



**Neutron Engineering Inc.**

# **FCC RF EXPOSURE REPORT**

## **FCC ID: FDI000000018**

**Project No. : 1304C143**  
**Equipment : AirStation**  
**Model : WCR-300S**  
**Applicant : BUFFALO INC.**  
**Address : AKAMONDORI Bldg., 30-20, Ohsu 3-chome,  
Naka-ku, Nagoya, 460-8315, Japan**

**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:

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

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

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
1	Tenda	Q5007	Dipole	N/A	5.13	-
2	Tenda	Q5008	Dipole	N/A	5.13	-

(1) Note:

(2) The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and two receivers (2T2R).

(3) The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and two receivers (2T2R), all transmit signals are completely uncorrelated, then, Direction gain = GANT, that is Directional gain=5.13.

Operating Mode TX Mode	1TX	2TX
	802.11b	V (ANT 0 or ANT 1)
802.11g	V (ANT 0 or ANT 1)	-
802.11n(20MHz)	-	V (ANT 0 & ANT 1)
802.11n(40MHz)	-	V (ANT 0 & ANT 1)



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## TEST RESULTS

EUT:	AirStation	Model Name :	WCR-300S
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 <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5.13	3.2584	16.86	48.5289	0.03147389	1	Complies
5.13	3.2584	16.91	49.0908	0.03183834	1	Complies
5.13	3.2584	16.78	47.6431	0.03089942	1	Complies

EUT:	AirStation	Model Name :	WCR-300S
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 <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5.13	3.2584	21.69	147.5707	0.09570847	1	Complies
5.13	3.2584	21.82	152.0548	0.09861668	1	Complies
5.13	3.2584	21.64	145.8814	0.09461290	1	Complies

EUT:	AirStation	Model Name :	WCR-300S
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		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5.13	3.2584	19.21	83.3681	0.05406925	1	Complies
5.13	3.2584	19.16	82.4138	0.05345033	1	Complies
5.13	3.2584	19.06	80.5378	0.05223365	1	Complies



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EUT:	AirStation	Model Name :	WCR-300S
Temperature:	24 °C	Relative Humidity:	60 %
Pressure:	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE /CH01, CH06, CH11--ANT 1		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5.13	3.2584	15.08	32.2107	0.02089057	1	Complies
5.13	3.2584	14.75	29.8538	0.01936201	1	Complies
5.13	3.2584	15.16	32.8095	0.02127896	1	Complies

EUT:	AirStation	Model Name :	WCR-300S
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 <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5.13	3.2584	20.63	115.6112	0.07498085	1	Complies
5.13	3.2584	20.50	112.2018	0.07276966	1	Complies
5.13	3.2584	20.54	113.2400	0.07344299	1	Complies

EUT:	AirStation	Model Name :	WCR-300S
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		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5.13	3.2584	20.44	110.6624	0.07177123	1	Complies
5.13	3.2584	20.53	112.9796	0.07327408	1	Complies
5.13	3.2584	20.92	123.5947	0.08015865	1	Complies



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EUT:	AirStation	Model Name :	WCR-300S
Temperature:	24 °C	Relative Humidity:	60 %
Pressure:	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE /CH03, CH06, CH09--ANT 1		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5.13	3.2584	16.14	41.1150	0.02666554	1	Complies
5.13	3.2584	15.22	33.2660	0.02157498	1	Complies
5.13	3.2584	15.26	33.5738	0.02177461	1	Complies

EUT:	AirStation	Model Name :	WCR-300S
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 <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
5.13	3.2584	21.81	151.7050	0.09838987	1	Complies
5.13	3.2584	21.65	146.2177	0.09483101	1	Complies
5.13	3.2584	21.96	157.0363	0.10184750	1	Complies