



FCC RF EXPOSURE REPORT

| | |
|-----------------------------------|---|
| EUT | TR Duplex Receptacle |
| 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: 5.260GHz ~ 5.320GHz <input type="checkbox"/> WLAN: 5.500GHz ~ 5.700GHz <input type="checkbox"/> BLE: 2.402GHz ~ 2.480GHz <input type="checkbox"/> Bluetooth: 2.402GHz ~ 2.480GHz |
| Device category | <input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation) |
| Exposure classification | <input type="checkbox"/> Occupational/Controlled exposure ($S = 5\text{mW/cm}^2$) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure ($S=1\text{mW/cm}^2$) |
| 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 | 20.74dBm (118.577mW) |
| Antenna gain (Max) | 2.0dBi(Numeric gain:1.58) |
| Evaluation applied | <input checked="" type="checkbox"/> MPE Evaluation* <input type="checkbox"/> SAR Evaluation <input type="checkbox"/> N/A |



TEST RESULTS

No non-compliance noted.

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:

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

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 | 16.97 | 49.7737085 | 2 | 1.58 | 20 | 0.01569832 | 1 |
| 802.11g | 2412-2462 | 20.25 | 105.9253725 | 2 | 1.58 | 20 | 0.0334082 | 1 |
| 802.11n HT20 | 2412-2462 | 20.74 | 118.5768748 | 2 | 1.58 | 20 | 0.0373984 | 1 |