

RADIO FREQUENCY EXPOSURE

EUT Specification

| | |
|----------------------------|---|
| EUT | CH18 |
| Frequency band (Operating) | <input checked="" type="checkbox"/> WLAN: 2.400GHz ~ 2.460GHz <input type="checkbox"/> Others |
| Device category | <input checked="" type="checkbox"/> Portable (<20cm separation) <input type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others |
| Exposure classification | <input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm ²) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm ²) |
| Antenna diversity | <input checked="" type="checkbox"/> Single antenna <input type="checkbox"/> Multiple antennas <input type="checkbox"/> Tx diversity <input type="checkbox"/> Rx diversity <input checked="" type="checkbox"/> Tx/Rx diversity |
| Max. output power | 2.400-2.460GHz: 0.24mW |
| Antenna gain (Max) | 0 dBi |
| Evaluation applied | <input type="checkbox"/> MPE Evaluation* <input type="checkbox"/> SAR Evaluation <input checked="" type="checkbox"/> N/A |

Remark:

1. The maximum output power is 0.24mW at 2460MHz (with 1 numeric 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. The maximum power density is 1.0 mW/cm² even if the calculation indicates that the power density would be larger.

TEST RESULTS

No non-compliance noted.

$$\text{eirp} = \text{ptx} \times \text{gt} = (\text{Exd})^2/30$$

Where:

Pt = transmitter output power in watts,

gt = numeric gain of the transmitting antenna (unitless),

E = electric field strength in V/m, --- $10^{(\text{dBuV/m}/20)}/10^6$

d = measurement distance in meters (m) --- 3m

$$\text{So Pt} = (\text{Exd})^2/30 \times \text{gt}$$

Maximum Field strength: 89.02 dBuV/m @3m –Channel high:2460MHz

Refer to FCC Part 15C 15.249 Test Report page 12.

Ant gain = 0dBi; so Ant numeric gain=1

$$\text{So, Pt} = \{[(10^{(89.02/20)}/10^6) \times 3]^2/30 \times 1\} \times 1000\text{mW} = 0.24 \text{ mW}$$

Standard Requirement:

According to 447498 D01 General RF Exposure Guidance v05

- 1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:

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

$[\sqrt{f_{\text{(GHz)}}}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,¹⁶ where

- $f_{\text{(GHz)}}$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation¹⁷
- The result is rounded to one decimal place for comparison

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 is applied to determine SAR test exclusion.

| | | |
|----------------------------------|-------------------------|-------|
| Tune-up Maximum rated power (mW) | | 0.24 |
| Body | Antenna to user (mm) | 5 |
| | Frequency(GHz) | 2.460 |
| | Test result | 0.075 |
| | SAR exclusion threshold | 3 |

Per KDB 447498 D01v05r01 exclusion thresholds is $0.075 < 3$, RF exposure evaluation is not required.