12. Radio Frequency Exposure

12.1 Applicable Standards

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

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12.2 EUT Specification

Frequency band (Operating)	☐ WLAN: 2412MHz ~ 2462MHz				
	☐ WLAN: 5150MHz ~ 5250MHz				
	☐ WLAN: 5250MHz ~ 5350MHz				
	☐ WLAN: 5470MHz ~ 5725MHz				
	☐ Zigbee: 2405MHz ~ 2475MHz				
Davisa astagany	☐ Portable (<20cm separation)				
Device category					
Exposure classification	☐ Occupational/Controlled exposure (S = 5mW/cm²)				
	☐ General Population/Uncontrolled exposure				
	(S=1mW/cm ²)				
Antenna diversity	Single antenna				
	☐ Multiple antennas				
	☐ Tx diversity				
	Rx diversity				
	☐ Tx/Rx diversity				
Evaluation applied	☐ SAR Evaluation				
	N/A N/A				
Remark:					
1. The maximum cond	ducted output power is 10 12dPm (97 700mM/) at 2405MHz (with 2dPi				
antenna gain.)	ducted output power is 19.43 <u>dBm (87.700mW)</u> at <u>2405MHz</u> (with <u>2dBi</u>				
	ubject to routine RF evaluation; MPE estimate is used to justify the				
compliance.	abject to rodulite IN Evaluation, will be estimate is used to justify the				
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.	Thirtien Cverri the calculation indicates that the power density				
would be larger.					

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12.3 Test Results

No non-compliance noted.

12.4 Calculation

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

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

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

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

 $S = Power density in mW / cm^2$

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12.5 Maximum Permissible Exposure

Channel Frequency (MHz)	Max. Conducted output power (dBm)	Max. Tune up power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm²)	Limit (mW/cm²)
2405-2475	19.43	21.43	2	20	0.044	1

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