



APPENDIX L

: RF EXPOSURE EVALUATION



RF Exposure Evaluation

1.1 Applicable Standard

According to §15.247(e)(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.

According to KDB 447498 DS01 Ver 06, no Hand SAR required if power is lower than the following threshold:
Device is hand-operated device; its antenna will be less than 5cm, but more than 5 cm from human body.
So Body SAR is not required.

LGE-MEDIA-SB1

Maximum Transmitting Frequency : 2440 MHz

Min. test separation distance : 5 mm

Max. average power : -1.84 dBm

Turn-up tolerance : ± 4 dB

Max. average power of channel, including tune-up tolerance

= Max. average power + Turn-up tolerance = $-1.84 \text{ dBm} + 4.0 \text{ dB} = 2.16 \text{ dBm} = 1.644 \text{ mW}$

Step 1)

SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by

$$\left[\frac{\text{max. power of channel, including tune-up tolerance, mW}}{\text{min. test separation distance, mm}} \right] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

Result value

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

$$= 1.644 / 5 \cdot \sqrt{2.44} = 0.51 < 3.0$$

$0.51 \leq 3$, for 1 g SAR

Conclusion: SAR test is not required.