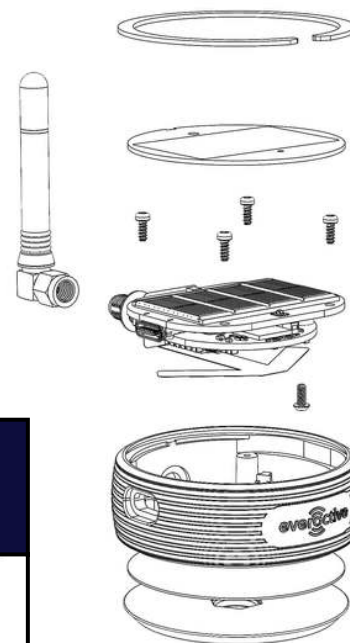# ENV+ Evaluation Kit
Product Specifications

everactive

Intended Use

- Evaluation of Everactive's patented batteryless technology, which includes custom circuits for energy harvesting & power management and wireless networking.

Product Description

Main Features	

Solution	- 2 Environmental+ (ENV+) Eversensors with antenna
	- 1 Evergateway dongle with antenna
	- 1 USB cable
	  - For optimal Evergateway dongle placement while in use
	- 1 Programming board
	  - For resetting sensors
	  - Future capability: Over the wire configuration/updating sensor firmware

System Requirements	- Computer with Intel processor & Internet connectivity
	  - Windows operating system
	- Open USB port (Evergateway dongle) >1 Amp
	- USB Hub required if
	  - USB port does not supply >1 Amp, AND
	  - Desire maximum Evernet range

Evernet Communication Protocol	- Evernet 2 modem in 915MHz ISM band with external antenna for Eversensor connectivity

ENV+ Sensor

5 cm
Antenna

5 cm
Diameter

2 cm
Unit height

Evergateway USB

20 cm
Unit height

Evaluation Kit Features

Operating Temperature	• Sensor: -10°C to 60°C (14°F - 140°F) • Evergateway dongle: 10°C to 35°C (50°F to 95°F)
Operating Humidity	• 20% to 80% RH, non-condensing
Operating Behavior	Approximate sensor boot time: • 400 lux harvesting source: 1 minute boot • 200 lux harvesting source: 2 minute boot • 100 lux harvesting source: 5 minute boot Full capacitor charge under consistent harvesting: • 200 lux harvesting source: 3 days Reporting frequency: • 150 lux harvesting source: 1 minute frequency reporting • 100 lux harvesting source: 5 minute frequency reporting Full capacitor discharge time assuming harvesting removal: • 16 hours
Sensor Modalities and Parameters	<u>Primary sensor package: BME280</u> • Temperature: -10°C to 60°C; +/- 2°C • Humidity: 20% to 80% RH; +/- 5% • Pressure: 300 to 1100 hPa <u>Secondary acceleration sensor package ADXL362 (PDF)</u> • Ultra low power triaxial accelerometer that sends "Move + Shake" sensor notifications in milli-g in the X,Y, & Z axis

Support and Other Features	• **Dev Console (Cloud) capabilities**
	  ○ Integration modalities:
	    ▪ API
	    ▪ Webhooks
	    ▪ MQTT subscription service
	  ○ Time series charts of sensing modalities
	    ▪ Data Export into CSV
	  ○ Sensor / Gateway Status
	  ○ Ongoing cloud SW platform updates
	• Over-the-air Evergateway dongle and ENV+ Eversensor updates
	• Programming board to reset sensors

Evaluation Kit Features

Storage Temperature	• -20°C to 70°C (-4°F to 158°F)
Storage Humidity	• 5% to 95% RH, non-condensing
Power	**Evergateway dongle:** • USB 2.0 (5VDC, 1A) for max range • USB hub
Wireless Protocol	**Evernet 2 (proprietary) 915MHz** • FCC ID: 2AO7C-83000023 for the wireless module internal to the Everagateway dongle • This IoT solution is not certified Intended use: prototyping and experimentation only.
Mounting	**Sensor can be mounted with two primary ways:** • Two-side adhesive strips • 1/4-20 thread for mounting with accessory plate For optimal harvesting, orient solar (photovoltaic - PV cells) with flat directly with light source.
Unit Weight	• Evergateway dongle: 0.1kg (3.5oz)

Unit Size without Antennas	• **Sensor:**
	  ○ 5.00 cm diameter, 2.00 cm height
	• **Evergateway dongle:**
	  ○ 129mm x 45.4mm x 31.2mm (5.1in x 1.8in x 1.2in)

Antennas size	• Sensor: 5 cm • Evergateway dongle antenna: 13mm dia x 204mm (0.51in x 8.0in)
Shipping Weight	• 1kg (2.2lbs)
Shipping Size	• 178mm x 178mm x 83mm (7in x 7in x 3.25in)
Status light indicators	Evergateway dongle status LED ENV+ Eversensor status LED
Not rated for	Ingress Protection, Vibration, Shock, Safety, Salt & Fog, Package Drop, EM