MPE Calculation Method

Predication of MPE limit at a given distance
Equation from page 19 of OET Bulletin 65, Edition 97-01

$$\mathbf{S} = \frac{EIRP}{4\pi R^2}$$

where:
S = power density (in appropriate units, e.g. mW/cm^2)
EIRP = equivalent (or effective) isotropically radiated power (in appropriate units, e.g., mW)
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

As declared by the Applicant, the EUT is a wireless device used in a fix application, at least 20 cm from any body part of the user or nearby persons; from the maximum EUT RF output power, the minimum separation distance, r =20cm, as well as the gain of the used antenna is 2dBi, the RF power density can be obtained. So, the worst result is below:

Max Output Power = 17.35 dBm, Ant gain 1.93dBi
EIRP=PG= (17.35+1.93) dBm=19.28 dBm=$10^{(19.28/10)}$ mW=84.72mW

So, $\mathbf{S} = \frac{EIRP}{4\pi R^2} = \frac{84.72}{4\pi \times 20^2} = 0.02$ **mW/cm^2<1.0 mW/cm^2**

Conclusion: **Pass**.