



15. Radio Frequency Exposure

15.1.Applicable Standards

The measurements shown in this test report were made in accordance with the procedures given in FCC Part 2 (Section 2.1091)
KDB 447498

15.2.EUT Specification

Frequency band (Operating)	☐ WLAN: 2412MHz ~ 2462MHz ☒ WLAN: 5150MHz ~ 5250MHz ☒ WLAN: 5250MHz ~ 5350MHz ☒ WLAN: 5470MHz ~ 5725MHz ☒ WLAN: 5725MHz ~ 5850MHz ☐ Bluetooth: 2402MHz ~ 2480MHz
Device category	☐ Portable (<20cm separation) ☒ Mobile (>20cm separation)
Exposure classification	☐ Occupational/Controlled exposure (S = 5mW/cm ²) ☒ General Population/Uncontrolled exposure (S=1mW/cm ²)
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 14.80dBm (0.0229mW) at 5785MHz (with numeric 5.8 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.

15.3.Test Results

No non-compliance noted.



15.4.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

15.5.Maximum Permissible Exposure

Max. output power	Band: 5150MHz ~ 5250MHz
	1TX: 802.11a: 12.57 dBm (0.0137 mW) 802.11an HT20: 12.75 dBm (0.0142 mW) 802.11an HT40: 12.37 dBm (0.0131 mW)
Antenna gain (Max)	2TX: 802.11a: 14.80 dBm (0.0229 mW) 802.11an HT20: 13.06 dBm (0.0153 mW) 802.11an HT40: 12.47 dBm (0.0134 mW)
	1TX: ANT A: 5.8dBi 2TX: ANT A: 5.8dBi, ANT B: 5.1dBi

**Maximum Permissible Exposure**

Test Mode: 1TX

Modulation Mode	Frequency band (MHz)	Max. Conducted output power (dBm)	Antenna gain (dBi)	Distance (cm)	Power density (mW/cm ²)	Limit (mW/cm ²)
802.11a	5150-5250	12.57	5.8	20	0.0137	1
	5250-5350	12.36	5.8	20	0.0130	1
	5470-5725	14.39	5.8	20	0.0208	1
	5725-5850	14.40	5.8	20	0.0208	1
802.11an HT20	5150-5250	12.27	5.8	20	0.0128	1
	5250-5350	11.37	5.8	20	0.0104	1
	5470-5725	12.75	5.8	20	0.0142	1
	5725-5850	12.03	5.8	20	0.0121	1
802.11an HT40	5150-5250	11.69	5.8	20	0.0112	1
	5250-5350	12.37	5.8	20	0.0131	1
	5470-5725	12.22	5.8	20	0.0126	1
	5725-5850	12.02	5.8	20	0.0120	1

Test Mode: 2TX

Modulation Mode	Frequency band (MHz)	Max. Conducted output power (dBm)	Antenna gain (dBi)	Distance (cm)	Power density (mW/cm ²)	Limit (mW/cm ²)
802.11a	5150-5250	11.95	5.8	20	0.0118	1
	5250-5350	12.95	5.8	20	0.0149	1
	5470-5725	14.59	5.8	20	0.0217	1
	5725-5850	14.80	5.8	20	0.0229	1
802.11an HT20	5150-5250	11.95	5.8	20	0.0118	1
	5250-5350	11.29	5.8	20	0.0102	1
	5470-5725	13.06	5.8	20	0.0153	1
	5725-5850	12.62	5.8	20	0.0138	1
802.11an HT40	5150-5250	12.26	5.8	20	0.0127	1
	5250-5350	12.47	5.8	20	0.0134	1
	5470-5725	12.39	5.8	20	0.0131	1
	5725-5850	12.39	5.8	20	0.0131	1