RF Exposure Considerations for the LN-DRA-G3-915

FCC ID: 2AGAA-WMLNDRA915

The FCC requires that the calculated MPE for mobile equipment to be equal to or less than a given limit dependent on frequency at a distance of 20 cm from a device to the body of a user.

The LN-DRA-G3-915 transmits over the 905-916MHz operating band.

The following FCC Rule Parts and procedures are applicable:

Part 1.1310 – Radiofrequency radiation exposure limits

Part 2.1091 – Radiofrequency radiation exposure evaluation: mobile devices

KDB447498 D01 v06
Mobile and Portable Devices RF Exposure Procedures and Equipment Authorisation Policies

MPE CALCULATIONS

The following MPE calculation is used to calculate the safe operating distance for the user.

$$S = EIRP/4 \pi R^2$$

Where

S = Power density

EIRP = Effective Isotropic Radiated Power (EIRP = P x G)

P = Conducted Transmitter Power

G = Antenna Gain (relative to an isotropic radiator)

R = distance to the centre of radiation of the antenna (safe operating distance)

Values:

Transmitter frequency range = 905-916MHz

P_{max} = 14dBm max. (25.1 mW)

G = 1.5dBi (x1.41)

EIRP = 35.4mW

R = 20cm

Power Density Requirement

From § 1.1310(e) table 1a (B) - Limits for Maximum Permissible Exposure (MPE), Limits for General Population/ Uncontrolled Exposure:

S_{req} = f/1500 mW/cm^2

= 0.61mW/ cm^2

Calculation:

$S = EIRP/4 \pi R^2$

$S = 35.4/(12.56 \times 20^2)$

$S = 35.4/(5024)$

S = 0.007mW/ cm^2 (<0.61 mW/cm^2)

Conclusion

The required 20cm RF exposure limits for General Population/ Uncontrolled Exposure will not be exceeded for the LN-DRA-G3-915.