

Date: 1999-07-30
No.: HM101234

TEST REPORT

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APPLICANT: (CODE : SAI007)

SANDER IND. CO. LTD.

10/F, HONG KONG MFG. BLDG., 128 WAI YIP ST., KWUN TONG, KOWLOON, HONG KONG.

DATE OF SAMPLES RECEIVED: 1999.07.20

DATE OF TESTING: 1999.07.27.

DESCRIPTION OF SAMPLE(S):

A sample of product said to be:

Product: PRO-MODERN C-CAR 49MHz - Receiver

Manufacturer: SANDER TOYS MANUFACTURER (HUIZHOU) LTD.

Model Number: S-2260RCB/RC

Brand Name: SANDER

Rating: 3Vd.c. ("AA" size battery × 2)

Origin: China

Additional Model Number/Brand Name : S-2270RCB/RC, S-2280RCB/RC, S-2290RCB/RC, S-2320RCB/RC, S-2330RCB/RC, S-2340RCB/RC, S-2350RCB/RC, S-2380RCB/RC, S-2390RCB/RC

INVESTIGATIONS REQUESTED:

Measurement to the relevant clauses of F.C.C. Rules and Regulations Part 15 Subpart B - Unintentional Radiator.

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

CONCLUSION:

From the measurement data obtained, the tested sample was considered to have COMPLIED with the clause 15.109(a) & ANSI C63.4:1992 section 12.1.1.1-2 of Federal Communications Commission Rules and Regulations Part 15.

TEST EQUIPMENT AUDIT: Please see Appendix A

Testing Engineer

Verify by

Patrick Wong
for Managing Director

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TEST SUMMARY

UNINTENTIONAL RADIATOR

- (A) Measurement of Radiated Emissions Satisfactory
- (B) Line Conducted Voltage Test Not applicable

TEST DATA

Please refer to the attached result sheets.

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UNINTENTIONAL RADIATOR

** RECEIVER SECTION **

(A) Measurement of Radiated Interference

TEST REFERENCE: FCC Rules Part 15 Subpart B section 15.109(a)

TEST CONDITION : Normal

TEST DATE : 1999.07.27.

Freq. to which tuned	Freq of the emission	Polarization H-V	Meter reading (at 3m)			Antenna factor	Field Strength (at 3m)		FCC limit @
MHz	MHz		dB(μV)		dB	dB(μV/m)	μV/m	μV/m	
49.860	49.9	H	19.2	+	15.0	34.2	51.3	100	
	99.7		< 1.0	+	12.2	< 13.2	< 4.6	150	
	149.6		< 1.0	+	9.8	< 10.8	< 3.5	150	
	199.4		< 1.0	+	11.5	< 12.5	< 4.2	150	
	249.3		< 1.0	+	15.9	< 16.9	< 7.0	200	
	299.1		< 1.0	+	17.0	< 18.0	< 7.9	200	
	349.0		< 1.0	+	17.2	< 18.2	< 8.1	200	
	398.8		< 1.0	+	18.8	< 19.8	< 9.8	200	
	448.7		< 1.0	+	19.7	< 20.7	< 10.8	200	
	498.6		< 1.0	+	20.6	< 21.6	< 12.0	200	
	548.4		< 1.0	+	22.2	< 23.2	< 14.5	200	
	598.3		< 1.0	+	23.4	< 24.4	< 16.6	200	
	648.1		< 1.0	+	23.5	< 24.5	< 16.8	200	
	698.0		< 1.0	+	25.0	< 26.0	< 20.0	200	
	747.8		< 1.0	+	26.2	< 27.2	< 22.9	200	
	797.7		< 1.0	+	27.2	< 28.2	< 25.7	200	
	847.5		< 1.0	+	27.2	< 28.2	< 25.7	200	
	897.5		< 1.0	+	27.2	< 28.2	< 25.7	200	
	947.2		< 1.0	+	27.8	< 28.8	< 27.5	200	
	997.1		< 1.0	+	28.5	< 29.5	< 29.9	500	

=====SUMMARY=====

All data is within limits

Broad-band Antennas were used and both polarizations of emissions were measured

Polarizations at highest reading indicated as:

H -- Horizontal V -- Vertical

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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 ET and measuring antenna:

3 meters.

(3) Measuring instrumentation's:

CISPR Quasi-peak type field strength meter (25 MHz - 1000 MHz.). 6 dB bandwidth set at 120 KHz. 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 emissions 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 15.109(a) and ANSI C63.4:1992 section 12.1.1.1-2.

For superregenerative receivers, an independent signal generator had been used to radiated an unmodulated wave (cw) signal to the receiver at its operating frequency in order to "cohere" or resolve the individual components of the characteristic broadband emission from such a receiver. The level of such signal may need to be adjusted in order to accomplish this.

(8) Measuring Uncertainty:

The calculated uncertainty for measurement performed at 3M test distance are:-
30MHz to 300MHz = $\pm 3.7\text{dB}$, 300MHz to 1000MHz = $\pm 3.0\text{dB}/-2.7\text{dB}$.

Remark: Purpose of this test is to provide the Applicant with the necessary test data of their device for the submission to FCC with application for Equipment Authorization under FCC's Equipment Authorization Program. This test itself is not an Approval Test.

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