

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 ≤ 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

MEASUREMENT RESULT:

Step 1: (<50mW)

802.11b:

This is a portable device and the Max peak output power is (20.56mW) lower than the threshold given and derived as formula given above, where

$$= 20.56 \text{ (mW)} / 50 \text{ (mm)} * \sqrt{2412 \text{ (GHz)}} = 0.638584904 < 3.0$$

Frequency	Power (avg in dBm)	Power (avg mw)	Distance (mm)	Threshold (<50mm)
2412	13.13	20.55890596	50	0.638584904

Frequency (MHz)	Reading Power (dBm)	Output Power (W)	Limit (W)
2412	13.13	0.02056	1 Watt = 30 dBm

802.11g:

This is a portable device and the Max peak output power is (24.38mW) lower than the threshold given and derived as formula given above, where

$$= 24.38 \text{ (mW)} / 50 \text{ (mm)} * \sqrt{2462 \text{ (GHz)}} = 0.765022168 < 3.0$$

Frequency	Power (avg in dBm)	Power (avg mw)	Distance (mm)	Threshold (<50mm)
2462	13.87	24.37810818	50	0.765022168

Frequency (MHz)	Reading Power (dBm)	Output Power (W)	Limit (W)
2462	13.87	0.02438	1 Watt = 30 dBm

802.11n_20M (2.4GHz):

This is a portable device and the Max peak output power is (15.63mW) lower than the threshold given and derived as formula given above, where

$$= 15.63 \text{ (mW)}/50 \text{ (mm)}*\sqrt{2462 \text{ (GHz)}} = 0.490539541 < 3.0$$

Frequency	Power (avg in dBm)	Power (avg mw)	Distance (mm)	Threshold (<50mm)
2462	11.94	15.63147643	50	0.490539541

Frequency (MHz)	Reading Power (dBm)	Output Power (W)	Limit (W)
2462	11.94	0.01563	1 Watt = 30 dBm

802.11n_40M (2.4GHz):

This is a portable device and the Max peak output power is (15.14mW) lower than the threshold given and derived as formula given above, where

$$= 15.14 \text{ (mW)}/50 \text{ (mm)}*\sqrt{2452 \text{ (GHz)}} = 0.474012974 < 3.0$$

Frequency	Power (avg in dBm)	Power (avg mw)	Distance (mm)	Threshold (<50mm)
2452	11.8	15.13561248	50	0.474012974

Frequency (MHz)	Reading Power (dBm)	Output Power (W)	Limit (W)
2452	11.80	0.01514	1 Watt = 30 dBm