



Standalone SAR test exclusion considerations

August 11, 2021

- 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 = 23.50 dBm = 223.9 mW (Typical Power = Max. 23.50 dBm)
1st Transceiver = 20.00 dBm , 2nd Transceiver = 21.00 dBm

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

$$= [1.75 + (200\text{mm} - 50\text{mm} \times 10)] = 1501.7$$

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

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

$$= 0.068673 \text{ mW/cm}^2$$

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 = 5755 MHz
- Min. test separation distance = 200 mm
- Max. Antenna Gain = 1.98 dBi
- Max. power with turn-up tolerance = 25.00 dBm = 316.3 mW (Typical Power = Max. 25.00 dBm)
- 1st Transceiver = 20.00 dBm , 2nd Transceiver = 19.00 dBm 3st Transceiver = 17.00 , 4nd Transceiver = 19.50

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

$$= [3.79 + (200\text{mm} - 50\text{mm} \times 10)] = 1503.8$$

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

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

$$= 0.099273 \text{ mW/cm}^2$$

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)	0.068673	1.000000	0.0687
UNII WLAN (5GHz)	0.099273	1.000000	0.0993
Maximum MPE ratio: (0.0687 + 0.0993)			0.168 < 1