FCC PART 15 SUBPART C TEST REPORT

FCC PART 15.225

Report Reference No.....	**: BSL24120901P03-R01**
FCC ID.....	**: 2BMTHN1-HD**
Compiled by (position+printed name+signature)..	: Engineer/ Cindy Zheng
Supervised by (position+printed name+signature)..	: Manager/Haley Wen
Approved by (position+printed name+signature)..	: RF Manager/ Vivian Jiang
Date of issue.....	: December 18, 2024

Testing Laboratory Name.....	: **BSL Testing Co., Ltd.**
Address.....	: 1/F, Building B, Xinshidai GR Park,Shiyan Street, Bao'an District, Shenzhen,Guangdong, 518052, People's Republic of China

Applicant's name.....	: **Shenzhen Xinxiang Culture Technology Co., Ltd.**
Address.....	: Building D, Youth Entrepreneurship Park, No. 18, Jianshe East Road, Qinghua Community, Longhua Street, Longhua District, Shenzhen

Test specification.....	**:**
Standard.....	: **FCC Part15 Subpart C, Section 15.225**

Equipment description.....	**: Mobapad N1 Liquid Silicone Controller**
Trade Mark.....	: MOBAPAD
Manufacturer.....	: Targetever (GuangDong) Technology Co.,Ltd.
Model/Type reference.....	: N1-HD
Listed Models	: N1s
Modulation	: ASK
Frequency.....	13.56MHz
Ratings.....	: DC 3.7V from battery or DC 5.0V from USB Port
Result.....	: **PASS**

TEST REPORT

Equipment under Test	:	**Mobapad N1 Liquid Silicone Controller**
Model /Type	:	N1-HD
Listed Models	:	N1s
Model Declaration	:	PCB board, structure and internal of these model(s) are the same,So no additional models were tested.
Applicant	:	**Guangzhou Xinxiang Culture Ltd.**
Address	:	Room No. C02, 6th floor, No. 336, Huangpudadaozhong, Tianhe District, Guangzhou City, Guangdong, China
Manufacturer	:	**Targetever (GuangDong) Technology Co.,Ltd.**
Address	:	Building 10, Floors 2-11th and Building 11, Floors 1-11th, LangYuan, 16 Chenghai Avenue, Chenjiang Street, ZhongKai High-tech Zone, HuiZhou

Test Result:	**PASS**

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Contents

1 TEST STANDARDS

The tests were performed according to following standards:

FCC Rules Part 15.225:Operation within the band 13.110-14.010 MHz.
ANSI C63.10:2020 : American National Standard for Testing Unlicensed Wireless Devices

2 SUMMARY

2.1 General Remarks

Date of receipt of test sample	:	December 08, 2024
Testing commenced on	:	December 08, 2024
Testing concluded on	:	December 18, 2024

2.2 Product Description

Product Name:	Mobapad N1 Liquid Silicone Controller
Model/Type reference:	N1-HD
Listed Models:	N1s
Testing sample ID:	BSL24120901P03-R01-1# (Engineer sample), BSL24120901P03-R01-2# (Normal sample)
Power supply:	DC 3.7V from battery or DC 5.0V from USB Port
Adapter information (Auxiliary test supplied by testing Lab):	Model: EP-TA20CBC Input:AC 100-240V 50/60Hz Output:DC 5V 2A Firmware Version: EPTA5.14.2 Manufacture:Huizhou Dongyang Yienbi Electronics Co., Ltd
Modulation:	ASK
Operation frequency:	13.56MHz
Channel number:	1
Antenna type:	Induction coil antenna
Antenna gain:	0 dBi

2.3 Equipment Under Test

Power supply system utilised

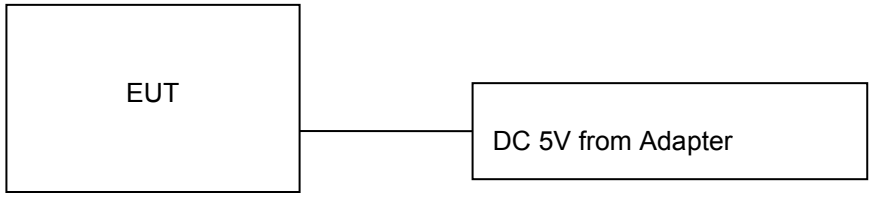
Power supply voltage	:	○	230V / 50 Hz	○	120V / 60Hz
		○	12 V DC	○	24 V DC
		●	Other (specified in blank below)		

DC 3.0V from battery or DC 5.0V from USB Port

2.4 Short description of the Equipment under Test (EUT)

This is a Mobapad N1 Liquid Silicone Controller.
For more details, refer to the user's manual of the EUT.

2.5 Block Diagram of Test Setup



2.6 Special Accessories

Follow auxiliary equipment(s) test with EUT that provided by the manufacturer or laboratory is listed as follow:

Description	Manufacturer	Model	Technical Parameters	Certificate	Provided by
/	/	/	/	/	/

2.7 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for the device filing to comply with Section 15.227 of the FCC Part 15, Subpart C Rules.

2.8 Modifications

No modifications were implemented to meet testing criteria.

3 TEST ENVIRONMENT

3.1 Address of the test laboratory

BSL Testing Co., Ltd.
1/F, Building B, Xinshidai GR Park,Shiyan Street, Bao'an District, Shenzhen,Guangdong, 518052, People's Republic of China

3.2 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.: 562200 Designation Number: CN1338
BSL Testing Co.,Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

Industry Canada Registration Number. Is: 11093A CAB identifier: CN0019
The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing.

A2LA-Lab Cert. No.: 4707.01
BSL Testing Co.,Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.10 and CISPR 16-1-4:2010.

3.3 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Radiated Emission:

Temperature:	25 ° C
Humidity:	45 %
Atmospheric pressure:	950-1050mbar

Conducted testing：

Temperature:	25 ° C
Humidity:	44 %
Atmospheric pressure:	950-1050mbar

3.4 Summary of measurement results

FCC Requirements		
FCC Part 15.207	Conducted Emission	PASS
FCC Part 15.203	Antenna requirement	PASS
FCC Part 15.215	-20dB bandwidth	PASS
FCC Part 15.225(e)	Frequency Tolerance	PASS
FCC Part 15.225(a)(b)(c)(d)/15.209	Radiated Emissions	PASS

Remark: The measurement uncertainty is not included in the test result.

3.5 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01" Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the BSL Testing Co.,Ltd. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.
Hereafter the best measurement capability for BSL Testing Co., Ltd. :

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	9KHz~30MHz	3.20 dB	(1)
Radiated Emission	30~1000MHz	4.10 dB	(1)
Radiated Emission	1~18GHz	4.32 dB	(1)
Radiated Emission	18-40GHz	5.54 dB	(1)
Conducted Disturbance	0.9KHz~30MHz	3.12 dB	(1)
Occupied Channel Bandwidth	/	5%	(1)
RF Frequency	/	$0.082*10^{-7}$	(1)
RF output power, conducted	/	0. 73 dB	(1)
Unwanted Emission, conducted	/	1 .6dB	(1)
AC Power Lines Conducted Emissions|	/	2. 72dB	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3.6 Equipments Used during the Test

Conducted Emission					
Test Equipment	**Manufacturer**	**Model**	**Serial No.**	**Date of Cal.**	**Due Date**
Shielding Room	ZhongYu Electron	7.3(L)x3.1(W)x2.9(H)	BSL252	2024-10-27	2025-10-26
EMI Test Receiver	R&S	ESCI 7	BSL552	2024-10-27	2025-10-26
Coaxial Switch	ANRITSU CORP	MP59B	BSL225	2024-10-27	2025-10-26
ENV216 2-L-V-NETZNACHB.DE	ROHDE&SCHWARZ	ENV216	BSL226	2024-10-27	2025-10-26
Coaxial Cable	BSL	N/A	BSL227	N/A	N/A
EMI Test Software	AUDIX	E3	N/A	N/A	N/A
Thermo meter	KTJ	TA328	BSL233	2024-10-27	2025-10-26
Absorbing clamp	Elektronik-Feinmechanik	MDS21	BSL229	2024-10-27	2025-10-26
LISN	R&S	ENV216	308	2024-10-27	2025-10-26
LISN	R&S	ENV216	314	2024-10-27	2025-10-26

Radiation Test equipment					
Test Equipment	**Manufacturer**	**Model**	**Serial No.**	**Date of Cal.**	**Due Date**
3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	BSL250	2024-10-27	2025-10-26
Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	BSL251	N/A	N/A
EMI Test Receiver	Rohde & Schwarz	ESU26	BSL203	2024-10-27	2025-10-26
BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	BSL214	2024-10-27	2025-10-26
Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	BSL208	2024-10-27	2025-10-26
Horn Antenna	ETS-LINDGREN	3160	BSL217	2024-10-27	2025-10-26
EMI Test Software	AUDIX	E3	N/A	N/A	N/A
Coaxial Cable	BSL	N/A	BSL213	2024-10-27	2025-10-26
Coaxial Cable	BSL	N/A	BSL211	2024-10-27	2025-10-26
Coaxial cable	BSL	N/A	BSL210	2024-10-27	2025-10-26
Coaxial Cable	BSL	N/A	BSL212	2024-10-27	2025-10-26
Amplifier(100kHz-3GHz)	HP	8347A	BSL204	2024-10-27	2025-10-26
Amplifier(2GHz-20GHz)	HP	84722A	BSL206	2024-10-27	2025-10-26
Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	BSL218	2024-10-27	2025-10-26
Band filter	Amindeon	82346	BSL219	2024-10-27	2025-10-26
Power Meter	Anritsu	ML2495A	BSL540	2024-10-27	2025-10-26
Power Sensor	Anritsu	MA2411B	BSL541	2024-10-27	2025-10-26
Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	BSL575	2024-10-27	2025-10-26

Splitter	Agilent	11636B	BSL237	2024-10-27	2025-10-26
Loop Antenna	ZHINAN	ZN30900A	BSL534	2024-10-27	2025-10-26
Breitband hornantenne	SCHWARZBECK	BBHA 9170	BSL579	2024-10-27	2025-10-26
Amplifier	TDK	PA-02-02	BSL574	2024-10-27	2025-10-26
Amplifier	TDK	PA-02-03	BSL576	2024-10-27	2025-10-26
PSA Series Spectrum Analyzer	Rohde & Schwarz	FSP	BSL578	2024-10-27	2025-10-26
Antenna tower	SKET	BK-4AT	BSL589	2024-10-28	2025-10-27

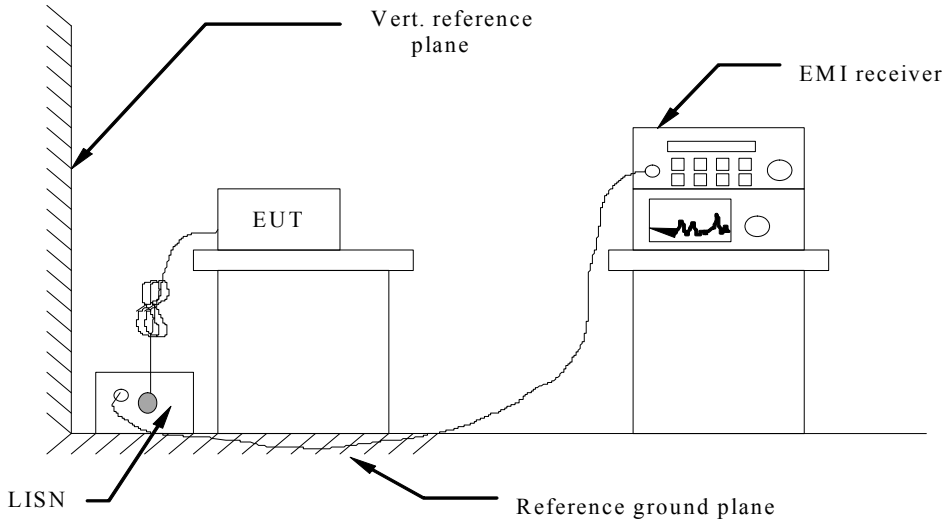
RF Conducted Test:					
Test Equipment	**Manufacturer**	**Model**	**Serial No.**	**Date of Cal.**	**Due Date**
MXA Signal Analyzer	Agilent	N9020A	BSL566	2024-10-27	2025-10-26
EMI Test Receiver	R&S	ESCI 7	BSL552	2024-10-27	2025-10-26
Spectrum Analyzer	Agilent	E4440A	BSL533	2024-10-27	2025-10-26
MXG vector Signal Generator	Agilent	N5182A	BSL567	2024-10-27	2025-10-26
ESG Analog Signal Generator	Agilent	E4428C	BSL568	2024-10-27	2025-10-26
USB RF Power Sensor	DARE	RPR3006W	BSL569	2024-10-27	2025-10-26
RF Switch Box	Shongyi	RFSW3003328	BSL571	2024-10-27	2025-10-26
Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	BSL572	2024-10-27	2025-10-26

Note: The Cal.Interval was one year.

4 TEST CONDITIONS AND RESULTS

4.1 AC Power Conducted Emission

TEST CONFIGURATION



TEST PROCEDURE

1 The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10-2013.
2 Support equipment, if needed, was placed as per ANSI C63.10-2013
3 All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10-2013
4 The EUT received DC 12V power from adapter, the adapter received AC120V/60Hz and AC 240V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5 All support equipments received AC power from a second LISN, if any.
6 The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT.The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7 Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
8 During the above scans, the emissions were maximized by cable manipulation.

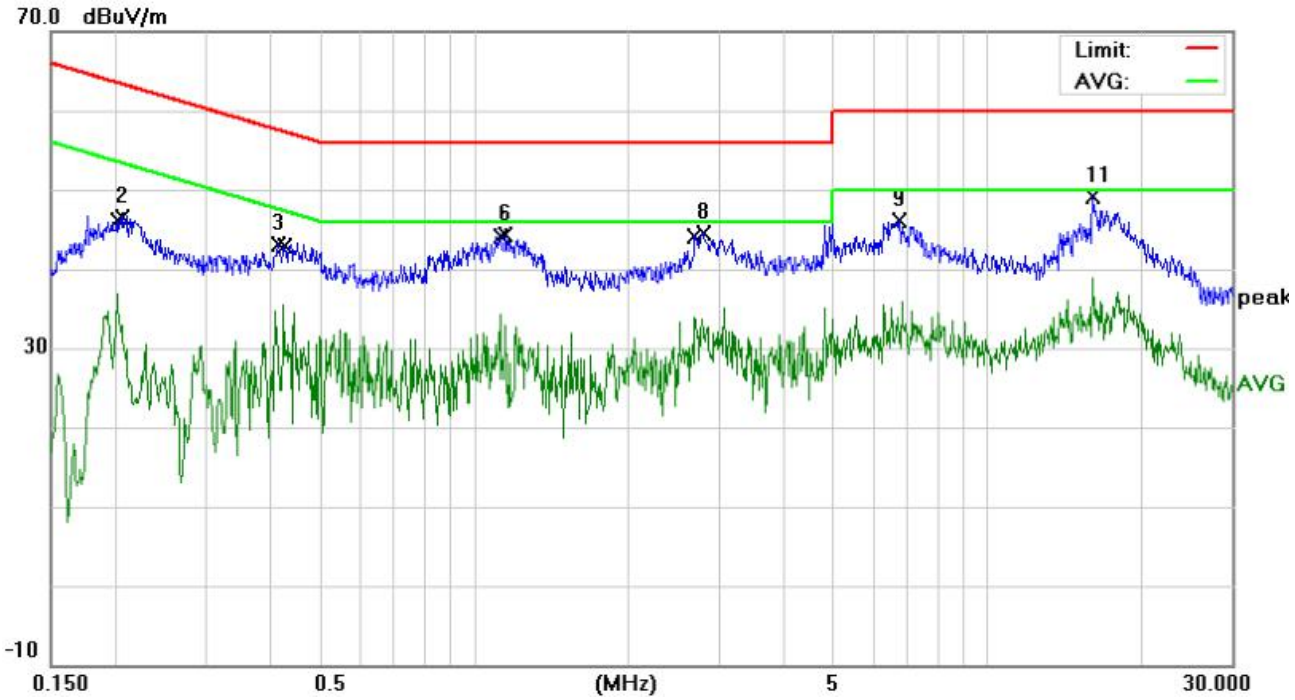
AC Power Conducted Emission Limit

For intentional device, according to § 15.207(a) AC Power Conducted Emission Limits is as following：

Frequency range (MHz)	Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50
* Decreases with the logarithm of the frequency.		

TEST RESULTS

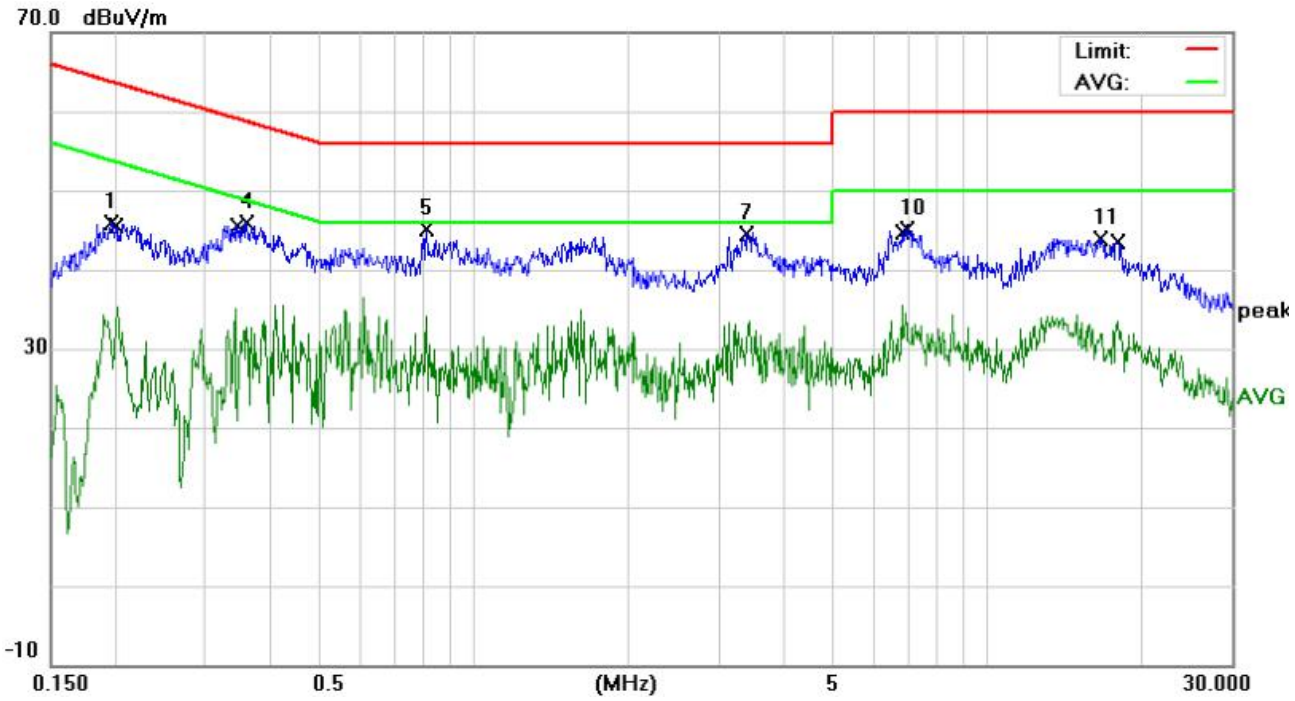
Power supply:	DC 5V	Polarization	L



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1		0.2017	27.06	9.84	36.90	53.54	-16.64	AVG
2		0.2061	36.76	9.84	46.60	63.36	-16.76	peak
3		0.4148	33.32	9.88	43.20	57.55	-14.35	peak
4		0.4259	25.67	9.88	35.55	47.33	-11.78	AVG
5		1.1229	24.49	9.90	34.39	46.00	-11.61	AVG
6		1.1532	34.40	9.90	44.30	56.00	-11.70	peak
7		2.6924	24.05	9.92	33.97	46.00	-12.03	AVG
8		2.7942	34.67	9.93	44.60	56.00	-11.40	peak
9		6.7332	36.26	9.94	46.20	60.00	-13.80	peak
10		6.8048	25.90	9.95	35.85	50.00	-14.15	AVG
11	*	16.0545	48.20	1.00	49.20	60.00	-10.80	peak
12		16.0545	37.88	1.00	38.88	50.00	-11.12	AVG

Note:1).Level (dBμV)= Reading (dBμV)+ Factor (dB)
2). Factor (dB)=insertion loss of LISN (dB) + Cable loss (dB)
3). Margin(dB) = Limit (dBμV) - Level (dBμV)

Power supply:	DC 5V	Polarization	N



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1		0.1965	36.16	9.84	46.00	63.75	-17.75	peak
2		0.2028	25.48	9.84	35.32	53.49	-18.17	AVG
3		0.3427	25.32	9.84	35.16	49.14	-13.98	AVG
4		0.3613	36.05	9.85	45.90	58.70	-12.80	peak
5	*	0.8084	35.21	9.89	45.10	56.00	-10.90	peak
6		0.8084	24.11	9.89	34.00	46.00	-12.00	AVG
7		3.3993	34.69	9.91	44.60	56.00	-11.40	peak
8		3.4355	23.58	9.91	33.49	46.00	-12.51	AVG
9		6.8048	25.50	9.95	35.45	50.00	-14.55	AVG
10		6.9508	35.25	9.95	45.20	60.00	-14.80	peak
11		16.6612	43.00	1.00	44.00	60.00	-16.00	peak
12		17.9436	32.45	1.00	33.45	50.00	-16.55	AVG

Note:1).Level (dBμV)= Reading (dBμV)+ Factor (dB)
2). Factor (dB)=insertion loss of LISN (dB) + Cable loss (dB)
3). Margin(dB) = Limit (dBμV) - Level (dBμV)

4.2 Radiated Emission

Limit

For intentional device, according to 15.209 the general requirement of field strength of radiated emission from intentional radiators at a distance of 3 meters shall not exceed the following table.

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009-0.49	2400/F(KHz)	300
0.49-1.705	24000/F(KHz)	30
1.705-30	30	30
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 and 110-490kHz. Radiated emission limits in these two bands are based on measurements employing an average detector.		
Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3
Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for above 1000MHz. Radiated emission limits above 1000MHz is based on measurements employing an average detector.		

According to FCC Part1 5.205, Restricted bands

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
10.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(2)
13.36-13.41			

Limits of radiated emission measurement(FCC 15.225)

(a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.

(b) Within the bands 13.410- 13.553 MHz and 13.567- 13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

(c) Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

(d) The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in S1 5.209.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1MHz / 1 MHz for Peak

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~1 50kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz/ RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

Test Procedure

a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz and above 1GHz,

b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m meter. The table was rotated 360 degrees to determine the position of the highest radiation.

c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to4 m.

d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.

e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.

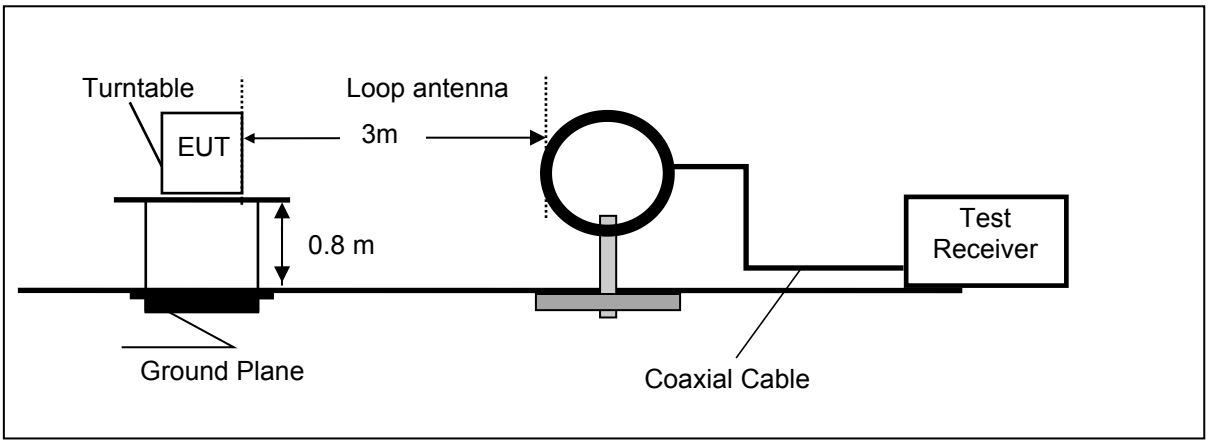
f. For the actual test configuration, please refer to the related Item - EUT Test Photos.

Note:

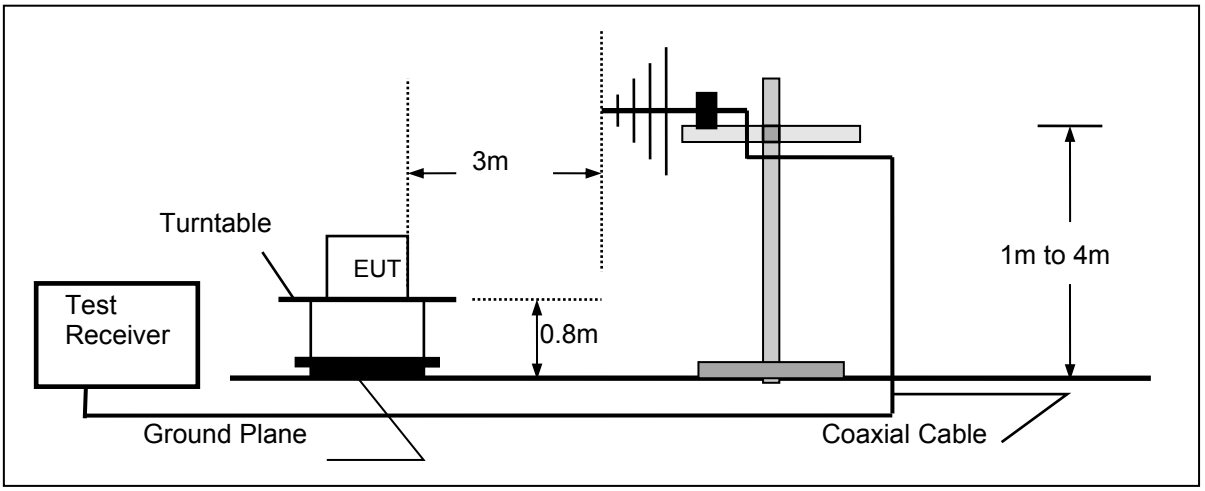
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. During the test, Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the X-axis is the worst case.The worst case emissions were reported.

Test Configuration

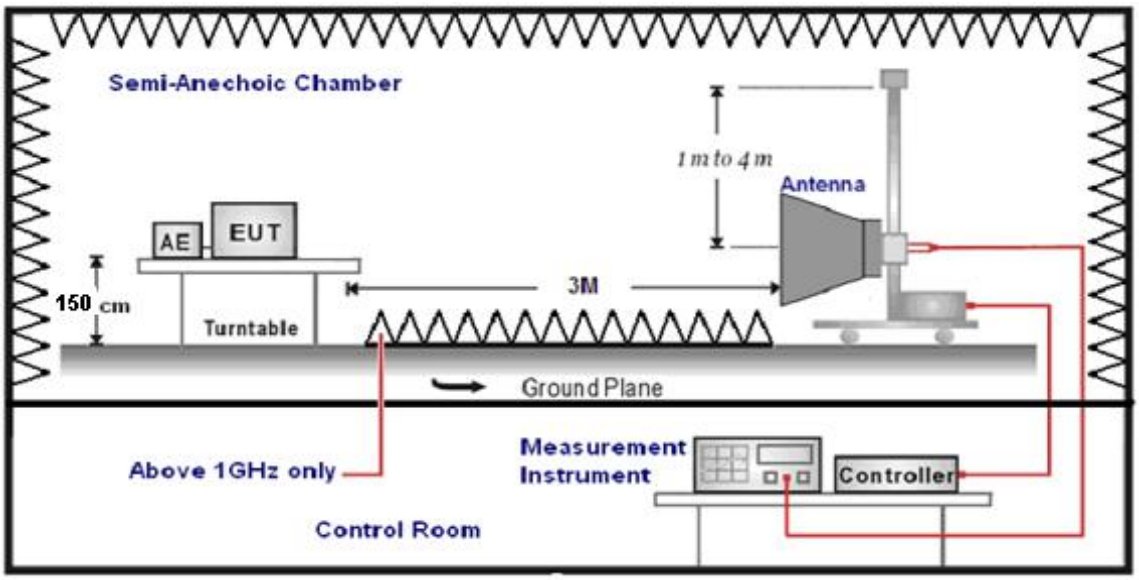
(A) Radiated Emission Test-Up Frequency Below 30MHz



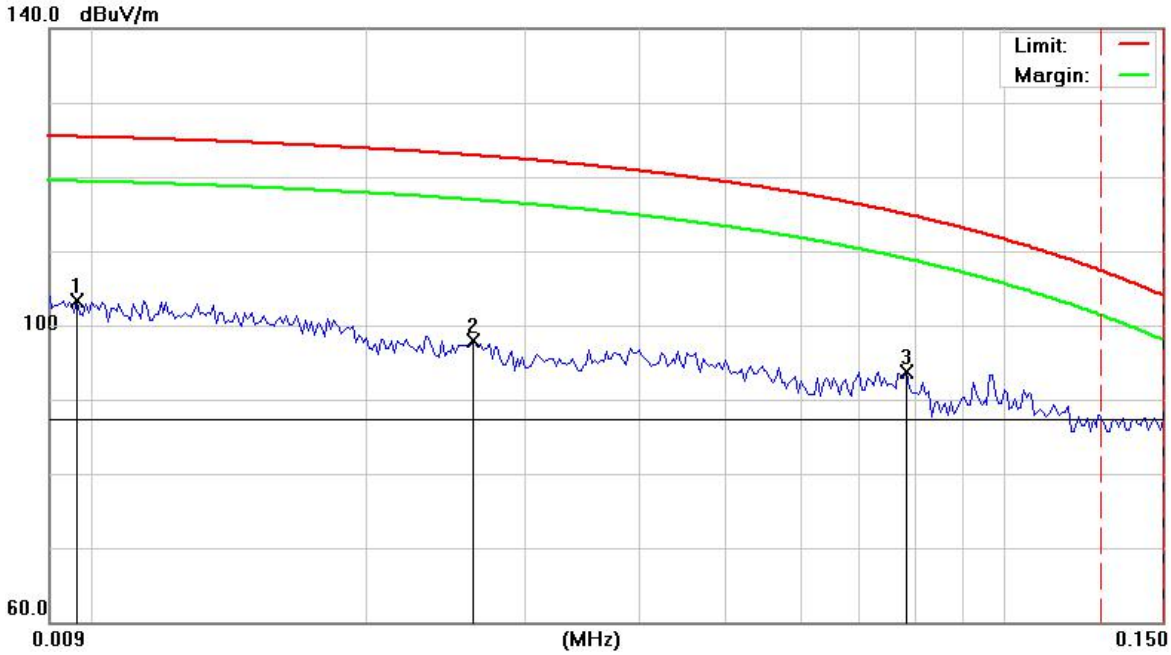
(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



Above 1GHz

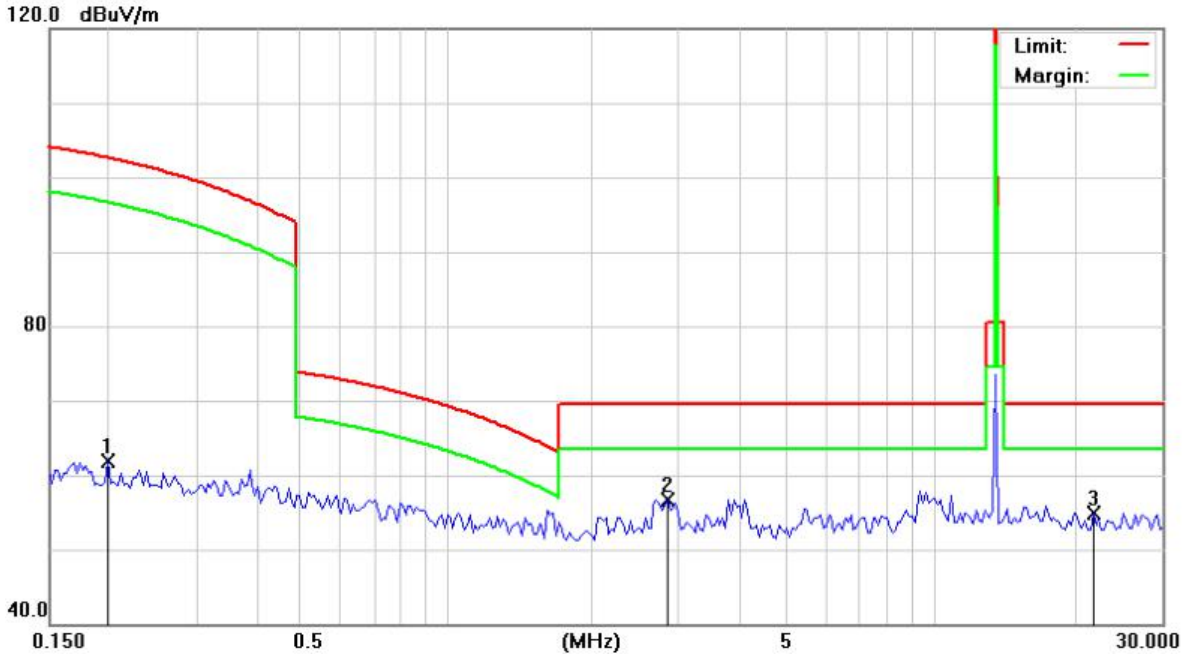


Spurious Emission below 150kHz (9KHz to 150kHz H-field)

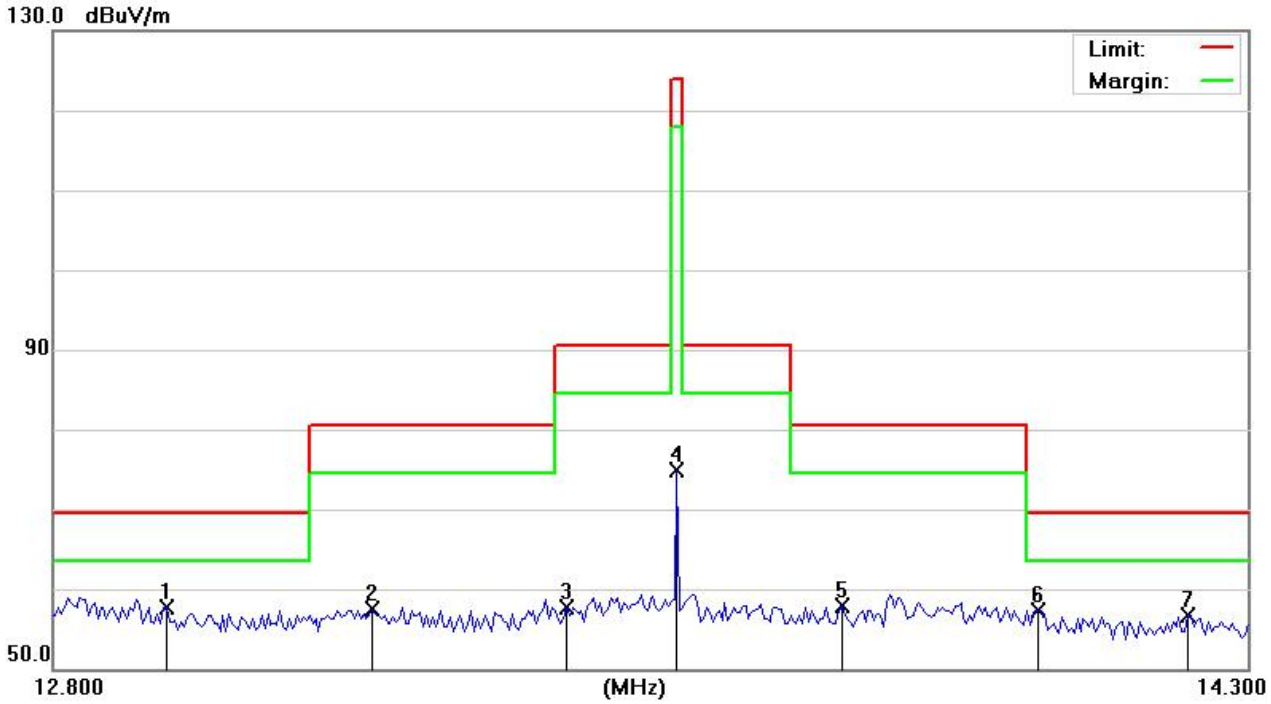


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		0.0097	92.67	10.63	103.30	125.4	-22.11	peak
2		0.0262	89.37	8.63	98.00	122.9	-24.90	peak
3	*	0.0785	88.57	5.03	93.60	114.9	-21.35	peak

Spurious Emission below 30MHz (150KHz to 30MHz)

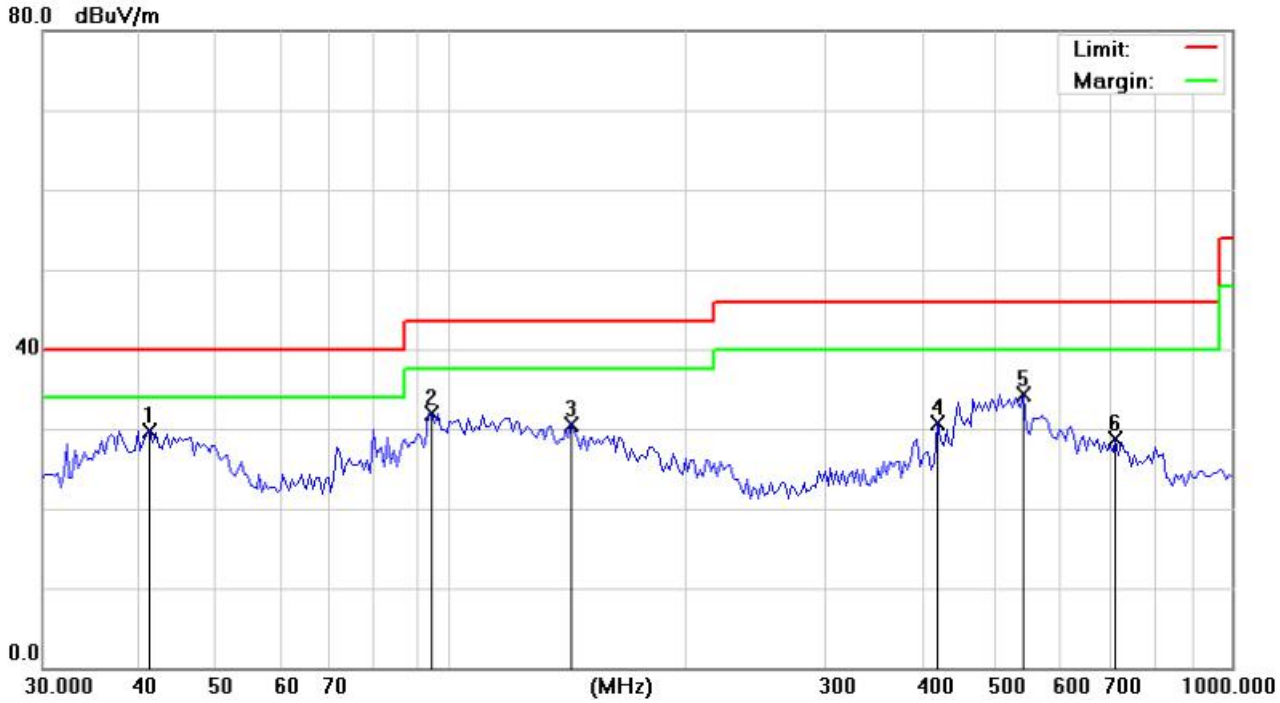


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		0.1981	57.20	4.70	61.90	102.6	-40.72	peak
2	*	2.8389	52.07	4.73	56.80	69.54	-12.74	peak
3		21.5430	50.09	4.91	55.00	69.54	-14.54	peak

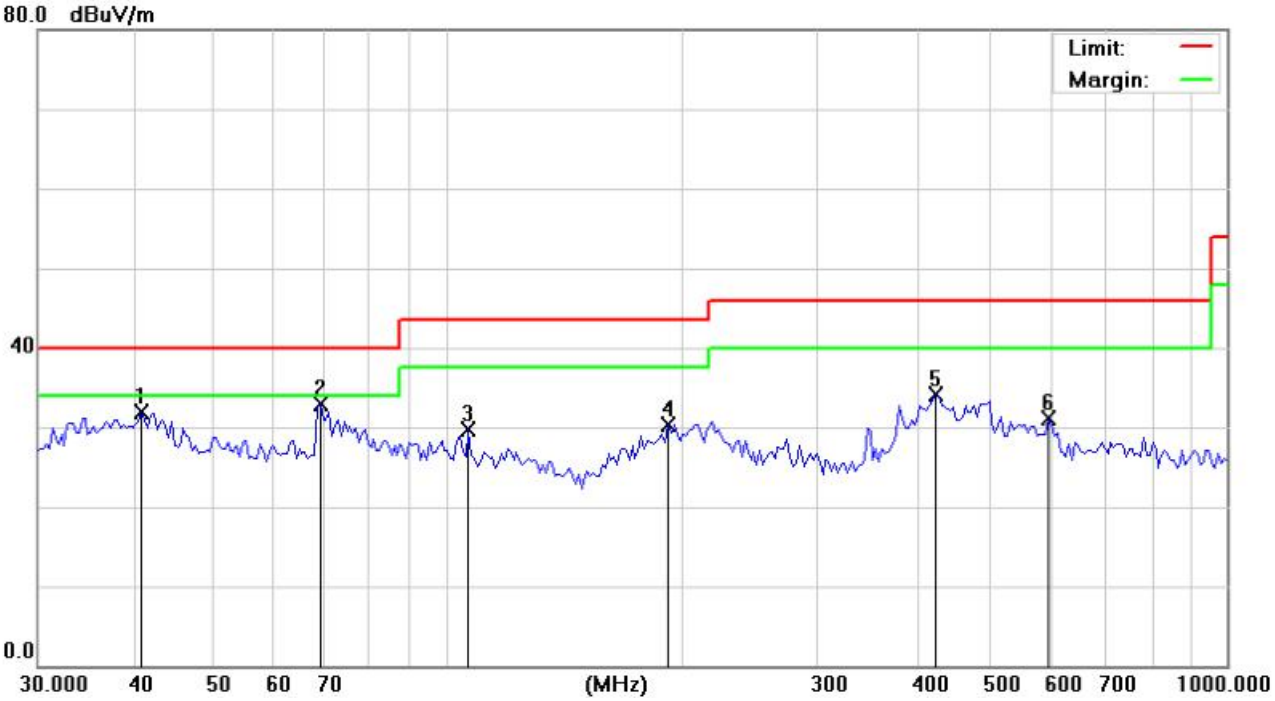


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1	*	12.9354	52.87	4.83	57.70	69.54	-11.84	peak
2		13.1851	52.67	4.83	57.50	80.50	-23.00	peak
3		13.4246	52.77	4.83	57.60	90.50	-32.90	peak
4		13.5600	70.00	4.83	74.83	124.0	-49.17	peak
5		13.7712	53.06	4.84	57.90	80.50	-22.60	peak
6		14.0254	52.56	4.84	57.40	69.54	-12.14	peak
7		14.2210	51.86	4.84	56.70	69.54	-12.84	peak

Spurious Emission above 30MHz (30MHz~1GHz)



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1	*	41.1319	19.98	9.82	29.80	40.00	-10.20	peak
2		94.5939	20.74	11.26	32.00	43.50	-11.50	peak
3		142.8240	20.26	10.34	30.60	43.50	-12.90	peak
4		419.8435	10.10	20.70	30.80	46.00	-15.20	peak
5		541.3721	11.41	22.89	34.30	46.00	-11.70	peak
6		710.4266	3.03	25.67	28.70	46.00	-17.30	peak



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		40.7730	22.12	9.88	32.00	40.00	-8.00	peak
2	*	68.9929	25.97	7.03	33.00	40.00	-7.00	peak
3		106.9461	18.03	11.67	29.70	43.50	-13.80	peak
4		192.4182	17.69	12.61	30.30	43.50	-13.20	peak
5		423.5403	13.32	20.78	34.10	46.00	-11.90	peak
6		590.9737	7.11	23.99	31.10	46.00	-14.90	peak

4.3 Frequency Tolerance

Standard Applicable

According to 15 .225(e), the frequency tolerance of the carrier signal shall be maintained within ±0.01% of the operating frequency over a temperature variation of −20 degrees to + 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

Test Procedure

The setup of EUT is according with per ANSI C63. 10-2020 measurement procedure.

Test Result

Temperature vs. Frequency Stability

Temperature (°C)	Power(V DC)	Measurement Frequency (MHz)	Frequency Error (%)	Limit (%)
-20	3.8	13.560362	0.000362	±0.01
-10		13.560148	0.000148	±0.01
0		13.560214	0.000214	±0.01
10		13.560142	0.000142	±0.01
20		13.560241	0.000241	±0.01
30		13.560251	0.000251	±0.01
40		13.560011	0.000011	±0.01
50		13.560484	0.000484	±0.01
20	3.5Vdc	13.560024	0.000024	±0.01
20	4.35Vdc	13.560014	0.000014	±0.01

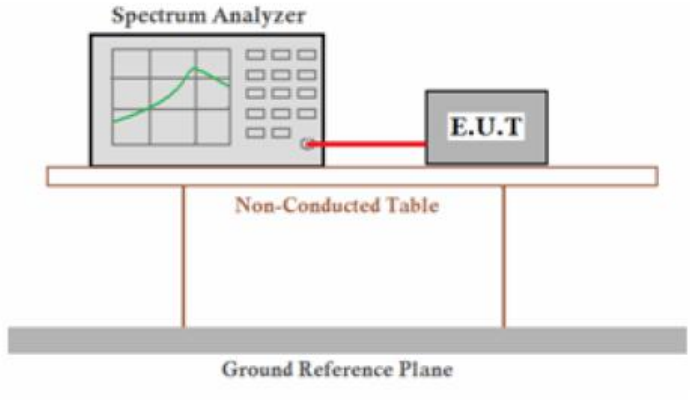
4.4 20dB Bandwidth

Limit

According to FCC Part15 C Section part 15.215(c):

Per 15.215 (C), Intentional radiators operating under the altermative provisions to the general emission limits, as contained in 815.217 through 15.257 and in subpart E of this part, must bc designed to cnsure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is opcrated. In the case of intentional radiators operating under the provisions of subpart E, the emission bandwidth may span across multiple contiguous frequency bands identified in that subpart. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

Test Configuration



Test Procedure

The 20dB bandwidth and 99% bandwidth is measured with a spectrum analyzer connected via a receive antenna placed near the EUT while the EUT is operating in transmission mode.

The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

The occupied bandwidth (OBW), that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission.

According to the ANSI 63. 10-2013, the emission bandwidth test method as follows.

Set span = 10kHz, centered on a transmitting channel

RBW≥1 % 20dB Bandwidth, VBW≥RBW

Sweep = auto

Detector function = peak

Trace = max hold

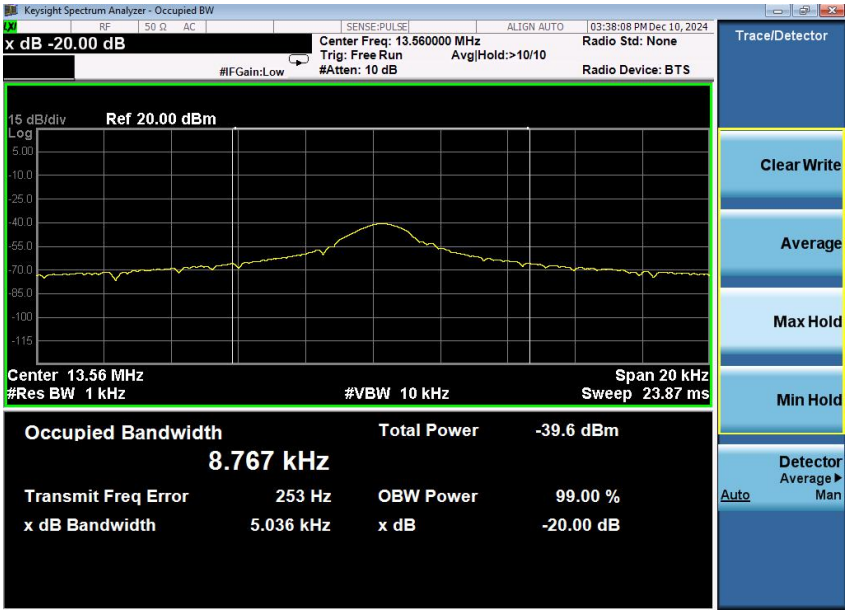
All the trace to stabilize, use the marker-to-peak function to set the marker to the peak of the emission, use the marker-delta function to measure and record the 20dB down of the emission.

Test Results

Mode	Frequency (MHz)	-20dB bandwidth (KHz)	Limit (kHz)	Result
ASK	13.56	5.036	N/A	Pass

Test plot as follows:

13.56MHz



4.5 Antenna Requirement

Standard Applicable

According to FCC Part 15C 15.203

An intentional radiator shall be de-signed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Refer to statement below for compliance.

The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

Antenna Connected Construction

The antenna used in this product is a coil Antenna, The directional gains of antenna used for transmitting is 0 dBi.

Remark:The antenna gain is provided by the customer , if the data provided by the customer is not accurate, BSL Testing Co., Ltd. does not assume any responsibility.

5 Test Setup Photos of the EUT

Reference to the appendix I for details.

6 Photos of the EUT

Reference to the appendix II for details.

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