

# TEST REPORT

Report No.: BCTC2407917897E

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

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Product Name: Filament Management System

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Test Model: CFS

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Tested Date: 2024-07-10 to 2024-07-18

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Issued Date: 2024-08-01

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

# FCC ID: 2AXH6-CFS

Product Name: Filament Management System

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

Model/Type Reference: CFS

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

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

Manufacturer: Shenzhen Crealty 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: 2024-07-10

Sample Tested Date: 2024-07-10 to 2024-07-18

Report No.: BCTC2407917897E

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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(Note: N/A Means Not Applicable)

**1. Version**

Report No.	Issue Date	Description	Approved
BCTC2407917897E	2024-08-01	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

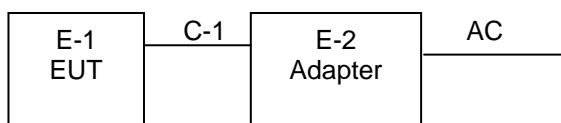
### 4.1 Product Information

Model/Type Reference: CFS  
 Model Differences: N/A  
 Operation Frequency: 13.56 MHz  
 Modulation Type: ASK  
 Number Of Channel: 1 CH  
 Antenna installation: Internal antenna  
 Ratings: DC 24V,20W  
 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	Filament Management System	N/A	CFS	N/A	EUT
E-2	Adapter	N/A	N/A	N/A	Auxiliary

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

#### Notes:

(1) The measurements are performed at the highest, middle, lowest available channels.



## 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

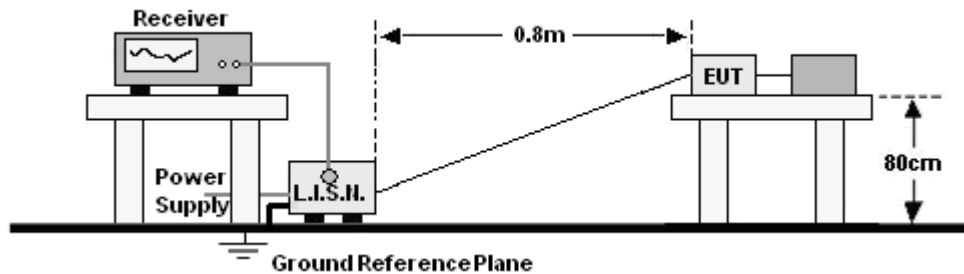
Conducted Emissions Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Receiver	R&S	ESR3	102075	May 16, 2024	May 15, 2025
LISN	R&S	ENV216	101375	May 16, 2024	May 15, 2025
Software	Frad	EZ-EMC	EMC-CON 3A1	\	\
Pulse limiter	Schwarzbeck	VTSD 9561-F	01323	May 16, 2024	May 15, 2025

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 z-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:

- \*Decreasing linearly with logarithm of frequency.
- 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

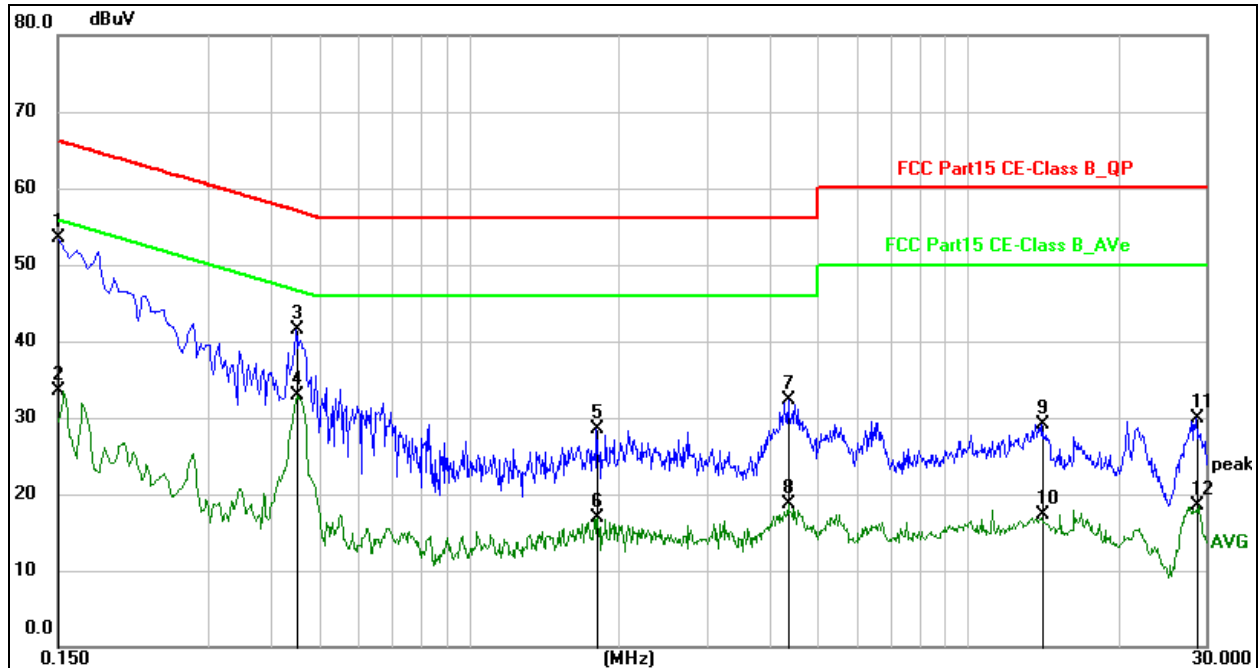
- The Product was placed on a nonconductive table 0.8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).
- The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak 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

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 24V From adapter
Test Mode:	Mode 1	Polarization:	L

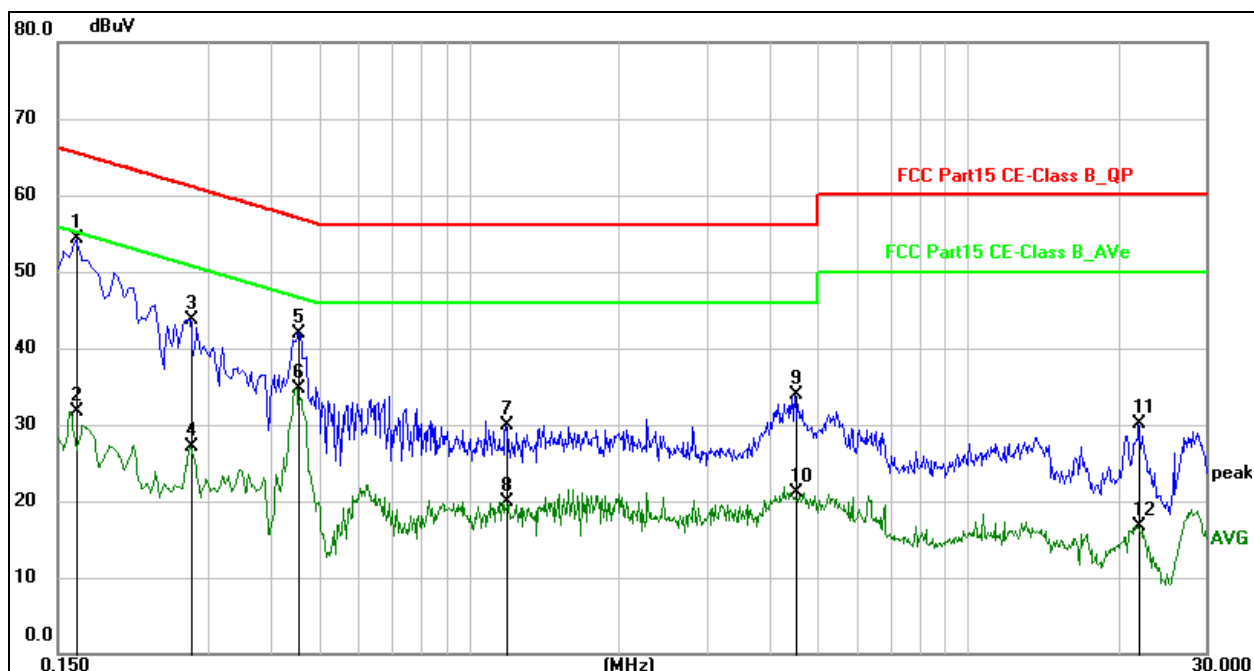


### Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. Measurement = Reading Level + Correct Factor
4. Over = Measurement - Limit

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1 *	0.1500	43.30	10.25	53.55	66.00	-12.45	QP
2	0.1500	23.34	10.25	33.59	56.00	-22.41	AVG
3	0.4515	31.26	10.30	41.56	56.85	-15.29	QP
4	0.4515	22.53	10.30	32.83	46.85	-14.02	AVG
5	1.8060	18.21	10.35	28.56	56.00	-27.44	QP
6	1.8060	6.60	10.35	16.95	46.00	-29.05	AVG
7	4.3755	21.71	10.66	32.37	56.00	-23.63	QP
8	4.3755	8.07	10.66	18.73	46.00	-27.27	AVG
9	14.0640	17.67	11.37	29.04	60.00	-30.96	QP
10	14.0640	5.86	11.37	17.23	50.00	-32.77	AVG
11	28.6800	18.59	11.39	29.98	60.00	-30.02	QP
12	28.6800	7.04	11.39	18.43	50.00	-31.57	AVG

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 24V From adapter
Test Mode:	Mode 1	Polarization:	N


**Remark:**

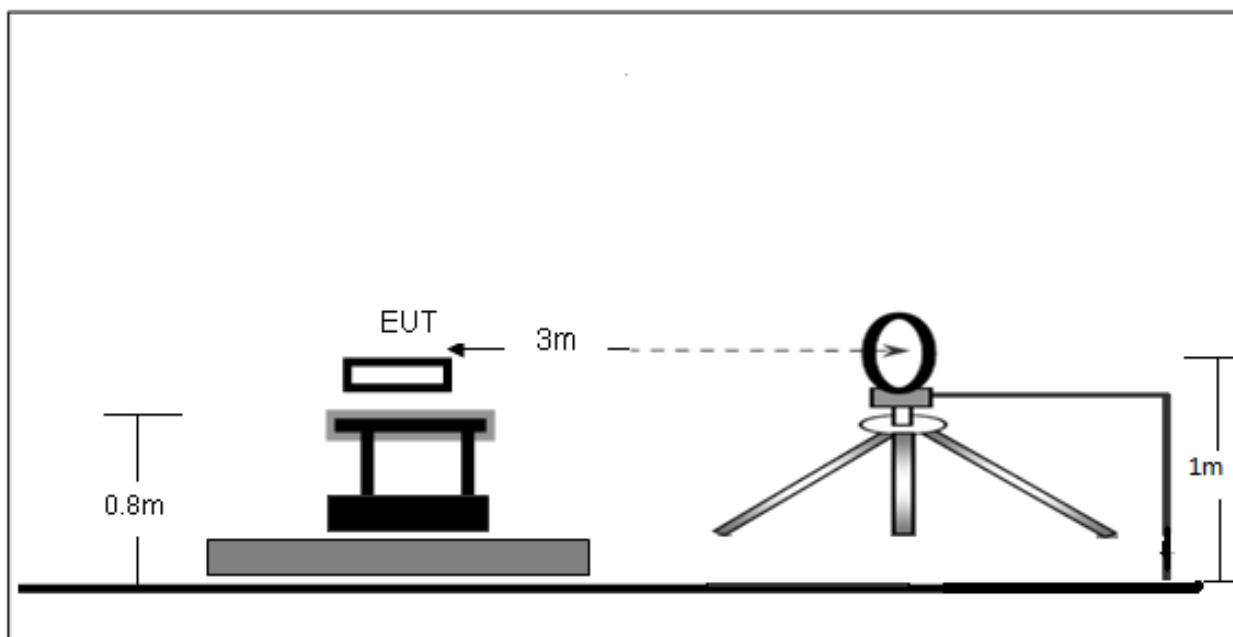
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. Measurement = Reading Level + Correct Factor
4. Over = Measurement - Limit

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1 *	0.1635	44.01	10.26	54.27	65.28	-11.01	QP
2	0.1635	21.38	10.26	31.64	55.28	-23.64	AVG
3	0.2760	33.36	10.28	43.64	60.94	-17.30	QP
4	0.2760	16.86	10.28	27.14	50.94	-23.80	AVG
5	0.4560	31.70	10.30	42.00	56.77	-14.77	QP
6	0.4560	24.50	10.30	34.80	46.77	-11.97	AVG
7	1.1849	19.71	10.29	30.00	56.00	-26.00	QP
8	1.1849	9.59	10.29	19.88	46.00	-26.12	AVG
9	4.5104	23.12	10.69	33.81	56.00	-22.19	QP
10	4.5104	10.48	10.69	21.17	46.00	-24.83	AVG
11	21.9840	18.78	11.24	30.02	60.00	-29.98	QP
12	21.9840	5.55	11.24	16.79	50.00	-33.21	AVG

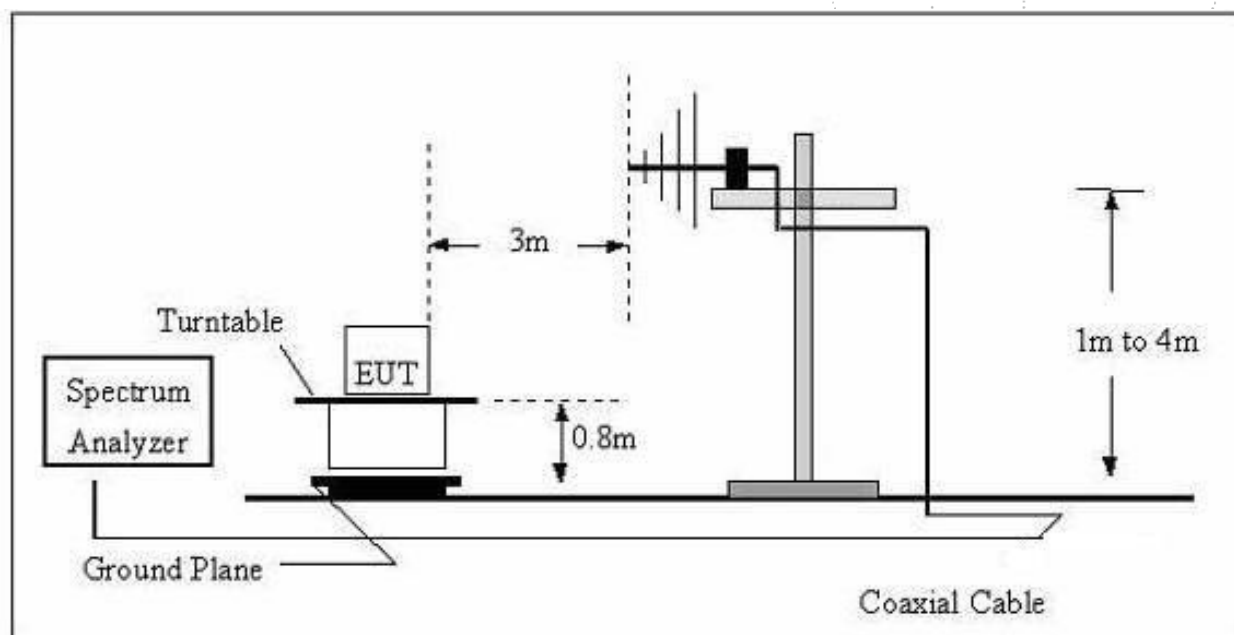
## 7. Radiated Emissions

### 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	Field Strength	Distance	Field Strength Limit at 3m Distance	
(MHz)	uV/m	(m)	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.

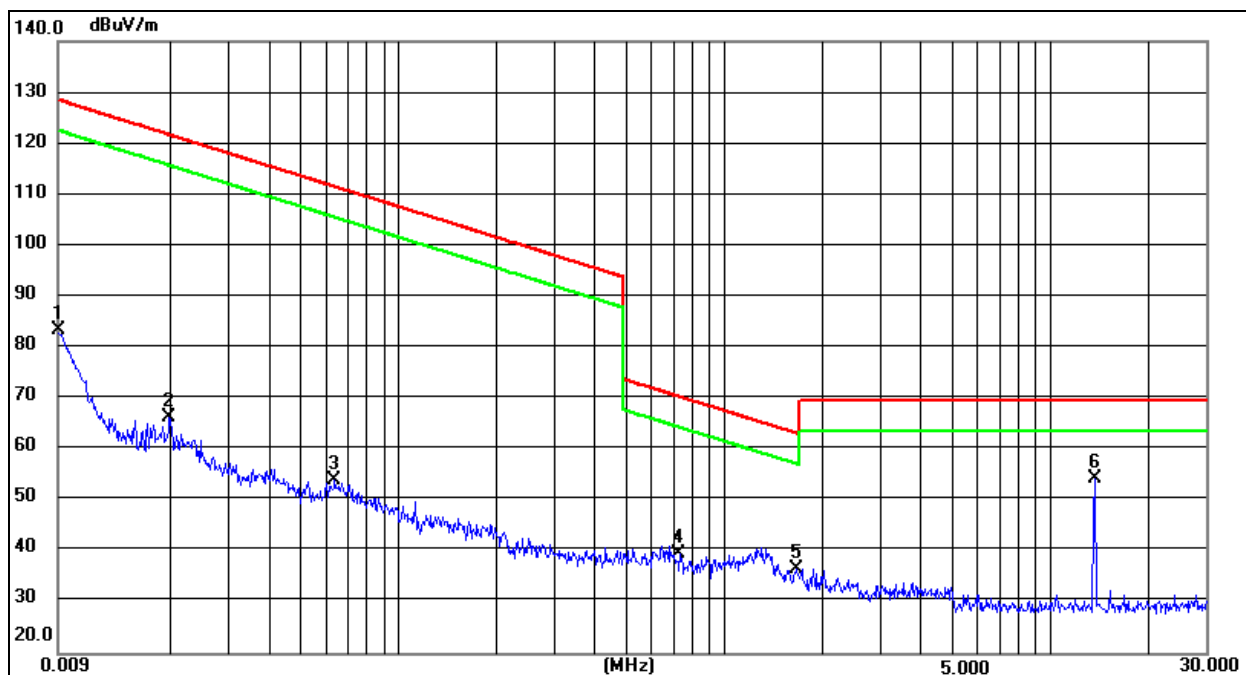


### 7.3 EUT Operating Conditions

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:	DC 24V From adapter
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.

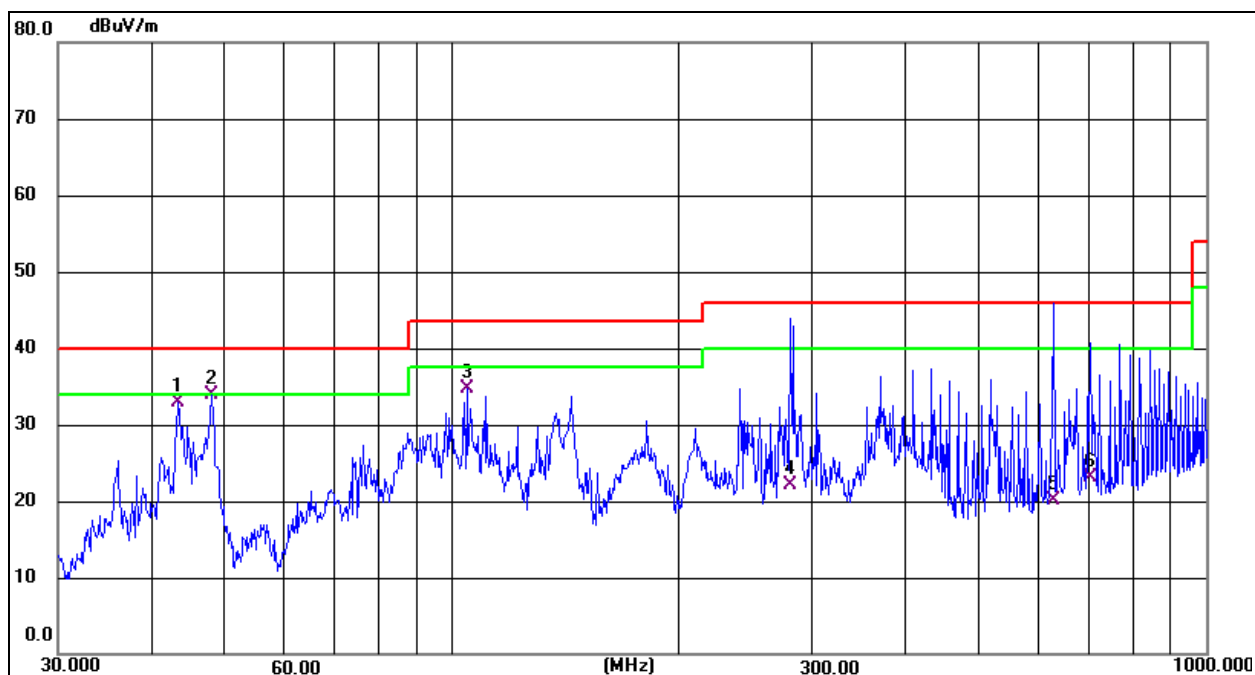
Margin = Emission Level- Limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0090	95.00	-11.42	83.58	128.50	-44.92	peak
2	0.0198	77.64	-11.24	66.40	121.66	-55.26	peak
3	0.0636	64.80	-10.84	53.96	111.53	-57.57	peak
4	0.7304	48.82	-9.14	39.68	70.34	-30.66	peak
5	1.6575	46.94	-10.38	36.56	63.24	-26.68	peak
6 *	13.6585	64.22	-9.94	54.28	69.54	-15.26	peak



### Between 30MHz – 1GHz

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 24V From adapter
Test Mode:	Mode 1	Polarization:	Horizontal

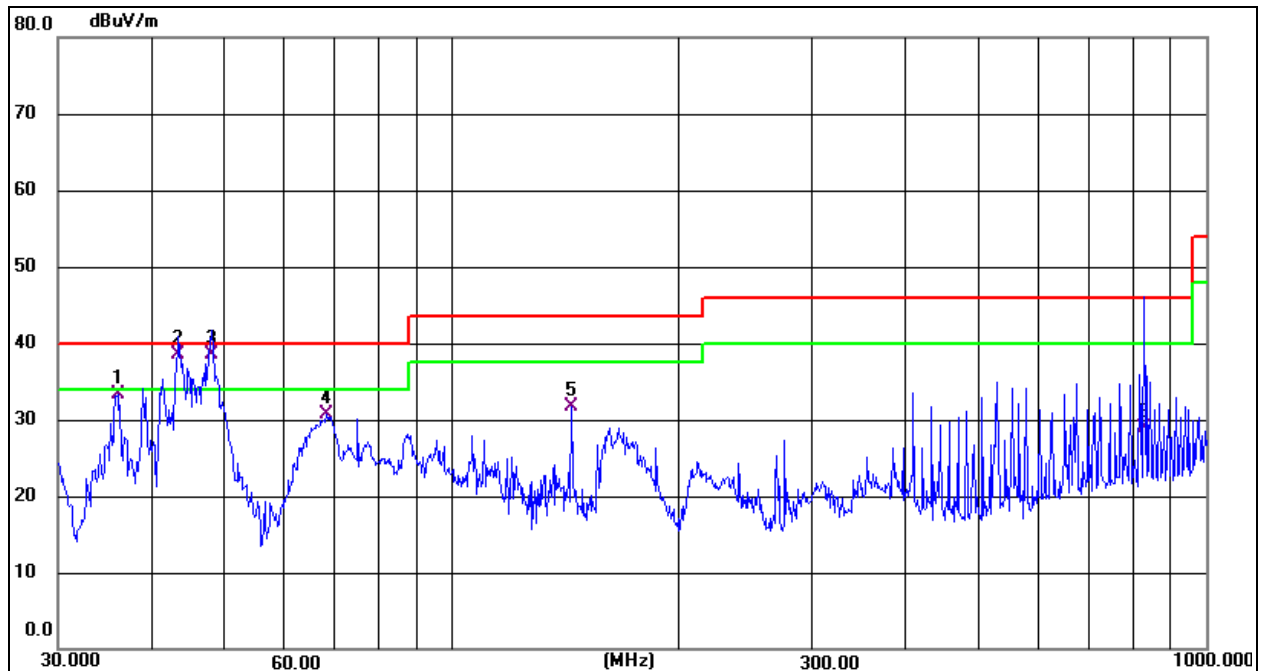


Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement = Reading Level + Correct Factor
3. Over = Measurement - Limit

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	43.3534	49.78	-16.87	32.91	40.00	-7.09	QP
2 *	47.9940	50.79	-16.83	33.96	40.00	-6.04	QP
3	104.5361	53.06	-18.27	34.79	43.50	-8.71	QP
4	281.0075	36.61	-14.41	22.20	46.00	-23.80	QP
5	627.2738	24.40	-4.30	20.10	46.00	-25.90	QP
6	701.7610	26.00	-2.80	23.20	46.00	-22.80	QP

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 24V From adapter
Test Mode:	Mode 1	Polarization:	Vertical



Remark:

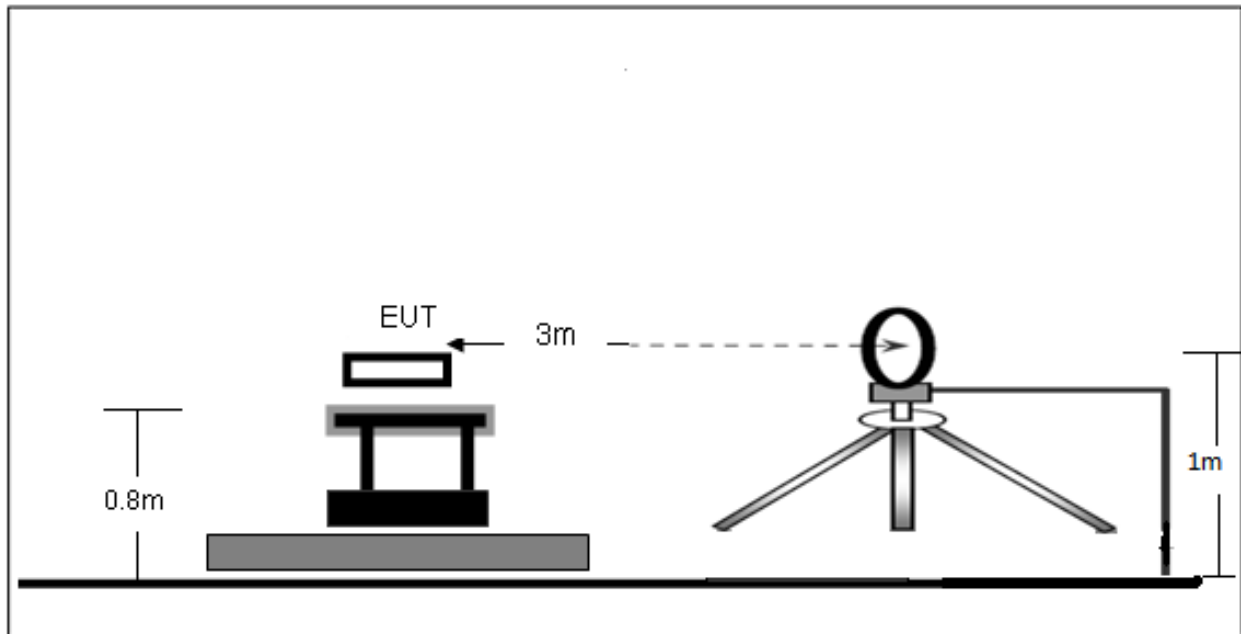
1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement = Reading Level + Correct Factor
3. Over = Measurement - Limit

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	36.0007	50.62	-17.39	33.23	40.00	-6.77	QP
2 *	43.3534	55.47	-16.87	38.60	40.00	-1.40	QP
3 !	47.9940	55.33	-16.83	38.50	40.00	-1.50	QP
4	68.1514	49.24	-18.53	30.71	40.00	-9.29	QP
5	143.8295	46.53	-14.90	31.63	43.50	-11.87	QP
6	827.4934	29.10	-0.20	28.90	46.00	-17.10	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).

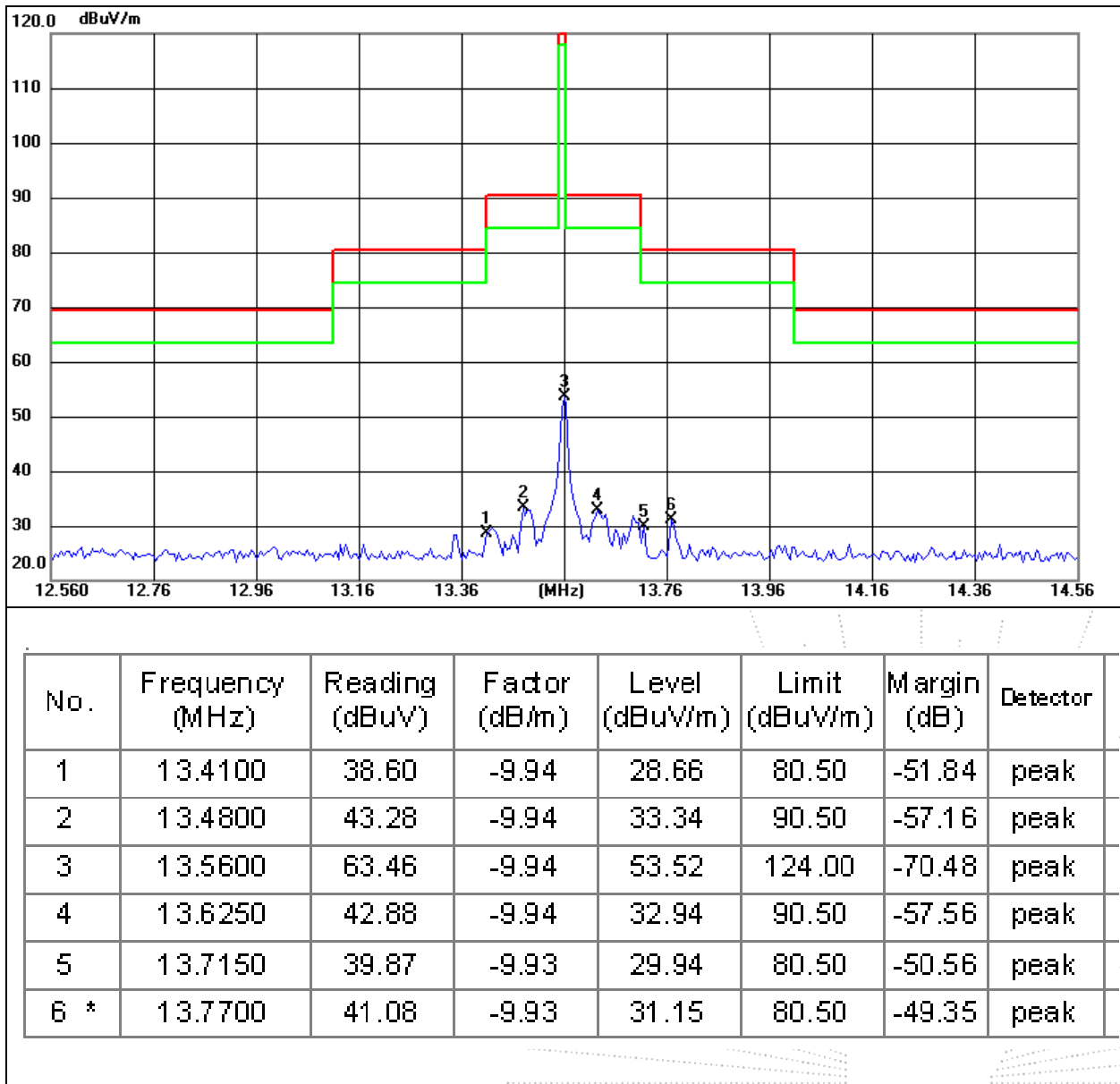
### 8.3 Test Procedure

- 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



## 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

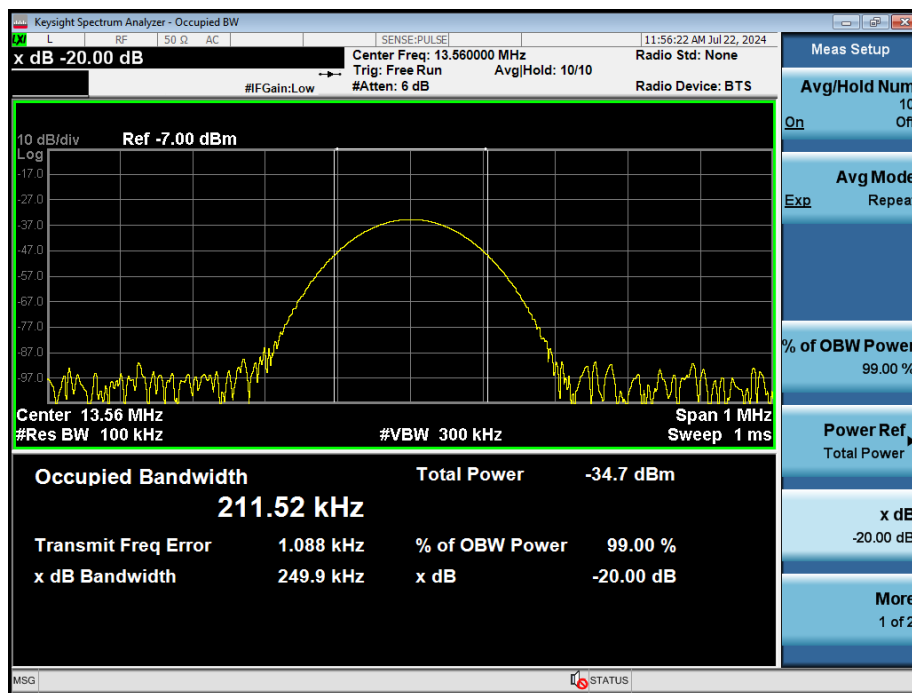
The EUT tested system was configured as the statements of 4.2 Unless otherwise a special operating condition is specified in the follows during the testing.

## 9.4 Test Result

Temperature:	26°C	Relative Humidity:	54%
Test Mode:	ASK	Test Voltage:	DC 24V From adapter

Frequency (MHz)	20dB bandwidth K(Hz)
13.56	249.9

### 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 =  $10\text{ kHz}$ .
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℃	Relative Humidity:	54%
Pressure:	101kPa	Test Voltage:	DC 24V From adapter
Test Mode :	TX Mode		

Test Conditions			Frequency Deviation		Limit(Hz)	Result
Frequency MHz	Power(V)	Temperature (℃)	Measured Freq. (MHz)	Frequency Error(Hz)		
13.56	24	-20	13.56005	60	1356	PASS
	24	-10	13.56014	190	1356	
	24	0	13.56007	90	1356	
	24	10	13.56011	130	1356	
	24	20	13.56012	140	1356	
	24	30	13.56008	70	1356	
	24	40	13.56032	150	1356	
	24	50	13.56007	80	1356	
	21.6	20	13.56007	50	1356	
	26.4	20	13.560014	120	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

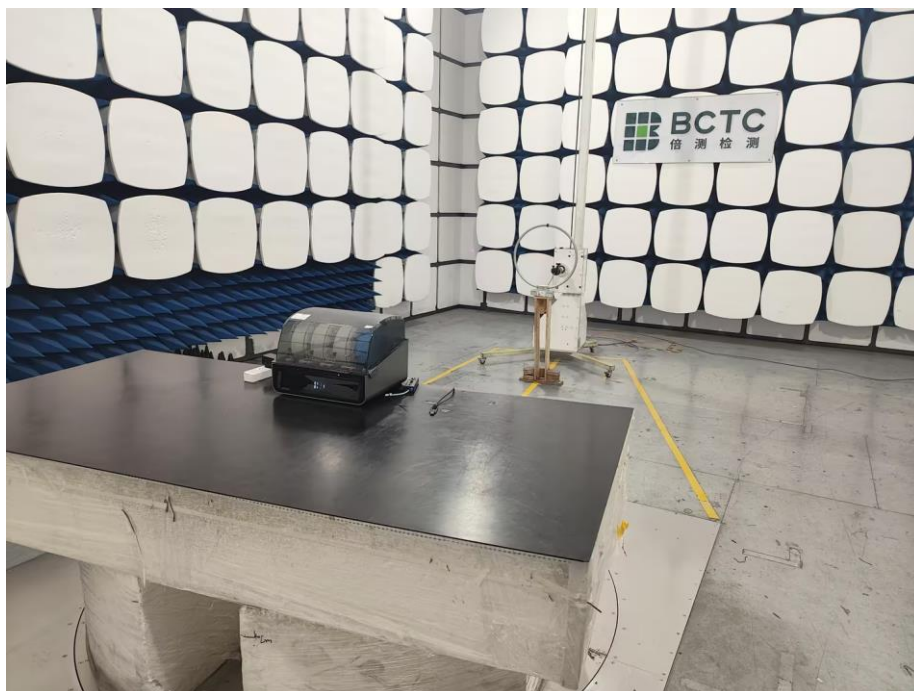
The EUT antenna is internal antenna, It comply with the standard requirement.

## 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.

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\*\*\*\*\* END \*\*\*\*\*