

## 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

| Channel   | Frequency (GHz) | Power (dBm) | Max. Power (mW) | Tune up Power (dBm) | Max. Tune up Power (dBm) | Max. Tune up Power (mW) | Test distance (mm) | Result | exclusion thresholds for 1-g SAR |
|-----------|-----------------|-------------|-----------------|---------------------|--------------------------|-------------------------|--------------------|--------|----------------------------------|
| CH0(GFSK) | 2.402           | 4.95        | 3.13            | 5±1                 | 6                        | 3.98                    | 5                  | 1.23   | 3.0                              |
| CH0(BLE)  | 2.402           | 2.53        | 1.79            | 2±1                 | 3                        | 2.0                     | 5                  | 0.62   | 3.0                              |

**Result:**

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