
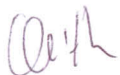



TEST REPORT No: (5212)130-0205

TEST REPORT

To:	FOTORAMA (HONG KONG) LIMITED	To:	-
Attn:	Mr. K.S. Chan	Attn:	-
Address:	Room 7, 10/F., Peninsula Centre, 67 Mody Road, Tsimshatsui East, KLN, Hong Kong	Address:	-
Fax:	3547 9333	Fax:	-
E-mail:	ks_chan@fotorama.com.hk	E-mail:	-
Folder No.:	--		
Factory name:	--		
Location:	--		
Product:	The Crazy Chicken Game MODEL: 3019		
	Sample No:	(5212)130-0205	
	Test Date(s):	May 18, 2012 to June 4, 2012	
	Test Requested:	FCC Part 15 – 2011	
	Test Method:	ANSI C63.4 – 2009	
	FCC ID:	ZNK3019-A	
	The results given in this report are related to the tested specimen of the described electrical apparatus.		
CONCLUSION: The submitted sample was found to <u>COMPLY</u> with requirement of FCC Part 15 Subpart C.			
Authorized Signature:			
			
Reviewed by: Keith Yeung		Approved by: Steven Tsang	
Date: June 14, 2012		Date: June 14, 2012	



TEST REPORT No: (5212)130-0205

Test Result Summary

EMISSION TEST			
Test requirement: FCC Part 15 - 2011			
Test Condition	Test Method	Test Result	
		Pass	Failed
Radiated Emission Test, 9kHz to 1GHz	ANSI C63.4	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Report Revision & Sample Re-submit History:

Pass with modification and modification detail as below:

- 1.) Change the value of C6 to 100p
- 2.) Move L1 to the DC input port
- 3.) Add a 56Ω resistor between the connection of U1 & U2
- 4.) Add a ferrite bead in the antenna port (ferrite bead specification: 201209-601T)
- 5.) Add a 2 turns ferrite coil in the antenna input cable (ferrite coil specification: 12*6*7)



TEST REPORT No: (5212)130-0205

Location of the test laboratory

Radiated and Conducted emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2009. An Open Area Test Site and Full Anechoic Chamber (FCC Listed Site, Registration No. 642151) are set up for investigation and located at:

BUREAU VERITAS HONG KONG LIMITED, EMC CENTRE

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

List of measuring equipment

Radiated Emission

EQUIPMENT	MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATION DUE
EMI TEST RECEIVER	R&S	ESCI	100379	18-OCT-2012
LOOP ANTENNA	ETS-LINDGREN	6502	00102266	07-AUG-2012
BILOG ANTENNA	SCHAFFNER	CBL6112D	25229	16-SEP-2012
OPEN AREA TEST SITE	BVCPS	N/A	N/A	07-JUL-2012
ANECHOIC CHAMBER	ALBATROSS	M-CDC	80374004499B	25-OCT-2012
COAXIAL CABLE	SUHNER	N/A	N/A	10-NOV-2012

Frequency error and Frequency drift, Modulation bandwidth, Frequency stability

EQUIPMENT	MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATION DUE
EMI TEST RECEIVER	ROHDE & SCHWARZ	ESCI	100379	18-OCT-2012
CLIMATIC CHAMBER	EMV	TH-22P2S	N/A	30-MAY-2013

Remarks:-

N/A : Not Applicable or Not Available

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

TEST REPORT No: (5212)130-0205

Equipment Under Test [EUT]

Description of Sample:

Model Name: The Crazy Chicken Game
Model Number: 3019
Rating: 6Vd.c (“AA” size battery x 4)

Description of EUT Operation:

The Equipment Under Test (EUT) is a FOTORAMA (HONG KONG) LIMITED of RFID toy. The transceiver with 10 Tags is operating at 13.56MHz. The EUT continues to transmit when switch is turn to ON, Modulation by IC, and type is pulse modulation.

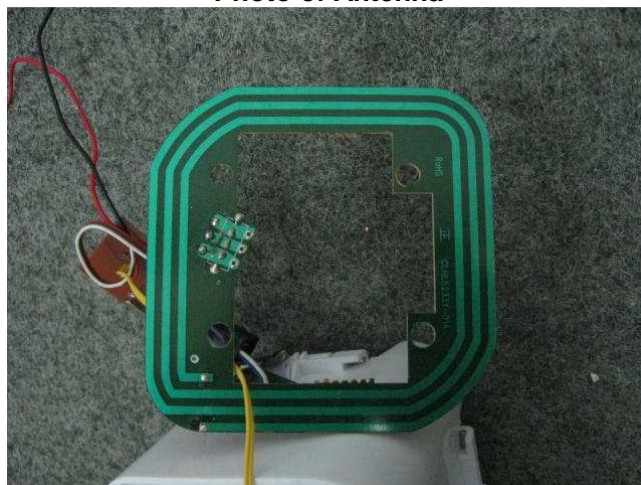
The transceiver has different control:

1. On/off switch – on/off control

Antenna Requirement (Section 15.203)

The EUT is use of a permanently antenna. The antenna consists of 60.0cm long PCB trace. The antenna is not replaceable or user serviceable. The requirements of S15.203 are met. There are no deviations or exceptions to the specifications.

Photo of Antenna



TEST REPORT No: (5212)130-0205

Test Results

Radiated Emissions (Fundamental)

Test Requirement: FCC Part 15 Section 15.225
 Test Method: ANSI C63.4
 Test Date(s): 2012-06-04
 Temperature: 25.0 °C
 Humidity: 55.0 %
 Atmospheric Pressure: 100.3 kPa
 Mode of Operation: Transmission mode
 Tested Voltage: 6Vd.c. ("AA" size battery x 4)

Test Procedure:

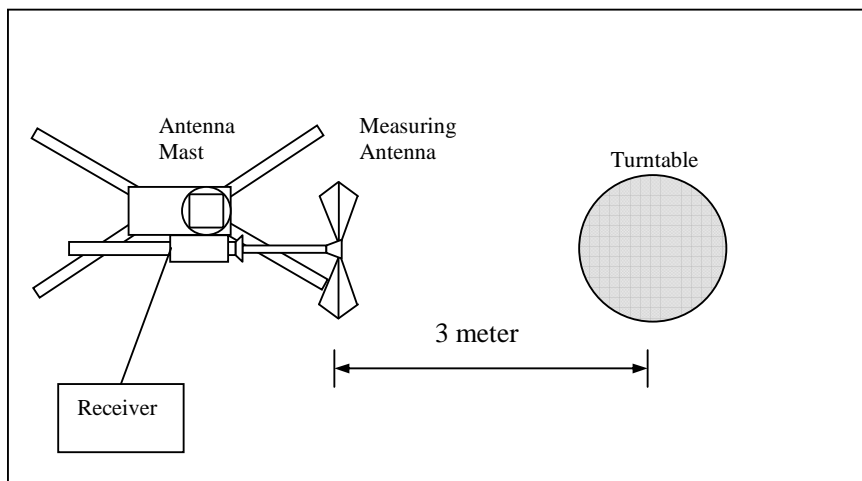
Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2009.

The equipment under test (EUT) was placed on a non-conductive turntable with dimensions of 1.5m x 1m and 0.8m high above the ground. 3m from the EUT, a broadband antenna mounting on the mast received the signal strength. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, For battery operated equipment, the equipment tests shall be perform using new battery. The turntable was rotated to maximize the emission level. The antenna was then moving along the mast from 1m up to 4m until no more higher value was found. Both horizontal and vertical polarization of the antenna were placed and investigated.

For below 30MHz, a loop antenna with its vertical plane is place 3m from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. And the centre of the loop shall be 1m above the ground.

Location: The Roof, Westin Centre, 26 Hung To Road, Kwun Tong, Kowloon, Hong Kong

Test Setup: Open Area Test Site





TEST REPORT No: (5212)130-0205

Limits for Field Strength of Fundamental Emissions [FCC 47CFR 15.225]:

Frequency Range of Fundamental [MHz]	Field Strength of Fundamental Emission at 3m
13.553-13.567	124 dB μ V/m

Measurement Data

Test Result of (Transmission mode): PASS

Detection mode: Quasi-Peak

Frequency (MHz)	Polarity (H/V) and degree	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
13.56	V/0°	13.2	64.4	124.0	-59.6

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 100KHz
VBW = 300KHz



TEST REPORT No: (5212)130-0205

Radiated Emissions (9kHz – 1GHz)

Test Requirement: FCC Part 15 Section 15.209
 Test Method: ANSI C63.4
 Test Date(s): 2012-06-04
 Temperature: 25.0 °C
 Humidity: 55.0 %
 Atmospheric Pressure: 100.3 kPa
 Mode of Operation: Transmission mode
 Tested Voltage: 6Vd.c. ("AA" size battery x 4)

Limits for Radiated Emissions [FCC 47 CFR 15.209]:

Frequency Range [MHz]	Quasi-Peak Limits [$\mu\text{V/m}$]
1.705-30	300
30-88	100
88-216	150
216-960	200
Above960	500

Measurement Data

Test Result of (Transmission mode): PASS

Detection mode: Quasi-Peak

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB $\mu\text{V/m}$)	Limit at 3m (dB $\mu\text{V/m}$)	Margin (dB)
40.68	H	11.3	24.2	40.0	-15.8
54.24	H	5.4	26.5	40.0	-13.5
67.80	H	3.6	27.9	40.0	-12.1
81.36	H	6.6	24.6	40.0	-15.4
94.92	H	10.2	27.2	43.5	-16.3
108.48	H	12.3	31.1	43.5	-12.4
122.04	H	12.7	31.2	43.5	-12.3
135.60	H	11.8	23.9	43.5	-19.6
149.16	H	10.2	22.4	43.5	-21.1

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 120KHz
 VBW = 120KHz



TEST REPORT No: (5212)130-0205

Measurement Data

Test Result of (Transmission mode): PASS

Detection mode: Quasi-Peak

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
27.12	V/0°	9.9	18.8	69.5	-50.7
40.68	V	11.3	31.5	40.0	-8.5
54.24	V	5.4	31.3	40.0	-8.7
67.80	V	3.6	25.3	40.0	-14.7
81.36	V	6.6	28.0	40.0	-12.0
94.92	V	10.2	27.7	43.5	-15.8
108.48	V	12.3	32.1	43.5	-11.4
122.04	V	12.7	32.6	43.5	-10.9
135.60	V	11.8	24.1	43.5	-19.4
149.16	V	10.2	21.9	43.5	-21.6

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 120KHz
VBW = 120KHz



TEST REPORT No: (5212)130-0205

26dB Bandwidth of Fundamental Emission

Test Requirement: FCC 47 CFR 15.225
Test Method: ANSI C63.4
Test Date(s): 2012-05-18
Temperature: 24.0 °C
Humidity: 52.0 %
Atmospheric Pressure: 100.2 kPa
Mode of Operation: Transmission mode
Tested Voltage: 6Vd.c. ("AA" size battery x 4)

Test Method:

The bandwidth is measured at an amplitude level reduced from the reference level by a specified ratio. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst-case (i.e. the widest) bandwidth.

Limits for 26dB Bandwidth of Fundamental Emission:

Frequency [MHz]	26dB Bandwidth [KHz]	Limits [MHz]
13.56	37.000	within 13.553 – 13.567

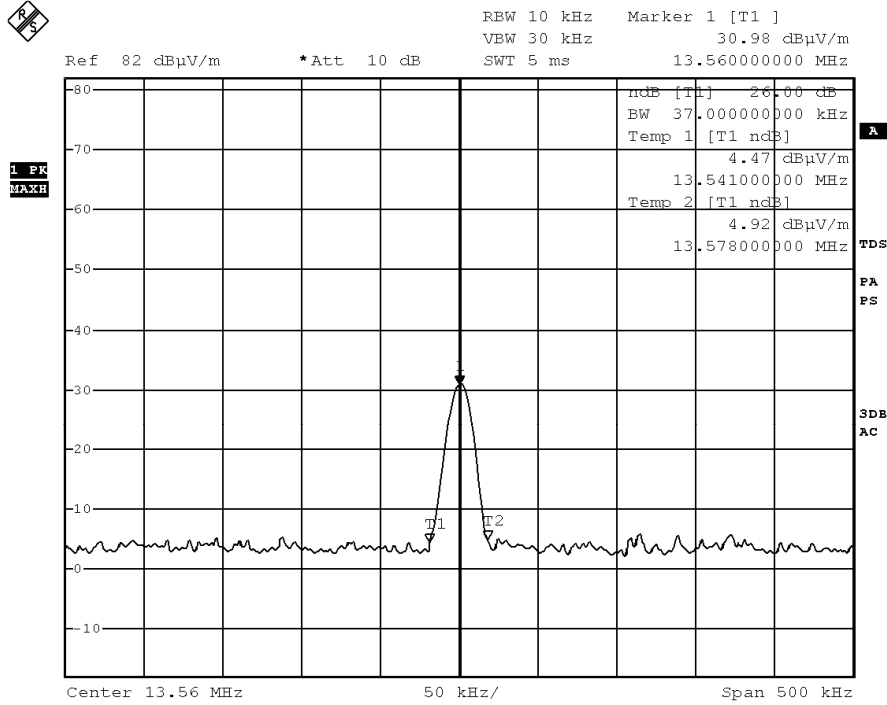


BUREAU VERITAS

TEST REPORT No: (5212)130-0205

Measurement Data :

Test Result of 26dB Bandwidth of Fundamental Emission: PASS



Date: 18.MAY.2012 11:31:07



TEST REPORT No: (5212)130-0205

Frequency Drift

Test Requirement: FCC Part 15 Section 15.225
 Test Method: ANSI C63.4
 Test Date(s): 2012-05-21
 Temperature: 24.0 °C
 Humidity: 52.0 %
 Atmospheric Pressure: 100.2 kPa
 Mode of Operation: Transmission mode
 Tested Voltage: 6Vd.c. ("AA" size battery x 4)

Test Setup:

The EUT was placed at a site with temperature control and supplied with power for extreme voltage testing. Antenna with suitable frequency range was used during the test.

The test was performed in accordance with ANSI C63.4.

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

Limit for Frequency Tolerance:

Maintained within +/- 0.01% of the operating frequency

Test Result of (Transmission mode): PASS

Test Condition		Nominal Transmit Frequency: 13.560MHz				
		Time				
		Start up	Two minutes after	Five minutes after	Ten minutes after	Frequency tolerance (%)
T _{nom} : 20°C	V _{nom} : 6.00V	13.56070	13.56070	13.56070	13.56070	N/A
T _{min} : -20°C	V _{nom} : 6.00V	13.56070	13.56070	13.56070	13.56070	0.00000
T _{max} : 50°C	V _{nom} : 6.00V	13.56070	13.56070	13.56070	13.56070	0.00000

Remarks:-

N/A: Not Applicable or Not Available



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VERITAS**

TEST REPORT No: (5212)130-0205

Photographs of EUT

Top View of the product



Bottom View of the product



Side View of the product



Side View of the product



Battery compartment



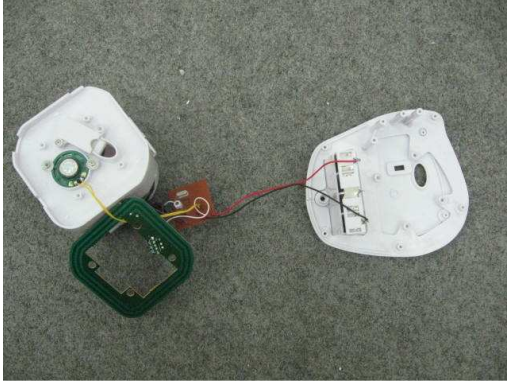
Battery Cover



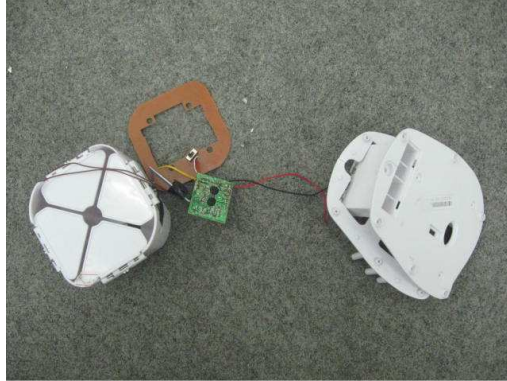
TEST REPORT No: (5212)130-0205

Photographs of EUT

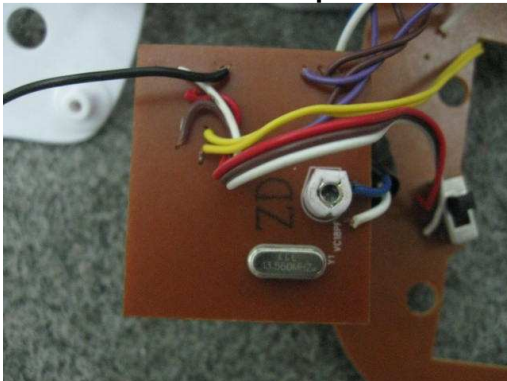
Top View of the product (Internal)



Bottom View of the product (Internal)



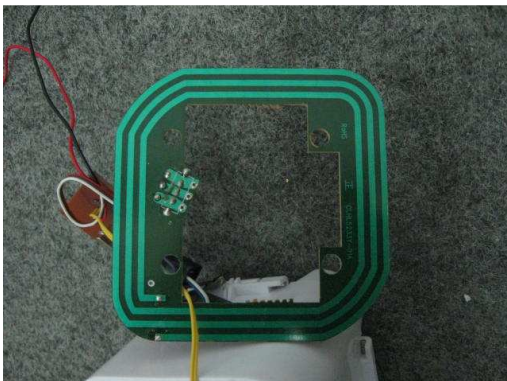
Inner Circuit Top View



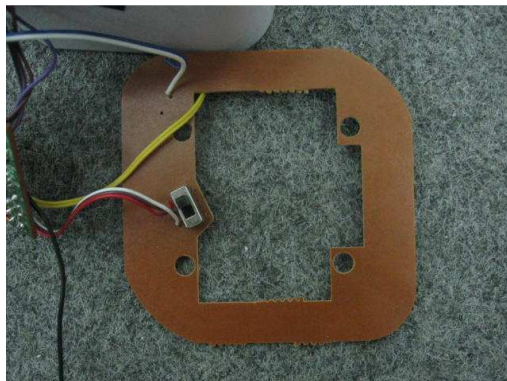
Inner Circuit Bottom View



Antenna



Antenna



TEST REPORT No: (5212)130-0205

Measurement of Radiated Emission Test Set Up



******* End of Report *******