

Date: 2000-04-10

TEST REPORT

Page 1 of 8

No.: HM102328

APPLICANT: (CODE : SKC001)

SKY CITY INT'L LTD.

25/F., North Point Asia-Pacific Centre, 10 North Point Road, North Point, Hong Kong

DATE OF SAMPLES RECEIVED:

2000-03-15

TEST DURATION

2000-04-06

DESCRIPTION OF SAMPLE(S):

A sample of product said to be:

Product: MULTI-FUNCTION REMOTE CONTROL LANTERN

Manufacturer: SKY CITY INT'L LTD.

Model Number: SL9000RC

Brand Name: N/A

Rating: 12Vd.c. 300mA with Jack

Origin: CHINA

Additional Model Number: SL9000ARC, SL9000WRC, SL9000SWRC, SL9000MWRC,
SL9000AMRC, SL9000ASRC, SCD9000RC, SCD9000ARC,
SCD9000WRC, SCD9000SWRC, SCD9000MWRC,
SCD9000AWRC, SCD9000ASRC

The AC Adaptor used for the test was a Model: LF12300D-41, Input: 120V a.c. 60Hz,
Output: 12V d.c. 300mA

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
after modification by customer with the clause 15.109(a) for the Receiver Section of Federal
Communication Rules and Regulation Part 15 and ANSI C63.4-1992 Section 12.1.1.1-2.

TEST EQUIPMENT AUDIT:

Please see Appendix A

Law Man Kit
Testing Engineer

Kitty Choy
Verify by

Patrick Wong
Patrick Wong
for Managing Director

Date: 2000-04-10

TEST REPORT

Page 2 of 8

No.: HM102328

TEST SUMMARY

- (A) Measurement of Radiated Emissions Satisfactory
- (B) Line Conducted Voltage Test. Satisfactory

TEST DATA

Please refer to the attached result sheets.

Date: 2000-04-10

TEST REPORT

Page 3 of 8

No.: HM102328

*** RECEIVER SECTION ***

(A) Measurement of Radiated Interference

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

TEST CONDITION : Normal

TEST DATE : 2000.04.06

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
319.854	22.0	H +	19.5	41.5 118.9	200
639.708	< 1.0	+ <	28.5	< 29.5 29.9	200
959.562	< 1.0	+ <	25.8	< 26.8 21.9	500
1279.416	< 1.0	+ <	26.2	< 27.2 22.9	500
1599.270	< 1.0	+ <	28.0	< 29.0 28.2	500
1919.124	< 1.0	+ <	28.5	< 29.5 29.9	500
2238.978	< 1.0	+ <	30.6	< 31.6 38.0	500
2558.832	< 1.0	+ <	32.0	< 33.0 44.7	500
2878.686	< 1.0	+ <	33.2	< 34.2 51.3	500
3198.540	< 1.0	+ <	33.3	< 34.3 51.9	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

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 instrumentations:
CISPR Quasi-peak type field strength meter (25 MHz - 1000 MHz and 1GHz-18GHz).6dB 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 15.231 of the FCC new Rules.
- (4) Measuring antenna:
Broad band antenna for the frequency range 25-1000 MHz, connected with 10 meters coaxial cable.Horn antenna for the frequency range 1-18 GHz, connected with high frequency coaxial cable.Cable loss of the coaxial cable. 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 were (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 = $\pm 3.0\text{dB}/-2.7\text{dB}$.
1GHz to 18GHz = $\pm 3.3\text{dB}/-3.4\text{dB}$.

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.

Date: 2000-04-10

TEST REPORT

Page 5 of 8

No.: HM102328

(B) Measurement of Line-Conducted Voltage onto AC Power Line

TEST REFERENCE : FCC Rules Part 15 Subpart B Section 15.107(a)
(Class B)
TEST CONDITION : Normal
TEST DATE : 2000-04-10

(1) Between "Live" and "Ground"

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Frequency Range of Emission			Maximum Measured Radio Noise		FCC Limit (Class B)
MHz			dB(μV)	μV	μV
0.45	-	0.80	25.49	18.81	250.00
0.80	-	1.60	16.44	6.64	250.00
1.60	-	3.00	0.00	1.00	250.00
3.00	-	5.00	0.00	1.00	250.00
5.00	-	7.00	0.00	1.00	250.00
7.00	-	9.00	0.00	1.00	250.00
9.00	-	11.00	0.00	1.00	250.00
11.00	-	13.00	0.00	1.00	250.00
13.00	-	15.00	0.00	1.00	250.00
15.00	-	17.00	0.00	1.00	250.00
17.00	-	19.00	0.00	1.00	250.00
19.00	-	21.00	0.00	1.00	250.00
21.00	-	23.00	0.00	1.00	250.00
23.00	-	25.00	0.00	1.00	250.00
25.00	-	27.00	0.00	1.00	250.00
27.00	-	30.00	11.33	3.69	250.00

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- End -

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===== SUMMARY =====

All data is within limits

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Date: 2000-04-10

TEST REPORT

Page 6 of 8

No.: HM102328

(B) Measurement of Line-Conducted Voltage onto AC Power Line

TEST REFERENCE : FCC Rules Part 15 Subpart B Section 15.107(a)
(Class B)
TEST CONDITION : Normal
TEST DATE : 2000-04-10

(1) Between "Neutral" and "Ground"

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Frequency Range of Emission			Maximum Measured Radio Noise		FCC Limit (Class B)	
MHz				dB(μV)	μV	μV
0.45	-	0.80	<	25.49	18.81	250.00
0.80	-	1.60	<	16.44	6.64	250.00
1.60	-	3.00		0.00	1.00	250.00
3.00	-	5.00		0.00	1.00	250.00
5.00	-	7.00		0.00	1.00	250.00
7.00	-	9.00		0.00	1.00	250.00
9.00	-	11.00		0.00	1.00	250.00
11.00	-	13.00		0.00	1.00	250.00
13.00	-	15.00		0.00	1.00	250.00
15.00	-	17.00		0.00	1.00	250.00
17.00	-	19.00		0.00	1.00	250.00
19.00	-	21.00		0.00	1.00	250.00
21.00	-	23.00		0.00	1.00	250.00
23.00	-	25.00		0.00	1.00	250.00
25.00	-	27.00		0.00	1.00	250.00
27.00	-	30.00	<	11.33	3.69	250.00

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- End -

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===== SUMMARY =====

All data is within limits

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NOTES FOR THE CONDUCTED POWER-LINE MEASUREMENT

- (1) LISN (Line Impedance Stabilization Network) used :
50 μ H LISN in accordance with Section of ANSI C63.4:1992.
- (2) Measurement Instrumentations:
CISPR quasi-peak type radio noise meter (9 KHz - 30 MHz), 6 dB bandwidth set at 9 KHz for measurement between 150 KHz & 30MHz.
- (3) Frequency range scanned :
The frequency range from 450 KHz to 30 MHz had been searched. Reading of the highest emissions relating to the limit were reported as above.
- (4) Configuration of EUT:
Connection of equipment and operation conditions were same as those in the Radiation measurement.
- (5) Measurement procedure :
In accordance with the relevant sections of ANSI C63.4:1992 "FCC Methods of measurement of Radio Noise Emissions from Computing Devices".
- (6) Measuring Uncertainty:
The calculated uncertainty for conducted power-line measurement is = ± 2.3 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 ***

Date: 2000-04-10

TEST REPORT

Page 8 of 8

No.: HM102328

TEST EQUIPMENT AUDIT

Radiated Emission

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL.
EM007	SPECTRUM ANALYZER	HEWLETT PACKARD	HP85660B	3144A21192	11/06/99
EM008	SPECTRUM ANALYZER DISPLAY	HEWLETT PACKARD	HP85662A	3144A20514	11/06/99
EM009	QUASI PEAK ADAPTOR	HEWLETT PACKARD	HP85650A	3303A01702	11/06/99
EM010	RF PRESELECTOR	HEWLETT PACKARD	HP85685A	3221A01410	11/06/99
EM011	ATTENUATOR/SWITCH	HEWLETT PACKARD	HP11713A	2508A10595	11/06/99
EM012	PRE-AMPLIFIER	HEWLETT PACKARD	HP8449B	3008A00262	11/06/99
EM013	CONTROLLER (COMPUTER), COLOR MONITOR, KEYBOARD & MOUSE FLOPPY DRIVE	HEWLETT PACKARD HEWLETT PACKARD HEWLETT PACKARD	HP9000 HP A1097C HP9133L	6226A60314 3151J39517 2623A02468	CM
EM017	ANTENNA	ARA INC.	LPB-2513/A	1069	17/02/00
EM020	HORN ANTENNA	EMCO	3115	4032	30/06/97
EM072	SIGNAL GENERATOR	HEWLETT PACKARD	8640B	1948A11892	30/03/98
EM083	HKSTC OPEN AREA TEST SITE	HKSTC	N/A	N/A	15/01/00
EM145	EMI TEST RECEIVER	R & S	ESCS 30	830245/021	10/05/99

Line Conducted

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL.
EM078	VARIAC	SHANGHAI VOLTAGE	TDGC-3/0.5	N/A	CM
EM081	SMALL SCREENED ROOM	MIKO INST HK	N/A	N/A	09/09/99
EM119	LISN	R & S	ESH3-Z5	0831.5518.52	09/08/98
EM120	EMI TEST RECEIVER	R&S	ESHS10	1004.0401.10	09/08/99
EM123	NOTEBOOK PC	ACER	350CX	P007865	N/A
EM127	ISOLATION TRANSFORMER 220 TO 300	WING SUN	N/A	N/A	01/09/97
EM142	PLUSE LIMITER	R & S	ESH3Z2	357.8810.52	29/01/99
EM145	EMI TEST RECEIVER	R & S	ESCS 30	830245/021	10/05/99

Remarks:-

CM Corrective Maintenance
N/A Not Applicable or Not Available
TBD To Be Determined