

RF Exposure

HMD19120009

Test Requirement: FCC 47CFR 15.247(i)
Test Date: 2019-12-30
Mode of Operation: WIFI Tx mode

Test Method:

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines.

This evaluation used FCC 47CFR 2.1091 to perform.

Test Results:

The EUT complied with the requirement(s) of this section.

EUT meets the requirements of these sections as proven through MPE calculation

The MPE calculation for EUT @ 20cm

The power tune up tolerance is $\pm 1.0\text{dBm}$

Based on the highest $P = 16.56\text{dBm} + 1$

$$= 17.56\text{dBm}$$

$$= 57.02 \text{ mW}$$

$$\begin{aligned} P_d &= PG / 4\pi R^2 = (57.02 \times 1.58) / 12.566 \times (20)^2 \\ &= (90.0916) / 12.566 \times 400 = 90.0916 / 5026.4 \\ &= 0.0179 \text{ mW/cm}^2 \end{aligned}$$

where:

* P_d = power density in mW/cm^2

* G = Antenna numeric gain (1.58); $\text{Log } G = g/10$ ($g = 2\text{dBi}$).

* P = Conducted RF power to antenna (57.02 mW).

* R = Minimum allowable distance.(20 cm)

*The power density $P_d = 0.0179 \text{ mW/cm}^2$ is less than 1 mW/cm^2 (listed MPE limit)

*The SAR evaluation is not needed (this is a desk top device, $R > 20 \text{ cm}$)

* The EUT(antenna) must be 0.2 meters away from the General Population.