

3.1.8 RF Exposure

Test Requirement: FCC 47CFR 15.247(i)
Test Date: 2018-11-20
Mode of Operation: Wifi 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.

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

Based on the highest P = 119 mW

The power tune up tolerance is 19.76±1.0dBm

Max. duty factor is 100%

$$\begin{aligned} P_d &= P_G / 4\pi R^2 = (119 \times 1.97) / 12.566 \times (20)^2 \\ &= (234.43) / 12.566 \times 400 = 234.43 / 5026.4 \\ &= 0.0466 \text{ mW/cm}^2 \end{aligned}$$

where:

* P_d = power density in mW/cm²

* G = Antenna numeric gain (2.94); $\text{Log } G = g/10$ ($g = 1.97\text{dBi}$).

* P = Conducted RF power to antenna (119 mW).

* R = Minimum allowable distance.(20 cm)

*The power density $P_d = 0.0466 \text{ mW/cm}^2$ is less than 1 mW/cm² (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.