

MPE Calculation / RF Exposure

Applicant: IT TELECOM Co., Ltd.

Product: WAVE OBE

Model: ITT-VAD-SH2-ET

FCC ID : ZO9ITT-VAD-SH2-ET

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 = 9.75 dBm (9.44 mW) : measured maximum peak output power

G = Antenna gain = 5.5 dBi (3.55 in linear terms)

EIRP = PT x G

R = 20 cm

Calculation EIRP = $9.44 \times 3.55 = 33.512 \text{ mW}$

$$S = 33.512/12.56 \times (20)^2$$

$$S = 33.512/5024$$

$S = 0.007 \text{ mW/cm}^2$

Conclusion This confirms compliance to the required FCC Part 1.1310 Radiofrequency radiation exposure limit of 1.0 mW/cm^2 at 20 cm operation.