

Standalone SAR test exclusion considerations(BT LE)

January 29, 2015

- Min. transmitting frequency = 2480 MHz
- Min. test separation distance = 5 mm
- Max. power with turn-up tolerance = -14.50 dBm = 0.035 mW
- Typical Power: -15.50 dBm ± 1.00 dB
- Measured Output Power: -14.96 dBm

Step 1) SAR test exclusion thresholds for 100MHz to 6GHz at test separation distances ≤ 50 mm = Used

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}]$

= $[0.04 / 5] \cdot [\sqrt{2.48}]$

= 0.01 ≤ 3, for 1g SAR

Thus SAR for this device is not required.

Step 2-1) SAR test exclusion thresholds for 100MHz to 1500MHz at test separation distances > 50 mm = N/A

$[\text{Threshold at 50 mm in step 1}) + (\text{test separation distance} - 50 \text{ mm}) \cdot (f(\text{MHz})/150)] \text{ mW}$

Step 2-2) SAR test exclusion thresholds for 1500MHz to 6GHz at test separation distances > 50 mm = N/A

$[\text{Threshold at 50 mm in step 1}) + (\text{test separation distance} - 50 \text{ mm}) \cdot 10] \text{ mW}$

Standalone SAR test exclusion considerations(BT)

January 29, 2015

- Min. transmitting frequency = 2480 MHz
- Min. test separation distance = 5 mm
- Max. power with turn-up tolerance = -10.50 dBm = 0.089 mW
- Typical Power: -11.50 dBm ± 1.00 dB
- Measured Output Power: -10.81 dBm

Step 1) SAR test exclusion thresholds for 100MHz to 6GHz at test separationn distances ≤ 50 mm = Used

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}]$

= $[0.09 / 5] \cdot [\sqrt{2.48}]$

= 0.03 ≤ 3, for 1g SAR [Thus SAR for this device is not required.](#)

Step 2-1) SAR test exclusion thresholds for 100MHz to 1500MHz at test separationn distances > 50 mm = N/A

$[\text{Threshold at 50 mm in step 1}) + (\text{test separation distance} - 50 \text{ mm}) \cdot (f(\text{MHz})/150)] \text{ mW}$

Step 2-2) SAR test exclusion thresholds for 1500MHz to 6GHz at test separationn distances > 50 mm = N/A

$[\text{Threshold at 50 mm in step 1}) + (\text{test separation distance} - 50 \text{ mm}) \cdot 10] \text{ mW}$