



11. Radio Frequency Exposure

11.1 Applicable Standards

The measurements shown in this test report were made in accordance with the procedures given in FCC Part 2 (Section 2.1093) & KDB 447498

11.2 EUT Specification

Frequency band (Operating)	☐ WLAN: 2412MHz ~ 2462MHz ☐ WLAN: 5150MHz ~ 5250MHz ☐ WLAN: 5250MHz ~ 5350MHz ☐ WLAN: 5470MHz ~ 5725MHz ☐ WLAN: 5725MHz ~ 5850MHz ☒ Other: 2402MHz ~ 2480MHz
Device category	☒ Portable (<20cm separation) ☐ Mobile (>20cm separation)
Exposure classification	☐ Occupational/Controlled exposure ($S = 5\text{mW/cm}^2$) ☒ SAR Test Exclusion Threshold (mW)
Antenna diversity	☐ Single antenna ☒ Multiple antennas ☐ Tx diversity ☐ Rx diversity ☒ Tx/Rx diversity
Evaluation applied	☒ MPE Evaluation* ☐ SAR Evaluation ☐ N/A
Remark: 1. The maximum output power is <u>4.42dBm (2.766941645mW)</u> at <u>Pi/4 DQPSK</u> (with <u>numeric 2.47 antenna gain.</u>) 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/cm^2 even if the calculation indicates that the power density would be larger.	



11.3 Test Results

No non-compliance noted.

11.4 Calculation

$$\text{Given } E = \frac{\sqrt{30 \times P \times G}}{d} \quad \& \quad S = \frac{E^2}{3770}$$

Where E = Field strength in Volts / meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{3770d^2}$$

Changing to units of mW and cm, using:

P (mW) = P (W) / 1000 and

d (cm) = d (m) / 100

Yields

$$S = \frac{30 \times (P / 1000) \times G}{3770 \times (d / 100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

11.5 Maximum Permissible Exposure

Max. output power	Pi/4 DQPSK: 4.42 dBm (2.766941645 mW)
Antenna gain (Max)	Antenna A: 2.41 dBi Antenna B: 2.47 dBi

Modulation Mode	Frequency band (MHz)	Max. Conducted output power(dBm)	Max. Conducted output power(mW)	Distance (mm)	SAR test exclusion thresholds (mW)
Pi/4 DQPSK	2403.35-2479.35	4.42	2.766941645	5	10.0000