5.8 RF Exposure

5.8.1 Regulation

According to §15.247(i), 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. See § 1.1307(b)(1) of this Chapter.

KDB447498 was used as the guidance.
According to §1.1310 and §2.1093 RF exposure is calculated.

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [$\sqrt{f(GHz)}$] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where
• f(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
• 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

5.8.2 Result

1. Conducted output power (EIRP) (mW) = Conducted output power(mW) x Antenna gain (Numeric)
2. [(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [$\sqrt{f(GHz)}$] ≤ 3.0

Conducted output power		Antenna gain		Conducted output power (EIRP)	Minimum test separation distance	SAR test exclusion calculation
(dBm)	(mW)	(dBm)	(mW)	(mW)	(mm)	
5.45	3.51	3.50	2.24	7.85	5.00	**1.09**

5.8.3 RF Exposure Compliance Issue

Therefore, EUT is not required the SAR Evaluation.

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