

TEST REPORT

(Application for Certification)

FCC ID : YPG-WS907

Applicant Name & Address : Oregon Scientific Global Distribution Limited
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Kowloon, Hong Kong

Manufacturing Site : Ginfax Plastic & Electrical Dongguan Factory
ZhenTian West Road, BuXin Inds. City, YanTian FengGang,
Dongguan, Guang Dong, China

Sample Description : i. fresh NCCO Air Sanitizing System (Air Purifier)

Product : WS907

Model No. : For adapter: AC120V; 60Hz; 0.4A; IPX0; Class II

Electrical Rating : For appliance: DC12V; 1.5A

Date Received : 20 July 2010

Date Test Conducted : 30 July 2010

Test standards : FCC Part 18: 2009


Test Result : Pass

Conclusion : The submitted samples complied with the above rules/standards.

Remark : None.

*****End of Page*****

Prepared and Checked By:**Approved By:**


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29 October 2010 Date

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1 General Description

1.1 Product Description

The equipment under test (EUT) is a fresh NCCO Air Sanitizing System which is powered by AC 120V, 60Hz, the RF output is 23kHz.

For electronic filing, the brief circuit description is saved with filename: Technical description .pdf.

1.2 Related Submittal(s) Grants

This is an application for certification of i. fresh NCCO Air Sanitizing System (Air Purifier). No other related submitted grants.

1.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in FCC/OST MP-5 (1986). Conducted emission test was performed in shield room and radiated emission test was done in Semi-anechoic chamber. Radiated test was performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "Justification Section" of this Application.

1.4 Test Facility

The Shield room and Semi-Anechoic Chamber facilities used to collect the test data were Intertek Testing Services Shenzhen Ltd. Kejiyuan Branch and located at 6F, Block D, Huahan Building, Langshan Road, Nanshan District Shenzhen, P.R.China. These test facilities and site measurement data have been fully placed on file with File Number 242492.

2 System Test Configuration

2.1 Justification

The EUT was configured for testing in a typical fashion (as a customer would normally use it), and in the confines as outlined in FCC/OST MP-5(1986).

The EUT was powered by 120V, 60Hz.

For maximizing emissions below 30 MHz, the EUT was rotated through 360°, the centre of the loop antenna was placed 2 meter above the ground, and the antenna polarization was changed. This step by step procedure for maximizing emissions led to the data reported in Exhibit 3.0.

2.2 EUT Exercising Software

There was no special software to exercise the device. Once the unit is turned on, the Ion generator works continuously until the air quality meets requirement.

2.3 Special Accessories

There are no special accessories necessary for compliance of this product.

2.4 Equipment Modification

No modification.

2.5 Measurement Uncertainty

When determining the test conclusion, the Measurement Uncertainty of test has been considered.

2.6 Support Equipment List and Description

AC-DC adapter:

Model: KSAD1200150W1US

Rating:

Input: AC 120V; 60Hz; 0,4A; IPX0; Class II

Output: DC 12V

3 Emission Results

Data is included worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included.

3.1 Field Strength Calculation

The field strength is calculated by adding the reading on the spectrum analyzer to the factor associated with preamplifiers(if any), antennas, cables. A sample calculation is included below:

$$FS = RA + AF - DF$$

where FS = Field Strength in dB μ V/m

RA = Receiver Amplitude (including preamplifier) in dB μ V

AF = Antenna factor

DF = Distance Factor in -dB

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of calculations, where the reading does not reflect the preamplifier gain, follows:

$$FS = RA + AF - DF$$

EXAMPLE

Assume a receiver reading of 39.0 dB μ V is obtained. The antenna factor of 10.6 dB is added., however, the distance factor is 40 dB. The net field strength for comparison to appropriate emission limit is 9.6 dB μ V/m. This value in dB μ V/m was converted to its corresponding level in μ V/m.

$$RA = 39.0 \text{ dB}\mu\text{V/m}$$

$$AF = 10.6 \text{ dB}$$

$$DF = 20 \log(3/300) = -40 \text{ dB}$$

$$FS = 39 + 10.6 - 40 = 9.6 \text{ dB}\mu\text{V/m}$$

$$\text{Level in } \mu\text{V/m} = \text{Common Antilogarithm} [(9.6 \text{ dB}\mu\text{V/m})/20] = 3.02 \mu\text{V/m}$$

3.2 Radiated Emission Configuration Photograph

Worst Case Radiated Emission at 0.0098 MHz

For electronic filing, the worst case radiated emission configuration photographs are saved with filename: Radiated photos.pdf.

3.3 Radiated and Spurious Emission Data

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Judgement: Passed by 13.3 dB.

Applicant: Oregon Scientific Global Distribution Limited.
Model: WS907

Date of test: 30 July 2010

Polarity: Vertical

Mode: EUT on with adapter, Ion generator on

Radiated Emissions

Frequency (MHz)	Reading (dBµV)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Calculated at 300m (dBµV/m)	Limit at 300m (dBµV/m)	Margin (dB)
0.0098	31.6	18.6	50.2	10.2	23.5	-13.3
0.2396	24.8	14.7	39.5	-0.5	23.5	-24.0
0.7470	22.0	13.8	35.8	-4.2	23.5	-27.7
1.0000	21.2	12.2	33.4	-6.6	23.5	-30.1
10.0000	17.4	12.7	30.1	-9.9	23.5	-33.4
30.0000	6.6	20.8	27.4	-12.6	23.5	-36.1

Notes:

1. Average Detector Data unless otherwise stated.
2. Negative value in the margin column shows emission below limit.
2. Frequency range scanned: 9kHz- 30MHz
3. Only emission significantly above equipment noise floor are reported.
4. A closer fixed distance was used for testing and 1/d attenuation law factor was used.
5. Loop antenna is used for the emissions below 30MHz.

3.4 Conducted Emission Configuration Photograph

Worst Case Radiated Emission at 29.514 MHz

For electronic filing, the worst case radiated emission configuration photographs are saved with filename: Conducted photos.pdf.

3.5 Conducted Emission Data

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Judgement: Passed by 24.8 dB

Applicant: Oregon Scientific Global Distribution Limited.

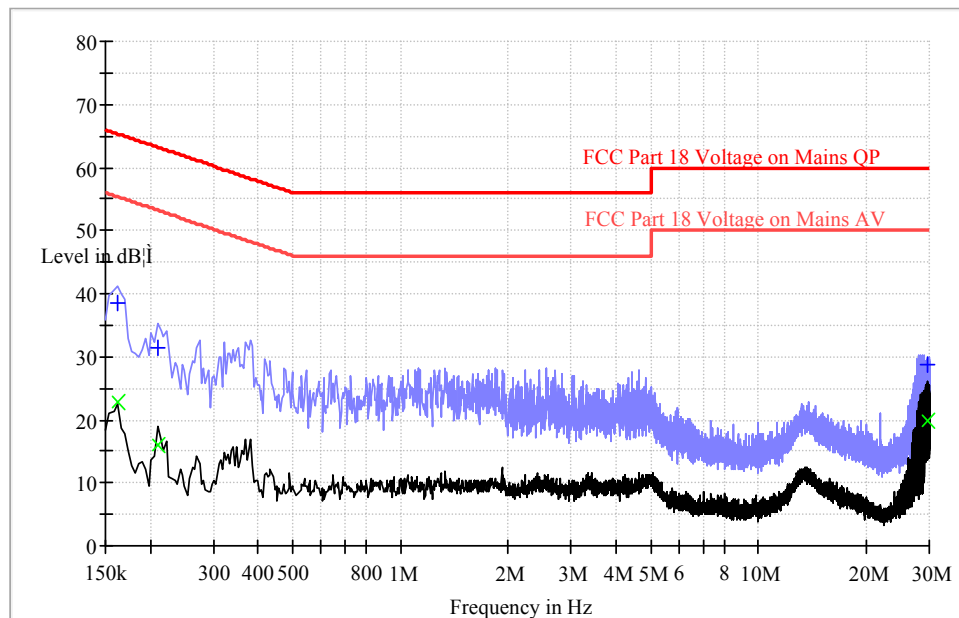
Date of test: 30 July 2010

Model: WS907

Conducted Emissions

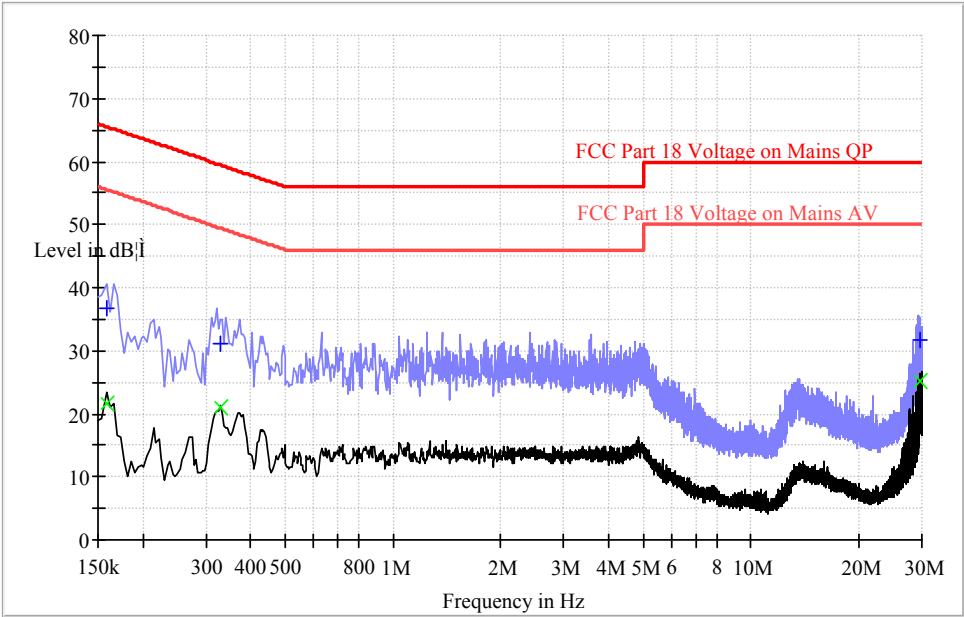
Tested Wire: Live

Mode: EUT on with adapter, Ion generator on



Frequency	Quasi-Peak		Average	
[MHz]	Disturbance level [dB(μV)]	Permitted limit [dB(μV)]	Disturbance level [dB(μV)]	Permitted limit [dB(μV)]
0.162	38.4	65.4	22.7	55.4
0.210	31.5	63.2	16.1	53.2
0.560	24.7	56.0	14.2	46.0
2.000	22.2	56.0	13.8	46.0
4.800	20.8	56.0	12.6	46.0
29.762	28.7	60.0	19.9	50.0

Tested Wire: Neutral
Mode: EUT on with adapter, Ion generator on



Frequency	Quasi-Peak		Average	
[MHz]	Disturbance level [dB(μV)]	Permitted limit [dB(μV)]	Disturbance level [dB(μV)]	Permitted limit [dB(μV)]
0.158	36.7	65.6	21.8	55.6
0.330	31.1	59.5	20.9	49.5
0.570	24.2	56.0	19.8	46.0
1.998	21.7	56.0	17.5	46.0
5.000	21.4	56.0	17.9	46.0
29.514	31.6	60.0	25.2	50.0

Notes:

- Frequency range scanned: 150kHz- 30MHz

4 Equipment photo

For electronic filing, the photographs are saved with filename: External and Internal photos.pdf .

5 Product Labelling

For electronics filing, the FCC ID label artwork and the label location are saved with filename: label.pdf.

6 Technical Specifications

For electronic filing, the block diagram and schematic of the tested EUT are saved with filename: Block diagram.pdf and Circuit diagram.pdf respectively.

7 Instruction Manual

For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: Manual.pdf.

This manual will be provided to the end-user with each unit sold/leased in the United States

8 Miscellaneous Information

This miscellaneous information includes details of the test procedure.

8.1 Discussion of Pulse Desensitization

No desensitization of the measurement equipment is required as the device is an i. fresh NCCO Air Sanitizing System (Air Purifier).

8.2 Calculation of Average Factor

It is not applicable for FCC part 18 device.

8.3 Emissions Test Procedures

The following is a description of the test procedure used by GZ Intertek Testing Services in the measurements of EUT operating under Part 18, Subpart C rules.

The test set-up and procedures described below are designed to meet the requirements of FCC/OST MP-5 (1986).

The transmitting equipment under test (EUT) is placed on a wooden turntable which is 1.5X1m dimension and approximately one meter in height above the ground plane. During the radiated emissions test, the turntable is rotated and any cables leaving the EUT are manipulated to find the configuration resulting in maximum emissions. The antenna polarization is varied during the testing to search for maximum signal levels.

According to FCC/OST MP-5 (1986), the frequency range scanned is 9 kHz to 30 MHz in field strength emission. The detector function of the measurement is set to average. For line conducted emissions, the range scanned is 150 kHz to 30 MHz in quasi peak and average measurement.

9 Equipment list

1) Radiated Emission test

Equipment No.	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
SZ061-03	BiConiLog Antenna	ETS	3142C	00066460	25-Nov-09	25-May-11
SZ185-01	EMI Receiver	R&S	ESCI	100547	08-Mar-10	08-Mar-11
SZ056-03	Spectrum Analyzer	R&S	FSP 30	101148	18-Mar-10	18-Mar-11
SZ188-01	Anechoic Chamber	ETS	RFD-F/A-100	4102	31-Oct-09	31-Oct-10
SZ062-04	RF Cable	RADIAL	RG 213U	--	05-Nov-09	05-Nov-10
SZ062-06	RF Cable	RADIAL	0.04-26.5GHz	--	17-Aug-09	17-Aug-10
SZ061-06	Active Loop Antenna	Electro-Metrics	EM-6876	217	27-Nov-09	27-May-11

2) Conducted Emission test

Equipment No.	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
SZ185-02	EMI Test Receiver	ESCI	R&S	100692	23-Nov-09	23-Nov-10
SZ187-01	LISN	ENV216	R&S	100072	23-Nov-09	23-Nov-10
SZ067-03	Power Splitter	RVZ	R&S	100410	08-Mar-10	08-Mar-11
SZ066-01	Isolation Transformer	ISO TRAN	Erika Fiedler OHG	89	14-Jan-10	14-Jan-11
SZ067-01	Matching Pad	RAM	R&S	101055	08-Mar-10	08-Mar-11
SZ067-02	Matching Pad	RAM	R&S	101056	08-Mar-10	08-Mar-11
SZ062-09	RF Cable	RG58/AU	MIZU	/	/	/
SZ188-03	Shielding Room	ETS	RFD-100	4100	15-Sep-07	15-Sep-10