

MPE Calculation / RF Exposure

Product: WAVE RSU

Applicant: IT TELECOM Co., Ltd.

Model: ITT-V2X-RSU-N2

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FCC ID: ZO9ITT-V2X-RSU-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,

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

Where S = Power density

 EIRP = Effective Isotropically Radiated Power

R = distance to the centre of radiation of the antenna

Values $S = 1.0 \text{ mW/cm}^2$ for General population uncontrolled exposure (FCC Part 1.1310 Radiofrequency radiation exposure limits)

$S = 1.0 \text{ mW/cm}^2$

PT = 20.6 dBm (114.82 mW) : measured maximum output power including tune-up tolerance. *note

G = Antenna gain = 5.8 dBi (3.802 in linear terms)

EIRP = PT x G

R = 20 cm

Calculation EIRP = $114.82 \times 3.802 = 436.52 \text{ mW}$

$S = 436.52/12.56 \times (20)^2$

$S = 0.0868 \text{ mW/cm}^2$

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

Note: Measured maximum output power : 19.10 dBm / Tune-up tolerance : 18 dBm \pm 1.5 dB