CMA Testing and Certification Laboratories
廠商會檢定中心

TEST REPORT

Report No. : AE014516-001 Date : 2004 August 28

Application No.: LE208102(2)

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

Sample Description : One(1) submitted sample stated to be :
Model Name : Set Top Box with Camera

Brand Name	Model No.
YASAKI	KS359
MEMOREX	MKS8002

Rating : AC 120 V
No. of sample(s) : One(1) piece ***

Date Received : 2004 July 23.

Test Period : 2004 July 23 - 2004 August 02.
2004 August 03 – 2004 August 17.
2004 August 28.

Test Requested : FCC Part 15 Certification

Test Method : FCC Rules and Regulations Part 15 – Dec 2003
ANSI C63.4 – 2001

Test Result : See attached sheet(s) from page 2 to 11.

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

Remark : All two models are the same in circuitry and components; and therefore model KS359 was chosen to be the representative of the test sample.

For and on behalf of
CMA Testing and Certification Laboratories

Authorized Signature : _____
Danny Chui
EMC Engineer - EL. Division

FCC ID : BSYKS359

Room 1302, Yan Hing Centre, 9-13 Wong Chuk Yeung St.., Fo Tan, Shatin, Hong Kong.
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1 General Information

1.1 General Description

The Set Top Box with Camera is a standalone multi-function product with a one channel receiver at frequency of 171.045 MHz. It has a total of 4 different features:

1. Music Player (supports CD and CDG Karaoke text graphic)
2. Microphone input for Karaoke function
3. Wireless Microphone Receiver for Karaoke function
4. Build in Video Camera

(Details shall be referred to the manual)

Refer to circuit design, the brief circuit description is saved with filename OpDes.pdf and listed as follows :

- IC1, IC3, IC4, IC5, Q1, Q2, Q3, Q4, Q5, Q6, Q8 X1and associated circuit act as CD decoding, display and control and control and have an operation clock of 16.9 MHz.
- IC501, IC502, Q501, Q502, Q503 X501and associated circuit act as Karaoke text graphic decoding and have an operation clock of 14.318 MHz.
- IC603, Q302, Q601, Q602, Q603, X601and associated circuit act as RF/OSC/IF amplifier for wireless microphone receiving and as karaoke microphone control and have an operation clock of 53.448MHz..
- Q301, Q401, Q402 and associated circuit act as audio amplifier.
- Camera module IC1, IC2, Z1 and associated circuit act as video camera which have an operation clock of 14.318 MHz.

1.2 Related Submittal Grants

This is a single application for certification of a multi-function product with receiver function operating at 171.045 MHz.

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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 – 2001. An Open Area Testing Site is set up for investigation and located at :

Top of the Roof, 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 – 2001. A double shielded room is located at :

Roof 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 Certification No.
EMI Test Receiver	R&S	ESCS30	100001	S21141
Broadband Antenna	Schaffner	CBL6113B	2718	AC1753
Signal Generator	IFR	2023B	202302/938	Nil
LISN	R&S	ESH3-Z5	100038	S21142
LISN	R&S	ESH3-Z5	100010	20-70405
Pulse Limiter	R&S	ESH3-Z2	100001	20-73194
Biconical Antenna	R&S	HK116	837414/004	4000.7752.02

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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 – 2001.

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

All modes had been test. The measurement data were indicated in next page.

All other measurement were 20 dB below the 15.109 limits. Thus, those highest emissions were presented in next page (section 2.3).

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 : Receiver

Frequency (MHz)	Polarity (H/V)	Reading at 3m (dBμV/m)	Antenna and Cable factor (dB)	Field Strength (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
53.448	H	18.6	8.9	27.5	40.0	-12.5
106.896	H	11.2	12.0	23.2	43.5	-20.3
160.344	H	12.7	11.0	23.7	43.5	-19.8
213.792	H	14.1	10.7	24.8	43.5	-18.7
267.240	H	11.1	13.9	25.0	46.0	-21.0
320.688	H	10.8	15.3	26.1	46.0	-19.9
374.136	H	11.7	15.3	27.0	46.0	-19.0
427.584	H	8.6	18.6	27.2	46.0	-18.8
481.032	H	9.0	18.6	27.6	46.0	-18.4
534.480	H	7.6	20.6	28.2	46.0	-17.8

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2.3 Radiated Emission Measurement Data

Radiated emission

pursuant to

the requirement of FCC Part 15 subpart B

Mode : CDG

Frequency (MHz)	Polarity (H/V)	Reading at 3m (dBμV/m)	Antenna and Cable factor (dB)	Field Strength (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
42.953	V	22.4	13.4	35.8	40.0	-4.2
57.272	V	27.3	8.9	36.2	40.0	-3.8
67.725	H	28.9	6.4	35.3	40.0	-4.7
101.588	H	27.7	12.0	39.7	43.5	-3.8
169.383	H	21.9	11.0	32.9	43.5	-10.6
186.317	H	19.3	10.5	29.8	43.5	-13.7
214.770	H	21.1	10.7	31.8	43.5	-11.7
271.016	H	16.3	13.9	30.2	46.0	-15.8
300.678	H	13.9	15.3	29.2	46.0	-16.8
389.589	H	12.3	15.3	27.6	46.0	-18.4

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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 – 2001. 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.

3.3 Graph and Table of Conducted Emission Measurement Data

For electronic filing, the document 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 InPho01.jpg to InPho14.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.pdf
Block Diagram	BlkDia.pdf
Schematic Diagram	Schem.pdf
Users Manual	UserMan.pdf
Operational Description	OpDes.pdf

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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	7 pages
A5.	ID Label/Location	1 page
A6.	Conducted Emission Test Result	2 pages
A7.	Block Diagram	1 page
A8.	Schematics Diagram	4 pages
A9.	User Manual	19 pages
A10.	Operation Description	1 page

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

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