

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,

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

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 = 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)
 EIRP = PT x G
 R = 20 cm

Calculation EIRP = 15.10 x 3.18 = 48.02 mW
 S = 48.02/12.56 x (20)²
 S = 48.02/5024
 S = 9.56 x 10⁻³ 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.