

RF Exposure

FCC ID:	2ACM4RKD3799BT
Test Requirement:	FCC 47CFR 15.247(i)
Test Date:	2022-02-24
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

Based on the highest P =1.119 mW

$$\begin{aligned} Pd &= PG / 4\pi * R^2 = (1.119 \times 1) / 12.566 * (20)^2 \\ &= (1.119 \times 0.875) / 12.566 \times 400 = 0.979 / 5026.4 \\ &= 0.00019 \text{ mW/cm}^2 \end{aligned}$$

where:

*Pd = power density in mW/cm²

* G = Antenna numeric gain (0.875); Log G = g/10 (g = -0.58dBi).

* P = Conducted RF power to antenna (1.119 mW).

* R = Minimum allowable distance.(20 cm)

*The power density Pd = 0.00019mW/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.

RF Exposure

FCC ID: 2ACM4RKD3799BT
Test Requirement: FCC 47CFR 15.247(i)
Test Date: 2022-02-24
Mode of Operation: Tx mode

Requirements:

In 15.247(i), an equipment shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the limits in §§ 1.1310 and 2.1093 of this chapter.

Applications to the Commission for construction permits, licenses to transmit or renewals thereof, equipment authorizations or modifications in existing facilities must contain a statement confirming compliance with the limits unless the facility, operation, or transmitter is categorically excluded, as discussed below. Technical information showing the basis for this statement must be submitted to the Commission upon request.

According to KDB447498 D01 General RF Exposure Guidance v06, unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition.

Test Results:

RF Exposure Evaluation

For 100 MHz to 6 GHz and test separation distances \leq 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0 \text{ for 1-g SAR, and } \leq 7.5 \text{ for 10-g extremity SAR, where}$

$f_{(\text{GHz})}$ is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation

The result is rounded to one decimal place for comparison

The Maximum conducted output power = 1.119 mW (at frequency = 2.402 GHz)

The test separation distances is \leq 5 mm

The power tune up tolerance is $0.49 \pm 1.70 \text{ dBm}$

SAR Test Exclusion Thresholds = $0.51 \leq 3.0$ for 1-g SAR,