

## 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

**For BDR+EDR:**

| Channel | Frequency (GHz) | Tune up Power (dBm) | Max. Tune up Power (dBm) | Max. Tune up Power (mW) |
|---------|-----------------|---------------------|--------------------------|-------------------------|
| CH 00   | 2.402           | 4.5±1               | 5.5                      | 3.55                    |
| CH 39   | 2.441           | 4.5±1               | 5.5                      | 3.55                    |
| CH 78   | 2.480           | 4±1                 | 5                        | 3.16                    |

| Channel | Frequency (GHz) | Power (dBm) | Max. Power (mW) | Test distance (mm) | Result | exclusion thresholds for 1-g SAR |
|---------|-----------------|-------------|-----------------|--------------------|--------|----------------------------------|
| CH 39   | 2.441           | 5.5         | 3.55            | 5                  | 1.11   | 3.0                              |