

According to 447498 D01 General RF Exposure Guidance v06 section 4.3.1, the 1-g SAR test exclusion thresholds at test separation distance  $\leq 50$  mm are determined by:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$$

BT and BLE

The Max. tune-up power is 7 dBm , therefore the highest tune-up power is 7.0 dBm (5.01 mW) @ 2480 MHz

When the minimum *test separation distance* is  $< 5$  mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

So,

$$( 5.01\text{mW} / 5\text{mm} ) * ( 2.480\text{GHz} ^{0.5} ) = 1.6$$

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] = 1.6 < 3.0$$

Therefore, standalone SAR measurements are not required for both head and body.

**Estimated SAR for Simultaneous Transmission SAR Analysis Considerations for SAR estimation**

1. When standalone SAR test exclusion applies, standalone SAR must also be estimated to determine simultaneous transmission SAR test exclusion.
2. Dedicated Host Approach criteria for SAR test exclusion is likewise applied to SAR estimation, with certain distinctions between test exclusion and SAR estimation:
  - o When the separation distance from the antenna to an adjacent edge is  $\leq 5$  mm, a distance of 5 mm is applied for SAR estimation; this is the same between test exclusion and SAR estimation calculations.
  - o When the separation distance from the antenna to an adjacent edge is  $> 5$  mm but  $\leq 50$  mm, the actual antenna-to-edge separation distance is applied for SAR estimation.
  - o When the minimum test separation distance is  $> 50$  mm, the estimated SAR value is 0.4 W/kg
3. Please refer to Estimated SAR Tables to see which test positions are inherently compliant as they consist of only estimated SAR values for all applicable transmitters and consequently will always have sum of SAR values  $< 1.2$  W/kg. Simultaneous transmission SAR analysis was therefore not performed for these test positions.

**Estimated SAR for Bluetooth**

Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)	Estimated 1-g SAR Value (W/kg)
		dBm	mW		
BT	2480	7.00	5	5	0.210
BLE	2480	7.00	5	5	0.210

**Sum of the SAR for BT & BLE**

$0.21 + 0.21 = 0.42$

**Conclusion:**

Simultaneous transmission SAR measurement (Volume Scan) is not required because either the sum of the 1-g SAR is  $< 1.6$  W/kg or the SPLSR is  $< 0.04$  for all circumstances that require SPLSR calculation.

**Note:**

1. The tune up power referred the AVG power of the test report TMWK2406002062KR and TMWK2407002363KR for SAR test exclusion purpose.