

SAR Test Exclusion Consideration

Date: 04/07/2021

FCC ID: R8T-FAMAV4

Mode	Frequency	Electric Field @ 3 m	EIRP (dBm)
Tx	0.125 MHz	82 dBμV/m	-13.23

Field strength is then converted to EIRP as follows:

(i) $EIRP = ((E*d)^2) / 30$

where:

E is the field strength in V/m;

d is the measurement distance in meters;

EIRP is the equivalent isotropically radiated power in watts.

(ii) Working in dB units, the above equation is equivalent to:

$EIRP[dBm] = E[dB\mu V/m] + 20 \log(d[meters]) - 104.77$

Frequency	Max Power (mW) *1	Min. test separation distance (mm)	SAR test exclusion power thresholds *2 (mW)	Verdict
0.125 MHz	0.048	<200	2269 *3	PASS

*1 Max. power obtained from maximum EIRP.

*2 Calculate SAR test exclusion thresholds from “3” formulas. (base on 10-g extremity SAR exclusion thresholds)

*3 Limit below

For stand alone SAR exclusion consideration, the considered SAR exclusion threshold is obtained from KDB 447498 as shown below.

Appendix C

SAR Test Exclusion Thresholds for < 100 MHz and < 200 mm

Approximate SAR test exclusion power thresholds at selected frequencies and test separation distances are illustrated in the following table. The equation and threshold in 4.3.1 must be applied to determine SAR test exclusion.

MHz	< 50	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	mm
100	237	474	481	487	494	501	507	514	521	527	534	541	547	554	561	567	mW
50	308	617	625	634	643	651	660	669	677	686	695	703	712	721	729	738	
10	474	948	961	975	988	1001	1015	1028	1041	1055	1068	1081	1095	1108	1121	1135	
1	711	1422	1442	1462	1482	1502	1522	1542	1562	1582	1602	1622	1642	1662	1682	1702	
0.1	948	1896	1923	1949	1976	2003	2029	2056	2083	2109	2136	2163	2189	2216	2243	2269	
0.05	1019	2039	2067	2096	2125	2153	2182	2211	2239	2268	2297	2325	2354	2383	2411	2440	
0.01	1185	2370	2403	2437	2470	2503	2537	2570	2603	2637	2670	2703	2737	2770	2803	2837	

⇒ Since maximum EIRP is below SAR test exclusion power thresholds, the SAR evaluation is not required