

RADIO TEST REPORT

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Report No.:STS2204193W02

Issued for

Shenzhen Xingchang Technology Co. Ltd

9th Floor, Building A, Jianyu Second Industrial Zone, Nanchang, Gushu 1st Road, Baoan District, Shenzhen.China

| Product Name: | wireless live lavalier microphone |
|----------------|-----------------------------------|
| Brand Name: | 今期品 |
| Model Name: | V1 double version |
| Series Model: | N/A |
| FCC ID: | 2A5ZJ-V1 |
| Test Standard: | FCC Part 15.247 |

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APPROVA

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TEST RESULT CERTIFICATION

| Applicant's Name: | Shenzhen Xingchang Technology Co. Ltd |
|----------------------|---|
| Address: | 9th Floor, Building A, Jianyu Second Industrial Zone, Nanchang, Gushu 1st Road, Baoan District, Shenzhen.China |
| Manufacturer's Name: | Shenzhen Xingchang Technology Co. Ltd |
| Address: | 9th Floor, Building A, Jianyu Second Industrial Zone, Nanchang, Gushu 1st Road, Baoan District, Shenzhen.China |
| Product Description | |
| Product Name: | wireless live lavalier microphone |
| Brand Name: | 今里唱 |
| Model Name: | V1 double version |
| Series Model: | N/A |
| Test Standards: | FCC Part15.247 |
| Test Procedure: | ANSI C63.10-2013 |

This device described above has been tested by STS, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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| Date of Test | |
|-----------------------------------|---------------------------|
| Date of receipt of test item: | 05 May 2022 |
| Date (s) of performance of tests: | 05 May 2022 ~ 24 May 2022 |
| Date of Issue: | 24 May 2022 |
| Test Result: | Pass |

Testing Engineer

(Chris Chen)

Technical Manager

(Sean she)



Authorized Signatory :

hover

(Bovey Yang)

Shenzhen STS Test Services Co., Ltd.



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Revision History

| Rev. | Issue Date | | | Contents |
|------|-------------|---------------------------|--|---------------|
| 00 | 24 May 2022 | 24 May 2022 STS2204193W02 | | Initial Issue |
| | | | | |



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1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards: KDB 558074 D01 15.247 Meas Guidance v05r02.

| | FCC Part 15.247,Subpart C | | | | | | |
|-----------------------------------|--|--------|--|--|--|--|--|
| Standard Section | Judgment | Remark | | | | | |
| 15.207 | Conducted Emission | PASS | | | | | |
| 15.247 (a)(2) | 6dB Bandwidth | PASS | | | | | |
| 15.247 (b)(3) | Output Power | PASS | | | | | |
| 15.209 | Radiated Spurious Emission | PASS | | | | | |
| 15.247 (d) | Conducted Spurious & Band Edge Emission | PASS | | | | | |
| 15.247 (e) | Power Spectral Density | PASS | | | | | |
| 15.205 | Restricted bands of operation | PASS | | | | | |
| Part 15.247(d)/ Part 15.209(a) | Band Edge Emission | PASS | | | | | |
| 15.203 | Antenna Requirement | PASS | | | | | |

NOTE:

(1) 'N/A' denotes test is not applicable in this Test Report.

(2) All tests are according to ANSI C63.10-2013.

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1.1 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD Add. : A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China FCC test Firm Registration Number: 625569 IC test Firm Registration Number: 12108A A2LA Certificate No.: 4338.01

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

| No. | Item | Uncertainty |
|-----|----------------------------------|-------------|
| 1 | RF output power, conducted | ±0.87dB |
| 2 | Unwanted Emissions, conducted | ±2.895dB |
| 3 | All emissions, radiated 9K-30MHz | ±3.80dB |
| 4 | All emissions, radiated 30M-1GHz | ±4.09dB |
| 5 | All emissions, radiated 1G-6GHz | ±4.92dB |
| 6 | All emissions, radiated>6G | ±5.49dB |
| 7 | Conducted Emission (9KHz-30MHz) | ±2.73dB |

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2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

| Product Name | wireless live lavalie | r microphone | |
|-------------------------|--|-----------------------------|--|
| Trade Name | 今日間 | | |
| Model Name | V1 double version | | |
| Series Model | N/A | | |
| Model Difference | N/A | | |
| | The EUT is a wirele | ss live lavalier microphone | |
| | Operation Frequency: | 2404~2480 MHz | |
| | Modulation Type: | GFSK | |
| Product Description | Number Of Channel: | Please refer to the Note 2. | |
| | Antenna Designation: | Please refer to the Note 3. | |
| | Antenna Gain (dBi) | 2dBi | |
| Channel List | Please refer to the Note 2. | | |
| Rating | Input: DC 5V 0.5A | | |
| Battery | Rated Voltage:3.7V Charge Limit Voltage:4.2V Capacity: 60mAh | | |
| Hardware version number | V1TX-V1.0 | | |
| Software version number | XC-VOG-V2-V0102_crc | | |
| Connecting I/O Port(s) | Please refer to the I | Note 1. | |

Note:

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

| \mathbf{r} | |
|--------------|--|
| 2 | |
| | |

| | Channel List | | | | | | | |
|--|--------------|------|----|------|----|------|---------|---------------------|
| Channel Frequency (MHz) Channel Frequency (MHz) Channel Frequency (MHz) Channel Channel (MHz) | | | | | | | Channel | Frequenc y (MHz) |
| | 01 | 2404 | 02 | 2444 | 03 | 2480 | | |
| | | | | | | | | |

^{3.}

Table for Filed Antenna

| Ant. | Brand | Model Name | Antenna Type | Connector | Gain (dBi) | NOTE |
|------|-------|----------------------|--------------|-----------|------------|----------|
| 1 | 品語 | V1 double version | Ceramic | N/A | 2dBi | 2.4G ANT |

Note: The antenna information refer the manufacturer provide report, applicable only to the tested sample identified in the report. Due to the incorrect antenna information, a series of problems such as the accuracy of the test results will be borne by the customer.

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2.2 DESCRIPTION OF THE TEST MODES

For conducted test items and radiated spurious emissions

Each of these EUT operation mode(s) or test configuration mode(s) mentioned below was evaluated respectively.

| Worst Mode | Description | Data/Modulation |
|------------|------------------|-----------------|
| Mode 1 | TX CH01(2404MHz) | 1 Mbps/GFSK |
| Mode 2 | TX CH02(2444MHz) | 1 Mbps/GFSK |
| Mode 3 | TX CH03(2480MHz) | 1 Mbps/GFSK |

Note:

(1) We tested for all available U.S. voltage and frequencies (For 120V, 50/60Hz and 240V, 50/60Hz) for which the device is capable of operation, and the worst case of 120V/ 60Hz is shown in the report.

(2) The battery is fully-charged during the radiated and RF conducted test.

For AC Conducted Emission

| | Test Case |
|-----------------------|------------------------|
| AC Conducted Emission | Mode 4 : Keeping BT TX |

2.3 TEST SOFTWARE AND POWER LEVEL

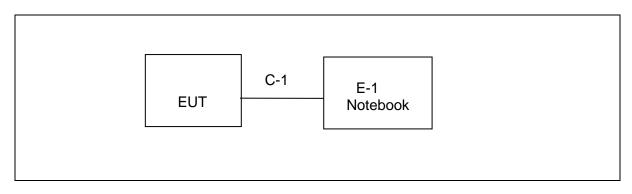
During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level.

| RF Function | Туре | Mode Or Modulation type | ANT Gain(dBi) | Power Class | Software For Testing |
|-------------|------|-------------------------------|------------------|-------------|-------------------------|
| Other SRD | 2.4G | GFSK | 2 | Default | CX622-682 |

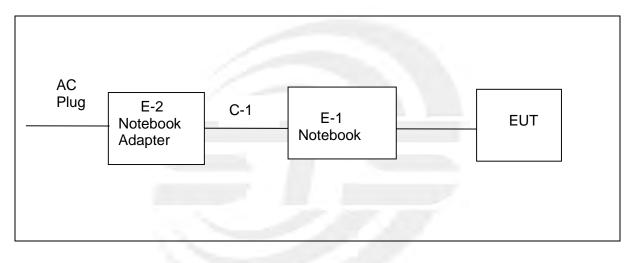


2.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Radiated Spurious Emission Test



Conducted Emission Test



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2.5 DESCRIPTION OF NECESSARY ACCESSORIES AND 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.

| | Necessary accessories | | | | | | | |
|------|-----------------------|---------------------------------|-----|------|-----|--|--|--|
| Item | Equipment | Mfr/Brand Model/Type No. Length | | Note | | | | |
| N/A | N/A | N/A | N/A | N/A | N/A | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Support units

| Item | Equipment | Mfr/Brand | Model/Type No. | Length | Note |
|------|------------------|-----------|----------------|--------|------|
| E-2 | Notebook Adapter | LENOVO | ADLX45DLC3A | N/A | N/A |
| E-1 | Notebook | LENOVO | Think Pad E470 | N/A | N/A |
| C-1 | USB Cable | N/A | N/A | 150cm | NO |

Note:

- (1) For detachable type I/O cable should be specified the length in cm in ^CLength₂ column.
- (2) "YES" is means "with core"; "NO" is means "without core".



2.6 EQUIPMENTS LIST

Radiation Test equipment

| Kind of Equipment | Manufacturer | Type No. | Serial No. | Last calibration | Calibrated until | | |
|-------------------------------------|--------------|----------------------------|--------------|------------------|------------------|--|--|
| Test Receiver | R&S | ESCI | 101427 | 2021.09.30 | 2022.09.29 | | |
| Signal Analyzer | R&S | FSV 40-N | 101823 | 2021.09.30 | 2022.09.29 | | |
| Active loop Antenna | ZHINAN | ZN30900C | 16035 | 2021.04.11 | 2023.04.10 | | |
| Bilog Antenna | TESEQ | CBL6111D | 34678 | 2020.10.12 | 2022.10.11 | | |
| Horn Antenna | SCHWARZBECK | BBHA 9120D | 02014 | 2021.10.11 | 2023.10.10 | | |
| SHF-EHF Horn Antenna (18G-40GHz) | A-INFO | LB-180400-KF | J211020657 | 2020.10.12 | 2022.10.11 | | |
| Pre-Amplifier (0.1M-3GHz) | EM | EM330 | 060665 | 2021.10.08 | 2022.10.07 | | |
| Pre-Amplifier (1G-18GHz) | SKET | LNPA-01018G-45 | SK2018080901 | 2021.09.30 | 2022.09.29 | | |
| Pre-Amplifier (18G-40GHz) | SKET | LNPA-1840-50 | SK2018101801 | 2021.09.28 | 2022.09.27 | | |
| Temperature & Humidity | HH660 | Mieo | N/A | 2021.10.09 | 2022.10.08 | | |
| Turn table | EM | SC100_1 | 60531 | N/A | N/A | | |
| Antenna mast | EM | SC100 | N/A | N/A | N/A | | |
| Test SW | FARAD | EZ-EMC(Ver.STSLAB-03A1 RE) | | | | | |

Conduction Test equipment

| Kind of Equipment | Manufacturer | Type No. | Serial No. | Last calibration | Calibrated until | |
|---------------------------|--------------|----------------------------|------------|------------------|------------------|--|
| Test Receiver | R&S | ESCI | 101427 | 2021.09.30 | 2022.09.29 | |
| LISN | R&S | ENV216 | 101242 | 2021.09.30 | 2022.09.29 | |
| LISN | EMCO | 3810/2NM | 23625 | 2021.09.30 | 2022.09.29 | |
| Temperature & Humidity | HH660 | Mieo | N/A | 2021.10.09 | 2022.10.08 | |
| Test SW | FARAD | EZ-EMC(Ver.STSLAB-03A1 CE) | | | | |

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RF Connected Test

| Kind of Equipment | Manufacturer | Type No. | Serial No. | Last calibration | Calibrated until | |
|---------------------------|--------------|----------------------------|------------|------------------|------------------|--|
| Power Sensor | | | MY55520005 | 2021.09.30 | 2022.09.29 | |
| | Kovoight | U2021XA | MY55520006 | 2021.09.30 | 2022.09.29 | |
| | Keysight | MY56120038 MY56280002 | 2021.09.30 | 2022.09.29 | | |
| | | | MY56280002 | 2021.09.30 | 2022.09.29 | |
| Signal Analyzer | Agilent | N9020A | MY51110105 | 2022.03.01 | 2023.02.28 | |
| Temperature & Humidity | HH660 | Mieo | N/A | 2021.10.09 | 2022.10.08 | |
| Test SW | FARAD | EZ-EMC(Ver.STSLAB-03A1 RE) | | | | |



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3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION LIMITS

The radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table.

| | Conducted Emission limit (dBuV) | | |
|-----------------|---------------------------------|-----------|--|
| FREQUENCY (MHz) | 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.

The following table is the setting of the receiver

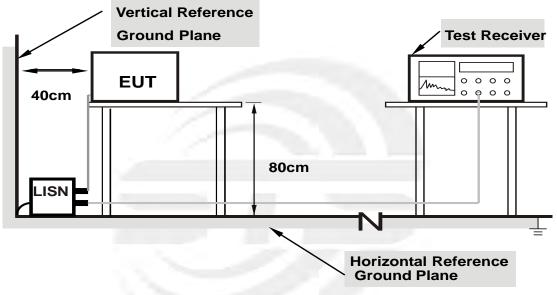
| Receiver Parameters | Setting |
|---------------------|----------|
| Attenuation | 10 dB |
| Start Frequency | 0.15 MHz |
| Stop Frequency | 30 MHz |
| IF Bandwidth | 9 kHz |



3.2 TEST PROCEDURE

- a. The EUT is 0.8 m from the horizontal ground plane and 0.4 m from the vertical ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments are powered from additional LISN(s). The LISN provides 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 is at least 80 cm from the nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item -EUT Test Photos.

3.3 TEST SETUP



Note: 1. Support units were connected to second LISN.

2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes support units.

3.4 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.



3.5 TEST RESULTS

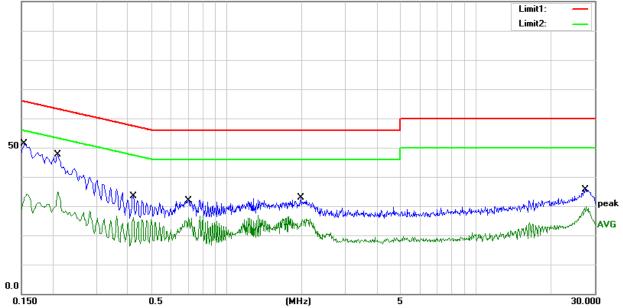
| Temperature: | 25.2(C) | Relative Humidity: | 49%RH |
|---------------|--------------|--------------------|-------|
| Test Voltage: | AC 120V/60Hz | Phase: | L |
| Test Mode: | Mode 4 | | |

| No. | Frequency | Reading | Correct | Result | Limit | Margin | Remark |
|-----|-----------|---------|----------------|--------|--------|--------|--------|
| | (MHz) | (dBuV) | Factor(d B) | (dBuV) | (dBuV) | (dB) | |
| 1 | 0.1540 | 31.02 | 20.33 | 51.35 | 65.78 | -14.43 | QP |
| 2 | 0.1540 | 13.75 | 20.33 | 34.08 | 55.78 | -21.70 | AVG |
| 3 | 0.2100 | 27.27 | 20.35 | 47.62 | 63.21 | -15.59 | QP |
| 4 | 0.2100 | 14.53 | 20.35 | 34.88 | 53.21 | -18.33 | AVG |
| 5 | 0.4220 | 12.84 | 20.54 | 33.38 | 57.41 | -24.03 | QP |
| 6 | 0.4220 | 5.60 | 20.54 | 26.14 | 47.41 | -21.27 | AVG |
| 7 | 0.7020 | 11.55 | 20.35 | 31.90 | 56.00 | -24.10 | QP |
| 8 | 0.7020 | 5.89 | 20.35 | 26.24 | 46.00 | -19.76 | AVG |
| 9 | 1.9860 | 12.58 | 20.30 | 32.88 | 56.00 | -23.12 | QP |
| 10 | 1.9860 | 5.38 | 20.30 | 25.68 | 46.00 | -20.32 | AVG |
| 11 | 27.4260 | 12.76 | 22.76 | 35.52 | 60.00 | -24.48 | QP |
| 12 | 27.4260 | 7.04 | 22.76 | 29.80 | 50.00 | -20.20 | AVG |

Remark:

- 1. All readings are Quasi-Peak and Average values
- 2. Margin = Result (Result = Reading + Factor)–Limit
- 3. Factor=LISN factor+Cable loss+Limiter (10dB)

100.0 dBuV



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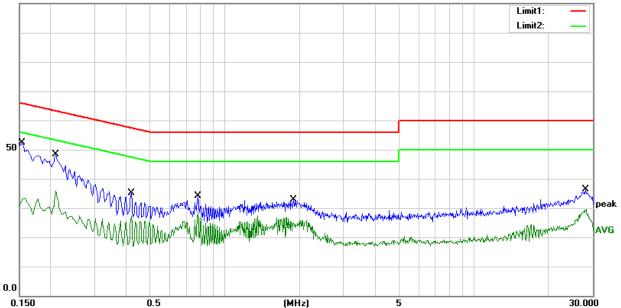
| Temperature: | 25.2(C) | Relative Humidity: | 49%RH |
|---------------|--------------|--------------------|-------|
| Test Voltage: | AC 120V/60Hz | Phase: | Ν |
| Test Mode: | Mode 4 | | |

| No. | Frequency | Reading | Correct | Result | Limit | Margin | Remark |
|-----|-----------|---------|----------------|--------|--------|--------|--------|
| | (MHz) | (dBuV) | Factor(d B) | (dBuV) | (dBuV) | (dB) | |
| 1 | 0.1540 | 32.07 | 20.30 | 52.37 | 65.78 | -13.41 | QP |
| 2 | 0.1540 | 13.09 | 20.30 | 33.39 | 55.78 | -22.39 | AVG |
| 3 | 0.2100 | 27.82 | 20.44 | 48.26 | 63.21 | -14.95 | QP |
| 4 | 0.2100 | 15.44 | 20.44 | 35.88 | 53.21 | -17.33 | AVG |
| 5 | 0.4220 | 14.52 | 20.55 | 35.07 | 57.41 | -22.34 | QP |
| 6 | 0.4220 | 6.88 | 20.55 | 27.43 | 47.41 | -19.98 | AVG |
| 7 | 0.7820 | 13.71 | 20.35 | 34.06 | 56.00 | -21.94 | QP |
| 8 | 0.7820 | 8.51 | 20.35 | 28.86 | 46.00 | -17.14 | AVG |
| 9 | 1.8940 | 12.52 | 20.38 | 32.90 | 56.00 | -23.10 | QP |
| 10 | 1.8940 | 5.55 | 20.38 | 25.93 | 46.00 | -20.07 | AVG |
| 11 | 28.1060 | 13.45 | 23.00 | 36.45 | 60.00 | -23.55 | QP |
| 12 | 28.1060 | 6.51 | 23.00 | 29.51 | 50.00 | -20.49 | AVG |

Remark:

- 1. All readings are Quasi-Peak and Average values
- 2. Margin = Result (Result = Reading + Factor)-Limit
- 3. Factor=LISN factor+Cable loss+Limiter (10dB)

100.0 dBuV



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4. RADIATED EMISSION MEASUREMENT

4.1 RADIATED EMISSION LIMITS

In any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the Restricted band specified on Part15.205(a)&209(a) limit in the table and according to ANSI C63.10-2013 below has to be followed.

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

| Frequencies | Field Strength | Measurement Distance |
|-------------|--------------------|----------------------|
| (MHz) | (micorvolts/meter) | (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 |
| Above 960 | 500 | 3 |

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

| | (dBuV/m) (at 3M) | | |
|-----------------|------------------|---------|--|
| FREQUENCY (MHz) | PEAK | AVERAGE | |
| Above 1000 | 74 | 54 | |

Notes:

(1) The limit for radiated test was performed according to FCC PART 15C.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).

LIMITS OF RESTRICTED FREQUENCY BANDS

| FREQUENCY (MHz) | FREQUENCY (MHz) | FREQUENCY (MHz) | FREQUENCY (GHz) |
|-------------------|---------------------|-----------------|-----------------|
| 0.090-0.110 | 16.42-16.423 | 399.9-410 | 4.5-5.15 |
| 0.495-0.505 | 16.69475-16.69525 | 608-614 | 5.35-5.46 |
| 2.1735-2.1905 | 16.80425-16.80475 | 960-1240 | 7.25-7.75 |
| 4.125-4.128 | 25.5-25.67 | 1300-1427 | 8.025-8.5 |
| 4.17725-4.17775 | 37.5-38.25 | 1435-1626.5 | 9.0-9.2 |
| 4.20725-4.20775 | 73-74.6 | 1645.5-1646.5 | 9.3-9.5 |
| 6.215-6.218 | 74.8-75.2 | 1660-1710 | 10.6-12.7 |
| 6.26775-6.26825 | 108-121.94 | 1718.8-1722.2 | 13.25-13.4 |
| 6.31175-6.31225 | 123-138 | 2200-2300 | 14.47-14.5 |
| 8.291-8.294 | 149.9-150.05 | 2310-2390 | 15.35-16.2 |
| 8.362-8.366 | 156.52475-156.52525 | 2483.5-2500 | 17.7-21.4 |
| 8.37625-8.38675 | 156.7-156.9 | 2690-2900 | 22.01-23.12 |
| 8.41425-8.41475 | 162.0125-167.17 | 3260-3267 | 23.6-24.0 |
| 12.29-12.293 | 167.72-173.2 | 3332-3339 | 31.2-31.8 |
| 12.51975-12.52025 | 240-285 | 3345.8-3358 | 36.43-36.5 |
| 12.57675-12.57725 | 322-335.4 | 3600-4400 | Above 38.6 |
| 13.36-13.41 | | | |

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For Radiated Emission

| Spectrum Parameter | Setting | | |
|---------------------------------|-------------------------------|--|--|
| Attenuation | Auto | | |
| Detector | Peak/QP/AV | | |
| Start Frequency | 9 KHz/150KHz(Peak/QP/AV) | | |
| Stop Frequency | 150KHz/30MHz(Peak/QP/AV) | | |
| | 200Hz (From 9kHz to 0.15MHz)/ | | |
| RB / VB (emission in restricted | 9KHz (From 0.15MHz to 30MHz); | | |
| band) | 200Hz (From 9kHz to 0.15MHz)/ | | |
| | 9KHz (From 0.15MHz to 30MHz) | | |

| Spectrum Parameter | Setting |
|---------------------------------------|--------------------|
| Attenuation | Auto |
| Detector | Peak/QP |
| Start Frequency | 30 MHz(Peak/QP) |
| Stop Frequency | 1000 MHz (Peak/QP) |
| RB / VB (emission in restricted band) | 120 KHz / 300 KHz |

| Spectrum Parameter | Setting | | |
|---------------------------------|-------------------------------|--|--|
| Attenuation | Auto | | |
| Detector | Peak/AV | | |
| Start Frequency | 1000 MHz(Peak/AV) | | |
| Stop Frequency | 10th carrier hamonic(Peak/AV) | | |
| RB / VB (emission in restricted | 1 MHz / 3 MHz(Peak) | | |
| band) | 1 MHz/1/T MHz(AVG) | | |

For Restricted band

| Spectrum Parameter | Setting | | |
|----------------------|-----------------------------------|--|--|
| Detector | Peak/AV | | |
| Stort/Stop Eroguopov | Lower Band Edge: 2310 to 2410 MHz | | |
| Start/Stop Frequency | Upper Band Edge: 2475 to 2500 MHz | | |
| | 1 MHz / 3 MHz(Peak) | | |
| RB / VB | 1 MHz/1/T MHz(AVG) | | |

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| Receiver Parameter | Setting |
|------------------------|--------------------------------------|
| Start ~ Stop Frequency | 9kHz~90kHz / RB 200Hz for PK & AV |
| Start ~ Stop Frequency | 90kHz~110kHz / RB 200Hz for QP |
| Start ~ Stop Frequency | 110kHz~490kHz / RB 200Hz for PK & AV |
| Start ~ Stop Frequency | 490kHz~30MHz / RB 9kHz for QP |
| Start ~ Stop Frequency | 30MHz~1000MHz / RB 120kHz for QP |

4.2 TEST PROCEDURE

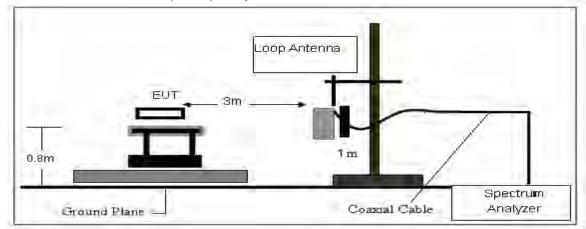
- a. The measuring distance at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz, and above 1GHz.
- b. The EUT was placed on the top of a rotating table 0.8 m (above 1GHz is 1.5 m) above the ground at a 3 m anechoic chamber test site. The table was rotated 360 degree to determine the position of the highest radiation.
- c. The height of the equipment shall be 0.8 m (above 1GHz is 1.5 m); the height of the test antenna shall vary between 1 m to 4 m. Horizontal and vertical polarization of the antenna are set to make the measurement.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and QuasiPeak detector mode will be re-measured.
- e. If the Peak Mode measured value is compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and no additional QP Mode measurement was performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos. Note:

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

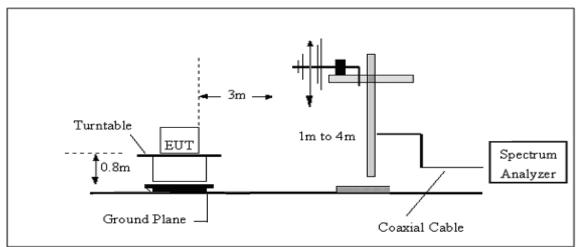


4.3 TEST SETUP

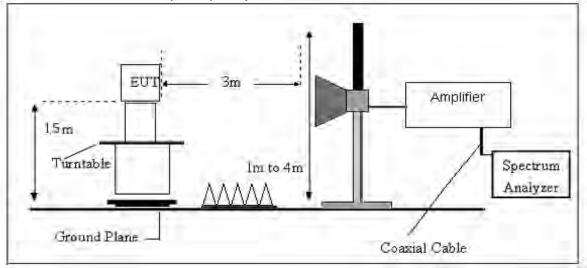
(A) Radiated Emission Test-Up Frequency Below 30MHz



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



(C) Radiated Emission Test-Up Frequency Above 1GHz



4.4 EUT OPERATING CONDITIONS Please refer to section 3.4 of this report.



4.5 FIELD STRENGTH CALCULATION

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CL - AGWhere FS = Field Strength CL = Cable Attenuation Factor (Cable Loss) RA = Reading Amplitude AG = Amplifier Gain AF = Antenna Factor

For example

| Frequency | FS | RA | AF | CL | AG | Factor |
|-----------|----------|----------|------|------|------|--------|
| (MHz) | (dBµV/m) | (dBµV/m) | (dB) | (dB) | (dB) | (dB) |
| 300 | 40 | 58.1 | 12.2 | 1.6 | 31.9 | -18.1 |

Factor=AF+CL-AG





4.6 TEST RESULTS

(Between 9KHz - 30 MHz)

| Temperature: | 23.1(C) | Relative Humidtity: | 60%RH |
|---------------|---------|---------------------|-------|
| Test Voltage: | DC 3.7V | Polarization: | |
| Test Mode: | TX Mode | | |

| Freq. | Reading Limit Margin | | Margin | State | |
|-------|----------------------|----------|--------|-------|--|
| (MHz) | (dBuV/m) | (dBuV/m) | (dB) | P/F | |
| | | | | PASS | |
| | | | | PASS | |

Note:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor =40 log (specific distance/test distance)(dB);

Limit line = specific limits(dBuv) + distance extrapolation factor.





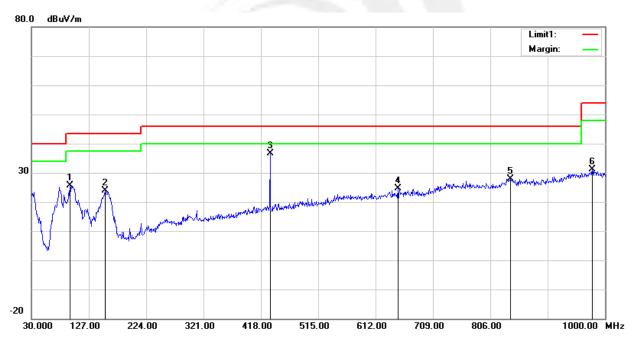
(30MHz -1000MHz)

| Temperature: | 23.1(C) | Relative Humidity: | 60%RH | | |
|---------------|--------------------------------|--------------------|------------|--|--|
| Test Voltage: | DC 3.7V | Phase: | Horizontal | | |
| Test Mode: | Mode 1/2/3 (Mode 2 worst mode) | | | | |

| No. | Frequency | Reading | Correct | Result | Limit | Margin | Remark |
|-----|-----------|---------|------------------|----------|----------|--------|--------|
| | (MHz) | (dBuV) | Factor(dB/ m) | (dBuV/m) | (dBuV/m) | (dB) | |
| 1 | 94.9900 | 46.42 | -20.78 | 25.64 | 43.50 | -17.86 | peak |
| 2 | 154.1600 | 42.49 | -18.60 | 23.89 | 43.50 | -19.61 | peak |
| 3 | 433.5200 | 46.66 | -10.13 | 36.53 | 46.00 | -9.47 | peak |
| 4 | 649.8300 | 29.43 | -4.90 | 24.53 | 46.00 | -21.47 | peak |
| 5 | 839.9500 | 28.10 | -0.34 | 27.76 | 46.00 | -18.24 | peak |
| 6 | 978.6600 | 28.58 | 2.58 | 31.16 | 54.00 | -22.84 | peak |

Remark:

- 1. Margin = Result (Result = Reading + Factor)-Limit
- 2. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain





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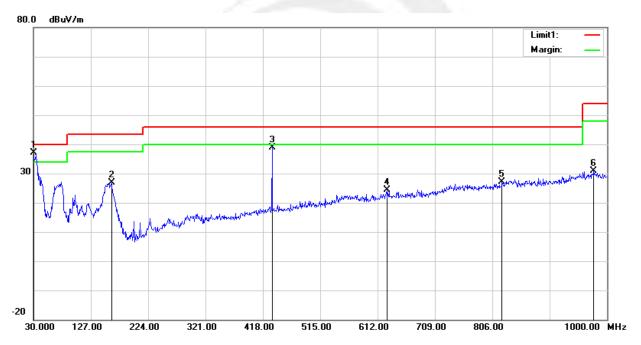
| Temperature: | 23.1(C) | Relative Humidity: | 60%RH | | |
|---------------|--------------------------------|--------------------|----------|--|--|
| Test Voltage: | DC 3.7V | Phase: | Vertical | | |
| Test Mode: | Mode 1/2/3 (Mode 2 worst mode) | | | | |

| No. | Frequency | Reading | Correct | Result | Limit | Margin | Remark |
|-----|-----------|---------|------------------|----------|----------|--------|--------|
| | (MHz) | (dBuV) | Factor(dB/ m) | (dBuV/m) | (dBuV/m) | (dB) | |
| 1 | 30.0000 | 50.02 | -12.85 | 37.17 | 40.00 | -2.83 | peak |
| 2 | 161.9200 | 45.93 | -19.01 | 26.92 | 43.50 | -16.58 | peak |
| 3 | 433.5200 | 48.94 | -10.13 | 38.81 | 46.00 | -7.19 | peak |
| 4 | 627.5200 | 29.65 | -5.15 | 24.50 | 46.00 | -21.50 | peak |
| 5 | 822.4900 | 28.85 | -1.66 | 27.19 | 46.00 | -18.81 | peak |
| 6 | 977.6900 | 28.40 | 2.52 | 30.92 | 54.00 | -23.08 | peak |

Remark:

1. Margin = Result (Result = Reading + Factor)-Limit

2. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain



Shenzhen STS Test Services Co., Ltd.



(1GHz-25GHz) Spurious emission Requirements

GFSK

| Comment | Detector | Margin | Limits | Emission Level | Corrected Factor | Antenna Factor | Loss | Amplifier | Meter Reading | Frequency |
|------------|----------|--------|----------|-------------------|---------------------|-------------------|-------|-----------|------------------|-----------|
| | Туре | (dB) | (dBµV/m) | (dBµV/m) | (dB) | (dB/m) | (dB) | (dB) | (dBµV) | (MHz) |
| | | | | 2404 MHz) | nannel (GFSK/2 | Low Ch | | | | |
| Vertical | PK | -22.60 | 74.00 | 51.40 | -9.80 | 28.20 | 6.70 | 44.70 | 61.20 | 3264.66 |
| Vertical | AV | -13.62 | 54.00 | 40.38 | -9.80 | 28.20 | 6.70 | 44.70 | 50.18 | 3264.66 |
| Horizontal | PK | -21.96 | 74.00 | 52.04 | -9.80 | 28.20 | 6.70 | 44.70 | 61.84 | 3264.70 |
| Horizontal | AV | -12.61 | 54.00 | 41.39 | -9.80 | 28.20 | 6.70 | 44.70 | 51.19 | 3264.70 |
| Vertical | PK | -18.22 | 74.00 | 55.78 | -3.56 | 31.60 | 9.04 | 44.20 | 59.34 | 4804.39 |
| Vertical | AV | -7.05 | 54.00 | 46.95 | -3.56 | 31.60 | 9.04 | 44.20 | 50.51 | 4804.39 |
| Horizontal | PK | -19.14 | 74.00 | 54.86 | -3.56 | 31.60 | 9.04 | 44.20 | 58.42 | 4804.58 |
| Horizontal | AV | -7.19 | 54.00 | 46.81 | -3.56 | 31.60 | 9.04 | 44.20 | 50.37 | 4804.58 |
| Vertical | PK | -27.29 | 74.00 | 46.71 | -2.34 | 32.00 | 9.86 | 44.20 | 49.05 | 5359.67 |
| Vertical | AV | -16.26 | 54.00 | 37.74 | -2.34 | 32.00 | 9.86 | 44.20 | 40.08 | 5359.67 |
| Horizontal | PK | -28.41 | 74.00 | 45.59 | -2.34 | 32.00 | 9.86 | 44.20 | 47.93 | 5359.62 |
| Horizontal | AV | -17.99 | 54.00 | 36.01 | -2.34 | 32.00 | 9.86 | 44.20 | 38.35 | 5359.62 |
| Vertical | PK | -16.86 | 74.00 | 57.14 | 3.40 | 35.50 | 11.40 | 43.50 | 53.74 | 7205.93 |
| Vertical | AV | -5.86 | 54.00 | 48.14 | 3.40 | 35.50 | 11.40 | 43.50 | 44.74 | 7205.93 |
| Horizontal | PK | -16.07 | 74.00 | 57.93 | 3.40 | 35.50 | 11.40 | 43.50 | 54.53 | 7205.89 |
| Horizontal | AV | -7.12 | 54.00 | 46.88 | 3.40 | 35.50 | 11.40 | 43.50 | 43.48 | 7205.89 |
| | | | | /2444 MHz) | hannel (GFSK | Middle C | | | | |
| Vertical | PK | -21.72 | 74.00 | 52.28 | -9.80 | 28.20 | 6.70 | 44.70 | 62.08 | 3263.22 |
| Vertical | AV | -13.65 | 54.00 | 40.35 | -9.80 | 28.20 | 6.70 | 44.70 | 50.15 | 3263.22 |
| Horizontal | PK | -21.88 | 74.00 | 52.12 | -9.80 | 28.20 | 6.70 | 44.70 | 61.92 | 3263.17 |
| Horizontal | AV | -13.80 | 54.00 | 40.20 | -9.80 | 28.20 | 6.70 | 44.70 | 50.00 | 3263.17 |
| Vertical | PK | -18.84 | 74.00 | 55.16 | -3.56 | 31.60 | 9.04 | 44.20 | 58.72 | 4879.88 |
| Vertical | AV | -8.37 | 54.00 | 45.63 | -3.56 | 31.60 | 9.04 | 44.20 | 49.19 | 4879.88 |
| Horizontal | PK | -19.25 | 74.00 | 54.75 | -3.56 | 31.60 | 9.04 | 44.20 | 58.31 | 4879.97 |
| Horizontal | AV | -8.46 | 54.00 | 45.54 | -3.56 | 31.60 | 9.04 | 44.20 | 49.10 | 4879.97 |
| Vertical | PK | -27.19 | 74.00 | 46.81 | -2.34 | 32.00 | 9.86 | 44.20 | 49.15 | 5357.18 |
| Vertical | AV | -17.02 | 54.00 | 36.98 | -2.34 | 32.00 | 9.86 | 44.20 | 39.32 | 5357.18 |
| Horizontal | PK | -29.25 | 74.00 | 44.75 | -2.34 | 32.00 | 9.86 | 44.20 | 47.09 | 5357.39 |
| Horizontal | AV | -17.90 | 54.00 | 36.10 | -2.34 | 32.00 | 9.86 | 44.20 | 38.44 | 5357.08 |
| Vertical | PK | -16.68 | 74.00 | 57.32 | 3.40 | 35.50 | 11.40 | 43.50 | 53.92 | 7320.85 |
| Vertical | AV | -5.87 | 54.00 | 48.13 | 3.40 | 35.50 | 11.40 | 43.50 | 44.73 | 7320.85 |
| Horizontal | PK | -16.26 | 74.00 | 57.74 | 3.40 | 35.50 | 11.40 | 43.50 | 54.34 | 7320.53 |
| Horizontal | AV | -5.66 | 54.00 | 48.34 | 3.40 | 35.50 | 11.40 | 43.50 | 44.94 | 7320.53 |



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| | | | | High Char | nnel (GFSK/ | 2480 MHz) | | | | |
|---------|-------|-------|-------|-----------|-------------|-----------|-------|--------|----|------------|
| 3264.63 | 60.86 | 44.70 | 6.70 | 28.20 | -9.80 | 51.06 | 74.00 | -22.94 | PK | Vertical |
| 3264.63 | 50.99 | 44.70 | 6.70 | 28.20 | -9.80 | 41.19 | 54.00 | -12.81 | AV | Vertical |
| 3264.85 | 61.91 | 44.70 | 6.70 | 28.20 | -9.80 | 52.11 | 74.00 | -21.89 | PK | Horizontal |
| 3264.85 | 50.22 | 44.70 | 6.70 | 28.20 | -9.80 | 40.42 | 54.00 | -13.58 | AV | Horizontal |
| 4960.55 | 58.94 | 44.20 | 9.04 | 31.60 | -3.56 | 55.38 | 74.00 | -18.62 | PK | Vertical |
| 4960.55 | 50.29 | 44.20 | 9.04 | 31.60 | -3.56 | 46.73 | 54.00 | -7.27 | AV | Vertical |
| 4960.50 | 59.39 | 44.20 | 9.04 | 31.60 | -3.56 | 55.83 | 74.00 | -18.17 | PK | Horizontal |
| 4960.50 | 49.60 | 44.20 | 9.04 | 31.60 | -3.56 | 46.04 | 54.00 | -7.96 | AV | Horizontal |
| 5359.87 | 48.74 | 44.20 | 9.86 | 32.00 | -2.34 | 46.40 | 74.00 | -27.60 | PK | Vertical |
| 5359.87 | 39.42 | 44.20 | 9.86 | 32.00 | -2.34 | 37.08 | 54.00 | -16.92 | AV | Vertical |
| 5359.75 | 47.61 | 44.20 | 9.86 | 32.00 | -2.34 | 45.27 | 74.00 | -28.73 | PK | Horizontal |
| 5359.75 | 39.32 | 44.20 | 9.86 | 32.00 | -2.34 | 36.98 | 54.00 | -17.02 | AV | Horizontal |
| 7439.72 | 54.27 | 43.50 | 11.40 | 35.50 | 3.40 | 57.67 | 74.00 | -16.33 | PK | Vertical |
| 7439.72 | 43.68 | 43.50 | 11.40 | 35.50 | 3.40 | 47.08 | 54.00 | -6.92 | AV | Vertical |
| 7439.89 | 53.53 | 43.50 | 11.40 | 35.50 | 3.40 | 56.93 | 74.00 | -17.07 | PK | Horizontal |
| 7439.89 | 44.62 | 43.50 | 11.40 | 35.50 | 3.40 | 48.02 | 54.00 | -5.98 | AV | Horizontal |

Note:

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

Emission Level = Reading + Factor

2) The frequency emission of peak points that did not show above the forms are at least 20dB below the limit, the frequency emission is mainly from the environment noise.

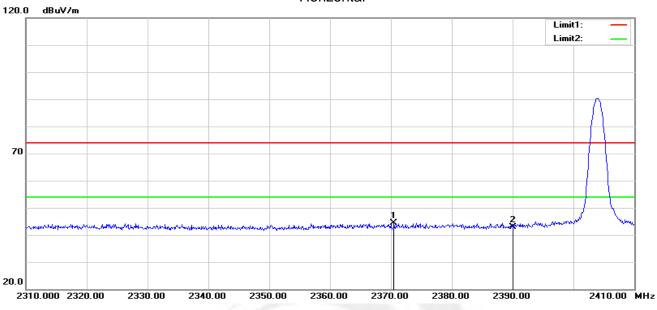




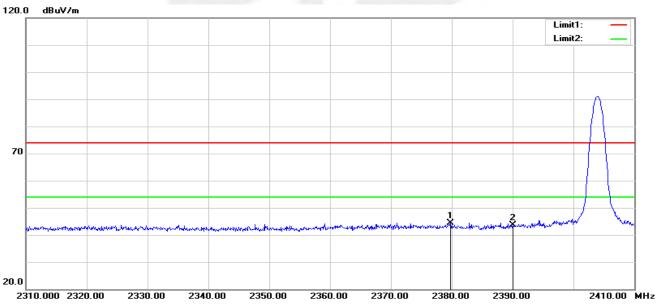
Report No.: STS2204193W02

4.6 TEST RESULTS (Restricted Bands Requirements)

GFSK-Low Horizontal



| No. | Frequency | Reading | Correct | Result | Limit | Margin | Remark |
|-----|-----------|---------|--------------|----------|----------|--------|--------|
| | (MHz) | (dBuV) | Factor(dB/m) | (dBuV/m) | (dBuV/m) | (dB) | |
| 1 | 2370.500 | 40.38 | 4.05 | 44.43 | 74.00 | -29.57 | peak |
| 2 | 2390.000 | 38.55 | 4.34 | 42.89 | 74.00 | -31.11 | peak |



| No. | Frequency | Reading | Correct | Result | Limit | Margin | Remark |
|-----|-----------|---------|--------------|----------|----------|--------|--------|
| | (MHz) | (dBuV) | Factor(dB/m) | (dBuV/m) | (dBuV/m) | (dB) | |
| 1 | 2379.800 | 40.25 | 4.19 | 44.44 | 74.00 | -29.56 | peak |
| 2 | 2390.000 | 39.32 | 4.34 | 43.66 | 74.00 | -30.34 | peak |

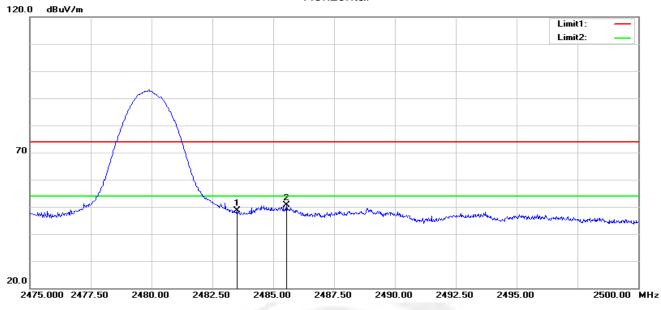
Vertical



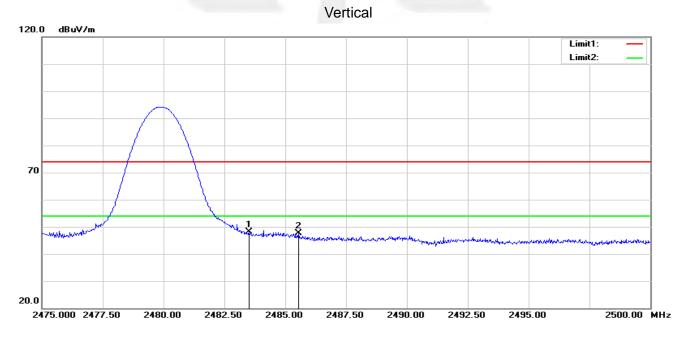
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GFSK-High Horizontal



| No. | Frequency | Reading | Correct | Result | Limit | Margin | Remark |
|-----|-----------|---------|--------------|----------|----------|--------|--------|
| | (MHz) | (dBuV) | Factor(dB/m) | (dBuV/m) | (dBuV/m) | (dB) | |
| 1 | 2483.500 | 44.08 | 4.60 | 48.68 | 74.00 | -25.32 | peak |
| 2 | 2485.550 | 46.01 | 4.61 | 50.62 | 74.00 | -23.38 | peak |



| No. | Frequency | Reading | Correct | Result | Limit | Margin | Remark |
|-----|-----------|---------|--------------|----------|----------|--------|--------|
| | (MHz) | (dBuV) | Factor(dB/m) | (dBuV/m) | (dBuV/m) | (dB) | |
| 1 | 2483.500 | 43.58 | 4.60 | 48.18 | 74.00 | -25.82 | peak |
| 2 | 2485.550 | 43.01 | 4.61 | 47.62 | 74.00 | -26.38 | peak |



5. CONDUCTED SPURIOUS & BAND EDGE EMISSION

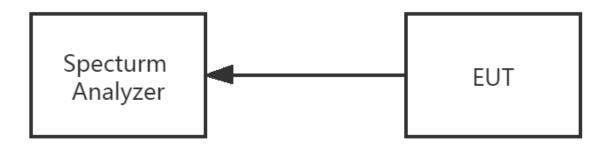
5.1 LIMIT

According to FCC section 15.247(d), in any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

5.2 TEST PROCEDURE

| Spectrum Parameter | Setting | | | |
|---------------------------------------|----------------------------------|--|--|--|
| Detector | Peak | | | |
| Start/Stop Frequency | 30 MHz to 10th carrier harmonic | | | |
| RB / VB (emission in restricted band) | 100 KHz/300 KHz | | | |
| Trace-Mode: | Max hold | | | |
| For Band edge | | | | |
| Spectrum Parameter | Setting | | | |
| Detector | Peak | | | |
| | Lower Band Edge: 2300 – 2407 MHz | | | |
| Start/Stop Frequency | Upper Band Edge: 2475 – 2500 MHz | | | |
| RB / VB (emission in restricted band) | 100 KHz/300 KHz | | | |

5.3 TEST SETUP



The EUT is connected to the Spectrum Analyzer; the RF load attached to the EUT antenna termina is 50 Ohm; the path loss as the factor is calibrated to correct the reading. Make the measurement with the spectrum analyzer's resolution bandwidth(RBW) = 100 kHz. In order to make an accurate measurement, set the span greater than RBW.

5.4 EUT OPERATION CONDITIONS Please refer to section 3.4 of this report.

Trace-Mode:

5.5 TEST RESULTS

Note: The test data please refer to APPENDIX 1.

Shenzhen STS Test Services Co., Ltd.

A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China Tel: +86-755 3688 6288 Fax:+86-755 3688 6277 Http://www.stsapp.com E-mail: sts@stsapp.com

Max hold



6. POWER SPECTRAL DENSITY TEST

6.1 LIMIT

| FCC Part 15.247,Subpart C | | | | | |
|---------------------------|------------------------|----------------------|--------------------------|--------|--|
| Section | Test Item | Limit | Frequency Range (MHz) | Result | |
| 15.247(e) | Power Spectral Density | ≤8 dBm (RBW≥3KHz) | 2400-2483.5 | PASS | |

6.2 TEST PROCEDURE

- 1. Set analyzer center frequency to DTS channel center frequency.
- 2. Set the span to 1.5 times the DTS channel bandwidth.
- 3. Set the RBW to: 100 kHz \ge RBW \ge 3 kHz.
- 4. Set the VBW \geq 3 x RBW.
- 5. Detector = peak.
- 6. Sweep time = auto couple.
- 7. Trace mode = max hold.
- 8. Allow trace to fully stabilize.
- 9. Use the peak marker function to determine the maximum amplitude level.
- 10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

6.3 TEST SETUP



6.4 EUT OPERATION CONDITIONS Please refer to section 3.4 of this report.

6.5 TEST RESULTS

Note: The test data please refer to APPENDIX 1.



7. BANDWIDTH TEST

7.1 LIMIT

| FCC Part 15.247,Subpart C | | | | |
|---------------------------|-----------|------------------------------|--------------------------|--------|
| Section | Test Item | Limit | Frequency Range (MHz) | Result |
| 15.247(a)(2) | Bandwidth | >= 500KHz (6dB bandwidth) | 2400-2483.5 | PASS |

7.2 TEST PROCEDURE

The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described above (i.e., RBW = 100 kHz, VBW \geq 3RBW, peak detector with maximum hold) is implemented by the instrumentation function. When using this capability, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be \geq 6 dB.

7.3 TEST SETUP



7.4 EUT OPERATION CONDITIONS Please refer to section 3.4 of this report.

7.5 TEST RESULTS

Note: The test data please refer to APPENDIX 1.



8. PEAK OUTPUT POWER TEST

8.1 LIMIT

| FCC Part 15.247,Subpart C | | | | |
|---------------------------|--------------|-----------------|--------------------------|--------|
| Section | Test Item | Limit | Frequency Range (MHz) | Result |
| 15.247(b)(3) | Output Power | 1 watt or 30dBm | 2400-2483.5 | PASS |

8.2 TEST PROCEDURE

One of the following procedures may be used to determine the maximum peak conducted output power of a DTS EUT.

 $RBW \ge DTS$ bandwidth

The following procedure shall be used when an instrument with a resolution bandwidth that is greater than the DTS bandwidth is available to perform the measurement:

a) Set the RBW \geq DTS bandwidth.

b) Set VBW \geq [3 × RBW].

c) Set span \geq [3 × RBW].

d) Sweep time = auto couple.

e) Detector = peak.

f) Trace mode = max hold.

g) Allow trace to fully stabilize.

h) Use peak marker function to determine the peak amplitude level.

Integrated band power method:

The following procedure can be used when the maximum available RBW of the instrument is less than the

DTS bandwidth:

a) Set the RBW = 1 MHz.

b) Set the VBW \geq [3 × RBW].

c) Set the span \geq [1.5 × DTS bandwidth].

d) Detector = peak.

e) Sweep time = auto couple.

f) Trace mode = max hold.

g) Allow trace to fully stabilize.

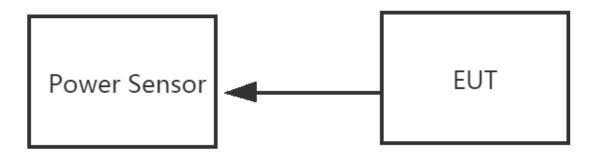
h) Use the instrument's band/channel power measurement function with the band limits set equal to the DTS bandwidth edges (for some instruments, this may require a manual override to select the peak detector). If the instrument does not have a band power function, then sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the DTS channel bandwidth.

PKPM1 Peak power meter method:

The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall use a fast-responding diode detector.



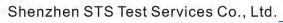
8.3 TEST SETUP



8.4 EUT OPERATION CONDITIONS Please refer to section 3.4 of this report.

8.5 TEST RESULTS

Note: The test data please refer to APPENDIX 1.





9. ANTENNA REQUIREMENT

9.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

9.2 EUT ANTENNA

The EUT antenna is Ceramic Antenna. It comply with the standard requirement.



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APPENDIX 1-TEST DATA

1. Duty Cycle

| Condition | Mode | Frequency (MHz) | Duty Cycle (%) | Correction Factor (dB) | 1/T (kHz) |
|-----------|------|-----------------|----------------|------------------------|-----------|
| NVNT | 2.4G | 2404 | 5.62 | 9.41 | 2.18 |
| NVNT | 2.4G | 2444 | 5.62 | 9.5 | 2.18 |
| NVNT | 2.4G | 2480 | 5.65 | 9.48 | 2.16 |



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| | | , | Te: Cycle N | st Grapł VNT 2.4 | ns G 2404M | MHz | | |
|--|--|--|--|--|---------------------------------|--|----------------|--|
| A <mark>gilent Spect</mark> K <mark>/</mark> R L | <mark>rum Analyzer - Swept</mark> RF 50 Ω 4 | | SENSE:PU | JLSE | ALIGNAUTO | | 06:55 | :00 PM May 17, 202 |
| Center F | req 2.404000 | PN | | rig: Free Run Atten: 30 dB | Avg T | ype: Log-Pwr | | TRACE 1 2 3 4 5 TYPE WWWWW DET P N N N N |
| 10 dB/div | Ref Offset 0.5 dl Ref 20.00 dB | | | | | | | l 7.743 m 24.88 dBn |
| 10.0 | | | | | , | | | |
| 0.00 | | | | | • | | r 4 | |
| -10.0 | | <u> </u> | | | | | | |
| -20.0 | | | | | | | | |
| -40.0 | | | | | | | | |
| | and a statistication of the state in the state | | | | | And the second of the second o | | Terrer Street and the second |
| -60.0 | an paraka ku ana ang ang ang ang ang ang ang ang ang | | Alasta (Margarita) | energinen seise vie | and as not a family should be a | in the later of the first state of the | | معراديم فيليكم والمتلاك ومت |
| | .404000000 GH; | 7 | | | | | | Span 0 H |
| Res BW ' | | £ | #VBW 3. | .0 MHz | | Swee | p 30.00 m | s (10001 pts |
| MKR MODE T | 1 t | × 7.743 ms | -24.88 dBm | | FUNCTION WIDTH | | FUNCTION VALUE | |
| 2 N 3 N | 1 t 1 t | 15.45 ms 15.91 ms | -3.88 dBm -1.95 dBm | 1 1 | | | | |
| 4 5 | | | | | | | | |
| 6 7 8 | | | | | | | | |
| 9 10 | | | | | | | | |
| 11 | | | | | | | | |
| | | | | | | | | |
| ISG | | | | | STATU | IS | | |
| ISG | | Duty | Cycle N | VNT 2.4 | | | | |
| gilent Spectr | rum Analyzer - Swept | SA | Cycle N | | G 2444N | | 02:00 | |
| A <mark>gilent Spect</mark> i Ø RL | rum Analyzer - Swept RF 50 Ω A Freq 2.4440000 | SA AC OOO GHz | SENSE:PL | JLSE | G 2444 | | 07:08 | :52 PM May 17, 202 TRACE 1 2 3 4 5 |
| A <mark>gilent Spect</mark> i Ø RL | RF 50Ω / | SA AC DOO GHz PN | SENSE:PL | | G 2444 | MHz | | 52 PM May 17, 202 TRACE 1 2 3 4 5 TYPE WWWWWW DET P N N N N |
| gilent Spectr RL Center F 10 dB/div | RF 50Ω / | SA AC DOO GHz IFGa B | SENSE:PL 0: Fast ↔ Tr | JLSE | G 2444 | MHz | Mkr1 | 52 PM May 17, 202 TRACE 1 2 3 4 5 TYPE WWWWW DET P N N N 3.882 m |
| agilent Spectr 9 RL Center F | RF 50 Ω A | SA AC DOO GHz IFGa B | SENSE:PL | JLSE | G 2444 | MHz | Mkr1 | 52 PM May 17, 202 TRACE 1 2 3 4 5 TYPE WWWWW DET P N N N 3.882 m |
| Center F | RF 50 Ω A | SA AC DOO GHz IFGa B | SENSE:PL 0: Fast ↔ Tr | JLSE | G 2444 | MHz | Mkr1 | 52 PM May 17, 202 TRACE 1 2 3 4 5 TYPE WWWWW DET P N N N 3.882 m |
| glient Spect RL Center F -09 10.0 -00 -00 | RF 50 Ω A | SA AC DOO GHz IFGa B | SENSE:PL 0: Fast \rightarrow Tr ain:Low #A | JLSE | G 2444 | MHz | Mkr1 | 52 PM May 17, 202 TRACE 1 2 3 4 5 TYPE WWWWW DET P N N N 3.882 m |
| Center F | RF 50 Ω A | SA AC DOO GHz IFGa B | SENSE:PL 0: Fast \rightarrow Tr ain:Low #A | JLSE | G 2444 | MHz | Mkr1 | 52 PM May 17, 202 TRACE 1 2 3 4 5 TYPE WWWWWW DET P N N N 3.882 m |
| glient Spectr RL Center F 10 dB/div - 0g - 0 0.00 - 10.0 - 20.0 | RF 50 Ω A | SA AC DOO GHz IFGa B | SENSE:PL 0: Fast \rightarrow Tr ain:Low #A | JLSE | G 2444 | MHz | Mkr1 | 52 PM May 17, 202 TRACE 1 2 3 4 5 TYPE WWWWW DET P N N N 3.882 m |
| gllent Spect a RL Center F 10 dB/div 0g 10.0 0.00 10.0 .000 <td< td=""><td>REF 50 Q 4</td><td>SA AC PN PN PN PN PN PN PN PN PN PN</td><td>SENSE:PL</td><td>ISE ig: Free Run tten: 30 dB</td><td></td><td>ype: Log-Pwr</td><td></td><td>52 PM May 17, 202 TRACE 12 3 4 5 TYPE WWWWWW DET P N N N N 13.882 ms 10.61 dBn</td></td<> | REF 50 Q 4 | SA AC PN PN PN PN PN PN PN PN PN PN | SENSE:PL | ISE ig: Free Run tten: 30 dB | | ype: Log-Pwr | | 52 PM May 17, 202 TRACE 12 3 4 5 TYPE WWWWWW DET P N N N N 13.882 ms 10.61 dBn |
| gllent Spect RL Center F 10 dB/div 0g 10.0 0.00 | REF 50 Q 4 | SA AC PN: IFG: B S: M IFG: AC PN: IFG: AC PN: AC PN: A | SENSE:PL | ISE ig: Free Run tten: 30 dB | | ype: Log-Pwr | | 52 PM May 17, 202 TRACE 12 3 4 5 TYPE WWWWWW DET P N N N N 13.882 ms 10.61 dBn |
| glent Spect R L Center F 20 dB/div 40 dB/div | Ref Offset 0.5 dl Ref 20.00 dB | SA AC PN: IFG: B m - - - - - - - - - - - - - - - - - - | SENSE:PL | ISE ig: Free Run tten: 30 dB | | ype: Log-Pwr | | |
| glent Spect R L Center F 20 dB/div 40 dB/div | Ref Offset 0.5 dl Ref 20.00 dB | SA AC PN: IFG: B m - - - - - - - - - - - - - - - - - - | SENSE:PL | JJE | | ype: Log-Pwr | | 52 PM May 17, 202 TRACE 12 3 4 5 TYPE WWWWWW DET P N N N N 13.882 ms 10.61 dBn |
| glient Spect RL Center F 10 dB/div 00 d | Ref Offset 0.5 dl Ref 20.00 dB | SA AC PN PN IFG: B m AC PN PN FG: PN FG: AC PN FG: PN FG: AC PN FG: FG: PN FG: FG: FG: FG: FG: FG: FG: FG: | SENSE:PL O: Fast \rightarrow Tr ain:Low 3 3 3 3 4 4 4 4 4 4 4 4 | 1.5E | | ype: Log-Pwr | | 52 PM May 17, 202 TRACE 123 4 5 TYPE 123 4 |
| Image: second | Ref Offset 0.5 dl Ref 20.00 dB | SA AC PN: IFG: B m - - - - - - - - - - - - - - - - - - | SENSE:PU O: Fast \rightarrow Tr ain:Low #A | USE rig: Free Run tten: 30 dB rid(nt d) de politi politicity de politicity politicity de politicity politi | | ype: Log-Pwr | Mkr | 52 PM May 17, 202 TRACE 123 4 5 TYPE 123 4 |
| gilent Spect Center F Og Og <thog< th=""> Og</thog<> | Ref Offset 0.5 dl Ref 20.00 dB Ref 20.00 dB | SA AC PN PN IFG B m AC PN IFG B m Z X 3.882 ms 11.60 ms | SENSE:PC 0: Fast Tr ain:Low ## | USE rig: Free Run tten: 30 dB rid(nt d) de politi politicity de politicity politicity de politicity politi | | ype: Log-Pwr | Mkr | 52 PM May 17, 202 TRACE 123 4 5 TYPE 123 4 |
| Image: second | Ref Offset 0.5 dl Ref 20.00 dB Ref 20.00 dB | SA AC PN PN IFG B m AC PN IFG B m Z X 3.882 ms 11.60 ms | SENSE:PC 0: Fast Tr ain:Low ## | USE rig: Free Run tten: 30 dB rid(nt d) de politi politicity de politicity politicity de politicity politi | | ype: Log-Pwr | Mkr | 52 PM May 17, 202 TRACE 123 4 5 TYPE 123 4 |
| Image: second | Ref Offset 0.5 dl Ref 20.00 dB Ref 20.00 dB | SA AC PN PN IFG B m AC PN IFG B m Z X 3.882 ms 11.60 ms | SENSE:PC 0: Fast Tr ain:Low ## | USE rig: Free Run tten: 30 dB rid(nt d) de politi politicity de politicity politicity de politicity politi | | ype: Log-Pwr | Mkr | 52 PM May 17, 200 TRACE 1 3 4 5 TYPE 1 3 4 5 TYPE P NNNN 1 3.882 m 10.61 dBn 1 |
| gitent Spect Center F Center F 10.0 0.0 <th0.0<< td=""><td>Ref Offset 0.5 dl Ref 20.00 dB Ref 20.00 dB</td><td>SA AC PN PN IFG B m AC PN IFG B m Z X 3.882 ms 11.60 ms</td><td>SENSE:PC 0: Fast Tr ain:Low ## </td><td>USE rig: Free Run tten: 30 dB rid(nt d) de politi politicity de politicity politicity de politicity politi</td><td></td><td>ype: Log-Pwr</td><td>Mkr </td><td>52 PM May 17, 200 TRACE 1 3 4 5 TYPE 1 3 4 5 TYPE P NNNN 1 3.882 m 10.61 dBn 1</td></th0.0<<> | Ref Offset 0.5 dl Ref 20.00 dB Ref 20.00 dB | SA AC PN PN IFG B m AC PN IFG B m Z X 3.882 ms 11.60 ms | SENSE:PC 0: Fast Tr ain:Low ## | USE rig: Free Run tten: 30 dB rid(nt d) de politi politicity de politicity politicity de politicity politi | | ype: Log-Pwr | Mkr | 52 PM May 17, 200 TRACE 1 3 4 5 TYPE 1 3 4 5 TYPE P NNNN 1 3.882 m 10.61 dBn 1 |



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Duty Cycle NVNT 2.4G 2480MHz

| Agilent Spectr | um Analyzer - Swept S RF 50 Ω AG | | SENS | E:PULSE | AL | IGNAUTO | | 07:22: | 18 PM May 17, 2022 |
|---|---|-------------------------|--|--------------------------|----------------------------|-----------------|---|-----------------------|--|
| Center Fr | req 2.4800000 | Р | NO: Fast 🔸 | Trig: Free #Atten: 30 | | Avg Typ | e: Log-Pwr | | TRACE 1 2 3 4 5 6 TYPE WWWWWWW DET P N N N N |
| 10 dB/div | Ref Offset 0.5 dB Ref 20.00 dBn | | | | | | | Mkr1 | 2.412 ms •1.58 dBm |
| Log 10.0 | <u> </u> | | | | | | | | |
| 0.00 | | | | | | ru - | | r | • - |
| -10.0 | | | 3 | | | | | | |
| -20.0 | | | | | | | | | |
| -40.0 | | | | | | | | | |
| -50.0 | | | | | | | and the state of the | liter and a straight | 11 Captor Including |
| -60.0 <mark>- 1⁴¹⁴¹1141</mark> | lil <mark>i. Biz biz dike alis aji aji biy</mark> | e haadhathadhalagaaqaan | and the second | ka hai dhatai ta | li yyrianida feffili e yyr | ali da apala at | ya ni mat, alia hiti, hitak awa k M | a takili i jarahati i | a klassia ba a shata |
| -70.0 | | | | | | | | | |
| Center 2.4 Res BW 1 | 180000000 GHz .0 MHz | | #VBW | / 3.0 MHz | : | | Sweep | 30.00 ms | Span 0 Hz (10001 pts) |
| MKR MODE TE | RC SCL | × 2.412 ms | Y -1.58 d | | ICTION FUNC | TION WIDTH | F | UNCTION VALUE | ^ |
| 2 N 1 3 N 1 | t | 10.13 ms 10.59 ms | -1.58 d -24.57 d -17.67 d | Bm | | | | | |
| 4 5 | | 10.05 1113 | -17.07 4 | 5111 | | | | | |
| 6 7 | | | | | | | | | |
| 8 9 | | | | | | | | | |
| 10 11 | | | | | | | | | ~ |
| K MSG | | | | | | STATUS | | | > |



Shenzhen STS Test Services Co., Ltd.



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2. Maximum Average Conducted Output Power

| Condition | Mode | Frequency (MHz) | Conducted Power (dBm) | Duty Factor (dB) | Total Power (dBm) | Limit (dBm) | Verdict |
|-----------|------|--------------------|--------------------------|---------------------|----------------------|----------------|---------|
| NVNT | 2.4G | 2404 | -9.52 | 9.41 | -0.11 | <=30 | Pass |
| NVNT | 2.4G | 2444 | -8.82 | 9.5 | 0.68 | <=30 | Pass |
| NVNT | 2.4G | 2480 | -9.65 | 9.48 | -0.17 | <=30 | Pass |



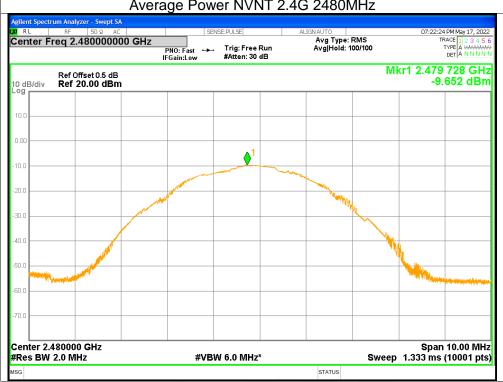
Shenzhen STS Test Services Co., Ltd.



| | ۸. | Iorogo Dour | Fest Graphs | | |
|---|--|---|----------------|--|--|
| vilent Speet | AN rum Analyzer - Swept SA | verage Pow | erinvint 2.4 | 4G 2404MHz | |
| RL | RF 50 Ω AC | | SE:PULSE | ALIGNAUTO | 06:52:56 PM May 17, 202 |
| enter F | req 2.404000000 GI | PNO: Fast +++ | Trig: Free Run | Avg Type: RMS Avg Hold: 100/100 | TRACE 1 2 3 4 5 TYPE A WWWW DET A N N N N |
| | | IFGain:Low | #Atten: 30 dB | | Mkr1 2.403 720 GH |
| 0 dB/div | Ref Offset 0.5 dB Ref 20.00 dBm | | | | -9.524 dBr |
| ^{og} | | | | | |
| 10.0 | | | | | |
| | | | | | |
| 0.00 | | | A 1 | | |
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| 20.0 | | august a start and a start a st | | and a second sec | |
| 30.0 | / | | | | |
| 10.0 | | | | | |
| 10.0 | | | | | |
| 50.0 | | | | | |
| 50.0 | | | | | |
| | | | | | |
| 0.0 | | | | | |
| | | | | | |
| | 404000 GHz 2.0 MHz | #\/R\/ | V 6.0 MHz* | Sw | Span 10.00 MH eep 1.333 ms (10001 pt |
| G | 2.0 19112 | # • D • | V 0.0 IVITI2 | STATUS | cep 1.555 m3 (10001 pt |
| | Δ | erade Pow | er NV/NT 2 | 4G 2444MHz | |
| vilent Speet | | renage i en | | | |
| anancohaci | rum Analyzer - Swept SA | | | | |
| RL | RF 50 Ω AC | | SE:PULSE | ALIGNAUTO Avg Type: RMS | 07:08:58 PM May 17, 202 TRACE 1 2 3 4 5 |
| RL | | | SE:PULSE | ALIGNAUTO | TRACE 1 2 3 4 5 |
| RL | RF 50 Ω AC req 2.444000000 Gi Ref Offset 0.5 dB | Hz PNO: Fast ↔ | Trig: Free Run | ALIGNAUTO Avg Type: RMS | TRACE 12345 TYPE A WWWW DET A N N N Mkr1 2.443 763 GH |
| enter F | RF 50Ω AC Treq 2.444000000 Gi | Hz PNO: Fast ↔ | Trig: Free Run | ALIGNAUTO Avg Type: RMS | TRACE 12345 TYPE A WWWM DET A NNNN Mkr1 2.443 763 GH |
| enter F | RF 50 Ω AC req 2.444000000 Gi Ref Offset 0.5 dB | Hz PNO: Fast ↔ | Trig: Free Run | ALIGNAUTO Avg Type: RMS | TRACE 12345 TYPE A WWWW DET A N N N Mkr1 2.443 763 GH |
| enter F | RF 50 Ω AC req 2.444000000 Gi Ref Offset 0.5 dB | Hz PNO: Fast ↔ | Trig: Free Run | ALIGNAUTO Avg Type: RMS | TRACE 12345 TYPE A WWWM DET A NNNN Mkr1 2.443 763 GH |
| OdB/div | RF 50 Ω AC req 2.444000000 Gi Ref Offset 0.5 dB | Hz PNO: Fast ↔ | Trig: Free Run | ALIGNAUTO Avg Type: RMS | TRACE 12345 TYPE A WWWM DET A NNNN Mkr1 2.443 763 GH |
| C dB/div | RF 50 Ω AC req 2.444000000 Gi Ref Offset 0.5 dB | Hz PNO: Fast ↔ | Trig: Free Run | ALIGNAUTO Avg Type: RMS | TRACE 12345 TYPE A WWWM DET A NNNN Mkr1 2.443 763 GH |
| RL | RF 50 Ω AC req 2.444000000 Gi Ref Offset 0.5 dB | Hz PNO: Fast ↔ | Trig: Free Run | ALIGNAUTO Avg Type: RMS | TRACE 12345 TYPE A WWWM DET A NNNN Mkr1 2.443 763 GH |
| RL Provide O dB/div 0 0.00 0 0.00 0 | RF 50 Ω AC req 2.444000000 Gi Ref Offset 0.5 dB | Hz PNO: Fast ↔ | Trig: Free Run | ALIGNAUTO Avg Type: RMS | TRACE 12345 TYPE A WWWM DET A NNNN Mkr1 2.443 763 GH |
| RL enter F 0 dB/div 0 g 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | RF 50 Ω AC req 2.444000000 Gi Ref Offset 0.5 dB | Hz PNO: Fast ↔ | Trig: Free Run | ALIGNAUTO Avg Type: RMS | TRACE 12345 TYPE A WWWM DET A NNNN Mkr1 2.443 763 GH |
| RL enter F 0 dB/div 0 g 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | RF 50 Ω AC req 2.444000000 Gi Ref Offset 0.5 dB | Hz PNO: Fast ↔ | Trig: Free Run | ALIGNAUTO Avg Type: RMS | 07:08:58 PM May 17, 202 TRACE [1:2:3:4:5 TYPACE [1:3:4:5 TYPACE [1:3 |
| RL enter F 0 dB/div 00 000 000 000 000 000 000 000 | RF 50 Ω AC req 2.444000000 Gi Ref Offset 0.5 dB | Hz PNO: Fast ↔ | Trig: Free Run | ALIGNAUTO Avg Type: RMS | TRACE 12345 TYPE A WWWW DET A N N N Mkr1 2.443 763 GH |
| RL Image: Content of the second | RF 50 Ω AC req 2.444000000 Gi Ref Offset 0.5 dB | Hz PNO: Fast ↔ | Trig: Free Run | ALIGNAUTO Avg Type: RMS | TRACE 12345 TYPE A WWWW DET A N N N Mkr1 2.443 763 GH |
| RL enter F 0 dB/div 29 0.00 0.00 0.00 0.00 0.00 | RF 50 Ω AC req 2.444000000 Gi Ref Offset 0.5 dB | Hz PNO: Fast ↔ | Trig: Free Run | ALIGNAUTO Avg Type: RMS | TRACE 12345 TYPE A WWWM DET A NNNN Mkr1 2.443 763 GH |
| RL enter F 0 dB/div 0 0 | RF 50 Ω AC req 2.444000000 Gi Ref Offset 0.5 dB | Hz PNO: Fast ↔ | Trig: Free Run | ALIGNAUTO Avg Type: RMS | TRACE 12345 TYPE A WWWM DET A NNNN Mkr1 2.443 763 GH |
| RL enter F 0 dB/div og 10.0 .000 | RF 50 Ω AC req 2.444000000 Gi Ref Offset 0.5 dB | Hz PNO: Fast ↔ | Trig: Free Run | ALIGNAUTO Avg Type: RMS | TRACE 12345 TYPE A WWWW DET A N N N Mkr1 2.443 763 GH |
| RL enter F 0 dB/div og 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 | RF 50 Ω AC req 2.444000000 Gi Ref Offset 0.5 dB | Hz PNO: Fast ↔ | Trig: Free Run | ALIGNAUTO Avg Type: RMS | TRACE 12345 TYPE A WWWM DET A NNNN Mkr1 2.443 763 GH |
| RL enter F 0 dB/div 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 | RF 50 Q AC Ireq 2.444000000 Gi Ref Offset 0.5 dB Ref 20.00 dBm | Hz PNO: Fast ↔ | Trig: Free Run | ALIGNAUTO Avg Type: RMS | TRACE 23 4 5 TYPE 4 MMMM Det A MMMM -8.825 dBr |
| RL enter F 0 dB/div 0 d 0 d0 | RF 50 Ω AC req 2.444000000 Gi Ref Offset 0.5 dB | Z PNO: Fast →→ IFGain:Low | Trig: Free Run | ALIGNAUTO Avg Type: RMS Avg Hold: 100/100 | TRACE 12345 TYPE A WWWW DET A N N N Mkr1 2.443 763 GH |



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Average Power NVNT 2.4G 2480MHz

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3. Maximum Peak Conducted Output Power

| Condition | Mode | Frequency (MHz) | Conducted Power (dBm) | Duty Factor (dB) | Total Power (dBm) | Limit (dBm) | Verdict |
|-----------|------|--------------------|--------------------------|---------------------|----------------------|----------------|---------|
| NVNT | 2.4G | 2404 | 1.3 | 0 | 1.3 | <=30 | Pass |
| NVNT | 2.4G | 2444 | 1.48 | 0 | 1.48 | <=30 | Pass |
| NVNT | 2.4G | 2480 | 1.11 | 0 | 1.11 | <=30 | Pass |



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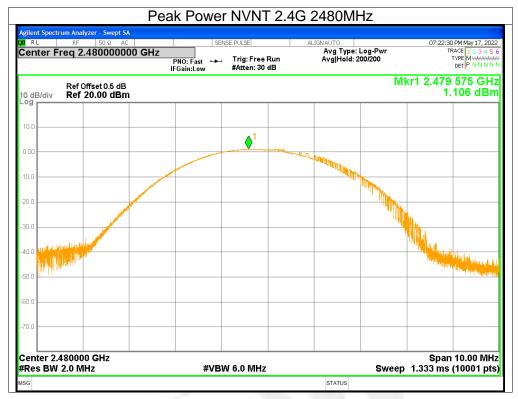


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| Per lent Spectrum Analyzer - Swept SA | ak Power NVNT 2.4 | IG 2404MHz | |
|---|--|---|---|
| RL RF 50Ω AC | SENSE:PULSE | ALIGNAUTO | 06:52:48 PM May 17, 20 |
| enter Freq 2.404000000 GHz | PNO: Fast +++ Trig: Free Run IFGain:Low #Atten: 30 dB | Avg Type: Log-Pwr Avg Hold: 1000/1000 | TRACE 1 2 3 4 TYPE MWWW DET P N N N |
| Ref Offset 0.5 dB | iroailtEuw #ntten. ov vD | Mki | 1 2.403 607 GH |
| dB/div Ref 20.00 dBm | | | 1.303 dB |
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| nter 2.404000 GHz es BW 2.0 MHz | | | Span 10.00 MI |
| | #VBW 6.0 MHz | Sweep | 1.333 ms (10001 p |
| | #VBW 6.0 MHz | Sweep Status | 1.333 ms (10001 pi |
| | #VBW 6.0 MHz ak Power NVNT 2.4 | STATUS | 1.333 ms (10001 pi |
| Pe- | ak Power NVNT 2.4 | status IG 2444MHz | |
| Pe. ent Spectrum Analyzer - Swept SA RL RF 50 Q AC | ak Power NVNT 2.4 | STATUS | 07:08:35 PM May 17, 20 TRACE] 2 3 4 4 TYPE M WWWW |
| Pe. ent Spectrum Analyzer - Swept SA RL RF 50 Q AC | ak Power NVNT 2.4 | STATUS IG 2444MHz Alignauto Avg Type: Log-Pwr Avg Hold: 100/100 | 07:08:35 PM May 17, 20 TRACE 12.3.4 TYPE MWWWW DET P N N N |
| Pe. ent Spectrum Analyzer - Swept SA RL RF 50 Q AC inter Freq 2.4440000000 GHz Ref Offset 0.5 dB Ref Offset 0.5 dB Ref 20.00 dBm | ak Power NVNT 2.4 | STATUS IG 2444MHz Alignauto Avg Type: Log-Pwr Avg Hold: 100/100 | 07:08:35 PM May 17, 20 TRACE 11 2 3 4 TYPE MWWWW DET P N N N 1 2.443 749 GH |
| Pe. ent Spectrum Analyzer - Swept SA RL RF 50 Q AC inter Freq 2.4440000000 GHz Ref Offset 0.5 dB Ref Offset 0.5 dB Ref 20.00 dBm | ak Power NVNT 2.4 | STATUS IG 2444MHz Alignauto Avg Type: Log-Pwr Avg Hold: 100/100 | 07:08:35 PM May 17, 20 TRACE 11 2 3 4 TYPE MWWWW DET P N N N 1 2.443 749 GH |
| Pe. | Ak Power NVNT 2.4 | STATUS IG 2444MHz Alignauto Avg Type: Log-Pwr Avg Hold: 100/100 | 07:08:35 PM May 17, 20 TRACE 11 2 3 4 TYPE MWWWW DET P N N N 1 2.443 749 GH |
| Pe. | ak Power NVNT 2.4 | STATUS IG 2444MHz ALIGNAUTO Avg Type: Log-Pwr Avg Hold: 100/100 Mkt | 07:08:35 PM May 17, 20 |
| Pe. Int Spectrum Analyzer - Swept SA RL RF 500 AC Enter Freq 2.4440000000 GHz dB/div Ref Offset 0.5 dB Ref 00ffset 0.5 dB | Ak Power NVNT 2.4 | STATUS IG 2444MHz ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100 Mki | 07:08:35 PM May 17, 20 TRACE 11 2 3 4 TYPE MWWWM DET P N N N 1 2.443 749 GH |
| Pe. | Ak Power NVNT 2.4 | STATUS IG 2444MHz ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100 Mki | 07:08:35 PM May 17, 20 TRACE 11 2 3 4 TYPE MWWWM DET P N N N 1 2.443 749 GH |
| Pe. Period Contract | Ak Power NVNT 2.4 | STATUS IG 2444MHz ALIGNAUTO Avg Type: Log-Pwr Avg Hold: 100/100 Mkt | 07:08:35 PM May 17, 20 TRACE 11 2 3 4 TYPE MWWWM DET P N N N 1 2.443 749 GH |
| Period Pe | Ak Power NVNT 2.4 | STATUS IG 2444MHz ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100 Mki | 07:08:35 PM May 17, 20 TRACE 11 2 3 4 TYPE MWWWM DET P N N N 1 2.443 749 GH |
| Period Pe | Ak Power NVNT 2.4 | STATUS IG 2444MHz ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100 Mki | 07:08:35 PM May 17, 20 TRACE 11 2 3 4 TYPE MWWWM DET P N N N 1 2.443 749 GH |
| Pe. | Ak Power NVNT 2.4 | STATUS IG 2444MHz ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100 Mki | 07:08:35 PM May 17, 20 TRACE 11 2 3 4 TYPE MWWWM DET P N N N 1 2.443 749 GH |
| Period | Ak Power NVNT 2.4 | STATUS IG 2444MHz ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100 Mki | 07:08:35 PM May 17, 20 TRACE 11 2 3 4 TYPE MWWWM DET P N N N 1 2.443 749 GH |
| Pe. | Ak Power NVNT 2.4 | STATUS IG 2444MHz ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100 Mki | 07:08:35 PM May 17, 20 TRACE 11 2 3 4 TYPE MWWWM DET P N N N 1 2.443 749 GH |
| Pe. | Ak Power NVNT 2.4 | STATUS IG 2444MHz ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100 Mki | 07:08:35 PM May 17, 20 TRACE 11 2 3 4 TYPE MWWWM DET P N N N 1 2.443 749 GH |
| Pe. | Ak Power NVNT 2.4 | STATUS IG 2444MHz ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100 Mki | 07:08:35 PM May 17, 20 TRACE 11 2 3 4 TYPE MWWWM DET P N N N 1 2.443 749 GH |
| Pe. | Ak Power NVNT 2.4 | STATUS IG 2444MHz ALIGN AUTO Avg Type: Log-Pwr Avg Hold: 100/100 Mki | 07:08:35 PM May 17, 20 TRACE 11 2 3 4 TYPE MWWWM DET P N N N 1 2.443 749 GH |
| Pe. | Ak Power NVNT 2.4 | STATUS | 07:08:35 PM May 17, 20 TRACE 11 2 3 4 TYPE MWWWM DET P N N N 1 2.443 749 GH |



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4. -6dB Bandwidth

| Condition | Mode | Frequency (MHz) | -6 dB Bandwidth (MHz) | Limit -6 dB Bandwidth (MHz) | Verdict |
|-----------|------|-----------------|-----------------------|-----------------------------|---------|
| NVNT | 2.4G | 2404 | 0.643 | >=0.5 | Pass |
| NVNT | 2.4G | 2444 | 0.671 | >=0.5 | Pass |
| NVNT | 2.4G | 2480 | 0.633 | >=0.5 | Pass |



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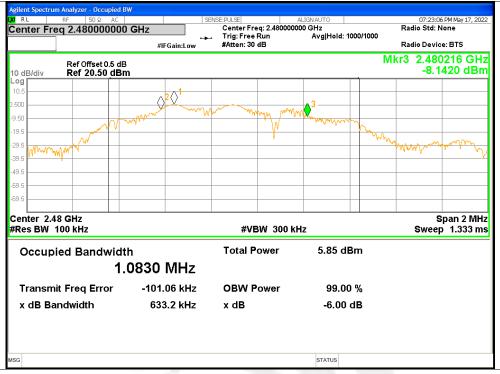


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-6dB Bandwidth NVNT 2.4G 2480MHz





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5. Occupied Channel Bandwidth

| Condition | Mode | Frequency (MHz) | 99% OBW (MHz) |
|-----------|------|-----------------|---------------|
| NVNT | 2.4G | 2404 | 1.049 |
| NVNT | 2.4G | 2444 | 1.063 |
| NVNT | 2.4G | 2480 | 1.045 |



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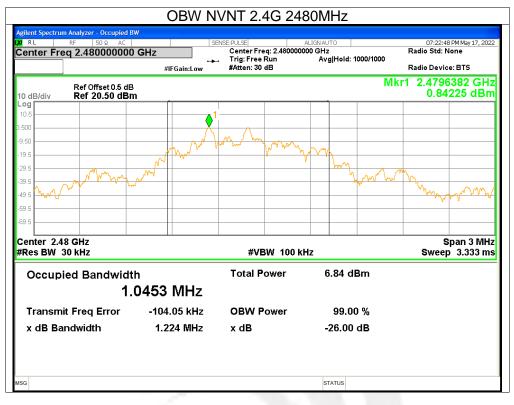
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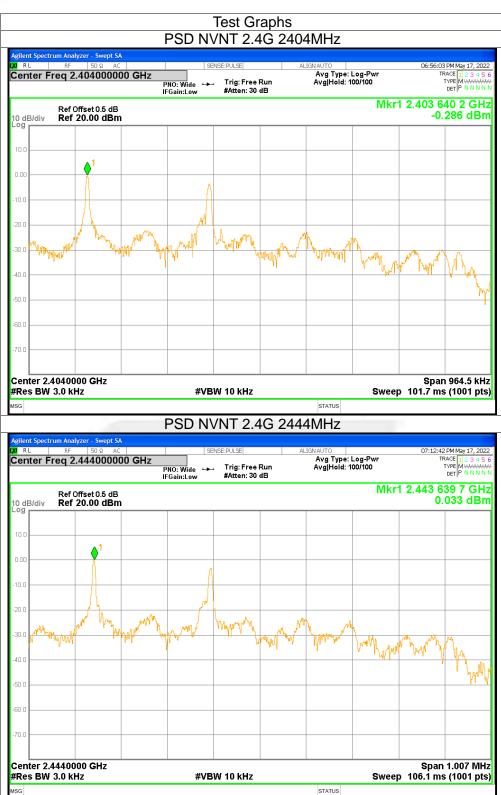
6. Maximum Power Spectral Density Level

| Condition | Mode | Frequency (MHz) | Conducted PSD (dBm/3kHz) | Duty Factor (dB) | Total PSD (dBm/3kHz) | Limit (dBm/3kHz) | Verdict |
|-----------|------|--------------------|-----------------------------|------------------------|-------------------------|---------------------|---------|
| NVNT | 2.4G | 2404 | -0.29 | 0 | -0.29 | <=8 | Pass |
| NVNT | 2.4G | 2444 | 0.03 | 0 | 0.03 | <=8 | Pass |
| NVNT | 2.4G | 2480 | -0.89 | 0 | -0.89 | <=8 | Pass |



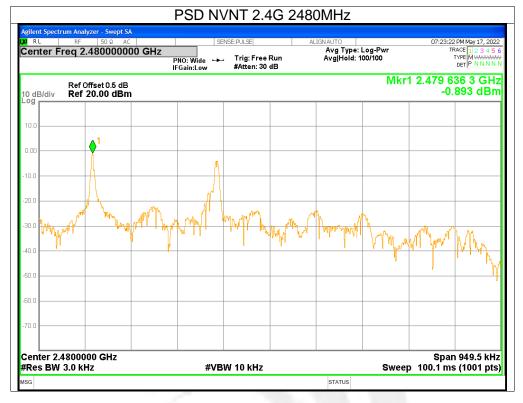
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7. Band Edge

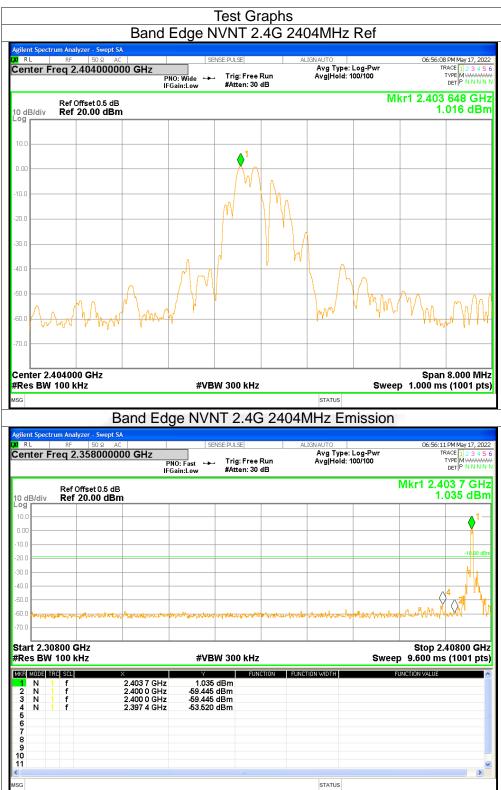
| Condition | Mode | Frequency (MHz) | Max Value (dBc) | Limit (dBc) | Verdict |
|-----------|------|-----------------|-----------------|-------------|---------|
| NVNT | 2.4G | 2404 | -54.54 | <=-20 | Pass |
| NVNT | 2.4G | 2480 | -52.39 | <=-20 | Pass |



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Band Edge NVNT 2.4G 2480MHz Ref

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8. Conducted RF Spurious Emission

| Condition | Mode | Frequency (MHz) | Max Value (dBc) | Limit (dBc) | Verdict |
|-----------|------|-----------------|-----------------|-------------|---------|
| NVNT | 2.4G | 2404 | -45.35 | <=-20 | Pass |
| NVNT | 2.4G | 2444 | -42.82 | <=-20 | Pass |
| NVNT | 2.4G | 2480 | -46.57 | <=-20 | Pass |



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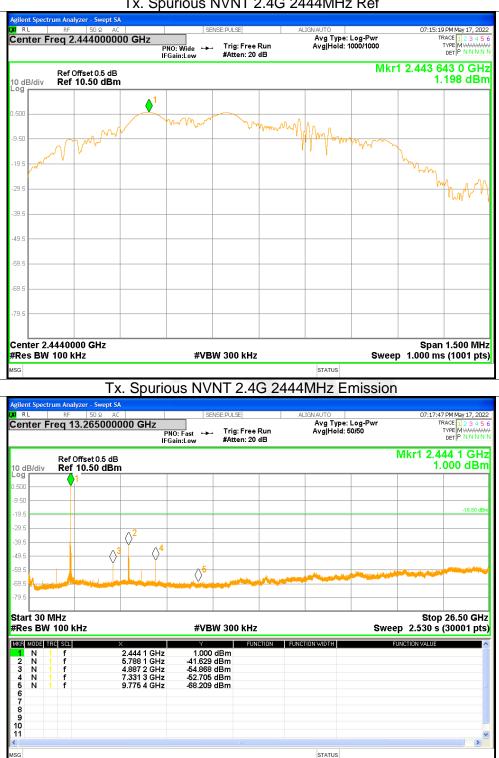


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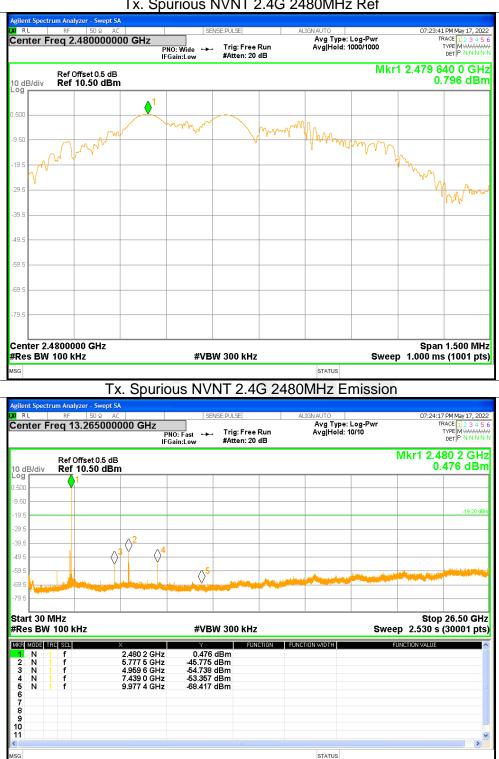
| RL RF 50Ω AC Senter Freq 2.40400000 | | CENICE | :PULSE | ALIGNAUTO | 07:05:04 PM May 17, 20 |
|---|--|--|----------------------------------|--|---|
| | IO GHZ | IO:Wide ↔ | Trig: Free Run #Atten: 20 dB | Avg Type: Log-Pwr Avg Hold: 1000/1000 | TRACE 1 2 3 4 5 |
| Ref Offset 0.5 dB 0 dB/div Ref 10.50 dBm | | | | Γ | Nkr1 2.403 641 5 GH 1.092 dBı |
| og | ∮ ¹ | | | | |
| .500 | | rmm | Monn | An . | |
| 9.50 , , , , , , , , , , , , , , , , , , , | r | | \∕r I | A M M Marana | \mathcal{N} |
| 19.5 | | | | <u>ч</u> | Mhine m |
| 29.5 | | | | | · · · · · · · · · · · · · · · · · · · |
| 39.5 | | | | | |
| 49.5 | | | | | |
| 59.5 | | | | | |
| | | | | | |
| 69.5 | | | | | |
| 79.5 | | | | | |
| center 2.4040000 GHz | | | | | On on 4 500 Mil |
| Res BW 100 kHz | | #VBW | 300 kHz | S | Span 1.500 MH weep 1.000 ms (1001 pt |
| sg | | | | STATUS | - |
| gilent Spectrum Analyzer - Swept SA | • | ous NVN | 1 2.4G 24 | 04MHz Emiss | ion |
| RL RF 50 Ω AC Center Freq 13.2650000 | | SENSE | :PULSE | ALIGNAUTO Avg Type: Log-Pwr | 07:07:31 PM May 17, 20 TRACE 1 2 3 4 5 TYPE MWWWW |
| | Р | | Trig: Free Run #Atten: 20 dB | Avg Hold: 50/50 | |
| | | | | | Mkr1 2.403 5 GH 0.967 dBr |
| Ref Offset 0.5 dB | | | | | |
| 10 dB/div Ref 10.50 dBm | | | | | |
| 0 dB/div Ref 10.50 dBm 0 g 0 g 0 g 1 0 soo | | | | | .18.91.65 |
| 0 dB/div Ref 10.50 dBm .99 .500 9.50 9.50 | | | | | -18.91 dE |
| 0 dB/div Ref 10.50 dBm 9 9 9.50 9 | 2^{2} 4^{4} | | | | -18,91 de |
| 0 dB/div Ref 10.50 dBm 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 2^{4} | | | | -18.91 dE |
| 0 dB/div Ref 10.50 dBm 9 50 9.50 | | Ç ⁵ | | | |
| 0 dB/div Ref 10.50 dBm 9 50 9 50 19 5 29 5 39 5 49 5 59 5 59 5 59 5 50 50 5 50 50 50 50 50 50 50 50 500 | | ¢ ⁵ | | | |
| 0 dB/div Ref 10.50 dBm 9 50 19 5 29 5 39 5 49 5 59 5 50 50 5 50 50 5 50 5 | | 5 | 300 kHz | | Stop 26.50 GH |
| 0 dB/div Ref 10.50 dBm 9 dB/div Ref 10.50 dBm 9 50 9 50 | | Y | FUNCTION | | Stop 26.50 GH |
| 0 dB/div Ref 10.50 dBm 9 dB/div Ref 10.50 dBm 9 db 1 9 db 1 | 2.403 5 GHz 5.786 3 GHz 4.954 3 GHz | 0.967 dE -44.266 dE -67.022 dE | FUNCTION Im Im | | Stop 26.50 GH ;weep 2.530 s (30001 pt |
| 0 dB/div Ref 10.50 dBm 9 50 9 50 | 2.403 5 GHz | 0.967 dE -44.266 dE | FUNCTION Sm Sm Sm Sm | | Stop 26.50 GH ;weep 2.530 s (30001 pt |
| ID dB/div Ref 10.50 dBm 09 1 09 1 99.50 1 19.50 1 19.50 1 19.50 1 19.50 1 19.50 1 19.50 1 19.50 1 22.5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 6 1 79.6 1 5 1 5 1 5 1 7 1 7 1 6 1 | 2.403 5 GHz 5.786 3 GHz 4.964 3 GHz 7.211 3 GHz | 0.967 dE -44.266 dE -67.022 dE -48.073 dE | FUNCTION Sm Sm Sm Sm | | Stop 26.50 GH ;weep 2.530 s (30001 pt |
| O dB/div Ref 10.50 dBm 09 1 9.50 1 9.50 1 19.5 1 29.5 1 39.5 1 39.5 1 39.5 1 59.5 1 59.5 1 59.5 1 59.5 1 59.5 1 59.5 1 59.5 1 59.5 1 59.5 1 59.5 1 59.5 1 59.5 1 59.5 1 59.5 1 59.5 1 59.5 1 50.5 1 51.5 1 52.5 1 53.5 1 5 1 6 1 70.5 1 50.5 1 50.5 1 50.5 1 50.5 1 | 2.403 5 GHz 5.786 3 GHz 4.964 3 GHz 7.211 3 GHz | 0.967 dE -44.266 dE -67.022 dE -48.073 dE | FUNCTION Sm Sm Sm Sm | | Stop 26.50 GH ;weep 2.530 s (30001 pt |
| ID dB/div Ref 10.50 dBm 09 1 09 1 99.50 1 19.50 1 19.50 1 19.50 1 19.50 1 19.50 1 19.50 1 19.50 1 22.5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 6 1 79.6 1 5 1 5 1 5 1 7 1 7 1 6 1 | 2.403 5 GHz 5.786 3 GHz 4.964 3 GHz 7.211 3 GHz | 0.967 dE -44.266 dE -67.022 dE -48.073 dE | FUNCTION Sm Sm Sm Sm | | Stop 26.50 GH ;weep 2.530 s (30001 pt |



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APPENDIX 2- EUT TEST PHOTO

Note: See test photos in setup photo document for the actual connections between Product and support equipment.

* * * * * END OF THE REPORT * * * *



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