



TEST REPORT

Report No. : AG001889-001 Date : 2006 February 13

Application No. : LF219567(8)

Applicant : GMT Industrial Ltd.
Unit 1006, 10/F., Eastern Centre,
1065 King's Road, Hong Kong

Sample Description : One(1) submitted sample(s) stated to be Digital Tuner AM/FM Stereo Radio

Item Name	Model No.
YASAKI	KCCD6316DT
GPX	KCCD6316DT
GPX	KCCD6316DTSIL
GPX	KCCD6216DT
INSIGNIA	WS-C2114

Rating : 2 x 1.5V AAA size batteries
DC 12V / AC 120V for adaptor
AC 120V

No. of submitted sample : One (1)piece(s) ***

Date Received : 2005 December 14

Test Period : 2005 December 23 – 2006 February 13

Test Requested : FCC Part 15 Certification.

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

Test Result : See attached sheet(s) from page 2 to 13.

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

Remark : All five models are the same in circuitry and components; and therefore model YASAKI - KCCD6316DT was chosen to be the representative of the test sample.

For and on behalf of
CMA Industrial Development Foundation Limited

Authorized Signature : _____

Danny Chui
EMC Engineer - EL. Division



TEST REPORT

Report No. : AG001889-001

Date : 2006 February 13

Table of Contents

1	General Information.....	3
1.1	General Description	3
1.2	Location of the test site	4
1.3	List of measuring equipment.....	5
2	Description of the radiated emission test	6
2.1	Test Procedure	6
2.2	Test Result	6
2.3	Radiated Emission Measurement Data	7
2.3	Radiated Emission Measurement Data	8
2.3	Radiated Emission Measurement Data	9
3	Description of the Line-conducted Test.....	10
3.1	Test Procedure	10
3.2	Test Result	10
3.3	Graph and Table of Conducted Emission Measurement Data	10
4	Photograph.....	11
4.1	Photographs of the Test Setup for Radiated Emission and Conduction Emission.....	11
4.2	Photographs of the External and Internal Configurations of the EUT.....	11
5	Supplementary document.....	12
5.1	Bandwidth	12
5.2	Duty cycle	12
5.3	Transmission time	12
6	Appendices.....	13



TEST REPORT

Report No. : AG001889-001

Date : 2006 February 13

Test Result :

1 General Information

1.1 General Description

The equipment under test (EUT) is multi-function product and powered by DC 3V for LCD Clock and DC12V or AC 120V for Radio, AUX and CD. The EUT is a CD player, AUX input and stereo digital tuner with AM/FM and weather band.

The brief circuit description is listed as follows:

- IC1, IC2, X1 (16.934MHz), and associated circuit act as CD
- IC101, IC102, IC103, X101 (4.5MHz), CF101 (10.7MHz), CF103 (10.7MHz) and associated circuit act as AM/FM/WB Radio
- IC301, X301 (32.768kHz) and associated circuit act as Control CD, Radio and Amplifier
- IC201, IC202 and associated circuit act as Amplifier
- IC701, X701 (32.768kHz) and associated circuit act as LCD clock



TEST REPORT

Report No. : AG001889-001

Date : 2006 February 13

Test Result :

1.2 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,
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TEST REPORT

Report No. : AG001889-001

Date : 2006 February 13

Test Result :

1.3 List of measuring equipment

Equipment	Manufacturer	Model No.	Serial No.
EMI Test Receiver	R&S	ESCI	100152
EMI Test Receiver	R&S	ESCS30	100001
Broadband Antenna	Schaffner	CBL6112B	2692
Signal Generator	IFR	2023B	202302/938
LISN	R&S	ESH3-Z5	100038
LISN	R&S	ESH3-Z5	100010
Loop Antenna	EMCO	6502	00056620



TEST REPORT

Report No. : AG001889-001

Date : 2006 February 13

Test Result :

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.

2.2 Test Result

The harmonic emissions meeting the requirement of section 15.109 are based on measurements employing the CISPR quasi-peak detector.

It was found that the EUT meet the FCC requirement.



TEST REPORT

Report No. : AG001889-001

Date : 2006 February 13

Test Result :

2.3 Radiated Emission Measurement Data

Radiated emission

pursuant to

the requirement of FCC Part 15 subpart B

Mode: FM

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)
98.196	V	20.6	9.2	29.8	43.5	-13.7
108.706	H	17.5	11.0	28.5	43.5	-15.0
118.712	H	22.0	11.0	33.0	43.5	-10.5
196.406	H	28.7	9.2	37.9	43.5	-5.6
217.404	H	29.5	9.7	39.2	46.0	-6.8
237.412	H	33.1	9.7	42.8	46.0	-3.2
294.588	H	10.1	13.9	24.0	46.0	-22.0
326.118	H	24.2	14.9	39.1	46.0	-6.9
356.114	H	24.0	14.9	38.9	46.0	-7.1
474.848	H	4.3	17.7	22.0	46.0	-24.0



TEST REPORT

Report No. : AG001889-001

Date : 2006 February 13

Test Result :

2.3 Radiated Emission Measurement Data

Radiated emission

pursuant to

the requirement of FCC Part 15 subpart B

Mode: WB

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)
160.004	H	9.9	10.4	20.3	43.5	-23.2
171.562	H	24.2	10.4	34.6	43.5	-8.7
172.787	H	28.1	10.4	38.5	43.5	-5.0
173.814	H	29.6	10.4	40.0	43.5	-3.5
174.182	H	30.1	10.4	40.5	43.5	-3.0
174.289	H	24.5	10.4	34.9	43.5	-8.6
290.308	H	16.5	13.9	30.4	46.0	-15.6
345.565	H	12.4	14.9	27.3	46.0	-18.7
347.632	H	6.7	14.9	21.6	46.0	-24.4
348.376	H	12.6	14.9	27.5	46.0	-18.5



TEST REPORT

Report No. : AG001889-001

Date : 2006 February 13

Test Result :

2.3 Radiated Emission Measurement Data

Radiated emission

pursuant to

the requirement of FCC Part 15 subpart B

Mode: CD

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)
33.820	V	18.1	15.6	33.7	40.0	-6.3
135.258	H	22.9	11.9	34.8	43.5	-8.7
186.000	H	27.0	9.7	36.7	43.5	-6.8
202.908	H	20.5	13.9	34.4	43.5	-9.1
219.817	H	19.9	13.9	33.8	46.0	-12.2
236.720	H	24.1	13.9	38.0	46.0	-8.0
253.634	H	20.6	14.9	35.5	46.0	-10.5
270.550	H	20.7	14.9	35.6	46.0	-10.4
287.456	H	20.3	14.9	35.2	46.0	-10.8
304.358	H	18.4	17.7	36.1	46.0	-9.9



TEST REPORT

Report No. : AG001889-001

Date : 2006 February 13

Test Result :

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 result showed that the EUT met the FCC requirement. The measurement data was indicated in Appendix.

3.3 Graph and Table of Conducted Emission Measurement Data

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



TEST REPORT

Report No. : AG001889-001

Date : 2006 February 13

Test Result :

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 InPho12.jpg.



TEST REPORT

Report No. : AG001889-001

Date : 2006 February 13

Test Result :

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	Schem1.pdf to Schem3.pdf
Users Manual	UserMan1.pdf to UserMan2.pdf
Operational Description	OpDes.pdf

5.1 Bandwidth

N/A

5.2 Duty cycle

N/A

5.3 Transmission time

N/A



TEST REPORT

Report No. : AG001889-001

Date : 2006 February 13

6 Appendices

A1	Photos of the set-up of Radiated Emissions	1	page
A2	Photos of the set-up of Conducted Emissions	2	pages
A3	Photos of External Configurations	1	page
A4	Photos of Internal Configurations	6	pages
A5	ID Label/Location	1	page
A6	Conducted Emission Test Result	4	pages
A7	Block Diagram	1	page
A8	Schematics Diagram	3	pages
A9	User Manual	4	pages
A10	Operation Description	1	page

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