

MPE Calculation / RF Exposure

Product: WAVE OBU

Applicant: IT TELECOM Co., Ltd.

Model: ASD-N2

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FCC ID: ZO9-ASD-N2

The FCC requires that the calculated MPE be equal to or less than a given limit dependent on frequency at a distance of 20 cm from the device to the body of the user. The equation for the calculation is given in 47 CFR FCC Part 2 Subpart J, section 2.1091 as,

$$S = \text{EIRP} / 4 \pi R^2$$

Where S = Power density
 EIRP = Effective Isotropically Radiated Power
 R = distance to the centre of radiation of the antenna

Values S = 1.0 mW/cm² for General population uncontrolled exposure (FCC Part 1.1310 Radiofrequency radiation exposure limits)
 S = 1.0 mW/cm²
 PT = 19.01 dBm (79.62 mW) : measured maximum output power including tune-up tolerance.*note
 G = Antenna gain = 3 dBi (1.995 in linear terms)
 EIRP = PT x G
 R = 20 cm

Calculation EIRP = 79.62 x 1.995 = 158.85 mW
 S = 158.85 / (4 x (20)²)
 S = 0.0316 mW/cm²

Conclusion This confirms compliance to the required FCC Part 1.1310 Radiofrequency radiation exposure limit of 1.0 mW/cm² at 20 cm operation.

Note: Measured maximum output power : 17.51 dBm / Tune-up tolerance : 17 dBm ± 1.5 dB