ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT
INTENTIONAL RADIATOR CERTIFICATION TO FCC PART15C REQUIREMENT

OF

20-07159 Remote control (TX)

MODEL No.: 20-07159

BRAND NAME: N/A

FCC ID:PKG07159RC27

REPORT NO.: SZEE071222113304

ISSUE DATE: January 2, 2008

Prepared for

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VERIFICATION OF COMPLIANCE

Applicant:	MAY CHEONG TOY PRODUCTS FTY LTD 12/F,Empire centre,68Mody,Road,Tsimshatsui,East,Kowloon, Hong Kong
Product Description:	20-07159 Remote control
Brand Name:	N/A
Model Number:	20-07159
Serial Number:	N/A
File Number:	SZEE071222113304
Date of Test:	December 25,2007 ~ January 2 , 2008

We hereby certify that:

The above equipment was tested by Centre Testing International (CTI), The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2003) and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC PART15C

The test results of this report relate only to the tested sample identified in this report.

Prepared by : Forrest Lei

Reviewed by : Daisy Wu

Approved by: Jacky Guo
General Manager

Date : Jan. 2, 2008

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Description **Page**

1. GENERAL INFORMATION

1.1 Product Description

The TRANSMITTER. Model: 20-07159(referred to as the EUT in this report) The EUT is an short range, lower power, 20-07159 Remote control designed as an " Input Device". It is designed by way of utilizing the FSK modulation achieves the system operating.

A major technical descriptions of EUT is described as following:

A). Operation Frequency: 27.145 MHz ,one channel.
B). Modulation: FSK
C). Antenna Designation: integral antenna (it can't be moved during the test)
D). Power Supply: DC3 V by battery.

1.2 Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4 (2003). Radiated testing was performed at an antenna to EUT distance 3 meters.

1.3 Test Facility

The 3m Semi-Anechoic chamber test site and conducted measurement facility used to collect the radiated data is located on the address:

1F.,Building C, Hongwei Industrial Zone 70District.,Baoan,Shenzhen,Guangdong,China .

The Test Sites and the Line Conducted labs are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4: 2003 requirements. The test site Registration Number:614926

1.4 Special Accessories

Not available for this EUT intended for grant.

1.5 Equipment Modifications

Not available for this EUT intended for grant.

2. System Test Configuration

2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.2 EUT Exercise

The Transmitter was operated in the normal operating mode. the TX frequency was fixed which was for the purpose of the measurements.

2.3 Test Procedure

2.3.1 Conducted Emissions (Not apply in the report)

The EUT is a placed on as turn table which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4-2003.Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-Peak and average detector mode.

2.3.2 Radiated Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter(EUT) was rotated through three orthogonal axes according to the requirements in Section 13.1.4.1 of ANSI C63.4-2003.

2.4 Limitation

(1) Radiated Emission

a. The field strength of any emission within this band (frequency between 49.82MHz -49.9MHz) shall not exceed 10000 micro volts/meter at 3 meters. (80dBμV at 3m) The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in section 3.9 for limiting peak emissions apply.

b. The field strength of any emissions which appear outside of this band shall not exceed the general radiated emission limits in section 3.9(Intentional Radiators general limit).as below.

Frequency (MHz)	Field strength μV/m	Distance(m)	Field strength at 3m dBμV/m
1.705-30	30	30	29.54
30-88	100	3	40
88-216	150	3	43.5
216-960	200	3	46
Above 960	500	3	54

Remark: 1. Emission level in dBuV/m=20 log (uV/m)
2. Measurement was performed at an antenna to the closed point of EUT distance of meters.

2.5 Configuration of Test setup

Fig. 2-1 Configuration of Block diagram

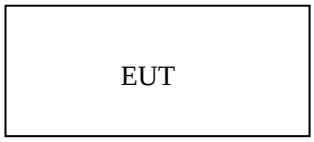


Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	Transmitter	N/A	20-07159	N/A	***EUT***

3. Summary Of Test Results

FCC Rules	Description Of Test	Result
15.227	Radiated Emission	Compliant

4. Description of test modes

1. The EUT has been tested under normal operating condition.
2. The EUT stay in continuous transmitting mode. The channel (27.145MHz) is chosen for testing.

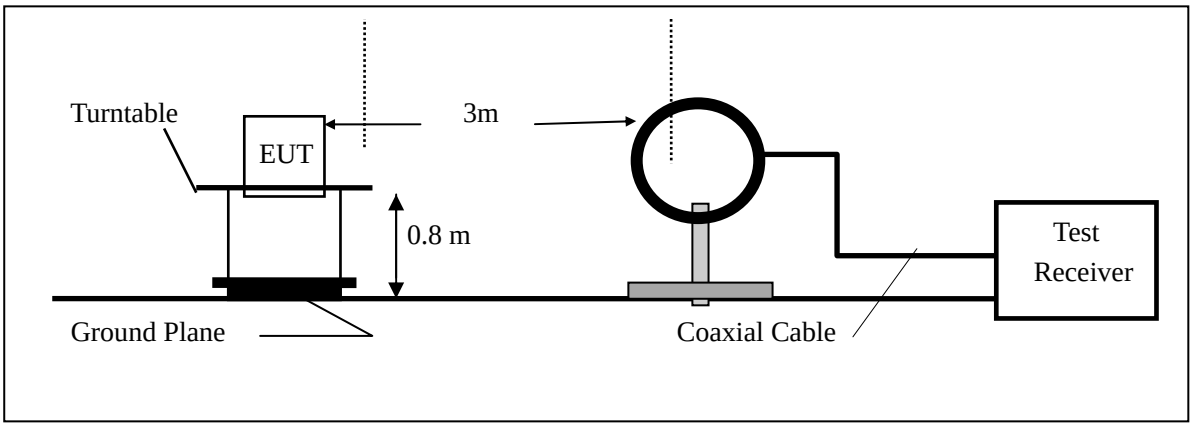
5. Radiated Emission Test

5.1 Measurement Procedure

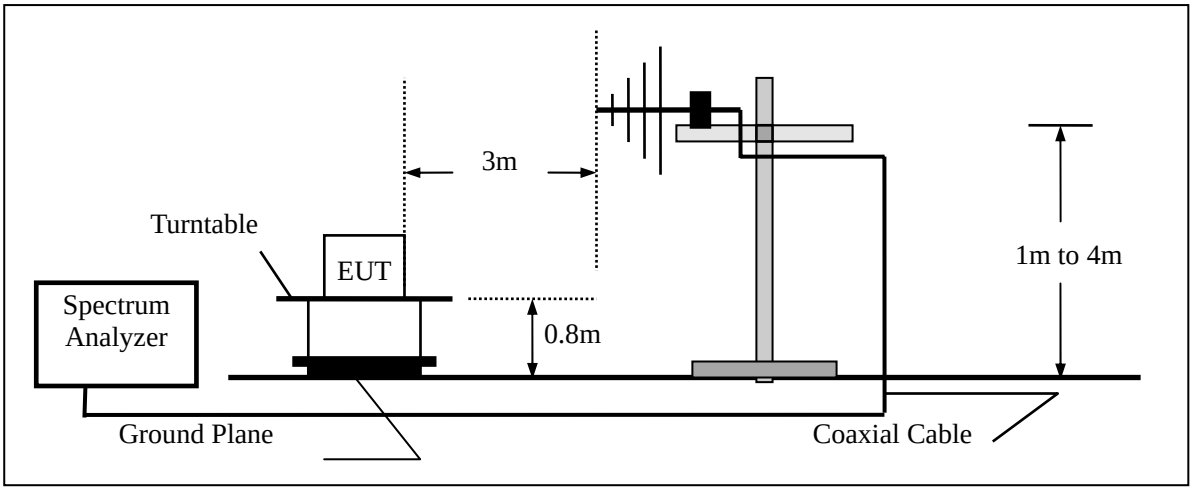
1 The EUT was placed on a turn table which is 0.8m above ground plane.
2. Maximum procedure was performed on the twelve highest emissions to ensure EUT compliance.
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all channel measured were complete.

5.2 Test SET-UP (Block Diagram of Configuration)

(A) Radiated Emission Test Set-Up, Frequency Below 30MHz



(B) Radiated Emission Test Set-Up, Frequency Below 1000MHz



5.3 Measurement Equipment Used:

Open Area Test Site # 3					
EQUIPMENT TYPE	**MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL DUE.**
Spectrum Analyzer	Agilent	E4443A	MY46185649	06/29/2007	06/28/2008
Biconilog Antenna	ETS	3142C	920250	05/30/2007	05/29/2008
Multi device Controller	ETS	2090	00057230	06/07/2007	06/06/2008
EMI Receiver	R&S	ESCI	100435	01/29/2007	01/28/2008

5.4 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor(if any) from the measured reading. The basic equation with a sample calculation is as follows:

CF=AF+CL-AG

FS = RA + CF

Where	FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
	RA = Reading Amplitude	AG = Amplifier Gain
	AF = Antenna Factor	

5.5 Measurement Result

Operation Mode:	Transmitting Mode	Test Date :	Jan. 2, 2008
Fundamental Frequency:	27.145MHz	Test By:	Forrest lei
Temperature :	22 ℃	Pol:	Horizontal
Humidity :	58 %		

Freq. (MHz)	Ant.Pol. H/V	DetectorMode (PK/AV)	Reading (dBuV)	Factor CF(dB)	Limit3m (dBuV/m)	Safe Margin (dB)	Note
27.145	H	Peak	42.87	18.79	80.00	-18.34	F
143.625	H	Peak	8.59	9.99	43.5	-24.92	E
221.625	H	Peak	7.97	13.04	46	-24.99	E
327.250	H	Peak	9.65	16.93	46.00	-19.42	H
423.125	H	Peak	8.88	18.52	46.00	-18.6	H
541.750	H	Peak	9.57	21.25	46.00	-15.18	H
608.375	H	Peak	9.85	22.55	46.00	-13.6	H

Remark：

(1) Measuring frequencies from 25 MHz to the 1GHz。

(2) “F” denotes fundamental frequency; “H” denotes spurious frequency. “E” denotes band edge frequency.

(3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.

(4) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) The IF bandwidth of EMI Test Receiver between 25MHz to 30MHz was 9KHz; 30MHz to 1GHz was 120KHz.

Operation Mode:	Transmitting Mode	Test Date :	Jan. 2, 2008
Fundamental Frequency:	27.145 MHz	Test By:	Forrest lei
Temperature :	22 ℃	Pol:	Vertical
Humidity :	58 %		

Freq. (MHz)	Ant.Pol. H/V	DetectorMode (PK/AV)	Reading (dBuV)	Factor CF(dB)	Limit3m (dBuV/m)	Safe Margin (dB)	Note
27.145	V	Peak	54.17	18.79	80.00	-7.04	F
81.875	V	Peak	13.39	9.14	40	-17.47	E
252.500	V	Peak	8.48	14.21	46	-23.31	E
298.000	V	Peak	11.83	15.75	46.00	-18.42	H
497.875	V	Peak	9.33	19.95	46.00	-16.72	H
549.875	V	Peak	8.55	21.47	46.00	-15.98	H
642.500	V	Peak	9.79	23.30	46.00	-12.91	H

Remark：

(1) Measuring frequencies from 25 MHz to the 1GHz.

(2) “F” denotes fundamental frequency; “H” denotes spurious frequency. “E” denotes band edge frequency.

(3) Datas of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(4) The IF bandwidth of EMI Test Receiver between 25MHz to 30MHz was 9KHz; 30MHz to 1GHz was 120KHz.

6.APPENDIX 1 PHOTOGRAPHS OF SETUP

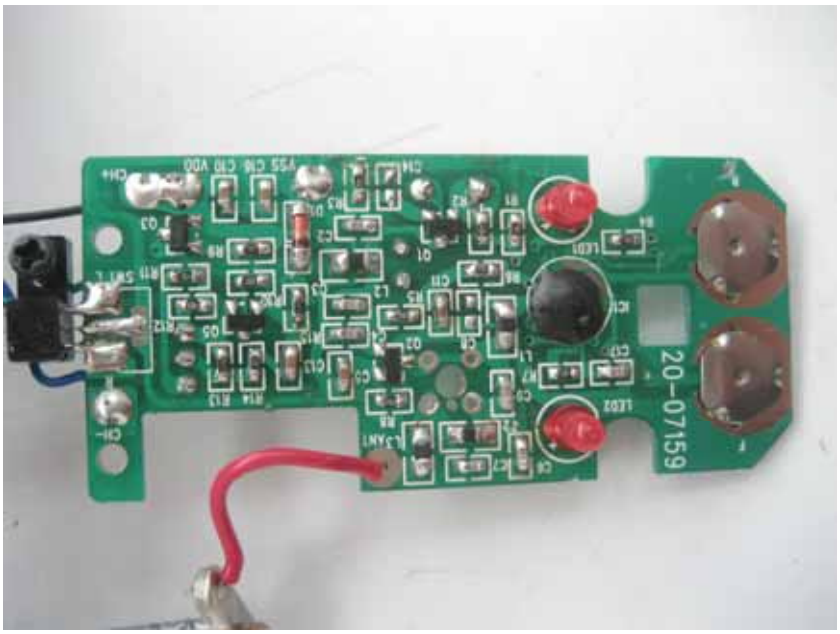
RADIATED EMISSION TEST SETUP

7.APPENDIX 2 PHOTOGRAPHS OF EUT

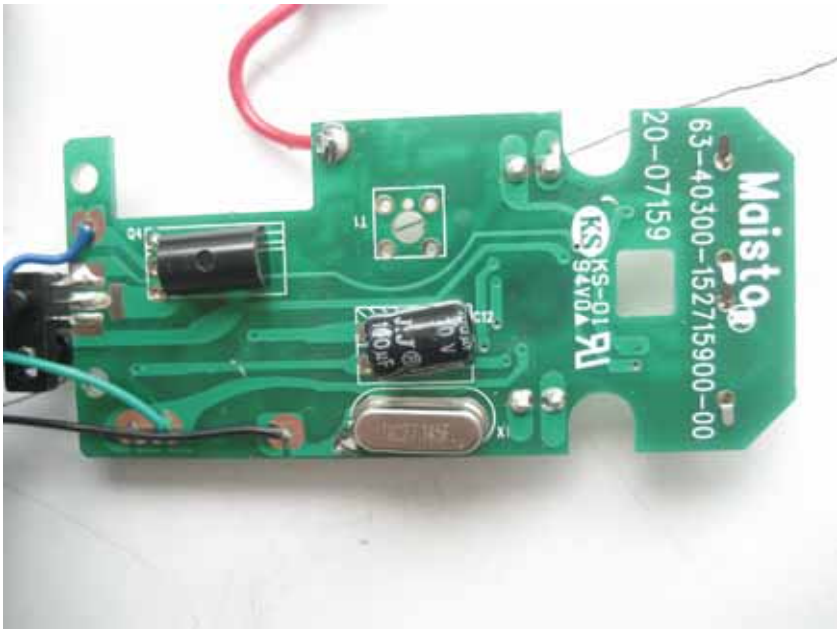
TOP VIEW OF SAMPLE

BOTTOM VIEW OF SAMPLE

INTERIOR PHOTO OF TX – 1



INTERIOR PHOTO OF TX – 2



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