

# FCC Radio Test Report

## FCC ID: QISBKL-L04

This report concerns (check one): Original Grant Class I Change Class II Change

**Project No.** : 1803C073  
**Equipment** : Smart phone  
**Test Model** : BKL-L04  
**Series Model** : N/A  
**Applicant** : Huawei Technologies Co., Ltd.  
**Address** : Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C

**Date of Receipt** : Mar. 09, 2018  
**Date of Test** : Mar. 09, 2018 ~ Mar. 12, 2018  
**Issued Date** : Mar. 12, 2018  
**Tested by** : BTL Inc.

**Testing Engineer** : Chay cai  
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**Technical Manager** : Shawn Xiao  
(Shawn Xiao)

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# **B T L I N C .**

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### **Limitation**

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

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### REPORT ISSUED HISTORY

Issue No.	Description	Issued Date
BTL-FCCP-1-1803C073	Original Issue.	Mar. 12, 2018

## 1 CERTIFICATION

Equipment : Smart phone  
Brand Name : honor  
Test Model : BKL-L04  
Series Model : N/A  
Applicant : Huawei Technologies Co., Ltd.  
Manufacturer : Huawei Technologies Co.,Ltd.  
Address : Administration Building, Huawei Base, Bantian, Longgang District ,Shenzhen  
518129, P.R.China  
Factory : Huawei Technologies Co.,Ltd.  
Address : Administration Building, Huawei Base, Bantian, Longgang District ,Shenzhen  
518129, P.R.China  
Date of Test : Mar. 09, 2018 ~ Mar. 12, 2018  
Test Sample : Engineering Sample  
Standard(s) : FCC Part 15, Subpart C (15.225)  
ANSI C63.10-2013

The above equipment has been tested and found in compliance with the requirement of the relative standards by BTL Inc.

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCCP-1-1803C073) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of NVLAP according to the ISO-17025 quality assessment standard and technical standard(s).

**Test results included in this report is only for the RFID 13.56MHz part.**

## 2 SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

Standard Section	Test Item	Result
15.207	Conducted emission	PASS
15.35 / 15.205 / 15.209 / 15.225	Radiated emission	PASS
15.225(e)	Frequency Stability	PASS
15.203	Antenna Requirement	PASS

NOTE:

(1) N/A denotes test is not applicable in this test report

## 2.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No.3,Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.

BTL's test firm number for FCC: 854385

BTL's designation number for FCC: CN5020

## 2.2 MEASUREMENT UNCERTAINTY

The measurement uncertainty figures shall be calculated according the methods described in the ETSI TR 100 028 and shall correspond to an expansion factor (coverage factor)  $k=1.96$  or  $k=2$ (which provide confidence levels of respectively 90% and 95.45% in the case where the distributions characterizing the actual measurement uncertainties are normal (Gaussian)). Measurement Uncertainty for a Level of Confidence of 95 %,  $U=2xUc(y)$ .

The BTL measurement uncertainty as below table:

### A. Conducted Measurement:

Test Site	Method	Measurement Frequency Range	U, (dB)
DG-C02	CISPR	150 KHz ~ 30MHz	2.32

### B. Radiated Measurement:




Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
DG-CB03	CISPR	9KHz~30MHz	V	3.79
		9KHz~30MHz	H	3.57
		30MHz ~ 200MHz	V	3.82
		30MHz ~ 200MHz	H	3.78
		200MHz ~ 1,000MHz	V	4.10
		200MHz ~ 1,000MHz	H	4.06
		1GHz~18GHz	V	3.12
		1GHz~18GHz	H	3.68
		18GHz~40GHz	V	4.15
		18GHz~40GHz	H	4.14

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.



### 3 GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

Equipment	Smart phone	
Brand Name	honor	
Test Model	BKL-L04	
Series Model	N/A	
Model Description	<p>BKL-L04 is subscriber equipment in the GSM/WCDMA/LTE system. The GSM frequency band includes GSM850 and GSM900 and DCS1800 and PCS1900. The UMTS frequency band is B1 and B2 and B4 and B5. The LTE frequency band is B2 and B4 and B5 and B7 and B12 and B17. But only GSM900 and GSM1800, UMTS frequency B2 and B4 and B5, LTE frequency B2 and B4 and B5 and B7 and B12 and B17 bands test data included in this report. The Mobile Phone implements such functions as RF signal receiving/transmitting, LTE/HSPA/UMTS and GSM/GPRS/EDGE protocol processing, voice, video MMS service, GPS, AGPS, NFC and WIFI etc. Externally it provides one micro SD card (it can also used as SIM card interface), earphone port (to provide voice service) and one SIM card interface. BKL-L04 is dual SIM smart phone. It also provides Bluetooth module to synchronize data between a PC and the phone, or to use the built-in modem of the phone to access the Internet with a PC, or to exchange data with other Bluetooth devices.</p>	
Hardware Version	HL1BKLL04M	
Software Version	BKL-L04 8.0.1.43(C567)	
Product Description	Operation Frequency	13.56 MHz
	Antenna Designation	Metal Frame Antenna
	Field Strength	51.33 dBuV/m
Power Source	#1 DC Voltage supplied from AC/DC adapter. #2 Battery Supplied.	
Power Rating	#1 I/P: 100-240V ~50/60Hz 0.75A O/P: 5V  2A OR 4.5V  5A OR 5V  4.5A #2 3.82V	

Note:

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

2. The EUT contains following accessory devices

Item	Mfr/Brand	Model.
Battery	SCUD(FUJIAN)Electronics Co., Ltd	HB386589ECW
	DESAY CORPORATION.	
USB Cable	FOXCONN INTERCONNECT TECHNOLOGY LIMITED.	CUDU01B-HC269-EH
	HONGLIN TECHNOLOGY CO.,LTD	130-27309
	MING JI ELECTRONICS CO.,LTD.	203-0861-0
	LUXSHAREICT	L99UC018-CS-H
Earphone	Jiangxi Lianchuang Hongsheng Electronic Co.,LTD	MEMD1632B580C00
	BOLUO COUNTY QUANCHENG ELECTRONIC CO.,LTD	1311-3291-3.5mm-229
	Merry Electronics Co., Ltd	EMC309-001
	Goertek	NA12
Adapter	SHENZHEN HUNTKEY ELECTRIC CO., LTD.	HW-050450E00
	Huawei Technologies Co., Ltd.	HW-050450B00
	Salcomp (Shenzhen) Co., Ltd.	HW-050450U00
	PHIHONG TECHNOLOGY CO LTD.	HW-050450A00

### 3.2 DESCRIPTION OF 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	13.56MHz Transmit

#### Conducted emission test

Final Test Mode	Description
Mode 1	13.56MHz Transmit

#### Radiated emission test

Final Test Mode	Description
Mode 1	13.56MHz Transmit

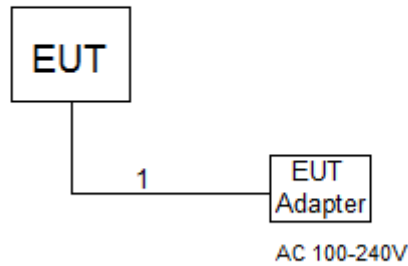
#### Frequency Stability test

Final Test Mode	Description
Mode 1	13.56MHz Transmit

#### Antenna Requirement test

Final Test Mode	Description
Mode 1	13.56MHz Transmit

### 3.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



### 3.4 DESCRIPTION OF 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.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.
-	-	-	-	-	-

Item	Shielded Type	Ferrite Core	Length	Note
1	NO	NO	1M	DC Cable

## 4 CONDUCTED EMISSION

### 4.1 LIMITS

FREQUENCY (MHz)	(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.
3. The test result calculated as following:  
 Measurement Value = Reading Level + Correct Factor  
 Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use)  
 Margin Level = Measurement Value – Limit Value

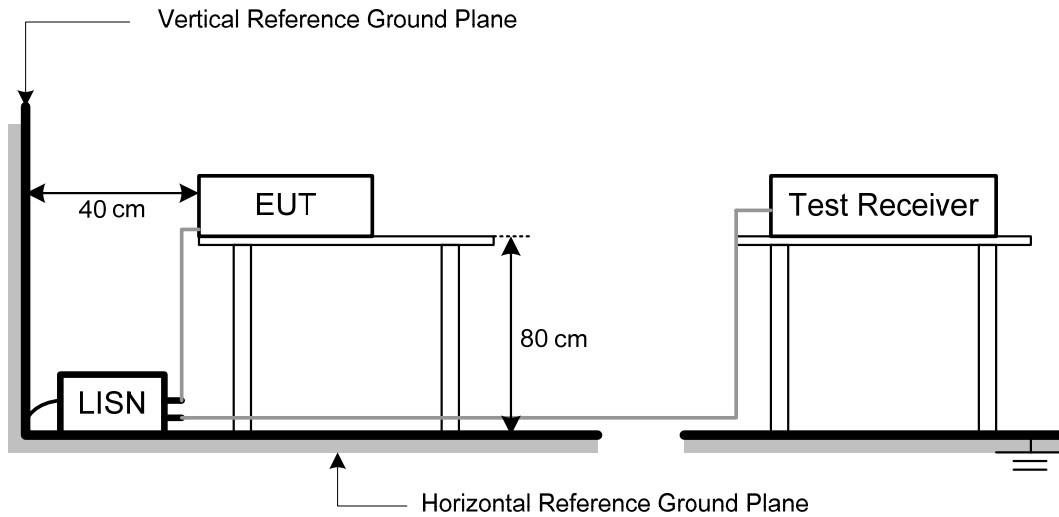
### 4.2 TEST PROCEDURES

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 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 at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

**NOTE:**

- a. Reading in which marked as Peak, QP or AVG means measurements by using are Quasi-Peak or Average Mode with Detector BW=9 kHz (6 dB Bandwidth).
- b. All readings are Peak Mode value unless otherwise stated QP or AVG in column of Note. If the Peak or QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only Peak or QP Mode was measured, but AVG Mode didn't perform.

### 4.3 TEST SETUP LAYOUT



### 4.4 DEVIATION FROM TEST STANDARD

No deviation

### 4.5 EUT OPERATING CONDITIONS

The EUT used during radiated and/or conducted emission measurement was designed to exercise in a manner similar to a typical use.

### 4.6 EUT TEST CONDITIONS

Temperature: 25°C

Relative Humidity: 55%

Test Voltage: AC 120V/60Hz

### 4.7 TEST RESULTS

Please refer to the Appendix A.

Remark:

- (1) All readings are QP Mode value unless otherwise stated AVG in column of 『Note』. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform in this case, a "\*" marked in AVG Mode column of Interference Voltage Measured.
- (2) Measuring frequency range from 150KHz to 30MHz.

## 5 RADIATED EMISSION

### 5.1 LIMITS

FCC Part 15.209				
Frequency (MHz)	Field Strength Limitation		Field Strength Limitation at 3m Measurement Dist	
	(uV/m)	Dist	(uV/m)	(dBuV/m)
0.009 – 0.490	2400 / F(KHz)	300m	10000 * 2400/F(KHz)	20log 2400/F(KHz) + 80
0.490 – 1.705	24000 / F(KHz)	30m	100 * 24000/F(KHz)	20log 24000/F(KHz) + 40
1.705 – 30.00	30	30m	100* 30	20log 30 + 40
30.0 – 88.0	100	3m	100	20log 100
88.0 – 216.0	150	3m	150	20log 150
216.0 – 960.0	200	3m	200	20log 200
Above 960.0	500	3m	500	20log 500
FCC Part 15.225(a)/(b)/(c)				
Frequency (MHz)	Field Strength Limitation		Field Strength Limitation at 3m Measurement Dist	
	(uV/m)	Dist	(uV/m)	(dBuV/m)
13.553 – 13.567	15,848	30 m	15,848*100	124
13.410 – 13.553 13.567 – 13.710	334	30 m	334*100	90.5
13.110 – 13.410 13.710 – 14.010	106	30 m	106*100	80.5

**NOTE:**

- (1) The tighter limit shall apply at the boundary between two frequency range.
- (2) Limitation expressed in dBuV/m is calculated by 20log Emission Level (uV/m).
- (3) If measurement is made at 3m distance, then F.S Limitation at 3m distance is adjusted by using the formula of  $L_{d1} = L_{d2} * (d_2/d_1)^2$ .  
Example:  
F.S Limit at 30m distance is 30uV/m , then F.S Limitation at 3m distance is adjusted as  $L_{d1} = L_1 = 30uV/m * (10)^2 = 100 * 30 uV/m$
- (4) The test result calculated as following:  
Measurement Value = Reading Level + Correct Factor  
Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use)  
Margin Level = Measurement Value – Limit Value

## 5.2 TEST PROCEDURE

- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The height of the equipment or of the substitution antenna shall be 0.8 m or 1.5m, the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- c. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- d. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1GHz)
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

### **NOTE: (FCC PART 15.209)**

- a. Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode with Detector BW=120 kHz.
- b. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.

### **NOTE: (FCC PART 15.225)**

- a. Spectrum Setting:
  - 9 KHz – 150 KHz, RBW= 200Hz, VBW=200Hz, Sweep time = 200 ms.
  - 150 K Hz – 30 MHz, RBW= 10 KHz, VBW=10 KHz, Sweep time = 200 ms.
  - 30 MHz – 1000 MHz, RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms.
- b. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.
- c. The Log-Bicon Antenna will use to test frequency range from 30MHz to 1000MHz and the Loop Antenna will use to test frequency below 30MHz.

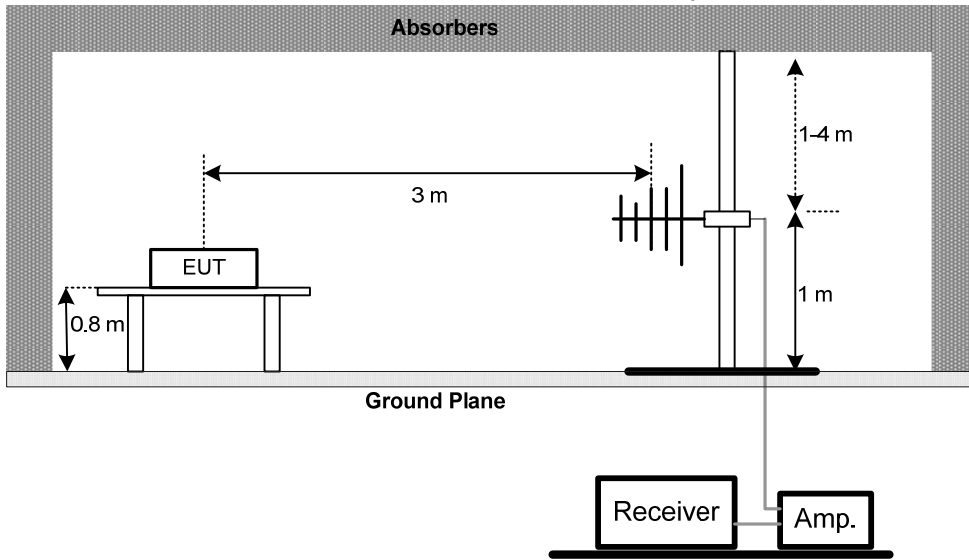


**5.3 DEVIATION FROM TEST STANDARD**

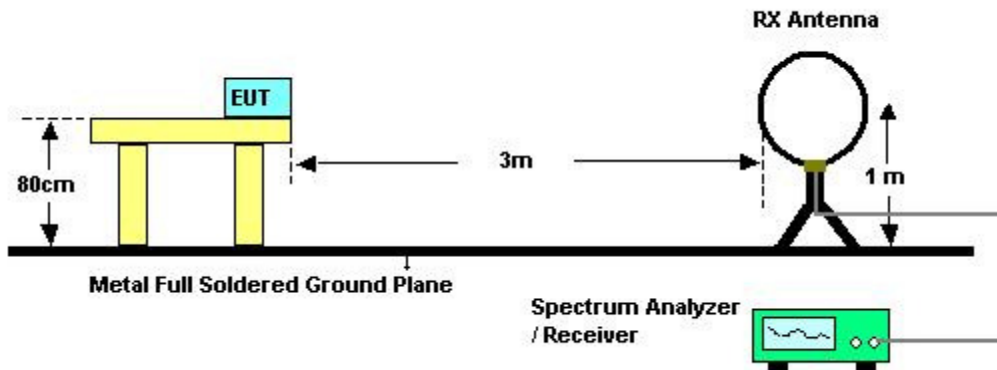
No deviation

**5.4 TEST SETUP**

(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



(B) For radiated emissions below 30MHz



**5.5 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.

## **5.6 EUT TEST CONDITIONS**

Temperature: 23°C

Relative Humidity: 70%

Test Voltage: AC 120V/60Hz

## **5.7 TEST RESULTS (BELOW 30MHZ) - FCC PART 15.209**

Please refer to the Appendix B.

## **5.8 TEST RESULTS - (30-1000MHZ) - FCC PART 15.209**

Please refer to the Appendix C.

## **5.9 TEST RESULTS- FCC PART 15.225**

Please refer to the Appendix D.

## 6 FREQUENCY STABILITY

### 6.1 LIMITS

#### FCC Part 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.

### 6.2 TEST PROCEDURE

- a. The equipment under test was connected to an external AC power supply and the RF output was connected to a frequency counter via feed through attenuators. The EUT was placed inside the temperature chamber.  
After the temperature stabilized for approximately 20 minutes, the frequency of the output signal was recorded from the counter.
- b. At room temperature ( $25\pm 5^{\circ}\text{C}$ ), an external variable AC power supply was connected to the EUT. The frequency of the transmitter was measured for 115%, 100% and 85% of the nominal operating input voltage.

### 6.3 DEVIATION FROM TEST STANDARD

No deviation

### 6.4 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.

### 6.5 EUT TEST CONDITIONS

Temperature:  $22^{\circ}\text{C}$   
Relative Humidity: 66%  
Test Voltage: AC 120V/60Hz

### 6.6 TEST RESULTS

Please refer to the Appendix E.

## 7 MEASUREMENT INSTRUMENTS LIST

Conducted Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EMI Test Receiver	R&S	ESCI	100382	Mar. 26, 2018
2	LISN	EMCO	3816/2	52765	Mar. 26, 2018
3	50Ω Terminator	SHX	TF2-3G-A	8122901	Mar. 26, 2018
4	TWO-LINE V-NETWORK	R&S	ENV216	101447	Mar. 26, 2018
5	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
6	Cable	N/A	RG223	12m	Oct. 19, 2018

Radiated Emission Below 1GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarbeck	VULB9160	9160-3232	Mar. 26, 2018
2	Amplifier	HP	8447D	2944A09673	Oct. 19, 2018
3	Receiver	Agilent	N9038A	MY52130039	Aug. 20, 2018
4	Cable	emci	LMR-400(30MHz-1 GHz)(8m+5m)	N/A	Jun. 26, 2018
5	Controller	CT	SC100	N/A	N/A
6	Controller	MF	MF-7802	MF780208416	N/A
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
8	Antenna	EM	EM-6876-1	230	Mar. 06, 2018

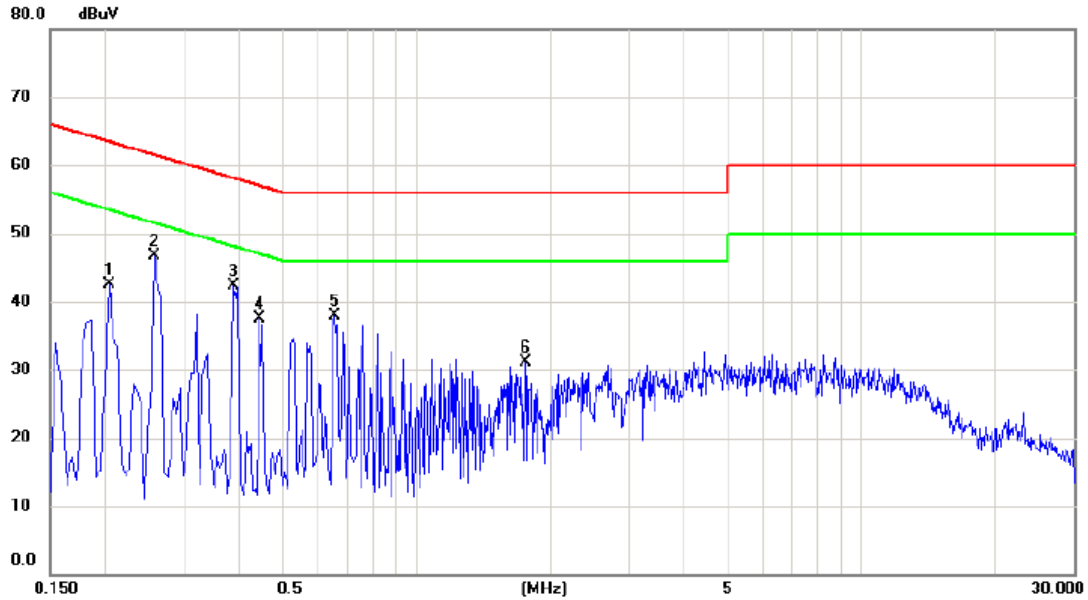
Frequency Stability Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP40	100185	Aug. 20, 2018
2	AC power source	APC	AFC-11003	F303081067(A1)	N/A
3	Precision Oven Tester	Bell	BTH-50C	20170306001	Mar. 26, 2018

Remark: "N/A" denotes no model name, serial no. or calibration specified.  
All calibration period of equipment list is one year.

## APPENDIX A - CONDUCTED EMISSION

Test Mode : 13.56MHz Transmit\_Adapter: HUNTKEY

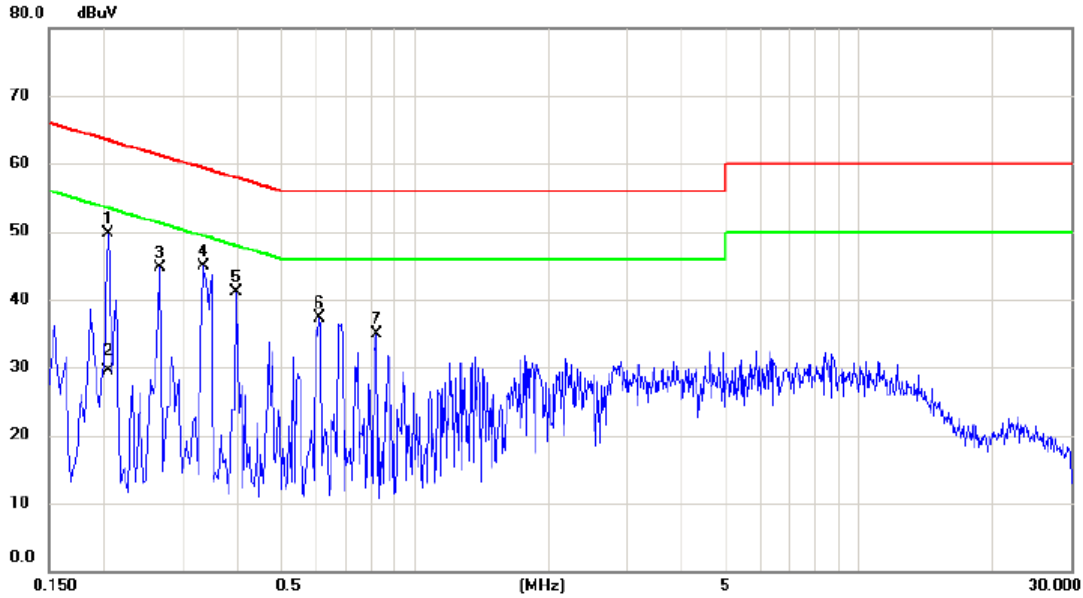
**Line**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.2040	32.73	9.72	42.45	63.45	-21.00	peak	
2	*	0.2580	37.02	9.73	46.75	61.50	-14.75	peak	
3		0.3885	32.48	9.75	42.23	58.10	-15.87	peak	
4		0.4425	27.66	9.75	37.41	57.01	-19.60	peak	
5		0.6540	28.12	9.76	37.88	56.00	-18.12	peak	
6		1.7564	21.31	9.81	31.12	56.00	-24.88	peak	

Test Mode : 13.56MHz Transmit\_Adapter: HUNTKEY

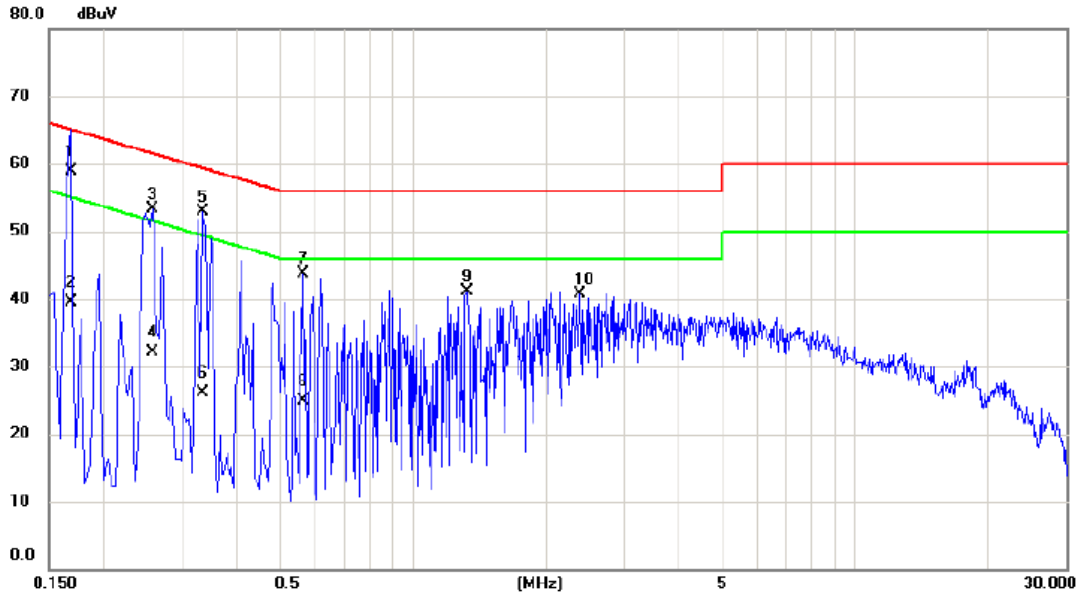
**Neutral**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	*	0.2040	40.08	9.65	49.73	63.45	-13.72	peak	
2		0.2040	19.80	9.65	29.45	53.45	-24.00	AVG	
3		0.2670	35.08	9.64	44.72	61.21	-16.49	peak	
4		0.3345	35.16	9.65	44.81	59.34	-14.53	peak	
5		0.3975	31.46	9.64	41.10	57.91	-16.81	peak	
6		0.6090	27.59	9.66	37.25	56.00	-18.75	peak	
7		0.8204	25.25	9.66	34.91	56.00	-21.09	peak	

Test Mode : 13.56MHz Transmit\_Adapter: PHIHONG

Line

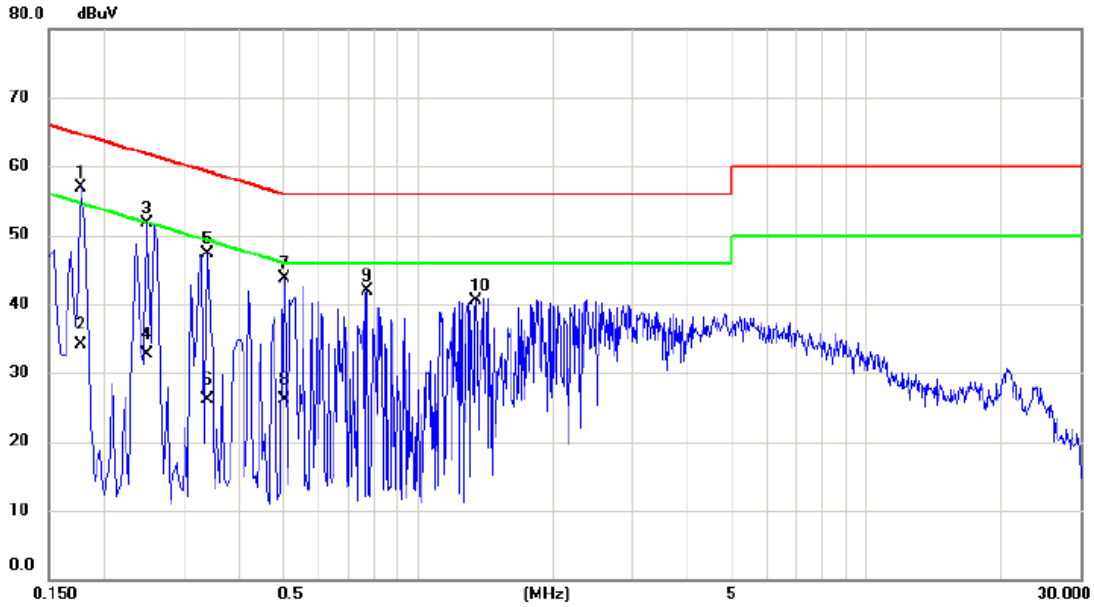


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	*	0.1680	49.20	9.74	58.94	65.06	-6.12	QP	
2		0.1680	29.80	9.74	39.54	55.06	-15.52	AVG	
3		0.2580	43.54	9.73	53.27	61.50	-8.23	peak	
4		0.2580	22.40	9.73	32.13	51.50	-19.37	AVG	
5		0.3345	43.09	9.74	52.83	59.34	-6.51	peak	
6		0.3345	16.30	9.74	26.04	49.34	-23.30	AVG	
7		0.5640	33.86	9.76	43.62	56.00	-12.38	peak	
8		0.5640	15.20	9.76	24.96	46.00	-21.04	AVG	
9		1.3245	31.38	9.80	41.18	56.00	-14.82	peak	
10		2.3865	30.85	9.84	40.69	56.00	-15.31	peak	



Test Mode : 13.56MHz Transmit\_Adapter: PHIHONG

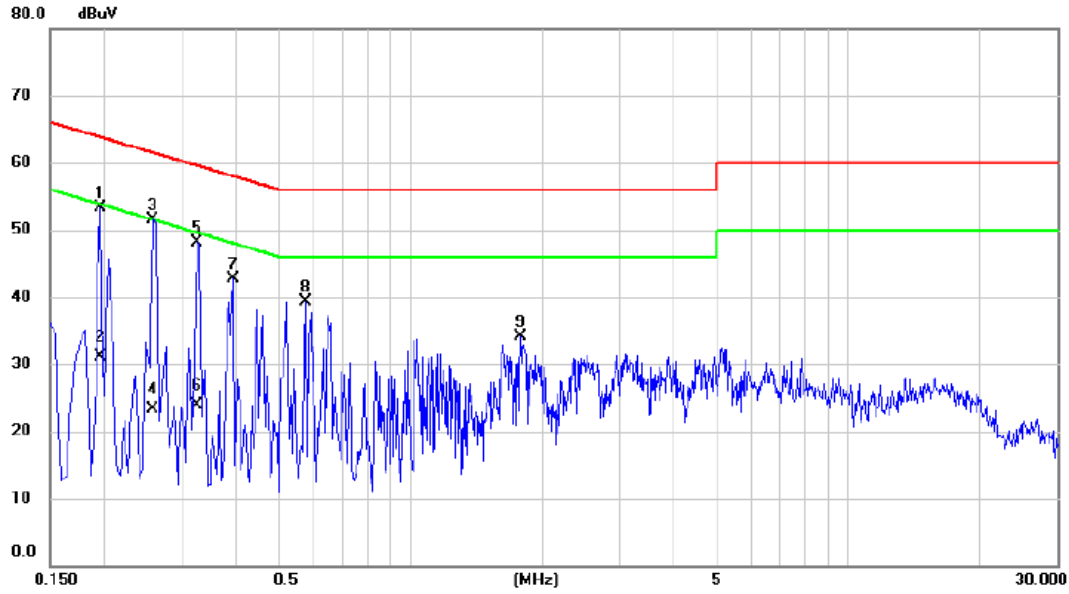
**Neutral**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	*	0.1770	47.23	9.64	56.87	64.63	-7.76	peak	
2		0.1770	24.50	9.64	34.14	54.63	-20.49	AVG	
3		0.2490	42.15	9.63	51.78	61.79	-10.01	peak	
4		0.2490	23.10	9.63	32.73	51.79	-19.06	AVG	
5		0.3390	37.57	9.66	47.23	59.23	-12.00	peak	
6		0.3390	16.50	9.66	26.16	49.23	-23.07	AVG	
7		0.5055	33.95	9.66	43.61	56.00	-12.39	peak	
8		0.5055	16.40	9.66	26.06	46.00	-19.94	AVG	
9		0.7710	32.15	9.66	41.81	56.00	-14.19	peak	
10		1.3470	30.74	9.68	40.42	56.00	-15.58	peak	

Test Mode : 13.56MHz Transmit\_Adapter: Salcomp

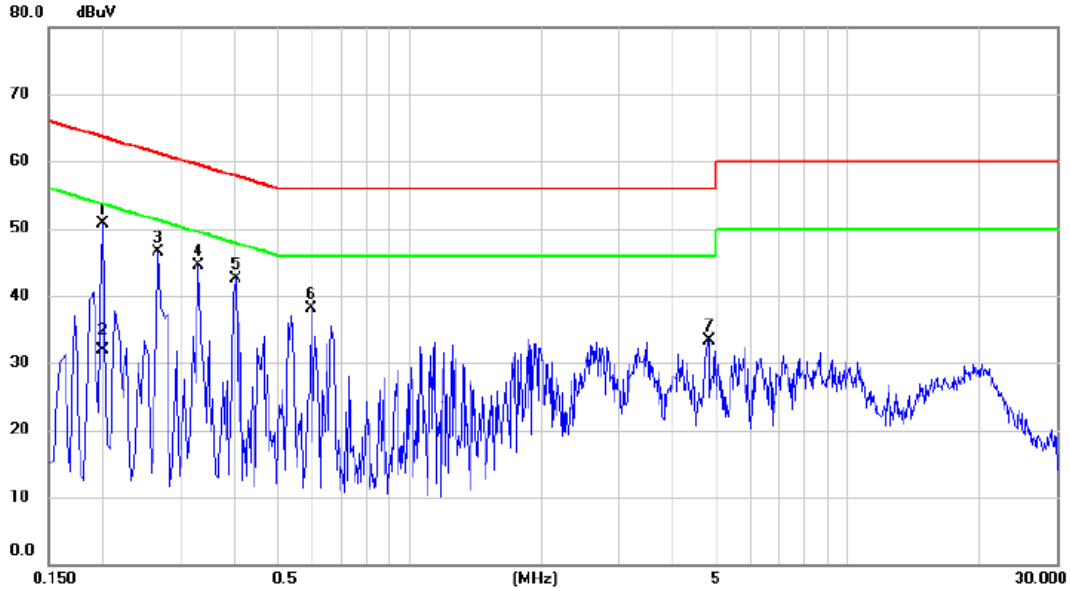
**Line**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1950	43.68	9.72	53.40	63.82	-10.42	peak	
2		0.1950	21.40	9.72	31.12	53.82	-22.70	AVG	
3	*	0.2580	41.79	9.73	51.52	61.50	-9.98	peak	
4		0.2580	13.60	9.73	23.33	51.50	-28.17	AVG	
5		0.3255	38.46	9.74	48.20	59.57	-11.37	peak	
6		0.3255	14.20	9.74	23.94	49.57	-25.63	AVG	
7		0.3930	32.91	9.75	42.66	58.00	-15.34	peak	
8		0.5775	29.57	9.76	39.33	56.00	-16.67	peak	
9		1.7835	24.25	9.81	34.06	56.00	-21.94	peak	

Test Mode : 13.56MHz Transmit\_Adapter: Salcomp

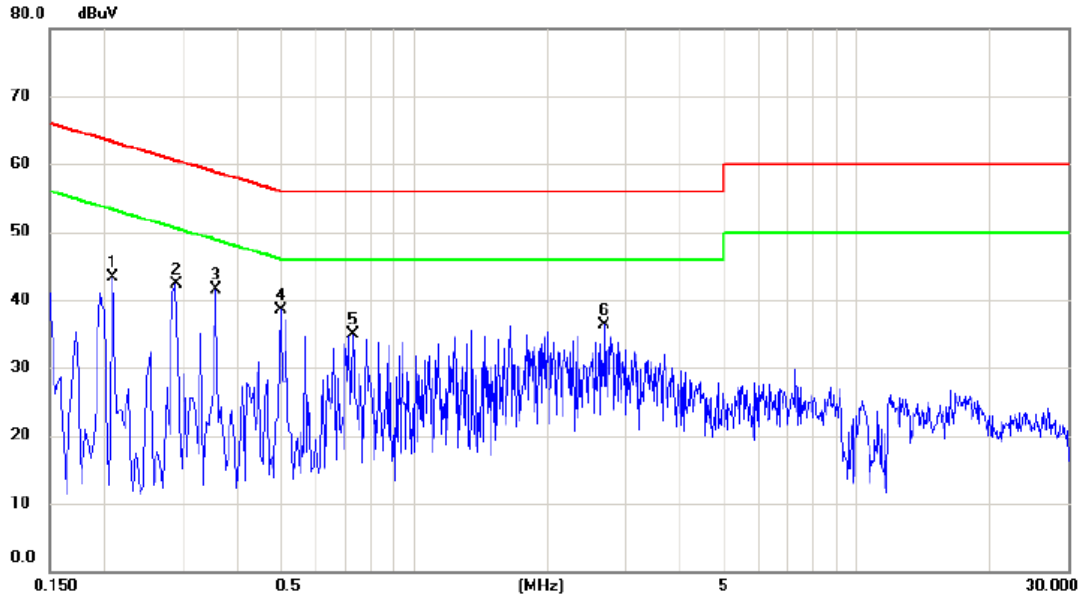
**Neutral**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	*	0.1995	41.07	9.65	50.72	63.63	-12.91	peak	
2		0.1995	22.30	9.65	31.95	53.63	-21.68	AVG	
3		0.2670	36.88	9.64	46.52	61.21	-14.69	peak	
4		0.3300	34.91	9.65	44.56	59.45	-14.89	peak	
5		0.4020	32.79	9.64	42.43	57.81	-15.38	peak	
6		0.5955	28.47	9.66	38.13	56.00	-17.87	peak	
7		4.8210	23.54	9.84	33.38	56.00	-22.62	peak	

Test Mode : 13.56MHz Transmit\_Adapter: Huawei

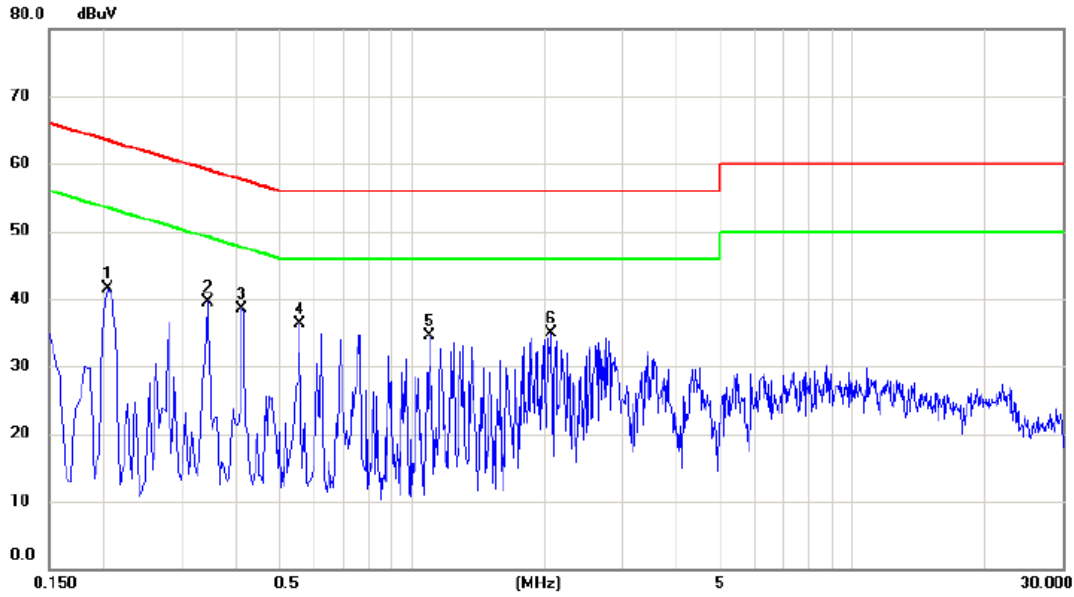
**Line**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.2085	33.67	9.72	43.39	63.26	-19.87	peak	
2		0.2895	32.60	9.72	42.32	60.54	-18.22	peak	
3	*	0.3570	31.74	9.75	41.49	58.80	-17.31	peak	
4		0.5010	28.82	9.76	38.58	56.00	-17.42	peak	
5		0.7260	25.17	9.77	34.94	56.00	-21.06	peak	
6		2.6970	26.54	9.85	36.39	56.00	-19.61	peak	

Test Mode : 13.56MHz Transmit\_Adapter: Huawei

**Neutral**

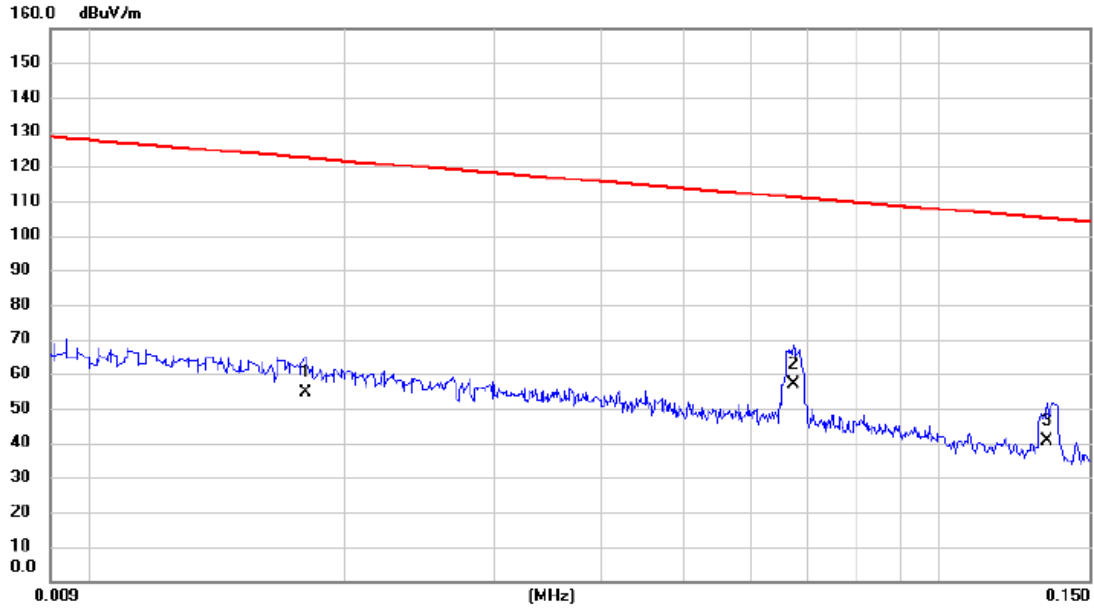


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.2040	31.84	9.65	41.49	63.45	-21.96	peak	
2		0.3435	29.94	9.66	39.60	59.12	-19.52	peak	
3	*	0.4110	28.89	9.64	38.53	57.63	-19.10	peak	
4		0.5550	26.74	9.66	36.40	56.00	-19.60	peak	
5		1.0995	24.84	9.68	34.52	56.00	-21.48	peak	
6		2.0670	25.18	9.74	34.92	56.00	-21.08	peak	

## APPENDIX B - RADIATED EMISSION (9KHZ-30MHZ)

Test Mode: 13.56MHz Transmit\_Adapter: HUNTKEY

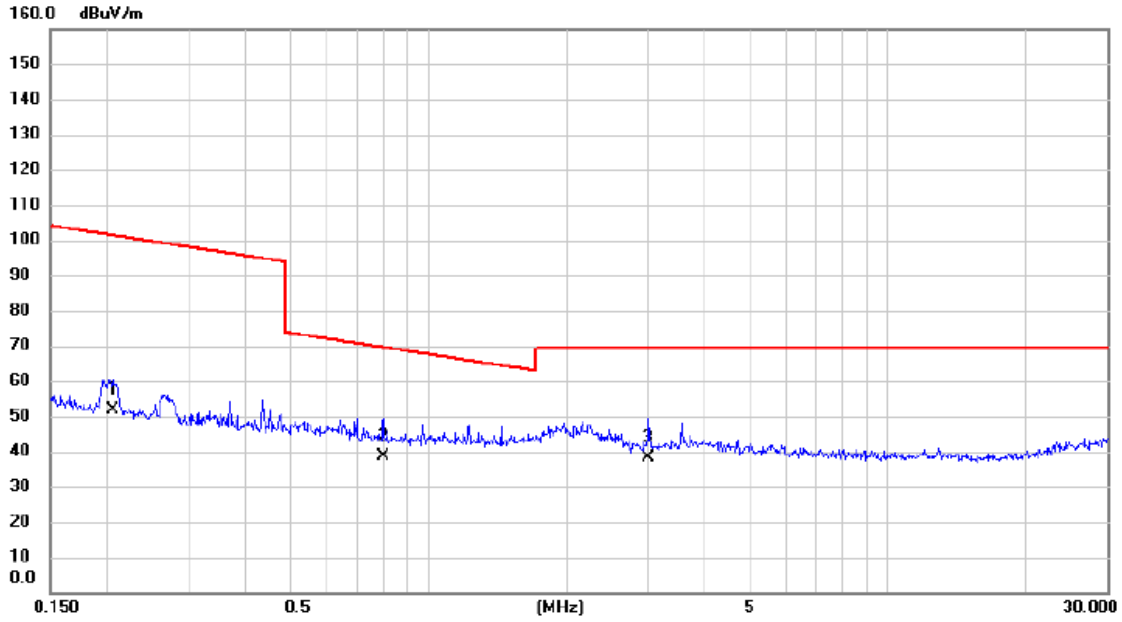
Ant 0°



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.0180	34.68	19.88	54.56	122.50	-67.94	AVG	
2	*	0.0674	38.78	18.38	57.16	111.03	-53.87	AVG	
3		0.1337	23.28	17.17	40.45	105.08	-64.63	AVG	

Test Mode: 13.56MHz Transmit\_Adapter: HUNTKEY

Ant 0°

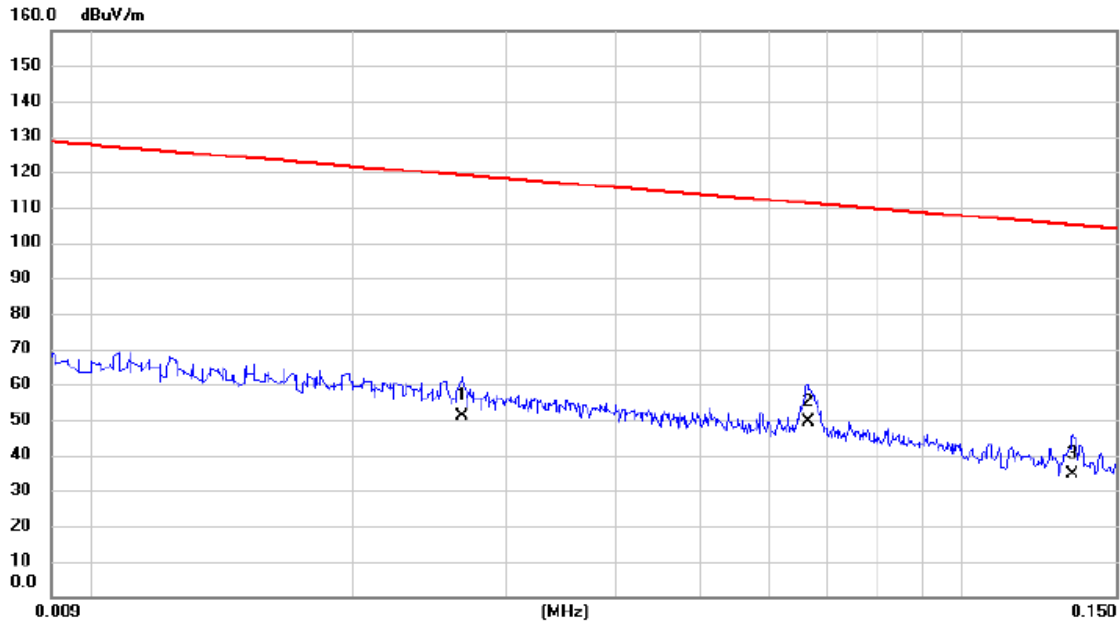


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.2050	34.98	16.78	51.76	101.37	-49.61	AVG	
2	*	0.7960	22.66	16.12	38.78	69.59	-30.81	QP	
3		3.0093	23.08	15.23	38.31	69.54	-31.23	QP	



Test Mode: 13.56MHz Transmit\_Adapter: HUNTKEY

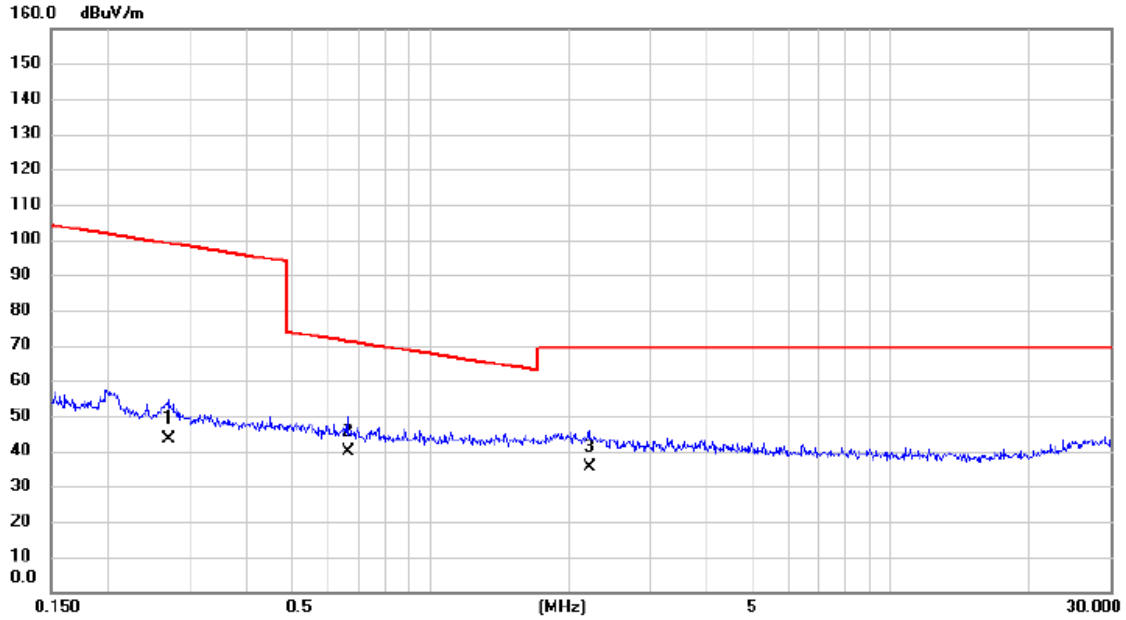
**Ant 90°**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.0267	31.66	19.42	51.08	119.07	-67.99	AVG	
2	*	0.0665	30.96	18.40	49.36	111.15	-61.79	AVG	
3		0.1337	17.57	17.17	34.74	105.08	-70.34	AVG	

Test Mode: 13.56MHz Transmit\_Adapter: HUNTKEY

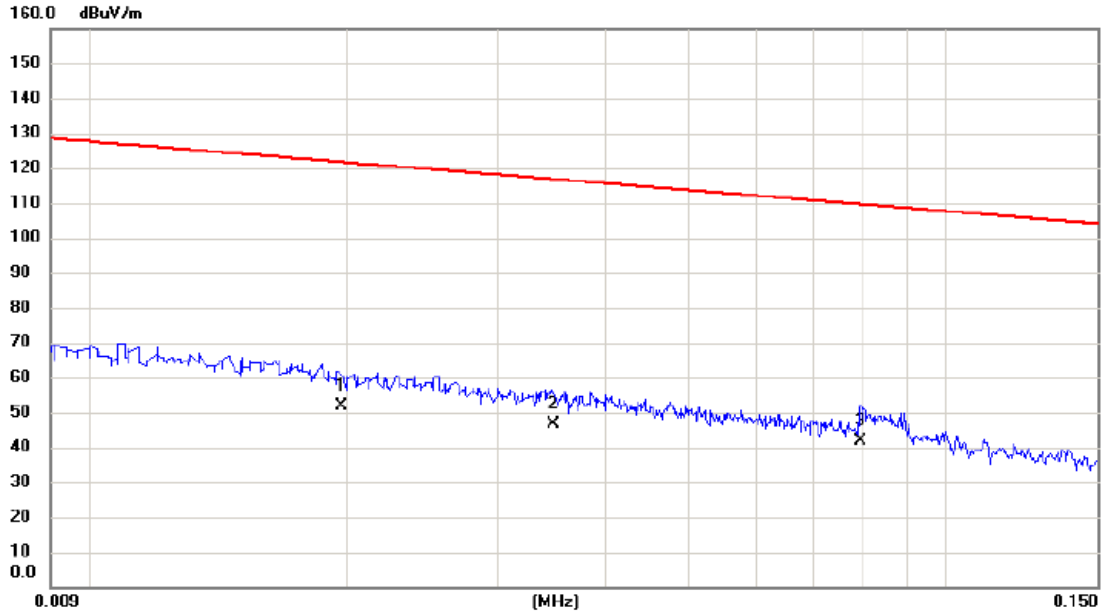
**Ant 90°**



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		0.2700	26.87	16.64	43.51	98.98	-55.47	AVG	
2	*	0.6647	23.45	16.28	39.73	71.15	-31.42	QP	
3		2.2132	20.11	15.45	35.56	69.54	-33.98	QP	

Test Mode: 13.56MHz Transmit\_Adapter: PHIHONG

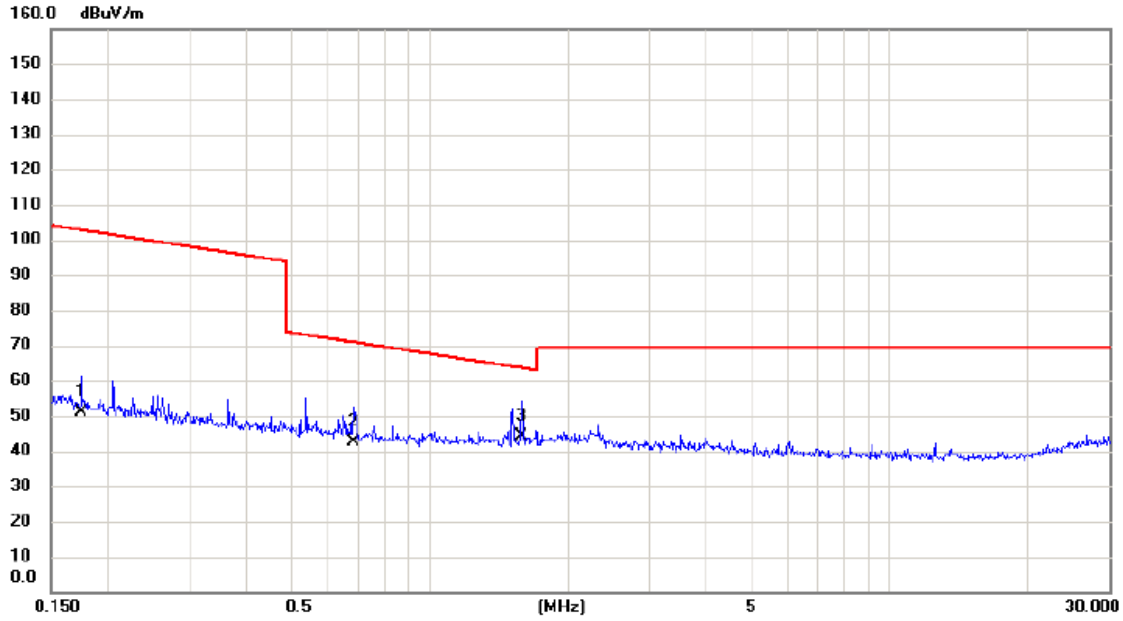
Ant 0°



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.0197	32.21	19.66	51.87	121.72	-69.85	AVG	
2		0.0348	27.44	19.18	46.62	116.77	-70.15	AVG	
3	*	0.0793	23.56	18.13	41.69	109.62	-67.93	AVG	

Test Mode: 13.56MHz Transmit\_Adapter: PHIHONG

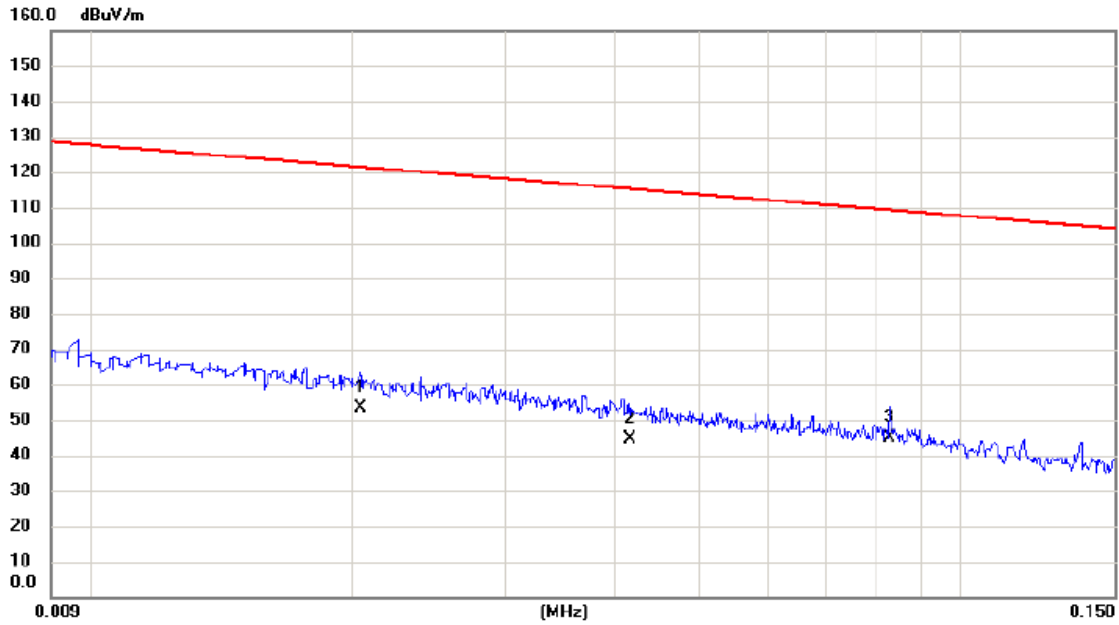
Ant 0°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		0.1740	34.26	16.88	51.14	102.80	-51.66	AVG	
2		0.6826	26.18	16.26	42.44	70.92	-28.48	QP	
3	*	1.5851	28.73	15.67	44.40	63.60	-19.20	QP	

Test Mode: 13.56MHz Transmit\_Adapter: PHIHONG

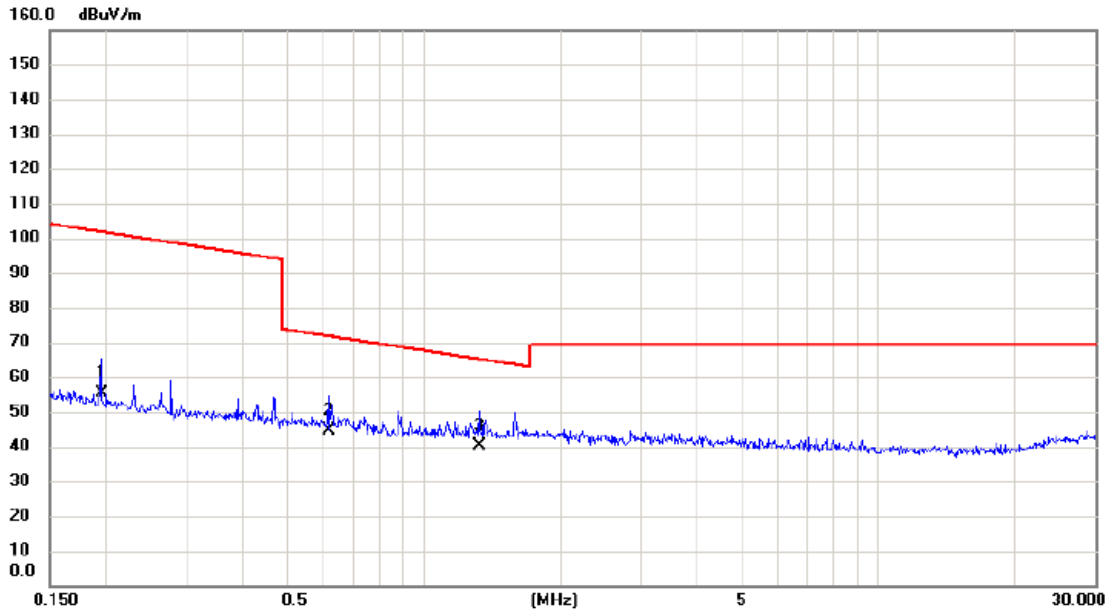
**Ant 90°**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.0204	33.87	19.61	53.48	121.41	-67.93	AVG	
2		0.0416	25.63	18.97	44.60	115.22	-70.62	AVG	
3	*	0.0827	26.80	18.05	44.85	109.25	-64.40	AVG	

Test Mode: 13.56MHz Transmit\_Adapter: PHIHONG

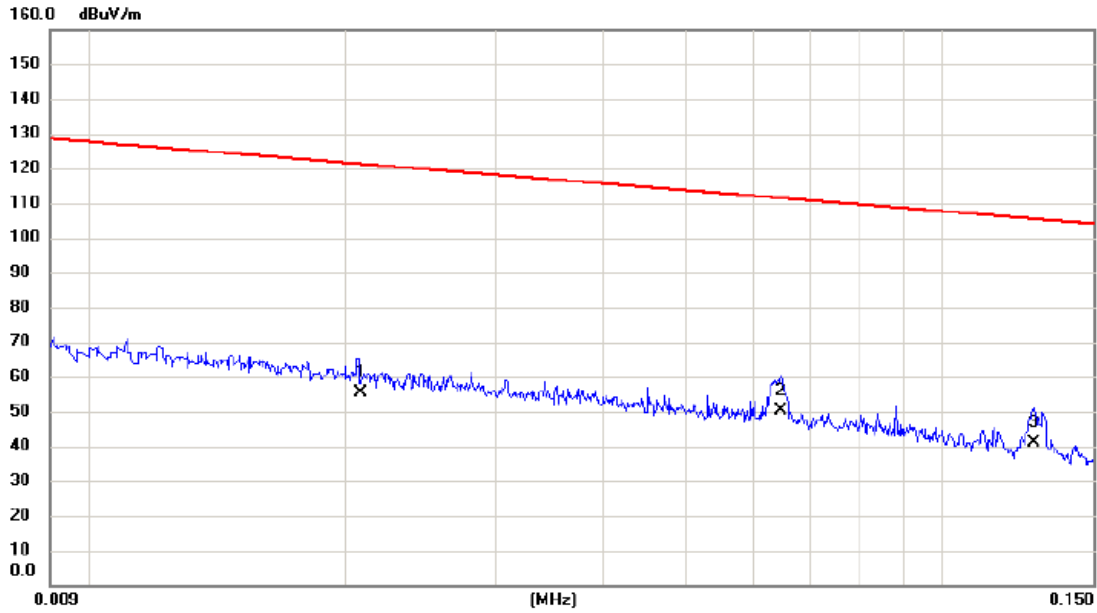
**Ant 90°**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.1955	38.44	16.81	55.25	101.78	-46.53	AVG	
2		0.6173	28.26	16.33	44.59	71.79	-27.20	QP	
3	*	1.3238	24.35	15.77	40.12	65.17	-25.05	QP	

Test Mode: 13.56MHz Transmit\_Adapter: Salcomp

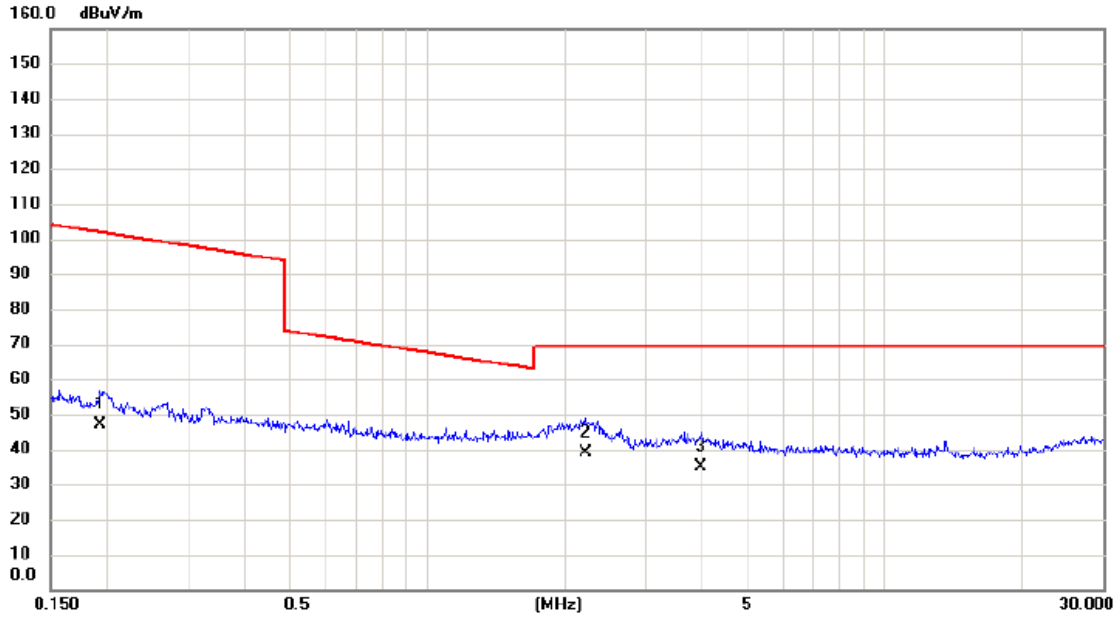
**Ant 0°**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.0208	35.98	19.60	55.58	121.24	-65.66	AVG	
2	*	0.0646	31.65	18.44	50.09	111.40	-61.31	AVG	
3		0.1278	23.68	17.25	40.93	105.48	-64.55	AVG	

Test Mode: 13.56MHz Transmit\_Adapter: Salcomp

Ant 0°

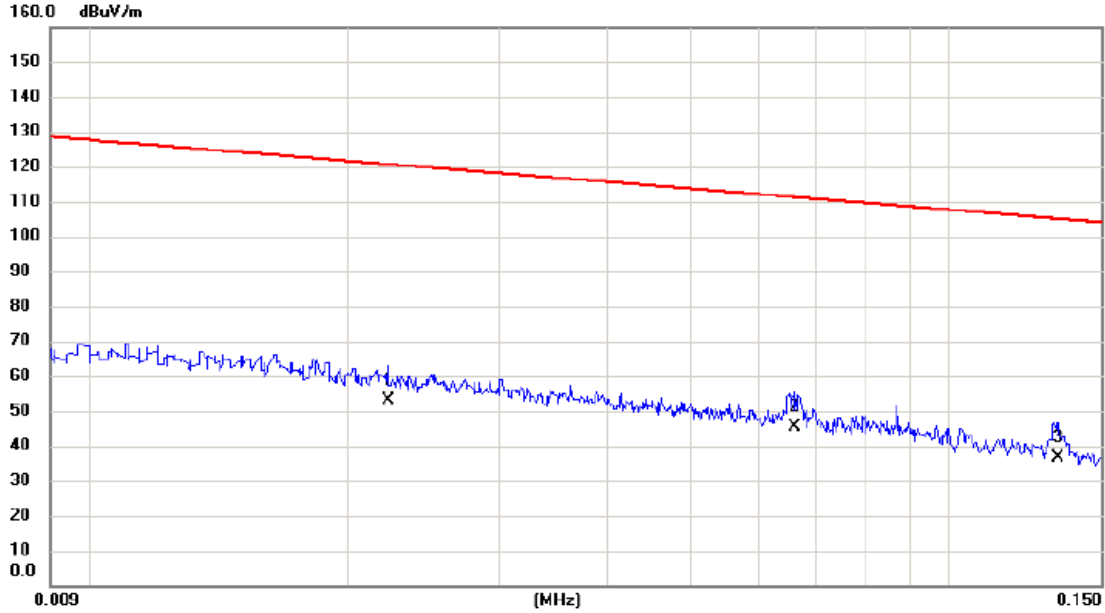


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.1924	30.16	16.82	46.98	101.92	-54.94	AVG	
2	*	2.2132	23.68	15.45	39.13	69.54	-30.41	QP	
3		3.9640	20.23	14.96	35.19	69.54	-34.35	QP	



Test Mode: 13.56MHz Transmit\_Adapter: Salcomp

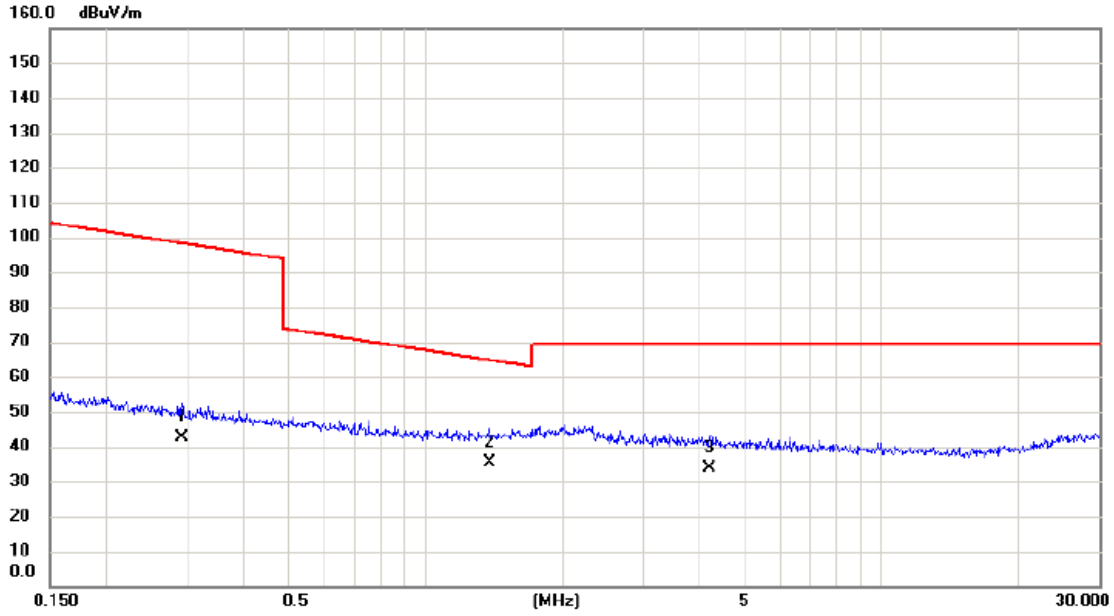
**Ant 90°**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.0223	33.45	19.55	53.00	120.64	-67.64	AVG	
2	*	0.0662	26.89	18.41	45.30	111.19	-65.89	AVG	
3		0.1337	19.52	17.17	36.69	105.08	-68.39	AVG	

Test Mode: 13.56MHz Transmit\_Adapter: Salcomp

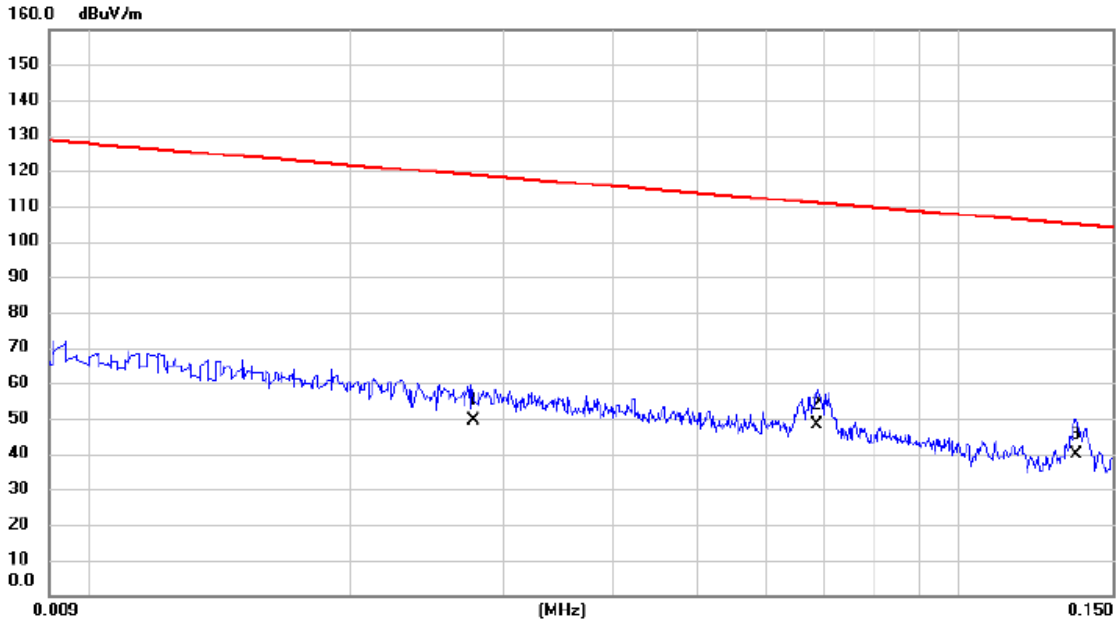
Ant 90°



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.2924	25.84	16.63	42.47	98.29	-55.82	AVG	
2	*	1.3810	19.52	15.75	35.27	64.80	-29.53	QP	
3		4.2018	19.06	14.83	33.89	69.54	-35.65	QP	

Test Mode: 13.56MHz Transmit\_Adapter: Huawei

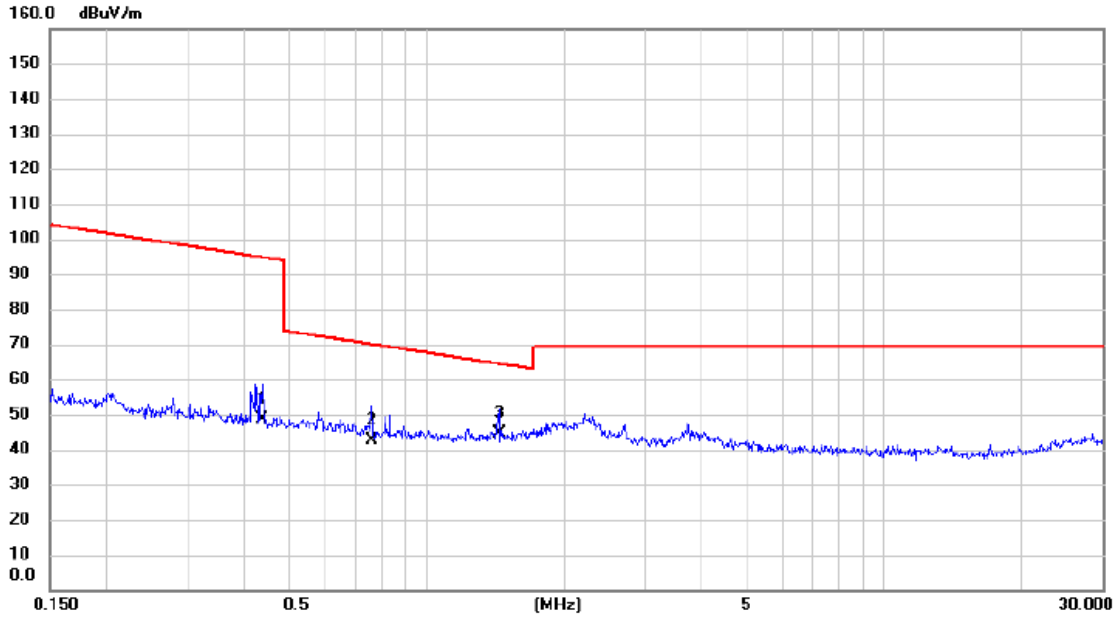
Ant 0°



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.0277	29.88	19.39	49.27	118.76	-69.49	AVG	
2	*	0.0687	29.95	18.36	48.31	110.87	-62.56	AVG	
3		0.1363	22.58	17.13	39.71	104.92	-65.21	AVG	

Test Mode: 13.56MHz Transmit\_Adapter: Huawei

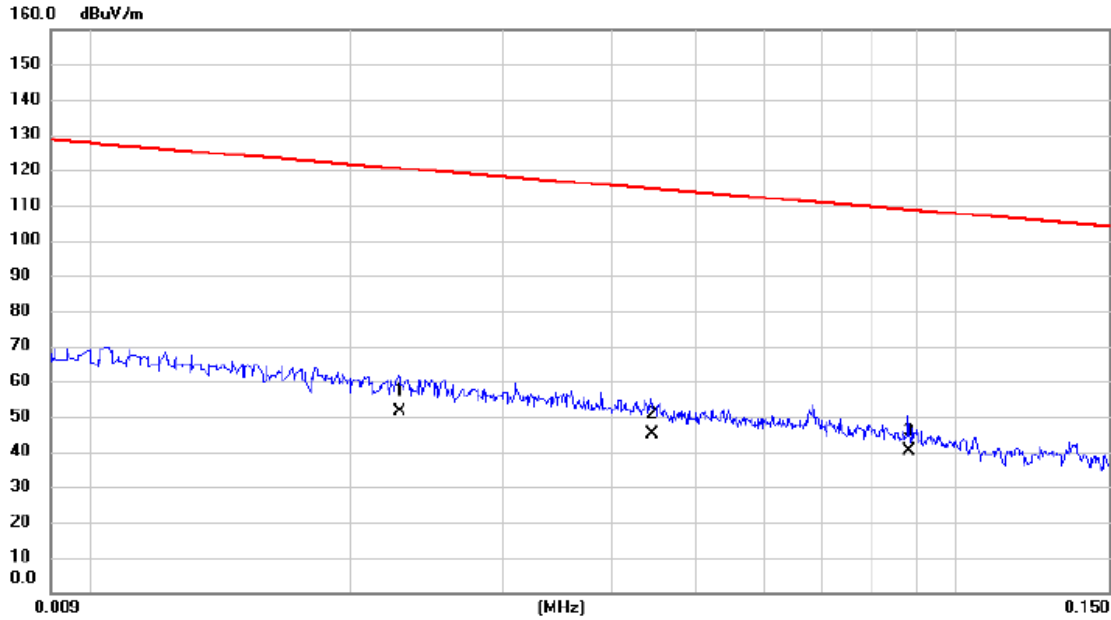
Ant 0°



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.4374	32.22	16.52	48.74	94.79	-46.05	AVG	
2		0.7590	26.58	16.17	42.75	70.00	-27.25	QP	
3	*	1.4410	28.76	15.72	44.48	64.43	-19.95	QP	

Test Mode: 13.56MHz Transmit\_Adapter: Huawei

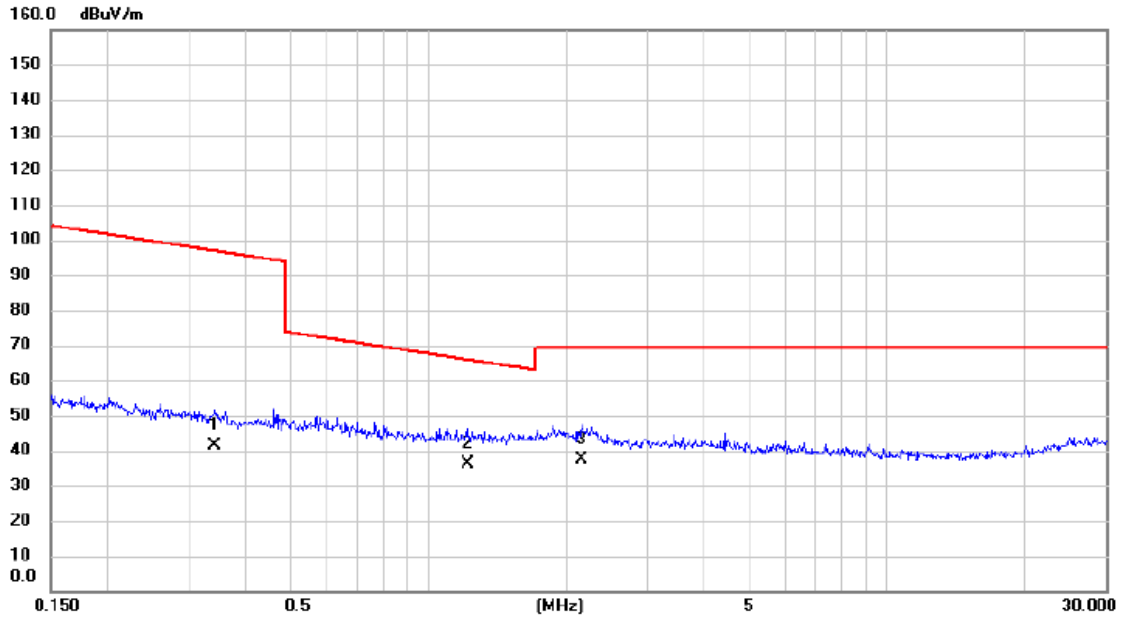
**Ant 90°**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.0228	31.98	19.54	51.52	120.45	-68.93	AVG	
2		0.0445	26.23	18.88	45.11	114.64	-69.53	AVG	
3	*	0.0881	22.23	17.92	40.15	108.71	-68.56	AVG	

Test Mode: 13.56MHz Transmit\_Adapter: Huawei

**Ant 90°**

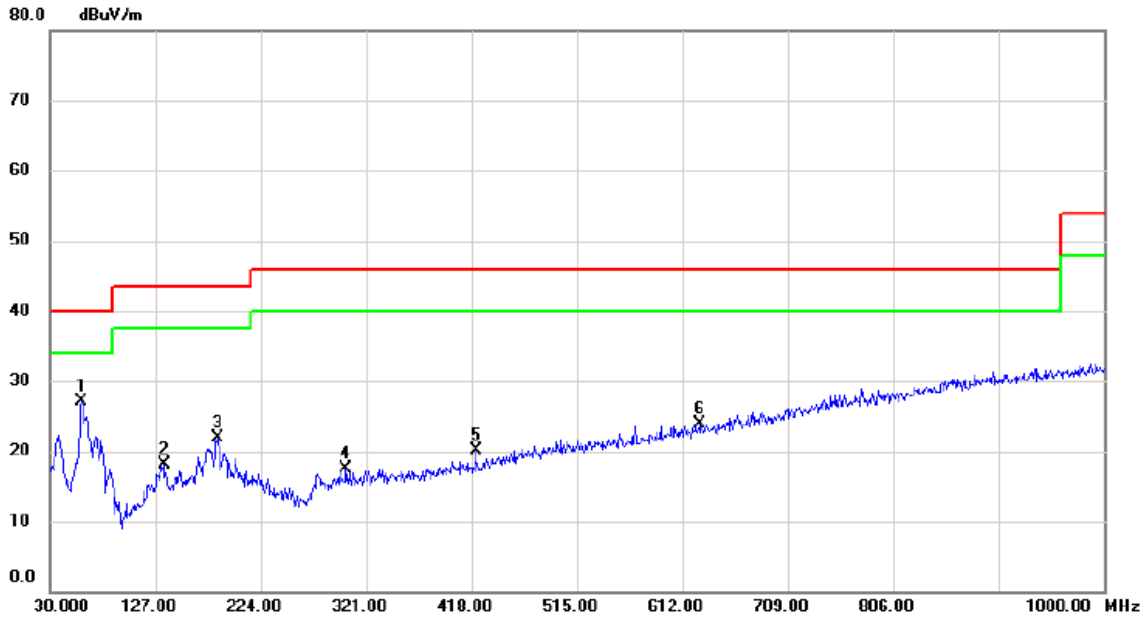


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.3410	24.88	16.59	41.47	96.95	-55.48	AVG	
2	*	1.2162	20.56	15.80	36.36	65.90	-29.54	QP	
3		2.1552	21.96	15.46	37.42	69.54	-32.12	QP	

## APPENDIX C - RADIATED EMISSION (30MHZ TO 1000MHZ)

Test Mode: 13.56MHz Transmit\_Adapter: HUNTKEY

**Vertical**

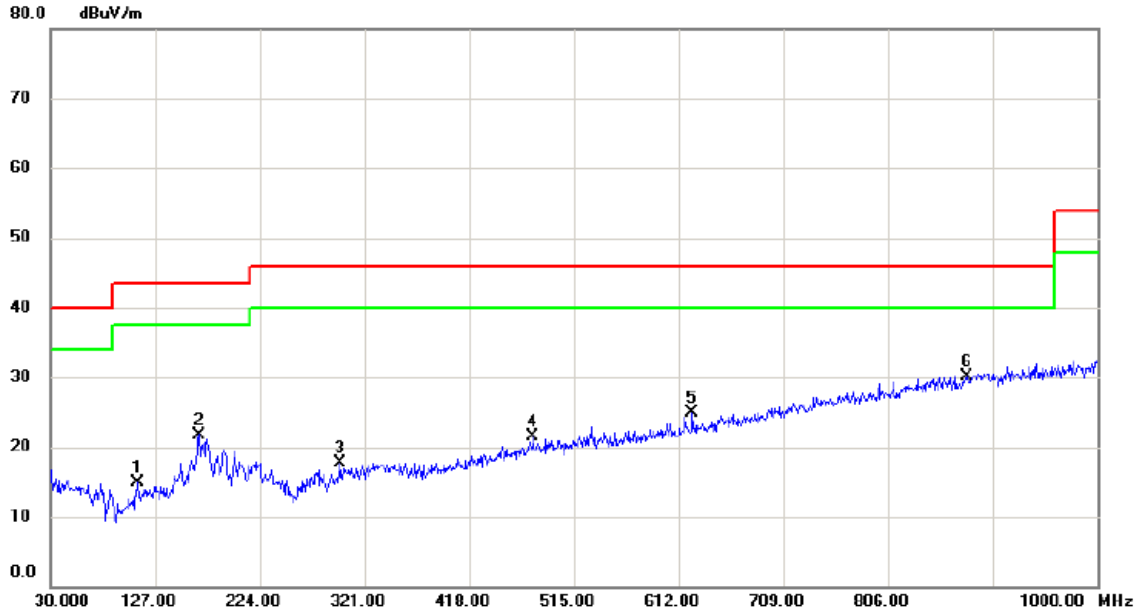


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	59.100	41.24	-14.22	27.02	40.00	-12.98	peak	
2		134.760	32.49	-14.47	18.02	43.50	-25.48	peak	
3		184.230	34.25	-12.38	21.87	43.50	-21.63	peak	
4		302.570	30.36	-12.79	17.57	46.00	-28.43	peak	
5		421.880	30.92	-10.74	20.18	46.00	-25.82	peak	
6		628.490	29.80	-5.88	23.92	46.00	-22.08	peak	



Test Mode: 13.56MHz Transmit\_Adapter: HUNTKEY

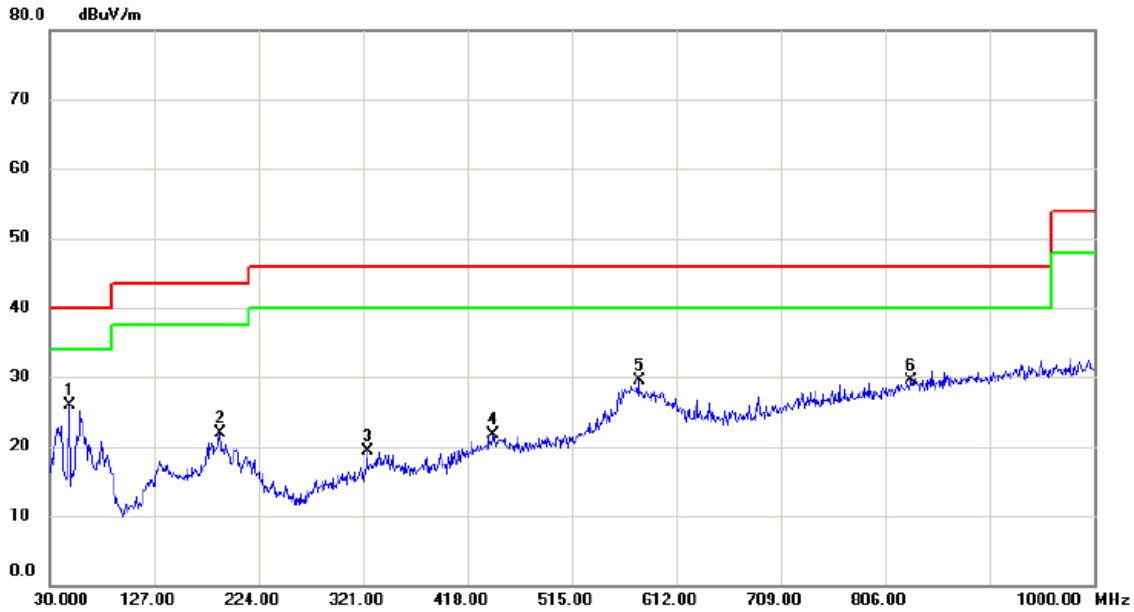
**Horizontal**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		110.510	30.97	-16.15	14.82	43.50	-28.68	peak	
2		167.740	34.27	-12.47	21.80	43.50	-21.70	peak	
3		298.690	30.74	-13.01	17.73	46.00	-28.27	peak	
4		477.170	30.80	-9.28	21.52	46.00	-24.48	peak	
5		624.610	30.80	-5.96	24.84	46.00	-21.16	peak	
6	*	878.750	29.59	0.59	30.18	46.00	-15.82	peak	

Test Mode: 13.56MHz Transmit\_Adapter: PHIHONG

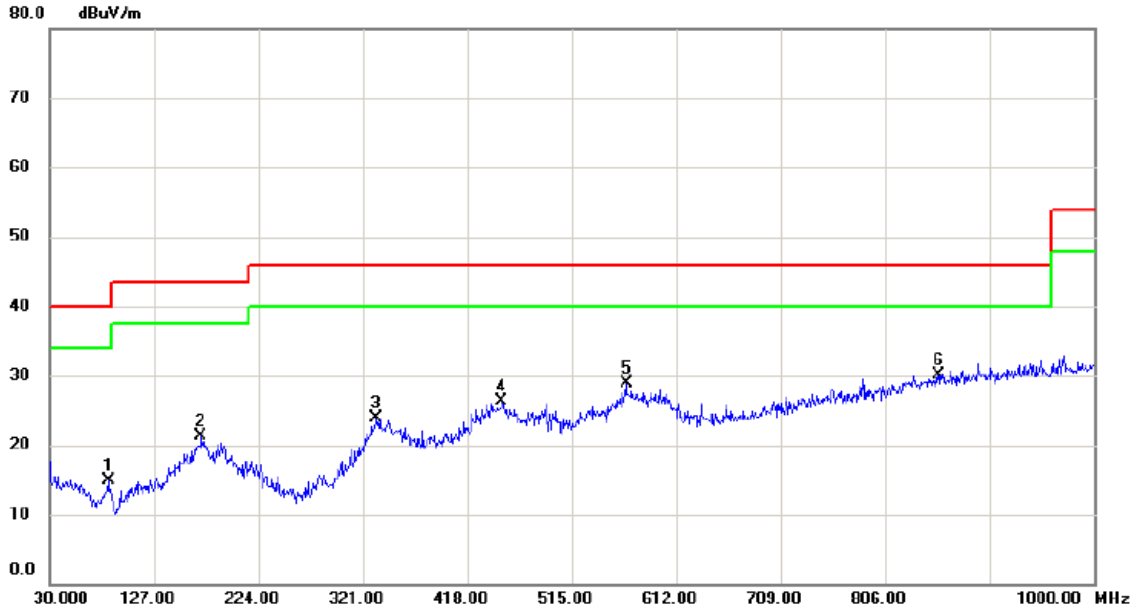
**Vertical**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	48.430	39.19	-13.28	25.91	40.00	-14.09	peak	
2		188.110	34.65	-12.70	21.95	43.50	-21.55	peak	
3		324.880	31.67	-12.40	19.27	46.00	-26.73	peak	
4		442.250	31.89	-10.16	21.73	46.00	-24.27	peak	
5		577.080	36.46	-7.02	29.44	46.00	-16.56	peak	
6		830.250	30.04	-0.54	29.50	46.00	-16.50	peak	

Test Mode: 13.56MHz Transmit\_Adapter: PHIHONG

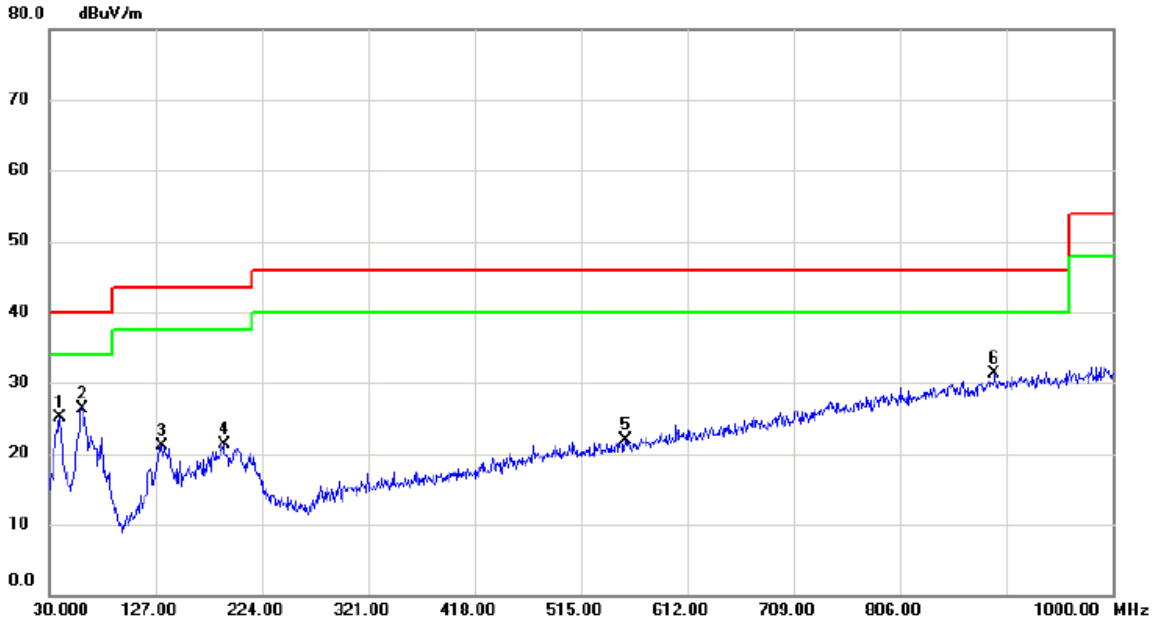
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		84.320	33.26	-18.37	14.89	40.00	-25.11	peak	
2		170.650	33.62	-12.31	21.31	43.50	-22.19	peak	
3		333.610	36.12	-12.24	23.88	46.00	-22.12	peak	
4		450.010	36.30	-9.94	26.36	46.00	-19.64	peak	
5		565.440	36.28	-7.32	28.96	46.00	-17.04	peak	
6	*	855.470	30.07	0.11	30.18	46.00	-15.82	peak	

Test Mode: 13.56MHz Transmit\_Adapter: Salcomp

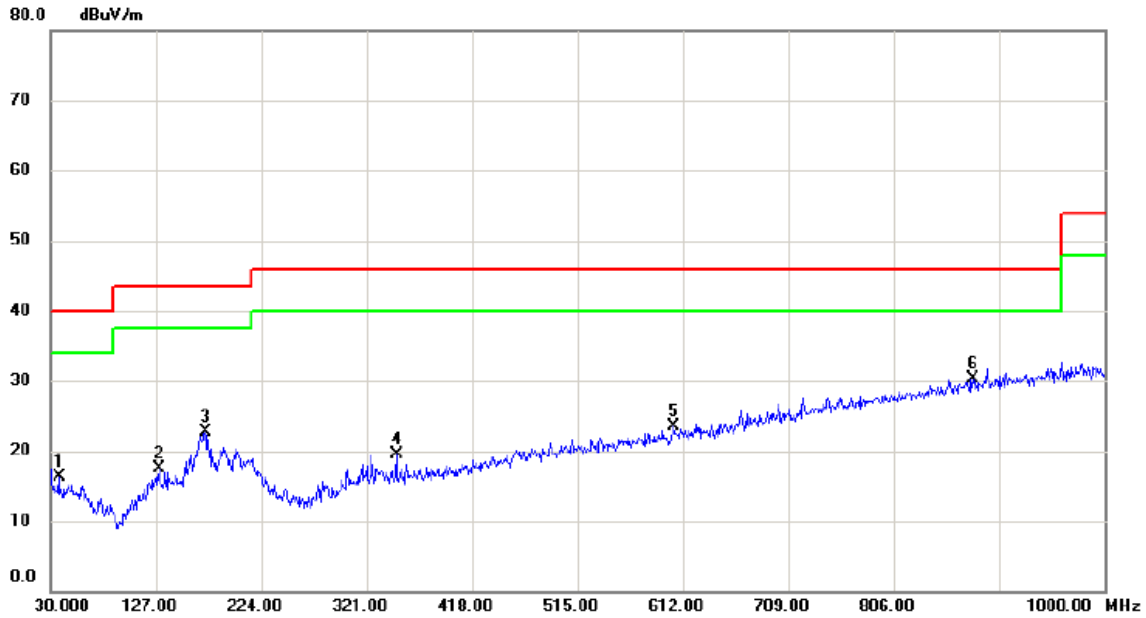
**Vertical**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		39.700	39.02	-14.00	25.02	40.00	-14.98	peak	
2	*	60.070	40.65	-14.32	26.33	40.00	-13.67	peak	
3		132.820	35.72	-14.57	21.15	43.50	-22.35	peak	
4		189.080	34.06	-12.77	21.29	43.50	-22.21	peak	
5		555.740	29.54	-7.57	21.97	46.00	-24.03	peak	
6		892.330	30.38	0.87	31.25	46.00	-14.75	peak	

Test Mode: 13.56MHz Transmit\_Adapter: Salcomp

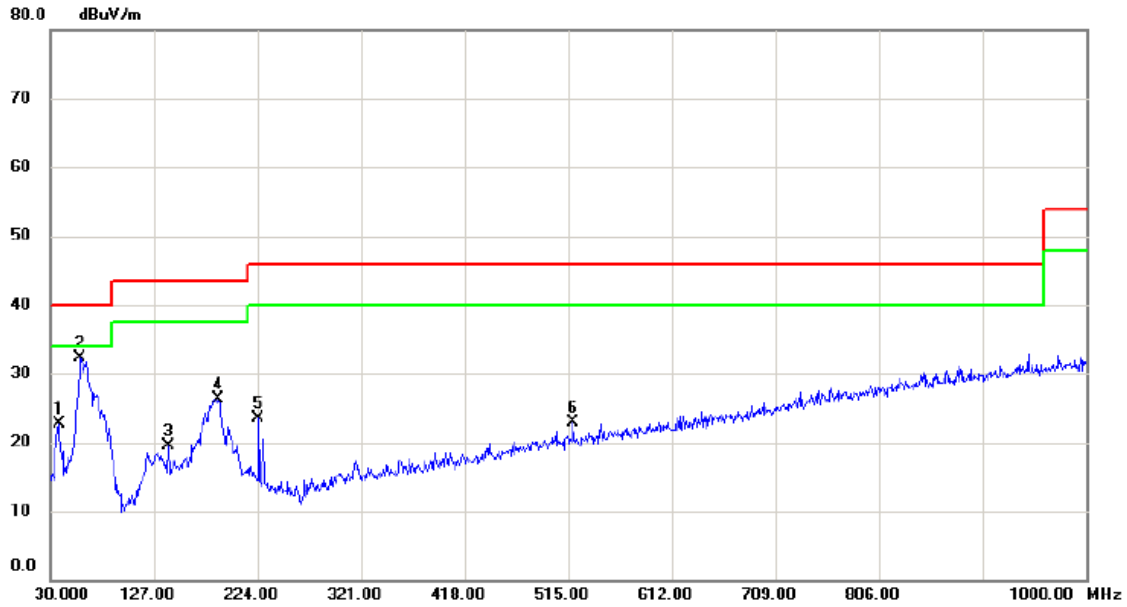
**Horizontal**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		37.760	30.62	-14.30	16.32	40.00	-23.68	peak	
2		129.910	32.18	-14.71	17.47	43.50	-26.03	peak	
3		172.590	34.97	-12.26	22.71	43.50	-20.79	peak	
4		348.160	31.41	-11.99	19.42	46.00	-26.58	peak	
5		603.270	29.90	-6.35	23.55	46.00	-22.45	peak	
6 *		878.750	29.77	0.59	30.36	46.00	-15.64	peak	

Test Mode: 13.56MHz Transmit\_Adapter: Huawei

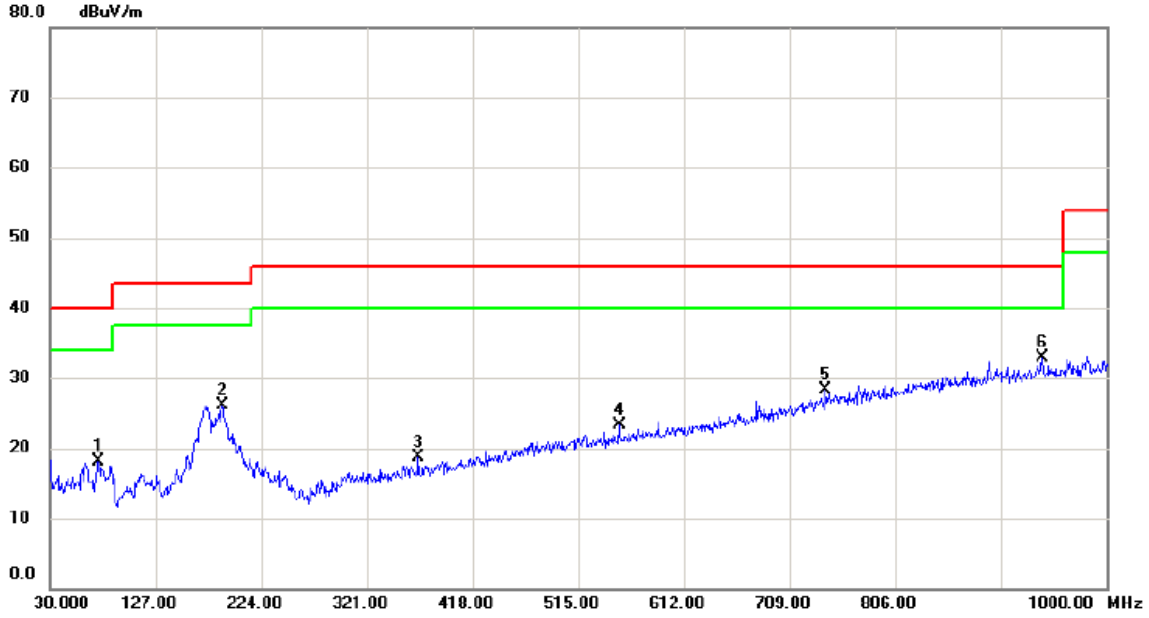
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		37.760	37.04	-14.30	22.74	40.00	-17.26	peak	
2	*	58.130	46.43	-14.13	32.30	40.00	-7.70	peak	
3		140.580	33.73	-14.18	19.55	43.50	-23.95	peak	
4		187.140	38.91	-12.61	26.30	43.50	-17.20	peak	
5		224.970	37.54	-14.02	23.52	46.00	-22.48	peak	
6		519.850	31.17	-8.32	22.85	46.00	-23.15	peak	

Test Mode: 13.56MHz Transmit\_Adapter: Huawei

**Horizontal**



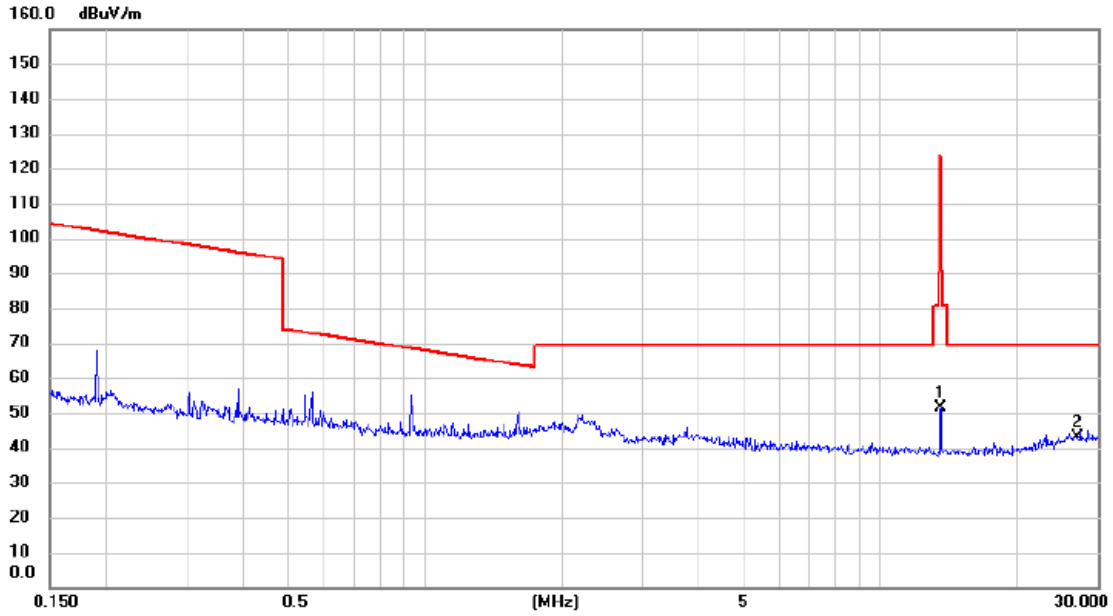
No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	74.620	35.19	-17.03	18.16	40.00	-21.84	peak	
2	188.110	38.84	-12.70	26.14	43.50	-17.36	peak	
3	368.530	30.41	-11.73	18.68	46.00	-27.32	peak	
4	552.830	30.94	-7.64	23.30	46.00	-22.70	peak	
5	741.980	30.90	-2.69	28.21	46.00	-17.79	peak	
6 *	940.830	31.15	1.82	32.97	46.00	-13.03	peak	

## APPENDIX D - RADIATED EMISSION (FCC PART 15.225)



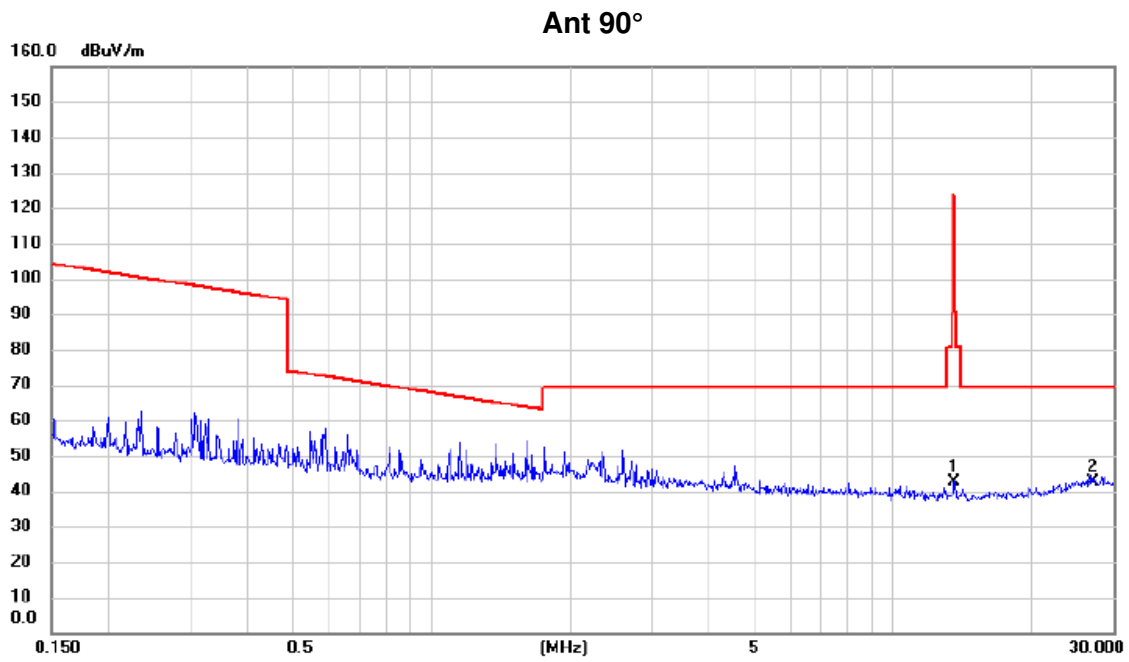
Test Mode: 13.56MHz Transmit

Ant 0°



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		13.5600	37.34	13.99	51.33	124.00	-72.67	peak	
2	*	27.1200	22.54	20.28	42.82	69.50	-26.68	peak	

Test Mode: 13.56MHz Transmit



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		13.5600	28.80	13.99	42.79	124.00	-81.21	peak	
2	*	27.1200	22.33	20.28	42.61	69.50	-26.89	peak	

## APPENDIX E - FREQUENCY STABILITY MEASUREMENT

Test Mode:	13.56MHz Transmit
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Frequency Stability Versus Environmental Temperature						
	Temperature (°C)	Voltage (AC)	Frequency (MHz)	Frequency Error (kHz)	Limit (kHz)	Result
	25	120V	13.56	-	-	-
0 min	50	120V	13.5611	1.1	+/- 1.356	PASS
	-20	120V	13.5603	0.3	+/- 1.356	PASS
2 min	50	120V	13.5609	0.9	+/- 1.356	PASS
	-20	120V	13.5597	-0.3	+/- 1.356	PASS
5 min	50	120V	13.5604	0.4	+/- 1.356	PASS
	-20	120V	13.5595	-0.5	+/- 1.356	PASS
10 min	50	120V	13.5605	0.5	+/- 1.356	PASS
	-20	120V	13.5599	-0.1	+/- 1.356	PASS

Frequency Stability Versus Input Voltage						
Temperature (°C)	Voltage (AC)		Frequency (MHz)	Frequency Error (kHz)	Limit (kHz)	Result
25	V-nom	120	13.56	-	-	-
25	V-min	102	13.561	1	+/- 1.356	PASS
25	V-max	138	13.5604	0.4	+/- 1.356	PASS