

FCC RF EXPOSURE REPORT

FCC ID: 2AE69-KFR11AC

Project No. : 1506C149
Equipment : 1200M 11AC dual band Gigabit Wireless Router
Model : KFR11AC-128R-16F
Applicant : Kudos Tech,LLC
**Address : 194 East Bowman Drive, Kailspell,
MT59901,USA**

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

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

2.4G

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
AANT2	N/A	N/A	Dipole	IPEX	5.0	2.4G
AANT3	N/A	N/A	Dipole	IPEX	5.0	2.4G

5G

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
AANT2	N/A	N/A	Dipole	IPEX	5.0	5G
AANT3	N/A	N/A	Dipole	IPEX	5.0	5G

TEST RESULTS

2.4G

EUT :	1200M 11AC dual band Gigabit Wireless Router	Model Name :	KFR11AC-128R-16F
Temperature :	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
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
5	3.1623	20.59	114.5513	0.07210251	1	Complies
5	3.1623	20.39	109.3956	0.06885736	1	Complies
5	3.1623	20.32	107.6465	0.06775641	1	Complies

EUT :	1200M 11AC dual band Gigabit Wireless Router	Model Name :	KFR11AC-128R-16F
Temperature :	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX G 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
5	3.1623	20.73	118.3042	0.07446469	1	Complies
5	3.1623	20.63	115.6112	0.07276966	1	Complies
5	3.1623	20.02	100.4616	0.06323396	1	Complies

EUT :	1200M 11AC dual band Gigabit Wireless Router	Model Name :	KFR11AC-128R-16F
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
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
5	3.1623	24.14	259.4179	0.16328653	1	Complies
5	3.1623	24.11	257.6321	0.16216248	1	Complies
5	3.1623	23.07	202.7683	0.12762929	1	Complies

EUT :	1200M 11AC dual band Gigabit Wireless Router	Model Name :	KFR11AC-128R-16F
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
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
5	3.1623	24.16	260.6154	0.16404023	1	Complies
5	3.1623	24.13	258.8213	0.16291098	1	Complies
5	3.1623	22.3	169.8244	0.10689327	1	Complies

UNII-1

EUT :	1200M 11AC dual band Gigabit Wireless Router	Model Name :	KFR11AC-128R-16F
Temperature:	28 °C	Relative Humidity:	60 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	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 ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
5	3.1623	13.68	23.3346	0.01468758	1	Complies
5	3.1623	13.74	23.6592	0.01489191	1	Complies
5	3.1623	13.84	24.2103	0.01523879	1	Complies

EUT :	1200M 11AC dual band Gigabit Wireless Router	Model Name :	KFR11AC-128R-16F
Temperature:	28 °C	Relative Humidity:	60 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	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	3.1623	16.82	48.0839	0.03026568	1	Complies
5	3.1623	16.82	48.0839	0.03026568	1	Complies
5	3.1623	16.88	48.7528	0.03068671	1	Complies

EUT :	1200M 11AC dual band Gigabit Wireless Router	Model Name :	KFR11AC-128R-16F
Temperature:	28 °C	Relative Humidity:	60 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	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	3.1623	16.74	47.2063	0.02971326	1	Complies
5	3.1623	16.73	47.0977	0.02964493	1	Complies

EUT :	1200M 11AC dual band Gigabit Wireless Router	Model Name :	KFR11AC-128R-16F
Temperature:	28 °C	Relative Humidity:	60 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC20 MODE /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	3.1623	16.8	47.8630	0.03012662	1	Complies
5	3.1623	16.8	47.8630	0.03012662	1	Complies
5	3.1623	16.78	47.6431	0.02998820	1	Complies

EUT :	1200M 11AC dual band Gigabit Wireless Router	Model Name :	KFR11AC-128R-16F
Temperature:	28 °C	Relative Humidity:	60 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	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
5	3.1623	16.73	47.0977	0.02964493	1	Complies
5	3.1623	16.7	46.7735	0.02944085	1	Complies

EUT :	1200M 11AC dual band Gigabit Wireless Router	Model Name :	KFR11AC-128R-16F
Temperature:	28 °C	Relative Humidity:	60 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	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	3.1623	14.76	29.9226	0.01883434	1	Complies

UNII-3

EUT :	1200M 11AC dual band Gigabit Wireless Router	Model Name :	KFR11AC-128R-16F
Temperature:	28 °C	Relative Humidity:	60 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX A MODE /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	3.1623	13.66	23.2274	0.01462010	1	Complies
5	3.1623	13.82	24.0991	0.01516877	1	Complies
5	3.1623	13.85	24.2661	0.01527391	1	Complies

EUT :	1200M 11AC dual band Gigabit Wireless Router	Model Name :	KFR11AC-128R-16F
Temperature:	28 °C	Relative Humidity:	60 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	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	3.1623	16.82	48.0839	0.03026568	1	Complies
5	3.1623	16.79	47.7529	0.03005733	1	Complies
5	3.1623	16.78	47.6431	0.02998820	1	Complies

EUT :	1200M 11AC dual band Gigabit Wireless Router	Model Name :	KFR11AC-128R-16F
Temperature:	28 °C	Relative Humidity:	60 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	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	3.1623	16.83	48.1948	0.03033544	1	Complies
5	3.1623	16.79	47.7529	0.03005733	1	Complies

EUT :	1200M 11AC dual band Gigabit Wireless Router	Model Name :	KFR11AC-128R-16F
Temperature:	28 °C	Relative Humidity:	60 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC20 MODE /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	3.1623	16.67	46.4515	0.02923818	1	Complies
5	3.1623	16.76	47.4242	0.02985041	1	Complies
5	3.1623	16.81	47.9733	0.03019607	1	Complies

EUT :	1200M 11AC dual band Gigabit Wireless Router	Model Name :	KFR11AC-128R-16F
Temperature:	28 °C	Relative Humidity:	60 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	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
5	3.1623	16.78	47.6431	0.02998820	1	Complies
5	3.1623	16.76	47.4242	0.02985041	1	Complies

EUT :	1200M 11AC dual band Gigabit Wireless Router	Model Name :	KFR11AC-128R-16F
Temperature:	28 °C	Relative Humidity:	60 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	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	3.1623	14.8	30.1995	0.01900861	1	Complies

FOR MAXIMUM EIRP

2.4G Only MPE

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	3.1623	24.16	260.6154	0.16404023	1	Complies

5G Only MPE

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	3.1623	16.88	48.7528	0.03068671	1	Complies

so for 2.4G+5G simultaneous transmission MPE

$$0.1640/1+0.0307/1=0.1947<1$$

Note: the calculated distance is 20 cm.