

**FCC RF EXPOSURE REPORT**

EUT	WiFi/BT Module
FCC ID	2AFG6-WF-R22C-USA1
Device category	☐ Portable (<20cm separation) ☒ Mobile (>20cm separation)
Exposure classification	☐ Occupational/Controlled exposure ($S = 5\text{mW/cm}^2$) ☒ General Population/Uncontrolled exposure ($S=1\text{mW/cm}^2$)
Antenna diversity	☐ Single antenna ☒ Multiple antennas ☐ Tx diversity ☐ Rx diversity ☒ Tx/Rx diversity
Evaluation applied	☒ MPE Evaluation* ☐ SAR Evaluation ☐ N/A

TEST RESULTS

No non-compliance noted.

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:

$$P (\text{mW}) = P (\text{W}) / 1000 \text{ and}$$

$$d (\text{cm}) = d(\text{m}) / 100$$

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 / cm^2

**Maximum Permissible Exposure**

Maximum tune up tolerance

Bluetooth

Mode	Frequency band (MHz)	Peak output power(dBm)	Peak output power(mW)	Antenna Gain (dBi)	Antenna gain (Numeric)	Distance (cm)	Power density (mW/cm ²)	Limit (mW/cm ²)
Bluetooth EDR	2402-2480	7.90	6.165950019	3.18	2.08	20	0.002551838	1
Bluetooth LE	2402-2480	8.81	7.603262769	3.18	2.08	20	0.003146684	1

Wlan

Mode	Frequency band (MHz)	Peak output power(dBm)	Peak output power(mW)	Antenna Gain (dBi)	Antenna gain (Numeric)	Distance (cm)	Power density (mW/cm ²)	Limit (mW/cm ²)
Mode	Frequency band (MHz)	Peak output power(dBm)	Peak output power(mW)	Antenna Gain (dBi)	Antenna gain (Numeric)	Distance (cm)	Power density (mW/cm ²)	Limit (mW/cm ²)
WLAN 2.4G	2412-2462	25.03	318.4197522	3.18	2.08	20	0.131781084	1
WLAN 5G	5180-5240	14.94	31.18889584	3.53	2.25	20	0.013991139	1
	5260-5320	15.16	32.80952931	3.53	2.25	20	0.014718145	1
	5500-5700	16.59	45.6036916	3.24	2.11	20	0.019136084	1

Note:

Maximum Permissible Exposure (Co-location)

Modulation Mode	Frequency band (MHz)	Peak output power(dBm)	Peak output power(mW)	Antenna Gain (dBi)	Antenna gain (Numeric)	Distance (cm)	Power density (mW/cm ²)
Bluetooth	2402-2480	7.90	6.165950019	3.18	2.08	20	0.002551838
Wlan	2412-2462	25.03	318.4197522	3.18	2.08	20	0.131781084
Co-location Total							0.134332922
Maximum Permissible Exposure Limit							1