



**Neutron Engineering Inc.**

# **FCC RF EXPOSURE REPORT**

**FCC ID: W59XWR1750**

**Project No. : 1308C047**  
**Equipment : Dual Band Wireless AC1750 Gigabit Router**  
**Model : XWR-1750**  
**Applicant : Luxul Wireless**  
**Address : 14203 Minuteman Drive, Suite 201, Draper, UT USA**  
**According: : FCC Guidelines for Human Exposure IEEE C95.1**

***Neutron Engineering Inc.***

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## MPE CALCULATION METHOD:

Calculation Method of RF Safety Distance:

$$S = \frac{PG}{4\pi^2} = \frac{EIRP}{4\pi^2}$$

where:

S = power density

P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

Ant.	Brand	M/N	Antenna Type	Connector	Gain (dBi)	Note
0	LUXUL	Q5100	Dipole Antenna	N/A	5.0	TX/RX
1	LUXUL	Q5100	Dipole Antenna	N/A	5.0	TX/RX
2	LUXUL	Q5100	Dipole Antenna	N/A	5.0	TX/RX

## TEST RESULTS

EUT:	Dual Band Wireless AC1750 Gigabit Router	Model Name :	XWR-1750
Temperature:	25 °C	Relative Humidity:	58 %
Pressure:	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Band 1/TX A Mode/CH36, CH40, CH48		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5	3.1623	14.9	30.9030	0.01945138	0.0501	Complies
5	3.1623	14.92	31.0456	0.01954116	0.0501	Complies
5	3.1623	14.98	31.4775	0.01981301	0.0501	Complies



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Temperature:	25 °C	Relative Humidity:	58 %
Pressure:	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Band 1/TX N20 Mode/CH36, CH40, CH48-ANT 0		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5	3.1623	8.95	7.8524	0.00494254	0.0501	Complies
5	3.1623	8.99	7.9250	0.00498827	0.0501	Complies
5	3.1623	9.01	7.9616	0.00501130	0.0501	Complies

EUT:	Dual Band Wireless AC1750 Gigabit Router	Model Name :	XWR-1750
Temperature:	25 °C	Relative Humidity:	58 %
Pressure:	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Band 1/TX N20 Mode/CH36, CH40, CH48-ANT 1		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5	3.1623	9.04	8.0168	0.00504604	0.0501	Complies
5	3.1623	8.98	7.9068	0.00497680	0.0501	Complies
5	3.1623	9.14	8.2035	0.00516357	0.0501	Complies

EUT:	Dual Band Wireless AC1750 Gigabit Router	Model Name :	XWR-1750
Temperature:	25 °C	Relative Humidity:	58 %
Pressure:	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Band 1/TX N20 Mode/CH36, CH40, CH48-ANT 2		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5	3.1623	8.99	7.9250	0.00498827	0.0501	Complies
5	3.1623	9.12	8.1658	0.00513985	0.0501	Complies
5	3.1623	9.14	8.2035	0.00516357	0.0501	Complies



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Pressure:	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Band 1/ TX N20 Mode /CH36, CH40, CH48 - ANT 0+ANT 1+ANT 2		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5	3.1623	13.76	23.7684	0.01496065	0.0501	Complies
5	3.1623	13.8	23.9883	0.01509908	0.0501	Complies
5	3.1623	13.87	24.3781	0.01534442	0.0501	Complies

EUT:	Dual Band Wireless AC1750 Gigabit Router	Model Name :	XWR-1750
Temperature:	25 °C	Relative Humidity:	58 %
Pressure:	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Band 1/TX N40 Mode/ CH38, CH46-ANT 0		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5	3.1623	7.93	6.2087	0.00390796	0.0501	Complies
5	3.1623	7.99	6.2951	0.00396233	0.0501	Complies

EUT:	Dual Band Wireless AC1750 Gigabit Router	Model Name :	XWR-1750
Temperature:	25 °C	Relative Humidity:	58 %
Pressure:	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Band 1/TX N40 Mode/ CH38, CH46-ANT 1		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5	3.1623	8.15	6.5313	0.00411103	0.0501	Complies
5	3.1623	8.01	6.3241	0.00398062	0.0501	Complies



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Temperature:	25 °C	Relative Humidity:	58 %
Pressure:	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Band 1/TX N40 Mode/ CH38, CH46-ANT 2		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5	3.1623	7.99	6.2951	0.00396233	0.0501	Complies
5	3.1623	8.06	6.3973	0.00402671	0.0501	Complies

EUT:	Dual Band Wireless AC1750 Gigabit Router	Model Name :	XWR-1750
Temperature:	25 °C	Relative Humidity:	58 %
Pressure:	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Band 1/ TX N40 Mode /CH38, CH46 –ANT 0+ANT 1+ANT 2		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5	3.1623	12.80	19.0546	0.01199362	0.0501	Complies
5	3.1623	12.79	19.0108	0.01196604	0.0501	Complies

EUT:	Dual Band Wireless AC1750 Gigabit Router	Model Name :	XWR-1750
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Pressure:	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Band 1/TX AC N20 Mode/CH36, CH40, CH48-ANT 0		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5	3.1623	8.03	6.3533	0.00399899	0.0501	Complies
5	3.1623	8.04	6.3680	0.00400821	0.0501	Complies
5	3.1623	29.94	986.2795	0.62079809	0.0501	Complies



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Pressure:	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Band 1/TX AC N20 Mode/CH36, CH40, CH48-ANT 1		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5	3.1623	8.09	6.4417	0.00405462	0.0501	Complies
5	3.1623	7.98	6.2806	0.00395321	0.0501	Complies
5	3.1623	8.04	6.3680	0.00400821	0.0501	Complies

EUT:	Dual Band Wireless AC1750 Gigabit Router	Model Name :	XWR-1750
Temperature:	25 °C	Relative Humidity:	58 %
Pressure:	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Band 1/TX AC N20 Mode/CH36, CH40, CH48-ANT 2		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5	3.1623	8.14	6.5163	0.00410157	0.0501	Complies
5	3.1623	8.18	6.5766	0.00413952	0.0501	Complies
5	3.1623	7.96	6.2517	0.00393505	0.0501	Complies

EUT:	Dual Band Wireless AC1750 Gigabit Router	Model Name :	XWR-1750
Temperature:	25 °C	Relative Humidity:	58 %
Pressure:	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Band 1/TX AC N20 Mode/CH36, CH40, CH48-ANT 0+ANT 1+ANT 2		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5	3.1623	12.86	19.3197	0.01216047	0.0501	Complies
5	3.1623	12.84	19.2309	0.01210460	0.0501	Complies
5	3.1623	12.80	19.0546	0.01199362	0.0501	Complies



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Temperature:	25 °C	Relative Humidity:	58 %
Pressure:	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Band 1/TX AC N40 Mode/ CH38, CH46-ANT 0		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5	3.1623	7.12	5.1523	0.00324303	0.0501	Complies
5	3.1623	7.09	5.1168	0.00322070	0.0501	Complies

EUT:	Dual Band Wireless AC1750 Gigabit Router	Model Name :	XWR-1750
Temperature:	25 °C	Relative Humidity:	58 %
Pressure:	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Band 1/TX AC N40 Mode/ CH38, CH46-ANT 1		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5	3.1623	7.11	5.1404	0.00323557	0.0501	Complies
5	3.1623	6.82	4.8084	0.00302657	0.0501	Complies

EUT:	Dual Band Wireless AC1750 Gigabit Router	Model Name :	XWR-1750
Temperature:	25 °C	Relative Humidity:	58 %
Pressure:	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Band 1/TX AC N40 Mode/ CH38, CH46-ANT 2		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5	3.1623	7.07	5.0933	0.00320590	0.0501	Complies
5	3.1623	7.14	5.1761	0.00325799	0.0501	Complies



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Pressure:	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Band 1/TX AC N40 Mode/ CH38, CH46-ANT 0+ANT 1+ANT 2		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5	3.1623	11.87	15.3815	0.00968167	0.0501	Complies
5	3.1623	11.79	15.1008	0.00950496	0.0501	Complies

EUT:	Dual Band Wireless AC1750 Gigabit Router	Model Name :	XWR-1750
Temperature:	25 °C	Relative Humidity:	58 %
Pressure:	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Band 1/TX AC N80 Mode/CH42-ANT 0		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5	3.1623	6.09	4.0644	0.00255829	0.0501	Complies

EUT:	Dual Band Wireless AC1750 Gigabit Router	Model Name :	XWR-1750
Temperature:	25 °C	Relative Humidity:	58 %
Pressure:	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Band 1/TX AC N80 Mode/CH42- ANT 1		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5	3.1623	6.1	4.0738	0.00256419	0.0501	Complies





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Temperature:	25 °C	Relative Humidity:	58 %
Pressure:	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Band 1/TX AC N80 Mode/CH42- ANT 2		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5	3.1623	6.19	4.1591	0.00261788	0.0501	Complies

EUT:	Dual Band Wireless AC1750 Gigabit Router	Model Name :	XWR-1750
Temperature:	25 °C	Relative Humidity:	58 %
Pressure:	1012 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Band 1/TX AC N80 Mode/CH42-ANT 0+ANT 1+ANT 2		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5	3.1623	10.9	12.3027	0.00774373	0.0501	Complies

Note:

- 1) The calculation distance is 20 cm.