

# Standalone SAR test exclusion considerations

May 13, 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 = 1.3 dBi
- Max. power with turn-up tolerance = 6.00 dBm = 4.0 mW ( Typical Power = Max. 6.00 dBm )

Note. ZIGBEE

**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

= [ 0.03 + ( 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

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

$$= 0.001073 \text{ mW/cm}^2$$

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/cm<sup>2</sup>