FCC TEST REPORT

Report No.: STS2202062W02

Issued for

guangzhoushiweixiaoshahuwaiyongpingyouxiangongsi

tongdejiexichalu465haoBdong109guangzhoushibaiyunqu
guangdongsheng510000
CN

Product Name:	3 in 1 Charging Station
Brand Name:	N/A
Model Name:	CS-13BLACK
Series Model:	N/A
FCC ID:	2A4LF-SMILING-ST188
Test Standard:	FCC Part 15 Subpart C

Shenzhen STS Test Services Co., Ltd.
A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ,
Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China
TEL: +86-755 3688 6288 FAX: +86-755 3688 6277 E-mail:sts@stsapp.com

TEST RESULT CERTIFICATION

Applicant's Name ..... : guangzhoushiweixiaoshahuwaiyongpingyouxiangongsi

Address ..... : tongdejiexichalu465haoBdong109guangzhoushibaiyunquguangdong sheng510000CN

Manufacturer's Name ..... : guangzhoushiweixiaoshahuwaiyongpingyouxiangongsi

Address ..... : tongdejiexichalu465haoBdong109guangzhoushibaiyunquguangdong sheng510000CN

Product Description

Product Name ..... : 3 in 1 Charging Station

Brand Name ..... : N/A

Model Name ..... : CS-13BLACK

Series Model ..... : N/A

Test Standards ..... : FCC Part 15 Subpart C

Test Procedure ..... : ANSI C63.10-2013

This device described above has been tested by STS, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.
This report shall not be reproduced except in full, without the written approval of STS, this document only be altered or revised by STS, personal only, and shall be noted in the revision of the document.

Date of Test .....:

Date of receipt of test item ..... : 17 Feb. 2022

Date (s) of performance of tests .: 17 Feb. 2022 ~ 22 Apr. 2022

Date of Issue ..... : 22 Apr. 2022

Test Result ..... : **Pass**

Testing Engineer : Chris Chen

(Chris Chen)

Technical Manager : Sean She

(Sean She)

Authorized Signatory : Bovey Yang

(Bovey Yang)

TESTING • CONSULTING • SOLUTION • CERTIFICATION
APPROVAL

Table of Contents **Page**

Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	22 Apr. 2022	STS2202062W02	ALL	Initial Issue

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 , Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.209(a)	Radiated emission, Spurious Emission	PASS	
15.215	20 dB Bandwidth	PASS	
15.203	Antenna Requirement	PASS	

1.1 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD
Add. : A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China
FCC test Firm Registration Number: 625569
IC test Firm Registration Number: 12108A
A2LA Certificate No.: 4338.01

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement **y** ±**U**, where expended uncertainty **U** is based on a standard uncertainty multiplied by a coverage factor of **k=2**, providing a level of confidence of approximately **95** %.

No.	Item	Uncertainty
1	RF output power, conducted	±0.87dB
2	Unwanted Emissions, conducted	±2.895dB
3	All emissions, radiated 9K-30MHz	±3.80dB
4	All emissions, radiated 30M-1GHz	±4.09dB
5	All emissions, radiated 1G-6GHz	±4.92dB
6	All emissions, radiated>6G	±5.49dB
7	Conducted Emission (9KHz-30MHz)	±2.73dB

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name	3 in 1 Charging Station
Trade Name	N/A
Model Name	CS-13BLACK
Series Model	N/A
Model Difference	N/A
Channel List	Please refer to the Note 2.
Antenna Type	Please refer to the Note 3.
Equipemnt Category	Non-ISM frequency
Operating frequency	110.5KHz-205KHz
Modulation Type	Load modulation
Power Rating:	Input: DC 9V/2A Wireless Output: DC 5V/2A(phone), DC 5V/500mA(watch) USB Output: DC 5V/500mA(earphone)
Hardware version number	V01
Software version number	V01
Connecting I/O Port(s)	Please refer to the Note 1.

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User Manual.
2.

Channel List					
Channel	Frequency (KHz)	Channel	Frequency (KHz)	Channel	Frequency (KHz)
00	145				

3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Antenna Gain	Connector	NOTE
0	N/A	CS-13BLACK	Coil	0dBi	N/A	Antenna

2.2 DESCRIPTION OF THE TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	EUT Charing
Mode 2	EUT Charing+USB Output for Earphone (Not belong to WPT Mode)
Mode 3	EUT Charing+Phone WPT Mode
Mode 4	EUT Charing+Wacth WPT Mode
Mode 5	EUT Charing+Phone WPT Mode+Wacth WPT Mode
Mode 6	EUT Charing+Phone WPT Mode +USB Output for Earphone (Not belong to WPT Mode)
Mode 7	EUT Charing+ Wacth WPT Mode +USB Output for Earphone (Not belong to WPT Mode)
Mode 8	EUT Charing+Phone WPT Mode+Wacth WPT Mode+USB Output for Earphone(Not belong to WPT Mode)

For Conducted Emission	
Final Test Mode	Description
Mode 8	EUT Charing+Phone WPT Mode+Wacth WPT Mode+USB Output for Earphone(Not belong to WPT Mode)

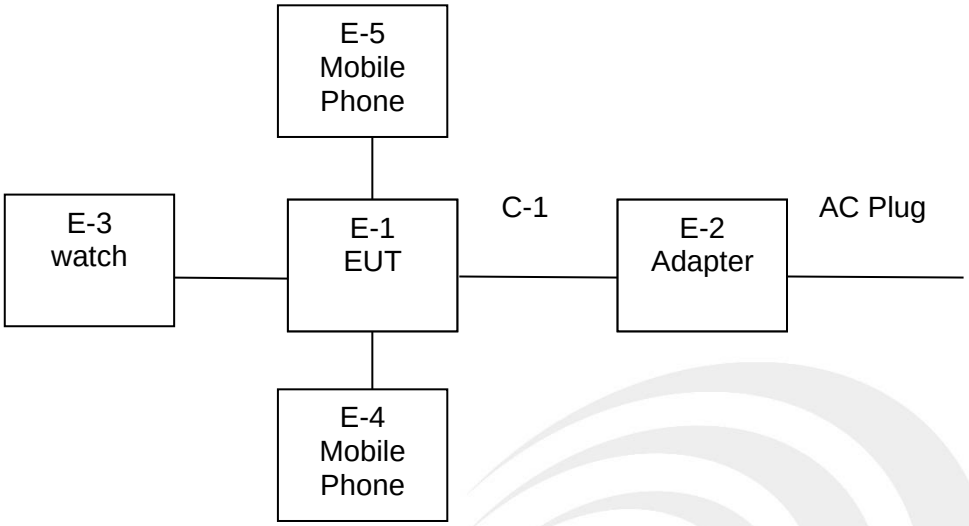
For Radiated Emission	
Final Test Mode	Description
Mode 8	EUT Charing+Phone WPT Mode+Wacth WPT Mode+USB Output for Earphone(Not belong to WPT Mode)

Note: All mode has been tested, only shown the worst case in this report.

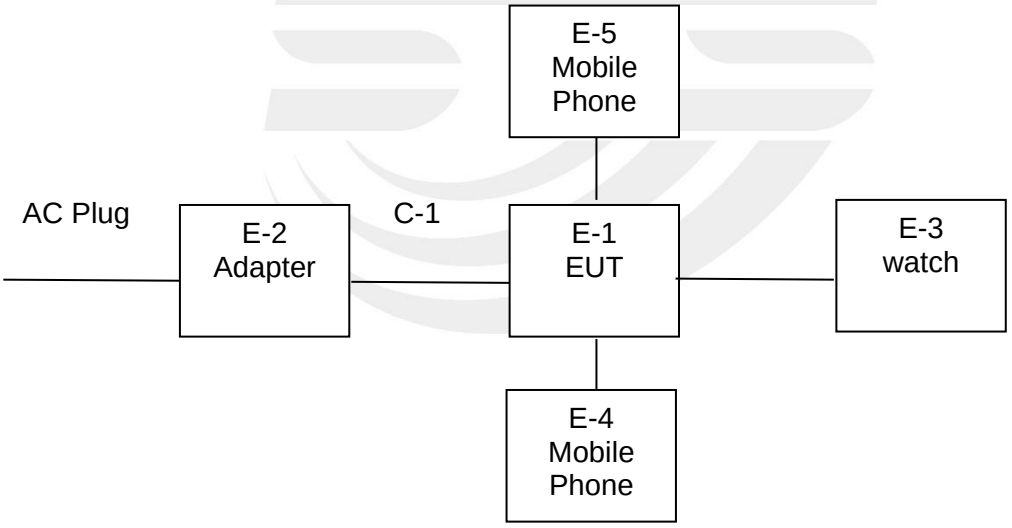
2.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters

Radiated Emission Test



Conducted EmissionTest



2.4 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Necessary accessories

Item	Equipment	Mfr/Brand	Model/Type No.	Length	Note
C-1	DC Cable	N/A	N/A	100cm	NO

Support units

Item	Equipment	Mfr/Brand	Model/Type No.	Length	Note
E-2	Adapter	HUAWEI	HW-050450 C00	N/A	N/A
E-4	Mobile Phone	Iphone	Iphone 8	N/A	N/A
E-5	Mobile Phone	Iphone	Iphone 12 mini	N/A	N/A
E-3	Wacth	N/A	N/A	N/A	N/A

Note:

(1) For detachable type I/O cable should be specified the length in cm in『Length』column.

(2) “YES” is means “with core”; “NO” is means “without core”.

2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Test Receiver	R&S	ESCI	101427	2021.09.30	2022.09.29
Signal Analyzer	R&S	FSV 40-N	101823	2021.09.30	2022.09.29
Active loop Antenna	ZHINAN	ZN30900C	16035	2021.04.11	2023.04.10
Bilog Antenna	TESEQ	CBL6111D	34678	2020.10.12	2022.10.11
Pre-Amplifier (0.1M-3GHz)	EM	EM330	060665	2021.10.08	2022.10.07
Temperature & Humidity	HH660	Mieo	N/A	2021.10.09	2022.10.08
Test SW	BALUN	BL410-E/18.905			

Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Test Receiver	R&S	ESCI	101427	2021.09.30	2022.09.29
LISN	R&S	ENV216	101242	2021.09.30	2022.09.29
LISN	EMCO	3810/2NM	23625	2021.09.30	2022.09.29
Temperature & Humidity	HH660	Mieo	N/A	2021.10.09	2022.10.08
Test SW	FARAD	EZ-EMC(Ver.STSLAB-03A1 CE)			

3. CONDUCTED EMISSION TEST RESULT (SECTION 15.207)

3.1 POWER LINE CONDUCTED EMISSION LIMITS

The radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table.

FREQUENCY (MHz)	Class B (dBuV)	
	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of "*" marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

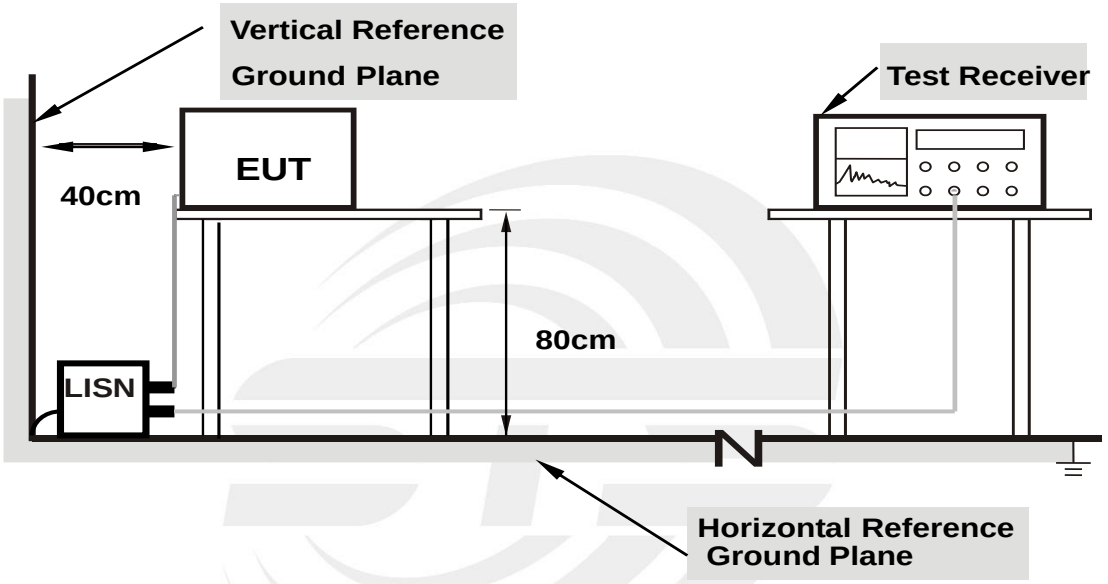
The following table is the setting of the receiver

Receiver Parameters	**Setting**
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.2 TEST PROCEDURE

a. The EUT is 0.8 m from the horizontal ground plane and 0.4 m from the vertical ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments are powered from additional LISN(s). The LISN provides 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN is at least 80 cm from the nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.3 TEST SETUP



Note: 1. Support units were connected to second LISN.

2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes support units.

3.4 EUT OPERATING CONDITIONS

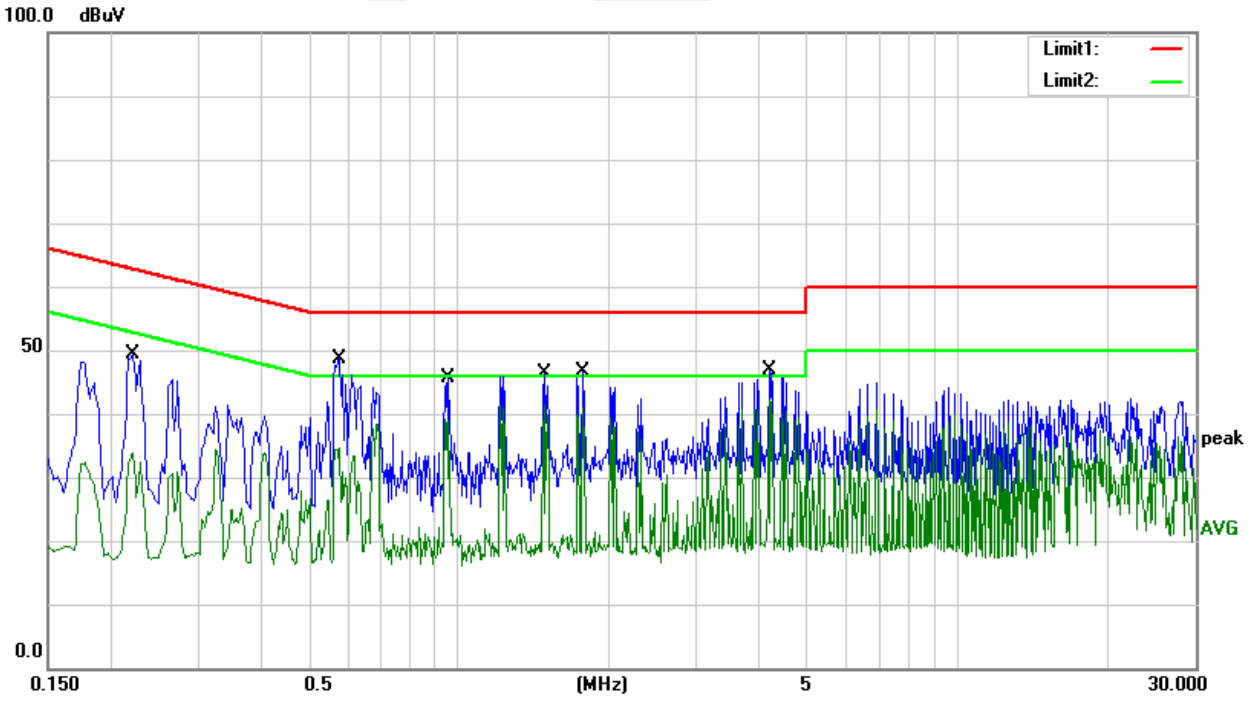
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

3.5 TEST RESULTS

Temperature:	23.2℃	Relative Humidity:	44%
Test Voltage:	AC 120V/60Hz	Phase:	L
Test Mode:	Mode 8		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.2220	28.76	20.49	49.25	62.74	-13.49	QP
2	0.2220	13.31	20.49	33.80	52.74	-18.94	AVG
3	0.5780	28.22	20.44	48.66	56.00	-7.34	QP
4	0.5780	18.03	20.44	38.47	46.00	-7.53	AVG
5	0.9540	25.23	20.31	45.54	56.00	-10.46	QP
6	0.9540	20.94	20.31	41.25	46.00	-4.75	AVG
7	1.4820	26.01	20.34	46.35	56.00	-9.65	QP
8	1.4820	21.09	20.34	41.43	46.00	-4.57	AVG
9	1.7780	26.25	20.37	46.62	56.00	-9.38	QP
10	1.7780	20.62	20.37	40.99	46.00	-5.01	AVG
11	4.1860	26.46	20.52	46.98	56.00	-9.02	QP
12	4.1860	21.50	20.52	42.02	46.00	-3.98	AVG

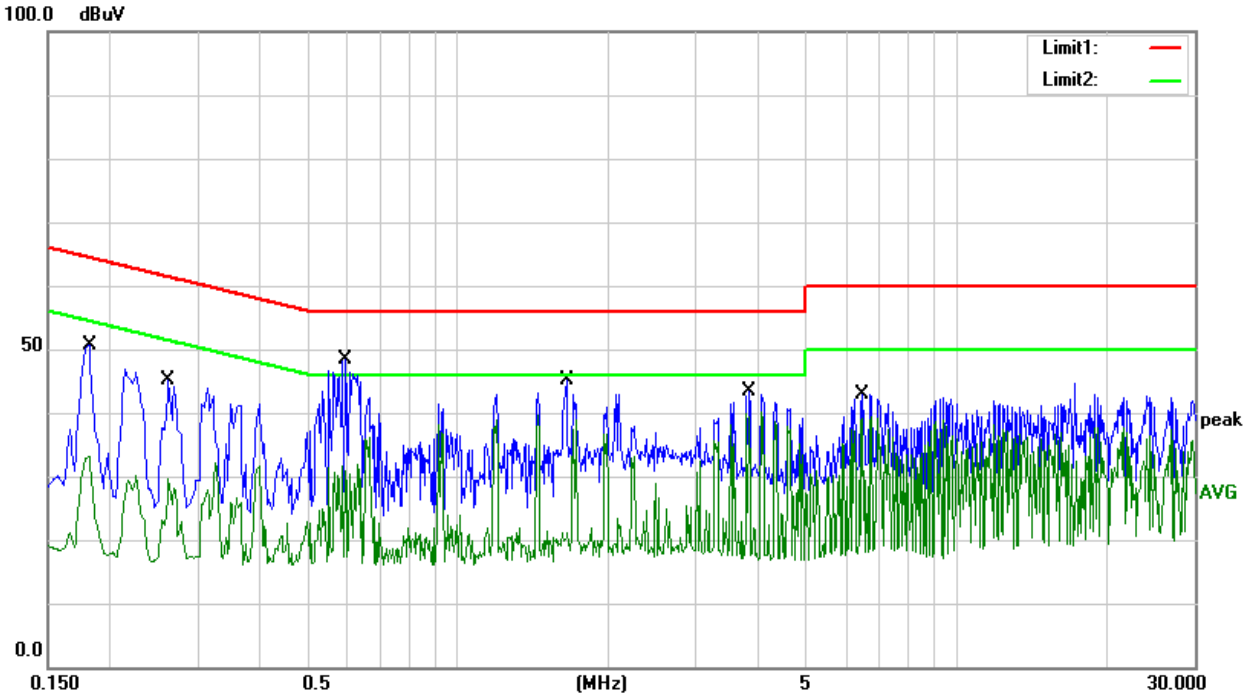
Remark:
1. All readings are Quasi-Peak and Average values
2. Margin = Result (Result =Reading + Factor)–Limit
3. Factor=LISN factor+Cable loss+Limiter (10dB)



Temperature:	23.2℃	Relative Humidity:	44%
Test Voltage:	AC 120V/60Hz	Phase:	N
Test Mode:	Mode 8		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.1820	30.34	20.36	50.70	64.39	-13.69	QP
2	0.1820	12.77	20.36	33.13	54.39	-21.26	AVG
3	0.2620	24.47	20.64	45.11	61.37	-16.26	QP
4	0.2620	11.60	20.64	32.24	51.37	-19.13	AVG
5	0.5940	28.00	20.43	48.43	56.00	-7.57	QP
6	0.5940	15.64	20.43	36.07	46.00	-9.93	AVG
7	1.6500	24.88	20.36	45.24	56.00	-10.76	QP
8	1.6500	19.23	20.36	39.59	46.00	-6.41	AVG
9	3.8380	22.94	20.51	43.45	56.00	-12.55	QP
10	3.8380	19.59	20.51	40.10	46.00	-5.90	AVG
11	6.4820	22.42	20.56	42.98	60.00	-17.02	QP
12	6.4820	18.94	20.56	39.50	50.00	-10.50	AVG

Remark:
1. All readings are Quasi-Peak and Average values
2. Margin = Result (Result =Reading + Factor)–Limit
3. Factor=LISN factor+Cable loss+Limiter (10dB)



4. RADIATED& FIELD EMISSION TEST RESULT (SECTIOU 15.209)

4.1 LIMIT

Frequency [MHz]	Field Strength [uV/m]	Measurement Distance [Meters]
0.009 ~ 0.490	2400/F (kHz)	300
0.490 ~ 1.705	24000/F (kHz)	30
1.705 ~ 30	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Note:

(1) The limit for radiated test was performed according to FCC PART 15C.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~90kHz / RB 200Hz for AV
Start ~ Stop Frequency	90kHz~110kHz / RB 200Hz for QP
Start ~ Stop Frequency	110kHz~490kHz / RB 200Hz for AV
Start ~ Stop Frequency	490kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

§ 15.209(d)The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

4.2 TEST PROCEDURE

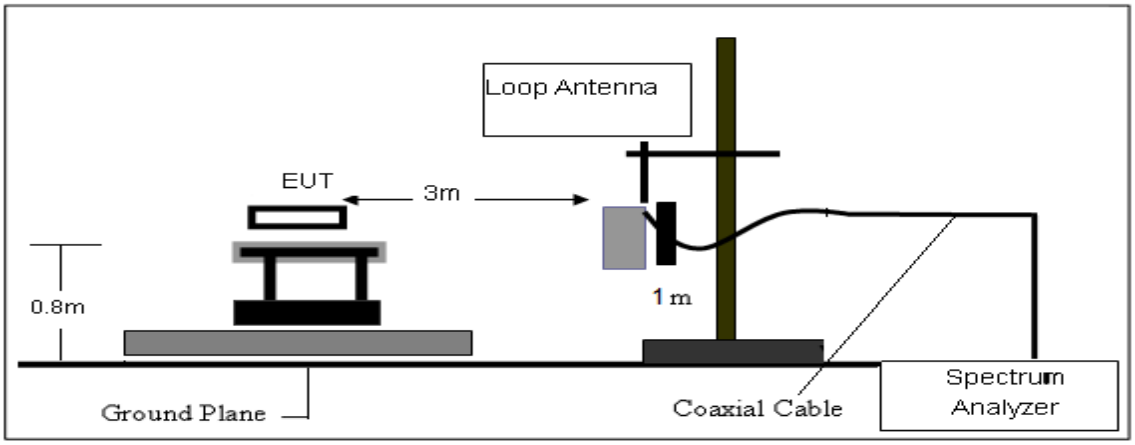
a. The measuring distance of at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz.
b. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
c. 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.
d. 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.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

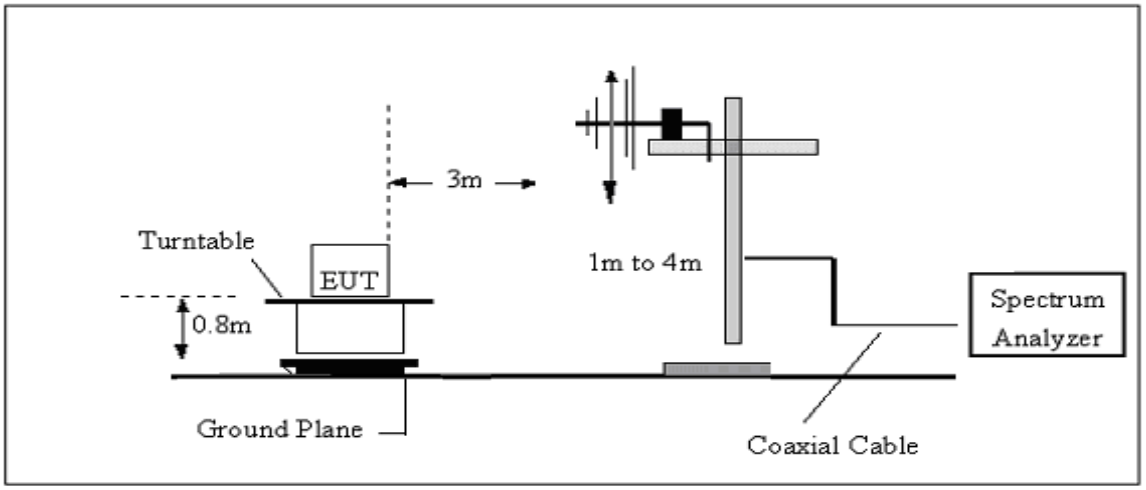
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

4.3 TEST SETUP

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



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

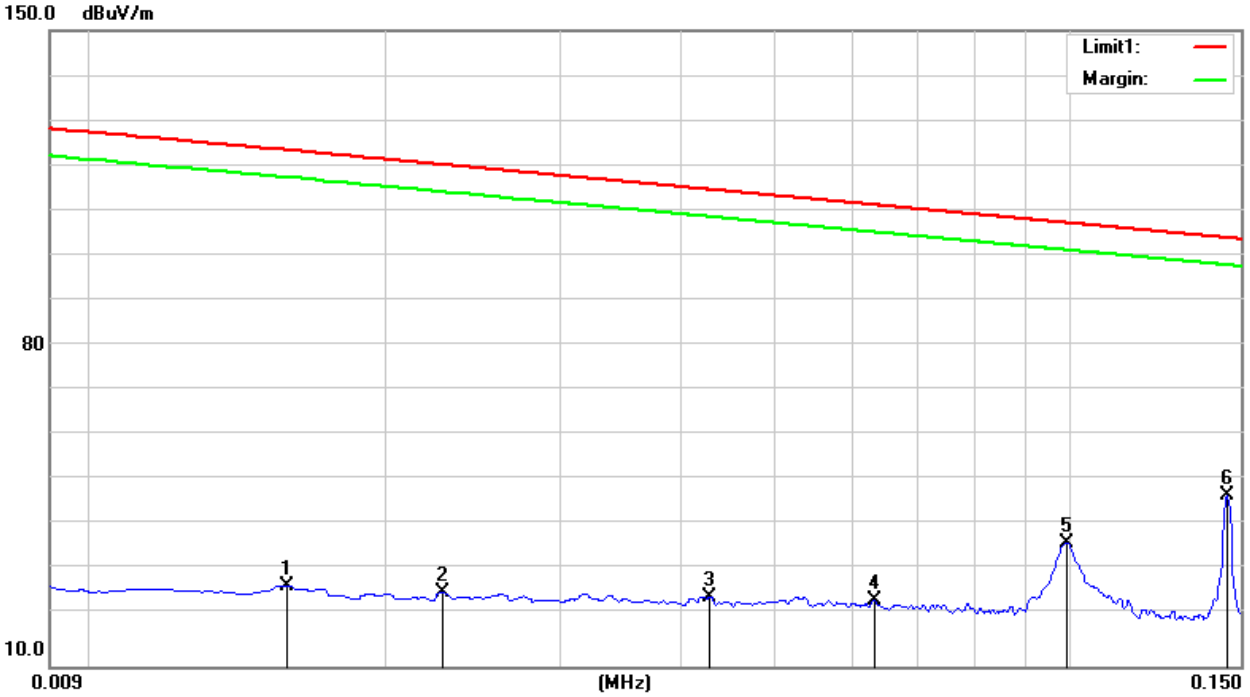


4.4 TEST RESULTS

4.4.1 Spurious Radiated Emission Below 30 MHz

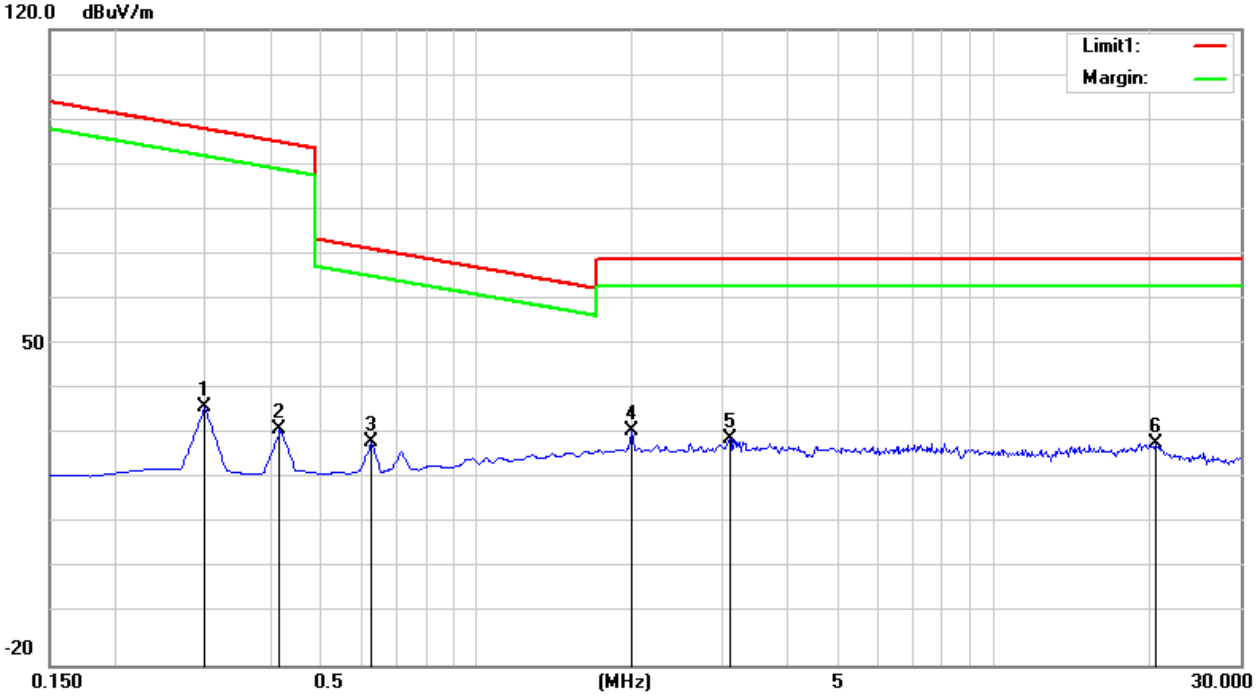
Temperature：	23.1℃	Relative Humidity：	60%
Test Voltage ：	AC 120V/60Hz	Test Mode ：	Mode 8
ANT Positon:	Coaxial		

9KHz-150KHz



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.0157	7.96	19.79	27.75	123.69	-95.94	peak
2	0.0228	6.13	20.04	26.17	120.45	-94.28	peak
3	0.0428	5.64	19.64	25.28	114.98	-89.70	peak
4	0.0631	5.51	19.13	24.64	111.60	-86.96	peak
5	0.0995	19.59	17.62	37.21	107.65	-70.44	peak
6	0.1451	30.16	17.51	47.67	104.37	-56.70	peak

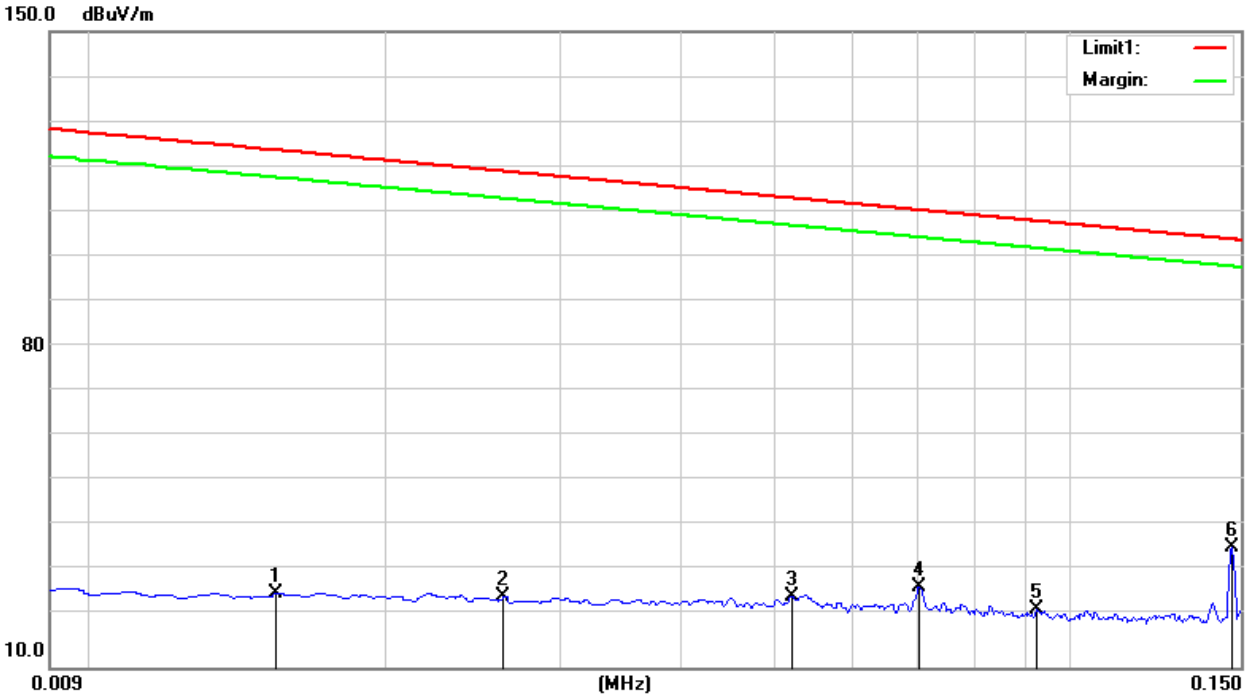
150KHz-30MHz



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.2993	16.68	20.12	36.80	98.08	-61.28	peak
2	0.4187	11.71	20.17	31.88	95.17	-63.29	peak
3	0.6276	8.76	20.25	29.01	71.65	-42.64	peak
4	2.0007	11.18	20.40	31.58	69.50	-37.92	peak
5	3.1052	9.74	20.13	29.87	69.50	-39.63	peak
6	20.5375	6.45	22.30	28.75	69.50	-40.75	peak

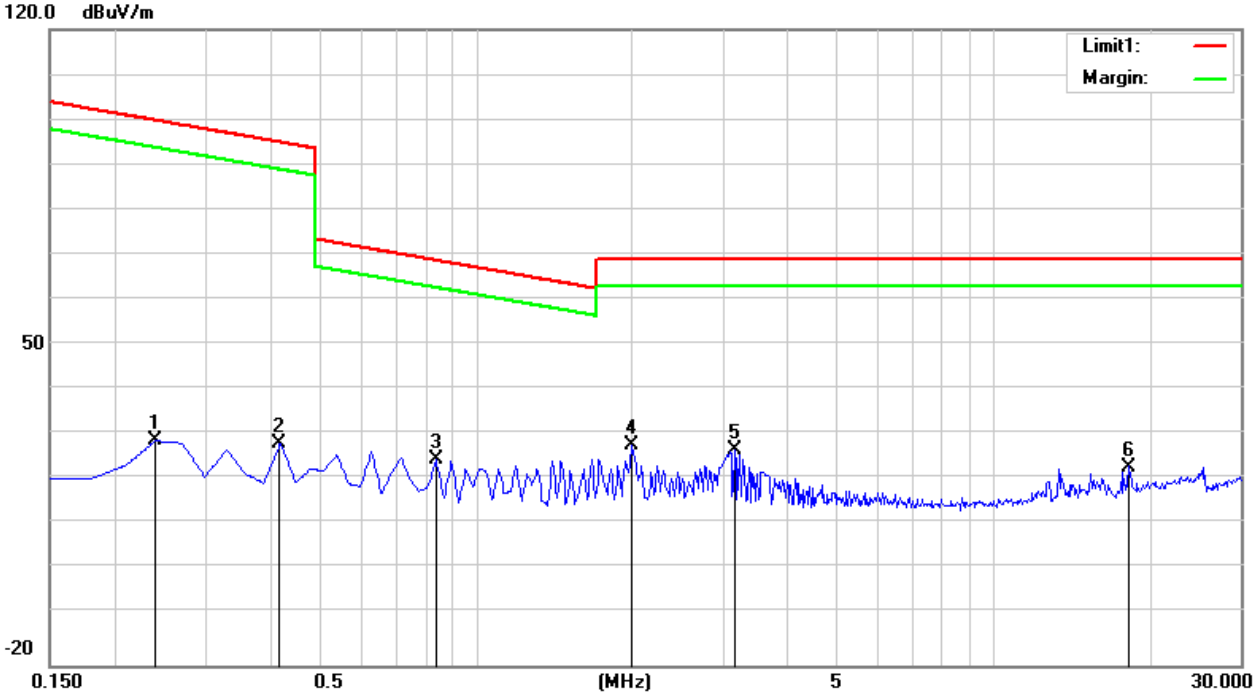
Temperature：	23.1℃	Relative Humidity：	60%
Test Voltage ：	AC 120V/60Hz	Test Mode ：	Mode 8
ANT Positon:	Coplanar		

9KHz-150KHz



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	0.0154	6.55	19.77	26.32	123.85	-97.53	peak
2	0.0263	5.56	19.97	25.53	119.21	-93.68	peak
3	0.0518	6.15	19.45	25.60	113.32	-87.72	peak
4	0.0702	8.79	18.93	27.72	110.68	-82.96	peak
5	0.0928	4.89	17.95	22.84	108.25	-85.41	peak
6	0.1470	19.01	17.51	36.52	104.26	-67.74	peak

150KHz-30MHz



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.2396	9.65	19.83	29.48	100.01	-70.53	peak
2	0.4187	8.78	20.17	28.95	95.17	-66.22	peak
3	0.8366	5.21	20.27	25.48	69.15	-43.67	peak
4	2.0007	8.07	20.40	28.47	69.50	-41.03	peak
5	3.1648	7.22	20.15	27.37	69.50	-42.13	peak
6	18.2391	1.67	22.08	23.75	69.50	-45.75	peak

4.4.2 Spurious Radiated Emission below 1 GHz

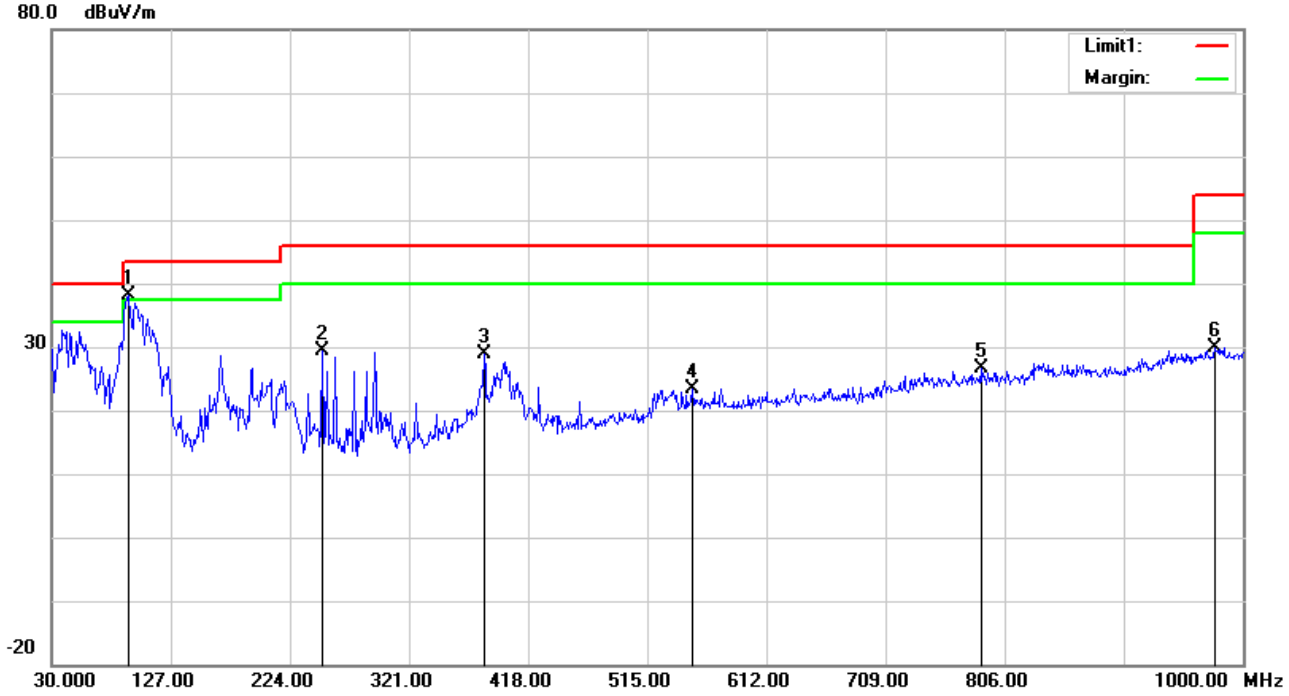
Temperature：	23.1 ℃	Relative Humidity：	60%
Test Voltage ：	AC 120V/60Hz	Test Mode ：	Mode 8

The following table shows the highest levels of radiated emissions on polarizations of vertical

Frequency	Reading	Correct	Result	Limit	Margin	Remark
(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
92.0800	59.33	-21.20	38.13	43.50	-5.37	QP
250.1900	45.45	-16.10	29.35	46.00	-16.65	QP
382.1100	41.10	-12.13	28.97	46.00	-17.03	QP
551.8600	29.17	-5.72	23.45	46.00	-22.55	QP
786.6000	28.60	-2.05	26.55	46.00	-19.45	QP
976.7200	27.47	2.45	29.92	54.00	-24.08	QP

Remark:

1. Margin = Result (Result =Reading + Factor)–Limit
2. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain



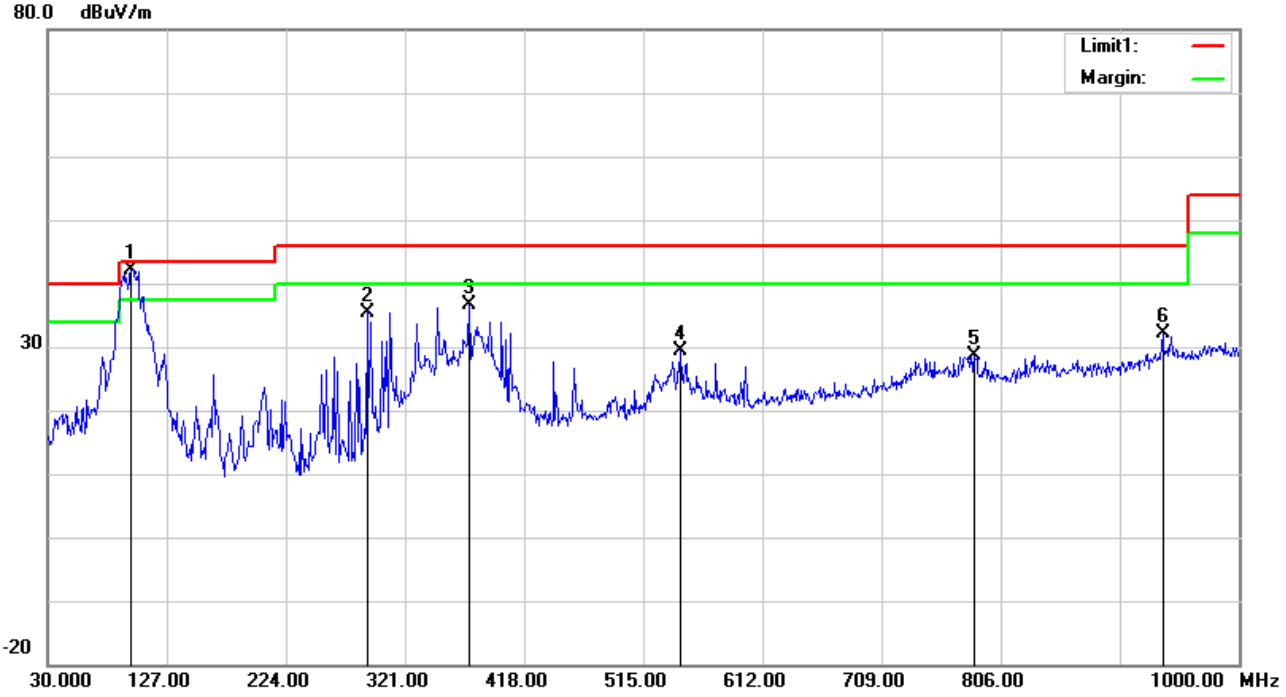
Temperature：	23.1 ℃	Relative Humidity：	60%
Test Voltage ：	AC 120V/60Hz	Test Mode ：	Mode 8

The following table shows the highest levels of radiated emissions on polarizations of horizontal

Frequency	Reading	Correct	Result	Limit	Margin	Remark
(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
97.9000	62.70	-20.46	42.24	43.50	-1.26	QP
289.9600	50.66	-15.16	35.50	46.00	-10.50	QP
373.3800	49.01	-12.42	36.59	46.00	-9.41	QP
545.0700	35.63	-6.31	29.32	46.00	-16.68	QP
784.6600	30.67	-2.10	28.57	46.00	-17.43	QP
937.9200	31.02	1.20	32.22	46.00	-13.78	QP

Remark:

1. Margin = Result (Result =Reading + Factor)–Limit
2. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain



5. 20 DB BANDWIDTH TEST

5.1 Limit

FCC Part 15.215, Only applicable to report.

5.2 TEST SETUP

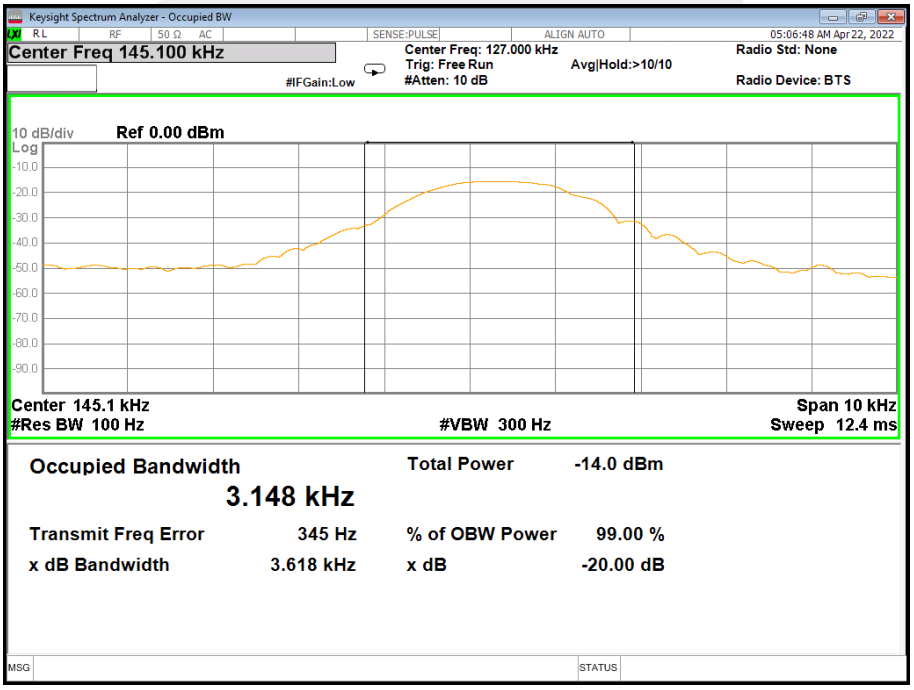
Spectrum Parameter	Setting
Span Frequency	2 to 5 times of the OBW
RB	1 % to 5 % of the OBW
VB	At least three times RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

The test program and configuration,Refer to 4.2 and 4.3

5.3 TEST RESULTS

OperatingFrequency (KHz)	20 dB Bandwhidth(KHz)
145	3.148

CH00



6. ANTENNA REQUIREMENT

6.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 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.

6.2 EUT ANTENNA

The EUT antenna is Coil Antenna. It comply with the standard requirement.

APPENDIX-PHOTOS OF TEST SETUP

Note: See test photos in setup photo document for the actual connections between Product and support equipment.

※※※※※END OF THE REPORT※※※※※