



Standalone SAR test exclusion considerations

March 31, 2022

- Device category = ☐ Portable device ☒ Mobile device
- Transmitting mode = ☐ Single Transmitting ☒ Simultaneous Transmitting
- Max. transmitting frequency = 2437 MHz
- Min. test separation distance = 200 mm
- Max. Antenna Gain = 1.88 dBi
- Max. power with turn-up tolerance = 24.0 dBm = 251.8 mW (Typical Power = Max. 23.0 dBm + 1.0 dB)
- 1st Transceiver = 20.0 dBm , 2nd Transceiver = 20.0 dBm 3st Transceiver = , 4nd Transceiver =

Note.

Max. power with turn-up tolerance was used the highest value in low/mid/high channels.

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

$$= [1.97 + (200\text{mm} - 50\text{mm} \times 10)] = 1502$$

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

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

$$= 0.077230 \text{ mW/cm}^2$$

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



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- Device category = ☐ Portable device ☒ Mobile device
- Transmitting mode = ☐ Single Transmitting ☒ Simultaneous Transmitting
- Min transmitting frequency = 5180 MHz
- Min. test separation distance = 200 mm
- Max. Antenna Gain = 1.98 dBi
- Max. power with turn-up tolerance = 25.0 dBm = 317.8 mW (Typical Power = Max. 24.0 dBm + 1.0 dB)
- 1st Transceiver = 18.0 dBm , 2nd Transceiver = 18.0 dBm 3rd Transceiver = 18.0 , 4nd Transceiver = 18.0

Note. Max. power with turn-up tolerance was used the highest value in low/mid/high channels.

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

= [3.62 + (200mm - 50mm X 10)] = 1503.6

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

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

$$= 0.099743 \text{ mW/cm}^2$$

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



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Modules	Maximum power density, S (mW/cm ²)	MPE Limit (mW/cm ²)	MPE Ratio
DTS WLAN (2.4GHz)	0.077230	1.000000	0.0772
UNII WLAN (5GHz)	0.099743	1.000000	0.0997
Maximum MPE ratio: (0.0772 + 0.0997)			0.1769 < 1.0000