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9.2 MPE Calculation

9.2.1 Calculation RF exposure

RESULT:
PASS

The calculated of MPE limit at given distance

Equation of OET Bulletin 65, Edition 97-01

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

where: S = Power density

P = Power input to the antenna

G = Antenna gain

R = Distance to the center of radiation of the antenna

The table below is excerpted from Table 1B of 47 CFR 1.1310 titled "Limits for Maximum Permissible Exposure (MPE), Limits for General Population/Uncontrolled Exposure"

Frequency Range (MHz)	Power Density (mW/cm ²)	Averaging Time (minutes)
1500 - 100000	1.0	30

where f = Frequency (MHz)

Calculation:

P Max power input to the antenna: 19.0 dBm / 79.4 mW

R Distance: 20 cm

 S MPE limit for uncontrolled exposure: 1 mW/cm²

G Antenna gain: 2.2 numerical

 Calculated Power density: **0.0346 mW/cm²**