameter	Specification
Operating Temperature	-20°C to +60°C
Charging Temperature	0°C to +45°C
Storage Temperature	-20°C to +45°C (1-month) -20°C to +35°C (6-months)
Battery Pack	Li-Ion Polymer, 3.7V @ 4400mAh
Dimensions	60mm x 103mm x 43mm

### Sensor Specifications

Device	Specification
6-Axis IMU Motion Tracking Device	3-axis Accelerometer: $\pm 2/\pm 4/\pm 8/\pm 16$ g linear 3-axis Gyroscope: $\pm 250/\pm 500/\pm 1000/\pm 2000$ dps
Microphone	Frequency response: 50 Hz to 20 kHz SNR: 65 dBA, Sensitivity -26 dB FS
Environmental Gas / Air Quality	Gas (VOC): 20% tolerance; 5% accuracy
	Pressure: 300 to 1100 hPa ( $\pm 0.6$ hPa)
	Humidity: 10% to 90% RH ( $\pm 3\%$ ) at 0°C to +65°C
	Temperature: -40°C to +85°C ( $\pm 1^\circ\text{C}$ ), 25°C ( $\pm 0.5^\circ\text{C}$ )
	Air Quality Score: 0 to 500 ( $\pm 15\%$ )

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For more information about  
this product contact your  
sales representative or visit  
> [pctel.com/industrial-iot-devices](https://pctel.com/industrial-iot-devices)

### Solving Complex Wireless Challenges

PCTEL is a leading global provider of wireless technology solutions, including purpose-built Industrial IoT devices, antenna systems, and test and measurement products. Trusted by our customers for over 25 years, we solve complex wireless challenges to help organizations stay connected, transform, and grow.

### Product Usage

THE PRODUCTS ARE NOT DESIGNED, MANUFACTURED, OR INTENDED FOR USE, ALONE OR WITH OTHER PRODUCTS, IN ANY APPLICATION REQUIRING FAIL-SAFE PERFORMANCE OF THE PRODUCTS AND/OR IN WHICH A MALFUNCTION OR A FAILURE OF THE PRODUCTS COULD LEAD TO DEATH, PERSONAL INJURY, OR SERIOUS PHYSICAL OR ENVIRONMENTAL DAMAGE, INCLUDING BUT NOT LIMITED TO (A) SURGICALLY IMPLANTED DEVICES, LIFE SUPPORT MACHINES, LIFE PRESERVING MEDICAL DEVICES OR SYSTEMS, OTHER MEDICAL AND SURGICAL APPLICATIONS, OR ANY DEVICES, MACHINES, SYSTEMS, PRODUCTS, OR PROCESSES REQUIRING APPROVAL, TESTING OR CERTIFICATION BY THE U.S. FOOD AND DRUG ADMINISTRATION OR A SIMILAR GOVERNMENTAL ENTITY; (B) AIR TRAFFIC CONTROL OR AIRCRAFT SYSTEMS; (C) CONTROL EQUIPMENT FOR NUCLEAR OR OTHER POWER GENERATION FACILITIES; OR (D) MISSILE, NUCLEAR, BIOLOGICAL, OR CHEMICAL WEAPONS, OR OTHER MILITARY APPLICATIONS (EACH A "PROHIBITED USE").

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