

1.0 Maximum Permissible Exposure Evaluation (Supplements the test report.)

The results of power measurement and intended use/proximity are compared against the requirements for safety of RF exposure.

1.2 Criteria

Section Reference	Date
KDB 447498 D01 Mobile Portable RF Exposure v05r01 // RSS-102 Issue 5, Notice 2013 DRS0911	31 Jul 2015

1.3 Procedure

Using measurement of peak power and considering the intended application, determine the permissible exposure level, applicability of exclusion, or whether additional exposure tests (SAR) are indicated. When applicable justify conclusion for selected exposure level and separation distance.

1.4 Exemption Calculation

This device is affixed to typically a lamp or other such device for controlled color illumination in typically commercial applications. Power is determined from the measured conducted power. The lamp is of the flood style and typically recessed into a fixture or structure to prevent electrical shock. The nearest electronics is 40 mm behind the lens. This distance was chosen for exposure consideration since this end is held when the typical lamp is handled for installation or replacement.

Table 1.4.1 Power Calculation for Exposure, 2.4 GHz Radio (Highest frequency 2.480 GHz)					
Measured Conducted Peak Power dBm	Calculated Conducted Peak Power mW	Source Duty Cycle Factor dB	Maximum Antenna Gain dBi	Calculated EIRP dBm	EIRP In Linear Terms mW
20.1	102.3	-1.74	2.13	20.49	111.9

1.5 FCC, SAR Exemption – Appendix A Criteria

KDB 447498 D01Appendix A is copied below for reference.

Appendix A

SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and ≤ 50 mm

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

MHz	30	35	40	45	50	mm
150	232	271	310	349	387	SAR Test Exclusion Threshold (mW)
300	164	192	219	246	274	
450	134	157	179	201	224	
835	98	115	131	148	164	
900	95	111	126	142	158	
1500	73	86	98	110	122	
1900	65	76	87	98	109	
2450	57	67	77	86	96	
3600	47	55	63	71	79	
5200	39	46	53	59	66	
5400	39	45	52	58	65	
5800	37	44	50	56	62	

Note: 10-g Extremity SAR Test Exclusion Power Thresholds are 2.5 times higher than the 1-g SAR Test Exclusion Thresholds indicated above. These thresholds do not apply, by extrapolation or other means, to occupational exposure limits.

Per the table above, the exemption limit for power is at 40 mm and 2450 MHz is 77 mW; it is then adjusted for extremity exposure by multiplication of 2.5 times resulting in 192.5 mW.

Therefore, the device meets the FCC SAR exemption requirements.

1.6 IC, SAR Exemption – Clause 2.5.1 Criteria

Table of Clause 2.5.1 is copied below for reference.

Frequency (MHz)	Exemption Limits (mW)				
	At separation distance of 30 mm	At separation distance of 35 mm	At separation distance of 40 mm	At separation distance of 45 mm	At separation distance of ≥ 50 mm
≤ 300	223 mW	254 mW	284 mW	315 mW	345 mW
450	141 mW	159 mW	177 mW	195 mW	213 mW
835	80 mW	92 mW	105 mW	117 mW	130 mW
1900	99 mW	153 mW	225 mW	316 mW	431 mW
2450	83 mW	123 mW	173 mW	235 mW	309 mW
3500	86 mW	124 mW	170 mW	225 mW	290 mW
5800	56 mW	71 mW	85 mW	97 mW	106 mW

Per the table above, the exemption limit for power is at 40 mm and 2450 MHz is 173 mW.

The EUT therefore meets the IC criteria for exemption from SAR testing.

Signed:



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