

RF Exposure

Test Requirement: FCC 47CFR 15.247(i)
Test Date: 2018-08-14
Mode of Operation: 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.

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

For Bluetooth DSS:

Based on the highest P = 0.425 mW

$$\begin{aligned} P_d &= PG / 4\pi R^2 = (0.425 \times 1) / 12.566 \times (20)^2 \\ &= (0.425) / 12.566 \times 400 = 0.425 / 5026.4 \\ &= 0.000085 \text{ mW/cm}^2 \end{aligned}$$

For Bluetooth DTS:

Based on the highest P = 0.662 mW

$$\begin{aligned} P_d &= PG / 4\pi R^2 = (0.662 \times 1) / 12.566 \times (20)^2 \\ &= (0.662) / 12.566 \times 400 = 0.662 / 5026.4 \\ &= 0.00013 \text{ mW/cm}^2 \end{aligned}$$

where:

*Pd = power density in mW/cm²

* G = Antenna numeric gain (1.0); Log G = g/10 (g = 0dBi).

* P = Conducted RF power to antenna (DSS: 0.425 Mw, DTS: 0.662 mW).

* R = Minimum allowable distance.(20 cm)

*The DSS power density Pd = 0.000085 mW/cm² is less than 1 mW/cm² (listed MPE limit)

*The DTS power density Pd = 0.00013 mW/cm² is less than 1 mW/cm² (listed MPE limit)

*The SAR evaluation is not needed (this is a desk top device, R> 20 cm)

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