

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 \leq 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

- $f(\text{GHz})$ 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

For BDR+EDR:

Channel	Frequency (GHz)	Tune up Power (dBm)	Max. Tune up Power (dBm)	Max. Tune up Power (mW)
CH 00	2.402	4 \pm 1	5	3.16
CH 39	2.441	4 \pm 1.5	5.5	3.55
CH 78	2.480	4 \pm 1.6	5.6	3.63

Channel	Frequency (GHz)	Max. Tune up Power (dBm)	Max. Tune up Power (mW)	Test distance (mm)	Result	Exclusion thresholds for 1-g SAR
CH 78	2.480	5.6	3.63	5	1.14	3.0

For 2.4G WIFI:

Channel	Frequency (GHz)	Tune up Power (dBm)	Max. Tune up Power (dBm)	Max. Tune up Power (mW)
CH 01	2.412	8.8 \pm 1	9.8	9.55
CH 06	2.437	8.5 \pm 1	9.5	8.91
CH 11	2.462	8.5 \pm 1	9.5	8.91

Channel	Frequency (GHz)	Power (dBm)	Max. Power (mW)	Test distance (mm)	Result	exclusion thresholds for 1-g SAR
CH 01	2.412	9.8	9.55	5	2.97	3.0