Standalone SAR test exclusion considerations

May 11, 2016

- Device category =　☐ Portable device　　☑ Mobile device
- Transmitting mode =　　☑ Single Transmitting　　☐ Simultaneous Transmitting
- Max. transmitting frequency =　　**2480**　MHz
- Min. test separation distance =　　**200**　mm
- Max. Antenna Gain =　　**-0.1**　dBi
- Max. power with turn-up tolerance =　　**-2.00**　dBm　=　**0.7**　mW　(　Typical Power =　**Max.　-2.00**　dBm　)

Note.　Bluetooth(1Mbps)

KDB 447498 D01 clasue 4.3.1 Step 2-2)　SAR test exclusion thresholds for 1500MHz to 6GHz at test separationn distances > 50 mm

[Threshold at 50 mm + (test separation distance - 50 mm) X 10] mW

= [0.01 + (200mm - 50mm X 10)] = 1500

　Note. The calculation result was rounded to one decimal place for comparison.

→ SAR evaluation for general population exposure conditions by measurement or numerical simulation is not required.

Maximum Permissible Exposure(MPE) evaluation for mobile device

$$S = P G / (4 R^2 \pi) \text{ , mW/cm}^2$$

S　=　Maximum power density
P　=　Maximum power with turn-up tolerance

G　=　Numeric power gain of the antenna
R　=　Distance from transmitting antenna

　=　**0.000136**　mW/cm^2

Conclusion:　The exposure condition of this device is compliant with FCC rules.

The limit for maximum permissible exposure =　1.000000　mW/cm^2

Standalone SAR test exclusion considerations

- Device category = ☐ Portable device ☑ Mobile device
- Transmitting mode = ☑ Single Transmitting ☐ Simultaneous Transmitting
- Max. transmitting frequency = **2480** MHz
- Min. test separation distance = **200** mm
- Max. Antenna Gain = **-0.1** dBi
- Max. power with turn-up tolerance = **-3.50** dBm = **0.5** mW (Typical Power = **Max.** **-3.50** dBm)

Note. Bluetooth(2Mbps/3Mbps)

KDB 447498 D01 clasue 4.3.1 Step 2-2) SAR test exclusion thresholds for 1500MHz to 6GHz at test separationn distances > 50 mm

[Threshold at 50 mm + (test separation distance - 50 mm) X 10] mW

= [0 + (200mm - 50mm X 10)] = 1500

   Note. The calculation result was rounded to one decimal place for comparison.

→ SAR evaluation for general population exposure conditions by measurement or numerical simulation is not required.

Maximum Permissible Exposure(MPE) evaluation for mobile device

$$S = P \, G \, / \, (4 \, R^2 \, \pi) \, , \, mW/cm^2$$

S = Maximum power density

P = Maximum power with turn-up tolerance

G = Numeric power gain of the antenna

R = Distance from transmitting antenna

   $= 0.000097$ mW/cm^2

Conclusion: The exposure condition of this device is compliant with FCC rules.

The limit for maximum permissible exposure = 1.000000 mW/cm^2