



CONSUMER PRODUCTS SERVICES DIVISION

## LEXIBOOK LIMITED

**Technical Report:** (5219)204-0180

August 12, 2019

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JOHN CHONG  
LEXIBOOK LIMITED  
UNIT 8-9, 4TH FLOOR KENNING INDUSTRIAL BUILDING  
19 WANG HOI ROAD  
KOWLOON BAY, KOWLOON  
HONG KONG

Sample Description:	ALARM CLOCK	Sample Size:	1
Vendor:	N/A	Style No(s):	(RP500) RP500PA
Manufacturer:	N/A	SKN/SKU No.:	N/A
Buyer:	N/A	PO No.:	N/A
Labeled Age Grade:	NOT PRESENT	Ref #:	N/A
Appropriate Age Grade:	CHILDREN PRODUCTS, OVER 6 YEARS OF AGE	Country of Origin:	CHINA
Client Specified Age Grade:	NOT SPECIFIED	Assortment No.:	N/A
Tested Age Grade:	CHILDREN PRODUCTS, OVER 6 YEARS OF AGE		
UPC Code:	3380743046655		
Terminal voltage:	6.0 V		

### **EXECUTE SUMMARY:**

The sample COMPLIES with the tested requirements of the applicable EC harmonized standards EN 61000-6-1 and EN 61000-6-3 pertaining to Directive 2014/30/EU Electromagnetic Compatibility.

BUREAU VERITAS HONG KONG LIMITED

Law Yiu Tung  
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Electrical Department

LYT/li



**STANDARDS**

<b>EMISSION STANDARD APPLIED</b>		
<b>Standard</b>		<b>Overall Result</b>
EN 61000-6-3: 2007 +A1:2011  Electromagnetic compatibility (EMC) – Part 6-3: Generic Standards – Emission Standard for residential, commercial and light industrial environments		<b>Meet</b>
<b>Emission Tests Required</b>		
<b>Test</b>	<b>Test method</b>	<b>Result</b>
Measurement of Radiated Disturbances (30 MHz – 1000 MHz)	CISPR 16-2-3: 2006	<b>Meet</b>

<b>IMMUNITY STANDARD APPLIED</b>		
<b>Standard</b>		<b>Overall Result</b>
EN 61000-6-1: 2007  Electromagnetic compatibility (EMC) – Part 6-1: Generic Standards – Immunity for residential, commercial and light industrial environments		<b>Meet</b>
<b>Immunity Tests Required</b>		
<b>Test</b>	<b>Test method</b>	<b>Result</b>
Electrostatic Discharge (ESD)	IEC 61000-4-2: 2008	<b>Meet</b>
Radiated RF Electromagnetic Immunity	IEC 61000-4-3: 2006 + A1 : 2007 + A2:2010	<b>Meet</b>



**Test Laboratory**

**Hong Kong Productivity Council – Electromagnetic Compatibility Centre**

**Address:**

LG1/F., HKPC Building, 78 Tat Chee Avenue, Kowloon, Hong Kong

**BUREAU VERITAS HONG KONG LIMITED, EMC CENTRE**

**Address:**

No. 2106-2107, 21/F., Westin Centre, 26 Hung To Road, Kwun Tong, Kowloon, Hong Kong

**A) Emission Measurements:**

**Test Results:**

**Measurement of Radiated Electromagnetic Disturbances (30 MHz – 1 GHz):**

**Standard:** EN 61000-6-3

**Limit:** Table 1

**Port under test:** Enclosure

**Operational mode under test:** Clock mode (with alarm, display, sound, light)

The operational mode under test is determined according to the typical use of the EUT with respect to the expected highest level of emission. During the test, various parts of the EUT system are exercised in a manner permitting detection of all system disturbances.

**Test Location: Hong Kong Productivity Council – Electromagnetic Compatibility Centre**

LG1/F., HKPC Building, 78 Tat Chee Avenue, Kowloon, Hong Kong

**Test equipment:**

Description	Brand Name	Model No.
EMI TEST RECEIVER	R&S	ESU40
SEMI-ANECHOIC CHAMBER	FRANKONIA	--
BICONICAL ANTENNA	R&S	HK116
LOG-PERIODIC ANTENNA	R&S	HL223
ACTIVE LOOP ANTENNA	EMCO	6502

**Remarks: -**

The measurement instrumentation uncertainty would be taking into consideration on each of the test result



**Test method:**

The test is performed in accordance with CISPR 22 as a basic standard at a measurement range of 3 meters.

The test site has, by verification measurements, satisfied the normalized site attenuation (NSA) requirements specified in the standard CISPR 22. For each test frequency during final test, the antenna-to-EUT azimuth is varied through 360°. The antenna is also scanned between 1m to 4m in height above the ground plane to maximize the level of radiated disturbances. The final test results are measured with quasi-peak detector of the EMI test receiver.

If the measurement results are 20 dB lower than the corresponding limit levels, no records of these measurement results are required.

For the measurements at frequencies with high ambient disturbance signals existing, verification tests may be carried out in the Semi Anechoic Chamber (SAC) as an auxiliary method to confirm whether there is any emission of radiated disturbances from the EUT. If there is no maximum disturbance level from the EUT other than the corresponding intrinsic noise floor of measuring system (which is at least 20 dB below the limit level), then it can be stated confidently that the measurement result obtained at OATS is due to the signal levels of ambient signal sources, not the EUT.

**Results:**

The maximum disturbance levels measured with quasi-peak or peak detector of EMI test receiver are found at least 20dB below the limit level of the standard applied. No records of measurement results are required.

**Remarks: Calculated measurement uncertainty:** 5.1dB (30MHz to 200MHz)  
6.2dB (200MHz to 1GHz)



**Electrostatic Discharge (ESD):**

**Standard:** EN 61000-6-1                      **Test method:** IEC61000-4-2

**Test Levels:** ±4kV for Contact Discharge, ±8kV for Air Discharge

**Test Location:**  
 No. 2106-2107, 21/F., Westin Centre, 26 Hung To Road, Kwun Tong, Kowloon, Hong Kong

**Test equipment:**

Description	Brand Name	Model
Electrostatic Discharge Simulator	Kikusui	KES 4021A
Ground Reference Plane (GRP) - Dimension = 2.70m x 1.93m (Length x Width)	None	None
Wooden Table, - Height = 0.8m	None	None
Horizontal Coupling Plane (HCP) - Dimension = 1.6m x 0.8m (Length x Width) - Connected to the GRP via two resistors of 470kΩ in series	None	None
Insulation Support Laminate - Thickness = 0.5 mm	None	None
Vertical Coupling Plane (VCP) - Dimension 0.5m x 0.5m (L x W) - Connected to the GRP via two resistors of 470kΩ in series	None	None
Thermometer & Hydrometer	Sato Keryoki	NSII – Q
Barometer	Sigma-II	7237-00
Conductive Discharge Brush for ungrounded EUT (Connected to the GRP via two resistors of 470kΩ in series)	None	None

**Results:**

Operation mode under test: Clock mode (with alarm, display, sound, light)

Environmental Condition:

Temperature (°C): 26                      Relative Humidity (%): 55                      Atmospheric Pressure (kPa): 100.0



Application of direct discharges

i) Contact Discharge

The ESD generator is held with its tip of the contact discharge electrode perpendicular to the surface of the point of the sample enclosure to be tested. The tip of electrode shall firmly touch the surface of the point to be tested prior to charging up the electrode and application of discharge to the point under test.

At least 10 positive discharges and 10 negative discharges are applied to each accessible and dischargeable metal parts of the enclosure with an interval of at least 1 second between successive discharges.

Points of discharge	Polarity	Applied voltage (kV)	Performance criterion	Observation	Result
Screws	-	4	B	A	Meet
	+	4	B	A	Meet

Remark: A, normal performance

ii) Air Discharge

The ESD generator is held with its tip of the air discharge electrode charged up prior to the application of discharge. The tip of charged electrode shall be brought to the surface of the point to be tested as fast as possible without causing any mechanical damage to the sample.

At least 10 positive discharges and 10 negative discharges are applied to each dischargeable but un-accessible metal parts or non-metal parts of the enclosure with an interval of at least 1 second between successive discharges.

Points of discharge	Polarity	Applied voltage (kV)	Performance criterion	Observation	Result
Enclosure	-	8	B	A	Meet
	+	8	B	A	Meet

Remark: A, normal performance

Application of indirect discharges

i) Discharge on Horizontal Coupling Plane (HCP)

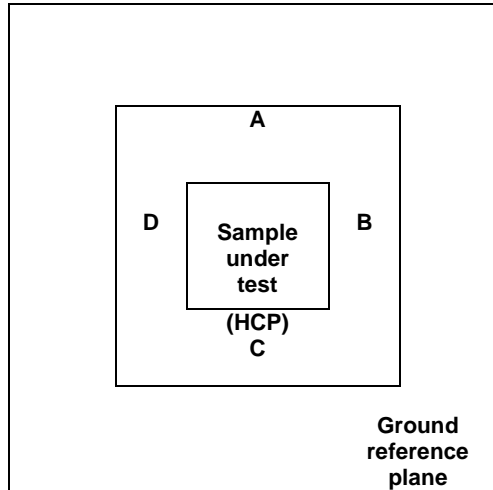
The electrostatic discharge generator is held horizontally in plane of the horizontal coupling plane (HCP), with the contact discharge electrode firmly touching the edge of the HCP. The tip of the electrode shall be at a distance of 0.1 m from the side of the sample being tested.

At least 10 positive discharges and 10 negative discharges are applied with an interval of not less than 1 second between each discharge.

Points of discharge	Polarity	Applied voltage (kV)	Performance criterion	Observation	Result
Position A, B, C, D	-	4	B	A	Meet
	+	4	B	A	Meet

Remark: A, normal performance

Figure 1:



ii) Discharge on Vertical Coupling Plane (VCP)

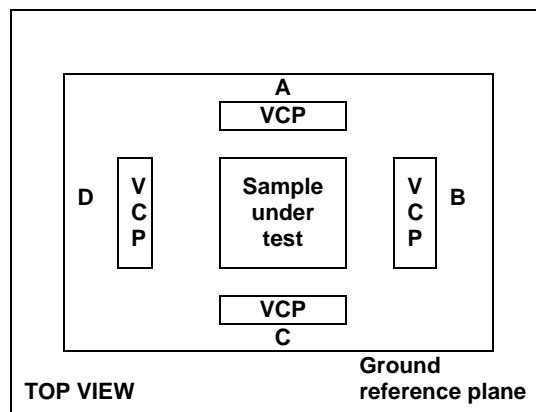
The electrostatic discharge generator is positioned horizontally to the center of the edge of the Vertical Coupling Plane (VCP) which is located vertically 0.1 m from the sample with contact discharge electrode touching the vertical coupling plane.

At least 10 positive discharges and 10 negative discharges are applied with an interval of not less than 1 second between each discharge.

Points of discharge	Polarity	Applied voltage (kV)	Performance criterion	Observation	Result
Position A, B, C, D	-	4	B	A	Meet
	+	4	B	A	Meet

Remark:

Figure 2:







**Radiated RF Electromagnetic Immunity Test:**

<b>Product Standard:</b>	EN61000-6-1	<b>Test method:</b>	IEC 61000-4-3
<b>Frequency Range:</b>	80 MHz – 2.7GHz	<b>Severity Level:</b>	3V/m (r. m. s.) (unmodulated)
<b>Modulation:</b>	1 kHz sinusoidal, 80% AM	<b>Frequency Step:</b>	1% of fundamental
<b>Port Under Test:</b>	Enclosure	<b>Dwell Time:</b>	≥ 3 second
<b>Antenna Polarization:</b>	Horizontal / Vertical	<b>Test Faces:</b>	Front / Left / Rear / Right
<b>Performance Criteria:</b>	A		

**Operation Mode of EUT:** Clock mode (with alarm, display, sound, light)  
 (and the corresponding  
 Spec. of Performance  
 Criteria A, if necessary)

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**Test Location:**  
 No. 603, 6/F., Westin Centre, 26 Hung To Road, Kwun Tong, Kowloon, Hong Kong

**Test Equipment:**

<u>Description of Equipment</u>	<u>Brand Name and Model</u>
Full Anechoic Chamber (7 x 3 x 3m)	Albatross M-CDC
Signal Generator (9 kHz – 3.3 GHz)	Rohde & Schwarz SMB100A
RF Power Meter (2 Channels, 10 kHz – 6 GHz)	Rohde & Schwarz NRVD
Test software	Rohde & Schwarz EMC32
Personal computer (with test software, GPIB card and RS232 Optical Modem installed)	Dell 755
RF Power Amplifier (80 MHz – 1 GHz, 200 Watts)	Schaffner CBA 9433
RF Power Amplifier (1 GHz – 4 GHz)	Mùlmega AS0104-55_55
RF Directional Coupler (80MHz – 1 GHz, 600 W-CW)	Amplifier Research D6180M1
Antenna, X-Wing BiLog Type, 30MHz – 3 GHz,	Schaffner CBL 6143
RF E-Field Probe (100 kHz – 6 GHz)	AR FL7006 / FL7000
Thermometer + Hydrometer	Sato Keryoki NSII-Q
Barometer	Sigma-II 7237-00

Remarks: -  
 The measurement instrumentation uncertainty would be taking into consideration on each of the test result



Temperature (°C): 27      Relative Humidity (%) : 50

**Test Results:**

	Frequency (MHz)		Face (Front/Left/Rear/Right)	Polarization (Vertical/Horizontal)	Observation (A/B/C/D)	Details
	From	To				
1.	80	1000	Front	Vertical	A	Note 1
	80	1000	Left	Vertical	A	
	80	1000	Rear	Vertical	A	
	80	1000	Right	Vertical	A	
2.	80	1000	Front	Horizontal	A	Note 1
	80	1000	Left	Horizontal	A	
	80	1000	Rear	Horizontal	A	
	80	1000	Right	Horizontal	A	
3.	1400	2000	Front	Vertical	A	Note 1
	1400	2000	Left	Vertical	A	
	1400	2000	Rear	Vertical	A	
	1400	2000	Right	Vertical	A	
4.	1400	2000	Front	Horizontal	A	Note 1
	1400	2000	Left	Horizontal	A	
	1400	2000	Rear	Horizontal	A	
	1400	2000	Right	Horizontal	A	
5.	2000	2700	Front	Vertical	A	Note 1
	2000	2700	Left	Vertical	A	
	2000	2700	Rear	Vertical	A	
	2000	2700	Right	Vertical	A	
6.	2000	2700	Front	Horizontal	A	Note 1
	2000	2700	Left	Horizontal	A	
	2000	2700	Rear	Horizontal	A	
	2000	2700	Right	Horizontal	A	

**Remarks:**

Note 1: - The EUT functions normally as intended. There is no perceptible change of mode or state of operation beyond the EUT specification or reasonable user's expectation observed during the test.

**RESULTS:**

