



Neutron Engineering Inc.

FCC RF EXPOSURE REPORT

FCC ID: QIS-WS331A

Project No. : 1309C205
Equipment : 300Mbps Mini Wireless Router
Model : WS331a; WS333a
Applicant : Huawei Technologies Co.,Ltd.
**Address : Bantian, Longgang District, Shenzhen
China**

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:

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

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 Field Antenna:

| Ant. | Manufacturer | M/N | Antenna Type | Connector | Gain (dBi) | Note |
|------|------------------------------|-----|--------------|-----------|------------|-------|
| 0 | Huawei Technologies Co.,Ltd. | N/A | Integral | N/A | 0.73 | TX/RX |
| 1 | Huawei Technologies Co.,Ltd. | N/A | Integral | N/A | 0.53 | TX/RX |



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TEST RESULTS

| | | | |
|--------------|------------------------------|--------------------|--------------|
| EUT: | 300Mbps Mini Wireless Router | Model Name | WS331a |
| Temperature: | 24 °C | Relative Humidity: | 60 % |
| Pressure: | 1016 hPa | 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 |
|--------------------|------------------------|-------------------------|------------------------|---|--|-------------|
| 0.73 | 1.1830 | 16.90 | 48.9779 | 0.01153321 | 1 | Complies |
| 0.73 | 1.1830 | 16.71 | 46.8813 | 0.01103952 | 1 | Complies |
| 0.73 | 1.1830 | 16.78 | 47.6431 | 0.01121890 | 1 | Complies |

| | | | |
|--------------|------------------------------|--------------------|--------------|
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| Temperature: | 24 °C | Relative Humidity: | 60 % |
| Pressure: | 1016 hPa | 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 |
|--------------------|------------------------|-------------------------|------------------------|---|--|-------------|
| 0.73 | 1.1830 | 15.17 | 32.8852 | 0.00774373 | 1 | Complies |
| 0.73 | 1.1830 | 15.47 | 35.2371 | 0.00829756 | 1 | Complies |
| 0.73 | 1.1830 | 15.00 | 31.6228 | 0.00744647 | 1 | Complies |



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| | | | |
|--------------|---|--------------------|--------------|
| EUT: | 300Mbps Mini Wireless Router | Model Name | WS331a |
| Temperature: | 24 °C | Relative Humidity: | 60 % |
| Pressure: | 1016 hPa | Test Voltage : | AC 120V/60Hz |
| Test Mode : | TX N-20M MODE /CH01, CH06, CH11 - ANT 0 + ANT 1 | | |

| 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 |
|--------------------|------------------------|-------------------------|------------------------|---|--|-------------|
| 0.73 | 1.1830 | 17.89 | 61.5177 | 0.01448606 | 1 | Complies |
| 0.73 | 1.1830 | 18.24 | 66.6807 | 0.01570183 | 1 | Complies |
| 0.73 | 1.1830 | 18.03 | 63.5331 | 0.01496065 | 1 | Complies |

| | | | |
|--------------|---|--------------------|--------------|
| EUT: | 300Mbps Mini Wireless Router | Model Name | WS331a |
| Temperature: | 24 °C | Relative Humidity: | 60 % |
| Pressure: | 1016 hPa | Test Voltage : | AC 120V/60Hz |
| Test Mode : | TX N-40M MODE /CH03, CH06, CH09 - ANT 0 + ANT 1 | | |

| 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 |
|--------------------|------------------------|-------------------------|------------------------|---|--|-------------|
| 0.73 | 1.1830 | 16.59 | 45.6037 | 0.01073867 | 1 | Complies |
| 0.73 | 1.1830 | 16.84 | 48.3059 | 0.01137497 | 1 | Complies |
| 0.73 | 1.1830 | 16.81 | 47.9733 | 0.01129667 | 1 | Complies |

Note: the calculation distance is 20 cm.