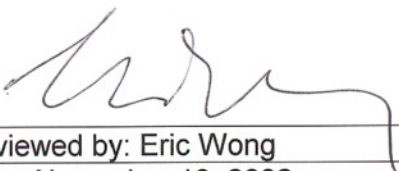




TEST REPORT N°: BVC-08-SE-H1743-MTHFB

TEST REPORT

To:	MEGA TOYS (HK) LTD	To:	
Attn:	Ms.Kimmy Tao / Edmund Lee	Attn:	-
Address:	905 E 2nd Street, Los Angeles, California, United States	Address:	-
Fax:	27211270	Fax:	-
E-mail:	kimmy@megatoys.com.hk edmund@megatoys.com.hk	E-mail:	-
Factory name:	UNIDENTIFIED	Offer:	BVC08SE26-02MTHHFS
Location:	Unidentified	Sample No:	(5208)268-1035
	Start date:	October 1, 2008	
	Finish date:	October 1, 2008	
	Test Requested:	FCC Part 15 Certification Procedure	
	Test Method:	ANSI C63.4 – 2003	
	Re-testing:	NONE	
27 MHZ CHARGE-N-GO MINI RACER MODEL: 9976		FCC ID: S5Z997627	
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: Eric Wong		Approved by: Steven Tsang	
Date: November 13, 2008		Date: November 13, 2008	

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TEST REPORT N°: BVC-08-SE-H1743-MTHFB

Location of the test site

Radiated and Conducted emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2003. 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

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATION DUE
A801 0002	EMI TEST RECEIVER	R&S	ESCI	100379	14-AUG-2009
A803 0003	HF LOOP ANTENNA	SCHAFFNER	HLA 6120	21728	31-AUG-2009
A803 0002	BILOG ANTENNA	SCHAFFNER	CBL6112D	25229	31-JAN-2009
A813 0001	OPEN AREA TEST SITE	BVCPS	N/A	N/A	08-JULY-2009
A814 0001	ANECHOIC CHAMBER	ALBATROSS	M-CDC	80374004499B	09-JULY-2009

Conducted Emission

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATION DUE
A801 0001	EMI TEST RECEIVER	R&S	ESCS30	830986/030	17-SEP-2009
A808 0001	LISN	R&S	ESH3-Z5	100116	15-FEB-2009
A816 0001	PULSE LIMITER	R&S	ESH3 Z2	100088	17-APR-2009

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 N°: BVC-08-SE-H1743-MTHFB

Equipment Under Test [EUT]

Description of Sample:

Model Name: 27 MHZ CHARGE-N-GO MINI RACER

Model Number: 9976

Rating: 3Vd.c (Battery size "AA" x 2)

Description of EUT Operation:

The Equipment Under Test (EUT) is a **Mega Toys** of Radio Control toy. The transmitter is 4 buttons transmitter and operating at 27.145MHz. The EUT continues to transmit while buttons is being pressed or joystick turned and type is pulse modulation.

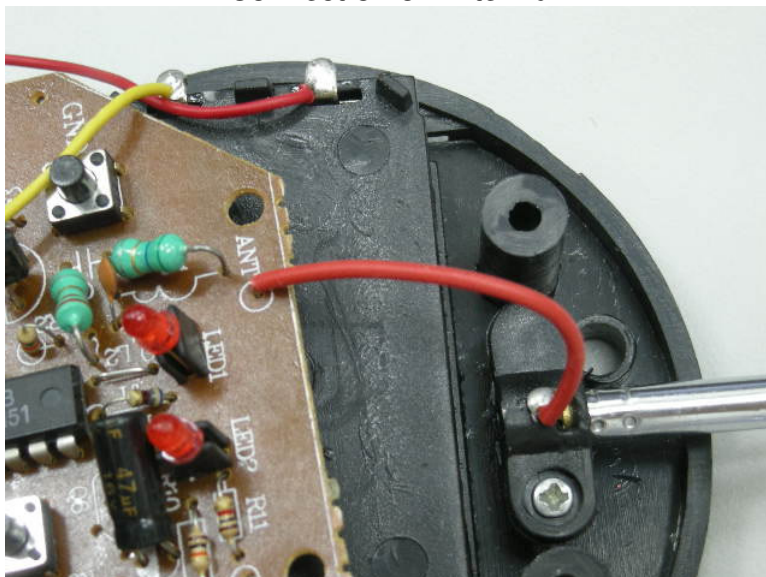
The transmitter has different control:

1. Left button – left wheel control
2. Right button – right wheel control
3. Forward button – Forward control
4. Backward button – Backward control

Antenna Requirement (Section 15.203)

The EUT is use of special design antenna. The antenna consists of 33.3cm long metal antenna. The antenna is mount onto unique connector and which is use single wire soldered on the PCB. The antenna is replaceable and provide by manufacturer only. It is not standard antenna jack or electrical connector. The requirement of S15.203 are met. There are no deviations or exceptions to the specifications.

Connection of Antenna



TEST REPORT N°: BVC-08-SE-H1743-MTHFB

Radiated Emissions (Fundamental)

Test Requirement: FCC Part 15 Section 15.227
Test Method: ANSI C63.4

Test Date(s): 2008-10-01

Mode of Operation: Transmission mode

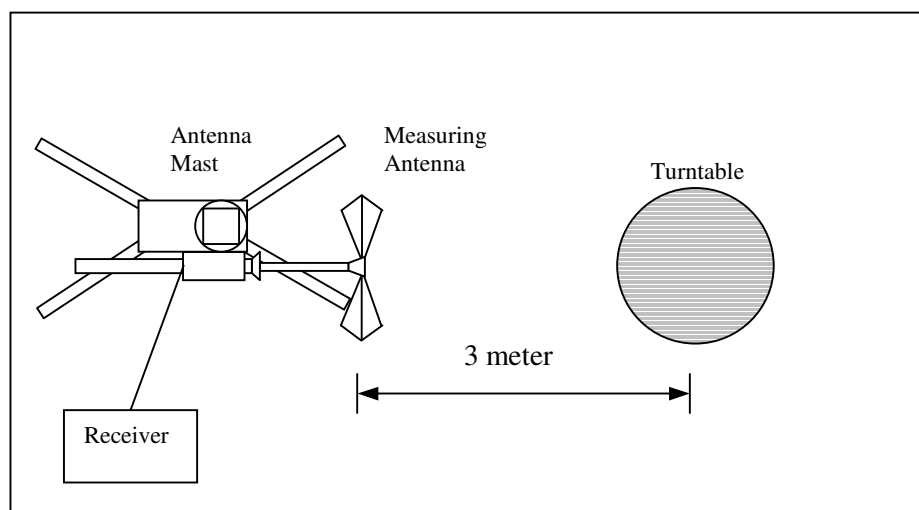
Test Procedure:

Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2003.

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 performed 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 placed 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.

Test Setup: Open Area Test Site



TEST REPORT N°: BVC-08-SE-H1743-MTHFB

Limits for Field Strength of Fundamental Emissions [FCC 47CFR 15.227]:

Frequency Range of Fundamental [MHz]	Field Strength of Fundamental Emission [Peak] [μV/m]	Field Strength of Fundamental Emission [Average] [μV/m]
26.96-27.28	100,000 (100 dBμV/m)	10,000 (80 dBμV/m)

Measurement Data

Test Result of (Transmission mode): PASS

Detection mode: Peak

Frequency (MHz)	Polarity (H/V) and degree	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
27.145	V, 0°	21.8	52.0	100	-48.0

Detection mode: # Average

Frequency (MHz)	Polarity (H/V) and degree	Antenna Factor and Cable Loss (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
27.145	V, 0°	21.8	**45.0	80	-35.0

For pulse modulated devices and using measuring equipment employing a peak detection mode, properly adjusted for such factor as pulse desensitisation.

**Duty Cycle Correction = $20\log(0.448) = -7.0\text{dB}$

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 100KHz
VBW = 300KHz



TEST REPORT N°: BVC-08-SE-H1743-MTHFB

Radiated Emissions (9kHz – 1GHz)

Test Requirement: FCC Part 15 Section 15.209
Test Method: ANSI C63.4

Test Date(s): 2008-10-01

Mode of Operation: **Transmission mode**

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
Above 960	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 μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
54.29	V	9.3	22.4	40.0	-17.6
81.435	V	10.4	10.7	40.0	-29.3
108.58	V	14.6	15.1	43.5	-28.4
135.725	V	14.5	15.0	43.5	-28.5
162.87	V	14.4	14.9	43.5	-28.6
190.015	V	14.5	15.1	43.5	-28.4
217.16	V	15.7	16.4	46.0	-29.6
244.305	V	17.4	18.0	46.0	-28.0
271.45	V	19.1	19.7	46.0	-26.3
298.595	V	20.8	21.5	46.0	-24.5

Note: Field Strength includes Antenna Factor and Cable Loss.

Receiver setting: RBW = 120KHz

VBW = 120KHz

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TEST REPORT N°: BVC-08-SE-H1743-MTHFB

20dB Bandwidth of Fundamental Emission

Test Requirement: FCC 47 CFR 15.227
Test Method: ANSI C63.4:2003 (Section 13.1.7)
Test Date: 2008-10-01
Mode of Operation: Transmission mode

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.

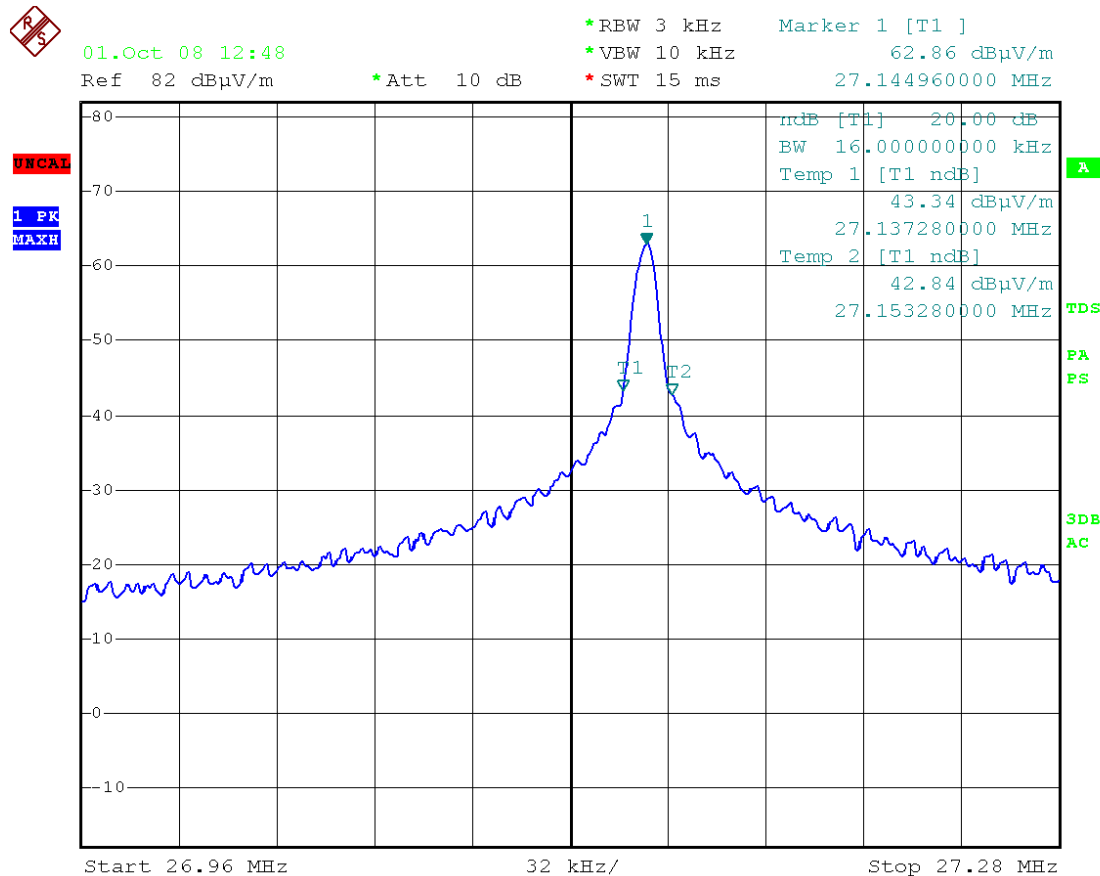
Limits for 26dB Bandwidth of Fundamental Emission:

Frequency [MHz]	20dB Bandwidth [KHz]	FCC Limits [MHz]
27.14496	16.00	within 26.96-27.28

TEST REPORT N°: BVC-08-SE-H1743-MTHFB

Measurement Data :

Test Result of 20dB Bandwidth of Fundamental Emission: PASS



Date: 1.OCT.2008 12:48:32



TEST REPORT N°: BVC-08-SE-H1743-MTHFB

Duty Cycle Correction During 100msec:

Each function key sends a different series of characters, but each packet period (57.12msec) never exceeds a series of 4 long (1.6msec) and 40 short (0.48msec) pulses. Assuming any combination of short or long pulses may be obtained due to encoding the worst case transmit duty cycle would be considered $(4 \times 1.6\text{msec}) + (40 \times 0.48\text{msec})$ per 57.12msec = 44.8% duty cycle. Figure A and C show the characteristics of the pulse train for one of these functions.

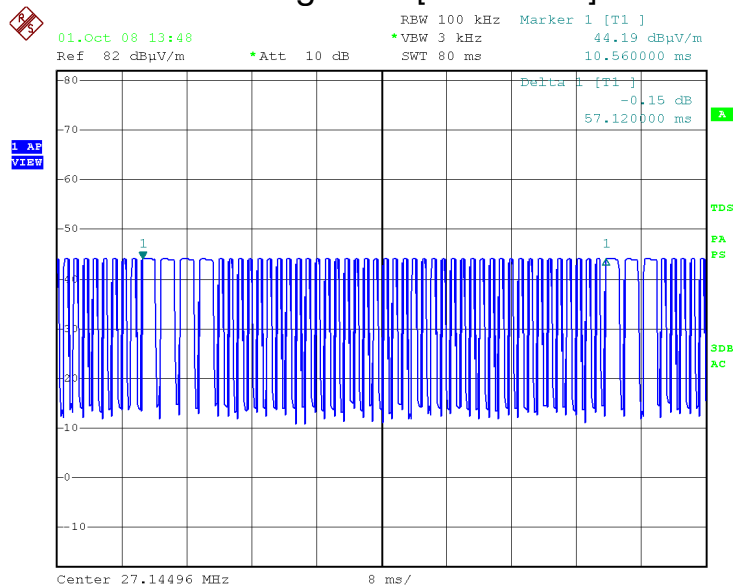
Remarks:

Duty Cycle Correction = $20\text{Log}(0.448) = -7.0\text{dB}$

The following figures [Figure A to Figure C] show the characteristics of the pulse train for one of these functions.

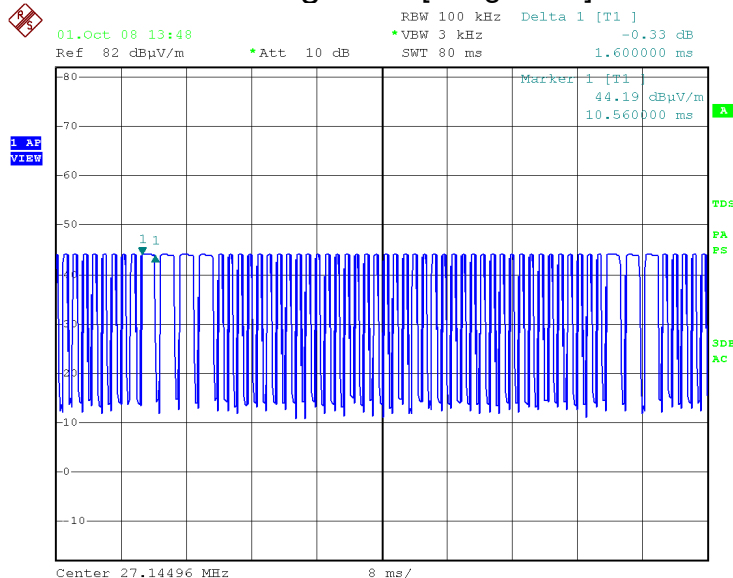
TEST REPORT N°: BVC-08-SE-H1743-MTHFB

Figure A [Pulse Train]



Date: 1.OCT.2008 13:48:11

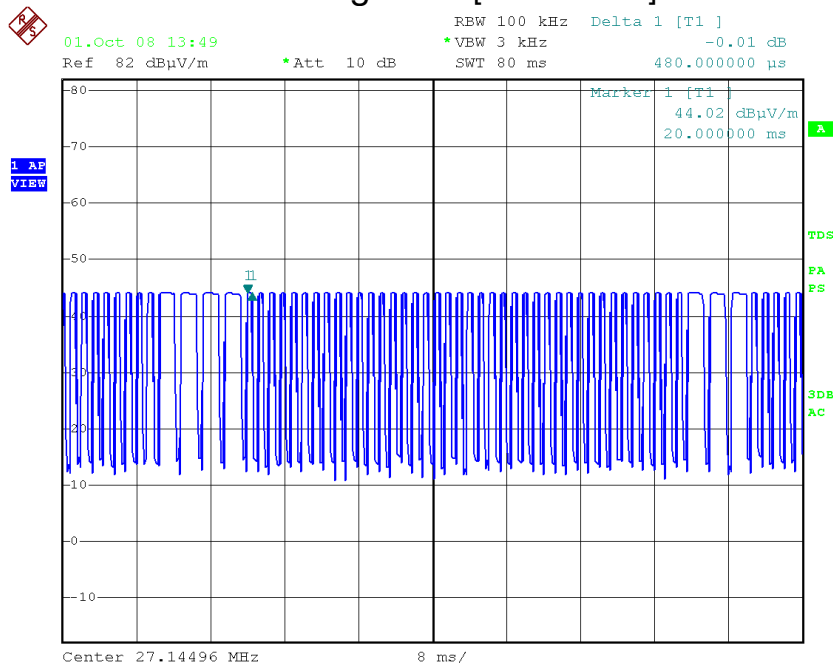
Figure B [Long Train]



Date: 1.OCT.2008 13:48:55

TEST REPORT N°: BVC-08-SE-H1743-MTHFB

Figure C [Short Pulse]



Date: 1.OCT.2008 13:49:42

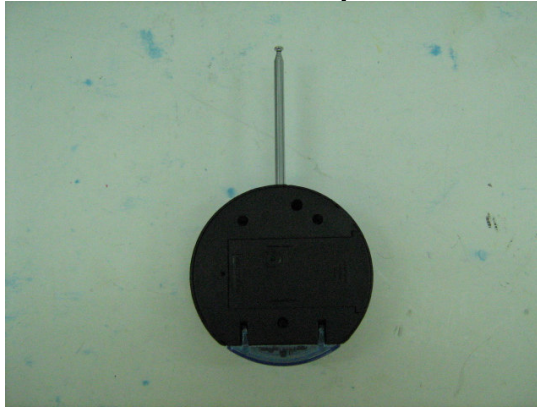
TEST REPORT N°: BVC-08-SE-H1743-MTHFB

Photographs of EUT

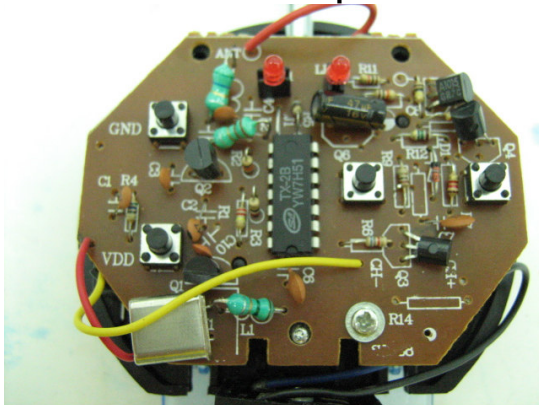
Front View of the product



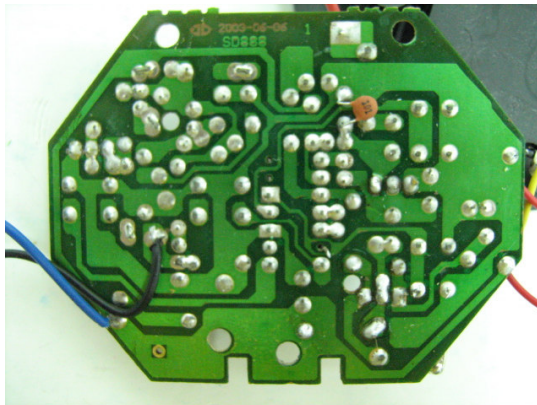
Rear View of the product



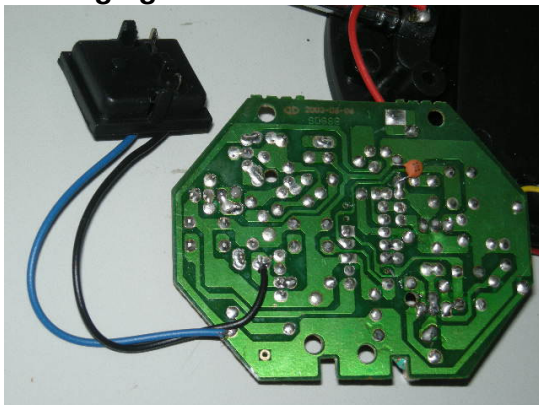
Inner Circuit Top View



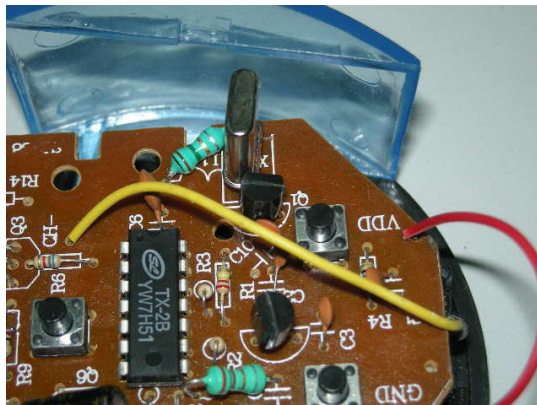
Inner Circuit Bottom View



Charging cable connection on PCB



Power cable connection on PCB



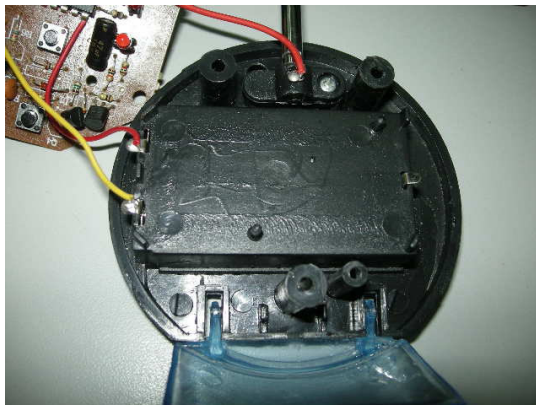
TEST REPORT N°: BVC-08-SE-H1743-MTHFB

Photographs of EUT

Battery compartment



Internal enclosure



Car Charging



Charging port



TEST REPORT N°: BVC-08-SE-H1743-MTHFB

Measurement of Radiated Emission Test Set Up



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