

FCC RF EXPOSURE REPORT

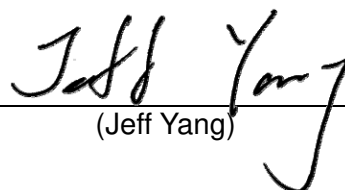
FCC ID: YHI-NW121

Project No. : 1605089A
Equipment : 3x3 11ac/n/a 5GHz WiFi Module
Model : NW-121
Applicant : NEXCOM International Co., Ltd
**Address : 9F., No.920, Chung-Cheng Rd., Zhonghe Dist.,
New Taipei City 235, Taiwan**

According: : FCC Guidelines for Human Exposure IEEE C95.1

Technical Manager

:



(Jeff Yang)

B T L I N C .

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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

Table for Filed Antenna
Band 2-3

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
1	WIESON	GY121L049S-010	Dipole	SMA Male	1.99	TX/RX
2	WIESON	GY121L049S-010	Dipole	SMA Male	1.99	TX/RX
3	WIESON	GY121L049S-010	Dipole	SMA Male	1.99	TX/RX

Note: The EUT incorporates a MIMO function. Physically, the EUT provides three completed three transmitters and receivers (3T3R) the EUT with CDD function, then, Direction gain = $G_{ANT} + \text{Array Gain}$, the Array gain = $10\log(N_{ANT}/N_{SS})$. that is Array gain = $10\log(3/1) = 4.77$, Directional gain = $1.99 + 4.77 = 6.76$.

Calculation:

EUT:	3x3 11ac/n/a 5GHz WiFi Module	Model Name :	NW-121
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-2A/TX A Mode_Total /CH52, CH60, CH64		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
1.99	1.5812	18.17	65.6145	0.02065144	1	Complies
1.99	1.5812	17.59	57.4116	0.01806968	1	Complies
1.99	1.5812	11.45	13.9637	0.00439491	1	Complies

EUT:	3x3 11ac/n/a 5GHz WiFi Module	Model Name :	NW-121
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-2A/TX N20 Mode_Total /CH52, CH60, CH64		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
1.99	1.5812	17.58	57.2796	0.01802812	1	Complies
1.99	1.5812	17.56	57.0164	0.01794529	1	Complies
1.99	1.5812	12.27	16.8655	0.00530824	1	Complies

EUT:	3x3 11ac/n/a 5GHz WiFi Module	Model Name :	NW-121
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-2A/TX N40 Mode_Total /CH54, CH62		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
1.99	1.5812	16.34	43.0527	0.01355035	1	Complies
1.99	1.5812	10.21	10.4954	0.00330332	1	Complies

EUT:	3x3 11ac/n/a 5GHz WiFi Module	Model Name :	NW-121
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-2C/TX A Mode_Total /CH110, CH116, CH140		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
1.99	1.5812	11.71	14.8252	0.00466606	1	Complies
1.99	1.5812	13.67	23.2809	0.00732741	1	Complies
1.99	1.5812	11.37	13.7088	0.00431470	1	Complies

EUT:	3x3 11ac/n/a 5GHz WiFi Module	Model Name :	NW-121
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-2C/TX N20 Mode_Total /CH110, CH116, CH140		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
1.99	1.5812	11.56	14.3219	0.00450765	1	Complies
1.99	1.5812	13.85	24.2661	0.00763748	1	Complies
1.99	1.5812	11.18	13.1220	0.00413000	1	Complies

EUT:	3x3 11ac/n/a 5GHz WiFi Module	Model Name :	NW-121
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-2C/TX N40 Mode_Total /CH102, CH110, CH134		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
1.99	1.5812	8.06	6.3973	0.00201349	1	Complies
1.99	1.5812	13.36	21.6770	0.00682261	1	Complies
1.99	1.5812	13.41	21.9280	0.00690161	1	Complies

EUT:	3x3 11ac/n/a 5GHz WiFi Module	Model Name :	NW-121
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-2A/TX AC20 Mode_Total /CH52, CH60, CH64		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
1.99	1.5812	17.90	61.6595	0.01940664	1	Complies
1.99	1.5812	17.90	61.6595	0.01940664	1	Complies
1.99	1.5812	12.68	18.5353	0.00583378	1	Complies

EUT:	3x3 11ac/n/a 5GHz WiFi Module	Model Name :	NW-121
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-2A/TX AC40 Mode_Total /CH54, CH62		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
1.99	1.5812	16.32	42.8549	0.01348809	1	Complies
1.99	1.5812	9.79	9.5280	0.00299882	1	Complies

EUT:	3x3 11ac/n/a 5GHz WiFi Module	Model Name :	NW-121
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-2A/TX AC80 Mode_Total /CH55		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
1.99	1.5812	5.66	3.6813	0.00115864	1	Complies

EUT:	3x3 11ac/n/a 5GHz WiFi Module	Model Name :	NW-121
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-2C/TX AC20 Mode_Total /CH110, CH116, CH140		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
1.99	1.5812	11.92	15.5597	0.00489723	1	Complies
1.99	1.5812	14.14	25.9418	0.00816489	1	Complies
1.99	1.5812	11.33	13.5831	0.00427514	1	Complies

EUT:	3x3 11ac/n/a 5GHz WiFi Module	Model Name :	NW-121
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-2C/TX AC40 Mode_Total /CH102, CH110, CH134		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
1.99	1.5812	8.05	6.3826	0.00200886	1	Complies
1.99	1.5812	13.30	21.3796	0.00672900	1	Complies
1.99	1.5812	13.38	21.7771	0.00685410	1	Complies

EUT:	3x3 11ac/n/a 5GHz WiFi Module	Model Name :	NW-121
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-2C/TX AC80 Mode_Total /CH106, CH122		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
1.99	1.5812	13.32	21.4783	0.00676006	1	Complies
1.99	1.5812	13.35	21.6272	0.00680692	1	Complies

Note: the calculated distance is 20 cm.