FCC RF EXPOSURE REPORT

FCC ID: K7SF9K1127V1

Project No.	:	**1608251**
Equipment	:	**WiFi repeater**
Model	:	**F9K1127**
Applicant	:	**Belkin International, Inc.**
Address	:	**12045 E. Waterfront Drive, Playa Vista, CA 90094 USA**
According:	:	**FCC Guidelines for Human Exposure IEEE C95.1**

Technical Manager : _____
(Jeff Yang)

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MPE CALCULATION METHOD:

Calculation Method of RF Safety Distance:

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

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

2.4G Band:

Ant.	Manufacturer	Model Name	Antenna Type	Connector	Gain (dBi)	Note
1	Airgain	N/A	PCB	N/A	2.5	TX/RX
2	Airgain	N/A	PCB	N/A	2.5	TX/RX

5G Band:

Ant.	Manufacturer	Model Name	Antenna Type	Connector	Gain (dBi)	Note
1	Airgain	N2430LTMSS DR4M	PCB	N/A	2.6	TX/RX
2	Airgain	N2430LTMSS DR4M	PCB	N/A	2.6	TX/RX

TEST RESULTS

2.4G:

Test Mode :	TX B Mode /CH01, CH06, CH11

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
2.5	1.7783	14.61	28.9068	0.01023	1	Complies
2.5	1.7783	14.59	28.7740	0.01018	1	Complies
2.5	1.7783	14.08	25.5859	0.00906	1	Complies

Test Mode :	TX G Mode /_ Total CH01, CH06, CH11

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
2.5	1.7783	19.55	90.1571	0.03191	1	Complies
2.5	1.7783	25.68	369.8282	0.13090	1	Complies
2.5	1.7783	21.66	146.5548	0.05187	1	Complies

Test Mode :	TX N-20M Mode_ Total /CH01, CH06, CH11

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
2.5	1.7783	20.54	113.2400	0.04008	1	Complies
2.5	1.7783	25.36	343.5579	0.12160	1	Complies
2.5	1.7783	19.32	85.5067	0.03027	1	Complies

Test Mode :	TX N-40M Mode_Total /CH03, CH06, CH09

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
2.5	1.7783	22.62	182.8100	0.06471	1	Complies
2.5	1.7783	25.62	364.7539	0.12911	1	Complies
2.5	1.7783	21.42	138.6756	0.04909	1	Complies

5G Band: Non-Beamforming:

Test Mode :	UNII-1/TX A Mode _Total /CH36, CH40, CH48

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
2.6	1.8197	18.12	64.8634	0.02349	1	Complies
2.6	1.8197	18.57	71.9449	0.02606	1	Complies
2.6	1.8197	18.31	67.7642	0.02454	1	Complies

Test Mode :	UNII-1/TX N20 Mode _Total /CH36, CH40, CH48

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
2.6	1.8197	18.30	67.6083	0.02449	1	Complies
2.6	1.8197	18.60	72.4436	0.02624	1	Complies
2.6	1.8197	18.44	69.8232	0.02529	1	Complies

Test Mode :	UNII-1/TX N40 Mode _Total /CH38, CH46

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
2.6	1.8197	16.60	45.7088	0.01656	1	Complies
2.6	1.8197	18.45	69.9842	0.02535	1	Complies

Test Mode :	UNII-1/TX AC20 Mode _Total /CH36, CH40, CH48

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
2.6	1.8197	18.27	67.1429	0.02432	1	Complies
2.6	1.8197	18.58	72.1107	0.02612	1	Complies
2.6	1.8197	18.40	69.1831	0.02506	1	Complies

Test Mode :	UNII-1/TX AC40 Mode _Total /CH38, CH46

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
2.6	1.8197	16.42	43.8531	0.01588	1	Complies
2.6	1.8197	18.38	68.8652	0.02494	1	Complies

Test Mode :	UNII-1/TX AC80 Mode _Total /CH42

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
2.6	1.8197	16.55	45.1856	0.01637	1	Complies

Test Mode :	UNII-3/ TX A Mode_Total /CH149, CH157, CH165

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
2.6	1.8197	18.34	68.2339	0.02471	1	Complies
2.6	1.8197	18.22	66.3743	0.02404	1	Complies
2.6	1.8197	18.16	65.4636	0.02371	1	Complies

Test Mode :	UNII-3/TX N20 Mode _Total /CH149, CH157, CH165

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
2.6	1.8197	18.31	67.7642	0.02454	1	Complies
2.6	1.8197	18.18	65.7658	0.02382	1	Complies
2.6	1.8197	18.13	65.0130	0.02355	1	Complies

Test Mode :	UNII-3/TX N40 Mode _Total /CH151, CH159

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
2.6	1.8197	18.24	66.6807	0.02415	1	Complies
2.6	1.8197	18.08	64.2688	0.02328	1	Complies

Test Mode :	UNII-3/TX AC20 Mode _Total /CH149, CH157, CH165

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
2.6	1.8197	18.26	66.9885	0.02426	1	Complies
2.6	1.8197	18.14	65.1628	0.02360	1	Complies
2.6	1.8197	18.07	64.1210	0.02322	1	Complies

Test Mode :	UNII-3/TX AC40 Mode _Total /CH151, CH159

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
2.6	1.8197	18.18	65.7658	0.02382	1	Complies
2.6	1.8197	18.01	63.2412	0.02291	1	Complies

Test Mode :	UNII-3/TX AC80 Mode _Total /CH155

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
2.6	1.8197	18.37	68.7068	0.02489	1	Complies

5G Band: Beamforming:

Test Mode :	UNII-1/TX N20 Mode _Total /CH36, CH40, CH48

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
5.61	3.6392	18.03	63.5331	0.04602	1	Complies
5.61	3.6392	18.42	69.5024	0.05034	1	Complies
5.61	3.6392	18.22	66.3743	0.04808	1	Complies

Test Mode :	UNII-1/TX N40 Mode _Total /CH38, CH46

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
5.61	3.6392	16.73	47.0977	0.03412	1	Complies
5.61	3.6392	18.21	66.2217	0.04797	1	Complies

Test Mode :	UNII-1/TX AC80 Mode _Total /CH42

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
5.61	3.6392	18.73	74.6449	0.05407	1	Complies

Test Mode :	UNII-3/TX N20 Mode _Total /CH149, CH157, CH165

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
5.61	3.6392	18.03	63.5331	0.04602	1	Complies
5.61	3.6392	17.98	62.8058	0.04549	1	Complies
5.61	3.6392	17.83	60.6736	0.04395	1	Complies

Test Mode :	UNII-3/TX N40 Mode _Total /CH151, CH159

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
5.61	3.6392	18.01	63.2412	0.04581	1	Complies
5.61	3.6392	17.76	59.7035	0.04325	1	Complies

Test Mode :	UNII-3/TX AC80 Mode _Total /CH155

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
5.61	3.6392	18.23	66.5273	0.04819	1	Complies

Note: the calculated distance is 20 cm.

So for 2.4G+5G simultaneous transmission (Non-Beamforming): 0.1309/1+0.0262/1=0.1571<1

So for 2.4G+5G simultaneous transmission (Beamforming): 0.1309/1+0.05407/1=0.185<1