

RF Exposure

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.

As per KDB 447498 D01 General RF Exposure Guidance v06,

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:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] *$

$[\sqrt{f(\text{GHz})}] \leq 3.0$ 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.

- Min. transmitting frequency = 2 440 MHz

- Min. test separation distance = 5 mm

-Max. Power with tune-up tolerance = -4.89 dBm = 0.32 mW

(Measured power -5.89 dBm \pm 1 dB)

SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distance ≤ 50 mm = **Used**

$[(\text{max.power of channel, including tune-up torelance, mW})/(\text{min. test separation distance, mm})] *$

$[\sqrt{f(\text{GHz})}] = [0.32 / 5] * [\sqrt{2.440}] = 0.10 \leq 3, \text{ for 1g SAR}$

Test mode : GFSK

Frequency (MHz)	Output Power (dBm)	Tolerance (dB)	Max tune-up Power (dBm)	Max tune-up Power (mW)	Separation Distance (mm)	RF Exposure	Limit
2 402	-8.31	± 1	-7.31	0.19	5	0.06	≤ 3.0
2 440	-5.89	± 1	-4.89	0.32	5	0.10	≤ 3.0
2 480	-6.52	± 1	-5.52	0.28	5	0.09	≤ 3.0

Test mode : $\pi/4$ DQPSK

Frequency (MHz)	Output Power (dBm)	Tolerance (dB)	Max tune-up Power (dBm)	Max tune-up Power (mW)	Separation Distance (mm)	RF Exposure	Limit
2 402	-8.19	± 1	-7.19	0.19	5	0.06	≤ 3.0
2 440	-6.31	± 1	-5.31	0.29	5	0.09	≤ 3.0
2 480	-6.39	± 1	-5.39	0.29	5	0.09	≤ 3.0

Test mode : 8DPSK

Frequency (MHz)	Output Power (dBm)	Tolerance (dB)	Max tune-up Power (dBm)	Max tune-up Power (mW)	Separation Distance (mm)	RF Exposure	Limit
2 402	-8.28	± 1	-7.28	0.19	5	0.06	≤ 3.0
2 440	-6.23	± 1	-5.23	0.30	5	0.09	≤ 3.0
2 480	-6.35	± 1	-5.35	0.29	5	0.09	≤ 3.0

Thus, SAR for this device is not required.