# **RF Exposure**

## **Standard Applicable:**

According to \$1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

This is a Portable device with its physical nature to be used nearby, the distance between radiating structure and human is less than 20cm.

As per KDB 447498 D01 \$4.3.1, The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] ·

 $[\sqrt{f(GHz)}] \le 3.0$  for 1-g SAR and  $\le 7.5$  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

## **Measurement Result:**

Step 1: (<50mW)

This is a portable device and the Max avg output power is (0.81mW) lower than the threshold given and derived as formula given above, where

 $=0.81 \text{ (mW)}/5 \text{ (mm)} \times \sqrt{2.442} \text{ (GHz)} = 0.25229162 < 3.0$ 

Fre	quency Po 2442	wer (avg in dBm) -0.93	Power (avg mv 0.80723503	v) Distance (mm 5	<b>Threshold (&lt;50mm)</b> 0.25229162
	Frequency (MHz)	Avg Power (dBm)	Output Power (W)	Limit (W)	
	2442	-0.93	0.000807	1 Watt = 30 dBm	

As the result of calculation result indicates, the RF exposure generating from given transmitter (transmitter employed digital modulation) can be excluded from SAR measurement, and is deemed compliant with RF exposure as per FCC.

#### The table of quick reference in terms of power threshold

#### SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and $\leq 50~mm$

Approximate SAR Test Exclusion Power Thresholds at Selected Frequencies and Test Separation Distances are illustrated in the following Table.

	MHz	5	10	15	20	25	mm
	150	39	77	116	155	194	
	300	27	55	82	110	137	SAR Test Exclusion Threshold (mW)
	450	22	45	67	89	112	
	835	16	33	49	66	82	
	900	16	32	47	63	79	
	1500	12	24	37	49	61	
	1900	11	22	33	44	54	
	2450	10	19	29	38	48	
	3600	8	16	24	32	40	
	5200	7	13	20	26	33	
	5400	6	13	19	26	32	
	5800	6	12	19	25	31	
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Note that the table present above is the table of quick reference, indexing the level of power threshold with respect to the corresponding frequency. The value of the index may be deviated, and therefore, the derivation of exemption based on KDB447498 D01 is used in this test report, relevantly.