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TEST REPORT

No.: HM101697

APPLICANT: (Code:BOT005)
BOXER TOYS CO. LTD.
UNIT 10, 4/F, SUN CHEONG IND. BLDG., 1 CHEUNG SHUN ST., CHEUNG SHA WAN, KOWLOON, HONG. KONG.

DATE OF SAMPLES RECEIVED: 1999.10.27

DATE OF TESTING: 1999.11.17

DESCRIPTION OF SAMPLE(S):
A sample of product said to be:

Product:	FM WIRELESS MICROPHONE
Manufacturer:	AKAMIBARA ELECTS. FTY.
Model Number:	B7008
Brand Name:	BOXER
Rating:	3Vd.c. ("AA" size battery × 2)
Origin:	China

INVESTIGATIONS REQUESTED:
Measurement to the relevant clauses of F.C.C. Rules and Regulations Part 15 Subpart C - Intentional Radiator.

RESULT/ REMARK: Please see attached sheet(s).

CONCLUSION:
From the measurement data obtained, the tested sample was considered to have COMPLIED after modification with the clause 15.239 of Federal Communications Commission Rules and Regulations Part 15.

TEST EQUIPMENT AUDIT: Please see Appendix A.

MODIFICATION METHOD: Please see Appendix B.

Law Man Kit	Kitty Choy	Patrick Wong
Testing Engineer	Verify by	Patrick Wong for Managing Director

T E S T S U M M A R Y

*** INTENTIONAL RADIATOR ***

(1)	Measurement of Emission of RF energy on the carrier frequency.....	Satisfactory
	Measurement of the out-of band emissions including harmonics.....	Satisfactory
(2)	Measurement of Emission Within Band Edges.....	Satisfactory
(3)	Measurement of Line-Conducted Voltage onto AC Power Line.....	Not applicable

T E S T D A T A

Please refer to the attached result sheets.

*** INTENTIONAL RADIATOR ***

(1) Measurement of Radiated Interference

TEST REFERENCE: FCC Rules Part 15 Subpart Section 15.239(88.00-108.00MHz)
TEST CONDITION : Normal
TEST DATE : 1999.11.17

Emission of RF energy on the carrier frequency -- 89.054 MHz
(PEAK VALUE)

Emission Frequency	Meter Reading	Polarization		Antenna Factor	Field Strength (at 3m)		FCC Limit
MHz	dB(μV)	H-V		dB	dB(μV/m)	μV/m	μV/m
89.05	42.7	H	+	10.5	53.2	457.1	2500

Emission of RF energy on the carrier frequency -- 89.054 MHz
(AVERAGE VALUE)

Emission Frequency	Meter Reading	Polarization		Antenna Factor	Field Strength (at 3m)	FCC Limit	
MHz	dB(μV)	H-V		dB	dB(μV/m)	μV/m	μV/m
89.05	32.4	H	+	10.5	42.9	139.6	250

... to be continued

*** INTENTIONAL RADIATOR ***

(1) Measurement of Radiated Interference . . Continued ..

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TEST REFERENCE: FCC Rules Part 15 Section 15.239 (88.00-108.00MHz)
TEST CONDITION : Normal
TEST DATE : 1999.11.17

The out-of-band emissions, including harmonics (25-1000 MHz)
(CISPR VALUE)

Emission Frequency		Meter Reading	Polarization		Antenna Factor	Field Strength (at 3m)			FCC Limit
MHz		dB(μV)	H-V		dB	dB(μV/m)		μV/m	μV/m
178.1		10.7	H	+	10.8	21.5		11.9	150
267.2		20.1	H	+	16.0	36.1		63.8	200
356.2	<	1.0		+	20.5	< 21.5	<	11.9	200
445.3	<	1.0		+	23.0	< 24.0	<	15.8	200
534.3	<	1.0		+	24.3	< 25.3	<	18.4	200
623.4	<	1.0		+	26.9	< 27.9	<	24.8	200
712.4	<	1.0		+	27.3	< 28.3	<	26.0	200
801.5	<	1.0		+	27.5	< 28.5	<	26.6	200
890.5	<	1.0		+	27.8	< 28.8	<	27.5	200
979.6	<	1.0		+	29.8	< 30.8	<	30.9	200

==========SUMMARY==========

Broad-band Antennas were used both polarizations of emissions were measured.
polarizations at highest reading indicated as:
H -- Horizontal V -- Vertical

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*** INTENTIONAL RADIATOR ***

(2) Measurement of Emissions Within Band Edges.

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TEST REFERENCE: FCC Rules Part 15 section 15.239(88.00-108.00 MHz)
TEST CONDITION: Normal
TEST DATE : 1999.11.17

Please see exhibit of report of bandwidth

RESULTS AND NOTES

The bandwidth of the emission shall be no wider than 200kHz of the center frequency for devices operating within 88.00MHz to 108.00MHz . The bandwidth is determind at the points 26dB down from the modulated carrier.
The bandwidth at 26.0dB down is 32.5kHz which is within the allowable limit of 200KHz at 88.00 to 108.00MHz.

L: FCC Lower Band Edge.....-> 88.000MHz
H: FCC Higher Band Edge.....->108.000MHz
C: Unmodulated carrier at frequency.....->89.054MHz
D: No. of dB from unmodulated carrier.....->39.80dB

SPECTRUM ANALYZER SETTINGS

Resolution bandwidth : 1.0KHz
Frequency span : 10.0KHz/div
No. of dB/div : 10.0dB/div

FCC Limit

Minimum No. of dB from unmodulated carrier required : 26.0dB

==========SUMMARY==========
All data is within limits
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NOTES FOR THE RADIATION MEASUREMENT

(1) Test site facility:
Open field test site located at Taipo (Hong Kong) with a metal ground plane on filed with the FCC pursuant to section 2.948 of the FCC Rules.

(2) Distance between the EUT and measuring antenna:
3 meters.

(3) Measuring instrumentations:
CISPR Quasi-peak type field strength meter (25 MHz - 1000 MHz). 6 dB bandwidth set at 120KHz. Also, peak level of the fundamental emissions was measured in order to determine compliance with the 20dB peak to average limit specified in Section 15.35(b) of the FCC new Rules.

(4) Measuring antenna:
Broad band antenna for the frequency range 25-1000 MHz, connected with 10 meters coaxial cable. Cable loss of the coaxial cable. included in the Antenna Factor for measurement data. The antenna are capable of measuring both horizontal and vertical polarizations.

(5) Frequency range scanned:
The frequency range from 25 MHz to 1000 MHz had been searched. Readings of the highest emssions relating to the limit were reported as above.

(6) Arrangement of EUT:
During the test, the sample was operated at rated supply voltage and arranged for maximum emissions.

(7) Measuring Procedure:
In accordance with the relevant clauses of the FCC Rules Part 15 section 15.239.

(8) Measuring Uncertainty:
The calculated uncertainty for measurement performed at 3M test distance are:-
30MHz to 300MHz = ± 3.7dB, 300MHz to 1000MHz = + 3.0dB/-2.7dB.

*********End of Document**********-