

Standalone SAR test exclusion considerations

July 22, 2016

- Device category = ☐ Portable device ☒ Mobile device
- Transmitting mode = ☐ Single Transmitting ☒ Simultaneous Transmitting
- Max. transmitting frequency = 5240 MHz
- Min. test separation distance = 200 mm
- Max. Antenna Gain = 3.983 dBi
- Max. power with turn-up tolerance = 18.00 dBm = 63.1 mW (Typical Power = Max. 18.00 dBm)
- 1st Transceiver = 15.00 dBm , 2nd Transceiver = 15.00 dBm

Note. ANT1 : 0.750 dBi , ANT2 : 1.190 dBi , Directional Gain : 3.983 dBi (Using correlated signal)
5180 ~ 5240 MHz

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

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

= [0.72 + (200mm - 50mm X 10)] = 1500.7

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

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

$$= 0.031409 \text{ mW/cm}^2$$

S = Maximum power density

P = Maximum power with turn-up tolerance

G = Numeric power gain of the antenna

R = Distance from transmitting antenna

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

The limit for maximum permissible exposure = 1.000000 mW/cm²

Standalone SAR test exclusion considerations

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- Device category = ☐ Portable device ☒ Mobile device
- Transmitting mode = ☐ Single Transmitting ☒ Simultaneous Transmitting
- Max. transmitting frequency = 5320 MHz
- Min. test separation distance = 200 mm
- Max. Antenna Gain = 3.874 dBi
- Max. power with turn-up tolerance = 18.00 dBm = 63.1 mW (Typical Power = Max. 18.00 dBm)
- 1st Transceiver = 15.00 dBm , 2nd Transceiver = 15.00 dBm

Note. ANT1 : 0.620 dBi , ANT2 : 1.100 dBi , Directional Gain : 3.874 dBi (Using correlated signal)
5260 ~ 5320 MHz

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

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

= [0.73 + (200mm - 50mm X 10)] = 1500.7

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

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

$$= 0.030631 \text{ mW/cm}^2$$

S = Maximum power density

P = Maximum power with turn-up tolerance

G = Numeric power gain of the antenna

R = Distance from transmitting antenna

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

The limit for maximum permissible exposure = 1.000000 mW/cm²

Standalone SAR test exclusion considerations

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- Device category = ☐ Portable device ☒ Mobile device
- Transmitting mode = ☐ Single Transmitting ☒ Simultaneous Transmitting
- Max. transmitting frequency = 5720 MHz
- Min. test separation distance = 200 mm
- Max. Antenna Gain = 3.204 dBi
- Max. power with turn-up tolerance = 17.00 dBm = 50.2 mW (Typical Power = Max. 17.00 dBm)
- 1st Transceiver = 14.00 dBm , 2nd Transceiver = 14.00 dBm

Note. ANT1 : 0.920 dBi , ANT2 : -0.600 dBi , Directional Gain : 3.204 dBi (Using correlated singal)
5500 ~ 5720 MHz

KDB 447498 D01 clause 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

= [0.6 + (200mm - 50mm X 10)] = 1500.6

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

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

$$= 0.020885 \text{ mW/cm}^2$$

S = Maximum power density

P = Maximum power with turn-up tolerance

G = Numeric power gain of the antenna

R = Distance from transmitting antenna

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

The limit for maximum permissible exposure = 1.000000 mW/cm²

Standalone SAR test exclusion considerations

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- Device category = ☐ Portable device ☒ Mobile device
- Transmitting mode = ☐ Single Transmitting ☒ Simultaneous Transmitting
- Max. transmitting frequency = 5825 MHz
- Min. test separation distance = 200 mm
- Max. Antenna Gain = 3.133 dBi
- Max. power with turn-up tolerance = 17.00 dBm = 50.2 mW (Typical Power = Max. 17.00 dBm)
- 1st Transceiver = 14.00 dBm , 2nd Transceiver = 14.00 dBm

Note. ANT1 : 0.940 dBi , ANT2 : -0.780 dBi , Directional Gain : 3.133 dBi (Using correlated singal)
5745 ~ 5825 MHz

KDB 447498 D01 clause 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

= [0.61 + (200mm - 50mm X 10)] = 1500.6

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

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

$$= 0.020546 \text{ mW/cm}^2$$

S = Maximum power density

P = Maximum power with turn-up tolerance

G = Numeric power gain of the antenna

R = Distance from transmitting antenna

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

The limit for maximum permissible exposure = 1.000000 mW/cm²