



13. Radio Frequency Exposure

The measurements shown in this test report were made in accordance with the procedures given in FCC Part 2 (Section 2.1091)

LIMIT

KDB 447498 D01 § 4.3(a)

For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

$$\left[\frac{\text{max. power of channel, including tune-up tolerance, mW}}{(\text{min. test separation distance, mm})} \right] \cdot \sqrt{f(\text{GHz})} \leq 3.0 \text{ for 1-g SAR, and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$

*f(GHz) is the RF channel transmit frequency in GHz

* Power and distance are rounded to the nearest mW and mm before calculation

*The result is rounded to one decimal place for comparison

*The values 3.0 and 7.5 are referred to as numeric thresholds in step b) below

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm, and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 4.1 f) is applied to determine SAR test exclusion

13.1 EUT Specification

Frequency band (Operating)	<input checked="" type="checkbox"/> WLAN: 2412MHz ~ 2462MHz <input checked="" type="checkbox"/> Bluetooth: 2402MHz ~ 2480MHz
Device category	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation)
Exposure classification	<input type="checkbox"/> Occupational/Controlled exposure <input checked="" type="checkbox"/> General Population/Uncontrolled exposure
Antenna diversity	<input checked="" type="checkbox"/> Single antenna <input type="checkbox"/> Multiple antennas <input type="checkbox"/> Tx diversity <input type="checkbox"/> Rx diversity <input type="checkbox"/> Tx/Rx diversity
Evaluation applied	<input checked="" type="checkbox"/> MPE Evaluation* <input type="checkbox"/> SAR Evaluation <input type="checkbox"/> N/A

Remark:

1. The maximum conducted output power is 6.93dBm (4.932mW) at 2480MHz (with 3.74dBi antenna gain.)
2. DTS device is not subject to routine RF evaluation; MPE estimate is used to justify the compliance.
3. For mobile or fixed location transmitters, no SAR consideration applied.

*Note: Simultaneous transmission is not applicable for this EUT.



13.2 Test Results

According to the KDB447498:

The SAR test exclusion thresholds Level:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] * \text{sqrt}(\text{freq. in GHz}) < 3$

Calculation

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Modulation Mode	Channel Frequency (MHz)	Max. Conducted output power (dBm)	Max. Tune up power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
GFSK	2402-2480	4.49	5.99	3.74	20	0.002	1
$\pi/4$ -DQPSK	2402-2480	6.37	7.87	3.74	20	0.003	1
8DPSK	2402-2480	6.93	8.43	3.74	20	0.003	1

Since the source-based time-averaging conducted output power is well below the SAR low threshold level, so the EUT is considered to comply with SAR requirement without testing

Maximum Permissible Exposure(Co-location)

BT+Wifi 2.4G

Modulation Type	Channel Frequency (MHz)	Max. Conducted output power (dBm)	Max. Tune up power (dBm)	Antenna Gain(dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)	MPE Ratio
8DPSK	2402-2480	6.93	8.43	3.74	20	0.003	1.000	0.003
11n HT20	2412-2462	24.46	25.96	2.4	20	0.136	1.000	0.136
Co-location Total								0.139
Σ MPE ratios Limit								1