

MPE Calculation / RF Exposure

Applicant: Gluesys Co., Ltd.

Product: WiFi NAS

Model: Storpia Disk

FCC ID : 2AETX-STORPIADISK

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 = 11.79 dBm (15.10 mW) : measured maximum output power

G = Antenna gain = Ant1: 0.9 dBi, Ant2: 3.0 dBi, Total: 5.02 dBi (3.18 in linear terms)

$$\text{EIRP} = \text{PT} \times \text{G}$$

$$R = 20 \text{ cm}$$

Calculation $\text{EIRP} = 15.10 \times 3.18 = 48.02 \text{ mW}$

$$S = 48.02/12.56 \times (20)^2$$

$$S = 48.02/5024$$

$$S = 9.56 \times 10^{-3} \text{ mW/cm}^2$$

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.**