



FCC RF EXPOSURE REPORT

EUT	WiFi IEEE802.11 b/g/n module
Frequency band (Operating)	<input checked="" type="checkbox"/> WLAN: 2.412GHz ~ 2.462GHz <input type="checkbox"/> WLAN: 2.422GHz ~ 2.452GHz <input type="checkbox"/> WLAN: 5.180GHz ~ 5.240GHz <input type="checkbox"/> WLAN: 5.190GHz ~ 5.230GHz
Device category	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation)
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 type="checkbox"/> Tx/Rx diversity
Max. output power	28.26dBm (669.885 mW)
Antenna gain (Max)	2dBi(Numeric gain:1.58)
Evaluation applied	<input checked="" type="checkbox"/> MPE Evaluation* <input type="checkbox"/> SAR Evaluation <input type="checkbox"/> N/A

Note:

1. The maximum output power is 28.26dBm (669.885mW) at 2412MHz (with numeric 1.58antenna 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.

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

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

- Where d = Distance in cm
- P = Power in mW
- G = Numeric antenna gain
- S = Power density in mW / cm²

Maximum Permissible Exposure

Modulation Mode	Frequency band (MHz)	Peak output power(dBm)	Peak output power(mW)	Antenna Gain (dBi)	Antenna gain (Numeric)	Distance (cm)	Power density (mW/cm2)	Limit (mW/cm2)
802.11b	2412-2462	22.55	179.887092	2	1.58	20	0.05673526	1
802.11g	2412-2462	28.26	669.884609	2	1.58	20	0.21127742	1
802.11n HT20	2412-2462	28.00	630.957344	2	1.58	20	0.199	1