TEKTELIC
communications

7657 10th Street NE
Calgary, Alberta, T2E 8X2
Phone: 403-338-6900
www.tektelic.com

Federal Communications Commission
Authorization and Evaluation Division

Date: August 3rd, 2021

Subject: Product Family Description Regarding Application for Certification of FCC ID: 2ALEPT0007525

To Whom It May Concern:

The Smart Room Sensor (Gen4) is a LoRa sensor for IoT applications. It can support multiple RF regions, including North America.

The fourth generation of Smart Room Sensors has three functional variants: CO2, PIR, and CO2 & PIR. The CO2 variant has product code T0007496, the PIR variant has product code T0007497, and the CO2 & PIR variant has product code T0007498.

The CO2, PIR, and CO2 & PIR variants are not different in RF circuitry, but are only different in their transducers: CO2 has the CO2 transducer and barometer that PIR does not have, but lacks in the PIR human motion detector. The CO2 & PIR variant has the CO2 transducer, barometer, and PIR human motion detector. These differences have been shown in the following table:

Sensing Function	Smart Room Sensor (Gen4) Variant		
	CO2	PIR	CO2 & PIR
Ambient Temperature	X	X	X
Ambient Relative Humidity	X	X	X
Ambient Light	X	X	X
Barometer	X		X
CO_2	X		X
PIR (Human Motion Detector)		X	X

CO_2 detection is present in only the CO2/CO2 & PIR variants, and is provided by a NDIR CO_2 transducer that measures the CO_2 concentration and communicates to the microcontroller through I^2C. Pressure detection is also present in only the CO2/CO2 & PIR variants, and is provided by a barometer that measures the barometric air pressure and communicates to the microcontroller through I^2C. The CO_2 measurements are pressure compensated by the pressure measurements from the barometer. The PIR human motion detector is specific to the PIR/CO2 & PIR variants, and consists of a PIR element and circuitry that signals the microcontroller if human motion is detected within the PIR element field of view.

Sincerely,

Tom Danshin,
System Engineer
TEKTELIC Communications Inc.