

RF exposure evaluation

§ 2.1093 Radiofrequency radiation exposure evaluation: Portable Devices.

According to § 15.247(i) and § 1.1307b(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the commission’s guidance.

The 1-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g 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
- When the minimum test separation distance is < 5 mm, a distance of 5 mm according is applied to determine SAR test exclusion.
- The result is rounded to one decimal place for comparison

Modulation	Channel	Frequency (GHz)	Tune up Power (dBm)	Max. Tune up Power (dBm)	Max. Tune up Power (mW)
11b/11g/11n(ht20)	CH 1	2.412	8.7±1	9.7	9.33
	CH 6	2.437	8.7±1	9.7	9.33
	CH11	2.462	8.7±1	9.7	9.33
11n(ht40)	CH 3	2.422	8.7±1	9.7	9.33
	CH 6	2.437	8.7±1	9.7	9.33
	CH9	2.452	8.7±1	9.7	9.33

Channel	Frequency (GHz)	Power (dBm)	Max. Power (mW)	Test distance (mm)	Result	exclusion thresholds for 1-g SAR
CH 1	2.412	9.65	9.23	5	2.87	3.0

Result:

Base on the calculation value, No SAR measurement is required.