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, section2.1091 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 mW/cm^2 for General population uncontrolled exposure (FCC Part 1.1310 Radiofrequency radiation exposure limits)
S = 1.0 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 x 3.55 = 33.512 mW
S = 33.512/12.56 x (20)^2
S =33.512/5024
S = 0.007 mW/cm^2

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