

RADIO TEST REPORT

FOR

Hubsan (HK) Industrial Co., Ltd

RC Hobby Series

Model No.: H107

Prepared for

: Hubsan (HK) Industrial Co., Ltd

Address

: 4/F Hong Fa Hi-Tech Industrial Park, Tangtou Village, Shiyan Town, Baoan district, Shenzhen, China

Prepared by

: Shenzhen LCS Compliance Testing Laboratory Ltd.

Address

: 1F., Xingyuan Industrial Park, Tongda Road, Bao'an Blvd., Bao'an District, Shenzhen, Guangdong, China

Date of receipt of test sample : October 08, 2012

Number of tested samples : 1

Serial number : Prototype

Date of Test : October 08, 2012 - October 16, 2012

Date of Report : October 16, 2012

TEST REPORT
FCC CFR 47 PART 15 C(15.249)
IC RSS-Gen Issue 3
IC RSS-210 Issue 8

Report Reference No. : LCS121008006TF

Date of issue : October 16, 2012

Testing Laboratory Name : **Shenzhen LCS Compliance Testing Laboratory Ltd.**

Address : 1F., Xingyuan Industrial Park, Tongda Road, Bao'an Blvd.,
 Bao'an District, Shenzhen, Guangdong, China

Testing location/ procedure : Full application of Harmonised standards
 Partial application of Harmonised standards
 Other standard testing method

Applicant's name : **Hubsan (HK) Industrial Co., Ltd**

Address : 4/F Hong Fa Hi-Tech Industrial Park, Tangtou Village, Shiyan
 Town, Baoan district, Shenzhen, China

Test specification

Standard : FCC CFR 47 PART 15 Subpart C: 2011; ANSI C63.4-2009;
 IC RSS-Gen Issue 3; IC RSS-210 Issue 8

Test Report Form No. : LCSEMC-1.0

TRF Originator : Shenzhen LCS Compliance Testing Laboratory Ltd.

Master TRF : Dated 2011-03

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Test item description : **RC Hobby Series**

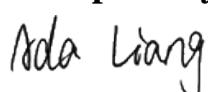
Trade Mark : HUBSAN

Model/Type reference : H107

Ratings : DC 6.0V (4*AAA Battery)

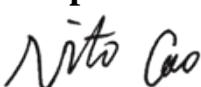
Result : **Positive**

Compiled by:



Ada Liang/ File administrators

Supervised by:



Vito Cao/ Technique principal

Approved by:



Gavin Liang/ Manager

TEST REPORT

Test Report No. : LCS121008006TFOctober 16, 2012

Date of issue

Type / Model..... : H107

EUT..... : RC Hobby Series

Applicant..... : Hubsan (HK) Industrial Co., LtdAddress..... : 4/F Hong Fa Hi-Tech Industrial Park, Tangtou Village, Shiyan
Town, Baoan district, Shenzhen, China

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Town, Baoan district, Shenzhen, China

Telephone..... : /

Fax..... : /

Test Result:**Positive**

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT : RC Hobby Series
 Model Number : H107
 Power Supply : DC 6.0V (4*AAA Battery)
 Frequency Range : 2410.00-2465.00MHz (Channel Number: 12, Channel Frequency=2410+5(K-1), K=1, 2, 312)
 Modulation Type : GFSK
 Designation of Emissions : 774KF1D
 Antenna Gain : 1.8dBi

1.2. Description of Test Facility

Site Description
 EMC Lab. : Accredited by CNAS, June 04, 2010
 The Certificate Registration Number. is L4595.
 Accredited by FCC, July 14, 2011
 The Certificate Registration Number. is 899208.
 Accredited by Industry Canada, May. 02, 2011
 The Certificate Registration Number. is 9642A-1

1.3. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements” and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

1.4. Measurement Uncertainty

| Test Item | Frequency Range | Uncertainty | Note |
|------------------------|-----------------|-------------|------|
| Radiation Uncertainty | 30MHz~200MHz | ±2.96dB | (1) |
| | 200MHz~1000MHz | ±3.10dB | (1) |
| Conduction Uncertainty | 150kHz~30MHz | ±1.63dB | (1) |
| Power disturbance | 30MHz~300MHz | ±1.60dB | (1) |

(1). This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

2. TEST METHODOLOGY

All measurements contained in this report were conducted with ANSI C63.4-2009, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

The radiated testing was performed at an antenna-to-EUT distance of 3 meters. All radiated and conducted emissions measurement was performed at Shenzhen LCS Compliance Testing Laboratory Ltd..

2.1. EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

2.2. EUT Exercise

The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements.

According to its specifications, the EUT must comply with the requirements of the Section 15.203, 15.205, 15.207, 15.209 , 15.249 under the FCC Rules Part 15 Subpart C; ANSI C63.4-2009; IC RSS-Gen Issue 3; IC RSS-210 Issue 8.

2.3. General Test Procedures

2.3.1 Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using Quasi-peak and average detector modes.

2.3.2 Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.4

2.4. Description Of Test Modes

The EUT was set to continuous transmitting mode.

GFSK modulation 2.4GHz mode the worst case is Channel Low (2410MHz), Mid Channel (2440MHz) and High Channel (2465MHz), these were chosen for full testing.

3. SUMMARY OF TEST RESULTS

| FCC CFR 47 Part 15 | DESCRIPTION OF TEST | RESULT |
|------------------------------------|---------------------------------------|-----------|
| §15.203 | Antenna requirement | Compliant |
| §15.215(c) | Bandwidth of the emission | Compliant |
| §15.207(a) | Conduction Emissions | N/A* |
| §15.205(a) | Restricted bands of operation | Compliant |
| §15.205(b), §15.249 | Radiated emission 9kHz to 30 MHz | Compliant |
| §15.205(b), §15.215(b), §15.249 | Radiated emission 30 MHz to 40 GHz | Compliant |

| IC RSS-Gen Issue 2 | DESCRIPTION OF TEST | RESULT |
|--------------------|---|-----------|
| §4.6.1 | Occupied bandwidth | Recorded |
| §3.2(h), 8 | Designation of emission | Recorded |
| §7.2.2 | Transmitter AC Power Lines Conducted Emissions | N/A* |
| §5.5 | Exposure of Humans to RF Fields | Exemption |

| IC RSS-210 Issue 8 | DESCRIPTION OF TEST | RESULT |
|-----------------------|---------------------------------------|-----------|
| §2.2(b)(c), §2.6 A2.9 | Unwanted emissions 9kHz to 30MHz | Compliant |
| §2.2(b)(c), §2.6 A2.9 | Unwanted emissions 30MHz to 40 GHz | Compliant |

N/A is not applicable. This EUT is powered by new battery.

4. BANDWIDTH OF THE EMISSION

4.1. Standard Applicable

The 20 dB bandwidth of the emission is measured as the frequency range defined by the points that are 20 dB down relative to the maximum level of the modulated carrier.

For intentional radiators operating under the alternative provisions to the general emission limits the requirement to contain the 20 dB bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

The resolution bandwidth of the spectrum analyzer shall be set to a value greater than 5.0% of the allowed bandwidth. If no bandwidth specifications are given, the following guidelines are used:

| Fundamental frequency | Minimum resolution bandwidth |
|-----------------------|------------------------------|
| 9kHz to 30MHz | 1kHz |
| 30MHz to 1000MHz | 10kHz |
| 1000MHz to 40GHz | 100kHz |

4.2. Test Equipment

| Item | Equipment | Manufacturer | Model No. | Serial No. | Cal. Data | Due Data |
|------|---------------|-----------------|-----------|------------|------------|------------|
| 1 | Test Receiver | Rohde & Schwarz | ESCS30 | 828985/018 | 2012-06-18 | 2013-06-17 |
| 2 | DC Filter | MPE | 23872C | N/A | 2012-06-18 | 2013-06-17 |

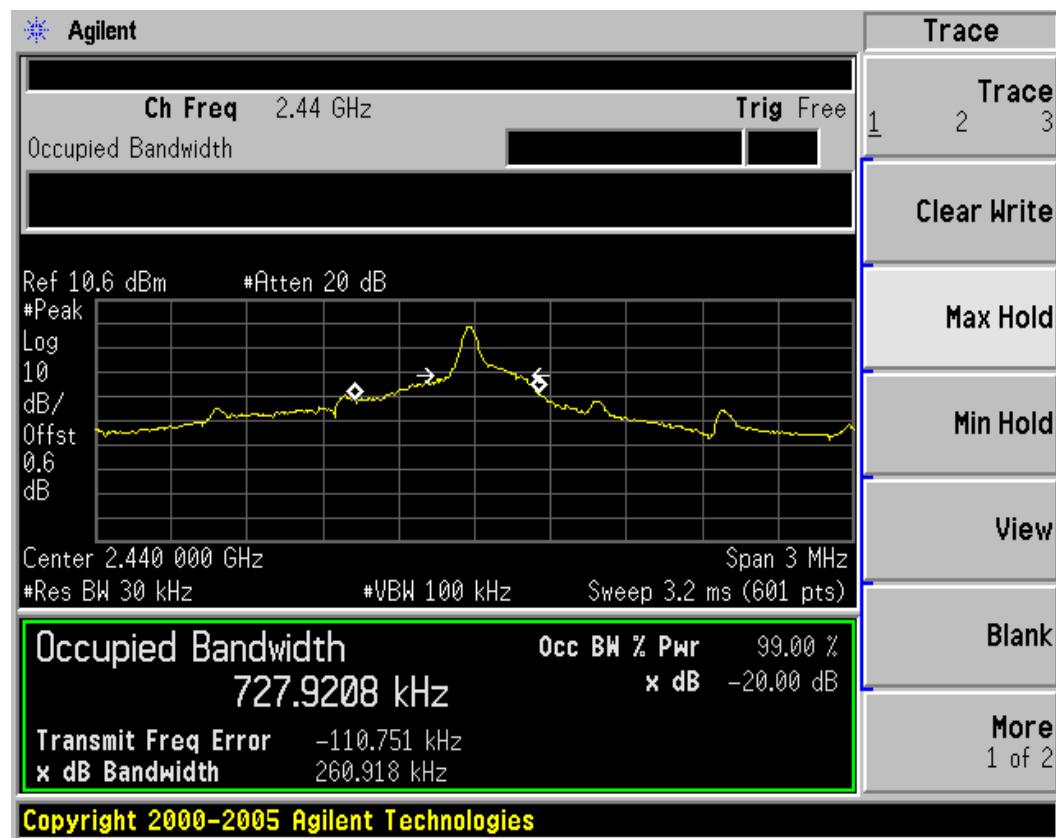
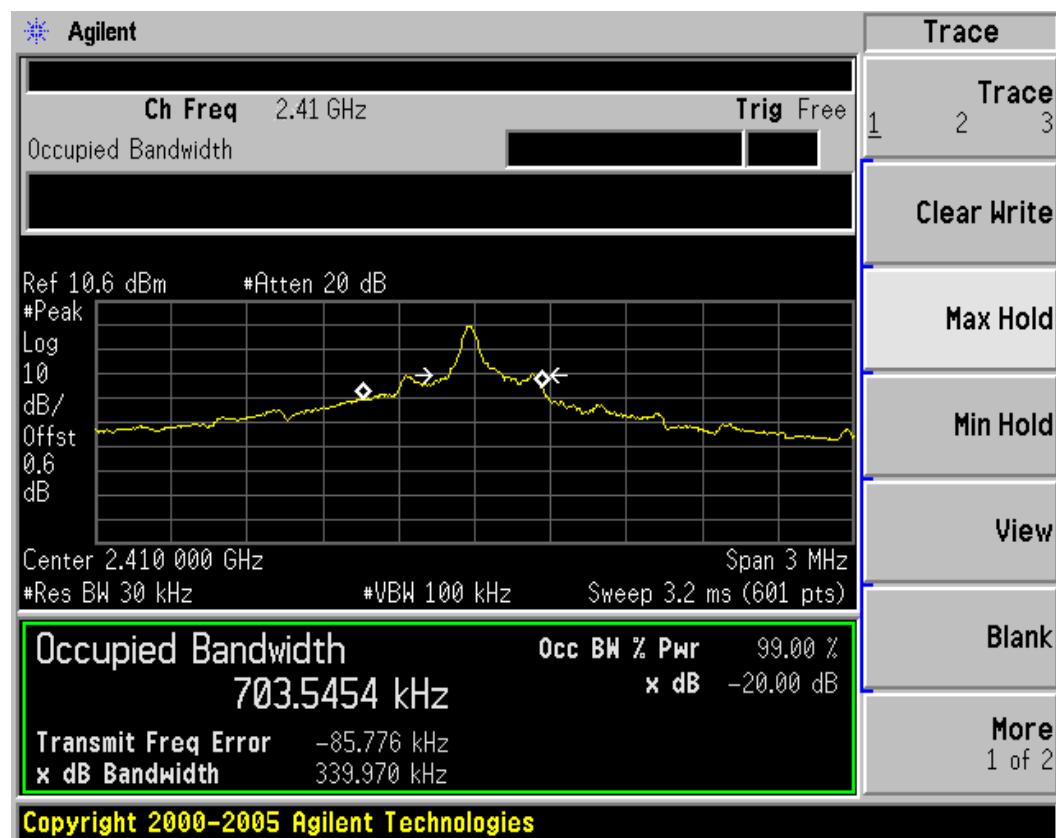
4.3. Test Procedure

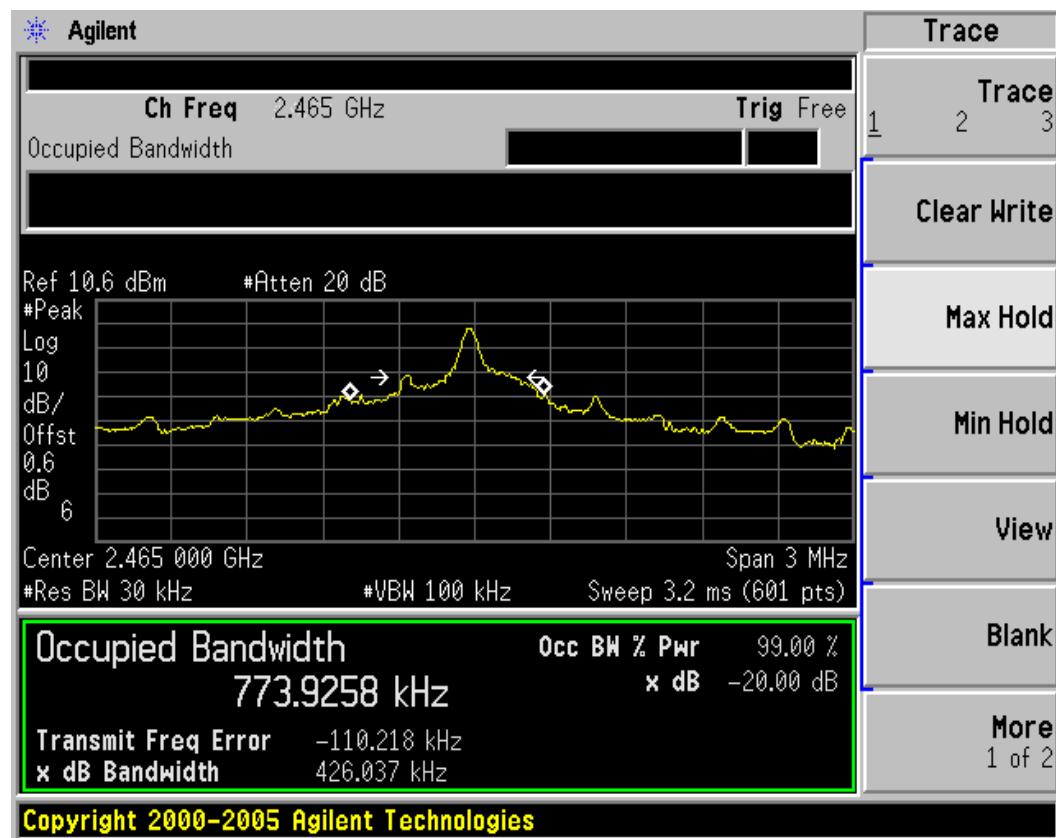
If antenna is detachable bandwidth measurements shall be performed at the antenna connector (conducted measurement) when the transmitter is adjusted in accordance with the tune-up procedure, if applicable. The RF output terminals are connected to a spectrum analyzer. If required, a resistive matching network equal to the impedance specified or employed for the antenna is used as well as dc block and appropriate attenuators (50 Ohms). The electrical characteristics of the radio frequency load attached to the output terminals shall be stated, if applicable.

If radiated measurements are performed the same test setups and instruments are used as with radiated emission measurements for the appropriate frequency range.

The analyzer settings are specified by the test description of the appropriate test record(s).

4.4. Test Results





5. RESTRICTED BANDS OF OPERATION

5.1. Standard Applicable

Only spurious emissions are permitted in any of the frequency bands listed in CFR 47 Part 15, section 15.205(a) or IC RSS-210 Issue 8, section 2.2(a).

5.2. Test Equipment

| Item | Equipment | Manufacturer | Model No. | Serial No. | Cal. Data | Due Data |
|------|-------------------|-----------------|-----------|------------|------------|------------|
| 1 | Spectrum Analyzer | Agilent | E4407B | MY41440292 | 2012-06-18 | 2013-06-17 |
| 2 | Test Receiver | Rohde & Schwarz | ESCS30 | 828985/018 | 2012-06-18 | 2013-06-17 |
| 3 | Loop antenna | EMCO | 6502 | 0042963 | 2012-06-18 | 2013-06-17 |
| 4 | Log per Antenna | Schwarzbeck | VULB9163 | 142 | 2012-06-18 | 2013-06-17 |
| 5 | Horn-antenna | SCHWARZBECK | BBHA9120D | D:266 | 2012-06-18 | 2013-06-17 |
| 6 | DC Filter | MPE | 23872C | N/A | 2012-06-18 | 2013-06-17 |

5.3. Test Procedure

Radiated emission in fully or semi anechoic room is measured in the frequency range from 30 MHz to the maximum frequency as specified in CFR 47 Part 15 section 15.33.

Measurements are made in both the horizontal and vertical planes of polarization in a fully anechoic room using a spectrum analyzer with the detector function set to peak and resolution as well as video bandwidth set to 100 kHz (below 1 GHz) or 1 MHz (above 1 GHz).

Testing up to 1 GHz is performed with a linear polarized logarithmic periodic antenna combined with a 4:1 broadband dipole ("Trilog broadband antenna"). For testing above 1 GHz horn antennas are used.

All tests below 8.2 GHz are performed at a test distance D of 3 meters. For higher frequencies the test distance may be reduced (e.g. to 1 meter) due to the sensitivity of the measuring instrument(s) and the test results are calculated according to CFR 47 Part 15 section 15.31(f)(1) using an extrapolation factor of 20 dB/decade. If required, preamplifiers are used for the whole frequency range. Special care is taken to avoid overload, using appropriate attenuators and filters, if necessary.

If the radiated emission limits are expressed in terms of the average value of the emission there also is a peak limit corresponding to 20 dB above the maximum permitted average limit. Additionally, if pulsed operation is employed, the average field strength is determined by averaging over one complete pulse train, including blanking intervals, as specified in CFR 47 Part 15 section 15.35(c). If the pulse train exceeds 0.1 second that

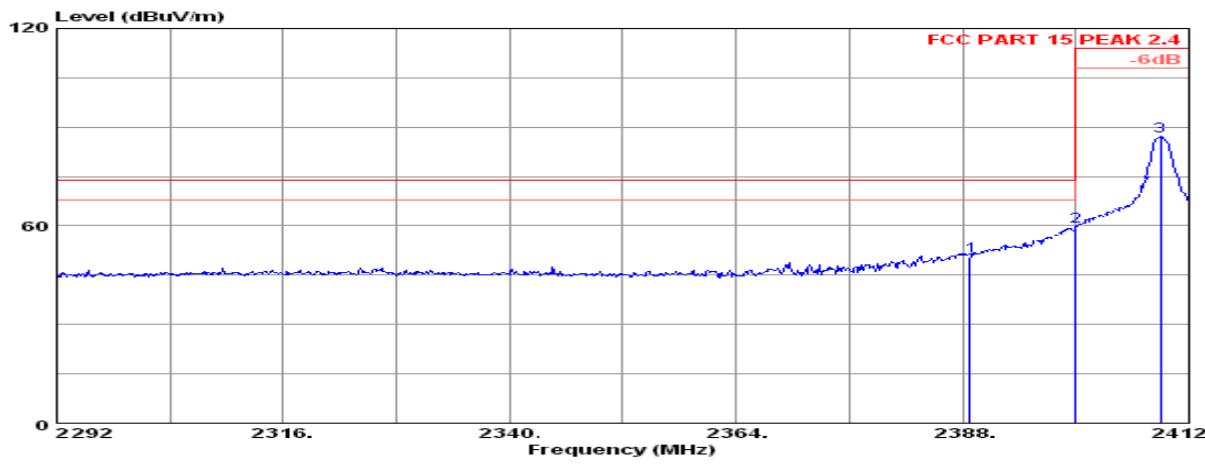
0.1 second interval during which the value of the emission is at its maximum is selected for calculation. The pulse train correction is added to the peak value of the emission to get the average value.

Hand-held or body-worn devices are rotated through three orthogonal axes to determine which attitude and configuration produces the highest emission relative to the limit and therefore shall be used for final testing.

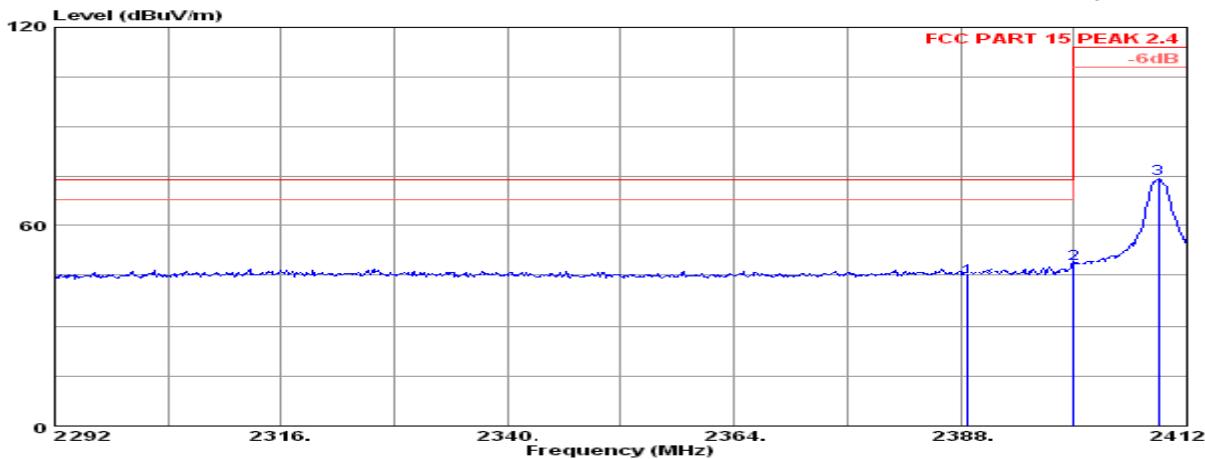
During testing the EUT is rotated all around to find the maximum levels of emissions. Equipment and cables are placed and moved within the range of position likely to find their maximum emissions.

For final testing below 1 GHz an open field test-site is used and the plots recorded in the fully or semi anechoic room are indicated as pre-scans.

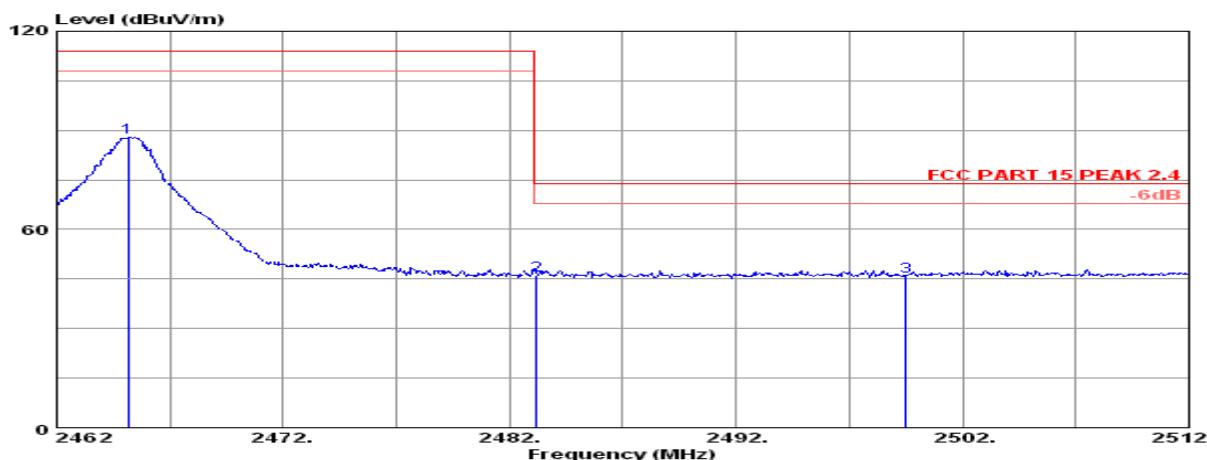
5.4. Test Results



| Freq. (MHz) | Level (dB _{uV/m}) | Read Level (dB _{uV}) | Ant. Fac (dB/m) | Pre. Fac (dB) | Cab.Los (dB) | Over limit (dB) | Limits | | |
|----------------|--------------------------------|-----------------------------------|--------------------|------------------|-----------------|-----------------------|--------|-----------|------------|
| | | | | | | | Remark | Pol/Phase | |
| 2390.00 | 51.82 | 55.93 | 27.87 | 35.86 | 3.88 | -22.18 | 74.00 | Peak | Horizontal |
| 2390.00 | 35.38 | 39.49 | 27.87 | 35.86 | 3.88 | -18.62 | 54.00 | Average | Horizontal |
| 2400.00 | 59.79 | 63.89 | 27.88 | 35.87 | 3.89 | -14.21 | 74.00 | Peak | Horizontal |
| 2400.00 | 41.22 | 45.32 | 27.88 | 35.87 | 3.89 | -12.78 | 54.00 | Average | Horizontal |
| 2410.00 | 87.08 | 91.18 | 27.88 | 35.87 | 3.89 | -26.92 | 114.00 | Peak | Horizontal |
| 2410.00 | 71.84 | 75.94 | 27.88 | 35.87 | 3.89 | -22.16 | 94.00 | Average | Horizontal |

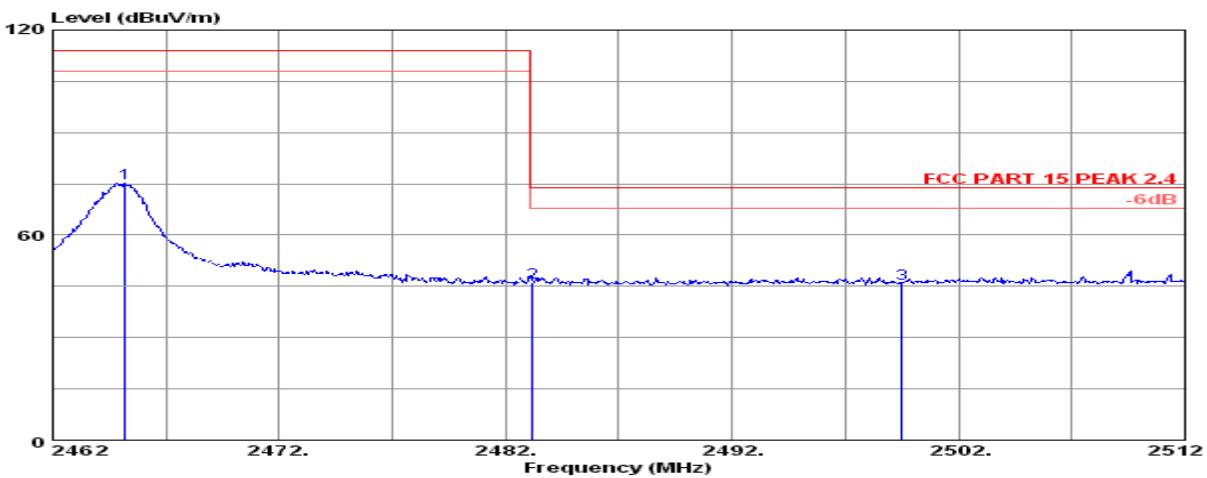


| Freq. (MHz) | Level (dB _{uV/m}) | Read Level (dB _{uV}) | Ant. Fac (dB/m) | Pre. Fac (dB) | Cab.Los (dB) | Over limit (dB) | Limits | | |
|----------------|--------------------------------|-----------------------------------|--------------------|------------------|-----------------|-----------------------|--------|-----------|----------|
| | | | | | | | Remark | Pol/Phase | |
| 2390.00 | 46.21 | 50.32 | 27.87 | 35.86 | 3.88 | -27.79 | 74.00 | Peak | Vertical |
| 2390.00 | 30.42 | 34.53 | 27.87 | 35.86 | 3.88 | -23.58 | 54.00 | Average | Vertical |
| 2400.00 | 49.08 | 53.18 | 27.88 | 35.87 | 3.89 | -24.92 | 74.00 | Peak | Vertical |
| 2400.00 | 32.85 | 36.95 | 27.88 | 35.87 | 3.89 | -21.15 | 54.00 | Average | Vertical |
| 2410.00 | 74.07 | 78.17 | 27.88 | 35.87 | 3.89 | -39.93 | 114.00 | Peak | Vertical |
| 2410.00 | 61.35 | 65.45 | 27.88 | 35.87 | 3.89 | -32.65 | 94.00 | Average | Vertical |



Site no. : RF Chamber
Dis. / Ant. : 3m 3115(0911) Data no. : 3
Limit : FCC PART 15 PEAK 2.4 Ant. pol. : HORIZONTAL
Env. / Ins. : 23°C/54% Engineer : Leo-Li

| Freq. (MHz) | Level (dBuV/m) | Read Level (dBuV) | Ant. Fac (dB/m) | Pre. Fac (dB) | Cab.Los (dB) | Over limit (dB) | Limits | | |
|----------------|-------------------|----------------------|--------------------|------------------|-----------------|-----------------------|--------|-----------|----------|
| | | | | | | | Remark | Pol/Phase | |
| 2465.00 | 88.01 | 92.28 | 27.70 | 35.86 | 3.89 | -25.99 | 114.00 | Peak | Vertical |
| 2465.00 | 72.66 | 76.93 | 27.70 | 35.86 | 3.89 | -21.34 | 94.00 | Average | Vertical |
| 2483.50 | 46.06 | 50.15 | 27.88 | 35.87 | 3.90 | -27.94 | 74.00 | Peak | Vertical |
| 2483.50 | 39.32 | 43.41 | 27.88 | 35.87 | 3.90 | -14.68 | 54.00 | Average | Vertical |
| 2500.00 | 46.41 | 50.49 | 27.88 | 35.87 | 3.91 | -27.59 | 74.00 | Peak | Vertical |
| 2500.00 | 33.84 | 37.92 | 27.88 | 35.87 | 3.91 | -20.16 | 54.00 | Average | Vertical |



Site no. : RF Chamber Data no. : 3
Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL
Limit : FCC PART 15 PEAK 2.4

| Freq. (MHz) | Level (dBuV/m) | Read Level (dBuV) | Ant. Fac (dB/m) | Pre. Fac (dB) | Cab.Los (dB) | Over limit (dB) | Limits | | |
|----------------|-------------------|----------------------|--------------------|------------------|-----------------|-----------------------|--------|-----------|----------|
| | | | | | | | Remark | Pol/Phase | |
| 2465.00 | 75.18 | 79.45 | 27.70 | 35.86 | 3.89 | -38.82 | 114.00 | Peak | Vertical |
| 2465.00 | 72.66 | 76.93 | 27.70 | 35.86 | 3.89 | -21.34 | 94.00 | Average | Vertical |
| 2483.50 | 45.98 | 50.07 | 27.88 | 35.87 | 3.90 | -28.02 | 74.00 | Peak | Vertical |
| 2483.50 | 39.32 | 43.41 | 27.88 | 35.87 | 3.90 | -14.68 | 54.00 | Average | Vertical |
| 2500.00 | 45.34 | 49.42 | 27.88 | 35.87 | 3.91 | -28.66 | 74.00 | Peak | Vertical |
| 2500.00 | 33.84 | 37.92 | 27.88 | 35.87 | 3.91 | -20.16 | 54.00 | Average | Vertical |

6. RADIATED EMISSIONS (TRANSMITTER)

6.1. Standard Applicable

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 to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a), IC RSS-210 Issue 7, section A2.9(b) and 15.249 limit in the table below has to be followed.

| Fundamental Frequency | Field Strength of fundamental (millivolts/meter) | Field Strength of harmonics (micorvolts/meter) |
|-----------------------|--|--|
| 902-928MHz | 50 | 500 |
| 2400-2483.5MHz | 50 | 500 |
| 5725-5875MHz | 50 | 500 |
| 24.0-24.25GHz | 250 | 2500 |

| Frequencies (MHz) | Field Strength (micorvolts/meter) | Measurement Distance (meters) |
|-------------------|-----------------------------------|-------------------------------|
| 0.009~0.490 | 2400/F(KHz) | 300 |
| 0.490~1.705 | 24000/F(KHz) | 30 |
| 1.705~30.0 | 30 | 30 |
| 30~88 | 100 | 3 |
| 88~216 | 150 | 3 |
| 216~960 | 200 | 3 |
| Above 960 | 500 | 3 |

6.2. Test Equipment List and Details

| Item | Equipment | Manufacturer | Model No. | Serial No. | Cal. Data | Due Data |
|------|-------------------|-----------------|-----------|------------|------------|------------|
| 1 | Spectrum Analyzer | Agilent | E4407B | MY41440292 | 2012-06-18 | 2013-06-17 |
| 2 | Test Receiver | Rohde & Schwarz | ESCS30 | 828985/018 | 2012-06-18 | 2013-06-17 |
| 3 | Loop antenna | EMCO | 6502 | 0042963 | 2012-06-18 | 2013-06-17 |
| 4 | Log per Antenna | Schwarzbeck | VULB9163 | 142 | 2012-06-18 | 2013-06-17 |
| 5 | Horn-antenna | SCHWARZBECK | BBHA9120D | D:266 | 2012-06-18 | 2013-06-17 |
| 6 | DC Filter | MPE | 23872C | N/A | 2012-06-18 | 2013-06-17 |

6.3. Measuring Instruments and Setting

The following table is the setting of spectrum analyzer and receiver.

| Spectrum Parameter | Setting |
|------------------------|--------------------------------|
| Attenuation | Auto |
| Start ~ Stop Frequency | 9kHz~150kHz/RB 200Hz for QP |
| Start ~ Stop Frequency | 150kHz~30MHz/RB 9kHz for QP |
| Start ~ Stop Frequency | 30MHz~1000MHz/RB 120kHz for QP |

| Spectrum Parameter | Setting |
|---|---|
| Attenuation | Auto |
| Start Frequency | 1000 MHz |
| Stop Frequency | 10th carrier harmonic |
| RB / VB (Emission in restricted band) | 1MHz/1MHz for Peak, 1MHz/10Hz for Average |
| RB / VB (Emission in non-restricted band) | 1000KHz/1000KHz for peak |

6.4. Test Procedures

Radiated emission in the frequency range 9 kHz to 30 MHz is measured using an active loop antenna. First the whole spectrum of emission caused by the equipment is recorded at a distance of 3 meters in a fully or semi anechoic room with the detector of the spectrum analyzer or EMI receiver set to peak. This configuration is also used for recording the spectrum of intentional radiators.

Hand-held or body-worn devices are rotated through three orthogonal axes to determine which attitude and configuration produces the highest emission relative to the limit and therefore shall be used for final testing.

EUT is rotated all around to find the maximum levels of emissions. Equipment and cables are placed and moved within the range of position likely to find their maximum emissions.

If worst case emission of the EUT cannot be recorded with EUT in standard position and loop antenna in vertical polarization the EUT (or the radiating part of the EUT) is rotated by 90 degrees instead of changing the loop antenna to horizontal polarization. This procedure is selected to minimize the influence of the environment (e.g. effects caused by the floor especially with longer distances).

Final measurement is performed at a test distance D of 30 meters using an open field test site. In case the regulation requires testing at other distances, the result is extrapolated by either making measurements at an additional distance D of 10 meters to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). In cases of very low emissions measurements are performed at shorter distances and results are extrapolated to the required distance. The provisions of CFR 47 Part 15 sections 15.31(d) and (f)(2) apply. According to CFR 47 Part 15 section 15.209(d) final measurement is performed with detector function set to quasi-peak except for the frequency bands 9 to 90 kHz and 110 to 490 kHz where, for non-pulsed operation, average detector is employed.

If the radiated emission limits are expressed in terms of the average value of the emission there also is a peak limit corresponding to 20 dB above the maximum permitted average limit. Additionally, if pulsed operation is employed, the average field strength is determined by averaging over one complete pulse train, including blanking intervals, as specified in CFR 47 Part 15 section 15.35(c). If the pulse train exceeds 0.1 second that 0.1 second interval during which the value of the emission is at its maximum is selected for calculation. The pulse train correction is added to the peak value of the emission to get the average value.

Radiated emission in fully or semi anechoic room is measured in the frequency range from 30 MHz to the maximum frequency as specified in CFR 47 Part 15 section 15.33.

Measurements are made in both the horizontal and vertical planes of polarization in a fully anechoic room using a spectrum analyzer with the detector function set to peak and resolution as well as video bandwidth set to 100 kHz (below 1 GHz) or 1 MHz (above 1 GHz).

Testing up to 1 GHz is performed with a linear polarized logarithmic periodic antenna combined with a 4:1 broadband dipole ("Trilog broadband antenna"). For testing above 1 GHz horn antennas are used.

All tests below 8.2 GHz are performed at a test distance D of 3 meters. For higher frequencies the test distance may be reduced (e.g. to 1 meter) due to the sensitivity of the measuring instrument(s) and the test results are calculated according to CFR 47 Part 15 section 15.31(f)(1) using an extrapolation factor of 20 dB/decade. If required, preamplifiers are used for the whole frequency range. Special care is taken to avoid overload, using appropriate attenuators and filters, if necessary.

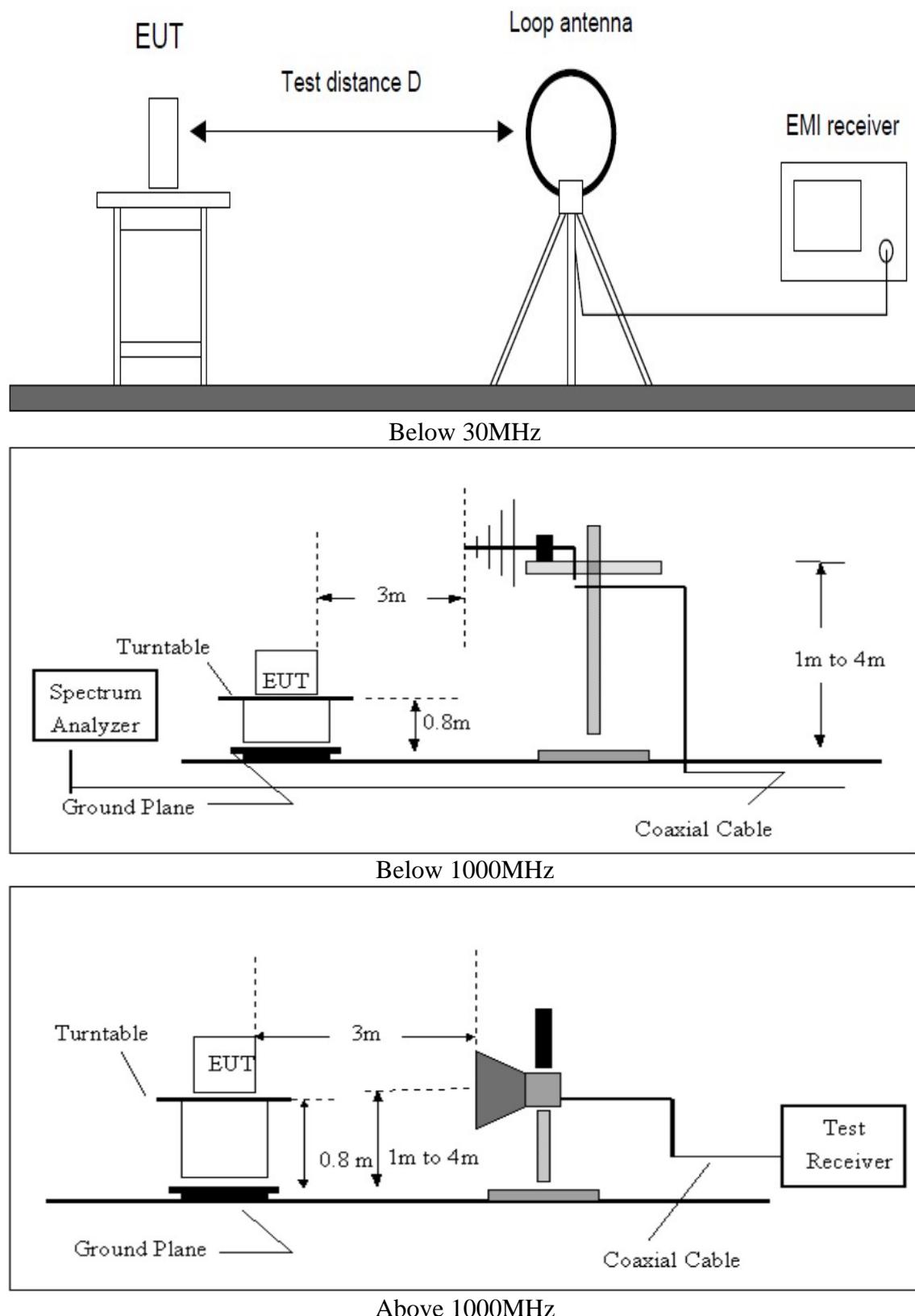
If the radiated emission limits are expressed in terms of the average value of the emission there also is a peak limit corresponding to 20 dB above the maximum permitted average limit. Additionally, if pulsed operation is employed, the average field strength is determined by averaging over one complete pulse train, including blanking intervals, as specified in CFR 47 Part 15 section 15.35(c). If the pulse train exceeds 0.1 second that 0.1 second interval during which the value of the emission is at its maximum is selected for calculation. The pulse train correction is added to the peak value of the emission to get the average value.

Hand-held or body-worn devices are rotated through three orthogonal axes to determine which attitude and configuration produces the highest emission relative to the limit and therefore shall be used for final testing.

During testing the EUT is rotated all around to find the maximum levels of emissions. Equipment and cables are placed and moved within the range of position likely to find their maximum emissions.

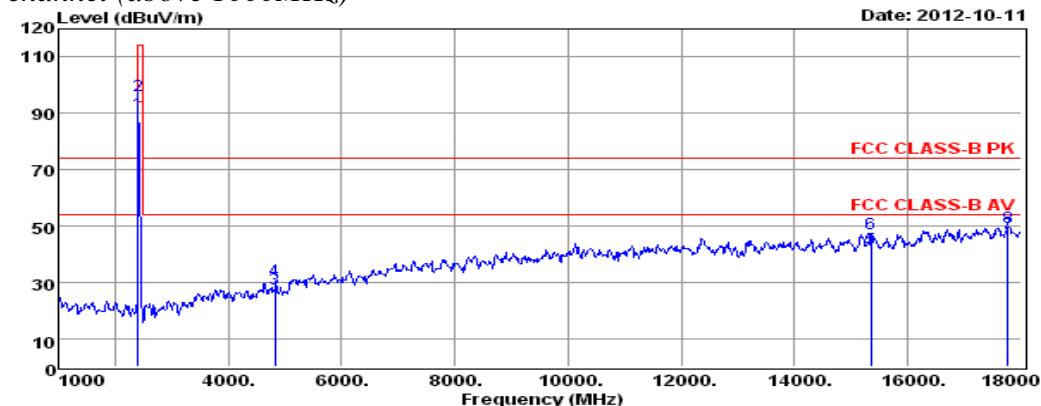
For final testing below 1 GHz an open field test-site is used and the plots recorded in the fully or semi anechoic room are indicated as pre-scans.

6.5. Test Setup



6.6. Test Data

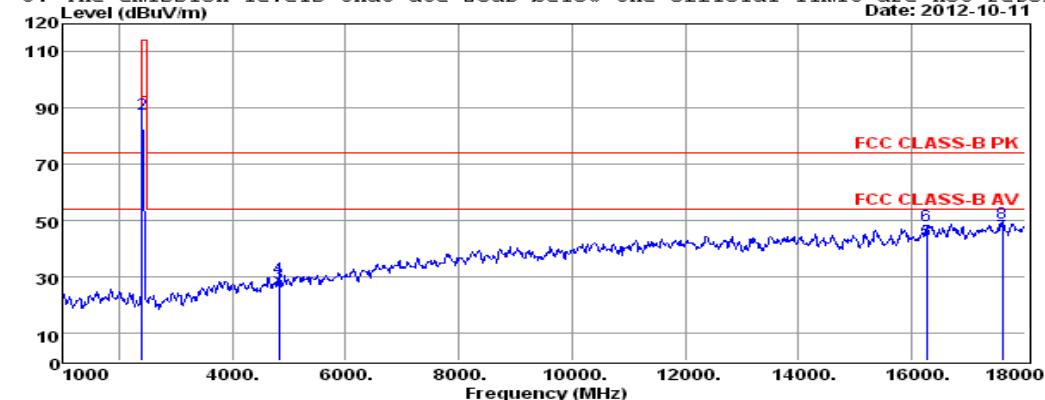
Low channel (above 1000MHz)



Env. / Ins: 24°C/56%
 EUT: RC Hobby Series
 M/N: H107
 Power Rating: DC 6V
 Test Mode: Tx2410
 Operator: KANO
 Memo:
 pol: VERTICAL

| Freq. | Reading | CabLos | AntFac | PreFac | Measured | Limit | Over | Remark |
|------------|---------|--------|--------|--------|----------|--------|--------|---------|
| MHz | dBuV | dB | dB/m | dB | dBuV/m | dBuV/m | dB | |
| 1 2410.00 | 94.41 | 3.88 | 27.87 | 35.86 | 90.30 | 94.00 | -3.70 | Average |
| 2 2410.00 | 100.30 | 3.88 | 27.87 | 35.86 | 96.19 | 114.00 | -17.81 | Peak |
| 3 4820.00 | 25.72 | 4.36 | 33.35 | 35.63 | 27.80 | 54.00 | -26.20 | Average |
| 4 4820.00 | 28.70 | 4.36 | 33.35 | 35.63 | 30.78 | 74.00 | -43.22 | Peak |
| 5 15348.00 | 32.50 | 5.94 | 38.29 | 34.59 | 42.14 | 54.00 | -11.86 | Average |
| 6 15348.00 | 37.74 | 5.94 | 38.29 | 34.59 | 47.38 | 74.00 | -26.62 | Peak |
| 7 17762.00 | 33.81 | 6.23 | 41.70 | 34.36 | 47.38 | 54.00 | -6.62 | Average |
| 8 17762.00 | 35.98 | 6.23 | 41.70 | 34.36 | 49.55 | 74.00 | -24.45 | Peak |

Note: 1. All readings are Quasi-peak values.
 2. Measured = Reading + Antenna Factor + Cable Loss - Amp Factor.
 3. The emission levels that are 20dB below the official limit are not reported.

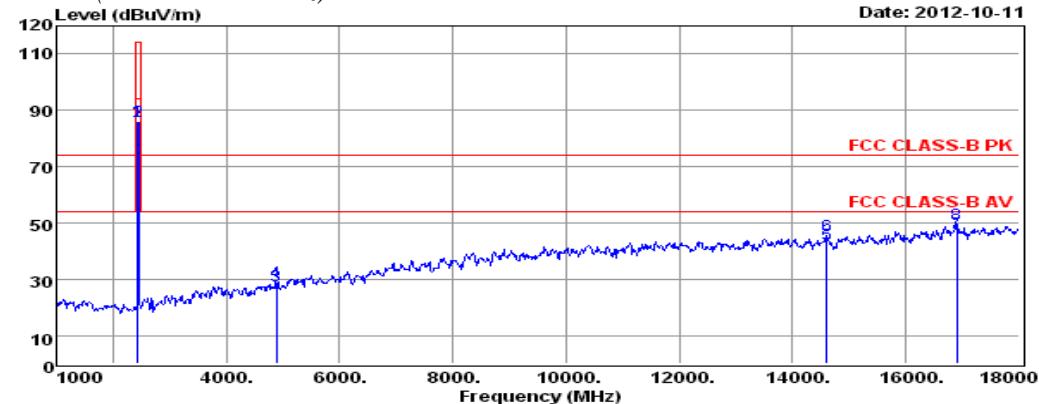


Env. / Ins: 24°C/56%
 EUT: RC Hobby Series
 M/N: H107
 Power Rating: DC 6V
 Test Mode: Tx2410
 Operator: KANO
 Memo:
 pol: HORIZONTAL

| Freq. | Reading | CabLos | AntFac | PreFac | Measured | Limit | Over | Remark |
|------------|---------|--------|--------|--------|----------|--------|--------|---------|
| MHz | dBuV | dB | dB/m | dB | dBuV/m | dBuV/m | dB | |
| 1 2410.00 | 89.10 | 3.88 | 27.87 | 35.86 | 84.99 | 94.00 | -9.01 | Average |
| 2 2410.00 | 91.83 | 3.88 | 27.87 | 35.86 | 87.72 | 114.00 | -26.28 | Peak |
| 3 4820.00 | 25.67 | 4.36 | 33.35 | 35.63 | 27.75 | 54.00 | -26.25 | Average |
| 4 4820.00 | 27.41 | 4.36 | 33.35 | 35.63 | 29.49 | 74.00 | -44.51 | Peak |
| 5 16266.00 | 32.78 | 6.05 | 38.57 | 34.50 | 42.90 | 54.00 | -11.10 | Average |
| 6 16266.00 | 37.93 | 6.05 | 38.57 | 34.50 | 48.05 | 74.00 | -25.95 | Peak |
| 7 17592.00 | 31.39 | 6.21 | 41.35 | 34.37 | 44.58 | 54.00 | -9.42 | Average |
| 8 17592.00 | 35.78 | 6.21 | 41.35 | 34.37 | 48.97 | 74.00 | -25.03 | Peak |

Note: 1. All readings are Quasi-peak values.
 2. Measured = Reading + Antenna Factor + Cable Loss - Amp Factor.
 3. The emission levels that are 20dB below the official limit are not reported.

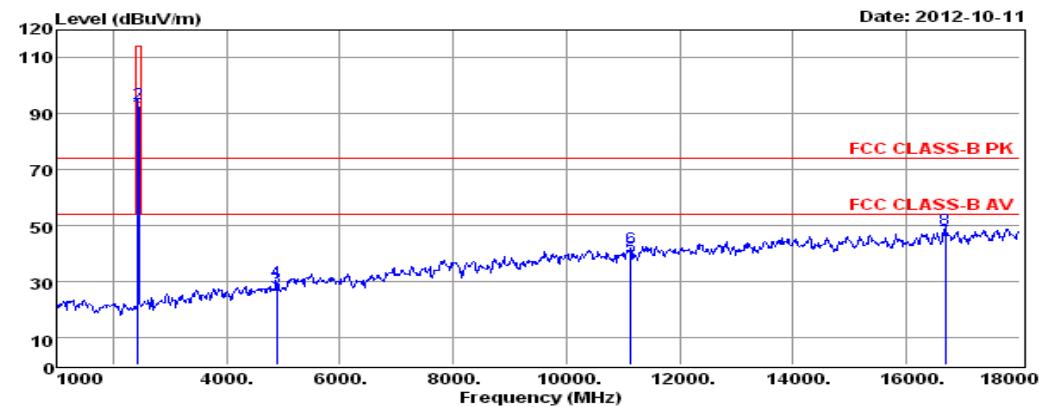
Mid channel (above 1000MHz)



Env. / Ins: 24°C/56%
 EUT: RC Hobby Series
 M/N: H107
 Power Rating: DC 6V
 Test Mode: Tx2440
 Operator: KANO
 Memo:
 pol: VERTICAL

| Freq. | Reading | CabLos | | AntFac | PreFac | Measured | Limit | Over | Remark |
|------------|---------|--------|------------------|--------|--------|----------|--------|---------|--------|
| | | MHz | dB _{UV} | dB | dB/m | | | | |
| 1 2440.00 | 90.09 | 3.89 | 27.78 | 35.86 | 85.90 | 94.00 | -8.10 | Average | |
| 2 2440.00 | 90.45 | 3.89 | 27.78 | 35.86 | 86.26 | 114.00 | -27.74 | Peak | |
| 3 4880.00 | 25.22 | 4.38 | 33.50 | 35.62 | 27.48 | 54.00 | -26.52 | Average | |
| 4 4880.00 | 26.93 | 4.38 | 33.50 | 35.62 | 29.19 | 74.00 | -44.81 | Peak | |
| 5 14600.00 | 31.64 | 5.87 | 39.43 | 34.67 | 42.27 | 54.00 | -11.73 | Average | |
| 6 14600.00 | 35.04 | 5.87 | 39.43 | 34.67 | 45.67 | 74.00 | -28.33 | Peak | |
| 7 16895.00 | 34.60 | 6.13 | 39.89 | 34.44 | 46.18 | 54.00 | -7.82 | Average | |
| 8 16895.00 | 38.05 | 6.13 | 39.89 | 34.44 | 49.63 | 74.00 | -24.37 | Peak | |

Note: 1. All readings are Quasi-peak values.
 2. Measured = Reading + Antenna Factor + Cable Loss - Amp Factor.
 3. The emission levels that are 20dB below the official limit are not reported.

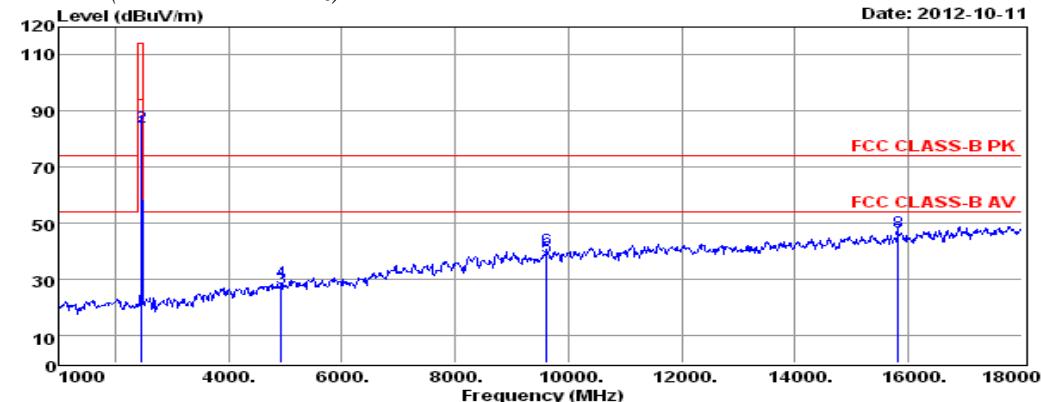


Env. / Ins: 24°C/56%
 EUT: RC Hobby Series
 M/N: H107
 Power Rating: DC 6V
 Test Mode: Tx2440
 Operator: KANO
 Memo:
 pol: HORIZONTAL

| Freq. | Reading | CabLos | | AntFac | PreFac | Measured | Limit | Over | Remark |
|------------|---------|--------|------------------|--------|--------|----------|--------|---------|--------|
| | | MHz | dB _{UV} | dB | dB/m | | | | |
| 1 2440.00 | 94.48 | 3.89 | 27.78 | 35.86 | 90.29 | 94.00 | -3.71 | Average | |
| 2 2440.00 | 97.99 | 3.89 | 27.78 | 35.86 | 93.80 | 114.00 | -20.20 | Peak | |
| 3 4880.00 | 25.41 | 4.38 | 33.50 | 35.62 | 27.67 | 54.00 | -26.33 | Average | |
| 4 4880.00 | 27.84 | 4.38 | 33.50 | 35.62 | 30.10 | 74.00 | -43.90 | Peak | |
| 5 11132.00 | 30.47 | 5.59 | 37.89 | 35.01 | 38.94 | 54.00 | -15.06 | Average | |
| 6 11132.00 | 33.43 | 5.59 | 37.89 | 35.01 | 41.90 | 74.00 | -32.10 | Peak | |
| 7 16691.00 | 33.50 | 6.10 | 39.46 | 34.46 | 44.60 | 54.00 | -9.40 | Average | |
| 8 16691.00 | 37.31 | 6.10 | 39.46 | 34.46 | 48.41 | 74.00 | -25.59 | Peak | |

Note: 1. All readings are Quasi-peak values.
 2. Measured = Reading + Antenna Factor + Cable Loss - Amp Factor.
 3. The emission levels that are 20dB below the official limit are not reported.

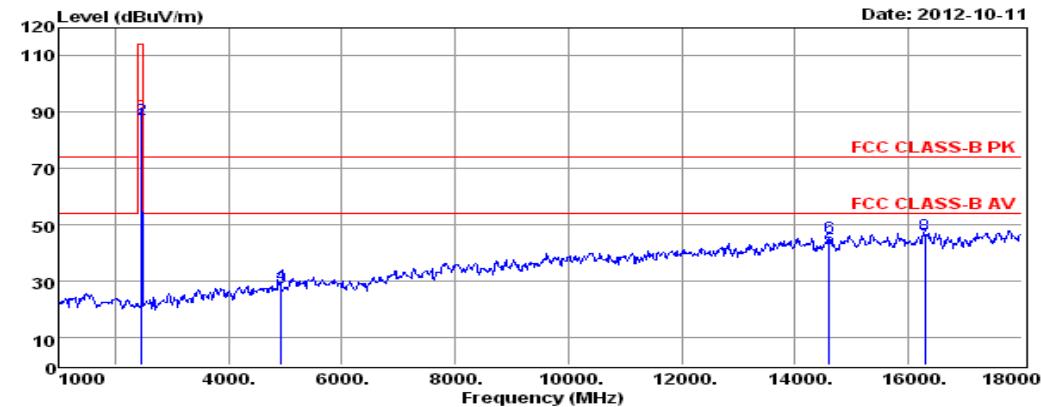
High channel (above 1000MHz)



Env. / Ins: 24°C/56%
 EUT: RC Hobby Series
 M/N: H107
 Power Rating: DC 6V
 Test Mode: Tx2465
 Operator: KANO
 Memo:
 pol: VERTICAL

| Freq. MHz | Reading dBuV | CabLos | | AntFac dB | PreFac dB | Measured dBuV/m | Limit dBuV/m | Over dB | Remark |
|--------------|-----------------|--------|-------|--------------|--------------|--------------------|-----------------|------------|--------|
| | | MHz | dB | | | | | | |
| 1 2465.00 | 87.10 | 3.89 | 27.70 | 35.86 | 82.83 | 94.00 | -11.17 | Average | |
| 2 2465.00 | 88.69 | 3.89 | 27.70 | 35.86 | 84.42 | 114.00 | -29.58 | Peak | |
| 3 4930.00 | 24.50 | 4.39 | 33.62 | 35.61 | 26.90 | 54.00 | -27.10 | Average | |
| 4 4930.00 | 26.60 | 4.39 | 33.62 | 35.61 | 29.00 | 74.00 | -45.00 | Peak | |
| 5 9619.00 | 29.92 | 5.31 | 38.02 | 35.15 | 38.10 | 54.00 | -15.90 | Average | |
| 6 9619.00 | 32.37 | 5.31 | 38.02 | 35.15 | 40.55 | 74.00 | -33.45 | Peak | |
| 7 15824.00 | 35.00 | 6.00 | 37.65 | 34.55 | 44.10 | 54.00 | -9.90 | Average | |
| 8 15824.00 | 37.72 | 6.00 | 37.65 | 34.55 | 46.82 | 74.00 | -27.18 | Peak | |

Note: 1. All readings are Quasi-peak values.
 2. Measured = Reading + Antenna Factor + Cable Loss - Amp Factor.
 3. The emission levels that are 20dB below the official limit are not reported.

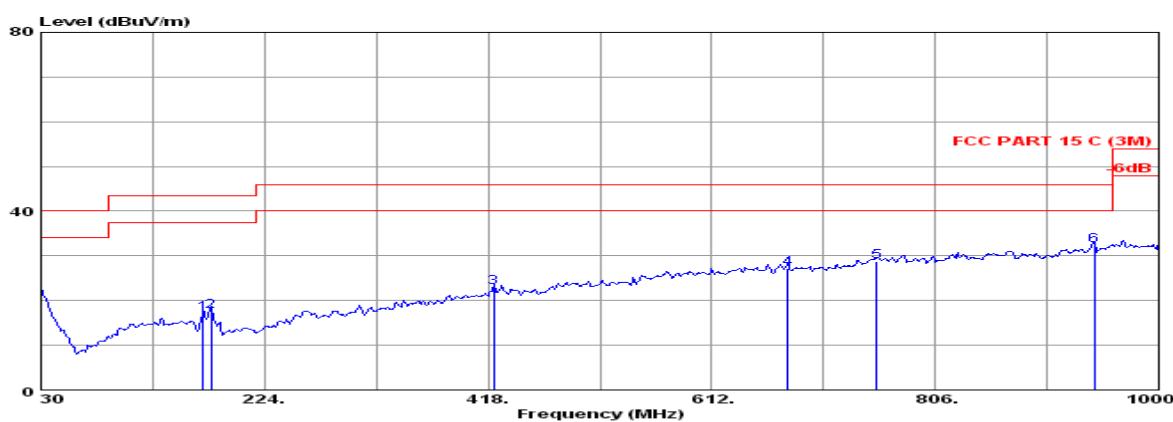


Env. / Ins: 24°C/56%
 EUT: RC Hobby Series
 M/N: H107
 Power Rating: DC 6V
 Test Mode: Tx2465
 Operator: KANO
 Memo:
 pol: HORIZONTAL

| Freq. MHz | Reading dBuV | CabLos | | AntFac dB | PreFac dB | Measured dBuV/m | Limit dBuV/m | Over dB | Remark |
|--------------|-----------------|--------|-------|--------------|--------------|--------------------|-----------------|------------|--------|
| | | MHz | dB | | | | | | |
| 1 2465.00 | 90.32 | 3.89 | 27.70 | 35.86 | 86.05 | 94.00 | -7.95 | Average | |
| 2 2465.00 | 91.87 | 3.89 | 27.70 | 35.86 | 87.60 | 114.00 | -26.40 | Peak | |
| 3 4930.00 | 25.20 | 4.39 | 33.62 | 35.61 | 27.60 | 54.00 | -26.40 | Average | |
| 4 4930.00 | 26.20 | 4.39 | 33.62 | 35.61 | 28.60 | 74.00 | -45.40 | Peak | |
| 5 14600.00 | 30.98 | 5.87 | 39.43 | 34.67 | 41.61 | 54.00 | -12.39 | Average | |
| 6 14600.00 | 35.04 | 5.87 | 39.43 | 34.67 | 45.67 | 74.00 | -28.33 | Peak | |
| 7 16283.00 | 33.30 | 6.05 | 38.61 | 34.50 | 43.46 | 54.00 | -10.54 | Average | |
| 8 16283.00 | 36.40 | 6.05 | 38.61 | 34.50 | 46.56 | 74.00 | -27.44 | Peak | |

Note: 1. All readings are Quasi-peak values.
 2. Measured = Reading + Antenna Factor + Cable Loss - Amp Factor.
 3. The emission levels that are 20dB below the official limit are not reported.

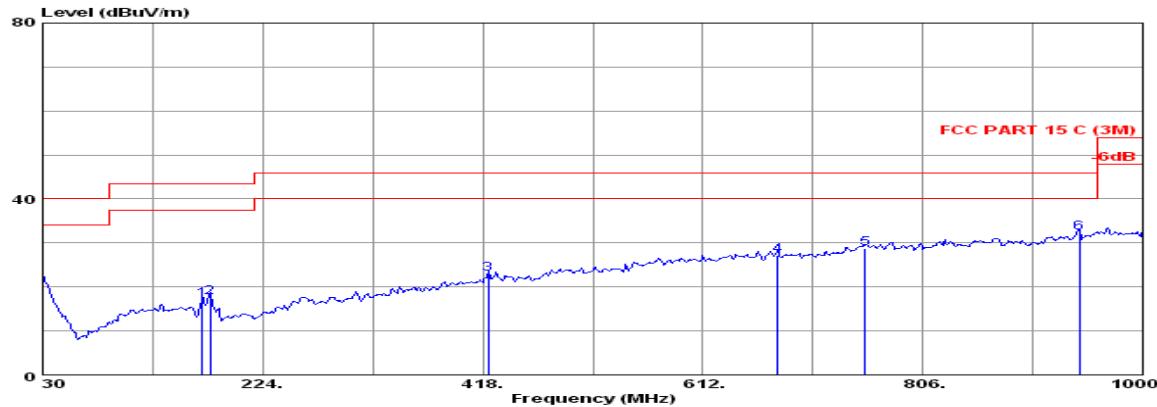
(30MHz-1000MHz)



Site no. : 3m Chamber Data no. : 2
 Limit : FCC PART 15 C (3M) Ant. pol. : HORIZONTAL
 Env. / Ins. : 24°C/56% Engineer : Willis

| No. | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Emission | | | |
|-----|----------------|--------------------------|-----------------------|-------------------|-------------------|--------------------|----------------|
| | | | | Reading (dBuV) | Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) |
| 1 | 80.430 | 7.80 | 0.99 | 7.28 | 16.07 | 40.00 | 23.93 |
| 2 | 134.761 | 12.10 | 1.13 | 1.77 | 15.00 | 43.50 | 28.50 |
| 3 | 431.580 | 17.45 | 3.11 | 3.84 | 24.40 | 46.00 | 21.60 |
| 4 | 552.831 | 19.29 | 3.85 | 3.60 | 26.74 | 46.00 | 19.26 |
| 5 | 750.710 | 22.00 | 4.70 | 3.11 | 29.81 | 46.00 | 16.19 |
| 6 | 875.840 | 22.80 | 5.13 | 3.43 | 31.36 | 46.00 | 14.64 |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 2
 Limit : FCC PART 15 C (3M) Ant. pol. : HORIZONTAL
 Env. / Ins. : 24°C/56% Engineer : Willis

| No. | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Emission | | | |
|-----|----------------|--------------------------|-----------------------|-------------------|-------------------|--------------------|----------------|
| | | | | Reading (dBuV) | Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) |
| 1 | 170.655 | 10.10 | 1.38 | 5.70 | 17.18 | 43.50 | 26.32 |
| 2 | 177.440 | 9.55 | 1.46 | 6.70 | 17.71 | 43.50 | 25.79 |
| 3 | 422.850 | 17.15 | 3.06 | 2.74 | 22.95 | 46.00 | 23.05 |
| 4 | 677.950 | 20.72 | 4.42 | 2.12 | 27.26 | 46.00 | 18.74 |
| 5 | 755.560 | 22.00 | 4.72 | 1.94 | 28.66 | 46.00 | 17.34 |
| 6 | 943.741 | 23.92 | 5.37 | 2.96 | 32.25 | 46.00 | 13.75 |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Note:

1. Radiated emissions measured in frequency range from 9 kHz to 26GHz were made with an instrument using Peak detector mode.
2. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported. Measuring frequencies from 9 kHz to the 1GHz. No emission found between lowest internal used/generated frequency to 30 MHz.
3. Measurements above show only up to 6 maximum emissions noted.
4. The IF bandwidth of SPA 30MHz to 1GHz was 100KHz.
5. Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB. No emission found above 18GHz.

7. ANTENNA REQUIREMENT

7.1 Standard Applicable

7.1.1. Standard Applicable

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.

7.1.2. Antenna Construction

Section 15.203 of the rules states that the subject device must meet at least one of the following criteria:

- (a) Antenna must be permanently attached to the unit.
- (b) Antenna must use a unique type of connector to attach to the EUT.
- (c) Unit must be professionally installed. Installer shall be responsible for verifying that the correct antenna is employed with the unit.

7.1.3. Results

EUT uses a PCB antenna with 1.8dBi gain.

Compliance.

8. MANUFACTURER/ APPROVAL HOLDER DECLARATION

The following identical model(s):

| | |
|------|----|
| H203 | -- |
|------|----|

All the models are similar except their model name.

Belong to the tested device:

Product description : RC Hobby Series

Model name : H107

No additional models were tested.

-----THE END OF REPORT-----