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# FCC TEST REPORT (15.247)

**REPORT NO.:** RF141201E10

**MODEL NO.:** DAP-2553B1

**FCC ID:** KA2AP2553B1

**RECEIVED:** Dec. 01, 2014

**TESTED:** Dec. 04 to 22, 2014

**ISSUED:** Dec. 30, 2014

**APPLICANT:** D-Link Corporation

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**ISSUED BY:** Bureau Veritas Consumer Products Services  
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## RELEASE CONTROL RECORD

| ISSUE NO.   | REASON FOR CHANGE | DATE ISSUED   |
|-------------|-------------------|---------------|
| RF141201E10 | Original release  | Dec. 30, 2014 |

## 1. CERTIFICATION

**PRODUCT:** D-Link AirPremier N Dual Band PoE Access Point,  
D-Link Wireless N Dual Band PoE Access Point

**BRAND NAME:** D-Link

**MODEL NO.:** DAP-2553B1

**TEST SAMPLE:** R&D SAMPLE

**APPLICANT:** D-Link Corporation

**TESTED:** Dec. 04 to 22, 2014

**STANDARDS:** **FCC Part 15, Subpart C (Section 15.247)**  
ANSI C63.10-2009

The above equipment (Model: DAP-2553B1) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

**Prepared by :**  , **Date:** Dec. 30, 2014  
( Lori Chung, Specialist )

**Approved by :**  , **Date:** Dec. 30, 2014  
( May Chen, Manager )

## 2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

| APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.247) |                                            |        |                                                                                |
|-----------------------------------------------------------|--------------------------------------------|--------|--------------------------------------------------------------------------------|
| STANDARD SECTION                                          | TEST TYPE                                  | RESULT | REMARK                                                                         |
| 15.207                                                    | AC Power Conducted Emission                | PASS   | Meet the requirement of limit. Minimum passing margin is -7.24dB at 0.48994MHz |
| 15.205<br>15.209<br>15.247(d)                             | Radiated Emissions & Band Edge Measurement | PASS   | Meet the requirement of limit. Minimum passing margin is -0.6dB at 4874.00MHz  |
| 15.247(d)                                                 | Antenna Port Emission                      | PASS   | Meet the requirement of limit.                                                 |
| 15.247(a)(2)                                              | 6dB bandwidth                              | PASS   | Meet the requirement of limit.                                                 |
| 15.247(b)                                                 | Conducted Output power                     | PASS   | Meet the requirement of limit.                                                 |
| 15.247(e)                                                 | Power Spectral Density                     | PASS   | Meet the requirement of limit.                                                 |
| 15.203                                                    | Antenna Requirement                        | PASS   | Antenna connector is SMA plug Reverse not a standard connector.                |

**NOTE: 1.** The EUT was operating in 2.400 ~ 2.4835GHz, 5.15~5.25GHz and 5.725~5.850GHz frequencies band. This report was recorded the RF parameters including 2.400 ~ 2.4835GHz. For the 5.15~5.25GHz and 5.725~5.850GHz RF parameters was recorded in another test report.

## 2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

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

| Measurement                       | Value   |
|-----------------------------------|---------|
| Conducted emissions               | 2.86 dB |
| Radiated emissions (30MHz-1GHz)   | 5.37 dB |
| Radiated emissions (1GHz -6GHz)   | 3.65 dB |
| Radiated emissions (6GHz -18GHz)  | 3.88 dB |
| Radiated emissions (18GHz -40GHz) | 4.11 dB |

### 3. GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

|                       |                                                                                                                                                                                                                            |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PRODUCT               | D-Link AirPremier N Dual Band PoE Access Point, D-Link Wireless N Dual Band PoE Access Point                                                                                                                               |
| MODEL NO.             | DAP-2553B1                                                                                                                                                                                                                 |
| POWER SUPPLY          | 5Vdc from power adapter or 48Vdc from POE                                                                                                                                                                                  |
| MODULATION TYPE       | CCK, DQPSK, DBPSK for DSSS<br>64QAM, 16QAM, QPSK, BPSK for OFDM                                                                                                                                                            |
| MODULATION TECHNOLOGY | DSSS,OFDM                                                                                                                                                                                                                  |
| TRANSFER RATE         | 802.11b: up to 11Mbps<br>802.11a / g: up to 54Mbps<br>802.11n: up to 450Mbps                                                                                                                                               |
| OPERATING FREQUENCY   | <b>For 15.407</b><br>5.18 ~ 5.24GHz, 5.745 ~ 5.825GHz                                                                                                                                                                      |
|                       | <b>For 15.247</b><br>2.412 ~ 2.462GHz                                                                                                                                                                                      |
| NUMBER OF CHANNEL     | <b>For 15.407</b><br>9 for 802.11a, 802.11n (HT20)<br>4 for 802.11n (HT40)                                                                                                                                                 |
|                       | <b>For 15.247</b><br>11 for 802.11b, 802.11g, 802.11n (HT20)<br>7 for 802.11n (HT40)                                                                                                                                       |
| MAXIMUM OUTPUT POWER  | <b>For 15.407</b><br>802.11a: 319.714mW<br>802.11n (HT20): 353.51mW<br>802.11n (HT40): 227.548mW<br><b>For 15.247</b><br>802.11b: 191.102mW<br>802.11g: 156.814mW<br>802.11n (HT20): 157.691mW<br>802.11n (HT40): 60.288mW |
| ANTENNA TYPE          | Please see Note                                                                                                                                                                                                            |
| DATA CABLE            | NA                                                                                                                                                                                                                         |
| I/O PORTS             | Refer to user's manual                                                                                                                                                                                                     |
| ASSOCIATED DEVICES    | Adapter x 1                                                                                                                                                                                                                |



**Note:**

- The EUT has below product names, which are identical to each other in all aspects except for the following information:

| Product Name                                   | Brand Name | Model Name | Difference                |
|------------------------------------------------|------------|------------|---------------------------|
| D-Link AirPremier N Dual Band PoE Access Point | D-Link     | DAP-2553B1 | for marketing requirement |
| D-Link Wireless N Dual Band PoE Access Point   |            |            |                           |

- The antennas provided to the EUT, please refer to the following table:

| Transmitter Circuit | Brand           | Model                        | Gain (dBi)<br>Without<br>cable loss | Cable<br>loss<br>(dB) | Net<br>Gain<br>(dBi) | Frequency range<br>(MHz to MHz) | Cable<br>Length<br>(mm) | Antenna<br>Type | Connector<br>Type   |
|---------------------|-----------------|------------------------------|-------------------------------------|-----------------------|----------------------|---------------------------------|-------------------------|-----------------|---------------------|
| Chain (0)           | WHA YU<br>GROUP | C037-510912-A<br>(SSR-82286) | 3.08                                | 0.6                   | 3.02                 | 2400~2483.5                     | 120                     | Dipole          | SMA Plug<br>Reverse |
|                     |                 |                              | 5.96                                | 1.1                   | 4.86                 | 5150~5250                       |                         |                 |                     |
|                     |                 |                              | 6.23                                | 1.1                   | 5.13                 | 5250~5350                       |                         |                 |                     |
|                     |                 |                              | 6.17                                | 1.1                   | 5.07                 | 5470~5725                       |                         |                 |                     |
| Chain (1)           | WHA YU<br>GROUP | C037-510912-A<br>(SSR-82286) | 3.08                                | 0.7                   | 2.38                 | 2400~2483.5                     | 140                     | Dipole          | SMA Plug<br>Reverse |
|                     |                 |                              | 5.96                                | 1.2                   | 4.76                 | 5150~5250                       |                         |                 |                     |
|                     |                 |                              | 6.23                                | 1.2                   | 5.03                 | 5250~5350                       |                         |                 |                     |
|                     |                 |                              | 6.17                                | 1.2                   | 4.97                 | 5470~5725                       |                         |                 |                     |
| Chain (2)           | WHA YU<br>GROUP | C037-510912-A<br>(SSR-82286) | 3.08                                | 0.7                   | 2.38                 | 2400~2483.5                     | 170                     | Dipole          | SMA Plug<br>Reverse |
|                     |                 |                              | 5.96                                | 1.2                   | 4.76                 | 5150~5250                       |                         |                 |                     |
|                     |                 |                              | 6.23                                | 1.2                   | 5.03                 | 5250~5350                       |                         |                 |                     |
|                     |                 |                              | 6.17                                | 1.2                   | 4.97                 | 5470~5725                       |                         |                 |                     |

- The EUT must be supplied with a power adapter or a POE as following table:

| Power Adapter                 |                     |                  |                                                                                              |
|-------------------------------|---------------------|------------------|----------------------------------------------------------------------------------------------|
| No                            | Brand               | Model No.        | Spec.                                                                                        |
| 1                             | ELECTRONICS CO.,LTD | F12W3-050200SPAU | AC Input: 100-240V, 0.3A, 50/60Hz<br>DC Output: 5V, 2A<br>DC Output cable: Unshielded, 1.52m |
| 2                             | D-Link              | 2ABE010B US      | AC Input: 100-240V, 0.3A, 50/60Hz<br>DC Output: 5V, 2A<br>DC Output cable: Unshielded, 1.23m |
| POE (test only, not for sale) |                     |                  |                                                                                              |
| Brand                         |                     | Model No.        | Spec.                                                                                        |
| D-LINK                        |                     | EBU-101G-T2 LF   | DC Input: 48V<br>DC output: 48V                                                              |

\* The POE must be supplied with the following adapter:

| Brand | Model No.       | Spec.                                                                                                      |
|-------|-----------------|------------------------------------------------------------------------------------------------------------|
| LEI   | NU20-L480040-I1 | AC Input: 100-240V, 0.4A, 50/60Hz<br>AC input cable: Unshielded, 1.85m with 1 core<br>DC Output: 48V, 0.4A |

4. The EUT incorporates a MIMO function.

| For 2.4GHz Band |                 |                       |     |
|-----------------|-----------------|-----------------------|-----|
| MODULATION MODE | DATA RATE (MCS) | TX & RX CONFIGURATION |     |
| 802.11b         | 1 ~ 11Mbps      | 3TX                   | 3RX |
| 802.11g         | 6 ~ 54Mbps      | 3TX                   | 3RX |
| 802.11n (HT20)  | MCS 0~7         | 3TX                   | 3RX |
|                 | MCS 8~15        | 3TX                   | 3RX |
|                 | MCS 16~23       | 3TX                   | 3RX |
| 802.11n (HT40)  | MCS 0~7         | 3TX                   | 3RX |
|                 | MCS 8~15        | 3TX                   | 3RX |
|                 | MCS 16~23       | 3TX                   | 3RX |
| For 5GHz Band   |                 |                       |     |
| 802.11a         | 6 ~ 54Mbps      | 3TX                   | 3RX |
| 802.11n (HT20)  | MCS 0~7         | 3TX                   | 3RX |
|                 | MCS 8~15        | 3TX                   | 3RX |
|                 | MCS 16~23       | 3TX                   | 3RX |
| 802.11n (HT40)  | MCS 0~7         | 3TX                   | 3RX |
|                 | MCS 8~15        | 3TX                   | 3RX |
|                 | MCS 16~23       | 3TX                   | 3RX |

5. The EUT was pre-tested under the following modes:

| Test Mode | Power          |
|-----------|----------------|
| Mode A    | With adapter 1 |
| Mode B    | With adapter 2 |
| Mode C    | With POE       |

From the above modes, the worst radiated emission was found in **Mode C**. Therefore only the test data of the mode was recorded in this report.

6. 2.4GHz & 5GHz technology cannot transmit at same time.

7. The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

### 3.2 DESCRIPTION OF TEST MODES

11 channels are provided for 802.11b, 802.11g, 802.11n (HT20):

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

7 channels are provided for 802.11n (HT40):

| CHANNEL | FREQUENCY | CHANNEL | FREQUENCY |
|---------|-----------|---------|-----------|
| 3       | 2422MHz   | 7       | 2442MHz   |
| 4       | 2427MHz   | 8       | 2447MHz   |
| 5       | 2432MHz   | 9       | 2452MHz   |
| 6       | 2437MHz   |         |           |

### 3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

| EUT<br>CONFIGURE<br>MODE | APPLICABLE TO |         |         |      |    | DESCRIPTION    |
|--------------------------|---------------|---------|---------|------|----|----------------|
|                          | PLC           | RE < 1G | RE ≥ 1G | APCM | OB |                |
| 1                        | √             | -       | -       | -    | -  | With adapter 1 |
| 2                        | √             | -       | -       | -    | -  | With adapter 2 |
| 3                        | √             | √       | √       | √    | √  | With POE       |

Where **PLC**: Power Line Conducted Emission **RE < 1G**: Radiated Emission below 1GHz  
**RE ≥ 1G**: Radiated Emission above 1GHz **APCM**: Antenna Port Conducted Measurement  
**OB**: Conducted Out-Band Emission Measurement

**NOTE:** 1. "-" means no effect.

2. The EUT had been pre-tested on the positioned of each 2 axis. The worst case was found when positioned on **stand-up type** (for below 1GHz) and **laying-flat type** (for above 1GHz).

#### **POWER LINE CONDUCTED EMISSION TEST:**

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

| MODE    | AVAILABLE<br>CHANNEL | TESTED<br>CHANNEL | MODULATION<br>TECHNOLOGY | MODULATION<br>TYPE | DATA RATE<br>(Mbps) |
|---------|----------------------|-------------------|--------------------------|--------------------|---------------------|
| 802.11b | 1 to 11              | 6                 | DSSS                     | DBPSK              | 1                   |

#### **RADIATED EMISSION TEST (BELOW 1 GHz):**

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

| MODE    | AVAILABLE<br>CHANNEL | TESTED<br>CHANNEL | MODULATION<br>TECHNOLOGY | MODULATION<br>TYPE | DATA RATE<br>(Mbps) |
|---------|----------------------|-------------------|--------------------------|--------------------|---------------------|
| 802.11b | 1 to 11              | 6                 | DSSS                     | DBPSK              | 1                   |

# **RADIATED EMISSION TEST (ABOVE 1 GHz):**

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

| MODE           | AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TECHNOLOGY | MODULATION TYPE | DATA RATE (Mbps) |
|----------------|-------------------|----------------|-----------------------|-----------------|------------------|
| 802.11b        | 1 to 11           | 1, 6, 11       | DSSS                  | DBPSK           | 1                |
| 802.11g        | 1 to 11           | 1, 6, 11       | OFDM                  | BPSK            | 6                |
| 802.11n (HT20) | 1 to 11           | 1, 6, 11       | OFDM                  | BPSK            | 6.5              |
| 802.11n (HT40) | 3 to 9            | 3, 6, 9        | OFDM                  | BPSK            | 13.5             |

# **ANTENNA PORT CONDUCTED MEASUREMENT:**

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

| MODE           | AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TECHNOLOGY | MODULATION TYPE | DATA RATE (Mbps) |
|----------------|-------------------|----------------|-----------------------|-----------------|------------------|
| 802.11b        | 1 to 11           | 1, 6, 11       | DSSS                  | DBPSK           | 1                |
| 802.11g        | 1 to 11           | 1, 6, 11       | OFDM                  | BPSK            | 6                |
| 802.11n (HT20) | 1 to 11           | 1, 6, 11       | OFDM                  | BPSK            | 6.5              |
| 802.11n (HT40) | 3 to 9            | 3, 6, 9        | OFDM                  | BPSK            | 13.5             |

# **CONDUCTED OUT-BAND EMISSION MEASUREMENT:**

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

| MODE           | AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TECHNOLOGY | MODULATION TYPE | DATA RATE (Mbps) |
|----------------|-------------------|----------------|-----------------------|-----------------|------------------|
| 802.11b        | 1 to 11           | 1, 6, 11       | DSSS                  | DBPSK           | 1                |
| 802.11g        | 1 to 11           | 1, 6, 11       | OFDM                  | BPSK            | 6                |
| 802.11n (HT20) | 1 to 11           | 1, 6, 11       | OFDM                  | BPSK            | 6.5              |
| 802.11n (HT40) | 3 to 9            | 3, 6, 9        | OFDM                  | BPSK            | 13.5             |



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**TEST CONDITION:**

| APPLICABLE TO | ENVIRONMENTAL CONDITIONS | INPUT POWER  | TESTED BY     |
|---------------|--------------------------|--------------|---------------|
| PLC           | 18deg. C, 68%RH          | 120Vac, 60Hz | Wythe Lin     |
| RE<1G         | 25deg. C, 70%RH          | 120Vac, 60Hz | Tim Ho        |
| RE≥1G         | 25deg. C, 70%RH          | 120Vac, 60Hz | Tim Ho        |
| APCM          | 25deg. C, 60%RH          | 120Vac, 60Hz | Anderson Chen |
| OB            | 25deg. C, 60%RH          | 120Vac, 60Hz | Anderson Chen |

### 3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**FCC Part 15, Subpart C (15.247)**

**558074 D01 DTS Meas Guidance v03r02**

**662911 D01 Multiple Transmitter Output v02r01**

**ANSI C63.10-2009**

All test items have been performed and recorded as per the above standards.

**Note:** The EUT has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

### 3.4 DUTY CYCLE OF TEST SIGNAL

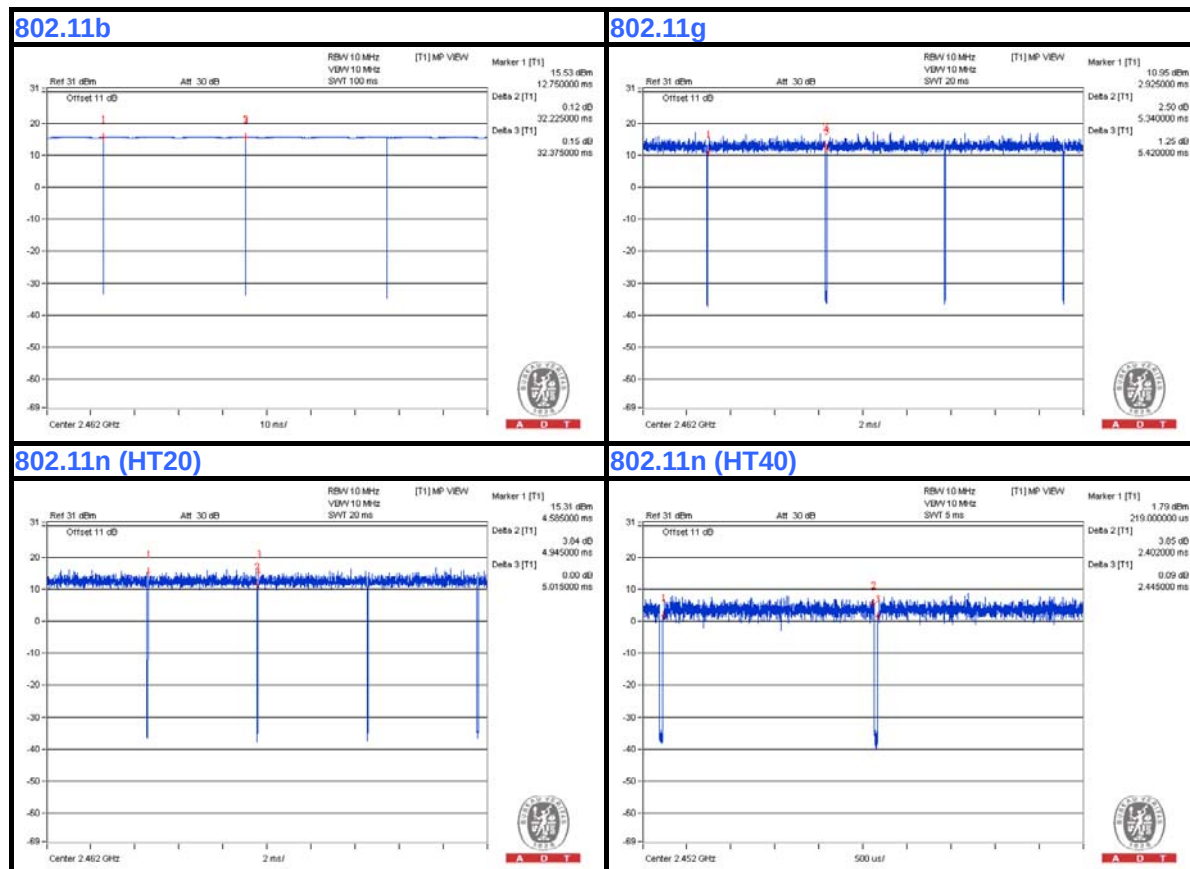
Duty cycle of test signal is  $\geq 98\%$ , duty factor is not required.

**802.11b**: Duty cycle = 32.225 ms/32.375 ms = 0.995

**802.11g**: Duty cycle = 5.34 ms/5.42 ms = 0.985

**802.11n (HT20)**: Duty cycle = 4.945 ms/5.015 ms = 0.986

**802.11n (HT40)**: Duty cycle = 2.402 ms/2.445 ms = 0.982







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### 3.5 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

| No. | Product           | Brand | Model No. | Serial No. | FCC ID  | Remark          |
|-----|-------------------|-------|-----------|------------|---------|-----------------|
| A   | NOTEBOOK COMPUTER | DELL  | E5430     | HYV4VY1    | FCC DoC | Provided by Lab |
| B   | 50ohm             | NA    | NA        | NA         | NA      | Provided by Lab |

**NOTE:**

1. All power cords of the above support units are non-shielded (1.8 m).

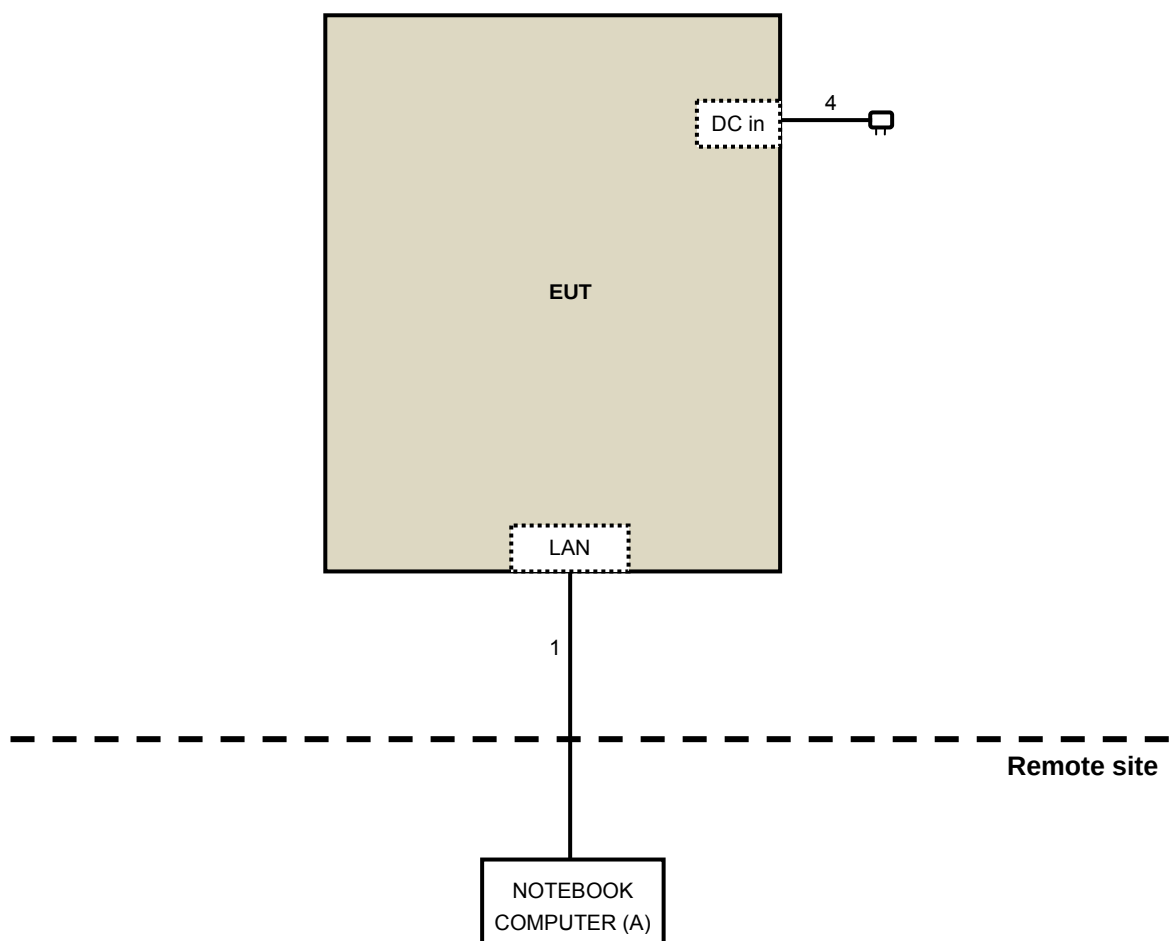
| No. | Cable | Qty. | Length (m) | Shielded (Yes/ No) | Cores (Number) | Remark             |
|-----|-------|------|------------|--------------------|----------------|--------------------|
| 1.  | RJ-45 | 1    | 10         | No                 | 0              | Provided by Lab    |
| 2.  | RJ-45 | 1    | 3          | No                 | 0              | Provided by Lab    |
| 3.  | DC    | 1    | 1.85       | No                 | 1              | Supplied by client |
| 4.  | DC    | 1    | 1.52       | No                 | 0              | Supplied by client |
|     |       | 1    | 1.23       | No                 | 0              | Supplied by client |

**NOTE:**

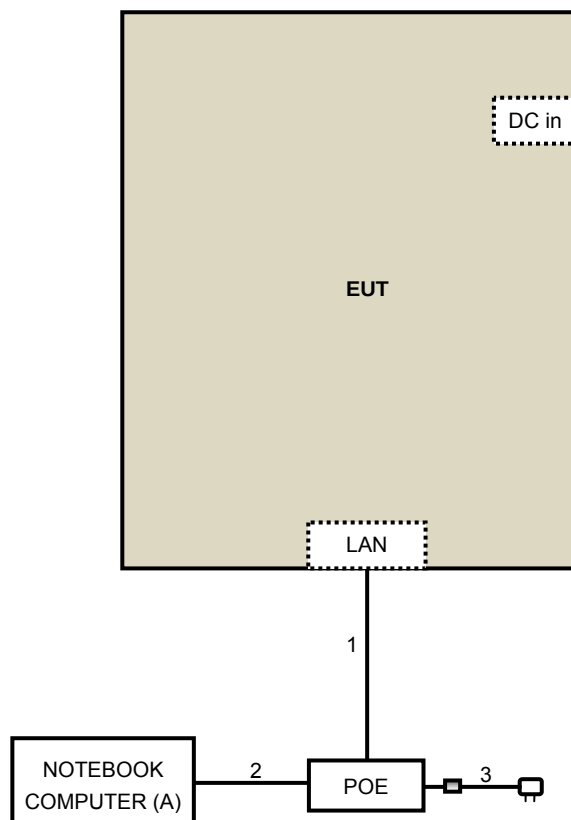
1. The core(s) is(are) originally attached to the cable(s).

### 3.6 CONFIGURATION OF SYSTEM UNDER TEST

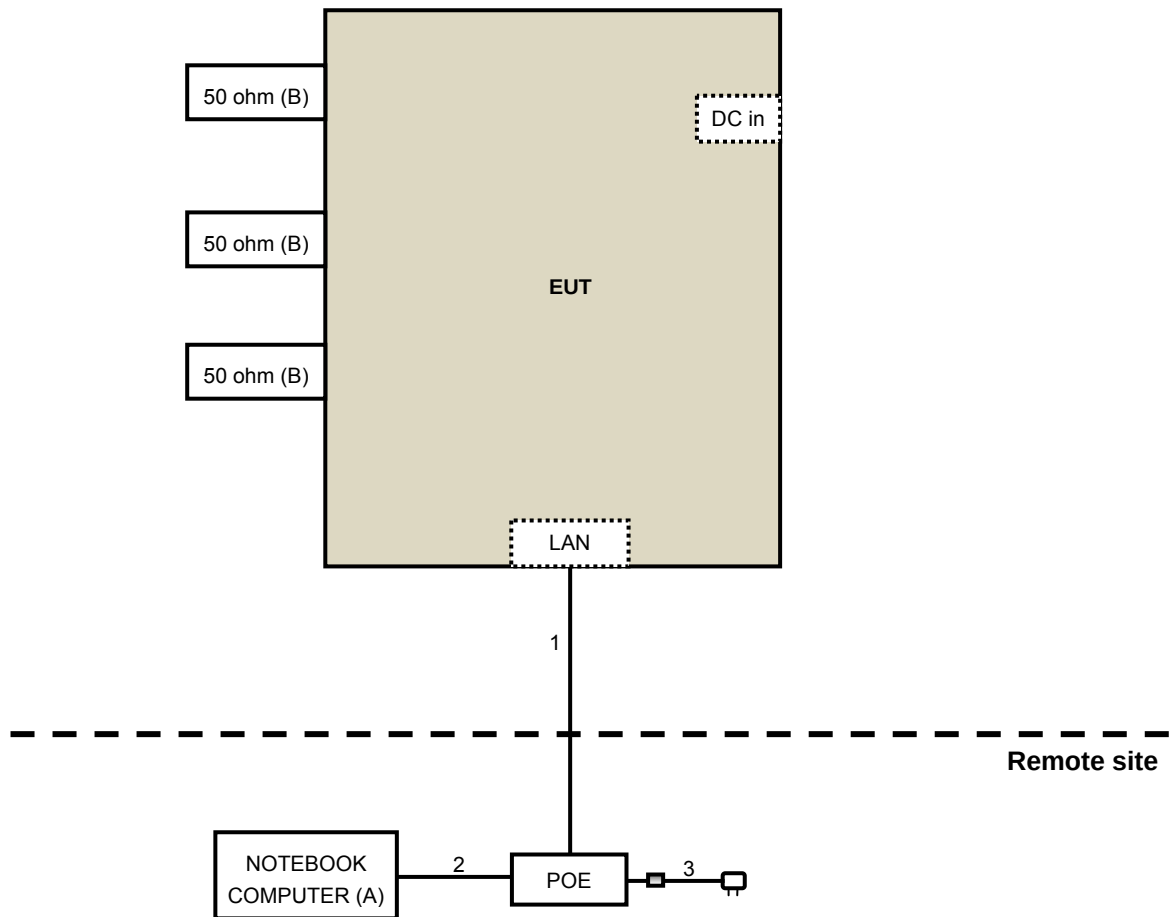
For Conducted emission MODE 1 & 2 test:



**For Conducted emission MODE 3 test:**



**For Radiated emission test:**



## 4. TEST TYPES AND RESULTS

### 4.1 CONDUCTED EMISSION MEASUREMENT

#### 4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

| FREQUENCY OF EMISSION (MHz) | CONDUCTED LIMIT (dBμV) |          |
|-----------------------------|------------------------|----------|
|                             | Quasi-peak             | Average  |
| 0.15-0.5                    | 66 to 56               | 56 to 46 |
| 0.5-5                       | 56                     | 46       |
| 5-30                        | 60                     | 50       |

- NOTE:**
1. The lower limit shall apply at the transition frequencies.
  2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

#### 4.1.2 TEST INSTRUMENTS

| DESCRIPTION & MANUFACTURER                                                     | MODEL NO.                   | SERIAL NO. | CALIBRATED DATE | CALIBRATED UNTIL |
|--------------------------------------------------------------------------------|-----------------------------|------------|-----------------|------------------|
| Test Receiver<br>ROHDE & SCHWARZ                                               | ESCS 30                     | 100375     | Apr. 29, 2014   | Apr. 28, 2015    |
| Line-Impedance<br>Stabilization Network<br>(for EUT)<br>SCHWARZBECK            | NSLK-8127                   | 8127-522   | Sep. 15, 2014   | Sep. 14, 2015    |
| Line-Impedance<br>Stabilization Network<br>(for Peripheral)<br>ROHDE & SCHWARZ | ENV216                      | 100071     | Nov. 10, 2014   | Nov. 09, 2015    |
| RF Cable<br>(JYEBAO)                                                           | 5DFB                        | COCCAB-001 | Mar. 10, 2014   | Mar. 09, 2015    |
| 50 ohms Terminator                                                             | N/A                         | EMC-03     | Sep. 22, 2014   | Sep. 21, 2015    |
| 50 ohms Terminator                                                             | N/A                         | EMC-02     | Sep. 30, 2014   | Sep. 29, 2015    |
| Software<br>ADT                                                                | BV<br>ADT_Cond_V7.3.7.<br>3 | NA         | NA              | NA               |

**Note:**

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. C.
3. The VCCI Con C Registration No. is C-3611.
4. Tested Date: Dec. 17, 2014

### 4.1.3 TEST PROCEDURES

- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN.
- The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) were not recorded.

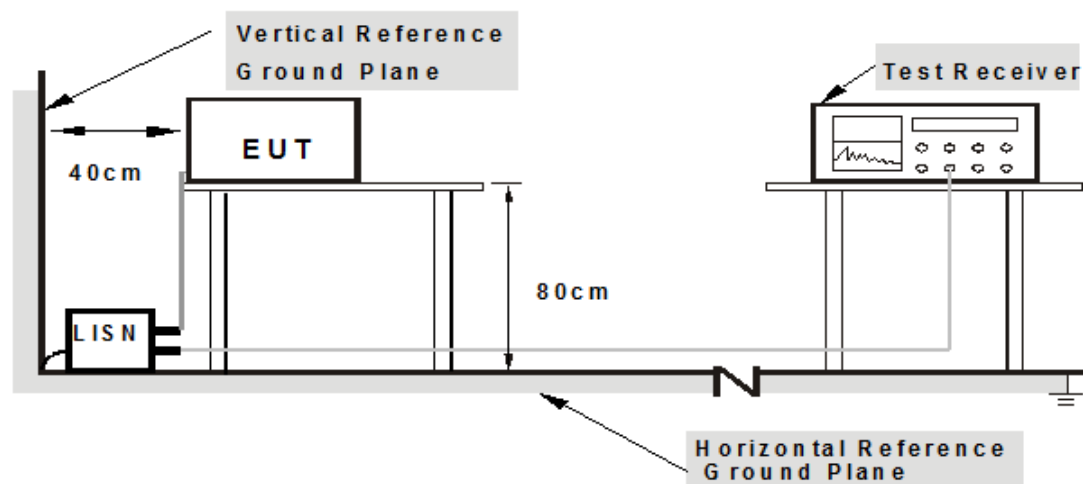
#### NOTE:

- The resolution bandwidth of test receiver is 9kHz for Quasi-peak detection (QP) & Average detection (AV).

### 4.1.4 DEVIATION FROM TEST STANDARD

No deviation

### 4.1.5 TEST SETUP



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

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.



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#### 4.1.6 EUT OPERATING CONDITIONS

1. Connect the EUT with the support unit A (Notebook Computer) which is placed in remote site.
2. Controlling software (cart.bat paste command (art command)) has been activated to set the EUT on specific status.

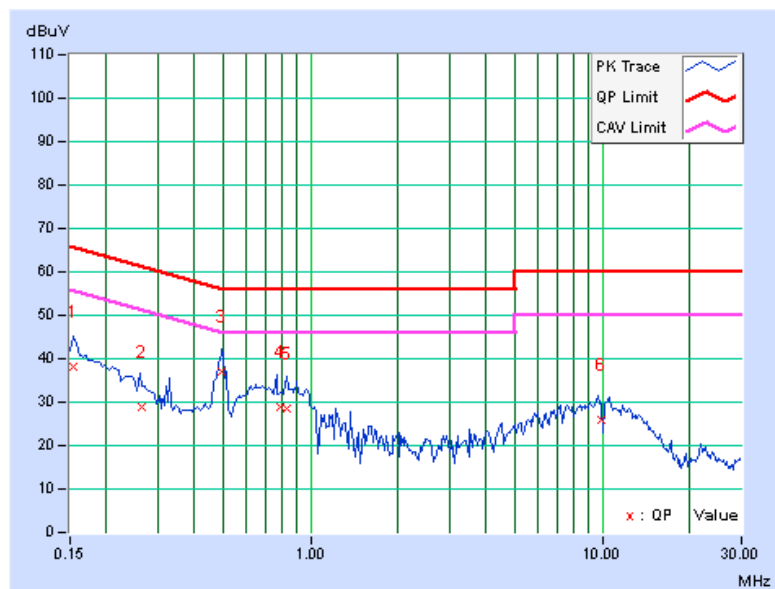
#### 4.1.7 TEST RESULTS (MODE 1)

| PHASE | Line (L) | DETECTOR<br>FUNCTION | Quasi-Peak (QP) /<br>Average (AV) |
|-------|----------|----------------------|-----------------------------------|
|-------|----------|----------------------|-----------------------------------|

|    | Freq.   | Corr.  | Reading Value |       | Emission Level |       | Limit     |       | Margin |        |
|----|---------|--------|---------------|-------|----------------|-------|-----------|-------|--------|--------|
| No |         | Factor | [dB (uV)]     |       | [dB (uV)]      |       | [dB (uV)] |       | (dB)   |        |
|    | [MHz]   | (dB)   | Q.P.          | AV.   | Q.P.           | AV.   | Q.P.      | AV.   | Q.P.   | AV.    |
| 1  | 0.15391 | 0.07   | 38.07         | 24.79 | 38.14          | 24.86 | 65.79     | 55.79 | -27.65 | -30.93 |
| 2  | 0.26372 | 0.08   | 28.91         | 19.02 | 28.99          | 19.10 | 61.31     | 51.31 | -32.33 | -32.22 |
| 3  | 0.49375 | 0.10   | 37.08         | 30.32 | 37.18          | 30.42 | 56.10     | 46.10 | -18.93 | -15.69 |
| 4  | 0.78403 | 0.12   | 28.64         | 19.54 | 28.76          | 19.66 | 56.00     | 46.00 | -27.24 | -26.34 |
| 5  | 0.82578 | 0.12   | 28.43         | 19.08 | 28.55          | 19.20 | 56.00     | 46.00 | -27.45 | -26.80 |
| 6  | 9.89844 | 0.45   | 25.61         | 21.27 | 26.06          | 21.72 | 60.00     | 50.00 | -33.94 | -28.28 |

#### REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission Level – Limit value
4. Correction Factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



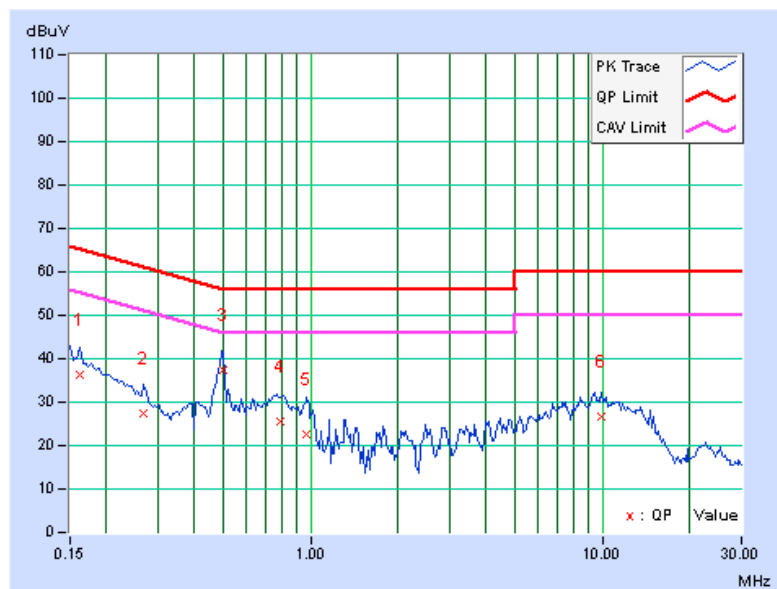


|       |             |                   |                                |
|-------|-------------|-------------------|--------------------------------|
| PHASE | Neutral (N) | DETECTOR FUNCTION | Quasi-Peak (QP) / Average (AV) |
|-------|-------------|-------------------|--------------------------------|

| No | Freq.<br>[MHz] | Corr.<br>Factor<br>(dB) | Reading Value<br>[dB (uV)] |       | Emission Level<br>[dB (uV)] |       | Limit<br>[dB (uV)] |       | Margin<br>(dB) |        |
|----|----------------|-------------------------|----------------------------|-------|-----------------------------|-------|--------------------|-------|----------------|--------|
|    |                |                         | Q.P.                       | AV.   | Q.P.                        | AV.   | Q.P.               | AV.   | Q.P.           | AV.    |
| 1  | 0.16172        | 0.06                    | 36.07                      | 24.17 | 36.13                       | 24.23 | 65.38              | 55.38 | -29.24         | -31.14 |
| 2  | 0.26719        | 0.07                    | 27.35                      | 18.58 | 27.42                       | 18.65 | 61.20              | 51.20 | -33.78         | -32.55 |
| 3  | 0.50156        | 0.10                    | 37.49                      | 33.71 | 37.59                       | 33.81 | 56.00              | 46.00 | -18.41         | -12.19 |
| 4  | 0.78672        | 0.12                    | 25.39                      | 17.02 | 25.51                       | 17.14 | 56.00              | 46.00 | -30.49         | -28.86 |
| 5  | 0.97422        | 0.13                    | 22.61                      | 17.05 | 22.74                       | 17.18 | 56.00              | 46.00 | -33.26         | -28.82 |
| 6  | 9.87891        | 0.46                    | 26.13                      | 21.97 | 26.59                       | 22.43 | 60.00              | 50.00 | -33.41         | -27.57 |

#### REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission Level – Limit value
4. Correction Factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



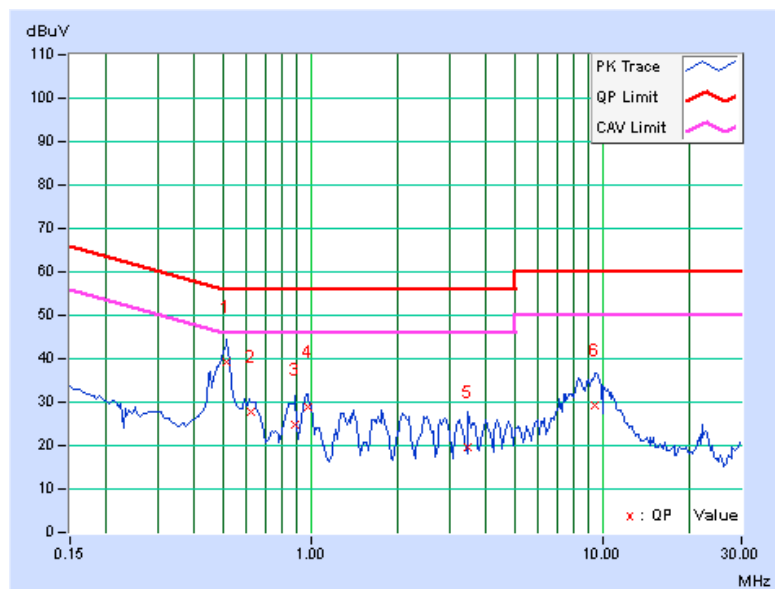
#### 4.1.8 TEST RESULTS (MODE 2)

| PHASE | Line (L) | DETECTOR<br>FUNCTION | Quasi-Peak (QP) /<br>Average (AV) |
|-------|----------|----------------------|-----------------------------------|
|-------|----------|----------------------|-----------------------------------|

|    | Freq.   | Corr.  | Reading Value |       | Emission Level |       | Limit     |       | Margin |        |
|----|---------|--------|---------------|-------|----------------|-------|-----------|-------|--------|--------|
| No |         | Factor | [dB (uV)]     |       | [dB (uV)]      |       | [dB (uV)] |       | (dB)   |        |
|    | [MHz]   | (dB)   | Q.P.          | AV.   | Q.P.           | AV.   | Q.P.      | AV.   | Q.P.   | AV.    |
| 1  | 0.51719 | 0.10   | 39.03         | 33.61 | 39.13          | 33.71 | 56.00     | 46.00 | -16.87 | -12.29 |
| 2  | 0.62656 | 0.11   | 27.56         | 21.66 | 27.67          | 21.77 | 56.00     | 46.00 | -28.33 | -24.23 |
| 3  | 0.88828 | 0.12   | 24.64         | 18.24 | 24.76          | 18.36 | 56.00     | 46.00 | -31.24 | -27.64 |
| 4  | 0.97813 | 0.13   | 28.66         | 22.83 | 28.79          | 22.96 | 56.00     | 46.00 | -27.21 | -23.04 |
| 5  | 3.47656 | 0.23   | 19.27         | 12.69 | 19.50          | 12.92 | 56.00     | 46.00 | -36.50 | -33.08 |
| 6  | 9.47656 | 0.43   | 28.86         | 22.28 | 29.29          | 22.71 | 60.00     | 50.00 | -30.71 | -27.29 |

#### REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission Level – Limit value
4. Correction Factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

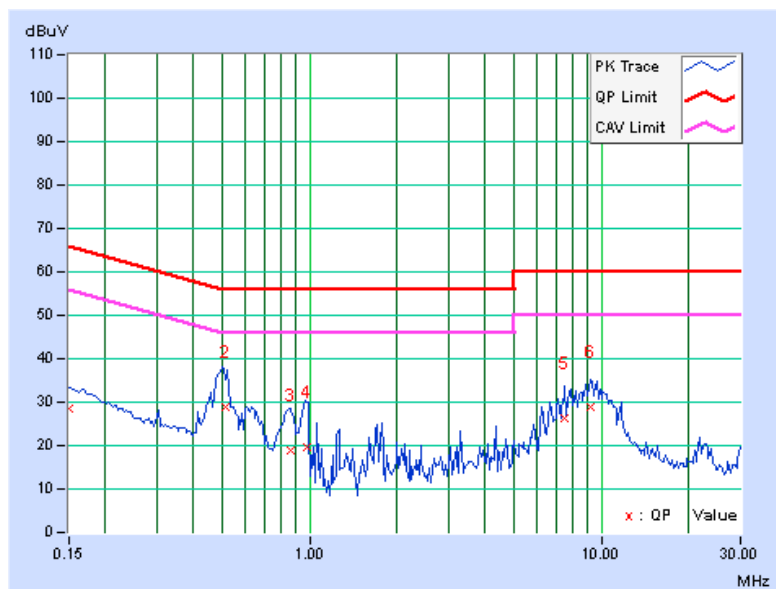


|       |             |                   |                                |
|-------|-------------|-------------------|--------------------------------|
| PHASE | Neutral (N) | DETECTOR FUNCTION | Quasi-Peak (QP) / Average (AV) |
|-------|-------------|-------------------|--------------------------------|

| No | Freq.<br>[MHz] | Corr.<br>Factor<br>(dB) | Reading Value<br>[dB (uV)] |       | Emission Level<br>[dB (uV)] |       | Limit<br>[dB (uV)] |       | Margin<br>(dB) |        |
|----|----------------|-------------------------|----------------------------|-------|-----------------------------|-------|--------------------|-------|----------------|--------|
|    |                |                         | Q.P.                       | AV.   | Q.P.                        | AV.   | Q.P.               | AV.   | Q.P.           | AV.    |
| 1  | 0.15000        | 0.07                    | 28.61                      | 14.83 | 28.68                       | 14.90 | 66.00              | 56.00 | -37.32         | -41.10 |
| 2  | 0.51719        | 0.10                    | 28.87                      | 19.11 | 28.97                       | 19.21 | 56.00              | 46.00 | -27.03         | -26.79 |
| 3  | 0.85703        | 0.12                    | 18.78                      | 8.23  | 18.90                       | 8.35  | 56.00              | 46.00 | -37.10         | -37.65 |
| 4  | 0.97813        | 0.13                    | 19.55                      | 7.77  | 19.68                       | 7.90  | 56.00              | 46.00 | -36.32         | -38.10 |
| 5  | 7.45313        | 0.38                    | 26.02                      | 17.25 | 26.40                       | 17.63 | 60.00              | 50.00 | -33.60         | -32.37 |
| 6  | 9.17188        | 0.43                    | 28.33                      | 18.48 | 28.76                       | 18.91 | 60.00              | 50.00 | -31.24         | -31.09 |

#### REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission Level – Limit value
4. Correction Factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



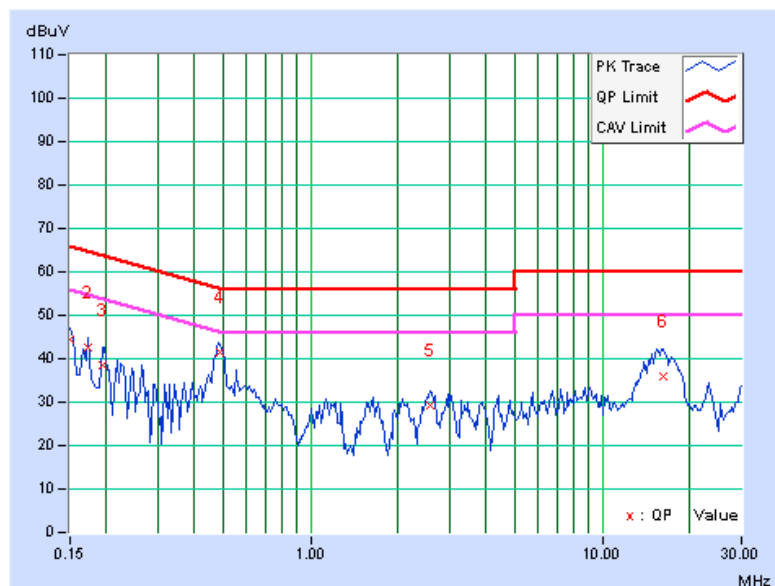
#### 4.1.9 TEST RESULTS (MODE 3)

| PHASE | Line (L) | DETECTOR<br>FUNCTION | Quasi-Peak (QP) /<br>Average (AV) |
|-------|----------|----------------------|-----------------------------------|
|-------|----------|----------------------|-----------------------------------|

|    | Freq.    | Corr.  | Reading<br>Value |       | Emission<br>Level |       | Limit     |       | Margin |        |
|----|----------|--------|------------------|-------|-------------------|-------|-----------|-------|--------|--------|
| No |          | Factor | [dB (uV)]        |       | [dB (uV)]         |       | [dB (uV)] |       | (dB)   |        |
|    | [MHz]    | (dB)   | Q.P.             | AV.   | Q.P.              | AV.   | Q.P.      | AV.   | Q.P.   | AV.    |
| 1  | 0.15000  | 0.07   | 44.38            | 33.57 | 44.45             | 33.64 | 66.00     | 56.00 | -21.55 | -22.36 |
| 2  | 0.17344  | 0.07   | 42.35            | 32.40 | 42.42             | 32.47 | 64.79     | 54.79 | -22.38 | -22.33 |
| 3  | 0.19297  | 0.07   | 38.54            | 27.79 | 38.61             | 27.86 | 63.91     | 53.91 | -25.30 | -26.05 |
| 4  | 0.48994  | 0.10   | 41.55            | 38.83 | 41.65             | 38.93 | 56.17     | 46.17 | -14.52 | -7.24  |
| 5  | 2.58203  | 0.20   | 29.00            | 23.66 | 29.20             | 23.86 | 56.00     | 46.00 | -26.80 | -22.14 |
| 6  | 16.14063 | 0.61   | 35.50            | 27.33 | 36.11             | 27.94 | 60.00     | 50.00 | -23.89 | -22.06 |

#### REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission Level – Limit value
4. Correction Factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

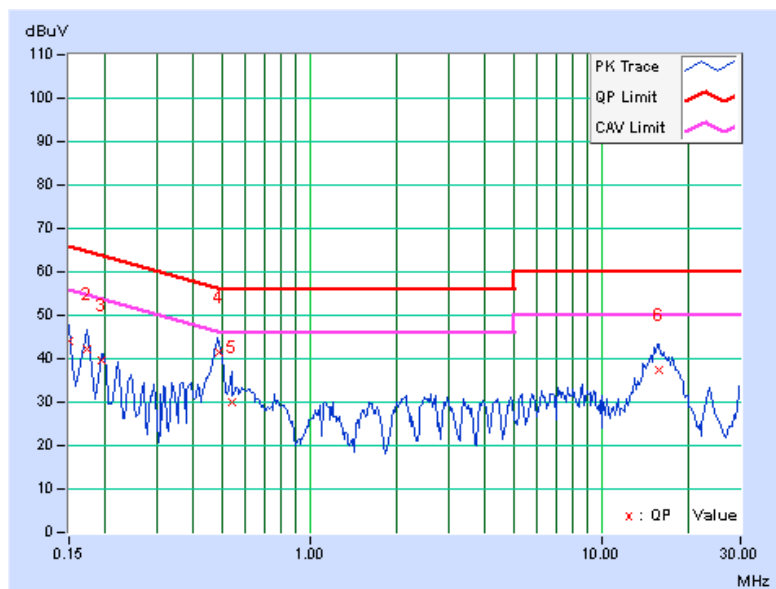


|       |             |                   |                                |
|-------|-------------|-------------------|--------------------------------|
| PHASE | Neutral (N) | DETECTOR FUNCTION | Quasi-Peak (QP) / Average (AV) |
|-------|-------------|-------------------|--------------------------------|

| No | Freq.<br>[MHz] | Corr.<br>Factor<br>(dB) | Reading Value<br>[dB (uV)] |       | Emission Level<br>[dB (uV)] |       | Limit<br>[dB (uV)] |       | Margin<br>(dB) |        |
|----|----------------|-------------------------|----------------------------|-------|-----------------------------|-------|--------------------|-------|----------------|--------|
|    |                |                         | Q.P.                       | AV.   | Q.P.                        | AV.   | Q.P.               | AV.   | Q.P.           | AV.    |
| 1  | 0.15000        | 0.07                    | 44.08                      | 33.13 | 44.15                       | 33.20 | 66.00              | 56.00 | -21.85         | -22.80 |
| 2  | 0.17344        | 0.06                    | 42.09                      | 31.56 | 42.15                       | 31.62 | 64.79              | 54.79 | -22.64         | -23.17 |
| 3  | 0.19297        | 0.06                    | 39.60                      | 30.64 | 39.66                       | 30.70 | 63.91              | 53.91 | -24.25         | -23.21 |
| 4  | 0.48753        | 0.10                    | 41.53                      | 38.59 | 41.63                       | 38.69 | 56.21              | 46.21 | -14.58         | -7.52  |
| 5  | 0.54063        | 0.10                    | 30.08                      | 25.11 | 30.18                       | 25.21 | 56.00              | 46.00 | -25.82         | -20.79 |
| 6  | 15.70703       | 0.63                    | 36.65                      | 28.96 | 37.28                       | 29.59 | 60.00              | 50.00 | -22.72         | -20.41 |

#### REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission Level – Limit value
4. Correction Factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



## 4.2 RADIATED EMISSION AND BANDEDGE MEASUREMENT

### 4.2.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 30dB below the highest level of the desired power:

| Frequencies (MHz) | Field strength (microvolts/meter) | Measurement distance (meters) |
|-------------------|-----------------------------------|-------------------------------|
| 0.009-0.490       | 2400/F(kHz)                       | 300                           |
| 0.490-1.705       | 24000/F(kHz)                      | 30                            |
| 1.705-30.0        | 30                                | 30                            |
| 30-88             | 100                               | 3                             |
| 88-216            | 150                               | 3                             |
| 216-960           | 200                               | 3                             |
| Above 960         | 500                               | 3                             |

**NOTE:**

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.



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## 4.2.2 TEST INSTRUMENTS

For below 1GHz test:

| DESCRIPTION & MANUFACTURER              | MODEL NO.        | SERIAL NO.                      | CALIBRATED DATE | CALIBRATED UNTIL |
|-----------------------------------------|------------------|---------------------------------|-----------------|------------------|
| MXE EMI Receiver<br>Agilent             | N9038A           | MY51210105                      | July 21, 2014   | July 20, 2015    |
| Pre-Amplifier<br>Mini-Circuits          | ZFL-1000VH2<br>B | AMP-ZFL-03                      | Nov. 12, 2014   | Nov. 11, 2015    |
| Trilog Broadband Antenna<br>SCHWARZBECK | VULB 9168        | 9168-360                        | Feb. 26, 2014   | Feb. 25, 2015    |
| RF Cable                                | NA               | CHGCAB_001                      | Oct. 04, 2014   | Oct. 03, 2015    |
| Horn_Antenna<br>AISl                    | AIH.8018         | 0000320091110                   | Aug. 27, 2014   | Aug. 26, 2015    |
| Pre-Amplifier<br>Agilent                | 8449B            | 3008A02578                      | June 24, 2014   | June 23, 2015    |
| RF Cable                                | NA               | 131205<br>131214<br>SNMY23684/4 | Jan. 17, 2014   | Jan. 16, 2015    |
| Spectrum Analyzer<br>R&S                | FSV40            | 100964                          | July 05, 2014   | July 04, 2015    |
| Pre-Amplifier<br>EMCl                   | EMC184045        | 980143                          | Jan. 17, 2014   | Jan. 16, 2015    |
| Horn_Antenna<br>SCHWARZBECK             | BBHA 9170        | 9170-424                        | Aug. 26, 2014   | Aug. 25, 2015    |
| RF Cable                                | NA               | RF104-121<br>RF104-204          | Dec. 12, 2013   | Dec. 11, 2014    |
| Antenna Tower & Turn Table<br>CT        | NA               | NA                              | NA              | NA               |

**Note:**

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in 966 Chamber No. G.
4. The FCC Site Registration No. is 966073.
5. The VCCI Site Registration No. is G-137.
6. The CANADA Site Registration No. is IC 7450H-2.
7. Tested Date: Dec. 04, 2014



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**For above 1GHz test:**

| DESCRIPTION & MANUFACTURER              | MODEL NO.        | SERIAL NO.                      | CALIBRATED DATE | CALIBRATED UNTIL |
|-----------------------------------------|------------------|---------------------------------|-----------------|------------------|
| MXE EMI Receiver<br>Agilent             | N9038A           | MY51210105                      | July 21, 2014   | July 20, 2015    |
| Pre-Amplifier<br>Mini-Circuits          | ZFL-1000VH2<br>B | AMP-ZFL-03                      | Nov. 12, 2014   | Nov. 11, 2015    |
| Trilog Broadband Antenna<br>SCHWARZBECK | VULB 9168        | 9168-360                        | Feb. 26, 2014   | Feb. 25, 2015    |
| RF Cable                                | NA               | CHGCAB_001                      | Oct. 04, 2014   | Oct. 03, 2015    |
| Horn_Antenna<br>AISI                    | AIH.8018         | 0000320091110                   | Aug. 27, 2014   | Aug. 26, 2015    |
| Pre-Amplifier<br>Agilent                | 8449B            | 3008A02578                      | June 24, 2014   | June 23, 2015    |
| RF Cable                                | NA               | 131205<br>131214<br>SNMY23684/4 | Jan. 17, 2014   | Jan. 16, 2015    |
| Spectrum Analyzer<br>R&S                | FSV40            | 100964                          | July 05, 2014   | July 04, 2015    |
| Pre-Amplifier<br>EMCI                   | EMC184045        | 980143                          | Jan. 17, 2014   | Jan. 16, 2015    |
| Horn_Antenna<br>SCHWARZBECK             | BBHA 9170        | 9170-424                        | Aug. 26, 2014   | Aug. 25, 2015    |
| RF Cable                                | NA               | RF104-121<br>RF104-204          | Dec. 11, 2014   | Dec. 10, 2015    |
| Antenna Tower & Turn Table<br>CT        | NA               | NA                              | NA              | NA               |

**Note:**

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in 966 Chamber No. G.
4. The FCC Site Registration No. is 966073.
5. The VCCI Site Registration No. is G-137.
6. The CANADA Site Registration No. is IC 7450H-2.
7. Tested Date: Dec. 22, 2014



#### 4.2.3 TEST PROCEDURES

Following FCC KDB 558074 D01 DTS Meas. Guidance:

Radiated versus Conducted Measurements.

The unwanted emission limits in both the restricted and non-restricted bands are based on antenna-port conducted measurements in conjunction with cabinet emissions tests are permitted to demonstrate compliance.

The following steps was performed:

- a. Cabinet emissions measurements. Radiated measurement was performed to ensure that cabinet emissions are below the emission limits. For the cabinet-emission measurements the antenna was replaced by a termination matching the nominal impedance of the antenna.
- b. Conducted tests was performed using equipment that matches the nominal impedance of the antenna assembly used with the EUT
- c. EIRP calculation. A value representative of an upper bound on out-of-band antenna gain (in dBi) shall be added to the measured antenna-port conducted emission power to compute EIRP within the specified measurement bandwidth. (For emissions in the restricted bands, additional calculations are required to convert EIRP to field strength at the specified distance.) The upper bound on antenna gain for a device with a single RF output shall be selected as the maximum in-band gain of the antenna across all operating bands or 2 dBi, whichever is greater
- d. EIRP adjustments for multiple outputs. (Follow the procedures specified in FCC KDB Publication 662911)
- e. For all of Radiation emission test
  - e-1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meters chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
  - e-2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
  - e-3. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
  - e-4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
  - e-5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
  - e-6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.



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**Note:**

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor ( $10 \log(1/\text{duty cycle})$ ).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle  $\geq 98\%$ ) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

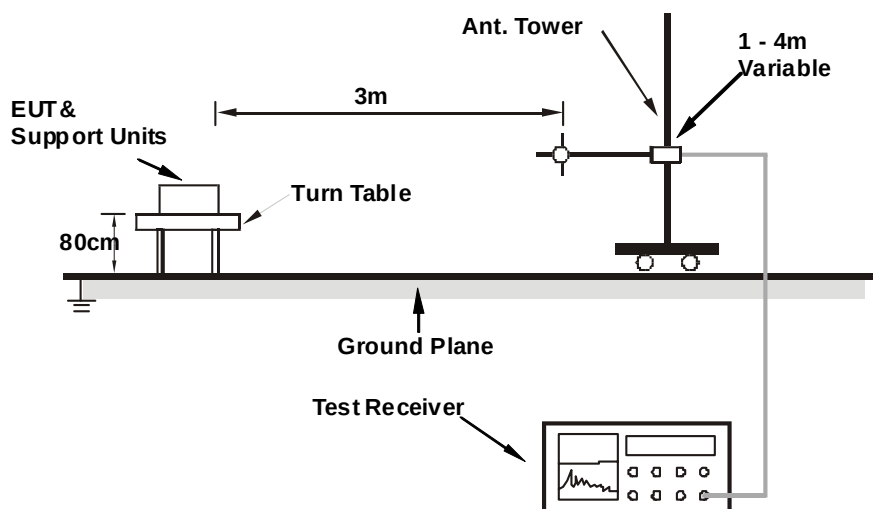
#### 4.2.4 DEVIATION FROM TEST STANDARD

No deviation

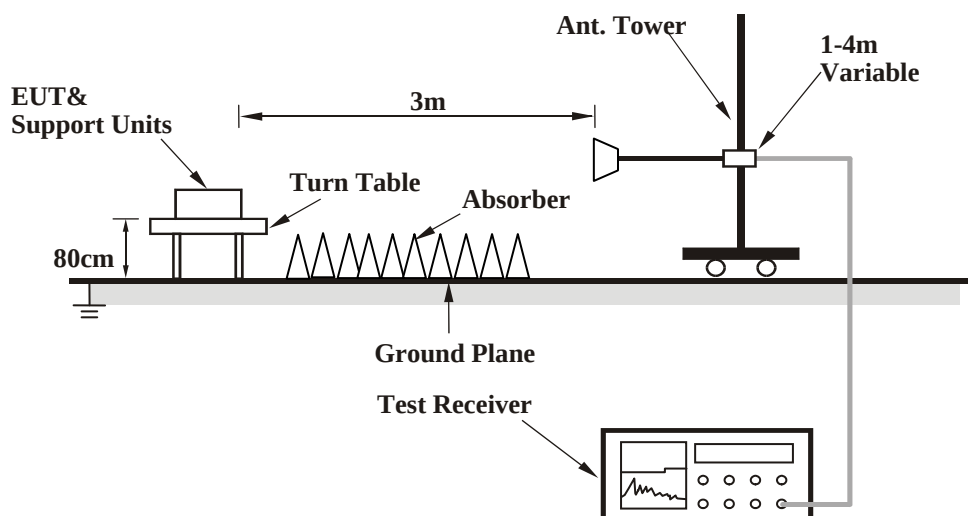
## 4.2.5 TEST SETUP

### For radiated configuration:

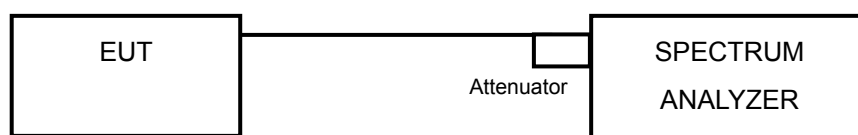
<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



### For conducted configuration:



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

#### 4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

#### 4.2.7 TEST RESULTS (RADIATED MEASUREMENT)

| Radiated versus Conducted Measurement                                                                                                                                                                                                                                                                                                                                                                   |                                                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| <input type="checkbox"/> Conducted measurement                                                                                                                                                                                                                                                                                                                                                          | <input checked="" type="checkbox"/> Radiated measurement |
| <p><u>For Radiated measurement:</u></p> <p>The level of unwanted emissions was measured when radiated by the cabinet or structure of the equipment with the antenna connector(s) terminated by a specified load (cabinet radiation)</p> <p><u>For Conducted measurement:</u></p> <p>The level of unwanted emissions was measured as their power in a specified load (conducted spurious emissions).</p> |                                                          |



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Radiated test was done with 50ohm terminator on antenna port

**BELOW 1GHz WORST-CASE DATA**

**802.11b**

|                 |              |                      |                 |
|-----------------|--------------|----------------------|-----------------|
| CHANNEL         | TX Channel 6 | DETECTOR<br>FUNCTION | Quasi-Peak (QP) |
| FREQUENCY RANGE | Below 1GHz   |                      |                 |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 36.74          | 26.2 QP                       | 40.0              | -13.8          | 1.00 H                   | 212                        | 40.07                  | -13.88                         |
| 2                                                   | 198.20         | 31.4 QP                       | 43.5              | -12.1          | 1.00 H                   | 204                        | 47.33                  | -15.93                         |
| 3                                                   | 374.98         | 37.2 QP                       | 46.0              | -8.8           | 1.50 H                   | 266                        | 46.94                  | -9.78                          |
| 4                                                   | 749.98         | 34.8 QP                       | 46.0              | -11.2          | 2.50 H                   | 330                        | 36.04                  | -1.21                          |
| 5                                                   | 875.02         | 37.8 QP                       | 46.0              | -8.2           | 1.00 H                   | 0                          | 37.47                  | 0.31                           |
| 6                                                   | 899.99         | 39.8 QP                       | 46.0              | -6.2           | 1.50 H                   | 153                        | 39.05                  | 0.79                           |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 179.04         | 30.4 QP                       | 43.5              | -13.2          | 1.00 V                   | 329                        | 44.62                  | -14.27                         |
| 2                                                   | 300.00         | 40.4 QP                       | 46.0              | -5.7           | 1.50 V                   | 311                        | 52.25                  | -11.90                         |
| 3                                                   | 375.03         | 36.5 QP                       | 46.0              | -9.5           | 1.50 V                   | 186                        | 46.27                  | -9.78                          |
| 4                                                   | 500.01         | 33.5 QP                       | 46.0              | -12.5          | 1.00 V                   | 55                         | 40.29                  | -6.75                          |
| 5                                                   | 625.00         | 39.2 QP                       | 46.0              | -6.8           | 1.50 V                   | 360                        | 42.90                  | -3.68                          |
| 6                                                   | 899.99         | 38.9 QP                       | 46.0              | -7.1           | 1.00 V                   | 0                          | 38.12                  | 0.79                           |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value



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## ABOVE 1GHz DATA

## 802.11b

|                 |              |                      |              |
|-----------------|--------------|----------------------|--------------|
| CHANNEL         | TX Channel 1 | DETECTOR<br>FUNCTION | Peak (PK)    |
| FREQUENCY RANGE | 1GHz ~ 25GHz |                      | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 4824.00        | 51.2 PK                       | 74.0              | -22.8          | 1.38 H                   | 85                         | 45.49                  | 5.71                           |
| 2                                                   | 4824.00        | 45.8 AV                       | 54.0              | -8.2           | 1.38 H                   | 85                         | 40.09                  | 5.71                           |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 4824.00        | 55.4 PK                       | 74.0              | -18.6          | 1.01 V                   | 319                        | 49.69                  | 5.71                           |
| 2                                                   | 4824.00        | 52.5 AV                       | 54.0              | -1.5           | 1.01 V                   | 319                        | 46.79                  | 5.71                           |

## REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value



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|                 |              |                      |              |
|-----------------|--------------|----------------------|--------------|
| CHANNEL         | TX Channel 6 | DETECTOR<br>FUNCTION | Peak (PK)    |
| FREQUENCY RANGE | 1GHz ~ 25GHz |                      | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 4874.00        | 51.3 PK                       | 74.0              | -22.7          | 1.34 H                   | 87                         | 45.40                  | 5.90                           |
| 2                                                   | 4874.00        | 45.7 AV                       | 54.0              | -8.3           | 1.34 H                   | 87                         | 39.80                  | 5.90                           |
| 3                                                   | 7311.00        | 53.7 PK                       | 74.0              | -20.3          | 1.00 H                   | 360                        | 40.53                  | 13.17                          |
| 4                                                   | 7311.00        | 41.4 AV                       | 54.0              | -12.6          | 1.00 H                   | 360                        | 28.23                  | 13.17                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 4874.00        | 56.2 PK                       | 74.0              | -17.8          | 1.00 V                   | 319                        | 50.30                  | 5.90                           |
| 2                                                   | 4874.00        | 53.4 AV                       | 54.0              | -0.6           | 1.00 V                   | 319                        | 47.50                  | 5.90                           |
| 3                                                   | 7311.00        | 54.2 PK                       | 74.0              | -19.8          | 1.04 V                   | 169                        | 41.03                  | 13.17                          |
| 4                                                   | 7311.00        | 41.9 AV                       | 54.0              | -12.1          | 1.04 V                   | 169                        | 28.73                  | 13.17                          |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value



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|                 |               |                      |              |
|-----------------|---------------|----------------------|--------------|
| CHANNEL         | TX Channel 11 | DETECTOR<br>FUNCTION | Peak (PK)    |
| FREQUENCY RANGE | 1GHz ~ 25GHz  |                      | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 4924.00        | 51.2 PK                       | 74.0              | -22.8          | 1.38 H                   | 92                         | 45.09                  | 6.11                           |
| 2                                                   | 4924.00        | 45.5 AV                       | 54.0              | -8.5           | 1.38 H                   | 92                         | 39.39                  | 6.11                           |
| 3                                                   | 7386.00        | 54.1 PK                       | 74.0              | -19.9          | 1.00 H                   | 360                        | 40.92                  | 13.18                          |
| 4                                                   | 7386.00        | 41.6 AV                       | 54.0              | -12.4          | 1.00 H                   | 360                        | 28.42                  | 13.18                          |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|---------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                               | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                 | 4924.00        | 55.3 PK                       | 74.0              | -18.7          | 1.00 V                   | 187                        | 49.19                  | 6.11                           |
| 2                                                 | 4924.00        | 52.2 AV                       | 54.0              | -1.8           | 1.00 V                   | 187                        | 46.09                  | 6.11                           |
| 3                                                 | 7386.00        | 54.4 PK                       | 74.0              | -19.6          | 1.08 V                   | 166                        | 41.22                  | 13.18                          |
| 4                                                 | 7386.00        | 41.9 AV                       | 54.0              | -12.1          | 1.08 V                   | 166                        | 28.72                  | 13.18                          |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value





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## 802.11g

|                 |              |                      |              |
|-----------------|--------------|----------------------|--------------|
| CHANNEL         | TX Channel 1 | DETECTOR<br>FUNCTION | Peak (PK)    |
| FREQUENCY RANGE | 1GHz ~ 25GHz |                      | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 4824.00        | 45.6 PK                       | 74.0              | -28.4          | 1.04 H                   | 93                         | 39.89                  | 5.71                           |
| 2                                                   | 4824.00        | 33.4 AV                       | 54.0              | -20.6          | 1.04 H                   | 93                         | 27.69                  | 5.71                           |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 4824.00        | 48.2 PK                       | 74.0              | -25.8          | 1.16 V                   | 328                        | 42.49                  | 5.71                           |
| 2                                                   | 4824.00        | 36.2 AV                       | 54.0              | -17.8          | 1.16 V                   | 328                        | 30.49                  | 5.71                           |

## REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value



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|                 |              |                      |              |
|-----------------|--------------|----------------------|--------------|
| CHANNEL         | TX Channel 6 | DETECTOR<br>FUNCTION | Peak (PK)    |
| FREQUENCY RANGE | 1GHz ~ 25GHz |                      | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 4874.00        | 51.2 PK                       | 74.0              | -22.8          | 1.00 H                   | 86                         | 45.30                  | 5.90                           |
| 2                                                   | 4874.00        | 38.8 AV                       | 54.0              | -15.2          | 1.00 H                   | 86                         | 32.90                  | 5.90                           |
| 3                                                   | 7311.00        | 58.9 PK                       | 74.0              | -15.1          | 1.00 H                   | 360                        | 45.73                  | 13.17                          |
| 4                                                   | 7311.00        | 46.2 AV                       | 54.0              | -7.8           | 1.00 H                   | 360                        | 33.03                  | 13.17                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 4874.00        | 53.3 PK                       | 74.0              | -20.7          | 1.15 V                   | 317                        | 47.40                  | 5.90                           |
| 2                                                   | 4874.00        | 41.4 AV                       | 54.0              | -12.6          | 1.15 V                   | 317                        | 35.50                  | 5.90                           |
| 3                                                   | 7311.00        | 59.1 PK                       | 74.0              | -14.9          | 1.12 V                   | 159                        | 45.93                  | 13.17                          |
| 4                                                   | 7311.00        | 46.9 AV                       | 54.0              | -7.1           | 1.12 V                   | 159                        | 33.73                  | 13.17                          |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value



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|                 |               |                      |              |
|-----------------|---------------|----------------------|--------------|
| CHANNEL         | TX Channel 11 | DETECTOR<br>FUNCTION | Peak (PK)    |
| FREQUENCY RANGE | 1GHz ~ 25GHz  |                      | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 4924.00        | 46.5 PK                       | 74.0              | -27.5          | 1.02 H                   | 79                         | 40.39                  | 6.11                           |
| 2                                                   | 4924.00        | 34.2 AV                       | 54.0              | -19.8          | 1.02 H                   | 79                         | 28.09                  | 6.11                           |
| 3                                                   | 7386.00        | 53.3 PK                       | 74.0              | -20.7          | 1.06 H                   | 360                        | 40.12                  | 13.18                          |
| 4                                                   | 7386.00        | 40.8 AV                       | 54.0              | -13.2          | 1.06 H                   | 360                        | 27.62                  | 13.18                          |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|---------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                               | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                 | 4924.00        | 47.9 PK                       | 74.0              | -26.1          | 1.18 V                   | 312                        | 41.79                  | 6.11                           |
| 2                                                 | 4924.00        | 36.1 AV                       | 54.0              | -17.9          | 1.18 V                   | 312                        | 29.99                  | 6.11                           |
| 3                                                 | 7386.00        | 54.0 PK                       | 74.0              | -20.0          | 1.08 V                   | 158                        | 40.82                  | 13.18                          |
| 4                                                 | 7386.00        | 41.0 AV                       | 54.0              | -13.0          | 1.08 V                   | 158                        | 27.82                  | 13.18                          |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value



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## 802.11n (HT20)

|                 |              |                      |              |
|-----------------|--------------|----------------------|--------------|
| CHANNEL         | TX Channel 1 | DETECTOR<br>FUNCTION | Peak (PK)    |
| FREQUENCY RANGE | 1GHz ~ 25GHz |                      | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 4824.00        | 46.9 PK                       | 74.0              | -27.1          | 1.00 H                   | 360                        | 41.19                  | 5.71                           |
| 2                                                   | 4824.00        | 34.1 AV                       | 54.0              | -19.9          | 1.00 H                   | 360                        | 28.39                  | 5.71                           |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 4824.00        | 47.9 PK                       | 74.0              | -26.1          | 1.05 V                   | 331                        | 42.19                  | 5.71                           |
| 2                                                   | 4824.00        | 35.1 AV                       | 54.0              | -18.9          | 1.05 V                   | 331                        | 29.39                  | 5.71                           |

## REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value



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|                 |              |                      |              |
|-----------------|--------------|----------------------|--------------|
| CHANNEL         | TX Channel 6 | DETECTOR<br>FUNCTION | Peak (PK)    |
| FREQUENCY RANGE | 1GHz ~ 25GHz |                      | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 4874.00        | 53.8 PK                       | 74.0              | -20.2          | 1.02 H                   | 359                        | 47.90                  | 5.90                           |
| 2                                                   | 4874.00        | 40.9 AV                       | 54.0              | -13.1          | 1.02 H                   | 359                        | 35.00                  | 5.90                           |
| 3                                                   | 7311.00        | 60.0 PK                       | 74.0              | -14.0          | 1.00 H                   | 14                         | 46.83                  | 13.17                          |
| 4                                                   | 7311.00        | 48.1 AV                       | 54.0              | -5.9           | 1.00 H                   | 14                         | 34.93                  | 13.17                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 4874.00        | 54.5 PK                       | 74.0              | -19.5          | 1.03 V                   | 321                        | 48.60                  | 5.90                           |
| 2                                                   | 4874.00        | 41.7 AV                       | 54.0              | -12.3          | 1.03 V                   | 321                        | 35.80                  | 5.90                           |
| 3                                                   | 7311.00        | 60.2 PK                       | 74.0              | -13.8          | 1.00 V                   | 29                         | 47.03                  | 13.17                          |
| 4                                                   | 7311.00        | 48.2 AV                       | 54.0              | -5.8           | 1.00 V                   | 29                         | 35.03                  | 13.17                          |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value



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|                 |               |                      |              |
|-----------------|---------------|----------------------|--------------|
| CHANNEL         | TX Channel 11 | DETECTOR<br>FUNCTION | Peak (PK)    |
| FREQUENCY RANGE | 1GHz ~ 25GHz  |                      | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 4924.00        | 47.2 PK                       | 74.0              | -26.8          | 1.00 H                   | 360                        | 41.09                  | 6.11                           |
| 2                                                   | 4924.00        | 34.2 AV                       | 54.0              | -19.8          | 1.00 H                   | 360                        | 28.09                  | 6.11                           |
| 3                                                   | 7386.00        | 53.2 PK                       | 74.0              | -20.8          | 1.01 H                   | 21                         | 40.02                  | 13.18                          |
| 4                                                   | 7386.00        | 41.2 AV                       | 54.0              | -12.8          | 1.01 H                   | 21                         | 28.02                  | 13.18                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 4924.00        | 47.8 PK                       | 74.0              | -26.2          | 1.00 V                   | 315                        | 41.69                  | 6.11                           |
| 2                                                   | 4924.00        | 35.2 AV                       | 54.0              | -18.8          | 1.00 V                   | 315                        | 29.09                  | 6.11                           |
| 3                                                   | 7386.00        | 53.5 PK                       | 74.0              | -20.5          | 1.00 V                   | 20                         | 40.32                  | 13.18                          |
| 4                                                   | 7386.00        | 41.3 AV                       | 54.0              | -12.7          | 1.00 V                   | 20                         | 28.12                  | 13.18                          |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value



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## 802.11n (HT40)

|                 |              |                      |              |
|-----------------|--------------|----------------------|--------------|
| CHANNEL         | TX Channel 3 | DETECTOR<br>FUNCTION | Peak (PK)    |
| FREQUENCY RANGE | 1GHz ~ 25GHz |                      | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 4844.00        | 44.9 PK                       | 74.0              | -29.1          | 1.02 H                   | 144                        | 39.12                  | 5.78                           |
| 2                                                   | 4844.00        | 33.1 AV                       | 54.0              | -20.9          | 1.02 H                   | 144                        | 27.32                  | 5.78                           |
| 3                                                   | 7266.00        | 53.4 PK                       | 74.0              | -20.6          | 1.05 H                   | 344                        | 40.20                  | 13.20                          |
| 4                                                   | 7266.00        | 40.7 AV                       | 54.0              | -13.3          | 1.05 H                   | 344                        | 27.50                  | 13.20                          |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                |                               |                   |                |                          |                            |                        |                                |
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 4844.00        | 46.5 PK                       | 74.0              | -27.5          | 1.12 V                   | 307                        | 40.72                  | 5.78                           |
| 2                                                   | 4844.00        | 34.2 AV                       | 54.0              | -19.8          | 1.12 V                   | 307                        | 28.42                  | 5.78                           |
| 3                                                   | 7266.00        | 53.2 PK                       | 74.0              | -20.8          | 1.05 V                   | 121                        | 40.00                  | 13.20                          |
| 4                                                   | 7266.00        | 41.0 AV                       | 54.0              | -13.0          | 1.05 V                   | 121                        | 27.80                  | 13.20                          |

## REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value



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|                 |              |                      |              |
|-----------------|--------------|----------------------|--------------|
| CHANNEL         | TX Channel 6 | DETECTOR<br>FUNCTION | Peak (PK)    |
| FREQUENCY RANGE | 1GHz ~ 25GHz |                      | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 4874.00        | 46.8 PK                       | 74.0              | -27.2          | 1.00 H                   | 131                        | 40.90                  | 5.90                           |
| 2                                                   | 4874.00        | 34.7 AV                       | 54.0              | -19.3          | 1.00 H                   | 131                        | 28.80                  | 5.90                           |
| 3                                                   | 7311.00        | 54.1 PK                       | 74.0              | -19.9          | 1.00 H                   | 360                        | 40.93                  | 13.17                          |
| 4                                                   | 7311.00        | 42.0 AV                       | 54.0              | -12.0          | 1.00 H                   | 360                        | 28.83                  | 13.17                          |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|---------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                               | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                 | 4874.00        | 47.8 PK                       | 74.0              | -26.2          | 1.15 V                   | 317                        | 41.90                  | 5.90                           |
| 2                                                 | 4874.00        | 35.7 AV                       | 54.0              | -18.3          | 1.15 V                   | 317                        | 29.80                  | 5.90                           |
| 3                                                 | 7311.00        | 54.6 PK                       | 74.0              | -19.4          | 1.00 V                   | 119                        | 41.43                  | 13.17                          |
| 4                                                 | 7311.00        | 42.2 AV                       | 54.0              | -11.8          | 1.00 V                   | 119                        | 29.03                  | 13.17                          |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value





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|                 |              |                      |              |
|-----------------|--------------|----------------------|--------------|
| CHANNEL         | TX Channel 9 | DETECTOR<br>FUNCTION | Peak (PK)    |
| FREQUENCY RANGE | 1GHz ~ 25GHz |                      | Average (AV) |

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

| NO. | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1   | 4904.00        | 45.2 PK                       | 74.0              | -28.8          | 1.02 H                   | 135                        | 39.18                  | 6.02                           |
| 2   | 4904.00        | 33.3 AV                       | 54.0              | -20.7          | 1.02 H                   | 135                        | 27.28                  | 6.02                           |
| 3   | 7356.00        | 52.7 PK                       | 74.0              | -21.3          | 1.00 H                   | 351                        | 39.52                  | 13.18                          |
| 4   | 7356.00        | 40.8 AV                       | 54.0              | -13.2          | 1.00 H                   | 351                        | 27.62                  | 13.18                          |

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

| NO. | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1   | 4904.00        | 46.7 PK                       | 74.0              | -27.3          | 1.14 V                   | 302                        | 40.68                  | 6.02                           |
| 2   | 4904.00        | 34.4 AV                       | 54.0              | -19.6          | 1.14 V                   | 302                        | 28.38                  | 6.02                           |
| 3   | 7356.00        | 53.4 PK                       | 74.0              | -20.6          | 1.00 V                   | 118                        | 40.22                  | 13.18                          |
| 4   | 7356.00        | 41.3 AV                       | 54.0              | -12.7          | 1.00 V                   | 118                        | 28.12                  | 13.18                          |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

#### 4.2.8 TEST RESULTS (CONDUCTED MEASUREMENT)

| Radiated versus Conducted Measurement                                                                                                                                                                                                                                                                                                                                                                   |                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| <input checked="" type="checkbox"/> Conducted measurement                                                                                                                                                                                                                                                                                                                                               | <input type="checkbox"/> Radiated measurement |
| <p><u>For Radiated measurement:</u></p> <p>The level of unwanted emissions was measured when radiated by the cabinet or structure of the equipment with the antenna connector(s) terminated by a specified load (cabinet radiation)</p> <p><u>For Conducted measurement:</u></p> <p>The level of unwanted emissions was measured as their power in a specified load (conducted spurious emissions).</p> |                                               |

| Conducted Measurement Factor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>a. The composite gain will be used when signal support the correlated signal.<br/>(Composite gain = <math>10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 7.18\text{dBi}</math>)</li> <li>b. For the out of band spurious the gain for the specific band may have been used rather than the highest gain across all bands.</li> <li>c. For the band edge the gain for the specific band may have been used.</li> <li>d. In restricted bands below 1000 MHz, add upper bound on ground plane reflection:<br/>For <math>f = 30 - 1000</math> MHz, add 4.7 dB.</li> </ul> <p>Note: The conducted emission test was considered some factor to compute test result.</p> |

## BELOW 1GHz WORST-CASE DATA

### 802.11b - Channel 6

#### Conducted spurious emission table

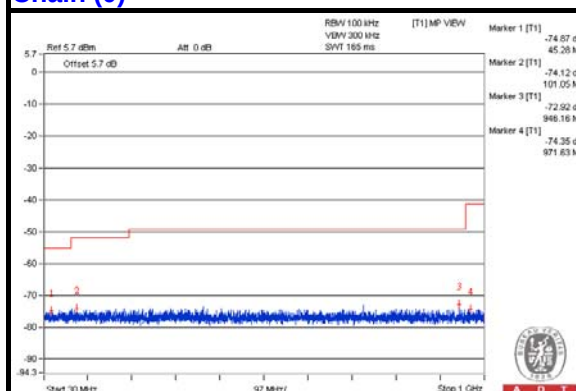
| No. | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Raw Value (dBm) |         |         | Correction Factor (dB) | EIRP Level (dBm) |
|-----|-----------------|-------------------------|----------------|-------------|-----------------|---------|---------|------------------------|------------------|
|     |                 |                         |                |             | Chain 0         | Chain 1 | Chain 2 |                        |                  |
| 1   | 37.76           | 32.03                   | 40             | -7.97       | -76.02          | -74.48  | -75.17  | 7.18                   | -63.23           |
| 2   | 156.585         | 32.19                   | 43.5           | -11.31      | -76.56          | -73.18  | -76.17  | 7.18                   | -63.07           |
| 3   | 375.0775        | 35.97                   | 46             | -10.03      | -75.58          | -70.06  | -70.04  | 7.18                   | -59.29           |
| 4   | 492.4475        | 32.16                   | 46             | -13.84      | -76.9           | -74.6   | -74.12  | 7.18                   | -63.1            |
| 5   | 625.095         | 32.92                   | 46             | -13.08      | -75.07          | -74.06  | -73.84  | 7.18                   | -62.34           |
| 6   | 1000            | 41.2                    | 54             | -12.8       | -75.53          | -64.57  | -64.26  | 7.18                   | -54.06           |

Note :

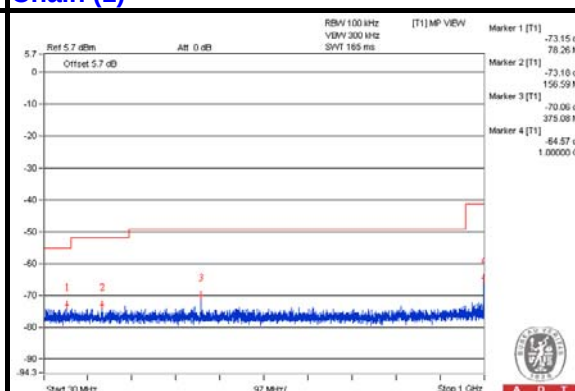
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

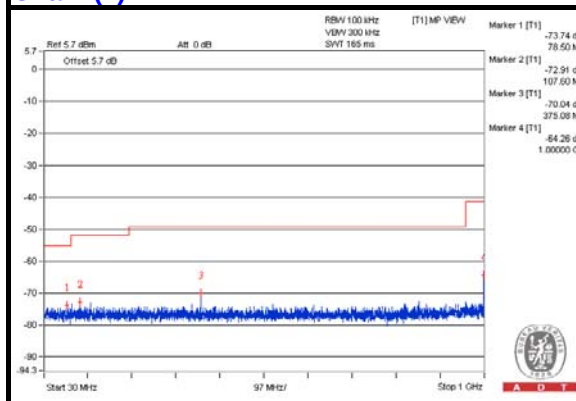
#### Chain (0)



#### Chain (1)



#### Chain (2)



# ABOVE 1GHz DATA

## 802.11b - Channel 1

### Conducted spurious emission table

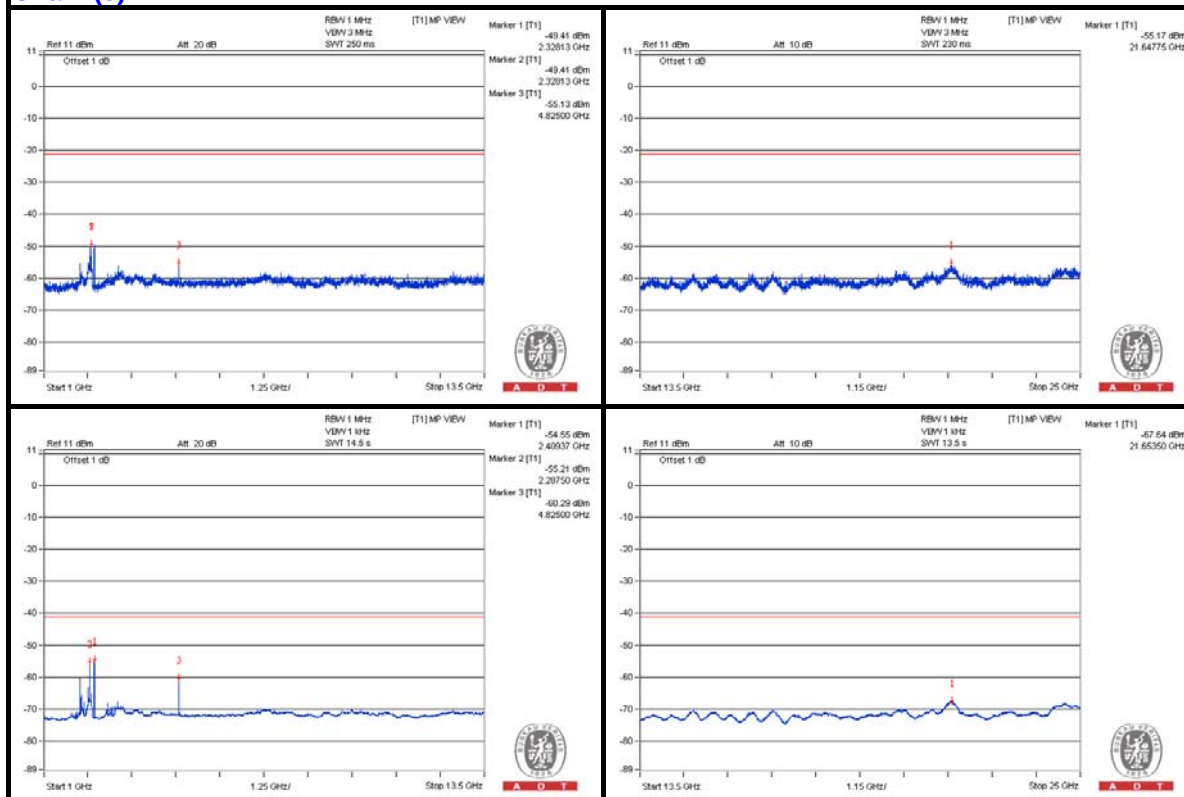
| No. | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Raw Value (dBm) |         |         | Correction Factor (dB) | EIRP Level (dBm) |
|-----|-----------------|-------------------------|----------------|-------------|-----------------|---------|---------|------------------------|------------------|
|     |                 |                         |                |             | Chain 0         | Chain 1 | Chain 2 |                        |                  |
| 1   | 2331.945 PK     | 65.09                   | 74             | -8.91       | -40.87          | -47.08  | -40.82  | 7.18                   | -30.17           |
| 2   | 2359.97 AV      | 51.51                   | 54             | -2.49       | -58.49          | -55.08  | -54.49  | 7.18                   | -43.75           |
| 3   | 2492.1625 PK    | 63.1                    | 74             | -10.9       | -45.51          | -48.84  | -41.23  | 7.18                   | -32.16           |
| 4   | 2490.0725 AV    | 47.59                   | 54             | -6.41       | -61.2           | -61.35  | -57.5   | 7.18                   | -47.67           |
| 5   | 2492.1625 PK    | 63.1                    | 74             | -10.9       | -45.51          | -48.84  | -41.23  | 7.18                   | -32.16           |
| 6   | 2490.0725 AV    | 47.59                   | 54             | -6.41       | -61.2           | -61.35  | -57.5   | 7.18                   | -47.67           |

Note :

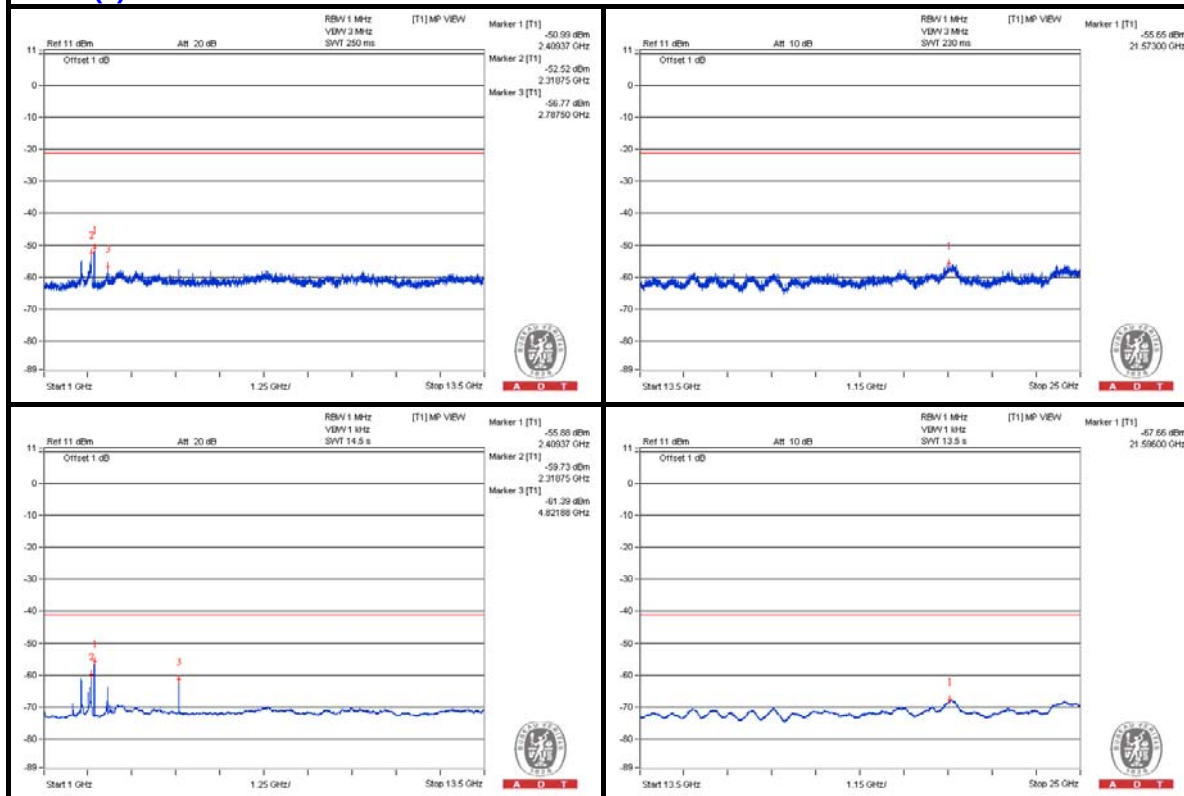
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

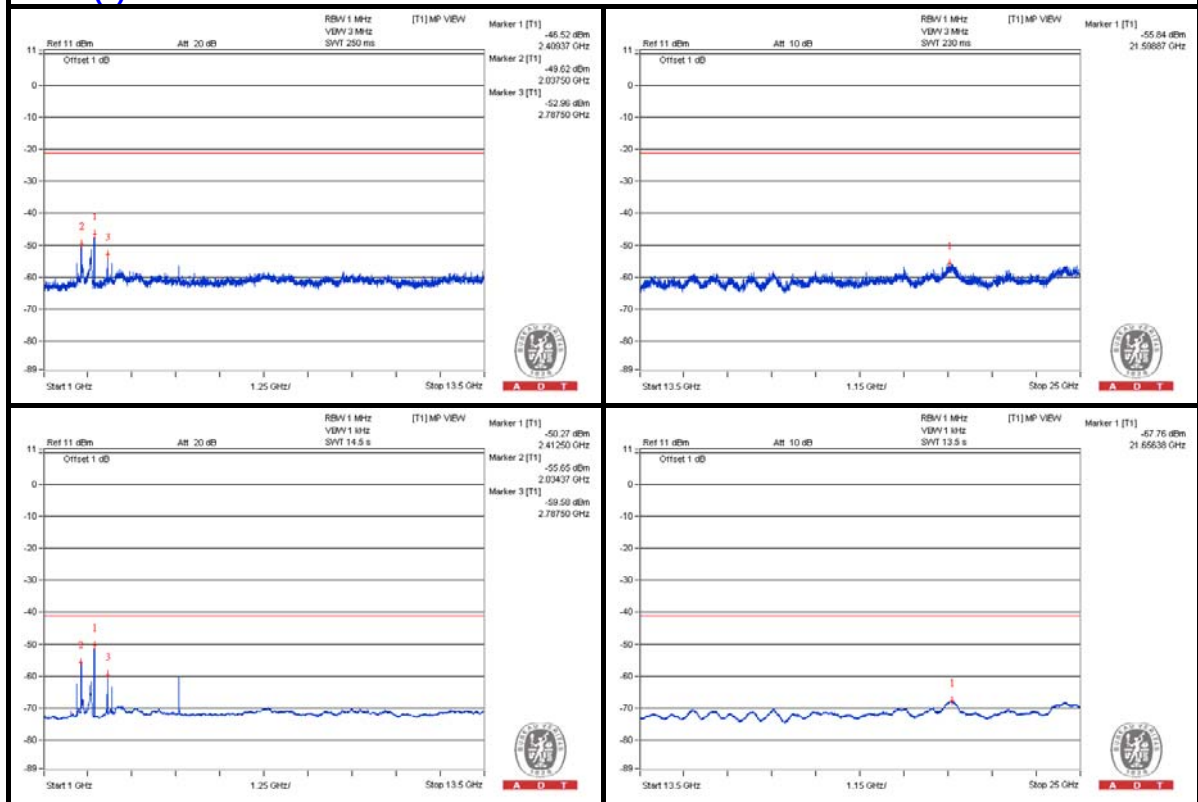
## Chain (0)



## Chain (1)



## Chain (2)



### Bandedge table

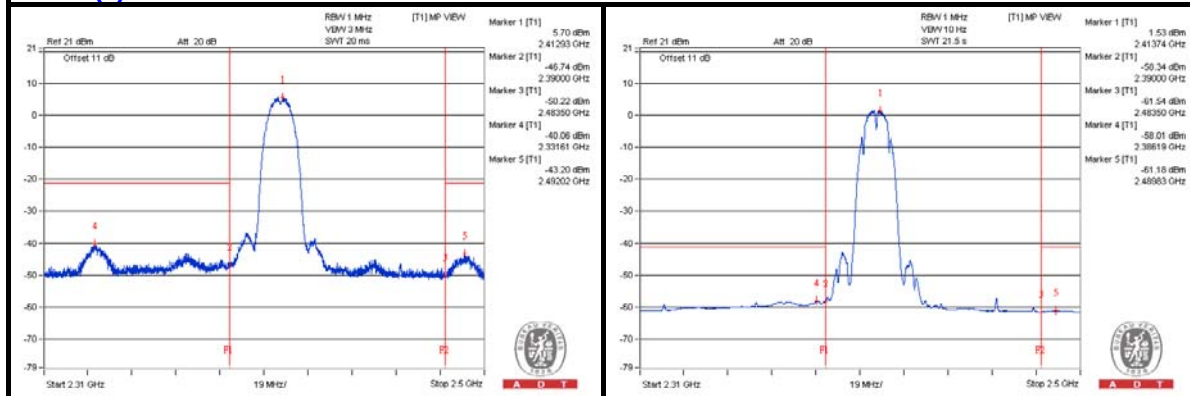
| No. | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Raw Value (dBm) |         |         | Correction Factor (dB) | EIRP Level (dBm) |
|-----|-----------------|-------------------------|----------------|-------------|-----------------|---------|---------|------------------------|------------------|
|     |                 |                         |                |             | Chain 0         | Chain 1 | Chain 2 |                        |                  |
| 1   | 2331.945 PK     | 65.09                   | 74             | -8.91       | -40.87          | -47.08  | -40.82  | 7.18                   | -30.17           |
| 2   | 2359.97 AV      | 51.51                   | 54             | -2.49       | -58.49          | -55.08  | -54.49  | 7.18                   | -43.75           |
| 3   | 2492.1625 PK    | 63.1                    | 74             | -10.9       | -45.51          | -48.84  | -41.23  | 7.18                   | -32.16           |
| 4   | 2490.0725 AV    | 47.59                   | 54             | -6.41       | -61.2           | -61.35  | -57.5   | 7.18                   | -47.67           |
| 5   | 2492.1625 PK    | 63.1                    | 74             | -10.9       | -45.51          | -48.84  | -41.23  | 7.18                   | -32.16           |
| 6   | 2490.0725 AV    | 47.59                   | 54             | -6.41       | -61.2           | -61.35  | -57.5   | 7.18                   | -47.67           |

Note :

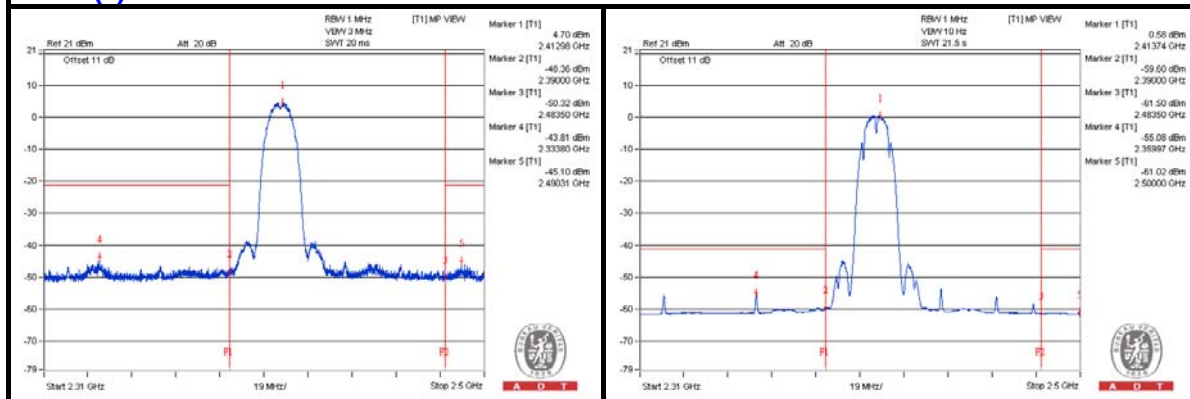
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

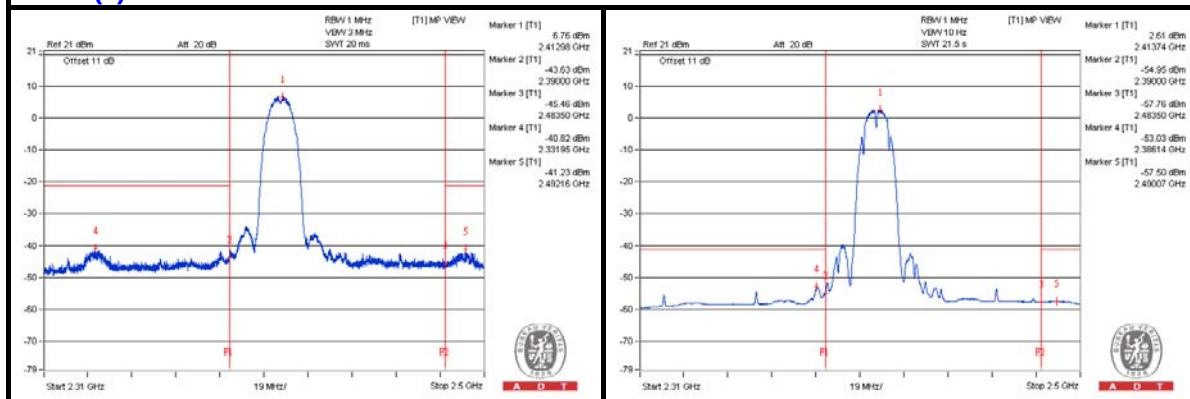
### Chain (0)



### Chain (1)



### Chain (2)





### 802.11b - Channel 6

#### Conducted spurious emission table

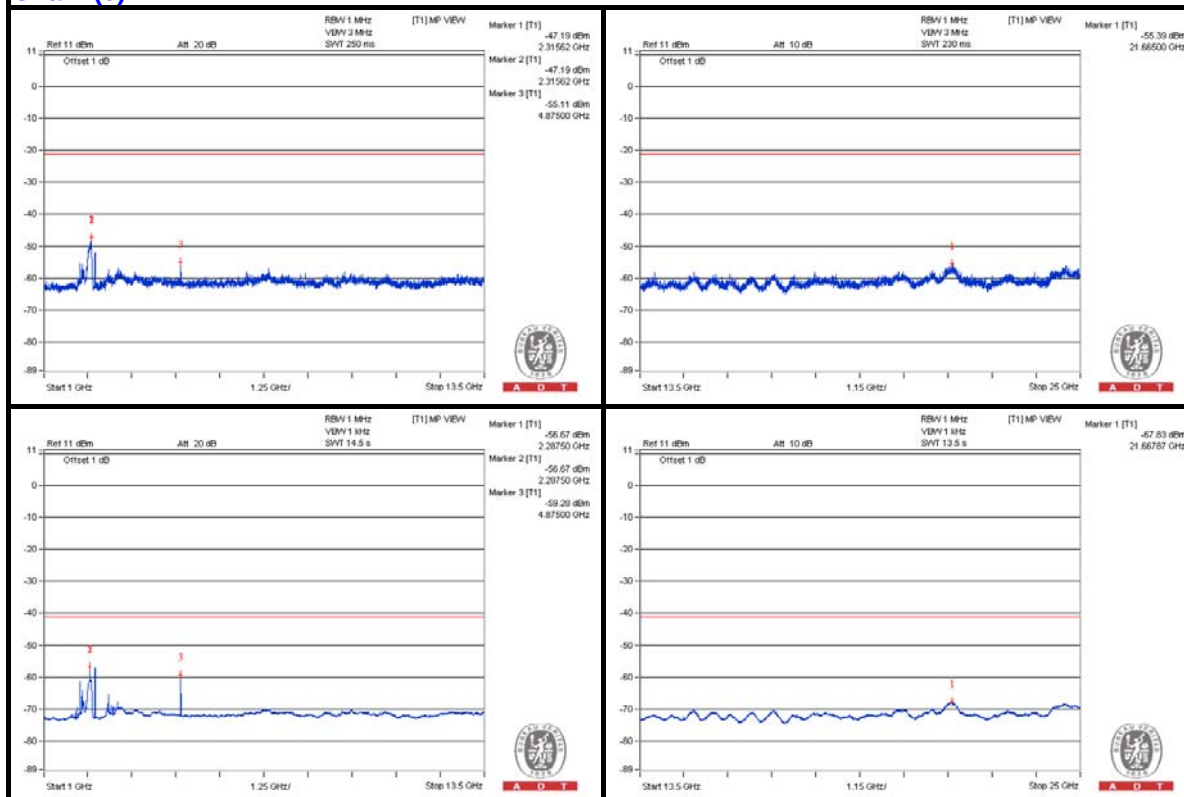
| No. | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Raw Value (dBm) |         |         | Correction Factor (dB) | EIRP Level (dBm) |
|-----|-----------------|-------------------------|----------------|-------------|-----------------|---------|---------|------------------------|------------------|
|     |                 |                         |                |             | Chain 0         | Chain 1 | Chain 2 |                        |                  |
| 1   | 2357.12 PK      | 68.81                   | 74             | -5.19       | -36.47          | -42.92  | -38.03  | 7.18                   | -26.45           |
| 2   | 2359.97 AV      | 52.44                   | 54             | -1.56       | -54.2           | -54.73  | -55.47  | 7.18                   | -42.82           |
| 3   | 2484.1825 PK    | 61.59                   | 74             | -12.41      | -47.89          | -48.79  | -42.78  | 7.18                   | -33.67           |
| 4   | 2483.5175 AV    | 48.28                   | 54             | -5.72       | -58.8           | -60.37  | -57.95  | 7.18                   | -46.98           |
| 5   | 2491.735 PK     | 60.69                   | 74             | -13.31      | -45.29          | -48.4   | -46.43  | 7.18                   | -34.57           |
| 6   | 2490.025 AV     | 47.91                   | 54             | -6.09       | -58.99          | -60.8   | -58.44  | 7.18                   | -47.35           |

Note :

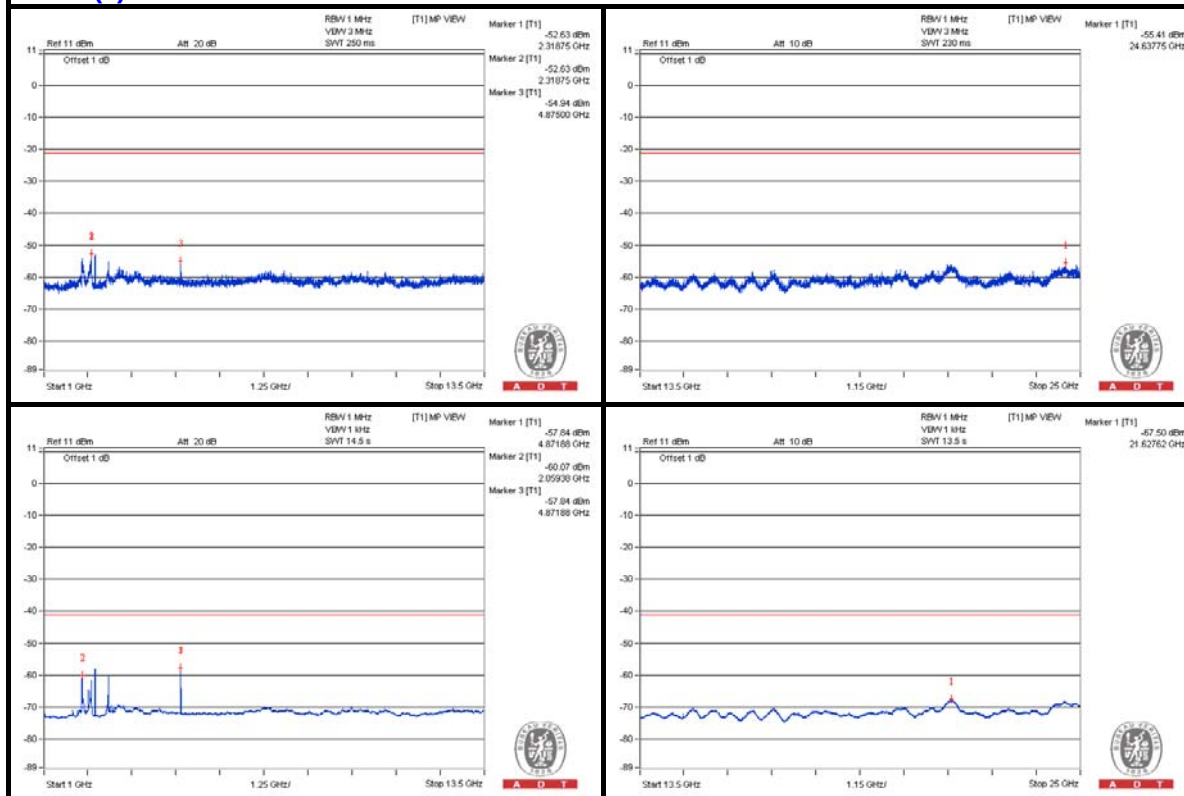
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

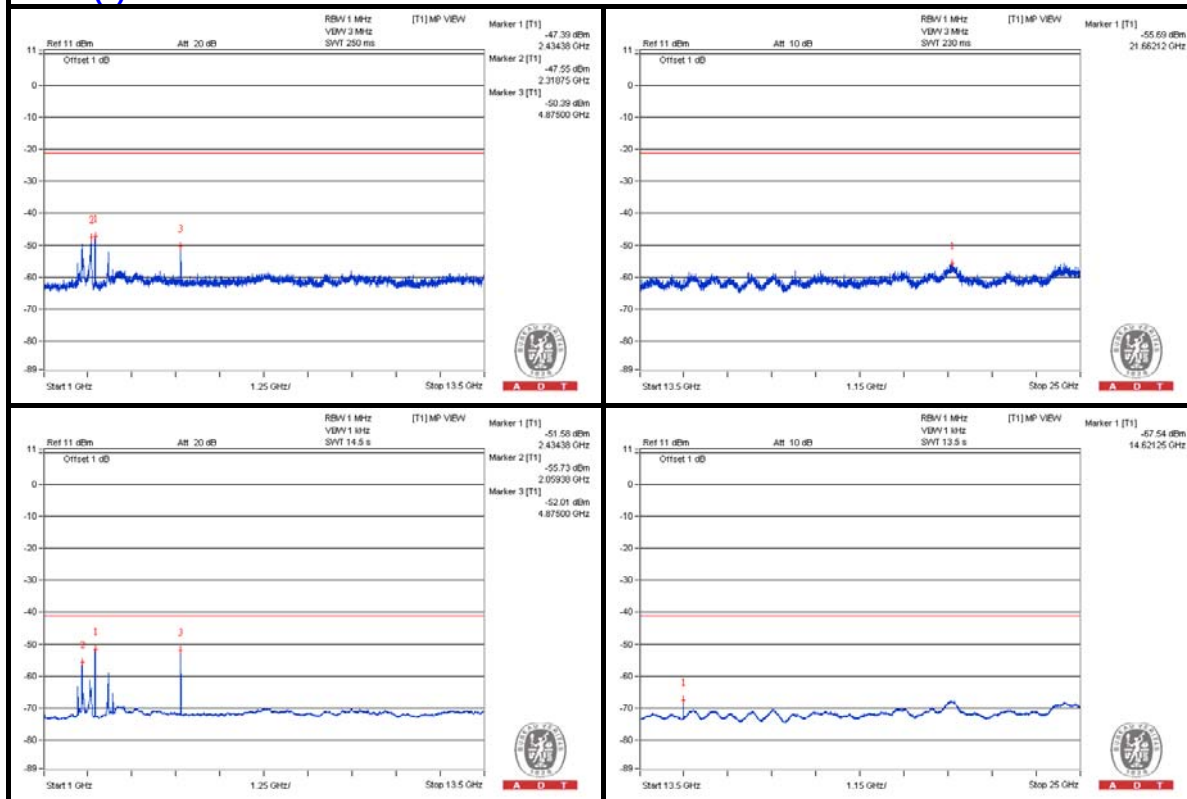
## Chain (0)



## Chain (1)



## Chain (2)



# Bandedge table

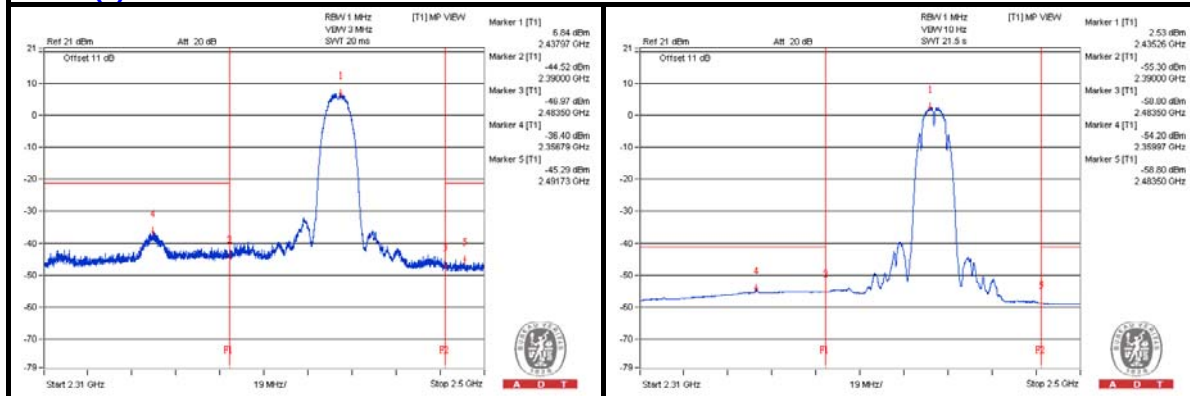
| No. | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Raw Value (dBm) |         |         | Correction Factor (dB) | EIRP Level (dBm) |
|-----|-----------------|-------------------------|----------------|-------------|-----------------|---------|---------|------------------------|------------------|
|     |                 |                         |                |             | Chain 0         | Chain 1 | Chain 2 |                        |                  |
| 1   | 2357.12 PK      | 68.81                   | 74             | -5.19       | -36.47          | -42.92  | -38.03  | 7.18                   | -26.45           |
| 2   | 2359.97 AV      | 52.44                   | 54             | -1.56       | -54.2           | -54.73  | -55.47  | 7.18                   | -42.82           |
| 3   | 2484.1825 PK    | 61.59                   | 74             | -12.41      | -47.89          | -48.79  | -42.78  | 7.18                   | -33.67           |
| 4   | 2483.5175 AV    | 48.28                   | 54             | -5.72       | -58.8           | -60.37  | -57.95  | 7.18                   | -46.98           |
| 5   | 2491.735 PK     | 60.69                   | 74             | -13.31      | -45.29          | -48.4   | -46.43  | 7.18                   | -34.57           |
| 6   | 2490.025 AV     | 47.91                   | 54             | -6.09       | -58.99          | -60.8   | -58.44  | 7.18                   | -47.35           |

Note :

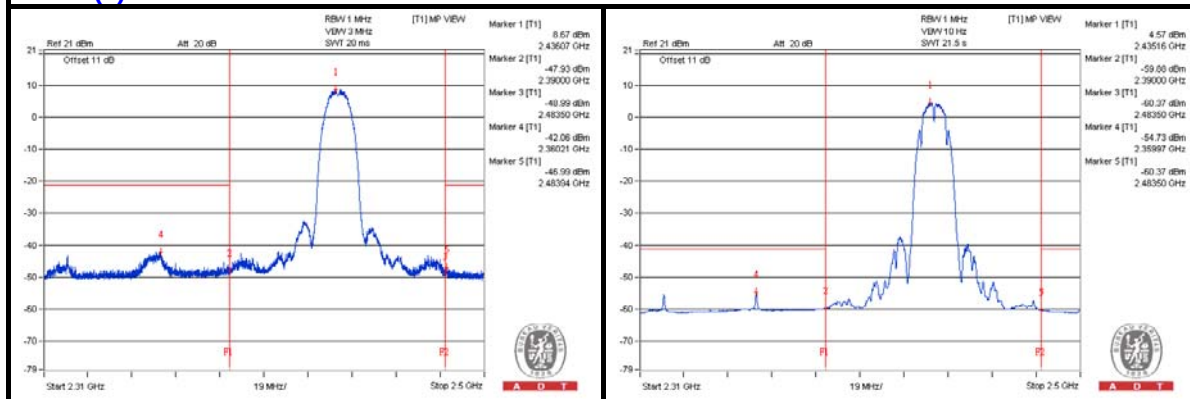
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

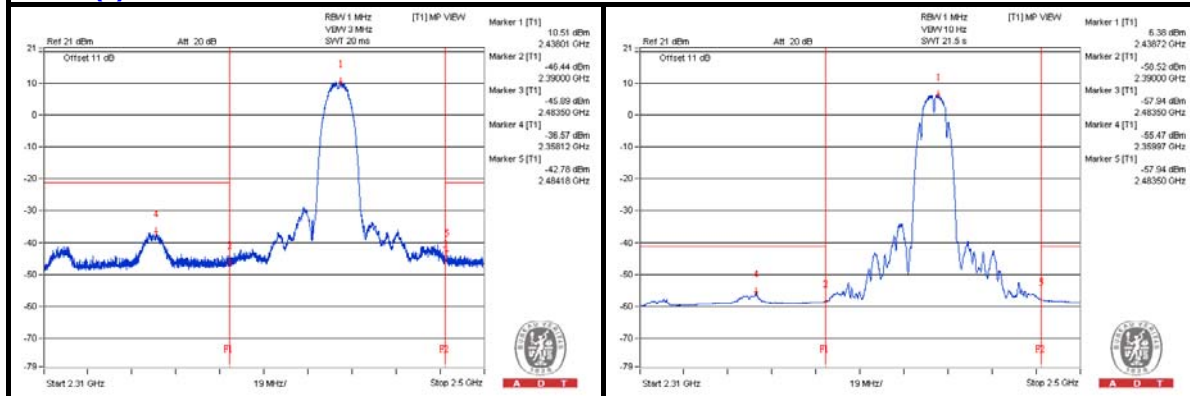
### Chain (0)



### Chain (1)



### Chain (2)



# 802.11b - Channel 11

## Conducted spurious emission table

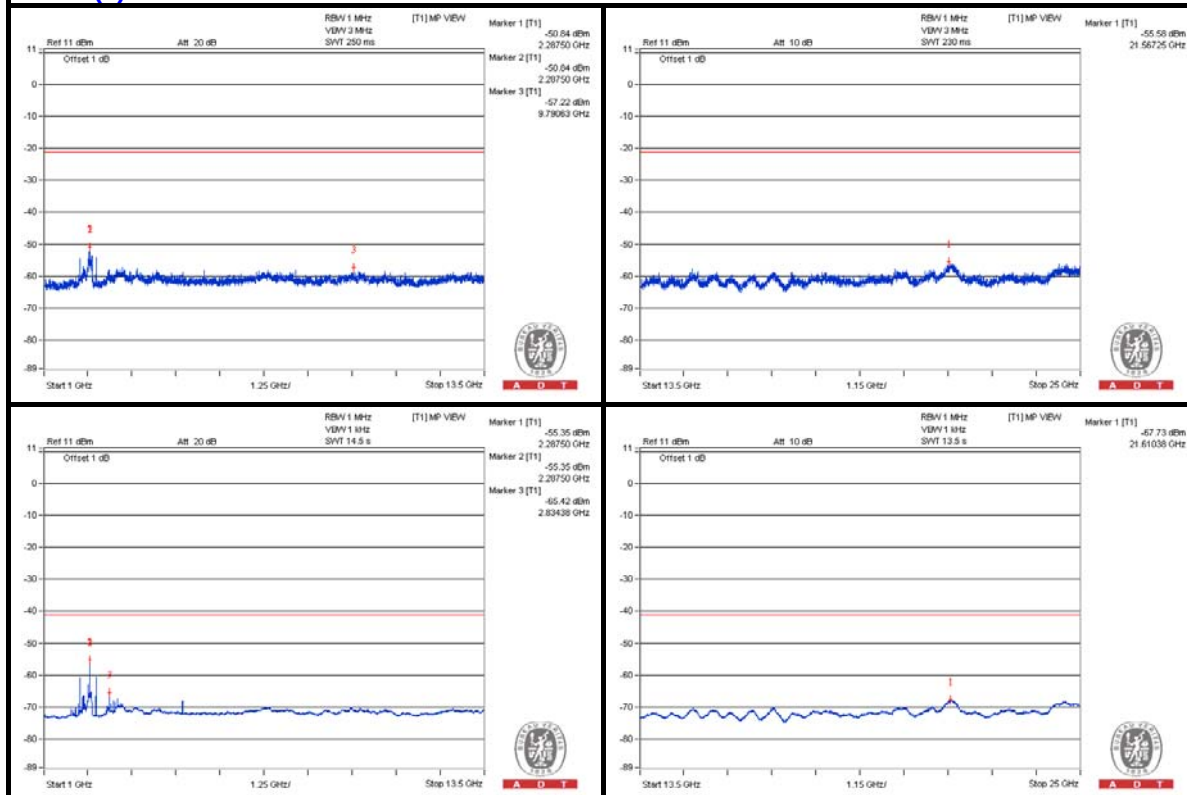
| No. | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Raw Value (dBm) |         |         | Correction Factor (dB) | EIRP Level (dBm) |
|-----|-----------------|-------------------------|----------------|-------------|-----------------|---------|---------|------------------------|------------------|
|     |                 |                         |                |             | Chain 0         | Chain 1 | Chain 2 |                        |                  |
| 1   | 2382.105 PK     | 68.3                    | 74             | -5.7        | -35.43          | -44.07  | -42.2   | 7.18                   | -26.96           |
| 2   | 2359.97 AV      | 51.62                   | 54             | -2.38       | -58.29          | -54.92  | -54.46  | 7.18                   | -43.64           |
| 3   | 2483.8025 PK    | 62.27                   | 74             | -11.73      | -46.53          | -48.44  | -42.24  | 7.18                   | -32.99           |
| 4   | 2483.5175 AV    | 51.58                   | 54             | -2.42       | -57.21          | -58.77  | -53.03  | 7.18                   | -43.68           |
| 5   | 2499.9525 PK    | 61.64                   | 74             | -12.36      | -45.05          | -47.89  | -44.48  | 7.18                   | -33.62           |
| 6   | 2499.9525 AV    | 48.36                   | 54             | -5.64       | -59.85          | -60.2   | -57.17  | 7.18                   | -46.9            |

Note :

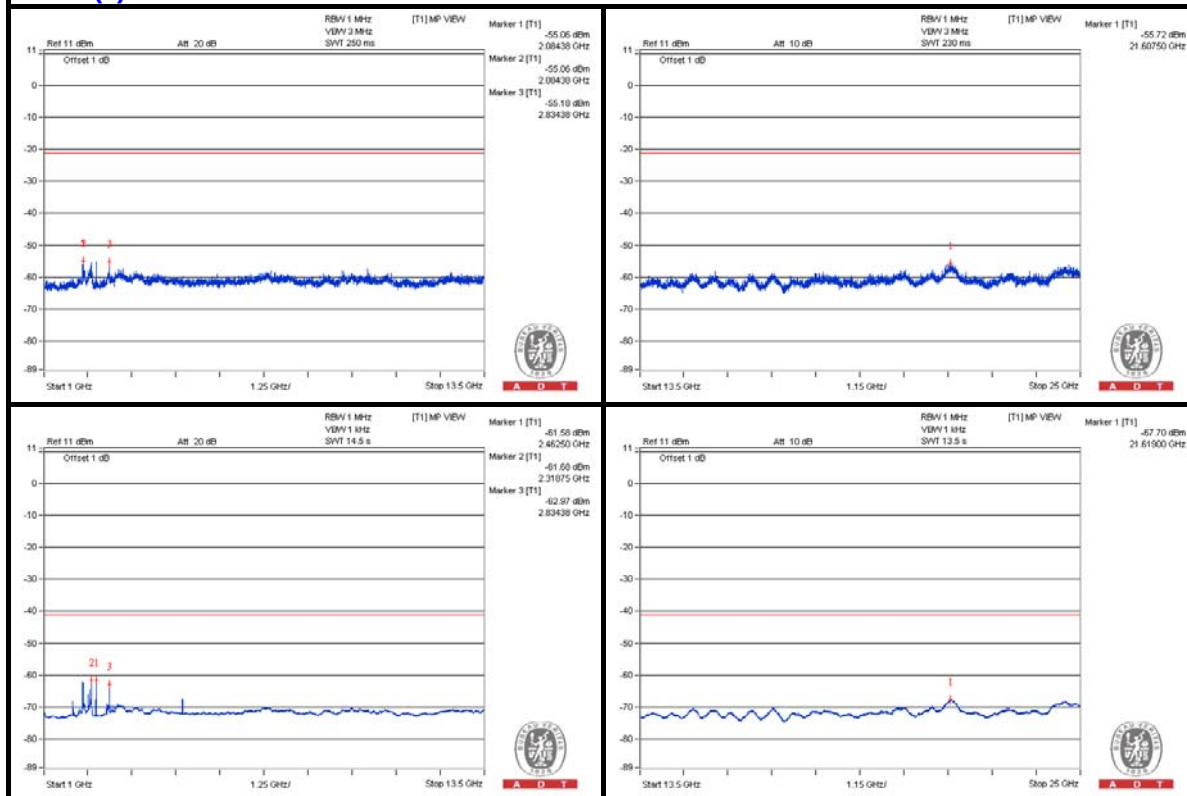
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

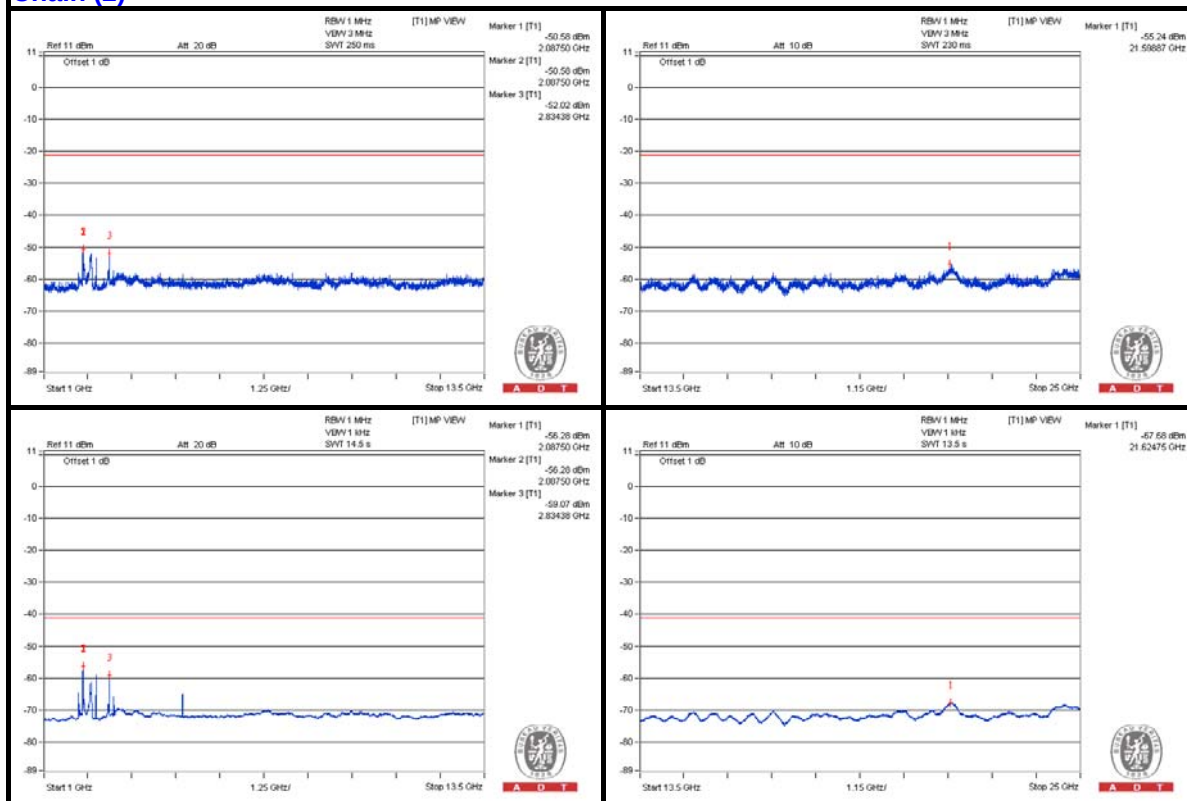
## Chain (0)



## Chain (1)



## Chain (2)





# Bandedge table

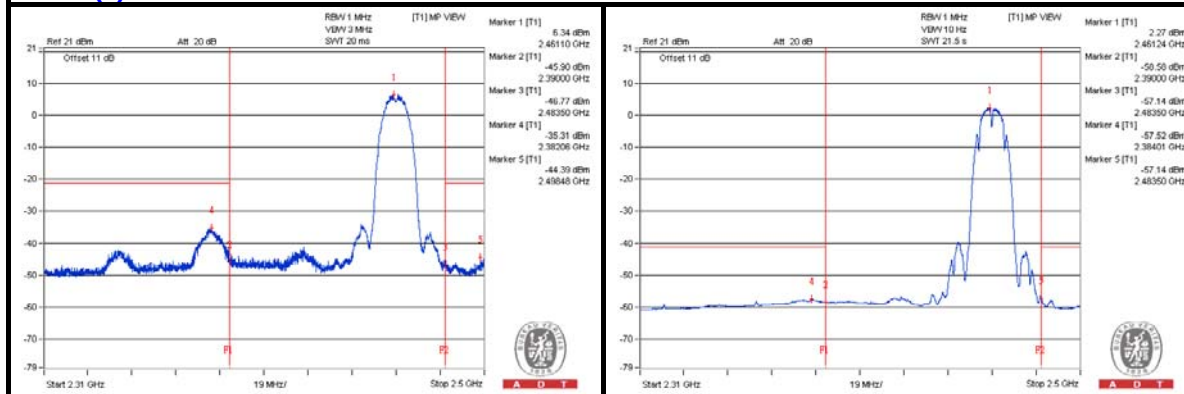
| No. | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Raw Value (dBm) |         |         | Correction Factor (dB) | EIRP Level (dBm) |
|-----|-----------------|-------------------------|----------------|-------------|-----------------|---------|---------|------------------------|------------------|
|     |                 |                         |                |             | Chain 0         | Chain 1 | Chain 2 |                        |                  |
| 1   | 2382.105 PK     | 68.3                    | 74             | -5.7        | -35.43          | -44.07  | -42.2   | 7.18                   | -26.96           |
| 2   | 2359.97 AV      | 51.62                   | 54             | -2.38       | -58.29          | -54.92  | -54.46  | 7.18                   | -43.64           |
| 3   | 2483.8025 PK    | 62.27                   | 74             | -11.73      | -46.53          | -48.44  | -42.24  | 7.18                   | -32.99           |
| 4   | 2483.5175 AV    | 51.58                   | 54             | -2.42       | -57.21          | -58.77  | -53.03  | 7.18                   | -43.68           |
| 5   | 2499.9525 PK    | 61.64                   | 74             | -12.36      | -45.05          | -47.89  | -44.48  | 7.18                   | -33.62           |
| 6   | 2499.9525 AV    | 48.36                   | 54             | -5.64       | -59.85          | -60.2   | -57.17  | 7.18                   | -46.9            |

Note :

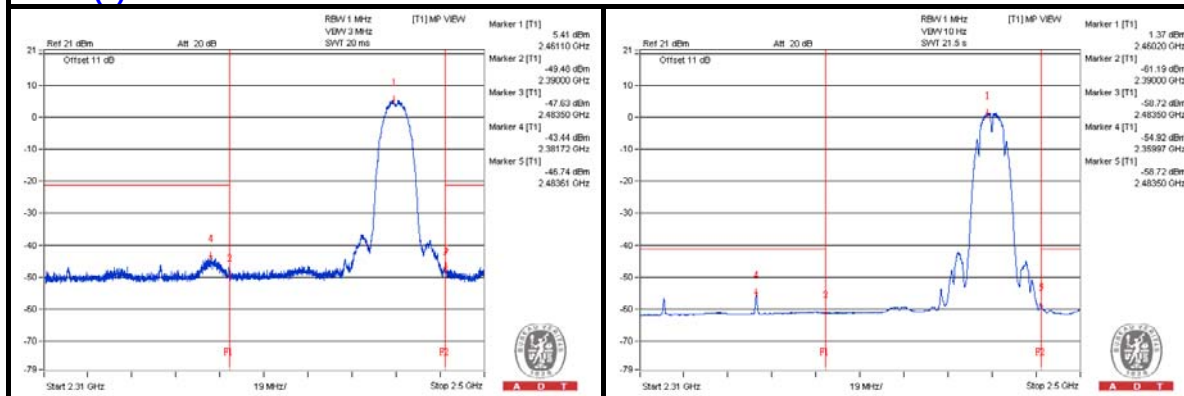
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

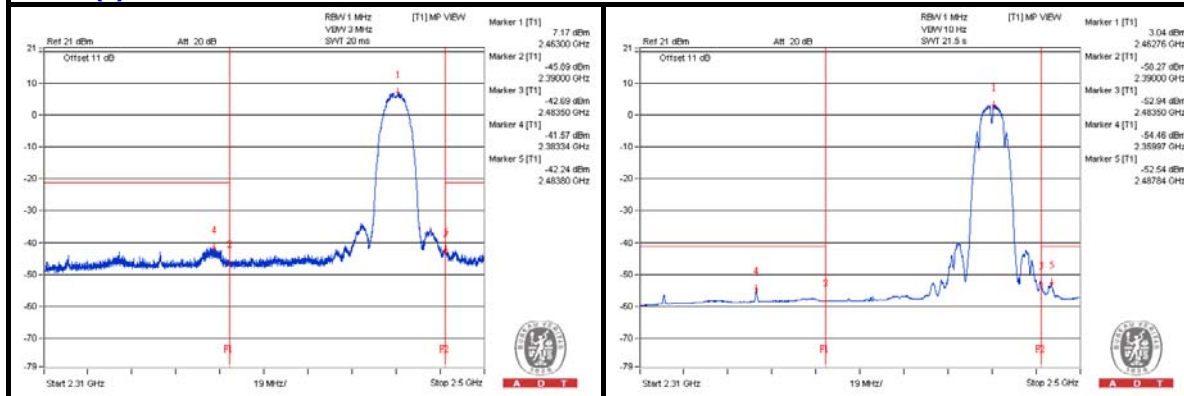
## Chain (0)



## Chain (1)



## Chain (2)



### 802.11g - Channel 1

#### Conducted spurious emission table

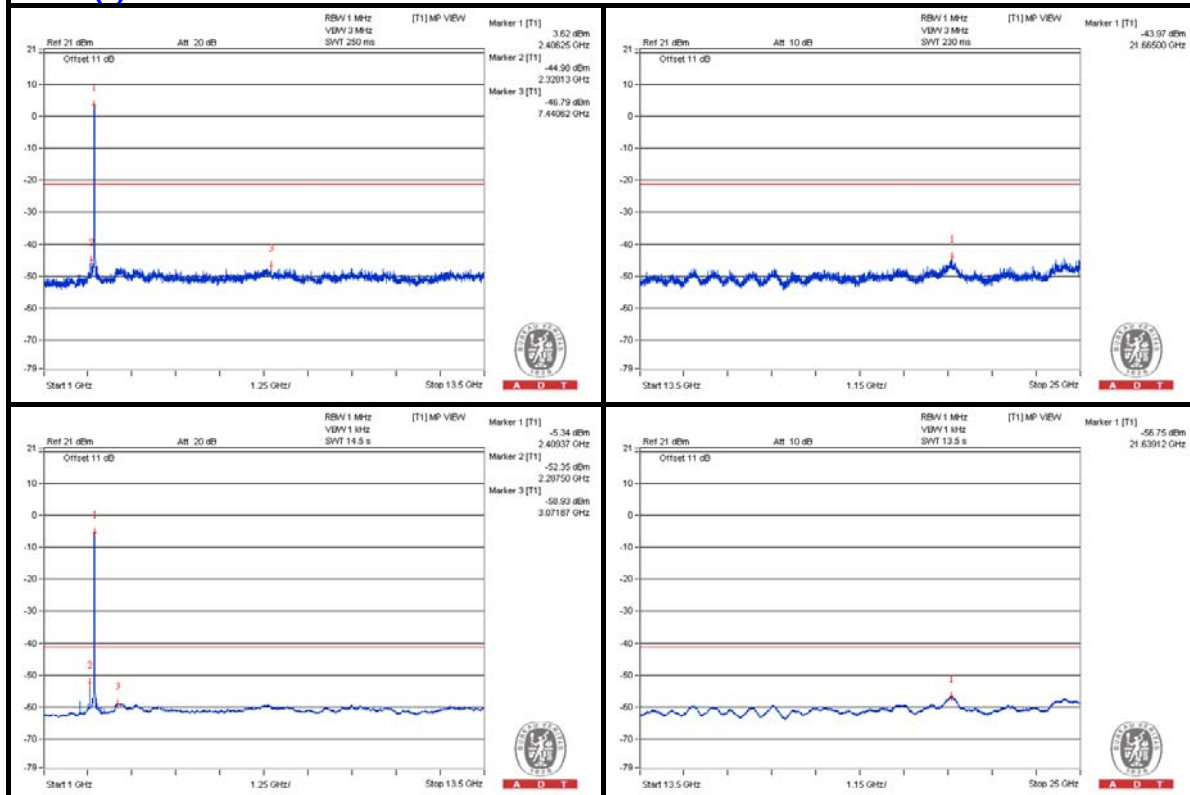
| No. | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Raw Value (dBm) |         |         | Correction Factor (dB) | EIRP Level (dBm) |
|-----|-----------------|-------------------------|----------------|-------------|-----------------|---------|---------|------------------------|------------------|
|     |                 |                         |                |             | Chain 0         | Chain 1 | Chain 2 |                        |                  |
| 1   | 2388.66 PK      | 66.86                   | 74             | -7.14       | -44.35          | -44.83  | -36.84  | 7.18                   | -28.4            |
| 2   | 2359.97 AV      | 52.74                   | 54             | -1.26       | -57.4           | -53.15  | -53.91  | 7.18                   | -42.52           |
| 3   | 2485.6075 PK    | 60.99                   | 74             | -13.01      | -48.24          | -50.25  | -43.27  | 7.18                   | -34.27           |
| 4   | 2484.99 AV      | 47.55                   | 54             | -6.45       | -61.01          | -60.97  | -57.83  | 7.18                   | -47.71           |

Note :

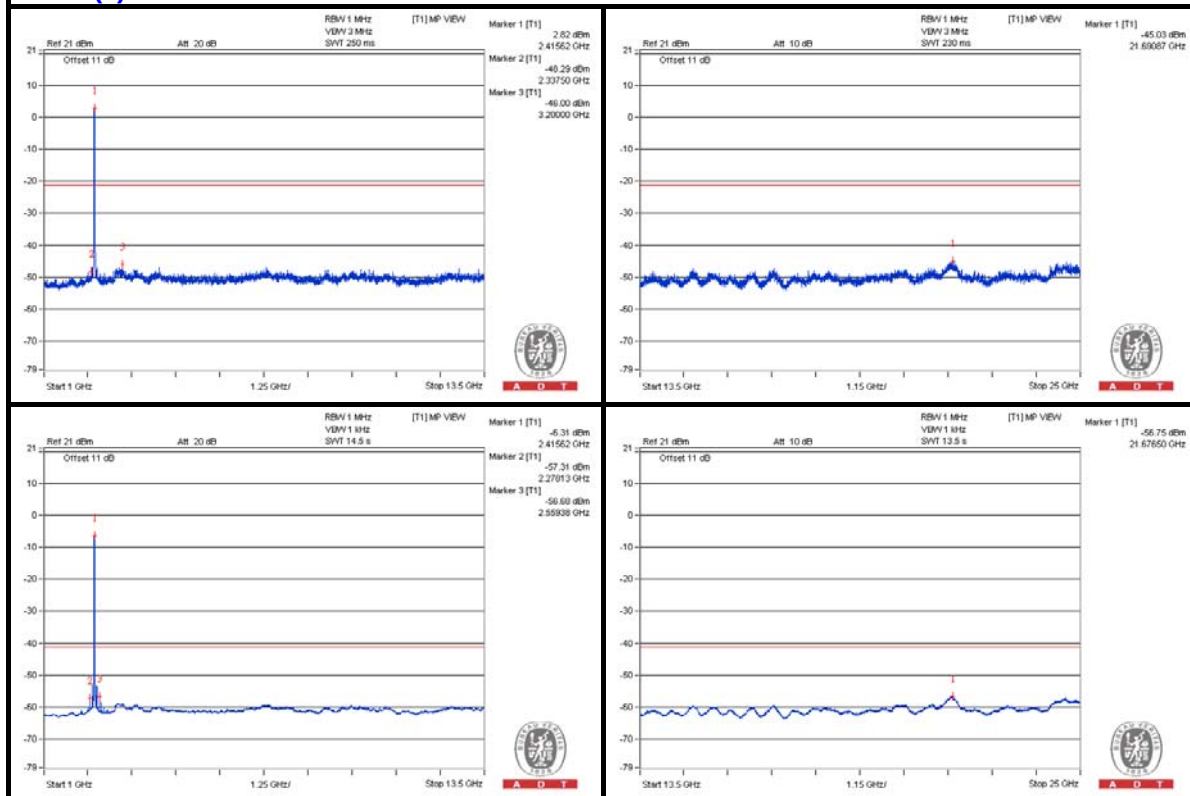
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

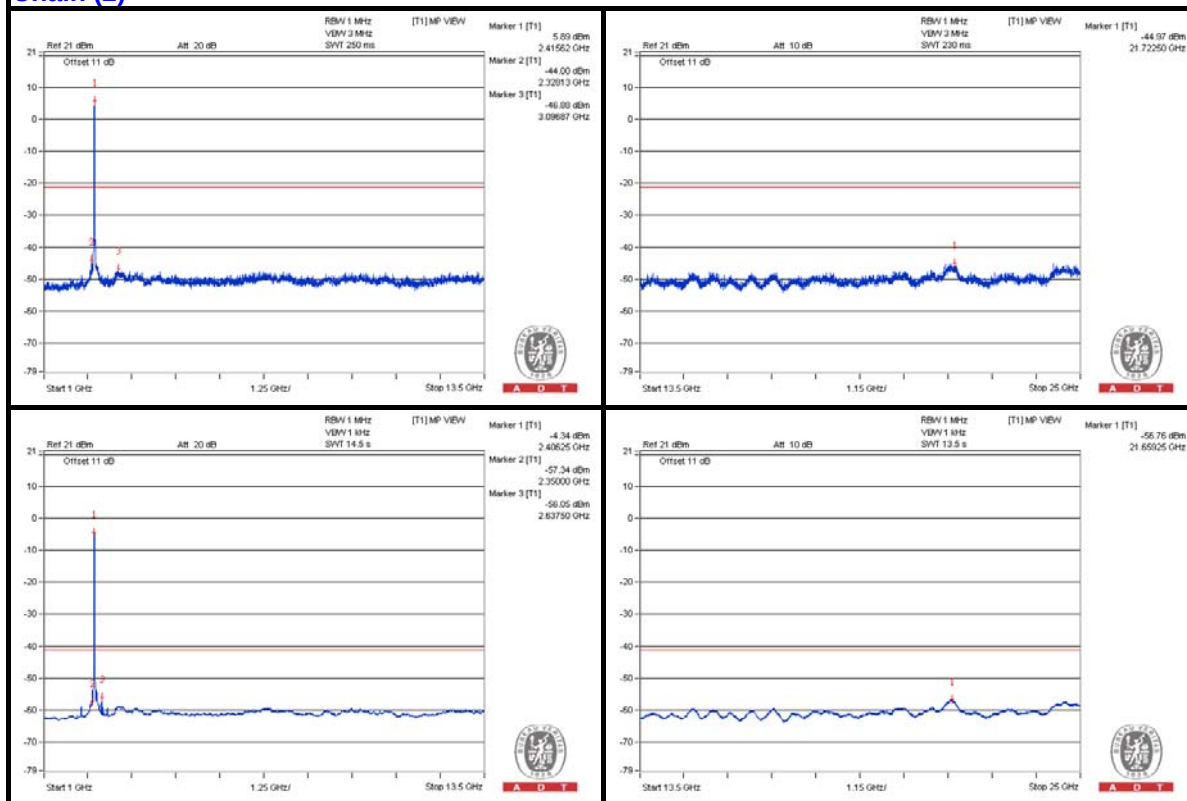
## Chain (0)



## Chain (1)



## Chain (2)



# Bandedge table

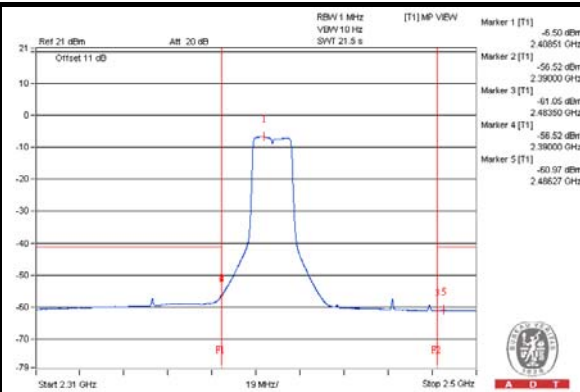
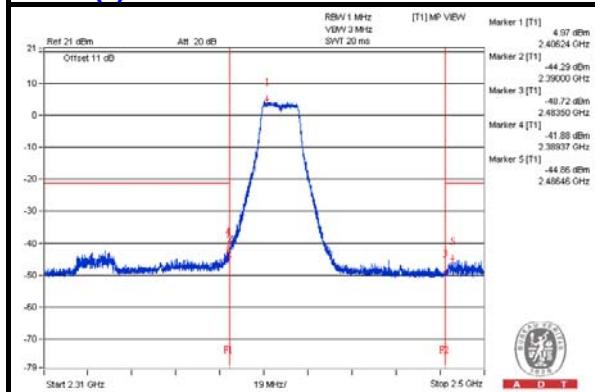
| No. | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Raw Value (dBm) |         |         | Correction Factor (dB) | EIRP Level (dBm) |
|-----|-----------------|-------------------------|----------------|-------------|-----------------|---------|---------|------------------------|------------------|
|     |                 |                         |                |             | Chain 0         | Chain 1 | Chain 2 |                        |                  |
| 1   | 2388.66 PK      | 66.86                   | 74             | -7.14       | -44.35          | -44.83  | -36.84  | 7.18                   | -28.4            |
| 2   | 2359.97 AV      | 52.74                   | 54             | -1.26       | -57.4           | -53.15  | -53.91  | 7.18                   | -42.52           |
| 3   | 2485.6075 PK    | 60.99                   | 74             | -13.01      | -48.24          | -50.25  | -43.27  | 7.18                   | -34.27           |
| 4   | 2484.99 AV      | 47.55                   | 54             | -6.45       | -61.01          | -60.97  | -57.83  | 7.18                   | -47.71           |

Note :

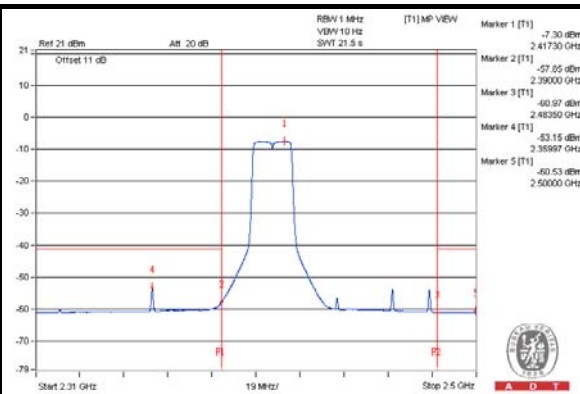
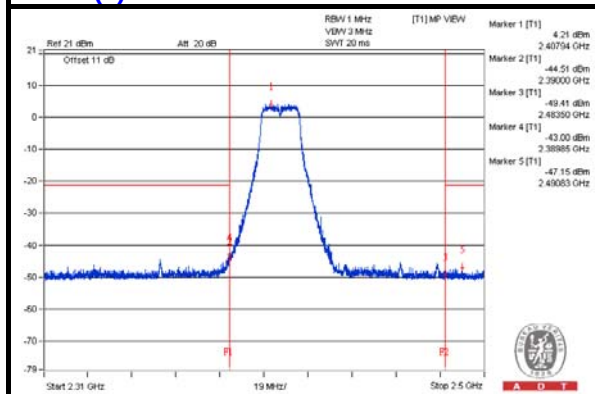
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

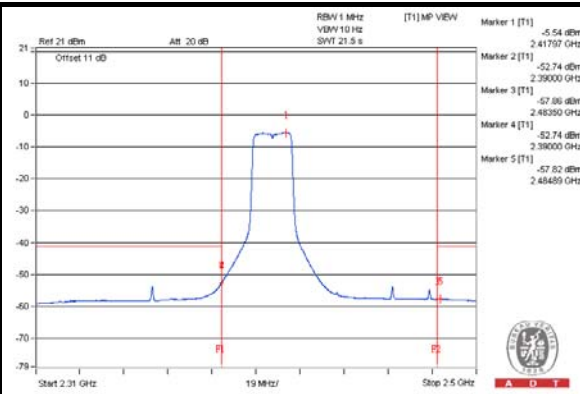
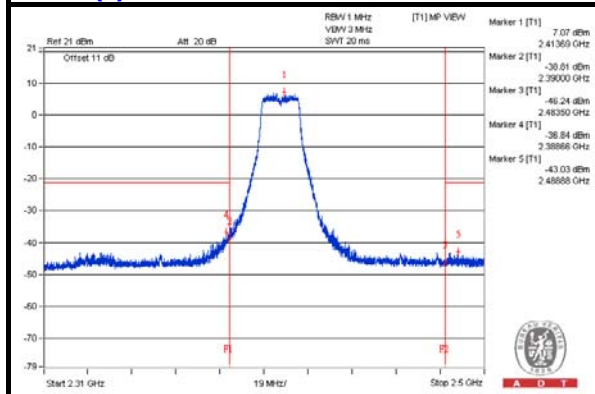
## Chain (0)



## Chain (1)



## Chain (2)



## 802.11g - Channel 6

### Conducted spurious emission table

| No. | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Raw Value (dBm) |         |         | Correction Factor (dB) | EIRP Level (dBm) |
|-----|-----------------|-------------------------|----------------|-------------|-----------------|---------|---------|------------------------|------------------|
|     |                 |                         |                |             | Chain 0         | Chain 1 | Chain 2 |                        |                  |
| 1   | 2354.08 PK      | 66.72                   | 74             | -7.28       | -37.19          | -47.71  | -42.2   | 7.18                   | -28.54           |
| 2   | 2360.0175 AV    | 53.26                   | 54             | -0.74       | -56.63          | -53.12  | -52.98  | 7.18                   | -42              |
| 3   | 2483.945 PK     | 60.85                   | 74             | -13.15      | -46.4           | -49.5   | -44.53  | 7.18                   | -34.41           |
| 4   | 2483.6125 AV    | 48.31                   | 54             | -5.69       | -60.06          | -60.68  | -56.94  | 7.18                   | -46.95           |

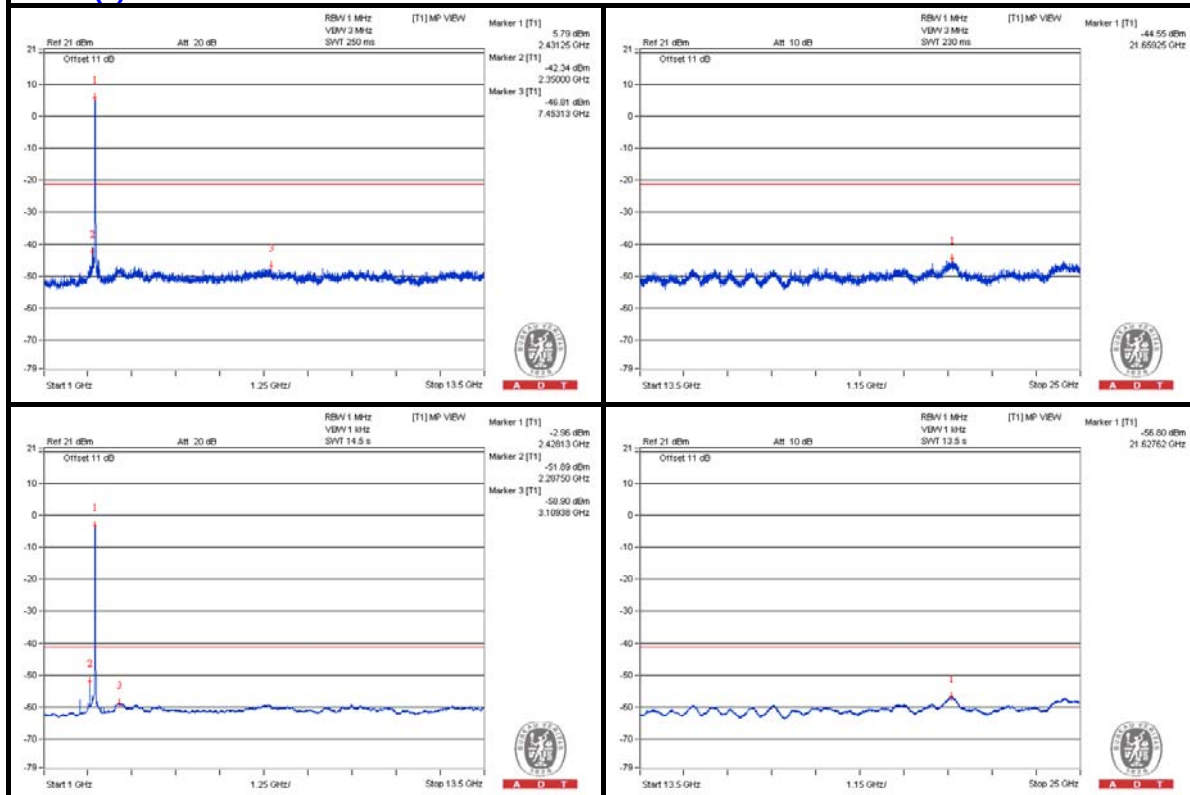
Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

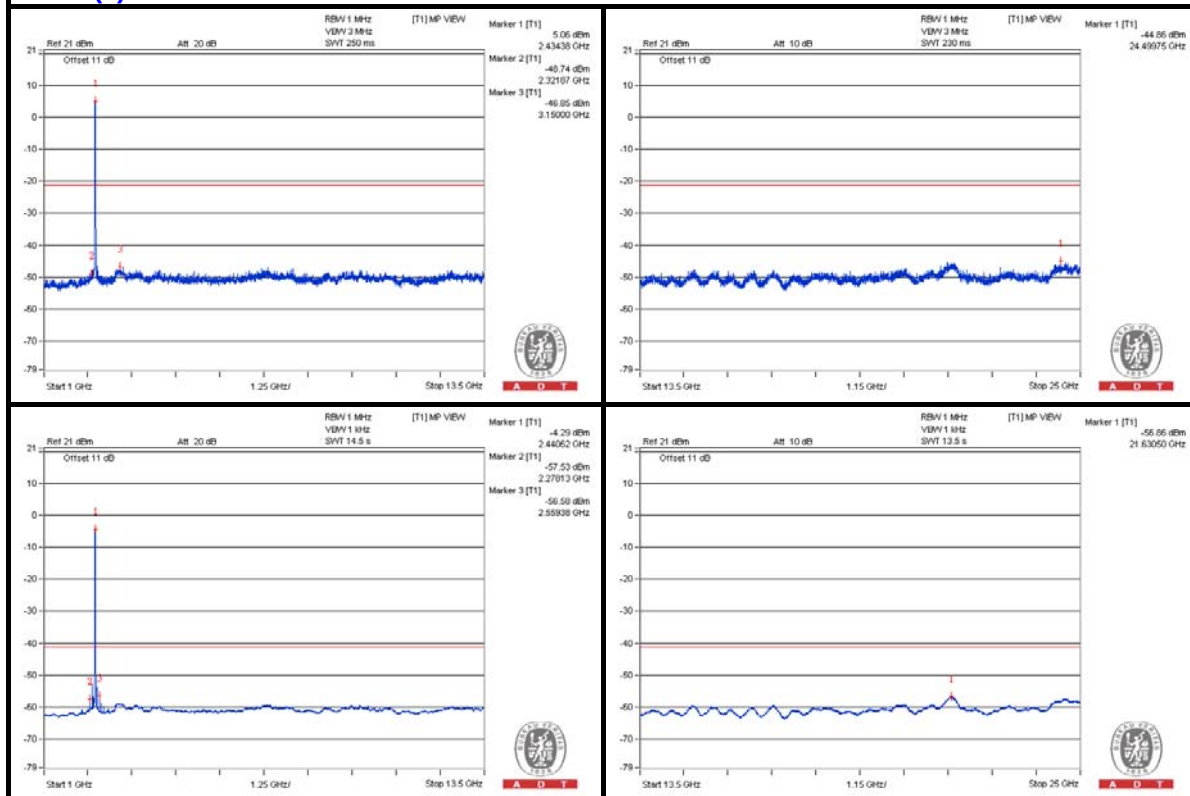
d = measurement distance in 3 meters.



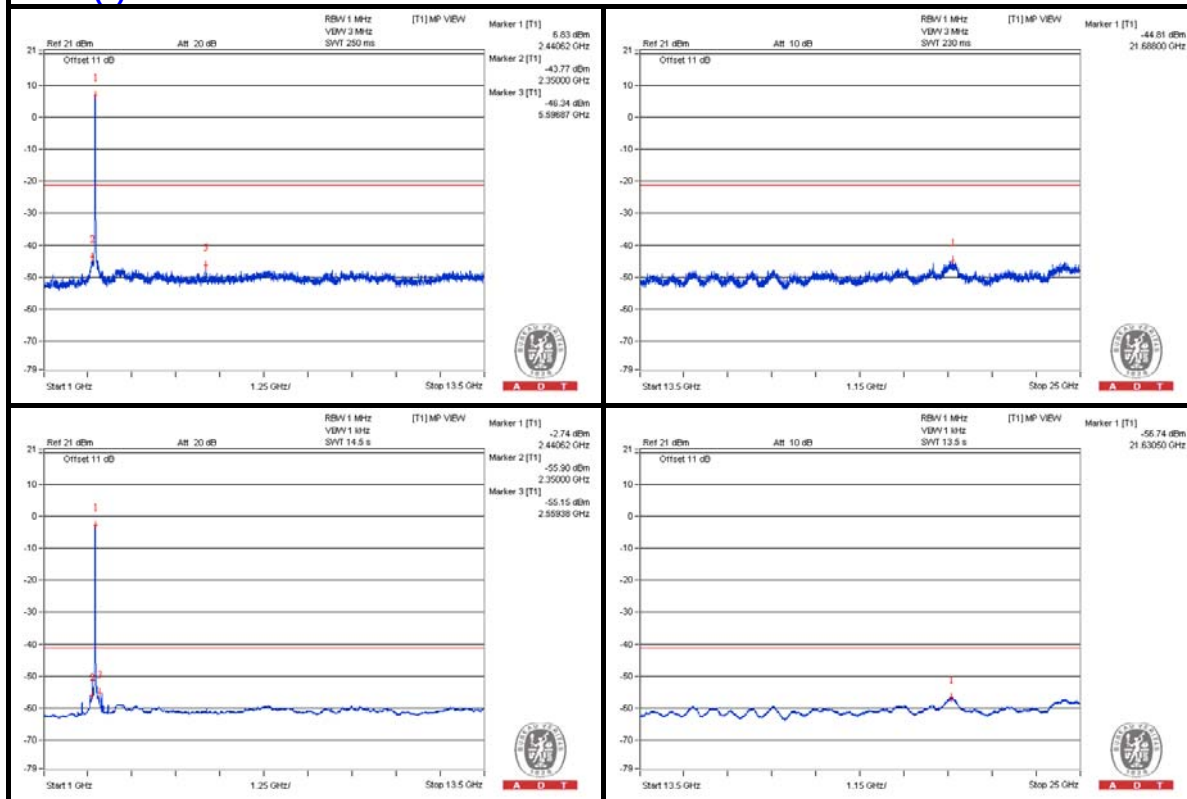
## Chain (0)



## Chain (1)



## Chain (2)



### Bandedge table

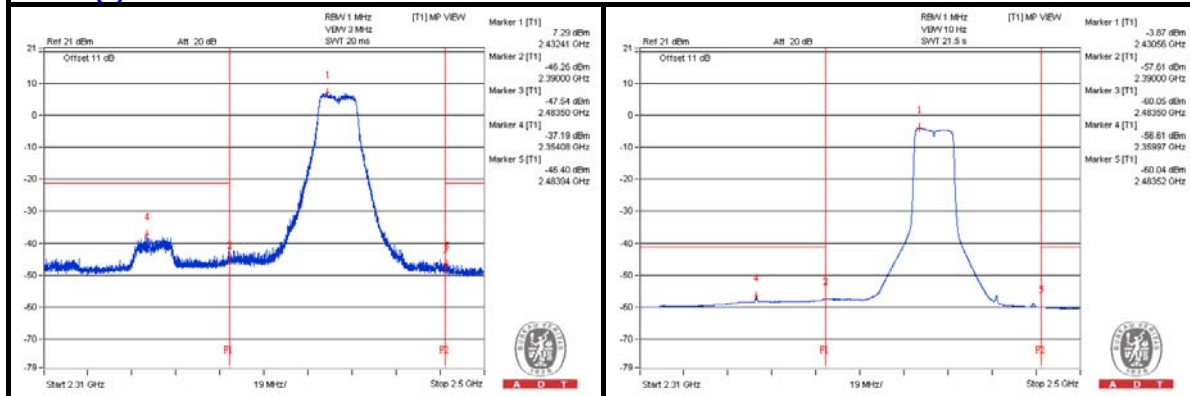
| No. | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Raw Value (dBm) |         |         | Correction Factor (dB) | EIRP Level (dBm) |
|-----|-----------------|-------------------------|----------------|-------------|-----------------|---------|---------|------------------------|------------------|
|     |                 |                         |                |             | Chain 0         | Chain 1 | Chain 2 |                        |                  |
| 1   | 2354.08 PK      | 66.72                   | 74             | -7.28       | -37.19          | -47.71  | -42.2   | 7.18                   | -28.54           |
| 2   | 2360.0175 AV    | 53.26                   | 54             | -0.74       | -56.63          | -53.12  | -52.98  | 7.18                   | -42              |
| 3   | 2483.945 PK     | 60.85                   | 74             | -13.15      | -46.4           | -49.5   | -44.53  | 7.18                   | -34.41           |
| 4   | 2483.6125 AV    | 48.31                   | 54             | -5.69       | -60.06          | -60.68  | -56.94  | 7.18                   | -46.95           |

Note :

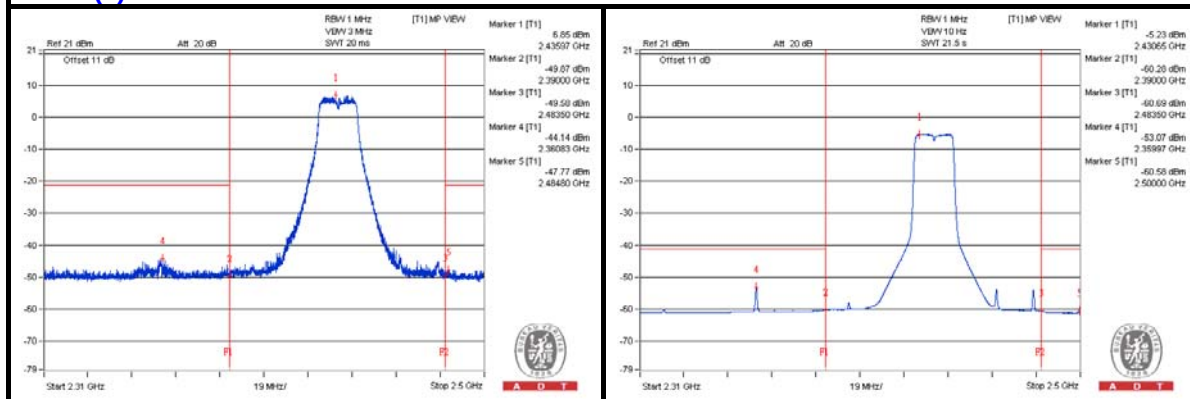
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

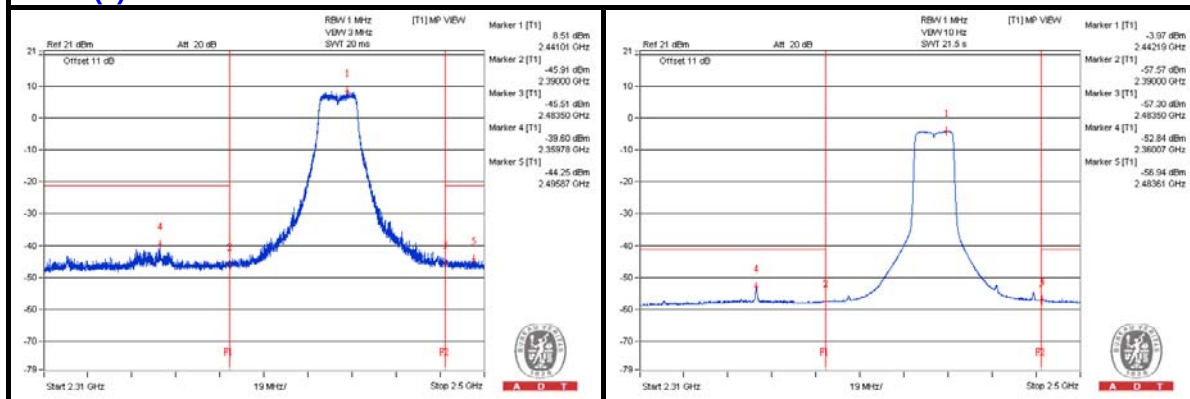
### Chain (0)



### Chain (1)



### Chain (2)



### 802.11g - Channel 11

#### Conducted spurious emission table

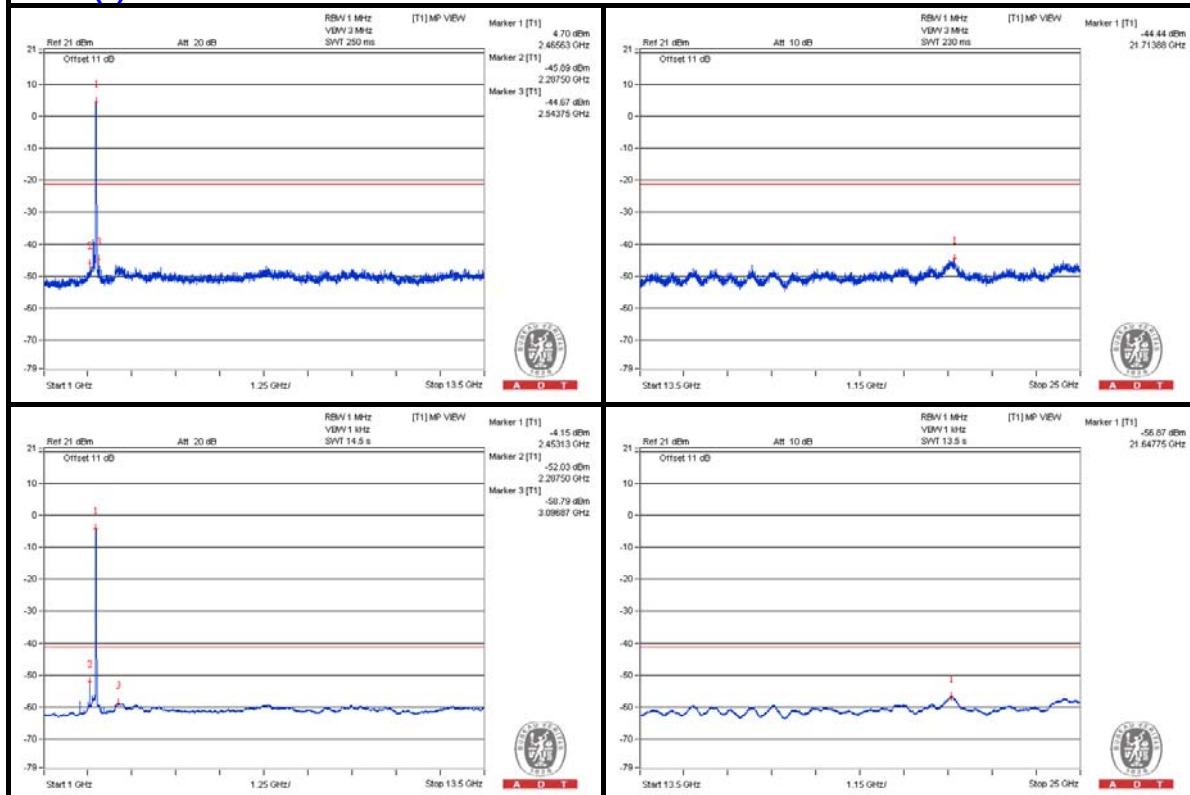
| No. | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Raw Value (dBm) |         |         | Correction Factor (dB) | EIRP Level (dBm) |
|-----|-----------------|-------------------------|----------------|-------------|-----------------|---------|---------|------------------------|------------------|
|     |                 |                         |                |             | Chain 0         | Chain 1 | Chain 2 |                        |                  |
| 1   | 2385.2875 PK    | 66.62                   | 74             | -7.38       | -36.77          | -47.45  | -44.76  | 7.18                   | -28.64           |
| 2   | 2359.97 AV      | 52.67                   | 54             | -1.33       | -57.03          | -53.29  | -54.11  | 7.18                   | -42.59           |
| 3   | 2484.8 PK       | 68.45                   | 74             | -5.55       | -42.4           | -46.23  | -34.98  | 7.18                   | -26.81           |
| 4   | 2483.5175 AV    | 52.14                   | 54             | -1.86       | -55.78          | -57.51  | -53.08  | 7.18                   | -43.12           |

Note :

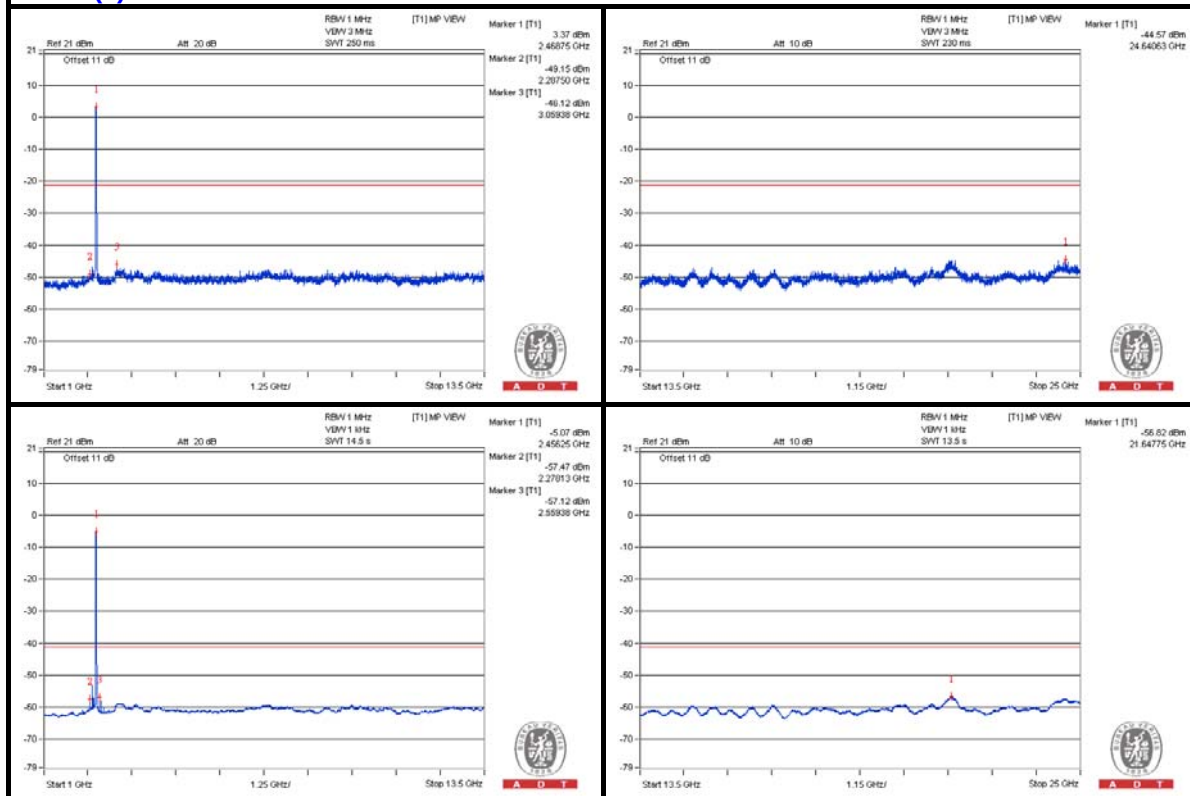
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

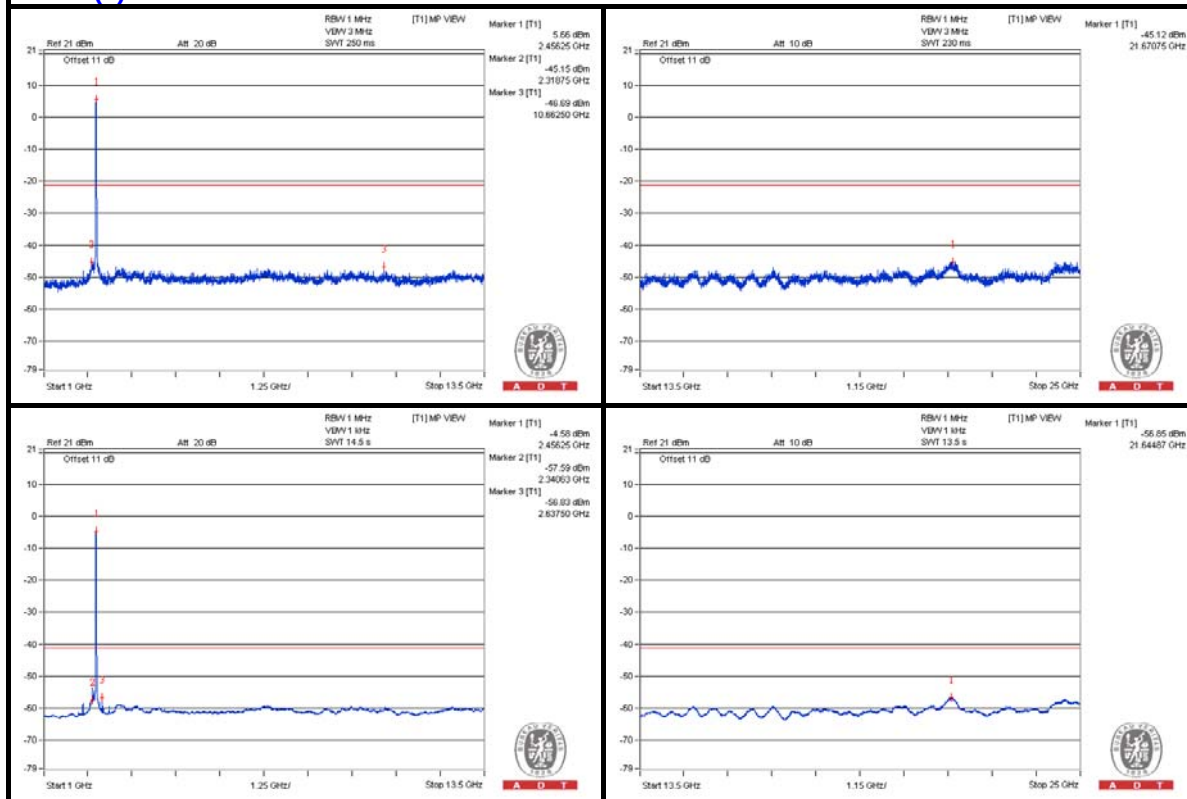
## Chain (0)



## Chain (1)



## Chain (2)



### Bandedge table

| No. | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Raw Value (dBm) |         |         | Correction Factor (dB) | EIRP Level (dBm) |
|-----|-----------------|-------------------------|----------------|-------------|-----------------|---------|---------|------------------------|------------------|
|     |                 |                         |                |             | Chain 0         | Chain 1 | Chain 2 |                        |                  |
| 1   | 2385.2875 PK    | 66.62                   | 74             | -7.38       | -36.77          | -47.45  | -44.76  | 7.18                   | -28.64           |
| 2   | 2359.97 AV      | 52.67                   | 54             | -1.33       | -57.03          | -53.29  | -54.11  | 7.18                   | -42.59           |
| 3   | 2484.8 PK       | 68.45                   | 74             | -5.55       | -42.4           | -46.23  | -34.98  | 7.18                   | -26.81           |
| 4   | 2483.5175 AV    | 52.14                   | 54             | -1.86       | -55.78          | -57.51  | -53.08  | 7.18                   | -43.12           |

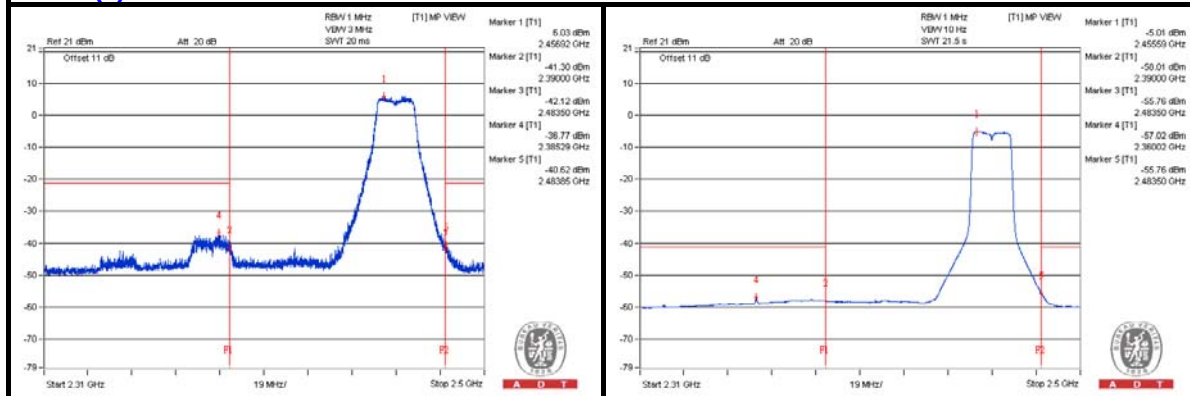
Note :

Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

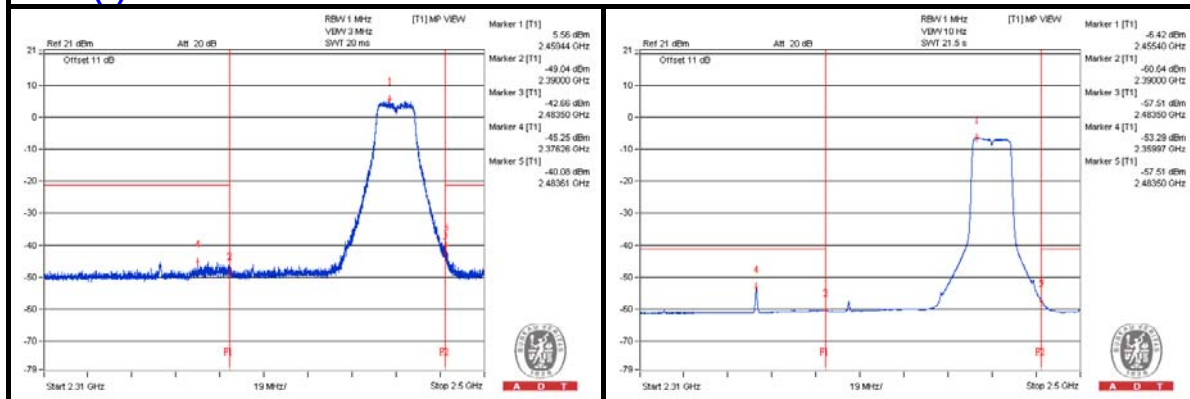
d = measurement distance in 3 meters.



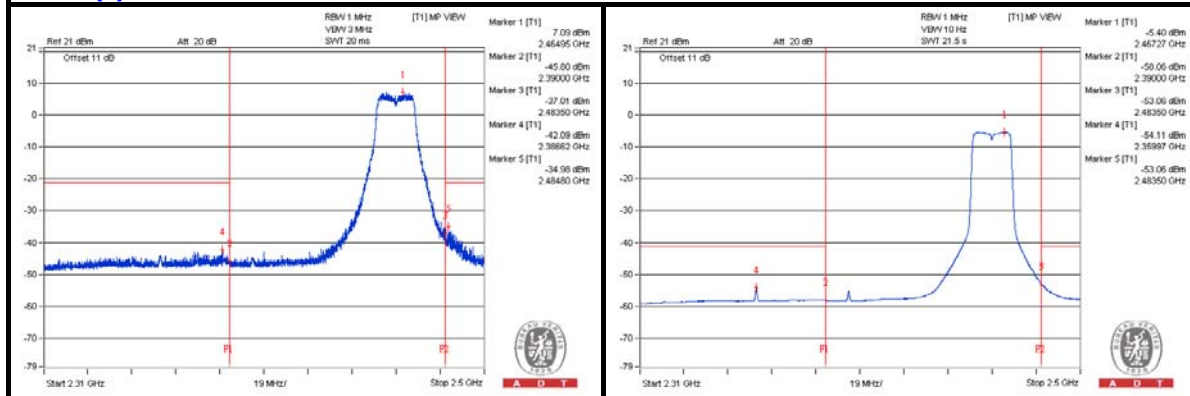
## Chain (0)



## Chain (1)



## Chain (2)



# 802.11n (HT20) - Channel 1

## Conducted spurious emission table

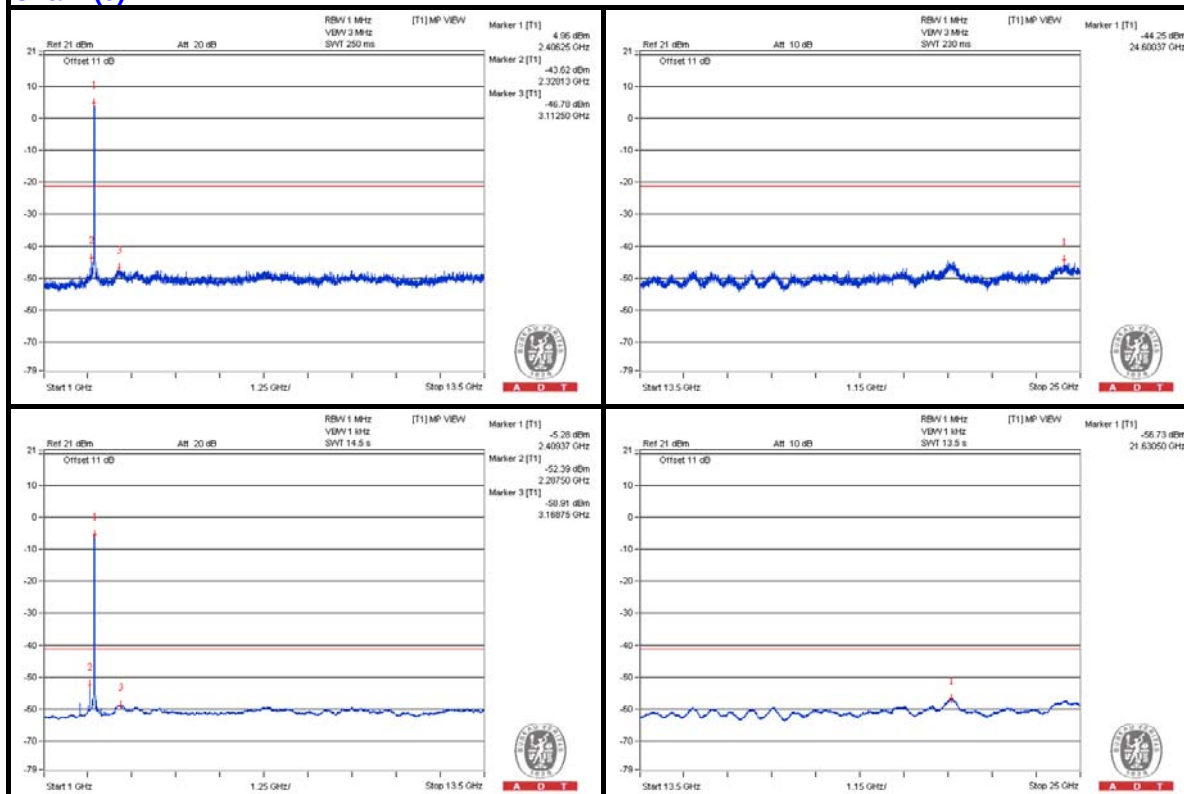
| No. | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Raw Value (dBm) |         |         | Correction Factor (dB) | EIRP Level (dBm) |
|-----|-----------------|-------------------------|----------------|-------------|-----------------|---------|---------|------------------------|------------------|
|     |                 |                         |                |             | Chain 0         | Chain 1 | Chain 2 |                        |                  |
| 1   | 2389.61 PK      | 67.51                   | 74             | -6.49       | -41.2           | -45.44  | -36.63  | 7.18                   | -27.75           |
| 2   | 2359.97 AV      | 52.57                   | 54             | -1.43       | -57.43          | -53.33  | -54.14  | 7.18                   | -42.69           |
| 3   | 2488.03 PK      | 61.44                   | 74             | -12.56      | -45.19          | -47.99  | -44.78  | 7.18                   | -33.82           |
| 4   | 2484.895 AV     | 47.5                    | 54             | -6.5        | -61.02          | -61.02  | -57.9   | 7.18                   | -47.76           |

Note :

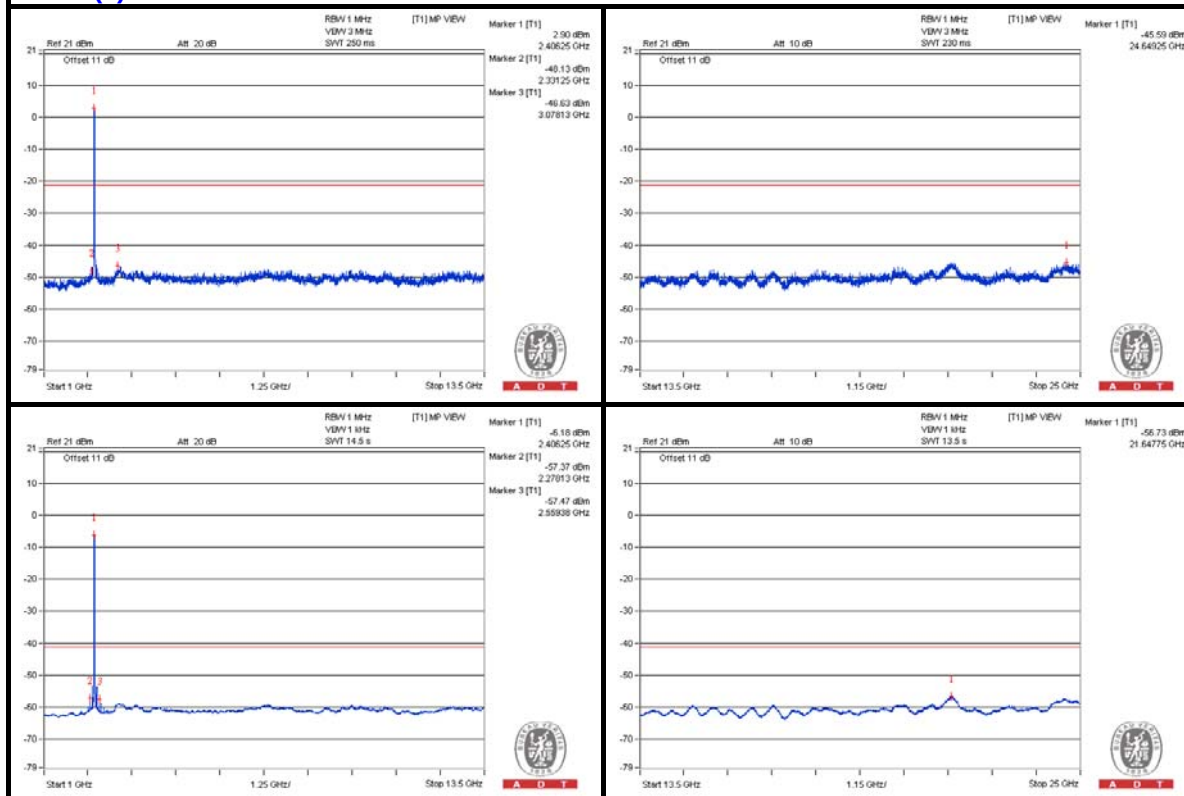
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

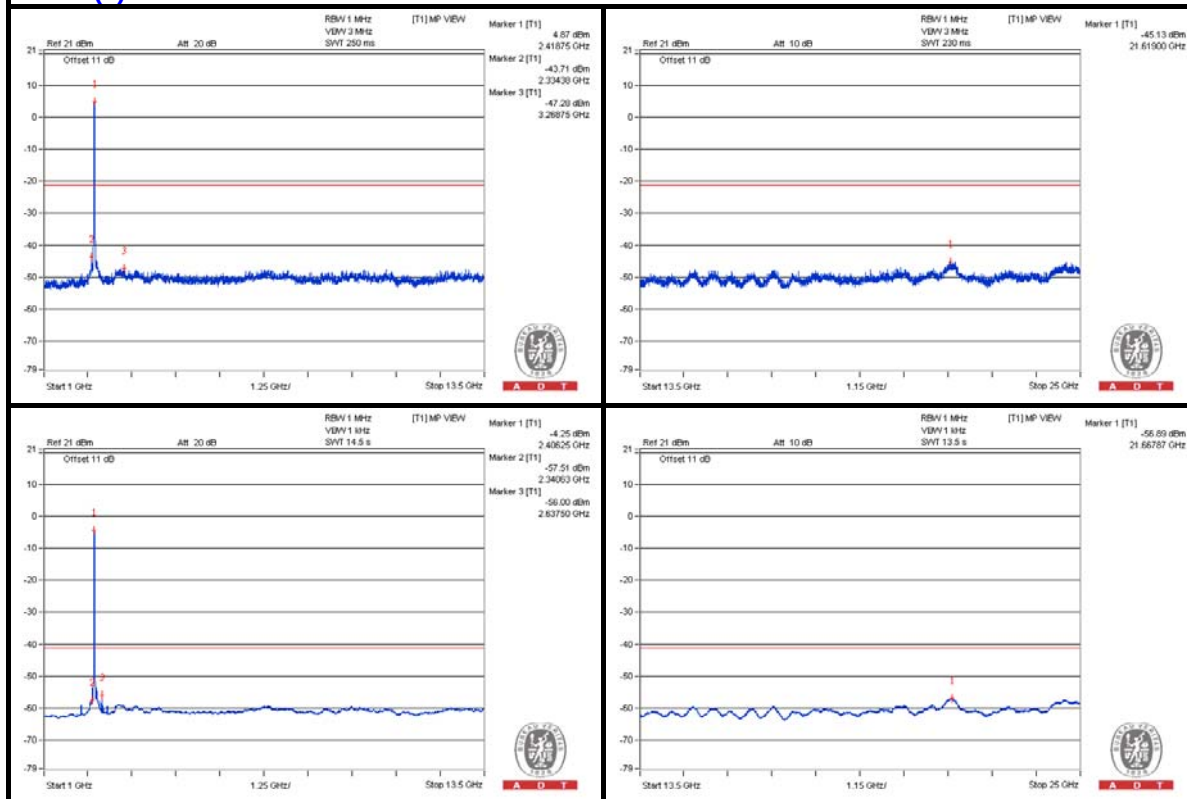
## Chain (0)



## Chain (1)



## Chain (2)



# Bandedge table

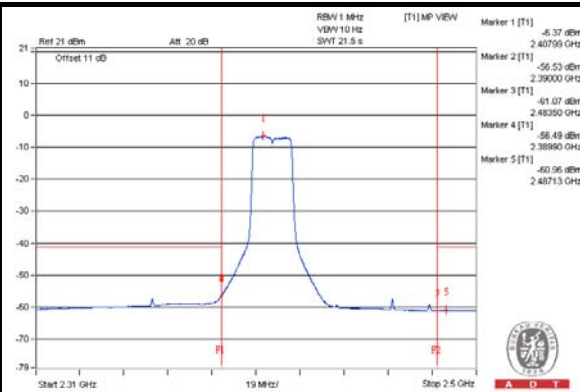
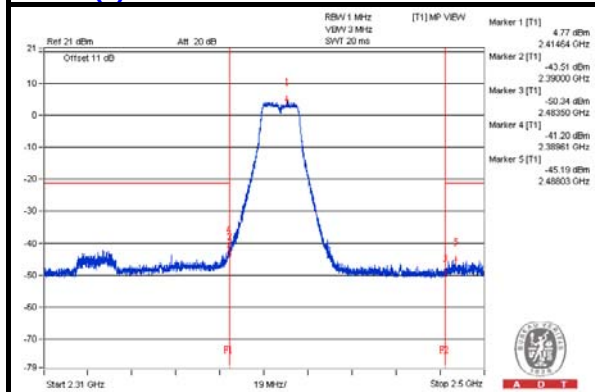
| No. | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Raw Value (dBm) |         |         | Correction Factor (dB) | EIRP Level (dBm) |
|-----|-----------------|-------------------------|----------------|-------------|-----------------|---------|---------|------------------------|------------------|
|     |                 |                         |                |             | Chain 0         | Chain 1 | Chain 2 |                        |                  |
| 1   | 2389.61 PK      | 67.51                   | 74             | -6.49       | -41.2           | -45.44  | -36.63  | 7.18                   | -27.75           |
| 2   | 2359.97 AV      | 52.57                   | 54             | -1.43       | -57.43          | -53.33  | -54.14  | 7.18                   | -42.69           |
| 3   | 2488.03 PK      | 61.44                   | 74             | -12.56      | -45.19          | -47.99  | -44.78  | 7.18                   | -33.82           |
| 4   | 2484.895 AV     | 47.5                    | 54             | -6.5        | -61.02          | -61.02  | -57.9   | 7.18                   | -47.76           |

Note :

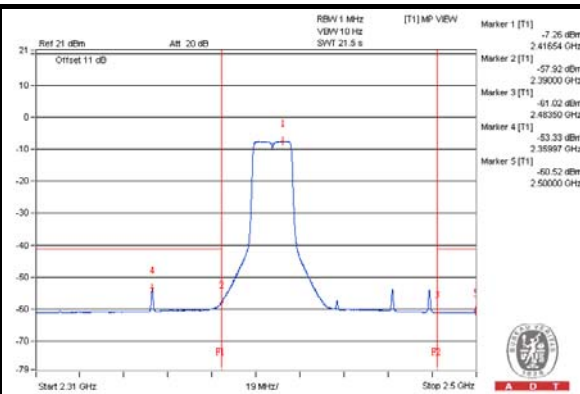
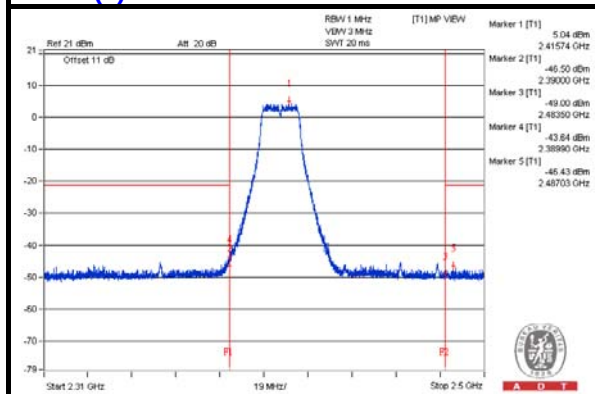
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

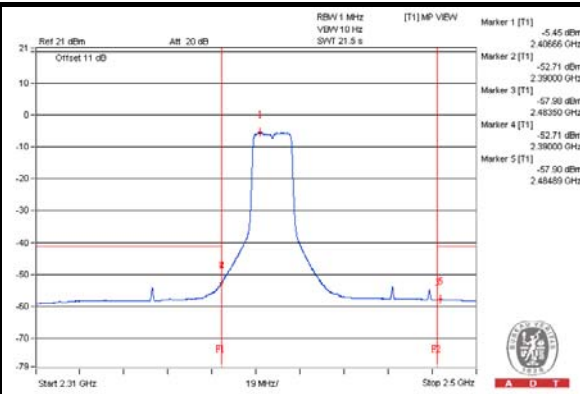
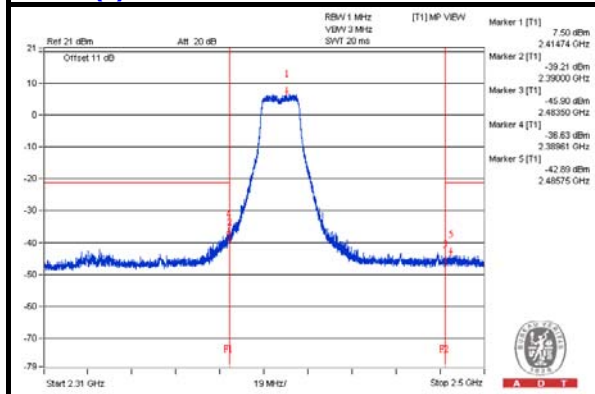
## Chain (0)



## Chain (1)



## Chain (2)



# 802.11n (HT20) - Channel 6

## Conducted spurious emission table

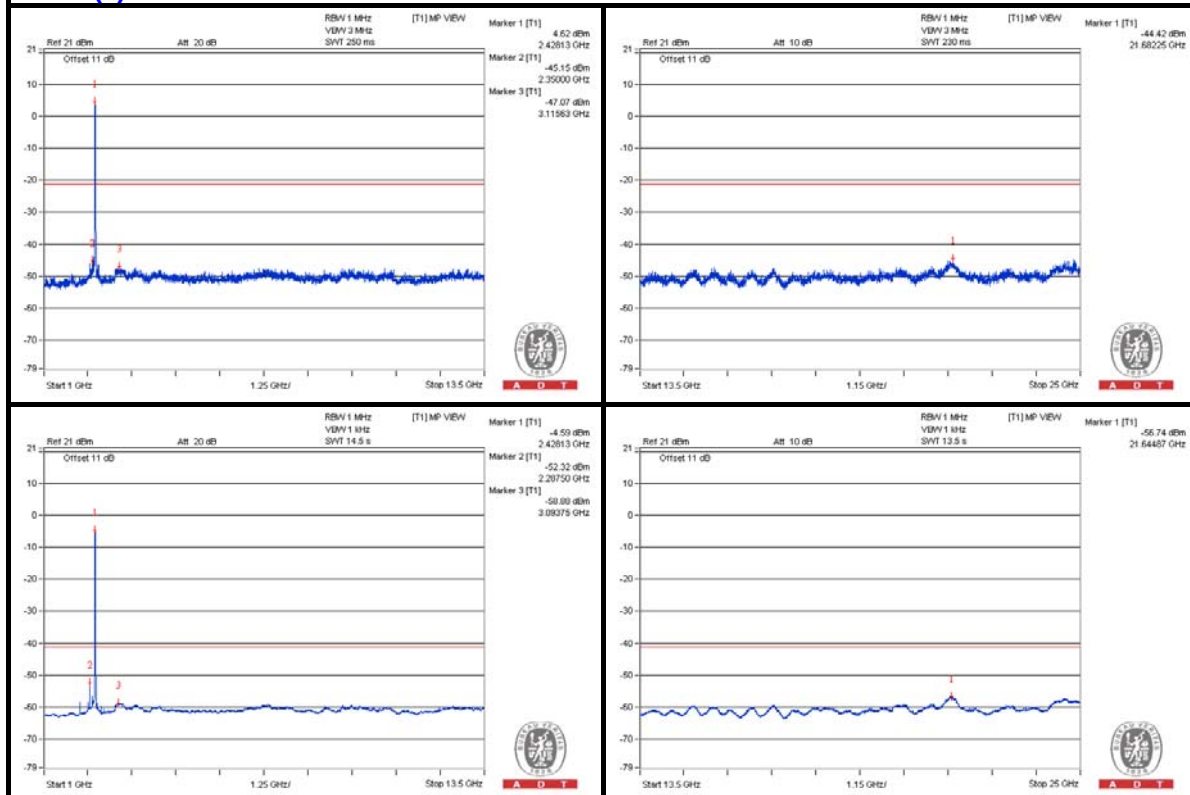
| No. | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Raw Value (dBm) |         |         | Correction Factor (dB) | EIRP Level (dBm) |
|-----|-----------------|-------------------------|----------------|-------------|-----------------|---------|---------|------------------------|------------------|
|     |                 |                         |                |             | Chain 0         | Chain 1 | Chain 2 |                        |                  |
| 1   | 2360.35 PK      | 65.19                   | 74             | -8.81       | -39.4           | -45.81  | -43.27  | 7.18                   | -30.07           |
| 2   | 2359.97 AV      | 53.06                   | 54             | -0.94       | -57.42          | -53.11  | -53.15  | 7.18                   | -42.2            |
| 3   | 2498.195 PK     | 60.78                   | 74             | -13.22      | -50.27          | -51.5   | -42.86  | 7.18                   | -34.48           |
| 4   | 2484.135 AV     | 47.83                   | 54             | -6.17       | -60.9           | -60.84  | -57.39  | 7.18                   | -47.43           |

Note :

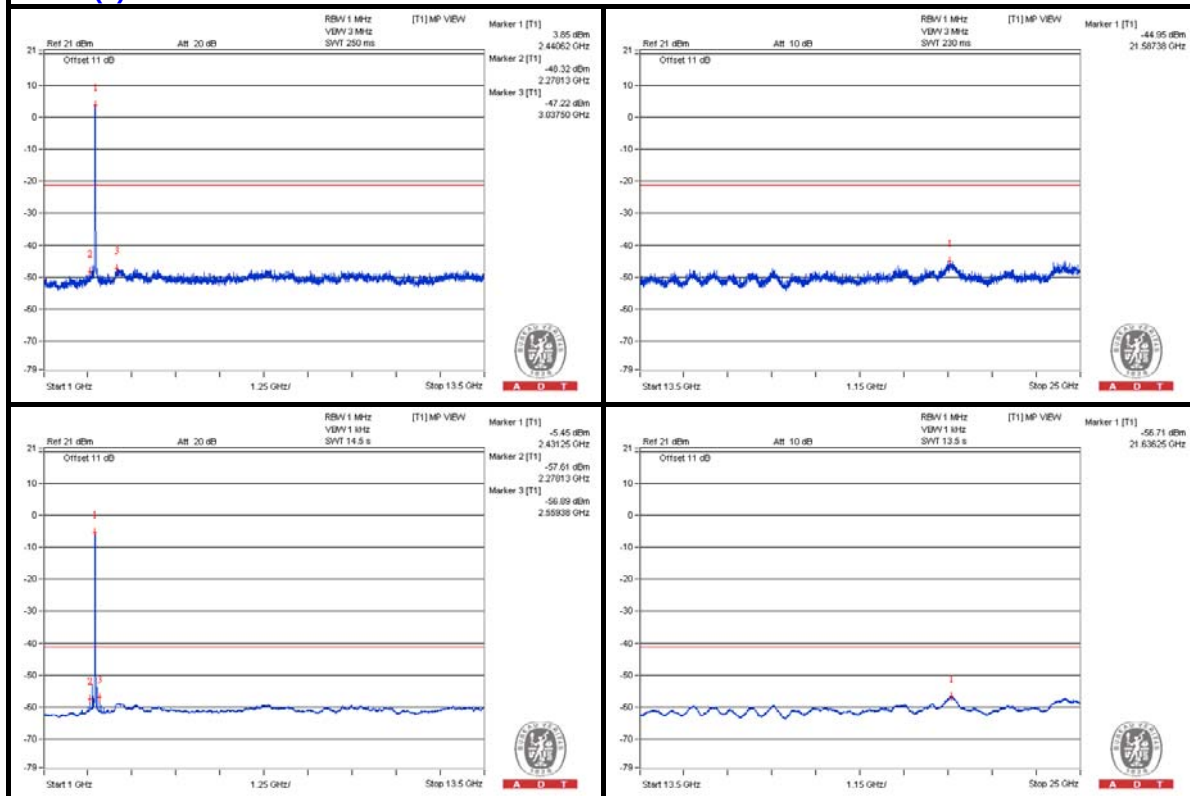
Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8

d = measurement distance in 3 meters.

## Chain (0)



## Chain (1)





## Chain (2)

