



TEST REPORT

Report No. : AJ026578-001 Date : 2007 September 27

Application No. : LJ220523(3)

Client : One World Technologies, Inc.
1428 Pearman Dairy Rd.
Anderson, SC 29625
United States

Sample Description : One (1) submitted sample(s) stated to be
Model Name : Job-Site Radio/Race Scanner
Model No. : RB8408
Rating : 3 x 1.5V AA size batteries
: DC 12-24V rechargeable battery
: AC 120V
No. of submitted sample : Two (2) piece(s) ***

Date Received : 2007 September 10

Test Period : 2007 September 10 – 2007 September 27

Test Requested : FCC Part 15 Certification

Test Method : 47 CFR Part 15 (10-1-05 Edition)
ANSI C63.4 – 2003

Test Result : See attached sheet(s) from page 2 to 12.

Conclusion : The submitted sample was found to comply with requirement of FCC Part 15 Subpart B.

For and on behalf of
CMA Industrial Development Foundation Limited

Authorized Signature : _____
Danny Chui
Deputy Manager - EL. Division

FCC ID: VMZR8408

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1 General Information

1.1 General Description

The equipment under test (EUT) is an AM/FM/NASCAR station radio with iPod and AUX In. The EUT is power by AC 120V, DC 12-24V rechargeable battery and DC 4.5V backup battery. This AM/FM/NASCAR station radio has the following features:

1. receives AM (520-1710kHz), FM (87.5-108.1MHz) and NASCAR station (450-470MHz);
2. NASCAR frequency has around 280 steps and fine tune;
3. auxiliary audio input is necessary with iPod audio out adaptor;
4. works at 12, 14.4, 18V NI-CAD and 24V Lithium Ion rechargeable battery;
5. LCD display, it can show the AM/FM/NASCAR frequency;
6. with Bass, Boost, Mono, Stereo, Volume and Tuner controller;
7. provides one automotive-type 12V DC power receptacle output;

The brief circuit description is listed as follows:

- In the Power Board, U1, U2, U3, U4 and associated circuits act DC Power Regulator.
- In the Control Board, U1, U2, CX2 (8MHz) and associated circuits act as control the radio audio and RF tuner.
- In the NASCAR Radio Board, U1 (S1T8825B), U2 (MC3361), U3 (LM324), X1 (12.8MHz), X2 (21.145MHz), XF1 (21.6MHz), XF (21.6MHz), SAW1 (460MHz), CF1 (455kHz) and associated circuits act as PLL control for NASCAR Radio.
- In the AM/FM Radio and audio Amp Board, IC6 and CF1 (75kHz) and associated circuits act as PLL control for AM/M radio.
- In AM/FM Radio and audio AMP Board, IC1, IC2, IC3, IC4, IC5 and associated circuit act as audio amplifier control.

A brief circuit description is saved with filename: OpDes.pdf

1.2 Related Submittal Grants

This is a single application for certification of an AM/FM/NASCAR station radio with iPod and Aux In.



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1.3 Location of the Test Site

Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2003. A Semi-Anechoic Chamber Testing Site is set up for investigation and located at:

Ground Floor, Yan Hing Centre,
9 – 13 Wong Chuk Yeung Street,
Fo Tan, Shatin,
New Territories,
Hong Kong.

Conducted emissions measurements are investigated and also taken pursuant to the procedures of ANSI C63.4 – 2003. A shielded room is located at:

Ground Floor, Yan Hing Centre,
9 – 13 Wong Chuk Yeung Street,
Fo Tan, Shatin,
New Territories,
Hong Kong.



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1.4 List of Measuring Equipment

Equipment	Manufacturer	Model No.	Serial No.	Calibration Due Day
EMI Test Receiver	R&S	ESCS30	100001	2008 February 04
Bilog Antenna	Schaffner	CBL6112B	2718	2008 May 23
LISN	R&S	ESH3-Z5	100010	2008 January 25
LISN	R&S	ESH3-Z5	100038	2008 January 23



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2 Description of the radiated emission test

2.1 Test Procedure

Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2003.

The equipment under test (EUT) was placed on a non-conductive turntable with dimensions of 1.5m x 1m and 0.8m high above the ground. 3m from the EUT, a broadband antenna mounting on the mast received the signal strength. The turntable was rotated to maximize the emission level. The antenna was then moving along the mast from 1m up to 4m until no more higher value was found. Both horizontal and vertical polarization of the antenna were placed and investigated.

The device was rotated through three orthogonal to determine which attitude and configuration produce highest emission during measurement for Radiated Emission measurement.

2.2 Test Result

All modes had been tested. The emissions meeting the requirement of section 15.109 are based on measurements employing the CISPR quasi-peak detector below 1000MHz and average detector for frequencies above 1000MHz.

The emissions from 30MHz to 2000MHz were investigated. For both FM and NASCAR mode, the lowest, middle and highest frequency band and their corresponding harmonics were investigated respectively. The highest emissions were presented in next pages.

Emissions with more than 20dB below the limit were not reported.

It was found that the EUT meet the FCC requirement.



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2.3 Radiated Emission Measurement Data

Radiated emission

pursuant to

the requirement of FCC Part 15 subpart B

Mode: FM mode with frequency 88MHz

Frequency (MHz)	Polarity (H/V)	Reading at 3m (dB μ V/m)	Antenna and Cable factor (dB)	Field Strength (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
197.600	V	18.2	11.1	29.3	43.5	-14.2
395.202	H	17.5	14.9	32.4	46.0	-13.6
592.800	H	13.2	19.1	32.3	46.0	-13.7
790.400	H	16.1	21.8	37.9	46.0	-8.1

Mode: FM mode with frequency 98MHz

Frequency (MHz)	Polarity (H/V)	Reading at 3m (dB μ V/m)	Antenna and Cable factor (dB)	Field Strength (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
217.602	H	27.9	9.8	37.7	46.0	-8.3
435.206	H	14.0	17.9	31.9	46.0	-14.1
652.806	H	12.7	21.2	33.9	46.0	-12.1

Mode: FM mode with frequency 108MHz

Frequency (MHz)	Polarity (H/V)	Reading at 3m (dB μ V/m)	Antenna and Cable factor (dB)	Field Strength (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
237.579	H	27.8	9.8	37.6	46.0	-8.4
475.196	H	16.9	17.9	34.8	46.0	-11.2
712.793	H	13.5	21.8	35.3	46.0	-10.7



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2.3 Radiated Emission Measurement Data

Radiated emission

pursuant to

the requirement of FCC Part 15 subpart B

Mode: Race Radio (NASCAR) with tuning frequency 450MHz

Frequency (MHz)	Polarity (H/V)	Reading at 3m (dB μ V/m)	Antenna and Cable factor (dB)	Field Strength (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
428.436	V	13.4	17.9	31.3	46.0	-14.7
856.873	H	1.8	22.7	24.5	46.0	-21.5
1285.310	V	13.6	27.6	41.2	54.0	-12.8

Mode: Race Radio (NASCAR) with tuning frequency 460MHz

Frequency (MHz)	Polarity (H/V)	Reading at 3m (dB μ V/m)	Antenna and Cable factor (dB)	Field Strength (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
438.400	V	22.7	17.9	40.6	46.0	-5.4
876.798	V	4.1	22.7	26.8	46.0	-19.2
1315.198	V	12.6	28.2	40.8	54.0	-13.2
1753.597	V	12.8	30.6	43.4	54.0	-10.6

Mode: Race Radio (NASCAR) with tuning frequency 470MHz

Frequency (MHz)	Polarity (H/V)	Reading at 3m (dB μ V/m)	Antenna and Cable factor (dB)	Field Strength (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
448.372	V	14.1	17.9	32.0	46.0	-14.0
896.744	V	4.2	22.7	26.9	46.0	-19.1
1345.116	V	12.4	28.2	40.6	54.0	-13.0



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2.3 Radiated Emission Measurement Data

Radiated emission

pursuant to

the requirement of FCC Part 15 subpart B

Mode: AUX mode

Frequency (MHz)	Polarity (H/V)	Reading at 3m (dB μ V/m)	Antenna and Cable factor (dB)	Field Strength (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
32.049	H	7.4	18.5	25.9	40.0	-14.1
38.326	H	9.3	15.7	25.0	40.0	-15.0
40.454	V	10.4	13.0	23.4	40.0	-16.6
47.980	H	13.2	10.6	23.8	40.0	-16.2
54.765	H	16.5	8.4	24.9	40.0	-15.1
63.483	H	18.7	5.8	24.5	40.0	-15.5
65.259	H	18.2	5.8	24.0	40.0	-16.0
79.770	H	17.7	6.0	23.7	40.0	-16.3
80.784	H	16.7	7.3	24.0	40.0	-16.0
83.245	H	17.8	7.3	25.1	40.0	-14.9



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3 Description of the Line-conducted Test

3.1 Test Procedure

Conducted emissions measurements are investigated and also taken pursuant to the procedures of ANSI C63.4 – 2003. The EUT was setup as described in the procedures, and both lines were measured.

3.2 Test Result

The measurement data was indicated in Appendix.

It was found that the EUT met the FCC requirement.

3.3 Graph and Table of Conducted Emission Measurement Data

For electronic filing, the documents are saved with filename TestRpt2.pdf.



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4 Photograph

4.1 Photographs of the Test Setup for Radiated Emission and Conduction Emission

For electronic filing, the photos are saved with filename TSup1.jpg to TSup5.jpg

4.2 Photographs of the External and Internal Configurations of the EUT

For electronic filing, the photos are saved with filename ExPho1.jpg to ExPho2.jpg and InPho1.jpg to InPho10.jpg.

5 Supplementary Document

The following document were submitted by applicant, and for electronic filing, the document are saved with the following filenames:

Document	Filename
ID Label/Location	LabelSmp.jpg
Block Diagram	BlkDia.pdf
Schematic Diagram	Schem.pdf
Users Manual	UserMan.pdf
Operational Description	OpDes.pdf



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6 Appendices

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A2.	Photos of the set-up of Conducted Emissions	2	pages
A3.	Photos of External Configurations	1	page
A4.	Photos of Internal Configurations	5	pages
A5.	ID Label/Location	1	page
A6.	Conducted Emission Measurement Data	2	pages
A7.	Block Diagram	2	pages
A8.	Schematics Diagram	8	pages
A9.	User Manual	26	pages
A10.	Operation Description	1	page

***** End of Report *****