

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 |

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|----------------|--|--------------------|------------------|
| 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 |

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|----------------|--|--------------------|------------------|
| 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 |

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|----------------|--|--------------------|------------------|
| 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 |

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|----------------|--|--------------------|------------------|
| 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 |

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|----------------|--|--------------------|------------------|
| 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 |

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|----------------|--|--------------------|------------------|
| 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 |

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|----------------|--|--------------------|------------------|
| 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 |

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|----------------|--|--------------------|------------------|
| 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 |

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|----------------|--|--------------------|------------------|
| 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 |

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|----------------|--|--------------------|------------------|
| 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 |

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|----------------|--|--------------------|------------------|
| 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 |

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|----------------|--|--------------------|------------------|
| 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 |

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|----------------|--|--------------------|------------------|
| 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.