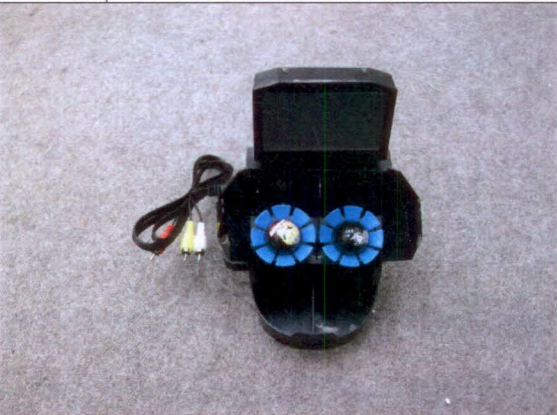

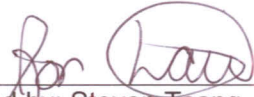


TEST REPORT No: (5213)015-0583

TEST REPORT

To:	CEPIA LLC	To:	-
Attn:	Roger Ma / Alison Huang	Attn:	-
Address:	Room 2103, 21 Floor, 3#building, Kerry Plaza, #1-1 ZhongXin 4 Road, Futian District, Shenzhen, PR China 518048	Address:	-
Fax:	0755-8826 0202	Fax:	-
E-mail:	roger@cepiallc.com / shollensbe@cepiallc.com / flora@cepiallc.com / nhuang@cepiallc.com / azhou@cepiallc.com / alison.huang@cepiallc.com / marco.wong@cepiallc.com	E-mail:	-
Folder No.:	--		
Factory name:	ZHONGSHAN YONG SHENG TOYS FACTORY		
Location:	--		
Product:	Imperial Video decoder Model No.: 77010		
	Sample No:	(5213)015-0583	
	Test Date(s):	January 16, 2013	
	Test Requested:	FCC Part 15 – 2011	
	Test Method:	ANSI C63.4 – 2009	
	FCC ID:	T4677010	
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: January 17, 2013		Date: January 17, 2013	



TEST REPORT No: (5213)015-0583

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:

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TEST REPORT No: (5213)015-0583

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	17-OCT-2013
LOOP ANTENNA	ETS-LINDGREN	6502	00102266	13-AUG-2013
BILOG ANTENNA	SCHAFFNER	CBL6112D	25229	12-SEP-2013
OPEN AREA TEST SITE	BVCPS	N/A	N/A	09-JUL-2013
ANECHOIC CHAMBER	ALBATROSS	M-CDC	80374004499B	30-NOV-2013
COAXIAL CABLE	SUHNER	N/A	N/A	24-SEP-2013

Frequency error and Frequency drift, Modulation bandwidth, Frequency stability

EQUIPMENT	MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATION DUE
EMI TEST RECEIVER	ROHDE & SCHWARZ	ESCI	100379	17-OCT-2013
CLIMATIC CHAMBER	EMV	TH-22P2S	N/A	18-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: (5213)015-0583

Equipment Under Test [EUT]

Description of Sample:

Model Name: Imperial Video decoder
Model Number: 77010
Rating: 4.5Vd.c. ("AA" size battery x 3)

Description of EUT Operation:

The Equipment Under Test (EUT) is a CEPIA LLC of RFID toy. The transceiver with 2 Tags is operating at 13.564MHz. The EUT continues to transmit when power is turn to ON and press the start button, Modulation by IC, and type is pulse modulation.

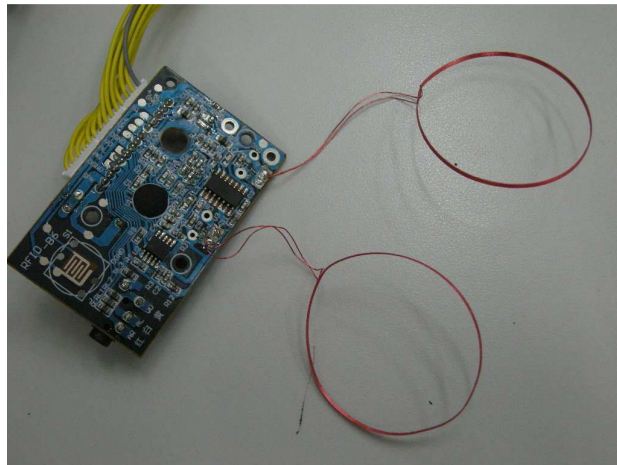
The transceiver has different control:

1. On/Off/Try Me – power on/off & try me mode control
2. Start Button – function start control

Antenna Requirement (Section 15.203)

The EUT is use of 2 permanently antennas. Each antenna consists of 70cm long signal wire. They are soldered on the PCB. The antennas are 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: (5213)015-0583

Test Results

Radiated Emissions (Fundamental)

Test Requirement: FCC Part 15 Section 15.225
Test Method: ANSI C63.4
Test Date(s): 2013-01-16
Temperature: 19.0 °C
Humidity: 65.0 %
Atmospheric Pressure: 101.2 kPa
Mode of Operation: Transmission mode
Tested Voltage: 4.5Vd.c. ("AA" size battery x 3)

Test Procedure:

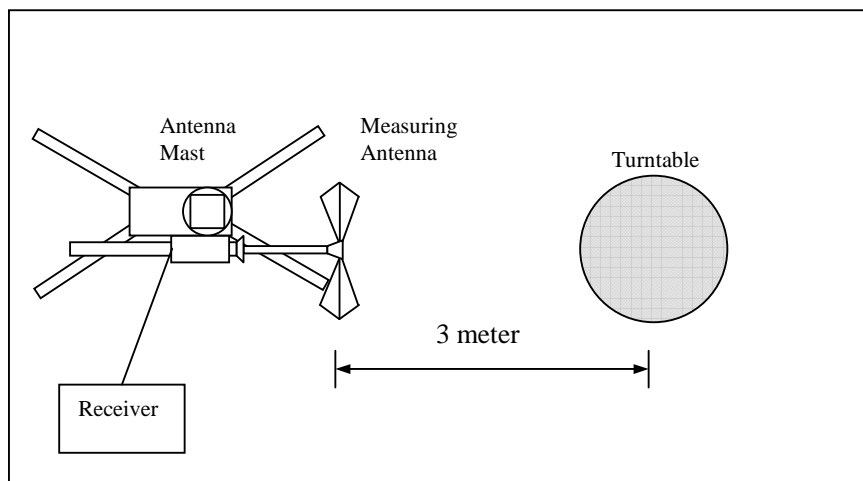
Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2009.

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: (5213)015-0583

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, Stand-alone): 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)
13.564	V/0°	12.7	32.9	124.0	-91.1

Test Result of (Transmission mode, Connected to TV): 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)
13.564	V/0°	12.7	33.1	124.0	-90.9

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 100KHz
VBW = 300KHz



TEST REPORT No: (5213)015-0583

Radiated Emissions (9kHz – 1GHz)

Test Requirement: FCC Part 15 Section 15.209
Test Method: ANSI C63.4
Test Date(s): 2013-01-16
Temperature: 19.0 °C
Humidity: 65.0 %
Atmospheric Pressure: 101.2 kPa
Mode of Operation: Transmission mode
Tested Voltage: 4.5Vd.c. ("AA" size battery x 3)

Limits for Radiated Emissions [FCC 47 CFR 15.209]:

Frequency Range [MHz]	Quasi-Peak Limits [μ V/m]
1.705-30	300
30-88	100
88-216	150
216-960	200
Above960	500



TEST REPORT No: (5213)015-0583

Measurement Data

Test Result of (Transmission mode, Stand-alone): PASS

Detection mode: Quasi-Peak

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
40.692	H	14.5	27.5	40.0	-12.5
54.256	H	8.3	26.3	40.0	-13.7
67.820	H	4.9	24.9	40.0	-15.1
81.384	H	8.3	23.2	40.0	-16.8
94.948	H	10.7	21.6	43.5	-21.9
108.512	H	12.9	20.4	43.5	-23.1
122.076	H	12.9	21.0	43.5	-22.5
135.640	H	12.2	21.2	43.5	-22.3
149.204	H	10.9	21.5	43.5	-22.0
176.332	H	9.8	22.3	43.5	-21.2
189.896	H	9.7	22.5	43.5	-21.0
217.024	H	10.4	24.1	46.0	-21.9

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 120KHz
VBW = 120KHz



TEST REPORT No: (5213)015-0583

Measurement Data

Test Result of (Transmission mode, Stand-alone): PASS

Detection mode: Quasi-Peak

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
27.128	V	11.5	15.5	69.5	-54.0
40.692	V	14.5	27.1	40.0	-12.9
54.256	V	8.3	26.0	40.0	-14.0
67.820	V	4.9	24.5	40.0	-15.5
81.384	V	8.3	23.6	40.0	-16.4
94.948	V	10.7	21.8	43.5	-21.7
108.512	V	12.9	20.3	43.5	-23.2
122.076	V	12.9	21.2	43.5	-22.3
135.640	V	12.2	21.4	43.5	-22.1
149.204	V	10.9	21.5	43.5	-22.0
176.332	V	9.8	27.6	43.5	-15.9
189.896	V	9.7	28.2	43.5	-15.3
217.024	V	10.4	28.3	46.0	-17.7

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 120KHz

VBW = 120KHz



TEST REPORT No: (5213)015-0583

Measurement Data

Test Result of (Transmission mode, Connected to TV): PASS

Detection mode: Quasi-Peak

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
40.692	H	14.5	27.8	40.0	-12.2
54.256	H	8.3	26.5	40.0	-13.5
67.820	H	4.9	25.2	40.0	-14.8
81.384	H	8.3	23.0	40.0	-17.0
94.948	H	10.7	21.9	43.5	-21.6
108.512	H	12.9	20.7	43.5	-22.8
122.076	H	12.9	21.5	43.5	-22.0
135.640	H	12.2	21.6	43.5	-21.9
149.204	H	10.9	21.3	43.5	-22.2
176.332	H	9.8	22.4	43.5	-21.1
189.896	H	9.7	22.8	43.5	-20.7
217.024	H	10.4	23.9	46.0	-22.1

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 120KHz
VBW = 120KHz



TEST REPORT No: (5213)015-0583

Measurement Data

Test Result of (Transmission mode, Connected to TV): PASS

Detection mode: Quasi-Peak

Frequency (MHz)	Polarity (H/V)	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
27.128	V	11.5	15.6	69.5	-53.9
40.692	V	14.5	27.4	40.0	-12.6
54.256	V	8.3	26.1	40.0	-13.9
67.820	V	4.9	24.6	40.0	-15.4
81.384	V	8.3	23.5	40.0	-16.5
94.948	V	10.7	21.2	43.5	-22.3
108.512	V	12.9	20.5	43.5	-23.0
122.076	V	12.9	21.0	43.5	-22.5
135.640	V	12.2	21.4	43.5	-22.1
149.204	V	10.9	21.6	43.5	-21.9
176.332	V	9.8	27.2	43.5	-16.3
189.896	V	9.7	28.7	43.5	-14.8
217.024	V	10.4	28.5	46.0	-17.5

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 120KHz

VBW = 120KHz



TEST REPORT No: (5213)015-0583

Measurement Data

Test Result of (Try me mode, battery operated): PASS

Detection mode: Quasi-Peak

Frequency (MHz)	Polarity (H/V)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
48.08	H	26.4	40.0	-13.6
60.28	H	25.7	40.0	-14.3
192.00	H	27.8	43.5	-15.7
288.00	H	28.5	46.0	-17.5
384.00	H	26.5	46.0	-19.5
480.00	H	26.3	46.0	-19.7

Frequency (MHz)	Polarity (H/V)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
48.08	V	26.2	40.0	-13.8
60.28	V	25.9	40.0	-14.1
192.00	V	26.5	43.5	-17.0
288.00	V	27.3	46.0	-18.7
384.00	V	30.2	46.0	-15.8
480.00	V	29.4	46.0	-16.6

Note: Field Strength includes Antenna Factor and Cable Loss.



TEST REPORT No: (5213)015-0583

Measurement Data

Test Result of (Try me mode, Connected to TV): PASS

Detection mode: Quasi-Peak

Frequency (MHz)	Polarity (H/V)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
48.08	H	26.0	40.0	-14.0
60.28	H	25.8	40.0	-14.2
192.00	H	27.1	43.5	-16.4
288.00	H	25.3	46.0	-20.7
384.00	H	26.2	46.0	-19.8
480.00	H	27.0	46.0	-19.0

Frequency (MHz)	Polarity (H/V)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
48.08	V	26.3	40.0	-13.7
60.28	V	25.5	40.0	-14.5
192.00	V	20.4	43.5	-23.1
288.00	V	22.4	46.0	-23.6
384.00	V	26.3	46.0	-19.7
480.00	V	26.4	46.0	-19.6

Note: Field Strength includes Antenna Factor and Cable Loss.



TEST REPORT No: (5213)015-0583

26dB Bandwidth of Fundamental Emission

Test Requirement: FCC 47 CFR 15.225
Test Method: ANSI C63.4
Test Date(s): 2013-01-17
Temperature: 24.0 °C
Humidity: 48.0 %
Atmospheric Pressure: 101.3 kPa
Mode of Operation: Transmission mode
Tested Voltage: 4.5Vd.c. ("AA" size battery x 3)

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.

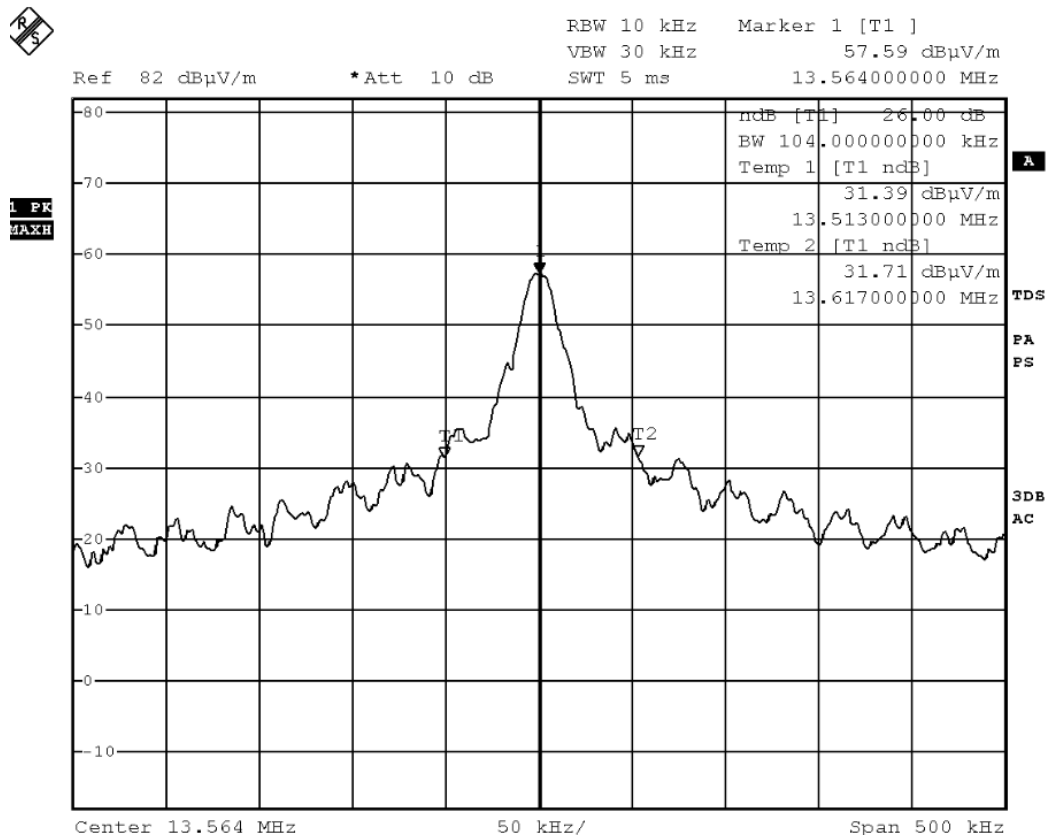
Limits for 26dB Bandwidth of Fundamental Emission:

Frequency [MHz]	26dB Bandwidth [KHz]	Limits [MHz]
13.564	104.000	within 13.553 – 13.567

TEST REPORT No: (5213)015-0583

Measurement Data :

Test Result of 26dB Bandwidth of Fundamental Emission: PASS





TEST REPORT No: (5213)015-0583

Frequency Drift

Test Requirement: FCC Part 15 Section 15.225
Test Method: ANSI C63.4
Test Date(s): 2013-01-17
Temperature: 24.0 °C
Humidity: 48.0 %
Atmospheric Pressure: 101.3 kPa
Mode of Operation: Transmission mode
Tested Voltage: 4.5Vd.c. ("AA" size battery x 3)

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: 13.564MHz				
		Time				
		Start up	Two minutes after	Five minutes after	Ten minutes after	Frequency tolerance (%)
T _{nom} : 20°C	V _{nom} : 4.50V	13.56400	13.56400	13.56400	13.56400	N/A
T _{min} : -20°C	V _{nom} : 4.50V	13.56400	13.56400	13.56400	13.56400	0.00000
T _{max} : 50°C	V _{nom} : 4.50V	13.56400	13.56400	13.56400	13.56400	0.00000

Remarks:-

N/A: Not Applicable or Not Available

TEST REPORT No: (5213)015-0583

Photographs of EUT

Front View of the product



Rear View of the product



Top View of the product



Bottom View of the product



Side View of the product

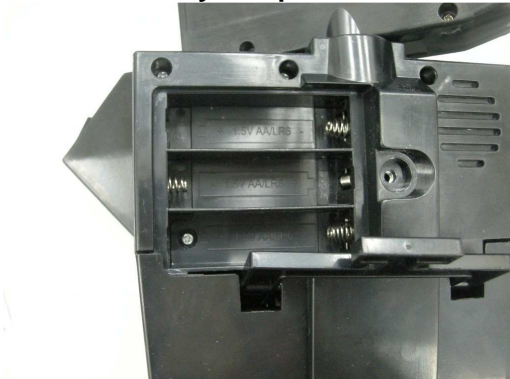


Side View of the product

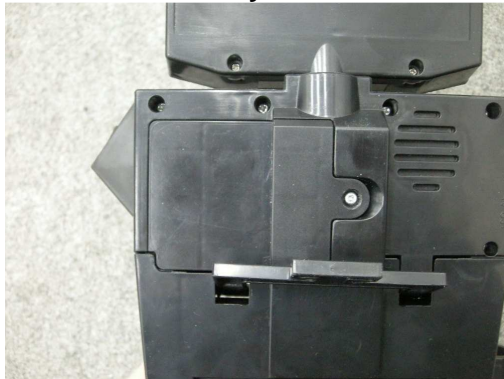


TEST REPORT No: (5213)015-0583

Battery compartment



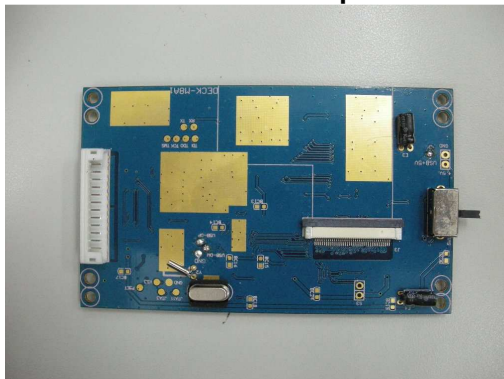
Battery Cover



Internal View of the product



Internal View of the product



Internal View of the product



Inner Circuit Bottom View

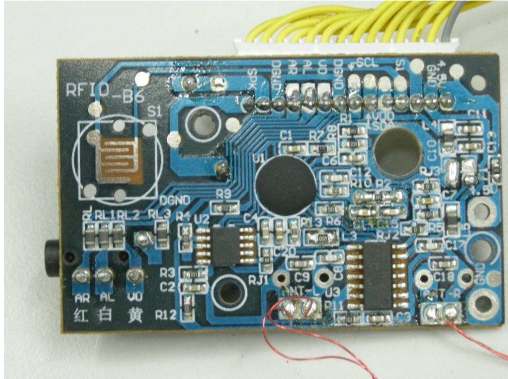




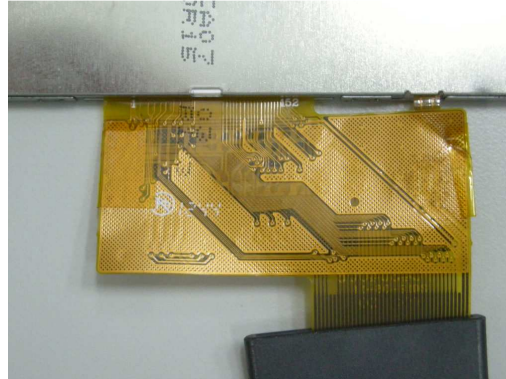
**BUREAU
VERITAS**

TEST REPORT No: (5213)015-0583

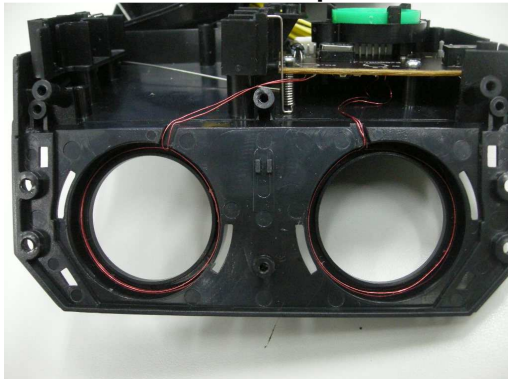
Inner Circuit Top View



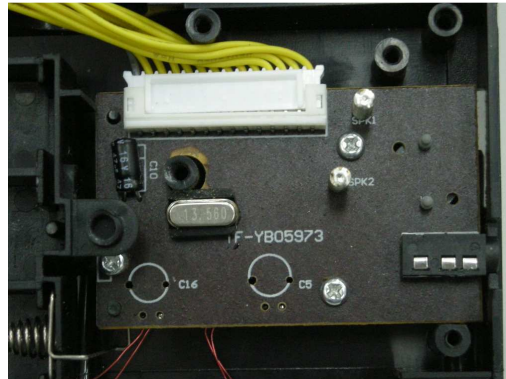
Inner Circuit Bottom View



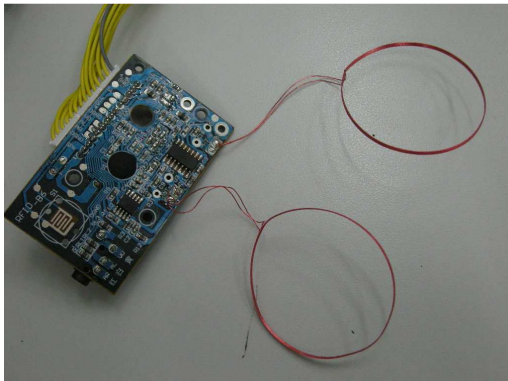
Inner Circuit Top View



Inner Circuit Bottom View



Antenna



TEST REPORT No: (5213)015-0583

Measurement of Radiated Emission Test Set Up



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