

FCC 47 CFR PART 15 SUBPART C

Product Type : Navii RF Remote Control - 17
Applicant : J-MEX, Inc.
Address : B2, 3F, No. 1, Li-Hsin 1st Road, SBIP, HsinChu, Taiwan, R.O.C.
Trade Name : Navii
Model Number : NKS-1003
Test Specification : FCC 47 CFR PART 15 SUBPART C: Oct., 2013
ANSI C63.4:2009
Receive Date : Jun. 05, 2014
Test Period : Jun. 12, 2014
Issue Date : Jun. 30, 2014

Issue by

A Test Lab Techno Corp.
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Taoyuan County 334, Taiwan R.O.C.
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Taiwan Accreditation Foundation accreditation number: 1330

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Revision History

| Rev. | Issue Date | Revisions | Revised By |
|------|---------------|---------------|------------|
| 00 | Jun. 30, 2014 | Initial Issue | |
| | | | |
| | | | |
| | | | |

Verification of Compliance

Issued Date: 06/30/2014

Product Type : Navii RF Remote Control - 17

Applicant : J-MEX, Inc.

Address : B2, 3F, No. 1, Li-Hsin 1st Road, SBIP, HsinChu, Taiwan, R.O.C.

Trade Name : Navii

Model Number : NKS-1003

FCC ID : XXANKS-1003

EUT Rated Voltage : DC 3.0V

Test Voltage : DC 3.0V

Applicable Standard : FCC 47 CFR PART 15 SUBPART C: Oct., 2013
ANSI C63.4:2009

Test Result : Complied

Application Purpose : Original

Performing Lab. : A Test Lab Techno Corp.
No. 140-1, Changan Street, Bade City,
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Taiwan Accreditation Foundation accreditation number: 1330
<http://www.atl-lab.com.tw/e-index.htm>



The above equipment was tested by A Test Lab Techno Corp. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4: 2009 and the energy emitted by the sample tested as described in this report is in compliance with the requirements of FCC Rules Part 15.207, 15.209, 15.247 .

The test results of this report relate only to the tested sample identified in this report.

Approved By : Fly Lu Reviewed By : Eric Ou Yang
(Manager) (Fly Lu) (Testing Engineer) (Eric Ou Yang)

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1 General Information

1.1. Summary of Test Result

| Standard | | Item | Result | Remark |
|-----------|----------|--------------------------------|--------|---|
| 15.249 | RSS-GEN | | | |
| 15.207 | 7.2.2 | AC Power Conducted Emission | N/A | Not applicable, this device power by DC source. |
| Standard | | Item | Result | Remark |
| 15.249 | RSS-210 | | | |
| 15.249(a) | A2.9 (a) | Transmitter Radiated Emissions | PASS | ----- |
| 15.249(d) | A2.9 (b) | Band Edge Measurement | PASS | ----- |
| 15.203 | - | Antenna Requirement | PASS | ----- |

The test results of this report relate only to the tested sample(s) identified in this report. Manufacturer or whom it may concern should recognize the pass or fail of the test result.

1.2. Measurement Uncertainty

| Test Item | Frequency Range | | Uncertainty (dB) |
|--------------------|---------------------|------------|------------------|
| Conducted Emission | 9kHz ~ 30MHz | | ± 2.02 |
| Radiated Emission | 30MHz ~ 1000MHz | Horizontal | ± 3.98 |
| | | Vertical | ± 3.62 |
| | 1000MHz ~ 18000MHz | Horizontal | ± 3.11 |
| | | Vertical | ± 3.07 |
| | 18000MHz ~ 40000MHz | Horizontal | ± 3.66 |
| | | Vertical | ± 3.54 |

2 EUT Description

| | |
|-------------------|---|
| Product | Navii RF Remote Control - 17 |
| Trade Name | Navii |
| Model Number | NKS-1003 |
| Applicant | J-MEX, Inc. B2, 3F, No. 1, Li-Hsin 1st Road, SBIP, HsinChu, Taiwan, R.O.C. |
| Manufacturer | KING WINS TECHNOLOGY CO., LTD 2F., No.1, Jian 1st Rd., Zhonghe Dist., New Taipei CITY 235, Taiwan. |
| FCC ID | XXANKS-1003 |
| Frequency Range | 2404 ~ 2480 MHz |
| Modulation Type | GFSK |
| Number of Channel | 65 CH |
| Antenna Type | PCB Antenna |
| Antenna Gain | -3 dBi |
| Field Strength | 92.96 dBuV/m |

| Frequency Hopping Table | | | | | | | |
|-------------------------|------|----|------|----|------|----|------|
| CH | MHz | CH | MHz | CH | MHz | CH | MHz |
| 1 | 2404 | 18 | 2424 | 35 | 2444 | 52 | 2467 |
| 2 | 2405 | 19 | 2425 | 36 | 2445 | 53 | 2468 |
| 3 | 2406 | 20 | 2426 | 37 | 2446 | 54 | 2469 |
| 4 | 2407 | 21 | 2427 | 38 | 2450 | 55 | 2470 |
| 5 | 2408 | 22 | 2428 | 39 | 2451 | 56 | 2471 |
| 6 | 2409 | 23 | 2429 | 40 | 2452 | 57 | 2472 |
| 7 | 2410 | 24 | 2430 | 41 | 2453 | 58 | 2473 |
| 8 | 2411 | 25 | 2434 | 42 | 2454 | 59 | 2474 |
| 9 | 2412 | 26 | 2435 | 43 | 2455 | 60 | 2475 |
| 10 | 2413 | 27 | 2436 | 44 | 2456 | 61 | 2476 |
| 11 | 2414 | 28 | 2437 | 45 | 2457 | 62 | 2477 |
| 12 | 2418 | 29 | 2438 | 46 | 2458 | 63 | 2478 |
| 13 | 2419 | 30 | 2439 | 47 | 2459 | 64 | 2479 |
| 14 | 2420 | 31 | 2440 | 48 | 2460 | 65 | 2480 |
| 15 | 2421 | 32 | 2441 | 49 | 2461 | | |
| 16 | 2422 | 33 | 2442 | 50 | 2462 | | |
| 17 | 2423 | 34 | 2443 | 51 | 2466 | | |

3 Test Methodology

3.1. Mode of Operation

Decision of Test ATL has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

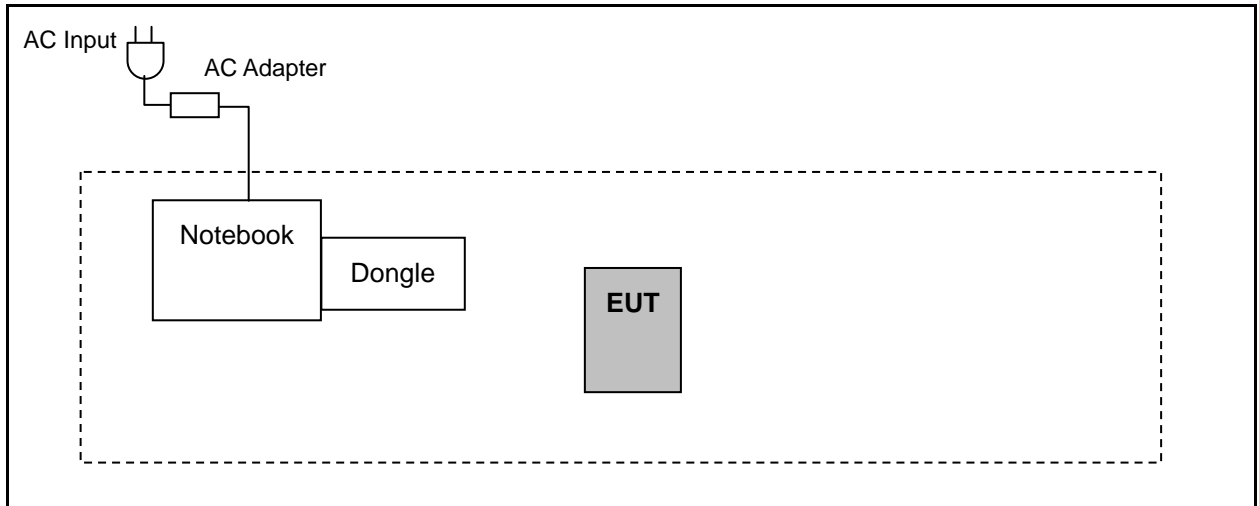
| Test Mode |
|-------------------------------|
| Mode 1: Normal Operation Mode |
| Mode 2: Transmission Mode |

By preliminary testing and verifying three axis (X, Y and Z) position of EUT transmitted status, it was found that "X axis" position was the worst, then the final test was executed the worst condition and test data were recorded in this report.

3.2. EUT Exercise Software

| | |
|---|--------------------------------|
| 1 | Setup the EUT as shown on 3.3. |
| 2 | Turn on the power of EUT. |

3.3. Configuration of Test System Details



3.4. Test Site Environment

| Items | Required (IEC 60068-1) | Actual |
|----------------------------|------------------------|--------|
| Temperature (°C) | 15-35 | 26 |
| Humidity (%RH) | 25-75 | 60 |
| Barometric pressure (mbar) | 860-1060 | 950 |

4 Conducted Emission Measurement

4.1. Limit

| Frequency (MHz) | Quasi-peak | Average |
|-----------------|------------|----------|
| 0.15 - 0.5 | 66 to 56 | 56 to 46 |
| 0.50 - 5.0 | 56 | 46 |
| 5.0 - 30.0 | 60 | 50 |

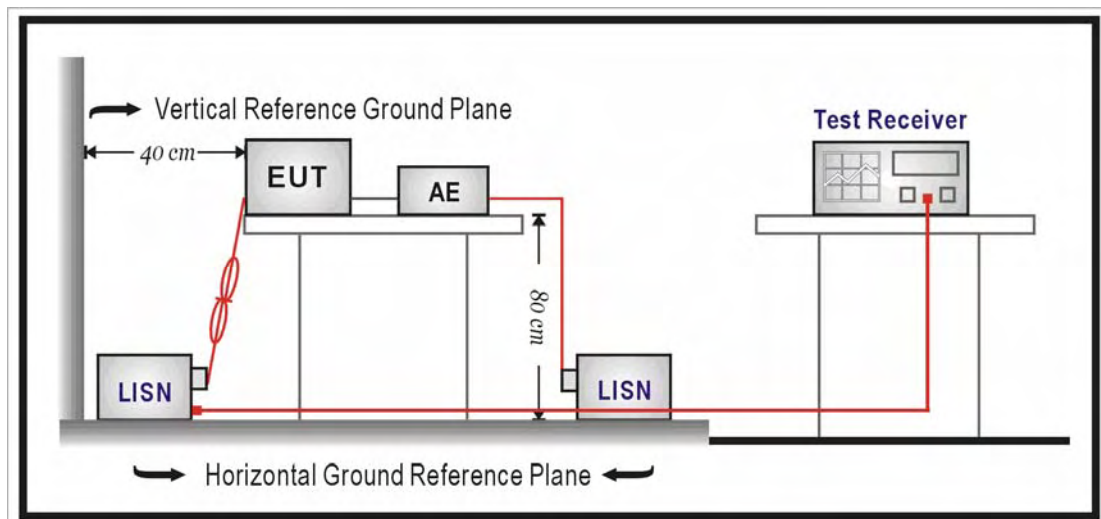
4.2. Test Instruments

| Describe | Manufacturer | Model Number | Serial Number | Cal. Date | Remark |
|---------------|--------------|--------------|---------------|------------|--------|
| Test Receiver | R&S | ESCI | 100367 | 06/06/2014 | (1) |
| LISN | R&S | ENV216 | 101040 | 03/07/2014 | (1) |
| LISN | R&S | ENV216 | 101041 | 03/07/2014 | (1) |
| Test Site | ATL | TE02 | TE02 | N.C.R. | ----- |

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years. (3) Calibration period 3 years.

Note: N.C.R. = No Calibration Request.

4.3. Test Setup



4.4. Test Procedure

The power line conducted emission measurements were performed in a shielded enclosure. The EUT was assembled on a wooden table which is 80 centimeters high, was placed 40 centimeters from the back wall and at least 1 meter from the sidewall.

Power was fed to the EUT from the public utility power grid through a line filter and EMCO Model 3162/2 SH Line Impedance Stabilization Networks (LISN). The LISN housing, measuring instrumentation case, ground plane, etc., were electrically bonded together at the same RF potential. The Spectrum analyzer was connected to the AC line through an isolation transformer. The 50-ohm output of the LISN was connected to the spectrum analyzer directly. Conducted emission levels were in the CISPR quasi-peak detection mode. The analyzer's 6 dB bandwidth was set to 9 KHz. No post-detector video filter was used.

The spectrum was scanned from 150 KHz to 30 MHz. The physical arrangement of the test system and associated cabling was varied (within the scope of arrangements likely to be encountered in actual use) to determine the effect on the unit's emanations in amplitude and frequency. All spurious emission frequencies were observed. The highest emission amplitudes relative to the appropriate limit were measured and have been recorded in paragraph 4.1.

4.5. Test Result

Note: Not applicable, this device power by DC source.

5 Radiated Interference Measurement

5.1. Limit

| Frequency (MHz) | Field Strength ($\mu\text{V/m}$ at meter) | Measurement Distance (meter) |
|-----------------|--|------------------------------|
| 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 |

Harmonic emissions limits comply with below 54 dBuV/m at 3m. Other emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or comply with the radiated emissions limits specified in section 15.209(a) limit in the table below has to be followed.

Note: (1) The tighter limit applies at the band edges.
 (2) Emission level (dBuV/m)=20log Emission level ($\mu\text{V/m}$).

Limits of Radiated Emission Measurement (FCC 15.209)

| Frequency (MHz) | Class A (dBuV/m) (at 3m) | | Class B (dBuV/m) (at 3m) | |
|-----------------|--------------------------|-----|--------------------------|-----|
| | Peak | AVG | Peak | AVG |
| 0.009 – 0.490 | 80 | 60 | 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 ($\mu\text{V/m}$).

Limits of Radiated Emission Measurement (FCC Part 15.249)

| Frequency Range (MHz) | Limit |
|-----------------------|---|
| 2400-2483.5 | Field strength of fundamental 50000 $\mu\text{V/m}$ (94 dB $\mu\text{V/m}$) @ 3 m |
| Above 2483.5 | Field strength of harmonics 500 $\mu\text{V/m}$ (54 dB $\mu\text{V/m}$) @ 3 m |

5.2. Test Instruments

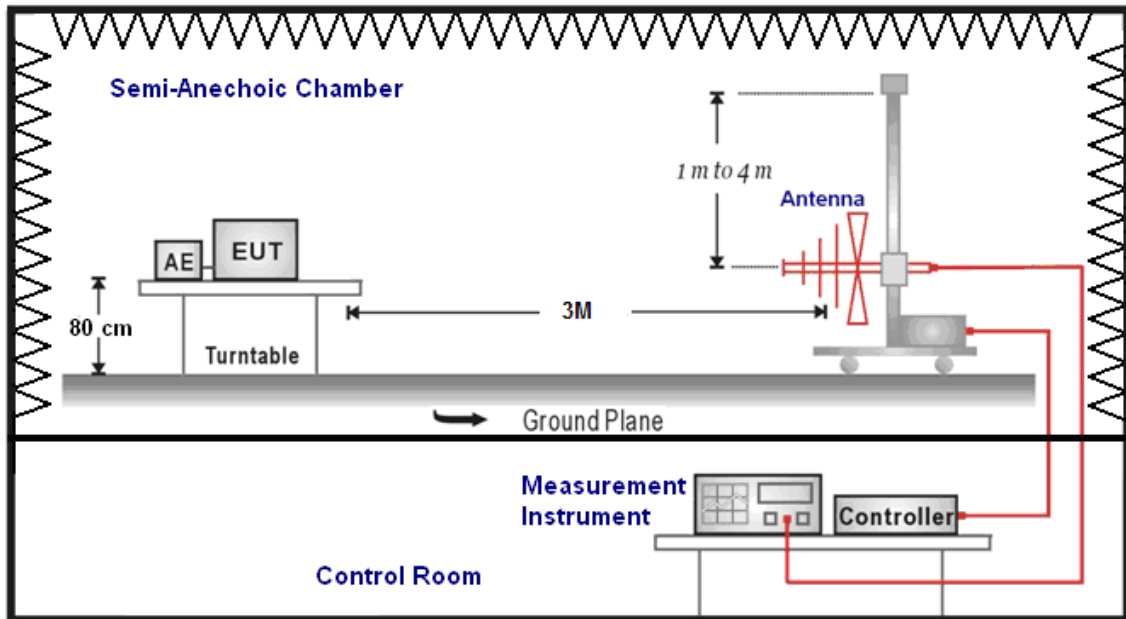
| 3 Meter Chamber | | | | | |
|-----------------------------------|--------------------------------|--------------|---------------|------------|--------|
| Equipment | Manufacturer | Model Number | Serial Number | Cal. Date | Remark |
| RF Pre-selector | Agilent | N9039A | MY46520256 | 01/21/2013 | (2) |
| Spectrum Analyzer | Agilent | E4446A | MY46180578 | 01/10/2014 | (1) |
| Pre Amplifier | Agilent | 8449B | 3008A02237 | 02/21/2014 | (1) |
| Pre Amplifier | Agilent | 8447D | 2944A10961 | 02/21/2014 | (1) |
| Broadband Antenna (30MHz~1GHz) | SCHWARZBECK MESS-ELEKTRONIK | VULB9163 | 9163-270 | 07/01/2013 | (1) |
| Horn Antenna (1~18GHz) | SCHWARZBECK MESS-ELEKTRONIK | BBHA9120D | 9120D-550 | 06/12/2014 | (1) |
| Horn Antenna (18~40GHz) | SCHWARZBECK MESS-ELEKTRONIK | BBHA9170 | 9170-320 | 06/13/2013 | (1) |
| Loop Antenna | COM-POWER CORPORATION | AL-130 | 121014 | 01/28/2014 | (1) |
| Test Site | ATL | TE01 | 888001 | 08/28/2013 | (1) |

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years. (3) Calibration period 3 years.

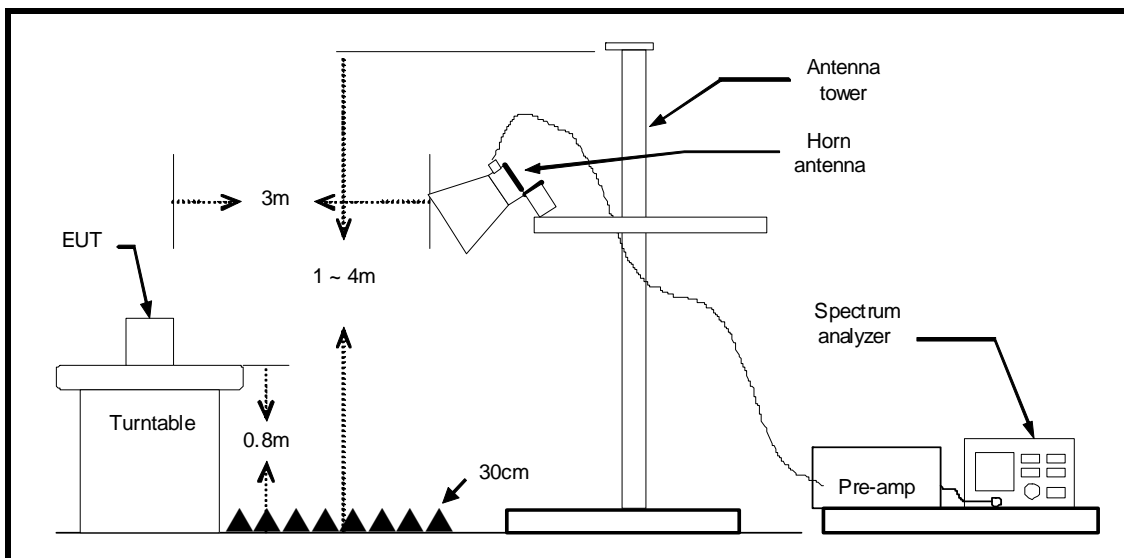
Note: N.C.R. = No Calibration Request.

5.3. Setup

Below 1GHz



Above 1GHz



5.4. Test Procedure

Final radiation measurements were made on a three-meter, Semi Anechoic Chamber. The EUT system was placed on a nonconductive turntable which is 0.8 meters height, top surface 1.0 x 1.5 meter. The spectrum was examined from 250 MHz to 2.5 GHz in order to cover the whole spectrum below 10th harmonic which could generate from the EUT. During the test, EUT was set to transmit continuously & Measurements spectrum range from 30 MHz to 26.5 GHz is investigated.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

A nonconductive material surrounded the EUT to supporting the EUT for standing on three orthogonal planes. At each condition, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization.

SCHWARZBECK MESS-ELEKTRONIK Biconilog Antenna (model VULB9163) at 3 Meter and the SCHWARZBECK Double Ridged Guide Antenna (model BBHA9120D&9170) was used in frequencies 1 – 26.5 GHz at a distance of 1 meter. All test results were extrapolated to equivalent signal at 3 meters utilizing an inverse linear distance extrapolation Factor (20dB/decade).

For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

Appropriate preamplifiers were used for improving sensitivity and precautions were taken to avoid overloading or desensitizing the spectrum analyzer. No post – detector video filters were used in the test.

The spectrum analyzer's 6 dB bandwidth was set to 1 MHz, and the analyzer was operated in the peak detection mode, for frequencies both below and up 1 GHz. The average levels were obtained by subtracting the duty cycle correction factor from the peak readings.

The following procedures were used to convert the emission levels measured in decibels referenced to 1 microvolt (dBuV) into field intensity in micro volts per meter (uV/m).

The actual field intensity in decibels referenced to 1 microvolt in to field intensity in micro volts per meter (dBuV/m).

The actual field intensity in referenced to 1 microvolt per meter (dBuV/m) is determined by algebraically adding the measured reading in dBuV, the antenna factor (dB), and cable loss (dB) and Subtracting the gain of preamplifier (dB) is auto calculate in spectrum analyzer.

(1) $\text{Amplitude (dBuV/m)} = \text{FI (dBuV)} + \text{AF (dBuV)} + \text{CL (dBuV)} - \text{Gain (dB)}$

FI= Reading of the field intensity.

AF= Antenna factor.

CL= Cable loss.

P.S Amplitude is auto calculate in spectrum analyzer.

(2) $\text{Actual Amplitude (dBuV/m)} = \text{Amplitude (dBuV)} - \text{Dis (dB)}$

The FCC specified emission limits were calculated according the EUT operating frequency and by following linear interpolation equations:

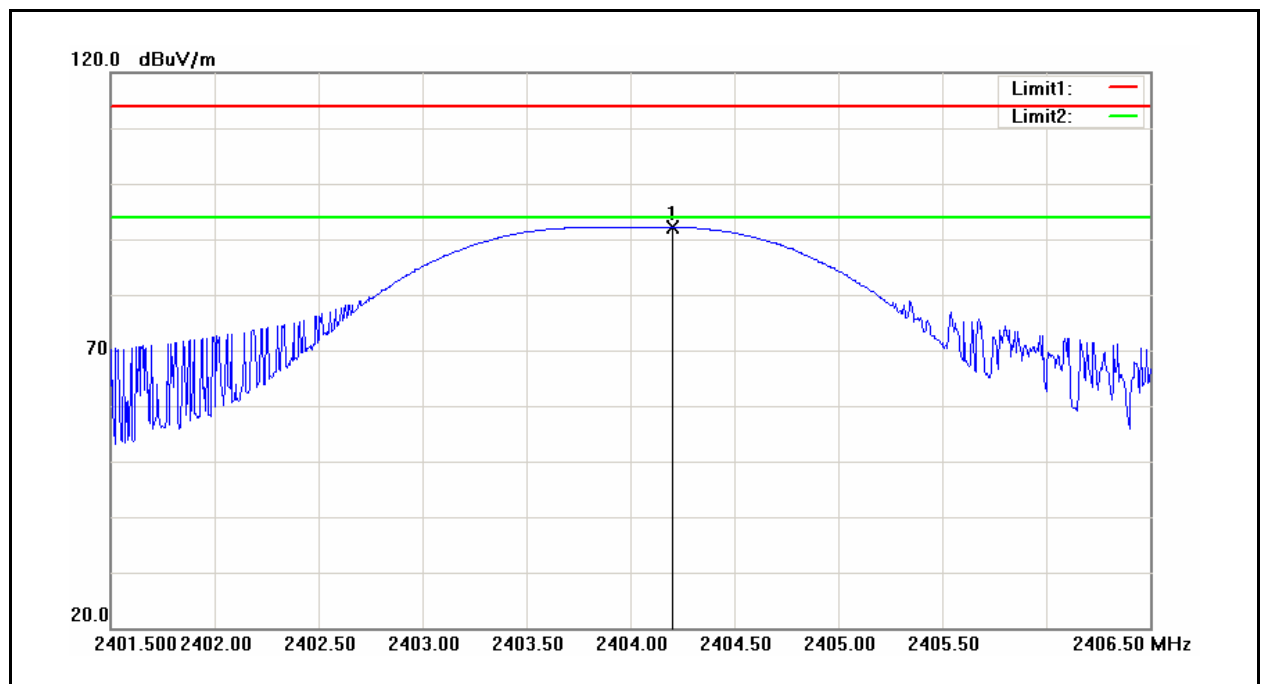
(a) For fundamental frequency : Transmitter Output < +30dBm

(b) For spurious frequency : Spurious emission limits = fundamental emission limit /10

5.5. Test Result

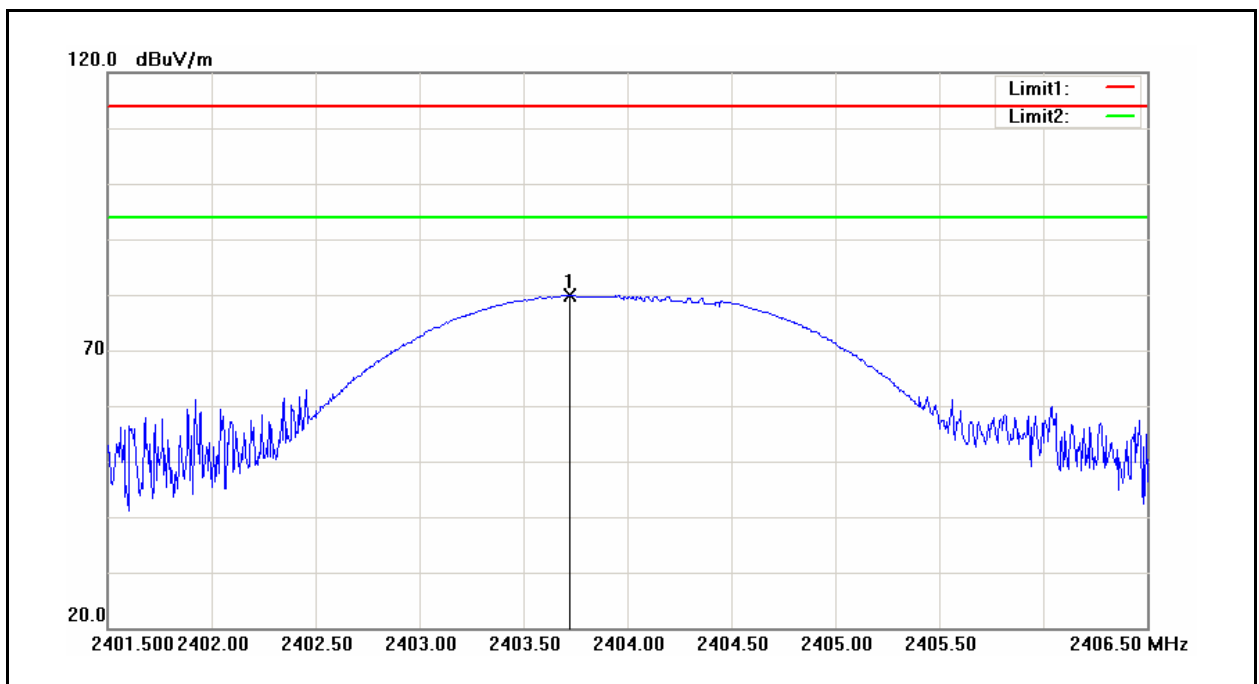
Fundamental Test Result:

| | | | |
|---------------|-------------------|----------------------|--------------|
| Standard: | FCC Part 15C | Test Distance: | 3m |
| Test item: | Radiated Emission | Power: | DC 3.0V |
| Model Number: | NKS-1003 | Temp.(°C)/Hum.(%RH): | 26(°C)/60%RH |
| Test Mode: | 2 | Date: | 06/12/2014 |
| Frequency: | 2404 MHz | Test By: | Eric Ou Yang |
| Ant.Polar.: | Horizontal | | |



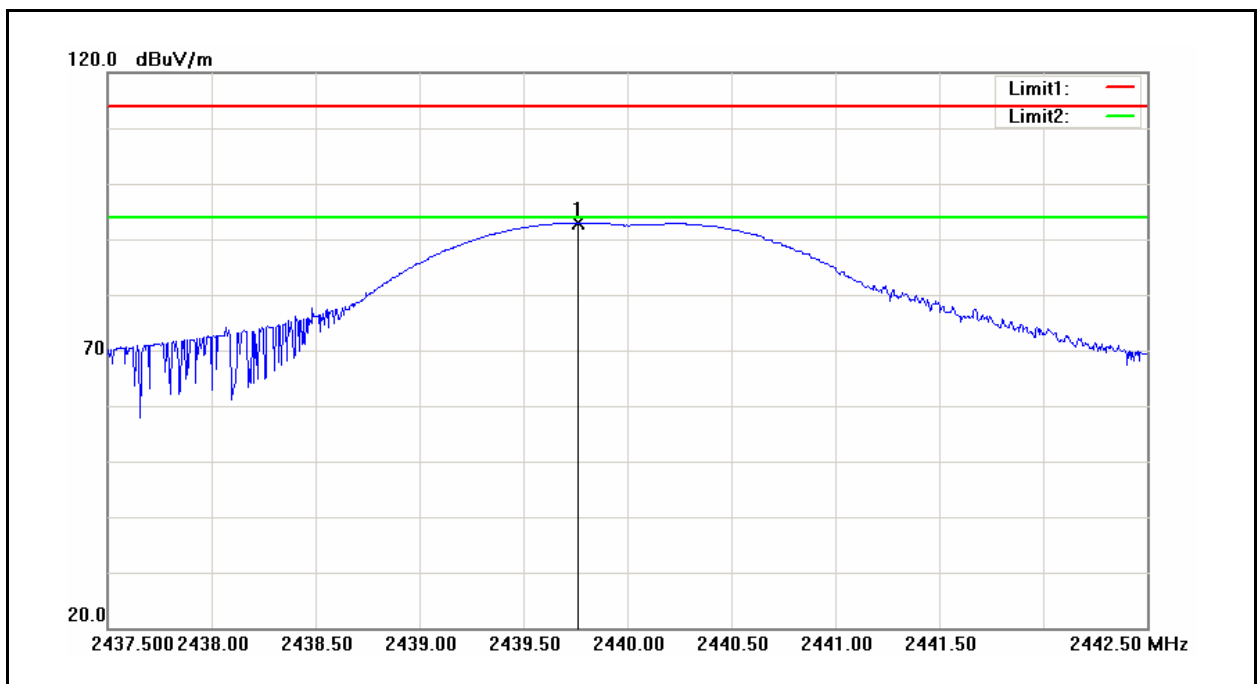
| No. | Frequency (MHz) | Reading (dBuV) | Correct Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|-----------------------|-----------------|----------------|-------------|--------|
| 1 | 2404.200 | 89.66 | 2.51 | 92.17 | 114.00 | -21.83 | Peak |

| | | | |
|---------------|-------------------|----------------------|--------------|
| Standard: | FCC Part 15C | Test Distance: | 3m |
| Test item: | Radiated Emission | Power: | DC 3.0V |
| Model Number: | NKS-1003 | Temp.(°C)/Hum.(%RH): | 26(°C)/60%RH |
| Test Mode: | 2 | Date: | 06/12/2014 |
| Frequency: | 2404 MHz | Test By: | Eric Ou Yang |
| Ant.Polar.: | Vertical | | |



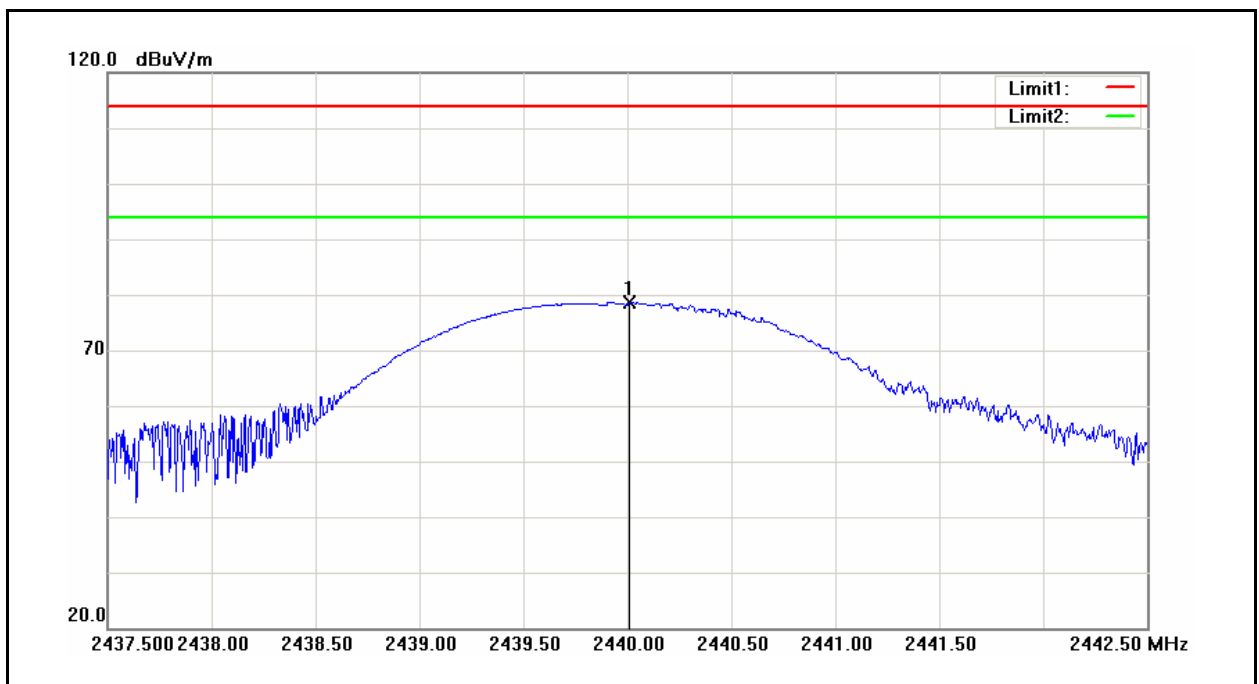
| No. | Frequency (MHz) | Reading (dBuV) | Correct Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|-----------------------|-----------------|----------------|-------------|--------|
| 1 | 2403.720 | 77.38 | 2.51 | 79.89 | 114.00 | -34.11 | Peak |

| | | | |
|---------------|-------------------|----------------------|--------------|
| Standard: | FCC Part 15C | Test Distance: | 3m |
| Test item: | Radiated Emission | Power: | DC 3.0V |
| Model Number: | NKS-1003 | Temp.(°C)/Hum.(%RH): | 26(°C)/60%RH |
| Test Mode: | 2 | Date: | 06/12/2014 |
| Frequency: | 2440 MHz | Test By: | Eric Ou Yang |
| Ant.Polar.: | Horizontal | | |



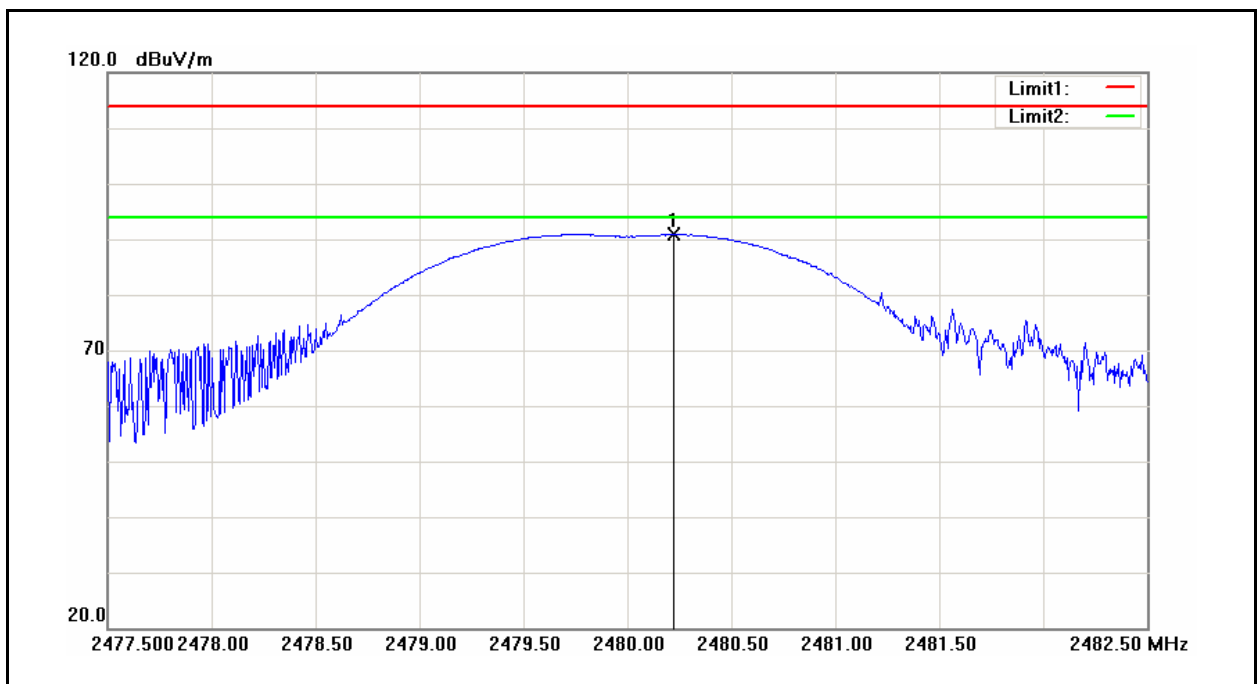
| No. | Frequency (MHz) | Reading (dBuV) | Correct Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|-----------------------|-----------------|----------------|-------------|--------|
| 1 | 2439.765 | 90.35 | 2.61 | 92.96 | 114.00 | -21.04 | Peak |

| | | | |
|---------------|-------------------|----------------------|--------------|
| Standard: | FCC Part 15C | Test Distance: | 3m |
| Test item: | Radiated Emission | Power: | DC 3.0V |
| Model Number: | NKS-1003 | Temp.(°C)/Hum.(%RH): | 26(°C)/60%RH |
| Test Mode: | 2 | Date: | 06/12/2014 |
| Frequency: | 2440 MHz | Test By: | Eric Ou Yang |
| Ant.Polar.: | Vertical | | |



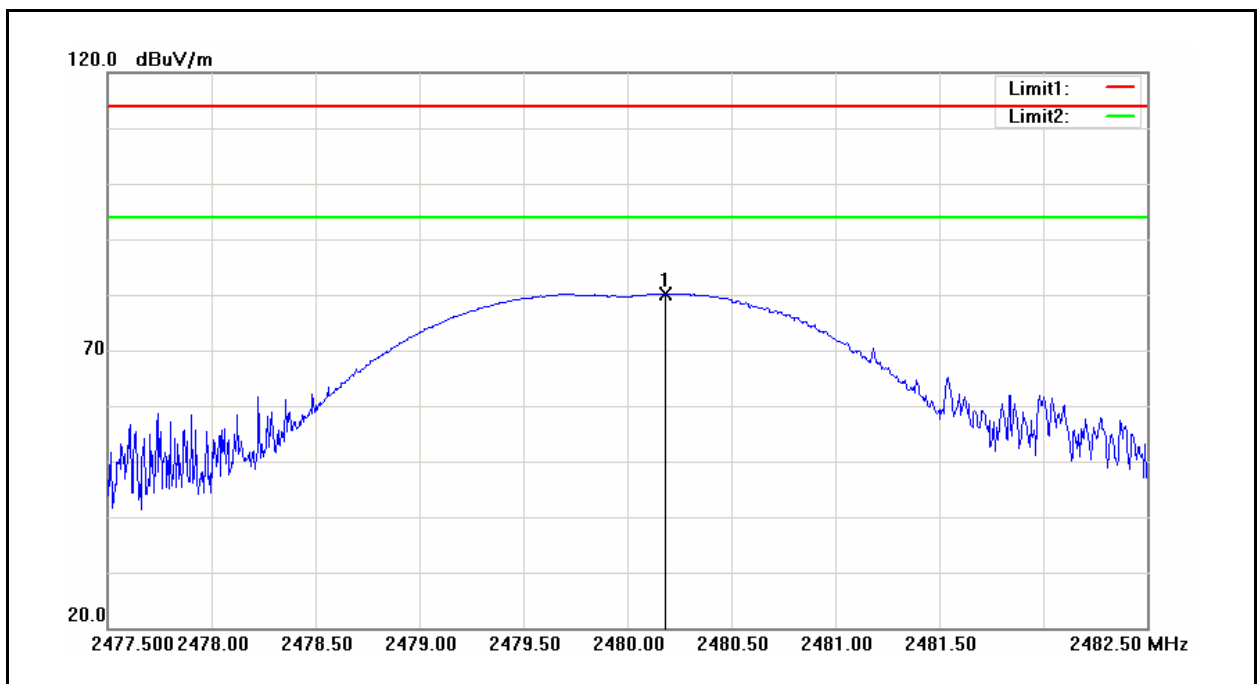
| No. | Frequency (MHz) | Reading (dBuV) | Correct Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|-----------------------|-----------------|----------------|-------------|--------|
| 1 | 2440.010 | 76.06 | 2.61 | 78.67 | 114.00 | -35.33 | Peak |

| | | | |
|---------------|-------------------|----------------------|--------------|
| Standard: | FCC Part 15C | Test Distance: | 3m |
| Test item: | Radiated Emission | Power: | DC 3.0V |
| Model Number: | NKS-1003 | Temp.(°C)/Hum.(%RH): | 26(°C)/60%RH |
| Test Mode: | 2 | Date: | 06/12/2014 |
| Frequency: | 2480 MHz | Test By: | Eric Ou Yang |
| Ant.Polar.: | Horizontal | | |



| No. | Frequency (MHz) | Reading (dBuV) | Correct Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|-----------------------|-----------------|----------------|-------------|--------|
| 1 | 2480.220 | 88.15 | 2.71 | 90.86 | 114.00 | -23.14 | Peak |

| | | | |
|---------------|-------------------|----------------------|--------------|
| Standard: | FCC Part 15C | Test Distance: | 3m |
| Test item: | Radiated Emission | Power: | DC 3.0V |
| Model Number: | NKS-1003 | Temp.(°C)/Hum.(%RH): | 26(°C)/60%RH |
| Test Mode: | 2 | Date: | 06/12/2014 |
| Frequency: | 2480 MHz | Test By: | Eric Ou Yang |
| Ant.Polar.: | Vertical | | |



| No. | Frequency (MHz) | Reading (dBuV) | Correct Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|-----------------------|-----------------|----------------|-------------|--------|
| 1 | 2480.180 | 77.47 | 2.71 | 80.18 | 114.00 | -33.82 | Peak |

Below 1GHz

| Standard: | | FCC Part 15C | | Test Distance: | | 3m | |
|--------------------|-------------------|--------------------------|--------------------|----------------------|----------------|--------------|-------------------|
| Test item: | | Radiated Emission | | Power: | | DC 3.0V | |
| Model Number: | | NKS-1003 | | Temp.(°C)/Hum.(%RH): | | 26(°C)/60%RH | |
| Mode: | | 1 | | Date: | | 06/12/2014 | |
| | | | | Test By: | | Eric Ou Yang | |
| Frequency (MHz) | Reading (dBuV) | Correct Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark | Ant.Pola H / V |
| 215.0000 | 45.34 | -13.81 | 31.53 | 43.50 | -11.97 | QP | H |
| 319.0000 | 46.68 | -9.93 | 36.75 | 46.00 | -9.25 | QP | H |
| 399.0000 | 41.95 | -8.22 | 33.73 | 46.00 | -12.27 | QP | H |
| 558.5000 | 34.29 | -5.25 | 29.04 | 46.00 | -16.96 | QP | H |
| 637.0000 | 39.05 | -3.43 | 35.62 | 46.00 | -10.38 | QP | H |
| 799.5000 | 34.16 | -0.25 | 33.91 | 46.00 | -12.09 | QP | H |
| | | | | | | | |
| 215.0000 | 40.05 | -13.81 | 26.24 | 43.50 | -17.26 | QP | V |
| 360.0000 | 37.30 | -9.13 | 28.17 | 46.00 | -17.83 | QP | V |
| 444.0000 | 40.65 | -7.17 | 33.48 | 46.00 | -12.52 | QP | V |
| 558.5000 | 40.15 | -5.25 | 34.90 | 46.00 | -11.10 | QP | V |
| 639.5000 | 38.72 | -3.39 | 35.33 | 46.00 | -10.67 | QP | V |
| 799.5000 | 36.57 | -0.25 | 36.32 | 46.00 | -9.68 | QP | V |

Note: No emission found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz).

Above 1GHz

| Standard: | | FCC Part 15C | | Test Distance: | | 3m | |
|-----------------|----------------|-----------------------|-----------------|----------------------|-------------|--------------|-------------------|
| Test item: | | Radiated Emission | | Power: | | DC 3.0V | |
| Model Number: | | NKS-1003 | | Temp.(°C)/Hum.(%RH): | | 26(°C)/60%RH | |
| Mode: | | 2 | | Date: | | 06/12/2014 | |
| Frequency: | | 2404MHz | | Test By: | | Eric Ou Yang | |
| Frequency (MHz) | Reading (dBuV) | Correct Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remar | Ant. Polar. H / V |
| 3002.000 | 38.86 | 4.00 | 42.86 | 74.00 | -31.14 | peak | H |
| 4808.000 | 48.17 | 7.30 | 55.47 | 74.00 | -18.53 | peak | H |
| 4808.000 | 38.06 | 7.30 | 45.36 | 54.00 | -8.64 | AVG | H |
| 6691.000 | 34.03 | 10.44 | 44.47 | 74.00 | -29.53 | peak | H |
| 2939.000 | 37.44 | 3.84 | 41.28 | 74.00 | -32.72 | peak | V |
| 4808.000 | 53.63 | 7.30 | 60.93 | 74.00 | -13.07 | peak | V |
| 4808.000 | 40.85 | 7.30 | 48.15 | 54.00 | -5.85 | AVG | V |
| 6726.000 | 35.71 | 10.49 | 46.20 | 74.00 | -27.80 | peak | V |

| Standard: | | FCC Part 15C | | Test Distance: | | 3m | |
|--------------------|-------------------|--------------------------|--------------------|----------------------|----------------|--------------|----------------------|
| Test item: | | Radiated Emission | | Power: | | DC 3.0V | |
| Model Number: | | NKS-1003 | | Temp.(°C)/Hum.(%RH): | | 26(°C)/60%RH | |
| Mode: | | 2 | | Date: | | 06/12/2014 | |
| Frequency: | | 2440MHz | | Test By: | | Eric Ou Yang | |
| Frequency (MHz) | Reading (dBuV) | Correct Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remar | Ant. Polar. H / V |
| 3051.000 | 37.54 | 4.11 | 41.65 | 74.00 | -32.35 | peak | H |
| 4880.000 | 49.08 | 7.40 | 56.48 | 74.00 | -17.52 | peak | H |
| 4880.000 | 39.13 | 7.40 | 46.53 | 54.00 | -7.47 | AVG | H |
| 6698.000 | 34.88 | 10.45 | 45.33 | 74.00 | -28.67 | peak | H |
| 2995.000 | 38.59 | 3.98 | 42.57 | 74.00 | -31.43 | peak | V |
| 4880.000 | 53.81 | 7.40 | 61.21 | 74.00 | -12.79 | peak | V |
| 4880.000 | 41.20 | 7.40 | 48.60 | 54.00 | -5.40 | AVG | V |
| 6705.000 | 34.53 | 10.46 | 44.99 | 74.00 | -29.01 | peak | V |

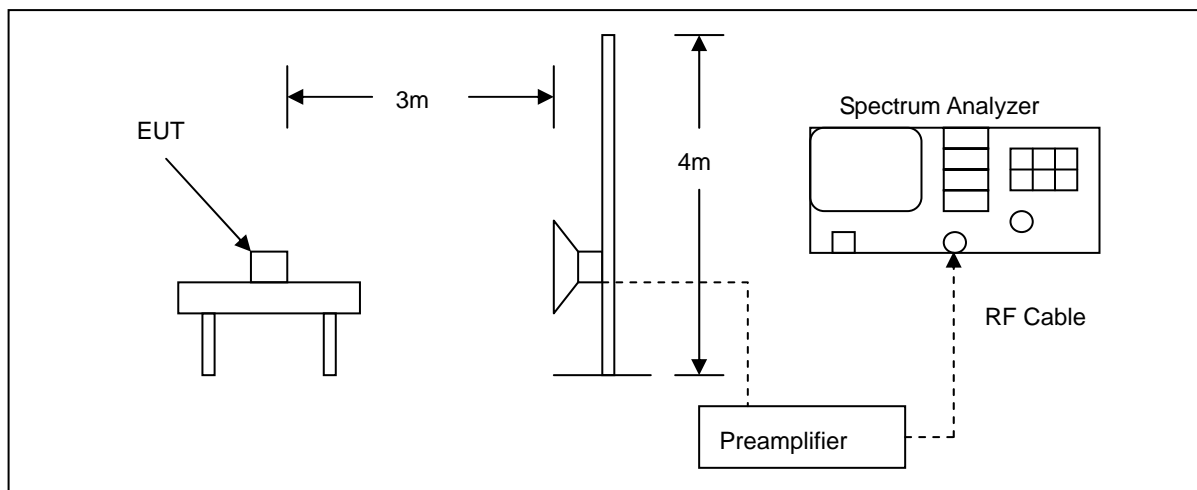
| | | | | | | | |
|--------------------|-------------------|--------------------------|--------------------|----------------------|----------------|--------------|----------------------|
| Standard: | | FCC Part 15C | | Test Distance: | | 3m | |
| Test item: | | Radiated Emission | | Power: | | DC 3.0V | |
| Model Number: | | NKS-1003 | | Temp.(°C)/Hum.(%RH): | | 26(°C)/60%RH | |
| Mode: | | 2 | | Date: | | 06/12/2014 | |
| Frequency: | | 2480MHz | | Test By: | | Eric Ou Yang | |
| Frequency (MHz) | Reading (dBuV) | Correct Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remar | Ant. Polar. H / V |
| 3002.000 | 38.20 | 4.00 | 42.20 | 74.00 | -31.80 | peak | H |
| 4960.000 | 52.23 | 7.52 | 59.75 | 74.00 | -14.25 | peak | H |
| 4960.000 | 40.82 | 7.52 | 48.34 | 54.00 | -5.66 | AVG | H |
| 6719.000 | 33.42 | 10.48 | 43.90 | 74.00 | -30.10 | peak | H |
| 3030.000 | 36.34 | 4.07 | 40.41 | 74.00 | -33.59 | peak | V |
| 4960.000 | 55.74 | 7.52 | 63.26 | 74.00 | -10.74 | peak | V |
| 4960.000 | 42.34 | 7.52 | 49.86 | 54.00 | -4.14 | AVG | V |
| 6691.000 | 33.75 | 10.44 | 44.19 | 74.00 | -29.81 | peak | V |

6 Band Edges Measurement

6.1. Limit

In any 100 kHz bandwidth outside the frequency band, the radio frequency power is at least 50dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

6.2. Test Setup



6.3. Test Instruments

| 3 Meter Chamber | | | | | |
|-------------------------|--------------------------------|--------------|---------------|------------|--------|
| Equipment | Manufacturer | Model Number | Serial Number | Cal. Date | Remark |
| RF Pre-selector | Agilent | N9039A | MY46520256 | 01/21/2013 | (2) |
| Spectrum Analyzer | Agilent | E4446A | MY46180578 | 01/10/2014 | (1) |
| Pre Amplifier | Agilent | 8449B | 3008A02237 | 02/21/2014 | (1) |
| Pre Amplifier | Agilent | 8447D | 2944A10961 | 02/21/2014 | (1) |
| Horn Antenna (1~18GHz) | SCHWARZBECK MESS-ELEKTRONIK | BBHA9120D | 9120D-550 | 06/12/2014 | (1) |
| Horn Antenna (18~40GHz) | SCHWARZBECK MESS-ELEKTRONIK | BBHA9170 | 9170-320 | 06/13/2013 | (1) |
| Loop Antenna | COM-POWER CORPORATION | AL-130 | 121014 | 08/14/2012 | (3) |
| Test Site | ATL | TE01 | 888001 | 08/28/2013 | (1) |

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years. (3) Calibration period 3 years.

Note: N.C.R. = No Calibration Request.

6.4. Test Procedure

The emissions on the harmonics frequencies, the limits, and the margin of compliance are presented. These tests were made when the transmitter was in full radiated power. The additional test was performed to show compliance with the requirement at the band-edge frequency 2483.5 MHz and up to 2500 MHz and at 2390.0 MHz.

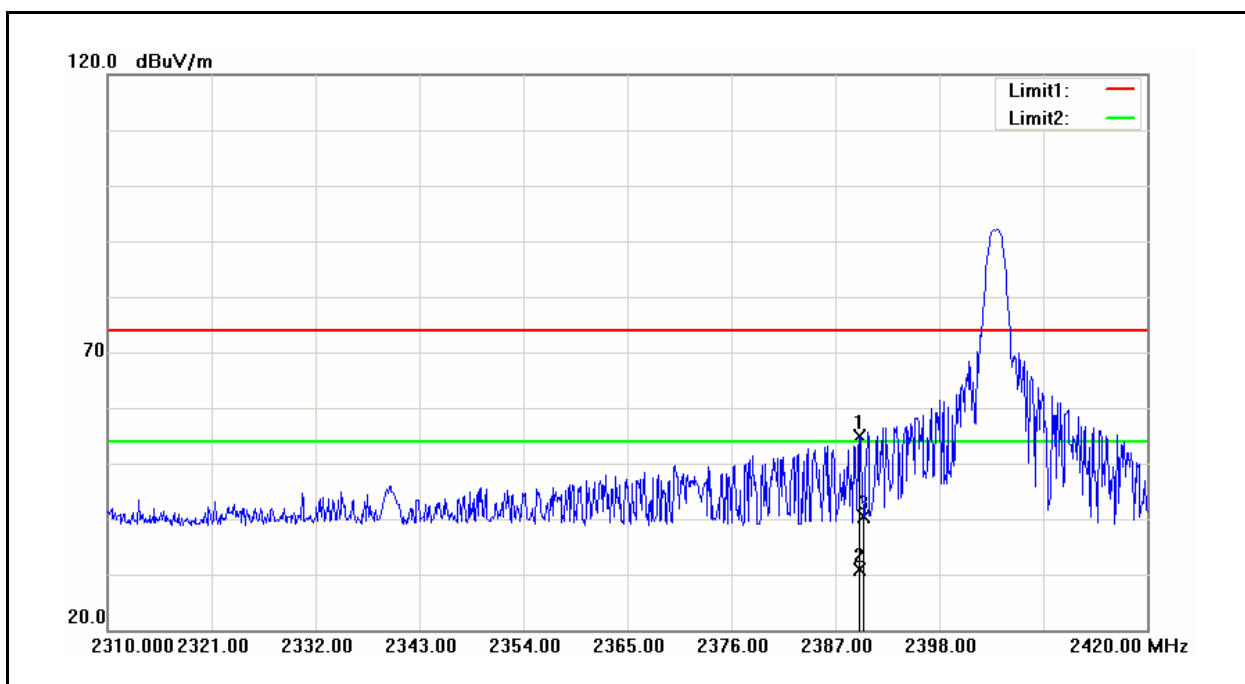
The transmitter was configured with the worst case antenna and setup to transmit at the highest channel. Then the field strength was measured at 2483.5 MHz.

The transmitter was then configured with the worst case antenna and setup to transmit at the lowest channel. Then the field strength was measured at 2390.0 MHz. These tests were performed at 4 different bit rates.

For measurements the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

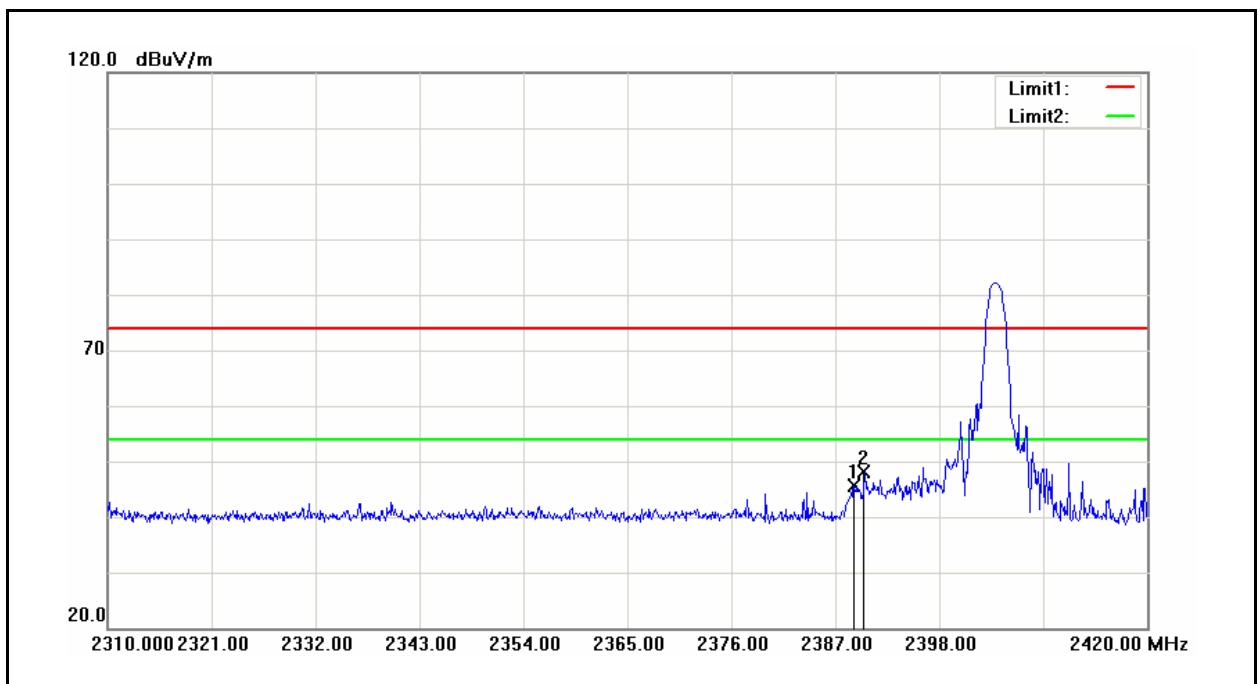
6.5. Test Result

| | | | |
|---------------|-------------------|----------------------|--------------|
| Standard: | FCC Part 15C | Test Distance: | 3m |
| Test item: | Radiated Emission | Power: | DC 3.0V |
| Model Number: | NKS-1003 | Temp.(°C)/Hum.(%RH): | 26(°C)/60%RH |
| Test Mode: | 2 | Date: | 06/12/2014 |
| Frequency: | 2404 MHz | Test By: | Eric Ou Yang |
| Ant.Polar.: | Horizontal | | |



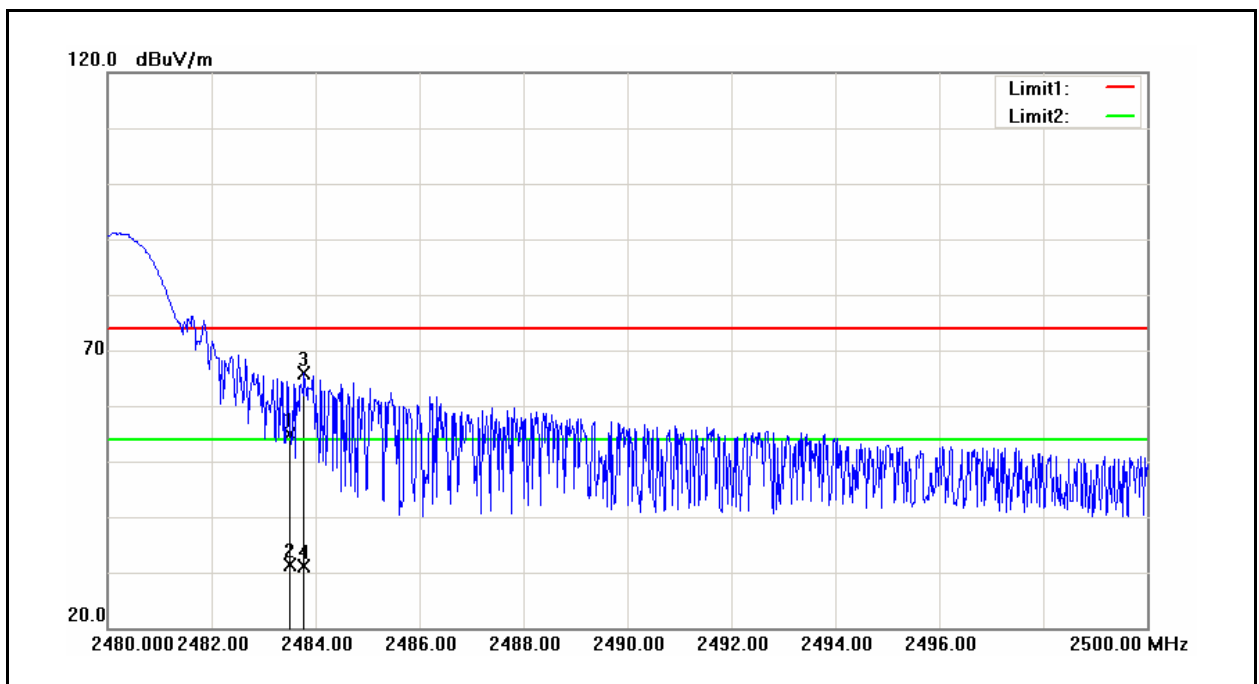
| No. | Frequency (MHz) | Reading (dBuV) | Correct Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|-----------------------|-----------------|----------------|-------------|--------|
| 1 | 2389.530 | 52.46 | 2.48 | 54.94 | 74.00 | -19.06 | peak |
| 2 | 2389.530 | 28.29 | 2.48 | 30.77 | 54.00 | -23.23 | AVG |
| 3 | 2390.000 | 37.88 | 2.48 | 40.36 | 74.00 | -33.64 | peak |

| | | | |
|---------------|-------------------|----------------------|--------------|
| Standard: | FCC Part 15C | Test Distance: | 3m |
| Test item: | Radiated Emission | Power: | DC 3.0V |
| Model Number: | NKS-1003 | Temp.(°C)/Hum.(%RH): | 26(°C)/60%RH |
| Test Mode: | 2 | Date: | 06/12/2014 |
| Frequency: | 2404 MHz | Test By: | Eric Ou Yang |
| Ant.Polar.: | Vertical | | |



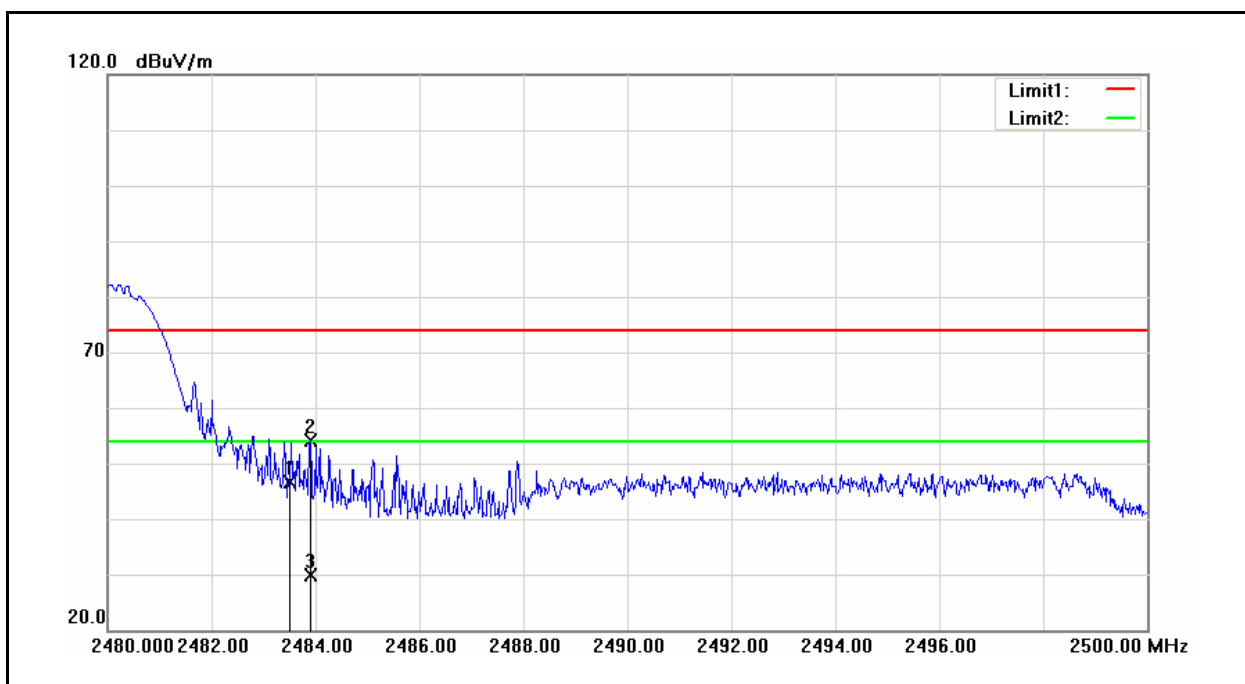
| No. | Frequency (MHz) | Reading (dBuV) | Correct Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|-----------------------|-----------------|----------------|-------------|--------|
| 1 | 2388.980 | 43.22 | 2.46 | 45.68 | 74.00 | -28.32 | peak |
| 2 | 2390.000 | 45.69 | 2.48 | 48.17 | 74.00 | -25.83 | peak |

| | | | |
|---------------|-------------------|----------------------|--------------|
| Standard: | FCC Part 15C | Test Distance: | 3m |
| Test item: | Radiated Emission | Power: | DC 3.0V |
| Model Number: | NKS-1003 | Temp.(°C)/Hum.(%RH): | 26(°C)/60%RH |
| Test Mode: | 2 | Date: | 06/12/2014 |
| Frequency: | 2480 MHz | Test By: | Eric Ou Yang |
| Ant.Polar.: | Horizontal | | |



| No. | Frequency (MHz) | Reading (dBuV) | Correct Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|-----------------------|-----------------|----------------|-------------|--------|
| 1 | 2483.500 | 52.11 | 2.72 | 54.83 | 74.00 | -19.17 | peak |
| 2 | 2483.500 | 28.56 | 2.72 | 31.28 | 54.00 | -22.72 | AVG |
| 3 | 2483.780 | 63.09 | 2.72 | 65.81 | 74.00 | -8.19 | peak |
| 4 | 2483.780 | 28.49 | 2.72 | 31.21 | 54.00 | -22.79 | AVG |

| | | | |
|---------------|-------------------|----------------------|--------------|
| Standard: | FCC Part 15C | Test Distance: | 3m |
| Test item: | Radiated Emission | Power: | DC 3.0V |
| Model Number: | NKS-1003 | Temp.(°C)/Hum.(%RH): | 26(°C)/60%RH |
| Test Mode: | 2 | Date: | 06/12/2014 |
| Frequency: | 2480 MHz | Test By: | Eric Ou Yang |
| Ant.Polar.: | Vertical | | |



| No. | Frequency (MHz) | Reading (dBuV) | Correct Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|-----------------------|-----------------|----------------|-------------|--------|
| 1 | 2483.500 | 43.80 | 2.72 | 46.52 | 74.00 | -27.48 | peak |
| 2 | 2483.900 | 51.31 | 2.72 | 54.03 | 74.00 | -19.97 | peak |
| 3 | 2483.900 | 27.06 | 2.72 | 29.78 | 54.00 | -24.22 | AVG |

7 Antenna Measurement

7.1. Limit

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.

And According to 15.247 (b), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

7.2. Antenna Connector Construction

The antenna used in this product is PCB antenna. And the maximum Gain of this antenna is only -3 dBi.