FCC TEST REPORT

for

HIGH HOPE INTERNATIONAL GROUP JIANGSU NATIVE PRODUCE IMP EXP CORP LTD

Racing Car

Model No.	:	N/A
FCC ID	:	ZHGRC
Operating Frequency	:	27.042MHz
Applicant	:	HIGH HOPE INTERNATIONAL GROUP JIANGSU NATIVE PRODUCE IMP EXP CORP LTD 91 BAI XIA ROAD, NANJING, CHINA
Regulation	:	***FCC Part 15.227 Subpart C***
Prepared by	:	Shenzhen AOV Testing Technology Co., Ltd. 2-6/F, No.5, Yuantou lane, Tanglang, Taoyuan Street, Nanshan District, Shenzhen, Guangdong, China
Test Date	:	April 18-23, 2011
Date of Report	:	April 23, 2011

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Test Report Declaration

TEST REPORT DECLARATION

Applicant	:	HIGH HOPE INTERNATIONAL GROUP JIANGSU NATIVE PRODUCE IMP EXP CORP LTD
Manufacturer	:	HIGH HOPE INTERNATIONAL GROUP JIANGSU NATIVE PRODUCE IMP EXP CORP LTD
EUT Description	:	Racing Car
Input voltage	:	
Operating Environment	:	
Temperature	:	26℃
Humidity	:	67%RH
Atmospheric Pressure	:	996.5 mbar
EUT Operation		Test the EUT in transmitting mode

Test Procedure Used:
FCC Part 15.227 Subpart C

The E. U. T. listed below has been completed RF testing by Shenzhen AOV Testing Technology Co., Ltd at the test site of Bontek Compliance Testing Laboratory Ltd. And the Interference emissions can pass FCC Part 15 Subpart B Class B limitations.

The test configurations and the facility comply with the radiated and AC line conducted test site criteria in **ANSI C63.4**

Date of Test: April 18-23, 2011

Prepared by: Project Engineer

Reviewer : Project Manager

1. GENERAL INFORMATION

1.1 General Information

Description	:	Racing Car
Model No.	:	N/A
Applicant	:	HIGH HOPE INTERNATIONAL GROUP JIANGSU NATIVE PRODUCE IMP EXP CORP LTD 91 BAI XIA ROAD, NANJING, CHINA
Manufacturer	:	HIGH HOPE INTERNATIONAL GROUP JIANGSU NATIVE PRODUCE IMP EXP CORP LTD 91 BAI XIA ROAD, NANJING, CHINA

1.2 Test Facility

Test Firm	:	Bontek Compliance Testing Laboratory Ltd. Certificated by FCC, Registration No.: 338263
Address	:	FL.1, Building H-3, Hua Qiao Cheng East Industrial Area Qiaocheng East Road, Nanshan, Shenzhen, P.R.China
Tel	:	86-755-86337020
Fax	:	86-755-86337028

1.3 Summary of test results

No.	Standard	Test Type	Result	Notes
1.	FCC Part 15.207	Conducted Emission Test	N/A	----------
2.	FCC Part 15.209	Radiated Emission Test	PASS	Compiles
3.	FCC Part 15.227 Limit	Field Strength of Fundamental	PASS	Compiles
4.	Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the Radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).	Band Edge Test	PASS	Compiles

1.4 Test Instrument Used

No.	Equipment	Manufacturer	Model No.	S/N	Calculator date
1	EMI Test Receiver	R&S	ESCI	100687	2010-11-22
2	EMI Test Receiver	R&S	FSU	BCT-019	2010-11-22
3	Amplifier	HP	8447D	1937A02492	2010-11-22
4	TRILOG Broadband Test-Antenna	SCHWARZBECK	VULB9163	9163-324	2010-11-22
5.	Horn Antenna	SCHWARZBECK	BBHA9120A	B08000991-0001	2010-11-22
6.	High Field Biconical Antenna	ELECTRO-METRICS	EM-6913	166	2010-11-22
7.	Log Periodic Antenna	ELECTRO-METRICS	EM-6950	811	2010-11-22
8.	Remote Active Vertical Antenna	ELECTRO-METRICS	EM-6892	304	2010-11-22
9.	Teo Line Single Phase Module	SCHWARZBECK	NSLK8128	D-69250	2010-11-22
10.	Positioning Controller	C&C	CC-C-1F	MF7802113	2010-11-22
11.	Triple-Loop Antenna	EVERFINE	LLA-2	607004	2010-11-22
12.	10dB attenuator	SCHWARZBECK	MTAIMP-136	R65.90.0001#06	2010-11-22
13.	PC	IBM	R50e	RDFE7259	N/A

2. POWERLINE CONDUCTED EMISSION TEST

2.1.Test Standard

FCC Part 15.207

2.2.Limits

Frequency MHz	Limits (dBμV)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes:

1. *Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

2.3.Test Procedure

The EUT is put on the table that is 0.8m high above the ground and at least away from other Metallic surface 0.4m. The EUT is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohms coupling impedance for the testing equipment; and the peripheral equipment powers form other L.I.S.N. Please refer to the block diagram of the test setup and photographs. Both sides of AC line (Line & Neutral) are checked for maximum conducted interference. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables must be changed according to FCC part 15 B.

2.4.Test Result

N/A

The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

Note: EUT powered 9V batteries, this test item not applicant.

3. RADIATION INTERFERENCE

3.1.Rules Part No.

FCC Part 15.227, FCC Part 15.209,

3.2.Limits

The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental Frequency (MHz)	Field Strength of Fundamental (3m)	
	uV/m	**dBuV/m**
26.96-27.28	10000	80

Note: 1. RF Field Strength (dBuV) = 20 log RF Voltage (uV)
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
3. The emission limit in this paragraph is based on measurement instrumentation employing an average detector.
4. Radiated measurements for intentional radiators < 30MHz is done with a loop antenna

The field strength of any emissions radiated on any frequency outside of the fundamental band shall not exceed the general radiated emission limits in Section 15.209.

Frequency Range (MHz)	Distance (m)	Field strength (dBμV/m)
0.009 – 0.490	3	20log 2400/F (kHz) + 80
0.490 – 1.705	3	20log 24000/F (kHz) + 40
1.705 – 30.00	3	20log 30 + 40
30-88	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

Note: 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
2. In the Above Table, the tighter limit applies at the band edges.
3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT
4. If measurement is made at 3m distance, then F.S Limitation at 3m distance is adjusted by using the formula Ld1 = Ld2 * (d2/d1)2

3.3. Test Procedure

ANSI STANDARD C63.4 10.1.7 MEASUREMENT PROCEDURES:

The EUT is placed on a turned table that is 0.8 meter above the ground. The turned table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna that is mounted on the antenna tower. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (log periodical antenna and horn antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on test.

The resolution bandwidth was 100 kHz and the video bandwidth was 300 kHz.

The spectrum was scanned from 30 MHz to 10th harmonic of the fundamental.

3.4. Test Result

PASS

Field Strength of Fundamental:

Horizontal:

Frequency (MHz)	PK (dBuV/m)	AV (dBuV/m)	PK Limit (dBuV/m)	AV Limit (dBuV/m)	PK Margin (dBuV/m)	AV Margin (dBuV/m)
27.042	54.20	47.90	100.00	80.00	45.80	32.10

Vertical:

Frequency (MHz)	PK (dBuV/m)	AV (dBuV/m)	PK Limit (dBuV/m)	AV Limit (dBuV/m)	PK Margin (dBuV/m)	AV Margin (dBuV/m)
27.042	58.4	53.9	100.00	80.00	41.60	26.10

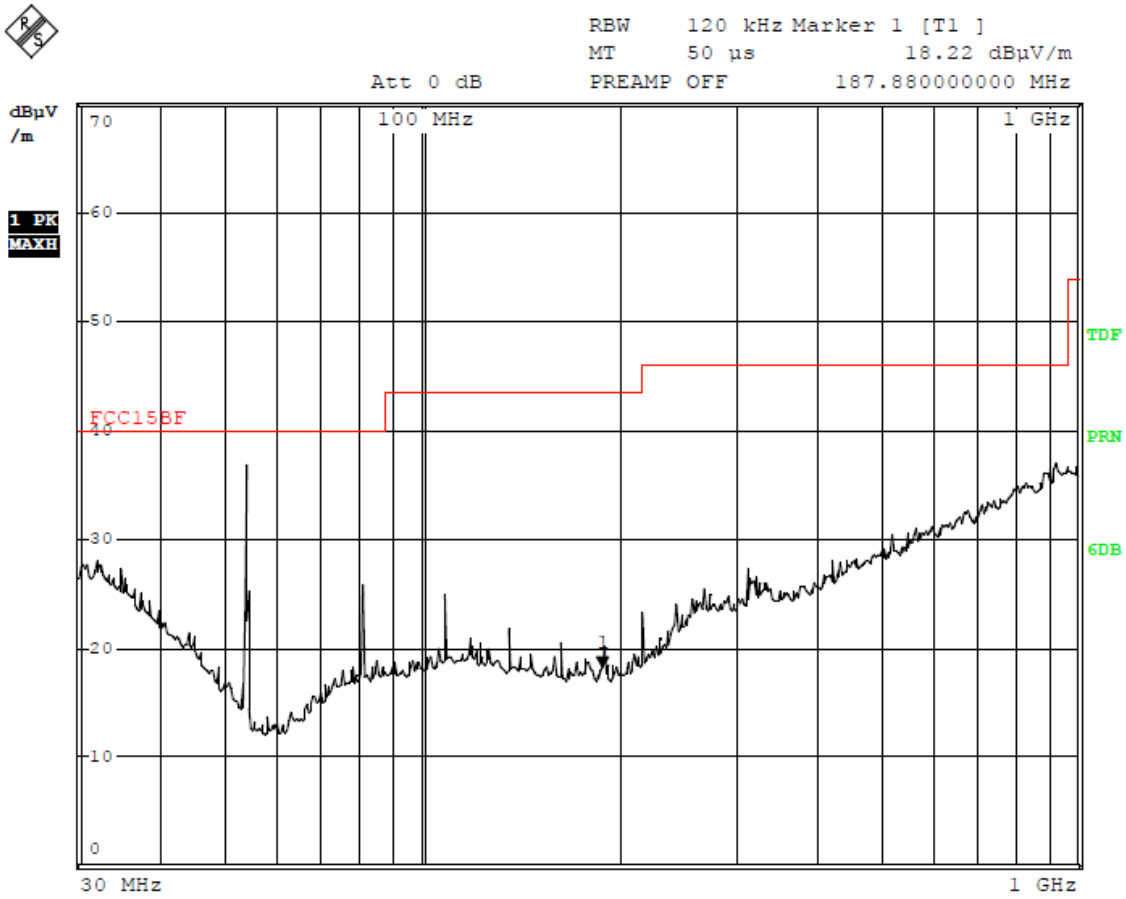
Note: (1) PK= Peak, AV= Average

(2) Emission Level = Reading Level + Probe Factor + Cable Loss-Pre Amp.

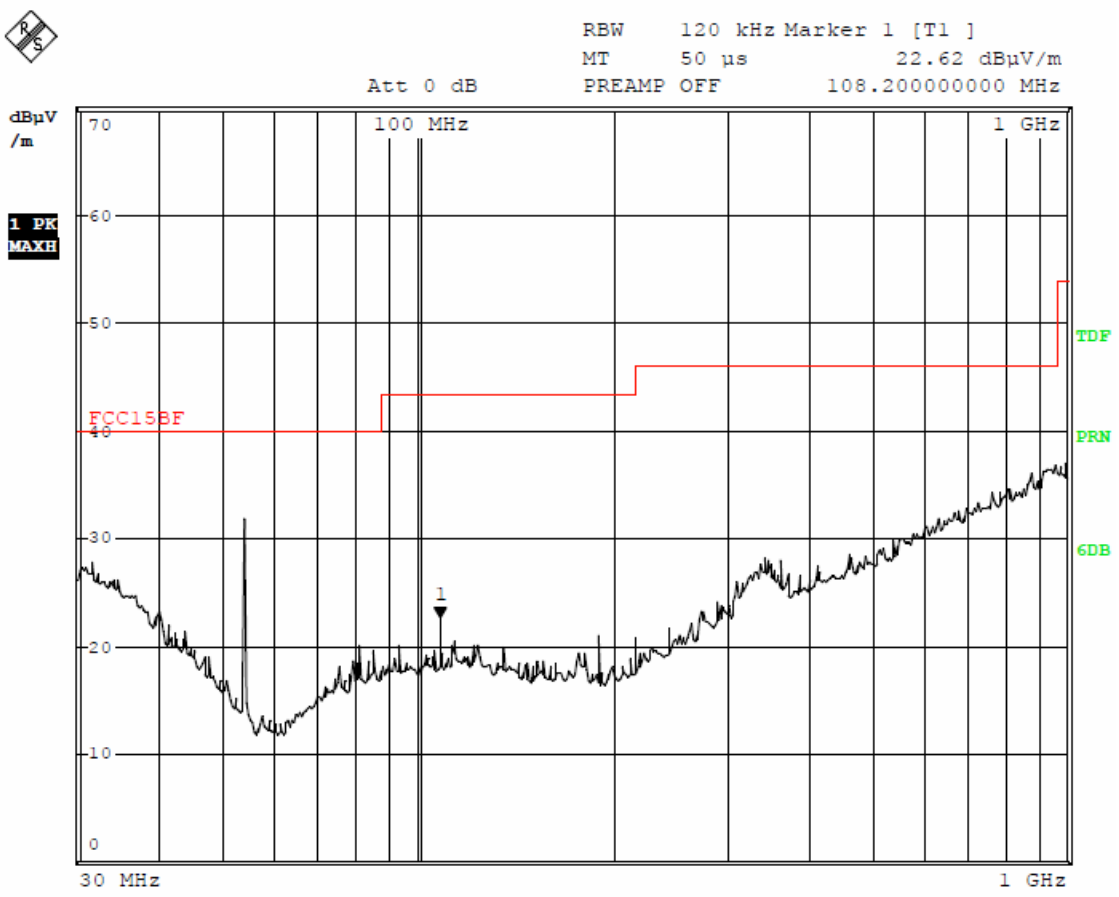
(3)Margin=Emission-Limits

(4)According to section 15.35(b), the peak limit is 20dB higher than the average limit

General Radiated Emission Data and Harmonics Radiated Emission Data
Radiated Emission In Horizontal (30MHz----1000MHz)
Results: Pass



Frequency (MHz)	Level@3m (dB µ V/m)	Antenna Polarity	Limit@3m (dB µ V/m)
54.087	36.21	H	40.00



Frequency (MHz)	Level@3m (dB µ V/m)	Antenna Polarity	Limit@3m (dB µ V/m)
54.087	31.09	V	40.00

4. BAND EDGE

4.1. Rules Part No.

FCC Part 15.227

4.2. Limits

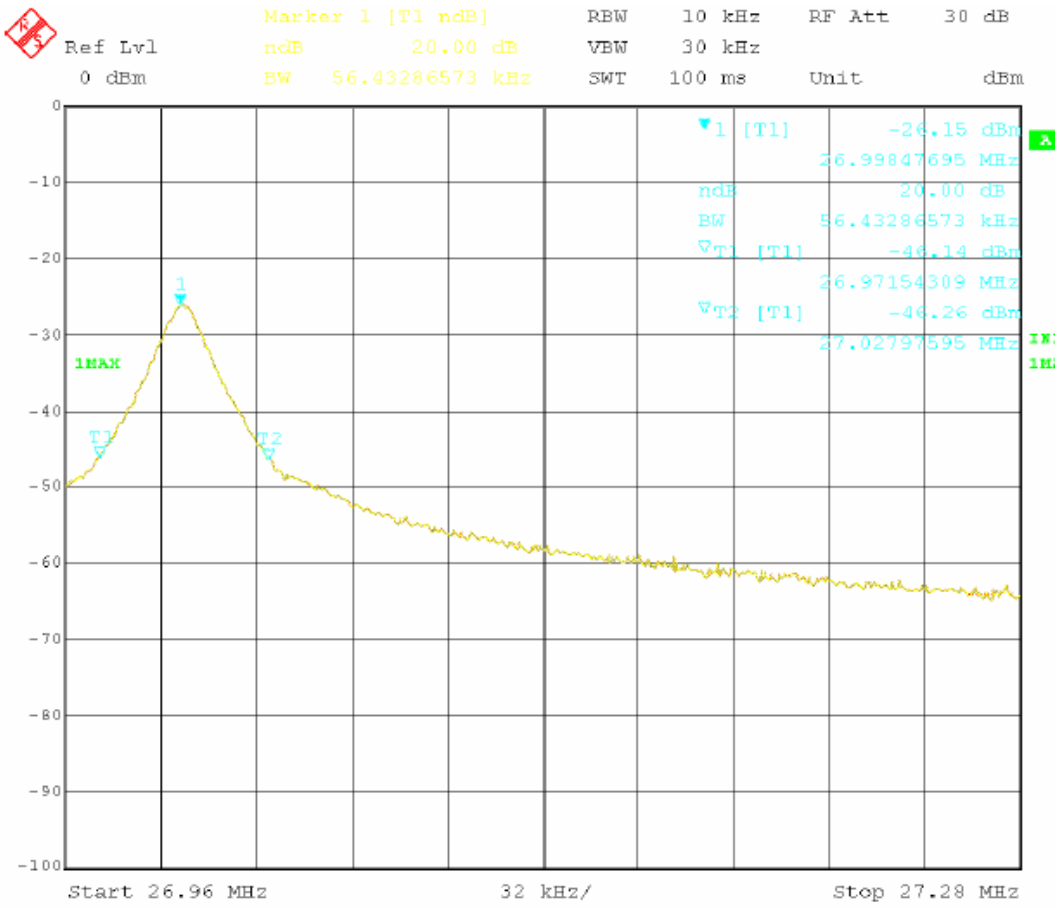
In any 100kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 50dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

4.3. Test Procedure

Record the respond of frequency waveform when the EUT was working by a spectrum analyzer or EMI Receiver. Low and high channel were tested

4.4. Test Result

PASS


Marker 1 [T1 ndB]
RBW 10 kHz
RF Att 30 dB
Ref Lvl
ndB 20.00 dB
VBW 30 kHz
0 dBm
BW 56.43286573 kHz
SWT 100 ms
Unit dBm
1 [T1] -26.15 dBm
26.99847695 MHz
ndB 20.00 dB
BW 56.43286573 kHz
T1 [T1] -46.14 dBm
26.97154309 MHz
T2 [T1] -46.26 dBm
27.02797595 MHz
1MAX
T1
T2
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Start 26.96 MHz
32 kHz/
Stop 27.28 MHz

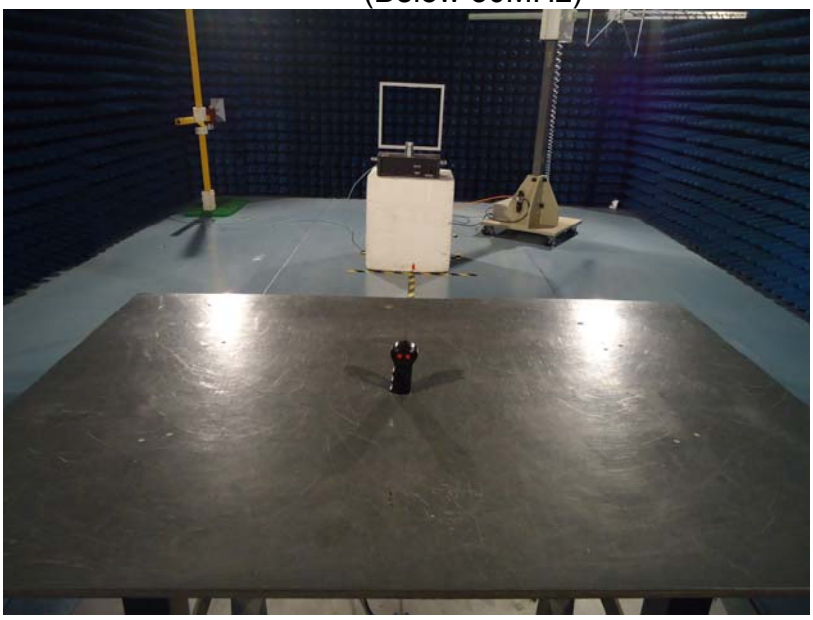
5. ANTENNA REQUIREMENT

According to Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.
The EUT has no antenna connector for printed antenna. Therefore the EUT complies with Section 15.203 of the FCC rules.

6. PHOTOGRAPH OF TEST

Radiated Emission test

(Below 30MHz)



(Above 30MHz)