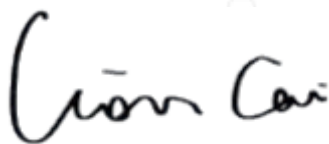


TEST REPORT

Application No.: BTEK240620005AE
Applicant: Shantou Chenghai Lihuang Plastic Toys Co., Ltd
Address of Applicant: No.1,1 Road Huaihe Industrial Park, Lianxia, Chenghai Shantou, China
Manufacturer: Shantou Chenghai Lihuang Plastic Toys Co., Ltd
Address of Manufacturer: No.1,1 Road Huaihe Industrial Park, Lianxia, Chenghai Shantou, China
Equipment Under Test (EUT):
EUT Name: RC car
Test Model.: C014
Adding Model(s): C055,VRC7201, LH-C049, LH-C059, LH-C064, LH-C006, LH-C008, LH-C008S, LH-C009, LH-C009A, LH-C011, LH-C010B, LH-C020, LH-C021, LH-C021S, LH-C022, LH-C023A, LH-C048, LH-C066, LH-C088, LH-C099, LH-C100
Trade Mark: /
FCC ID: 2AJGI-C014D6
Standard(s) : 47 CFR Part 15, Subpart C 15.227
Date of Receipt: 2024-06-20
Date of Test: 2024-06-20 to 2024-07-30
Date of Issue: 2024-07-30

Test Result:	Pass*
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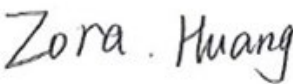
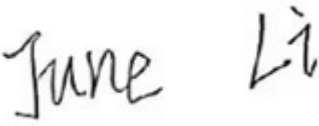
* In the configuration tested, the EUT complied with the standards specified above.



Lion Cai/ Approved & Authorized
EMC Laboratory Manager



Revision Record				
Version	Chapter	Date	Modifier	Remark
V0		2024-07-12		Original
V1		2024-07-30		1.updated page 10,11,12,13,14,15

Authorized for issue by			
			
		Zora Huang /Project Engineer	
			
		June Li /Reviewer	

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.



2 Test Summary

Item	Document Title
47 CFR Part 15, Subpart C	Intentional Radiators
ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices

Item	Standard	Result
Antenna Requirements	15.203	Pass
20dB Occupied Bandwidth	15.215(c)	Pass
AC Power Line Conducted Emissions	15.207	N/A
Field Strength of the Fundamental Signal&Spurious Emissions	15.227(a)(b) & 15.209	Pass

Note:

E.U.T./EUT means Equipment Under Test.

Pass means the test result passed the test standard requirement, please find the detailed decision rule in the report relative section.



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3 General Information

3.1 Details of E.U.T.

Power Supply	DC 3.0V by 2*AA battery
Operating frequency	27MHz
Modulation Type	ASK
Antenna Type	Spring Antenna
Antenna Gain	0dBi
Sample number	BTEK240620005AE-01~02
Remark: The information in this section is provided by the applicant or manufacturer, BANTEK is not liable to the accuracy, suitability, reliability or/and integrity of the information.	

3.2 Description of EUT Test Mode

Test Mode List		
Test Mode	Description	Remark
1	TX	/
Remark:1.Only show the worst case in the test report		

3.3 Description of Support Units

Auxiliary Equipment			
Description	Manufacturer	Model	Serial Number
/	/	/	/

3.4 Measurement Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2 and TR100 028-1/-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Measurement	Value
Occupied Channel Bandwidth	69 KHz
RF output power, conducted	0.87 dB
Power Spectral Density, conducted	0.69 dB
Unwanted Emissions, conducted	0.94 dB
All emissions, radiated(<1GHz)	4.12 dB
All emissions, radiated(>1GHz)	4.16 dB
Temperature	0.82 °C
Humidity	4.1 %

3.5 Test Location

All tests were performed at:

Shenzhen BANTEK Testing Co., Ltd.

A5&A6, Building B1&B2, No.45 Gangtuo Road, Bogang Community, Shajing Street, Bao'an District, Shenzhen, Guangdong, China 518104

Tel: +86 0755-2334 4200 Fax: +86 0755-2334 4200

ShenZhen BANTEK Testing Co.,Ltd.

Add : A5&A6, Building B1&B2, No.45 Gangtuo Road, Bogang Community, Shajing Street
Bao'an District, Shenzhen, Guangdong, China 518104

Tel : +(86)755-2334 4200 E-mail : Service@btek-lab.com Web : www.btek-lab.com



FCC Registration Number: 264293

Designation Number: CN1356

No tests were sub-contracted.

3.6 Deviation from Standards

None

3.7 Abnormalities from Standard Conditions

None



4 Equipment List

RF Conducted					
Equipment	Manufacturer	Model No	Serial No	Cal Date	Cal Due Date
Shielding Room	YIHENG ENELECTRONIC	5.5*3.1*3	YH-BT-220304-03	2022-03-03	2025-03-02
EXA Signal Analyzer	KEYSIGHT	N9020A	MY54230486	2024-06-11	2025-06-10
DC Power Supply	E3632A	E3642A	KR75304416	2024-06-11	2025-06-10
Attenuator	RswTech	SMA-JK-6dB	N/A	2024-06-11	2025-06-10
Attenuator	RswTech	SMA-JK-3dB	N/A	2024-06-11	2025-06-10
RF Control Unit	Techy	TR1029-1	N/A	2024-06-11	2025-06-10
RF Sensor Unit	Techy	TR1029-2	N/A	2024-06-11	2025-06-10
MXG Vector Signal Generator	Agilent	N5182A	US46240522	2024-06-11	2025-06-10
Programmable Temperature&Humidity Chamber	GRT	GR-HWX1000	GR22051001	2024-06-11	2025-06-10
Measurement Software	TACHOY	RF TestSoft	N/A	N/A	N/A

Radiated Method Test					
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
3m Semi-Anechoic Chamber	YIHENG ENELECTRONIC	966	YH-BT-220304-01	2022-05-06	2025-05-05
EMI Test Receiver	Rohde&Schwarz	ESCI	100694	2024-06-11	2025-06-10
TRILOG Broadband Antenna	Schwarzbeck	VULB 9168	01324	2024-06-16	2025-06-15
Pre-Amplifier	Schwarzbeck	BBV 9745	#180	2024-06-11	2025-06-10
Loop Antenna	ETS	6502	00201177	2024-06-15	2025-06-14
Measurement Software	Fara	EZ EMC Ver. FA-03A2	N/A	N/A	N/A

Conducted Test					
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Shielding Room	YIHENG ENELECTRONIC	9*5*3.3	YH-BT-220304-04	2022-03-03	2025-03-02
EMI Test Receiver	Rohde&Schwarz	ESCI	101021	2024-06-11	2025-06-10
Measurement Software	Fara	EZ EMC Ver. FA-03A2	N/A	N/A	N/A
LISN	Rohde&Schwarz	ENV216	101472	2024-06-11	2025-06-10
LISN	Schwarzbeck	NSLK 8128	05127	2024-06-11	2025-06-10
Pulse Limiter	Schwarzbeck	VTSD 9561 F-N	00890	2024-06-11	2025-06-10

General used equipment					
Equipment	Manufacturer	Model No	Serial No	Cal Date	Cal Due Date
Humidity/Temperature/Barometric Pressure Indicator	KUMAR	F132	N/A	2024-06-11	2025-06-10
Humidity/Temperature/Barometric Pressure Indicator	KUMAR	F132	N/A	2024-06-11	2025-06-10



5 Radio Spectrum Technical Requirement

5.1 Antenna Requirement

5.1.1 Test Requirement:

Test Requirement FCC §15.203&15.227

5.1.2 Conclusion

This product has a Spring Antenna, fulfill the requirement of this section.



6 Radio Spectrum Matter Test Results

6.1 20dB Occupied Bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.215(c)

6.1.1 E.U.T. Operation

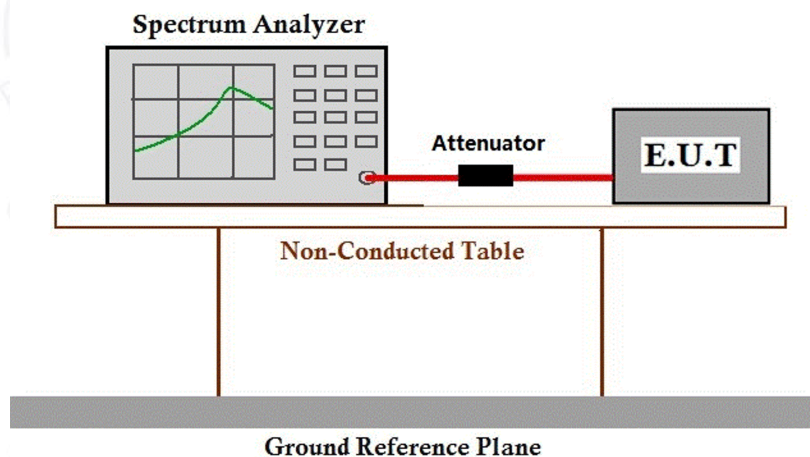
Operating Environment:

Temperature: 25.7 °C

Humidity: 53.2 % RH

Atmospheric Pressure: 1010 mbar

6.1.2 Test Setup Diagram



6.1.3 Measurement Procedure and Data

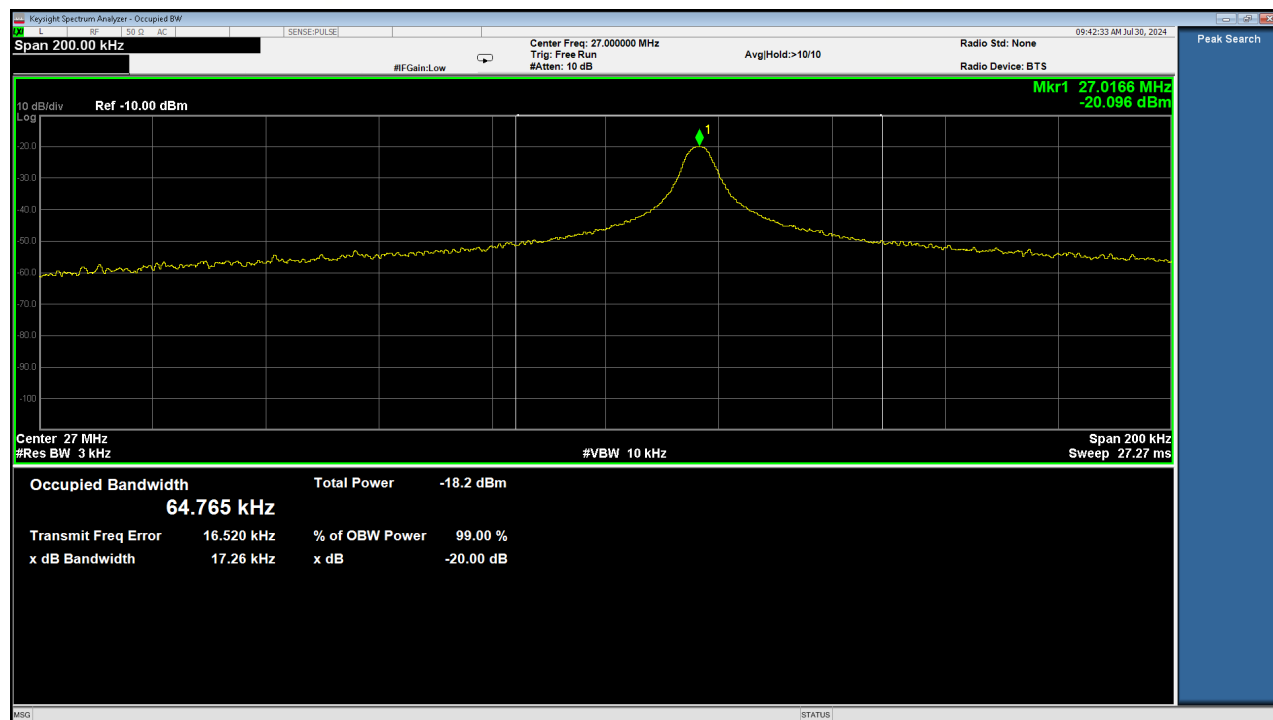
cable loss=0.9

1. The transmitter output was connected to the spectrum analyzer through an attenuator, the pathloss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT transmit continuously
3. Use the following spectrum analyzer settings:
Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel
RBW $\geq$ 1% of the 20 dB bandwidth, VBW $\geq$ RBW
Sweep = auto, Detector function = peak, Trace = max hold
4. Measure and record the results in the test report.



Worst case mode 1

Freq. (MHz)	20 dB bandwidth Result (kHz)	Conclusion
27	17.26	PASS



6.2 Field Strength of the Fundamental Signal & Spurious Emissions

Test Requirement 47 CFR Part 15, Subpart C 15.227(a), 15.227(b) & 15.209

Test Method:

Limit:

Field Strength of the Fundamental Signal

Frequency Band	Limit(dBuV/m @3m)	Detection
26.96-27.28MHz	100	Peak
	80	Average

Spurious Emissions

FCC Part 15.209				
Frequency (MHz)	Field Strength Limitation		Field Strength Limitation Frequency tion at 3m Measurement Dist	
	(uV/m)	Dist	(uV/m)	(dBuV/m)
0.009 – 0.490	$2400 / F(\text{KHz})$	300m	$10000 * 2400/F(\text{KHz})$	$20\log 2400/F(\text{KHz}) + 80$
0.490 – 1.705	$24000 / F(\text{KHz})$	30m	$100 * 24000/F(\text{KHz})$	$20\log 24000/F(\text{KHz}) + 40$
1.705 – 30.00	30	30m	$100 * 30$	$20\log 30 + 40$
30.0 – 88.0	100	3m	100	$20\log 100$
88.0 – 216.0	150	3m	150	$20\log 150$
216.0 – 960.0	200	3m	200	$20\log 200$
Above 960.0	500	3m	500	$20\log 500$

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

6.2.1 E.U.T. Operation

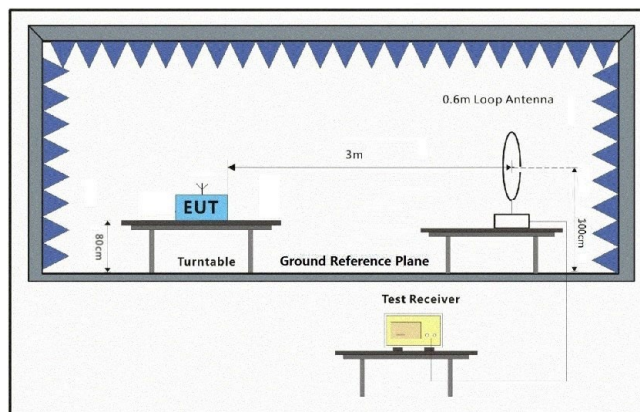
Operating Environment:

Temperature: 25.3 °C

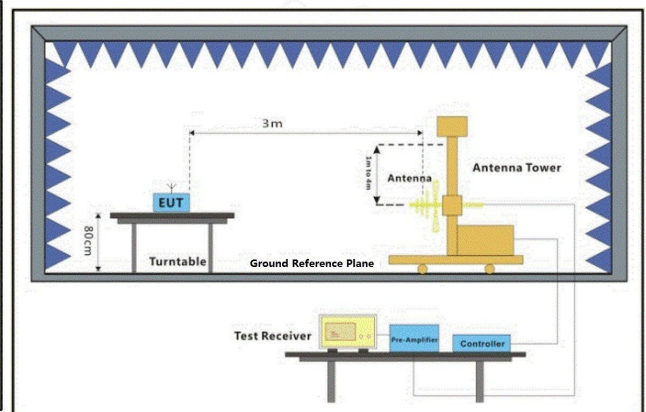
Humidity: 57.4 % RH

Atmospheric Pressure: 1010 mbar

6.2.2 Test Setup Diagram



9KHz~30MHz



30MHz~1GHz

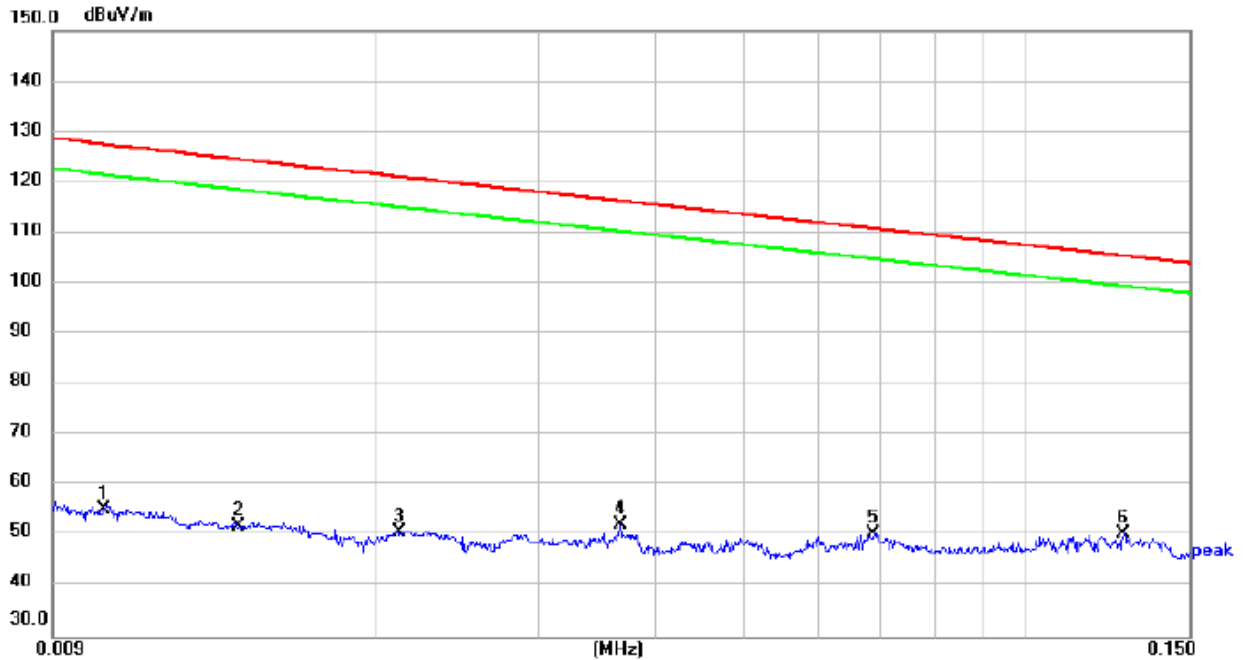


6.2.3 Measurement Procedure and Data

The EUT is placed on a turn table which is 0.8 meter above ground. The turn 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 which is mounted on a antenna tower. The antenna can move up and down between 1 to 4 meters to find out the maximum emission level. Broadband antenna (calibrated by dipole antenna) are used as a receiving antenna. Both horizontal and vertical polarization of the antenna are set on measurement.

9 kHz ~ 30 MHz

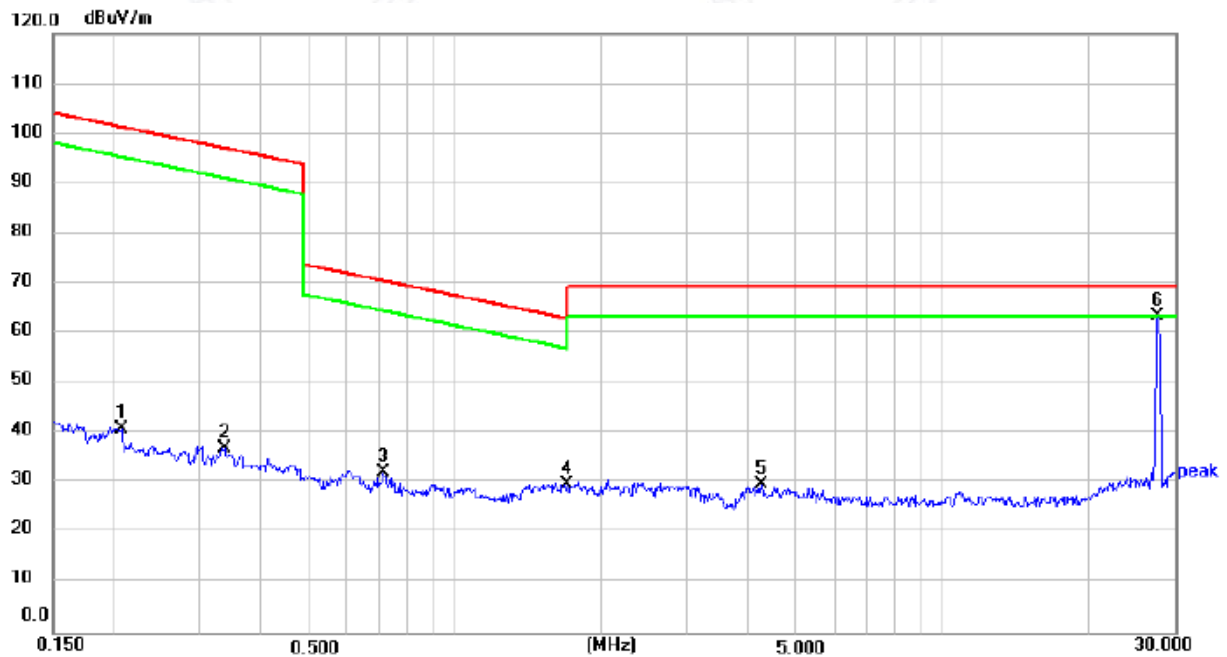
Test mode:	Worst case 1	Polarity:	Coaxial
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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0102	85.69	-30.33	55.36	127.43	-72.07	peak
2	0.0142	82.51	-30.35	52.16	124.56	-72.40	peak
3	0.0212	81.28	-30.41	50.87	121.08	-70.21	peak
4	0.0366	82.88	-30.54	52.34	116.33	-63.99	peak
5	0.0687	81.46	-30.88	50.58	110.87	-60.29	peak
6 *	0.1276	81.77	-31.19	50.58	105.49	-54.91	peak



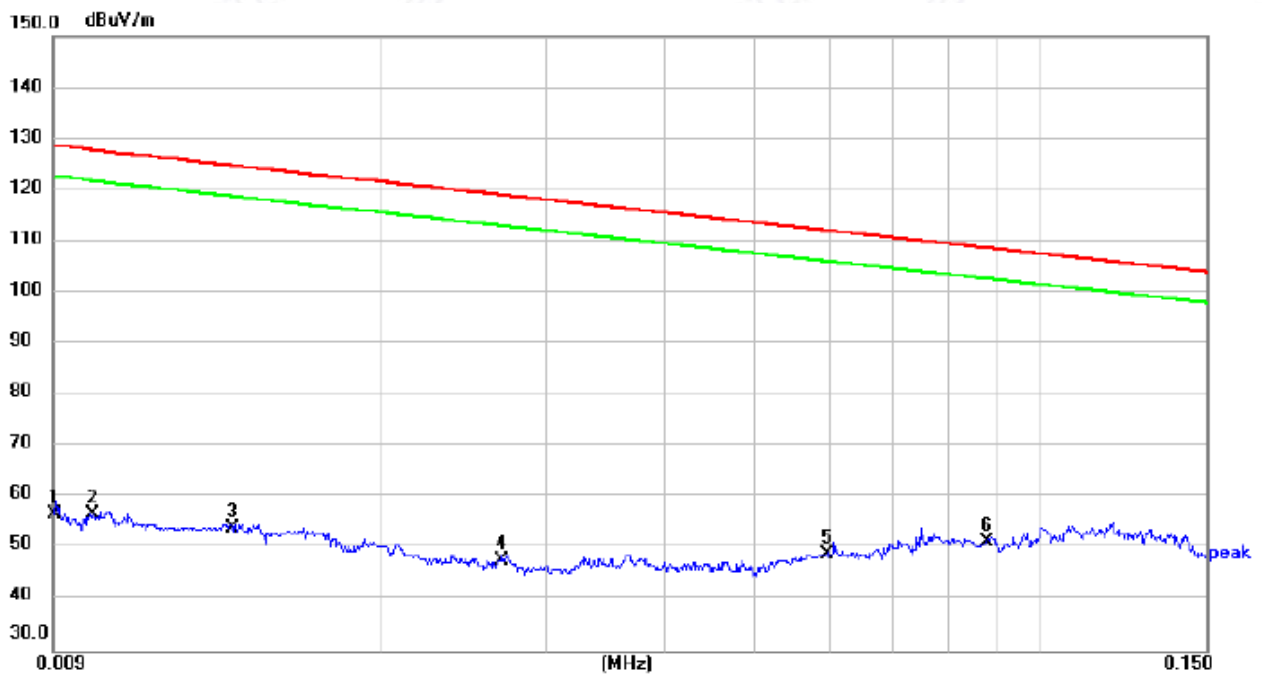
Test mode:	Worst case 1	Polarity:	Coaxial
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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.2061	72.03	-31.15	40.88	101.32	-60.44	peak
2	0.3356	68.07	-31.11	36.96	97.09	-60.13	peak
3	0.7120	63.10	-30.96	32.14	70.55	-38.41	peak
4	1.6980	60.71	-30.83	29.88	63.01	-33.13	peak
5	4.2465	60.56	-30.84	29.72	69.54	-39.82	peak
6 *	27.0080	93.93	-30.56	63.37	69.54	-6.17	peak



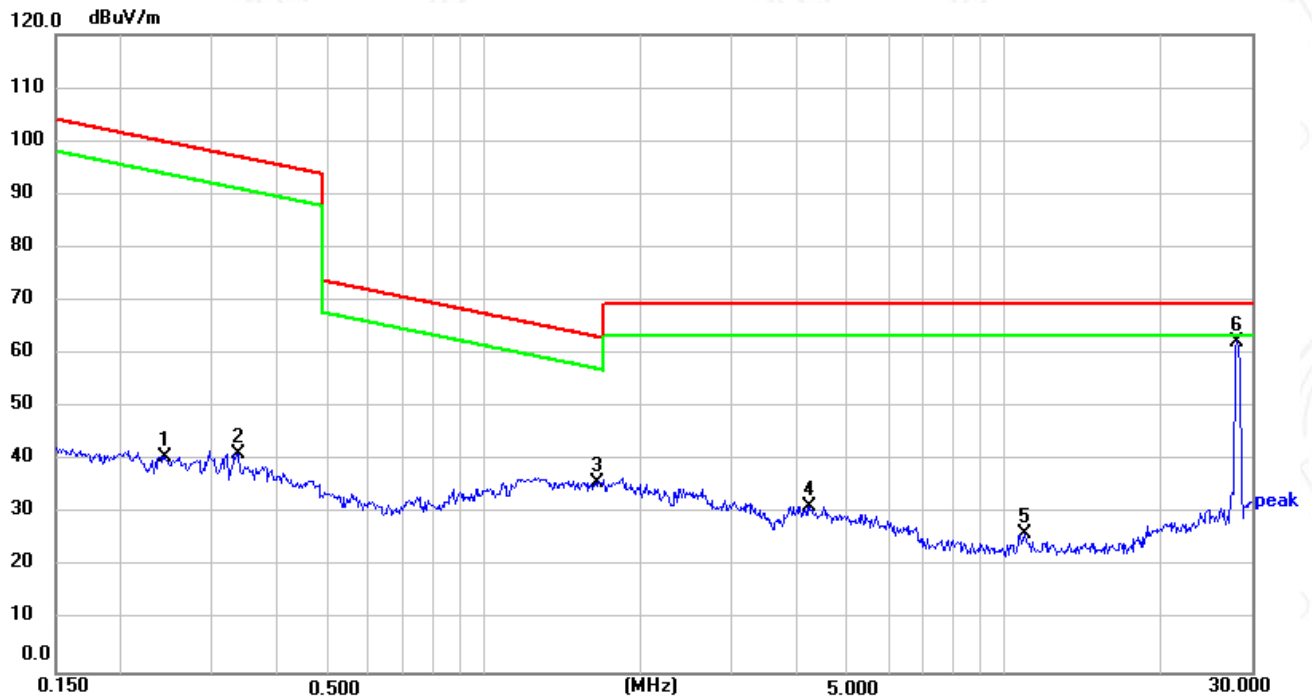
Test mode:	Worst case 1	Polarity:	Coplanar
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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0090	87.22	-30.31	56.91	128.52	-71.61	peak
2	0.0100	87.19	-30.32	56.87	127.60	-70.73	peak
3	0.0140	84.53	-30.35	54.18	124.68	-70.50	peak
4	0.0268	78.34	-30.45	47.89	119.04	-71.15	peak
5	0.0594	79.90	-30.78	49.12	112.13	-63.01	peak
6 *	0.0878	82.60	-31.09	51.51	108.73	-57.22	peak



Test mode:	Worst case 1	Polarity:	Coplanar
------------	--------------	-----------	----------



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.2430	71.77	-31.14	40.63	99.89	-59.26	peak
2	0.3372	72.48	-31.11	41.37	97.05	-55.68	peak
3	1.6535	66.77	-30.82	35.95	63.24	-27.29	peak
4	4.2240	62.14	-30.84	31.30	69.54	-38.24	peak
5	10.9630	56.83	-30.63	26.20	69.54	-43.34	peak
6 *	27.0030	95.46	-30.56	64.90	69.54	-4.64	peak

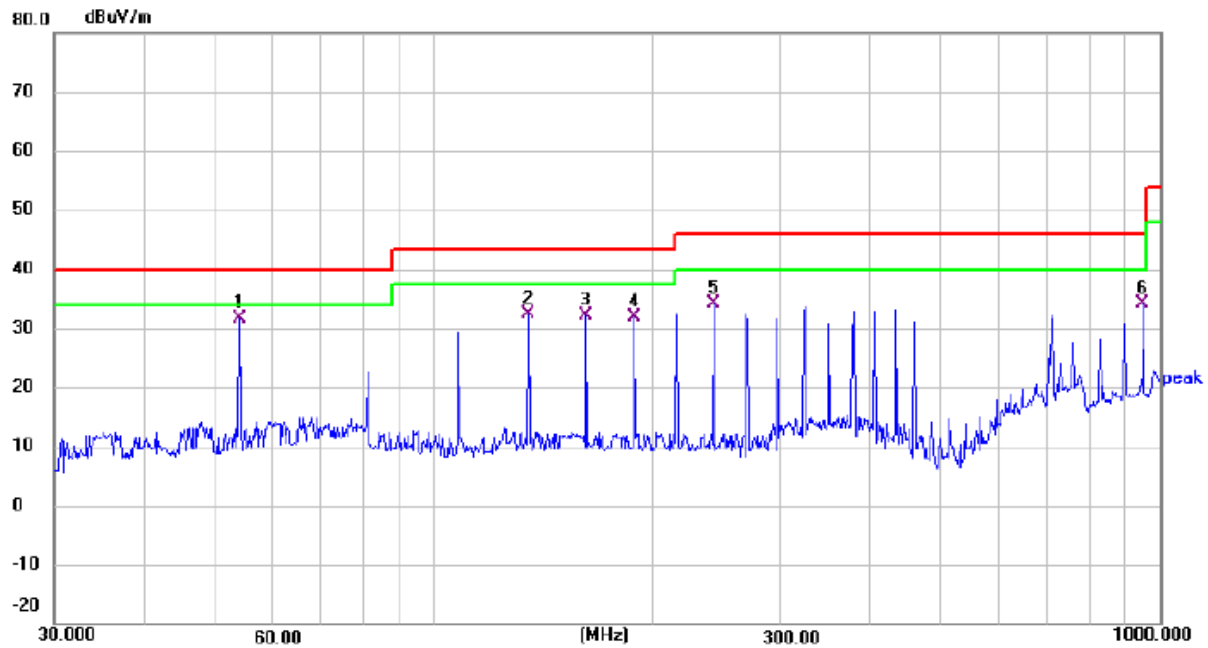
Note:

- 1). $\text{Level(dBuV/m)} = \text{Reading(dBuV)} + \text{Factor(dB/m)}$
- 2). $\text{Factor(dB/m)} = \text{Antenna Factor(dB/m)} + \text{Cable loss(dB)} - \text{Pre Amplifier gain(dB)}$
- 3). $\text{Margin(dB)} = \text{Limit(dBuV/m)} - \text{Level(dBuV/m)}$
- 4) This EUT was tested in 3 orthogonal positions and the worst case position data was reported.



Below 1GHz

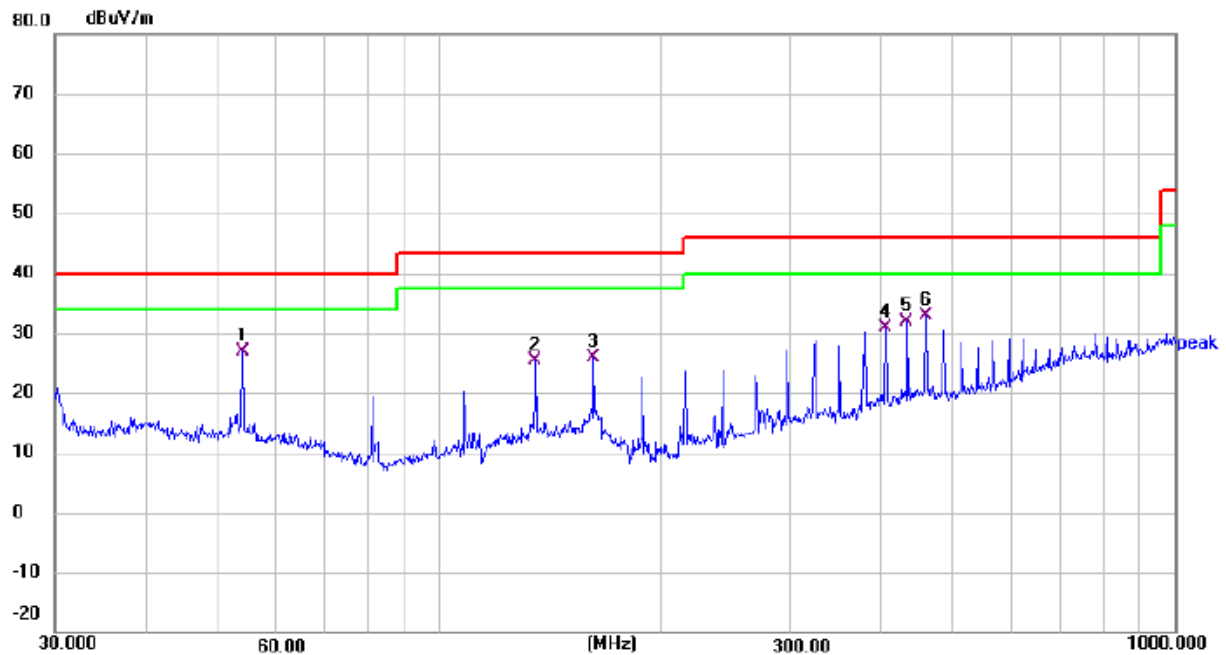
Test mode:	Worst case 1	Polarity:	Horizontal
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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F
1 *	53.8817	45.18	-13.57	31.61	40.00	-8.39	QP	100	0	P
2	135.0318	45.91	-13.53	32.38	43.50	-11.12	QP	100	0	P
3	162.0413	45.29	-13.05	32.24	43.50	-11.26	QP	100	0	P
4	189.0741	48.28	-16.39	31.89	43.50	-11.61	QP	100	0	P
5	242.5252	48.27	-14.22	34.05	46.00	-11.95	QP	100	0	P
6	948.7610	34.28	-0.19	34.09	46.00	-11.91	QP	100	0	P



Test mode:	Worst case 1	Polarity:	Vertical
------------	--------------	-----------	----------



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F
1 *	53.8817	40.52	-13.57	26.95	40.00	-13.05	QP	100	360	P
2	135.0318	38.86	-13.53	25.33	43.50	-18.17	QP	100	360	P
3	162.0413	38.91	-13.05	25.86	43.50	-17.64	QP	100	360	P
4	404.6664	40.90	-9.99	30.91	46.00	-15.09	QP	100	360	P
5	432.5455	40.98	-9.16	31.82	46.00	-14.18	QP	100	360	P
6	459.1143	41.24	-8.48	32.76	46.00	-13.24	QP	100	360	P

NOTE:

1.Level (dBuV/m) = Reading (dBuV) + Factor (dB/m)

The reading level is calculated by software which is not shown in the sheet

2.Factor = Antenna Factor+ Cable Loss-Preamp Factor

3.Margin = Level – Limit.



7 Test Setup Photo

Please refer to the Appendix test setup Photos.

8 EUT Constructional Details (EUT Photos)

Please refer to the Appendix EUT Photos.

- End of the Report -

