



## FCC Part 15.247

**RSS-247 Issue 2, Feb 2017; RSS-Gen Issue 5, Mar 2019**

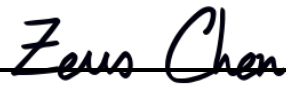
### TEST REPORT

For

**Redpine Signals Inc**

2107 N First Street, Suite 540, San Jose, CA 95131-2019, USA

**FCC ID: XF6-M7DB7**  
**IC: 8407A-M7DB7**

|                 |                                                                                                                                                                                                      |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Report Type     | Original Report                                                                                                                                                                                      |
| Product Name:   | Dual Band 802.11 a/b/g/n, Bluetooth 5.0 SIP Module                                                                                                                                                   |
| Model Name:     | M7DB                                                                                                                                                                                                 |
| Report Number : | RLK200203002-00D                                                                                                                                                                                     |
| Report Date :   | 2020/05/18                                                                                                                                                                                           |
| Reviewed By :   | Zeus Chen                                                                                                       |
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**Note:** This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Linkou Laboratory)

## Revision History

| Revision | Report Number    | Issue Date | Description     |
|----------|------------------|------------|-----------------|
| 1.0      | RLK200203002-00D | 2020/05/18 | Original Report |

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# 1 General Information

## 1.1 Product Description for Equipment under Test (EUT)

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Applicant                     | Redpine Signals Inc<br>2107 N First Street, Suite 540, San Jose, CA 95131-2019, USA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Manufacturer                  | Redpine Signals Inc<br>2107 N First Street, Suite 540, San Jose, CA 95131-2019, USA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Brand Name                    |  REDPINE SIGNALS<br>DRIVING WIRELESS CONVERGENCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Product (Equipment)           | Dual Band 802.11 a/b/g/n, Bluetooth 5.0 SIP Module                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Model Name                    | M7DB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Frequency Range               | IEEE 802.11b/g/n HT20: 2412-2462 MHz;<br>IEEE 802.11n HT40: 2422-2452 MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Number of Channels            | IEEE 802.11b/g/n HT20: 11 Channels; IEEE 802.11n HT40: 9 Channels                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Output Power                  | <p>&lt;Dipole Antenna: TAOGlas/GW.71.5153&gt;<br/>           IEEE 802.11b: 17.21 dBm (0.0526 W)<br/>           IEEE 802.11g: 24.56 dBm (0.2858 W)<br/>           IEEE 802.11n HT20: 24.74 dBm (0.2979 W)<br/>           IEEE 802.11n HT40: 21.26 dBm (0.1337 W)</p> <p>&lt;Dipole Antenna: Inside WLAN/PRO-IS-299&gt;<br/>           IEEE 802.11b: 18.76 dBm (0.0752 W)<br/>           IEEE 802.11g: 24.65 dBm (0.2917 W)<br/>           IEEE 802.11n HT20: 24.77 dBm (0.2999 W)<br/>           IEEE 802.11n HT40: 22.94 dBm (0.1968 W)</p> <p>&lt;PCB Antenna: Redpine Signals/RSIA7&gt;<br/>           IEEE 802.11b: 16.32 dBm (0.0429 W)<br/>           IEEE 802.11g: 24.35 dBm (0.2723 W)<br/>           IEEE 802.11n HT20: 24.74 dBm (0.2979 W)<br/>           IEEE 802.11n HT40: 18.42 dBm (0.0659 W)</p> <p>&lt;PIFA Antenna: SMARTEQ/4211613980&gt;<br/>           IEEE 802.11b: 17.21 dBm (0.0526 W)<br/>           IEEE 802.11g: 24.65 dBm (0.2917 W)<br/>           IEEE 802.11n HT20: 24.74 dBm (0.2979 W)<br/>           IEEE 802.11n HT40: 22.94 dBm (0.1968 W)</p> |
| Modulation Type               | IEEE 802.11b: DSSS; IEEE 802.11 g/n HT20/n HT40: OFDM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Related Submittal(s)/Grant(s) | FCC Part 15.247 DTS with FCC ID: XF6-M7DB7<br>FCC Part 15.247 DSS with FCC ID: XF6-M7DB7<br>FCC Part 15.247 NII with FCC ID: XF6-M7DB7<br>IC RSS-247 DTS with IC: 8407A-M7DB7<br>IC RSS-247 FHSS with IC: 8407A-M7DB7<br>IC RSS-247 LE-LAN with IC: 8407A-M7DB7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Received Date                 | 2020-02-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Date of Test                  | 2020-02-10 to 2020-04-30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

\*All measurement and test data in this report was gathered from production sample serial number: 190914002(Assigned by BACL, Linkou Laboratory).

## 1.2 Operation Condition of EUT

|                                    |                                                                                                                                                                                                                                                   |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power Operation<br>(Voltage Range) | <input type="checkbox"/> AC 120 V/60 Hz<br><input type="checkbox"/> Adapter<br><input type="checkbox"/> By Power Cord.                                                                                                                            |
|                                    | <input checked="" type="checkbox"/> DC Type<br><input checked="" type="checkbox"/> DC Power Supply: 3.3V<br><input type="checkbox"/> Battery:<br><input type="checkbox"/> External from USB Cable<br><input type="checkbox"/> External DC Adapter |
|                                    | <input type="checkbox"/> Host System                                                                                                                                                                                                              |

## 1.3 Objective and Test Methodology

**The Objective of this Test Report was to document the compliance of the Redpine Signals Inc. Appliance (Model: M7DB) to the requirements of the following Standards:**

- Part 2, Subpart J, Part 15, Subparts A and C, section 15.247 of the Federal Communication Commission's rules.
- ANSI C63.10-2013 of the American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.
- RSS-Gen Issue 5, Mar 2019— General Requirements for Compliance of Radio Apparatus
- RSS-247 Issue 2, Feb 2017— Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices

## 1.4 Measurement Uncertainty

| Parameter                        | Expanded Measurement uncertainty |
|----------------------------------|----------------------------------|
| RF output power                  | $\pm 1.488$ dB                   |
| Occupied Channel Bandwidth       | $\pm 453.927$ Hz                 |
| RF Conducted Emission test       | $\pm 2.77$ dB                    |
| AC Power Line Conducted Emission | $\pm 2.66$ dB                    |
| Radiated Below 1G                | $\pm 3.57$ dB                    |
| Radiated Above 1G                | $\pm 5.32$ dB                    |

*The test results with statement of conformity, the decision rules are based on the specifications and standards. The test results will not take the measurement uncertainty into account.*

## 1.5 Environmental Conditions and Test Date

| Test Site           | Test Date                | Temperature (°C) | Relative Humidity (% RH) | Test Engineer |
|---------------------|--------------------------|------------------|--------------------------|---------------|
| Conduction (CON-01) | 2020-02-07               | 22.3             | 53                       | Blake Wang    |
| Radiated (966A)     | 2020-02-10 to 2020-03-23 | 19.5-22.9        | 58-62                    | Leo Cheng     |
| Conducted (TH-02)   | 2020-02-18 to 2020-04-30 | 16.9-19.5        | 50-55                    | Blake Wang    |

## 1.6 Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Linkou Laboratory) to collect test data is located on

☒ No.6, Wende 2Rd., Guishan Dist., Taoyuan City 33382, Taiwan (R.O.C.).

Bay Area Compliance Laboratories Corp. (Linkou Laboratory) Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 3546) by Mutual Recognition Agreement (MRA). The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database. The FCC Registration No.: 0027578244. Designation No.: TW3546. The Test Firm Registration No.: 181430.

## 2 System Test Configuration

### 2.1 Test Channels and Description of Worst Test Configuration

The system was configured for testing in testing mode which was provided by manufacturer.

No special accessory, No modification was made to the EUT and No special equipment used during test.

For Wi-Fi, there are totally 11 channels.

| Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---------|-----------------|---------|-----------------|
| 1       | 2412            | 7       | 2442            |
| 2       | 2417            | 8       | 2447            |
| 3       | 2422            | 9       | 2452            |
| 4       | 2427            | 10      | 2457            |
| 5       | 2432            | 11      | 2462            |
| 6       | 2437            | --      | --              |

For IEEE802.11b/g/n HT20: Channel 1, 6 and 11 were tested. For IEEE802.11n HT40: Channel 3, 6 and 9 were tested.

The worst-case data rates are determined to be as follows for each mode based upon investigation by measuring the Peak power and PSD across all data rates bandwidths, and modulations. Radiated below 1G were tested worst output power.

For Radiated Emission, Conducted Power, Conducted Band Edge and PSD had test for four antenna because the power setting is different, the result will be different. For Bandwidth, Conducted Emission only test one result that because the power not affect the result.

| Modulation Used for Conformance Test |     |           |                 |
|--------------------------------------|-----|-----------|-----------------|
| Configuration                        | NTX | Data Rate | Worst Data Rate |
| IEEE 802.11b                         | 1   | 1-11 Mbps | 1 Mbps          |
| IEEE 802.11g                         | 1   | 6-54 Mbps | 6 Mbps          |
| IEEE 802.11n HT 20                   | 1   | MCS 0-7   | MCS 0           |
| IEEE 802.11n HT 40                   | 1   | MCS 0-7   | MCS 0           |

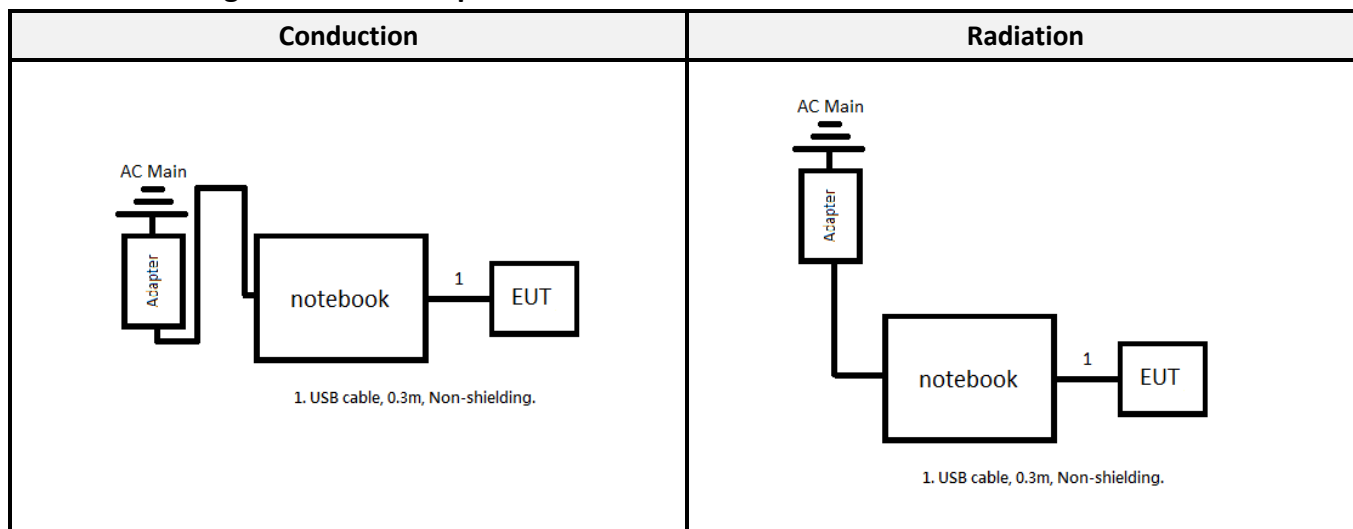
| Worst Case of Power Setting             |     |                     |        |         |
|-----------------------------------------|-----|---------------------|--------|---------|
| EUT Exercise Software                   |     | FCC_PER_TEST_GUI.py |        |         |
| Dipole antenna (TAOGLAS GW.71.5153)     |     |                     |        |         |
| Configuration                           | NTX | Low CH              | Mid CH | High CH |
| IEEE 802.11b                            | 1   | 13                  | 13     | 14      |
| IEEE 802.11g                            | 1   | 14                  | 22     | 15      |
| IEEE 802.11n HT 20                      | 1   | 12                  | 22     | 14      |
| IEEE 802.11n HT 40                      | 1   | 9                   | 14     | 12      |
| Dipole antenna (Inside WLAN PRO-IS-299) |     |                     |        |         |
| Configuration                           | NTX | Low CH              | Mid CH | High CH |
| IEEE 802.11b                            | 1   | 14                  | 14     | 15      |
| IEEE 802.11g                            | 1   | 22                  | 22     | 22      |
| IEEE 802.11n HT 20                      | 1   | 22                  | 22     | 22      |
| IEEE 802.11n HT 40                      | 1   | 22                  | 22     | 22      |
| PCB Antenna (Redpine Signals RSIA7)     |     |                     |        |         |
| Configuration                           | NTX | Low CH              | Mid CH | High CH |
| IEEE 802.11b                            | 1   | 13                  | 13     | 13      |
| IEEE 802.11g                            | 1   | 14                  | 22     | 11      |
| IEEE 802.11n HT 20                      | 1   | 12                  | 22     | 10      |
| IEEE 802.11n HT 40                      | 1   | 9                   | 12     | 8       |
| PIFA Antenna (SMARTEQ 4211613980)       |     |                     |        |         |
| Configuration                           | NTX | Low CH              | Mid CH | High CH |
| IEEE 802.11b                            | 1   | 13                  | 14     | 14      |
| IEEE 802.11g                            | 1   | 22                  | 22     | 18      |
| IEEE 802.11n HT 20                      | 1   | 12                  | 22     | 18      |
| IEEE 802.11n HT 40                      | 1   | 22                  | 22     | 22      |

## 2.2 Support Equipment List and External Cable List

| No. | Description | Manufacturer  | Model Number      |
|-----|-------------|---------------|-------------------|
| A   | Notebook    | DELL          | Inspiron 15       |
| B   | Adapter     | Chicony Power | HA65NS5-00 (DELL) |

| No. | Cable Description | Shielding Type | Length (m) | From | To |
|-----|-------------------|----------------|------------|------|----|
| 1   | USB Cable         | Non-Shielded   | 1          | EUT  | NB |

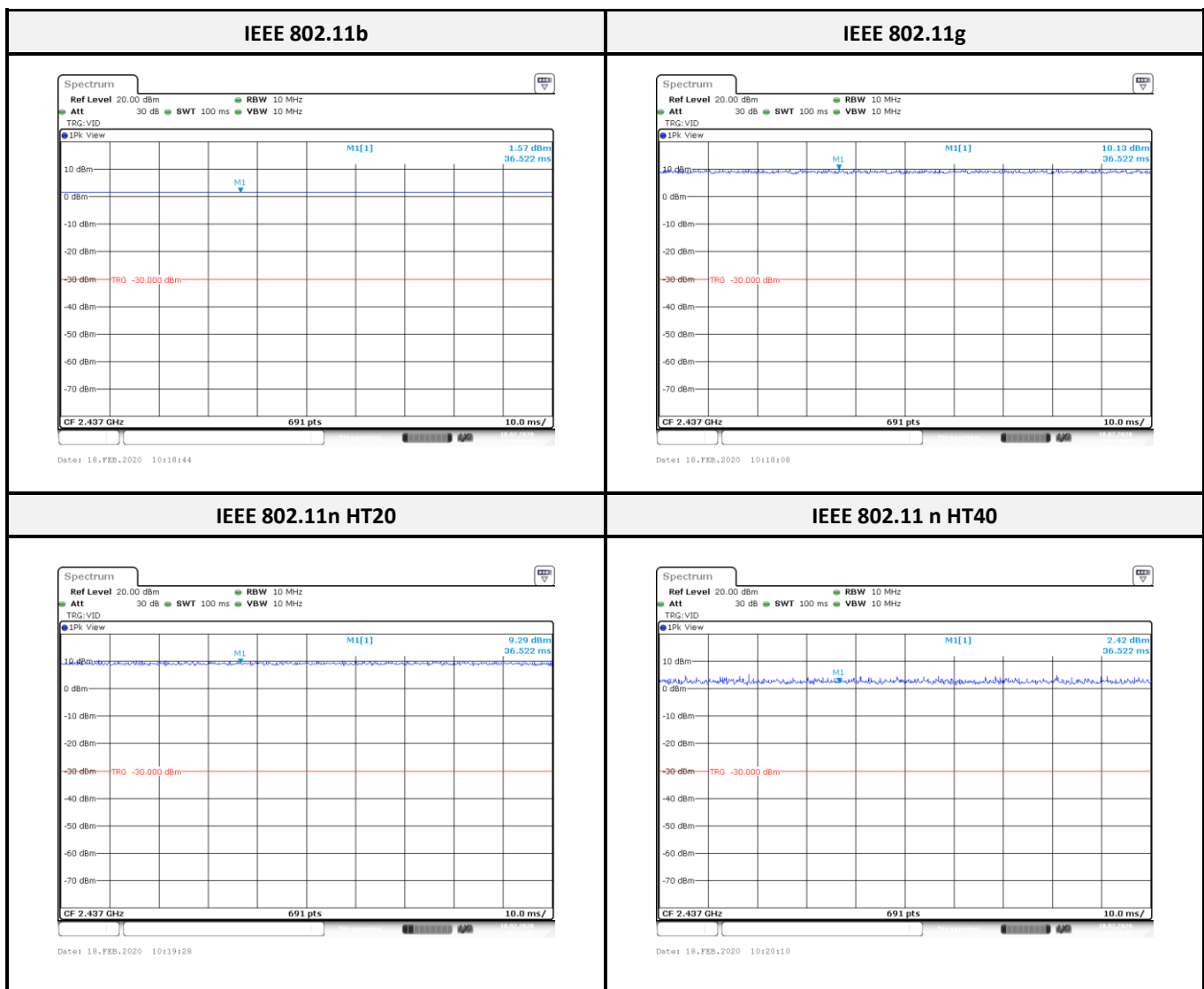
## 2.3 Block Diagram of Test Setup



## 2.4 Duty Cycle

All measurements are to be performed with the EUT transmitting at 100% duty cycle at its maximum power control level; however, if 100% duty cycle cannot be achieved, measurements of duty cycle, x, and maximum power transmission duration, T, are required for each tested mode of operation.

| Configuration      | On Time (ms) | Period (ms) | Duty Cycle (%) | Duty Factor (dB) |
|--------------------|--------------|-------------|----------------|------------------|
| IEEE 802.11b       | 100          | 100         | 100            | 0.00             |
| IEEE 802.11g       | 100          | 100         | 100            | 0.00             |
| IEEE 802.11n HT 20 | 100          | 100         | 100            | 0.00             |
| IEEE 802.11n HT 40 | 100          | 100         | 100            | 0.00             |



\*Note: Duty Factor =  $10 \cdot \log(1/\text{Duty cycle})$

### 3 Summary of Test Results

| FCC/ISED Rules                                                                        | Description of Test                                              | Result     |
|---------------------------------------------------------------------------------------|------------------------------------------------------------------|------------|
| §15.247(i), §1.1310, §2.1091                                                          | Maximum Permissible Exposure (MPE)                               | Compliance |
| ISED RSS-102 Sec 2.5.2                                                                | Exemption Limits for Routine Evaluation – RF Exposure Evaluation | Compliance |
| §15.203<br>ISED RSS-Gen Sec 6.8                                                       | Antenna Requirement                                              | Compliance |
| §15.207(a)<br>ISED RSS-Gen Sec 6.8                                                    | AC Line Conducted Emissions                                      | Compliance |
| §15.205, §15.209, §15.247(d)<br>ISED RSS-Gen Sec 8.9 and 8.10<br>ISED RSS-247 Sec 5.5 | Spurious Emissions                                               | Compliance |
| §15.247(a)(2)<br>ISED RSS-247 Sec 5.2<br>ISED RSS-Gen Sec 6.7                         | 6 dB Emission Bandwidth and Occupied Bandwidth                   | Compliance |
| §15.247(b)(3)<br>ISED RSS-247 Sec 5.4(d)                                              | Maximum Output Power                                             | Compliance |
| §15.247(d)<br>ISED RSS-247 Sec 5.5                                                    | 100 kHz Bandwidth of Frequency Band Edge                         | Compliance |
| §15.247(e)<br>ISED RSS-247 Sec 5.2(b)                                                 | Power Spectral Density                                           | Compliance |

## 4 FCC§15.247(i), §1.1310, § 2.1091 - Maximum Permissible Exposure (MPE)

### 4.1 Applicable Standard

According to subpart 15.247(i) and subpart §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

#### Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

| (B) Limits for General Population/Uncontrolled Exposure |                               |                               |                                     |                          |
|---------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------------|--------------------------|
| Frequency Range (MHz)                                   | Electric Field Strength (V/m) | Magnetic Field Strength (A/m) | Power Density (mW/cm <sup>2</sup> ) | Averaging Time (minutes) |
| 0.3–1.34                                                | 614                           | 1.63                          | *(100)                              | 30                       |
| 1.34–30                                                 | 824/f                         | 2.19/f                        | *(180/f <sup>2</sup> )              | 30                       |
| 30–300                                                  | 27.5                          | 0.073                         | 0.2                                 | 30                       |
| 300–1500                                                | /                             | /                             | f/1500                              | 30                       |
| 1500–100,000                                            | /                             | /                             | 1.0                                 | 30                       |

*f* = frequency in MHz; \* = Plane-wave equivalent power density;

According to §1.1310, and §2.1091 RF exposure is calculated.

**Calculated Formulary:** Predication of MPE limit at a given distance

$S = PG/4\pi R^2$  = power density (in appropriate units, e.g. mW/cm<sup>2</sup>);

$P$  = power input to the antenna (in appropriate units, e.g., mW);

$G$  = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;

$R$  = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

### 4.2 RF Exposure Evaluation Result

| Mode       | Frequency Range (MHz) | Antenna Gain |           | Target Power |          | Evaluation Distance (cm) | Power Density (mW/cm <sup>2</sup> ) | MPE Limit (mW/cm <sup>2</sup> ) |
|------------|-----------------------|--------------|-----------|--------------|----------|--------------------------|-------------------------------------|---------------------------------|
|            |                       | (dBi)        | (numeric) | (dBm)        | (mW)     |                          |                                     |                                 |
| BLE        | 2402-2480             | 3.80         | 2.3988    | 19.00        | 79.4328  | 20                       | 0.0379                              | 1                               |
| BR/EDR     | 2402-2480             | 3.80         | 2.3988    | 21.00        | 125.8925 | 20                       | 0.0601                              | 1                               |
| Wi-Fi 2.4G | 2412-2472             | 3.80         | 2.3988    | 25.00        | 316.2278 | 20                       | 0.1510                              | 1                               |
| Wi-Fi 5G   | 5150-5850             | 5.50         | 3.5481    | 14.50        | 28.1838  | 20                       | 0.0199                              | 1                               |

*Note: Wi-Fi and BT can't simultaneously.*

**Result:** MPE evaluation meet 20 cm the requirement of standard.

## 5 RSS-102 Sec 2.5.2- Exemption Limits for Routine Evaluation – RF Exposure Evaluation

---

### 5.1 Applicable Standard

According to subpart RSS-102 Sec 2.5.2,

RF exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm, except when the device operates as follows:

- below 20 MHz<sup>6</sup> and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 1 W (adjusted for tune-up tolerance);
- at or above 20 MHz and below 48 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than  $4.49/f^{0.5}$  W (adjusted for tune-up tolerance), where  $f$  is in MHz;
- at or above 48 MHz and below 300 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 0.6 W (adjusted for tune-up tolerance);
- at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than  $1.31 \times 10^{-2} f^{0.6834}$  W (adjusted for tune-up tolerance), where  $f$  is in MHz;
- at or above 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 5 W (adjusted for tune-up tolerance).

In these cases, the information contained in the RF exposure technical brief may be limited to information that demonstrates how the e.i.r.p. was derived.

### 5.2 RF Exposure Evaluation Result

**BLE Max tune-up conducted output power** is 19.00 dBm (79.4328 mW) at 2402 MHz, Antenna Gain = 3.80 dBi, EIRP = 22.80 dBm (0.1906 W), so the maximum conducted and E.I.R.P. source-based, time-averaged output is less than 2.68 W for general public use.

**BR/EDR Max tune-up conducted output power** is 21.00 dBm (125.8925 mW) at 2402 MHz, Antenna Gain = 3.80 dBi, EIRP = 24.80 dBm (0.3020 W), so the maximum conducted and E.I.R.P. source-based, time-averaged output is less than 2.68 W for general public use.

**Wi-Fi 2.4G Max tune-up conducted output power** is 25.00 dBm (316.2278 mW) at 2437 MHz, Antenna Gain = 3.80 dBi, EIRP = 28.80 dBm (0.7586 W), so the maximum conducted and E.I.R.P. source-based, time-averaged output is less than 2.70 W for general public use.

**Wi-Fi 5G Max tune-up conducted output power** is 14.50. dBm (28.1839 mW) at 5825 MHz, Antenna Gain = 5.50 dBi, EIRP = 20.00 dBm (0.1000 W), so the maximum conducted and E.I.R.P. source-based, time-averaged output is less than 4.90 W for general public use.

*Note: Wi-Fi and BT can't simultaneously.*

**Result:** MPE test exempted.

## 6 FCC §15.203 and RSS-247 Sec 6.8 - Antenna Requirements

### 6.1 Applicable Standard

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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited.

And according to FCC 47 CFR section 15.247 (b), if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna does not exceed 6dBi

According to RSS-Gen 6.3: Transmitter Antenna for Licence-Exempt Radio Apparatus

The applicant for equipment certification, as per RSP-100, must provide a list of all antenna types that may be used with the licence-exempt transmitter, indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna.

Licence-exempt transmitters that have received equipment certification may operate with different types of antennas.

However, it is not permissible to exceed the maximum equivalent isotropically radiated power (e.i.r.p.) limits specified in the applicable standard (RSS) for the licence-exempt apparatus.

Testing shall be performed using the highest gain antenna of each combination of licence-exempt transmitter and antenna type, with the transmitter output power set at the maximum level. Footnote 8 When a measurement at the antenna connector is used to determine RF output power, the effective gain of the device's antenna shall be stated, based on a measurement or on data from the antenna manufacturer.

User manuals for transmitters equipped with detachable antennas shall also contain the following notice in a conspicuous location:

This radio transmitter (identify the device by certification number) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Immediately following the above notice, the manufacturer shall provide a list of all antenna types approved for use with the transmitter, indicating the maximum permissible antenna gain (in dBi).

### 6.2 Antenna List and Details

| Brand           | Model      | Antenna Type | Antenna Gain (dBi) | Result     |
|-----------------|------------|--------------|--------------------|------------|
| TAOGLAS         | GW.71.5153 | Dipole       | 3.80               | Compliance |
| SMARTEQ         | 4211613980 | PIFA         | 0.00               | Compliance |
| Inside WLAN     | PRO-IS-299 | Dipole       | 2.50               | Compliance |
| Redpine Signals | RSIA7      | PCB Antenna  | 0.71               | Compliance |

*The EUT has an internal antenna arrangement, which was permanently attached, fulfill the requirement of this section.*

## 7 FCC §15.207 and RSS-Gen Sec 6.8 - AC Line Conducted Emissions

### 7.1 Applicable Standard

According to FCC §15.207,

For an intentional radiator that is designed to be connected to the public utility (AC) power line, 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, as measured using a 50  $\mu$ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequencies ranges.

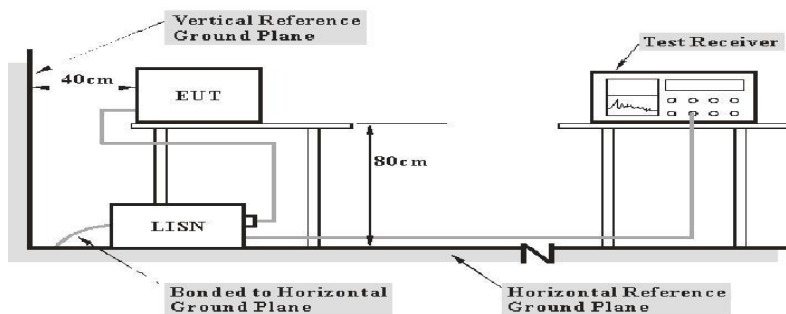
According to RSS-Gen 8.8 Conducted limits:

For an intentional radiator that is designed to be connected to the public utility (AC) power line, 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, as measured using a 50  $\mu$ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequencies ranges.

| Frequency (MHz) | Conducted Limit (dBuV)     |                            |
|-----------------|----------------------------|----------------------------|
|                 | Quasi-Peak                 | Average                    |
| 0.15-0.5        | 66 to 56 <sup>Note 1</sup> | 56 to 46 <sup>Note 2</sup> |
| 0.5-5           | 56                         | 46                         |
| 5-30            | 60                         | 50                         |

Note 1: Decreases with the logarithm of the frequency. Note 2: A linear average detector is required

### 7.2 EUT Setup and Test Procedure



Note: 1. Support units were connected to second LISN.  
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 and RSS-Gen limits

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz. During the conducted emission test, the EMI test receiver was set with the following configurations

| Frequency Range  | Receiver RBW |
|------------------|--------------|
| 150 kHz - 30 MHz | 9 kHz        |

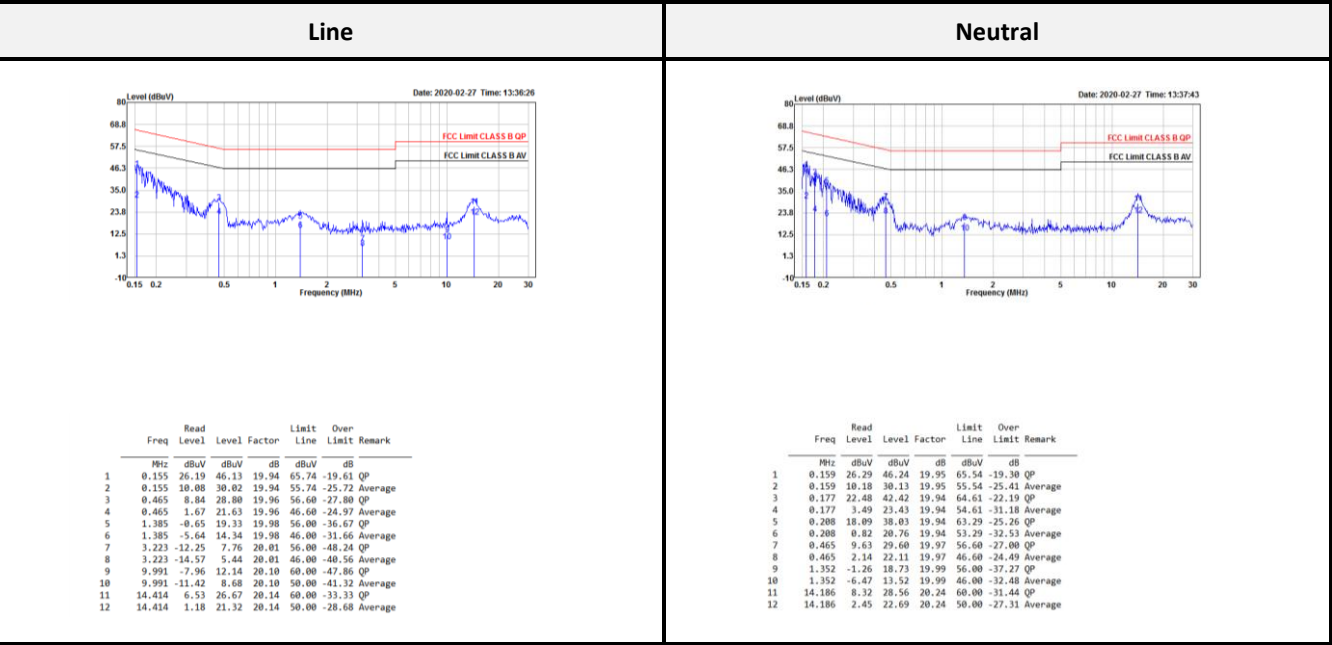
During the conducted emission test, the adapter was connected to the outlet of the LISN. Maximizing procedure was performed on the six (6) highest emissions of the EUT. All data was recorded in the Quasi-peak and average detection mode.

### 7.3 Test Equipment List and Details

| Description                      | Manufacture     | Model                | Serial No. | Cal. Date. | Cal. Due.  |
|----------------------------------|-----------------|----------------------|------------|------------|------------|
| AC Line Conduction Room (CON-01) |                 |                      |            |            |            |
| Two-Line V-Network               | Rohde & Schwarz | ENV216               | 100010     | 2019/09/02 | 2020/09/01 |
| Pulse Limiter                    | SCHWARZBECK     | VSTD 9561-F          | 00432      | 2019/08/28 | 2020/08/27 |
| EMI Test Receiver                | Rohde & Schwarz | ESR3                 | 102448     | 2019/06/27 | 2020/06/23 |
| RF Cable                         | EMCI            | EMCCFD300-BM-BM-8000 | 180526     | 2019/08/08 | 2020/08/07 |
| Software                         | Audix           | e3 v9                | E3LK-03    | N.C.R      | N.C.R      |

**\*Statement of Traceability:** The testing equipment's listed above have finished the calibration by Electronics Testing Center, Taiwan (ETC) or other laboratories which were accredited by TAF or equivalent organizations. The calibration result could be traceable to the International System of Units (SI).

7.4 Test Data and Test Plot



Note1: Transmit Mode

Note2:

Level = Reading Level + Correct Factor

Over Limit = Level – Limit

Factor = (LISN, ISN, PLC or current probe) Factor + Cable Loss + Attenuator

## 8 FCC §15.209, §15.205, §15.247, RSS-Gen Sec 8.9, 8.10 and RSS-247 Sec 5.5 (d) – Spurious Emissions

### 8.1 Applicable Standard

As per FCC §15.35(d): Unless otherwise specified, on any frequency or frequencies above 1000 MHz, the radiated emission limits are based on the use of measurement instrumentation employing an average detector function. Unless otherwise specified, measurements above 1000 MHz shall be performed using a minimum resolution bandwidth of 1MHz.

As Per FCC §15.205(a) except as show in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

| MHz               | MHz                 | MHz           | GHz         |
|-------------------|---------------------|---------------|-------------|
| 0.090-0.110       | 13.36-13.41         | 399.9-410     | 4.5-5.15    |
| 0.495-0.505       | 16.42-16.423        | 608-614       | 5.35-5.46   |
| 2.1735-2.1905     | 16.69475-16.69525   | 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  |

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

| Frequency (MHz) | Field Strength (micro volts/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                             |

\*\* Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

As per FCC §15.247 (d) In any 100 kHz 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 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

As per RSS-Gen 8.9,

Except when the requirements applicable to a given device state otherwise, emissions from licence-exempt transmitters shall comply with the field strength limits shown in Table 4 and Table 5 below. Additionally, the level of any transmitter emission shall not exceed the level of the transmitter's fundamental emission.

**Table 4 – General Field Strength Limits for Licence-Exempt Transmitters at Frequencies Above 30 MHz**

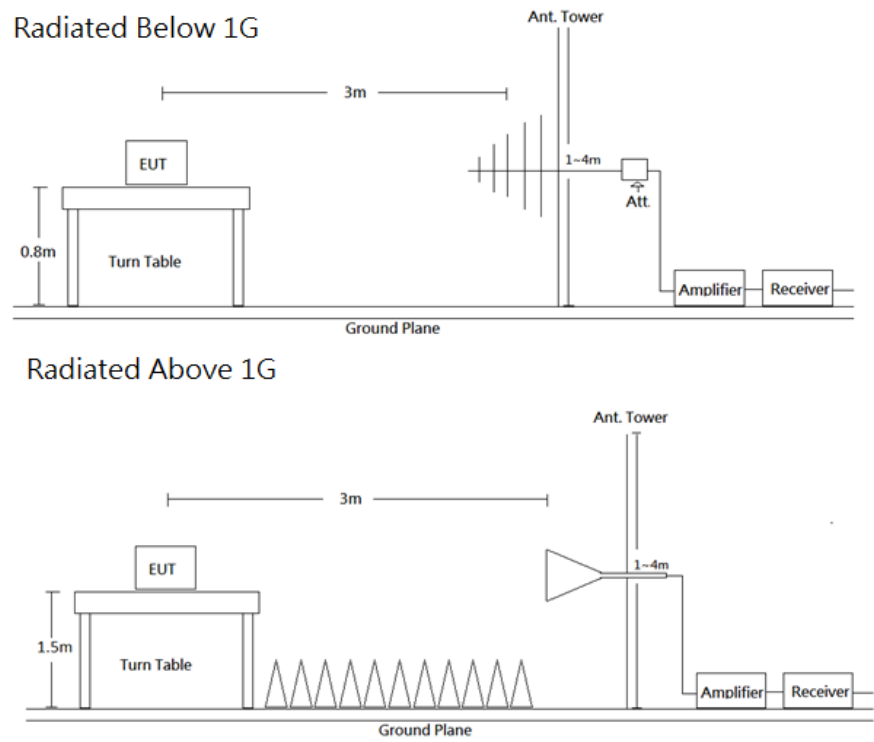
| Frequency<br>(MHz) | Field Strength<br>( $\mu\text{V/m}$ at 3 metres) |
|--------------------|--------------------------------------------------|
| 30-88              | 100                                              |
| 88-216             | 150                                              |
| 216-960            | 200                                              |
| Above 960*         | 500                                              |

\* Unless otherwise specified, for all frequencies greater than 1 GHz, the radiated emission limits for licence-exempt radio apparatus stated in applicable RSSs (including RSS-Gen) are based on measurements using a linear average detector function having a minimum resolution bandwidth of 1 MHz. If an average limit is specified for the EUT, then the peak emission shall also be measured with instrumentation properly adjusted for such factors as pulse desensitization to ensure the peak emission is less than 20 dB above the average limit.

Note: Transmitting devices are not permitted in restricted frequency bands unless stated otherwise in the specific RSS.

As per RSS-247 §5.5, in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under Section 5.4(4), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

8.2 EUT Setup and Test Procedure



Radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC Part 15.209 and FCC 15.247 Limits.

The system was investigated from 30 MHz to 26.5 GHz. During the radiated emission test, the EMI test receiver was set with the following configurations measurement method 6.3 in ANSI C63.10.

| Frequency Range | RBW     | VBW   | Duty cycle | Measurement method |
|-----------------|---------|-------|------------|--------------------|
| 30-1000 MHz     | 120 kHz | /     | -          | QP                 |
| Above 1 GHz     | 1 MHz   | 3 MHz | -          | PK                 |
|                 | 1 MHz   | 10 Hz | >98%       | Ave                |
|                 | 1 MHz   | 1/T   | <98%       | Ave                |

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations. All data was recorded in the Quasi-peak detector mode from 30 MHz to 1 GHz and PK and average detector modes for frequencies above 1 GHz.

### 8.3 Test Equipment List and Details

| Description                     | Manufacture                 | Model                 | Serial No.           | Cal. Date. | Cal. Due.  |
|---------------------------------|-----------------------------|-----------------------|----------------------|------------|------------|
| <b>Radiation 3M Room (966A)</b> |                             |                       |                      |            |            |
| Active Loop                     | EMCO                        | 6502                  | 0001-3322            | 2020/03/16 | 2021/03/15 |
| Bilog Antenna/6 dB Attenuator   | SUNOL SCIENCES & EMEC /EMCI | JB3/N-6-06            | A111513/AT-N0668     | 2020/03/19 | 2021/03/18 |
| Horn Antenna                    | ETS-Lindgren                | 3115                  | 00109141             | 2019/07/05 | 2020/07/04 |
| Horn Antenna                    | ETS-Lindgren                | 3160-09               | 00123852             | 2019/07/11 | 2020/07/10 |
| Preamplifier                    | A.H. Systems                | PAM-0118              | 470                  | 2020/03/16 | 2021/03/15 |
| Preamplifier                    | A.H. Systems                | PAM-1840VH            | 174                  | 2020/03/25 | 2021/03/24 |
| Signal and Spectrum Analyzer    | Rohde & Schwarz             | FSV40                 | 101456               | 2019/07/12 | 2020/07/11 |
| Microflex Cable (1m)            | EMCI                        | EMC106-SM-SM-2000     | 180515               | 2019/08/07 | 2020/08/06 |
| Microflex Cable (2m)            | MTJ                         | H0919                 | 00000-MT28A-100      | 2019/08/07 | 2020/08/06 |
| Microflex Cable (8m)            | UTIFLEX                     | UFA210A-1-3149-300300 | MFR 64639 232490-001 | 2019/08/07 | 2020/08/06 |
| Turn Table                      | Chaintek                    | T-200-S-1             | 003501               | N.C.R      | N.C.R      |
| Antenna Tower                   | Chaintek                    | MBD-400-1             | 003504               | N.C.R      | N.C.R      |
| Controller                      | Chaintek                    | 3000-1                | 003507               | N.C.R      | N.C.R      |
| Software                        | Audix                       | e3 v9                 | E3LK-01              | N.C.R      | N.C.R      |
| <b>Conducted Room(TH-02)</b>    |                             |                       |                      |            |            |
| Signal Analyzer 40GHZ           | Rohde & Schwarz             | FSV40-N               | 102248               | 2019/09/11 | 2020/09/10 |
| RF Cable                        | MTJ                         | MT40S                 | MT40S-001            | Each Use   | /          |

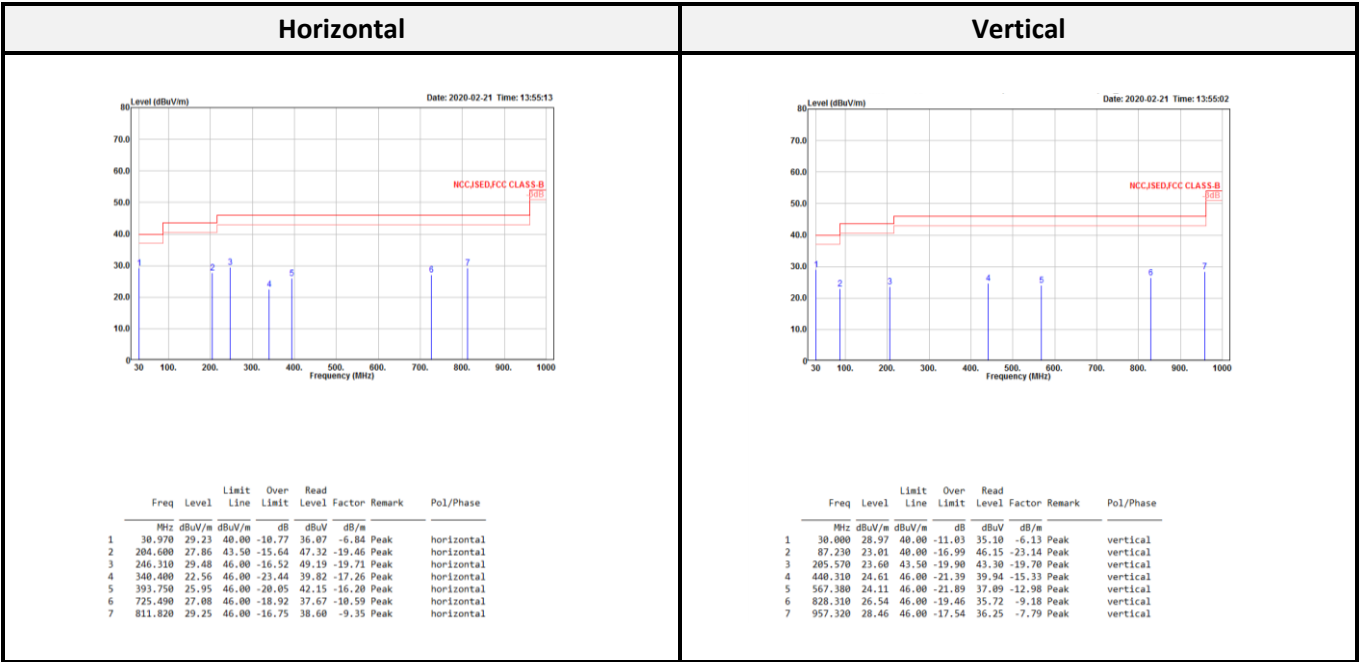
**\*Statement of Traceability:** The testing equipment's listed above have finished the calibration by Electronics Testing Center, Taiwan (ETC) or other laboratories which were accredited by TAF or equivalent organizations. The calibration result could be traceable to the International System of Units (SI).

8.4 Test Result

<Dipole Antenna: TAOGLAS/GW.71.5153>

Transmitting mode (Pre-scan with three orthogonal axis, and worse case as Z axis)

Below 1G (30 MHz-1 GHz) test the worst mode



Level = Reading Level + Correct Factor

Over Limit = Level – Limit

Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain

Spurious emissions more than 20 dB below the limit were not reported

**Above 1G (1 GHz-26.5 GHz)****IEEE 802.11b:**

| Low CH     |        |            |            |            |        |         |          |        |            |            |            |        |         |
|------------|--------|------------|------------|------------|--------|---------|----------|--------|------------|------------|------------|--------|---------|
| Horizontal |        |            |            |            |        |         | Vertical |        |            |            |            |        |         |
| Freq       | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  | Freq     | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         | MHz      | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         |
| 2371.600   | 36.93  | 54.00      | -17.07     | 44.61      | -7.68  | Average | 2370.256 | 40.54  | 54.00      | -13.46     | 48.22      | -7.68  | Average |
| 2371.600   | 50.77  | 74.00      | -23.23     | 58.45      | -7.68  | Peak    | 2370.256 | 53.07  | 74.00      | -20.93     | 60.75      | -7.68  | Peak    |
| 2411.360   | 93.02  |            |            | 100.62     | -7.60  | Average | 2411.360 | 100.86 |            |            | 108.46     | -7.60  | Average |
| 2411.360   | 95.71  |            |            | 103.31     | -7.60  | Peak    | 2411.360 | 103.47 |            |            | 111.07     | -7.60  | Peak    |
| 3216.000   | 36.12  | 54.00      | -17.88     | 40.35      | -4.23  | Average | 3216.000 | 42.62  | 54.00      | -11.38     | 46.85      | -4.23  | Average |
| 3216.000   | 42.91  | 74.00      | -31.09     | 47.14      | -4.23  | Peak    | 3216.000 | 45.91  | 74.00      | -28.09     | 50.14      | -4.23  | Peak    |
| 4824.000   | 46.91  | 54.00      | -7.09      | 46.27      | 0.64   | Average | 4824.000 | 52.69  | 54.00      | -1.31      | 52.05      | 0.64   | Average |
| 4824.000   | 50.73  | 74.00      | -23.27     | 50.09      | 0.64   | Peak    | 4824.000 | 55.27  | 74.00      | -18.73     | 54.63      | 0.64   | Peak    |
| 7236.000   | 38.58  | 54.00      | -15.42     | 33.19      | 5.39   | Average | 7236.000 | 47.49  | 54.00      | -6.51      | 42.10      | 5.39   | Average |
| 7236.000   | 49.06  | 74.00      | -24.94     | 43.67      | 5.39   | Peak    | 7236.000 | 53.48  | 74.00      | -20.52     | 48.09      | 5.39   | Peak    |

| Middle CH  |        |            |            |            |        |         |          |        |            |            |            |        |         |
|------------|--------|------------|------------|------------|--------|---------|----------|--------|------------|------------|------------|--------|---------|
| Horizontal |        |            |            |            |        |         | Vertical |        |            |            |            |        |         |
| Freq       | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  | Freq     | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         | MHz      | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         |
| 2355.254   | 36.93  | 54.00      | -17.07     | 44.65      | -7.72  | Average | 2389.618 | 39.82  | 54.00      | -14.18     | 47.45      | -7.63  | Average |
| 2355.254   | 50.81  | 74.00      | -23.19     | 58.53      | -7.72  | Peak    | 2389.618 | 52.65  | 74.00      | -21.35     | 60.28      | -7.63  | Peak    |
| 2436.324   | 95.35  |            |            | 102.89     | -7.54  | Average | 2436.324 | 101.80 |            |            | 109.34     | -7.54  | Average |
| 2436.324   | 98.14  |            |            | 105.68     | -7.54  | Peak    | 2436.324 | 104.21 |            |            | 111.75     | -7.54  | Peak    |
| 2509.408   | 37.93  | 54.00      | -16.07     | 45.22      | -7.29  | Average | 2532.398 | 39.75  | 54.00      | -14.25     | 46.97      | -7.22  | Average |
| 2509.408   | 51.34  | 74.00      | -22.66     | 58.63      | -7.29  | Peak    | 2532.398 | 51.73  | 74.00      | -22.27     | 58.95      | -7.22  | Peak    |
| 3249.300   | 37.80  | 54.00      | -16.20     | 41.87      | -4.07  | Average | 3249.300 | 42.79  | 54.00      | -11.21     | 46.86      | -4.07  | Average |
| 3249.300   | 44.46  | 74.00      | -29.54     | 48.53      | -4.07  | Peak    | 3249.300 | 46.58  | 74.00      | -27.42     | 50.65      | -4.07  | Peak    |
| 4874.000   | 46.66  | 54.00      | -7.34      | 45.87      | 0.79   | Average | 4874.000 | 52.97  | 54.00      | -1.03      | 52.17      | 0.80   | Average |
| 4874.000   | 51.00  | 74.00      | -23.00     | 50.21      | 0.79   | Peak    | 4874.000 | 55.63  | 74.00      | -18.37     | 54.83      | 0.80   | Peak    |
| 7311.000   | 42.19  | 54.00      | -11.81     | 36.55      | 5.64   | Average | 7311.000 | 46.11  | 54.00      | -7.89      | 40.49      | 5.62   | Average |
| 7311.000   | 50.94  | 74.00      | -23.06     | 45.30      | 5.64   | Peak    | 7311.000 | 52.85  | 74.00      | -21.15     | 47.23      | 5.62   | Peak    |

| High CH    |        |            |            |            |        |         |          |        |            |            |            |        |         |
|------------|--------|------------|------------|------------|--------|---------|----------|--------|------------|------------|------------|--------|---------|
| Horizontal |        |            |            |            |        |         | Vertical |        |            |            |            |        |         |
| Freq       | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  | Freq     | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         | MHz      | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         |
| 2461.100   | 94.67  |            |            | 102.10     | -7.43  | Average | 2461.100 | 102.28 |            |            | 109.71     | -7.43  | Average |
| 2461.100   | 97.33  |            |            | 104.76     | -7.43  | Peak    | 2461.100 | 105.12 |            |            | 112.55     | -7.43  | Peak    |
| 2485.400   | 39.40  | 54.00      | -14.60     | 46.74      | -7.34  | Average | 2487.000 | 46.83  | 54.00      | -7.17      | 54.17      | -7.34  | Average |
| 2485.400   | 51.69  | 74.00      | -22.31     | 59.03      | -7.34  | Peak    | 2487.000 | 56.17  | 74.00      | -17.83     | 63.51      | -7.34  | Peak    |
| 3282.700   | 36.33  | 54.00      | -17.67     | 40.29      | -3.96  | Average | 3282.700 | 42.60  | 54.00      | -11.40     | 46.56      | -3.96  | Average |
| 3282.700   | 44.42  | 74.00      | -29.58     | 48.38      | -3.96  | Peak    | 3282.700 | 46.87  | 74.00      | -27.13     | 50.83      | -3.96  | Peak    |
| 4924.000   | 52.63  | 54.00      | -1.37      | 51.79      | 0.84   | Average | 4924.000 | 53.52  | 54.00      | -0.48      | 52.69      | 0.83   | Average |
| 4924.000   | 55.44  | 74.00      | -18.56     | 54.60      | 0.84   | Peak    | 4924.000 | 56.68  | 74.00      | -17.32     | 55.85      | 0.83   | Peak    |
| 7386.000   | 45.32  | 54.00      | -8.68      | 39.40      | 5.92   | Average | 7386.000 | 51.64  | 54.00      | -2.36      | 45.72      | 5.92   | Average |
| 7386.000   | 52.66  | 74.00      | -21.34     | 46.74      | 5.92   | Peak    | 7386.000 | 56.74  | 74.00      | -17.26     | 50.82      | 5.92   | Peak    |

## IEEE 802.11g:

| Low CH     |        |               |               |               |        |         |          |        |               |               |               |        |         |
|------------|--------|---------------|---------------|---------------|--------|---------|----------|--------|---------------|---------------|---------------|--------|---------|
| Horizontal |        |               |               |               |        |         | Vertical |        |               |               |               |        |         |
| Freq       | Level  | Limit<br>Line | Over<br>Limit | Read<br>Level | Factor | Remark  | Freq     | Level  | Limit<br>Line | Over<br>Limit | Read<br>Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m        | dB            | dBuV          | dB/m   |         | MHz      | dBuV/m | dBuV/m        | dB            | dBuV          | dB/m   |         |
| 2389.744   | 42.78  | 54.00         | -11.22        | 50.41         | -7.63  | Average | 2389.744 | 52.61  | 54.00         | -1.39         | 60.24         | -7.63  | Average |
| 2389.744   | 59.58  | 74.00         | -14.42        | 67.21         | -7.63  | Peak    | 2389.744 | 71.25  | 74.00         | -2.75         | 78.88         | -7.63  | Peak    |
| 2414.160   | 87.04  |               |               | 94.63         | -7.59  | Average | 2414.160 | 94.03  |               |               | 101.62        | -7.59  | Average |
| 2414.160   | 97.93  |               |               | 105.52        | -7.59  | Peak    | 2414.160 | 105.18 |               |               | 112.77        | -7.59  | Peak    |
| 3216.000   | 37.13  | 54.00         | -16.87        | 41.32         | -4.19  | Average | 3216.000 | 42.18  | 54.00         | -11.82        | 46.37         | -4.19  | Average |
| 3216.000   | 44.34  | 74.00         | -29.66        | 48.53         | -4.19  | Peak    | 3216.000 | 47.14  | 74.00         | -26.86        | 51.33         | -4.19  | Peak    |
| 4824.000   | 36.19  | 54.00         | -17.81        | 35.55         | 0.64   | Average | 4824.000 | 40.89  | 54.00         | -13.11        | 40.25         | 0.64   | Average |
| 4824.000   | 51.08  | 74.00         | -22.92        | 50.44         | 0.64   | Peak    | 4824.000 | 56.55  | 74.00         | -17.45        | 55.91         | 0.64   | Peak    |
| 7236.000   | 35.27  | 54.00         | -18.73        | 29.88         | 5.39   | Average | 7236.000 | 38.71  | 54.00         | -15.29        | 33.32         | 5.39   | Average |
|            |        |               |               |               |        |         | 7236.000 | 52.57  | 74.00         | -21.43        | 47.19         | 5.38   | Peak    |

| Middle CH  |        |               |               |               |        |         |          |        |               |               |               |        |         |
|------------|--------|---------------|---------------|---------------|--------|---------|----------|--------|---------------|---------------|---------------|--------|---------|
| Horizontal |        |               |               |               |        |         | Vertical |        |               |               |               |        |         |
| Freq       | Level  | Limit<br>Line | Over<br>Limit | Read<br>Level | Factor | Remark  | Freq     | Level  | Limit<br>Line | Over<br>Limit | Read<br>Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m        | dB            | dBuV          | dB/m   |         | MHz      | dBuV/m | dBuV/m        | dB            | dBuV          | dB/m   |         |
| 2388.166   | 40.36  | 54.00         | -13.64        | 47.99         | -7.63  | Average | 2389.134 | 45.22  | 54.00         | -8.78         | 52.85         | -7.63  | Average |
| 2388.166   | 61.66  | 74.00         | -12.34        | 69.29         | -7.63  | Peak    | 2389.134 | 68.44  | 74.00         | -5.56         | 76.07         | -7.63  | Peak    |
| 2434.388   | 91.31  |               |               | 98.85         | -7.54  | Average | 2439.470 | 97.66  |               |               | 105.18        | -7.52  | Average |
| 2434.388   | 102.07 |               |               | 109.61        | -7.54  | Peak    | 2439.470 | 107.99 |               |               | 115.51        | -7.52  | Peak    |
| 2485.934   | 39.16  | 54.00         | -14.84        | 46.50         | -7.34  | Average | 2486.176 | 43.31  | 54.00         | -10.69        | 50.65         | -7.34  | Average |
| 2485.934   | 57.72  | 74.00         | -16.28        | 65.06         | -7.34  | Peak    | 2486.176 | 64.33  | 74.00         | -9.67         | 71.67         | -7.34  | Peak    |
| 3249.300   | 38.08  | 54.00         | -15.92        | 42.13         | -4.05  | Average | 3249.300 | 42.14  | 54.00         | -11.86        | 46.19         | -4.05  | Average |
| 3249.300   | 44.58  | 74.00         | -29.42        | 48.63         | -4.05  | Peak    | 3249.300 | 47.09  | 74.00         | -26.91        | 51.14         | -4.05  | Peak    |
| 4874.000   | 40.43  | 54.00         | -13.57        | 39.64         | 0.79   | Average | 4874.000 | 45.29  | 54.00         | -8.71         | 44.50         | 0.79   | Average |
| 4874.000   | 53.39  | 74.00         | -20.61        | 52.60         | 0.79   | Peak    | 4874.000 | 59.40  | 74.00         | -14.60        | 58.61         | 0.79   | Peak    |
| 7311.000   | 40.32  | 54.00         | -13.68        | 34.68         | 5.64   | Average | 7311.000 | 46.24  | 54.00         | -7.76         | 40.60         | 5.64   | Average |
| 7311.000   | 54.55  | 74.00         | -19.45        | 48.93         | 5.62   | Peak    | 7311.000 | 60.44  | 74.00         | -13.56        | 54.82         | 5.62   | Peak    |

| High CH    |        |               |               |               |        |         |          |        |               |               |               |        |         |
|------------|--------|---------------|---------------|---------------|--------|---------|----------|--------|---------------|---------------|---------------|--------|---------|
| Horizontal |        |               |               |               |        |         | Vertical |        |               |               |               |        |         |
| Freq       | Level  | Limit<br>Line | Over<br>Limit | Read<br>Level | Factor | Remark  | Freq     | Level  | Limit<br>Line | Over<br>Limit | Read<br>Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m        | dB            | dBuV          | dB/m   |         | MHz      | dBuV/m | dBuV/m        | dB            | dBuV          | dB/m   |         |
| 2464.000   | 86.00  |               |               | 93.42         | -7.42  | Average | 2464.000 | 93.77  |               |               | 101.19        | -7.42  | Average |
| 2464.000   | 96.97  |               |               | 104.39        | -7.42  | Peak    | 2464.000 | 104.86 |               |               | 112.28        | -7.42  | Peak    |
| 2483.700   | 42.71  | 54.00         | -11.29        | 50.05         | -7.34  | Average | 2483.600 | 52.26  | 54.00         | -1.74         | 59.60         | -7.34  | Average |
| 2483.700   | 63.79  | 74.00         | -10.21        | 71.13         | -7.34  | Peak    | 2483.600 | 73.87  | 74.00         | -0.13         | 81.21         | -7.34  | Peak    |
| 3282.700   | 37.64  | 54.00         | -16.36        | 41.59         | -3.95  | Average | 3282.700 | 42.90  | 54.00         | -11.10        | 46.85         | -3.95  | Average |
| 3282.700   | 44.76  | 74.00         | -29.24        | 48.71         | -3.95  | Peak    | 3282.700 | 47.41  | 74.00         | -26.59        | 51.36         | -3.95  | Peak    |
| 4924.000   | 37.70  | 54.00         | -16.30        | 36.86         | 0.84   | Average | 4924.000 | 41.69  | 54.00         | -12.31        | 40.85         | 0.84   | Average |
| 4924.000   | 52.56  | 74.00         | -21.44        | 51.72         | 0.84   | Peak    | 4924.000 | 56.26  | 74.00         | -17.74        | 55.42         | 0.84   | Peak    |
| 7386.000   | 37.20  | 54.00         | -16.80        | 31.27         | 5.93   | Average | 7386.000 | 37.74  | 54.00         | -16.26        | 31.82         | 5.92   | Average |
| 7386.000   | 51.17  | 74.00         | -22.83        | 45.25         | 5.92   | Peak    | 7386.000 | 51.73  | 74.00         | -22.27        | 45.85         | 5.88   | Peak    |

IEEE 802.11n HT20:

| Low CH     |        |        |        |        |        |         |          |        |        |        |        |        |         |
|------------|--------|--------|--------|--------|--------|---------|----------|--------|--------|--------|--------|--------|---------|
| Horizontal |        |        |        |        |        |         | Vertical |        |        |        |        |        |         |
| Freq       | Level  | Limit  | Over   | Read   | Factor | Remark  | Freq     | Level  | Limit  | Over   | Read   | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m | dB     | dBuV   |        |         | MHz      | dBuV/m | dBuV/m | dB     | dBuV   |        |         |
| 2389.744   | 45.02  | 54.00  | -8.98  | 52.65  | -7.63  | Average | 2389.408 | 53.65  | 54.00  | -0.35  | 61.28  | -7.63  | Average |
| 2389.744   | 63.54  | 74.00  | -10.46 | 71.17  | -7.63  | Peak    | 2389.408 | 72.81  | 74.00  | -1.19  | 80.44  | -7.63  | Peak    |
| 2404.640   | 85.84  |        |        | 93.45  | -7.61  | Average | 2410.576 | 93.90  |        |        | 101.50 | -7.60  | Average |
| 2404.640   | 95.88  |        |        | 103.49 | -7.61  | Peak    | 2410.576 | 104.09 |        |        | 111.69 | -7.60  | Peak    |
| 3216.000   | 37.18  | 54.00  | -16.82 | 41.37  | -4.19  | Average | 3216.000 | 42.63  | 54.00  | -11.37 | 46.82  | -4.19  | Average |
| 3216.000   | 44.44  | 74.00  | -29.56 | 48.63  | -4.19  | Peak    | 3216.000 | 46.73  | 74.00  | -27.27 | 50.92  | -4.19  | Peak    |
| 4824.000   | 35.15  | 54.00  | -18.85 | 34.51  | 0.64   | Average | 4824.000 | 39.49  | 54.00  | -14.51 | 38.85  | 0.64   | Average |
| 4824.000   | 49.42  | 74.00  | -24.58 | 48.78  | 0.64   | Peak    | 4824.000 | 54.37  | 74.00  | -19.63 | 53.73  | 0.64   | Peak    |
| 7236.000   | 34.89  | 54.00  | -19.11 | 29.50  | 5.39   | Average | 7236.000 | 39.66  | 54.00  | -14.34 | 34.27  | 5.39   | Average |
| 7236.000   | 48.82  | 74.00  | -25.18 | 43.44  | 5.38   | Peak    | 7236.000 | 53.99  | 74.00  | -20.01 | 48.61  | 5.38   | Peak    |

| Middle CH  |        |        |        |        |        |         |          |        |        |        |        |        |         |
|------------|--------|--------|--------|--------|--------|---------|----------|--------|--------|--------|--------|--------|---------|
| Horizontal |        |        |        |        |        |         | Vertical |        |        |        |        |        |         |
| Freq       | Level  | Limit  | Over   | Read   | Factor | Remark  | Freq     | Level  | Limit  | Over   | Read   | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m | dB     | dBuV   |        |         | MHz      | dBuV/m | dBuV/m | dB     | dBuV   |        |         |
| 2388.408   | 41.88  | 54.00  | -12.12 | 49.51  | -7.63  | Average | 2388.408 | 47.22  | 54.00  | -6.78  | 54.85  | -7.63  | Average |
| 2388.408   | 62.97  | 74.00  | -11.03 | 70.60  | -7.63  | Peak    | 2388.408 | 69.76  | 74.00  | -4.24  | 77.39  | -7.63  | Peak    |
| 2438.502   | 91.48  |        |        | 99.00  | -7.52  | Average | 2436.082 | 97.68  |        |        | 105.22 | -7.54  | Average |
| 2438.502   | 102.21 |        |        | 109.73 | -7.52  | Peak    | 2436.082 | 108.20 |        |        | 115.74 | -7.54  | Peak    |
| 2483.756   | 39.45  | 54.00  | -14.55 | 46.79  | -7.34  | Average | 2483.514 | 45.32  | 54.00  | -8.68  | 52.66  | -7.34  | Average |
| 2483.756   | 58.00  | 74.00  | -16.00 | 65.34  | -7.34  | Peak    | 2483.514 | 67.95  | 74.00  | -6.05  | 75.29  | -7.34  | Peak    |
| 3249.300   | 37.31  | 54.00  | -16.69 | 41.36  | -4.05  | Average | 3249.300 | 43.17  | 54.00  | -10.83 | 47.22  | -4.05  | Average |
| 3249.300   | 44.88  | 74.00  | -29.12 | 48.93  | -4.05  | Peak    | 3249.300 | 48.25  | 74.00  | -25.75 | 52.30  | -4.05  | Peak    |
| 4874.000   | 39.10  | 54.00  | -14.90 | 38.31  | 0.79   | Average | 4874.000 | 45.09  | 54.00  | -8.91  | 44.30  | 0.79   | Average |
| 4874.000   | 54.00  | 74.00  | -20.00 | 53.21  | 0.79   | Peak    | 4874.000 | 59.62  | 74.00  | -14.38 | 58.83  | 0.79   | Peak    |
| 7311.000   | 40.34  | 54.00  | -13.66 | 34.72  | 5.62   | Average | 7311.000 | 46.00  | 54.00  | -8.00  | 40.36  | 5.64   | Average |
| 7311.000   | 54.74  | 74.00  | -19.26 | 49.10  | 5.64   | Peak    | 7311.000 | 60.68  | 74.00  | -13.32 | 55.06  | 5.62   | Peak    |

| High CH    |        |        |        |        |        |         |          |        |        |        |        |        |         |
|------------|--------|--------|--------|--------|--------|---------|----------|--------|--------|--------|--------|--------|---------|
| Horizontal |        |        |        |        |        |         | Vertical |        |        |        |        |        |         |
| Freq       | Level  | Limit  | Over   | Read   | Factor | Remark  | Freq     | Level  | Limit  | Over   | Read   | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m | dB     | dBuV   |        |         | MHz      | dBuV/m | dBuV/m | dB     | dBuV   |        |         |
| 2460.200   | 85.97  |        |        | 93.40  | -7.43  | Average | 2460.700 | 92.77  |        |        | 100.20 | -7.43  | Average |
| 2460.200   | 96.45  |        |        | 103.88 | -7.43  | Peak    | 2460.700 | 103.62 |        |        | 111.05 | -7.43  | Peak    |
| 2483.600   | 43.88  | 54.00  | -10.12 | 51.22  | -7.34  | Average | 2483.600 | 52.06  | 54.00  | -1.94  | 59.40  | -7.34  | Average |
| 2483.600   | 63.84  | 74.00  | -10.16 | 71.18  | -7.34  | Peak    | 2483.600 | 73.17  | 74.00  | -0.83  | 80.51  | -7.34  | Peak    |
| 3282.700   | 37.88  | 54.00  | -16.12 | 41.83  | -3.95  | Average | 3282.700 | 42.61  | 54.00  | -11.39 | 46.57  | -3.96  | Average |
| 3282.700   | 47.88  | 74.00  | -26.12 | 51.83  | -3.95  | Peak    | 3282.700 | 46.70  | 74.00  | -27.30 | 50.66  | -3.96  | Peak    |
| 4924.000   | 35.49  | 54.00  | -18.51 | 34.66  | 0.83   | Average | 4924.000 | 40.13  | 54.00  | -13.87 | 39.29  | 0.84   | Average |
| 4924.000   | 50.64  | 74.00  | -23.36 | 49.81  | 0.83   | Peak    | 4924.000 | 54.82  | 74.00  | -19.18 | 53.98  | 0.84   | Peak    |
| 7386.000   | 34.53  | 54.00  | -19.47 | 28.61  | 5.92   | Average | 7386.000 | 35.79  | 54.00  | -18.21 | 29.87  | 5.92   | Average |
| 7386.000   | 48.86  | 74.00  | -25.14 | 42.94  | 5.92   | Peak    | 7386.000 | 50.20  | 74.00  | -23.80 | 44.28  | 5.92   | Peak    |

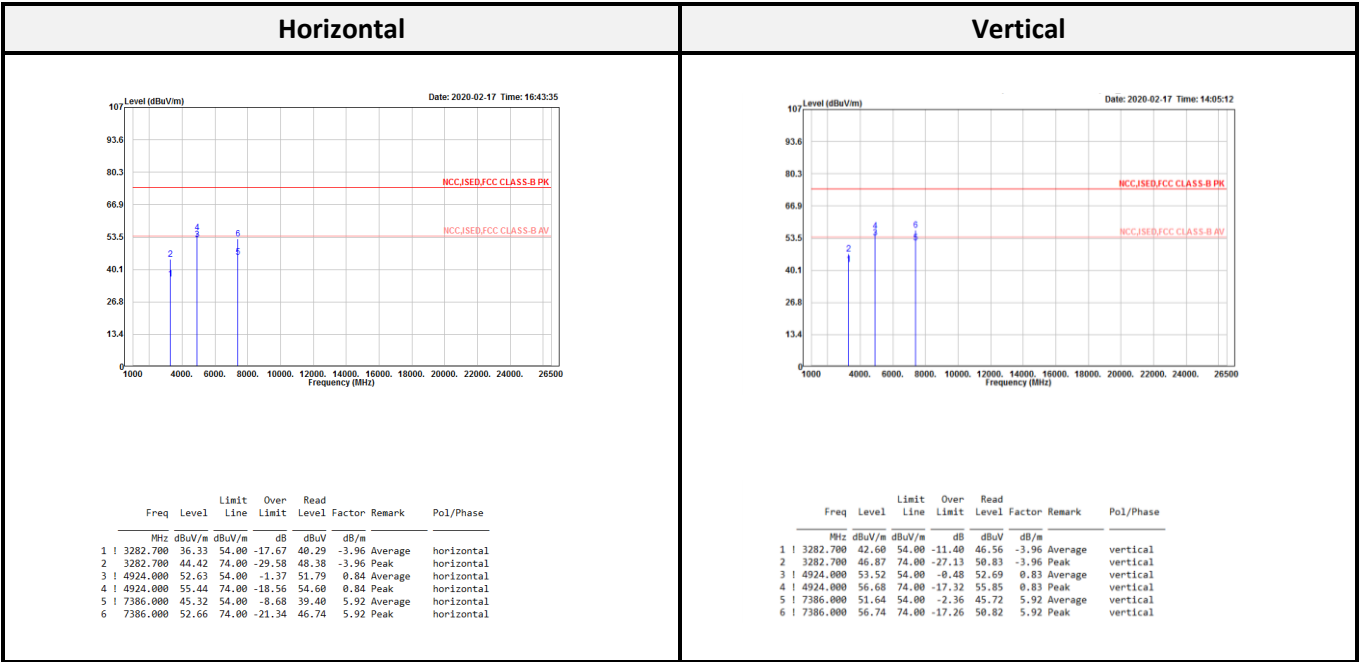
**IEEE 802.11n HT40:**

| Low CH     |        |               |               |               |        |         |          |        |               |               |               |        |         |
|------------|--------|---------------|---------------|---------------|--------|---------|----------|--------|---------------|---------------|---------------|--------|---------|
| Horizontal |        |               |               |               |        |         | Vertical |        |               |               |               |        |         |
| Freq       | Level  | Limit<br>Line | Over<br>Limit | Read<br>Level | Factor | Remark  | Freq     | Level  | Limit<br>Line | Over<br>Limit | Read<br>Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m        | dB            | dBuV          | dB/m   |         | MHz      | dBuV/m | dBuV/m        | dB            | dBuV          | dB/m   |         |
| 2385.768   | 44.57  | 54.00         | -9.43         | 52.21         | -7.64  | Average | 2388.012 | 53.43  | 54.00         | -0.57         | 61.06         | -7.63  | Average |
| 2385.768   | 60.98  | 74.00         | -13.02        | 68.62         | -7.64  | Peak    | 2388.012 | 69.46  | 74.00         | -4.54         | 77.09         | -7.63  | Peak    |
| 2404.908   | 80.01  |               |               | 87.62         | -7.61  | Average | 2416.524 | 87.23  |               |               | 94.82         | -7.59  | Average |
| 2404.908   | 90.26  |               |               | 97.87         | -7.61  | Peak    | 2416.524 | 98.31  |               |               | 105.90        | -7.59  | Peak    |
| 3229.300   | 36.09  | 54.00         | -17.91        | 40.23         | -4.14  | Average | 3229.300 | 42.29  | 54.00         | -11.71        | 46.43         | -4.14  | Average |
| 3229.300   | 43.85  | 74.00         | -30.15        | 47.99         | -4.14  | Peak    | 3229.300 | 46.28  | 74.00         | -27.72        | 50.42         | -4.14  | Peak    |
| 4844.000   | 31.60  | 54.00         | -22.40        | 30.90         | 0.70   | Average | 4844.000 | 34.72  | 54.00         | -19.28        | 34.02         | 0.70   | Average |
| 4844.000   | 44.48  | 74.00         | -29.52        | 43.78         | 0.70   | Peak    | 4844.000 | 49.09  | 74.00         | -24.91        | 48.39         | 0.70   | Peak    |
| 7266.000   | 34.03  | 54.00         | -19.97        | 28.60         | 5.43   | Average | 7266.000 | 34.68  | 54.00         | -19.32        | 29.25         | 5.43   | Average |
| 7266.000   | 46.62  | 74.00         | -27.38        | 41.19         | 5.43   | Peak    | 7266.000 | 46.72  | 74.00         | -27.28        | 41.29         | 5.43   | Peak    |

| Middle CH  |        |               |               |               |        |         |          |        |               |               |               |        |         |
|------------|--------|---------------|---------------|---------------|--------|---------|----------|--------|---------------|---------------|---------------|--------|---------|
| Horizontal |        |               |               |               |        |         | Vertical |        |               |               |               |        |         |
| Freq       | Level  | Limit<br>Line | Over<br>Limit | Read<br>Level | Factor | Remark  | Freq     | Level  | Limit<br>Line | Over<br>Limit | Read<br>Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m        | dB            | dBuV          | dB/m   |         | MHz      | dBuV/m | dBuV/m        | dB            | dBuV          | dB/m   |         |
| 2387.924   | 46.46  | 54.00         | -7.54         | 54.09         | -7.63  | Average | 2389.376 | 53.73  | 54.00         | -0.27         | 61.36         | -7.63  | Average |
| 2387.924   | 63.51  | 74.00         | -10.49        | 71.14         | -7.63  | Peak    | 2389.376 | 71.51  | 74.00         | -2.49         | 79.14         | -7.63  | Peak    |
| 2434.146   | 83.78  |               |               | 91.32         | -7.54  | Average | 2440.922 | 90.36  |               |               | 97.88         | -7.52  | Average |
| 2434.146   | 95.04  |               |               | 102.58        | -7.54  | Peak    | 2440.922 | 101.62 |               |               | 109.14        | -7.52  | Peak    |
| 2484.240   | 44.43  | 54.00         | -9.57         | 51.77         | -7.34  | Average | 2484.240 | 51.96  | 54.00         | -2.04         | 59.30         | -7.34  | Average |
| 2484.240   | 64.55  | 74.00         | -9.45         | 71.89         | -7.34  | Peak    | 2484.240 | 73.01  | 74.00         | -0.99         | 80.35         | -7.34  | Peak    |
| 3249.300   | 37.10  | 54.00         | -16.90        | 41.17         | -4.07  | Average | 3249.300 | 42.96  | 54.00         | -11.04        | 47.03         | -4.07  | Average |
| 3249.300   | 44.01  | 74.00         | -29.99        | 48.08         | -4.07  | Peak    | 3249.300 | 47.22  | 74.00         | -26.78        | 51.29         | -4.07  | Peak    |
| 4874.000   | 34.25  | 54.00         | -19.75        | 33.46         | 0.79   | Average | 4874.000 | 38.00  | 54.00         | -16.00        | 37.21         | 0.79   | Average |
| 4874.000   | 48.04  | 74.00         | -25.96        | 47.25         | 0.79   | Peak    | 4874.000 | 51.93  | 74.00         | -22.07        | 51.14         | 0.79   | Peak    |
| 7311.000   | 35.39  | 54.00         | -18.61        | 29.75         | 5.64   | Average | 7311.000 | 38.28  | 54.00         | -15.72        | 32.64         | 5.64   | Average |
| 7311.000   | 49.26  | 74.00         | -24.74        | 43.62         | 5.64   | Peak    | 7311.000 | 51.60  | 74.00         | -22.40        | 45.96         | 5.64   | Peak    |

| High CH    |        |               |               |               |        |         |          |        |               |               |               |        |         |
|------------|--------|---------------|---------------|---------------|--------|---------|----------|--------|---------------|---------------|---------------|--------|---------|
| Horizontal |        |               |               |               |        |         | Vertical |        |               |               |               |        |         |
| Freq       | Level  | Limit<br>Line | Over<br>Limit | Read<br>Level | Factor | Remark  | Freq     | Level  | Limit<br>Line | Over<br>Limit | Read<br>Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m        | dB            | dBuV          | dB/m   |         | MHz      | dBuV/m | dBuV/m        | dB            | dBuV          | dB/m   |         |
| 2435.960   | 81.34  |               |               | 88.88         | -7.54  | Average | 2447.240 | 86.94  |               |               | 94.43         | -7.49  | Average |
| 2435.960   | 91.90  |               |               | 99.44         | -7.54  | Peak    | 2447.240 | 98.46  |               |               | 105.95        | -7.49  | Peak    |
| 2484.440   | 46.06  | 54.00         | -7.94         | 53.40         | -7.34  | Average | 2484.320 | 53.11  | 54.00         | -0.89         | 60.45         | -7.34  | Average |
| 2484.440   | 64.32  | 74.00         | -9.68         | 71.66         | -7.34  | Peak    | 2484.320 | 71.14  | 74.00         | -2.86         | 78.48         | -7.34  | Peak    |
| 3269.300   | 37.21  | 54.00         | -16.79        | 41.23         | -4.02  | Average | 3269.300 | 42.57  | 54.00         | -11.43        | 46.59         | -4.02  | Average |
| 3269.300   | 43.97  | 74.00         | -30.03        | 47.99         | -4.02  | Peak    | 3269.300 | 47.09  | 74.00         | -26.91        | 51.11         | -4.02  | Peak    |
| 4904.000   | 33.17  | 54.00         | -20.83        | 32.32         | 0.85   | Average | 4904.000 | 35.78  | 54.00         | -18.22        | 34.93         | 0.85   | Average |
| 4904.000   | 46.48  | 74.00         | -27.52        | 45.63         | 0.85   | Peak    | 4904.000 | 50.65  | 74.00         | -23.35        | 49.80         | 0.85   | Peak    |
| 7356.000   | 33.99  | 54.00         | -20.01        | 28.17         | 5.82   | Average | 7356.000 | 34.14  | 54.00         | -19.86        | 28.32         | 5.82   | Average |
| 7356.000   | 47.23  | 74.00         | -26.77        | 41.41         | 5.82   | Peak    | 7356.000 | 47.71  | 74.00         | -26.29        | 41.89         | 5.82   | Peak    |

Above 1G (1 GHz-26.5 GHz): The worst mode: 802.11b High CH.



Level = Reading Level + Correct Factor

Over Limit = Level – Limit

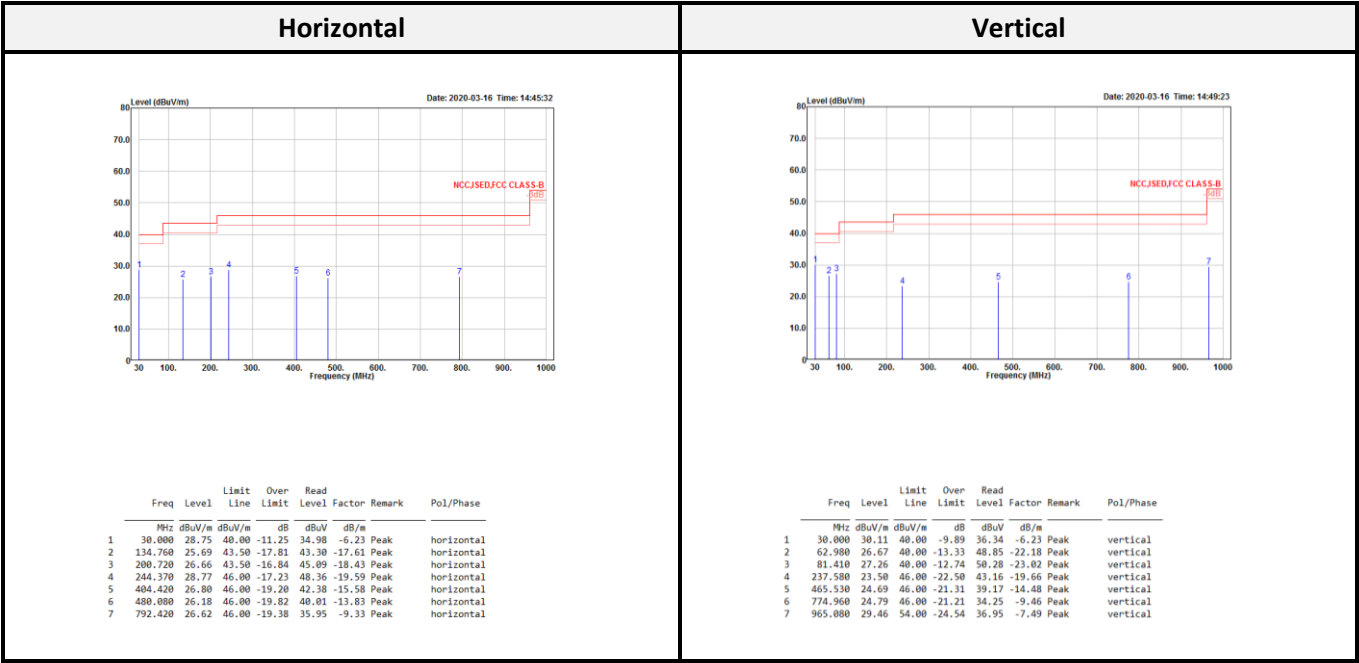
Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain

Spurious emissions more than 20 dB below the limit were not reported

< Dipole antenna (Inside WLAN PRO-IS-299) >

Transmitting mode (Pre-scan with three orthogonal axis, and worse case as Y axis)

Below 1G (30 MHz-1 GHz) test the worst mode



Level = Reading Level + Correct Factor

Over Limit = Level – Limit

Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain

Spurious emissions more than 20 dB below the limit were not reported

**Above 1G (1 GHz-26.5 GHz)****IEEE 802.11b:**

| Low CH     |        |            |            |            |        |         |          |        |            |            |            |        |         |
|------------|--------|------------|------------|------------|--------|---------|----------|--------|------------|------------|------------|--------|---------|
| Horizontal |        |            |            |            |        |         | Vertical |        |            |            |            |        |         |
| Freq       | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  | Freq     | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         | MHz      | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         |
| 2371.488   | 36.21  | 54.00      | -17.79     | 43.89      | -7.68  | Average | 2388.512 | 36.59  | 54.00      | -17.41     | 44.22      | -7.63  | Average |
| 2371.488   | 49.97  | 74.00      | -24.03     | 57.65      | -7.68  | Peak    | 2388.512 | 50.80  | 74.00      | -23.20     | 58.43      | -7.63  | Peak    |
| 2411.248   | 73.82  |            |            | 81.42      | -7.60  | Average | 2411.360 | 88.25  |            |            | 95.85      | -7.60  | Average |
| 2411.248   | 76.54  |            |            | 84.14      | -7.60  | Peak    | 2411.360 | 91.01  |            |            | 98.61      | -7.60  | Peak    |
| 3216.000   | 34.63  | 54.00      | -19.37     | 38.82      | -4.19  | Average | 3216.000 | 37.06  | 54.00      | -16.94     | 41.25      | -4.19  | Average |
| 3216.000   | 42.79  | 74.00      | -31.21     | 46.98      | -4.19  | Peak    | 3216.000 | 43.39  | 74.00      | -30.61     | 47.58      | -4.19  | Peak    |
| 4824.000   | 47.73  | 54.00      | -6.27      | 47.09      | 0.64   | Average | 4824.000 | 53.27  | 54.00      | -0.73      | 52.63      | 0.64   | Average |
| 4824.000   | 51.27  | 74.00      | -22.73     | 50.63      | 0.64   | Peak    | 4824.000 | 55.13  | 74.00      | -18.87     | 54.49      | 0.64   | Peak    |
| 7236.000   | 42.03  | 54.00      | -11.97     | 36.65      | 5.38   | Average | 7236.000 | 43.08  | 54.00      | -10.92     | 37.70      | 5.38   | Average |
| 7236.000   | 50.83  | 74.00      | -23.17     | 45.45      | 5.38   | Peak    | 7236.000 | 52.37  | 74.00      | -21.63     | 46.99      | 5.38   | Peak    |

| Middle CH  |        |            |            |            |        |         |          |        |            |            |            |        |         |
|------------|--------|------------|------------|------------|--------|---------|----------|--------|------------|------------|------------|--------|---------|
| Horizontal |        |            |            |            |        |         | Vertical |        |            |            |            |        |         |
| Freq       | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  | Freq     | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         | MHz      | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         |
| 2350.898   | 36.08  | 54.00      | -17.92     | 43.82      | -7.74  | Average | 2359.852 | 36.24  | 54.00      | -17.76     | 43.95      | -7.71  | Average |
| 2350.898   | 50.06  | 74.00      | -23.94     | 57.80      | -7.74  | Peak    | 2359.852 | 50.58  | 74.00      | -23.42     | 58.29      | -7.71  | Peak    |
| 2436.566   | 74.87  |            |            | 82.41      | -7.54  | Average | 2438.018 | 89.39  |            |            | 96.91      | -7.52  | Average |
| 2436.566   | 77.29  |            |            | 84.83      | -7.54  | Peak    | 2438.018 | 92.13  |            |            | 99.65      | -7.52  | Peak    |
| 2539.658   | 37.14  | 54.00      | -16.86     | 44.32      | -7.18  | Average | 2545.950 | 37.49  | 54.00      | -16.51     | 44.64      | -7.15  | Average |
| 2539.658   | 51.02  | 74.00      | -22.98     | 58.20      | -7.18  | Peak    | 2545.950 | 50.91  | 74.00      | -23.09     | 58.06      | -7.15  | Peak    |
| 3249.300   | 35.09  | 54.00      | -18.91     | 39.14      | -4.05  | Average | 3249.300 | 37.41  | 54.00      | -16.59     | 41.46      | -4.05  | Average |
| 3249.300   | 41.80  | 74.00      | -32.20     | 45.85      | -4.05  | Peak    | 3249.300 | 44.64  | 74.00      | -29.36     | 48.69      | -4.05  | Peak    |
| 4874.000   | 45.70  | 54.00      | -8.30      | 44.90      | 0.80   | Average | 4874.000 | 53.20  | 54.00      | -0.80      | 52.40      | 0.80   | Average |
| 4874.000   | 50.37  | 74.00      | -23.63     | 49.58      | 0.79   | Peak    | 4874.000 | 55.54  | 74.00      | -18.46     | 54.75      | 0.79   | Peak    |
| 7311.000   | 39.30  | 54.00      | -14.70     | 33.66      | 5.64   | Average | 7311.000 | 40.18  | 54.00      | -13.82     | 34.54      | 5.64   | Average |
| 7311.000   | 49.59  | 74.00      | -24.41     | 43.95      | 5.64   | Peak    | 7311.000 | 50.45  | 74.00      | -23.55     | 44.81      | 5.64   | Peak    |

| High CH    |        |            |            |            |        |         |          |        |            |            |            |        |         |
|------------|--------|------------|------------|------------|--------|---------|----------|--------|------------|------------|------------|--------|---------|
| Horizontal |        |            |            |            |        |         | Vertical |        |            |            |            |        |         |
| Freq       | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  | Freq     | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         | MHz      | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         |
| 2462.300   | 75.58  |            |            | 83.01      | -7.43  | Average | 2462.900 | 90.15  |            |            | 97.57      | -7.42  | Average |
| 2462.300   | 78.71  |            |            | 86.14      | -7.43  | Peak    | 2462.900 | 92.73  |            |            | 100.15     | -7.42  | Peak    |
| 2548.400   | 37.30  | 54.00      | -16.70     | 44.44      | -7.14  | Average | 2487.300 | 39.71  | 54.00      | -14.29     | 47.05      | -7.34  | Average |
| 2548.400   | 51.61  | 74.00      | -22.39     | 58.75      | -7.14  | Peak    | 2487.300 | 51.95  | 74.00      | -22.05     | 59.29      | -7.34  | Peak    |
| 3282.700   | 35.27  | 54.00      | -18.73     | 39.22      | -3.95  | Average | 3282.700 | 37.99  | 54.00      | -16.01     | 41.94      | -3.95  | Average |
| 3282.700   | 43.24  | 74.00      | -30.76     | 47.19      | -3.95  | Peak    | 3282.700 | 44.29  | 74.00      | -29.71     | 48.24      | -3.95  | Peak    |
| 4924.000   | 47.71  | 54.00      | -6.29      | 46.88      | 0.83   | Average | 4924.000 | 53.34  | 54.00      | -0.66      | 52.51      | 0.83   | Average |
| 4924.000   | 51.60  | 74.00      | -22.40     | 50.76      | 0.84   | Peak    | 4924.000 | 55.71  | 74.00      | -18.29     | 54.87      | 0.84   | Peak    |
| 7386.000   | 41.81  | 54.00      | -12.19     | 35.89      | 5.92   | Average | 7386.000 | 41.82  | 54.00      | -12.18     | 35.90      | 5.92   | Average |
| 7386.000   | 50.72  | 74.00      | -23.28     | 44.80      | 5.92   | Peak    | 7386.000 | 50.82  | 74.00      | -23.18     | 44.90      | 5.92   | Peak    |

IEEE 802.11g:

| Low CH     |        |        |        |       |        |         |          |        |        |        |        |        |         |
|------------|--------|--------|--------|-------|--------|---------|----------|--------|--------|--------|--------|--------|---------|
| Horizontal |        |        |        |       |        |         | Vertical |        |        |        |        |        |         |
| Freq       | Level  | Limit  | Over   | Read  | Factor | Remark  | Freq     | Level  | Limit  | Over   | Read   | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m | dB     | dBuV  | dB/m   |         | MHz      | dBuV/m | dBuV/m | dB     | dBuV   | dB/m   |         |
| 2388.848   | 37.07  | 54.00  | -16.93 | 44.70 | -7.63  | Average | 2389.968 | 45.85  | 54.00  | -8.15  | 53.48  | -7.63  | Average |
| 2388.848   | 51.27  | 74.00  | -22.73 | 58.90 | -7.63  | Peak    | 2389.968 | 66.44  | 74.00  | -7.56  | 74.07  | -7.63  | Peak    |
| 2414.272   | 68.67  |        |        | 76.26 | -7.59  | Average | 2414.272 | 83.28  |        |        | 90.87  | -7.59  | Average |
| 2414.272   | 80.00  |        |        | 87.59 | -7.59  | Peak    | 2414.272 | 94.50  |        |        | 102.09 | -7.59  | Peak    |
| 3216.000   | 44.91  | 54.00  | -9.09  | 49.10 | -4.19  | Average | 3216.000 | 37.21  | 54.00  | -16.79 | 41.40  | -4.19  | Average |
| 3216.000   | 43.73  | 74.00  | -30.27 | 47.92 | -4.19  | Peak    | 3216.000 | 44.28  | 74.00  | -29.72 | 48.47  | -4.19  | Peak    |
| 4824.000   | 37.41  | 54.00  | -16.59 | 36.77 | 0.64   | Average | 4824.000 | 43.42  | 54.00  | -10.58 | 42.78  | 0.64   | Average |
| 4824.000   | 51.24  | 74.00  | -22.76 | 50.60 | 0.64   | Peak    | 4824.000 | 58.09  | 74.00  | -15.91 | 57.45  | 0.64   | Peak    |
| 7236.000   | 38.59  | 54.00  | -15.41 | 33.21 | 5.38   | Average | 7236.000 | 38.69  | 54.00  | -15.31 | 33.31  | 5.38   | Average |
| 7236.000   | 53.34  | 74.00  | -20.66 | 47.96 | 5.38   | Peak    | 7236.000 | 53.23  | 74.00  | -20.77 | 47.85  | 5.38   | Peak    |

| Middle CH  |        |        |        |       |        |         |          |        |        |        |        |        |         |
|------------|--------|--------|--------|-------|--------|---------|----------|--------|--------|--------|--------|--------|---------|
| Horizontal |        |        |        |       |        |         | Vertical |        |        |        |        |        |         |
| Freq       | Level  | Limit  | Over   | Read  | Factor | Remark  | Freq     | Level  | Limit  | Over   | Read   | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m | dB     | dBuV  | dB/m   |         | MHz      | dBuV/m | dBuV/m | dB     | dBuV   | dB/m   |         |
| 2384.294   | 36.46  | 54.00  | -17.54 | 44.10 | -7.64  | Average | 2388.166 | 37.23  | 54.00  | -16.77 | 44.86  | -7.63  | Average |
| 2384.294   | 50.27  | 74.00  | -23.73 | 57.91 | -7.64  | Peak    | 2388.166 | 54.47  | 74.00  | -19.53 | 62.10  | -7.63  | Peak    |
| 2438.986   | 69.85  |        |        | 77.37 | -7.52  | Average | 2439.228 | 84.86  |        |        | 92.38  | -7.52  | Average |
| 2438.986   | 80.52  |        |        | 88.04 | -7.52  | Peak    | 2439.228 | 96.30  |        |        | 103.82 | -7.52  | Peak    |
| 2539.900   | 37.12  | 54.00  | -16.88 | 44.30 | -7.18  | Average | 2491.500 | 38.63  | 54.00  | -15.37 | 45.96  | -7.33  | Average |
| 2539.900   | 51.43  | 74.00  | -22.57 | 58.61 | -7.18  | Peak    | 2491.500 | 53.23  | 74.00  | -20.77 | 60.56  | -7.33  | Peak    |
| 3249.300   | 35.16  | 54.00  | -18.84 | 39.21 | -4.05  | Average | 3249.300 | 37.43  | 54.00  | -16.57 | 41.48  | -4.05  | Average |
| 3249.300   | 43.23  | 74.00  | -30.77 | 47.28 | -4.05  | Peak    | 3249.300 | 44.17  | 74.00  | -29.83 | 48.22  | -4.05  | Peak    |
| 4874.000   | 36.70  | 54.00  | -17.30 | 35.91 | 0.79   | Average | 4874.000 | 43.46  | 54.00  | -10.54 | 42.67  | 0.79   | Average |
| 4874.000   | 51.28  | 74.00  | -22.72 | 50.48 | 0.80   | Peak    | 4874.000 | 57.66  | 74.00  | -16.34 | 56.96  | 0.70   | Peak    |
| 7311.000   | 37.59  | 54.00  | -16.41 | 31.95 | 5.64   | Average | 7311.000 | 39.49  | 54.00  | -14.51 | 33.85  | 5.64   | Average |
| 7311.000   | 52.84  | 74.00  | -21.16 | 47.20 | 5.64   | Peak    | 7311.000 | 54.54  | 74.00  | -19.46 | 48.90  | 5.64   | Peak    |

| High CH    |        |        |        |       |        |         |          |        |        |        |        |        |         |
|------------|--------|--------|--------|-------|--------|---------|----------|--------|--------|--------|--------|--------|---------|
| Horizontal |        |        |        |       |        |         | Vertical |        |        |        |        |        |         |
| Freq       | Level  | Limit  | Over   | Read  | Factor | Remark  | Freq     | Level  | Limit  | Over   | Read   | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m | dB     | dBuV  | dB/m   |         | MHz      | dBuV/m | dBuV/m | dB     | dBuV   | dB/m   |         |
| 2459.300   | 70.41  |        |        | 77.85 | -7.44  | Average | 2464.200 | 85.10  |        |        | 92.51  | -7.41  | Average |
| 2459.300   | 81.39  |        |        | 88.83 | -7.44  | Peak    | 2464.200 | 96.18  |        |        | 103.59 | -7.41  | Peak    |
| 2483.500   | 37.94  | 54.00  | -16.06 | 45.28 | -7.34  | Average | 2483.600 | 46.78  | 54.00  | -7.22  | 54.12  | -7.34  | Average |
| 2483.500   | 55.91  | 74.00  | -18.09 | 63.25 | -7.34  | Peak    | 2483.600 | 71.63  | 74.00  | -2.37  | 78.97  | -7.34  | Peak    |
| 3282.700   | 35.30  | 54.00  | -18.70 | 39.25 | -3.95  | Average | 3282.700 | 37.82  | 54.00  | -16.18 | 41.77  | -3.95  | Average |
| 3282.700   | 44.59  | 74.00  | -29.41 | 48.54 | -3.95  | Peak    | 3282.700 | 44.79  | 74.00  | -29.21 | 48.74  | -3.95  | Peak    |
| 4924.000   | 35.34  | 54.00  | -18.66 | 34.50 | 0.84   | Average | 4924.000 | 42.26  | 54.00  | -11.74 | 41.43  | 0.83   | Average |
| 4924.000   | 49.51  | 74.00  | -24.49 | 48.68 | 0.83   | Peak    | 4924.000 | 56.62  | 74.00  | -17.38 | 55.78  | 0.84   | Peak    |
| 7386.000   | 36.71  | 54.00  | -17.29 | 30.79 | 5.92   | Average | 7386.000 | 41.42  | 54.00  | -12.58 | 35.50  | 5.92   | Average |
| 7386.000   | 50.53  | 74.00  | -23.47 | 44.61 | 5.92   | Peak    | 7386.000 | 56.59  | 74.00  | -17.41 | 50.67  | 5.92   | Peak    |

IEEE 802.11n HT20:

| Low CH     |        |            |            |            |        |         |          |        |            |            |            |        |         |
|------------|--------|------------|------------|------------|--------|---------|----------|--------|------------|------------|------------|--------|---------|
| Horizontal |        |            |            |            |        |         | Vertical |        |            |            |            |        |         |
| Freq       | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  | Freq     | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         | MHz      | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         |
| 2389.744   | 37.81  | 54.00      | -16.19     | 45.44      | -7.63  | Average | 2389.632 | 46.82  | 54.00      | -7.18      | 54.45      | -7.63  | Average |
| 2389.744   | 54.87  | 74.00      | -19.13     | 62.50      | -7.63  | Peak    | 2389.632 | 66.62  | 74.00      | -7.38      | 74.25      | -7.63  | Peak    |
| 2413.712   | 69.69  |            |            | 77.28      | -7.59  | Average | 2413.600 | 83.63  |            |            | 91.22      | -7.59  | Average |
| 2413.712   | 80.98  |            |            | 88.57      | -7.59  | Peak    | 2413.600 | 94.81  |            |            | 102.40     | -7.59  | Peak    |
| 3216.000   | 35.66  | 54.00      | -18.34     | 39.85      | -4.19  | Average | 3216.000 | 0.03   | 54.00      | -53.97     | 4.22       | -4.19  | Average |
| 3216.000   | 42.18  | 74.00      | -31.82     | 46.37      | -4.19  | Peak    | 3216.000 | 42.97  | 74.00      | -31.03     | 47.16      | -4.19  | Peak    |
| 4824.000   | 37.18  | 54.00      | -16.82     | 36.54      | 0.64   | Average | 4824.000 | 42.22  | 54.00      | -11.78     | 41.58      | 0.64   | Average |
| 4824.000   | 51.27  | 74.00      | -22.73     | 50.63      | 0.64   | Peak    | 4824.000 | 57.48  | 74.00      | -16.52     | 56.84      | 0.64   | Peak    |
| 7236.000   | 37.97  | 54.00      | -16.03     | 32.59      | 5.38   | Average | 7236.000 | 39.68  | 54.00      | -14.32     | 34.30      | 5.38   | Average |
| 7236.000   | 52.25  | 74.00      | -21.75     | 46.87      | 5.38   | Peak    | 7236.000 | 54.89  | 74.00      | -19.11     | 49.51      | 5.38   | Peak    |

| Middle CH  |        |            |            |            |        |         |          |        |            |            |            |        |         |
|------------|--------|------------|------------|------------|--------|---------|----------|--------|------------|------------|------------|--------|---------|
| Horizontal |        |            |            |            |        |         | Vertical |        |            |            |            |        |         |
| Freq       | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  | Freq     | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         | MHz      | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         |
| 2388.650   | 36.37  | 54.00      | -17.63     | 44.00      | -7.63  | Average | 2387.924 | 37.47  | 54.00      | -16.53     | 45.10      | -7.63  | Average |
| 2388.650   | 51.15  | 74.00      | -22.85     | 58.78      | -7.63  | Peak    | 2387.924 | 54.15  | 74.00      | -19.85     | 61.78      | -7.63  | Peak    |
| 2439.228   | 69.79  |            |            | 77.31      | -7.52  | Average | 2438.744 | 84.63  |            |            | 92.15      | -7.52  | Average |
| 2439.228   | 80.55  |            |            | 88.07      | -7.52  | Peak    | 2438.744 | 95.11  |            |            | 102.63     | -7.52  | Peak    |
| 2522.960   | 37.27  | 54.00      | -16.73     | 44.53      | -7.26  | Average | 2485.208 | 38.47  | 54.00      | -15.53     | 45.81      | -7.34  | Average |
| 2522.960   | 51.25  | 74.00      | -22.75     | 58.51      | -7.26  | Peak    | 2485.208 | 54.68  | 74.00      | -19.32     | 62.02      | -7.34  | Peak    |
| 3249.300   | 35.57  | 54.00      | -18.43     | 39.62      | -4.05  | Average | 3249.300 | 37.59  | 54.00      | -16.41     | 41.64      | -4.05  | Average |
| 3249.300   | 43.23  | 74.00      | -30.77     | 47.28      | -4.05  | Peak    | 3249.300 | 44.38  | 74.00      | -29.62     | 48.43      | -4.05  | Peak    |
| 4874.000   | 36.63  | 54.00      | -17.37     | 35.83      | 0.80   | Average | 4874.000 | 42.78  | 54.00      | -11.22     | 41.98      | 0.80   | Average |
| 4874.000   | 50.64  | 74.00      | -23.36     | 49.85      | 0.79   | Peak    | 4874.000 | 56.40  | 74.00      | -17.60     | 55.61      | 0.79   | Peak    |
| 7311.000   | 36.32  | 54.00      | -17.68     | 30.68      | 5.64   | Average | 7311.000 | 38.08  | 54.00      | -15.92     | 32.44      | 5.64   | Average |
| 7311.000   | 50.49  | 74.00      | -23.51     | 44.85      | 5.64   | Peak    | 7311.000 | 53.49  | 74.00      | -20.51     | 47.85      | 5.64   | Peak    |

| High CH    |        |            |            |            |        |         |          |        |            |            |            |        |         |
|------------|--------|------------|------------|------------|--------|---------|----------|--------|------------|------------|------------|--------|---------|
| Horizontal |        |            |            |            |        |         | Vertical |        |            |            |            |        |         |
| Freq       | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  | Freq     | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         | MHz      | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         |
| 2459.900   | 70.48  |            |            | 77.91      | -7.43  | Average | 2463.500 | 85.17  |            |            | 92.59      | -7.42  | Average |
| 2459.900   | 81.49  |            |            | 88.92      | -7.43  | Peak    | 2463.500 | 96.42  |            |            | 103.84     | -7.42  | Peak    |
| 2484.300   | 38.61  | 54.00      | -15.39     | 45.95      | -7.34  | Average | 2483.800 | 49.11  | 54.00      | -4.89      | 56.45      | -7.34  | Average |
| 2484.300   | 56.71  | 74.00      | -17.29     | 64.05      | -7.34  | Peak    | 2483.800 | 70.40  | 74.00      | -3.60      | 77.74      | -7.34  | Peak    |
| 3282.700   | 35.04  | 54.00      | -18.96     | 38.99      | -3.95  | Average | 3282.700 | 38.62  | 54.00      | -15.38     | 42.57      | -3.95  | Average |
| 3282.700   | 42.29  | 74.00      | -31.71     | 46.24      | -3.95  | Peak    | 3282.700 | 44.42  | 74.00      | -29.58     | 48.37      | -3.95  | Peak    |
| 4924.000   | 35.27  | 54.00      | -18.73     | 34.44      | 0.83   | Average | 4924.000 | 42.34  | 54.00      | -11.66     | 41.50      | 0.84   | Average |
| 4924.000   | 49.29  | 74.00      | -24.71     | 48.45      | 0.84   | Peak    | 4924.000 | 56.54  | 74.00      | -17.46     | 55.71      | 0.83   | Peak    |
| 7386.000   | 36.69  | 54.00      | -17.31     | 30.77      | 5.92   | Average | 7386.000 | 40.62  | 54.00      | -13.38     | 34.70      | 5.92   | Average |
| 7386.000   | 50.70  | 74.00      | -23.30     | 44.78      | 5.92   | Peak    | 7386.000 | 56.70  | 74.00      | -17.30     | 50.78      | 5.92   | Peak    |

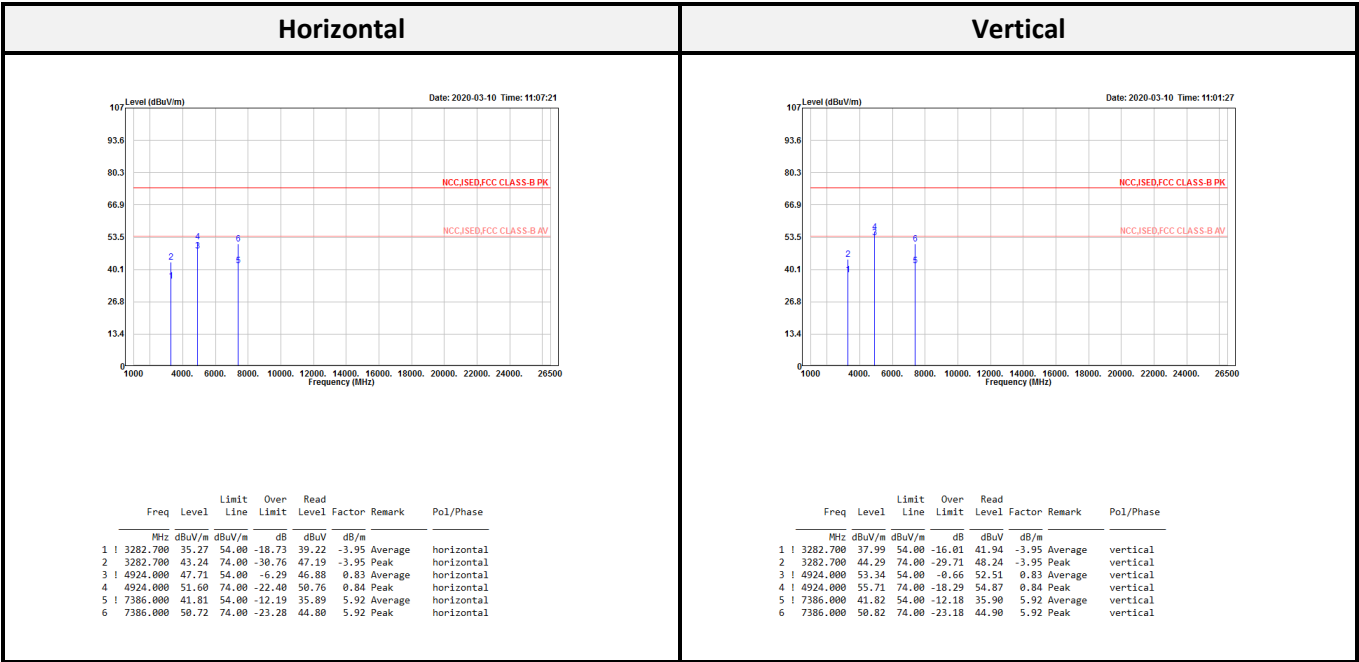
IEEE 802.11n HT40:

| Low CH     |        |            |            |            |        |         |          |        |            |            |            |        |         |
|------------|--------|------------|------------|------------|--------|---------|----------|--------|------------|------------|------------|--------|---------|
| Horizontal |        |            |            |            |        |         | Vertical |        |            |            |            |        |         |
| Freq       | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  | Freq     | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         | MHz      | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         |
| 2389.728   | 37.33  | 54.00      | -16.67     | 44.96      | -7.63  | Average | 2386.296 | 47.29  | 54.00      | -6.71      | 54.93      | -7.64  | Average |
| 2389.728   | 50.87  | 74.00      | -23.13     | 58.50      | -7.63  | Peak    | 2386.296 | 64.04  | 74.00      | -9.96      | 71.68      | -7.64  | Peak    |
| 2426.028   | 64.15  |            |            | 71.72      | -7.57  | Average | 2438.700 | 78.74  |            |            | 86.26      | -7.52  | Average |
| 2426.028   | 75.37  |            |            | 82.94      | -7.57  | Peak    | 2438.700 | 89.43  |            |            | 96.95      | -7.52  | Peak    |
| 3229.300   | 36.80  | 54.00      | -17.20     | 40.92      | -4.12  | Average | 3229.300 | 37.23  | 54.00      | -16.77     | 41.35      | -4.12  | Average |
| 3229.300   | 43.80  | 74.00      | -30.20     | 47.92      | -4.12  | Peak    | 3229.300 | 43.28  | 74.00      | -30.72     | 47.40      | -4.12  | Peak    |
| 4844.000   | 33.39  | 54.00      | -20.61     | 32.69      | 0.70   | Average | 4844.000 | 38.19  | 54.00      | -15.81     | 37.49      | 0.70   | Average |
| 4844.000   | 48.23  | 74.00      | -25.77     | 47.53      | 0.70   | Peak    | 4844.000 | 53.39  | 74.00      | -20.61     | 52.69      | 0.70   | Peak    |
| 7266.000   | 33.58  | 54.00      | -20.42     | 28.15      | 5.43   | Average | 7266.000 | 34.43  | 54.00      | -19.57     | 29.00      | 5.43   | Average |
| 7266.000   | 48.60  | 74.00      | -25.40     | 43.17      | 5.43   | Peak    | 7266.000 | 48.39  | 74.00      | -25.61     | 42.96      | 5.43   | Peak    |

| Middle CH  |        |            |            |            |        |         |          |        |            |            |            |        |         |
|------------|--------|------------|------------|------------|--------|---------|----------|--------|------------|------------|------------|--------|---------|
| Horizontal |        |            |            |            |        |         | Vertical |        |            |            |            |        |         |
| Freq       | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  | Freq     | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         | MHz      | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         |
| 2367.354   | 36.56  | 54.00      | -17.44     | 44.25      | -7.69  | Average | 2388.892 | 42.22  | 54.00      | -11.78     | 49.85      | -7.63  | Average |
| 2367.354   | 50.70  | 74.00      | -23.30     | 58.39      | -7.69  | Peak    | 2388.892 | 58.36  | 74.00      | -15.64     | 65.99      | -7.63  | Peak    |
| 2442.616   | 64.93  |            |            | 72.43      | -7.50  | Average | 2441.164 | 79.06  |            |            | 86.58      | -7.52  | Average |
| 2442.616   | 76.20  |            |            | 83.70      | -7.50  | Peak    | 2441.164 | 90.06  |            |            | 97.58      | -7.52  | Peak    |
| 2548.370   | 37.38  | 54.00      | -16.62     | 44.52      | -7.14  | Average | 2483.756 | 44.23  | 54.00      | -9.77      | 51.57      | -7.34  | Average |
| 2548.370   | 51.21  | 74.00      | -22.79     | 58.35      | -7.14  | Peak    | 2483.756 | 63.29  | 74.00      | -10.71     | 70.63      | -7.34  | Peak    |
| 3249.300   | 34.73  | 54.00      | -19.27     | 38.78      | -4.05  | Average | 3249.300 | 37.50  | 54.00      | -16.50     | 41.55      | -4.05  | Average |
| 3249.300   | 42.69  | 74.00      | -31.31     | 46.74      | -4.05  | Peak    | 3249.300 | 43.93  | 74.00      | -30.07     | 47.98      | -4.05  | Peak    |
| 4874.000   | 33.44  | 54.00      | -20.56     | 32.64      | 0.80   | Average | 4874.000 | 38.35  | 54.00      | -15.65     | 37.55      | 0.80   | Average |
| 4874.000   | 47.64  | 74.00      | -26.36     | 46.85      | 0.79   | Peak    | 4874.000 | 53.42  | 74.00      | -20.58     | 52.63      | 0.79   | Peak    |
| 7311.000   | 34.12  | 54.00      | -19.88     | 28.48      | 5.64   | Average | 7311.000 | 34.99  | 54.00      | -19.01     | 29.35      | 5.64   | Average |
| 7311.000   | 47.61  | 74.00      | -26.39     | 41.97      | 5.64   | Peak    | 7311.000 | 48.66  | 74.00      | -25.34     | 43.02      | 5.64   | Peak    |

| High CH    |        |            |            |            |        |         |          |        |            |            |            |        |         |
|------------|--------|------------|------------|------------|--------|---------|----------|--------|------------|------------|------------|--------|---------|
| Horizontal |        |            |            |            |        |         | Vertical |        |            |            |            |        |         |
| Freq       | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  | Freq     | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         | MHz      | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         |
| 2457.680   | 65.42  |            |            | 72.86      | -7.44  | Average | 2468.240 | 79.34  |            |            | 86.74      | -7.40  | Average |
| 2457.680   | 76.75  |            |            | 84.19      | -7.44  | Peak    | 2468.240 | 90.31  |            |            | 97.71      | -7.40  | Peak    |
| 2483.960   | 38.55  | 54.00      | -15.45     | 45.89      | -7.34  | Average | 2484.560 | 48.31  | 54.00      | -5.69      | 55.65      | -7.34  | Average |
| 2483.960   | 54.37  | 74.00      | -19.63     | 61.71      | -7.34  | Peak    | 2484.560 | 68.87  | 74.00      | -5.13      | 76.21      | -7.34  | Peak    |
| 3269.300   | 34.80  | 54.00      | -19.20     | 38.79      | -3.99  | Average | 3269.300 | 37.53  | 54.00      | -16.47     | 41.52      | -3.99  | Average |
| 3269.300   | 42.88  | 74.00      | -31.12     | 46.87      | -3.99  | Peak    | 3269.300 | 43.37  | 74.00      | -30.63     | 47.36      | -3.99  | Peak    |
| 4904.000   | 32.43  | 54.00      | -21.57     | 31.58      | 0.85   | Average | 4904.000 | 38.15  | 54.00      | -15.85     | 37.30      | 0.85   | Average |
| 4904.000   | 46.63  | 74.00      | -27.37     | 45.78      | 0.85   | Peak    | 4904.000 | 53.50  | 74.00      | -20.50     | 52.65      | 0.85   | Peak    |
| 7206.000   | 32.91  | 54.00      | -21.09     | 27.66      | 5.25   | Average | 7206.000 | 32.81  | 54.00      | -21.19     | 27.56      | 5.25   | Average |
| 7206.000   | 46.87  | 74.00      | -27.13     | 41.62      | 5.25   | Peak    | 7206.000 | 47.39  | 74.00      | -26.61     | 42.14      | 5.25   | Peak    |

Above 1G (1 GHz-26.5 GHz): The worst mode: 802.11b High CH.



Level = Reading Level + Correct Factor

Over Limit = Level – Limit

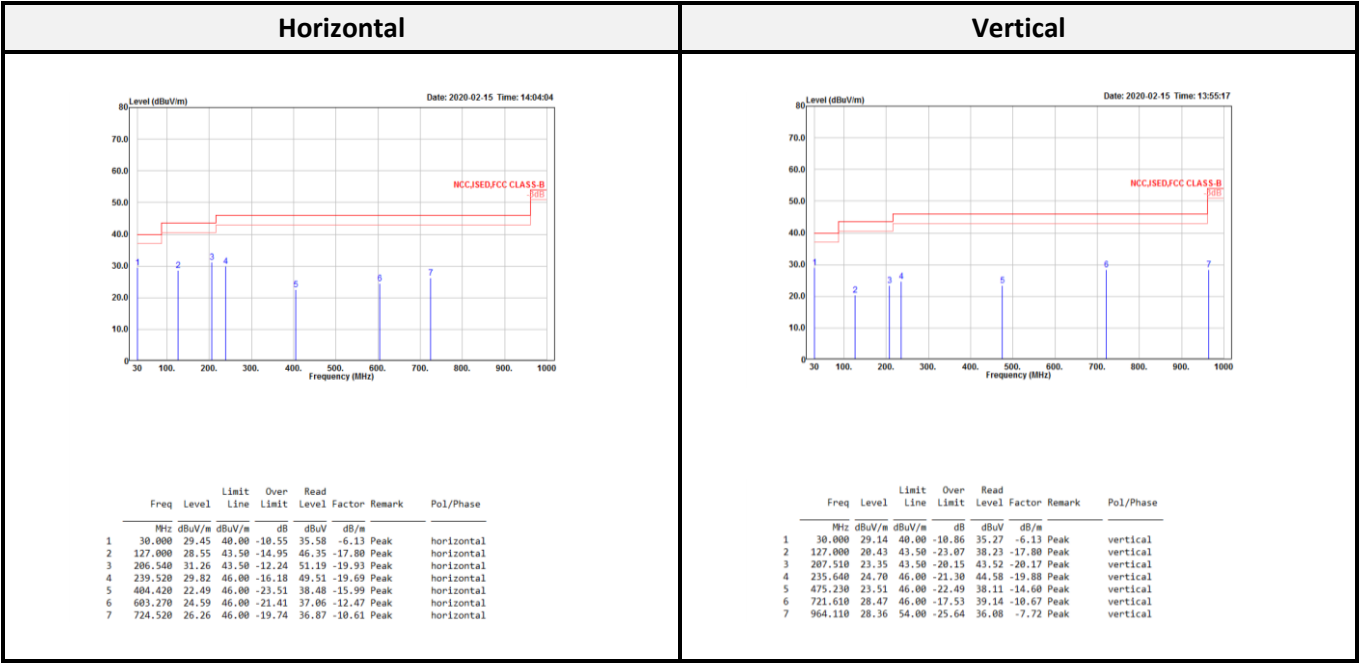
Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain

Spurious emissions more than 20 dB below the limit were not reported

< PCB Antenna (Redpine Signals RSIA7) >

Transmitting mode (Pre-scan with three orthogonal axis, and worse case as Z axis)

Below 1G (30 MHz-1 GHz) test the worst mode



Level = Reading Level + Correct Factor

Over Limit = Level – Limit

Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain

Spurious emissions more than 20 dB below the limit were not reported

**Above 1G (1 GHz-26.5 GHz)****IEEE 802.11b:**

| Low CH     |        |            |            |            |        |         |          |        |            |            |            |        |         |
|------------|--------|------------|------------|------------|--------|---------|----------|--------|------------|------------|------------|--------|---------|
| Horizontal |        |            |            |            |        |         | Vertical |        |            |            |            |        |         |
| Freq       | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  | Freq     | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         | MHz      | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         |
| 2388.736   | 40.28  | 54.00      | -13.72     | 47.91      | -7.63  | Average | 2380.896 | 36.84  | 54.00      | -17.16     | 44.49      | -7.65  | Average |
| 2388.736   | 53.14  | 74.00      | -20.86     | 60.77      | -7.63  | Peak    | 2380.896 | 51.08  | 74.00      | -22.92     | 58.73      | -7.65  | Peak    |
| 2413.040   | 100.63 |            |            | 108.22     | -7.59  | Average | 2413.040 | 92.40  |            |            | 99.99      | -7.59  | Average |
| 2413.040   | 103.28 |            |            | 110.87     | -7.59  | Peak    | 2413.040 | 95.20  |            |            | 102.79     | -7.59  | Peak    |
| 3216.000   | 41.21  | 54.00      | -12.79     | 45.42      | -4.21  | Average | 3216.000 | 39.42  | 54.00      | -14.58     | 43.63      | -4.21  | Average |
| 3216.000   | 45.26  | 74.00      | -28.74     | 49.47      | -4.21  | Peak    | 3216.000 | 44.21  | 74.00      | -29.79     | 48.42      | -4.21  | Peak    |
| 4824.000   | 47.21  | 54.00      | -6.79      | 46.57      | 0.64   | Average | 4824.000 | 53.13  | 54.00      | -0.87      | 52.49      | 0.64   | Average |
| 4824.000   | 51.41  | 74.00      | -22.59     | 50.77      | 0.64   | Peak    | 4824.000 | 55.38  | 74.00      | -18.62     | 54.74      | 0.64   | Peak    |
| 7236.000   | 36.90  | 54.00      | -17.10     | 31.52      | 5.38   | Average | 7236.000 | 44.13  | 54.00      | -9.87      | 38.75      | 5.38   | Average |
| 7236.000   | 48.99  | 74.00      | -25.01     | 43.61      | 5.38   | Peak    | 7236.000 | 51.76  | 74.00      | -22.24     | 46.38      | 5.38   | Peak    |

| Middle CH  |        |            |            |            |        |         |          |        |            |            |            |        |         |
|------------|--------|------------|------------|------------|--------|---------|----------|--------|------------|------------|------------|--------|---------|
| Horizontal |        |            |            |            |        |         | Vertical |        |            |            |            |        |         |
| Freq       | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  | Freq     | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         | MHz      | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         |
| 2382.842   | 38.47  | 54.00      | -15.53     | 46.11      | -7.64  | Average | 2384.778 | 36.86  | 54.00      | -17.14     | 44.50      | -7.64  | Average |
| 2382.842   | 51.76  | 74.00      | -22.24     | 59.40      | -7.64  | Peak    | 2384.778 | 50.74  | 74.00      | -23.26     | 58.38      | -7.64  | Peak    |
| 2436.324   | 102.12 |            |            | 109.66     | -7.54  | Average | 2436.324 | 93.58  |            |            | 101.12     | -7.54  | Average |
| 2436.324   | 104.96 |            |            | 112.50     | -7.54  | Peak    | 2436.324 | 96.38  |            |            | 103.92     | -7.54  | Peak    |
| 2492.952   | 40.06  | 54.00      | -13.94     | 47.39      | -7.33  | Average | 2524.654 | 37.60  | 54.00      | -16.40     | 44.85      | -7.25  | Average |
| 2492.952   | 53.03  | 74.00      | -20.97     | 60.36      | -7.33  | Peak    | 2524.654 | 51.33  | 74.00      | -22.67     | 58.58      | -7.25  | Peak    |
| 3249.300   | 41.19  | 54.00      | -12.81     | 45.23      | -4.04  | Average | 3249.300 | 37.82  | 54.00      | -16.18     | 41.86      | -4.04  | Average |
| 3249.300   | 46.19  | 74.00      | -27.81     | 50.23      | -4.04  | Peak    | 3249.300 | 43.80  | 74.00      | -30.20     | 47.84      | -4.04  | Peak    |
| 4874.000   | 46.90  | 54.00      | -7.10      | 46.12      | 0.78   | Average | 4874.000 | 53.54  | 54.00      | -0.46      | 52.76      | 0.78   | Average |
| 4874.000   | 51.17  | 74.00      | -22.83     | 50.39      | 0.78   | Peak    | 4874.000 | 56.29  | 74.00      | -17.71     | 55.51      | 0.78   | Peak    |
| 7311.000   | 36.29  | 54.00      | -17.71     | 30.65      | 5.64   | Average | 7311.000 | 43.20  | 54.00      | -10.80     | 37.56      | 5.64   | Average |
| 7311.000   | 49.31  | 74.00      | -24.69     | 43.67      | 5.64   | Peak    | 7311.000 | 51.14  | 74.00      | -22.86     | 45.50      | 5.64   | Peak    |

| High CH    |        |            |            |            |        |         |          |        |            |            |            |        |         |
|------------|--------|------------|------------|------------|--------|---------|----------|--------|------------|------------|------------|--------|---------|
| Horizontal |        |            |            |            |        |         | Vertical |        |            |            |            |        |         |
| Freq       | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  | Freq     | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         | MHz      | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         |
| 2462.900   | 102.25 |            |            | 109.67     | -7.42  | Average | 2461.100 | 93.81  |            |            | 101.24     | -7.43  | Average |
| 2462.900   | 104.89 |            |            | 112.31     | -7.42  | Peak    | 2461.100 | 96.65  |            |            | 104.08     | -7.43  | Peak    |
| 2504.300   | 42.14  | 54.00      | -11.86     | 49.44      | -7.30  | Average | 2503.600 | 37.79  | 54.00      | -16.21     | 45.10      | -7.31  | Average |
| 2504.300   | 55.49  | 74.00      | -18.51     | 62.79      | -7.30  | Peak    | 2503.600 | 51.64  | 74.00      | -22.36     | 58.95      | -7.31  | Peak    |
| 3282.700   | 45.81  | 54.00      | -8.19      | 49.78      | -3.97  | Average | 3282.700 | 39.16  | 54.00      | -14.84     | 43.13      | -3.97  | Average |
| 3282.700   | 46.81  | 74.00      | -27.19     | 50.78      | -3.97  | Peak    | 3282.700 | 43.89  | 74.00      | -30.11     | 47.86      | -3.97  | Peak    |
| 4924.000   | 45.84  | 54.00      | -8.16      | 45.00      | 0.84   | Average | 4924.000 | 53.21  | 54.00      | -0.79      | 52.37      | 0.84   | Average |
| 4924.000   | 50.81  | 74.00      | -23.19     | 49.97      | 0.84   | Peak    | 4924.000 | 55.35  | 74.00      | -18.65     | 54.51      | 0.84   | Peak    |
| 7386.000   | 37.55  | 54.00      | -16.45     | 31.63      | 5.92   | Average | 7386.000 | 43.97  | 54.00      | -10.03     | 38.05      | 5.92   | Average |
| 7386.000   | 49.24  | 74.00      | -24.76     | 43.32      | 5.92   | Peak    | 7386.000 | 51.42  | 74.00      | -22.58     | 45.50      | 5.92   | Peak    |

IEEE 802.11g:

| Low CH     |        |            |            |            |        |         |          |        |            |            |            |        |         |
|------------|--------|------------|------------|------------|--------|---------|----------|--------|------------|------------|------------|--------|---------|
| Horizontal |        |            |            |            |        |         | Vertical |        |            |            |            |        |         |
| Freq       | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  | Freq     | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         | MHz      | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         |
| 2390.000   | 52.19  | 54.00      | -1.81      | 59.82      | -7.63  | Average | 2389.968 | 42.63  | 54.00      | -11.37     | 50.26      | -7.63  | Average |
| 2390.000   | 71.80  | 74.00      | -2.20      | 79.43      | -7.63  | Peak    | 2389.968 | 59.50  | 74.00      | -14.50     | 67.13      | -7.63  | Peak    |
| 2414.160   | 94.75  |            |            | 102.34     | -7.59  | Average | 2414.160 | 87.12  |            |            | 94.71      | -7.59  | Average |
| 2414.160   | 105.96 |            |            | 113.55     | -7.59  | Peak    | 2414.160 | 98.63  |            |            | 106.22     | -7.59  | Peak    |
| 3216.000   | 41.16  | 54.00      | -12.84     | 45.37      | -4.21  | Average | 3216.000 | 38.35  | 54.00      | -15.65     | 42.56      | -4.21  | Average |
| 3216.000   | 46.17  | 74.00      | -27.83     | 50.38      | -4.21  | Peak    | 3216.000 | 43.96  | 74.00      | -30.04     | 48.17      | -4.21  | Peak    |
| 4824.000   | 35.60  | 54.00      | -18.40     | 34.96      | 0.64   | Average | 4824.000 | 42.21  | 54.00      | -11.79     | 41.57      | 0.64   | Average |
| 4824.000   | 50.76  | 74.00      | -23.24     | 50.12      | 0.64   | Peak    | 4824.000 | 57.48  | 74.00      | -16.52     | 56.84      | 0.64   | Peak    |
| 7236.000   | 34.36  | 54.00      | -19.64     | 28.98      | 5.38   | Average | 7236.000 | 38.98  | 54.00      | -15.02     | 33.60      | 5.38   | Average |
| 7236.000   | 49.63  | 74.00      | -24.37     | 44.25      | 5.38   | Peak    | 7236.000 | 54.03  | 74.00      | -19.97     | 48.65      | 5.38   | Peak    |

| Middle CH  |        |            |            |            |        |         |          |        |            |            |            |        |         |
|------------|--------|------------|------------|------------|--------|---------|----------|--------|------------|------------|------------|--------|---------|
| Horizontal |        |            |            |            |        |         | Vertical |        |            |            |            |        |         |
| Freq       | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  | Freq     | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         | MHz      | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         |
| 2388.650   | 45.82  | 54.00      | -8.18      | 53.45      | -7.63  | Average | 2388.892 | 39.82  | 54.00      | -14.18     | 47.45      | -7.63  | Average |
| 2388.650   | 70.06  | 74.00      | -3.94      | 77.69      | -7.63  | Peak    | 2388.892 | 61.62  | 74.00      | -12.38     | 69.25      | -7.63  | Peak    |
| 2439.228   | 99.90  |            |            | 107.42     | -7.52  | Average | 2434.388 | 92.37  |            |            | 99.91      | -7.54  | Average |
| 2439.228   | 110.51 |            |            | 118.03     | -7.52  | Peak    | 2434.388 | 103.18 |            |            | 110.72     | -7.54  | Peak    |
| 2483.514   | 48.99  | 54.00      | -5.01      | 56.33      | -7.34  | Average | 2483.756 | 40.91  | 54.00      | -13.09     | 48.25      | -7.34  | Average |
| 2483.514   | 72.12  | 74.00      | -1.88      | 79.46      | -7.34  | Peak    | 2483.756 | 61.84  | 74.00      | -12.16     | 69.18      | -7.34  | Peak    |
| 3249.300   | 41.32  | 54.00      | -12.68     | 45.39      | -4.07  | Average | 3249.300 | 38.81  | 54.00      | -15.19     | 42.88      | -4.07  | Average |
| 3249.300   | 45.43  | 74.00      | -28.57     | 49.50      | -4.07  | Peak    | 3249.300 | 44.09  | 74.00      | -29.91     | 48.16      | -4.07  | Peak    |
| 4874.000   | 40.68  | 54.00      | -13.32     | 39.88      | 0.80   | Average | 4874.000 | 45.07  | 54.00      | -8.93      | 44.27      | 0.80   | Average |
| 4874.000   | 53.65  | 74.00      | -20.35     | 52.85      | 0.80   | Peak    | 4874.000 | 59.34  | 74.00      | -14.66     | 58.54      | 0.80   | Peak    |
| 7311.000   | 39.31  | 54.00      | -14.69     | 33.67      | 5.64   | Average | 7311.000 | 44.38  | 54.00      | -9.62      | 38.76      | 5.62   | Average |
| 7311.000   | 53.59  | 74.00      | -20.41     | 47.95      | 5.64   | Peak    | 7311.000 | 59.11  | 74.00      | -14.89     | 53.49      | 5.62   | Peak    |

| High CH    |        |            |            |            |        |         |          |        |            |            |            |        |         |
|------------|--------|------------|------------|------------|--------|---------|----------|--------|------------|------------|------------|--------|---------|
| Horizontal |        |            |            |            |        |         | Vertical |        |            |            |            |        |         |
| Freq       | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  | Freq     | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         | MHz      | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         |
| 2464.200   | 94.20  |            |            | 101.61     | -7.41  | Average | 2464.300 | 85.31  |            |            | 92.72      | -7.41  | Average |
| 2464.200   | 105.61 |            |            | 113.02     | -7.41  | Peak    | 2464.300 | 96.40  |            |            | 103.81     | -7.41  | Peak    |
| 2483.500   | 52.45  | 54.00      | -1.55      | 59.79      | -7.34  | Average | 2483.800 | 42.18  | 54.00      | -11.82     | 49.52      | -7.34  | Average |
| 2483.500   | 72.86  | 74.00      | -1.14      | 80.20      | -7.34  | Peak    | 2483.800 | 60.79  | 74.00      | -13.21     | 68.13      | -7.34  | Peak    |
| 3282.700   | 41.67  | 54.00      | -12.33     | 45.63      | -3.96  | Average | 3282.700 | 39.71  | 54.00      | -14.29     | 43.67      | -3.96  | Average |
| 3282.700   | 44.61  | 74.00      | -29.39     | 48.57      | -3.96  | Peak    | 3282.700 | 44.17  | 74.00      | -29.83     | 48.13      | -3.96  | Peak    |
| 4924.000   | 34.79  | 54.00      | -19.21     | 33.95      | 0.84   | Average | 4924.000 | 40.15  | 54.00      | -13.85     | 39.31      | 0.84   | Average |
| 4924.000   | 48.72  | 74.00      | -25.28     | 47.88      | 0.84   | Peak    | 4924.000 | 54.36  | 74.00      | -19.64     | 53.52      | 0.84   | Peak    |
| 7386.000   | 35.17  | 54.00      | -18.83     | 29.25      | 5.92   | Average | 7386.000 | 37.58  | 54.00      | -16.42     | 31.66      | 5.92   | Average |
| 7386.000   | 47.13  | 74.00      | -26.87     | 41.21      | 5.92   | Peak    | 7386.000 | 52.49  | 74.00      | -21.51     | 46.57      | 5.92   | Peak    |

## IEEE 802.11n HT20:

| Low CH     |        |            |            |            |        |         |          |        |            |            |            |        |         |
|------------|--------|------------|------------|------------|--------|---------|----------|--------|------------|------------|------------|--------|---------|
| Horizontal |        |            |            |            |        |         | Vertical |        |            |            |            |        |         |
| Freq       | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  | Freq     | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         | MHz      | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         |
| 2389.520   | 52.51  | 54.00      | -1.49      | 60.14      | -7.63  | Average | 2388.960 | 43.28  | 54.00      | -10.72     | 50.91      | -7.63  | Average |
| 2389.520   | 72.29  | 74.00      | -1.71      | 79.92      | -7.63  | Peak    | 2388.960 | 61.73  | 74.00      | -12.27     | 69.36      | -7.63  | Peak    |
| 2413.488   | 93.85  |            |            | 101.44     | -7.59  | Average | 2414.384 | 85.70  |            |            | 93.29      | -7.59  | Average |
| 2413.488   | 104.73 |            |            | 112.32     | -7.59  | Peak    | 2414.384 | 96.50  |            |            | 104.09     | -7.59  | Peak    |
| 3216.000   | 42.10  | 54.00      | -11.90     | 46.33      | -4.23  | Average | 3216.000 | 39.34  | 54.00      | -14.66     | 43.41      | -4.07  | Average |
| 3216.000   | 44.10  | 74.00      | -29.90     | 48.33      | -4.23  | Peak    | 3216.000 | 44.13  | 74.00      | -29.87     | 48.20      | -4.07  | Peak    |
| 4824.000   | 35.61  | 54.00      | -18.39     | 34.97      | 0.64   | Average | 4824.000 | 42.15  | 54.00      | -11.85     | 41.51      | 0.64   | Average |
| 4824.000   | 49.42  | 74.00      | -24.58     | 48.78      | 0.64   | Peak    | 4824.000 | 56.43  | 74.00      | -17.57     | 55.79      | 0.64   | Peak    |
| 7236.000   | 35.50  | 54.00      | -18.50     | 30.12      | 5.38   | Average | 7236.000 | 38.17  | 54.00      | -15.83     | 32.79      | 5.38   | Average |
| 7236.000   | 47.63  | 74.00      | -26.37     | 42.25      | 5.38   | Peak    | 7236.000 | 52.88  | 74.00      | -21.12     | 47.50      | 5.38   | Peak    |

| Middle CH  |        |            |            |            |        |         |          |        |            |            |            |        |         |
|------------|--------|------------|------------|------------|--------|---------|----------|--------|------------|------------|------------|--------|---------|
| Horizontal |        |            |            |            |        |         | Vertical |        |            |            |            |        |         |
| Freq       | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  | Freq     | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         | MHz      | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         |
| 2389.520   | 52.51  | 54.00      | -1.49      | 60.14      | -7.63  | Average | 2388.166 | 40.17  | 54.00      | -13.83     | 47.80      | -7.63  | Average |
| 2389.520   | 72.29  | 74.00      | -1.71      | 79.92      | -7.63  | Peak    | 2388.166 | 59.53  | 74.00      | -14.47     | 67.16      | -7.63  | Peak    |
| 2413.488   | 93.85  |            |            | 101.44     | -7.59  | Average | 2438.502 | 92.35  |            |            | 99.87      | -7.52  | Average |
| 2413.488   | 104.73 |            |            | 112.32     | -7.59  | Peak    | 2438.502 | 103.45 |            |            | 110.97     | -7.52  | Peak    |
| 3216.000   | 42.10  | 54.00      | -11.90     | 46.33      | -4.23  | Average | 2485.450 | 41.91  | 54.00      | -12.09     | 49.25      | -7.34  | Average |
| 3216.000   | 44.10  | 74.00      | -29.90     | 48.33      | -4.23  | Peak    | 2485.450 | 62.53  | 74.00      | -11.47     | 69.87      | -7.34  | Peak    |
| 4824.000   | 35.61  | 54.00      | -18.39     | 34.97      | 0.64   | Average | 3249.300 | 39.58  | 54.00      | -14.42     | 43.65      | -4.07  | Average |
| 4824.000   | 49.42  | 74.00      | -24.58     | 48.78      | 0.64   | Peak    | 3249.300 | 44.74  | 74.00      | -29.26     | 48.81      | -4.07  | Peak    |
| 7236.000   | 35.50  | 54.00      | -18.50     | 30.12      | 5.38   | Average | 4874.000 | 46.00  | 54.00      | -8.00      | 45.21      | 0.79   | Average |
| 7236.000   | 47.63  | 74.00      | -26.37     | 42.25      | 5.38   | Peak    | 4874.000 | 59.48  | 74.00      | -14.52     | 58.69      | 0.79   | Peak    |
|            |        |            |            |            |        |         | 7311.000 | 44.90  | 54.00      | -9.10      | 39.26      | 5.64   | Average |
|            |        |            |            |            |        |         | 7311.000 | 59.51  | 74.00      | -14.49     | 53.87      | 5.64   | Peak    |

| High CH    |        |            |            |            |        |         |          |        |            |            |            |        |         |
|------------|--------|------------|------------|------------|--------|---------|----------|--------|------------|------------|------------|--------|---------|
| Horizontal |        |            |            |            |        |         | Vertical |        |            |            |            |        |         |
| Freq       | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  | Freq     | Level  | Limit Line | Over Limit | Read Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         | MHz      | dBuV/m | dBuV/m     | dB         | dBuV       | dB/m   |         |
| 2460.600   | 93.50  |            |            | 100.93     | -7.43  | Average | 2460.400 | 84.60  |            |            | 92.03      | -7.43  | Average |
| 2460.600   | 104.45 |            |            | 111.88     | -7.43  | Peak    | 2460.400 | 95.57  |            |            | 103.00     | -7.43  | Peak    |
| 2483.600   | 52.93  | 54.00      | -1.07      | 60.27      | -7.34  | Average | 2484.600 | 43.11  | 54.00      | -10.89     | 50.45      | -7.34  | Average |
| 2483.600   | 73.72  | 74.00      | -0.28      | 81.06      | -7.34  | Peak    | 2484.600 | 61.35  | 74.00      | -12.65     | 68.69      | -7.34  | Peak    |
| 3282.700   | 42.12  | 54.00      | -11.88     | 46.08      | -3.96  | Average | 3282.700 | 39.70  | 54.00      | -14.30     | 43.66      | -3.96  | Average |
| 3282.700   | 45.37  | 74.00      | -28.63     | 49.33      | -3.96  | Peak    | 3282.700 | 44.26  | 74.00      | -29.74     | 48.22      | -3.96  | Peak    |
| 4924.000   | 33.94  | 54.00      | -20.06     | 33.10      | 0.84   | Average | 4924.000 | 39.18  | 54.00      | -14.82     | 38.34      | 0.84   | Average |
| 4924.000   | 47.38  | 74.00      | -26.62     | 46.54      | 0.84   | Peak    | 4924.000 | 53.52  | 74.00      | -20.48     | 52.68      | 0.84   | Peak    |
| 7386.000   | 35.12  | 54.00      | -18.88     | 29.20      | 5.92   | Average | 7386.000 | 35.99  | 54.00      | -18.01     | 30.07      | 5.92   | Average |
| 7386.000   | 48.12  | 74.00      | -25.88     | 42.20      | 5.92   | Peak    | 7386.000 | 48.95  | 74.00      | -25.05     | 43.03      | 5.92   | Peak    |

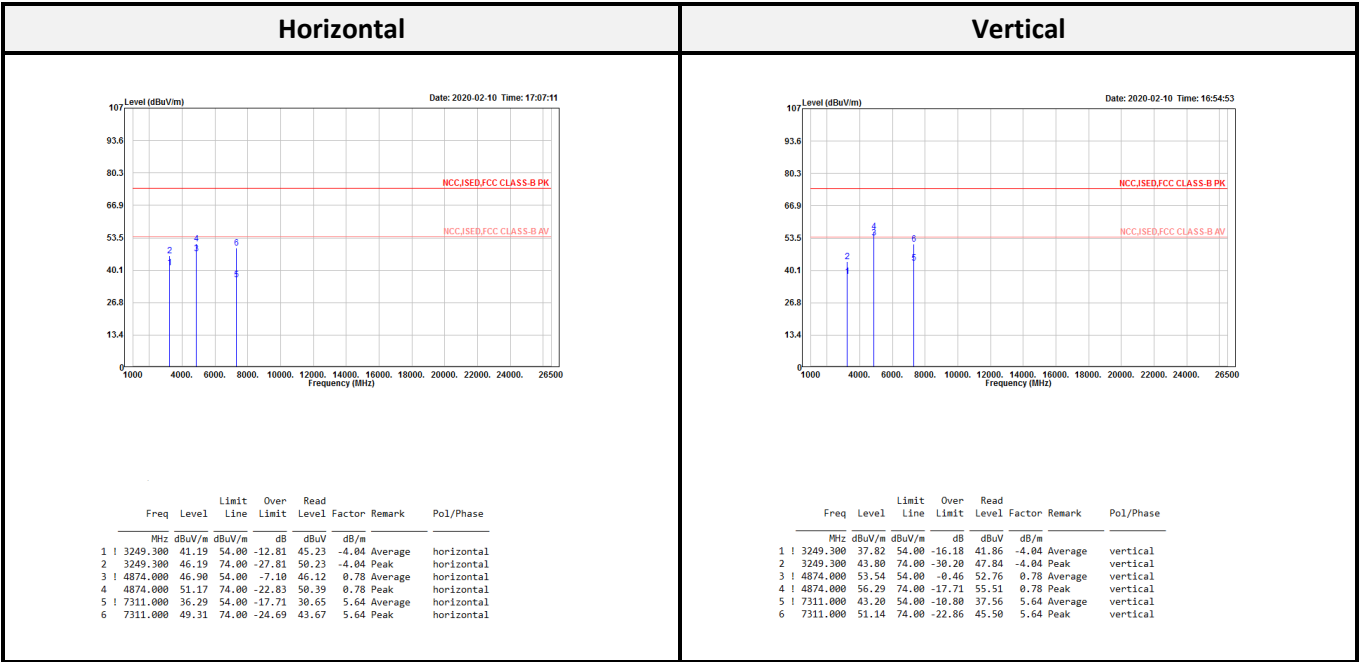
## IEEE 802.11n HT40:

| Low CH     |        |               |               |               |        |         |          |        |               |               |               |        |         |
|------------|--------|---------------|---------------|---------------|--------|---------|----------|--------|---------------|---------------|---------------|--------|---------|
| Horizontal |        |               |               |               |        |         | Vertical |        |               |               |               |        |         |
| Freq       | Level  | Limit<br>Line | Over<br>Limit | Read<br>Level | Factor | Remark  | Freq     | Level  | Limit<br>Line | Over<br>Limit | Read<br>Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m        | dB            | dBuV          | dB/m   |         | MHz      | dBuV/m | dBuV/m        | dB            | dBuV          | dB/m   |         |
| 2387.880   | 52.89  | 54.00         | -1.11         | 60.52         | -7.63  | Average | 2387.352 | 42.95  | 54.00         | -11.05        | 50.59         | -7.64  | Average |
| 2387.880   | 69.17  | 74.00         | -4.83         | 76.80         | -7.63  | Peak    | 2387.352 | 59.61  | 74.00         | -14.39        | 67.25         | -7.64  | Peak    |
| 2427.876   | 88.63  |               |               | 96.19         | -7.56  | Average | 2427.612 | 80.19  |               |               | 87.75         | -7.56  | Average |
| 2427.876   | 99.76  |               |               | 107.32        | -7.56  | Peak    | 2427.612 | 91.71  |               |               | 99.27         | -7.56  | Peak    |
| 3229.300   | 42.01  | 54.00         | -11.99        | 46.15         | -4.14  | Average | 3229.300 | 40.08  | 54.00         | -13.92        | 44.22         | -4.14  | Average |
| 3229.300   | 45.52  | 74.00         | -28.48        | 49.66         | -4.14  | Peak    | 3229.300 | 44.63  | 74.00         | -29.37        | 48.77         | -4.14  | Peak    |
| 4844.000   | 32.26  | 54.00         | -21.74        | 31.56         | 0.70   | Average | 4844.000 | 36.31  | 54.00         | -17.69        | 35.61         | 0.70   | Average |
| 4844.000   | 45.19  | 74.00         | -28.81        | 44.49         | 0.70   | Peak    | 4844.000 | 50.15  | 74.00         | -23.85        | 49.45         | 0.70   | Peak    |
| 7266.000   | 35.45  | 54.00         | -18.55        | 30.02         | 5.43   | Average | 7266.000 | 34.56  | 54.00         | -19.44        | 29.13         | 5.43   | Average |
| 7266.000   | 47.52  | 74.00         | -26.48        | 42.09         | 5.43   | Peak    | 7266.000 | 48.33  | 74.00         | -25.67        | 42.90         | 5.43   | Peak    |

| Middle CH  |        |               |               |               |        |         |          |        |               |               |               |        |         |
|------------|--------|---------------|---------------|---------------|--------|---------|----------|--------|---------------|---------------|---------------|--------|---------|
| Horizontal |        |               |               |               |        |         | Vertical |        |               |               |               |        |         |
| Freq       | Level  | Limit<br>Line | Over<br>Limit | Read<br>Level | Factor | Remark  | Freq     | Level  | Limit<br>Line | Over<br>Limit | Read<br>Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m        | dB            | dBuV          | dB/m   |         | MHz      | dBuV/m | dBuV/m        | dB            | dBuV          | dB/m   |         |
| 2387.682   | 49.23  | 54.00         | -4.77         | 56.86         | -7.63  | Average | 2386.230 | 41.12  | 54.00         | -12.88        | 48.76         | -7.64  | Average |
| 2387.682   | 68.50  | 74.00         | -5.50         | 76.13         | -7.63  | Peak    | 2386.230 | 59.29  | 74.00         | -14.71        | 66.93         | -7.64  | Peak    |
| 2441.890   | 90.98  |               |               | 98.49         | -7.51  | Average | 2442.858 | 82.41  |               |               | 89.91         | -7.50  | Average |
| 2441.890   | 102.06 |               |               | 109.57        | -7.51  | Peak    | 2442.858 | 93.82  |               |               | 101.32        | -7.50  | Peak    |
| 2483.756   | 53.27  | 54.00         | -0.73         | 60.61         | -7.34  | Average | 2483.756 | 43.80  | 54.00         | -10.20        | 51.14         | -7.34  | Average |
| 2483.756   | 73.68  | 74.00         | -0.32         | 81.02         | -7.34  | Peak    | 2483.756 | 62.45  | 74.00         | -11.55        | 69.79         | -7.34  | Peak    |
| 3249.300   | 42.18  | 54.00         | -11.82        | 46.25         | -4.07  | Average | 3249.300 | 39.40  | 54.00         | -14.60        | 43.47         | -4.07  | Average |
| 3249.300   | 45.60  | 74.00         | -28.40        | 49.67         | -4.07  | Peak    | 3249.300 | 44.37  | 74.00         | -29.63        | 48.44         | -4.07  | Peak    |
| 4874.000   | 32.24  | 54.00         | -21.76        | 31.45         | 0.79   | Average | 4874.000 | 38.12  | 54.00         | -15.88        | 37.33         | 0.79   | Average |
| 4874.000   | 45.88  | 74.00         | -28.12        | 45.09         | 0.79   | Peak    | 4874.000 | 52.24  | 74.00         | -21.76        | 51.45         | 0.79   | Peak    |
| 7311.000   | 35.79  | 54.00         | -18.21        | 30.15         | 5.64   | Average | 7311.000 | 37.11  | 54.00         | -16.89        | 31.47         | 5.64   | Average |
| 7311.000   | 47.67  | 74.00         | -26.33        | 42.03         | 5.64   | Peak    | 7311.000 | 52.68  | 74.00         | -21.32        | 47.04         | 5.64   | Peak    |

| High CH    |        |               |               |               |        |         |          |        |               |               |               |        |         |
|------------|--------|---------------|---------------|---------------|--------|---------|----------|--------|---------------|---------------|---------------|--------|---------|
| Horizontal |        |               |               |               |        |         | Vertical |        |               |               |               |        |         |
| Freq       | Level  | Limit<br>Line | Over<br>Limit | Read<br>Level | Factor | Remark  | Freq     | Level  | Limit<br>Line | Over<br>Limit | Read<br>Level | Factor | Remark  |
| MHz        | dBuV/m | dBuV/m        | dB            | dBuV          | dB/m   |         | MHz      | dBuV/m | dBuV/m        | dB            | dBuV          | dB/m   |         |
| 2455.760   | 88.16  |               |               | 95.61         | -7.45  | Average | 2457.680 | 79.48  |               |               | 86.92         | -7.44  | Average |
| 2455.760   | 99.26  |               |               | 106.71        | -7.45  | Peak    | 2457.680 | 90.74  |               |               | 98.18         | -7.44  | Peak    |
| 2484.000   | 53.61  | 54.00         | -0.39         | 60.95         | -7.34  | Average | 2484.560 | 43.46  | 54.00         | -10.54        | 50.80         | -7.34  | Average |
| 2484.000   | 71.83  | 74.00         | -2.17         | 79.17         | -7.34  | Peak    | 2484.560 | 59.50  | 74.00         | -14.50        | 66.84         | -7.34  | Peak    |
| 3269.300   | 42.25  | 54.00         | -11.75        | 46.27         | -4.02  | Average | 3269.300 | 39.63  | 54.00         | -14.37        | 43.65         | -4.02  | Average |
| 3269.300   | 45.51  | 74.00         | -28.49        | 49.53         | -4.02  | Peak    | 3269.300 | 44.51  | 74.00         | -29.49        | 48.53         | -4.02  | Peak    |
| 4904.000   | 32.21  | 54.00         | -21.79        | 31.36         | 0.85   | Average | 4904.000 | 34.45  | 54.00         | -19.55        | 33.60         | 0.85   | Average |
| 4904.000   | 44.65  | 74.00         | -29.35        | 43.80         | 0.85   | Peak    | 4904.000 | 48.73  | 74.00         | -25.27        | 47.88         | 0.85   | Peak    |
| 7356.000   | 36.02  | 54.00         | -17.98        | 30.20         | 5.82   | Average | 7356.000 | 38.06  | 54.00         | -15.94        | 32.24         | 5.82   | Average |
| 7356.000   | 49.02  | 74.00         | -24.98        | 43.20         | 5.82   | Peak    | 7356.000 | 50.75  | 74.00         | -23.25        | 44.93         | 5.82   | Peak    |

Above 1G (1 GHz-26.5 GHz): The worst mode: 802.11b Middle CH.



Level = Reading Level + Correct Factor

Over Limit = Level – Limit

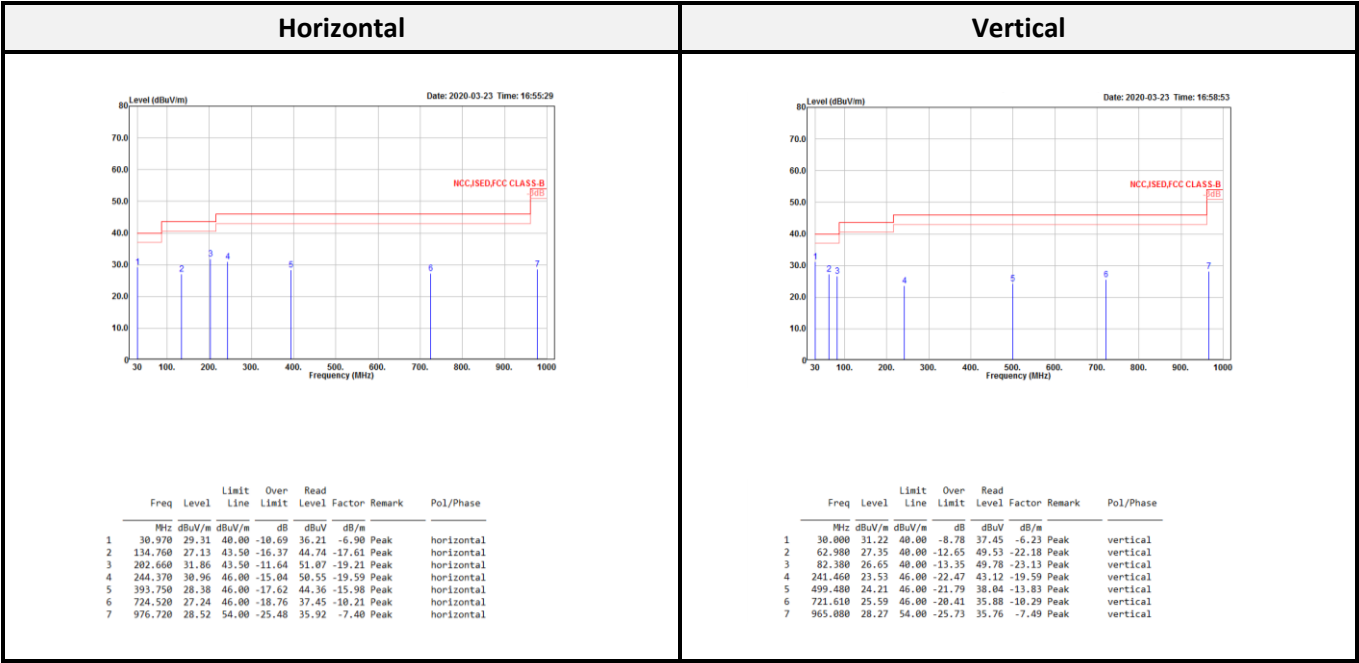
Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain

Spurious emissions more than 20 dB below the limit were not reported

< PIFA Antenna (SMARTEQ 4211613980) >

Transmitting mode (Pre-scan with three orthogonal axis, and worse case as Y axis)

Below 1G (30 MHz-1 GHz) test the worst mode



Level = Reading Level + Correct Factor

Over Limit = Level – Limit

Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain

Spurious emissions more than 20 dB below the limit were not reported