

## **RF Exposure**

### **1. Standard Requirement**

According to §15.247 (i) and §1.1307(b)(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 guidelines.

### **2. Limits :**

The 1-g and 10-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 and  $\leq 7.5$  for 10-g extremity SAR,<sup>16</sup> 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<sup>17</sup>
- The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum *test separation distance* is  $\leq 50$  mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum *test separation distance* is  $< 5$  mm, a distance of 5 mm is applied to determine SAR test exclusion.

### **3. EUT RF Exposure**

The max. power of channel, including tune-up tolerance is -1.60 dBm in high channel(2.480GHz); -1.60dBm logarithmic terms convert to numeric result is nearly 0.69mW.

According to the formula. Calculate the EIRP test result:

$[(\text{max.power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}]$

General RF Exposure =  $(0.69\text{mW} / 5\text{mm}) \times \sqrt{2.480\text{GHz}} = 0.22 \dots$  ①

SAR requirement:  $S=3.0 \dots$  ②;

① < ②.

**So the SAR report is not required.**