# FCC Radio Test Report

## FCC ID: VSFMS3A

**This report concerns: Original Grant**

| | | |
|---|---|---|
| **Project No.** | : | 1907H013 |
| **Equipment** | : | Tablet |
| **Brand Name** | : | Juniper Systems |
| **Test Model** | : | MS3A |
| **Series Model** | : | N/A |
| **Applicant** | : | Juniper Systems |
| **Address** | : | 1132 W 1700 N Logan, UT 84321 USA |
| **Manufacturer** | : | Juniper Systems |
| **Address** | : | 1132 W 1700 N Logan, UT 84321 USA |
| **Date of Receipt** | : | Jul. 16, 2019 |
| **Date of Test** | : | Jul. 16, 2019 ~ Nov. 22, 2019 |
| **Issued Date** | : | Nov. 27, 2019 |
| **Report Version** | : | R00 |
| **Test Sample** | : | Engineering Sample No.: SH2019091645/SH2019091646/ SH2019091641-5 /SH2019091641-6 |
| **Standard(s)** | : | FCC CFR47 Part 15C(2018) |

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

**Prepared by :** Krain Wu

**Approved by :** James Xia

Certificate # 5123.03

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TEL: +86-021-61765666
Web: www.newbtl.com

## Declaration

**BTL** represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

**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.

The report must not be used by the client to claim product certification, approval, or endorsement by NIST, A2LA, or any agency of the U.S. Government.

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**BTL**'s laboratory quality assurance procedures are in compliance with the **ISO/IEC 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 which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and 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.
Please note that the measurement uncertainty is provided for informational purpose only and is not use in determining the Pass/Fail results.

Table of Contents Page

**Table of Contents** **Page**

## REPORT ISSUED HISTORY

| Report Version | Description | Issued Date |
|---|---|---|
| R00 | Original Issue. | Nov. 27, 2019 |

## 1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

| Applied Standard(s): FCC Part15 (2018), Subpart C | | | |
|---|---|---|---|
| Standard(s) Section | Test Item | Judgment | Remark |
| 15.207 | Conducted Emissions | PASS | |
| 15.225 (a) (b) (c) (d) and 15.209 | Radiated Emissions | PASS | |
| 15.225(e) | Frequency Stability | PASS | |
| - | 20dB Occupied Bandwidth Measurement | PASS | |

Note:
For the verdict, the “N/A” denotes “not applicable”, the “N/T” denotes “not tested”.

## 1.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No. 29, Jintang Road, Tangzhen Industry Park, Pudong New Area, Shanghai 201210,China
BTL's Test Firm Registration Number for FCC: 476765
BTL's Designation Number for FCC: CN1241

## 1.2 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. AC power line conducted emissions test:

| Test Site | Method | Measurement Frequency Range | U, (dB) |
|---|---|---|---|
| SH-C01 | CISPR | 150kHz ~30MHz | 2.40 |

B.Radiated Measurement :

| Test Site | Method | Measurement Frequency Range | U,(dB) |
|---|---|---|---|
| SH-CB01 (3m) | CISPR | 9 kHz ~ 30MHz | 2.46 |

| Test Site | Method | Measurement Frequency Range | Ant. H / V | U,(dB) |
|---|---|---|---|---|
| SH-CB01 | CISPR | 30MHz ~ 200MHz | V | 3.86 |
| | | 30MHz ~ 200MHz | H | 2.88 |
| | | 200MHz ~ 1,000MHz | V | 3.88 |
| | | 200MHz ~ 1,000MHz | H | 3.70 |

| Test Site | Method | Measurement Frequency Range | U,(dB) |
|---|---|---|---|
| SH-CB01 | CISPR | 1GHz ~ 6GHz | 4.40 |
| | | 6GHz ~ 18GHz | 4.86 |

| Test Site | Method | Measurement Frequency Range | U,(dB) |
|---|---|---|---|
| SH-CB01 | CISPR | 18 ~ 26.5 GHz | 3.64 |
| | | 26.5 ~ 40 GHz | 3.78 |

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

# 2. GENERAL INFORMATION

## 2.1 GENERAL DESCRIPTION OF EUT

| | | |
|---|---|---|
| Equipment | Tablet | |
| Brand Name | Juniper Systems | |
| Model Name | MS3A | |
| Series Model | N/A | |
| Model Difference(s) | N/A | |
| Product Description | Operation Frequency | 13.56MHz |
| | Product Class | 1 |
| | Number of Channel | 1 |
| | Antenna Designation | Internal Antenna |
| Power Source | #1 DC voltage supplied from AC/DC adapter.<br>Model：PSAA30R-120<br>#2 Supplied from Li-ion battery pack. | |
| Power Rating | #1 I/P: 100~240V 0.8A 50~60Hz<br>O/P: 12V ⎓ 2.5A<br>#2 7.2V, 6.0A, 43.2W | |

Note:

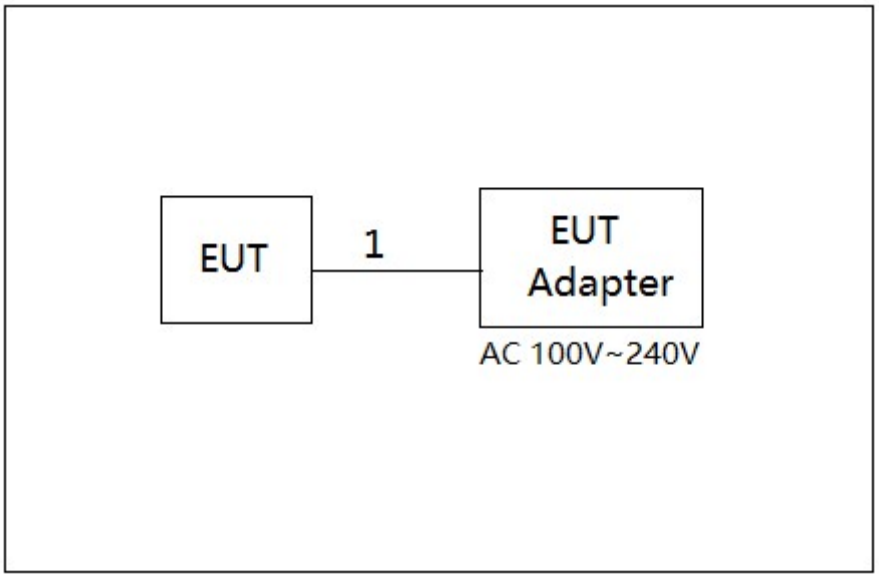
1. For a more detailed features description, please refer to the manufacturer’s specifications or the user's manual.

## 2.2 DESCRIPTION OF TEST MODES AND ENVIRONMENT CONDITIONS

| Test Items | Mode | Channel |
|---|---|---|
| Frequency Stability Tolerance | TX Mode | 13.56MHz |
| Radiated Emissions | TX Mode | 13.56MHz |
| Conducted Emissions | TX Mode | 13.56MHz |

| Test Item | Temperature | Humidity | Test Voltage | Tested By |
|---|---|---|---|---|
| AC Power Line Conducted Emissions | 22°C | 53% | AC 120V | Forest Li |
| Radiated Emissions-30 MHz to 1GHz | 20°C | 42% | AC 120V | Forest Li |
| Radiated Emissions-Above 1000 MHz | 22°C | 55% | AC 120V | Forest Li |
| Frequency Stability Tolerance | 25°C | 48% | AC 120V | Forest Li |

## 2.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED




## 2.4 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. | Series No. |
|---|---|---|---|---|
| - | - | - | - | - |

| Item | Cable Type | Shielded Type | Ferrite Core | Length |
|---|---|---|---|---|
| 1 | DC Cable | N/A | N/A | 1.5m |

# 3. EMC EMISSION TEST

## 3.1 CONDUCTED EMISSION MEASUREMENT

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

| Frequency (MHz) | 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 tighter limit applies at the band edges.
(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

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

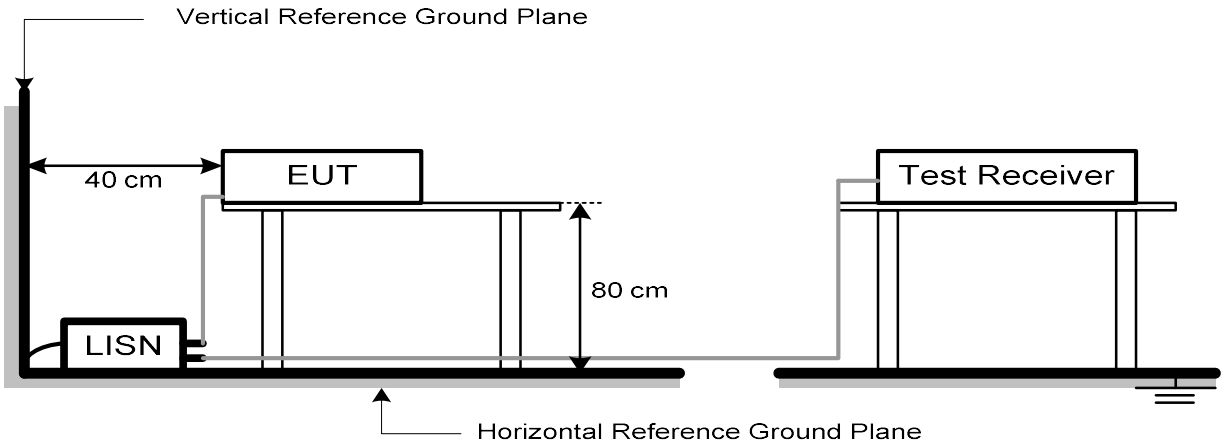
### 3.1.2 TEST PROCEDURE

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.

### 3.1.3 DEVIATION FROM TEST STANDARD

No deviation

### 3.1.4 TEST SETUP




### 3.1.5 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.
The EUT was programmed to be in continuously transmitting/TX mode.

### 3.1.6 TEST RESULTS

Please refer to the Appendix A.

## 3.2 RADIATED EMISSION MEASUREMENT

### 3.2.1 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 |

### 3.2.2 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

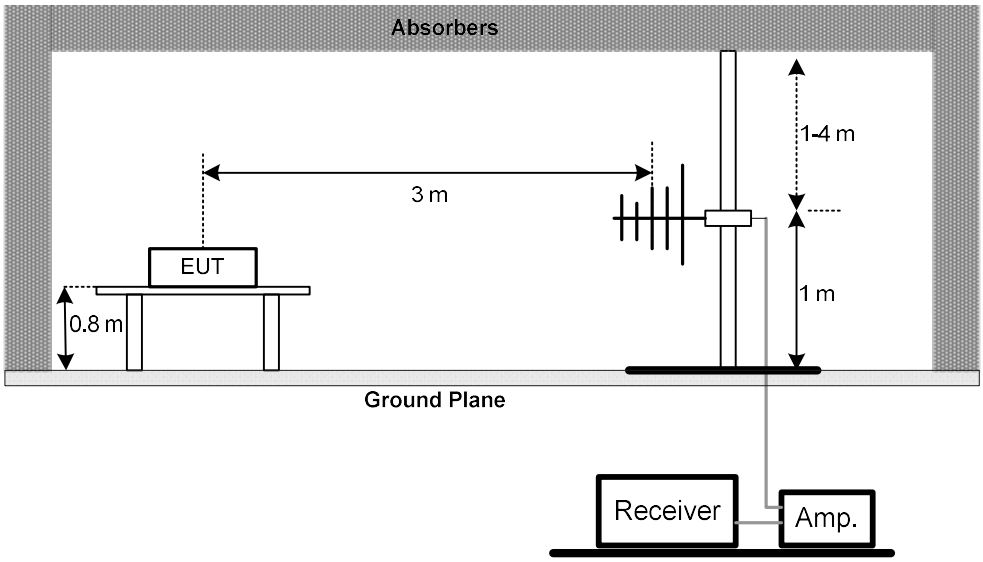
The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the worst case was recorded.

### 3.2.3 DEVIATION FROM TEST STANDARD

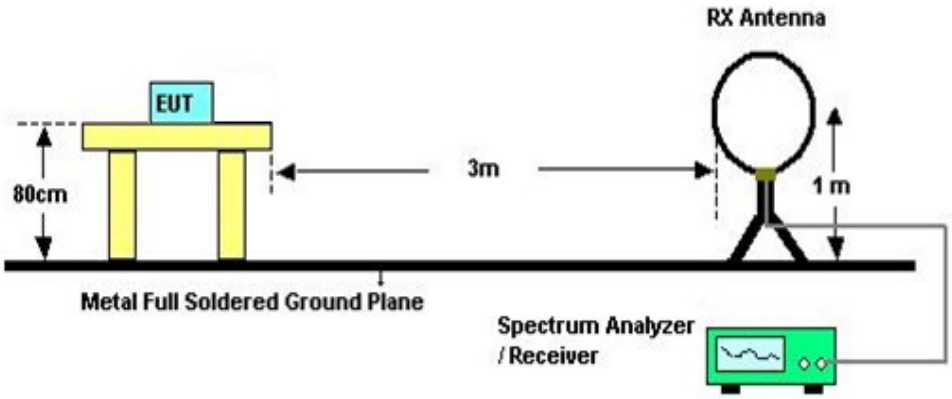
No deviation

### 3.2.4 TEST SETUP

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




(B) For Radiated Emissions 9 kHz-30 MHz




### 3.2.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

### 3.2.6 TEST RESULTS (9 kHz TO 30 MHz)

Please refer to the Appendix B

### 3.2.7 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.

# 4. REQUENCY STABILITY

## 4.1 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 |

### 4.1.1 TEST PROCEDURE

1. Frequency Stability (Temperature Variation)

The temperature inside the climate chamber is varied from -20°C to +50°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.

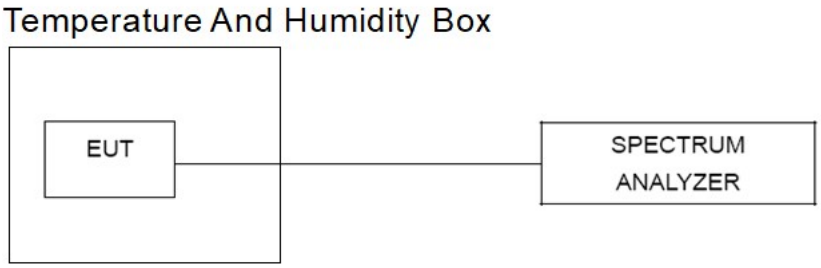
2. Frequency Stability (Voltage Variation)

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.

### 4.1.2 DEVIATION FROM STANDARD

No deviation.

### 4.1.3 TEST SETUP




### 4.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

### 4.1.5 TEST RESULTS

Please refer to the Appendix D.

# 5. 20DB SPECTRUM BANDWIDTH MEASUREMENT

## 5.1 APPLIED PROCEDURES

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

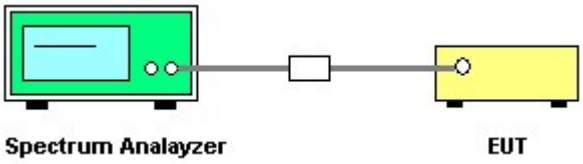
### 5.1.1 TEST PROCEDURE

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

### 5.1.2 DEVIATION FROM STANDARD

No deviation.

### 5.1.3 TEST SETUP




### 5.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

### 5.1.5 TEST RESULTS

Please refer to the Appendix E.

## 6. MEASUREMENT INSTRUMENTS LIST

| Conducted Emission Measurement | | | | | |
|---|---|---|---|---|---|
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
| 1 | Line Impedance Stabilisation Network | Schwarzbeck | NNLK 8121 | 8121-822 | Mar. 29, 2020 |
| 2 | TWO-LINE V-NETWORK | R&S | ENV216 | 101340 | Sep. 01, 2020 |
| 3 | Test Cable | emci | EMCRG400-BM-NM-10000 | 170628 | Apr. 17, 2020 |
| 4 | EMI Test Receiver | R&S | ESCI | 100082 | Mar. 29, 2020 |
| 5 | 50Ω Terminator | SHX | TF2-1G-A | 17051602 | Mar. 29, 2020 |
| 6 | 50Ω coaxial switch | Anritsu | MP59B | 6201750902 | Mar. 29, 2020 |
| 7 | Measurement Software | Farad | EZ-EMC Ver.NB-03A1-01 | N/A | N/A |

| Radiated Emission Measurement-9 kHz TO 30 MHz | | | | | |
|---|---|---|---|---|---|
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
| 1 | Loop Antenna | EMCI | EMCI LPA600 | 275 | Mar. 29, 2020 |
| 2 | EMI Test Receiver | R&S | ESCI | 100082 | Mar. 29, 2020 |
| 3 | Measurement Software | Farad | EZ-EMC Ver.NB-03A1-01 | N/A | N/A |

| Radiated Emission Measurement-30 MHz TO 1 GHz | | | | | |
|---|---|---|---|---|---|
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
| 1 | TRILOG Broadband Antenna | Schwarzbeck | VULB 9168 | 719 | Mar. 29, 2020 |
| 2 | Pre-Amplifier | emci | EMC9135 | 980400 | Mar. 29, 2020 |
| 3 | MXE EMI Receiver | Keysight | N9038A | MY57150106 | Mar. 29, 2020 |
| 4 | Test Cable | emci | EMC104-SM-SM-7000 | 170330 | Apr. 17, 2020 |
| 5 | Test Cable | emci | EMC104-SM-SM-1000 | 170331 | Apr. 17, 2020 |
| 6 | Test Cable | emci | EMC104-SM-NM-3500 | 170621 | Apr. 17, 2020 |
| 7 | Measurement Software | Farad | EZ-EMC Ver.NB-03A1-01 | N/A | N/A |

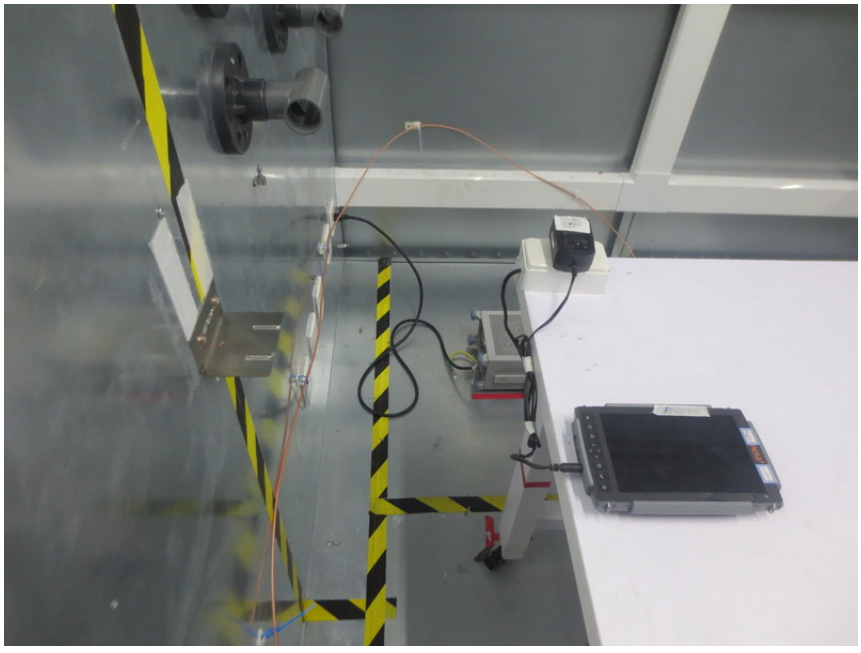
| Frequency Stability | | | | | |
|---|---|---|---|---|---|
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
| 1 | Spectrum Analyzer | R&S | FSP40 | 100626 | Mar. 29, 2020 |
| 2 | Temperature And Humidity Box | Blue pand | BPHS-120B | 170616454 | Sep. 01, 2020 |

| Bandwidth Measurement | | | | | |
|---|---|---|---|---|---|
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
| 1 | Spectrum Analyzer | R&S | FSP40 | 100626 | Mar. 29, 2020 |

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

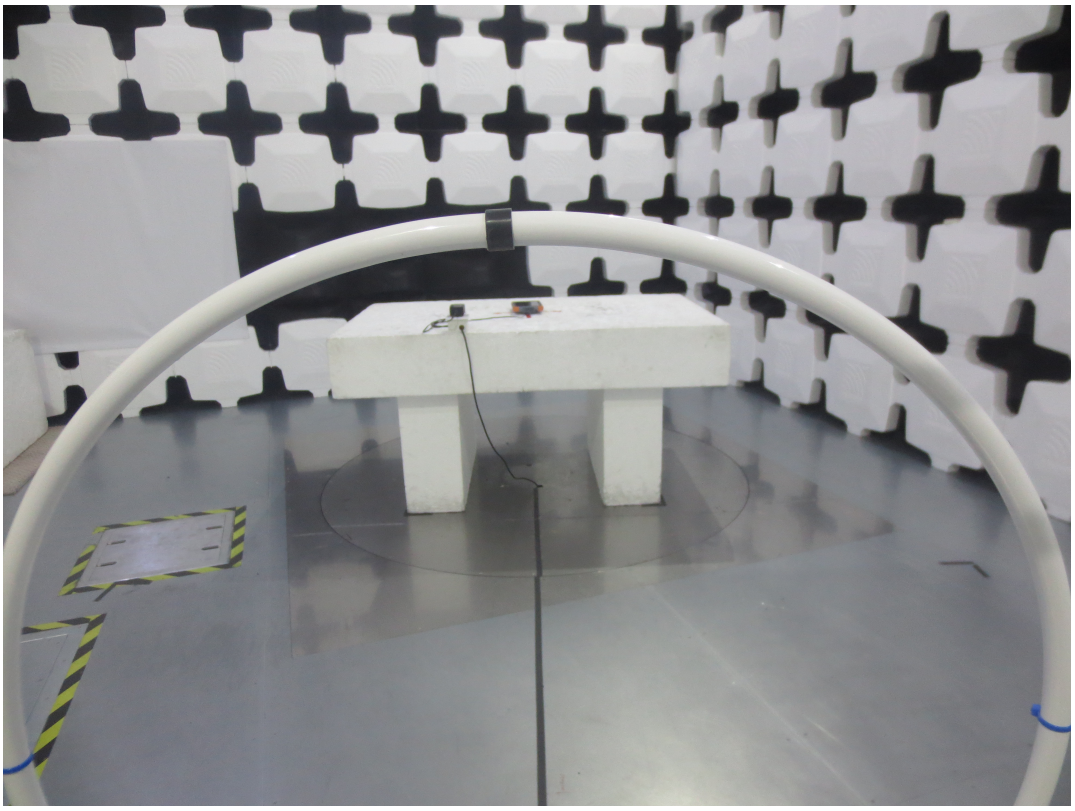
## 7. EUT TEST PHOTO

**Conducted Measurement Photos**



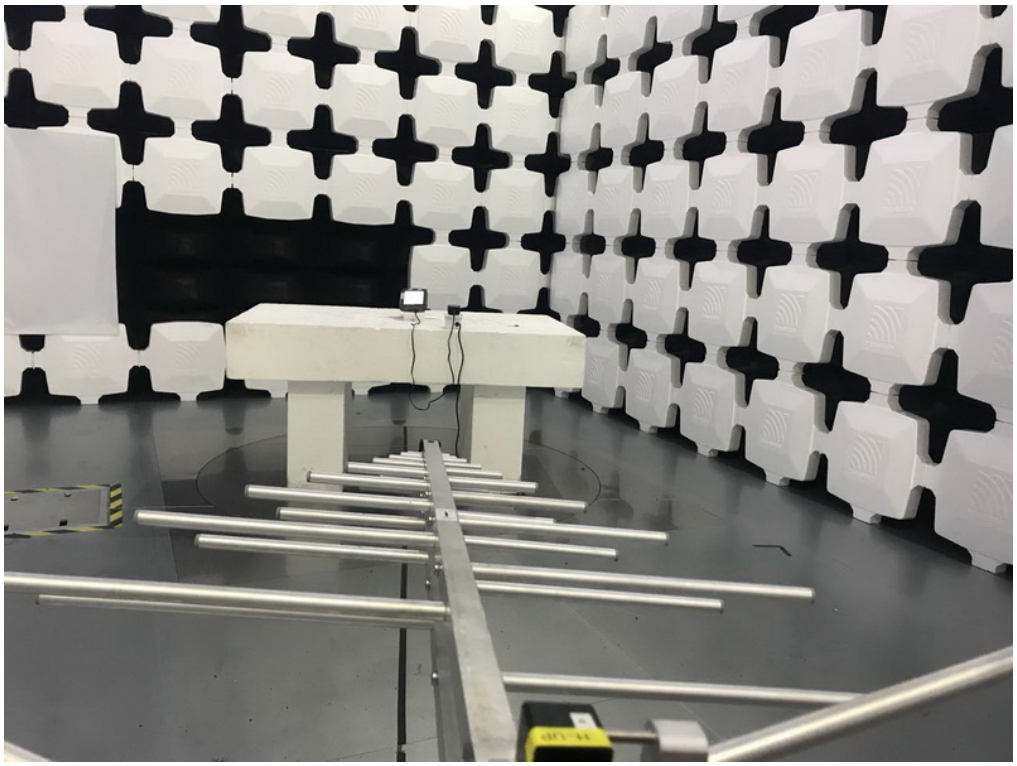
## Radiated Measurement Photos

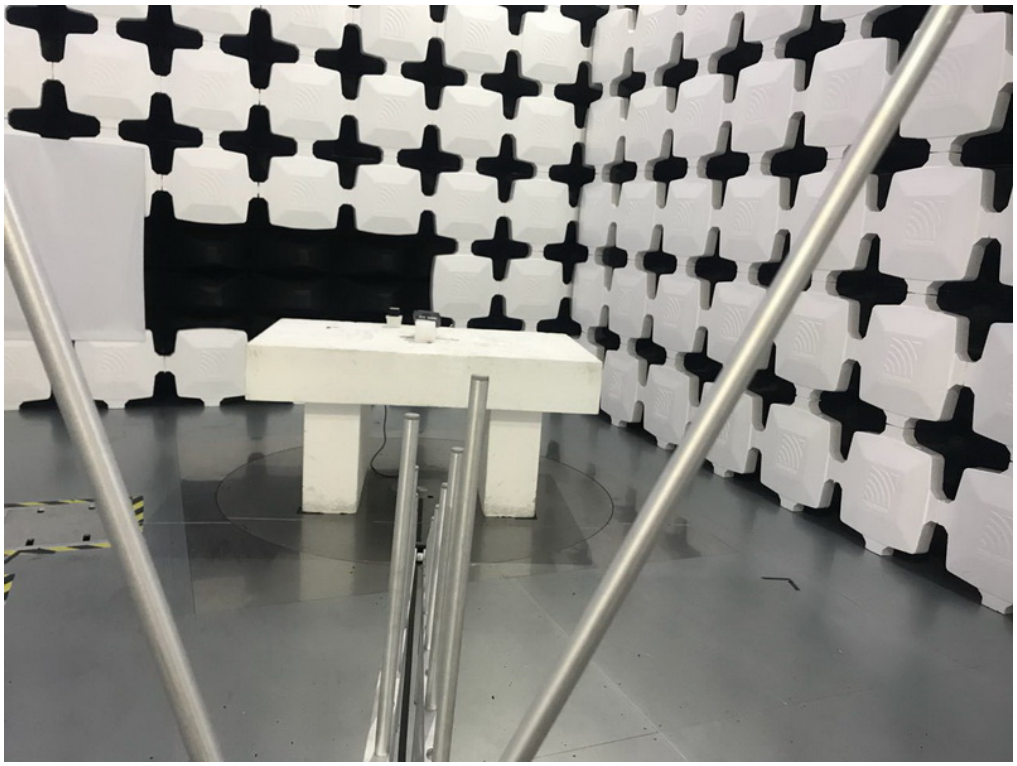
### 9 kHz to 30 MHz



## Radiated Measurement Photos

### 30 MHz to 1000 MHz

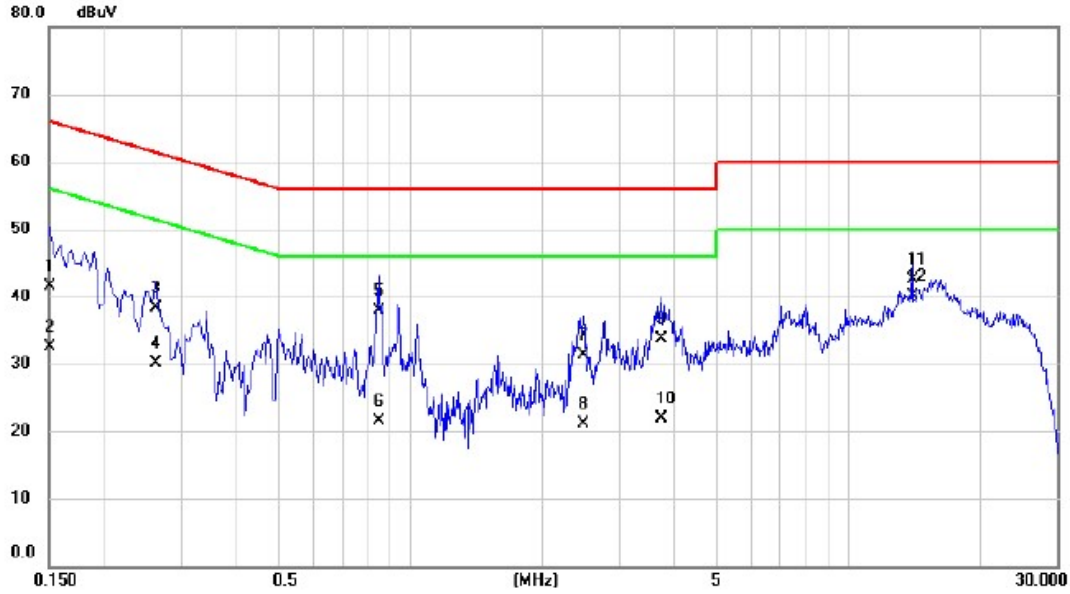




# APPENDIX A - CONDUCTED EMISSION

| Test Mode: | TX Mode |
|---|---|

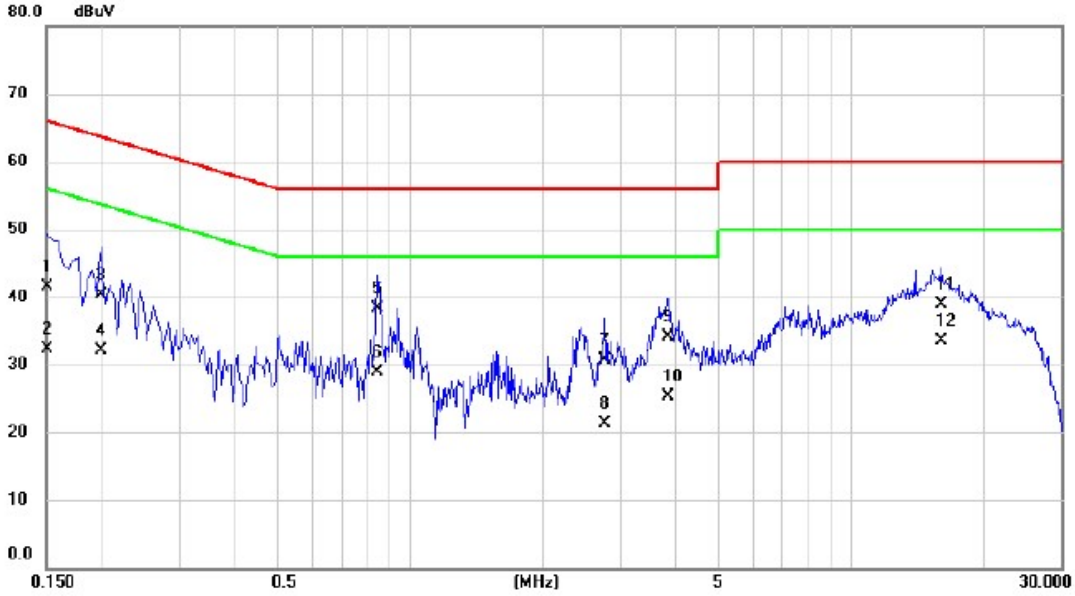
**Line**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 0.1500 | 31.80 | 9.76 | 41.56 | 66.00 | -24.44 | QP | |
| 2 | | 0.1500 | 22.70 | 9.76 | 32.46 | 56.00 | -23.54 | AVG | |
| 3 | | 0.2625 | 28.40 | 9.85 | 38.25 | 61.35 | -23.10 | QP | |
| 4 | | 0.2625 | 20.30 | 9.85 | 30.15 | 51.35 | -21.20 | AVG | |
| 5 | | 0.8475 | 28.00 | 9.82 | 37.82 | 56.00 | -18.18 | QP | |
| 6 | | 0.8475 | 11.70 | 9.82 | 21.52 | 46.00 | -24.48 | AVG | |
| 7 | | 2.4855 | 21.30 | 9.96 | 31.26 | 56.00 | -24.74 | QP | |
| 8 | | 2.4855 | 11.10 | 9.96 | 21.06 | 46.00 | -24.94 | AVG | |
| 9 | | 3.7500 | 23.70 | 10.03 | 33.73 | 56.00 | -22.27 | QP | |
| 10 | | 3.7500 | 11.90 | 10.03 | 21.93 | 46.00 | -24.07 | AVG | |
| 11 | | 14.0010 | 32.50 | 10.09 | 42.59 | 60.00 | -17.41 | QP | |
| 12 | * | 14.0010 | 30.10 | 10.09 | 40.19 | 50.00 | -9.81 | AVG | |

| Test Mode: | TX Mode |
|---|---|

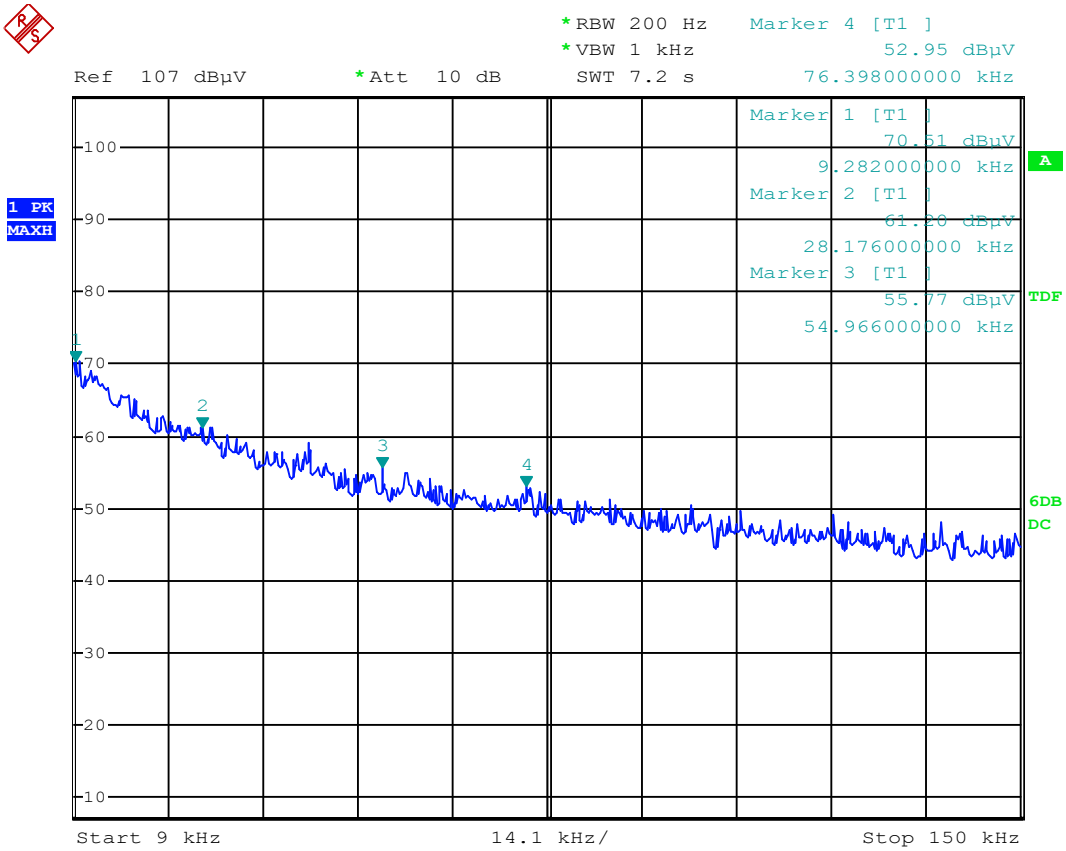
**Neutral**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 0.1500 | 31.80 | 9.63 | 41.43 | 66.00 | -24.57 | QP | |
| 2 | | 0.1500 | 22.70 | 9.63 | 32.33 | 56.00 | -23.67 | AVG | |
| 3 | | 0.1995 | 30.70 | 9.66 | 40.36 | 63.63 | -23.27 | QP | |
| 4 | | 0.1995 | 22.50 | 9.66 | 32.16 | 53.63 | -21.47 | AVG | |
| 5 | | 0.8430 | 28.50 | 9.77 | 38.27 | 56.00 | -17.73 | QP | |
| 6 | | 0.8430 | 19.10 | 9.77 | 28.87 | 46.00 | -17.13 | AVG | |
| 7 | | 2.7690 | 20.70 | 10.01 | 30.71 | 56.00 | -25.29 | QP | |
| 8 | | 2.7690 | 11.30 | 10.01 | 21.31 | 46.00 | -24.69 | AVG | |
| 9 | | 3.8445 | 24.10 | 10.02 | 34.12 | 56.00 | -21.88 | QP | |
| 10 | | 3.8445 | 15.30 | 10.02 | 25.32 | 46.00 | -20.68 | AVG | |
| 11 | | 16.0800 | 28.80 | 10.11 | 38.91 | 60.00 | -21.09 | QP | |
| 12 | * | 16.0800 | 23.30 | 10.11 | 33.41 | 50.00 | -16.59 | AVG | |

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

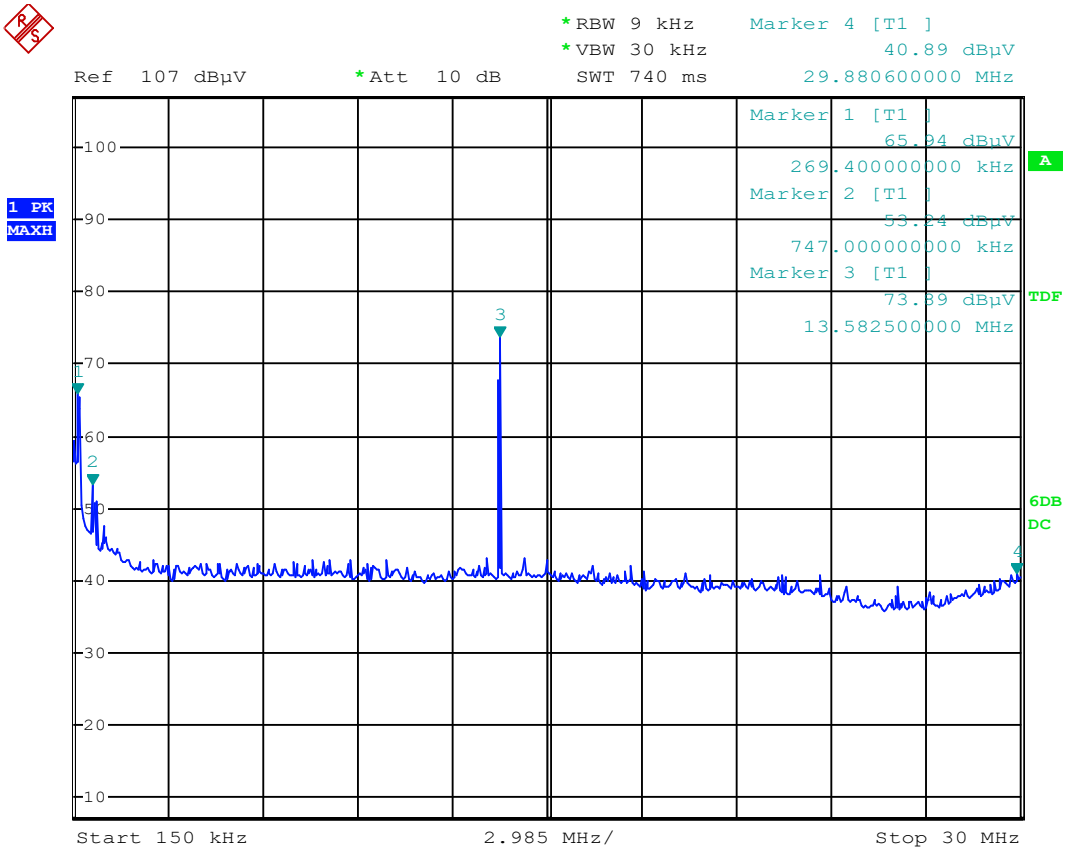
| Test Mode: | TX Mode |
|---|---|




Date: 19.NOV.2019 22:31:22

| Frequency ( MHz) | Correct Amplitude (dBµV/m)@3m | Detector PK/QP/AV | Limit (dBµV/m)@3m | Margin(dB) |
|---|---|---|---|---|
| 0.009 | 70.51 | PK | 128.52 | 58.01 |
| 0.028 | 61.20 | PK | 118.66 | 57.46 |
| 0.055 | 55.77 | PK | 112.80 | 57.03 |
| 0.076 | 52.95 | PK | 109.99 | 57.04 |

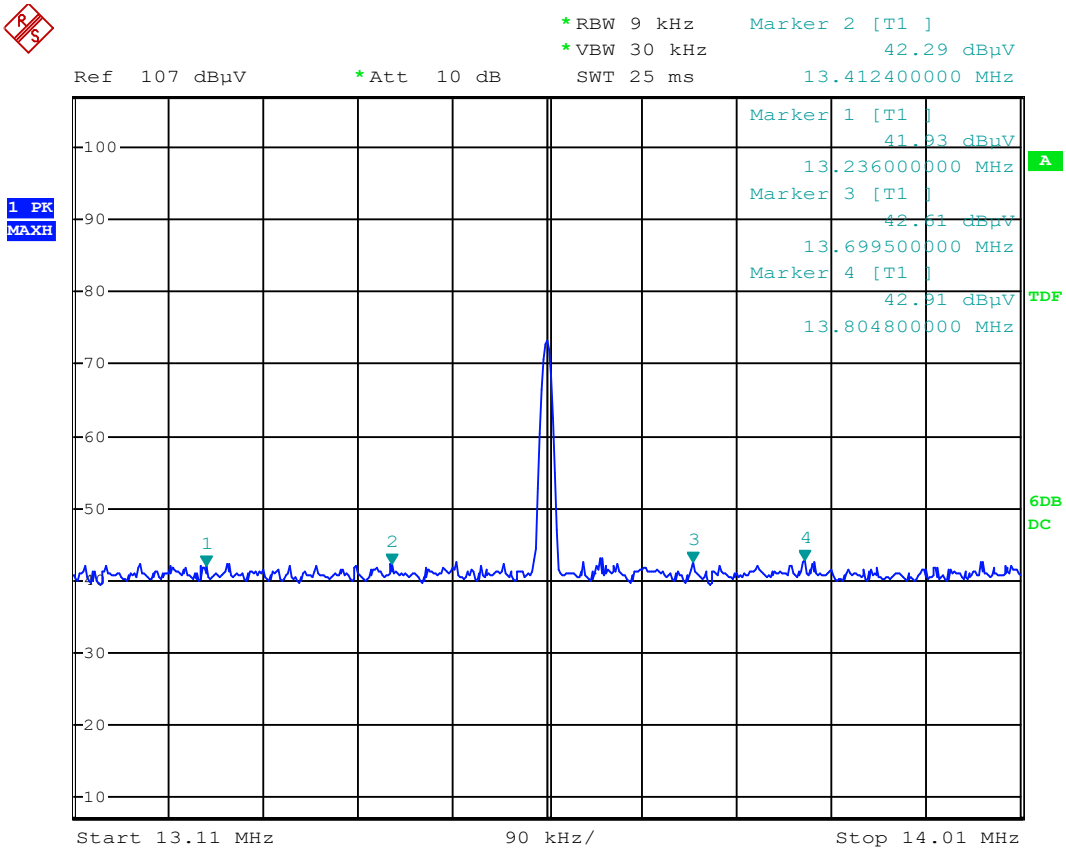
| Test Mode: | TX Mode |
|---|---|




Date: 19.NOV.2019 22:35:51

| Frequency ( MHz) | Correct Amplitude (dBµV/m)@3m | Detector PK/QP/AV | Limit (dBµV/m)@3m | Margin(dB) |
|---|---|---|---|---|
| 0.27 | 65.94 | PK | 98.98 | 33.04 |
| 0.75 | 53.24 | PK | 70.10 | 16.86 |
| 13.56 | 73.89 | PK | 124.00 | 50.11 |
| 29.88 | 40.89 | PK | 69.54 | 28.65 |

| Test Mode: | TX Mode |
|---|---|



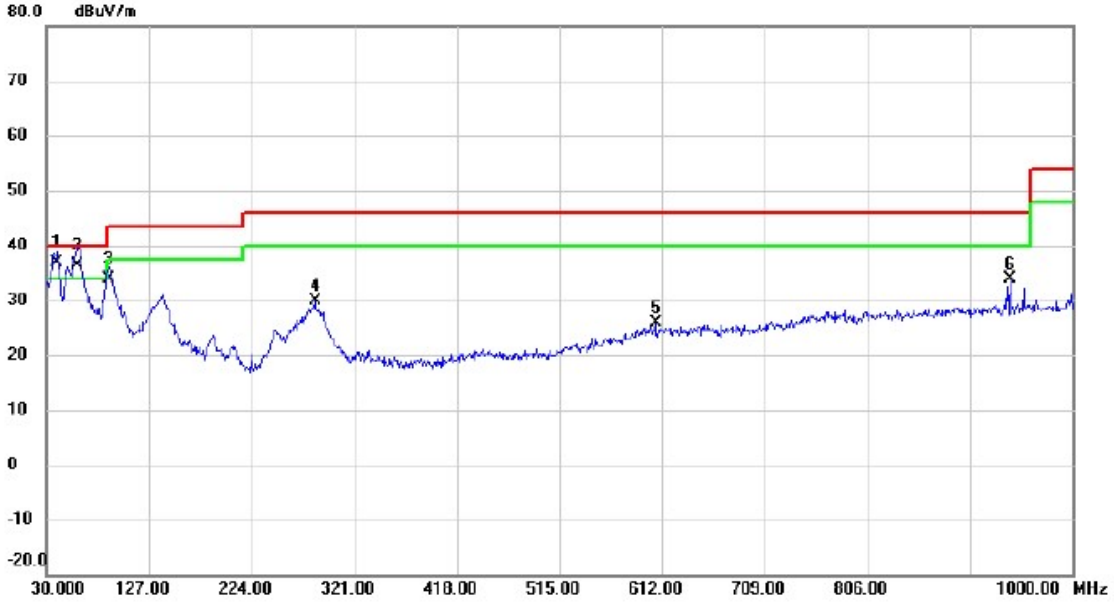

Date: 19.NOV.2019 22:40:01

| Frequency ( MHz) | Correct Amplitude (dBµV/m)@3m | Detector PK/QP/AV | Limit (dBµV/m)@3m | Margin(dB) |
|---|---|---|---|---|
| 13.24 | 41.93 | PK | 80.51 | 38.58 |
| 13.41 | 42.29 | PK | 90.47 | 48.18 |
| 13.70 | 42.61 | PK | 90.47 | 47.86 |
| 13.80 | 42.91 | PK | 80.51 | 37.60 |

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

| Test Mode: | TX Mode |
|---|---|

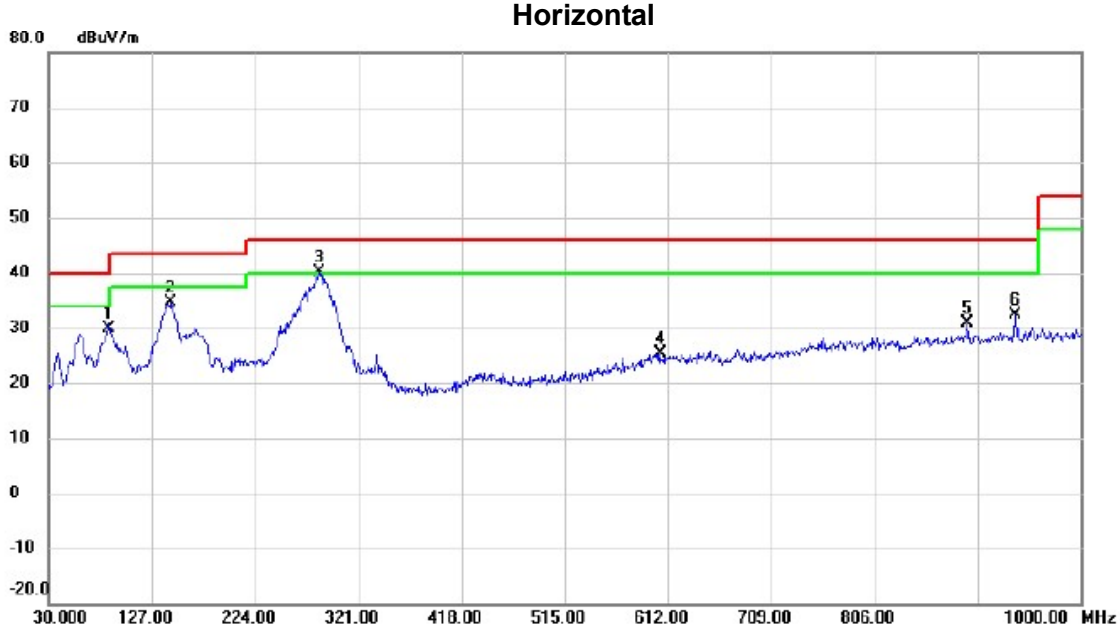
**Vertical**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 39.7000 | 53.05 | -16.23 | 36.82 | 40.00 | -3.18 | QP | |
| 2 | ! | 59.5850 | 54.00 | -17.56 | 36.44 | 40.00 | -3.56 | QP | |
| 3 | | 88.2000 | 54.21 | -20.44 | 33.77 | 43.50 | -9.73 | QP | |
| 4 | | 283.6550 | 44.98 | -15.00 | 29.98 | 46.00 | -16.02 | peak | |
| 5 | | 605.6950 | 34.48 | -8.64 | 25.84 | 46.00 | -20.16 | peak | |
| 6 | | 941.3150 | 39.08 | -5.19 | 33.89 | 46.00 | -12.11 | peak | |

| Test Mode: | TX Mode |
|---|---|

**Horizontal**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 85.7750 | 50.21 | -20.39 | 29.82 | 40.00 | -10.18 | peak | |
| 2 | | 143.9750 | 49.95 | -15.34 | 34.61 | 43.50 | -8.89 | peak | |
| 3 | * | 283.6550 | 55.05 | -15.00 | 40.05 | 46.00 | -5.95 | peak | |
| 4 | | 604.7250 | 34.09 | -8.64 | 25.45 | 46.00 | -20.55 | peak | |
| 5 | | 893.3000 | 36.28 | -5.49 | 30.79 | 46.00 | -15.21 | peak | |
| 6 | | 938.4050 | 37.53 | -5.20 | 32.33 | 46.00 | -13.67 | peak | |

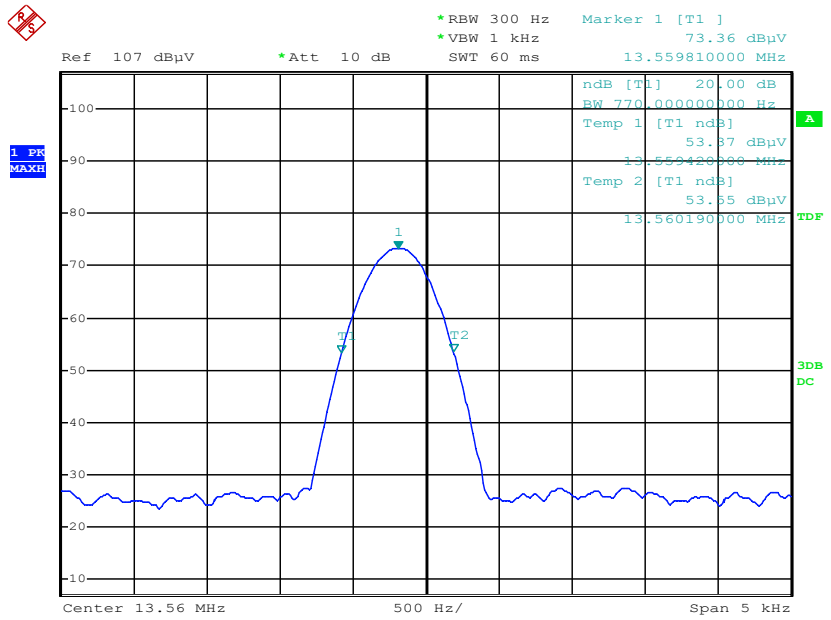
# APPENDIX D - FREQUENCY STABILITY

| Power Supply($V_{DC}$) | Temperature (℃ ) | Measured Frequency (MHz) | Frequency Error(%) | Limit |
|---|---|---|---|---|
| 7.2 | -20 | 13.55959 | -0.003 | ±0.01% |
| | -10 | 13.55981 | -0.001 | ±0.01% |
| | 0 | 13.55973 | -0.002 | ±0.01% |
| | 10 | 13.55978 | -0.002 | ±0.01% |
| | 30 | 13.55976 | -0.002 | ±0.01% |
| | 40 | 13.55959 | -0.003 | ±0.01% |
| | 50 | 13.55973 | -0.002 | ±0.01% |
| 6.12 | 20 | 13.55991 | -0.001 | ±0.01% |
| 8.28 | 20 | 13.55991 | -0.001 | ±0.01% |

# APPENDIX E - 20DB SPECTRUM BANDWIDTH MEASUREMENT

| Test Mode: | TX Mode |
|---|---|

| Frequency (MHz) | 20 dB Bandwidth (KHz) | 99% Occupied BW (KHz) | Test Result |
|---|---|---|---|
| 13.56 | 0.77 | 0.68 | Pass |

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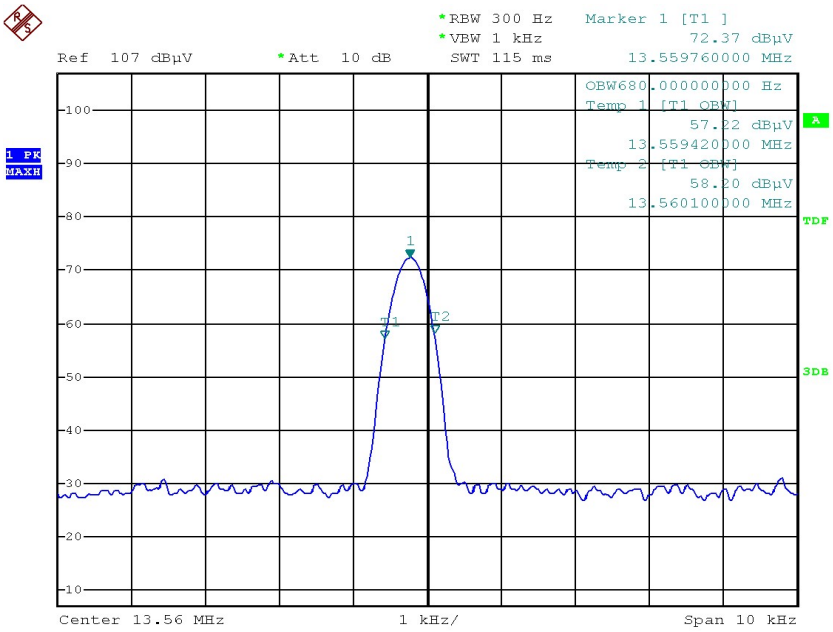


Date: 22.NOV.2019 08:53:17

**End of Test Report**