Standalone SAR test exclusion considerations

March 13, 2017

- 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 = 3.38 dBi
- Max. power with turn-up tolerance = 13.00 dBm = 20.0 mW (Typical Power = Max. 13.00 dBm)

Note. BT(BDR/EDR)

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

= [0.16 + (200mm - 50mm X 10)] = 1500.2

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

= 0.008665 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

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

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

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- 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 = 3.38 dBi
- Max. power with turn-up tolerance = -4.50 dBm = 0.355 mW (Typical Power = Max. -4.50 dBm)

Note. BLE

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

= 0.000154 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

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

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