Maximum Permissible Exposure Statement

For the

CoreKinect

BLELRA1

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Prepared for:

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Prediction of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

S = PG/4πR2

Where,

S = power density (mW/cm2)
P = output power at the antenna terminal (mW)
G = gain of transmit antenna (numeric)
R = distance from transmitting antenna (cm)

For Bluetooth Transmitter

Maximum peak output power at antenna input terminal = 6.85 (dBm)
Maximum peak output power at antenna input terminal = 4.8 (mW)
Antenna gain (typical) = 2.5(dBi)
Maximum antenna gain = 1.8(numeric)
Prediction distance = 20 (cm)
Prediction frequency = 2480 (MHz)
MPE limit for uncontrolled exposure at prediction frequency = 1 (mW/cm^2)
Power density at prediction frequency = 0.00245 (mW/cm^2)

To solve for the minimum mounting distance required;

R = √ (PG/4πS)

R = √ (4.8 x 1.8 / 4π x 0.00245) = 20 cm (Based on continuous transmission)

For LoRa Transmitter

Maximum peak output power at antenna input terminal = 18.16 (dBm) *
Maximum peak output power at antenna input terminal = 65.0 (mW)
Antenna gain (typical) = 0 (dBi)
Maximum antenna gain = 1.0 (numeric)
Prediction distance = 20 (cm)
Prediction frequency = 902.3 (MHz)
MPE limit for uncontrolled exposure at prediction frequency = 0.6 (mW/cm^2)
Power density at prediction frequency = 0.01293 (mW/cm^2)

*Includes 1dB of manufacturer output power tolerance.

To solve for the minimum mounting distance required;

R = √ (PG/4πS)

R = √ (65 x 1.0 / 4π x 0.01293) = 20 cm (Based on continuous transmission)

Note:

Both transmitters (Bluetooth and LoRa) do not operate at the same time.

END OF TEST REPORT