

# TEST REPORT

Report No.: BCTC2408982148-2E

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Applicant: Shenzhen Creality 3D Technology Co., Ltd.

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Product Name: 3D Printer

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Test Model: Creality Hi

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Tested Date: 2024-09-05 to 2024-09-25

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Issued Date: 2024-10-22

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**Shenzhen BCTC Testing Co., Ltd.**



# FCC ID: 2AXH6-CREALITYHI

Product Name: 3D Printer

Trademark: **CREALITY**  CREALITY  CREALITY 创想三维

Model/Type Reference: Crealiti Hi

Prepared For: Shenzhen Crealiti 3D Technology Co., Ltd.

Address: 18F, JinXiuHongDu Building, Meilong Blvd., Longhua Dist., Shenzhen, China 518131

Manufacturer: Shenzhen Crealiti 3D Technology Co., Ltd.

Address: 18F, JinXiuHongDu Building, Meilong Blvd., Longhua Dist., Shenzhen, China 518131

Prepared By: Shenzhen BCTC Testing Co., Ltd.

Address: 1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China.

Sample Received Date: 2024-08-09

Sample Tested Date: 2024-09-05 to 2024-09-25

Report No.: BCTC2408982148-2E

Test Standards: FCC Part15.225  
ANSI C63.10-2013

Test Results: PASS

Remark: This is NFC radio test report.

Tested by:



Brave Zeng/ Project Handler

Approved by:



Zero Zhou/Reviewer

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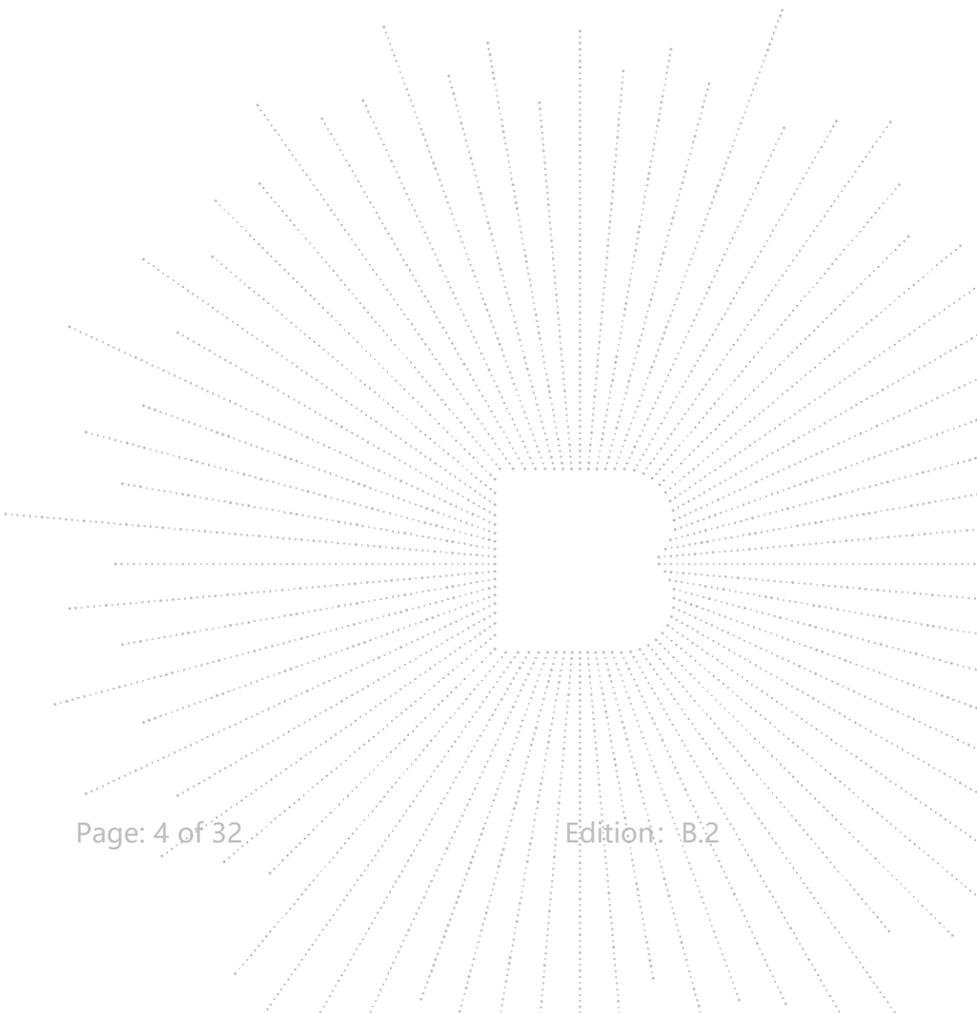
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(Note: N/A Means Not Applicable)

**1. Version**

<b>Report No.</b>	<b>Issue Date</b>	<b>Description</b>	<b>Approved</b>
BCTC2408982148-2E	2024-10-22	Original	Valid



## 2. Test Summary

The Product has been tested according to the following specifications:

No.	Test Parameter	Clause No	Results
1	15.207	Conducted Emission	PASS
2	Part 15.209(a), 15.225(d)	Radiated Spurious Emission	PASS
3	15.215	Bandwidth	PASS
4	Part 15.209(a), 15.225(a)(b)(c)(d)	Band Edge Emission	PASS
5	Part 15.225(e)	Transmitter Frequency Stability (Temperature & Voltage Variation)	PASS
6	15.203	Antenna Requirement	PASS

### 3. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of  $k=2$ .

No.	Item	Uncertainty
1	3m chamber Radiated spurious emission(30MHz-1GHz)	U=4.3dB
2	3m chamber Radiated spurious emission(9KHz-30MHz)	U=3.7dB
3	3m chamber Radiated spurious emission(1GHz-18GHz)	U=4.5dB
4	3m chamber Radiated spurious emission(18GHz-40GHz)	U=3.34dB
5	Conducted Emission (150kHz-30MHz)	U=3.20dB
6	Conducted Adjacent channel power	U=1.38dB
7	Conducted output power uncertainty Above 1G	U=1.576dB
8	Conducted output power uncertainty below 1G	U=1.28dB
9	humidity uncertainty	U=5.3%
10	Temperature uncertainty	U=0.59°C

## 4. Product Information And Test Setup

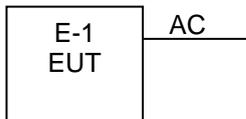
### 4.1 Product Information

Model/Type Reference:	Creality Hi
Model differences:	The product has 2 power supplies: Power supply 1: A-100FGC-24; Power supply 2: A-150FGZ-24; We conducted differential tests on the 2 power supplies.
Operation Frequency:	13.56 MHz
Modulation Type:	ASK
Number Of Channel	1 CH
Antenna installation:	Internal antenna
Ratings:	AC100-240V~50/60Hz,800W
Remark:	The antenna gain of the product is provided by the customer, and the test data is affected by the customer information

### 4.2 Test Setup Configuration

See test photographs attached in *EUT TEST SETUP PHOTOGRAPHS* for the actual connections between Product and support equipment.

Conducted Emission and Radiated Spurious Emission:



### 4.3 Support Equipment

No.	Device Type	Brand	Model	Series No.	Note
E-1	3D Printer	N/A	Creality Hi	N/A	EUT
E-2	N/A	N/A	N/A	N/A	N/A

Item	Shielded Type	Ferrite Core	Length	Note
C-1	N/A	N/A	N/A	N/A

Notes:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

#### 4.4 Channel List

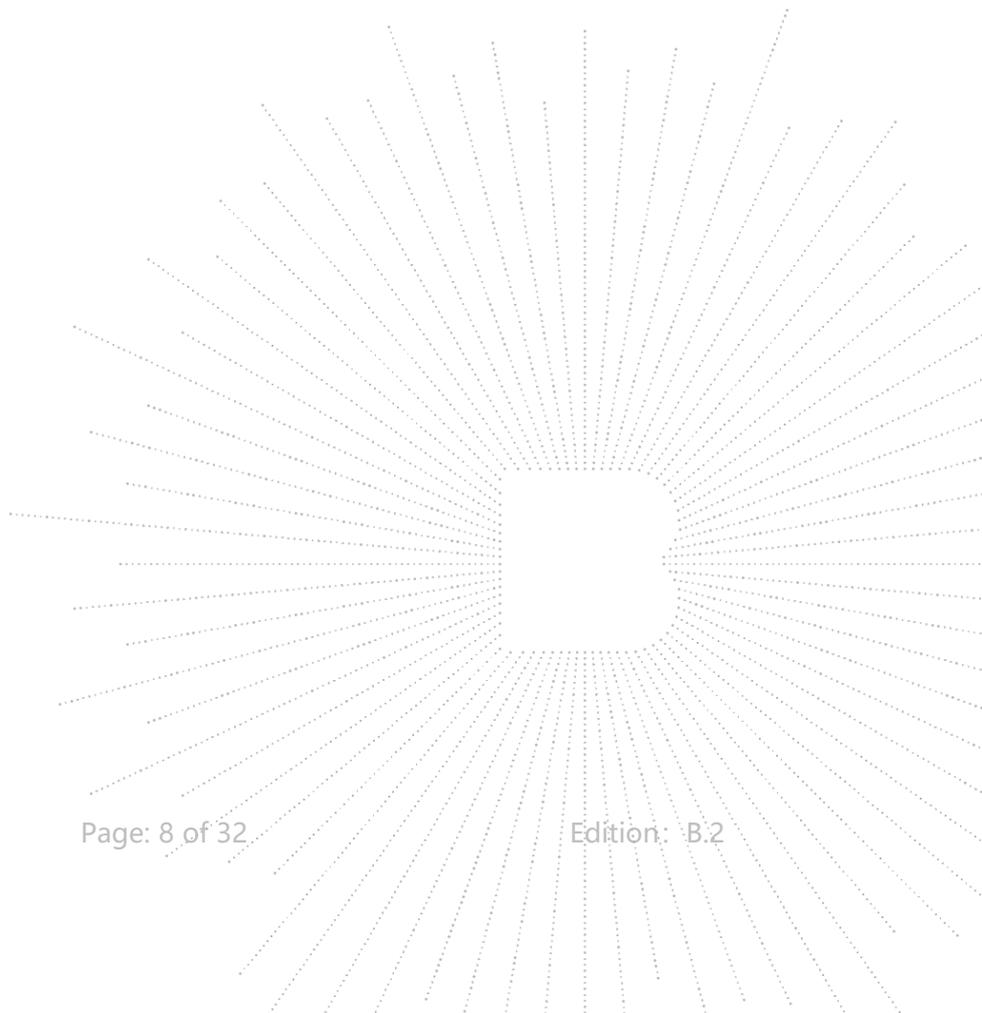
Channel List	
Channel	Frequency(MHz)
01	13.56

#### 4.5 Test Mode

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.

For All Mode	Description
Mode 1	TX Mode

Link mode (Conducted emission and Radiated emission)	
Final Test Mode	Description
Mode 1	TX Mode



## 5. Test Facility And Test Instrument Used

### 5.1 Test Facility

All measurement facilities used to collect the measurement data are located at Shenzhen BCTC Testing Co., Ltd. Address:1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1-1 other equivalent standards.

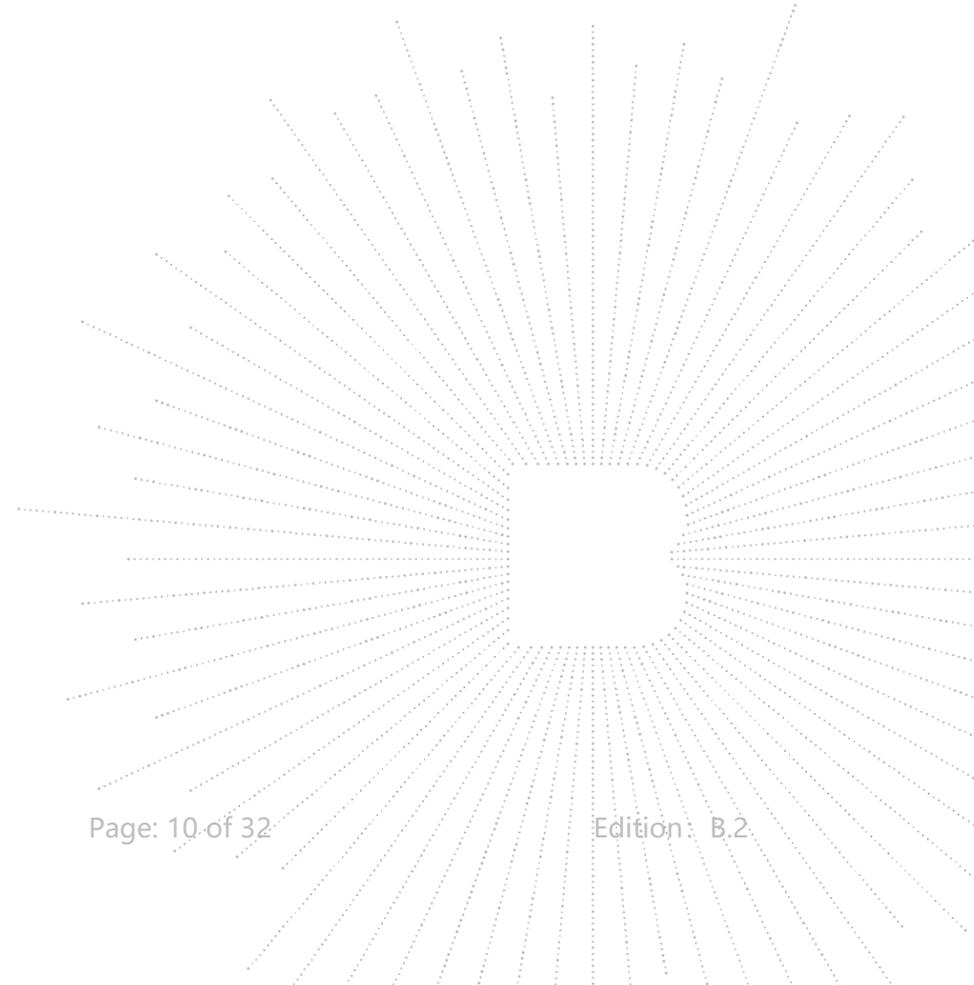
FCC Test Firm Registration Number: 712850  
 A2LA certificate registration number is: CN1212  
 ISED Registered No.: 23583  
 ISED CAB identifier: CN0017

### 5.2 Test Instrument Used

Conducted Emissions Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Receiver	R&S	ESR3	102075	May 16, 2024	May 15, 2025
LISN	R&S	ENV216	101375	May 16, 2024	May 15, 2025
Software	Frad	EZ-EMC	EMC-CON 3A1	\	\
Pulse limiter	Schwarzbeck	VTSD 9561-F	01323	May 16, 2024	May 15, 2025

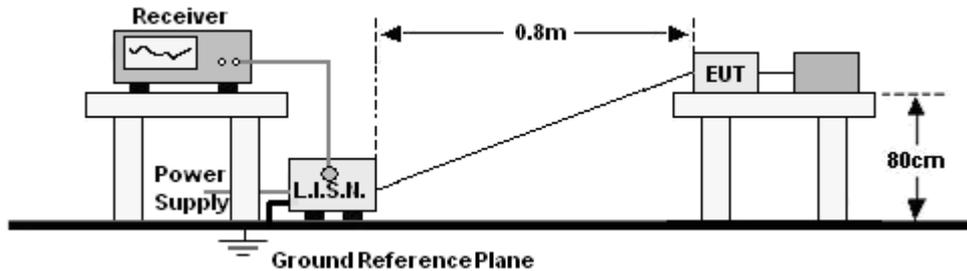
RF Conducted Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Power meter	Keysight	E4419	\	May 16, 2024	May 15, 2025
Power Sensor (AV)	Keysight	E9300A	\	May 16, 2024	May 15, 2025
Signal Analyzer20kHz-26.5GHz	Keysight	N9020A	MY49100060	May 16, 2024	May 15, 2025
Spectrum Analyzer9kHz-40GHz	R&S	FSP40	100363	May 16, 2024	May 15, 2025

Radiated Emissions Test (966 Chamber)					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
966 chamber	ChengYu	966 Room	966	May 16, 2024	May 15, 2025
Receiver	R&S	ESR3	102075	May 16, 2024	May 15, 2025
Receiver	R&S	ESRP	101154	May 16, 2024	May 15, 2025
Amplifier	Schwarzbeck	BBV9744	9744-0037	May 16, 2024	May 15, 2025
TRILOG Broadband Antenna	Schwarzbeck	VULB9163	942	May 21, 2024	May 20, 2025
Loop Antenna(9KHz -30MHz)	Schwarzbeck	FMZB1519B	00014	May 21, 2024	May 20, 2025
Amplifier	SKET	LAPA_01G1 8G-45dB	SK202104090 1	May 16, 2024	May 15, 2025
Horn Antenna	Schwarzbeck	BBHA9120D	1541	May 21, 2024	May 20, 2025
Amplifier(18G Hz-40GHz)	MITEQ	TTA1840-35- HG	2034381	May 16, 2024	May 15, 2025
Horn Antenn(18GH z-40GHz)	Schwarzbeck	BBHA9170	00822	May 21, 2024	May 20, 2025
Spectrum Analyzer9kHz- 40GHz	R&S	FSP40	100363	May 16, 2024	May 15, 2025
Software	Frad	EZ-EMC	FA-03A2 RE	\	\



## 6. Conducted Emissions

### 6.1 Block Diagram Of Test Setup



### 6.2 Limit

Frequency (MHz)	Limit (dBuV)	
	Quas-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

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

### 6.3 Test Procedure

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

- The Product was placed on a nonconductive table 0.8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).
- The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak and AVG detector in Max Hold mode. Run the receiver's pre-scan to record the maximum disturbance generated from Product in all power lines in the full band.
- For each frequency whose maximum record was higher or close to limit, measure its QP and AVG values and record.

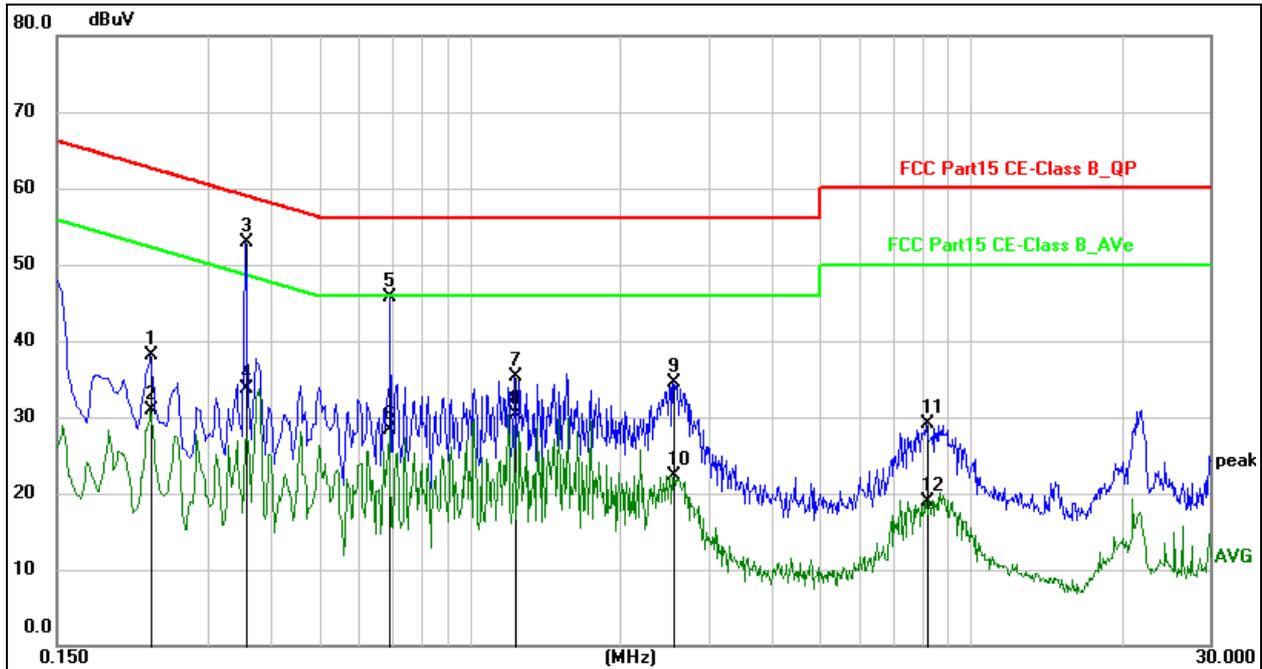
### 6.4 EUT operating Conditions

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.

### 6.5 Test Result

For Power Supply:A-100FGC-24

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101kPa	Phase :	Line
Test Voltage :	AC 120V/60Hz	Test Mode:	Mode 1

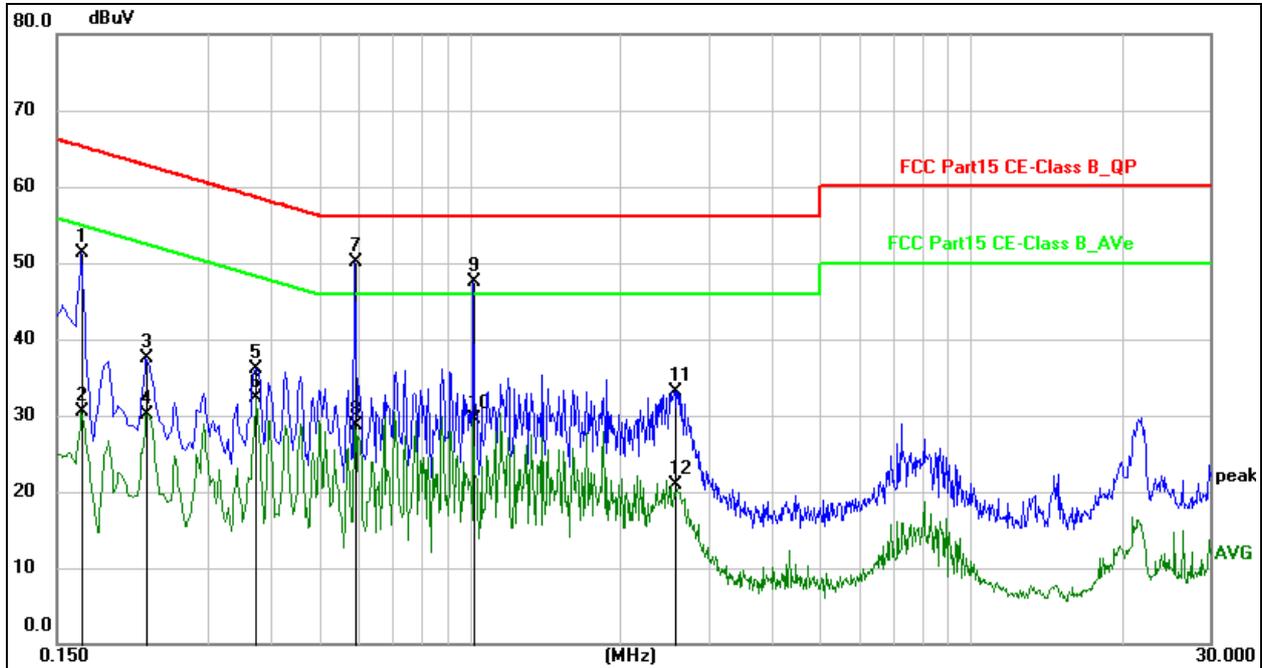


Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.2310	27.82	10.19	38.01	62.41	-24.40	QP
2	0.2310	20.68	10.19	30.87	52.41	-21.54	AVG
3 *	0.3570	42.64	10.18	52.82	58.80	-5.98	QP
4	0.3570	23.49	10.18	33.67	48.80	-15.13	AVG
5	0.6900	35.47	10.19	45.66	56.00	-10.34	QP
6	0.6900	18.21	10.19	28.40	46.00	-17.60	AVG
7	1.2300	25.01	10.22	35.23	56.00	-20.77	QP
8	1.2300	19.99	10.22	30.21	46.00	-15.79	AVG
9	2.5440	24.32	10.26	34.58	56.00	-21.42	QP
10	2.5440	12.07	10.26	22.33	46.00	-23.67	AVG
11	8.1645	18.75	10.43	29.18	60.00	-30.82	QP
12	8.1645	8.56	10.43	18.99	50.00	-31.01	AVG

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101kPa	Phase :	Neutral
Test Voltage :	AC 120V/60Hz	Test Mode:	Mode 1

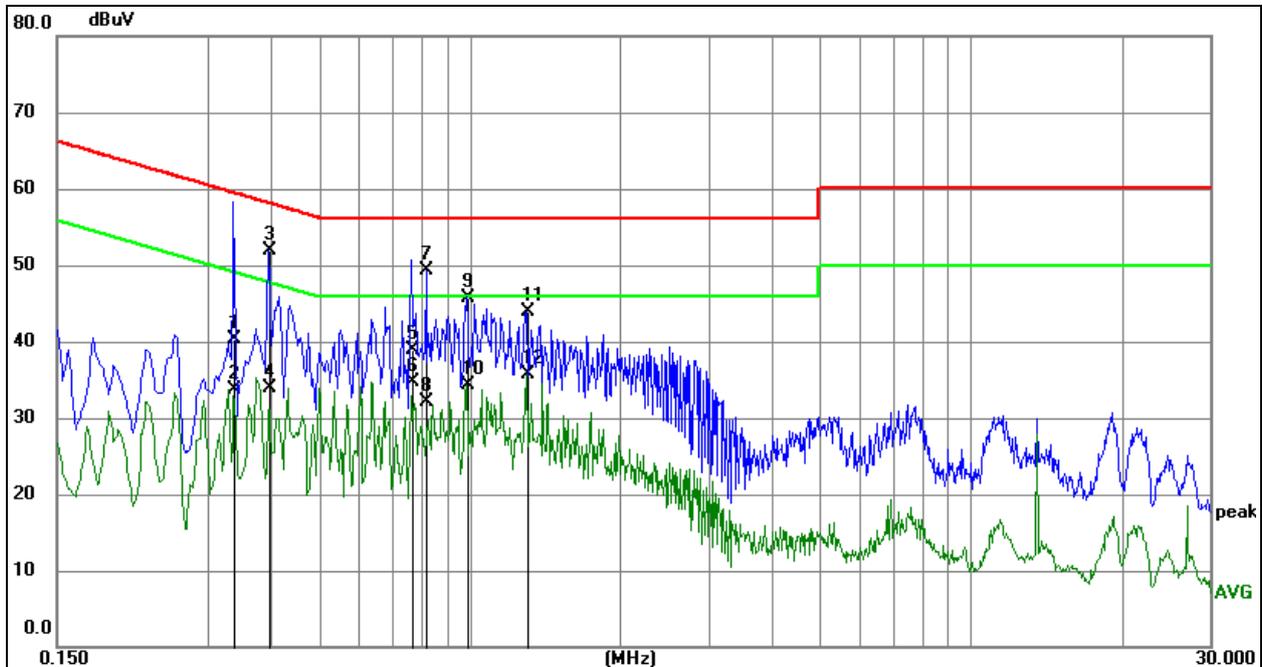

**Remark:**

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1680	41.07	10.18	51.25	65.06	-13.81	QP
2	0.1680	20.40	10.18	30.58	55.06	-24.48	AVG
3	0.2265	27.39	10.19	37.58	62.58	-25.00	QP
4	0.2265	19.86	10.19	30.05	52.58	-22.53	AVG
5	0.3750	25.87	10.18	36.05	58.39	-22.34	QP
6	0.3750	22.14	10.18	32.32	48.39	-16.07	AVG
7 *	0.5910	39.94	10.19	50.13	56.00	-5.87	QP
8	0.5910	18.53	10.19	28.72	46.00	-17.28	AVG
9	1.0184	37.33	10.21	47.54	56.00	-8.46	QP
10	1.0184	19.33	10.21	29.54	46.00	-16.46	AVG
11	2.5800	22.93	10.26	33.19	56.00	-22.81	QP
12	2.5800	10.55	10.26	20.81	46.00	-25.19	AVG

For Power Supply:A-150FGZ-24

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101kPa	Phase :	Line
Test Voltage :	AC 120V/60Hz	Test Mode:	Mode 1

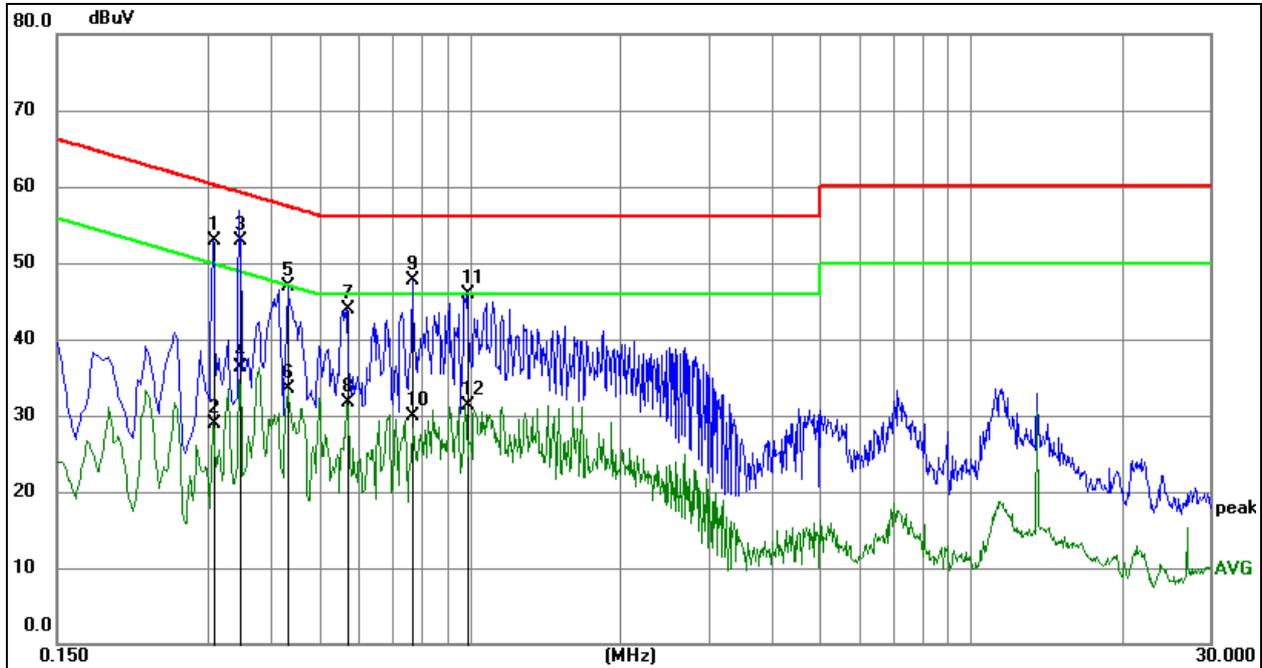


Remark:

- All readings are Quasi-Peak and Average values.
- Factor = Insertion Loss + Cable Loss.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.3390	30.22	10.18	40.40	59.23	-18.83	QP
2	0.3390	23.53	10.18	33.71	49.23	-15.52	AVG
3 *	0.3975	41.66	10.18	51.84	57.91	-6.07	QP
4	0.3975	23.63	10.18	33.81	47.91	-14.10	AVG
5	0.7665	28.81	10.19	39.00	56.00	-17.00	QP
6	0.7665	24.55	10.19	34.74	46.00	-11.26	AVG
7	0.8205	39.17	10.19	49.36	56.00	-6.64	QP
8	0.8205	21.95	10.19	32.14	46.00	-13.86	AVG
9	0.9870	35.59	10.21	45.80	56.00	-10.20	QP
10	0.9870	24.04	10.21	34.25	46.00	-11.75	AVG
11	1.2975	33.65	10.22	43.87	56.00	-12.13	QP
12	1.2975	25.43	10.22	35.65	46.00	-10.35	AVG

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101kPa	Phase :	Neutral
Test Voltage :	AC 120V/60Hz	Test Mode:	Mode 1


**Remark:**

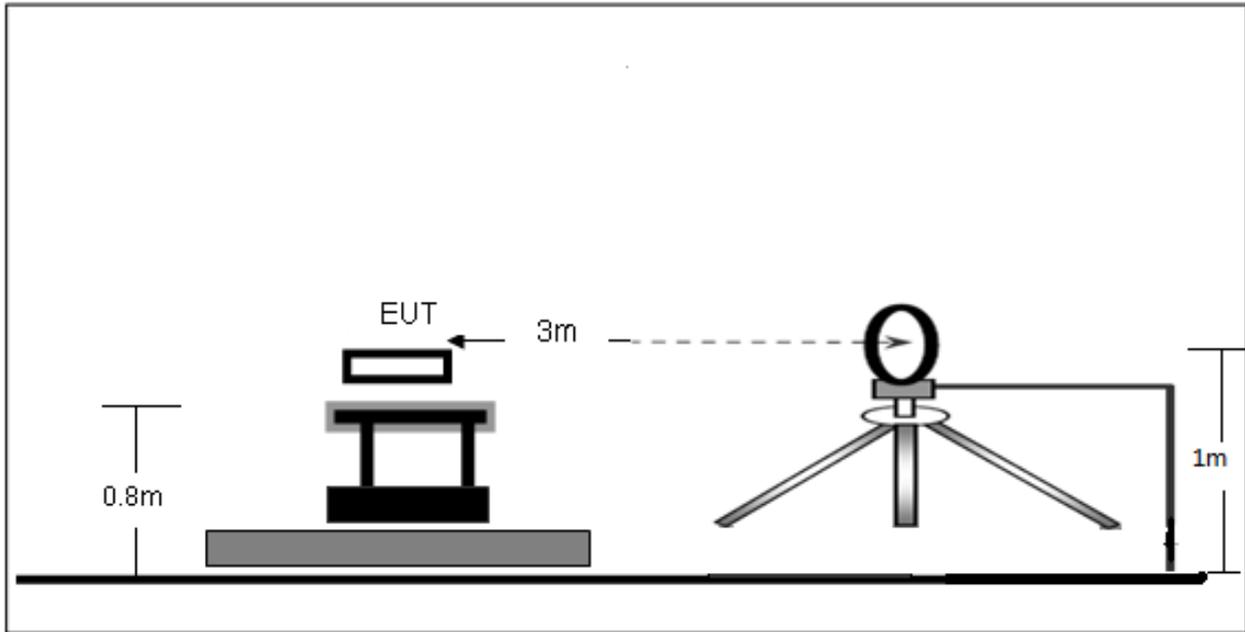
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.3075	42.74	10.18	52.92	60.04	-7.12	QP
2	0.3075	18.82	10.18	29.00	50.04	-21.04	AVG
3 *	0.3480	42.82	10.18	53.00	59.01	-6.01	QP
4	0.3480	26.06	10.18	36.24	49.01	-12.77	AVG
5	0.4335	36.81	10.18	46.99	57.19	-10.20	QP
6	0.4335	23.32	10.18	33.50	47.19	-13.69	AVG
7	0.5685	33.73	10.19	43.92	56.00	-12.08	QP
8	0.5685	21.42	10.19	31.61	46.00	-14.39	AVG
9	0.7710	37.42	10.19	47.61	56.00	-8.39	QP
10	0.7710	19.81	10.19	30.00	46.00	-16.00	AVG
11	0.9870	35.60	10.21	45.81	56.00	-10.19	QP
12	0.9870	21.04	10.21	31.25	46.00	-14.75	AVG

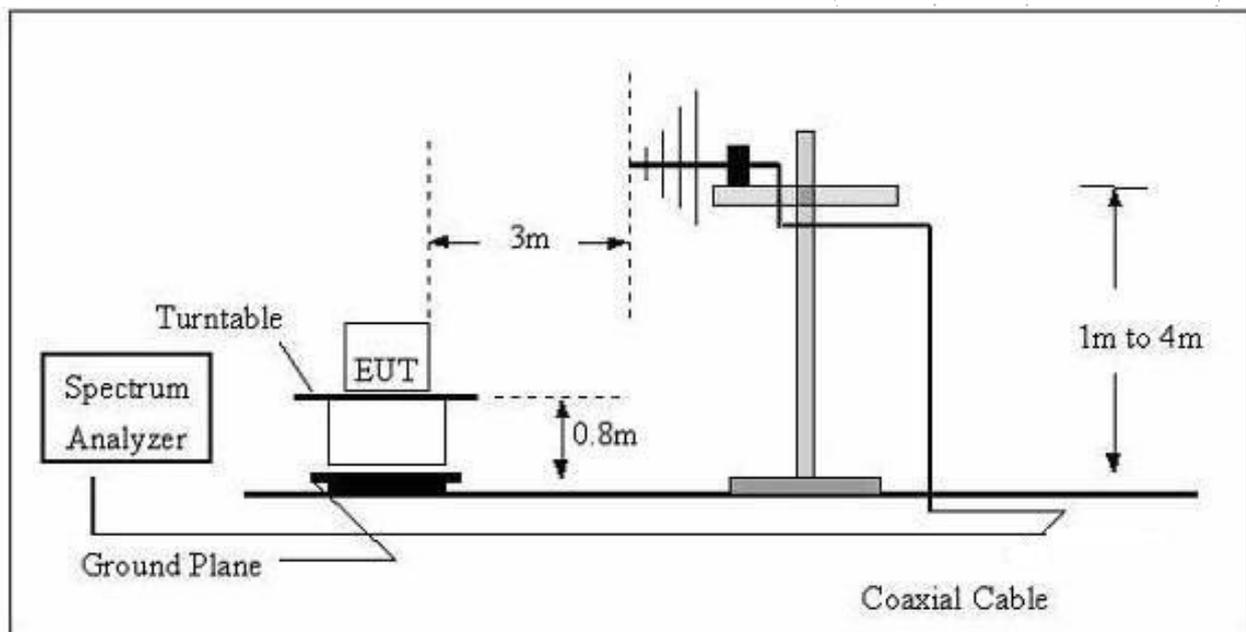
## 7. Radiated Emissions

### 7.1 Block Diagram Of Test Setup

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



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



## 7.2 Limit

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequency (MHz)	Field Strength uV/m	Distance (m)	Field Strength Limit at 3m Distance	
			uV/m	dBuV/m
0.009 ~ 0.490	2400/F(kHz)	300	10000 * 2400/F(kHz)	$20\log^{(2400/F(kHz))} + 80$
0.490 ~ 1.705	24000/F(kHz)	30	100 * 24000/F(kHz)	$20\log^{(24000/F(kHz))} + 40$
1.705 ~ 30	30	30	100 * 30	$20\log^{(30)} + 40$
30 ~ 88	100	3	100	$20\log^{(100)}$
88 ~ 216	150	3	150	$20\log^{(150)}$
216 ~ 960	200	3	200	$20\log^{(200)}$
Above 960	500	3	500	$20\log^{(500)}$

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

Below 1GHz test procedure as below:

- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Above 1GHz test procedure as below:

- Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 metre to 1.5 metre( Above 18GHz the distance is 1 meter and table is 1.5 metre).
- Test the EUT in the lowest channel ,the middle channel ,the Highest channel.

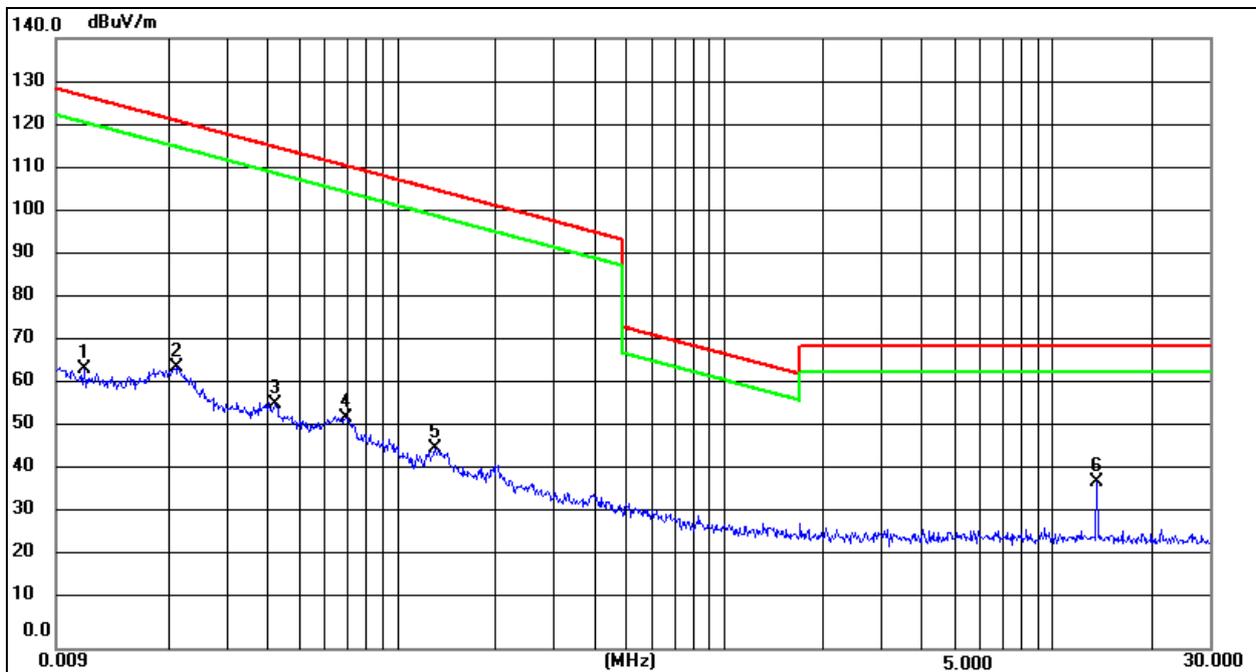
Note: Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

### 7.3 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.

### 7.4 Test Result

Temperature:	26°C	Relative Humidity:	54%
Pressure:	101 kpa	Test Voltage:	AC120V/60Hz
Test Mode:	Mode 1	Polarization:	Coaxial



Note:

Pre-scan in the all of mode, the worst case in of was recorded.

Factor = antenna factor + cable loss – pre-amplifier.

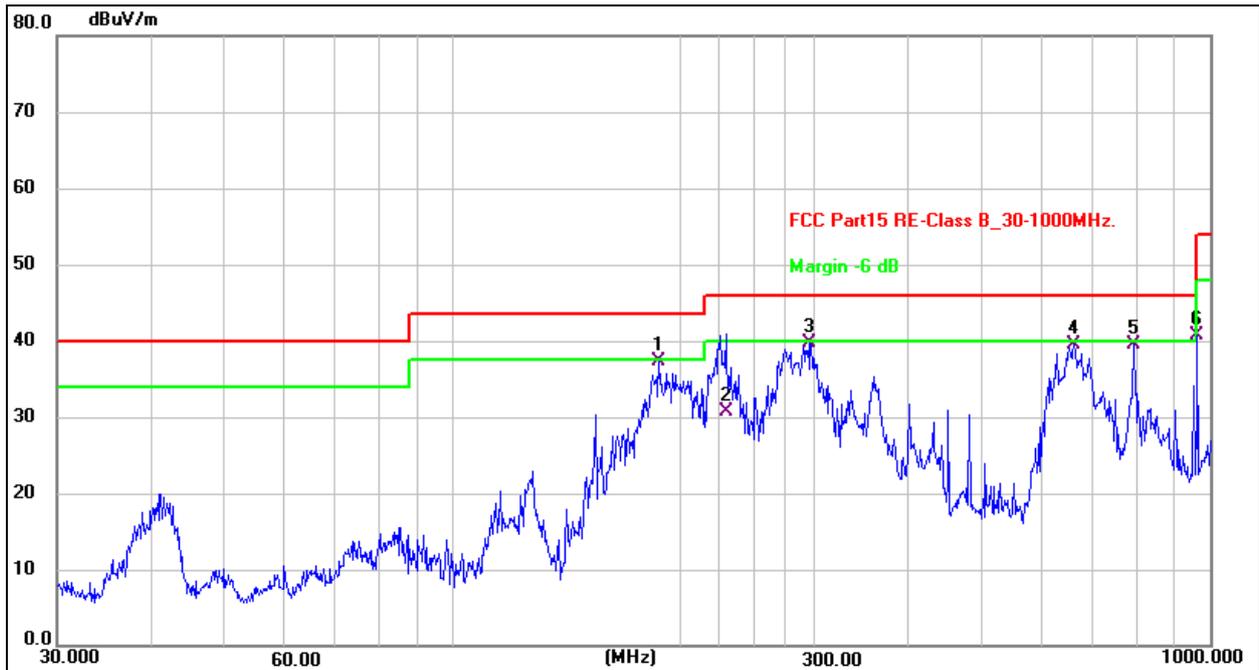
Margin = Emission Level- Limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0110	75.36	-11.25	64.11	126.76	-62.65	peak
2	0.0210	75.94	-11.23	64.71	121.14	-56.43	peak
3	0.0423	67.29	-11.01	56.28	115.07	-58.79	peak
4	0.0690	64.00	-10.85	53.15	110.82	-57.67	peak
5	0.1295	56.54	-10.62	45.92	105.35	-59.43	peak
6 *	13.5756	48.19	-9.94	38.25	69.54	-31.29	peak

**Between 30MHz – 1GHz**

For Power Supply:A-100FGC-24

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Horizontal
Test Voltage :	AC 120V/60Hz	Test Mode:	Mode 1

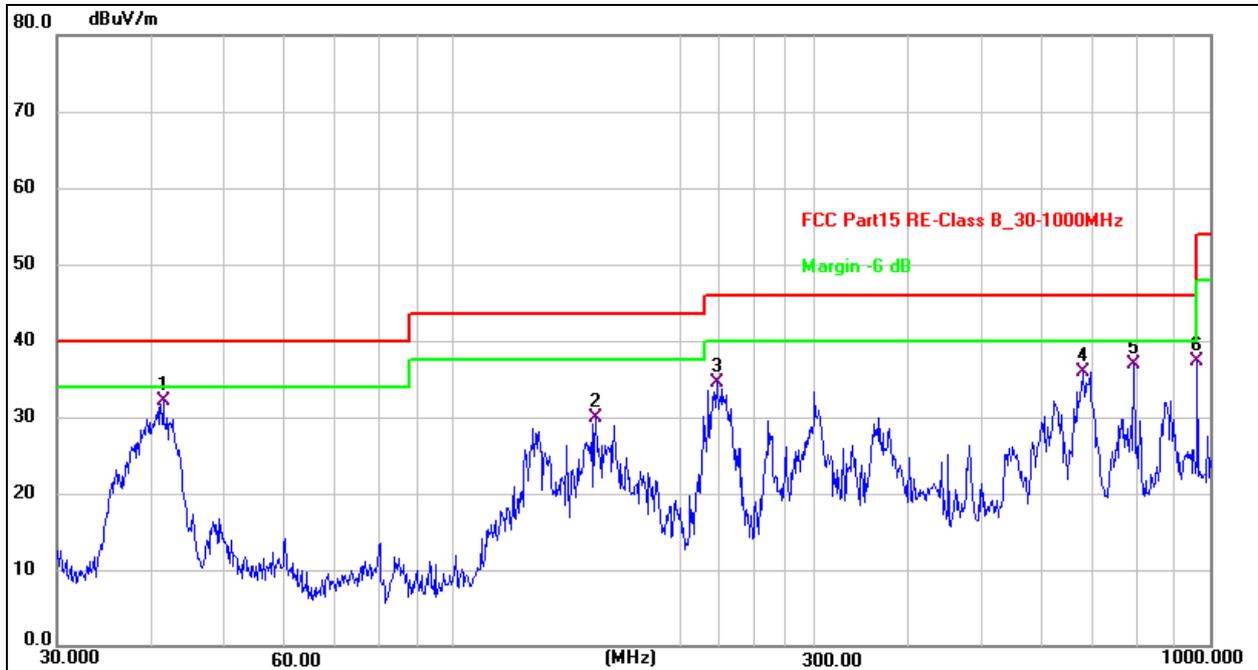


Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	187.0958	56.51	-19.13	37.38	43.50	-6.12	QP
2	229.2931	50.67	-19.87	30.80	46.00	-15.20	QP
3	295.1469	56.84	-17.08	39.76	46.00	-6.24	QP
4	661.1505	46.98	-7.51	39.47	46.00	-6.53	QP
5	793.3960	44.36	-4.95	39.41	46.00	-6.59	QP
6	962.1623	42.91	-2.26	40.65	54.00	-13.35	QP

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Vertical
Test Voltage :	AC 120V/60Hz	Test Mode:	Mode 1

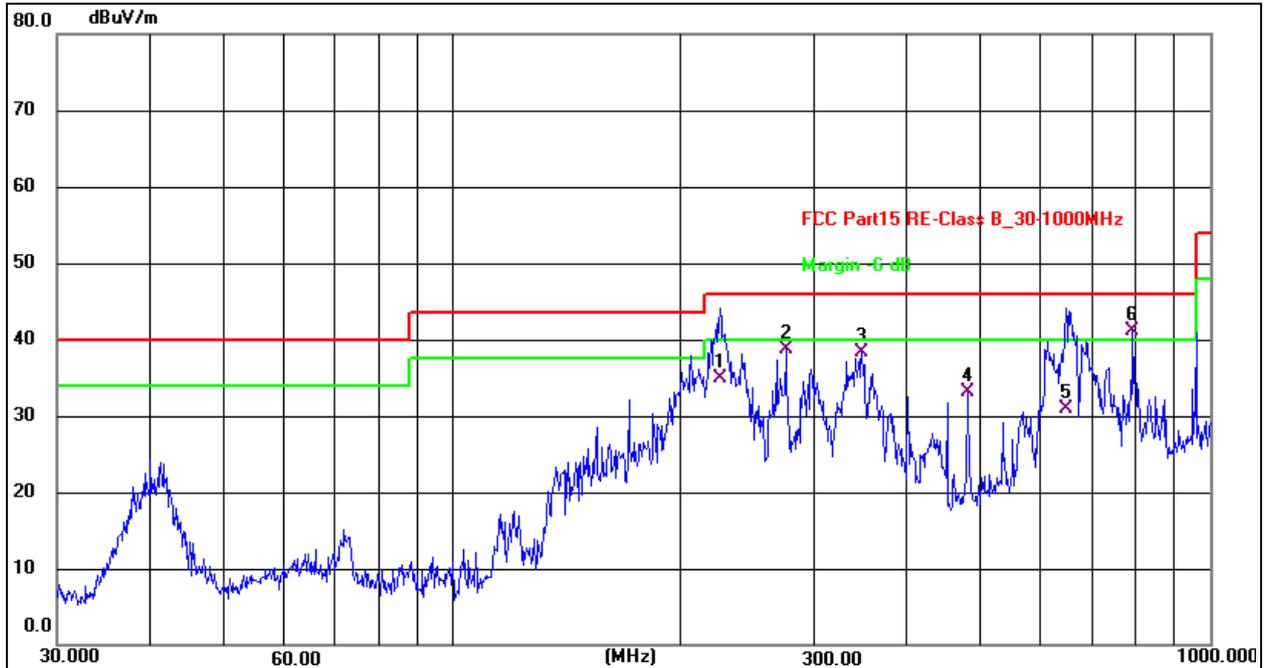


Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	41.4215	49.30	-17.26	32.04	40.00	-7.96	QP
2	154.2786	47.06	-17.21	29.85	43.50	-13.65	QP
3	222.9502	54.68	-20.08	34.60	46.00	-11.40	QP
4	679.9600	43.19	-7.20	35.99	46.00	-10.01	QP
5	793.3960	41.91	-4.95	36.96	46.00	-9.04	QP
6	962.1623	39.56	-2.26	37.30	54.00	-16.70	QP

For Power Supply:A-150FGZ-24

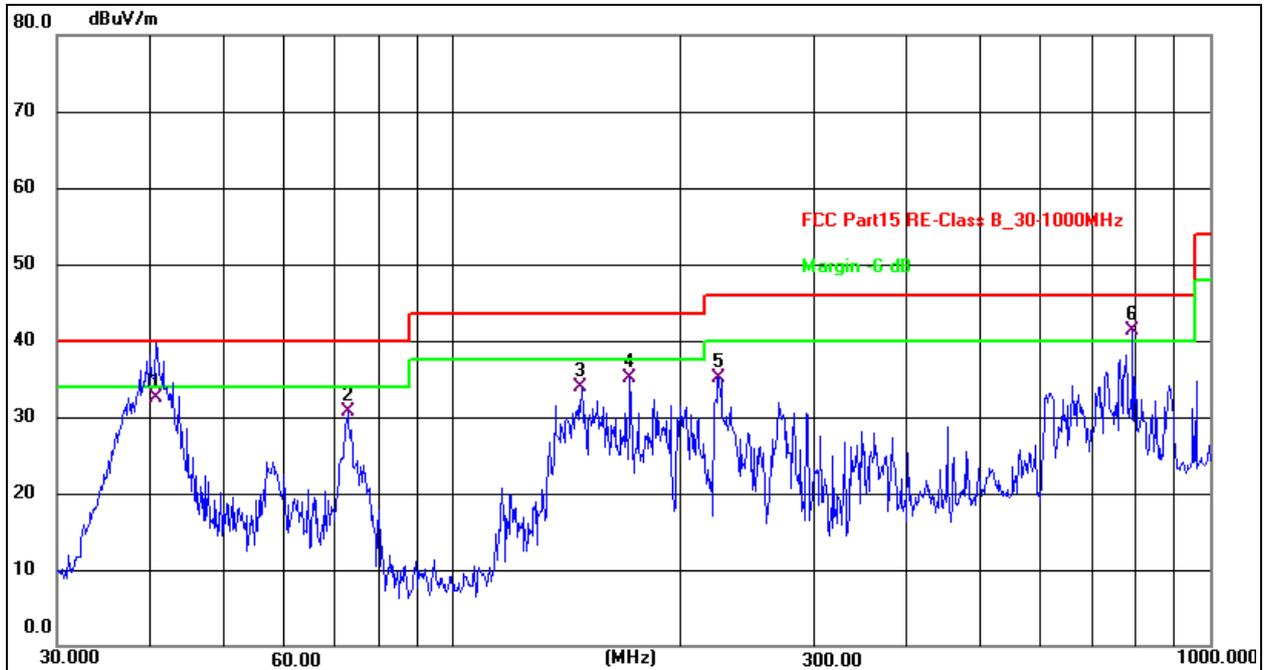
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Horizontal
Test Voltage :	AC 120V/60Hz	Test Mode:	Mode 1



Remark:  
 Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	225.6044	51.59	-16.59	35.00	46.00	-11.00	QP
2	275.2777	53.32	-14.64	38.68	46.00	-7.32	QP
3	347.2655	50.36	-12.02	38.34	46.00	-7.66	QP
4	480.1065	41.23	-8.15	33.08	46.00	-12.92	QP
5	647.3856	34.73	-3.83	30.90	46.00	-15.10	QP
6 *	792.3534	41.84	-0.80	41.04	46.00	-4.96	QP

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Vertical
Test Voltage :	AC 120V/60Hz	Test Mode:	Mode 1



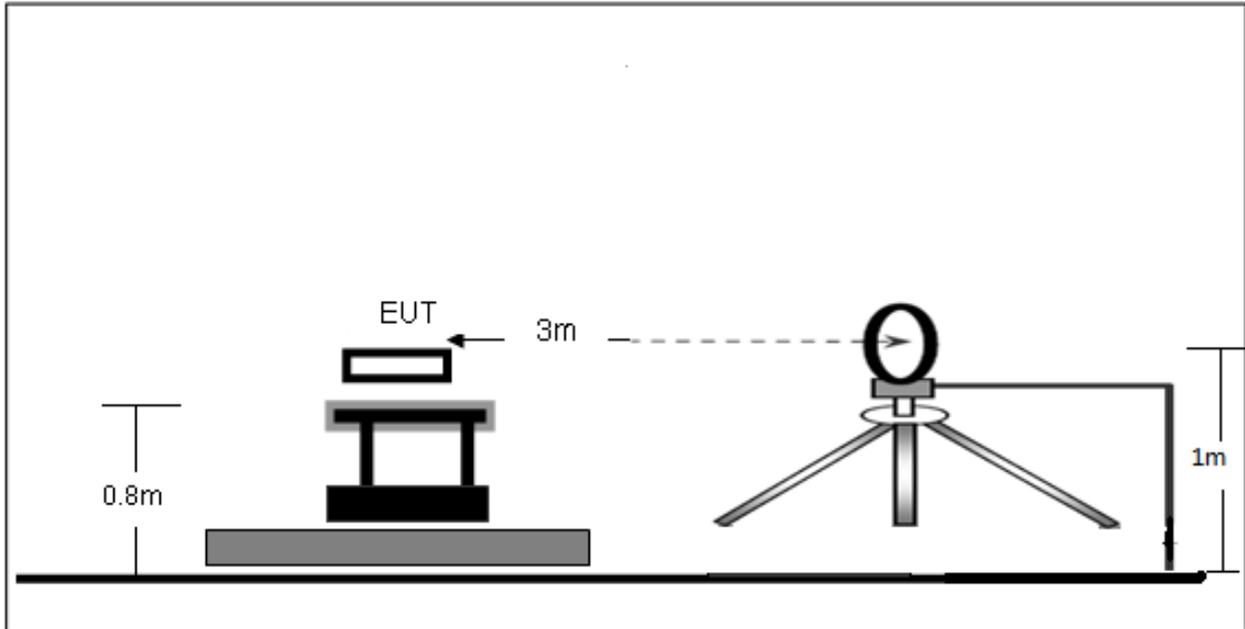
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	40.7016	49.51	-16.91	32.60	40.00	-7.40	QP
2	72.8466	49.77	-19.07	30.70	40.00	-9.30	QP
3	148.1809	48.36	-14.53	33.83	43.50	-9.67	QP
4	171.7686	50.93	-15.75	35.18	43.50	-8.32	QP
5	224.9133	51.71	-16.61	35.10	46.00	-10.90	QP
6 *	792.0062	42.02	-0.81	41.21	46.00	-4.79	QP

## 8. Radiated Band Emission Measurement

### 8.1 Block Diagram Of Test Setup

Radiated Emission Test-Up Frequency Below 30MHz



### 8.2 Limit

FCC Part15 C Section 15.209 and 15.225

LIMITS OF RADIATED EMISSION MEASUREMENT (Below 30MHz)

- 15.848 microvolts/m (84 dB $\mu$  V/m) at 30 m, within the band 13.553– 13.567 MHz.
- 334 microvolts/m (50.5 dB $\mu$  V/m) at 30 m, within the bands 13.410– 13.553 MHz and 13.567– 13.710 MHz.
- 106 microvolts/m (40.5 dB $\mu$  V/m) at 30 m, within the bands 13.110– 13.410 MHz and 13.710– 14.010 MHz.
- 30 microvolts/m (29.5 dB $\mu$  V/m) at 30 m, outside the band 13.110– 14.010 MHz.

Notes:

- The limit for radiated test was performed according to FCC PART 15C.
- The tighter limit applies at the band edges.
- Emission level (dB $\mu$ V/m)=20log Emission level (uV/m).

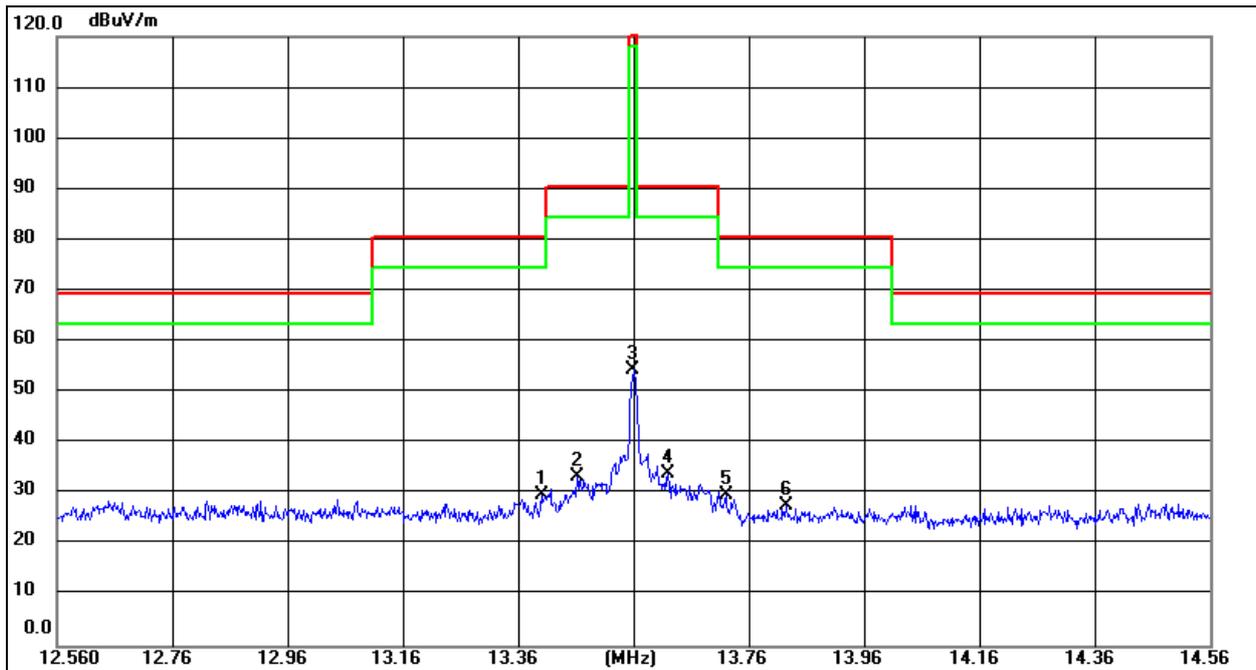
### 8.3 Test Procedure

- The Product is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna (loop antenna). The maximum values of the field strength are recorded by adjusting the polarizations of the test antenna and rotating the turntable.
- For each suspected emission, the Product was arranged to its worst case and then turn table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test frequency analyzer system was set to Peak Detect (300Hz RBW in 9kHz to 150kHz and 10kHz RBW in 150kHz to 30MHz) Function and Specified Bandwidth with Maximum Hold Mode.

### 8.4 EUT Operating Conditions

The EUT tested system was configured as the statements of 4.5 Unless otherwise a special operating condition is specified in the follows during the testing.  
The report only show the worst antenna Polarity's data.

### 8.5 Test Result



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	13.4005	39.72	-9.94	29.78	80.50	-50.72	peak
2	13.4630	43.32	-9.94	33.38	90.50	-57.12	peak
3	13.5800	64.32	-9.94	54.38	124.00	-69.62	peak
4	13.6205	44.08	-9.94	34.14	90.50	-56.36	peak
5 *	13.7203	39.91	-9.93	29.98	80.50	-50.52	peak
6	13.8245	37.55	-9.93	27.62	80.50	-52.88	peak

## 9. Bandwidth Test

### 9.1 Block Diagram Of Test Setup



### 9.2 Test Procedure

FCC Part15 (15.215)	
Section	Test Item
15.215	Bandwidth

1. Set RBW = 1% to 5% of the OBW
2. Set the video bandwidth (VBW)  $\geq$  RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 20 dB relative to the maximum level measured in the fundamental emission.

### 9.3 EUT Operation Conditions

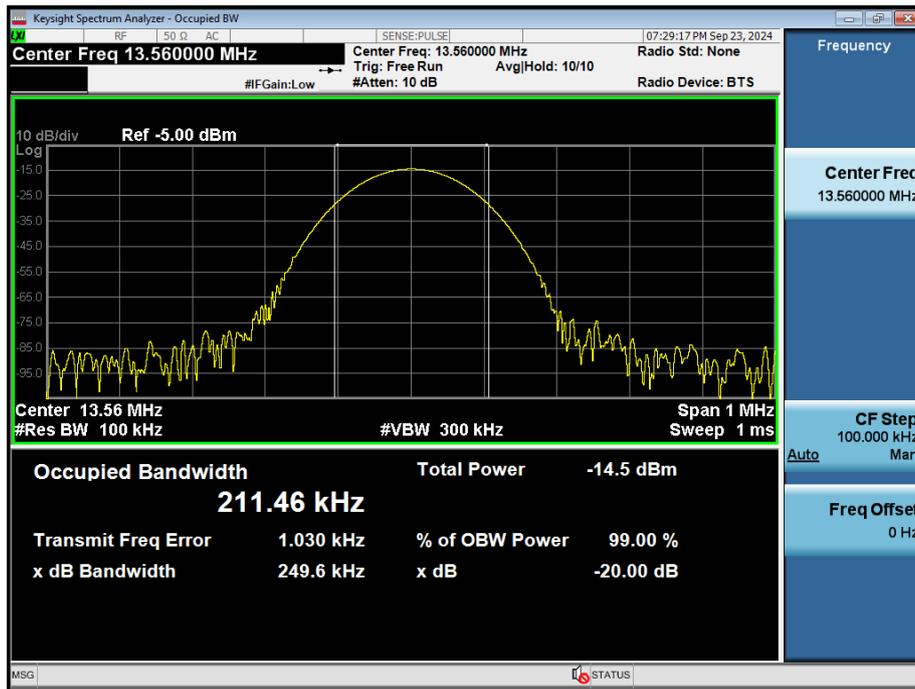
The EUT tested system was configured as the statements of 4.2 Unless otherwise a special operating condition is specified in the follows during the testing.

## 9.4 Test Result

Temperature:	26°C	Relative Humidity:	54%
Test Mode:	ASK	Test Voltage:	AC120V/60Hz

<b>Frequency (MHz)</b>	<b>20dB bandwidth K(Hz)</b>
13.56	249.6

## TX CH 01



## 10. Transmitter Frequency Stability

### 10.1 Block Diagram Of Test Setup



### 10.2 Limit

The frequency tolerance of the carrier signal shall be maintained within  $\pm 0.01\%$  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.

Limit:  $\pm 0.01\%$  of  $13.56\text{MHz} = 1356\text{Hz}$

### 10.3 Test Procedure

1. Set RBW = 10 kHz.
2. Set the video bandwidth (VBW)  $\geq$  RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. The transmitter output (antenna port) was connected to the spectrum analyzer.

### 10.4 EUT Operating Conditions

The EUT tested system was configured as the statements of 4.5 Unless otherwise a special operating condition is specified in the follows during the testing.

## 10.5 Test Result

Temperature:	26°C	Relative Humidity:	54%
Pressure:	101kPa	Test Voltage:	AC120V/60Hz
Test Mode :	TX Mode		

Test Conditions			Frequency Deviation		Limit(Hz)	Result
Frequency MHz	Power(V)	Temperature (°C)	Measured Freq. (MHz)	Frequency Error(Hz)		
13.56	120	-20	13.56057	57	1356	PASS
	120	-10	13.56063	63	1356	
	120	0	13.56043	43	1356	
	120	10	13.56076	76	1356	
	120	20	13.56085	85	1356	
	120	30	13.56096	96	1356	
	120	40	13.56071	71	1356	
	120	50	13.56081	81	1356	
	108	20	13.56052	52	1356	
	132	20	13.56087	87	1356	

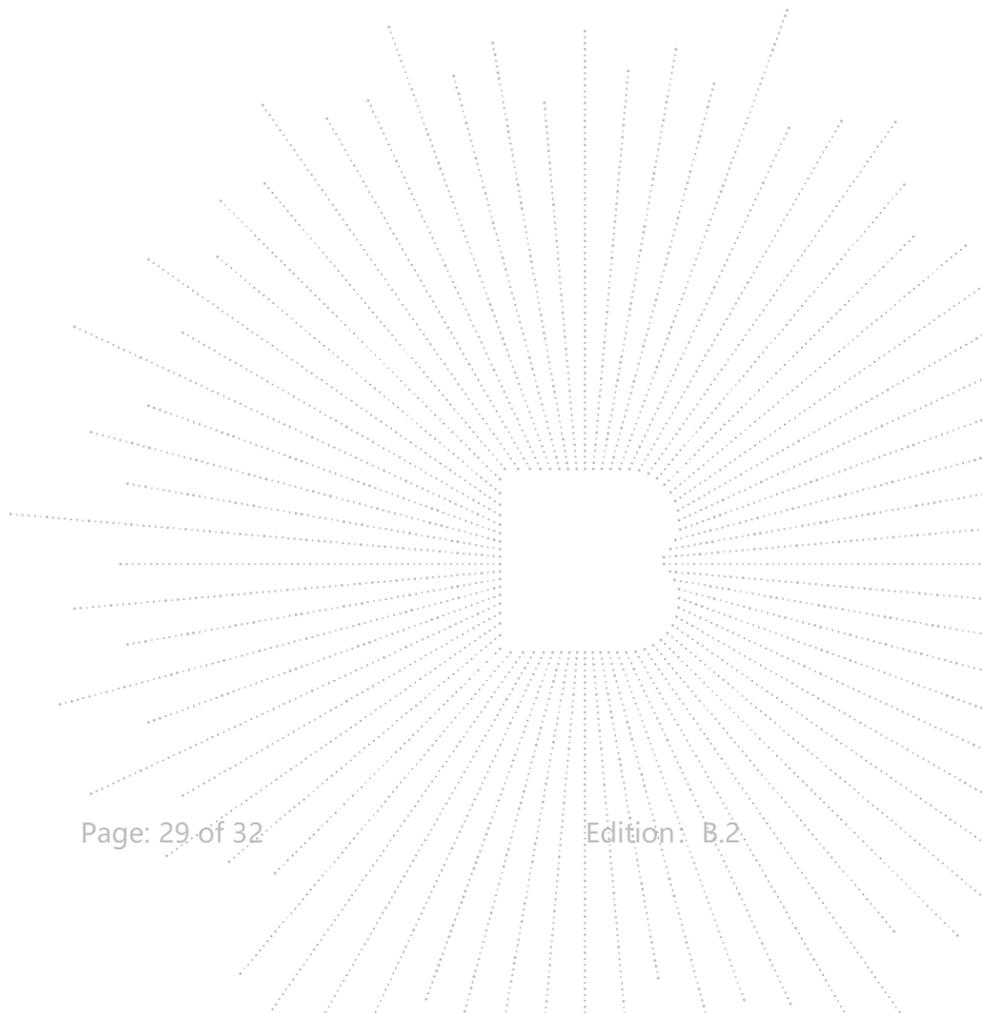
## 11. Antenna Requirement

### 11.1 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.

### 11.2 EUT Antenna

The EUT antenna is internal antenna, It comply with the standard requirement.

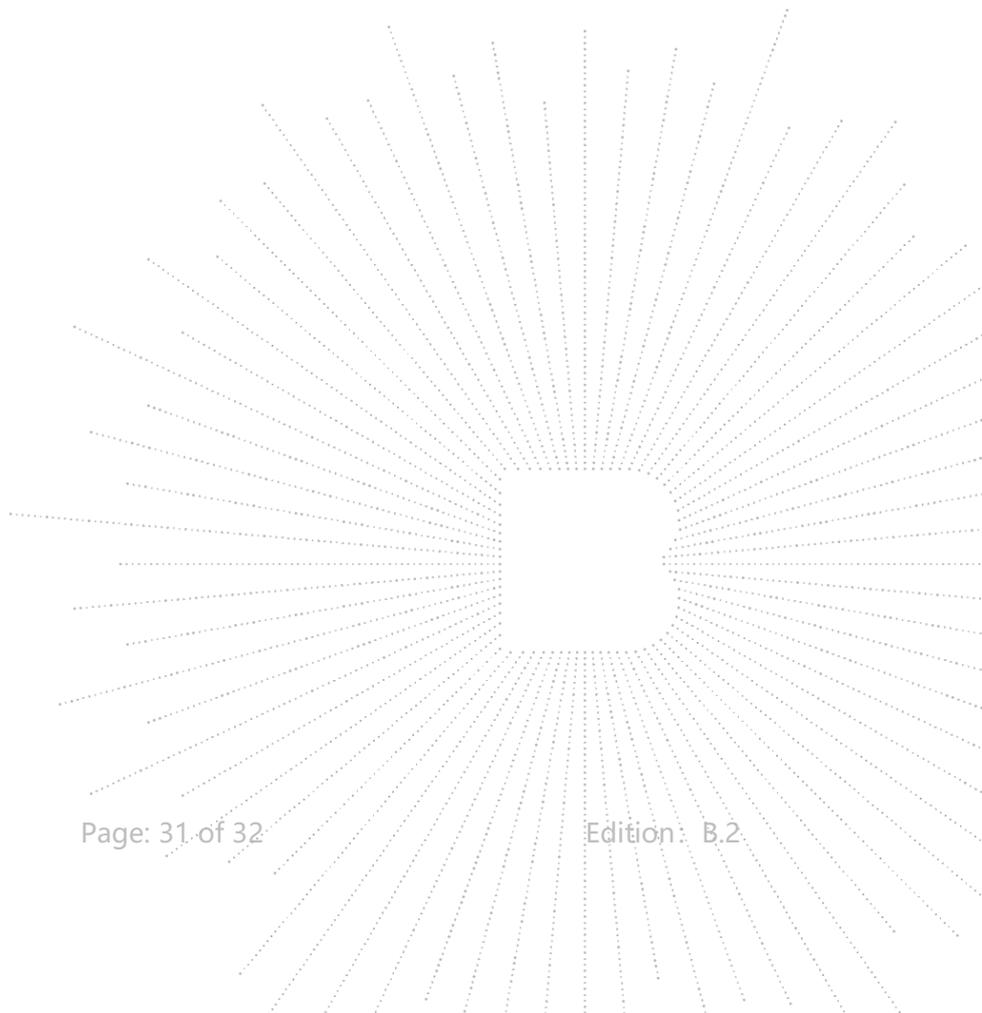
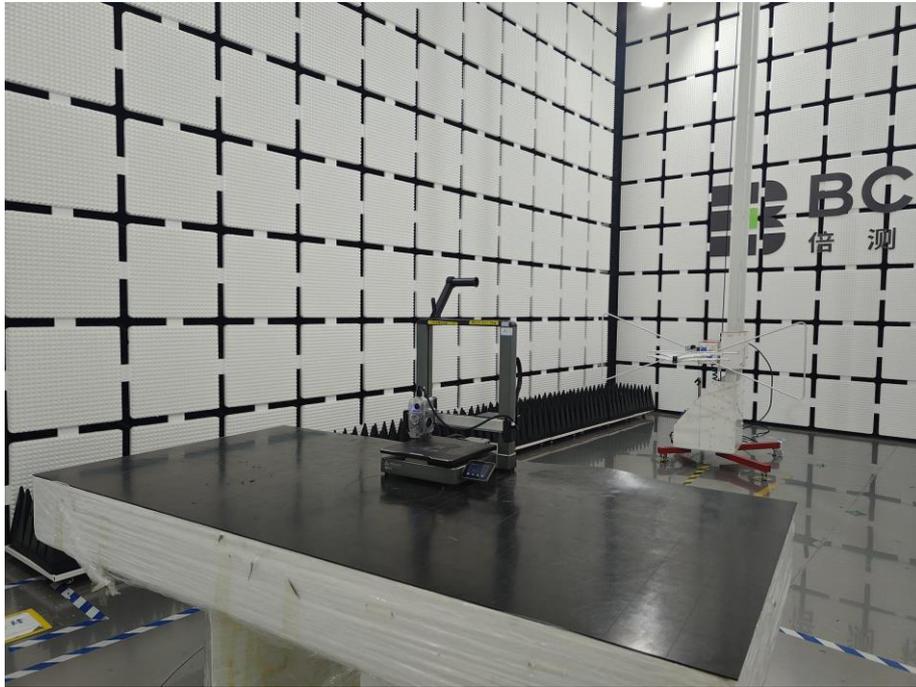


## 12. EUT Test Setup Photographs

Conducted emissions



Radiated Measurement



**STATEMENT**

1. The equipment lists are traceable to the national reference standards.
2. The test report can not be partially copied unless prior written approval is issued from our lab.
3. The test report is invalid without the "special seal for inspection and testing".
4. The test report is invalid without the signature of the approver.
5. The test process and test result is only related to the Unit Under Test.
6. Sample information is provided by the client and the laboratory is not responsible for its authenticity.
7. The quality system of our laboratory is in accordance with ISO/IEC17025.
8. If there is any objection to this test report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

## Address:

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