

FCC Radio Test Report

FCC ID: ZW9TPC-B001-R

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

Project No. : 1810H004
Equipment : Point of Sale Terminal
Test Model : TPC-B001-R
Series Model : N/A
Applicant : BYD Precision Manufacture Co.,Ltd.
Address : No.3001, Bao He Road, Baolong industrial,
Longgang Street ,Longgang Zone,Shenzhen
State / Country: China

Date of Receipt : Oct. 25, 2018
Date of Test : Oct. 25, 2018 ~ Nov. 30, 2018
Issued Date : Nov. 30, 2018
Tested by : BTL Inc.

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(Roy Cai)

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(David Mao)

Authorized Signatory : Steven Lu
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Certificate #5123.02

Declaration

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BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

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BTL's laboratory quality assurance procedures are in compliance with the **ISO Guide 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements in all the possible configurations as representative of its intended use.

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

Report Version	Description	Issued Date
R00	Original Issue.	Nov. 30, 2018

1. CERTIFICATION

Equipment : Point of Sale Terminal
Brand Name : hp
Test Model : TPC-B001-R
Series Model : N/A
Applicant : BYD Precision Manufacture Co.,Ltd.
Address : No.3001, Bao He Road, Baolong industrial, Longgang Street ,Longgang
Zone,Shenzhen State / Country: China
Manufacturer : HP Inc.
Address : 1501 Page Mill Road, Palo Alto, CA 94304, USA
Factory : BYD Precision Manufacture Co.,Ltd.
Address : No.3001, Bao He Road, Baolong industrial, Longgang Street ,Longgang
Zone,Shenzhen
Date of Test : Oct. 25, 2018 ~ Nov. 26, 2018
Test Sample : Engineering Sample No.: B181000147
Standard(s) : FCC Part 15, Subpart C: 15.225 / ANSI C63.10-2013

The above equipment has been tested and found 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-7-1810H004) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of A2LA according to the ISO-17025 quality assessment standard and technical standard(s).

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

Applied Standard(s): FCC Part 15, Subpart C: 15.225			
Standard(s) Section	Test Item	Judgment	Remark
15.207	Conducted Emissions	PASS	
15.225 (a) (b) (c) (d) and 15.209	Radiated Emissions	PASS	
15.203	Antenna Requirement	PASS	
-	20dB Occupied Bandwidth Measurement	PASS	

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 %, $U=2 \times U_c(y)$.

The BTL measurement uncertainty as below table:

A. Conducted Measurement:

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

B. Radiated Measurement:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
DG-CB03	CISPR	9 KHz~30 MHz	V	3.79
		9 KHz~30 MHz	H	3.57
		30 MHz~200 MHz	V	3.82
		30 MH~200 MHz	H	3.78
		200 MHz~1,000 MHz	V	4.10
		200 MHz~1,000 MHz	H	4.06
		1 GHz~18 GHz	V	3.12
		1 GHz~18 GHz	H	3.68
		18 GHz~40 GHz	V	4.15
		18 GHz~40 GHz	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	Point of Sale Terminal	
Brand Name	hp	
Model Name	TPC-B001-R	
Series Model	N/A	
Model Difference(s)	N/A	
Product Description	Operation Frequency	13.56MHz
	Product Class	1
	Number of Channel	1
	Antenna Designation	FPC Antenna
Power Source	DC Voltage supplied from AC/DC adapter. #1 Model/Brand: TPN-CA08/hp #2 Model/Brand: TPN-LA11/hp	
Power Rating	I/P: 100-240V ~ 50/60Hz, 1.4A O/P: 5V---3A \ 9V---3A \ 12V---3A \ 15V---3A 45W MAX	

Note:

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

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.

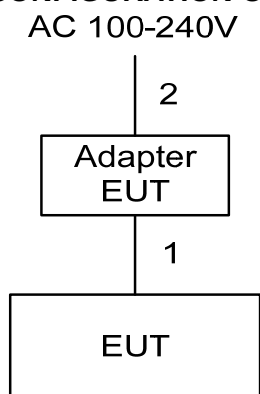
Pretest Test Mode	Description
Mode 1	TX Mode

Conducted emission test	
Final Test Mode	Description
Mode 1	TX Mode

Radiated emission test	
Final Test Mode	Description
Mode 1	TX Mode

Frequency Stability test/ Antenna Requirement test/ 20dB Occupied Bandwidth Measurement	
Final Test Mode	Description
Mode 1	TX Mode

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	1.8m	DC Cable
2	NO	NO	1m	AC Cable

Note:

(1) The support equipment was authorized by Declaration of Conformity (DOC).

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 POWER LINE CONDUCTED EMISSION LIMITS (Frequency Range 150 kHz-30 MHz)

Frequency of Emission (MHz)	Conducted Limit (dBμV)	
	Quasi-peak	Average
0.15 - 0.50	66 to 56*	56 to 46*
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Note:

- (1) The limit of " * " decreases with the logarithm of the frequency
- (2) 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

The following table is the setting of the receiver

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

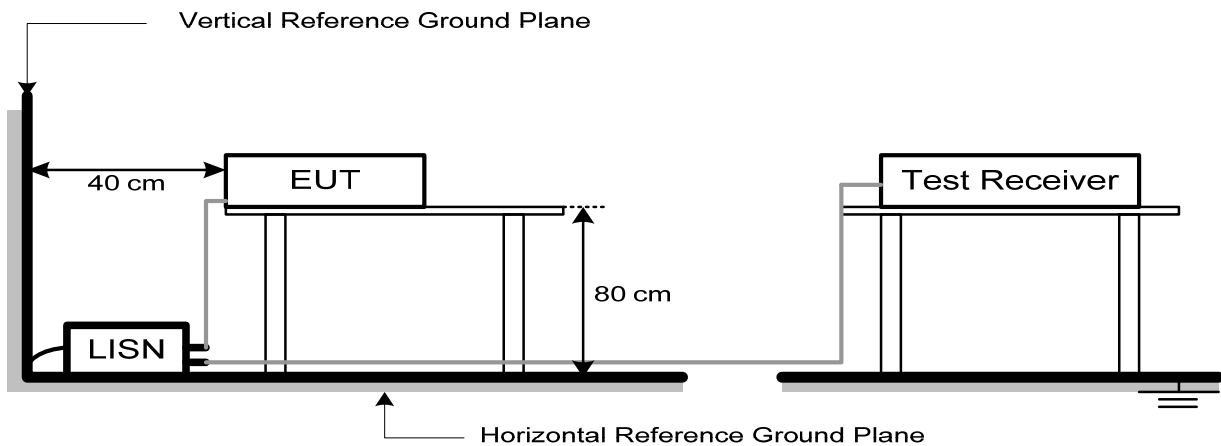
4.1.2 TEST PROCEDURE

- 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 equipment 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.

4.1.3 DEVIATION FROM TEST STANDARD

No deviation

4.1.4 TEST SETUP



4.1.5 EUT OPERATING CONDITIONS

The EUT was placed on the test table and programmed in normal function.

4.1.6 EUT TEST CONDITIONS

Temperature: 23.8°C Relative Humidity: 61.2% Test Voltage: AC 120V/60Hz

4.1.7 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 150 kHz to 30 MHz.

4.2 RADIATED EMISSION MEASUREMENT

4.2.1 RADIATED EMISSION LIMITS

Clause 15.225(a) the field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.

Clause 15.225(b) within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

Clause 15.225(c) within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

Clause 15.225(d) The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in §15.209.

§15.209 (a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

LIMITS OF RADIATED EMISSION MEASUREMENT (9 kHz-1000 MHz)

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
960~1000	500	3

4.2.2 TEST PROCEDURE

The test set-up was made in accordance to the general provisions of ANSI C63.10-2013. The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna. The radiated emissions measurements were made in a typical installation configuration.

Sweep the whole frequency band through the range from 9 kHz to the 10th harmonic of the carrier, and the emissions less than 20 dB below the permissible value are reported.

During the test, below 30MHz, the center of the loop shall be 1 meters; above 30MHz, the height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turntable shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing.

Set the spectrum analyzer in the following:

Below 1GHz (detector: Peak and Quasi-Peak)

RBW=100 kHz / VBW=300 kHz / Sweep=AUTO

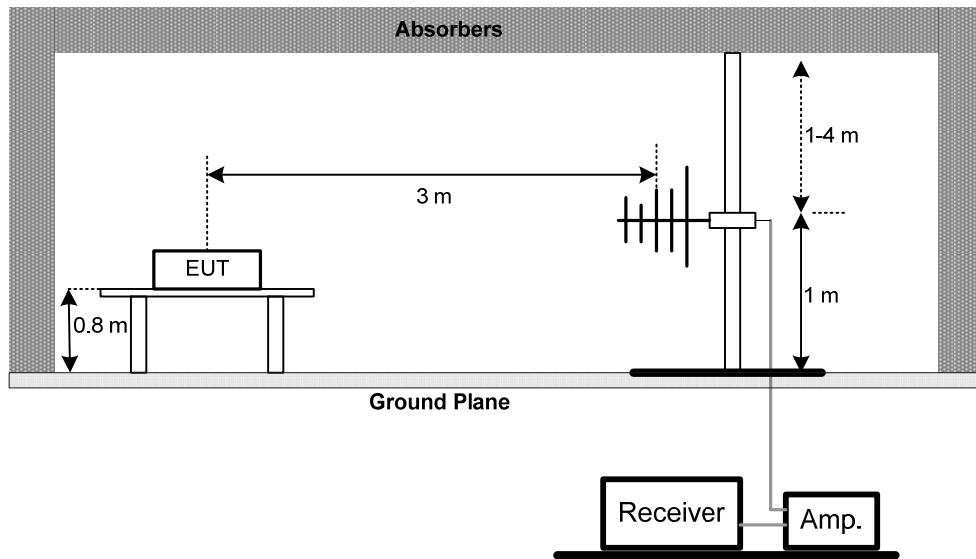
The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the worst case was recorded.

4.2.3 DEVIATION FROM TEST STANDARD

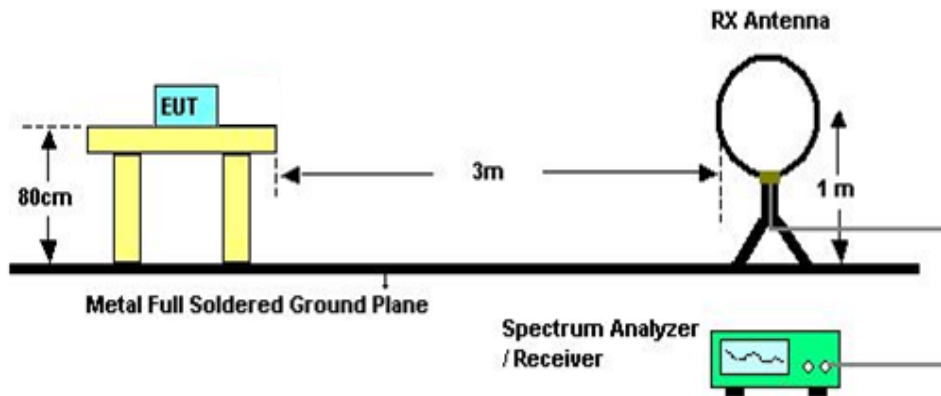
No deviation

4.2.4 TEST SETUP

(A) Radiated Emission Test Set-Up Frequency 30 MHz-1000 MHz



(B) For Radiated Emissions 9 kHz-30 MHz



4.2.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.2.6 EUT TEST CONDITIONS

Temperature: 22°C Relative Humidity: 56% Test Voltage: AC 120V/60Hz

4.2.7 TEST RESULTS (9 kHz TO 30 MHz)

Please refer to the Appendix B

4.2.8 TEST RESULTS (30 MHz TO 1000 MHz)

Please refer to the Appendix C.

Remark:

- (1) No limit: This is fundamental signal, the judgment is not applicable.
For fundamental signal judgment was referred to Peak output test.

5. REQUENCY STABILITY

5.1 APPLIED PROCEDURES

FCC Part15 Subpart C				
Section	Test Item	Frequency Range (MHz)	Lmint (MHz)	Result
15.225(e)	Frequency Stability Tolerance	13.56MHz	±0.001MHz	PASS

5.1.1 TEST PROCEDURE

1. Frequency Stability (Temperature Variation)

The temperature inside the climate chamber is varied from 0°C to +40°C in 10°C step size,

(1) With all power removed, the temperature was decreased to 0°C and permitted to stabilize for three hours.

(2) Measure the carrier frequency with the test equipment in a “call mode”. These measurements should be made within 1 minute of powering up the mobile station, to prevent significant self warming.

(3) Repeat the above measurements at 10°C increments from 0°C to +40°C. Allow at least 1.5 hours at each temperature, un-powered, before making measurements.

2. Frequency Stability (Voltage Variation)

The frequency stability shall be measured with variation of primary supply voltage as follows:

(1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment.

(2) For hand carried, battery powered equipment, reduce primary supply voltage to the battery-operating end point which shall be specified by the manufacturer.

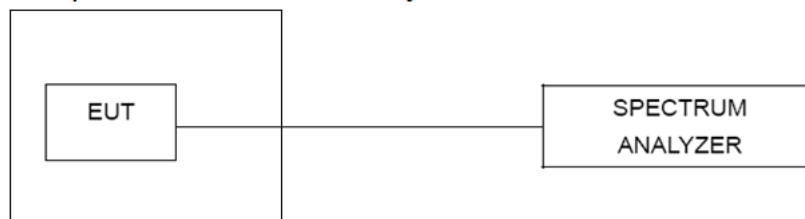
This transceiver is specified to operate with an input voltage of between 207 V AC and 253 V AC, with a nominal voltage of 230 V AC.

5.1.2 DEVIATION FROM STANDARD

No deviation.

5.1.3 TEST SETUP

Temperature And Humidity Box



5.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.1.5 EUT TEST CONDITIONS

Temperature: 24°C Relative Humidity: 58.9% Test Voltage: AC 120V/60Hz

5.1.6 TEST RESULTS

Please refer to the Appendix D.

6. 20DB SPECTRUM BANDWIDTH MEASUREMENT

6.1 APPLIED PROCEDURES

The 20dB bandwidth shall be specified in operating frequency band.

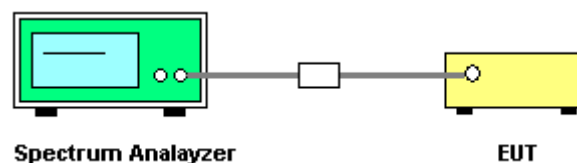
6.1.1 TEST PROCEDURE

The bandwidth of the fundamental frequency was measured by spectrum analyzer with 10kHz RBW and 10kHz VBW. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP



6.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.1.5 EUT TEST CONDITIONS

Temperature: 24°C Relative Humidity: 58.9% Test Voltage: AC 120V/60Hz

6.1.6 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. 11, 2019
2	LISN	EMCO	3816/2	52765	Mar. 11, 2019
3	50Ω Terminator	SHX	TF2-3G-A	8122901	Mar. 11, 2019
4	TWO-LINE V-NETWORK	R&S	ENV216	101447	Mar. 11, 2019
5	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
6	Cable	N/A	RG223	12m	Mar. 23, 2019

Radiated Emission Measurement-9 kHz TO 30 MHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Loop Antenna	EM	EM-6876-1	230	Feb. 07, 2019
2	Cable	N/A	RG 213/U	C-102	Jun. 01, 2019
3	EMI Test Receiver	R&S	ESCI	100382	Mar. 11, 2019
4	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

Radiated Emission Measurement-30 MHz TO 1000 MHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarbeck	VULB9160	9160-3232	Mar. 11, 2019
2	Amplifier	HP	8447D	2944A09673	Aug. 11, 2019
3	Receiver	Agilent	N9038A	MY52130039	Aug. 11, 2019
4	Cable	emci	LMR-400(30MHz-1 GHz)(8m+5m)	N/A	May 25, 2019
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

Frequency Stability					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP40	100185	Aug. 11, 2019
2	Temperature And Humidity Box	Bell	BTH-50C	20170306001	Mar. 11, 2019

Bandwidth Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP40	100185	Aug. 11, 2019

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

8. EUT TEST PHOTO

Conducted Measurement Photos



Radiated Measurement Photos

9 kHz to 30 MHz



Radiated Measurement Photos

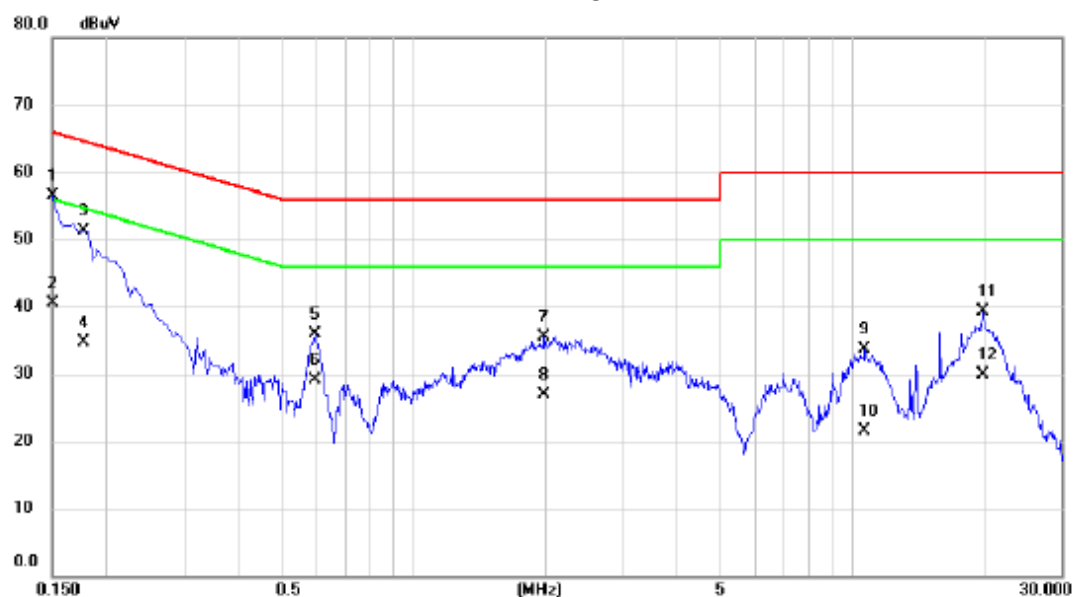
30 MHz to 1000 MHz



APPENDIX A - CONDUCTED EMISSION

Test Mode: TX Mode

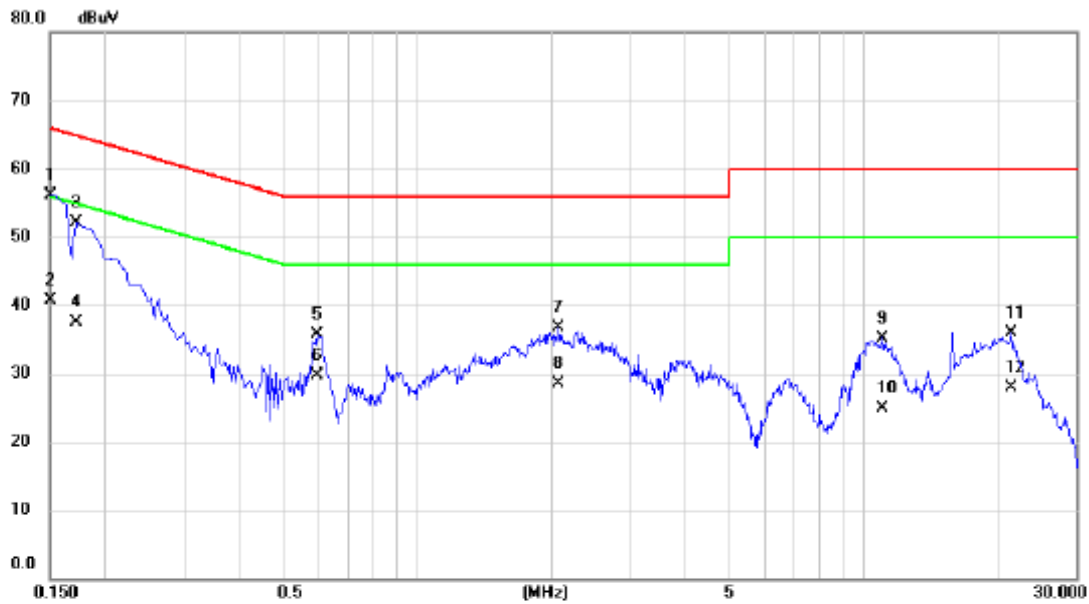
Line



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	*	0.1500	46.81	9.77	56.58	66.00	-9.42	QP	
2		0.1500	30.80	9.77	40.57	56.00	-15.43	AVG	
3		0.1770	41.49	9.82	51.31	64.63	-13.32	QP	
4		0.1770	24.90	9.82	34.72	54.63	-19.91	AVG	
5		0.5955	25.73	10.08	35.81	56.00	-20.19	QP	
6		0.5955	19.10	10.08	29.18	46.00	-16.82	AVG	
7		1.9860	25.46	10.04	35.50	56.00	-20.50	QP	
8		1.9860	16.90	10.04	26.94	46.00	-19.06	AVG	
9		10.6935	23.41	10.36	33.77	60.00	-26.23	QP	
10		10.6935	11.10	10.36	21.46	50.00	-28.54	AVG	
11		19.8194	28.55	10.73	39.28	60.00	-20.72	QP	
12		19.8194	19.20	10.73	29.93	50.00	-20.07	AVG	

Test Mode: TX Mode

Neutral

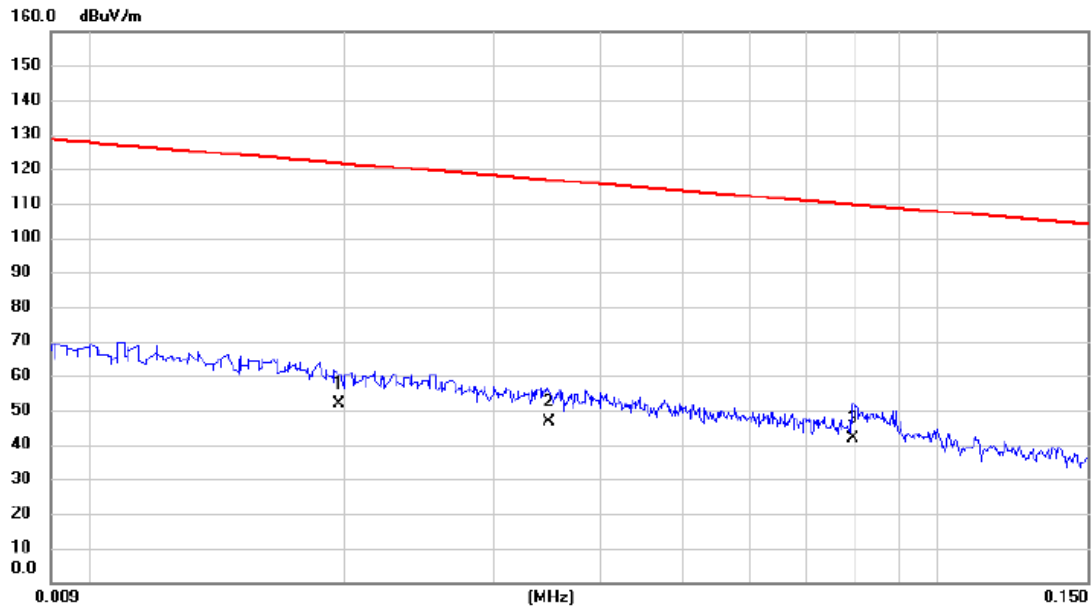


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	*	0.1500	46.38	9.78	56.16	66.00	-9.84	QP	
2		0.1500	30.90	9.78	40.68	56.00	-15.32	AVG	
3		0.1725	42.30	9.81	52.11	64.84	-12.73	QP	
4		0.1725	27.60	9.81	37.41	54.84	-17.43	AVG	
5		0.5955	25.62	10.01	35.63	56.00	-20.37	QP	
6		0.5955	19.60	10.01	29.61	46.00	-16.39	AVG	
7		2.0715	26.51	10.17	36.68	56.00	-19.32	QP	
8		2.0715	18.40	10.17	28.57	46.00	-17.43	AVG	
9		11.0535	24.99	10.21	35.20	60.00	-24.80	QP	
10		11.0535	14.60	10.21	24.81	50.00	-25.19	AVG	
11		21.4395	25.13	10.68	35.81	60.00	-24.19	QP	
12		21.4395	17.20	10.68	27.88	50.00	-22.12	AVG	

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

Test Mode: TX Mode

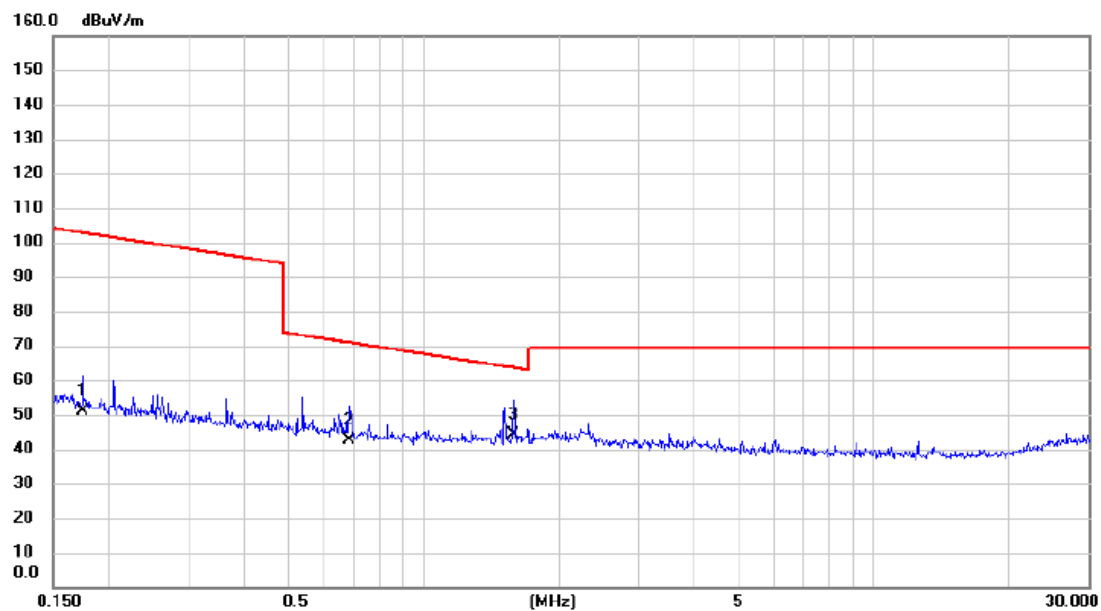
Ant 0°



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over 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: TX Mode

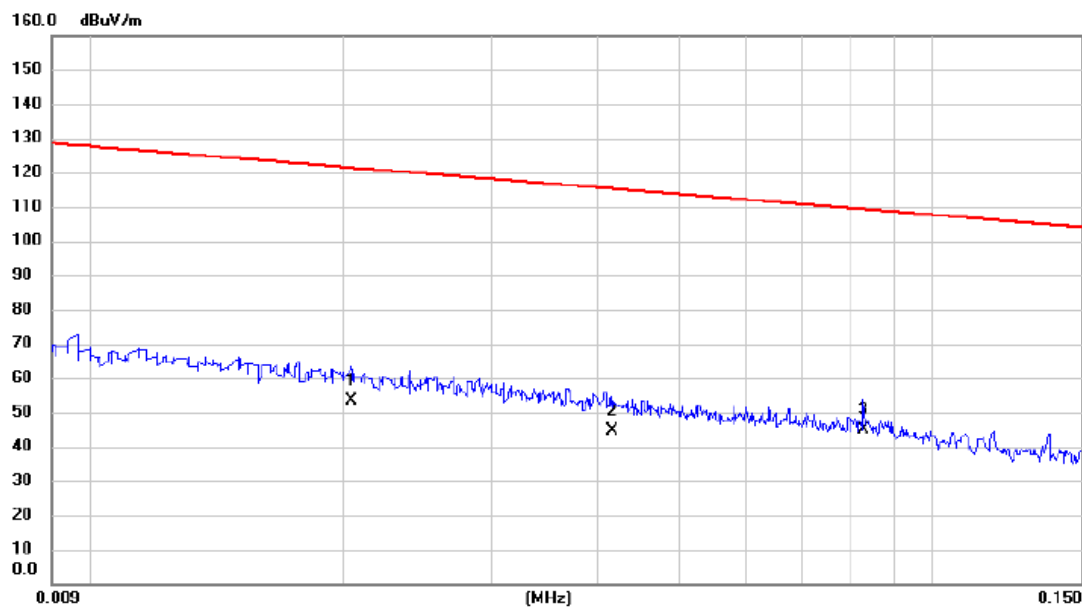
Ant 0°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
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: TX Mode

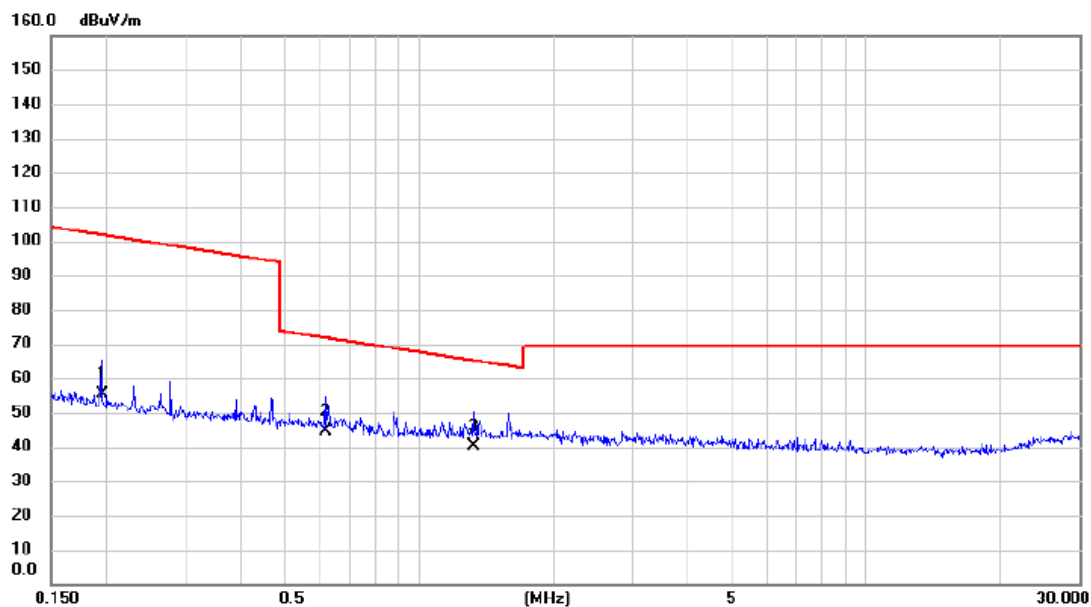
Ant 90°



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over 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: TX Mode

Ant 90°

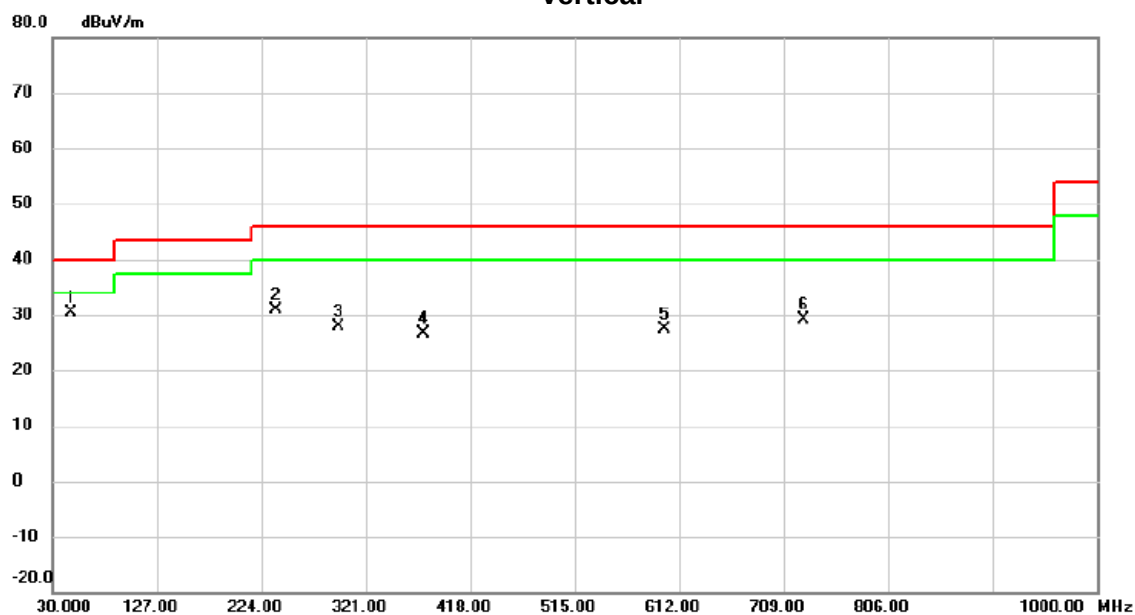


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		0.1955	38.44	16.81	55.25	101.78	-46.53	AVG	
2		0.6173	28.26	16.33	44.59	71.79	-27.20	QP	
3	*	1.3238	24.35	15.77	40.12	65.17	-25.05	QP	

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

Test Mode: TX Mode

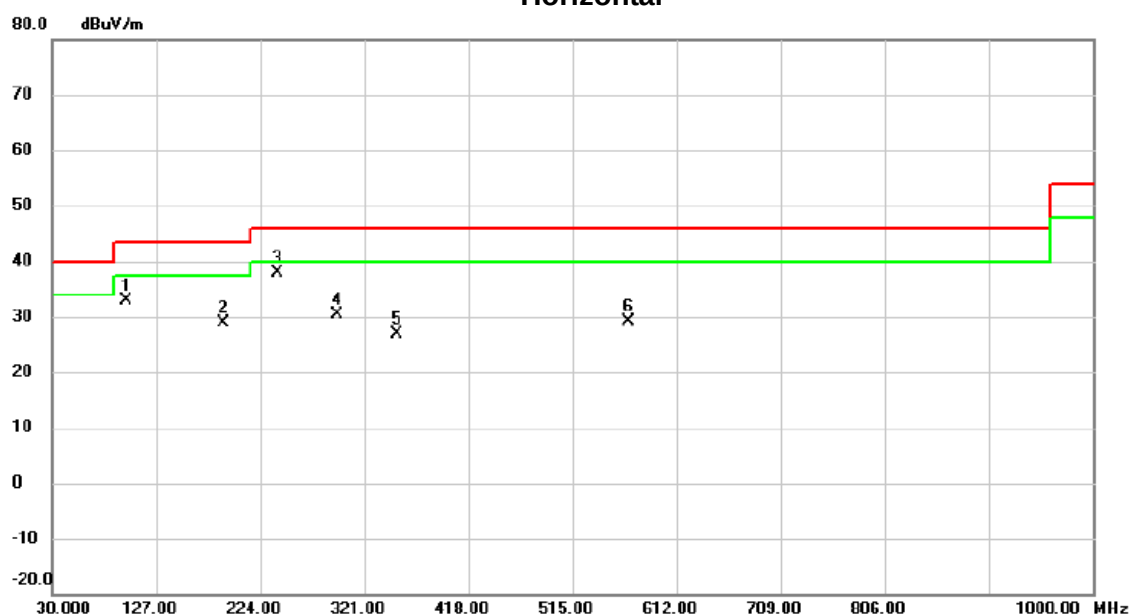
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	46.9750	47.57	-17.25	30.32	40.00	-9.68	peak	
2		238.0650	48.67	-17.80	30.87	46.00	-15.13	peak	
3		296.2650	44.04	-16.22	27.82	46.00	-18.18	peak	
4		374.3500	41.06	-14.44	26.62	46.00	-19.38	peak	
5		598.9050	37.23	-9.81	27.42	46.00	-18.58	peak	
6		727.4300	37.76	-8.54	29.22	46.00	-16.78	peak	

Test Mode: TX Mode

Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		98.8700	52.71	-19.95	32.76	43.50	-10.74	peak	
2		189.0800	48.00	-19.23	28.77	43.50	-14.73	peak	
3	*	240.0050	55.56	-17.67	37.89	46.00	-8.11	peak	
4		295.7800	46.70	-16.24	30.46	46.00	-15.54	peak	
5		351.5550	40.84	-13.86	26.98	46.00	-19.02	peak	
6		566.8950	39.29	-10.23	29.06	46.00	-16.94	peak	

APPENDIX D - FREQUENCY STABILITY

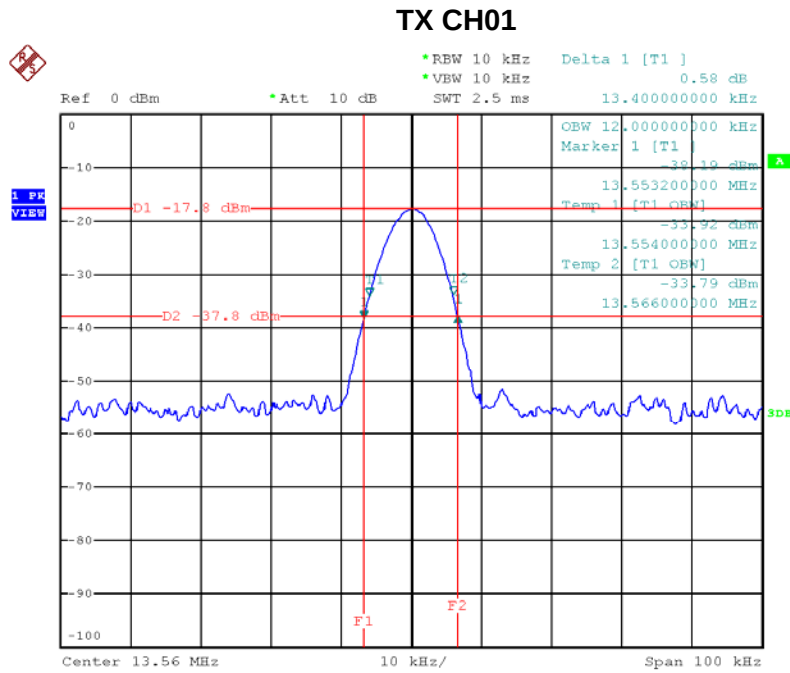
Test Mode:	TX Mode
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Frequency Stability Versus Environmental Temperature						
	Temperature (°C)	Voltage (DC)	Frequency (MHz)	Frequency Error (kHz)	Limit (kHz)	Result
	25	120V	13.56	-		
0 min	50	120V	13.5611	1.1	+/- 1.356	PASS
	-20	120V	13.5603	0.3	+/- 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	120V	13.56	-		
25	V-min	118V	13.561	1	+/- 1.356	PASS
25	V-max	132V	13.5604	0.4	+/- 1.356	PASS

APPENDIX E - 20DB SPECTRUM BANDWIDTH MEASUREMENT

Test Mode: TX Mode



Date: 30.NOV.2018 18:16:54

End of Test Report