Section 15.247(i) – Radio Frequency Hazard Information

As per Section 15.247 (i) Spread spectrum transmitters operating in the 902 – 928 MHz band are required to be operated in a manner that ensures that the public is not exposed to RF energy levels in accordance with CFR 47, Section 1.1307(b)(1).

In accordance with this section, and also Section 2.1091, this device has been defined as a portable whereby a distance of 20 cm or greater cannot normally be maintained between the user and the device antenna.

The RF Exposure Procedures as defined in KDB 447498 D01 have been applied.

The maximum radiated power for the LoRa device has been measured to be +6.9 dBm or 4.9 mW.

The maximum radiated power for the Bluetooth device has been measured to be +6.1 dBm or 4.0 mW.

As per clause 4.3.1 a) the 1-g the SAR test exclusion thresholds have been calculated to be:

LoRa device:
[(transmitter power (mW)) / separation distance (mm)] x [√F(GHz) =< 3.0

[4.9 mW / distance (mm)] x [√ 0.9277] = 3.0

4.9 / (3.0 / 0.963) = 1.6 mm

Bluetooth device:
[(transmitter power (mW)) / separation distance (mm)] x [√F(GHz) =< 3.0

[4 mW / distance (mm)] x [√ 2.4] = 3.0

4 / (3.0 / 1.55) = 2.1 mm

The overall separation distance is determined by addition the two distances together.

Overall separation distance = 1.6 + 2.1 = 3.7 mm

The devices can be shown to be transmitting at a power level that allows the SAR test excursion to be applied providing a 5 mm separation distance is applied.

Result: Complies