

# FCC RADIO TEST REPORT

according to

47 CFR FCC Part 15 Subpart C § 15.247

|                    |                                                                                                    |
|--------------------|----------------------------------------------------------------------------------------------------|
| <b>Model Name</b>  | <b>: Cable Modem</b>                                                                               |
| <b>Model No.</b>   | <b>: TC8717T/TC8715D</b>                                                                           |
| <b>Filing Type</b> | <b>: New Application</b>                                                                           |
| <b>FCC ID</b>      | <b>: RSE-TC8717T</b>                                                                               |
| <b>Trade Name</b>  | <b>: technicolor</b>                                                                               |
| <b>Applicant</b>   | <b>: Technicolor Delivery Technologies Belgium</b><br>Prins Boudewijnlaan 47 B-2650 Edegem Belgium |

## Statement

**Test result included is only for the IEEE 802.11n, IEEE 802.11b/g part and IEEE 802.11a/ac (5725 ~ 5850MHz) of the product.**

The test result in this report refers exclusively to the presented test model / sample.

Without written approval of SPORTON International Inc., the test report shall not be reproduced except in full.

The measurements and test results shown in this test report were made in accordance with the procedures and found in compliance with the limit given in **ANSI C63.10-2009, 47 CFR FCC Part 15 Subpart C, KDB 558074 D01 v03r02, KDB 662911 D01 v02r01 and KDB644545 D01v01r02.**

The test equipment used to perform the test is calibrated and traceable to NML/ROC.



***SPORTON International Inc.***

*No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.*

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### History of This Test Report

| REPORT NO. | VERSION | DESCRIPTION             | ISSUED DATE   |
|------------|---------|-------------------------|---------------|
| FR422507AA | Rev.01  | Initial issue of report | Jun. 30, 2014 |
|            |         |                         |               |
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# **CERTIFICATE OF COMPLIANCE**

according to

**47 CFR FCC Part 15 Subpart C § 15.247**

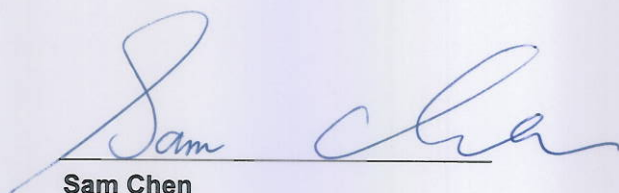
**Model Name : Cable Modem**

**Model No. : TC8717T/TC8715D**

**Trade Name : technicolor**

**Applicant : Technicolor Delivery Technologies Belgium  
Prins Boudewijnlaan 47 B-2650 Edegem Belgium**

Sporton International as requested by the applicant to evaluate the EMC performance of the product sample received on Jan. 13, 2014 would like to declare that the tested sample has been evaluated and found to be in compliance with the tested rule parts. The data recorded as well as the test configuration specified is true and accurate for showing the sample's EMC nature.



**Sam Chen**

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## 1. SUMMARY OF THE TEST RESULT

### 1.1. Summary of the 2.4G Band test result

| Applied Standard: 47 CFR FCC Part 15 Subpart C |              |                                   |          |             |
|------------------------------------------------|--------------|-----------------------------------|----------|-------------|
| Part                                           | Rule Section | Description of Test               | Result   | Under Limit |
| 3.1                                            | 15.207       | AC Power Line Conducted Emissions | Complies | 8.04 dB     |
| 3.2                                            | 15.247(b)(3) | Conducted Output Power            | Complies | 0.74 dB     |
| 3.3                                            | 15.247(e)    | Power Spectral Density            | Complies | 5.56 dB     |
| 3.4                                            | 15.247(a)(2) | 6dB Spectrum Bandwidth            | Complies | -           |
| 3.5                                            | 15.247(d)    | Radiated Emissions                | Complies | 0.09 dB     |
| 3.6                                            | 15.247(d)    | Band Edge Emissions               | Complies | 0.01 dB     |
| 4.7                                            | 15.203       | Antenna Requirements              | Complies | -           |

### 1.2. Summary of the 5G Band 4 (5725~5850MHz) test result

| Applied Standard: 47 CFR FCC Part 15 Subpart C |              |                                   |          |             |
|------------------------------------------------|--------------|-----------------------------------|----------|-------------|
| Part                                           | Rule Section | Description of Test               | Result   | Under Limit |
| 4.1                                            | 15.207       | AC Power Line Conducted Emissions | Complies | 12.99 dB    |
| 4.2                                            | 15.247(b)(3) | Conducted Output Power            | Complies | 1.21 dB     |
| 4.3                                            | 15.247(e)    | Power Spectral Density            | Complies | 9.02 dB     |
| 4.4                                            | 15.247(a)(2) | 6dB Spectrum Bandwidth            | Complies | -           |
| 4.5                                            | 15.247(d)    | Radiated Emissions                | Complies | 0.90 dB     |
| 4.6                                            | 15.247(d)    | Band Edge Emissions               | Complies | -           |
| 4.7                                            | 15.203       | Antenna Requirements              | Complies | -           |

### 1.3. Information provided by the manufacturer

Model Name: Cable Modem

Model No.: TC8717T/TC8715D

Trade Name: technicolor

Power Supply: For Model No: TC8717T

1. Internal AC-DC power pack, 12Vdc, 3.5A, Manufacturer: AcBel, Model: JSSTD003-AD0G2

2. Battery, Manufacturer: Getac, Model: BP-TC-8-22 / 2250S, Rating: 7.2V 4300mAh

For Model No: TC8717D

1. Internal AC-DC power pack, 12Vdc, 3.5A, Manufacturer: AcBel, Model: JSSTD003-AD0G2

AC Power Cord: 2pin

Hardware Version: LAB2

Interface Availability

| Interface<br>Model No. | Internal<br>AC-DC<br>power pack<br>Input: 120V<br>Output :<br>12Vdc3.5A | Battery | Cable modem:<br>DOCSIS 3.0 Cable<br>Modem<br>MoCA:<br>MoCA 2.0<br>D Band<br>1125MHz and<br>1525MHz | Ethernet<br>10/100/1000Mbps | USB 2.0   | FXS       | WLAN<br>IEEE<br>802.11a/b/g/n/ac<br>(2.4GHz/5GHz<br>3*3) |
|------------------------|-------------------------------------------------------------------------|---------|----------------------------------------------------------------------------------------------------|-----------------------------|-----------|-----------|----------------------------------------------------------|
| TC8717T                | ●                                                                       | ●       | ●                                                                                                  | ●(4 port )                  | ●(2 port) | ●(2 port) | ●                                                        |
| TC8715D                | ●                                                                       | ○       | ●                                                                                                  | ●(4 port )                  | ●(2 port) | ○         | ●                                                        |

Note :

1. ● : Equipped ○ : Not Equipped

2. Model No.: TC8717T was selected as representative model for the test and its data was recorded in this report.

### 1.4. Cabling attached to the equipment

US Standard: 47 CFR FCC Part 15 Subpart C § 15.247

ANSI C63.10-2009

KDB662911 D01 Multiple Transmitter Output v02r01, 10/31/2013

KDB558074 D01 DTS Meas Guidance v03r02, 04/09/2013

KDB644545 D01 Guidance for IEEE 802.11ac v01r02, 10/31/2013

### 1.5. Cabling Attached to the Equipment

Table 1- Cable and Interconnection

For Model No: TC8717T

| Interface    | Cable type | Cable length<br>delivered with<br>the modem | "Real life" Cable length that<br>can be attached to this type<br>of interface | Cable length to be<br>used for testing | Internal / external<br>connection |
|--------------|------------|---------------------------------------------|-------------------------------------------------------------------------------|----------------------------------------|-----------------------------------|
| Cable & MoCA | coaxial    | 2 meter                                     | > 10 meter                                                                    | 10 meter                               | External                          |
| Eth1         | UTP Cat 5  | 2 meter                                     | > 10 meter                                                                    | 10 meter                               | Internal                          |
| FXS1/2       | UTP Cat 3  | 2 meter                                     | > 10 meter                                                                    | 1 meter flat cable                     | Internal                          |
| USB1/2       | STP        | 1 meter                                     | < 3 meter                                                                     | 1 meter                                | Internal                          |
| AC power     |            |                                             |                                                                               |                                        | Internal                          |
| Battery      |            |                                             |                                                                               |                                        | Internal                          |

For Model No: TC8715D

| Interface    | Cable type | Cable length delivered with the modem | "Real life" Cable length that can be attached to this type of interface | Cable length to be used for testing | Internal / external connection |
|--------------|------------|---------------------------------------|-------------------------------------------------------------------------|-------------------------------------|--------------------------------|
| Cable & MoCA | coaxial    | 2 meter                               | > 10 meter                                                              | 10 meter                            | External                       |
| Eth1         | UTP Cat 5  | 2 meter                               | > 10 meter                                                              | 10 meter                            | Internal                       |
| USB1/2       | STP        | 1 meter                               | < 3 meter                                                               | 1 meter                             | Internal                       |
| AC power     |            |                                       |                                                                         |                                     | Internal                       |

## 1.6. Panel Drawing

For Model No: TC8717T



For Model No: TC8715D



## 2. GENERAL INFORMATION

### 2.1. Product Details

| Items                      | Description                                                                                                                         |                                     |                                                                                                                                 |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| PRODUCT                    | Stand alone                                                                                                                         |                                     |                                                                                                                                 |
| MODEL NO.                  | TC8717T/TC8715D                                                                                                                     |                                     |                                                                                                                                 |
| FCC ID                     | RSE-TC8717T                                                                                                                         |                                     |                                                                                                                                 |
| Power Type                 | Internal power supply and Battery                                                                                                   |                                     |                                                                                                                                 |
| EUT Stage                  | <input checked="" type="checkbox"/> Product Unit                                                                                    | <input type="checkbox"/> Pre-Sample |                                                                                                                                 |
| Antenna Type               | Please see Section 2.3                                                                                                              |                                     |                                                                                                                                 |
| Operating Band, EIRP power | 2400~2483.5MHz                                                                                                                      | <input checked="" type="checkbox"/> | IEEE 802.11b: 27.35 dBm                                                                                                         |
|                            |                                                                                                                                     | <input checked="" type="checkbox"/> | IEEE 802.11g: 28.05 dBm                                                                                                         |
|                            |                                                                                                                                     | <input checked="" type="checkbox"/> | IEEE 802.11n (20MHz): 29.26 dBm                                                                                                 |
|                            |                                                                                                                                     | <input checked="" type="checkbox"/> | IEEE 802.11n (40MHz): 26.27 dBm                                                                                                 |
| Product Type               | For IEEE 802.11b: WLAN(1/3TX, 3RX)<br>For IEEE 802.11g: WLAN(1/3TX, 3RX)<br>For IEEE 802.11n: WLAN(1/3TX, 3RX)                      |                                     |                                                                                                                                 |
| Nominal Chennel Bandwidth  | 20MHz / 40MHz                                                                                                                       |                                     |                                                                                                                                 |
| Modulation                 | 802.11b: DSSS (DBPSK, DQPSK, CCK)<br>802.11g: OFDM (BPSK / QPSK / 16QAM / 64QAM)<br>802.11n: See the below table.                   |                                     |                                                                                                                                 |
| Data Rate (Mbps)           | 11b mode :DSSS (1/2/5.5/11)<br>11g mode :OFDM (6/9/12/18/24/36/48/54)<br>11n(20MHz) mode(MCS0~MCS23)<br>11n(40MHz) mode(MCS0~MCS23) |                                     |                                                                                                                                 |
| Operating Band, EIRP power | 5725~ 5850 MHz                                                                                                                      | <input checked="" type="checkbox"/> | IEEE 802.11a: 26.40 dBm                                                                                                         |
|                            |                                                                                                                                     | <input checked="" type="checkbox"/> | For Non-Beamforming<br>IEEE 802.11ac (20MHz): 28.79 dBm<br>IEEE 802.11ac (40MHz): 27.84 dBm<br>IEEE 802.11ac (80MHz): 26.08 dBm |
|                            |                                                                                                                                     | <input checked="" type="checkbox"/> | For Beamforming<br>IEEE 802.11ac (20MHz): 26.75 dBm<br>IEEE 802.11ac (40MHz): 25.80 dBm<br>IEEE 802.11ac (80MHz): 26.12 dBm     |

|                           |                                                                                                                                                                                                                                                |                                      |                                              |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|----------------------------------------------|
| Product Type              | For IEEE 802.11a: WLAN(1/3TX, 3RX)<br>For IEEE 802.11n: WLAN(1/3TX, 3RX)<br>For IEEE 802.11ac: WLAN (1/3TX, 3RX)                                                                                                                               |                                      |                                              |
| Nominal Channel Bandwidth | 20MHz / 40MHz / 80MHz                                                                                                                                                                                                                          |                                      |                                              |
| Modulation                | 802.11a: OFDM (BPSK / QPSK / 16QAM / 64QAM)<br>802.11n: (BPSK / QPSK / 16QAM / 64QAM)See the below table.<br>802.11ac:(BPSK / QPSK / 16QAM / 64QAM/ 256QAM)See the below table                                                                 |                                      |                                              |
| Data Rate (Mbps)          | 11a mode :OFDM (6/9/12/18/24/36/48/54)<br>11n(20MHz) mode(MCS0~MCS23)<br>11n(40MHz) mode(MCS0~MCS23)<br>11ac(20MHz) mode (MCS0~MCS9 for NSS1~NSS3)<br>11ac(40MHz) mode (MCS0~MCS9 for NSS1~NSS3)<br>11ac(80MHz) mode (MCS0~MCS9 for NSS1~NSS3) |                                      |                                              |
| Beamforming Function      | <input checked="" type="checkbox"/>                                                                                                                                                                                                            | With Beamforming for IEEE 802.11n/ac | <input type="checkbox"/> Without Beamforming |
| I/O Ports                 | For Model No: TC8717T<br>LAN Port x 4<br>USB Host Port x 2<br>FXS Port x 2<br>Cable + MoCA Port x 1(Coaxial type)                                                                                                                              |                                      |                                              |
|                           | For Model No: TC8715D<br>LAN Port x 4<br>USB Host Port x 2<br>Cable + MoCA Port x 1(Coaxial type)                                                                                                                                              |                                      |                                              |
| Software Version          | 5.5.10mp1                                                                                                                                                                                                                                      |                                      |                                              |
| Associated Devices        | single-range internal AC-DC power pack                                                                                                                                                                                                         |                                      |                                              |

## 2.2. Accessories

1. AC Power Cord\*1, Unshielded 1.8m

## 2.3. Table for Filed Antenna

For 2400~2483.5MHz

| Ant. | Brand | Model Name | Antenna Type    | Connector |
|------|-------|------------|-----------------|-----------|
| 1    | -     | -          | Printed Antenna | N/A       |
| 2    | -     | -          | Printed Antenna | N/A       |
| 3    | -     | -          | Printed Antenna | N/A       |

For 5725~5850MHz

| Ant. | Brand | Model Name    | Antenna Type    | Connector |
|------|-------|---------------|-----------------|-----------|
| 1    | WHAYU | C107-511031-A | PIFA Antenna    | I-PEX     |
| 2    | -     | -             | Printed Antenna | N/A       |
| 3    | WHAYU | C107-511033-A | PIFA Antenna    | I-PEX     |

Antenna &amp; Bandwidth for 2400~2483.5MHz

| Antenna        | 1st (TX) |        | 2nd (TX) |        | 3rd (TX) |        |
|----------------|----------|--------|----------|--------|----------|--------|
| Bandwidth Mode | 20 MHz   | 40 MHz | 20 MHz   | 40 MHz | 20 MHz   | 40 MHz |
| 802.11b        | V        | X      | X        | X      | V        | X      |
| 802.11g        | V        | X      | X        | X      | V        | X      |
| 802.11n        | V        | V      | V        | V      | V        | V      |

Antenna &amp; Bandwidth for 5725~5850MHz

| Antenna        | 1st (TX) |        |        | 2nd (TX) |        |        | 3rd (TX) |        |       |
|----------------|----------|--------|--------|----------|--------|--------|----------|--------|-------|
| Bandwidth Mode | 20 MHz   | 40 MHz | 80 MHz | 20 MHz   | 40 MHz | 80 MHz | 20 MHz   | 40 MHz | 80MHz |
| 802.11a        | V        | X      | X      | V        | X      | X      | V        | X      | X     |
| 802.11n        | V        | V      | X      | V        | V      | X      | V        | V      | X     |
| 802.11ac       | V        | V      | V      | V        | V      | V      | V        | V      | V     |

For 2400~2483.5MHz

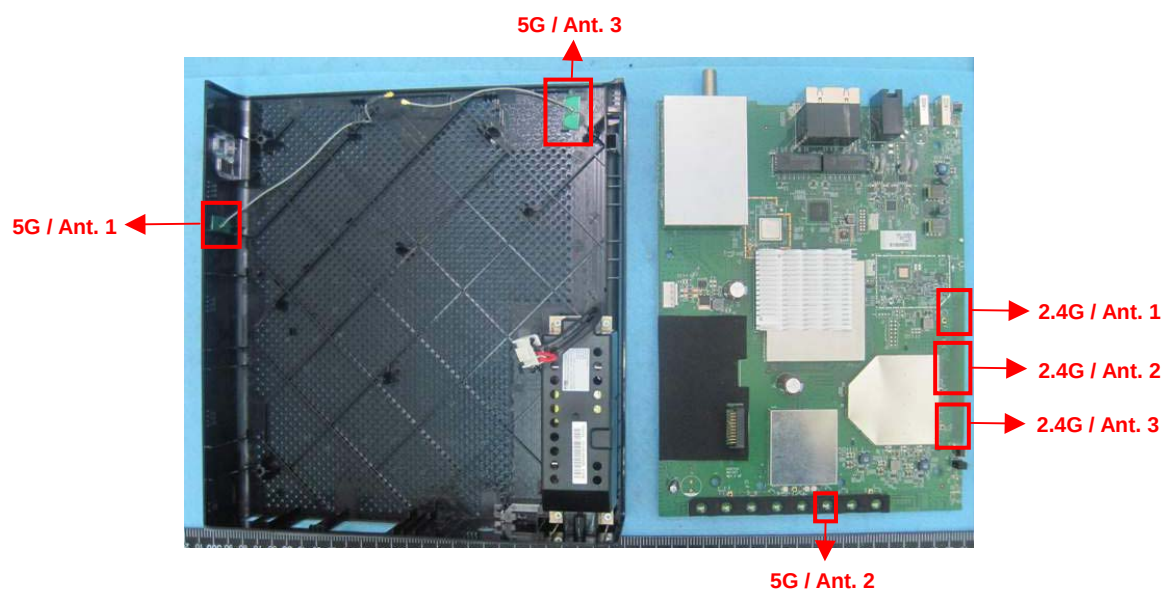
| Frequency | Antenna Gain (dBi) |        |              |        |              |        |
|-----------|--------------------|--------|--------------|--------|--------------|--------|
|           | Ant. 1 (WJ1)       |        | Ant. 2 (WJ2) |        | Ant. 3 (WJ3) |        |
|           | 20 MHz             | 40 MHz | 20 MHz       | 40 MHz | 20 MHz       | 40 MHz |
| 2412MHz   | 3.61               | -      | 4.3          | -      | 5.34         | -      |
| 2422MHz   | -                  | 3.57   | -            | 4.13   | -            | 5.07   |
| 2437MHz   | 3.51               | 3.51   | 3.87         | 3.87   | 4.67         | 4.67   |
| 2452MHz   | -                  | 3.66   | -            | 3.77   | -            | 4.46   |
| 2462MHz   | 3.76               | -      | 3.74         | -      | 4.35         | -      |

| Frequency | Directional Gain (dBi)         |        |                                |        |                                |        |
|-----------|--------------------------------|--------|--------------------------------|--------|--------------------------------|--------|
|           | 1 Stream 3TX<br>Ant. 1 + 2 + 3 |        | 2 Stream 3TX<br>Ant. 1 + 2 + 3 |        | 3 Stream 3TX<br>Ant. 1 + 2 + 3 |        |
|           | 20 MHz                         | 40 MHz | 20 MHz                         | 40 MHz | 20 MHz                         | 40 MHz |
| 2412MHz   | 6.06                           | -      | 5.06                           | -      | 1.88                           | -      |
| 2422MHz   | -                              | 5.79   | -                              | 4.81   | -                              | 1.71   |
| 2437MHz   | 5.44                           | 5.44   | 4.46                           | 4.46   | 1.41                           | 1.41   |
| 2452MHz   | -                              | 5.47   | -                              | 4.5    | -                              | 1.46   |
| 2462MHz   | 5.62                           | -      | 4.63                           | -      | 1.52                           | -      |

For 5725~5850MHz

| Frequency | Antenna Gain (dBi) |        |        |              |        |        |              |        |        |
|-----------|--------------------|--------|--------|--------------|--------|--------|--------------|--------|--------|
|           | Ant. 1 (WJ1)       |        |        | Ant. 2 (WJ2) |        |        | Ant. 3 (WJ3) |        |        |
|           | 20 MHz             | 40 MHz | 80 MHz | 20 MHz       | 40 MHz | 80 MHz | 20 MHz       | 40 MHz | 80 MHz |
| 5745MHz   | 5.65               | -      | -      | 4.38         | -      | -      | 5.53         | -      | -      |
| 5755MHz   | -                  | 5.79   | -      | -            | 5.06   | -      | -            | 5.4    | -      |
| 5775MHz   | -                  | -      | 5.19   | -            | -      | 4.42   | -            | -      | 5.09   |
| 5785MHz   | 4.93               | -      | -      | 3.78         | -      | -      | 4.7          | -      | -      |
| 5795MHz   | -                  | 5.12   | -      | -            | 3.92   | -      | -            | 5.2    | -      |
| 5825MHz   | 4.18               | -      | -      | 3.69         | -      | -      | 5.03         | -      | -      |

| Frequency | Directional Gain (dBi) for Beamforming and CDD mode |        |        |                                |        |        |                                |        |        |
|-----------|-----------------------------------------------------|--------|--------|--------------------------------|--------|--------|--------------------------------|--------|--------|
|           | 1 Stream 3TX<br>Ant. 1 + 2 + 3                      |        |        | 2 Stream 3TX<br>Ant. 1 + 2 + 3 |        |        | 3 Stream 3TX<br>Ant. 1 + 2 + 3 |        |        |
|           | 20 MHz                                              | 40 MHz | 80 MHz | 20 MHz                         | 40 MHz | 80 MHz | 20 MHz                         | 40 MHz | 80 MHz |
| 5745MHz   | 7.25                                                | -      | -      | 6.24                           | -      | -      | 3.32                           | -      | -      |
| 5755MHz   | -                                                   | 7.68   | -      | -                              | 6.53   | -      | -                              | 3.62   | -      |
| 5775MHz   | -                                                   | -      | 7.28   | -                              | -      | 6.04   | -                              | -      | 3.16   |
| 5785MHz   | 6.8                                                 | -      | -      | 5.54                           | -      | -      | 2.67                           | -      | -      |
| 5795MHz   | -                                                   | 7.07   | -      | -                              | 5.79   | -      | -                              | 2.95   | -      |
| 5825MHz   | 6.68                                                | -      | -      | 5.3                            | -      | -      | 2.46                           | -      | -      |



## IEEE 802.11n Data Rate spec

| Standard                 | INDEX | Data Rate (Mbps) |             | Standard                 | INDEX | Data Rate (Mbps) |             |
|--------------------------|-------|------------------|-------------|--------------------------|-------|------------------|-------------|
|                          |       | LGI (800ns)      | SGI (400ns) |                          |       | LGI (800ns)      | SGI (400ns) |
| 11n<br>20MHz<br>1 stream | MCS0  | 6.5              | 7.2         | 11n<br>40MHz<br>1 stream | MCS0  | 13.5             | 15          |
|                          | MCS1  | 13               | 14.4        |                          | MCS1  | 27               | 30          |
|                          | MCS2  | 19.5             | 21.7        |                          | MCS2  | 40.5             | 45          |
|                          | MCS3  | 26               | 28.9        |                          | MCS3  | 54               | 60          |
|                          | MCS4  | 39               | 43.3        |                          | MCS4  | 81               | 90          |
|                          | MCS5  | 52               | 57.8        |                          | MCS5  | 108              | 120         |
|                          | MCS6  | 58.5             | 65          |                          | MCS6  | 121.5            | 135         |
|                          | MCS7  | 65               | 72.2        |                          | MCS7  | 135              | 150         |
| 11n<br>20MHz<br>2 stream | MCS8  | 13               | 14.4        | 11n<br>40MHz<br>2 stream | MCS8  | 27               | 30          |
|                          | MCS9  | 26               | 28.9        |                          | MCS9  | 54               | 60          |
|                          | MCS10 | 39               | 43.3        |                          | MCS10 | 81               | 90          |
|                          | MCS11 | 52               | 57.8        |                          | MCS11 | 108              | 120         |
|                          | MCS12 | 78               | 86.7        |                          | MCS12 | 162              | 180         |
|                          | MCS13 | 104              | 115.6       |                          | MCS13 | 216              | 240         |
|                          | MCS14 | 117              | 130         |                          | MCS14 | 243              | 270         |
|                          | MCS15 | 130              | 144.4       |                          | MCS15 | 270              | 300         |
| 11n<br>20MHz<br>3 stream | MCS16 | 19.5             | 21.7        | 11n<br>40MHz<br>3 stream | MCS16 | 40.5             | 45          |
|                          | MCS17 | 39               | 43.3        |                          | MCS17 | 81               | 90          |
|                          | MCS18 | 58.5             | 65          |                          | MCS18 | 121.5            | 135         |
|                          | MCS19 | 78               | 86.7        |                          | MCS19 | 162              | 180         |
|                          | MCS20 | 117              | 130         |                          | MCS20 | 243              | 270         |
|                          | MCS21 | 156              | 173.3       |                          | MCS21 | 324              | 360         |
|                          | MCS22 | 175.5            | 195         |                          | MCS22 | 364.5            | 405         |
|                          | MCS23 | 195              | 216.7       |                          | MCS23 | 405              | 450         |

## IEEE 802.11ac Data Rate spec

| Standard                  | INDEX | Data Rate (Mbps) |                | Standard                  | INDEX | Data Rate (Mbps) |                | Standard                  | INDEX | Data Rate (Mbps) |                |
|---------------------------|-------|------------------|----------------|---------------------------|-------|------------------|----------------|---------------------------|-------|------------------|----------------|
|                           |       | LGI<br>(800ns)   | SGI<br>(400ns) |                           |       | LGI<br>(800ns)   | SGI<br>(400ns) |                           |       | LGI<br>(800ns)   | SGI<br>(400ns) |
| 11ac<br>20MHz<br>1 stream | MCS0  | 6.5              | 7.2            | 11ac<br>40MHz<br>1 stream | MCS0  | 13.5             | 15             | 11ac<br>80MHz<br>1 stream | MCS0  | 29.3             | 32.5           |
|                           | MCS1  | 13               | 14.4           |                           | MCS1  | 27               | 30             |                           | MCS1  | 58.5             | 65.0           |
|                           | MCS2  | 19.5             | 21.7           |                           | MCS2  | 40.5             | 45             |                           | MCS2  | 87.8             | 97.5           |
|                           | MCS3  | 26               | 28.9           |                           | MCS3  | 54               | 60             |                           | MCS3  | 117.0            | 130.0          |
|                           | MCS4  | 39               | 43.3           |                           | MCS4  | 81               | 90             |                           | MCS4  | 175.5            | 195.0          |
|                           | MCS5  | 52               | 57.8           |                           | MCS5  | 108              | 120            |                           | MCS5  | 234.0            | 260.0          |
|                           | MCS6  | 58.5             | 65             |                           | MCS6  | 121.5            | 135            |                           | MCS6  | 263.3            | 292.5          |
|                           | MCS7  | 65               | 72.2           |                           | MCS7  | 135              | 150            |                           | MCS7  | 292.5            | 325.0          |
|                           | MCS8  | 78               | 86.7           |                           | MCS8  | 162.0            | 180.0          |                           | MCS8  | 351.0            | 390.0          |
|                           | MCS9  | Note             | Note           |                           | MCS9  | 180.0            | 200.0          |                           | MCS9  | 390.0            | 433.3          |

NOTE: MCS 9 is invalid due to mod(NCBPS/NES, DR) not being equal to 0.

|                           |      |       |       |                           |      |        |       |                           |      |        |        |
|---------------------------|------|-------|-------|---------------------------|------|--------|-------|---------------------------|------|--------|--------|
| 11ac<br>20MHz<br>2 stream | MCS0 | 13.0  | 14.4  | 11ac<br>40MHz<br>2 stream | MCS0 | 27.0   | 30.0  | 11ac<br>80MHz<br>2 stream | MCS0 | 58.5   | 65.0   |
|                           | MCS1 | 26.0  | 28.9  |                           | MCS1 | 54.0   | 60.0  |                           | MCS1 | 117.0  | 130.0  |
|                           | MCS2 | 39.0  | 43.3  |                           | MCS2 | 81.0   | 90.0  |                           | MCS2 | 175.5  | 195.0  |
|                           | MCS3 | 52.0  | 57.8  |                           | MCS3 | 108.-0 | 120.0 |                           | MCS3 | 234.0  | 260.0  |
|                           | MCS4 | 78.0  | 86.7  |                           | MCS4 | 162.0  | 180.0 |                           | MCS4 | 351.0  | 390.0  |
|                           | MCS5 | 104.0 | 115.6 |                           | MCS5 | 216.0  | 240.0 |                           | MCS5 | 468.0  | 520.0  |
|                           | MCS6 | 117.0 | 130.0 |                           | MCS6 | 243.0  | 270.0 |                           | MCS6 | 526.5  | 585.0  |
|                           | MCS7 | 130.0 | 144.4 |                           | MCS7 | 270.0  | 300.0 |                           | MCS7 | 585.0  | 650.0  |
|                           | MCS8 | 156.0 | 173.3 |                           | MCS8 | 324.0  | 360.0 |                           | MCS8 | 702.0  | 780.0  |
|                           | MCS9 | 13.0  | 14.4  |                           | MCS9 | 360.0  | 400.0 |                           | MCS9 | 780.0  | 866.7  |
| 11ac<br>20MHz<br>3 stream | MCS0 | 19.5  | 21.7  | 11ac<br>40MHz<br>3 stream | MCS0 | 40.5   | 45    | 11ac<br>80MHz<br>3 stream | MCS0 | 87.8   | 97.5   |
|                           | MCS1 | 39    | 43.3  |                           | MCS1 | 81     | 90    |                           | MCS1 | 175.5  | 195.0  |
|                           | MCS2 | 58.5  | 65    |                           | MCS2 | 121.5  | 135   |                           | MCS2 | 263.3  | 292.5  |
|                           | MCS3 | 78    | 86.7  |                           | MCS3 | 162    | 180   |                           | MCS3 | 351.0  | 190.0  |
|                           | MCS4 | 117   | 130   |                           | MCS4 | 243    | 270   |                           | MCS4 | 526.5  | 585.0  |
|                           | MCS5 | 156   | 173.3 |                           | MCS5 | 324    | 360   |                           | MCS5 | 702.0  | 780.0  |
|                           | MCS6 | 175.5 | 195   |                           | MCS6 | 364.5  | 405   |                           | MCS6 | Note   | Note   |
|                           | MCS7 | 195   | 216.7 |                           | MCS7 | 405    | 450   |                           | MCS7 | 877.5  | 975.0  |
|                           | MCS8 | 234.0 | 260.0 |                           | MCS8 | 486.0  | 540.0 |                           | MCS8 | 1053.0 | 1170.0 |
|                           | MCS9 | 260.0 | 228.9 |                           | MCS9 | 540.0  | 600.0 |                           | MCS9 | 1170.0 | 1300.0 |

NOTE: MCS 6 is invalid due to mod(NCBPS/NES, DR) not being equal to 0.

## 2.4. Transmit Operating Modes

For 2400~2483.5MHz

| Transmit Operating Mode  |                                                        |                |                                     |     |                                     | Transmit Multiple Antennas          |                                     |                                     |                                       |
|--------------------------|--------------------------------------------------------|----------------|-------------------------------------|-----|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---------------------------------------|
| <input type="checkbox"/> | Operating mode 1 (single antenna)                      |                |                                     |     |                                     | <input checked="" type="checkbox"/> | 1TX                                 |                                     |                                       |
| <input type="checkbox"/> | Operating mode 2 (multiple antenna, no beam forming)   |                |                                     |     |                                     | <input checked="" type="checkbox"/> | 2TX                                 | <input checked="" type="checkbox"/> | 3TX <input type="checkbox"/> 4TX      |
| <input type="checkbox"/> | Operating mode 3 (multiple antenna, with beam forming) |                |                                     |     |                                     | <input type="checkbox"/>            | 2TX                                 | <input type="checkbox"/>            | 3TX <input type="checkbox"/> 4TX      |
| <input type="checkbox"/> | 802.11b                                                | Operating mode | <input checked="" type="checkbox"/> | 1TX | <input checked="" type="checkbox"/> | 2TX                                 | <input checked="" type="checkbox"/> | 3TX                                 | <input type="checkbox"/> Cyclic shift |
| <input type="checkbox"/> | 802.11g                                                | Operating mode | <input checked="" type="checkbox"/> | 1TX | <input checked="" type="checkbox"/> | 2TX                                 | <input checked="" type="checkbox"/> | 3TX                                 | <input type="checkbox"/> Cyclic shift |
| <input type="checkbox"/> | 802.11n(HT20)                                          | Operating mode | <input checked="" type="checkbox"/> | 1TX | <input checked="" type="checkbox"/> | 2TX                                 | <input checked="" type="checkbox"/> | 3TX                                 | <input type="checkbox"/> Cyclic shift |
| <input type="checkbox"/> | 802.11n(HT40)                                          | Operating mode | <input checked="" type="checkbox"/> | 1TX | <input checked="" type="checkbox"/> | 2TX                                 | <input checked="" type="checkbox"/> | 3TX                                 | <input type="checkbox"/> Cyclic shift |

Note1: For IEEE802.11n, MCS0~MCS7: 1TX; MCS8~MCS15: 2TX; MCS0~MCS23: 3TX

Note2: For 2 stream 2TX without test due to covered by 2 stream 3TX MCS8

For 5725~5850MHz

| Transmit Operating Mode  |                                                        |                |                                     |     |                                     | Transmit Multiple Antennas          |                                     |                                     |                                       |
|--------------------------|--------------------------------------------------------|----------------|-------------------------------------|-----|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---------------------------------------|
| <input type="checkbox"/> | Operating mode 1 (single antenna)                      |                |                                     |     |                                     | <input checked="" type="checkbox"/> | 1TX                                 |                                     |                                       |
| <input type="checkbox"/> | Operating mode 2 (multiple antenna, no beam forming)   |                |                                     |     |                                     | <input checked="" type="checkbox"/> | 2TX                                 | <input checked="" type="checkbox"/> | 3TX <input type="checkbox"/> 4TX      |
| <input type="checkbox"/> | Operating mode 3 (multiple antenna, with beam forming) |                |                                     |     |                                     | <input type="checkbox"/>            | 2TX                                 | <input checked="" type="checkbox"/> | 3TX <input type="checkbox"/> 4TX      |
| <input type="checkbox"/> | 802.11a                                                | Operating mode | <input checked="" type="checkbox"/> | 1TX | <input type="checkbox"/>            | 2TX                                 | <input checked="" type="checkbox"/> | 3TX                                 | <input type="checkbox"/> Cyclic shift |
| <input type="checkbox"/> | 802.11n(HT20)                                          | Operating mode | <input checked="" type="checkbox"/> | 1TX | <input checked="" type="checkbox"/> | 2TX                                 | <input checked="" type="checkbox"/> | 3TX                                 | <input type="checkbox"/> Cyclic shift |
| <input type="checkbox"/> | 802.11n(HT40)                                          | Operating mode | <input checked="" type="checkbox"/> | 1TX | <input checked="" type="checkbox"/> | 2TX                                 | <input checked="" type="checkbox"/> | 3TX                                 | <input type="checkbox"/> Cyclic shift |
| <input type="checkbox"/> | 802.11ac(VHT20)                                        | Operating mode | <input checked="" type="checkbox"/> | 1TX | <input checked="" type="checkbox"/> | 2TX                                 | <input checked="" type="checkbox"/> | 3TX                                 | <input type="checkbox"/> Cyclic shift |
| <input type="checkbox"/> | 802.11ac(VHT40)                                        | Operating mode | <input checked="" type="checkbox"/> | 1TX | <input checked="" type="checkbox"/> | 2TX                                 | <input checked="" type="checkbox"/> | 3TX                                 | <input type="checkbox"/> Cyclic shift |

Note1: For IEEE802.11n, MCS0~MCS7: 1TX; MCS8~MCS15: 2TX; MCS0~MCS23: 3TX

Note2: For IEEE802.11ac VHT20/40/80, MCS0~MCS9: 1 Stream 3TX; MCS0~MCS9: 2 Stream 3TX;

MCS0~MCS9: 3 Stream 3TX

Note3: For 2 stream 2TX without test due to covered by 2 stream 3TX MCS0 Nss2

## 2.5. Table for Carrier Frequencies

Eleven channels are provided for 802.11b, 802.11g, 802.11n (20MHz):

| Frequency Band    | Channel No. | Frequency | Channel No. | Frequency |
|-------------------|-------------|-----------|-------------|-----------|
| 2400 ~ 2483.5 MHz | 1           | 2412MHz   | 7           | 2442MHz   |
|                   | 2           | 2417MHz   | 8           | 2447MHz   |
|                   | 3           | 2422MHz   | 9           | 2452MHz   |
|                   | 4           | 2427MHz   | 10          | 2457MHz   |
|                   | 5           | 2432MHz   | 11          | 2462MHz   |
|                   | 6           | 2437MHz   | -           | -         |

Seven channels are provided for 802.11n (40MHz):

| Frequency Band    | Channel No. | Frequency | Channel No. | Frequency |
|-------------------|-------------|-----------|-------------|-----------|
| 2400 ~ 2483.5 MHz | 3           | 2422 MHz  | 7           | 2442MHz   |
|                   | 4           | 2427MHz   | 8           | 2447MHz   |
|                   | 5           | 2432MHz   | 9           | 2452MHz   |
|                   | 6           | 2437MHz   | -           | -         |

Five channels are provided for 802.11a, 802.11n, 802.11ac Band4 (20MHz):

| Frequency Band  | Channel No. | Frequency | Channel No. | Frequency |
|-----------------|-------------|-----------|-------------|-----------|
| 5725 ~ 5850 MHz | 149         | 5745MHz   | 161         | 5805MHz   |
|                 | 153         | 5765MHz   | 165         | 5825MHz   |
|                 | 157         | 5785MHz   | -           | -         |

Two channels are provided for 802.11n, 802.11ac Band4 (40MHz):

| Frequency Band  | Channel No. | Frequency | Channel No. | Frequency |
|-----------------|-------------|-----------|-------------|-----------|
| 5725 ~ 5850 MHz | 151         | 5755MHz   | 159         | 5795MHz   |

One channel is provided for 802.11ac Band4 (80MHz):

| Frequency Band  | Channel No. | Frequency | Channel No. | Frequency |
|-----------------|-------------|-----------|-------------|-----------|
| 5725 ~ 5850 MHz | 155         | 5775MHz   | -           | -         |

## 2.6. Table for Test Modes

Investigation has been done on all the possible configurations for searching the worst cases.

The following table is a list of the test modes shown in this test report.

| Test Items                        | Mode       | Note       | Channel | Data Rate | Antenna    |
|-----------------------------------|------------|------------|---------|-----------|------------|
| AC Power Line Conducted Emissions | CTX        | BPSK       | -       | -         | 1+2+3(CDD) |
| Maximum Average Output Power      | 11b        | DSSS/DBPSK | 1/6/11  | 1Mbps     | 1, 2, 3    |
|                                   |            |            |         | 1Mbps     | 1+2+3(CDD) |
|                                   | 11g        | OFDM/BPSK  | 1/6/11  | 6Mbps     | 1, 2, 3    |
|                                   |            |            |         | 6Mbps     | 1+2+3(CDD) |
|                                   | 11n(20MHz) |            | 1/6/11  | MCS0      | 1, 2, 3    |
|                                   |            |            |         | MCS0      | 1+2+3(CDD) |
|                                   |            |            |         | MCS8      | 1+2+3(CDD) |
|                                   |            |            |         | MCS16     | 1+2+3(SDM) |
|                                   | 11n(40MHz) |            | 3/6/9   | MCS0      | 1, 2, 3    |
|                                   |            |            |         | MCS0      | 1+2+3(CDD) |
|                                   |            |            |         | MCS8      | 1+2+3(CDD) |
|                                   |            |            |         | MCS16     | 1+2+3(SDM) |
| Power Spectral Density            | 11b        | DSSS/DBPSK | 1/6/11  | 1Mbps     | 1          |
|                                   |            |            |         | 1Mbps     | 1+2+3(CDD) |
|                                   | 11g        | OFDM/BPSK  | 1/6/11  | 6Mbps     | 1          |
|                                   |            |            |         | 6Mbps     | 1+2+3(CDD) |
|                                   | 11n(20MHz) |            | 1/6/11  | MCS0      | 3          |
|                                   |            |            | 1/6/11  | MCS0      | 1+2+3(CDD) |
|                                   |            |            | 1/6/11  | MCS8      | 1+2+3(CDD) |
|                                   | 11n(40MHz) |            | 3/6/9   | MCS0      | 1          |
|                                   |            |            | 3/6/9   | MCS0      | 1+2+3(CDD) |
|                                   |            |            | 3/6/9   | MCS8      | 1+2+3(CDD) |
| 6dB Spectrum Bandwidth            | 11b        | DSSS/DBPSK | 1/6/11  | 1Mbps     | 1          |
|                                   |            |            |         | 1Mbps     | 1+2+3(CDD) |
|                                   | 11g        | OFDM/BPSK  | 1/6/11  | 6Mbps     | 1          |
|                                   |            |            |         | 6Mbps     | 1+2+3(CDD) |
|                                   | 11n(20MHz) |            | 1/6/11  | MCS0      | 3          |
|                                   |            |            | 1/6/11  | MCS0      | 1+2+3(CDD) |
|                                   |            |            | 1/6/11  | MCS8      | 1+2+3(CDD) |
|                                   | 11n(40MHz) |            | 3/6/9   | MCS0      | 1          |
|                                   |            |            | 3/6/9   | MCS0      | 1+2+3(CDD) |
|                                   |            |            | 3/6/9   | MCS8      | 1+2+3(CDD) |

|                                             |            |            |        |       |            |
|---------------------------------------------|------------|------------|--------|-------|------------|
| Band Edge Emissions<br>(Radiated)           | 11b        | DSSS/DBPSK | 1/6/11 | 1Mbps | 1          |
|                                             |            |            |        | 1Mbps | 1+2+3(CDD) |
|                                             | 11g        | OFDM/BPSK  | 1/6/11 | 6Mbps | 1          |
|                                             |            |            |        | 6Mbps | 1+2+3(CDD) |
|                                             | 11n(20MHz) |            | 1/6/11 | MCS0  | 1          |
|                                             |            |            | 1/6/11 | MCS0  | 1+2+3(CDD) |
|                                             |            |            | 1/6/11 | MCS8  | 1+2+3(CDD) |
|                                             | 11n(40MHz) |            | 3/6/9  | MCS0  | 3          |
|                                             |            |            | 3/6/9  | MCS0  | 1+2+3(CDD) |
|                                             |            |            | 3/6/9  | MCS8  | 1+2+3(CDD) |
| Radiated Emissions Above<br>1GHz (Radiated) | 11b        | DSSS/DBPSK | 1/6/11 | 1Mbps | 1          |
|                                             |            |            |        | 1Mbps | 1+2+3(CDD) |
|                                             | 11g        | OFDM/BPSK  | 1/6/11 | 6Mbps | 1          |
|                                             |            |            |        | 6Mbps | 1+2+3(CDD) |
|                                             | 11n(20MHz) |            | 1/6/11 | MCS0  | 1          |
|                                             |            |            | 1/6/11 | MCS0  | 1+2+3(CDD) |
|                                             |            |            | 1/6/11 | MCS8  | 1+2+3(CDD) |
|                                             | 11n(40MHz) |            | 3/6/9  | MCS0  | 3          |
|                                             |            |            | 3/6/9  | MCS0  | 1+2+3(CDD) |
|                                             |            |            | 3/6/9  | MCS8  | 1+2+3(CDD) |
| Radiated Emissions Below<br>1GHz(Radiated)  | CTX        | BPSK       | -      | -     | 1+2+3(CDD) |

Note 1:11n (HT20/40) 3TX MCS16 without test due to covered by 802.11 n HT20/40 3TX MCS0, except maximum average output power

| Test Items                        | Mode                    | Note      | Channel     | Data Rate  | Antenna    |
|-----------------------------------|-------------------------|-----------|-------------|------------|------------|
| AC Power Line Conducted Emissions | CTX                     | BPSK      | -           | -          | 1+2+3(CDD) |
| Maximum Average Output Power      | 11a                     | OFDM/BPSK | 149/157/165 | 6Mbps      | 1, 2, 3    |
|                                   |                         |           | 6Mbps       | 1+2+3(CDD) |            |
|                                   | 11ac(20MHz)             |           | 149/157/165 | Nss1 MCS0  | 1, 2, 3    |
|                                   |                         |           |             | Nss1 MCS0  | 1+2+3(CDD) |
|                                   |                         |           |             | Nss2 MCS0  | 1+2+3(CDD) |
|                                   |                         |           |             | Nss3 MCS0  | 1+2+3(SDM) |
|                                   | 11ac(40MHz)             |           | 151/159     | Nss1 MCS0  | 1, 2, 3    |
|                                   |                         |           |             | Nss1 MCS0  | 1+2+3(CDD) |
|                                   |                         |           |             | Nss2 MCS0  | 1+2+3(CDD) |
|                                   |                         |           |             | Nss3 MCS0  | 1+2+3(SDM) |
|                                   | 11ac(80MHz)             |           | 155         | Nss1 MCS0  | 1, 2, 3    |
|                                   |                         |           |             | Nss1 MCS0  | 1+2+3(CDD) |
|                                   |                         |           |             | Nss2 MCS0  | 1+2+3(CDD) |
|                                   |                         |           |             | Nss3 MCS0  | 1+2+3(SDM) |
|                                   | 11ac(20MHz) Beamforming |           | 149/157/165 | Nss1 MCS0  | 1+2+3(CDD) |
|                                   | Nss2 MCS0               |           |             | 1+2+3(CDD) |            |
|                                   | 11ac(40MHz) Beamforming |           | 151/159     | Nss1 MCS0  | 1+2+3(CDD) |
|                                   | Nss2 MCS0               |           |             | 1+2+3(CDD) |            |
|                                   | 11ac(80MHz) Beamforming |           | 155         | Nss1 MCS0  | 1+2+3(CDD) |
|                                   | Nss2 MCS0               |           |             | 1+2+3(CDD) |            |
| Power Spectral Density            | 11a                     | OFDM/BPSK | 149/157/165 | 6Mbps      | 1          |
|                                   |                         |           |             | 6Mbps      | 1+2+3(CDD) |
|                                   | 11ac(20MHz)             |           | 149/157/165 | Nss1 MCS0  | 1          |
|                                   |                         |           |             | Nss1 MCS0  | 1+2+3(CDD) |
|                                   |                         |           |             | Nss2 MCS0  | 1+2+3(CDD) |
|                                   | 11ac(40MHz)             |           | 151/159     | Nss1 MCS0  | 1          |
|                                   |                         |           |             | Nss1 MCS0  | 1+2+3(CDD) |
|                                   |                         |           |             | Nss2 MCS0  | 1+2+3(CDD) |
|                                   | 11ac(80MHz)             |           | 155         | Nss1 MCS0  | 3          |
|                                   |                         |           |             | Nss1 MCS0  | 1+2+3(CDD) |
|                                   |                         |           |             | Nss2 MCS0  | 1+2+3(CDD) |
|                                   | 11ac(20MHz) Beamforming |           | 149/157/165 | Nss1 MCS0  | 1+2+3(CDD) |
|                                   | Nss2 MCS0               |           |             | 1+2+3(CDD) |            |

|                                   |                            |           |             |           |            |
|-----------------------------------|----------------------------|-----------|-------------|-----------|------------|
|                                   | 11ac(40MHz)<br>Beamforming |           | 151/159     | Nss1 MCS0 | 1+2+3(CDD) |
|                                   |                            |           |             | Nss2 MCS0 | 1+2+3(CDD) |
|                                   | 11ac(80MHz)<br>Beamforming |           | 155         | Nss1 MCS0 | 1+2+3(CDD) |
|                                   |                            |           |             | Nss2 MCS0 | 1+2+3(CDD) |
| 6dB Spectrum Bandwidth            | 11a                        | OFDM/BPSK | 149/157/165 | 6Mbps     | 1          |
|                                   |                            |           |             | 6Mbps     | 1+2+3(CDD) |
|                                   | 11ac(20MHz)                |           | 149/157/165 | Nss1 MCS0 | 1          |
|                                   |                            |           |             | Nss1 MCS0 | 1+2+3(CDD) |
|                                   |                            |           |             | Nss2 MCS0 | 1+2+3(CDD) |
|                                   | 11ac(40MHz)                |           | 151/159     | Nss1 MCS0 | 1          |
|                                   |                            |           |             | Nss1 MCS0 | 1+2+3(CDD) |
|                                   |                            |           |             | Nss2 MCS0 | 1+2+3(CDD) |
|                                   | 11ac(80MHz)                |           | 155         | Nss1 MCS0 | 3          |
|                                   |                            |           |             | Nss1 MCS0 | 1+2+3(CDD) |
|                                   |                            |           |             | Nss2 MCS0 | 1+2+3(CDD) |
|                                   | 11ac(20MHz)<br>Beamforming |           | 149/157/165 | Nss1 MCS0 | 1+2+3(CDD) |
|                                   |                            |           |             | Nss2 MCS0 | 1+2+3(CDD) |
|                                   | 11ac(40MHz)<br>Beamforming |           | 151/159     | Nss1 MCS0 | 1+2+3(CDD) |
|                                   |                            |           |             | Nss2 MCS0 | 1+2+3(CDD) |
|                                   | 11ac(80MHz)<br>Beamforming |           | 155         | Nss1 MCS0 | 1+2+3(CDD) |
|                                   |                            |           |             | Nss2 MCS0 | 1+2+3(CDD) |
| Band Edge Emissions<br>(Radiated) | 11a                        | OFDM/BPSK | 149/157/165 | 6Mbps     | 1          |
|                                   |                            |           |             | 6Mbps     | 1+2+3(CDD) |
|                                   | 11ac(20MHz)                |           | 149/157/165 | Nss1 MCS0 | 1          |
|                                   |                            |           |             | Nss1 MCS0 | 1+2+3(CDD) |
|                                   |                            |           |             | Nss2 MCS0 | 1+2+3(CDD) |
|                                   | 11ac(40MHz)                |           | 151/159     | Nss1 MCS0 | 1          |
|                                   |                            |           |             | Nss1 MCS0 | 1+2+3(CDD) |
|                                   |                            |           |             | Nss2 MCS0 | 1+2+3(CDD) |
|                                   | 11ac(80MHz)                |           | 155         | Nss1 MCS0 | 3          |
|                                   |                            |           |             | Nss1 MCS0 | 1+2+3(CDD) |
|                                   |                            |           |             | Nss2 MCS0 | 1+2+3(CDD) |
|                                   | 11ac(20MHz)<br>Beamforming |           | 149/157/165 | Nss1 MCS0 | 1+2+3(CDD) |
|                                   |                            |           |             | Nss2 MCS0 | 1+2+3(CDD) |
|                                   | 11ac(40MHz)<br>Beamforming |           | 151/159     | Nss1 MCS0 | 1+2+3(CDD) |
|                                   |                            |           |             | Nss2 MCS0 | 1+2+3(CDD) |

|                                            |                            |           |             |           |            |
|--------------------------------------------|----------------------------|-----------|-------------|-----------|------------|
| Radiated Emissions Above<br>1GHz(Radiated) | 11ac(80MHz)<br>Beamforming | OFDM/BPSK | 155         | Nss1 MCS0 | 1+2+3(CDD) |
|                                            |                            |           |             | Nss2 MCS0 | 1+2+3(CDD) |
|                                            | 11a                        |           | 149/157/165 | 6Mbps     | 1          |
|                                            |                            |           |             | 6Mbps     | 1+2+3(CDD) |
|                                            | 11ac(20MHz)                |           | 149/157/165 | Nss1 MCS0 | 1          |
|                                            |                            |           |             | Nss1 MCS0 | 1+2+3(CDD) |
|                                            |                            |           |             | Nss2 MCS0 | 1+2+3(CDD) |
|                                            | 11ac(40MHz)                |           | 151/159     | Nss1 MCS0 | 1          |
|                                            |                            |           |             | Nss1 MCS0 | 1+2+3(CDD) |
|                                            |                            |           |             | Nss2 MCS0 | 1+2+3(CDD) |
|                                            | 11ac(80MHz)                |           | 155         | Nss1 MCS0 | 3          |
|                                            |                            |           |             | Nss1 MCS0 | 1+2+3(CDD) |
|                                            |                            |           |             | Nss2 MCS0 | 1+2+3(CDD) |
|                                            | 11ac(20MHz)<br>Beamforming |           | 149/157/165 | Nss1 MCS0 | 1+2+3(CDD) |
|                                            |                            |           |             | Nss2 MCS0 | 1+2+3(CDD) |
|                                            | 11ac(40MHz)<br>Beamforming |           | 151/159     | Nss1 MCS0 | 1+2+3(CDD) |
|                                            |                            |           |             | Nss2 MCS0 | 1+2+3(CDD) |
|                                            | 11ac(80MHz)<br>Beamforming |           | 155         | Nss1 MCS0 | 1+2+3(CDD) |
|                                            |                            |           |             | Nss2 MCS0 | 1+2+3(CDD) |
| Radiated Emissions Below<br>1GHz(Radiated) | CTX                        | BPSK      | -           | -         | 1+2+3(CDD) |

Note 1:11n HT20/40 1TX/3TX without test due to covered by 802.11ac VHT20/40 1TX/3TX which are same modulation, bandwidth and frequency.

Note 2:11ac VHT20/40/80 3TX MCS0 Nss3 without test due to covered by 802.11ac VHT20/40/80 3TX MCS0 Nss1, except maximum average output power.

## 2.7. Table for Testing Locations

| Test Site Location |                                                                            |          |              |             |              |
|--------------------|----------------------------------------------------------------------------|----------|--------------|-------------|--------------|
| Address:           | No.8, Lane 724, Bo-ai St., Jhubei City, Hsinchu County 302, Taiwan, R.O.C. |          |              |             |              |
| TEL:               | 886-3-656-9065                                                             |          |              |             |              |
| FAX:               | 886-3-656-9085                                                             |          |              |             |              |
| Test Site No.      | Site Category                                                              | Location | FCC Reg. No. | IC File No. | VCCI Reg. No |
| 03CH01-CB          | SAC                                                                        | Hsin Chu | 262045       | IC 4086D    | -            |
| CO01-CB            | Conduction                                                                 | Hsin Chu | 262045       | IC 4086D    | -            |
| TH01-CB            | OVEN Room                                                                  | Hsin Chu | -            | -           | -            |

Open Area Test Site (OATS); Semi Anechoic Chamber (SAC).

## 2.8. Table for Supporting Units

For Test Site No: CO01-CB and TH01-CB

| Support Unit | Brand | Model | FCC ID |
|--------------|-------|-------|--------|
| Notebook     | DELL  | E6430 | DoC    |

For Test Site No: 03CH01-CB

For Non-Beamforming

| Support Unit | Brand | Model | FCC ID |
|--------------|-------|-------|--------|
| Notebook     | DELL  | M1330 | DoC    |

For Beamforming

| Support Unit   | Brand   | Model | FCC ID     |
|----------------|---------|-------|------------|
| Notebook       | DELL    | M1330 | DoC        |
| WLAN ac Dongle | Netgear | A6200 | PY31220200 |
| Notebook       | DELL    | E6430 | DoC        |

## 2.9. Table for Parameters of Test Software Setting

During testing, Channel & Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

| The Power Setting Parameter |               |                                 |                 |                            |               |                 |
|-----------------------------|---------------|---------------------------------|-----------------|----------------------------|---------------|-----------------|
| Power Level                 |               | 1                               |                 |                            |               |                 |
| Test Software Version       |               | MTOOL 2.0.1.0                   |                 |                            |               |                 |
| Worst Modulation Mode       |               | Number of Transmit Chains (NTX) | Frequency (MHz) | Maximum Output Power (dBm) | Power Setting | Data Rate / MCS |
| Ant. 1                      | 802.11b       | 1Stream 1TX                     | 2412            | 26.09                      | 98            | 1Mbps           |
| Ant. 1                      | 802.11b       | 1Stream 1TX                     | 2437            | 26.12                      | 98            | 1Mbps           |
| Ant. 1                      | 802.11b       | 1Stream 1TX                     | 2462            | 26.08                      | 98            | 1Mbps           |
| Ant. 2                      | 802.11b       | 1Stream 1TX                     | 2412            | 25.88                      | 98            | 1Mbps           |
| Ant. 2                      | 802.11b       | 1Stream 1TX                     | 2437            | 25.87                      | 98            | 1Mbps           |
| Ant. 2                      | 802.11b       | 1Stream 1TX                     | 2462            | 25.92                      | 98            | 1Mbps           |
| Ant. 3                      | 802.11b       | 1Stream 1TX                     | 2412            | 26.01                      | 98            | 1Mbps           |
| Ant. 3                      | 802.11b       | 1Stream 1TX                     | 2437            | 26.02                      | 98            | 1Mbps           |
| Ant. 3                      | 802.11b       | 1Stream 1TX                     | 2462            | 26.11                      | 98            | 1Mbps           |
| Ant.1+2+3, CDD              | 802.11b       | 1Stream 3TX                     | 2412            | 27.35                      | 86            | 1Mbps           |
| Ant.1+2+3, CDD              | 802.11b       | 1Stream 3TX                     | 2437            | 27.02                      | 86            | 1Mbps           |
| Ant.1+2+3, CDD              | 802.11b       | 1Stream 3TX                     | 2462            | 27.10                      | 86            | 1Mbps           |
| Ant. 1                      | 802.11g       | 1Stream 1TX                     | 2412            | 21.78                      | 82            | 6Mbps           |
| Ant. 1                      | 802.11g       | 1Stream 1TX                     | 2437            | 25.57                      | 82            | 6Mbps           |
| Ant. 1                      | 802.11g       | 1Stream 1TX                     | 2462            | 21.41                      | 82            | 6Mbps           |
| Ant. 2                      | 802.11g       | 1Stream 1TX                     | 2412            | 22.04                      | 86            | 6Mbps           |
| Ant. 2                      | 802.11g       | 1Stream 1TX                     | 2437            | 25.39                      | 86            | 6Mbps           |
| Ant. 2                      | 802.11g       | 1Stream 1TX                     | 2462            | 21.83                      | 86            | 6Mbps           |
| Ant. 3                      | 802.11g       | 1Stream 1TX                     | 2412            | 20.92                      | 80            | 6Mbps           |
| Ant. 3                      | 802.11g       | 1Stream 1TX                     | 2437            | 25.50                      | 80            | 6Mbps           |
| Ant. 3                      | 802.11g       | 1Stream 1TX                     | 2462            | 21.61                      | 80            | 6Mbps           |
| Ant.1+2+3, CDD              | 802.11g       | 1Stream 3TX                     | 2412            | 24.46                      | 75            | 1Mbps           |
| Ant.1+2+3, CDD              | 802.11g       | 1Stream 3TX                     | 2437            | 28.05                      | 90            | 1Mbps           |
| Ant.1+2+3, CDD              | 802.11g       | 1Stream 3TX                     | 2462            | 24.07                      | 73            | 1Mbps           |
| Ant. 1                      | 802.11n 20MHz | 1Stream 1TX                     | 2412            | 20.16                      | 75            | MCS0            |
| Ant. 1                      | 802.11n 20MHz | 1Stream 1TX                     | 2437            | 25.54                      | 98            | MCS0            |
| Ant. 1                      | 802.11n 20MHz | 1Stream 1TX                     | 2462            | 20.65                      | 78            | MCS0            |
| Ant. 2                      | 802.11n 20MHz | 1Stream 1TX                     | 2412            | 21.49                      | 83            | MCS0            |
| Ant. 2                      | 802.11n 20MHz | 1Stream 1TX                     | 2437            | 25.31                      | 98            | MCS0            |
| Ant. 2                      | 802.11n 20MHz | 1Stream 1TX                     | 2462            | 21.23                      | 82            | MCS0            |
| Ant. 3                      | 802.11n 20MHz | 1Stream 1TX                     | 2412            | 19.89                      | 76            | MCS0            |

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|                |               |             |      |       |    |       |
|----------------|---------------|-------------|------|-------|----|-------|
| Ant. 3         | 802.11n 20MHz | 1Stream 1TX | 2437 | 25.58 | 98 | MCS0  |
| Ant. 3         | 802.11n 20MHz | 1Stream 1TX | 2462 | 20.49 | 78 | MCS0  |
| Ant.1+2+3, CDD | 802.11n 20MHz | 1Stream 3TX | 2412 | 23.75 | 72 | MCS0  |
| Ant.1+2+3, CDD | 802.11n 20MHz | 1Stream 3TX | 2437 | 27.98 | 90 | MCS0  |
| Ant.1+2+3, CDD | 802.11n 20MHz | 1Stream 3TX | 2462 | 23.84 | 72 | MCS0  |
| Ant.1+2+3, CDD | 802.11n 20MHz | 2Stream 3TX | 2412 | 24.18 | 76 | MCS8  |
| Ant.1+2+3, CDD | 802.11n 20MHz | 2Stream 3TX | 2437 | 29.01 | 94 | MCS8  |
| Ant.1+2+3, CDD | 802.11n 20MHz | 2Stream 3TX | 2462 | 24.25 | 76 | MCS8  |
| Ant.1+2+3, SDM | 802.11n 20MHz | 3Stream 3TX | 2412 | 23.35 | 72 | MCS16 |
| Ant.1+2+3, SDM | 802.11n 20MHz | 3Stream 3TX | 2437 | 29.26 | 96 | MCS16 |
| Ant.1+2+3, SDM | 802.11n 20MHz | 3Stream 3TX | 2462 | 23.27 | 72 | MCS16 |
| Ant. 1         | 802.11n 40MHz | 1Stream 1TX | 2422 | 19.54 | 70 | MCS0  |
| Ant. 1         | 802.11n 40MHz | 1Stream 1TX | 2437 | 22.60 | 82 | MCS0  |
| Ant. 1         | 802.11n 40MHz | 1Stream 1TX | 2452 | 19.52 | 70 | MCS0  |
| Ant. 2         | 802.11n 40MHz | 1Stream 1TX | 2422 | 19.10 | 71 | MCS0  |
| Ant. 2         | 802.11n 40MHz | 1Stream 1TX | 2437 | 22.35 | 84 | MCS0  |
| Ant. 2         | 802.11n 40MHz | 1Stream 1TX | 2452 | 19.54 | 72 | MCS0  |
| Ant. 3         | 802.11n 40MHz | 1Stream 1TX | 2422 | 19.25 | 70 | MCS0  |
| Ant. 3         | 802.11n 40MHz | 1Stream 1TX | 2437 | 22.02 | 81 | MCS0  |
| Ant. 3         | 802.11n 40MHz | 1Stream 1TX | 2452 | 18.92 | 68 | MCS0  |
| Ant.1+2+3, CDD | 802.11n 40MHz | 1Stream 3TX | 2422 | 21.56 | 60 | MCS0  |
| Ant.1+2+3, CDD | 802.11n 40MHz | 1Stream 3TX | 2437 | 24.97 | 74 | MCS0  |
| Ant.1+2+3, CDD | 802.11n 40MHz | 1Stream 3TX | 2452 | 21.75 | 61 | MCS0  |
| Ant.1+2+3, CDD | 802.11n 40MHz | 2Stream 3TX | 2422 | 22.52 | 66 | MCS8  |
| Ant.1+2+3, CDD | 802.11n 40MHz | 2Stream 3TX | 2437 | 26.27 | 81 | MCS8  |
| Ant.1+2+3, CDD | 802.11n 40MHz | 2Stream 3TX | 2452 | 23.12 | 68 | MCS8  |
| Ant.1+2+3, SDM | 802.11n 40MHz | 3Stream 3TX | 2422 | 21.21 | 60 | MCS16 |
| Ant.1+2+3, SDM | 802.11n 40MHz | 3Stream 3TX | 2437 | 24.62 | 74 | MCS16 |
| Ant.1+2+3, SDM | 802.11n 40MHz | 3Stream 3TX | 2452 | 21.44 | 61 | MCS16 |

For Non-Beamforming

| The Power Setting Parameter |               |                                 |                 |                            |               |                 |
|-----------------------------|---------------|---------------------------------|-----------------|----------------------------|---------------|-----------------|
| Power Level                 |               | 1                               |                 |                            |               |                 |
| Test Software Version       |               | MTOOL 2.0.1.0                   |                 |                            |               |                 |
| Worst Modulation Mode       |               | Number of Transmit Chains (NTX) | Frequency (MHz) | Maximum Output Power (dBm) | Power Setting | Data Rate / MCS |
| Ant. 1                      | 802.11a       | 1 Stream 1TX                    | 5745            | 22.27                      | 82            | 6Mbps           |
| Ant. 1                      | 802.11a       | 1 Stream 1TX                    | 5785            | 22.30                      | 82            | 6Mbps           |
| Ant. 1                      | 802.11a       | 1 Stream 1TX                    | 5825            | 22.30                      | 82            | 6Mbps           |
| Ant. 2                      | 802.11a       | 1 Stream 1TX                    | 5745            | 20.73                      | 82            | 6Mbps           |
| Ant. 2                      | 802.11a       | 1 Stream 1TX                    | 5785            | 20.73                      | 82            | 6Mbps           |
| Ant. 2                      | 802.11a       | 1 Stream 1TX                    | 5825            | 20.72                      | 82            | 6Mbps           |
| Ant. 3                      | 802.11a       | 1 Stream 1TX                    | 5745            | 22.38                      | 82            | 6Mbps           |
| Ant. 3                      | 802.11a       | 1 Stream 1TX                    | 5785            | 22.26                      | 82            | 6Mbps           |
| Ant. 3                      | 802.11a       | 1 Stream 1TX                    | 5825            | 22.47                      | 82            | 6Mbps           |
| Ant.1+2+3, CDD              | 802.11a       | 1 Stream 3TX                    | 5745            | 26.38                      | 82            | 6Mbps           |
| Ant.1+2+3, CDD              | 802.11a       | 1 Stream 3TX                    | 5785            | 26.30                      | 82            | 6Mbps           |
| Ant.1+2+3, CDD              | 802.11a       | 1 Stream 3TX                    | 5825            | 26.40                      | 82            | 6Mbps           |
| Ant. 1                      | 802.11ac20MHz | 1 Stream 1TX                    | 5745            | 22.28                      | 82            | Nss1MCS0        |
| Ant. 1                      | 802.11ac20MHz | 1 Stream 1TX                    | 5785            | 22.24                      | 82            | Nss1MCS0        |
| Ant. 1                      | 802.11ac20MHz | 1 Stream 1TX                    | 5825            | 22.18                      | 82            | Nss1MCS0        |
| Ant. 2                      | 802.11ac20MHz | 1 Stream 1TX                    | 5745            | 20.83                      | 82            | Nss1MCS0        |
| Ant. 2                      | 802.11ac20MHz | 1 Stream 1TX                    | 5785            | 20.58                      | 82            | Nss1MCS0        |
| Ant. 2                      | 802.11ac20MHz | 1 Stream 1TX                    | 5825            | 20.80                      | 82            | Nss1MCS0        |
| Ant. 3                      | 802.11ac20MHz | 1 Stream 1TX                    | 5745            | 22.34                      | 82            | Nss1MCS0        |
| Ant. 3                      | 802.11ac20MHz | 1 Stream 1TX                    | 5785            | 22.32                      | 82            | Nss1MCS0        |
| Ant. 3                      | 802.11ac20MHz | 1 Stream 1TX                    | 5825            | 22.33                      | 82            | Nss1MCS0        |
| Ant.1+2+3, CDD              | 802.11ac20MHz | 1 Stream 3TX                    | 5745            | 26.29                      | 82            | Nss1MCS0        |
| Ant.1+2+3, CDD              | 802.11ac20MHz | 1 Stream 3TX                    | 5785            | 26.27                      | 82            | Nss1MCS0        |
| Ant.1+2+3, CDD              | 802.11ac20MHz | 1 Stream 3TX                    | 5825            | 26.29                      | 82            | Nss1MCS0        |
| Ant.1+2+3, CDD              | 802.11ac20MHz | 2 Stream 3TX                    | 5745            | 26.27                      | 82            | Nss2MCS0        |
| Ant.1+2+3, CDD              | 802.11ac20MHz | 2 Stream 3TX                    | 5785            | 26.23                      | 82            | Nss2MCS0        |
| Ant.1+2+3, CDD              | 802.11ac20MHz | 2 Stream 3TX                    | 5825            | 26.32                      | 82            | Nss2MCS0        |
| Ant.1+2+3, SDM              | 802.11ac20MHz | 3 Stream 3TX                    | 5745            | 28.79                      | 92            | Nss3MCS0        |
| Ant.1+2+3, SDM              | 802.11ac20MHz | 3 Stream 3TX                    | 5785            | 28.61                      | 92            | Nss3MCS0        |
| Ant.1+2+3, SDM              | 802.11ac20MHz | 3 Stream 3TX                    | 5825            | 28.59                      | 92            | Nss3MCS0        |
| Ant. 1                      | 802.11ac40MHz | 1 Stream 1TX                    | 5755            | 21.44                      | 82            | Nss1MCS0        |
| Ant. 1                      | 802.11ac40MHz | 1 Stream 1TX                    | 5795            | 21.43                      | 82            | Nss1MCS0        |
| Ant. 2                      | 802.11ac40MHz | 1 Stream 1TX                    | 5755            | 19.95                      | 82            | Nss1MCS0        |
| Ant. 2                      | 802.11ac40MHz | 1 Stream 1TX                    | 5795            | 19.97                      | 82            | Nss1MCS0        |
| Ant. 3                      | 802.11ac40MHz | 1 Stream 1TX                    | 5755            | 21.13                      | 82            | Nss1MCS0        |

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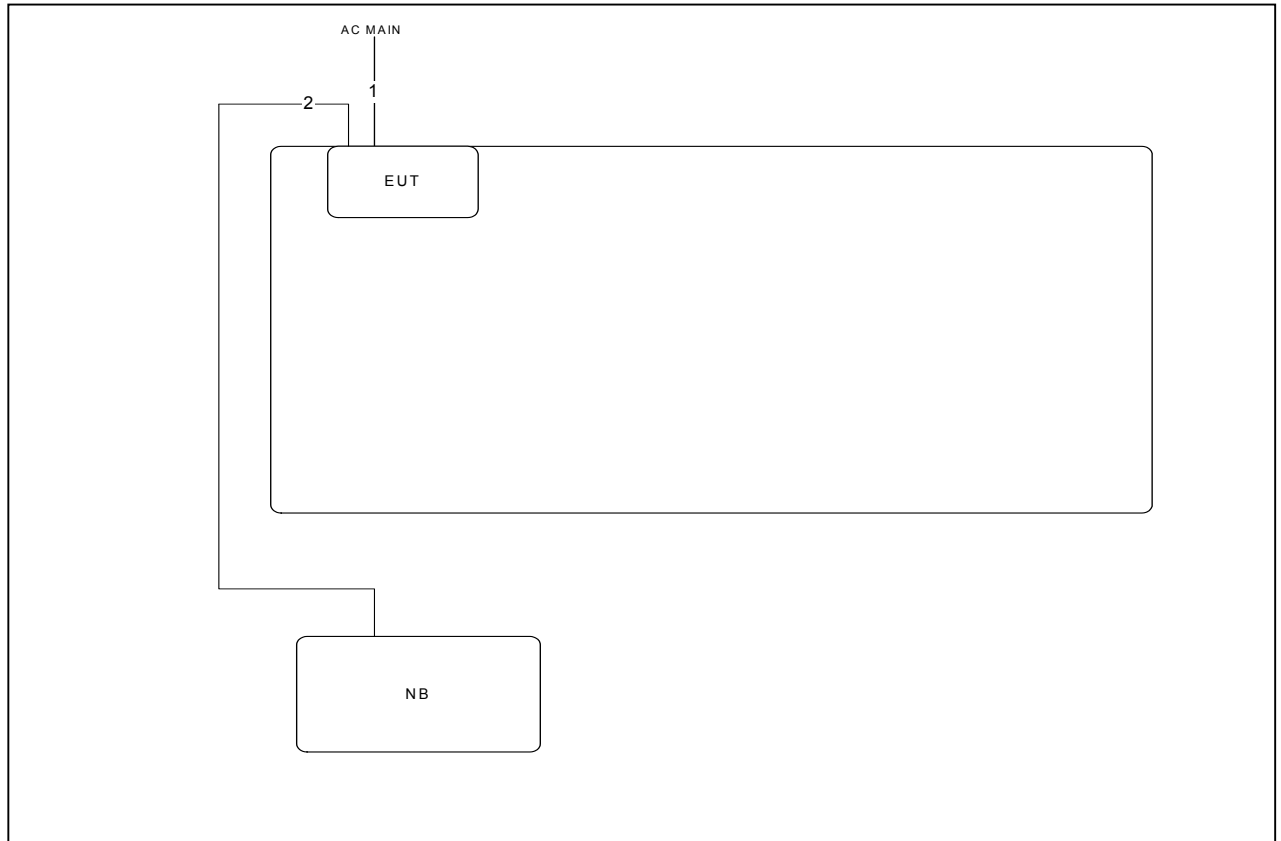
|                 |               |              |      |       |    |          |
|-----------------|---------------|--------------|------|-------|----|----------|
| Ant. 3          | 802.11ac40MHz | 1 Stream 1TX | 5795 | 21.02 | 82 | Nss1MCS0 |
| Ant. 1+2+3, CDD | 802.11ac40MHz | 1 Stream 3TX | 5755 | 25.35 | 82 | Nss1MCS0 |
| Ant. 1+2+3, CDD | 802.11ac40MHz | 1 Stream 3TX | 5795 | 25.40 | 82 | Nss1MCS0 |
| Ant. 1+2+3, CDD | 802.11ac40MHz | 2 Stream 3TX | 5755 | 25.43 | 82 | Nss2MCS0 |
| Ant. 1+2+3, CDD | 802.11ac40MHz | 2 Stream 3TX | 5795 | 25.40 | 82 | Nss2MCS0 |
| Ant. 1+2+3, SDM | 802.11ac40MHz | 3 Stream 3TX | 5755 | 27.42 | 90 | Nss3MCS0 |
| Ant. 1+2+3, SDM | 802.11ac40MHz | 3 Stream 3TX | 5795 | 27.84 | 92 | Nss3MCS0 |
| Ant. 1          | 802.11ac80MHz | 1 Stream 1TX | 5775 | 21.62 | 82 | Nss1MCS0 |
| Ant. 2          | 802.11ac80MHz | 1 Stream 1TX | 5775 | 20.80 | 82 | Nss1MCS0 |
| Ant. 3          | 802.11ac80MHz | 1 Stream 1TX | 5775 | 21.44 | 82 | Nss1MCS0 |
| Ant. 1+2+3, CDD | 802.11ac80MHz | 1 Stream 3TX | 5775 | 25.88 | 82 | Nss1MCS0 |
| Ant. 1+2+3, CDD | 802.11ac80MHz | 2 Stream 3TX | 5775 | 25.90 | 82 | Nss2MCS0 |
| Ant. 1+2+3, SDM | 802.11ac80MHz | 3 Stream 3TX | 5775 | 26.08 | 82 | Nss3MCS0 |

For Beamforming

| The Power Setting Parameter |               |                                 |                 |                            |               |                 |
|-----------------------------|---------------|---------------------------------|-----------------|----------------------------|---------------|-----------------|
| Power Level                 |               | 1                               |                 |                            |               |                 |
| Test Software Version       |               | MTOOL 2.0.1.0                   |                 |                            |               |                 |
| Worst Modulation Mode       |               | Number of Transmit Chains (NTX) | Frequency (MHz) | Maximum Output Power (dBm) | Power Setting | Data Rate / MCS |
| Ant. 1+2+3, CDD             | 802.11ac20MHz | 1 Stream 3TX                    | 5745            | 26.51                      | 82            | Nss1MCS0        |
| Ant. 1+2+3, CDD             | 802.11ac20MHz | 1 Stream 3TX                    | 5785            | 26.36                      | 82            | Nss1MCS0        |
| Ant. 1+2+3, CDD             | 802.11ac20MHz | 1 Stream 3TX                    | 5825            | 26.40                      | 82            | Nss1MCS0        |
| Ant. 1+2+3, CDD             | 802.11ac20MHz | 2 Stream 3TX                    | 5745            | 26.50                      | 82            | Nss2MCS0        |
| Ant. 1+2+3, CDD             | 802.11ac20MHz | 2 Stream 3TX                    | 5785            | 26.75                      | 82            | Nss2MCS0        |
| Ant. 1+2+3, CDD             | 802.11ac20MHz | 2 Stream 3TX                    | 5825            | 26.64                      | 82            | Nss2MCS0        |
| Ant. 1+2+3, CDD             | 802.11ac40MHz | 1 Stream 3TX                    | 5755            | 25.80                      | 82            | Nss1MCS0        |
| Ant. 1+2+3, CDD             | 802.11ac40MHz | 1 Stream 3TX                    | 5795            | 25.68                      | 82            | Nss1MCS0        |
| Ant. 1+2+3, CDD             | 802.11ac40MHz | 2 Stream 3TX                    | 5755            | 25.64                      | 82            | Nss2MCS0        |
| Ant. 1+2+3, CDD             | 802.11ac40MHz | 2 Stream 3TX                    | 5795            | 25.54                      | 82            | Nss2MCS0        |
| Ant. 1+2+3, CDD             | 802.11ac80MHz | 1 Stream 3TX                    | 5775            | 26.12                      | 82            | Nss1MCS0        |
| Ant. 1+2+3, CDD             | 802.11ac80MHz | 2 Stream 3TX                    | 5775            | 25.96                      | 82            | Nss2MCS0        |

## 2.10. Test Configuration

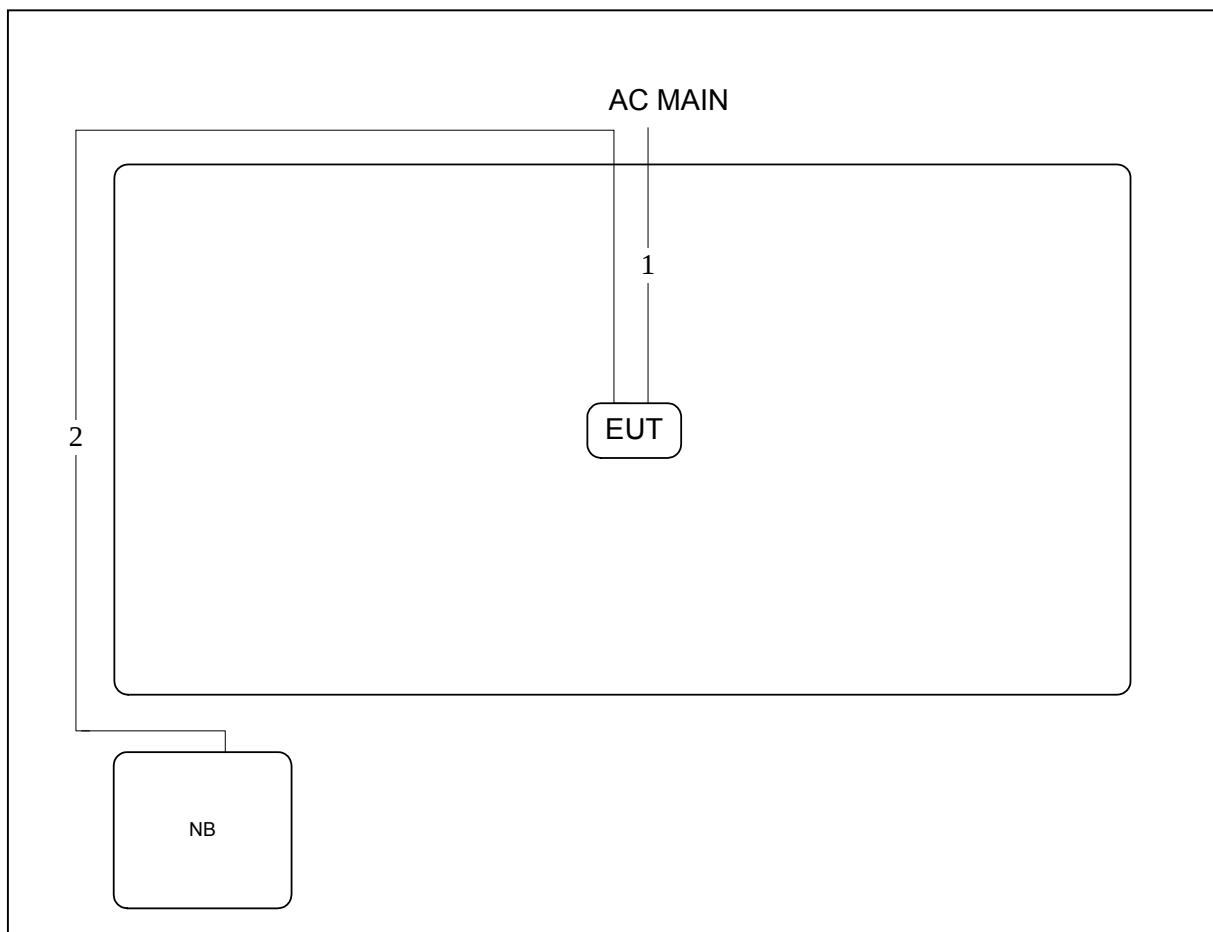
### 2.10.1. AC Power Line Conduction Emissions Test Configuration



| Item | Connection  | Shield | Length |
|------|-------------|--------|--------|
| 1    | Power cable | No     | 1.8M   |
| 2    | RJ-45 cable | No     | 10M    |

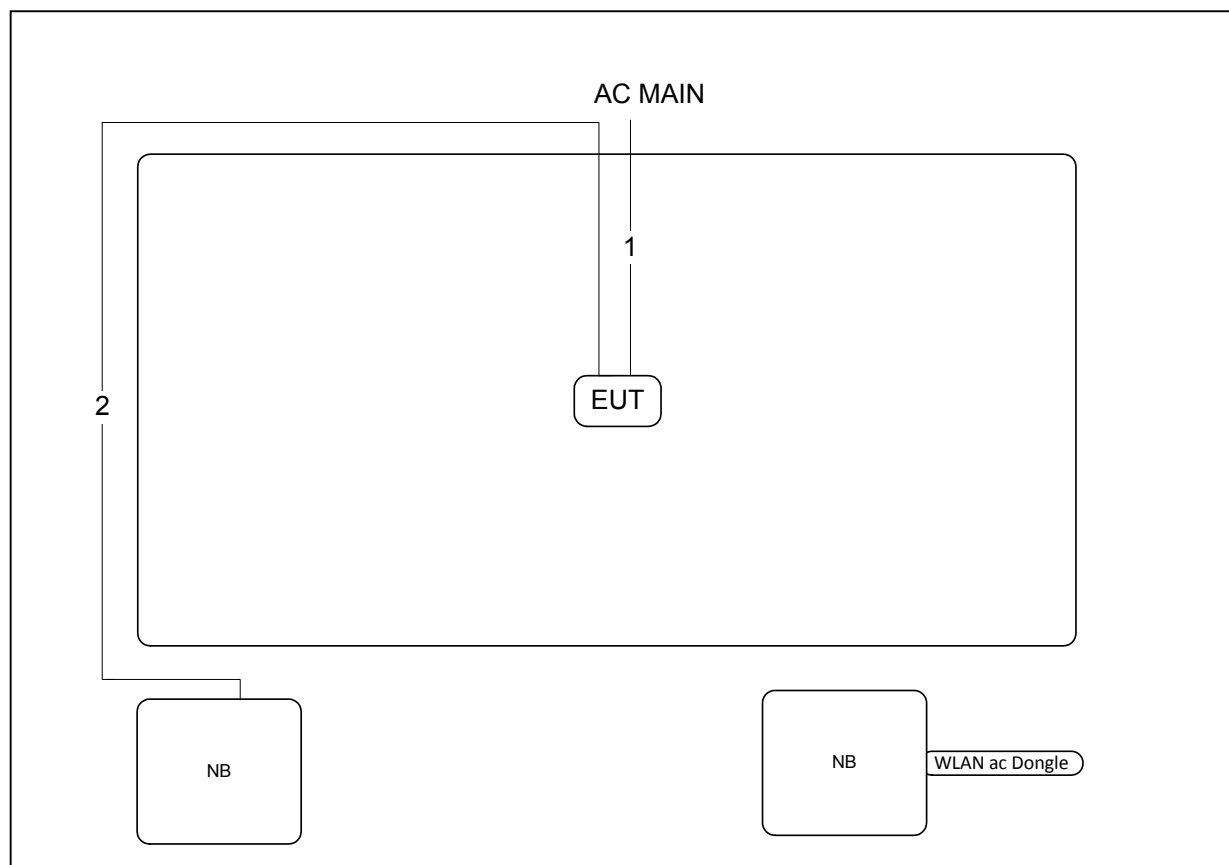
### 2.10.2. Radiation Emissions Test Configuration

For Non-Beamforming



| Item | Connection  | Shield | Length |
|------|-------------|--------|--------|
| 1    | Power cable | No     | 1.8M   |
| 2    | RJ-45 cable | No     | 10M    |

For Non-Beamforming



| Item | Connection  | Shield | Length |
|------|-------------|--------|--------|
| 1    | Power cable | No     | 1.8M   |
| 2    | RJ-45 cable | No     | 10M    |

### 3. THE 2.4G BAND TEST RESULT

#### 3.1. AC Power Line Conducted Emissions Measurement

##### 3.1.1. Limit

For this product which is designed to be connected to the AC power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed below limits table.

| Frequency (MHz) | QP Limit (dBuV) | AV Limit (dBuV) |
|-----------------|-----------------|-----------------|
| 0.15~0.5        | 66~56           | 56~46           |
| 0.5~5           | 56              | 46              |
| 5~30            | 60              | 50              |

##### 3.1.2. Measuring Instruments and Setting

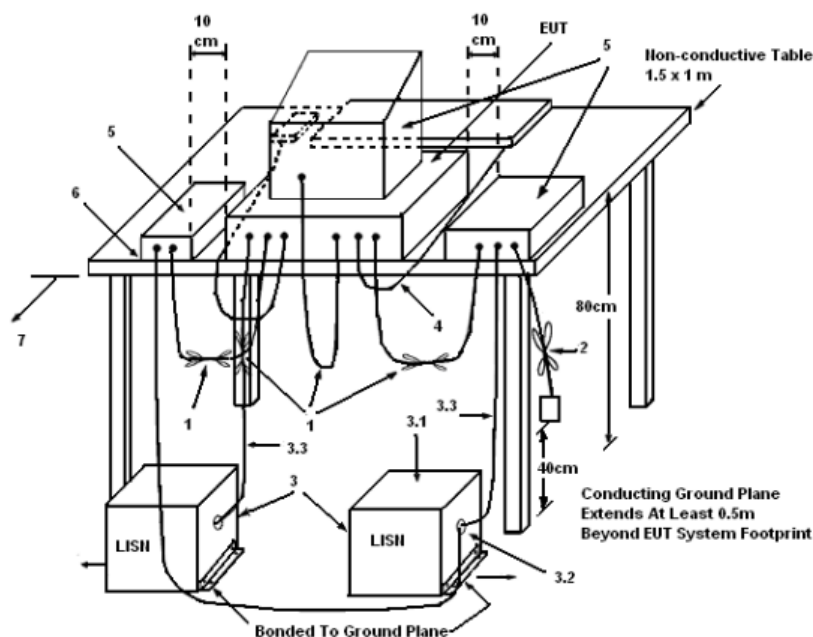
Please refer to section 6 of equipments list in this report. The following table is the setting of the receiver.

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

##### 3.1.3. Test Procedures

1. Configure the EUT according to ANSI C63.10. The EUT or host of EUT has to be placed 0.4 meter far from the conducting wall of the shielding room and at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT or host of EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connected to the other LISNs. The LISN should provide 50uH/50ohms coupling impedance.
4. The frequency range from 150 kHz to 30 MHz was searched.
5. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. The measurement has to be done between each power line and ground at the power terminal.

### 3.1.4. Test Setup Layout



LEGEND:

1. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
2. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
3. EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50  $\Omega$ . LISN can be placed on top of, or immediately beneath, reference ground plane.
4. All other equipment powered from additional LISN(s).
5. Multiple outlet strip can be used for multiple power cords of non-EUT equipment.
6. LISN at least 80 cm from nearest part of EUT chassis.
7. Cables of hand-operated devices, such as keyboards, mice, etc., shall be placed as for normal use.
8. Non-EUT components of EUT system being tested.
9. Rear of EUT, including peripherals, shall all be aligned and flush with rear of tabletop.
10. Rear of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.

### 3.1.5. Test Deviation

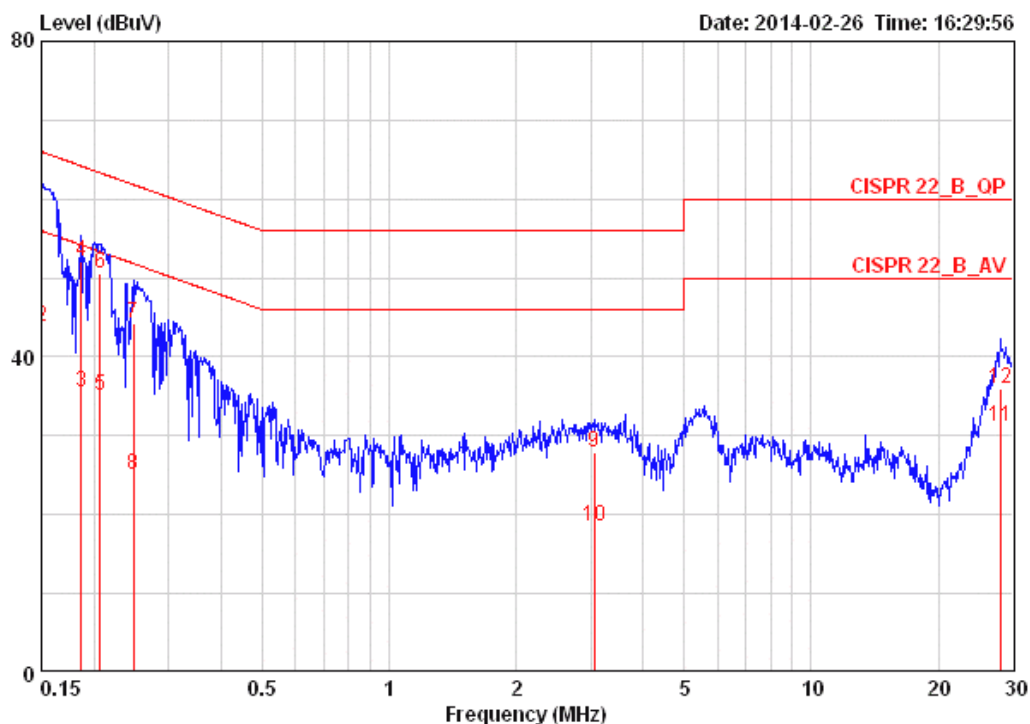
There is no deviation with the original standard.

### 3.1.6. EUT Operation during Test

The EUT was placed on the test table and programmed in normal function.

## 3.1.7. Results of AC Power Line Conducted Emissions Measurement

|               |             |          |      |
|---------------|-------------|----------|------|
| Temperature   | 24°C        | Humidity | 51%  |
| Test Engineer | Justin Chiu | Phase    | Line |
| Configuration | CTX         |          |      |



|     | Freq    | Level | Over   | Limit | LISN   | Read  | Cable |           |         |
|-----|---------|-------|--------|-------|--------|-------|-------|-----------|---------|
|     | MHz     | dBuV  | Limit  | Line  | Factor | Level | Loss  | Pol/Phase | Remark  |
|     |         |       | dB     | dBuV  | dB     | dBuV  | dB    |           |         |
| 1 @ | 0.15000 | 57.96 | -8.04  | 66.00 | 0.15   | 57.65 | 0.16  | LINE      | QP      |
| 2 @ | 0.15000 | 43.75 | -12.25 | 56.00 | 0.15   | 43.44 | 0.16  | LINE      | AVERAGE |
| 3   | 0.18640 | 35.45 | -18.74 | 54.20 | 0.15   | 35.14 | 0.16  | LINE      | AVERAGE |
| 4 @ | 0.18640 | 52.10 | -12.09 | 64.20 | 0.15   | 51.79 | 0.16  | LINE      | QP      |
| 5   | 0.20614 | 35.20 | -18.16 | 53.36 | 0.15   | 34.88 | 0.17  | LINE      | AVERAGE |
| 6 @ | 0.20614 | 50.68 | -12.68 | 63.36 | 0.15   | 50.36 | 0.17  | LINE      | QP      |
| 7   | 0.24814 | 44.17 | -17.65 | 61.82 | 0.15   | 43.85 | 0.17  | LINE      | QP      |
| 8   | 0.24814 | 25.09 | -26.73 | 51.82 | 0.15   | 24.77 | 0.17  | LINE      | AVERAGE |
| 9   | 3.058   | 27.85 | -28.15 | 56.00 | 0.24   | 27.33 | 0.28  | LINE      | QP      |
| 10  | 3.058   | 18.56 | -27.44 | 46.00 | 0.24   | 18.04 | 0.28  | LINE      | AVERAGE |
| 11  | 28.003  | 31.19 | -18.81 | 50.00 | 0.85   | 29.74 | 0.60  | LINE      | AVERAGE |
| 12  | 28.003  | 36.01 | -23.99 | 60.00 | 0.85   | 34.56 | 0.60  | LINE      | QP      |

Note 1: The test was passed at the minimum margin that marked by the frame in the following data

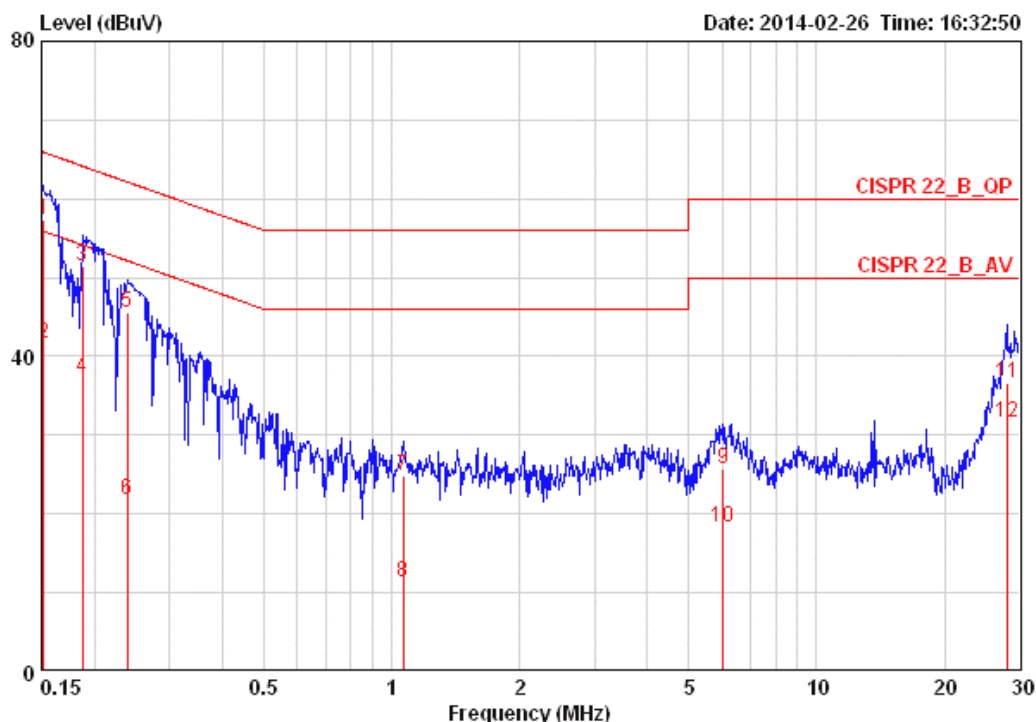
Note 2: The emission levels of other frequencies were very low against the limit.

Note 3: Q.P. and AV. are abbreviations of quasi-peak and average individually.

Note 4: Corrected Reading (dBuV) = LISN Factor + Cable Loss + Read Level = Level

Note 5: Over Limit value = level - Limit value

|               |             |          |         |
|---------------|-------------|----------|---------|
| Temperature   | 24°C        | Humidity | 51%     |
| Test Engineer | Justin Chiu | Phase    | Neutral |
| Configuration | CTX         |          |         |



|    | Freq    | Level | Over   | Limit | LISN   | Read  | Cable | Pol/Phase | Remark  |
|----|---------|-------|--------|-------|--------|-------|-------|-----------|---------|
|    | MHz     | dBuV  | Limit  | Line  | Factor | Level | Loss  |           |         |
|    |         |       | dB     | dBuV  | dB     | dBuV  | dB    |           |         |
| 1  | 0.15160 | 57.42 | -8.49  | 65.91 | 0.07   | 57.19 | 0.16  | NEUTRAL   | QP      |
| 2  | 0.15160 | 41.55 | -14.36 | 55.91 | 0.07   | 41.32 | 0.16  | NEUTRAL   | AVERAGE |
| 3  | 0.18739 | 51.48 | -12.67 | 64.15 | 0.07   | 51.25 | 0.16  | NEUTRAL   | QP      |
| 4  | 0.18739 | 37.32 | -16.83 | 54.15 | 0.07   | 37.09 | 0.16  | NEUTRAL   | AVERAGE |
| 5  | 0.23910 | 45.55 | -16.58 | 62.13 | 0.07   | 45.31 | 0.17  | NEUTRAL   | QP      |
| 6  | 0.23910 | 21.79 | -30.34 | 52.13 | 0.07   | 21.55 | 0.17  | NEUTRAL   | AVERAGE |
| 7  | 1.065   | 24.80 | -31.20 | 56.00 | 0.08   | 24.51 | 0.20  | NEUTRAL   | QP      |
| 8  | 1.065   | 11.25 | -34.75 | 46.00 | 0.08   | 10.96 | 0.20  | NEUTRAL   | AVERAGE |
| 9  | 6.024   | 25.74 | -34.26 | 60.00 | 0.18   | 25.23 | 0.34  | NEUTRAL   | QP      |
| 10 | 6.024   | 18.38 | -31.62 | 50.00 | 0.18   | 17.87 | 0.34  | NEUTRAL   | AVERAGE |
| 11 | 28.003  | 36.69 | -23.31 | 60.00 | 0.78   | 35.31 | 0.60  | NEUTRAL   | QP      |
| 12 | 28.003  | 31.71 | -18.29 | 50.00 | 0.78   | 30.33 | 0.60  | NEUTRAL   | AVERAGE |

Note 1: The test was passed at the minimum margin that marked by the frame in the following data

Note 2: The emission levels of other frequencies were very low against the limit.

Note 3: Q.P. and AV. are abbreviations of quasi-peak and average individually.

Note 4: Corrected Reading (dBuV) = LISN Factor + Cable Loss + Read Level = Level

Note 5: Over Limit value = level - Limit value

## 3.2. Maximum Conducted Output Power Measurement

### 3.2.1. Limit

For systems using digital modulation in the 2400-2483.5MHz, the limit for peak output power is 30dBm. The limited has to be reduced by the amount in dB that the gain of the antenna exceed 6dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

### 3.2.2. Measuring Instruments and Setting

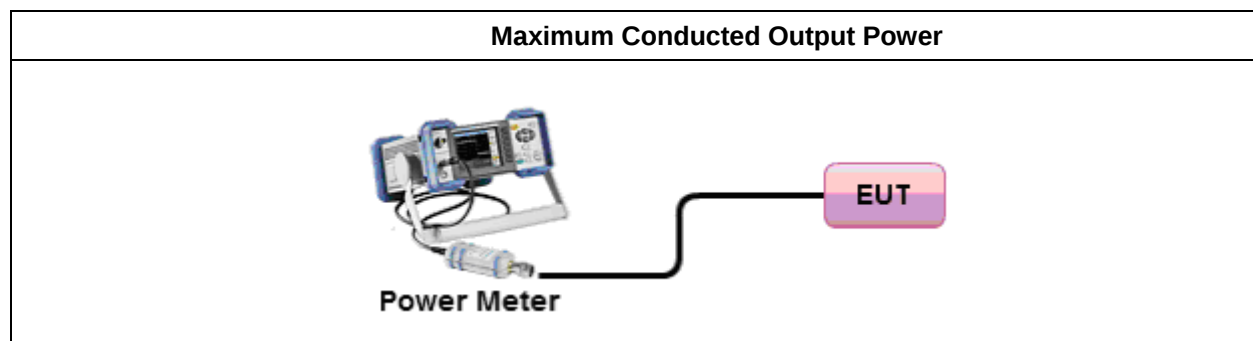
Please refer to section 6 of equipments list in this report. The following table is the setting of the power meter.

| Power Meter Parameter | Setting |
|-----------------------|---------|
| Detector              | Average |

### 3.2.3. Test Procedures

1. Test procedures refer KDB 662911 D01 v02r01 section 9.2.2 Measurement using a power meter (PM).
2. This procedure provides an alternative for determining the RMS output power using a broadband RF average power meter with a thermocouple detector.

### 3.2.4. Test Setup Layout



### 3.2.5. Test Deviation

There is no deviation with the original standard.

### 3.2.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

## 3.2.7. Test Result for Maximum Conducted Output Power

|               |                                      |               |         |
|---------------|--------------------------------------|---------------|---------|
| Test date     | Jan. 27, 2014                        | Test Site No. | TH01-CB |
| Temperature   | 26°C                                 | Humidity      | 63%     |
| Test Engineer | Magic Lai                            | Configuration | 802.11b |
| Duty Cycle    | Ant.1, 2, 3: 100%<br>Ant.1+2+3: 100% |               |         |

## Configuration IEEE 802.11b

## &lt;Ant. 1&gt;

| Channel | Frequency | Conducted Power (dBm) | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------------------|------------------|----------|
| 1       | 2412 MHz  | 26.09                 | 3.61               | 30.00            | Complies |
| 6       | 2437 MHz  | 26.12                 | 3.51               | 30.00            | Complies |
| 11      | 2462 MHz  | 26.08                 | 3.76               | 30.00            | Complies |

## &lt;Ant. 2&gt;

| Channel | Frequency | Conducted Power (dBm) | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------------------|------------------|----------|
| 1       | 2412 MHz  | 25.88                 | 4.30               | 30.00            | Complies |
| 6       | 2437 MHz  | 25.87                 | 3.87               | 30.00            | Complies |
| 11      | 2462 MHz  | 25.92                 | 3.74               | 30.00            | Complies |

## &lt;Ant. 3&gt;

| Channel | Frequency | Conducted Power (dBm) | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------------------|------------------|----------|
| 1       | 2412 MHz  | 26.01                 | 5.34               | 30.00            | Complies |
| 6       | 2437 MHz  | 26.02                 | 4.67               | 30.00            | Complies |
| 11      | 2462 MHz  | 26.11                 | 4.35               | 30.00            | Complies |

## &lt;Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Conducted Power (dBm) |        |        |       | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------|--------|-------|--------------------|------------------|----------|
|         |           | Ant. 1                | Ant. 2 | Ant. 3 | Total |                    |                  |          |
| 1       | 2412 MHz  | 22.89                 | 22.36  | 22.47  | 27.35 | 5.34               | 30.00            | Complies |
| 6       | 2437 MHz  | 22.44                 | 21.92  | 22.37  | 27.02 | 4.67               | 30.00            | Complies |
| 11      | 2462 MHz  | 22.51                 | 22.06  | 22.41  | 27.10 | 4.35               | 30.00            | Complies |

|               |                                          |               |         |
|---------------|------------------------------------------|---------------|---------|
| Test date     | Jan. 27, 2014                            | Test Site No. | TH01-CB |
| Temperature   | 26°C                                     | Humidity      | 63%     |
| Test Engineer | Magic Lai                                | Configuration | 802.11g |
| Duty Cycle    | Ant.1, 2, 3: 98.56%<br>Ant.1+2+3: 99.04% |               |         |

## Configuration IEEE 802.11g

## &lt;Ant. 1&gt;

| Channel | Frequency | Conducted Power (dBm) | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------------------|------------------|----------|
| 1       | 2412 MHz  | 21.78                 | 3.61               | 30.00            | Complies |
| 6       | 2437 MHz  | 25.57                 | 3.51               | 30.00            | Complies |
| 11      | 2462 MHz  | 21.41                 | 3.76               | 30.00            | Complies |

## &lt;Ant. 2&gt;

| Channel | Frequency | Conducted Power (dBm) | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------------------|------------------|----------|
| 1       | 2412 MHz  | 22.04                 | 4.30               | 30.00            | Complies |
| 6       | 2437 MHz  | 25.39                 | 3.87               | 30.00            | Complies |
| 11      | 2462 MHz  | 21.83                 | 3.74               | 30.00            | Complies |

## &lt;Ant. 3&gt;

| Channel | Frequency | Conducted Power (dBm) | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------------------|------------------|----------|
| 1       | 2412 MHz  | 20.92                 | 5.34               | 30.00            | Complies |
| 6       | 2437 MHz  | 25.50                 | 4.67               | 30.00            | Complies |
| 11      | 2462 MHz  | 21.61                 | 4.35               | 30.00            | Complies |

## &lt;Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Conducted Power (dBm) |        |        |       | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------|--------|-------|--------------------|------------------|----------|
|         |           | Ant. 1                | Ant. 2 | Ant. 3 | Total |                    |                  |          |
| 1       | 2412 MHz  | 19.87                 | 19.37  | 19.69  | 24.46 | 5.34               | 30.00            | Complies |
| 6       | 2437 MHz  | 23.35                 | 23.20  | 23.17  | 28.05 | 4.67               | 30.00            | Complies |
| 11      | 2462 MHz  | 19.41                 | 19.08  | 19.28  | 24.07 | 4.35               | 30.00            | Complies |

|               |                                                                                                                   |               |         |
|---------------|-------------------------------------------------------------------------------------------------------------------|---------------|---------|
| Test date     | Jan. 27, 2014                                                                                                     | Test Site No. | TH01-CB |
| Temperature   | 26°C                                                                                                              | Humidity      | 63%     |
| Test Engineer | Magic Lai                                                                                                         | Configuration | 802.11n |
| Duty Cycle    | Ant.1, 2, 3: 98.77%<br>MCS0, Ant.1+2+3, CDD: 98.77%<br>MCS8, Ant.1+2+3, CDD: 97%<br>MCS16, Ant.1+2+3, SDM: 97.10% |               |         |

## Configuration of IEEE 802.11n 20MHz

## &lt; MCS0, Ant. 1&gt;

| Channel | Frequency | Conducted Power (dBm) | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------------------|------------------|----------|
| 1       | 2412 MHz  | 20.16                 | 3.61               | 30.00            | Complies |
| 6       | 2437 MHz  | 25.54                 | 3.51               | 30.00            | Complies |
| 11      | 2462 MHz  | 20.65                 | 3.76               | 30.00            | Complies |

## &lt; MCS0, Ant. 2&gt;

| Channel | Frequency | Conducted Power (dBm) | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------------------|------------------|----------|
| 1       | 2412 MHz  | 21.49                 | 4.30               | 30.00            | Complies |
| 6       | 2437 MHz  | 25.31                 | 3.87               | 30.00            | Complies |
| 11      | 2462 MHz  | 21.23                 | 3.74               | 30.00            | Complies |

## &lt; MCS0, Ant. 3&gt;

| Channel | Frequency | Conducted Power (dBm) | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------------------|------------------|----------|
| 1       | 2412 MHz  | 19.89                 | 5.34               | 30.00            | Complies |
| 6       | 2437 MHz  | 25.58                 | 4.67               | 30.00            | Complies |
| 11      | 2462 MHz  | 20.49                 | 4.35               | 30.00            | Complies |

## &lt; MCS0, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Conducted Power (dBm) |        |        |       | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------|--------|-------|--------------------|------------------|----------|
|         |           | Ant. 1                | Ant. 2 | Ant. 3 | Total |                    |                  |          |
| 1       | 2412 MHz  | 19.15                 | 18.79  | 18.84  | 23.75 | 5.34               | 30.00            | Complies |
| 6       | 2437 MHz  | 23.31                 | 22.95  | 23.21  | 27.98 | 4.67               | 30.00            | Complies |
| 11      | 2462 MHz  | 19.18                 | 18.68  | 19.16  | 23.84 | 4.35               | 30.00            | Complies |

## &lt; MCS8, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Conducted Power (dBm) |        |        |       | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------|--------|-------|--------------------|------------------|----------|
|         |           | Ant. 1                | Ant. 2 | Ant. 3 | Total |                    |                  |          |
| 1       | 2412 MHz  | 19.52                 | 18.95  | 19.36  | 24.18 | 5.34               | 30.00            | Complies |
| 6       | 2437 MHz  | 24.08                 | 24.23  | 24.02  | 29.01 | 4.67               | 30.00            | Complies |
| 11      | 2462 MHz  | 19.51                 | 19.03  | 19.48  | 24.25 | 4.35               | 30.00            | Complies |

## &lt; MCS16, Ant. 1+2+3, SDM&gt;

| Channel | Frequency | Conducted Power (dBm) |        |        |       | Directional Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------|--------|-------|------------------------|------------------|----------|
|         |           | Ant. 1                | Ant. 2 | Ant. 3 | Total |                        |                  |          |
| 1       | 2412 MHz  | 18.92                 | 18.06  | 18.33  | 23.35 | 1.88                   | 30.00            | Complies |
| 6       | 2437 MHz  | 24.53                 | 24.11  | 24.43  | 29.26 | 1.41                   | 30.00            | Complies |
| 11      | 2462 MHz  | 18.62                 | 17.95  | 18.52  | 23.27 | 1.52                   | 30.00            | Complies |

|               |                                                                                                                      |               |         |
|---------------|----------------------------------------------------------------------------------------------------------------------|---------------|---------|
| Test date     | Jan. 27, 2014                                                                                                        | Test Site No. | TH01-CB |
| Temperature   | 26°C                                                                                                                 | Humidity      | 63%     |
| Test Engineer | Magic Lai                                                                                                            | Configuration | 802.11n |
| Duty Cycle    | Ant.1, 2, 3: 96.88%<br>MCS0, Ant.1+2+3, CDD: 97.92%<br>MCS8, Ant.1+2+3, CDD: 94.23%<br>MCS16, Ant.1+2+3, SDM: 92.10% |               |         |

## Configuration of IEEE 802.11n 40MHz

## &lt; MCS0, Ant. 1&gt;

| Channel | Frequency | Conducted Power (dBm) | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------------------|------------------|----------|
| 3       | 2422 MHz  | 19.54                 | 3.57               | 30.00            | Complies |
| 6       | 2437 MHz  | 22.60                 | 3.51               | 30.00            | Complies |
| 9       | 2452 MHz  | 19.52                 | 3.66               | 30.00            | Complies |

## &lt; MCS0, Ant. 2&gt;

| Channel | Frequency | Conducted Power (dBm) | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------------------|------------------|----------|
| 3       | 2422 MHz  | 19.10                 | 4.13               | 30.00            | Complies |
| 6       | 2437 MHz  | 22.35                 | 3.87               | 30.00            | Complies |
| 9       | 2452 MHz  | 19.54                 | 3.77               | 30.00            | Complies |

## &lt; MCS0, Ant. 3&gt;

| Channel | Frequency | Conducted Power (dBm) | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------------------|------------------|----------|
| 3       | 2422 MHz  | 19.25                 | 5.07               | 30.00            | Complies |
| 6       | 2437 MHz  | 22.02                 | 4.67               | 30.00            | Complies |
| 9       | 2452 MHz  | 18.92                 | 4.46               | 30.00            | Complies |

## &lt; MCS0, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Conducted Power (dBm) |        |        |       | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------|--------|-------|--------------------|------------------|----------|
|         |           | Ant. 1                | Ant. 2 | Ant. 3 | Total |                    |                  |          |
| 3       | 2422 MHz  | 16.88                 | 16.46  | 16.75  | 21.56 | 5.07               | 30.00            | Complies |
| 6       | 2437 MHz  | 20.44                 | 19.74  | 20.11  | 24.97 | 4.67               | 30.00            | Complies |
| 9       | 2452 MHz  | 17.16                 | 16.47  | 16.99  | 21.75 | 4.46               | 30.00            | Complies |

## &lt; MCS8, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Conducted Power (dBm) |        |        |       | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------|--------|-------|--------------------|------------------|----------|
|         |           | Ant. 1                | Ant. 2 | Ant. 3 | Total |                    |                  |          |
| 3       | 2422 MHz  | 17.96                 | 16.96  | 17.50  | 22.52 | 5.07               | 30.00            | Complies |
| 6       | 2437 MHz  | 21.44                 | 20.91  | 21.36  | 26.27 | 4.67               | 30.00            | Complies |
| 9       | 2452 MHz  | 18.33                 | 17.75  | 18.18  | 23.12 | 4.46               | 30.00            | Complies |

## &lt; MCS16, Ant. 1+2+3, SDM&gt;

| Channel | Frequency | Conducted Power (dBm) |        |        |       | Directional Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------|--------|-------|------------------------|------------------|----------|
|         |           | Ant. 1                | Ant. 2 | Ant. 3 | Total |                        |                  |          |
| 3       | 2422 MHz  | 16.64                 | 15.49  | 16.03  | 21.21 | 1.71                   | 30.00            | Complies |
| 6       | 2437 MHz  | 19.83                 | 19.00  | 19.61  | 24.62 | 1.41                   | 30.00            | Complies |
| 9       | 2452 MHz  | 16.66                 | 15.74  | 16.49  | 21.44 | 1.46                   | 30.00            | Complies |

### 3.3. Power Spectral Density Measurement

#### 3.3.1. Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

#### 3.3.2. Measuring Instruments and Setting

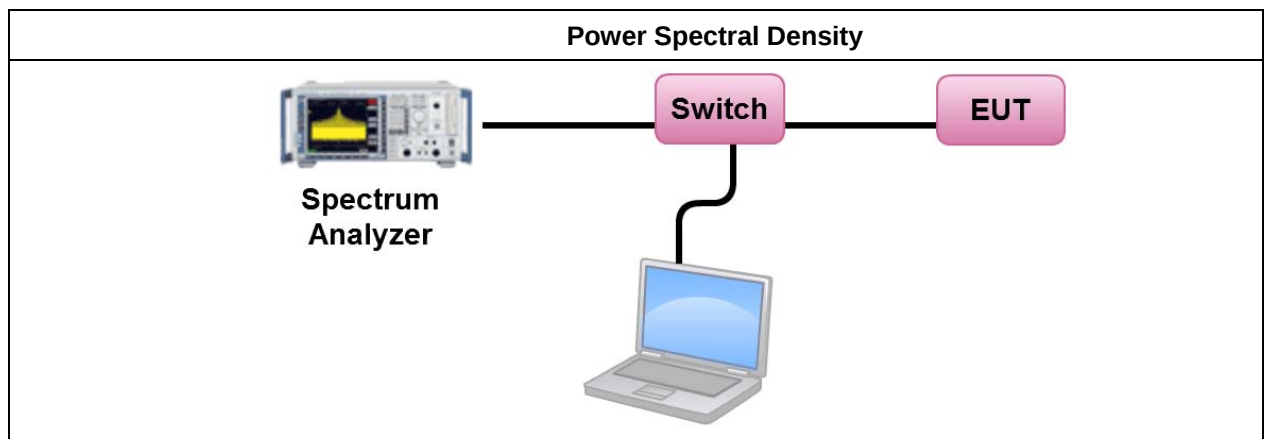
Please refer to section 6 of equipments list in this report. The following table is the setting of Spectrum Analyzer.

| Power Meter Parameter | Setting                                 |
|-----------------------|-----------------------------------------|
| Attenuation           | Auto                                    |
| Span Frequency        | Set span to at least 1.5 times the OBW. |
| RBW                   | 10 kHz                                  |
| VBW                   | 30 kHz                                  |
| Detector              | RMS                                     |
| Trace                 | Average                                 |
| Sweep Time            | Auto                                    |
| Trace Average         | 100 times                               |

#### 3.3.3. Test Procedures

1. The transmitter output (antenna port) was connected RF switch to the spectrum analyzer.
2. Test was performed in accordance with KDB 558074 D01 v03r02 for Compliance Testing of Digital Transmission Systems (DTS) Devices - Part 15, Subpart C => Method AVGPS-2 (trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).
3. Multiple antenna systems was performed in accordance KDB 662911 D01 v02 in-Band Power Spectral Density (PSD) Measurements (a) Measure and sum the spectra across the outputs (bin-by-bin summing).
4. When measuring first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3 and so on up to the Nth output to obtain the value for the first frequency bin of the summed spectrum. The summed spectrum value for each of the other frequency bins is computed in the same way.

### 3.3.4. Test Setup Layout



### 3.3.5. Test Deviation

There is no deviation with the original standard.

### 3.3.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

## 3.3.7. Test Result of Power Spectral Density

|               |                                      |               |         |
|---------------|--------------------------------------|---------------|---------|
| Test date     | Jan. 27, 2014                        | Test Site No. | TH01-CB |
| Temperature   | 26°C                                 | Humidity      | 63%     |
| Test Engineer | Magic Lai                            | Configuration | 802.11b |
| Duty Cycle    | Ant.1, 2, 3: 100%<br>Ant.1+2+3: 100% |               |         |

## Configuration IEEE 802.11b

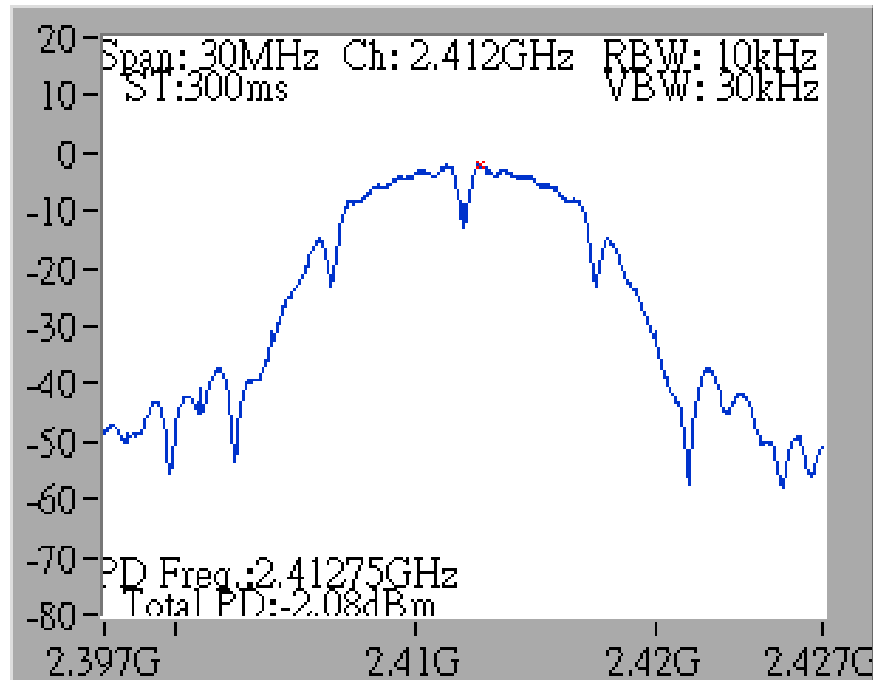
## &lt;Ant. 1&gt;

| Channel | Frequency | Total Power Density (dBm/10kHz) | Antenna Gain (dBi) | Max. Limit (dBm/10kHz) | Result   |
|---------|-----------|---------------------------------|--------------------|------------------------|----------|
| 1       | 2412 MHz  | -2.08                           | 3.61               | 8.00                   | Complies |
| 6       | 2437 MHz  | -2.10                           | 3.51               | 8.00                   | Complies |
| 11      | 2462 MHz  | -2.44                           | 3.76               | 8.00                   | Complies |

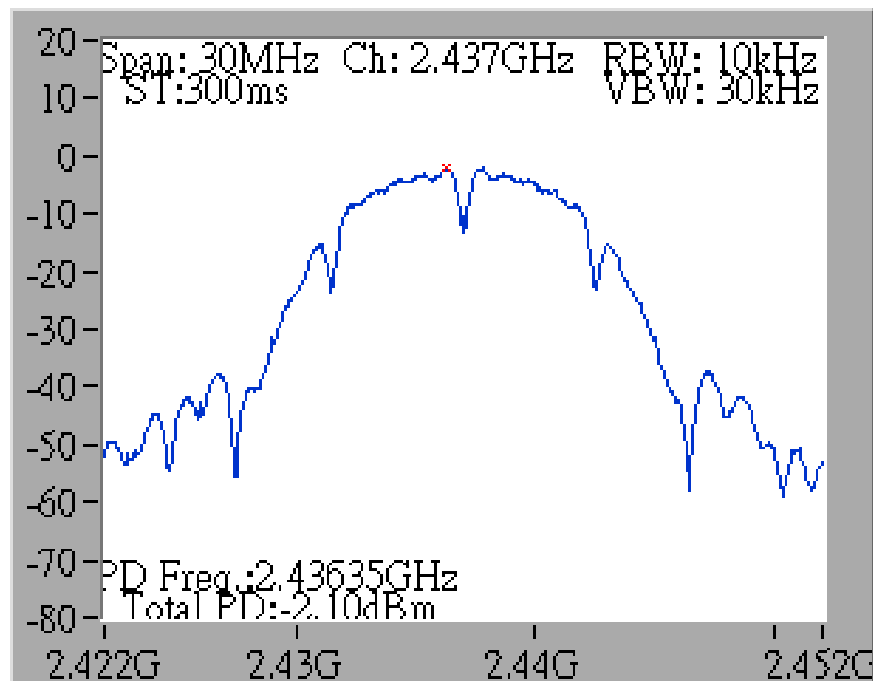
## &lt;Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Total Power Density (dBm/10kHz) | Antenna Gain (dBi) | Max. Limit (dBm/10kHz) | Result   |
|---------|-----------|---------------------------------|--------------------|------------------------|----------|
| 1       | 2412 MHz  | 2.44                            | 5.34               | 8.00                   | Complies |
| 6       | 2437 MHz  | -1.18                           | 4.67               | 8.00                   | Complies |
| 11      | 2462 MHz  | -1.23                           | 4.35               | 8.00                   | Complies |

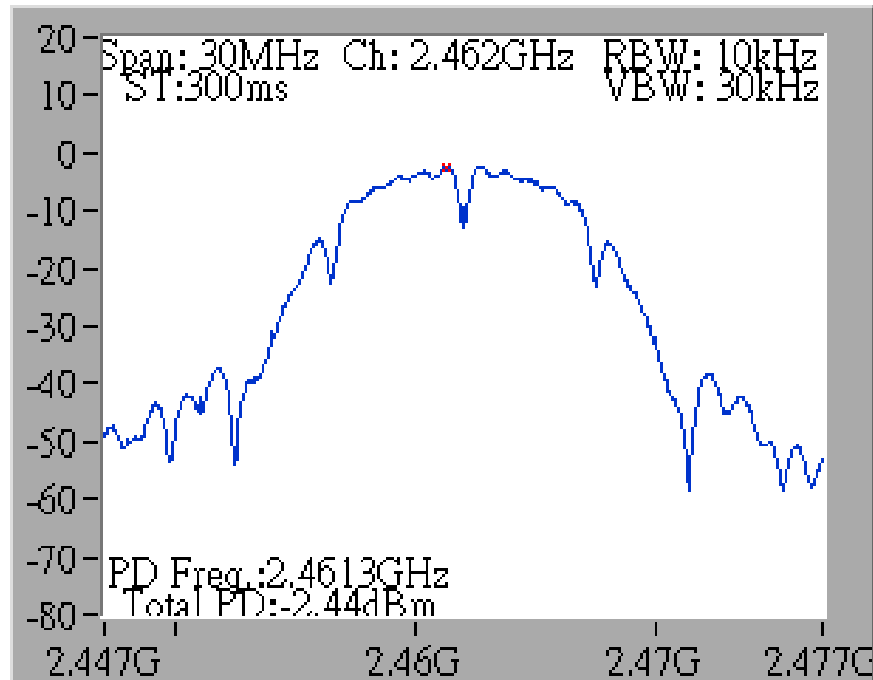
## Power Density Plot on Configuration IEEE 802.11b / CH 1 / Ant. 1



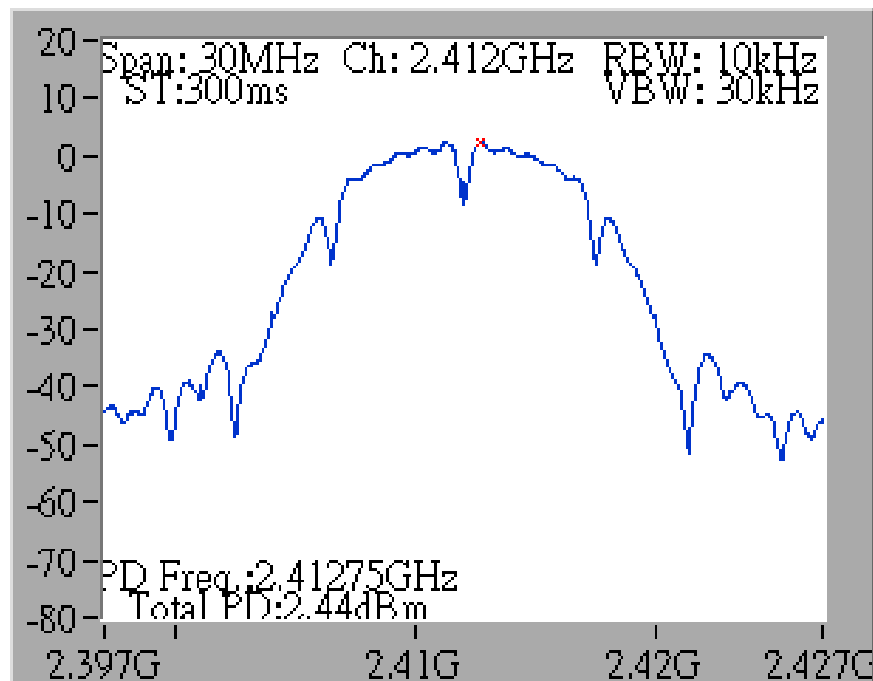
## Power Density Plot on Configuration IEEE 802.11b / CH 6 / Ant. 1



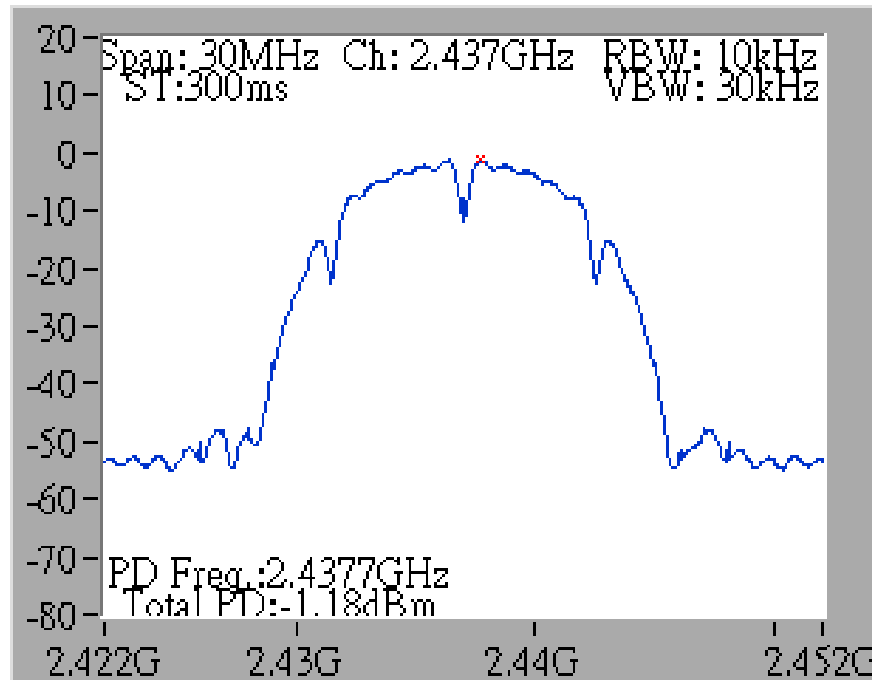
## Power Density Plot on Configuration IEEE 802.11b / CH 11 / Ant. 1



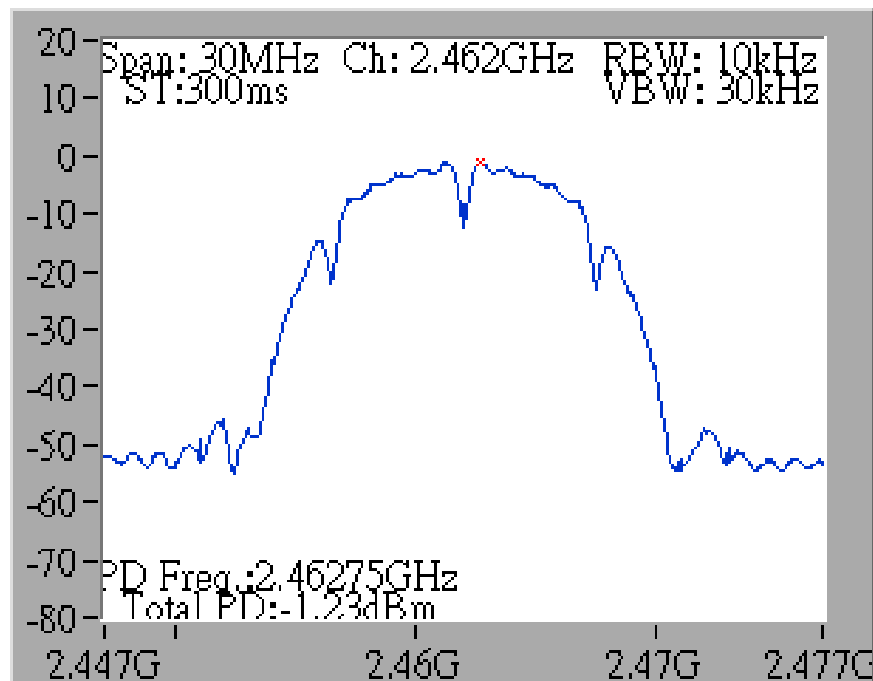
## Power Density Plot on Configuration IEEE 802.11b / CH 1 / Ant. 1+2+3



## Power Density Plot on Configuration IEEE 802.11b / CH 6 / Ant. 1+2+3



## Power Density Plot on Configuration IEEE 802.11b / CH 11 / Ant. 1+2+3



|               |                                          |               |         |
|---------------|------------------------------------------|---------------|---------|
| Test date     | Jan. 27, 2014                            | Test Site No. | TH01-CB |
| Temperature   | 26°C                                     | Humidity      | 63%     |
| Test Engineer | Magic Lai                                | Configuration | 802.11g |
| Duty Cycle    | Ant.1, 2, 3: 98.56%<br>Ant.1+2+3: 99.04% |               |         |

## Configuration IEEE 802.11g

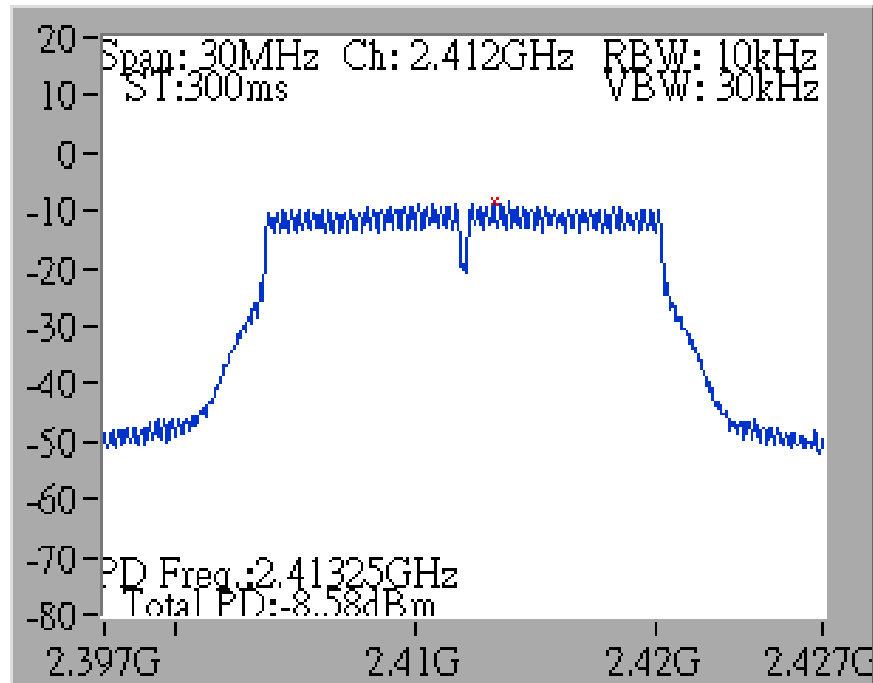
## &lt;Ant. 1&gt;

| Channel | Frequency | Total Power Density (dBm/10kHz) | Antenna Gain (dBi) | Max. Limit (dBm/10kHz) | Result   |
|---------|-----------|---------------------------------|--------------------|------------------------|----------|
| 1       | 2412 MHz  | -8.58                           | 3.61               | 8.00                   | Complies |
| 6       | 2437 MHz  | -4.62                           | 3.51               | 8.00                   | Complies |
| 11      | 2462 MHz  | -8.78                           | 3.76               | 8.00                   | Complies |

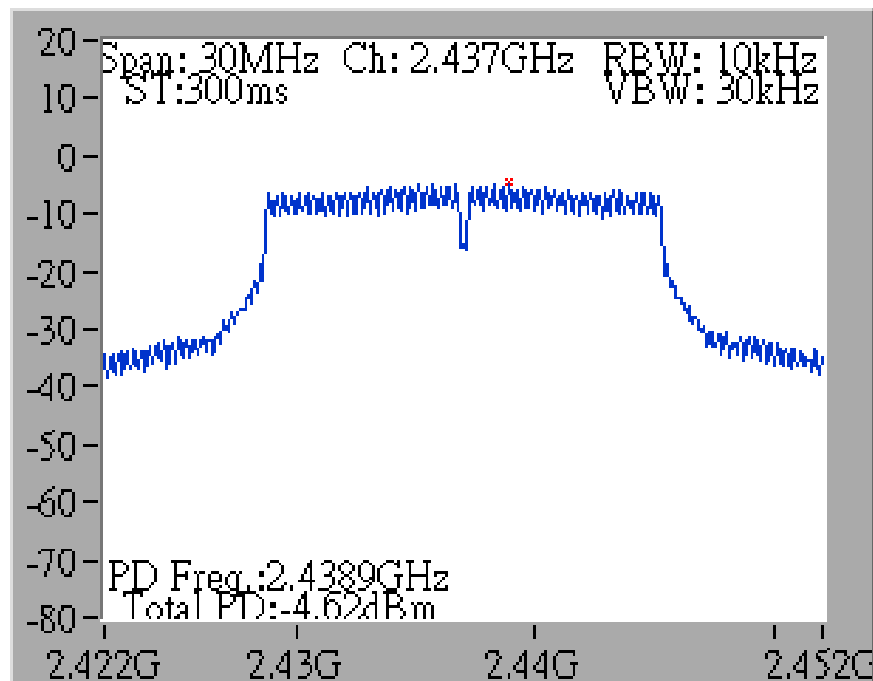
## &lt;Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Total Power Density (dBm/10kHz) | Antenna Gain (dBi) | Max. Limit (dBm/10kHz) | Result   |
|---------|-----------|---------------------------------|--------------------|------------------------|----------|
| 1       | 2412 MHz  | -6.02                           | 5.34               | 8.00                   | Complies |
| 6       | 2437 MHz  | -0.64                           | 4.67               | 8.00                   | Complies |
| 11      | 2462 MHz  | -6.38                           | 4.35               | 8.00                   | Complies |

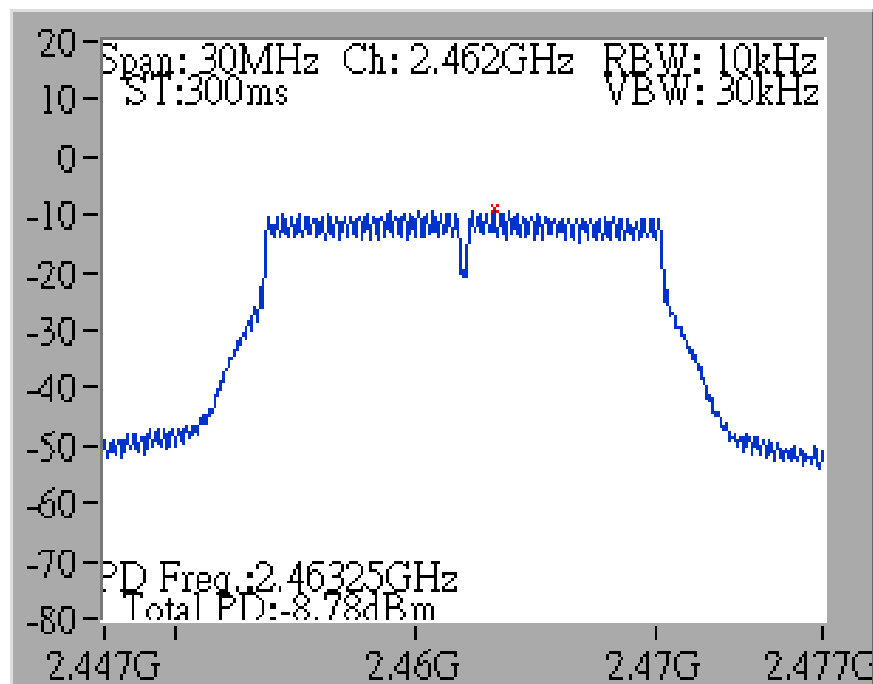
## Power Density Plot on Configuration IEEE 802.11g / CH 1 / Ant. 1



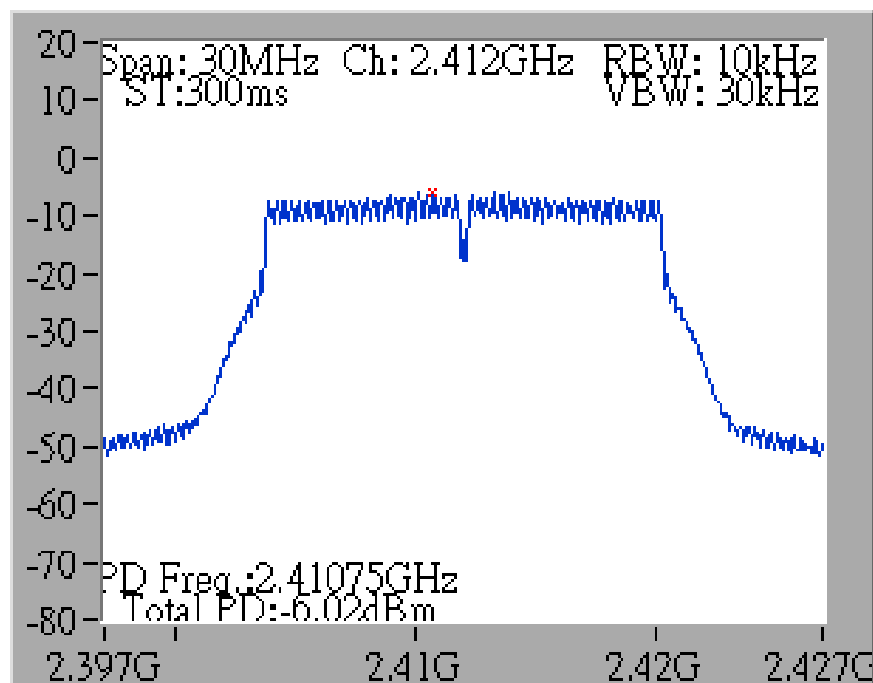
## Power Density Plot on Configuration IEEE 802.11g / CH 6 / Ant. 1



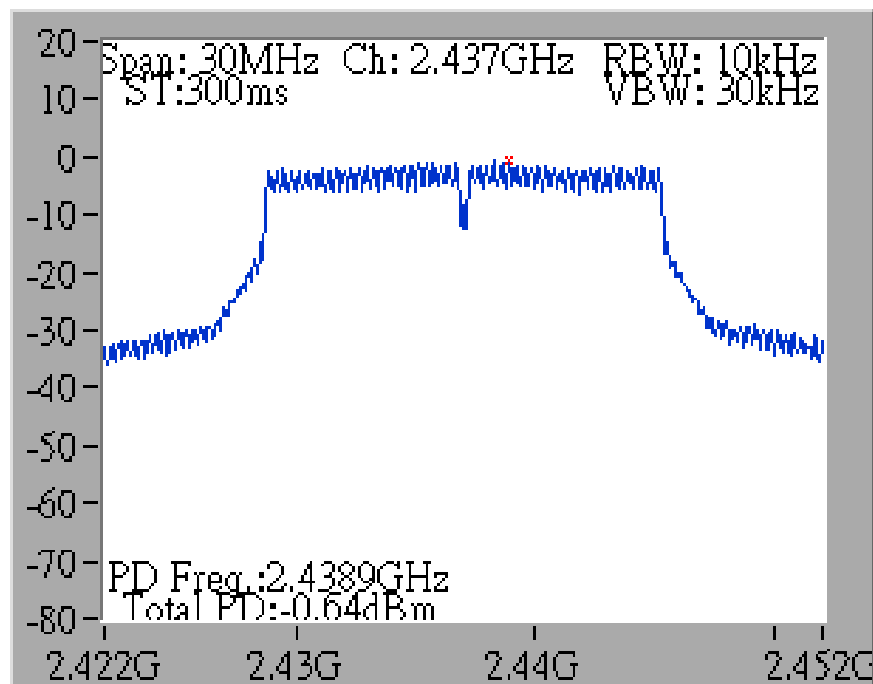
## Power Density Plot on Configuration IEEE 802.11g / CH 11 / Ant. 1



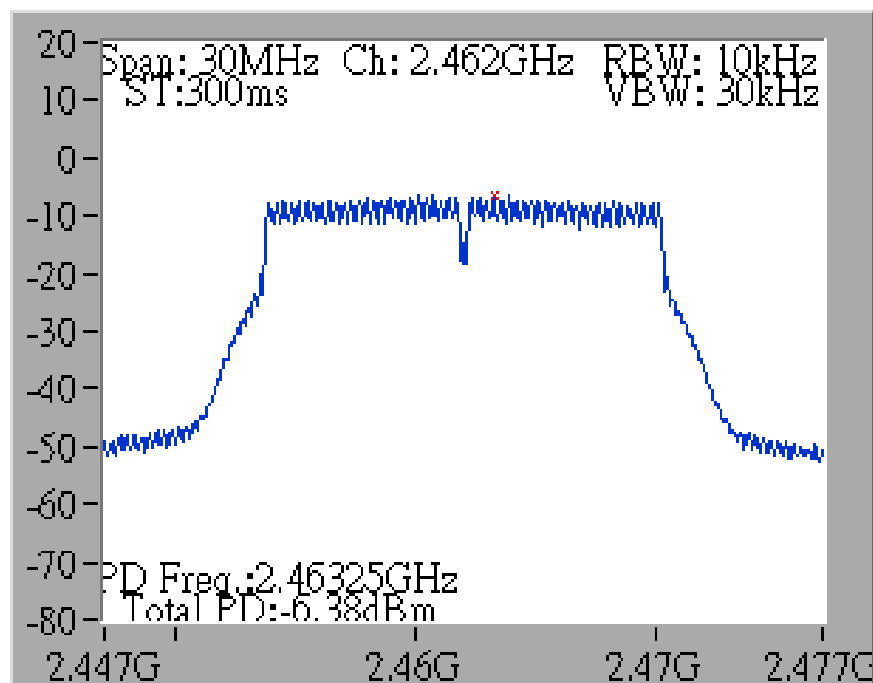
## Power Density Plot on Configuration IEEE 802.11g / CH 1 / Ant. 1+2+3



## Power Density Plot on Configuration IEEE 802.11g / CH 6 / Ant. 1+2+3



## Power Density Plot on Configuration IEEE 802.11g / CH 11 / Ant. 1+2+3



|               |                                                                                  |               |         |
|---------------|----------------------------------------------------------------------------------|---------------|---------|
| Test date     | Jan. 27, 2014                                                                    | Test Site No. | TH01-CB |
| Temperature   | 26°C                                                                             | Humidity      | 63%     |
| Test Engineer | Magic Lai                                                                        | Configuration | 802.11n |
| Duty Cycle    | Ant.1, 2, 3: 98.77%<br>MCS0, Ant.1+2+3, CDD: 98.77%<br>MCS8, Ant.1+2+3, CDD: 97% |               |         |

## Configuration IEEE 802.11n 20MHz

## &lt;MCS0, Ant. 3&gt;

| Channel | Frequency | Total Power Density (dBm/10kHz) | Antenna Gain (dBi) | Max. Limit (dBm/10kHz) | Result   |
|---------|-----------|---------------------------------|--------------------|------------------------|----------|
| 1       | 2412 MHz  | -11.07                          | 5.34               | 8.00                   | Complies |
| 6       | 2437 MHz  | -5.34                           | 4.67               | 8.00                   | Complies |
| 11      | 2462 MHz  | -10.71                          | 4.35               | 8.00                   | Complies |

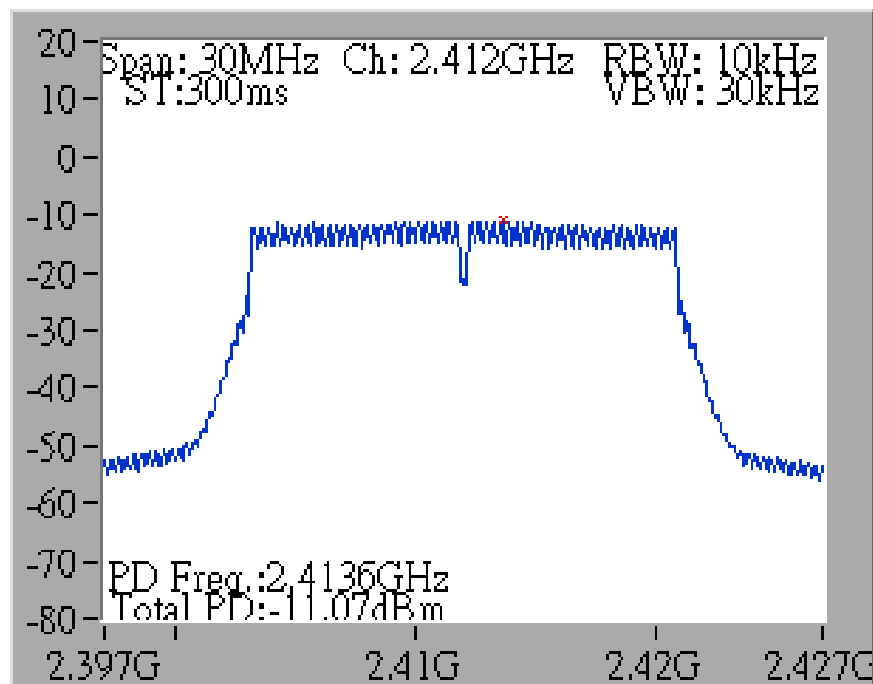
## &lt;MCS0, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Total Power Density (dBm/10kHz) | Antenna Gain (dBi) | Max. Limit (dBm/10kHz) | Result   |
|---------|-----------|---------------------------------|--------------------|------------------------|----------|
| 1       | 2412 MHz  | -7.40                           | 5.34               | 8.00                   | Complies |
| 6       | 2437 MHz  | -1.37                           | 4.67               | 8.00                   | Complies |
| 11      | 2462 MHz  | -7.63                           | 4.35               | 8.00                   | Complies |

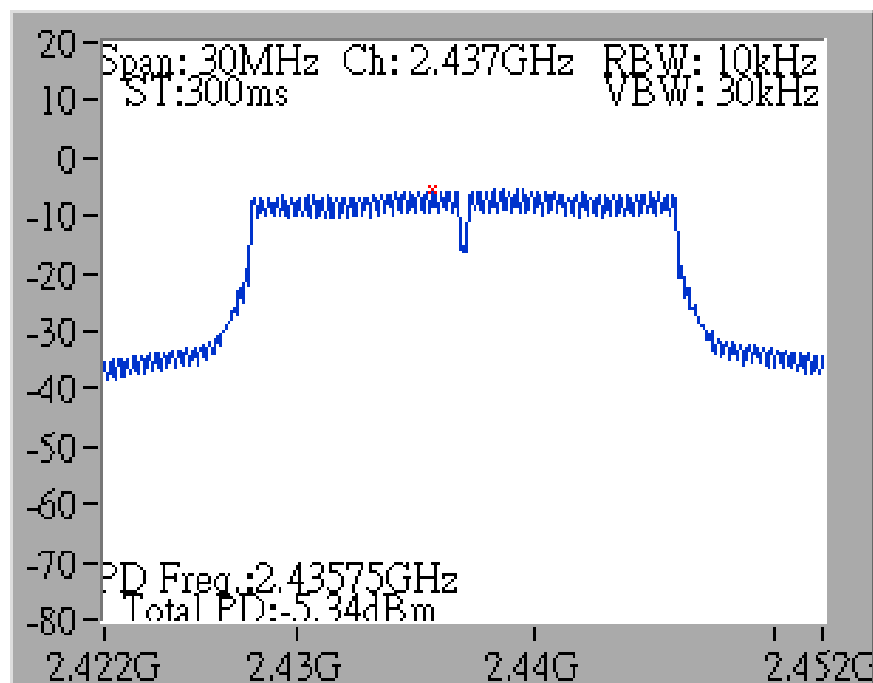
## &lt;MCS8, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Total Power Density (dBm/10kHz) | Antenna Gain (dBi) | Max. Limit (dBm/10kHz) | Result   |
|---------|-----------|---------------------------------|--------------------|------------------------|----------|
| 1       | 2412 MHz  | -6.36                           | 5.34               | 8.00                   | Complies |
| 6       | 2437 MHz  | -0.78                           | 4.67               | 8.00                   | Complies |
| 11      | 2462 MHz  | -6.43                           | 4.35               | 8.00                   | Complies |

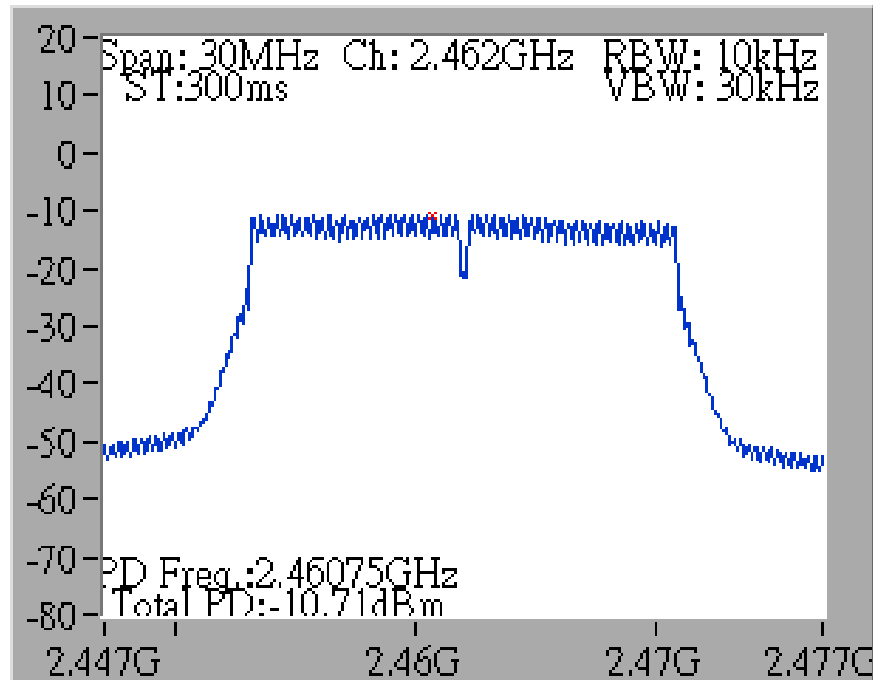
## Power Density Plot on Configuration of IEEE 802.11n 20MHz MCS0 / CH 1 / Ant. 3



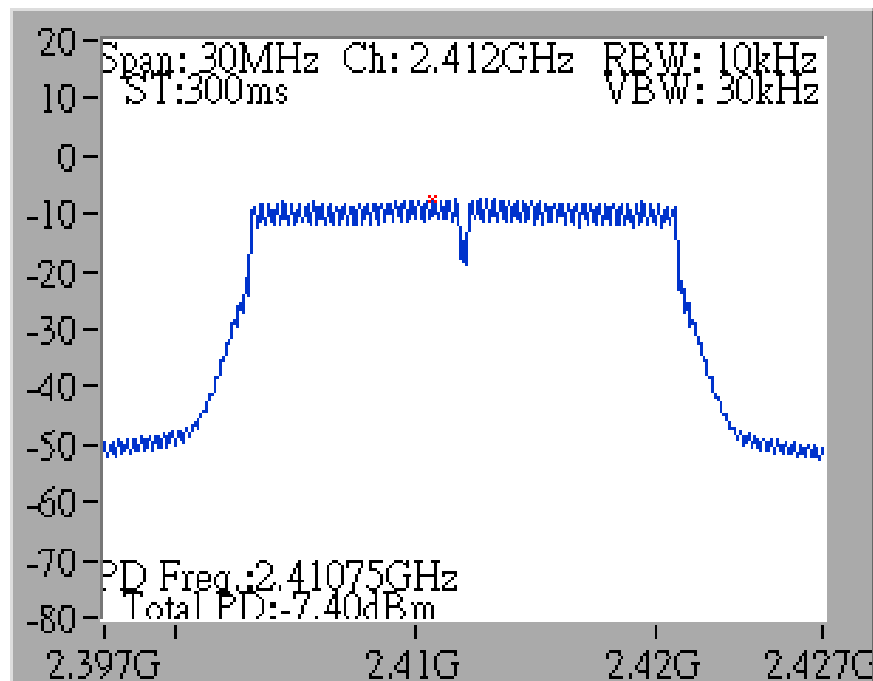
## Power Density Plot on Configuration of IEEE 802.11n 20MHz MCS0 / CH 6 / Ant. 3



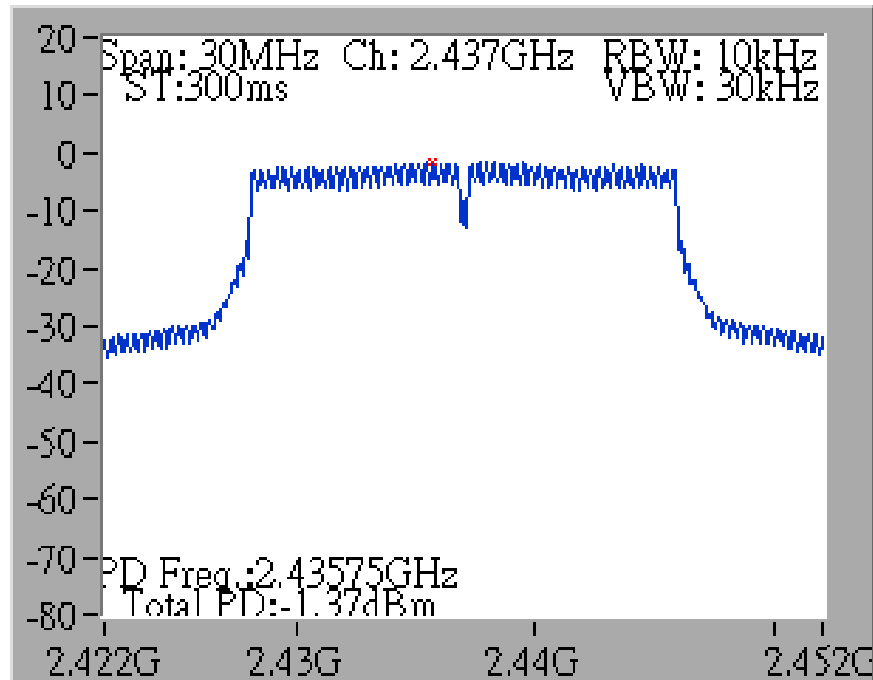
## Power Density Plot on Configuration of IEEE 802.11n 20MHz MCS0 / CH 11 / Ant. 3



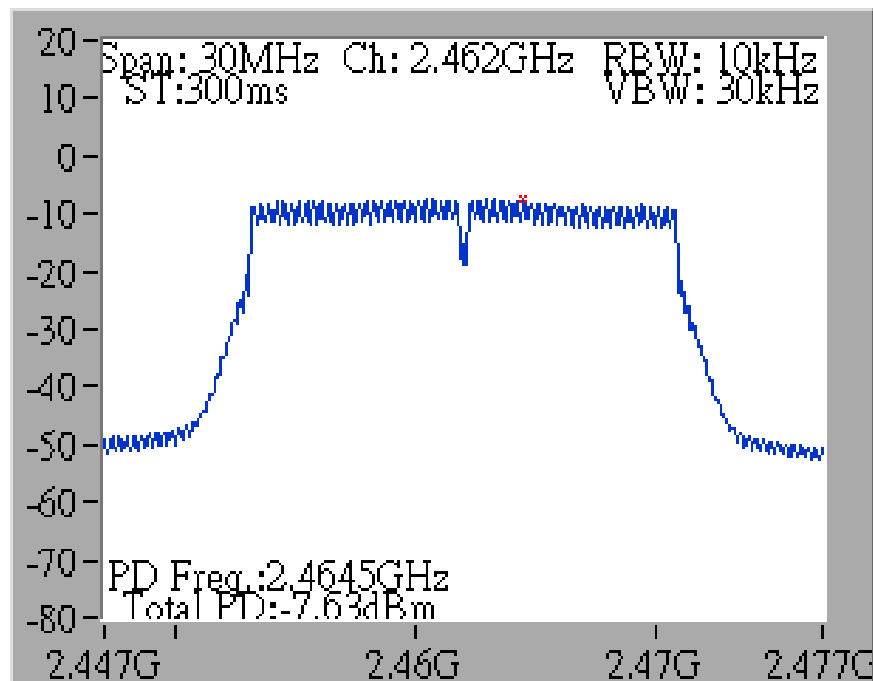
## Power Density Plot on Configuration of IEEE 802.11n 20MHz MCS0 / CH 1 / Ant. 1+2+3



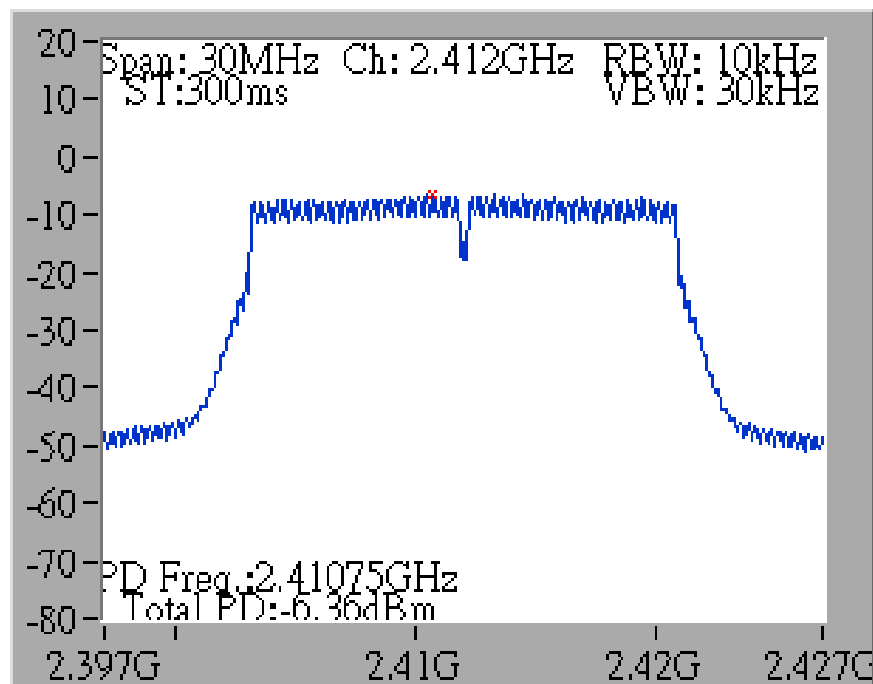
## Power Density Plot on Configuration of IEEE 802.11n 20MHz MCS0 / CH 6 / Ant. 1+2+3



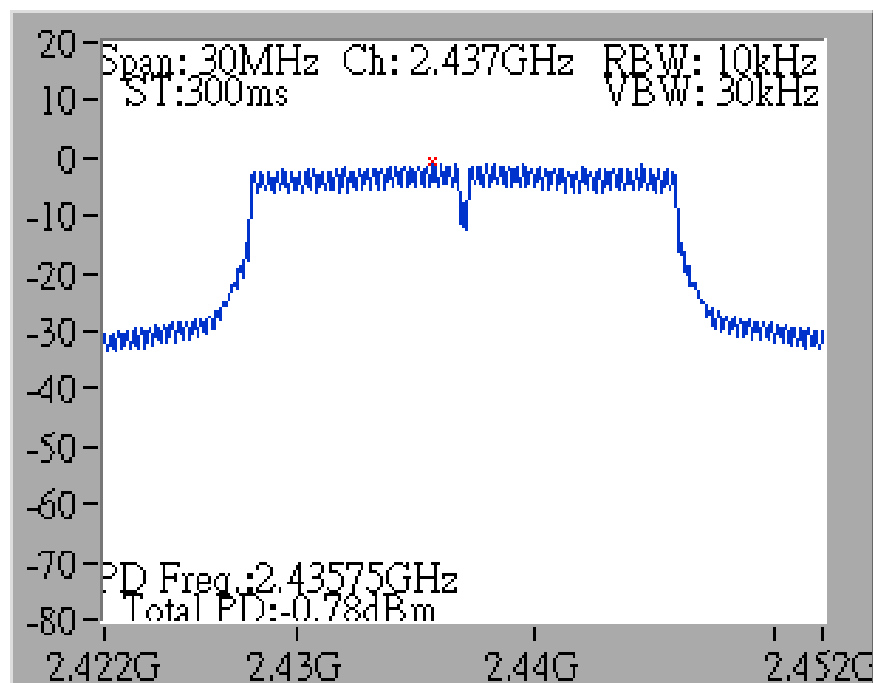
## Power Density Plot on Configuration of IEEE 802.11n 20MHz MCS0 / CH 11 / Ant. 1+2+3



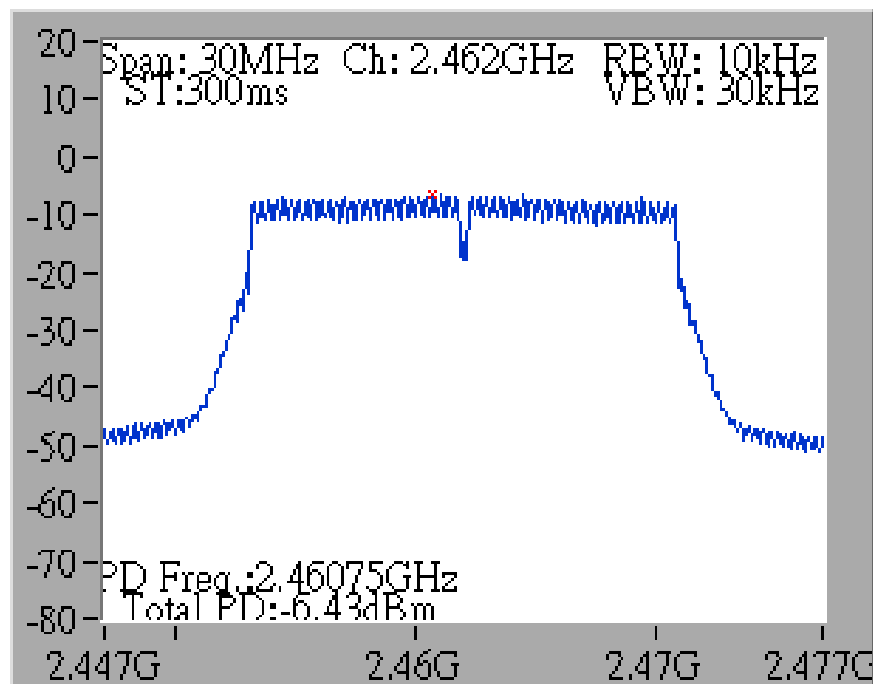
## Power Density Plot on Configuration of IEEE 802.11n 20MHz MCS8 / CH 1 / Ant. 1+2+3



## Power Density Plot on Configuration of IEEE 802.11n 20MHz MCS8 / CH 6 / Ant. 1+2+3



## Power Density Plot on Configuration of IEEE 802.11n 20MHz MCS8 / CH 11 / Ant. 1+2+3



|               |                                                                                     |               |         |
|---------------|-------------------------------------------------------------------------------------|---------------|---------|
| Test date     | Jan. 27, 2014                                                                       | Test Site No. | TH01-CB |
| Temperature   | 26°C                                                                                | Humidity      | 63%     |
| Test Engineer | Magic Lai                                                                           | Configuration | 802.11n |
| Duty Cycle    | Ant.1, 2, 3: 96.88%<br>MCS0, Ant.1+2+3, CDD: 97.92%<br>MCS8, Ant.1+2+3, CDD: 94.23% |               |         |

## Configuration IEEE 802.11n 40MHz

## &lt;MCS0, Ant. 1&gt;

| Channel | Frequency | Total Power Density (dBm/10kHz) | Antenna Gain (dBi) | Max. Limit (dBm/10kHz) | Result   |
|---------|-----------|---------------------------------|--------------------|------------------------|----------|
| 3       | 2422 MHz  | -14.80                          | 3.57               | 8.00                   | Complies |
| 6       | 2437 MHz  | -11.62                          | 3.51               | 8.00                   | Complies |
| 9       | 2452 MHz  | -14.42                          | 3.66               | 8.00                   | Complies |

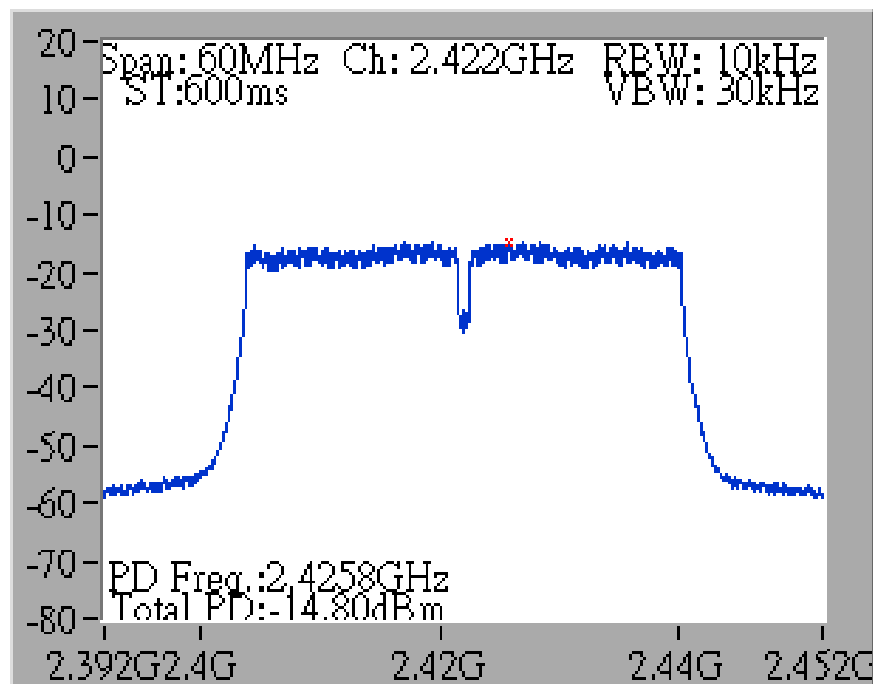
## &lt;MCS0, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Total Power Density (dBm/10kHz) | Antenna Gain (dBi) | Max. Limit (dBm/10kHz) | Result   |
|---------|-----------|---------------------------------|--------------------|------------------------|----------|
| 3       | 2422 MHz  | -12.63                          | 5.07               | 8.00                   | Complies |
| 6       | 2437 MHz  | -9.02                           | 4.67               | 8.00                   | Complies |
| 9       | 2452 MHz  | -12.39                          | 4.46               | 8.00                   | Complies |

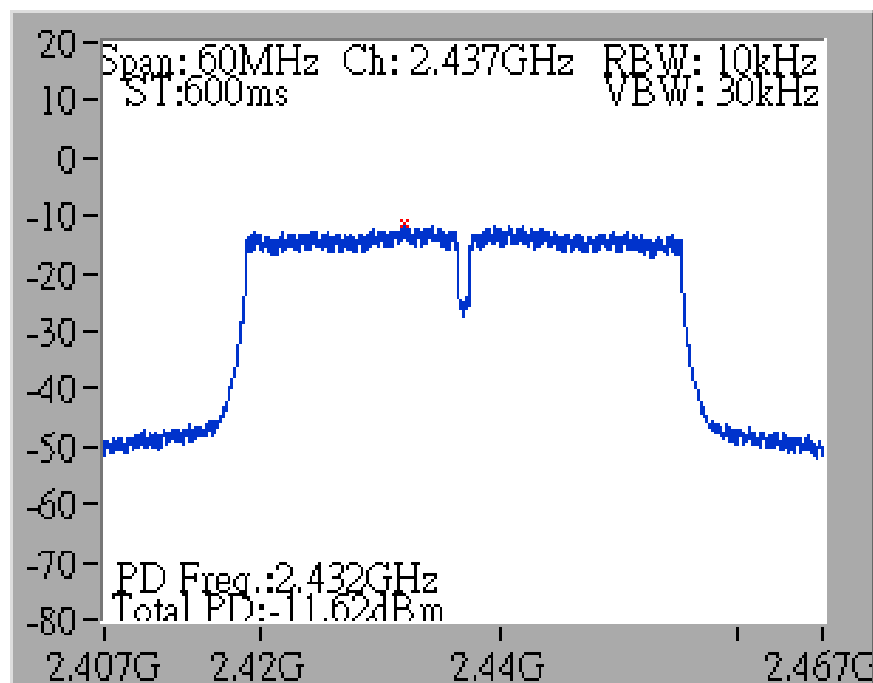
## &lt;MCS8, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Total Power Density (dBm/10kHz) | Antenna Gain (dBi) | Max. Limit (dBm/10kHz) | Result   |
|---------|-----------|---------------------------------|--------------------|------------------------|----------|
| 3       | 2422 MHz  | -10.63                          | 5.07               | 8.00                   | Complies |
| 6       | 2437 MHz  | -7.02                           | 4.67               | 8.00                   | Complies |
| 9       | 2452 MHz  | -10.29                          | 4.46               | 8.00                   | Complies |

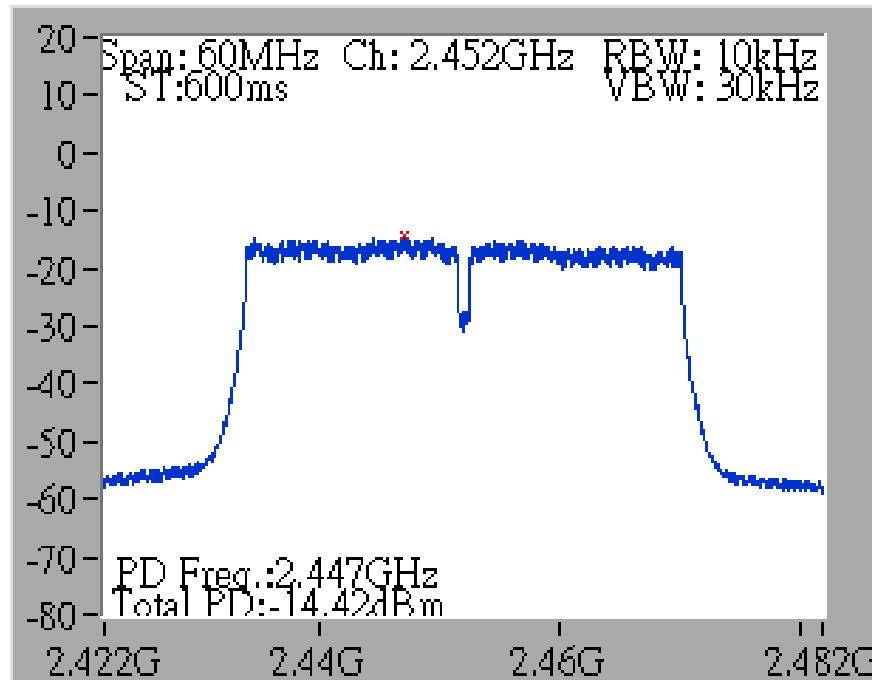
## Power Density Plot on Configuration of IEEE 802.11n 40MHz MCS0 / CH 3 / Ant. 1



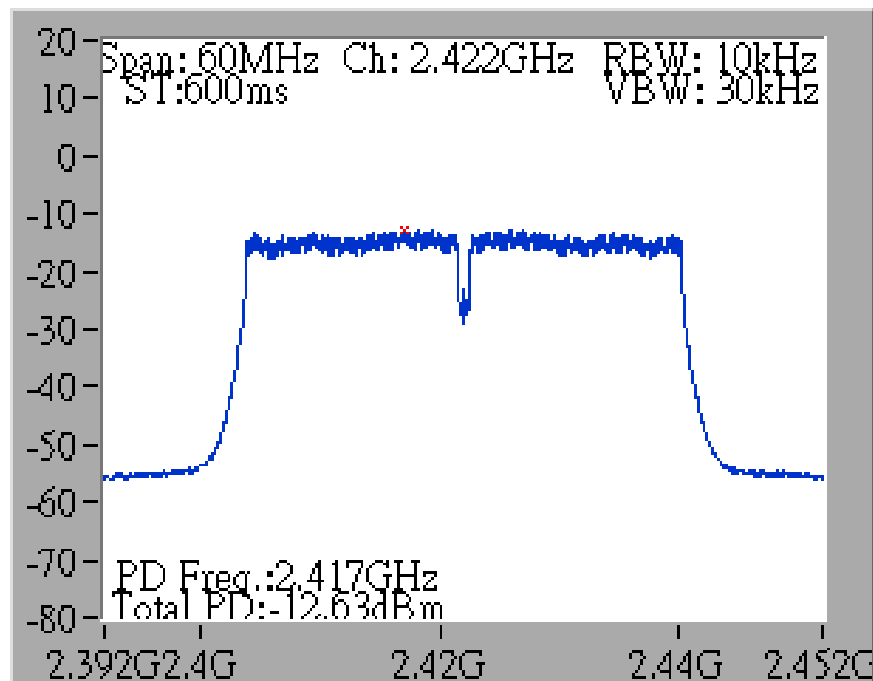
## Power Density Plot on Configuration of IEEE 802.11n 40MHz MCS0 / CH 6 / Ant. 1



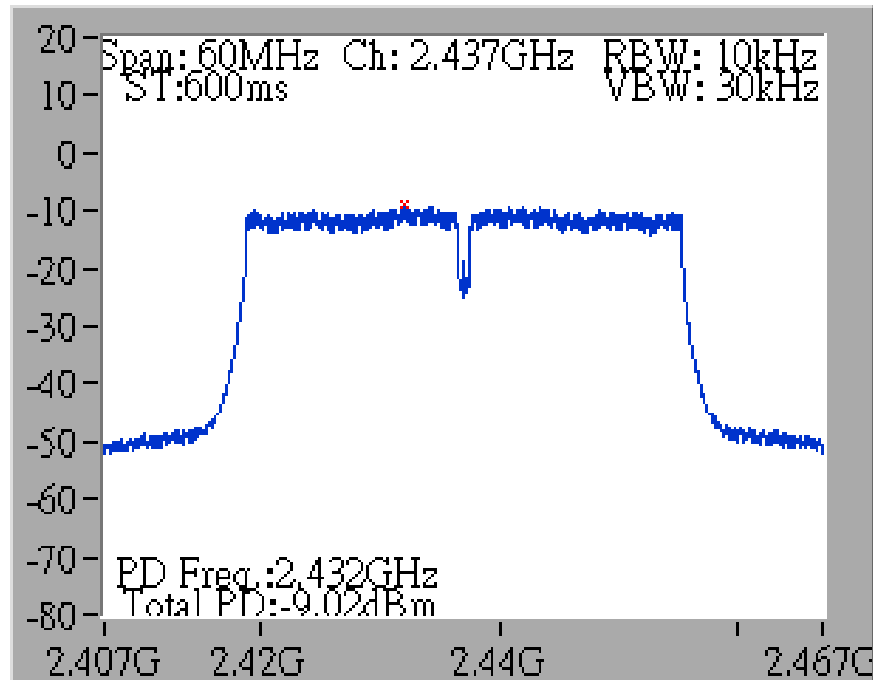
## Power Density Plot on Configuration of IEEE 802.11n 40MHz MCS0 / CH 9 / Ant. 1



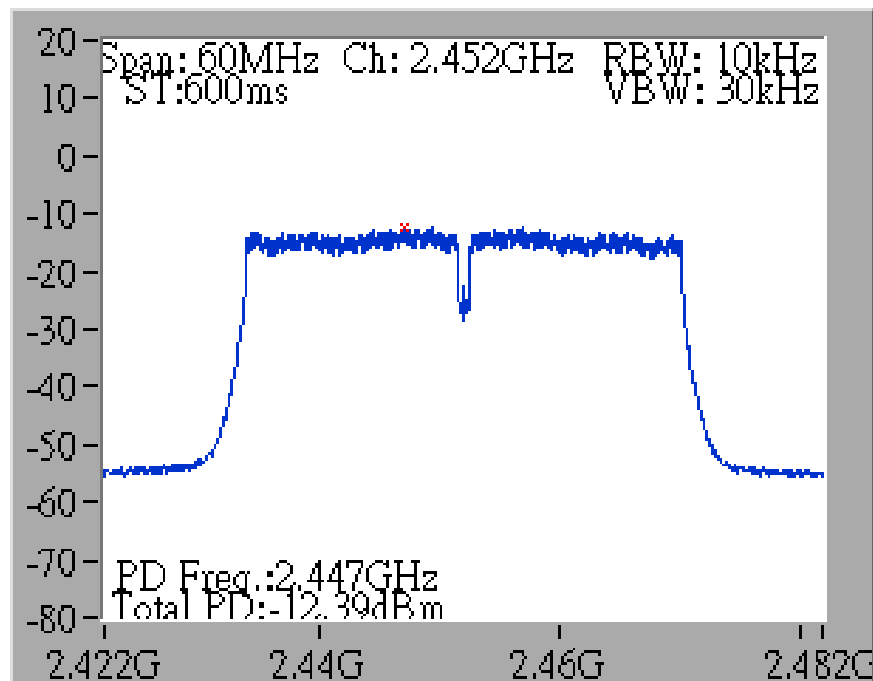
## Power Density Plot on Configuration of IEEE 802.11n 40MHz MCS0 / CH 3 / Ant. 1+2+3



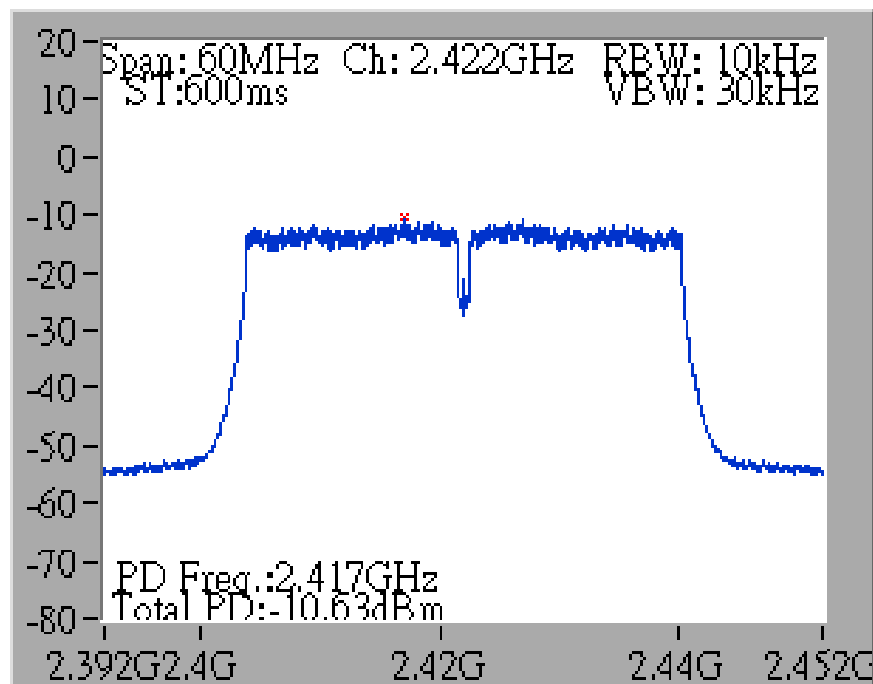
## Power Density Plot on Configuration of IEEE 802.11n 40MHz MCS0 / CH 6 / Ant. 1+2+3



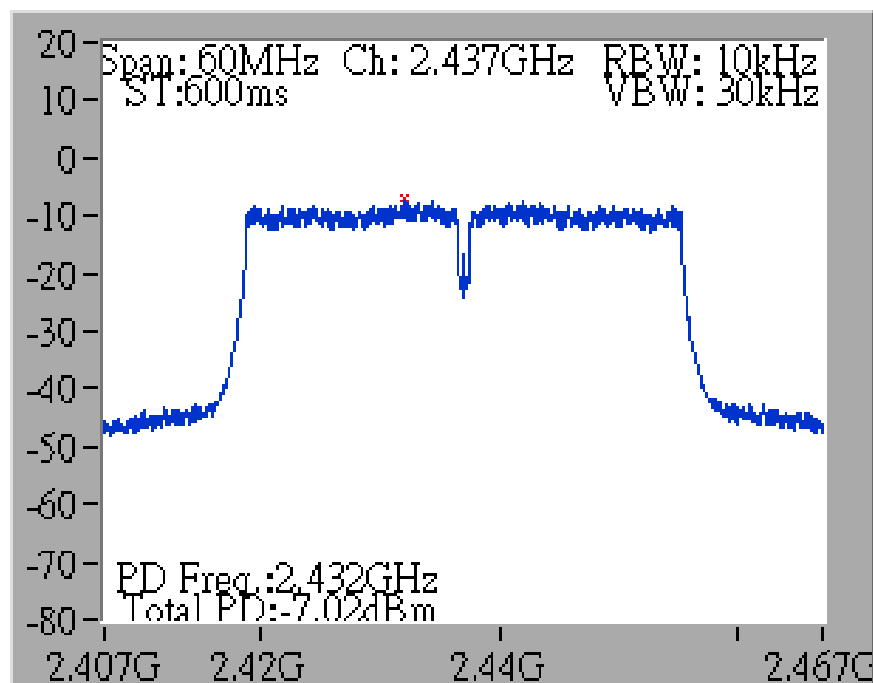
## Power Density Plot on Configuration of IEEE 802.11n 40MHz MCS0 / CH 9 / Ant. 1+2+3



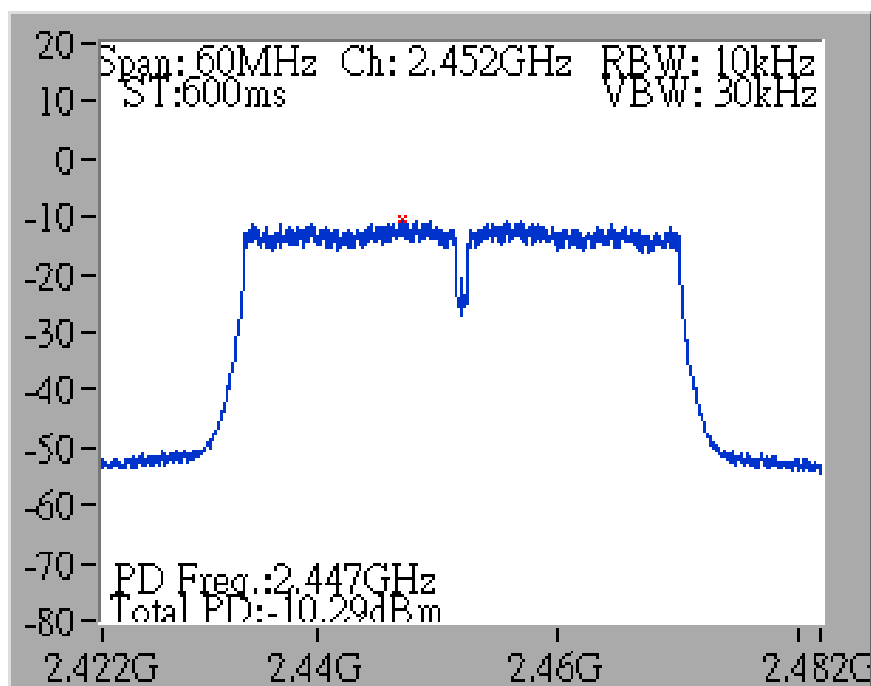
## Power Density Plot on Configuration of IEEE 802.11n 40MHz MCS8 / CH 3 / Ant. 1+2+3



## Power Density Plot on Configuration of IEEE 802.11n 40MHz MCS8 / CH 6 / Ant. 1+2+3



## Power Density Plot on Configuration of IEEE 802.11n 40MHz MCS8 / CH 9 / Ant. 1+2+3



### 3.4. 6dB Spectrum Bandwidth Measurement

#### 3.4.1. Limit

For digital modulation systems, the minimum 6dB bandwidth shall be at least 500 kHz.

#### 3.4.2. Measuring Instruments and Setting

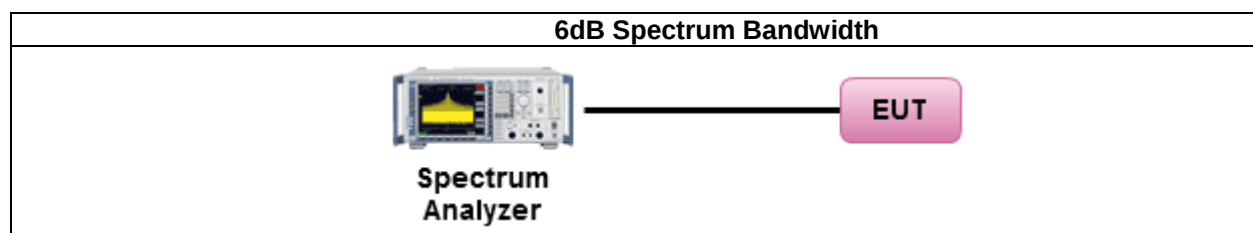
The following table is the setting of the spectrum analyzer.

| Spectrum Parameters | Setting                               |
|---------------------|---------------------------------------|
| Attenuation         | Auto                                  |
| Span Frequency      | > 6dB Bandwidth                       |
| RBW                 | 1-5 % of the emission bandwidth (EBW) |
| VBW                 | $\geq 3 \times \text{RBW}$            |
| Detector            | Peak                                  |
| Trace               | Max Hold                              |
| Sweep Time          | Auto                                  |

#### 3.4.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyzer in peak hold mode.
2. The resolution bandwidth of 1-5 % of the emission bandwidth (EBW) and the video bandwidth of  $\geq 3 \times \text{RBW}$  were used.
3. Measured the spectrum width with power higher than 6d account by this measurement.

#### 3.4.4. Test Setup Layout



#### 3.4.5. Test Deviation

There is no deviation with the original standard.

#### 3.4.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

## 3.4.7. Test Result of 6dB Spectrum Bandwidth

|               |                                      |               |         |
|---------------|--------------------------------------|---------------|---------|
| Test date     | Jan. 27, 2014                        | Test Site No. | TH01-CB |
| Temperature   | 26°C                                 | Humidity      | 63%     |
| Test Engineer | Magic Lai                            | Configuration | 802.11b |
| Duty Cycle    | Ant.1, 2, 3: 100%<br>Ant.1+2+3: 100% |               |         |

## Configuration IEEE 802.11b

## &lt;Ant. 1&gt;

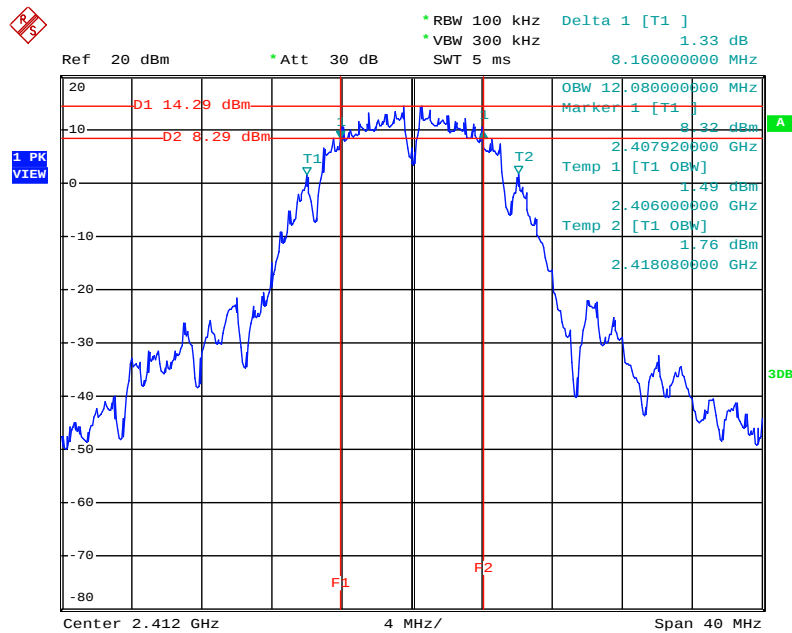
| Channel | Frequency | 6dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) | Min. Limit (kHz) | Test Result |
|---------|-----------|---------------------|------------------------------|------------------|-------------|
| 1       | 2412 MHz  | 8.16                | 12.08                        | 500              | Complies    |
| 6       | 2437 MHz  | 8.64                | 12.08                        | 500              | Complies    |
| 11      | 2462 MHz  | 8.64                | 12.16                        | 500              | Complies    |

## &lt;Ant. 1+2+3, CDD&gt;

| Channel | Frequency | 6dB Bandwidth (MHz) |        |        | 99% Occupied Bandwidth (MHz) |        |        | Min. Limit (kHz) | Test Result |
|---------|-----------|---------------------|--------|--------|------------------------------|--------|--------|------------------|-------------|
|         |           | Ant. 1              | Ant. 2 | Ant. 3 | Ant. 1                       | Ant. 2 | Ant. 3 |                  |             |
| 1       | 2412 MHz  | 8.56                | 8.48   | 8.08   | 12.08                        | 11.92  | 12.00  | 500              | Complies    |
| 6       | 2437 MHz  | 8.56                | 8.16   | 8.56   | 11.76                        | 11.76  | 11.76  | 500              | Complies    |
| 11      | 2462 MHz  | 9.04                | 8.56   | 8.56   | 11.84                        | 11.76  | 11.92  | 500              | Complies    |

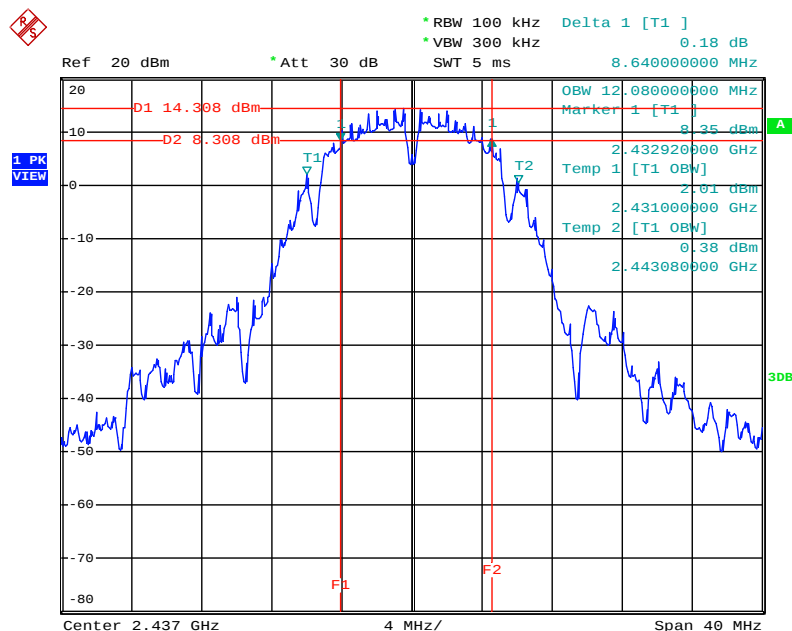
For &lt;Ant. 1&gt;

## 6 dB Bandwidth Plot on Configuration IEEE 802.11b / CH 1 / Ant. 1



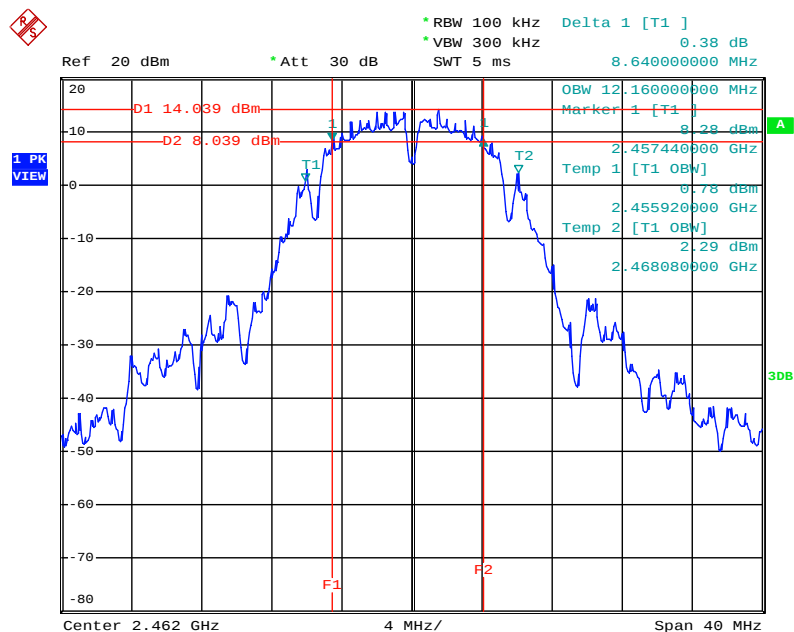
Date: 27.JAN.2014 09:50:55

## 6 dB Bandwidth Plot on Configuration IEEE 802.11b / CH 6 / Ant. 1



Date: 27.JAN.2014 09:52:12

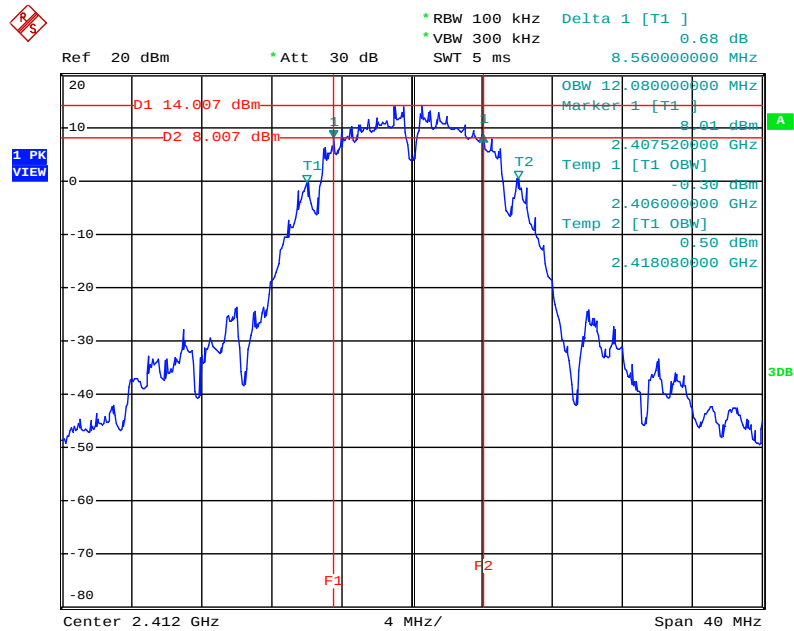
## 6 dB Bandwidth Plot on Configuration IEEE 802.11b / CH 11 / Ant. 1



Date: 27.JAN.2014 09:53:01

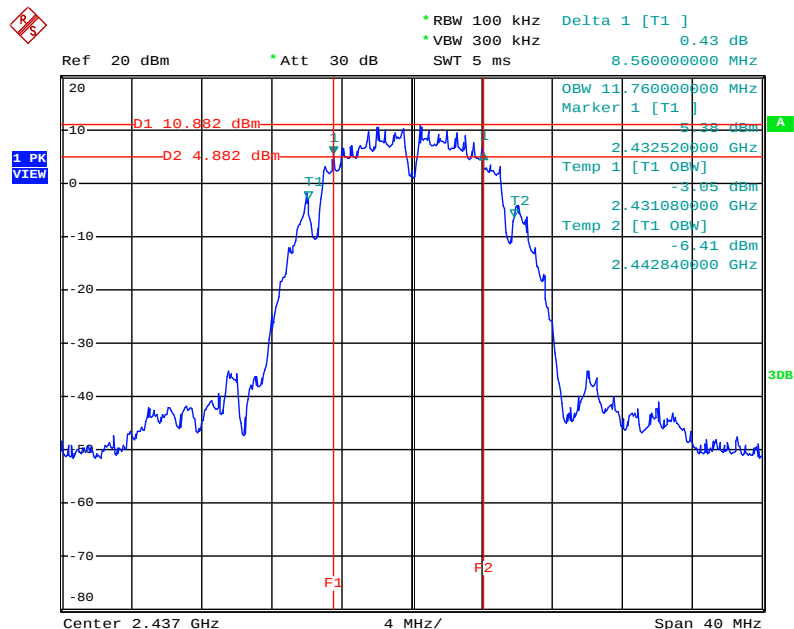
For &lt;Ant. 1+2+3, CDD&gt;

## 6 dB Bandwidth Plot on Configuration IEEE 802.11b / CH 1 / Ant. 1



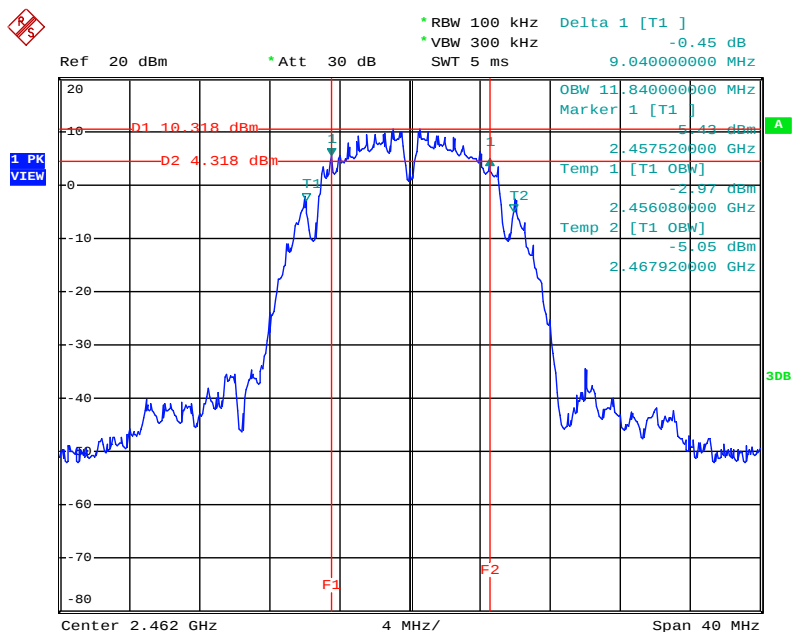
Date: 27.JAN.2014 10:03:01

## 6 dB Bandwidth Plot on Configuration IEEE 802.11b / CH 6 / Ant. 1



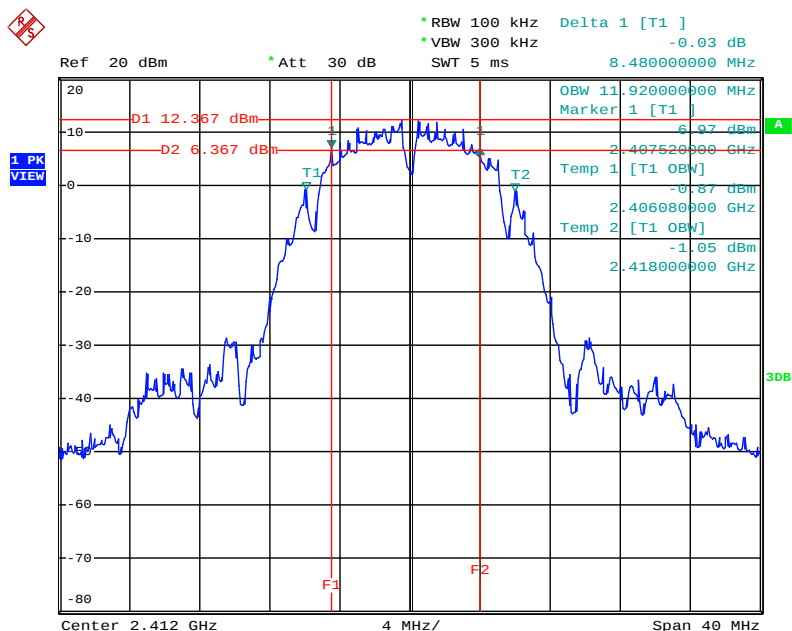
Date: 27.JAN.2014 10:07:59

## 6 dB Bandwidth Plot on Configuration IEEE 802.11b / CH 11 / Ant. 1



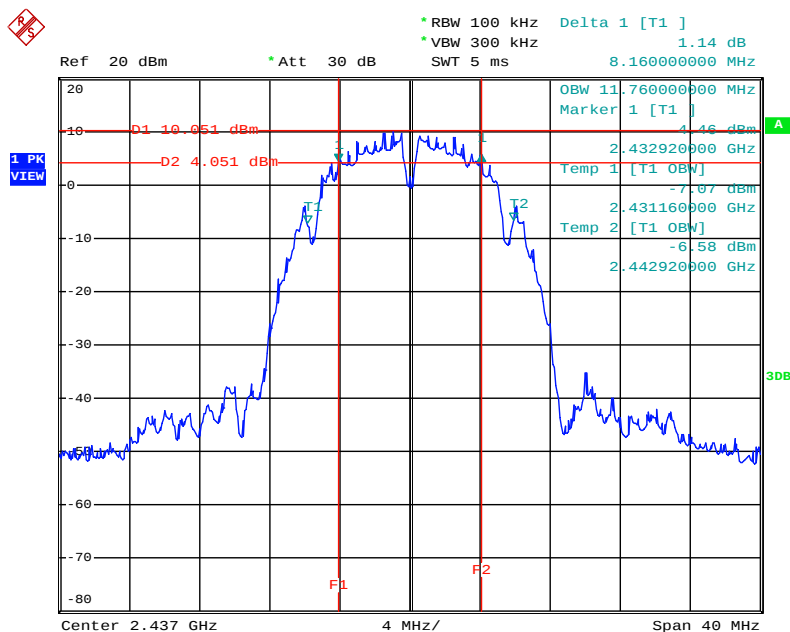
Date: 27.JAN.2014 10:08:51

## 6 dB Bandwidth Plot on Configuration IEEE 802.11b / CH 1 / Ant. 2



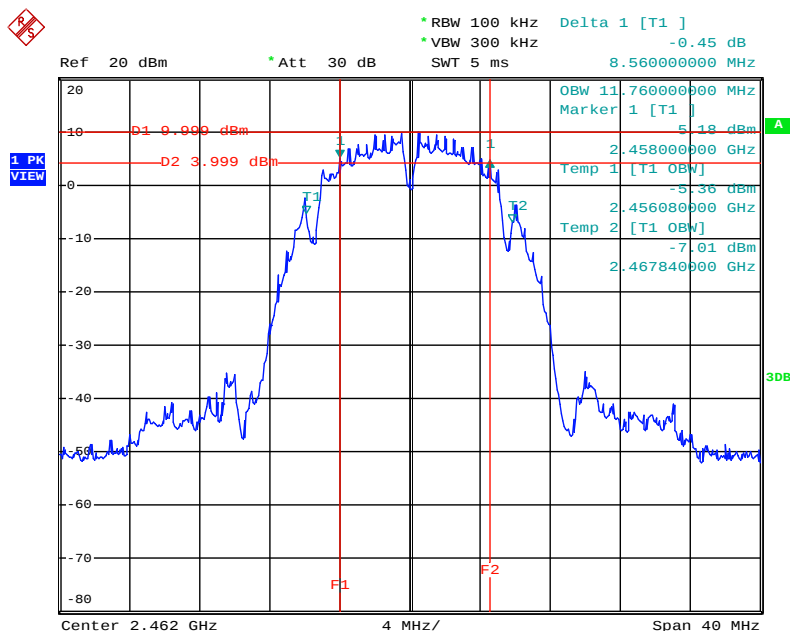
Date: 27.JAN.2014 10:03:43

## 6 dB Bandwidth Plot on Configuration IEEE 802.11b / CH 6 / Ant. 2



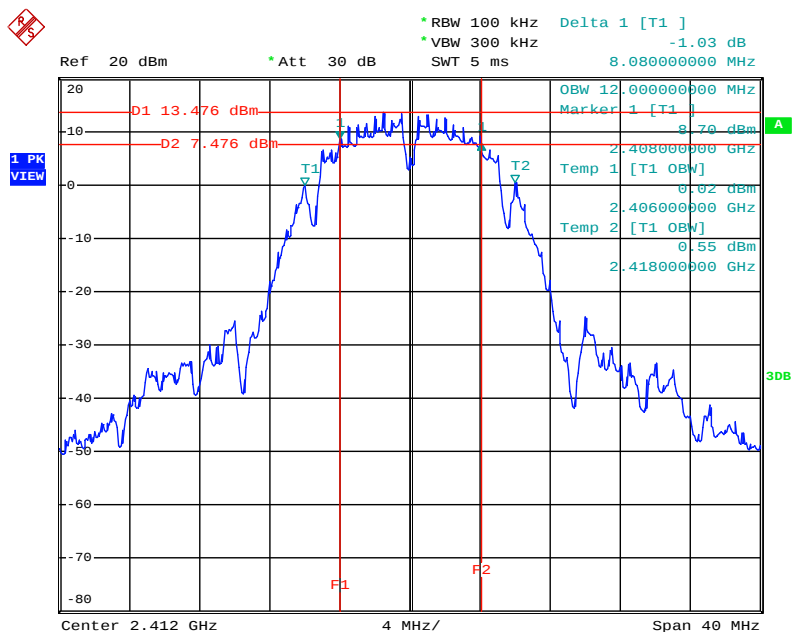
Date: 27.JAN.2014 10:06:12

## 6 dB Bandwidth Plot on Configuration IEEE 802.11b / CH 11 / Ant. 2



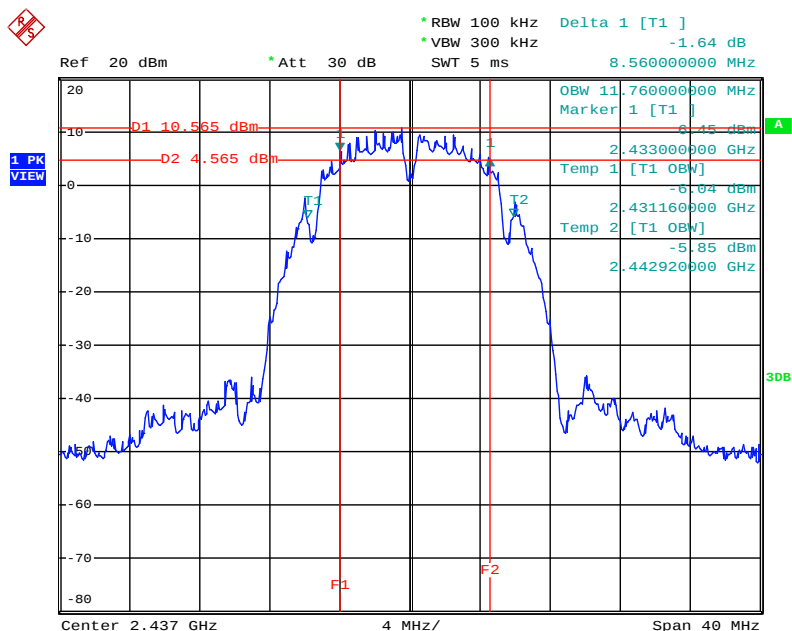
Date: 27.JAN.2014 10:09:32

## 6 dB Bandwidth Plot on Configuration IEEE 802.11b / CH 1 / Ant. 3



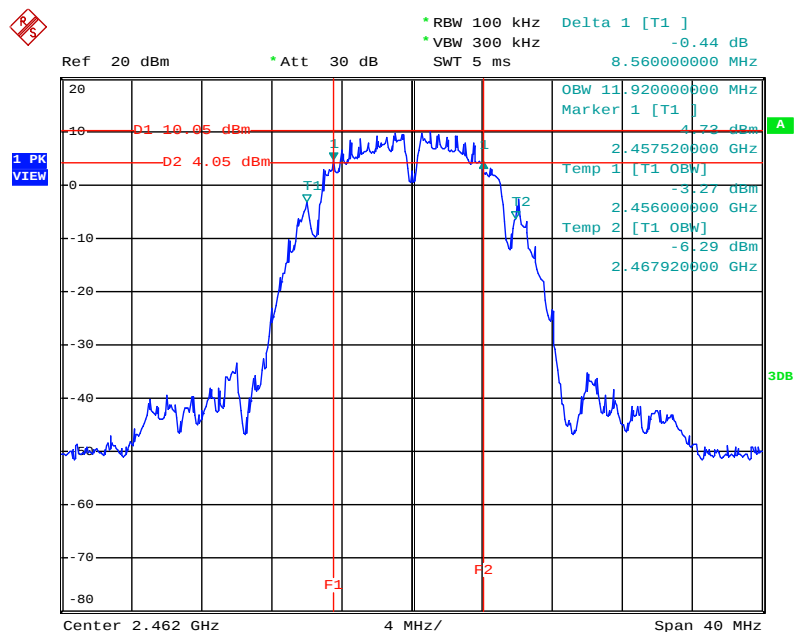
Date: 27.JAN.2014 10:04:23

## 6 dB Bandwidth Plot on Configuration IEEE 802.11b / CH 6 / Ant. 3



Date: 27.JAN.2014 10:05:39

## 6 dB Bandwidth Plot on Configuration IEEE 802.11b / CH 11 / Ant. 3



Date: 27.JAN.2014 10:10:08

|               |                                          |               |         |
|---------------|------------------------------------------|---------------|---------|
| Test date     | Jan. 27, 2014                            | Test Site No. | TH01-CB |
| Temperature   | 26°C                                     | Humidity      | 63%     |
| Test Engineer | Magic Lai                                | Configuration | 802.11g |
| Duty Cycle    | Ant.1, 2, 3: 98.56%<br>Ant.1+2+3: 99.04% |               |         |

## Configuration IEEE 802.11g

## &lt;Ant. 1&gt;

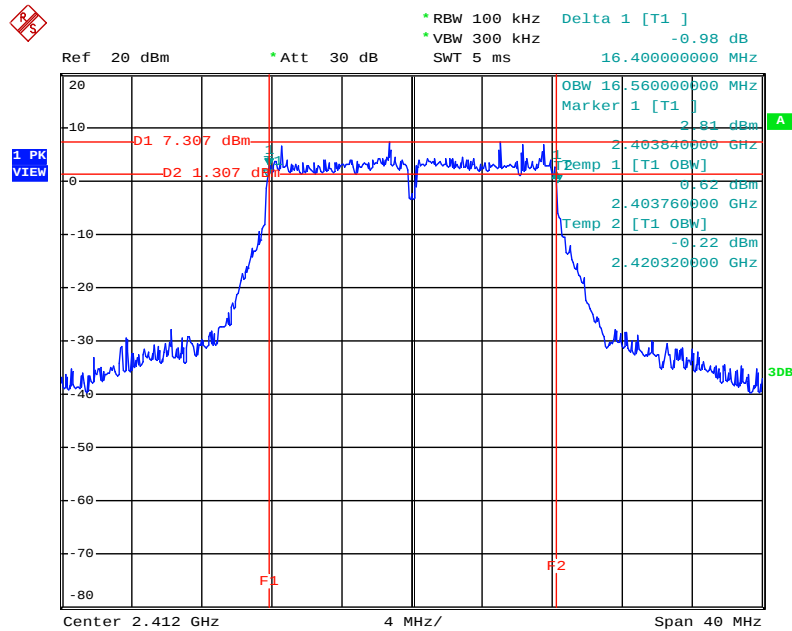
| Channel | Frequency | 6dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) | Min. Limit (kHz) | Test Result |
|---------|-----------|---------------------|------------------------------|------------------|-------------|
| 1       | 2412 MHz  | 16.40               | 16.56                        | 500              | Complies    |
| 6       | 2437 MHz  | 16.32               | 16.72                        | 500              | Complies    |
| 11      | 2462 MHz  | 16.32               | 16.56                        | 500              | Complies    |

## &lt;Ant. 1+2+3, CDD&gt;

| Channel | Frequency | 6dB Bandwidth (MHz) |        |        | 99% Occupied Bandwidth (MHz) |        |        | Min. Limit (kHz) | Test Result |
|---------|-----------|---------------------|--------|--------|------------------------------|--------|--------|------------------|-------------|
|         |           | Ant. 1              | Ant. 2 | Ant. 3 | Ant. 1                       | Ant. 2 | Ant. 3 |                  |             |
| 1       | 2412 MHz  | 16.40               | 16.40  | 16.40  | 16.56                        | 16.48  | 16.56  | 500              | Complies    |
| 6       | 2437 MHz  | 16.32               | 16.40  | 16.40  | 16.72                        | 16.56  | 16.64  | 500              | Complies    |
| 11      | 2462 MHz  | 16.40               | 16.40  | 16.32  | 16.48                        | 16.56  | 16.48  | 500              | Complies    |

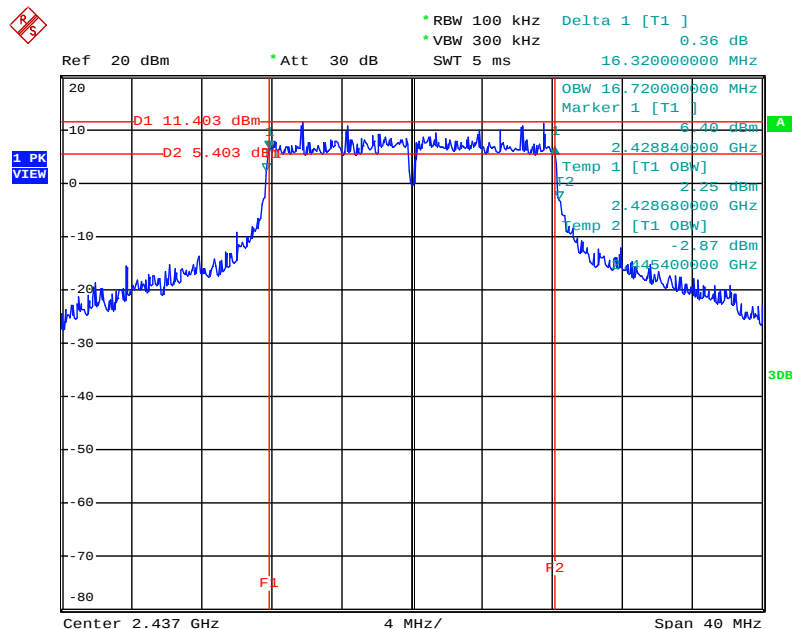
For &lt;Ant. 1&gt;

## 6 dB Bandwidth Plot on Configuration IEEE 802.11g / CH 1 / Ant. 1



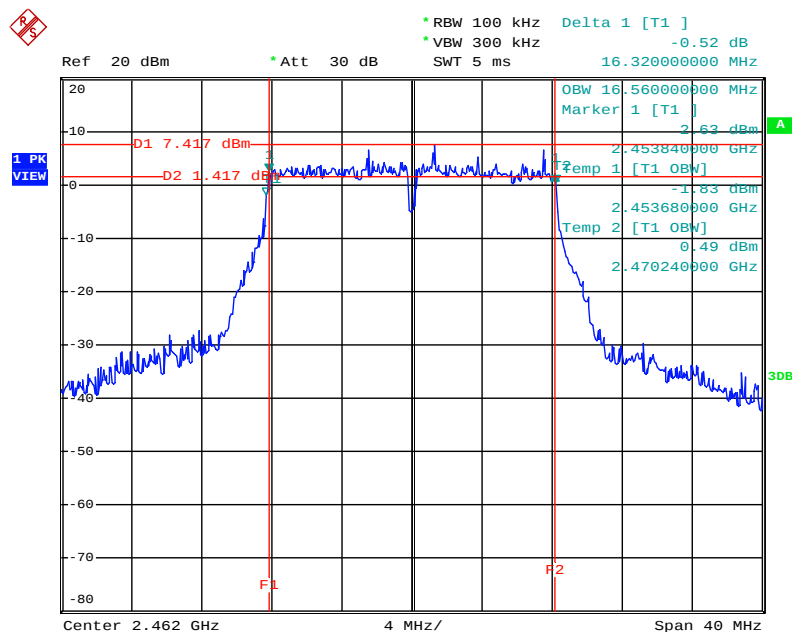
Date: 27.JAN.2014 09:54:24

## 6 dB Bandwidth Plot on Configuration IEEE 802.11g / CH 6 / Ant. 1



Date: 27.JAN.2014 09:55:32

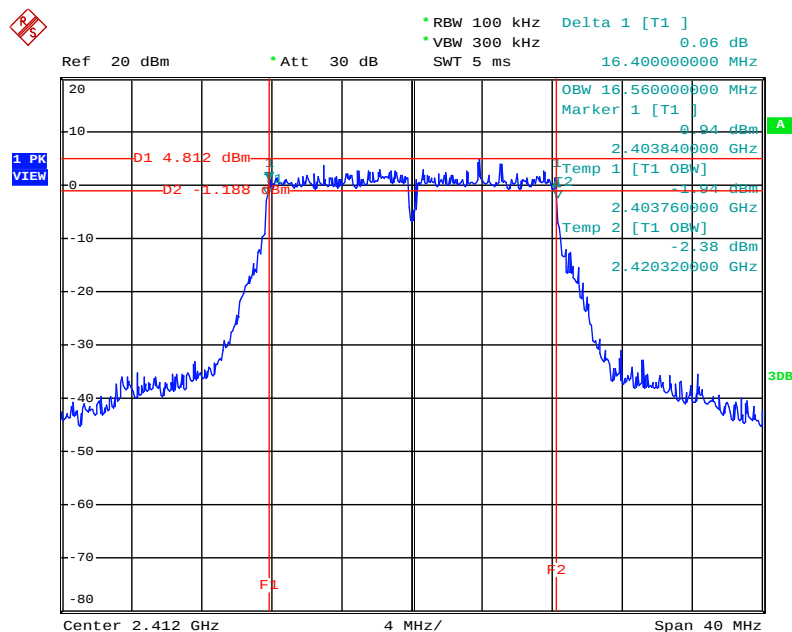
## 6 dB Bandwidth Plot on Configuration IEEE 802.11g / CH 11 / Ant. 1



Date: 27.JAN.2014 09:56:21

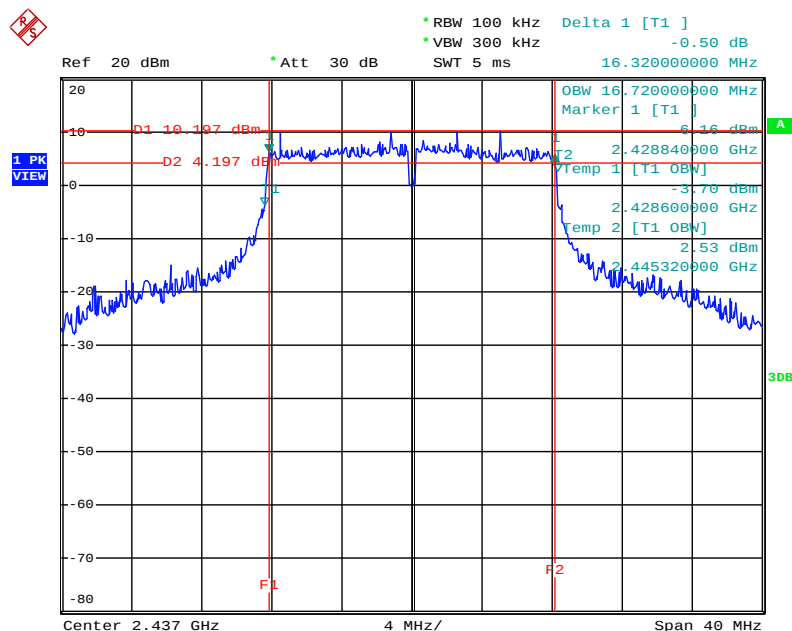
For &lt;Ant. 1+2+3, CDD&gt;

## 6 dB Bandwidth Plot on Configuration IEEE 802.11g / CH 1 / Ant. 1



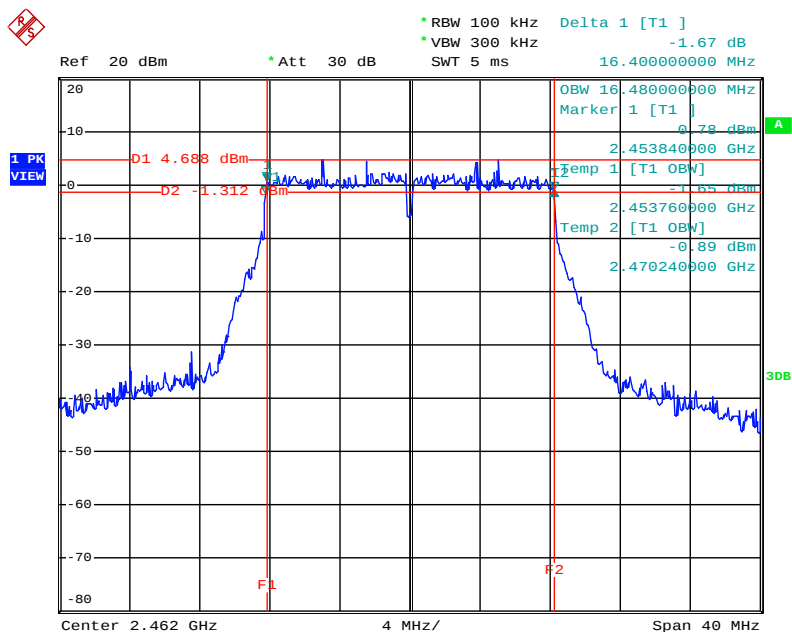
Date: 27.JAN.2014 10:13:00

## 6 dB Bandwidth Plot on Configuration IEEE 802.11g / CH 6 / Ant. 1



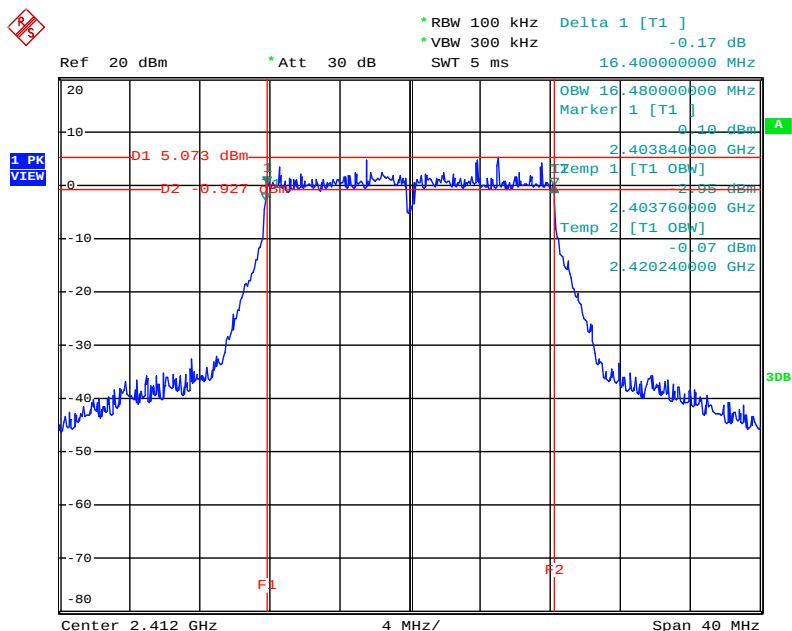
Date: 27.JAN.2014 10:16:15

## 6 dB Bandwidth Plot on Configuration IEEE 802.11g / CH 11 / Ant. 1



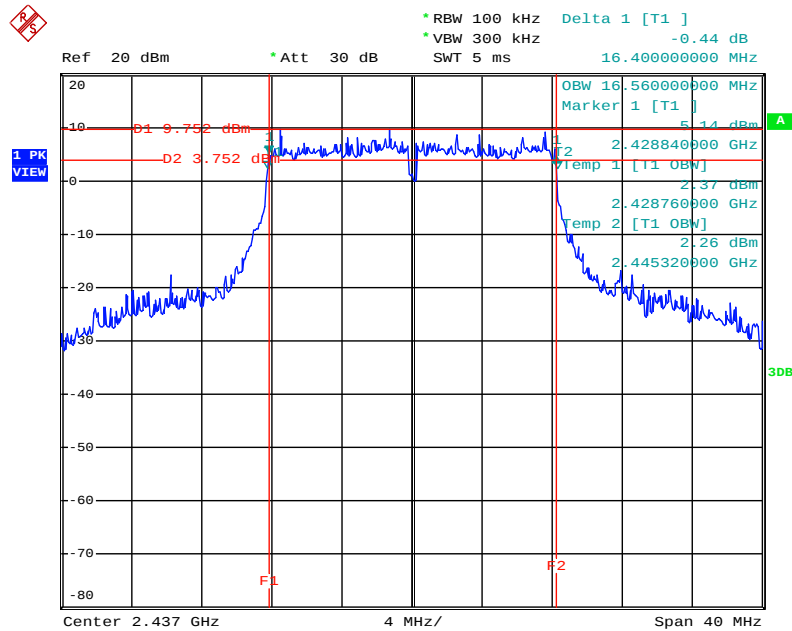
Date: 27.JAN.2014 10:17:14

## 6 dB Bandwidth Plot on Configuration IEEE 802.11g / CH 1 / Ant. 2



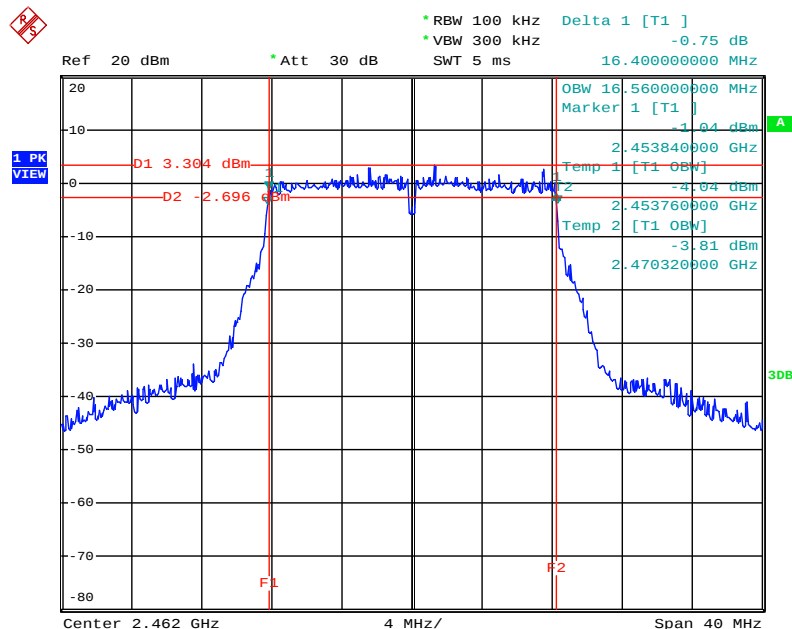
Date: 27.JAN.2014 10:12:28

## 6 dB Bandwidth Plot on Configuration IEEE 802.11g / CH 6 / Ant. 2



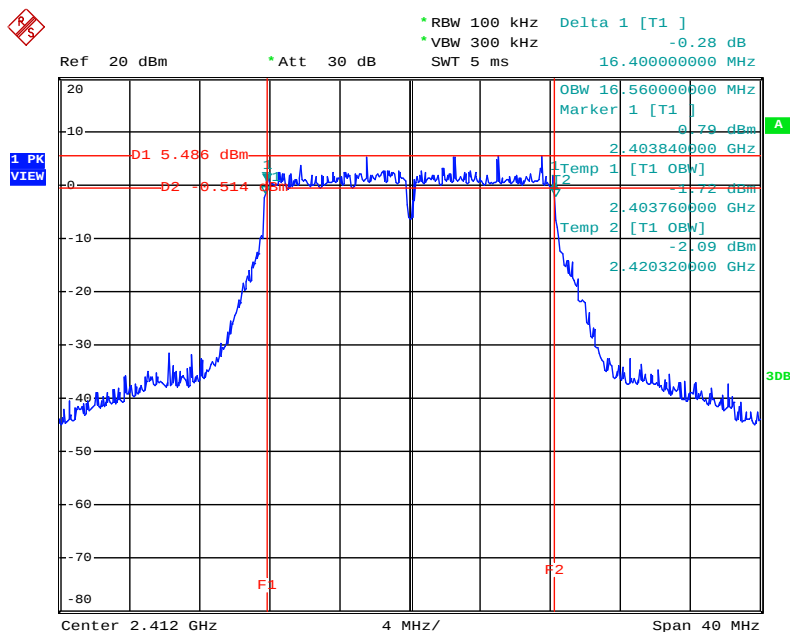
Date: 27.JAN.2014 10:15:29

## 6 dB Bandwidth Plot on Configuration IEEE 802.11g / CH 11 / Ant. 2



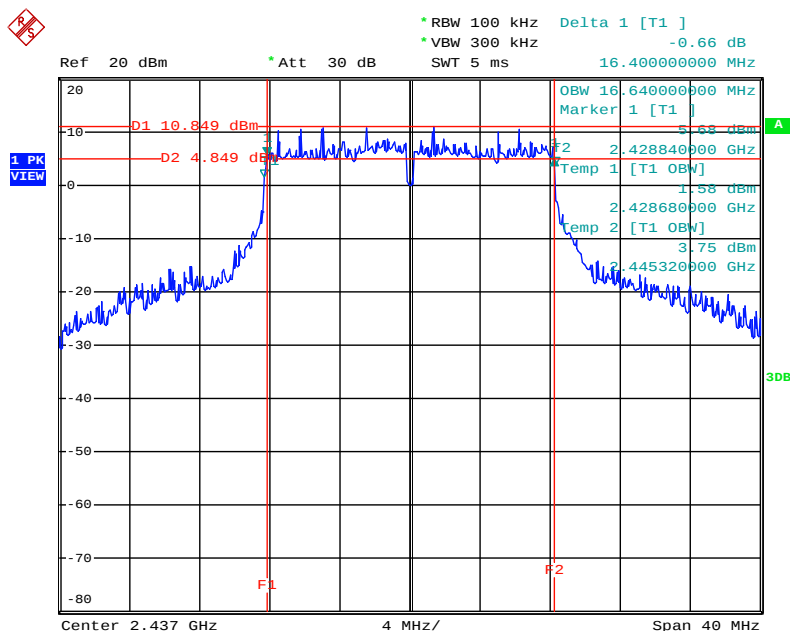
Date: 27.JAN.2014 10:18:03

## 6 dB Bandwidth Plot on Configuration IEEE 802.11g / CH 1 / Ant. 3



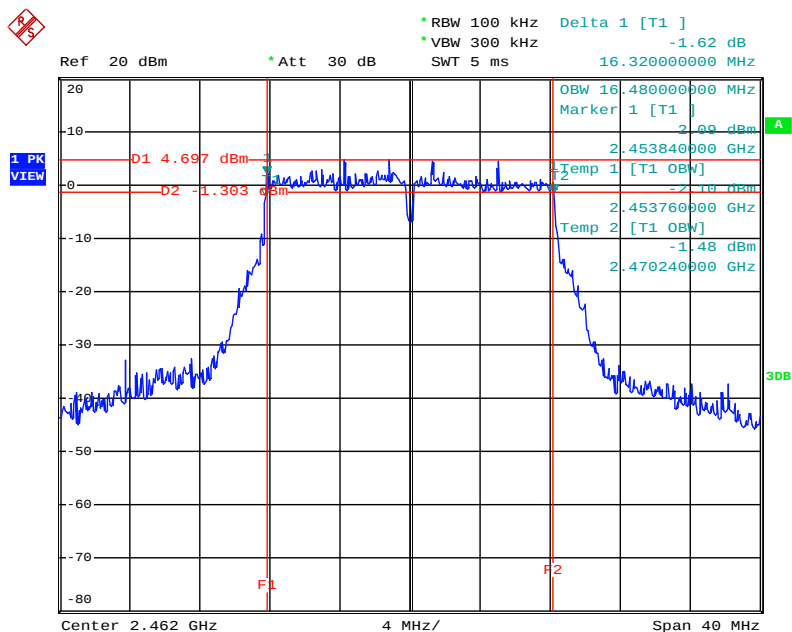
Date: 27.JAN.2014 10:11:49

## 6 dB Bandwidth Plot on Configuration IEEE 802.11g / CH 6 / Ant. 3



Date: 27.JAN.2014 10:14:21

## 6 dB Bandwidth Plot on Configuration IEEE 802.11g / CH 11 / Ant. 3



Date: 27.JAN.2014 10:18:42

|               |                                                                                  |               |         |
|---------------|----------------------------------------------------------------------------------|---------------|---------|
| Test date     | Jan. 27, 2014                                                                    | Test Site No. | TH01-CB |
| Temperature   | 26°C                                                                             | Humidity      | 63%     |
| Test Engineer | Magic Lai                                                                        | Configuration | 802.11n |
| Duty Cycle    | Ant.1, 2, 3: 98.77%<br>MCS0, Ant.1+2+3, CDD: 98.77%<br>MCS8, Ant.1+2+3, CDD: 97% |               |         |

## Configuration IEEE 802.11n 20MHz

## &lt;MCS0, Ant. 3&gt;

| Channel | Frequency | 6dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) | Min. Limit (kHz) | Test Result |
|---------|-----------|---------------------|------------------------------|------------------|-------------|
| 1       | 2412 MHz  | 17.60               | 17.76                        | 500              | Complies    |
| 6       | 2437 MHz  | 17.60               | 17.84                        | 500              | Complies    |
| 11      | 2462 MHz  | 17.60               | 17.76                        | 500              | Complies    |

## &lt;MCS0, Ant. 1+2+3, CDD&gt;

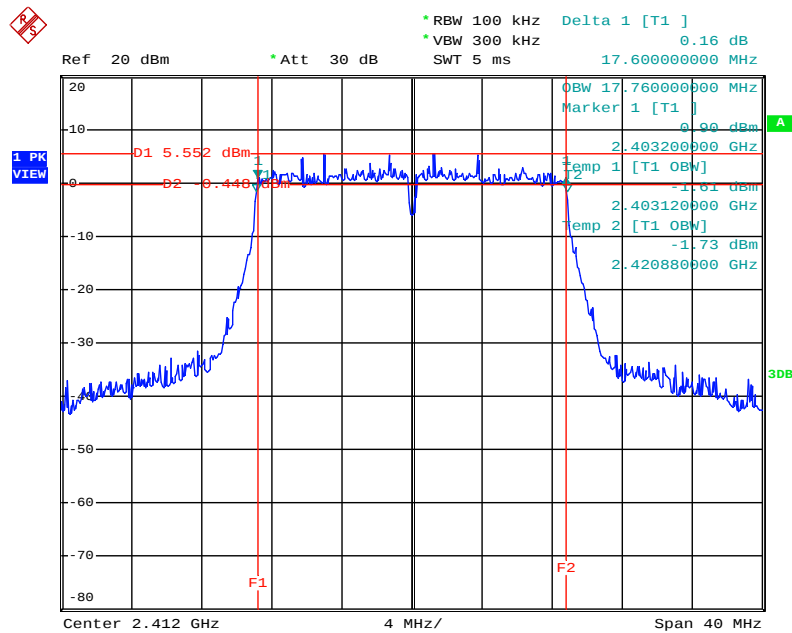
| Channel | Frequency | 6dB Bandwidth (MHz) |        |        | 99% Occupied Bandwidth (MHz) |        |        | Min. Limit (kHz) | Test Result |
|---------|-----------|---------------------|--------|--------|------------------------------|--------|--------|------------------|-------------|
|         |           | Ant. 1              | Ant. 2 | Ant. 3 | Ant. 1                       | Ant. 2 | Ant. 3 |                  |             |
| 1       | 2412 MHz  | 17.60               | 17.60  | 17.60  | 17.68                        | 17.68  | 17.76  | 500              | Complies    |
| 6       | 2437 MHz  | 17.60               | 17.60  | 17.68  | 17.84                        | 17.76  | 17.84  | 500              | Complies    |
| 11      | 2462 MHz  | 17.60               | 17.68  | 17.60  | 17.76                        | 17.68  | 17.76  | 500              | Complies    |

## &lt;MCS8, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | 6dB Bandwidth (MHz) |        |        | 99% Occupied Bandwidth (MHz) |        |        | Min. Limit (kHz) | Test Result |
|---------|-----------|---------------------|--------|--------|------------------------------|--------|--------|------------------|-------------|
|         |           | Ant. 1              | Ant. 2 | Ant. 3 | Ant. 1                       | Ant. 2 | Ant. 3 |                  |             |
| 1       | 2412 MHz  | 17.68               | 17.60  | 17.60  | 17.76                        | 17.68  | 17.76  | 500              | Complies    |
| 6       | 2437 MHz  | 17.60               | 17.60  | 17.68  | 17.84                        | 17.76  | 17.84  | 500              | Complies    |
| 11      | 2462 MHz  | 17.60               | 17.60  | 17.60  | 17.76                        | 17.68  | 17.76  | 500              | Complies    |

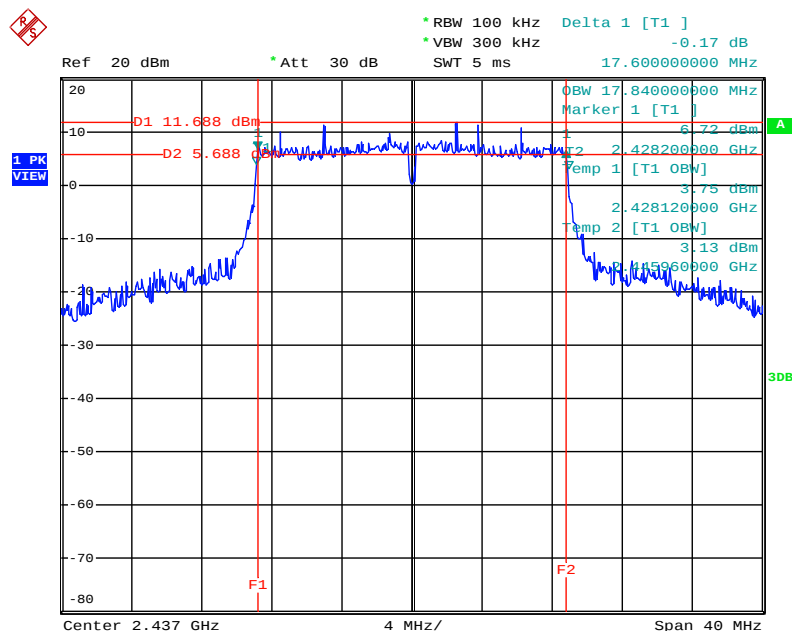
For &lt;Ant. 3&gt;

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 20MHz MCS0 / CH1 / Ant. 3



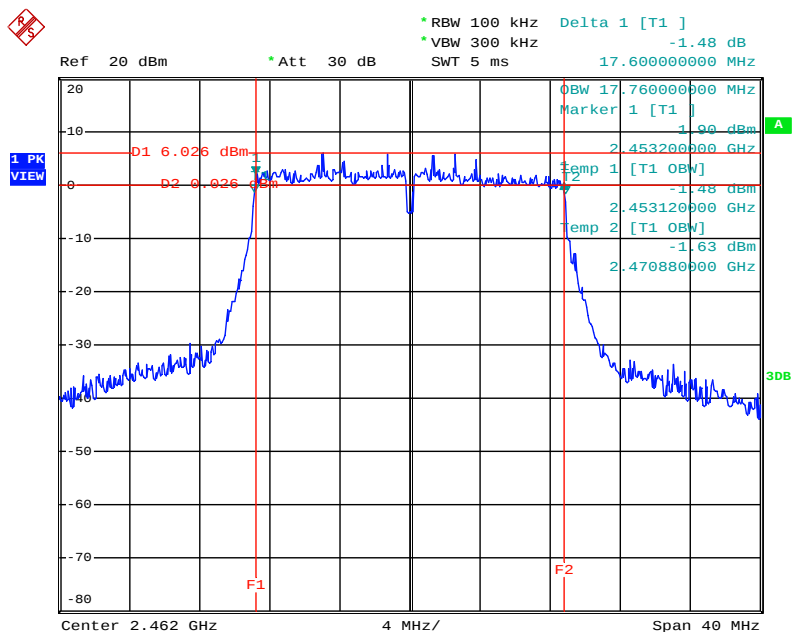
Date: 27.JAN.2014 11:02:47

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 20MHz MCS0 / CH 6 / Ant. 3



Date: 27.JAN.2014 11:03:40

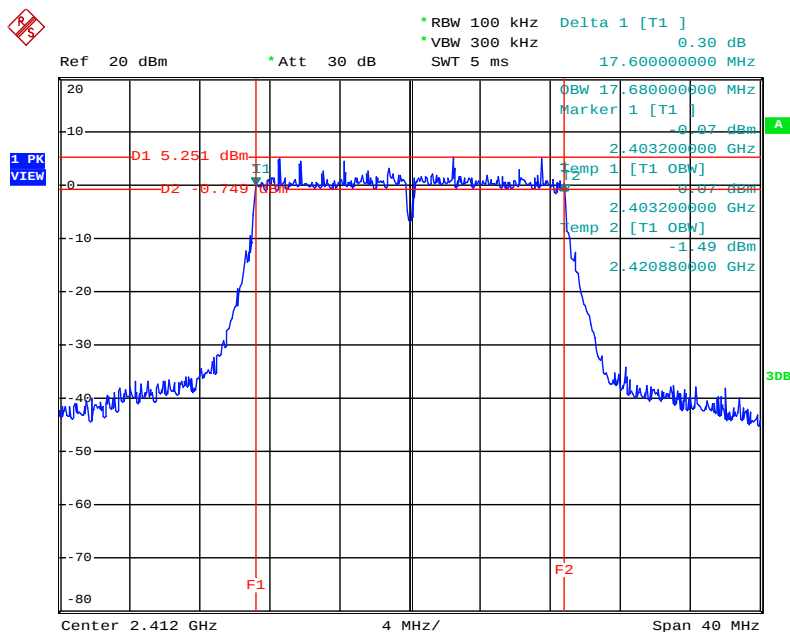
## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 20MHz MCS0 / CH 11 / Ant. 3



Date: 27.JAN.2014 11:04:38

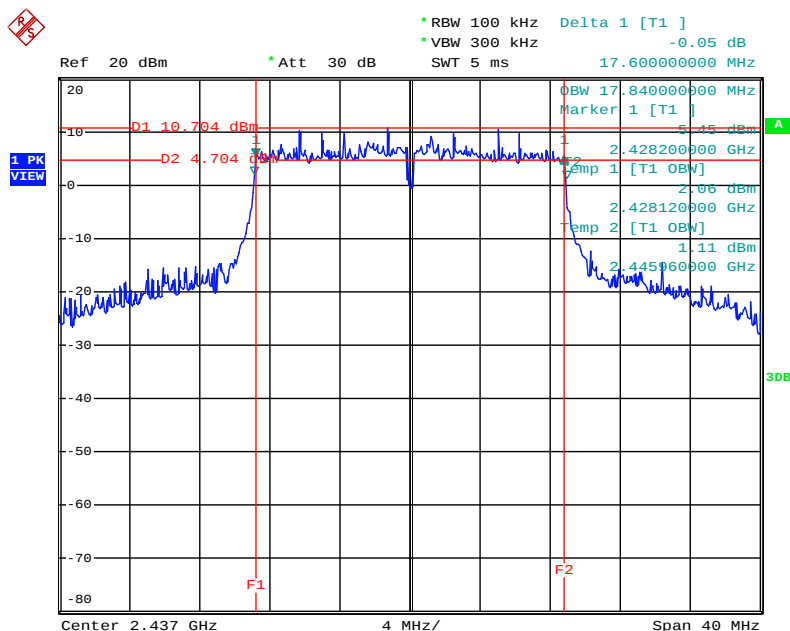
&lt;MCS0, Ant. 1+2+3, CDD&gt;

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 20MHz MCS0 / CH 1 / Ant. 1



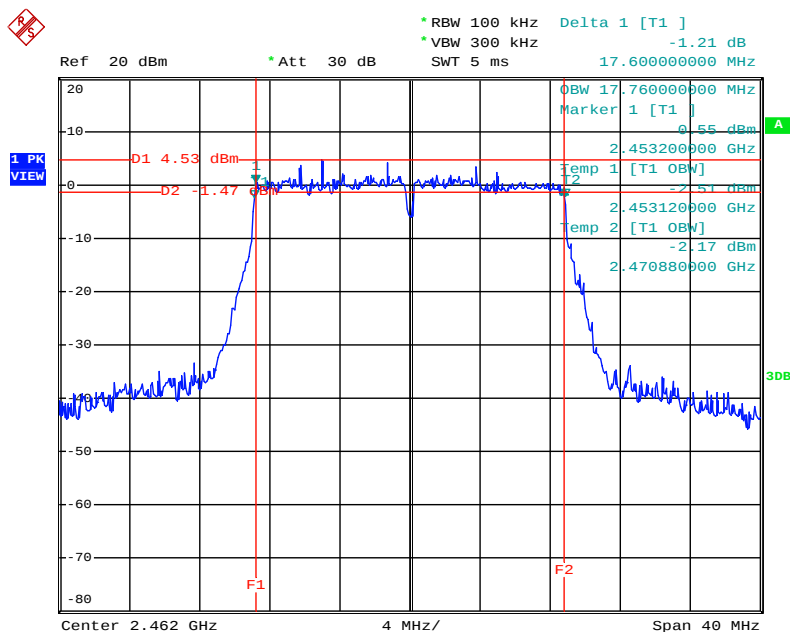
Date: 27.JAN.2014 11:19:34

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 20MHz MCS0 / CH 6 / Ant. 1



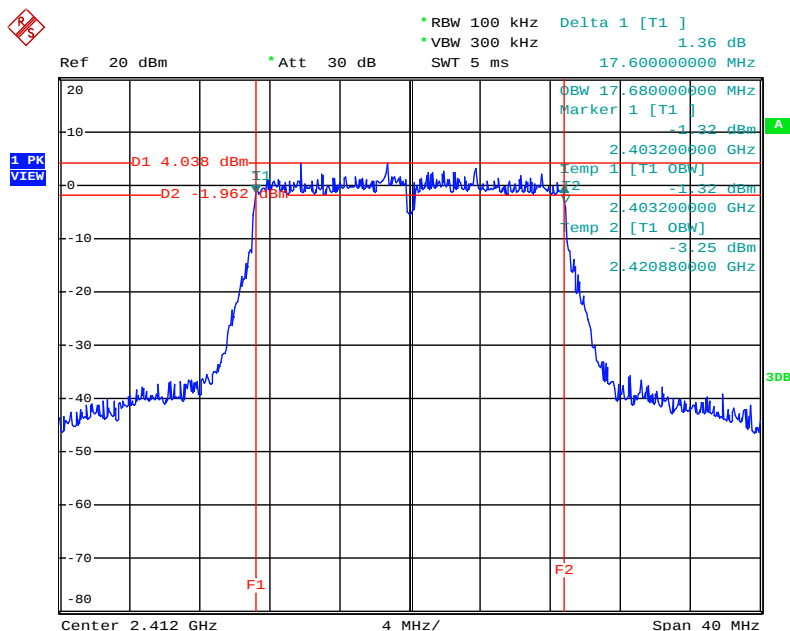
Date: 27.JAN.2014 11:23:38

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 20MHz MCS0 / CH 11 / Ant. 1



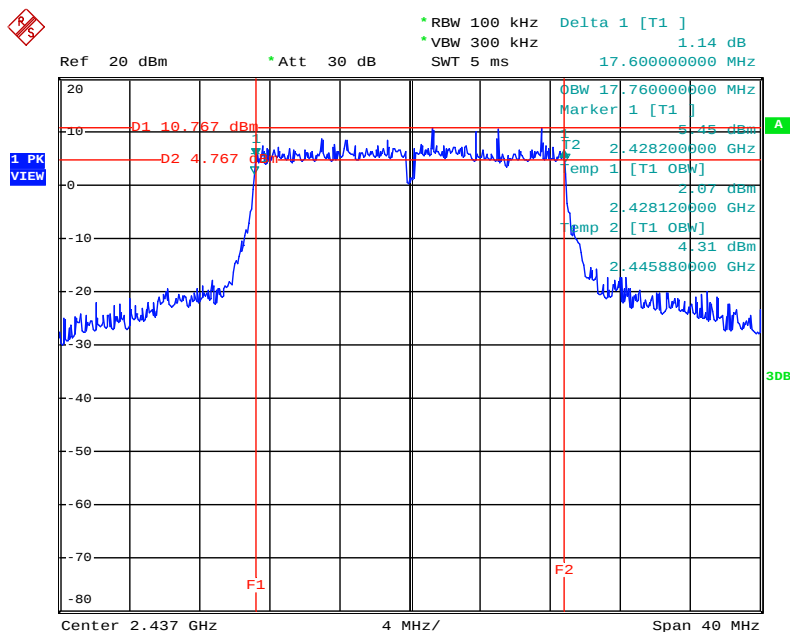
Date: 27.JAN.2014 11:25:16

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 20MHz MCS0 / CH 1 / Ant. 2



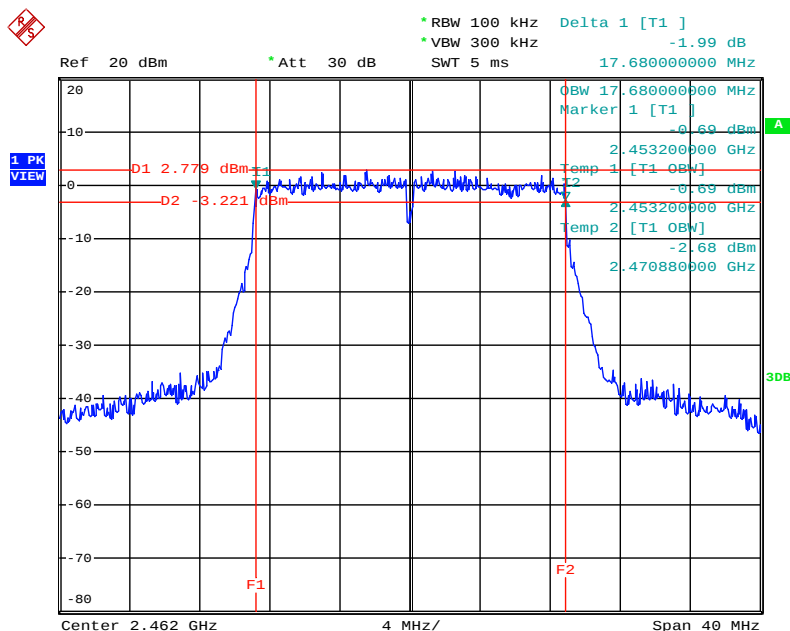
Date: 27.JAN.2014 11:20:15

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 20MHz MCS0 / CH 6 / Ant. 2



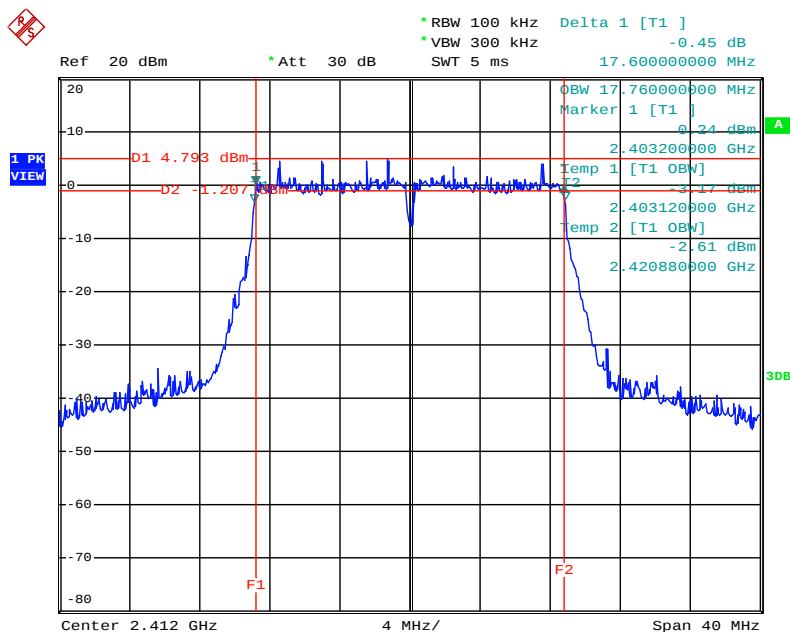
Date: 27.JAN.2014 11:22:59

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 20MHz MCS0 / CH 11 / Ant. 2



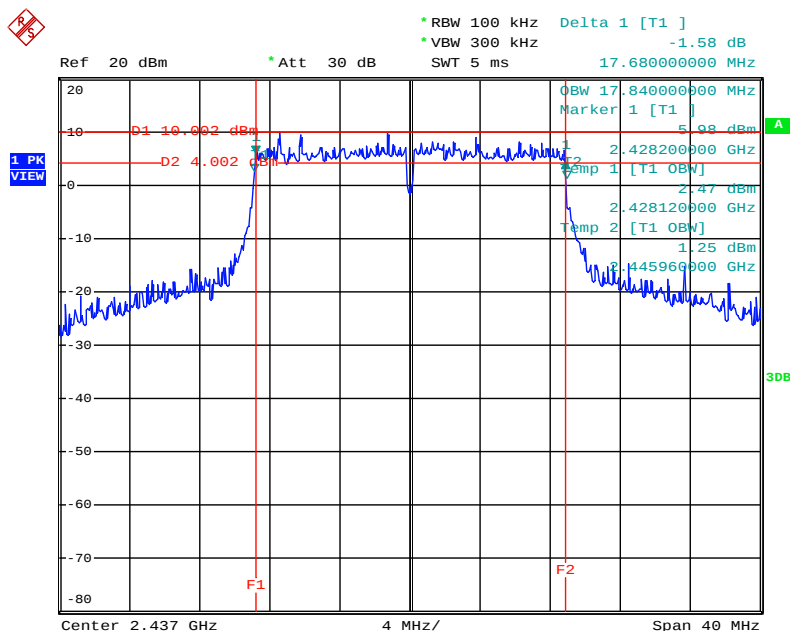
Date: 27.JAN.2014 11:26:12

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 20MHz MCS0 / CH 1 / Ant. 3



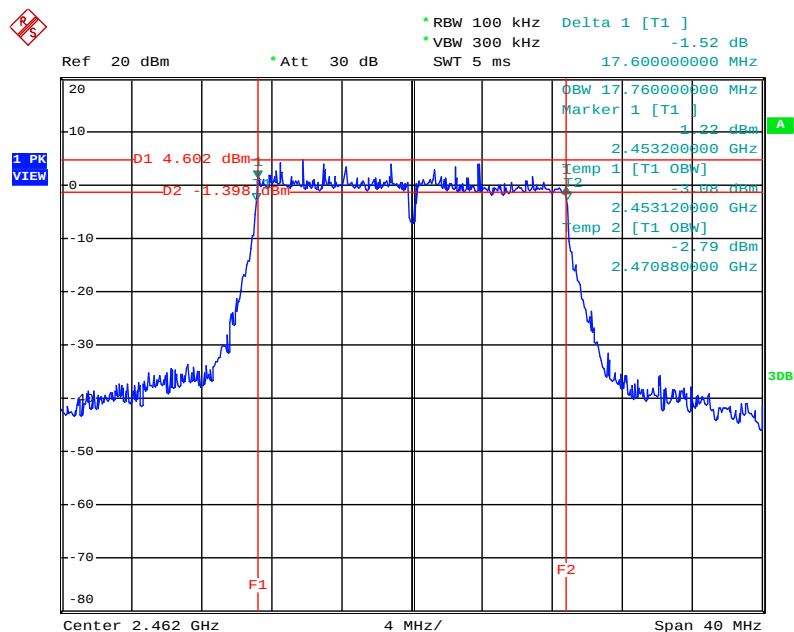
Date: 27.JAN.2014 11:20:52

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 20MHz MCS0 / CH 6 / Ant. 3



Date: 27.JAN.2014 11:22:10

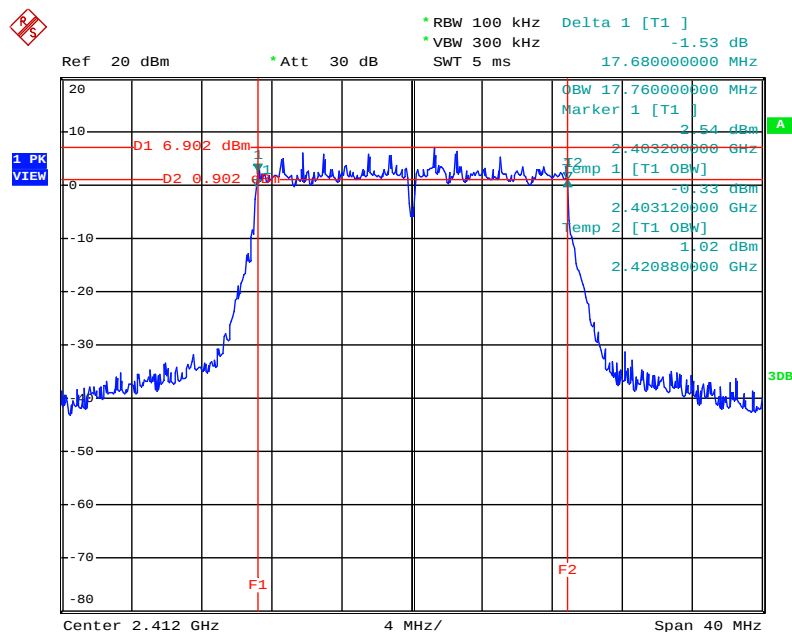
## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 20MHz MCS0 / CH 11 / Ant. 3



Date: 27.JAN.2014 11:27:11

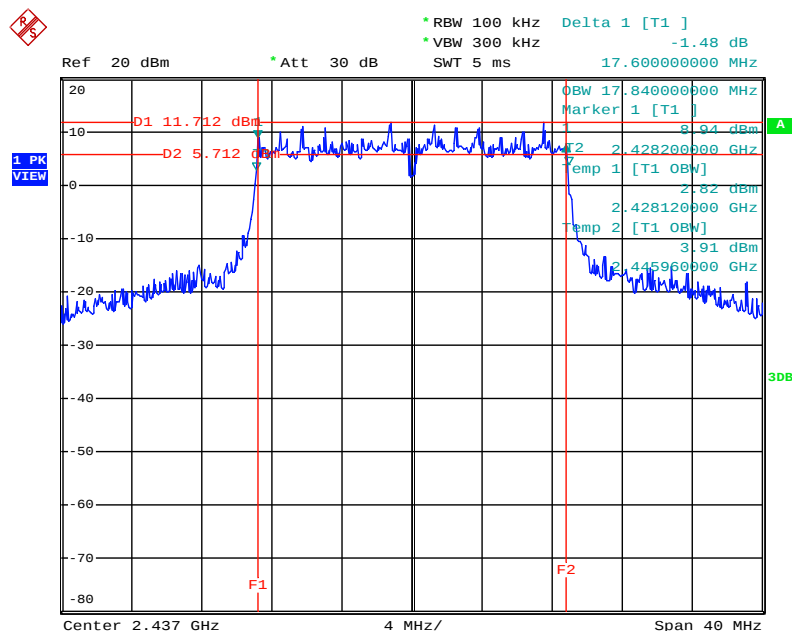
&lt;MCS8, Ant. 1+2+3, CDD&gt;

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 20MHz MCS8 / CH 1 / Ant. 1



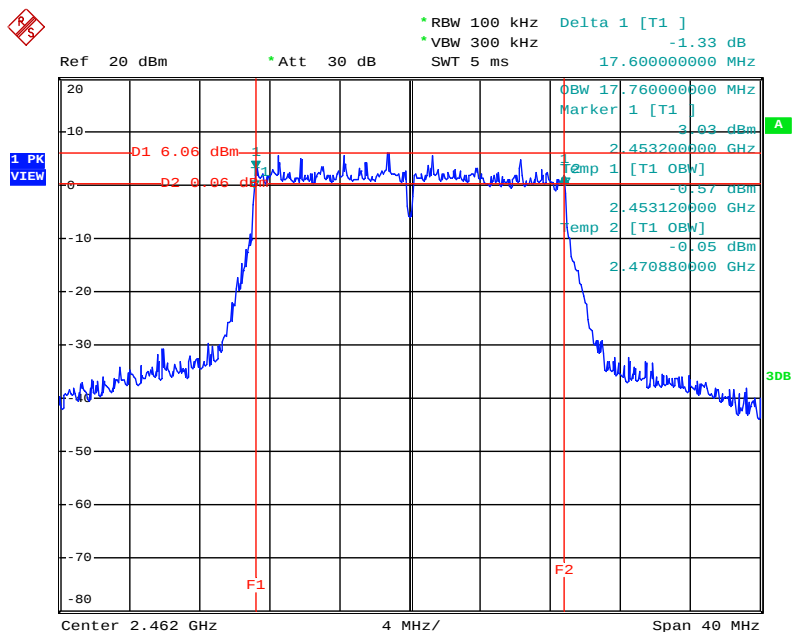
Date: 27.JAN.2014 10:36:05

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 20MHz MCS8 / CH 6 / Ant. 1



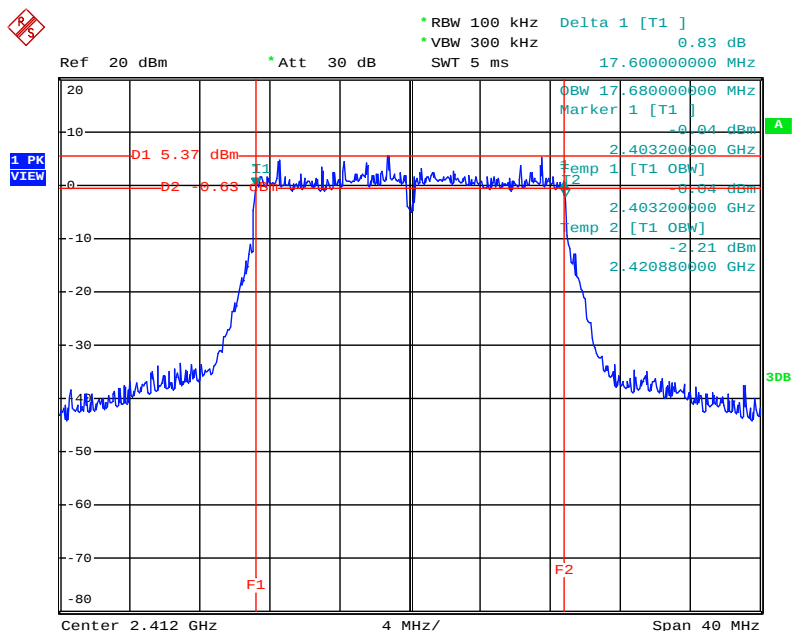
Date: 27.JAN.2014 10:40:52

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 20MHz MCS8 / CH 11 / Ant. 1



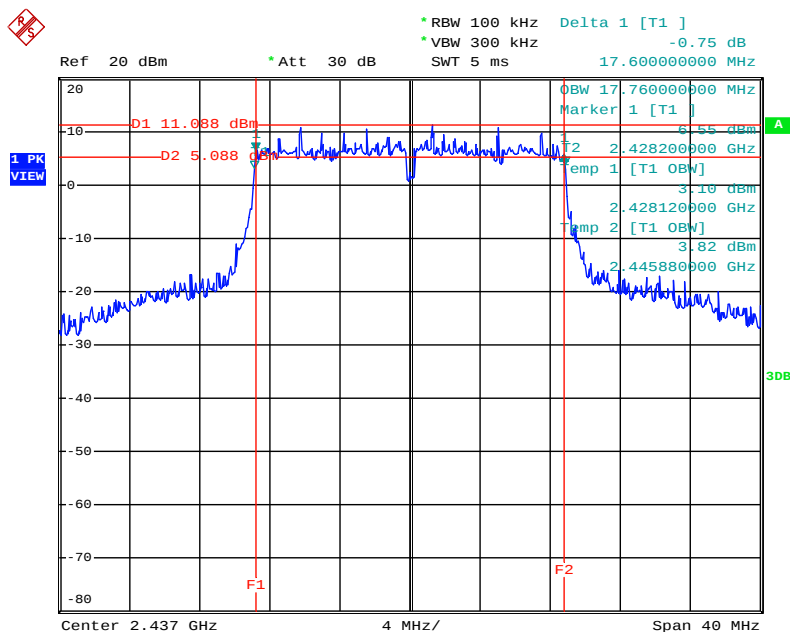
Date: 27.JAN.2014 10:43:32

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 20MHz MCS8 / CH 1 / Ant. 2



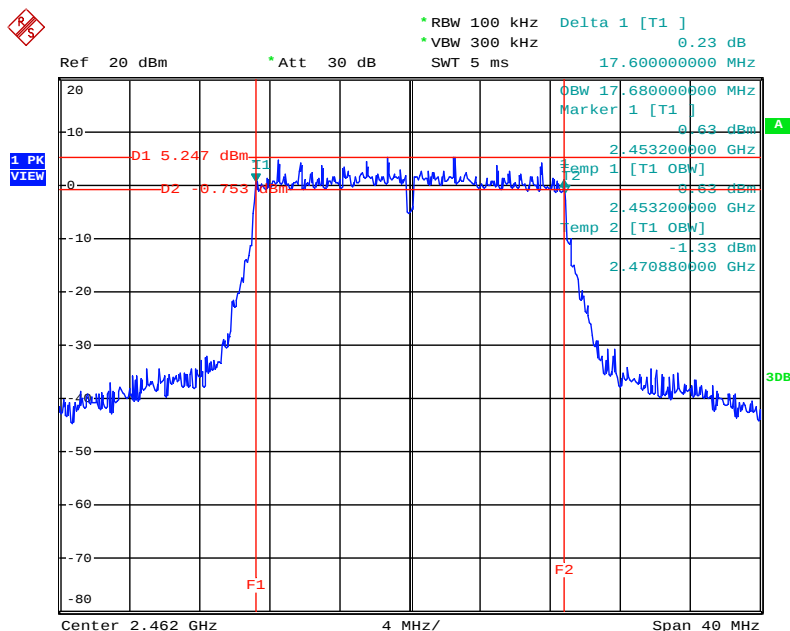
Date: 27.JAN.2014 10:36:59

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 20MHz MCS8 / CH 6 / Ant. 2



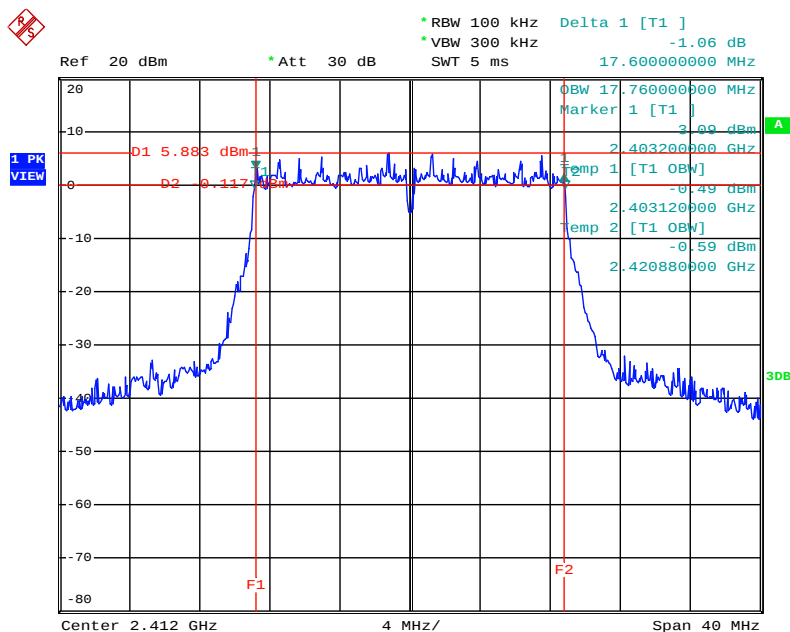
Date: 27.JAN.2014 10:39:23

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 20MHz MCS8 / CH 11 / Ant. 2



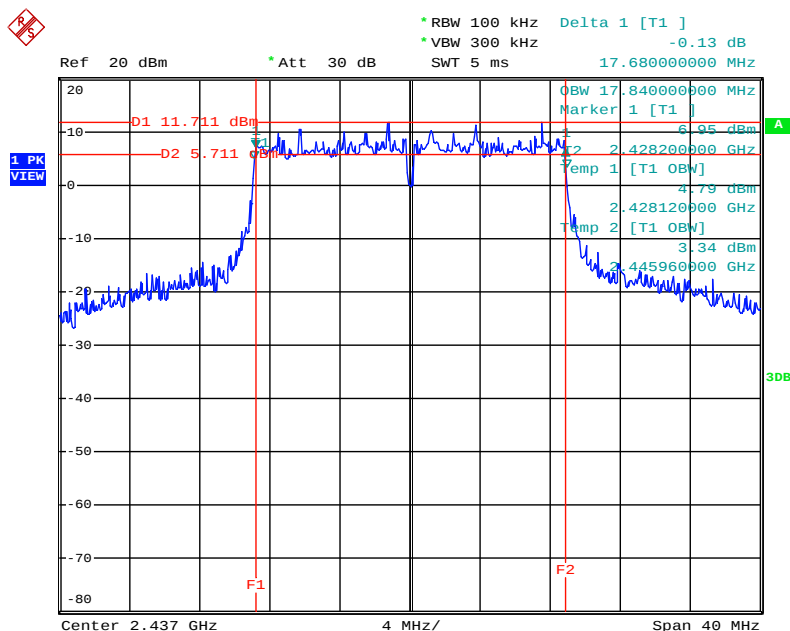
Date: 27.JAN.2014 10:43:04

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 20MHz MCS8 / CH 1 / Ant. 3



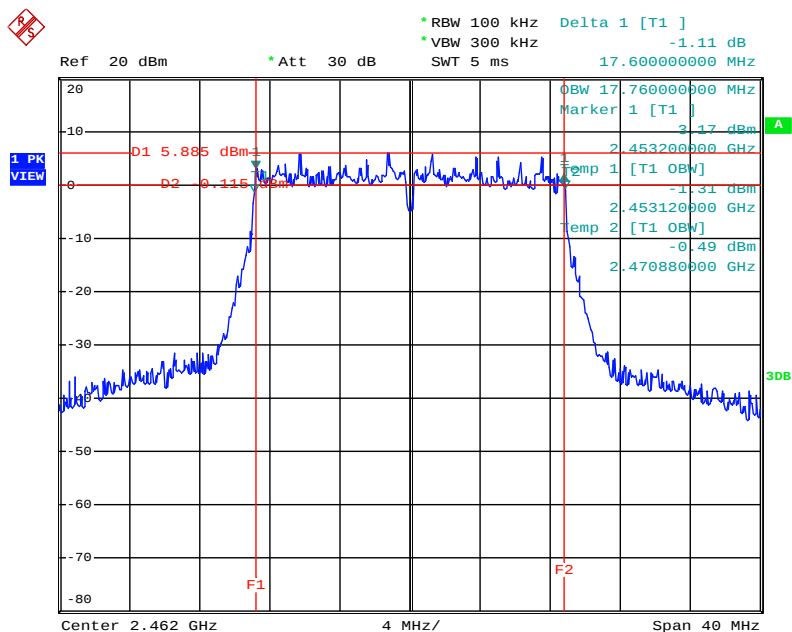
Date: 27.JAN.2014 10:37:45

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 20MHz MCS8 / CH 6 / Ant. 3



Date: 27.JAN.2014 10:38:45

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 20MHz MCS8 / CH 11 / Ant. 3



Date: 27.JAN.2014 10:42:16

|               |                                                                                     |               |         |
|---------------|-------------------------------------------------------------------------------------|---------------|---------|
| Test date     | Jan. 27, 2014                                                                       | Test Site No. | TH01-CB |
| Temperature   | 26°C                                                                                | Humidity      | 63%     |
| Test Engineer | Magic Lai                                                                           | Configuration | 802.11n |
| Duty Cycle    | Ant.1, 2, 3: 96.88%<br>MCS0, Ant.1+2+3, CDD: 97.92%<br>MCS8, Ant.1+2+3, CDD: 94.23% |               |         |

## Configuration IEEE 802.11n 40MHz

## &lt;MCS0, Ant. 1&gt;

| Channel | Frequency | 6dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) | Min. Limit (kHz) | Test Result |
|---------|-----------|---------------------|------------------------------|------------------|-------------|
| 3       | 2422 MHz  | 36.16               | 36.32                        | 500              | Complies    |
| 6       | 2437 MHz  | 35.84               | 36.32                        | 500              | Complies    |
| 9       | 2452 MHz  | 36.00               | 36.16                        | 500              | Complies    |

## &lt;MCS0, Ant. 1+2+3, CDD&gt;

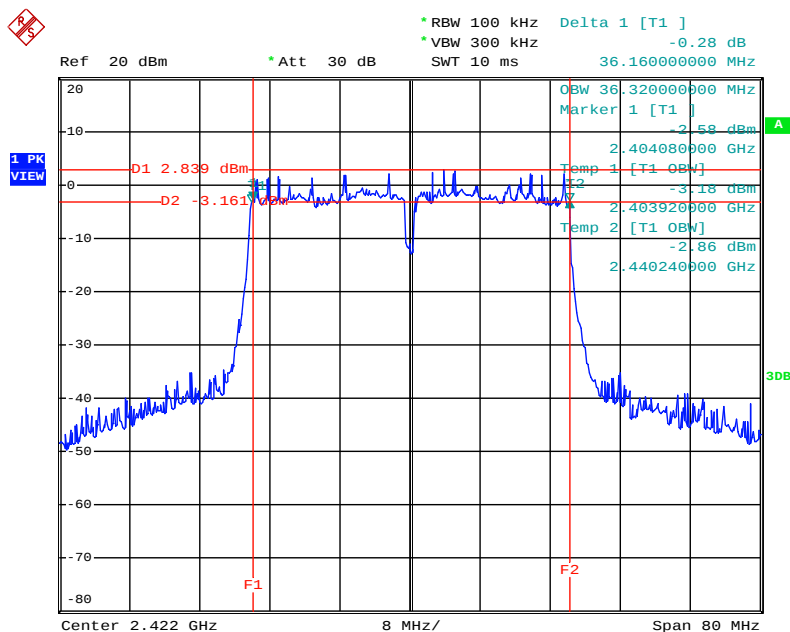
| Channel | Frequency | 6dB Bandwidth (MHz) |        |        | 99% Occupied Bandwidth (MHz) |        |        | Min. Limit (kHz) | Test Result |
|---------|-----------|---------------------|--------|--------|------------------------------|--------|--------|------------------|-------------|
|         |           | Ant. 1              | Ant. 2 | Ant. 3 | Ant. 1                       | Ant. 2 | Ant. 3 |                  |             |
| 3       | 2422 MHz  | 36.16               | 36.32  | 36.32  | 36.32                        | 36.32  | 36.32  | 500              | Complies    |
| 6       | 2437 MHz  | 36.32               | 36.48  | 36.32  | 36.32                        | 36.32  | 36.16  | 500              | Complies    |
| 9       | 2452 MHz  | 36.32               | 35.52  | 36.00  | 36.32                        | 36.32  | 36.16  | 500              | Complies    |

## &lt;MCS8, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | 6dB Bandwidth (MHz) |        |        | 99% Occupied Bandwidth (MHz) |        |        | Min. Limit (kHz) | Test Result |
|---------|-----------|---------------------|--------|--------|------------------------------|--------|--------|------------------|-------------|
|         |           | Ant. 1              | Ant. 2 | Ant. 3 | Ant. 1                       | Ant. 2 | Ant. 3 |                  |             |
| 3       | 2422 MHz  | 36.16               | 36.32  | 36.16  | 36.32                        | 36.32  | 36.32  | 500              | Complies    |
| 6       | 2437 MHz  | 35.68               | 36.32  | 36.16  | 36.16                        | 36.32  | 36.16  | 500              | Complies    |
| 9       | 2452 MHz  | 36.00               | 35.84  | 36.00  | 36.16                        | 36.32  | 36.16  | 500              | Complies    |

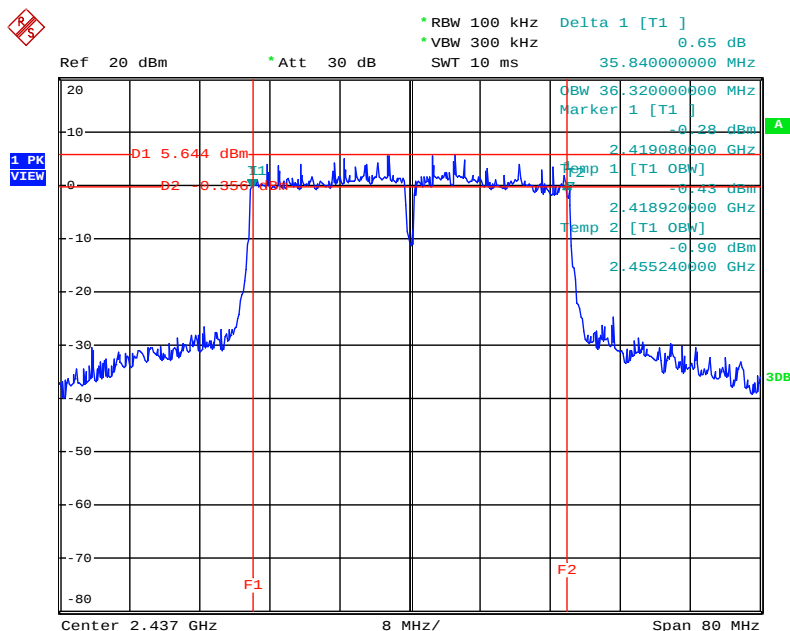
For &lt;Ant. 1&gt;

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 40MHz MCS0 / CH3 / Ant. 1



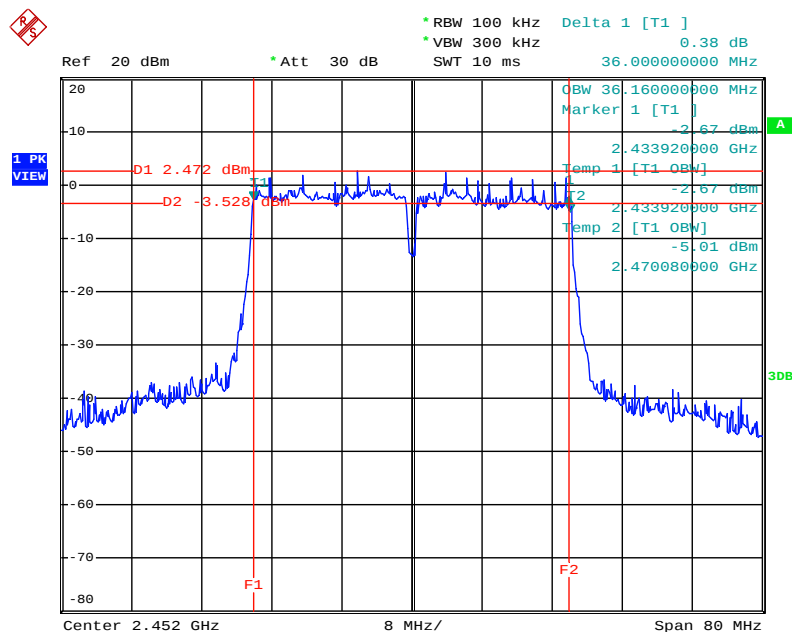
Date: 27.JAN.2014 11:07:53

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 40MHz MCS0 / CH 6 / Ant. 1



Date: 27.JAN.2014 11:09:28

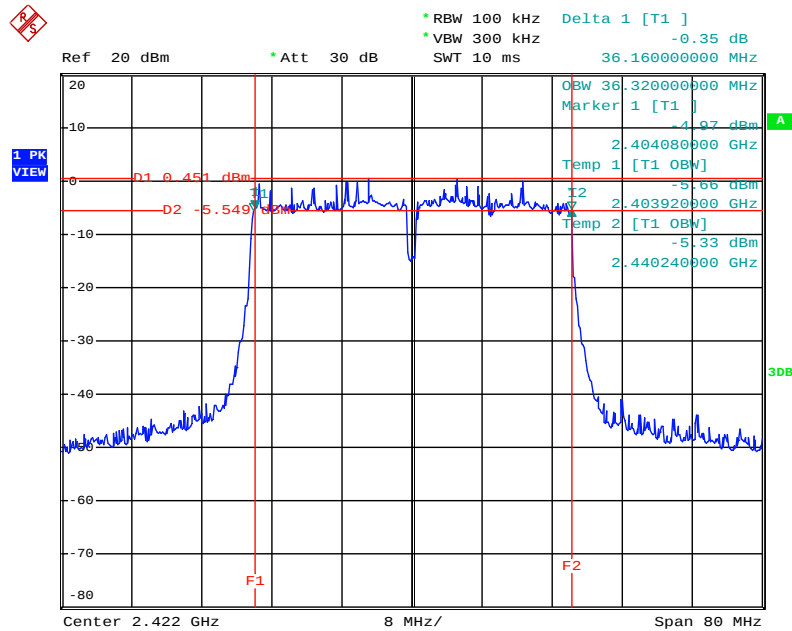
## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 40MHz MCS0 / CH 9 / Ant. 1



Date: 27.JAN.2014 11:10:21

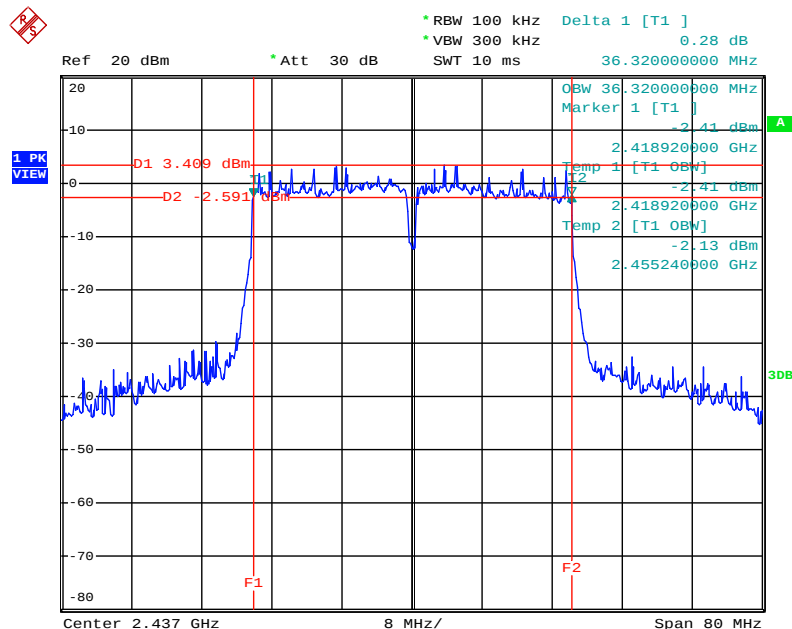
&lt;MCS0, Ant. 1+2+3, CDD&gt;

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 40MHz MCS0 / CH 3 / Ant. 1



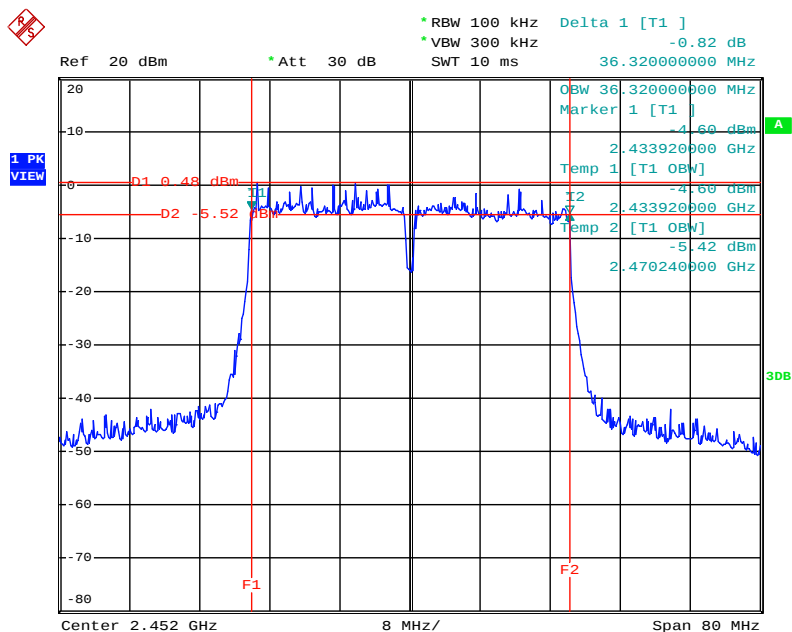
Date: 27.JAN.2014 11:29:32

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 40MHz MCS0 / CH 6 / Ant. 1



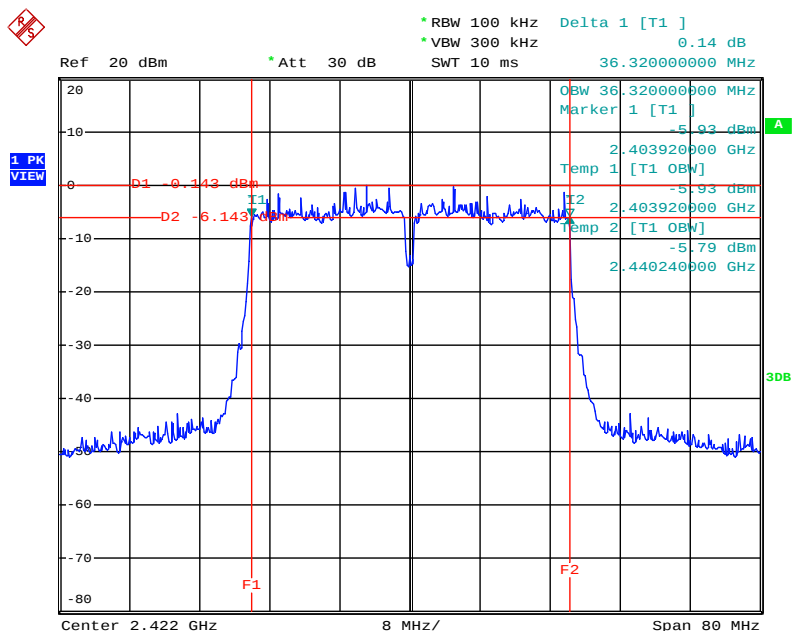
Date: 27.JAN.2014 11:35:53

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 40MHz MCS0 / CH 9 / Ant. 1



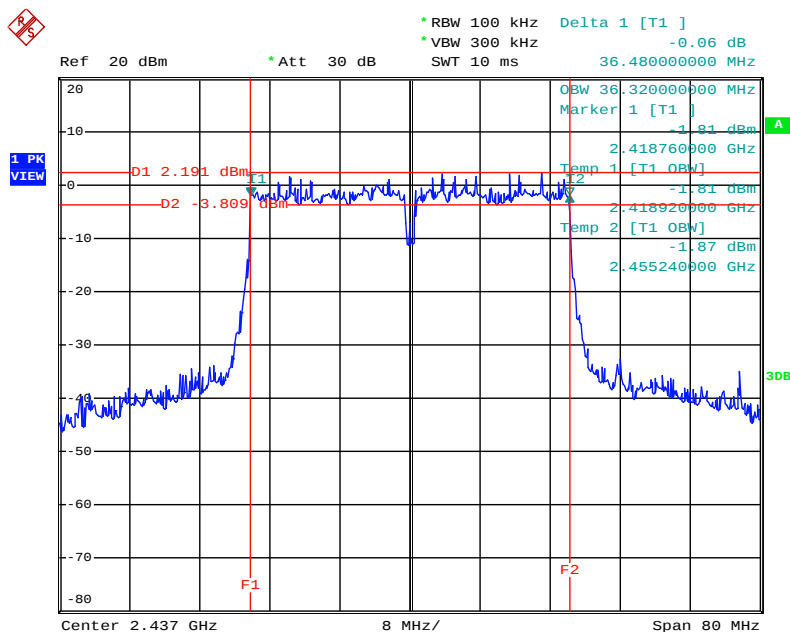
Date: 27.JAN.2014 11:37:09

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 40MHz MCS0 / CH 3 / Ant. 2



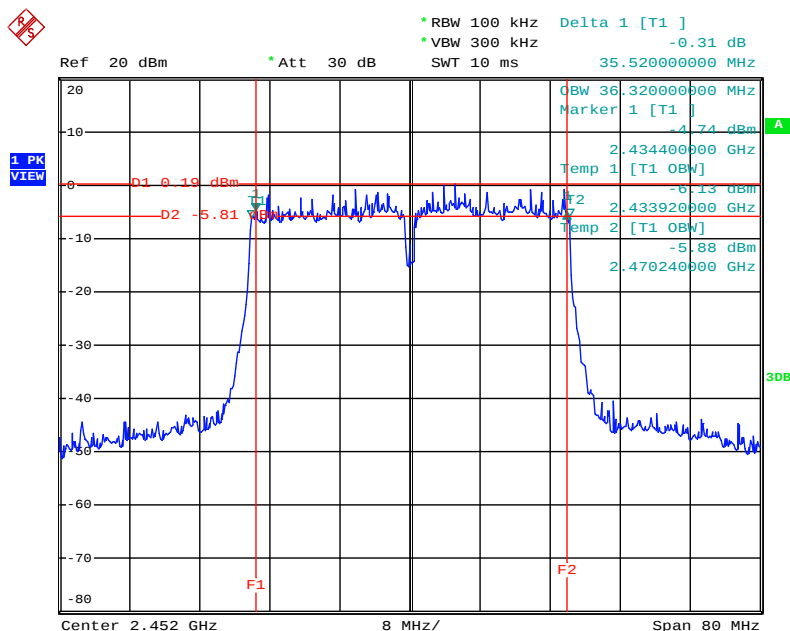
Date: 27.JAN.2014 11:30:31

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 40MHz MCS0 / CH 6 / Ant. 2



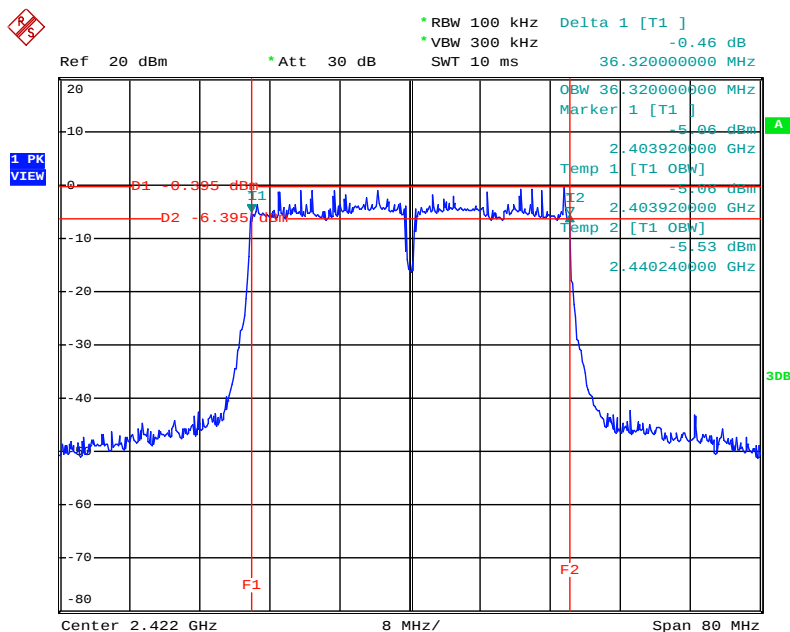
Date: 27.JAN.2014 11:34:47

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 40MHz MCS0 / CH 9 / Ant. 2



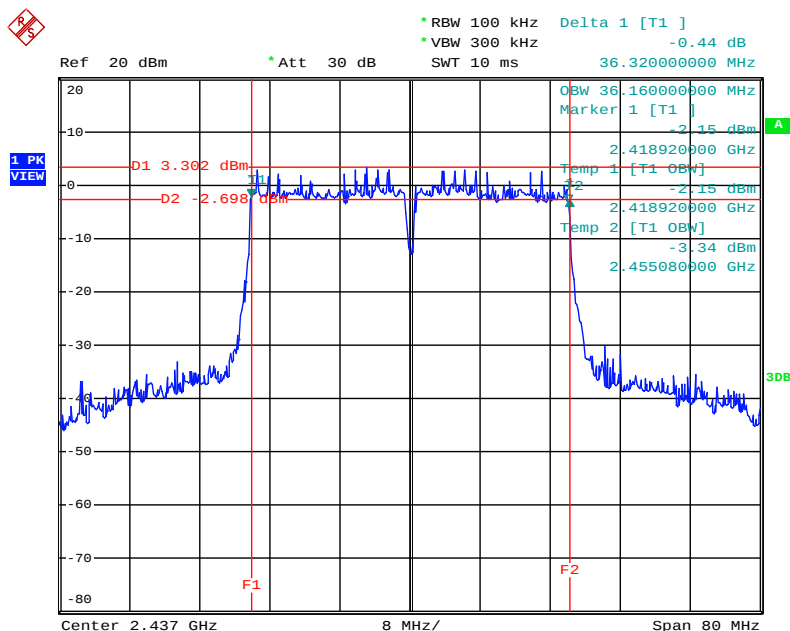
Date: 27.JAN.2014 11:37:56

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 40MHz MCS0 / CH 3 / Ant. 3



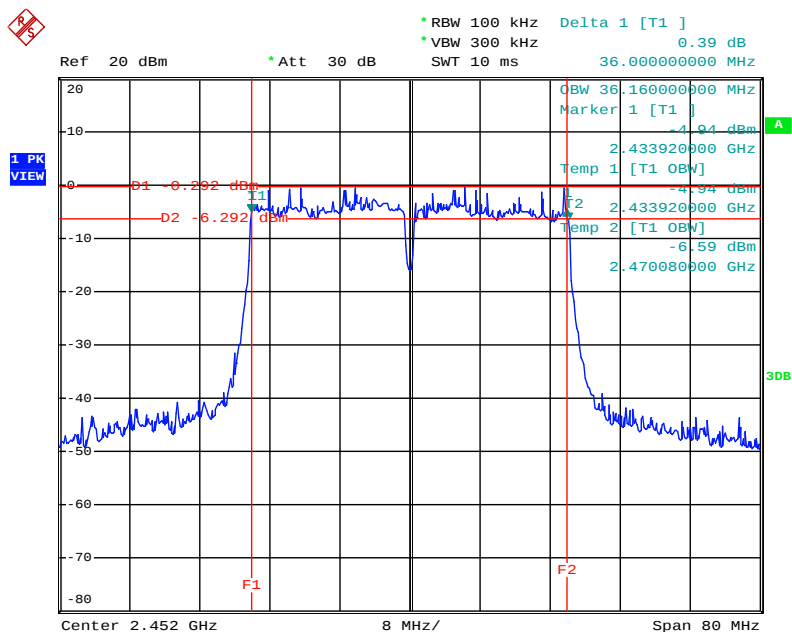
Date: 27.JAN.2014 11:31:17

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 40MHz MCS0 / CH 6 / Ant. 3



Date: 27.JAN.2014 11:33:59

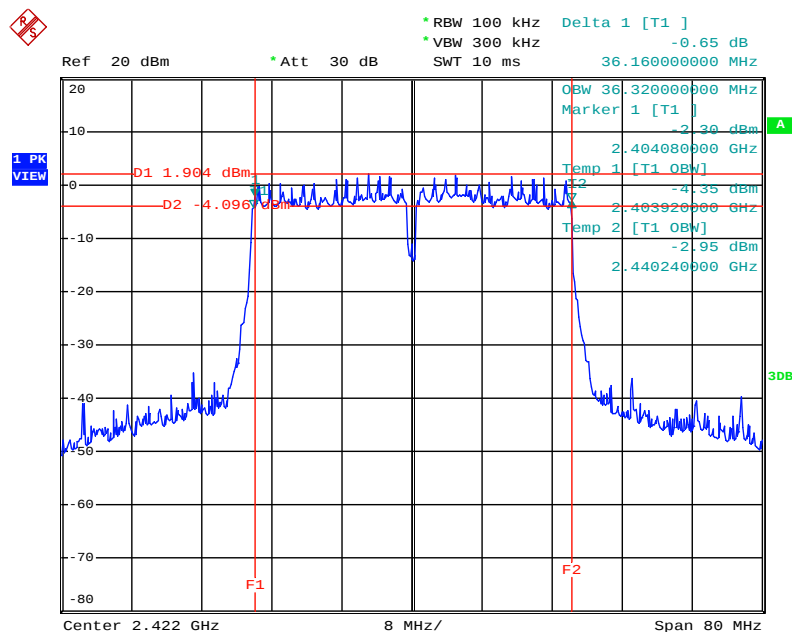
## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 40MHz MCS0 / CH 9 / Ant. 3



Date: 27.JAN.2014 11:38:42

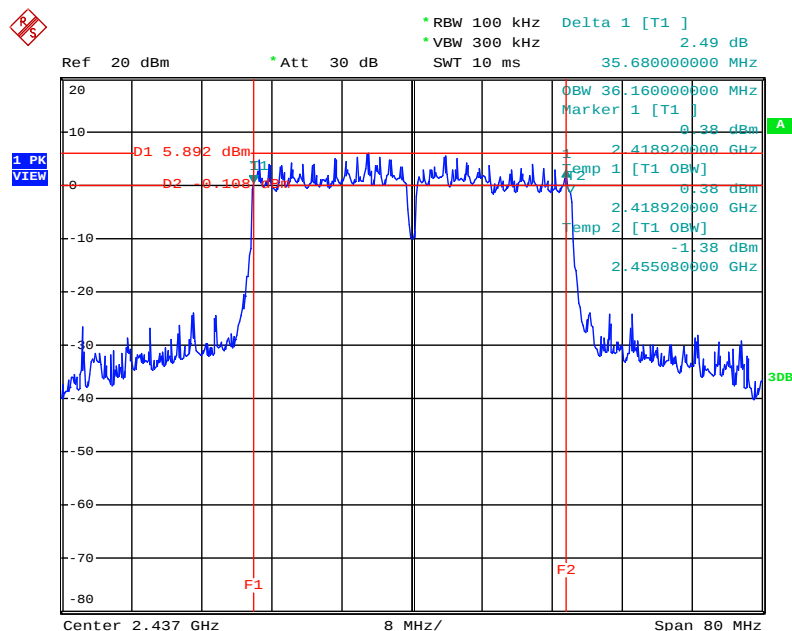
&lt;MCS8, Ant. 1+2+3, CDD&gt;

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 40MHz MCS8 / CH 3 / Ant. 1



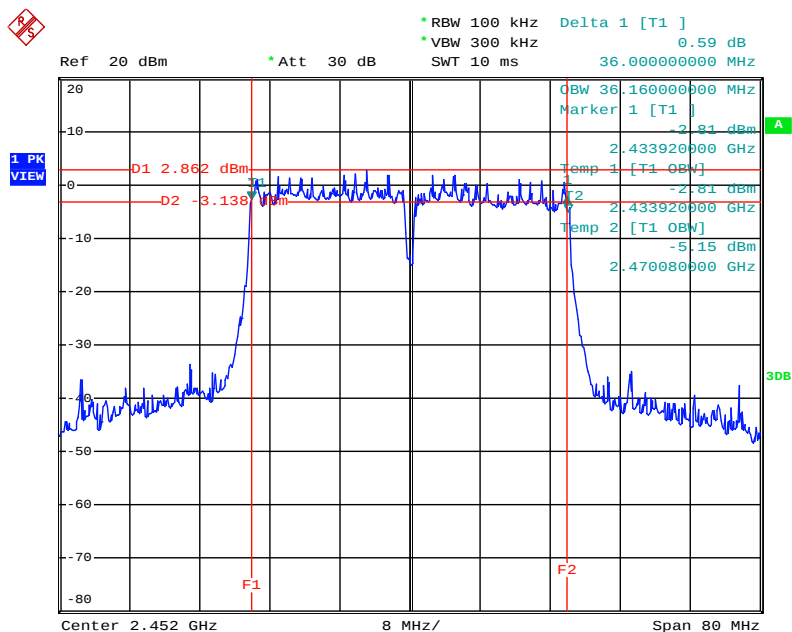
Date: 27.JAN.2014 10:45:28

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 40MHz MCS8 / CH 6 / Ant. 1



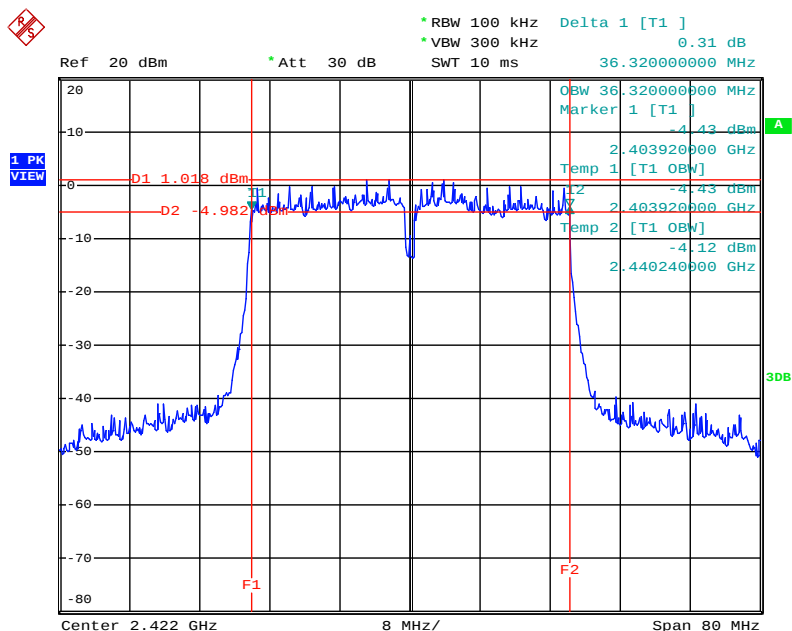
Date: 27.JAN.2014 10:49:53

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 40MHz MCS8 / CH 9 / Ant. 1



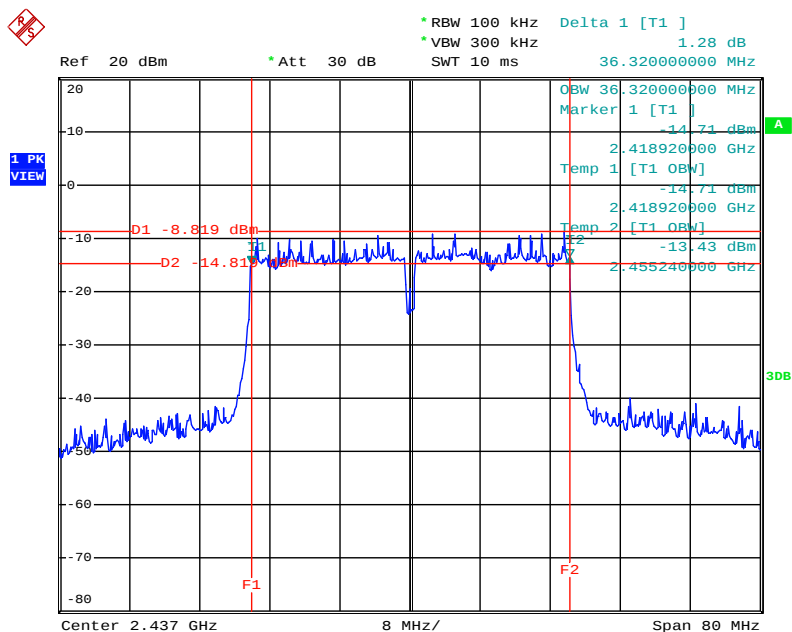
Date: 27.JAN.2014 10:50:57

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 40MHz MCS8 / CH 3 / Ant. 2



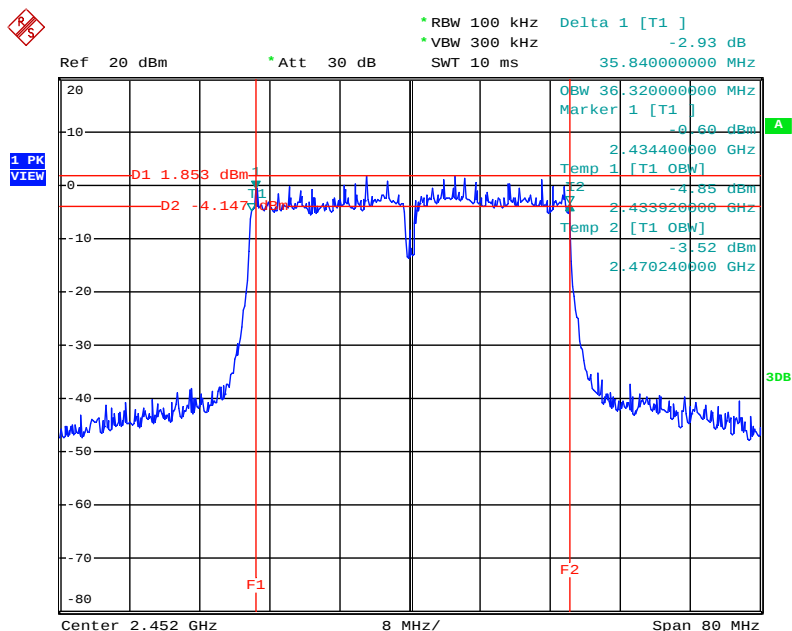
Date: 27.JAN.2014 10:46:08

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 40MHz MCS8 / CH 6 / Ant. 2



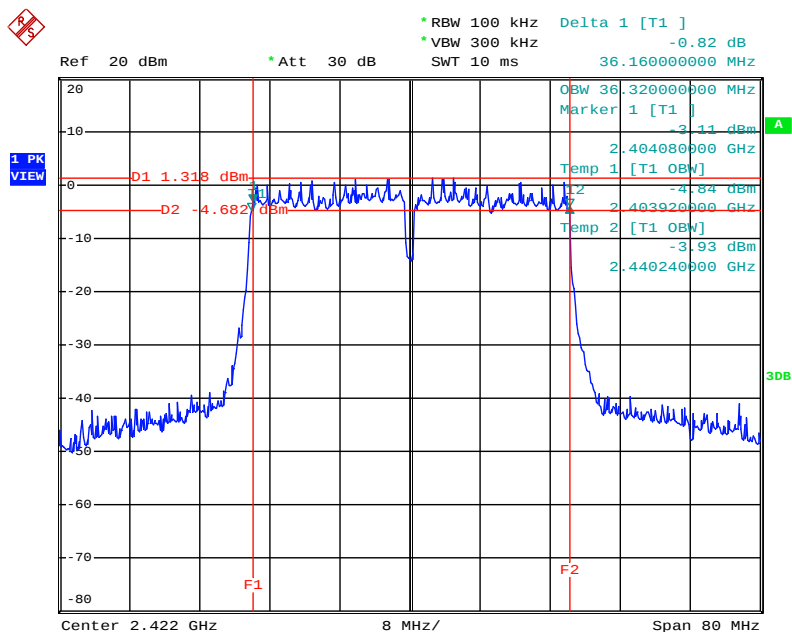
Date: 27.JAN.2014 10:49:04

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 40MHz MCS8 / CH 9 / Ant. 2



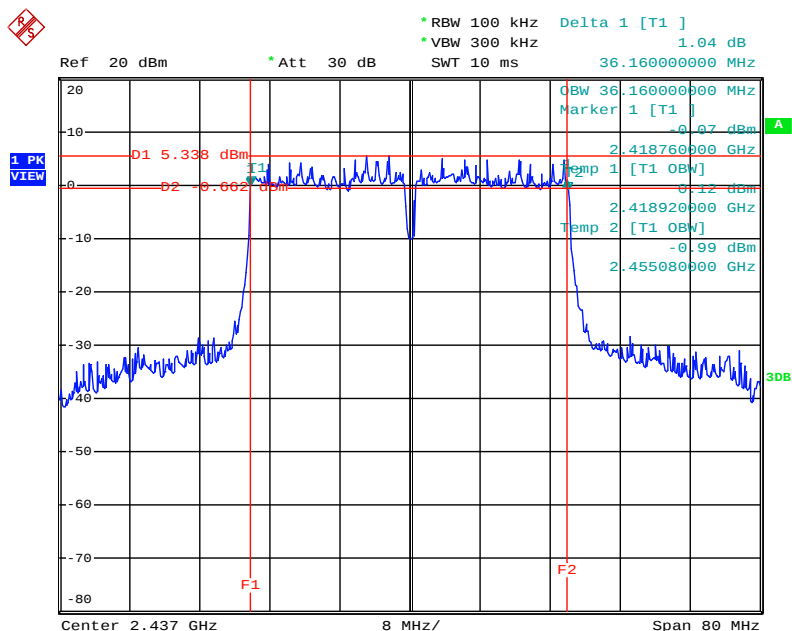
Date: 27.JAN.2014 10:51:48

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 40MHz MCS8 / CH 3 / Ant. 3



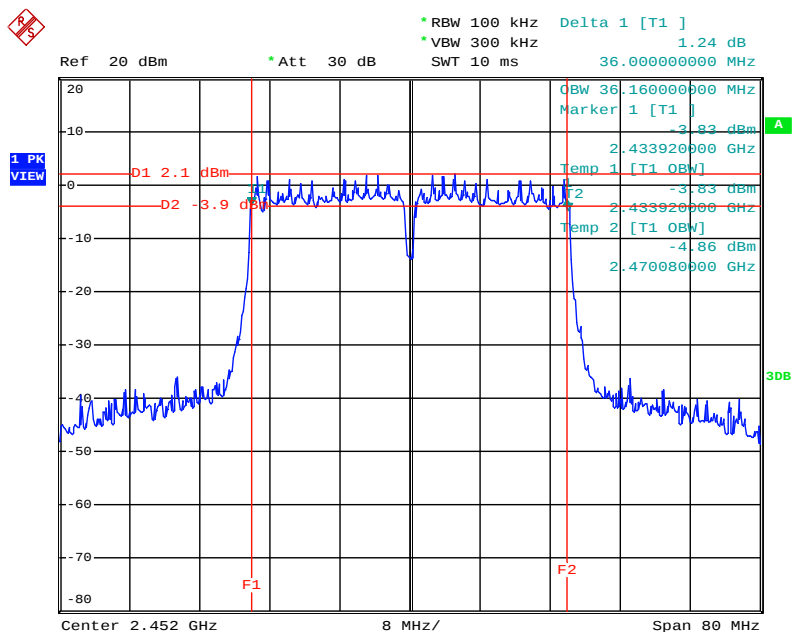
Date: 27.JAN.2014 10:46:49

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 40MHz MCS8 / CH 6 / Ant. 3



Date: 27.JAN.2014 10:48:26

## 6 dB Bandwidth Plot on Configuration of IEEE 802.11n 40MHz MCS8 / CH 9 / Ant. 3



Date: 27.JAN.2014 10:52:28

### 3.5. Radiated Emissions Measurement

#### 3.5.1. Limit

30dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

| Frequencies<br>(MHz) | Field Strength<br>(microvolt/meter) | Measurement Distance<br>(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                                |

#### 3.5.2. Measuring Instruments and Setting

Please refer to section 6 of equipments list in this report. The following table is the setting of spectrum analyzer and receiver.

| Spectrum Parameter                          | Setting                                       |
|---------------------------------------------|-----------------------------------------------|
| Attenuation                                 | Auto                                          |
| Start Frequency                             | 1GHz                                          |
| Stop Frequency                              | 10th carrier harmonic                         |
| RBW / VBW (Emission in restricted band)     | 1MHz / 3MHz for Peak, 1MHz / 10Hz for Average |
| RBW / VBW (Emission in non-restricted band) | 100kHz / 300kHz for peak                      |

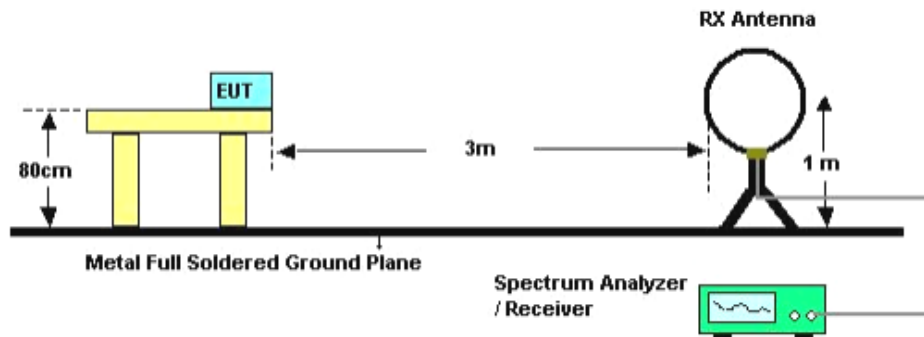
| Receiver Parameter     | Setting                        |
|------------------------|--------------------------------|
| Attenuation            | Auto                           |
| Start ~ Stop Frequency | 9kHz~150kHz / RBW 200Hz for QP |
| Start ~ Stop Frequency | 150kHz~30MHz / RBW 9kHz for QP |
| Start ~ Stop Frequency | 30MHz~1GHz / RBW 120kHz for QP |

**3.5.3. Test Procedures**

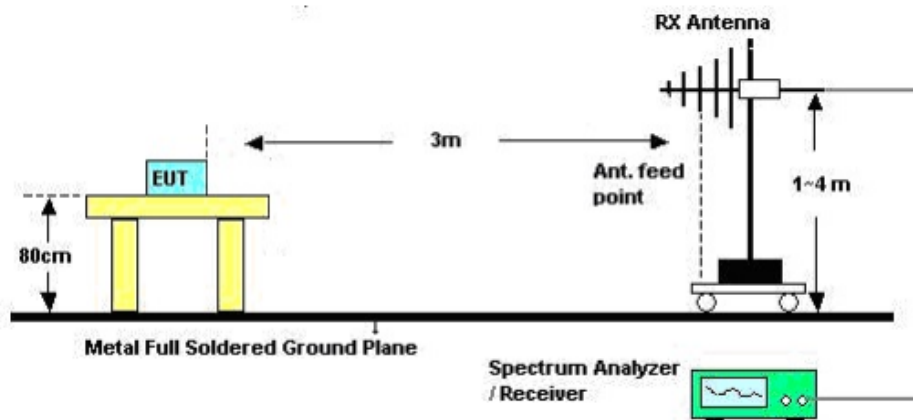
1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 m to 4 m) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and 3MHz RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High – Low scan is not required in this case.

### 3.5.4. Test Setup Layout

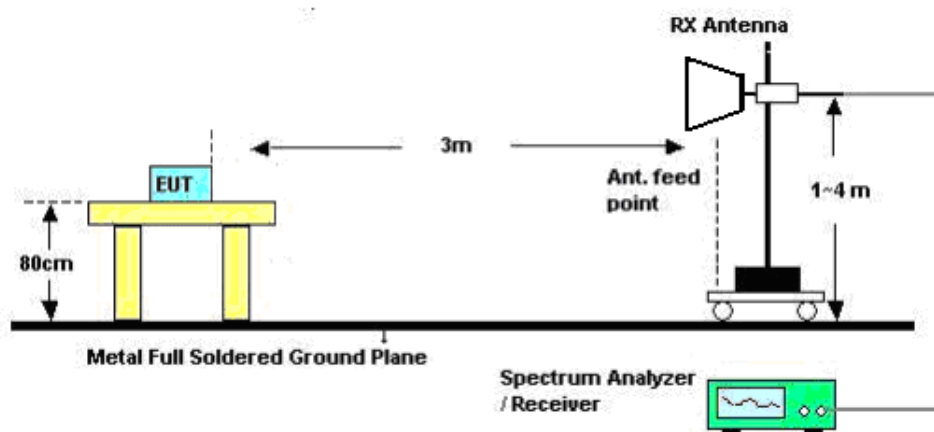
For Radiated Emissions below 1GHz (9kHz~30MHz)



For Radiated Emissions below 1GHz (30MHz~1GHz)



For Radiated Emissions above 1GHz



### 3.5.5. Test Deviation

There are no deviations with the original standard.

**3.5.6. EUT Operation during Test**

The EUT was programmed to be in continuously transmitting mode.

**3.5.7. Results of Radiated Emissions (9kHz~30MHz)**

|                        |               |                       |           |
|------------------------|---------------|-----------------------|-----------|
| <b>Frequency Range</b> | 9kHz~30MHz    | <b>Test Site No.</b>  | 03CH01-CB |
| <b>Temperature</b>     | 24°C          | <b>Humidity</b>       | 55%       |
| <b>Test Engineer</b>   | David Tseng   | <b>Configurations</b> | CTX       |
| <b>Test Date</b>       | Feb. 26, 2014 |                       |           |

| <b>Freq.<br/>(MHz)</b> | <b>Level<br/>(dBuV)</b> | <b>Over Limit<br/>(dB)</b> | <b>Limit Line<br/>(dBuV)</b> | <b>Remark</b> |
|------------------------|-------------------------|----------------------------|------------------------------|---------------|
| -                      | -                       | -                          | -                            | See Note      |

**Note:**

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

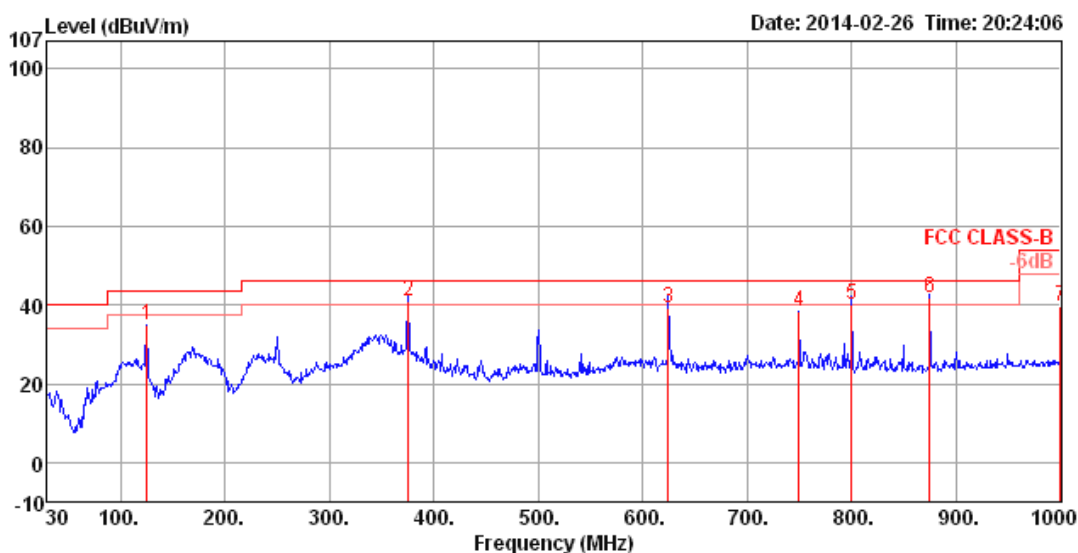
Distance extrapolation factor =  $40 \log (\text{specific distance} / \text{test distance})$  (dB);

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

## 3.5.8. Results of Radiated Emissions (30MHz~1GHz)

|                 |             |                |           |
|-----------------|-------------|----------------|-----------|
| Frequency Range | 30MHz~1GHz  | Test Site No.  | 03CH01-CB |
| Temperature     | 24°C        | Humidity       | 55%       |
| Test Engineer   | David Tseng | Configurations | CTX       |

## Horizontal



|   | Freq    | Level  | Limit  | Over   | Read  | Cable | Antenna | Preamp | A/Pos | T/Pos | Pol/Phase  | Remark |
|---|---------|--------|--------|--------|-------|-------|---------|--------|-------|-------|------------|--------|
|   | MHz     | dBuV/m | dBuV/m | dB     | dBuV  | dB    | dB/m    | dB     | cm    | deg   |            |        |
| 1 | 125.06  | 34.73  | 43.50  | -8.77  | 53.24 | 1.33  | 11.73   | 31.57  | 150   | 265   | HORIZONTAL | Peak   |
| 2 | 375.32  | 40.78  | 46.00  | -5.22  | 54.84 | 2.44  | 14.93   | 31.43  | 100   | 226   | HORIZONTAL | QP     |
| 3 | 624.61  | 39.01  | 46.00  | -6.99  | 48.62 | 3.18  | 18.61   | 31.40  | 124   | 286   | HORIZONTAL | QP     |
| 4 | 749.74  | 38.21  | 46.00  | -7.79  | 46.36 | 3.53  | 19.69   | 31.37  | 100   | 332   | HORIZONTAL | Peak   |
| 5 | 800.18  | 40.12  | 46.00  | -5.88  | 47.96 | 3.67  | 19.76   | 31.27  | 100   | 73    | HORIZONTAL | QP     |
| 6 | 874.87  | 42.02  | 46.00  | -3.98  | 49.04 | 3.89  | 20.24   | 31.15  | 100   | 296   | HORIZONTAL | QP     |
| 7 | 1000.00 | 39.65  | 54.00  | -14.35 | 45.18 | 4.21  | 21.44   | 31.18  | 125   | 332   | HORIZONTAL | Peak   |

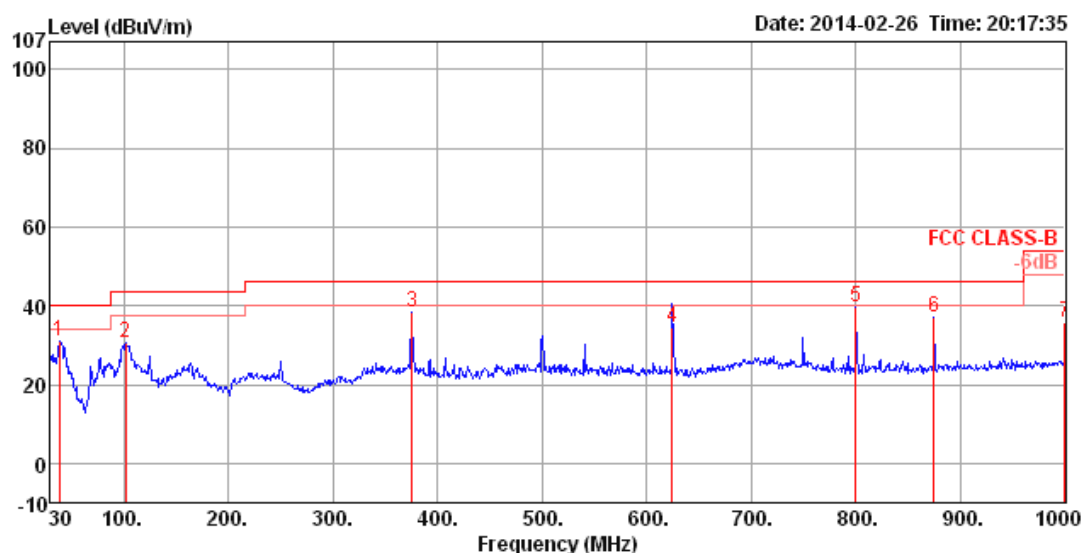
## Note:

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

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

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

## Vertical



|   | Freq    | Level  | Limit  | Over   | Read  | CableAntenna | Preamp | A/Pos | T/Pos | Pol/Phase    | Remark |
|---|---------|--------|--------|--------|-------|--------------|--------|-------|-------|--------------|--------|
|   | MHz     | dBuV/m | dBuV/m | dB     | dBuV  | dB           | dB/m   | dB    | cm    | deg          |        |
| 1 | 38.73   | 31.16  | 40.00  | -8.84  | 49.21 | 0.73         | 13.10  | 31.88 | 125   | 341 VERTICAL | Peak   |
| 2 | 101.78  | 30.80  | 43.50  | -12.70 | 50.65 | 1.19         | 10.56  | 31.60 | 100   | 358 VERTICAL | Peak   |
| 3 | 375.32  | 38.38  | 46.00  | -7.62  | 52.44 | 2.44         | 14.93  | 31.43 | 150   | 96 VERTICAL  | Peak   |
| 4 | 624.61  | 34.45  | 46.00  | -11.55 | 44.06 | 3.18         | 18.61  | 31.40 | 100   | 80 VERTICAL  | QP     |
| 5 | 800.18  | 39.72  | 46.00  | -6.28  | 47.56 | 3.67         | 19.76  | 31.27 | 125   | 89 VERTICAL  | Peak   |
| 6 | 874.87  | 36.97  | 46.00  | -9.03  | 43.99 | 3.89         | 20.24  | 31.15 | 125   | 303 VERTICAL | Peak   |
| 7 | 1000.00 | 35.96  | 54.00  | -18.04 | 41.49 | 4.21         | 21.44  | 31.18 | 100   | 294 VERTICAL | Peak   |

## Note:

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

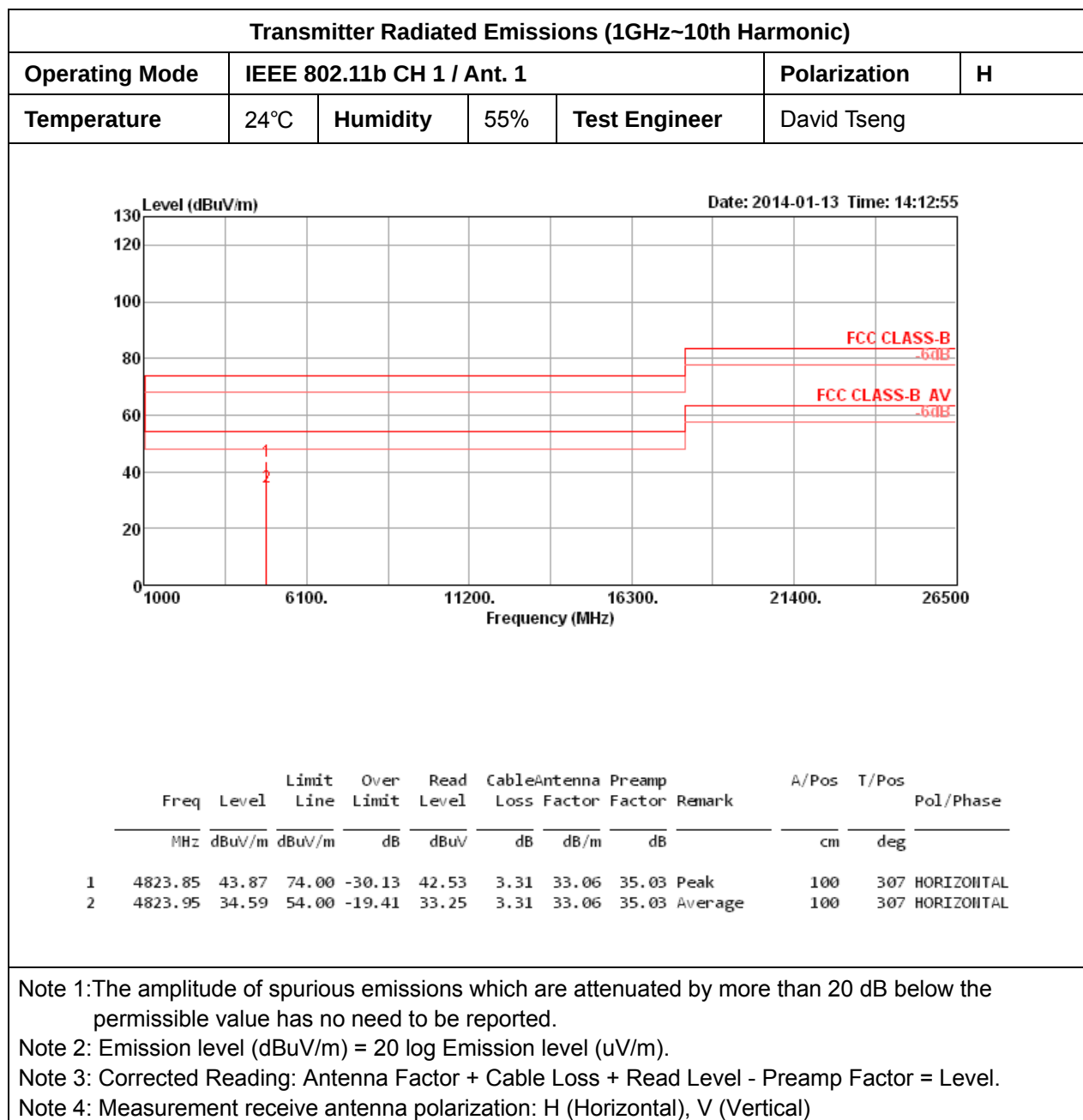
Emission level (dBuV/m) = 20 log Emission level (uV/m).

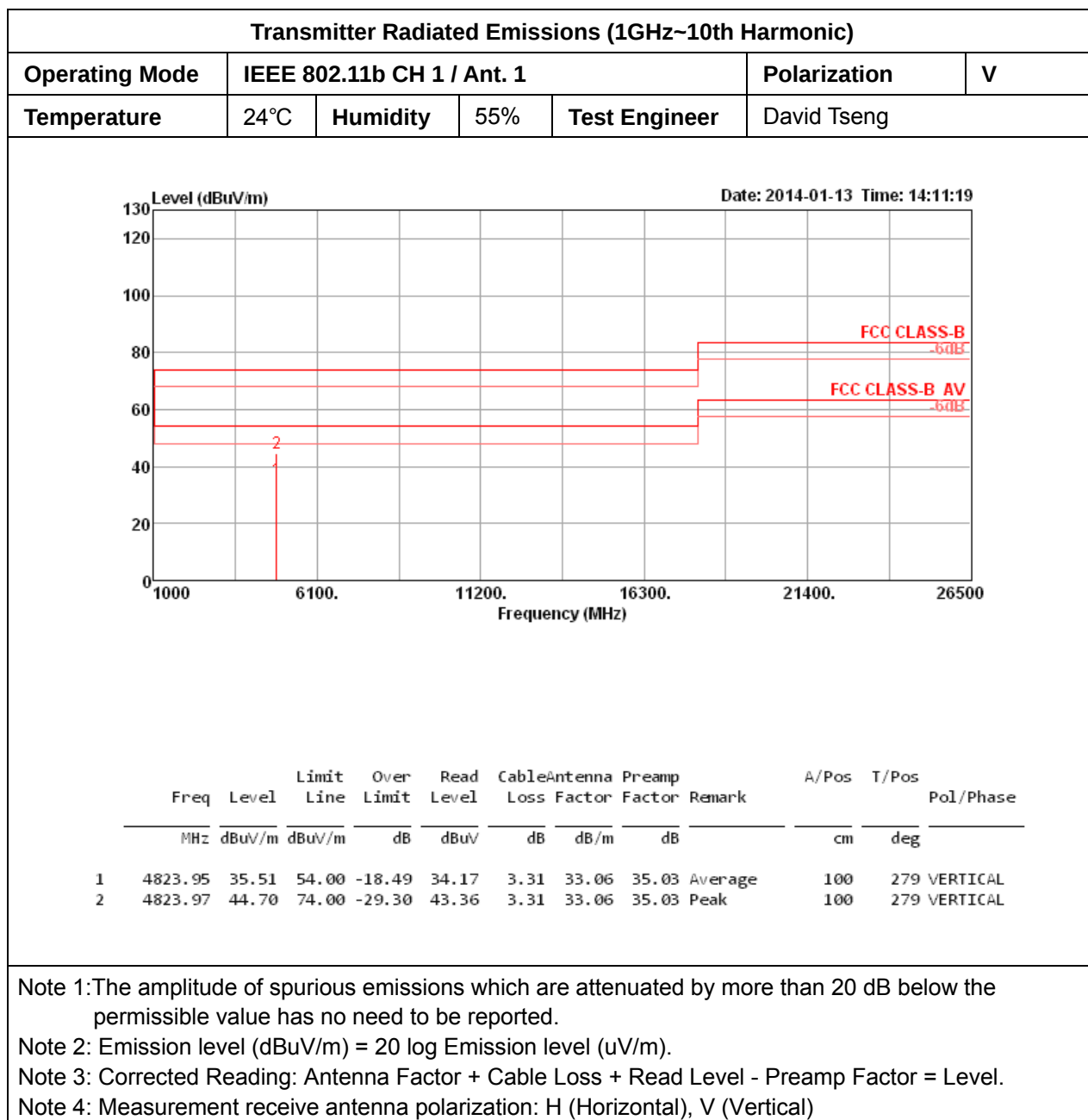
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

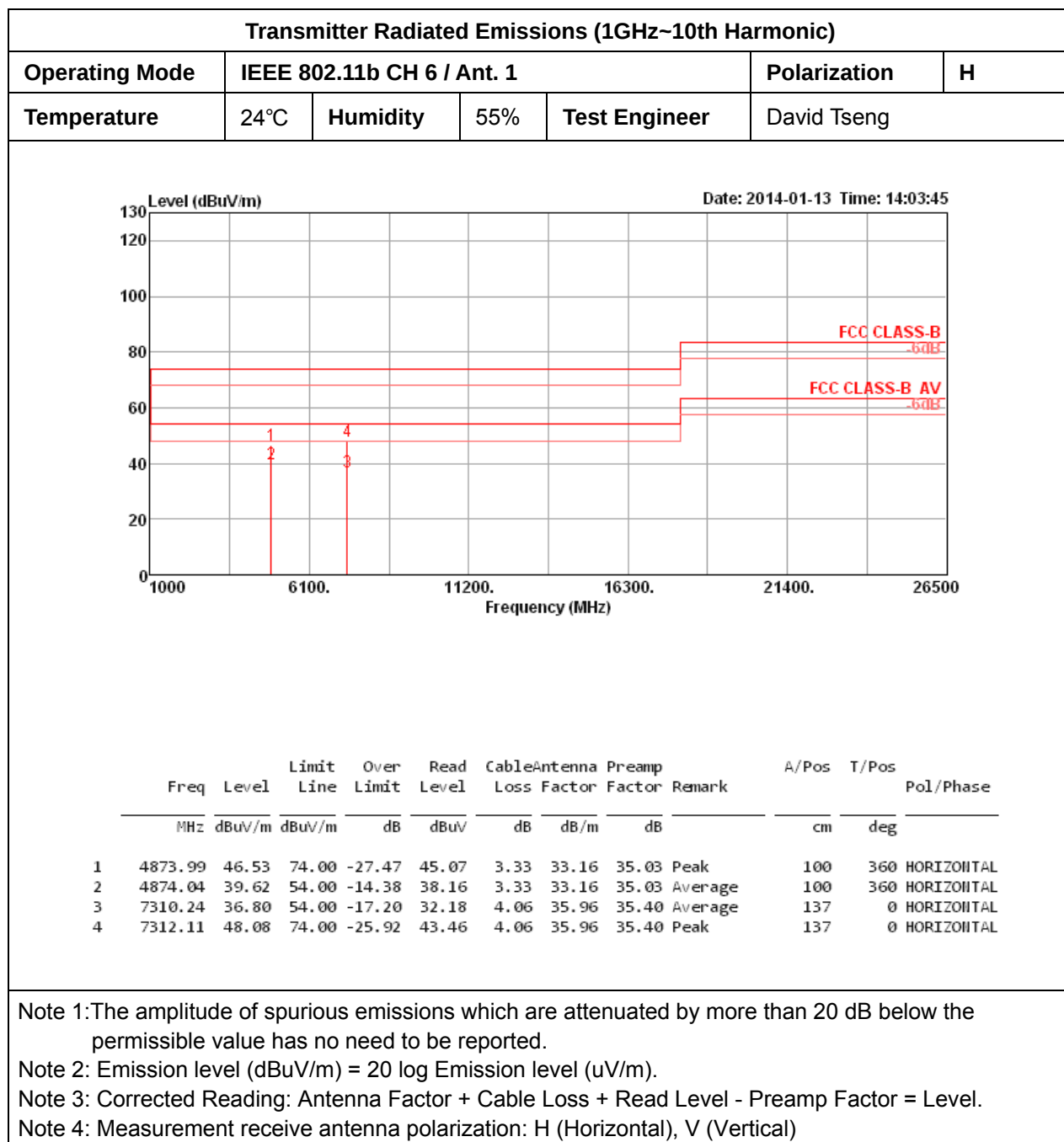
**3.5.9. Results for Radiated Emissions (1GHz~10<sup>th</sup> Harmonic)**

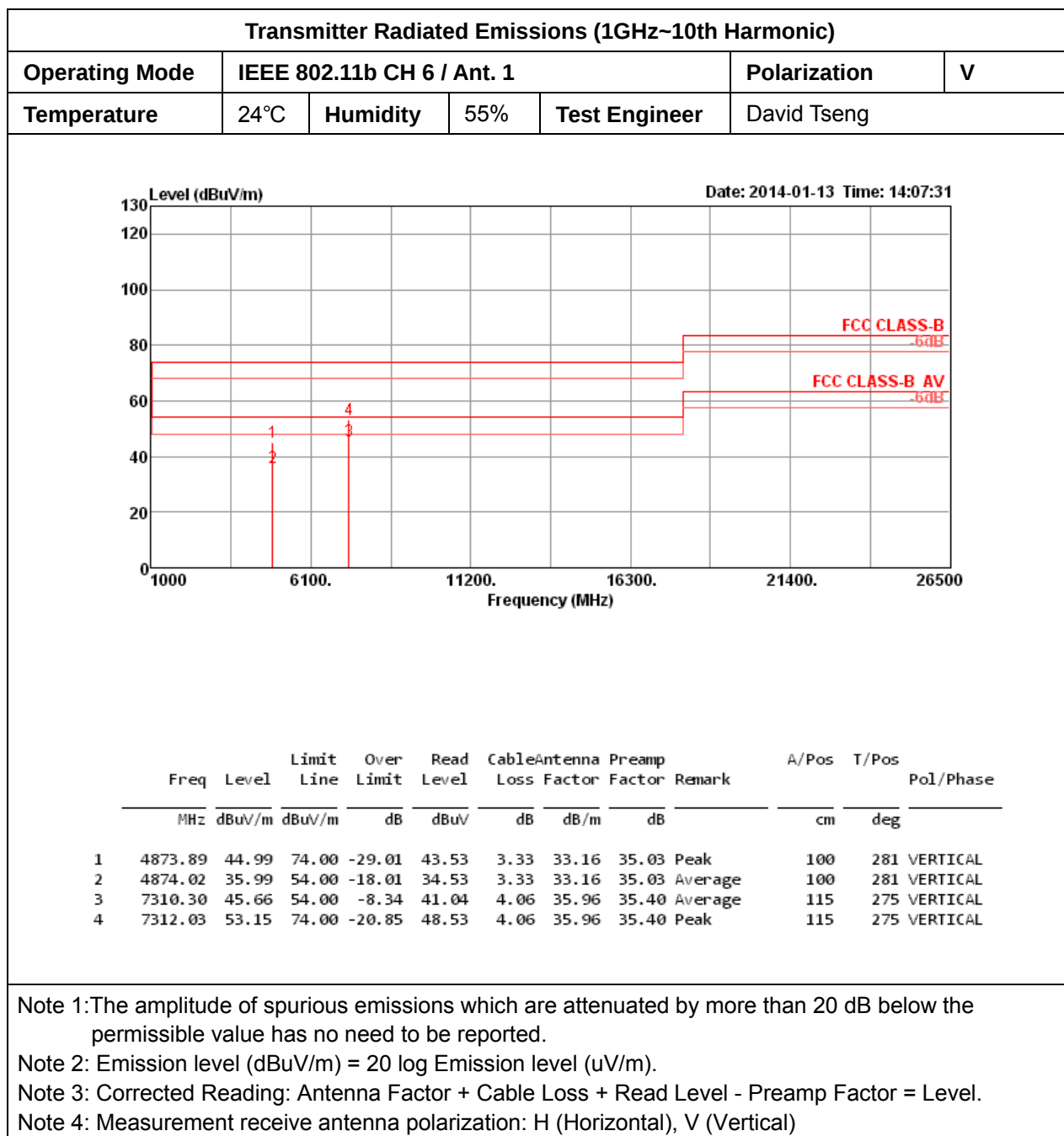
Following channel(s) was (were) selected for the final test as listed below.

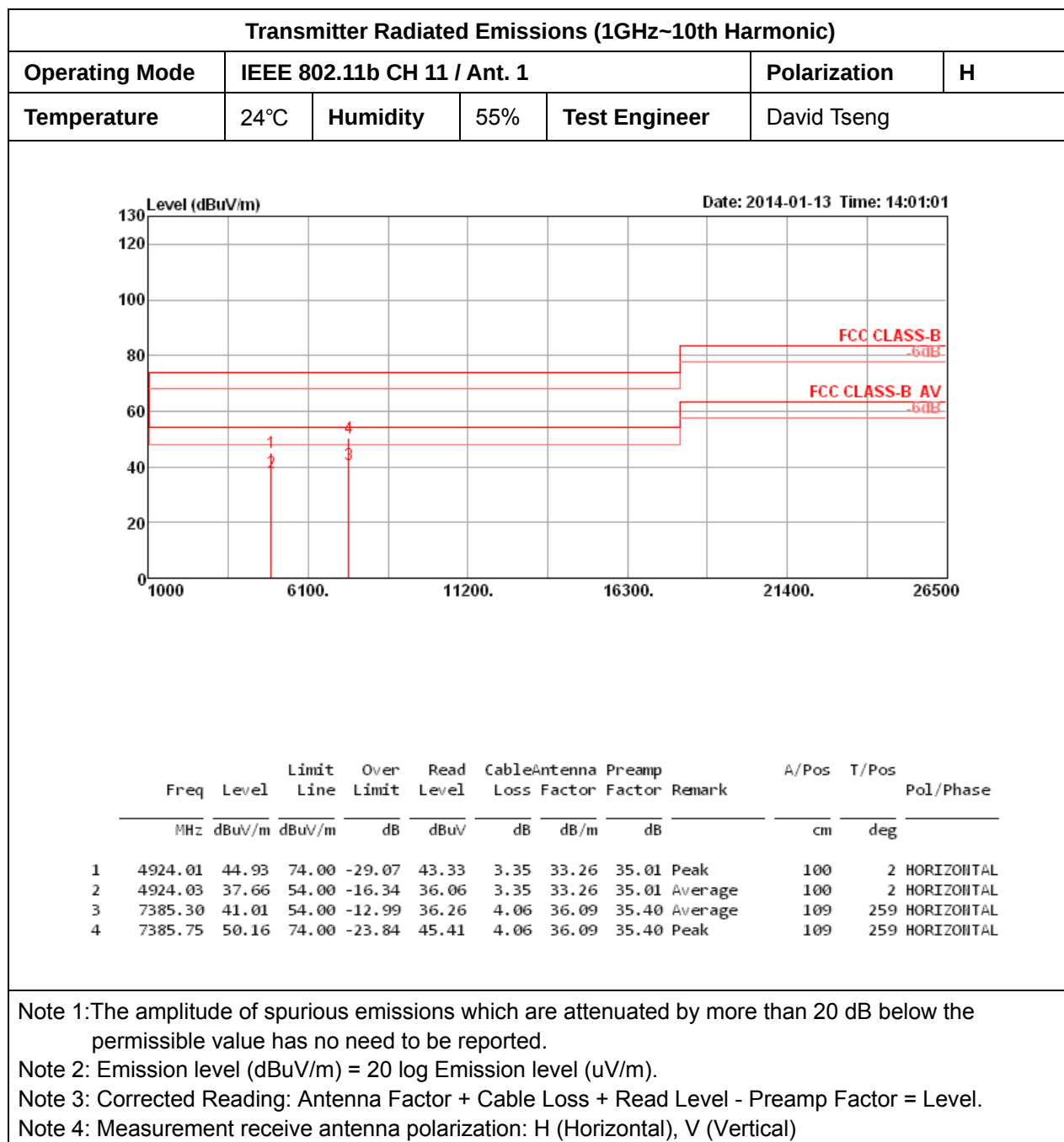
| MODE          | TX Chain       | TESTED CHANNEL | MODULATION TECHNOLOGY | MODULATION TYPE | DATA RATE (Mbps) |
|---------------|----------------|----------------|-----------------------|-----------------|------------------|
| 802.11b       | Ant.1          | 1, 6, 11       | DSSS                  | DBPSK           | 1                |
| 802.11b       | Ant.1+2+3, CDD | 1, 6, 11       | DSSS                  | DBPSK           | 1                |
| 802.11g       | Ant.1          | 1, 6, 11       | OFDM                  | BPSK            | 6                |
| 802.11g       | Ant.1+2+3, CDD | 1, 6, 11       | OFDM                  | BPSK            | 6                |
| 802.11n 20MHz | Ant.1          | 1, 6, 11       | OFDM                  | BPSK            | MCS0 (6.5)       |
| 802.11n 20MHz | Ant.1+2+3, CDD | 1, 6, 11       | OFDM                  | BPSK            | MCS0 (6.5)       |
| 802.11n 20MHz | Ant.1+2+3, CDD | 1, 6, 11       | OFDM                  | BPSK            | MCS8 (13)        |
| 802.11n 40MHz | Ant.3          | 3, 6, 9        | OFDM                  | BPSK            | MCS0 (13)        |
| 802.11n 40MHz | Ant.1+2+3, CDD | 3, 6, 9        | OFDM                  | BPSK            | MCS0 (13)        |
| 802.11n 40MHz | Ant.1+2+3, CDD | 3, 6, 9        | OFDM                  | BPSK            | MCS8 (27)        |

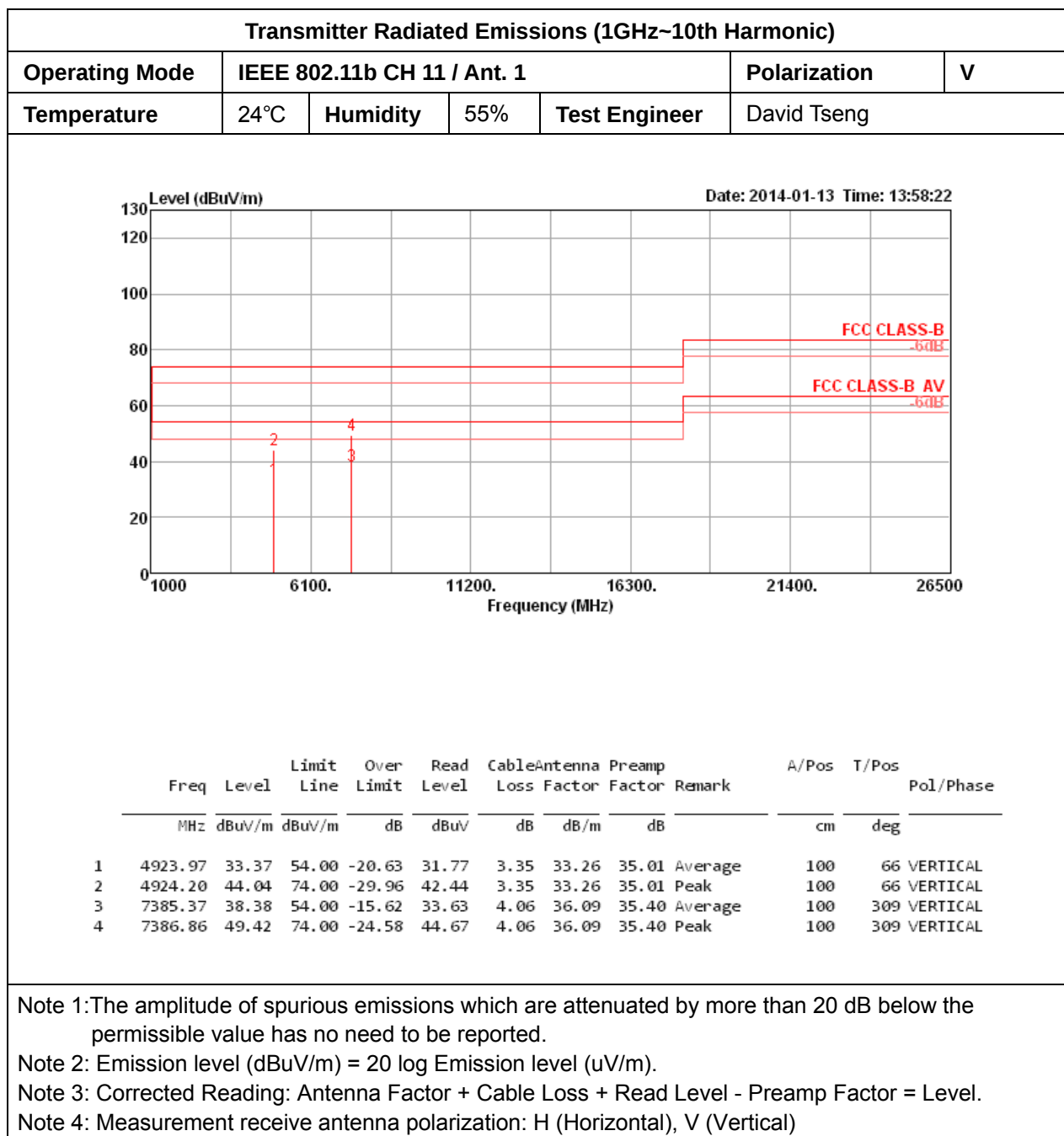


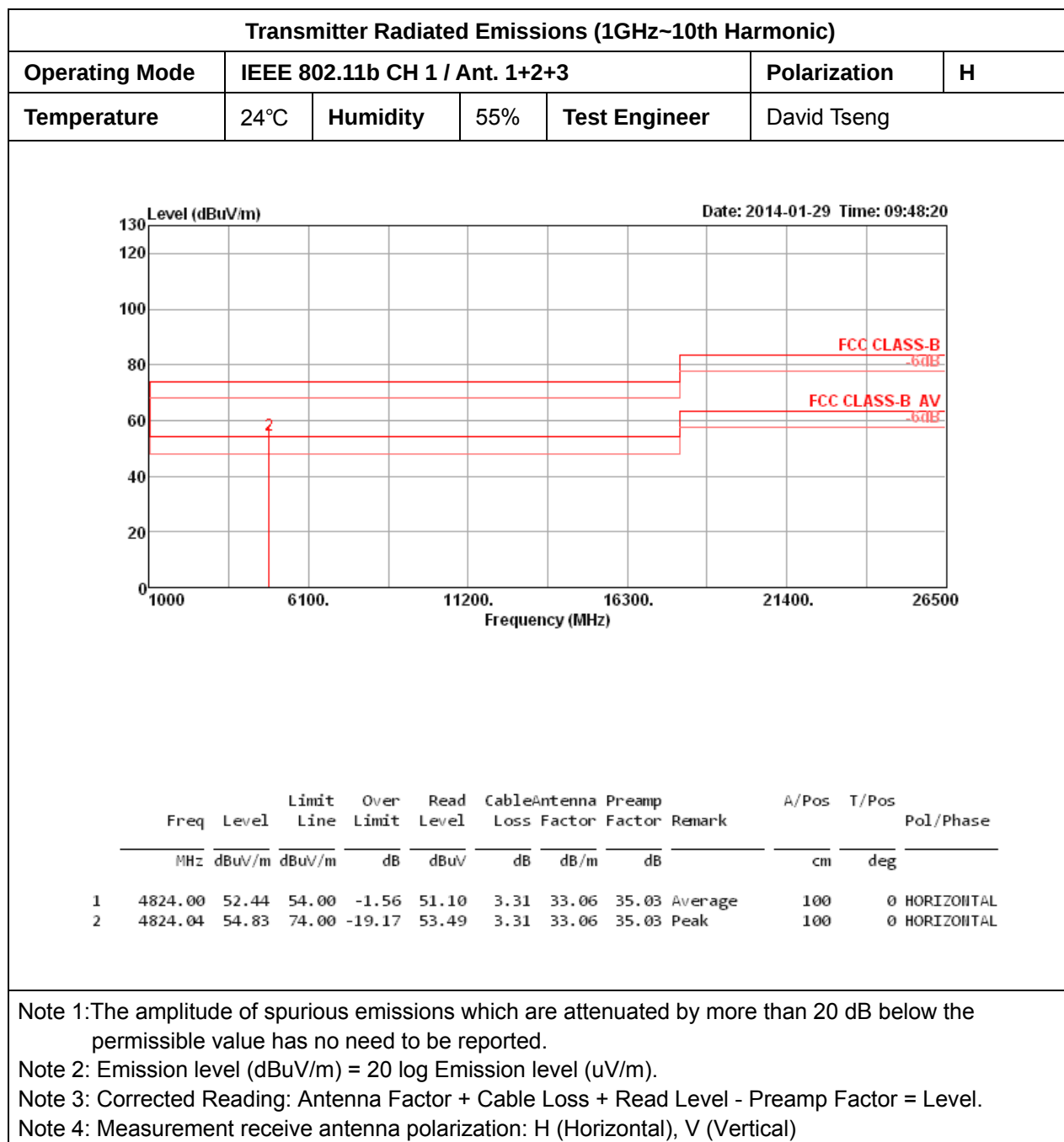


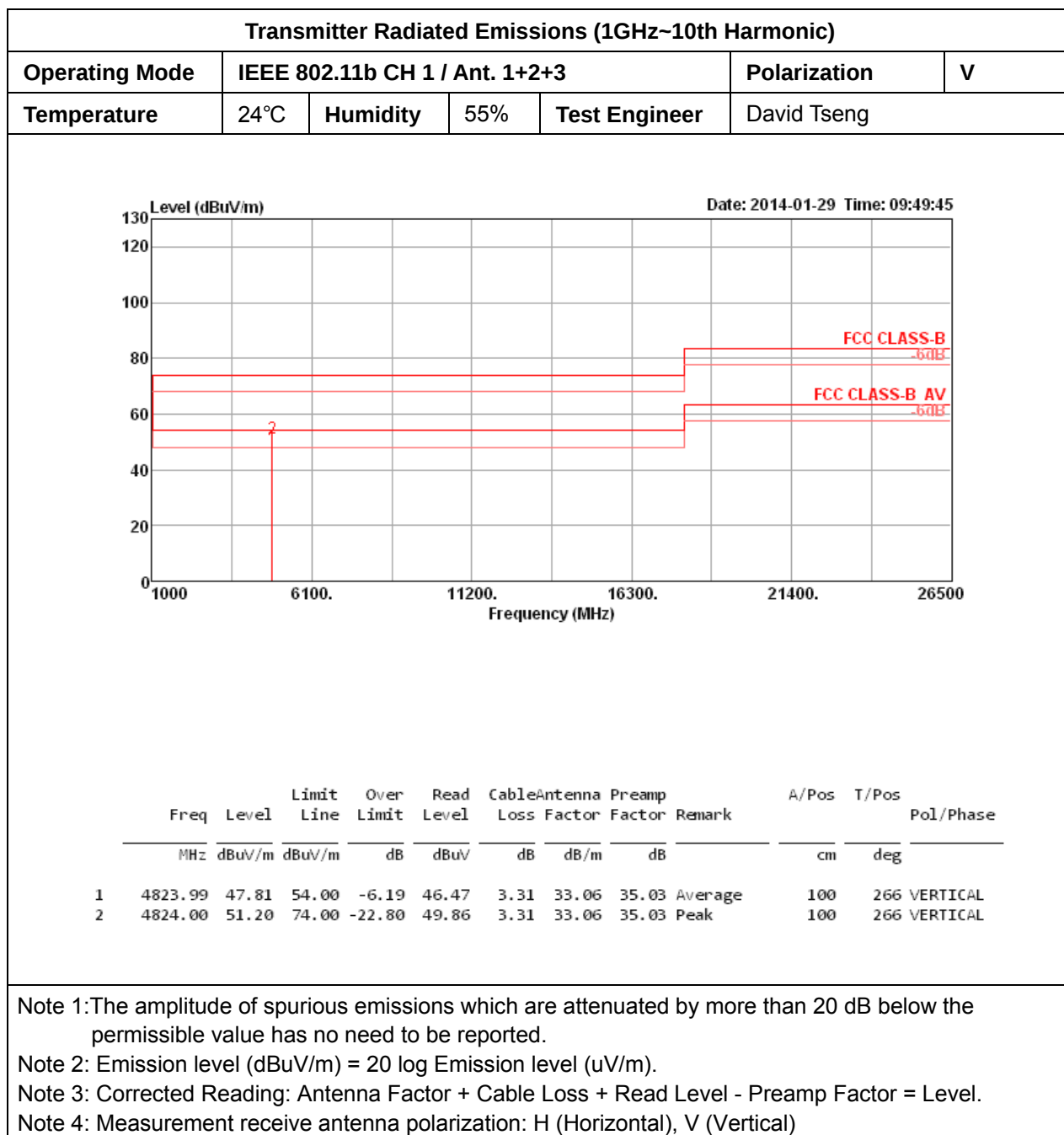


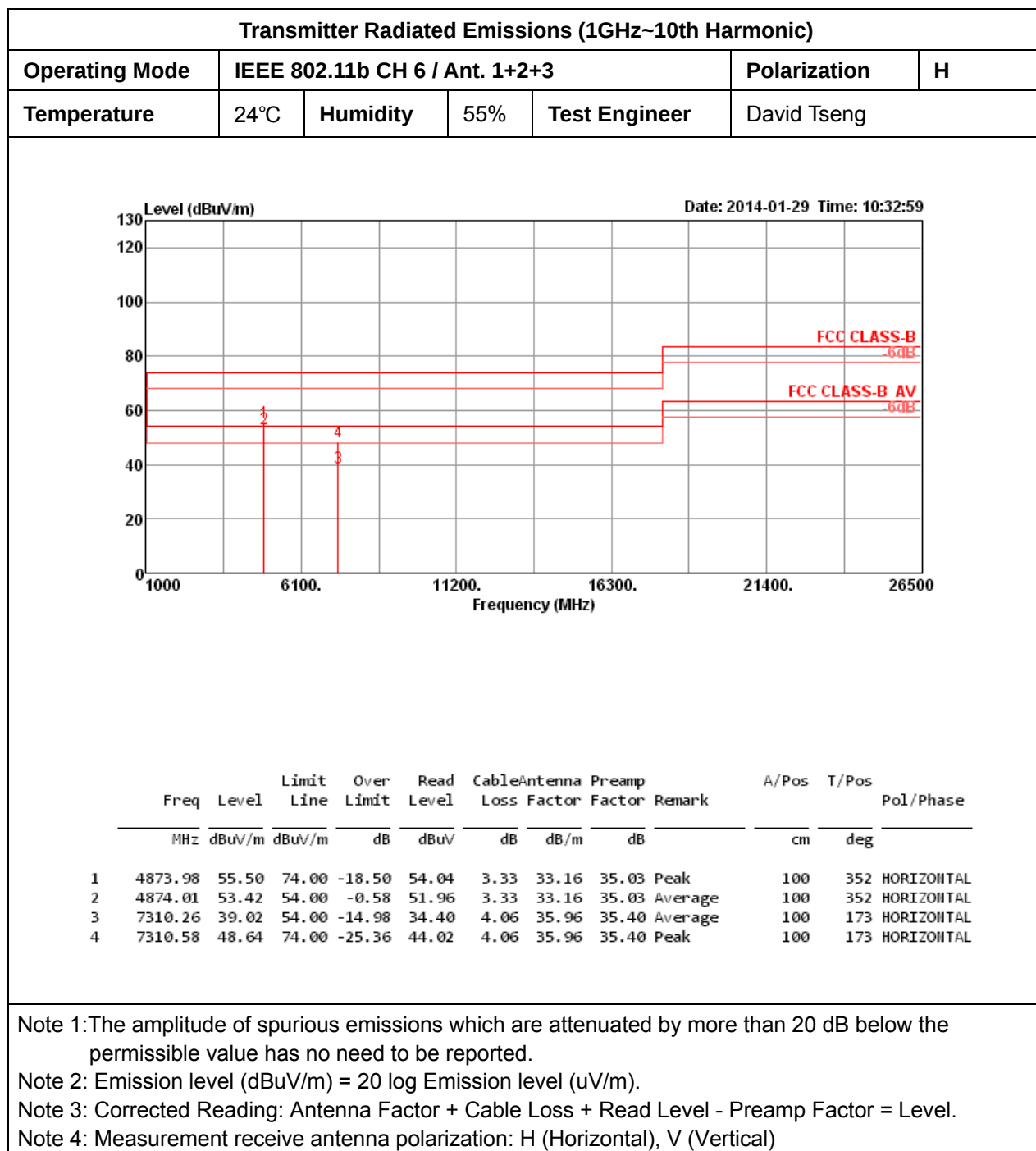


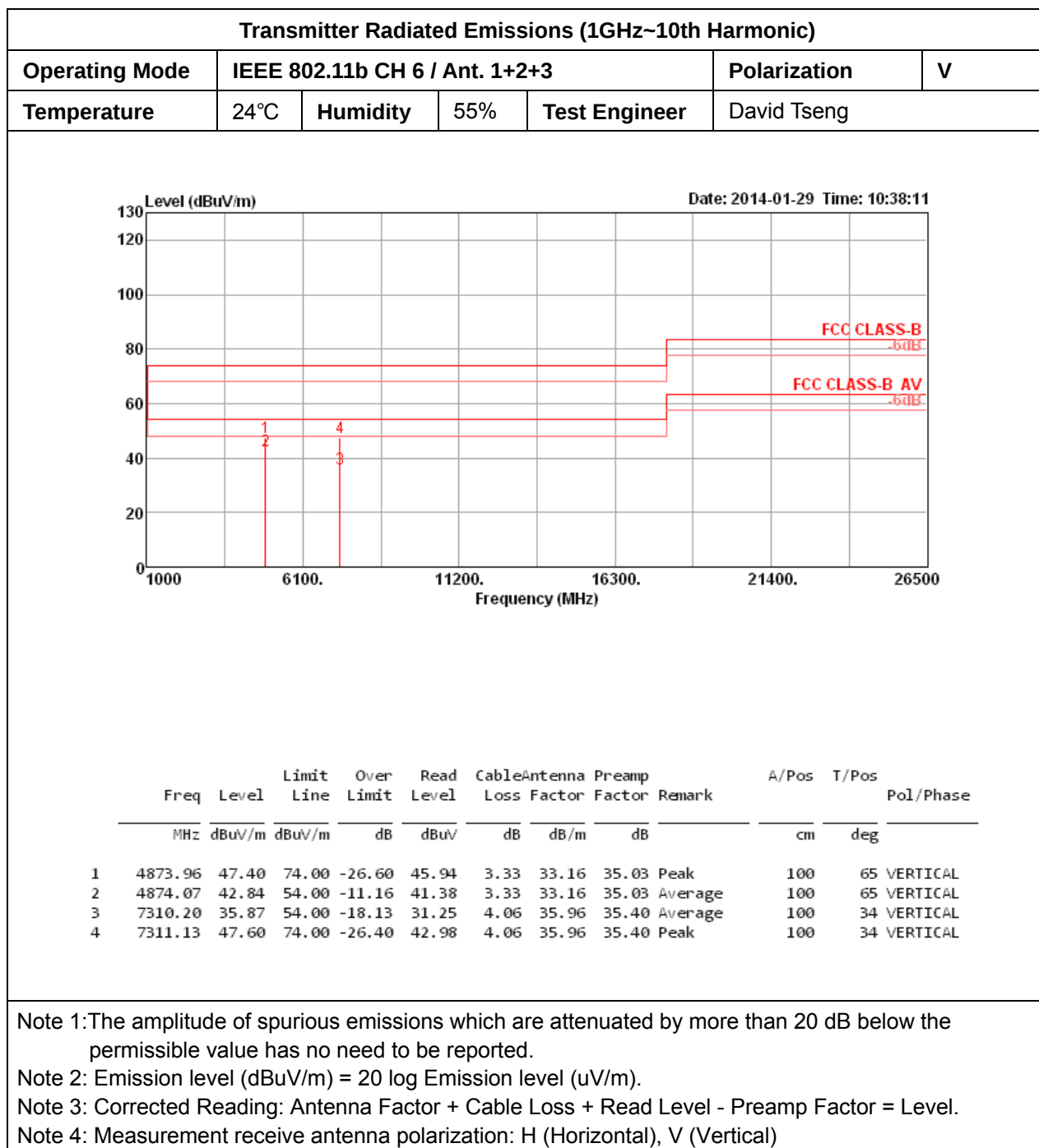


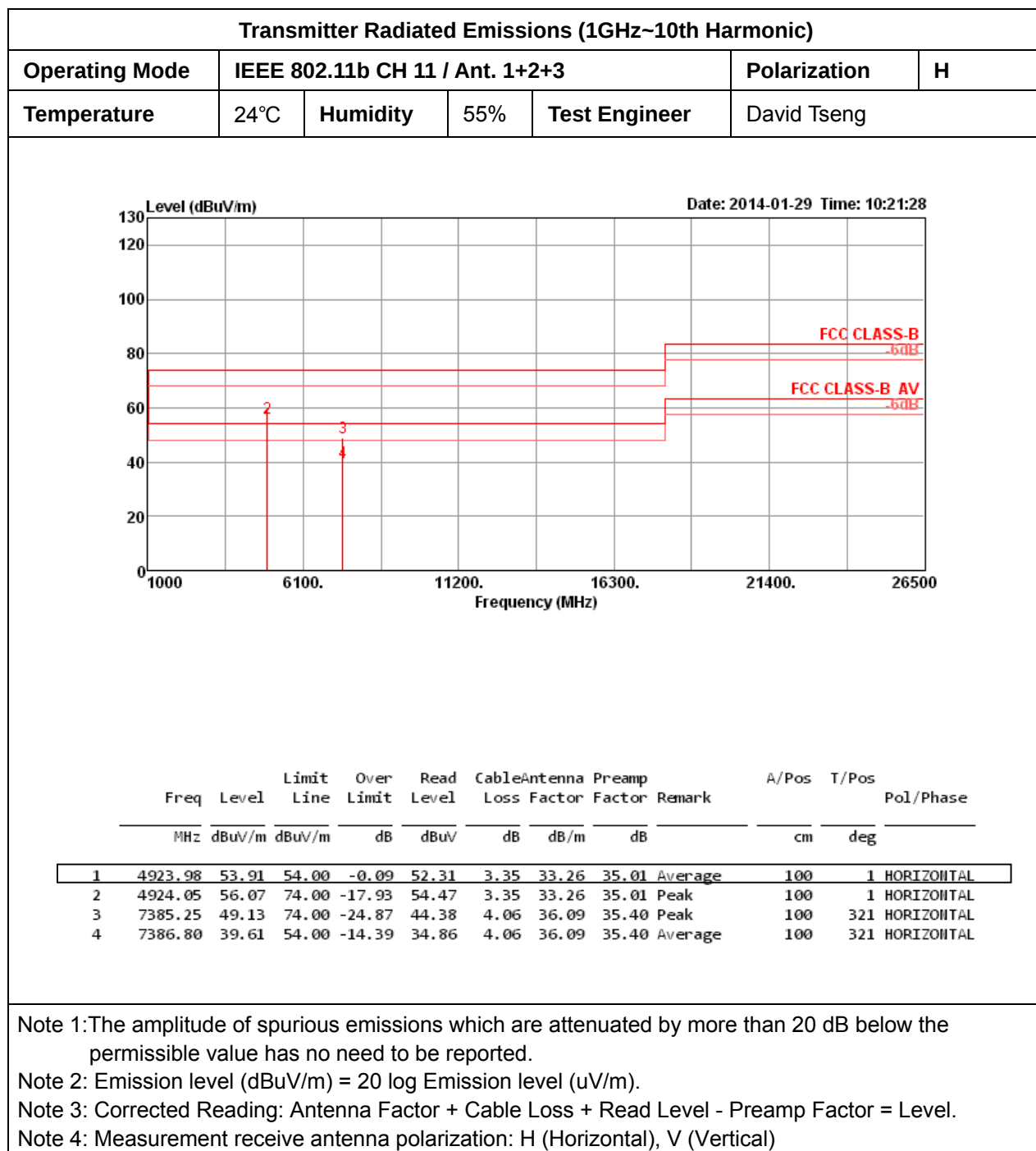


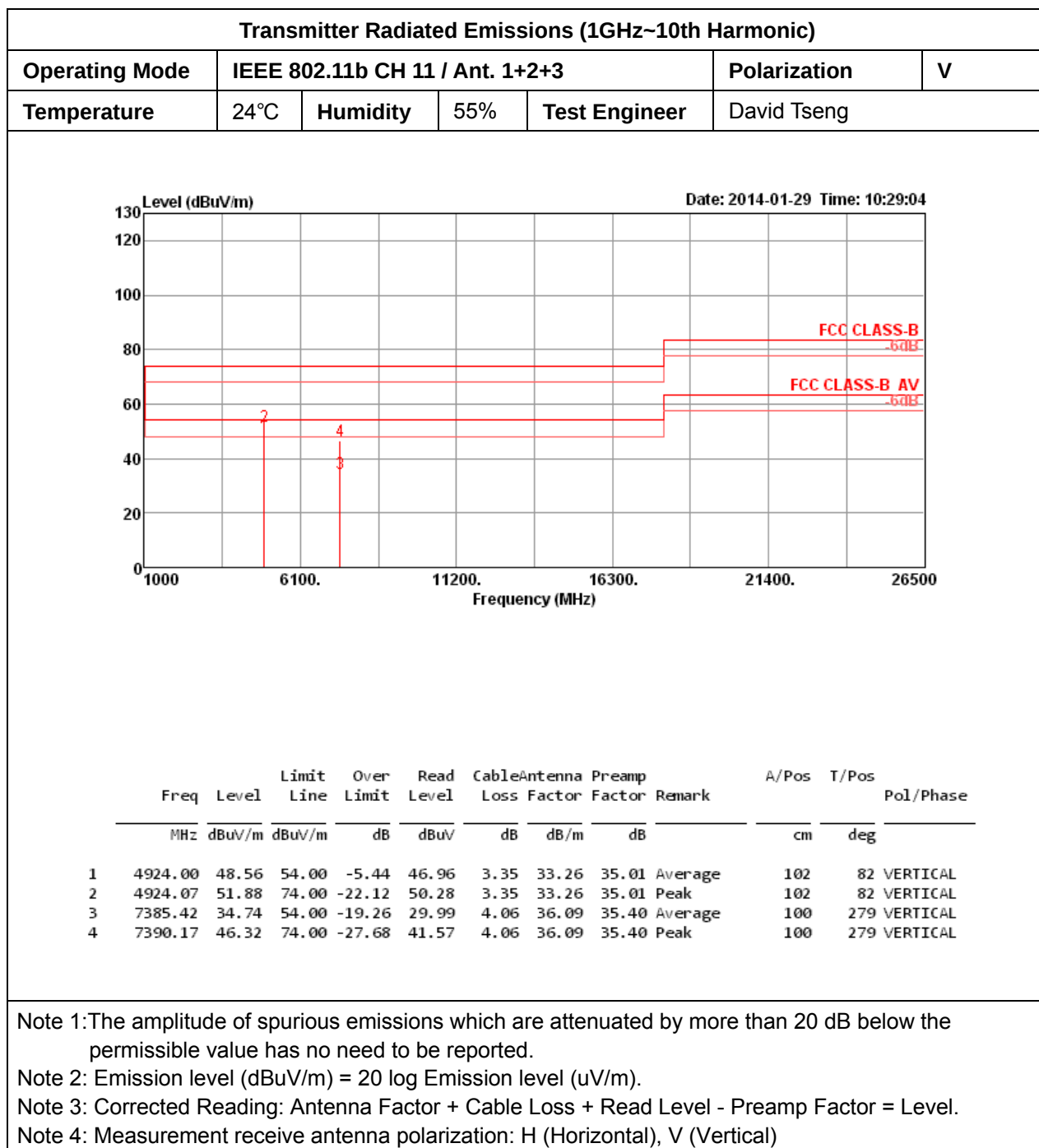


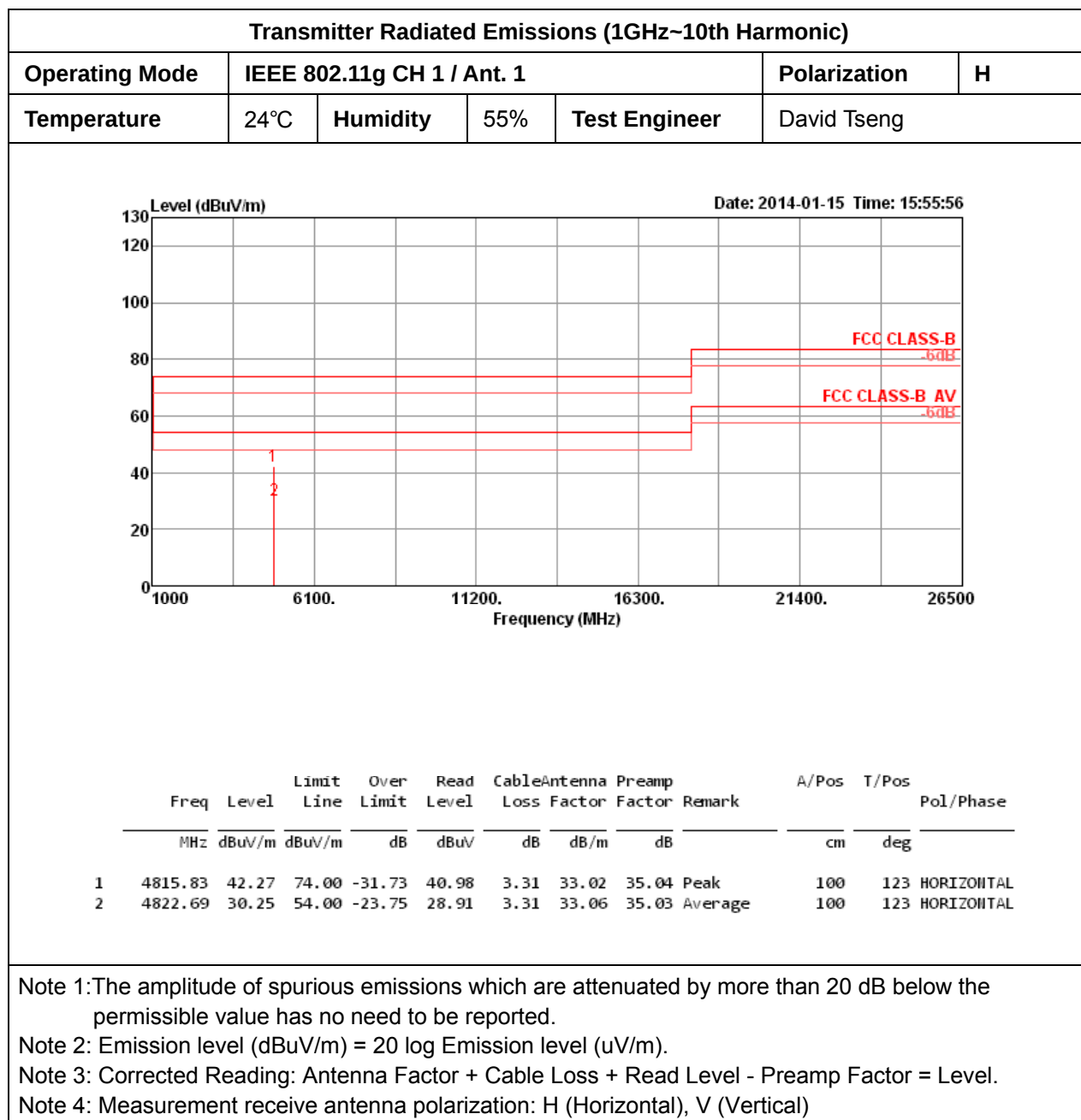


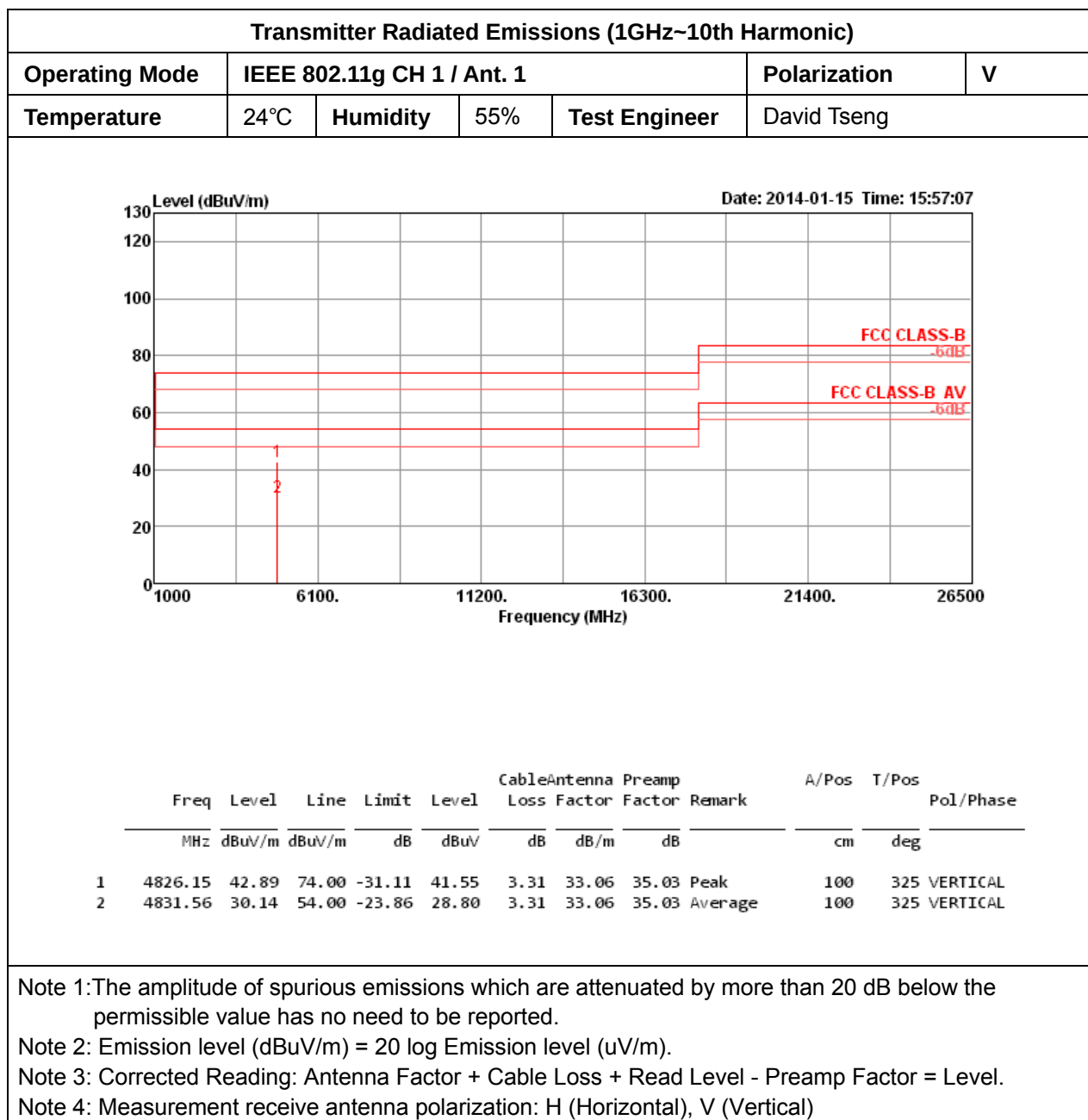


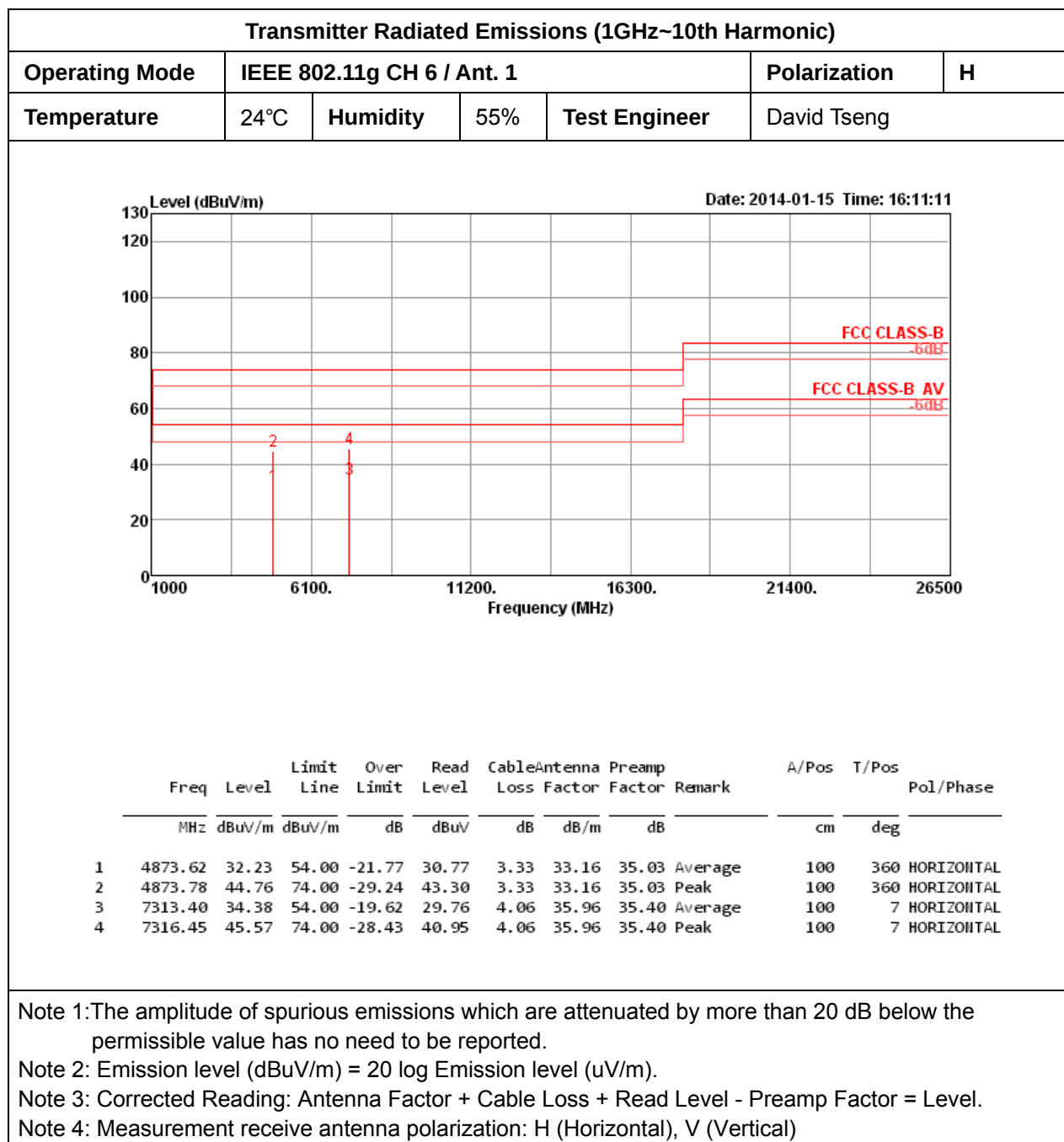


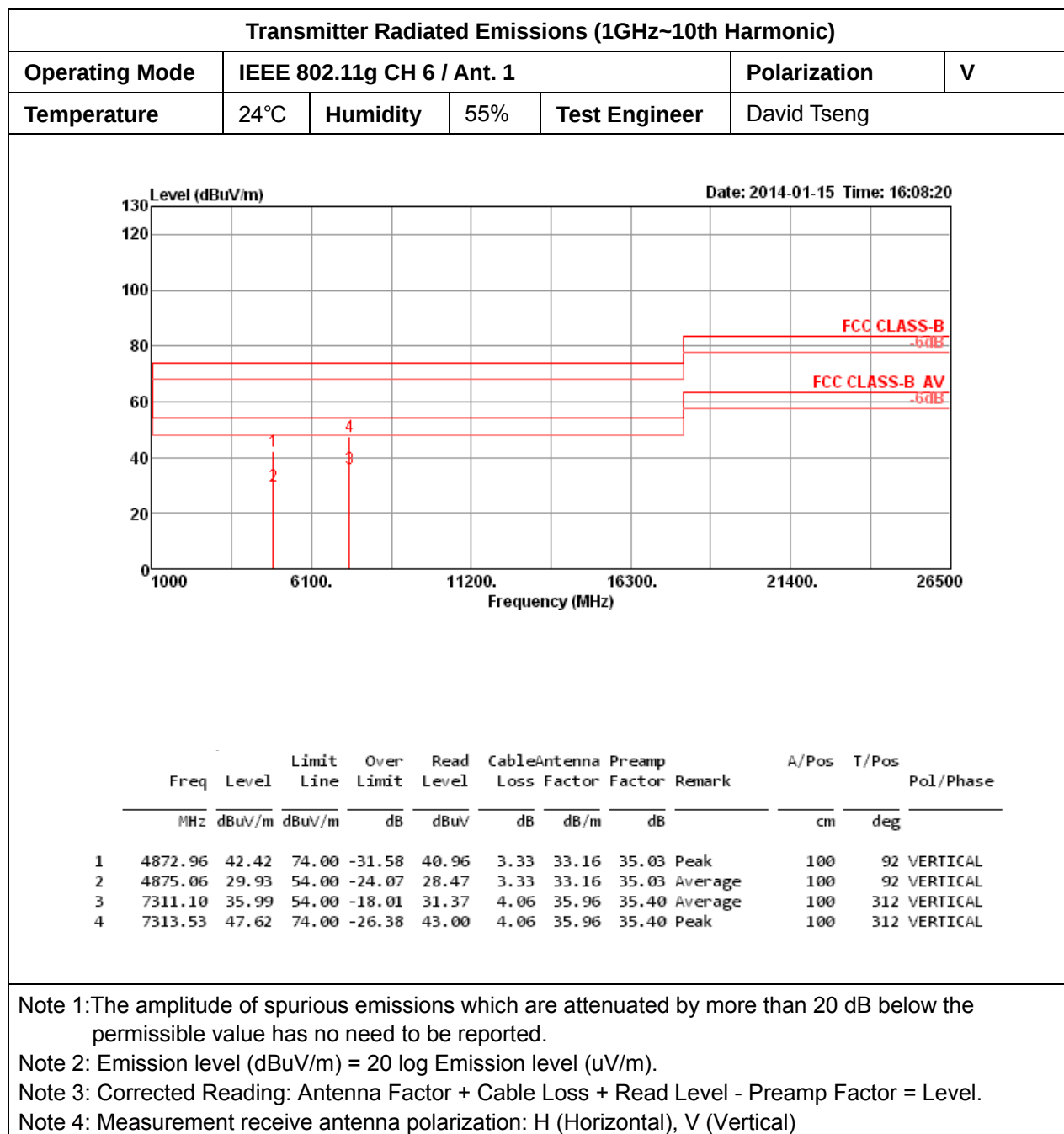


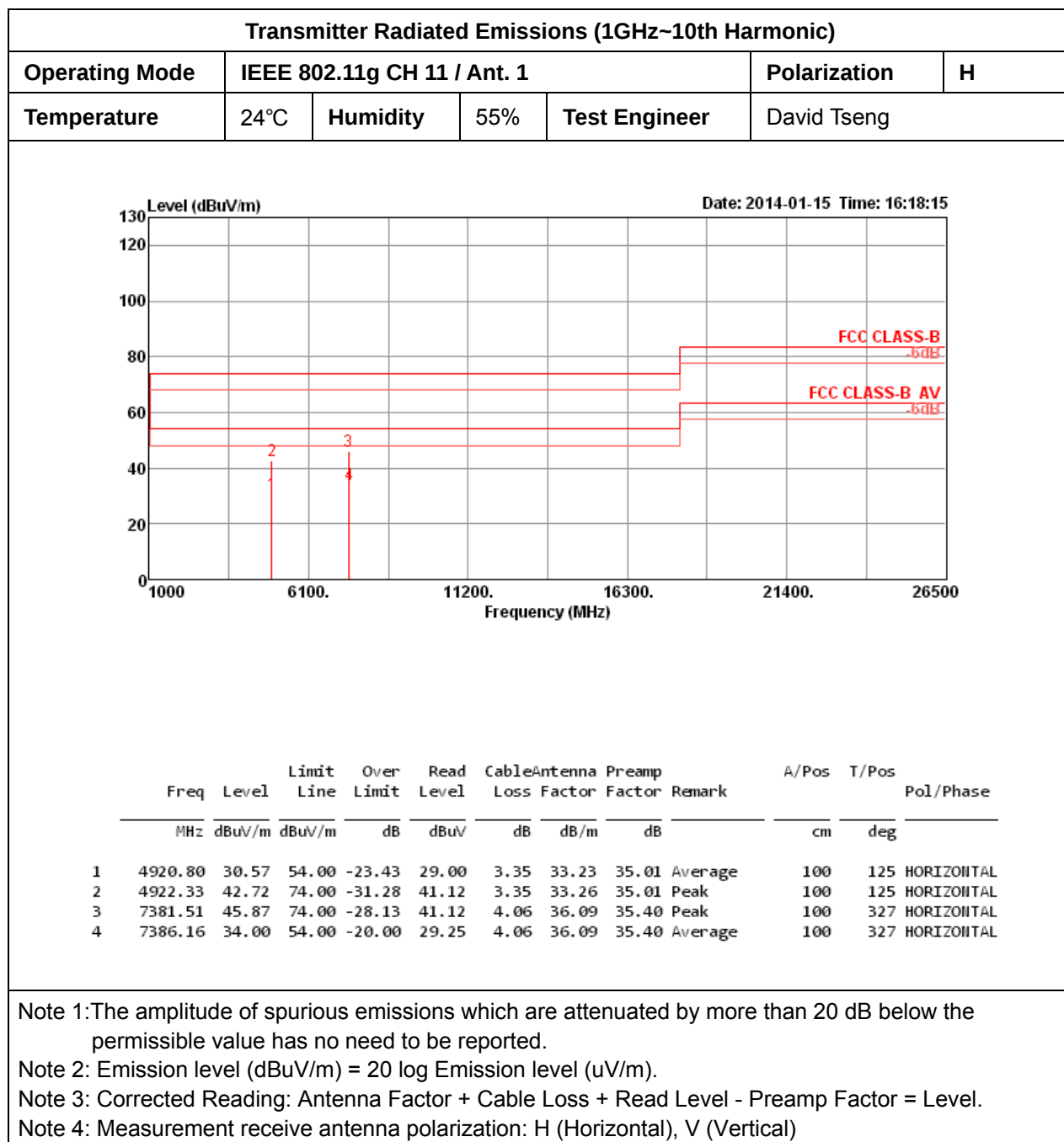


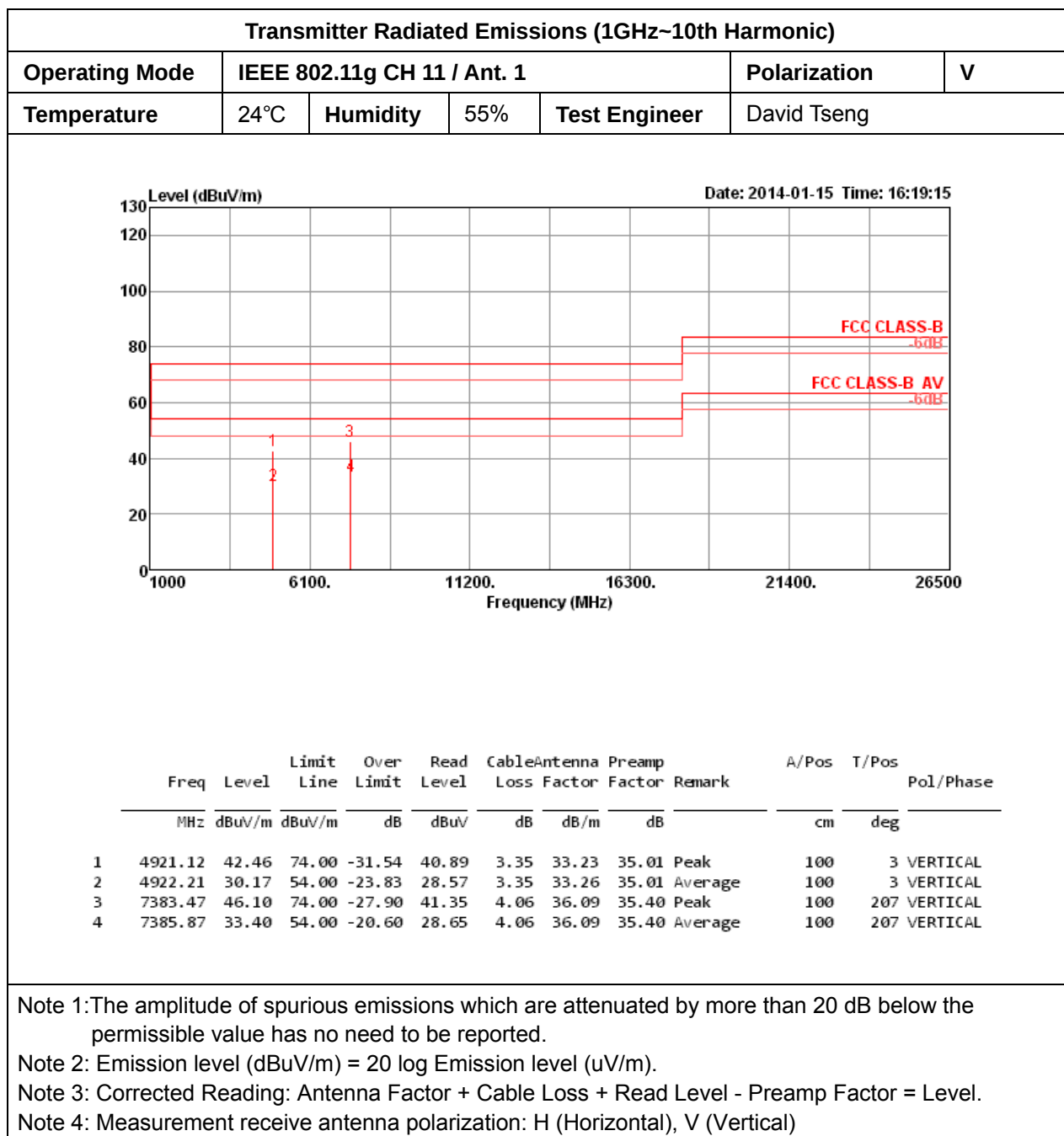


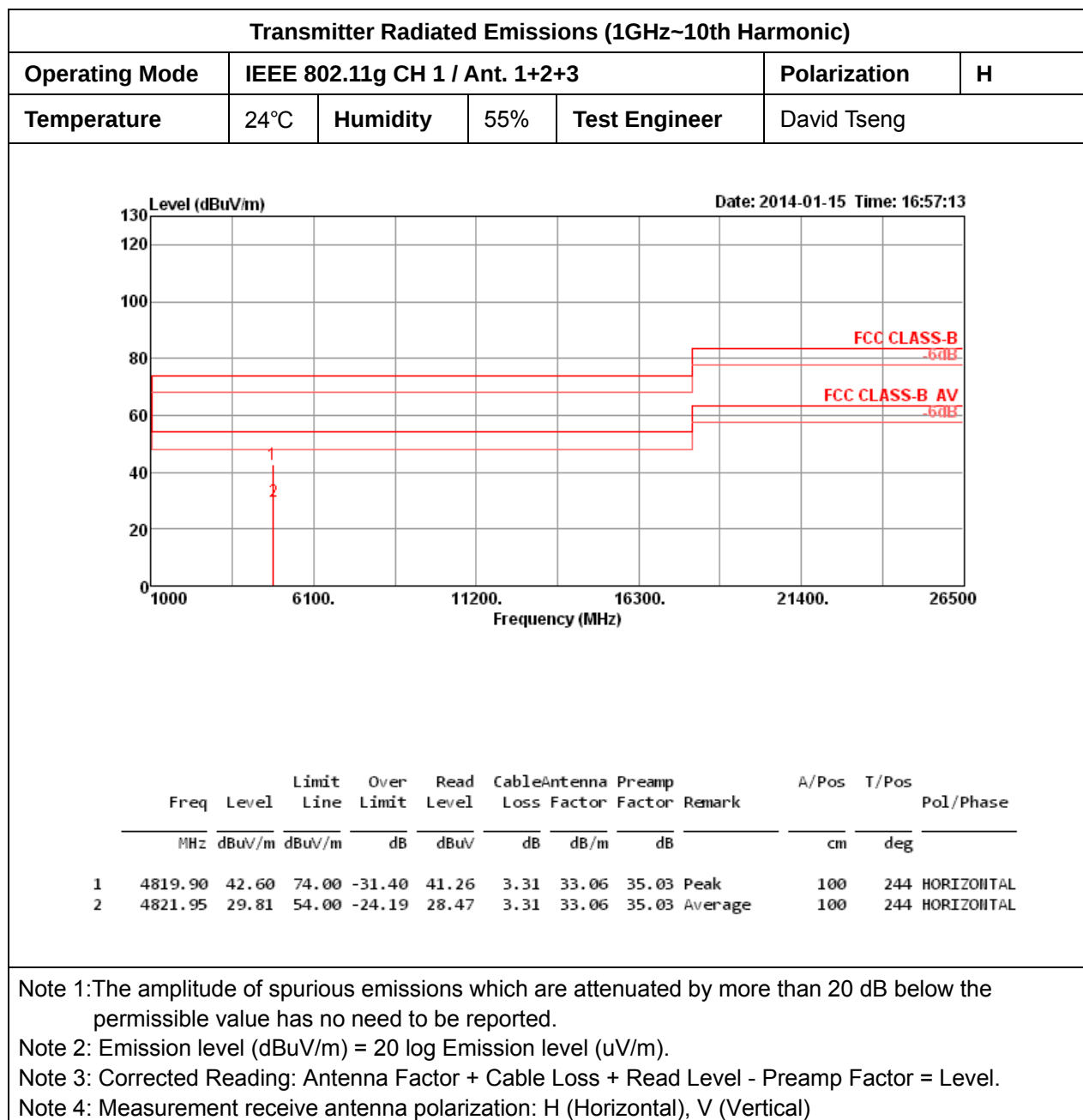


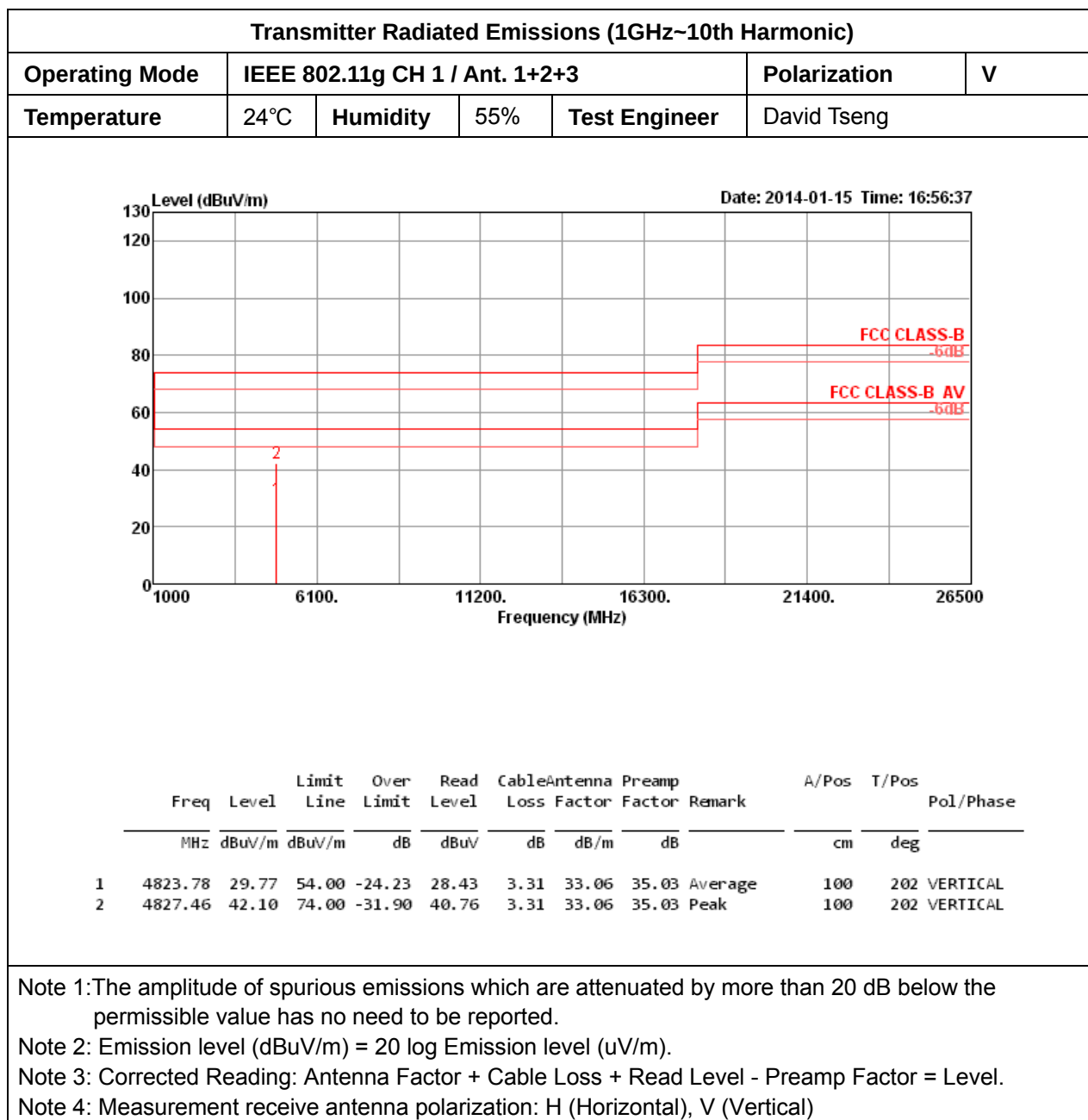


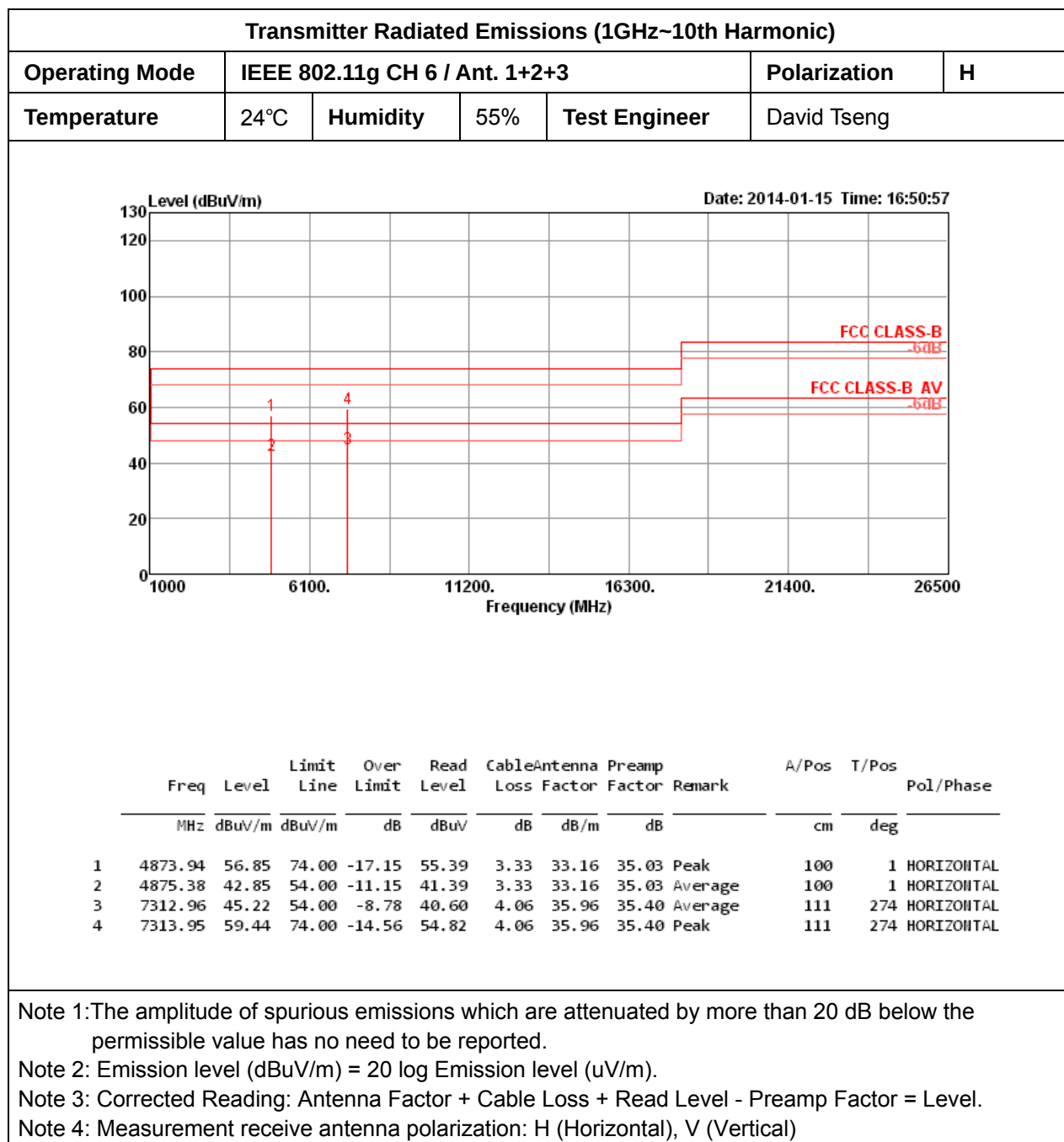


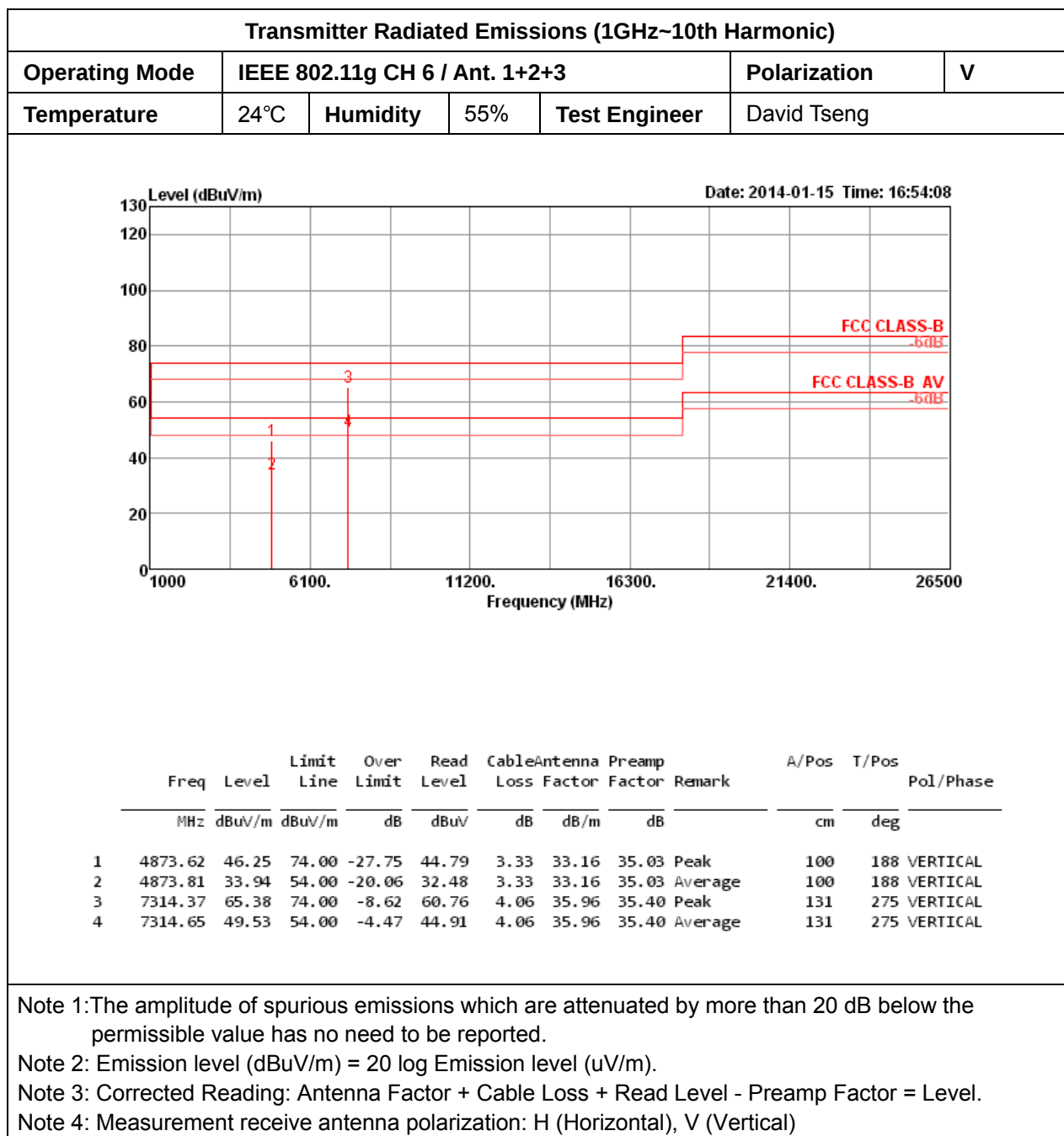


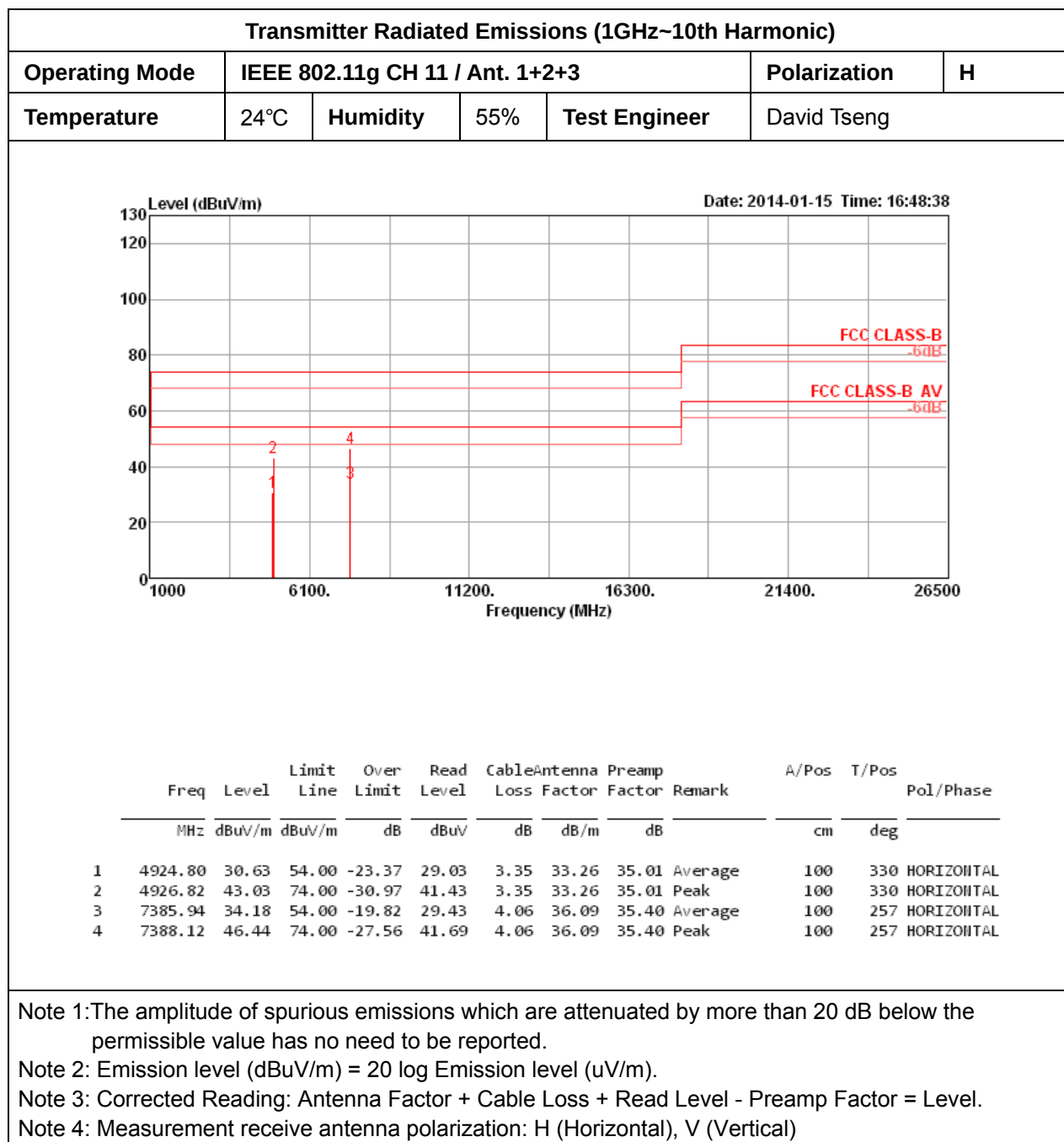


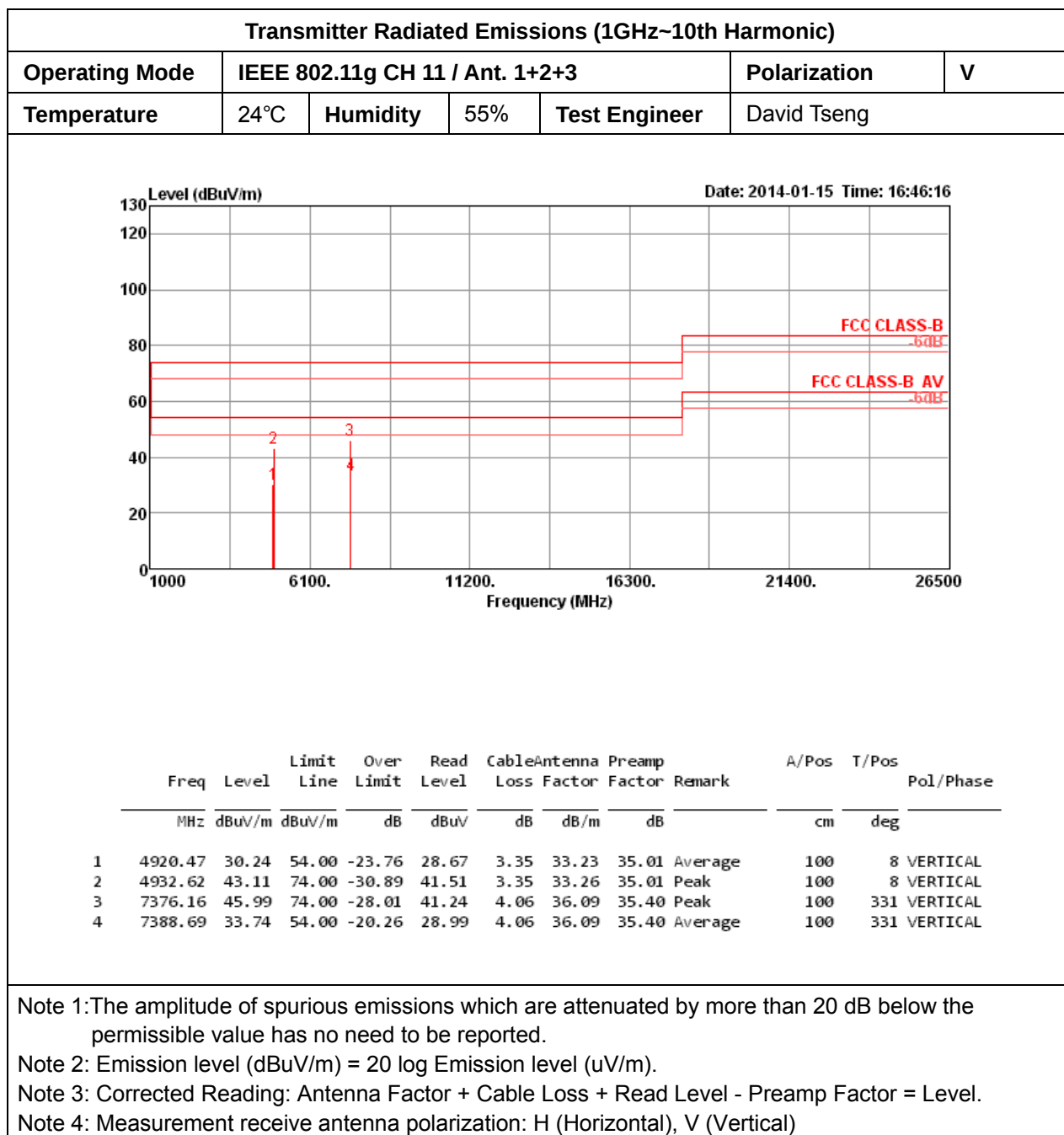


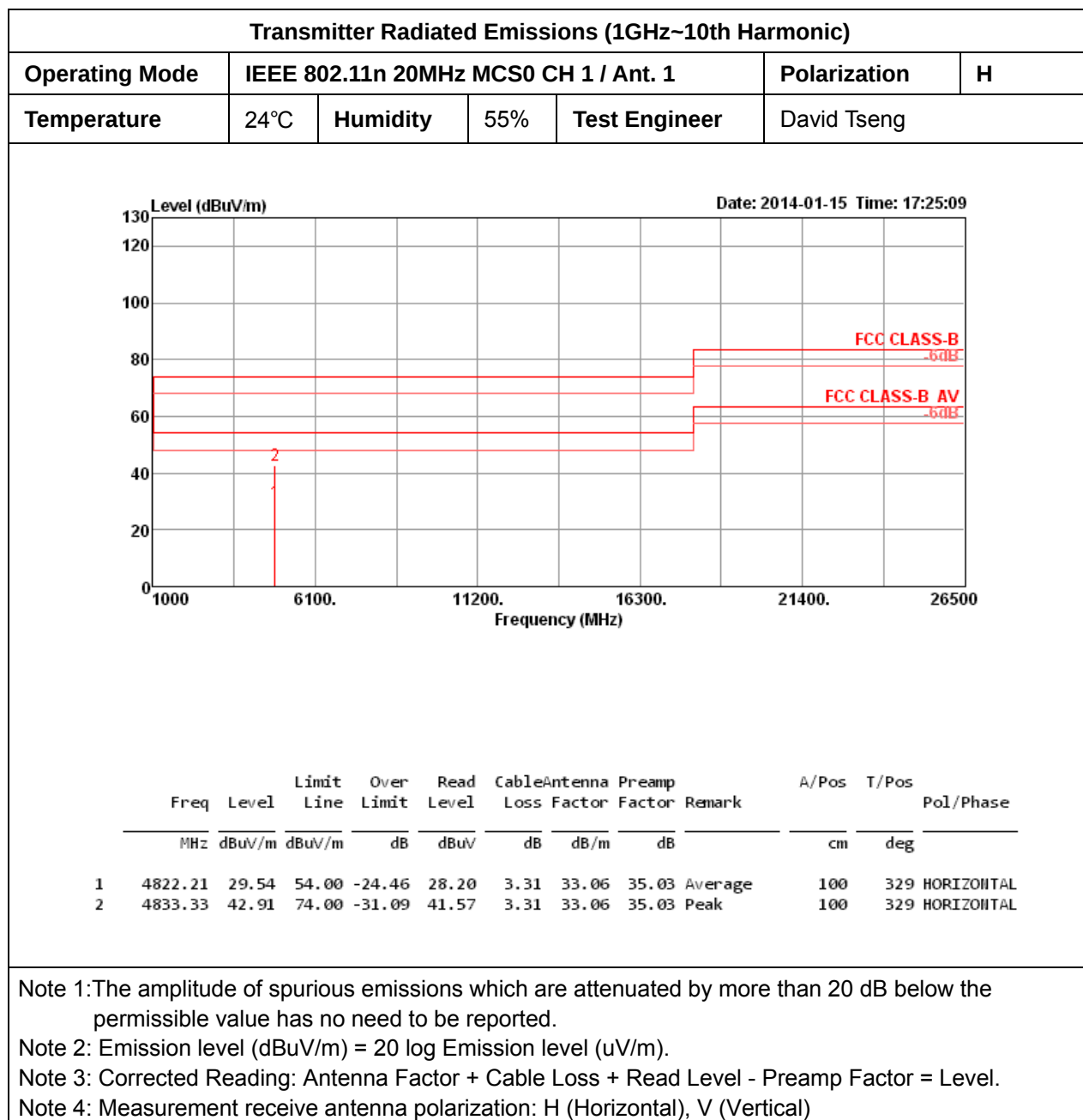


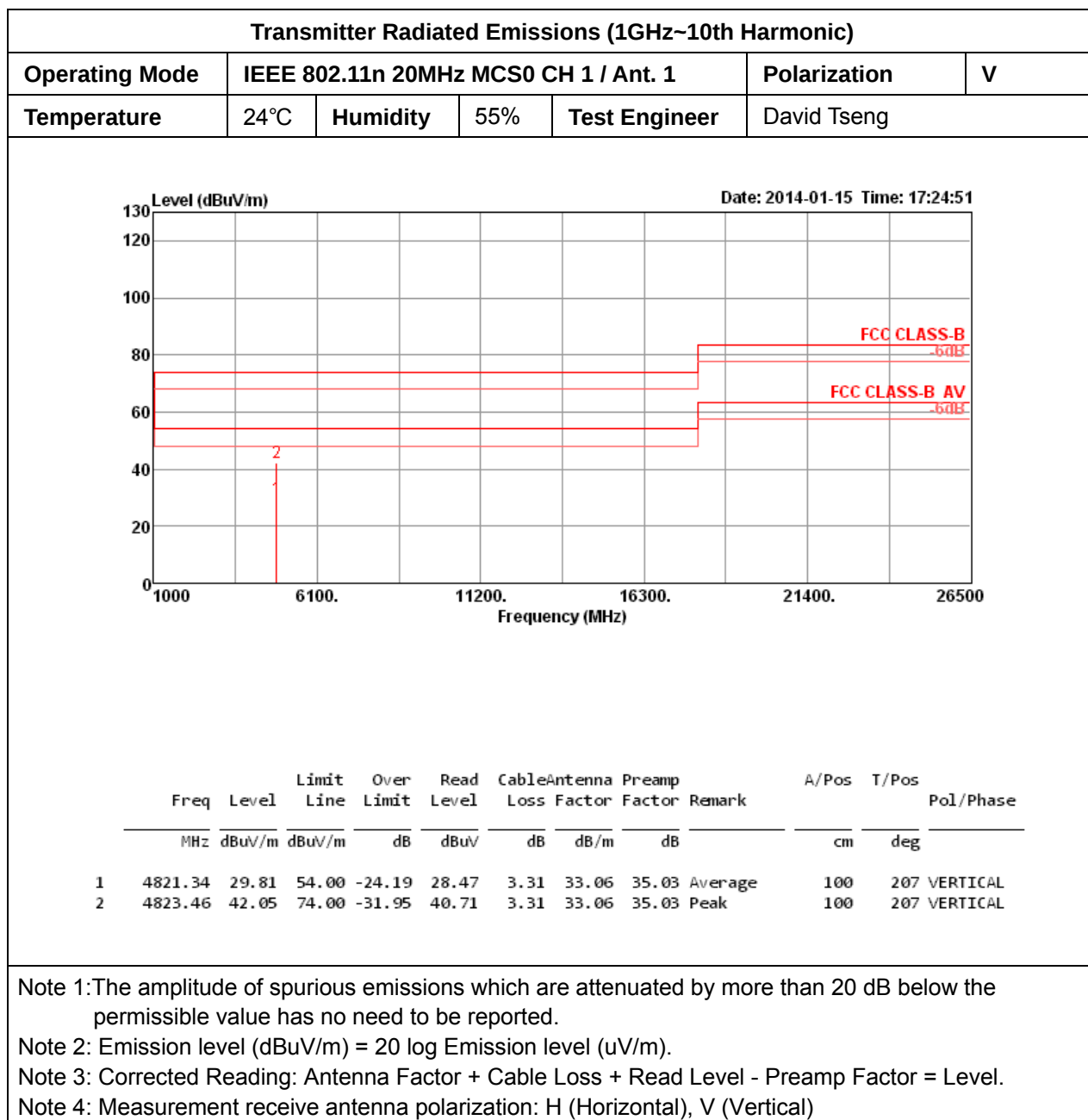


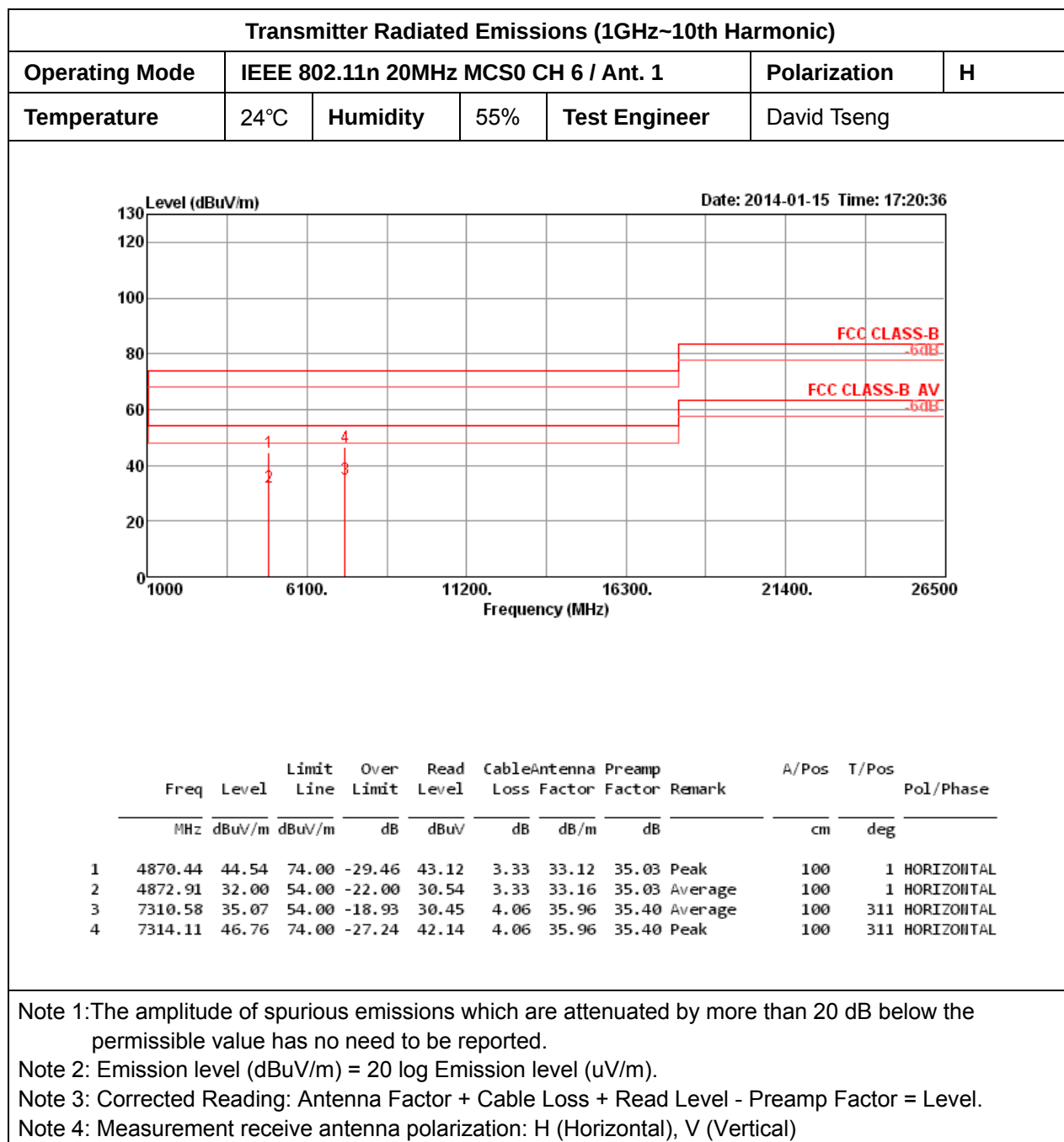


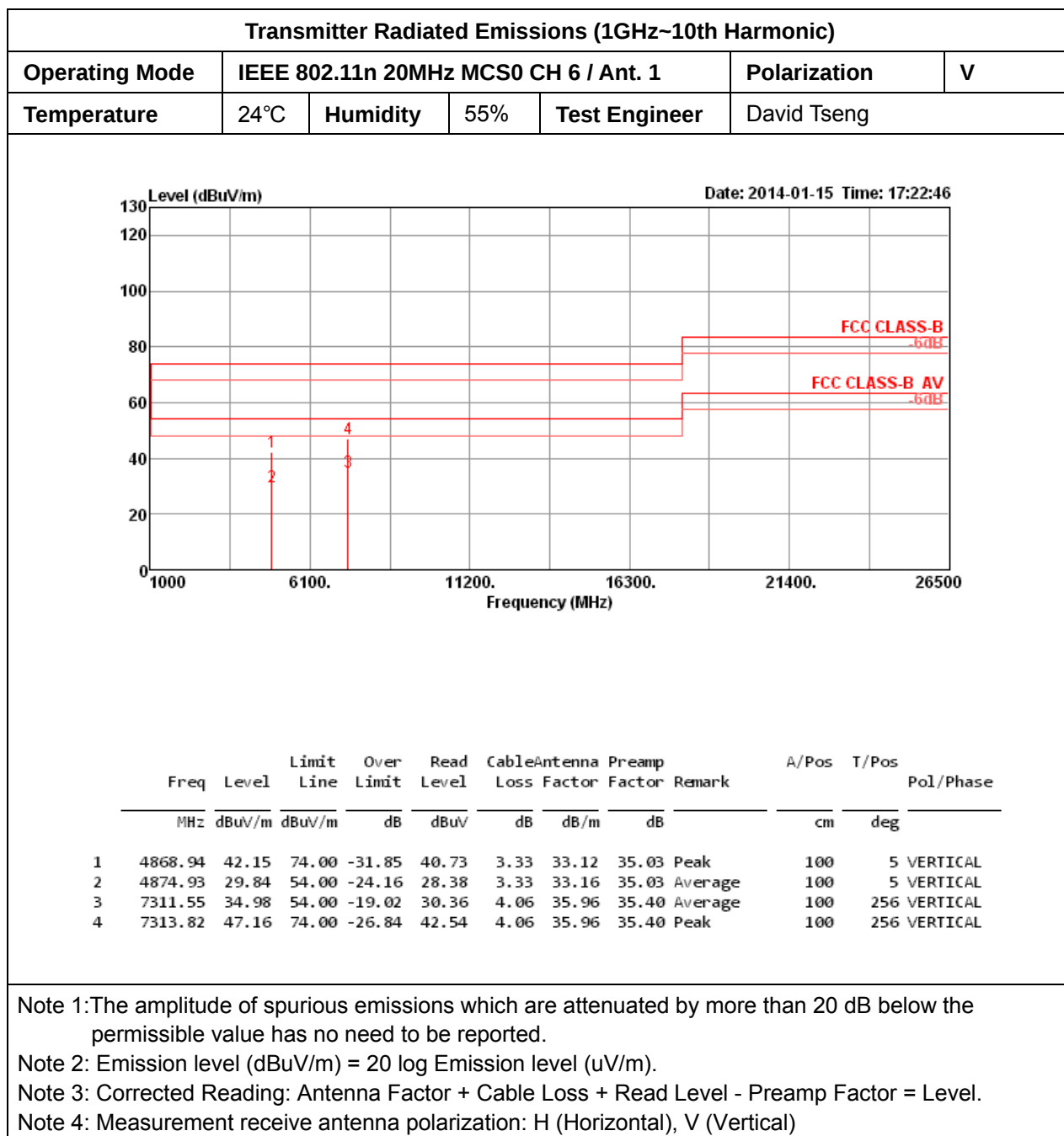


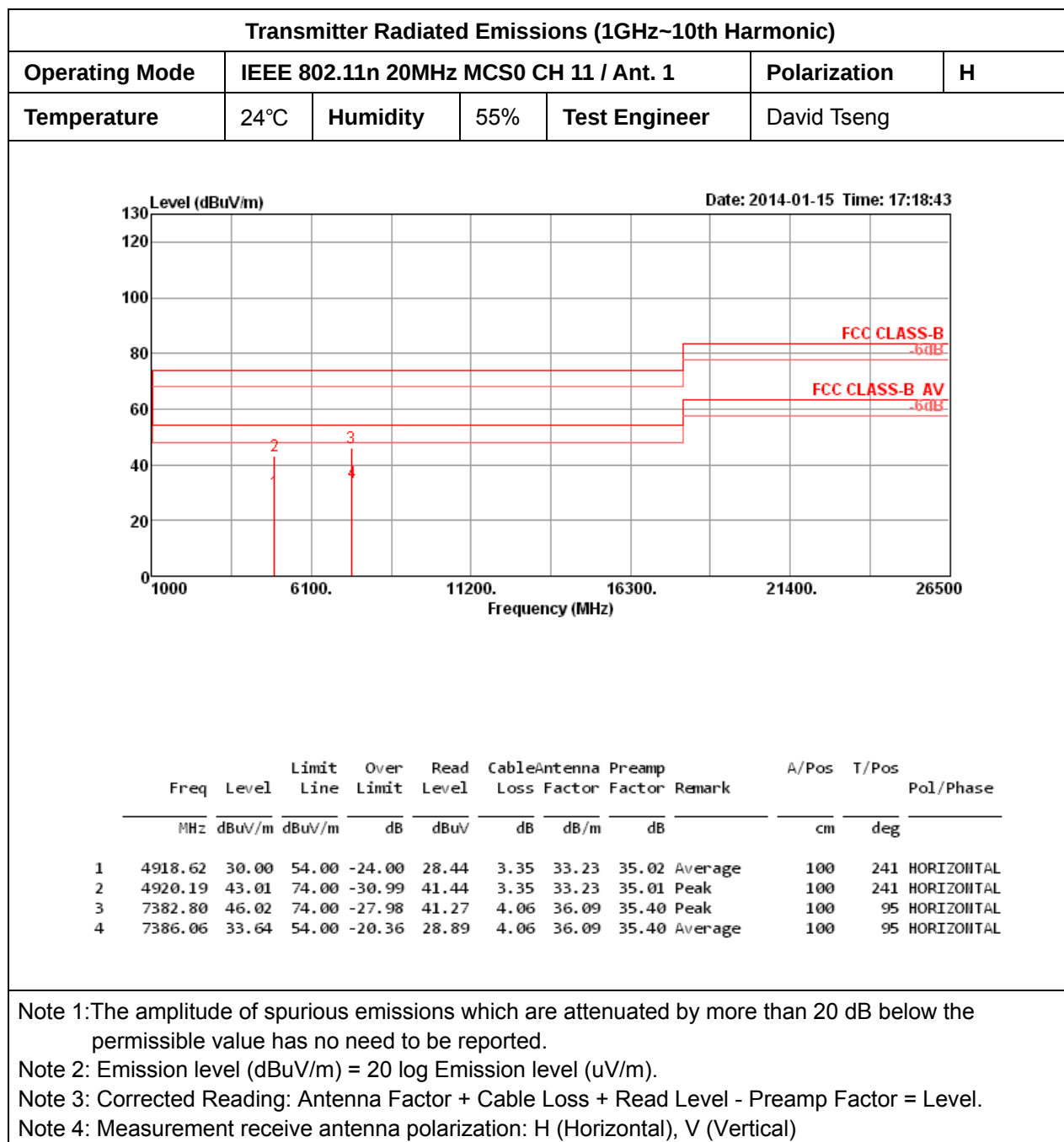


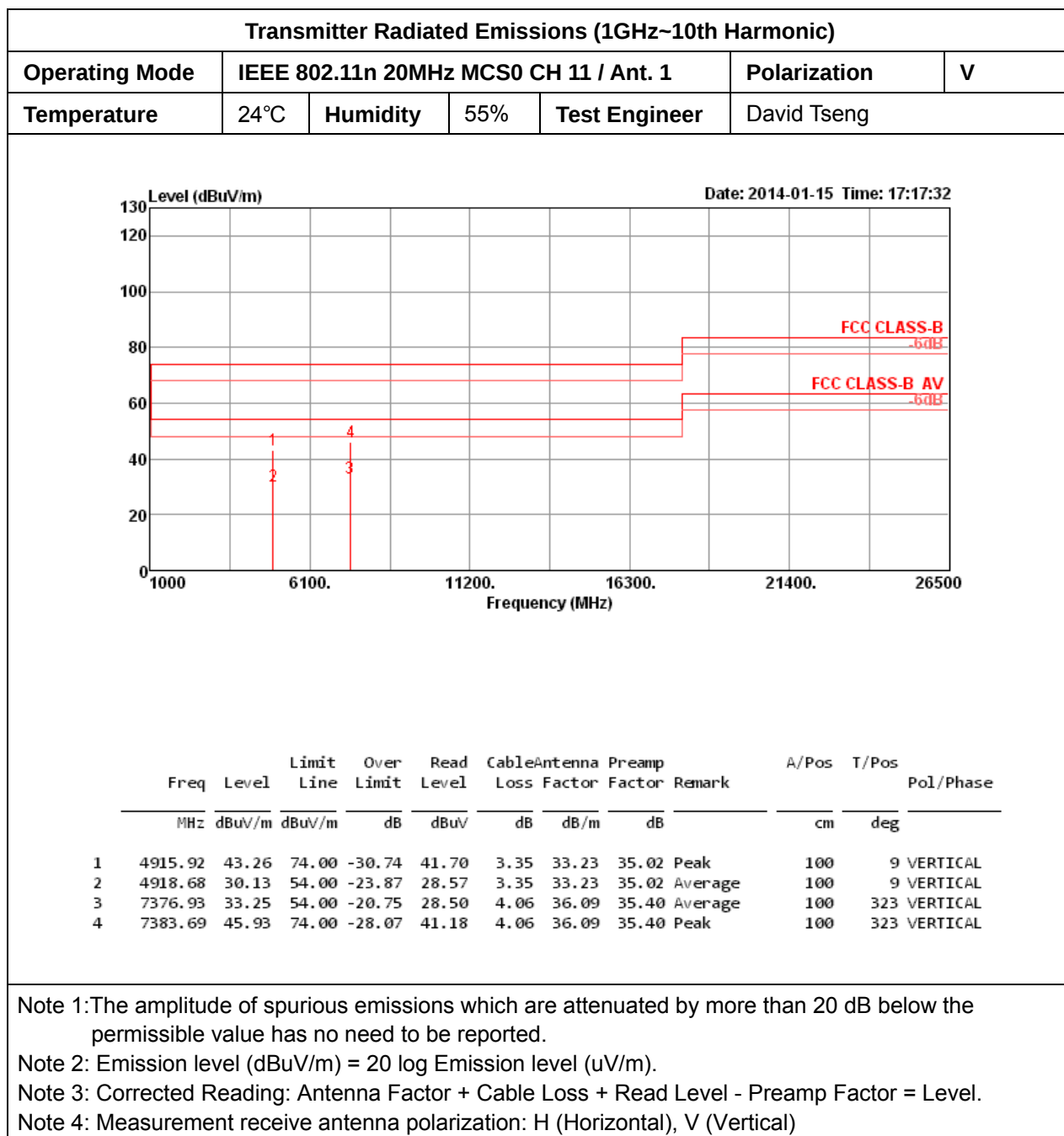


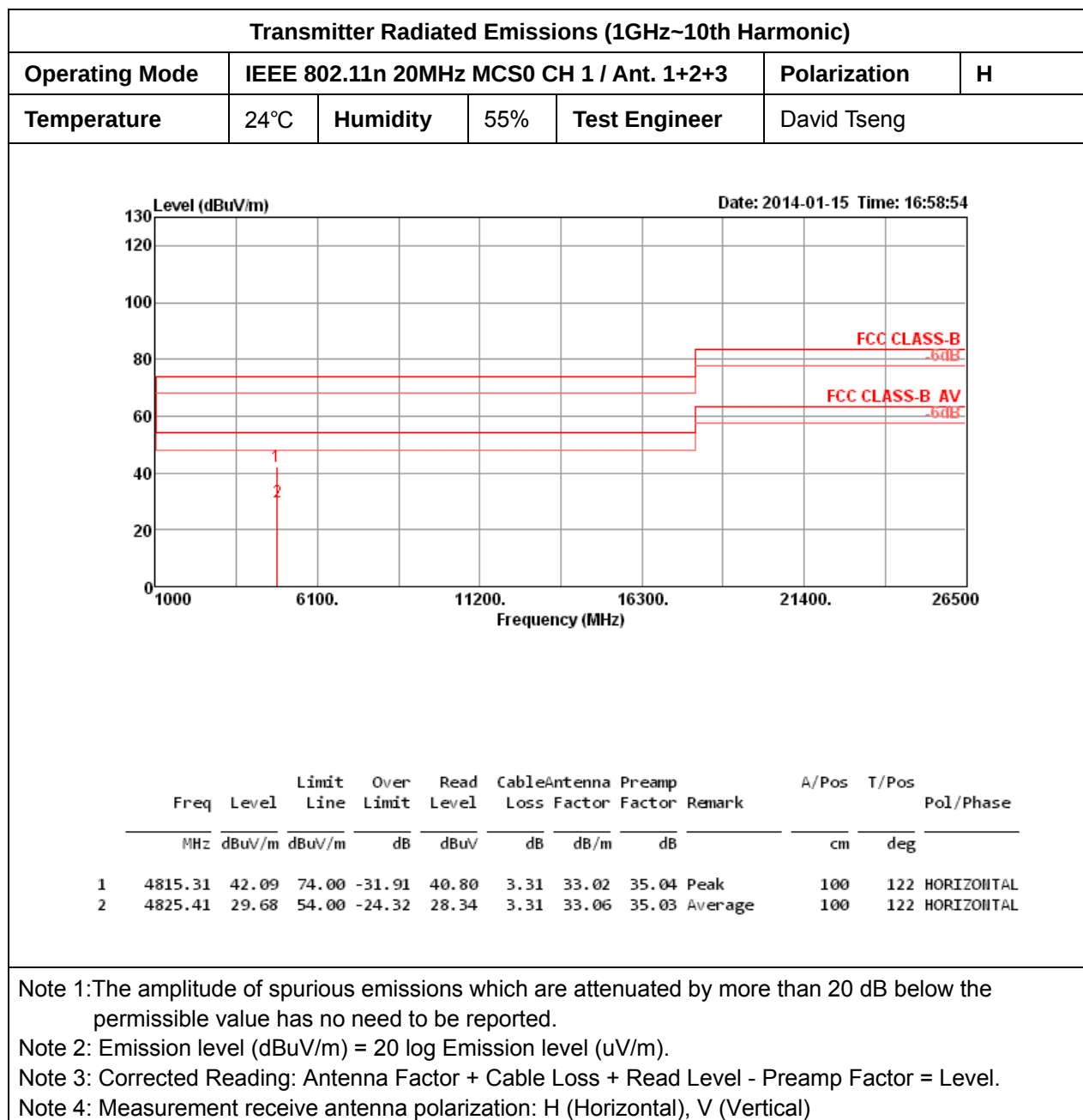


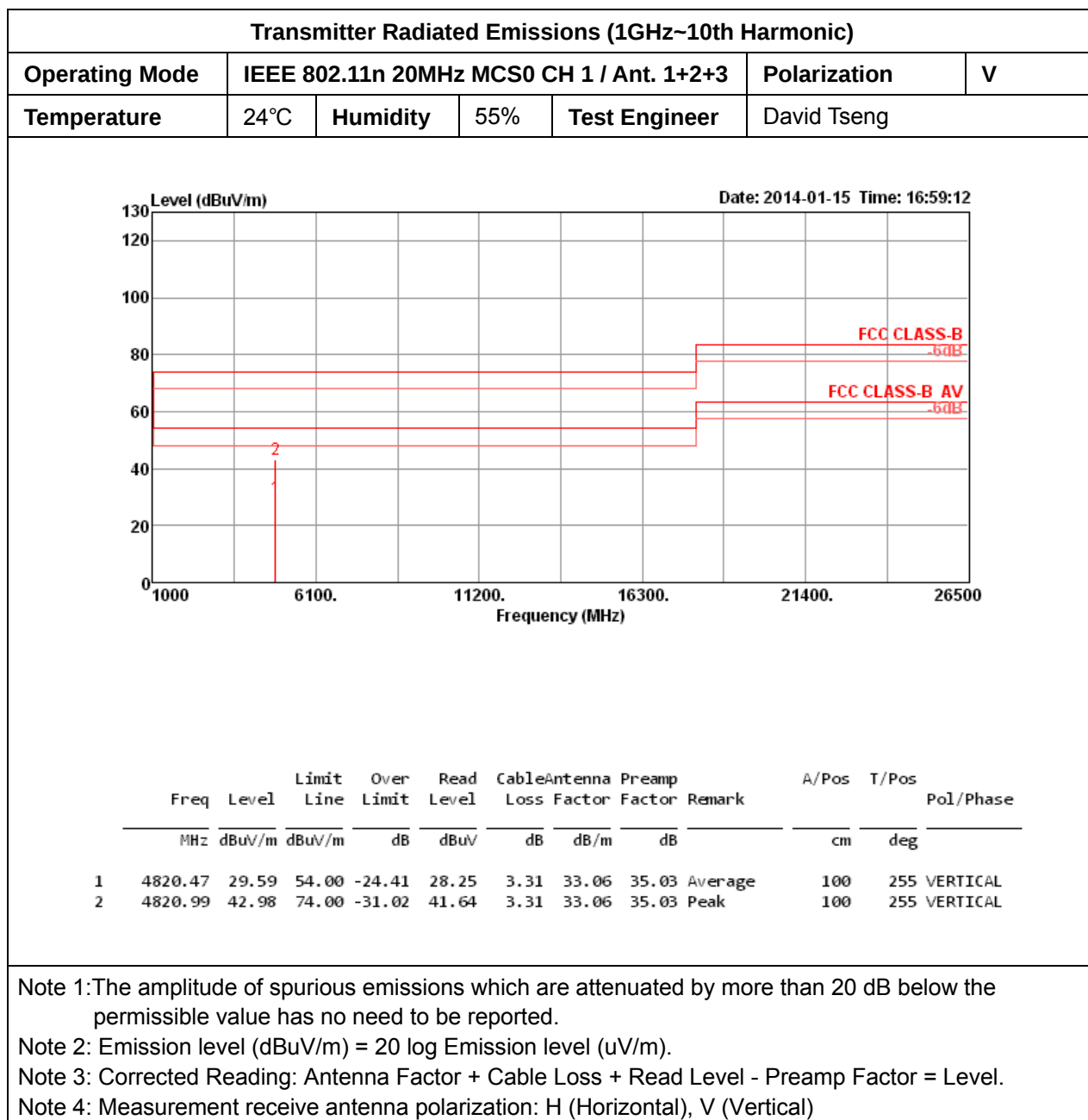


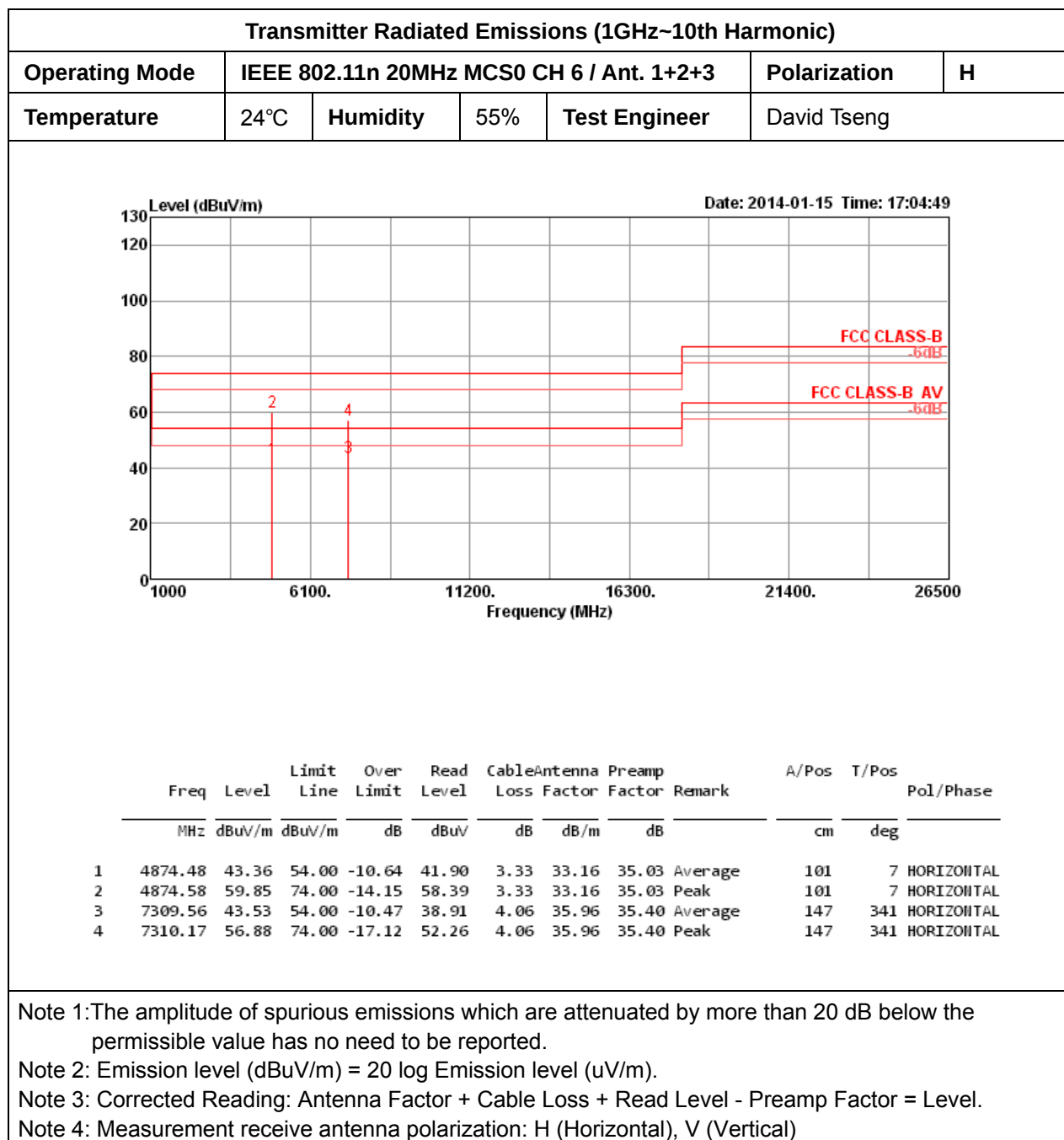


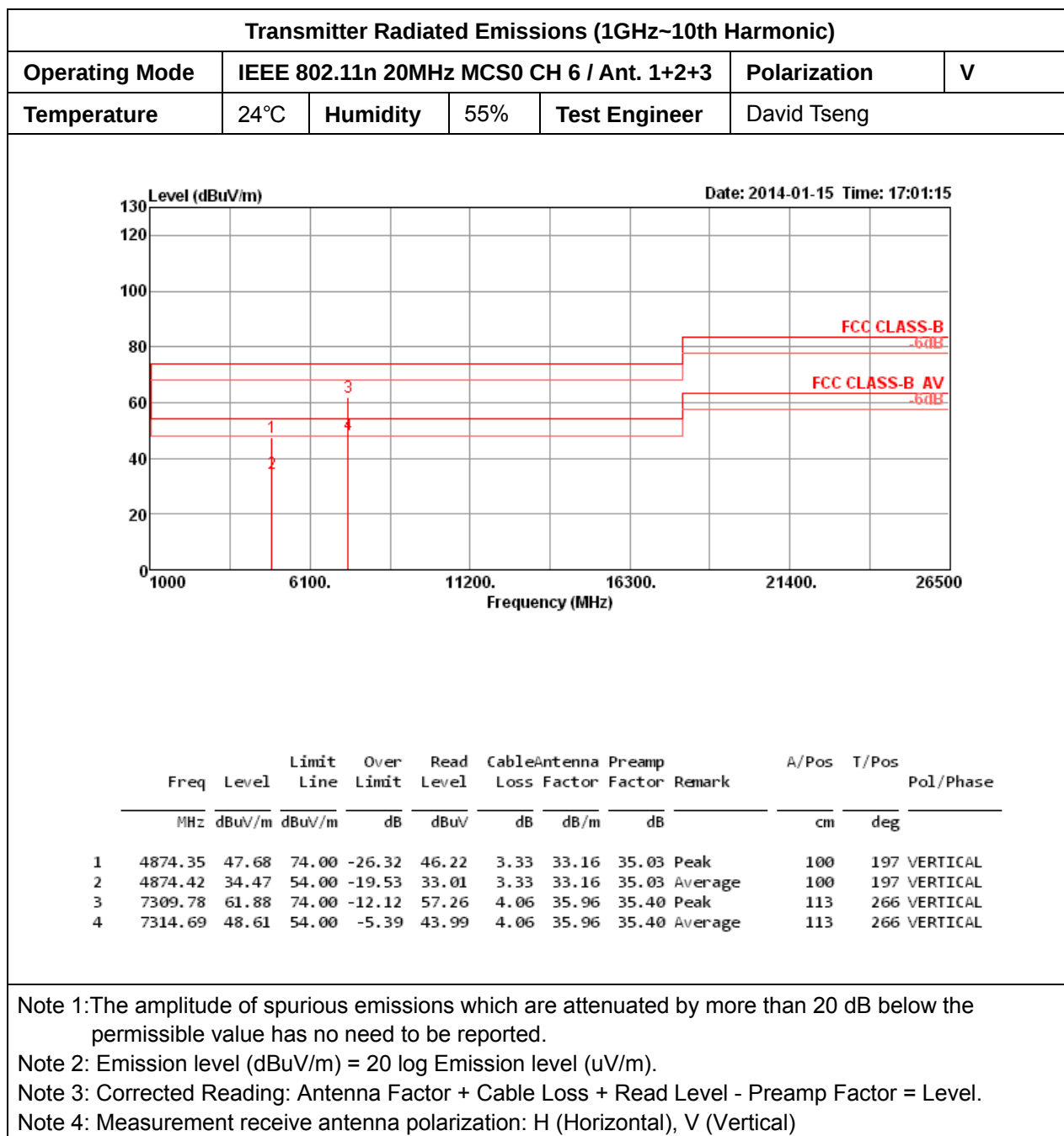


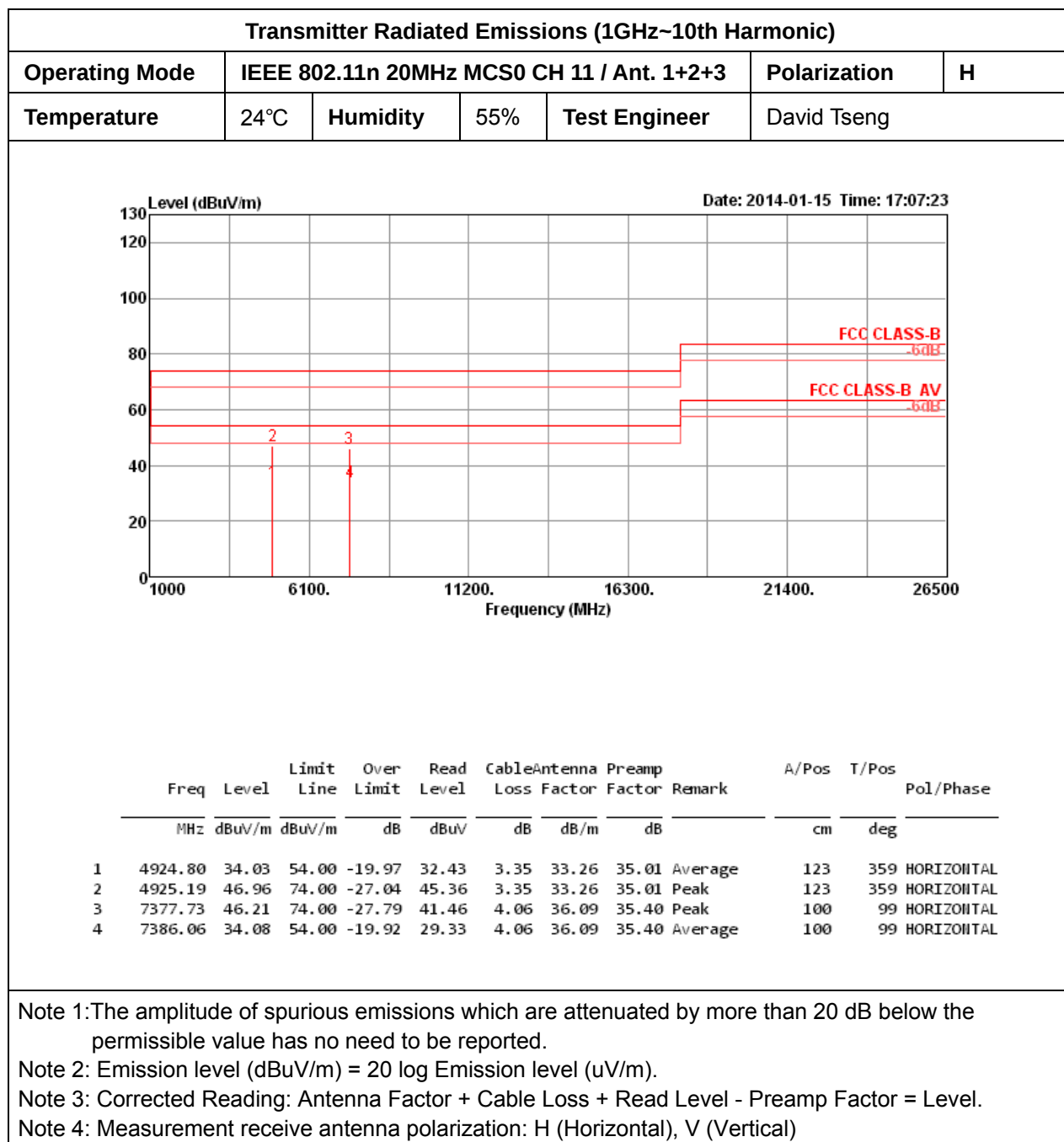


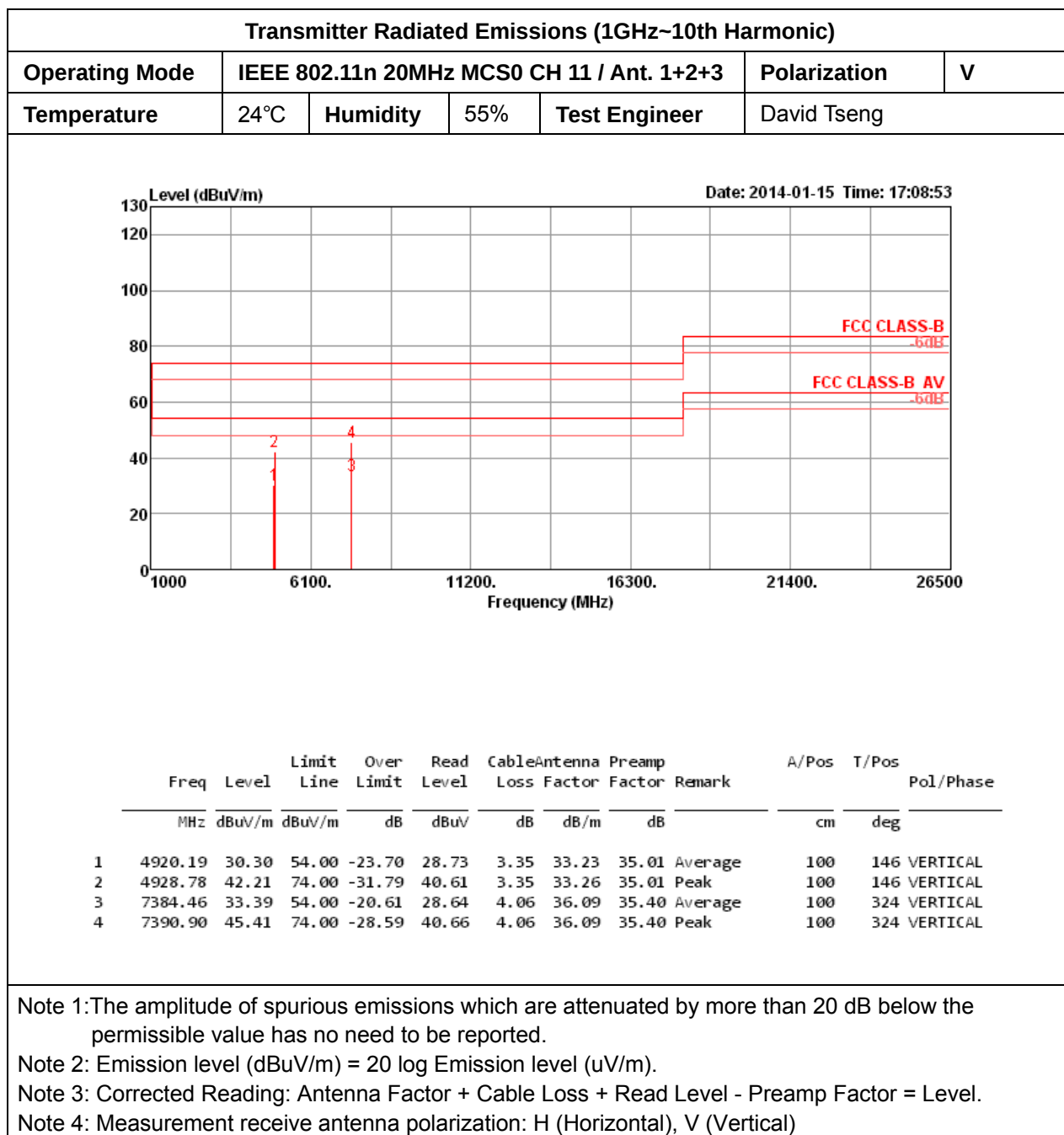


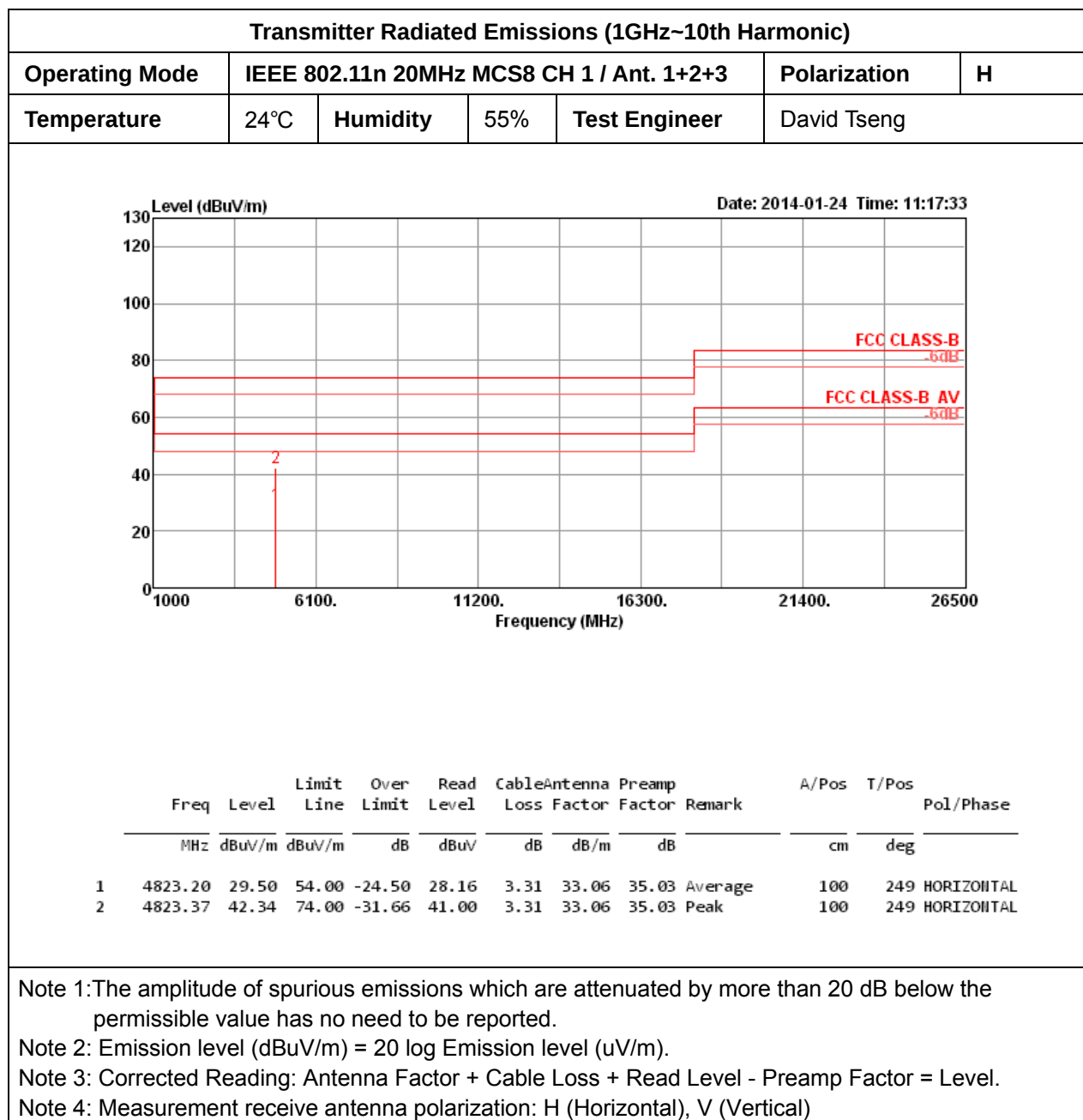


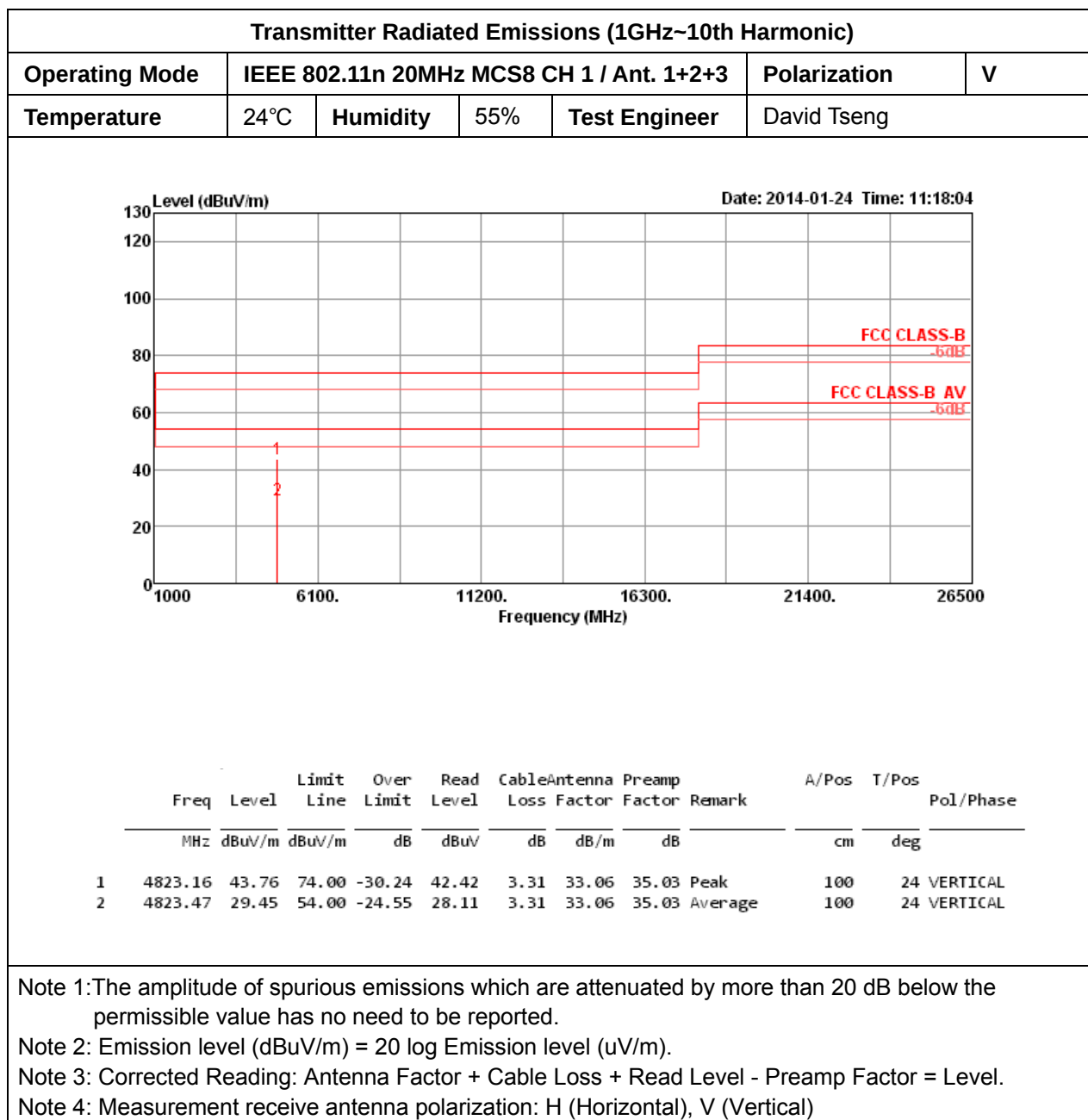


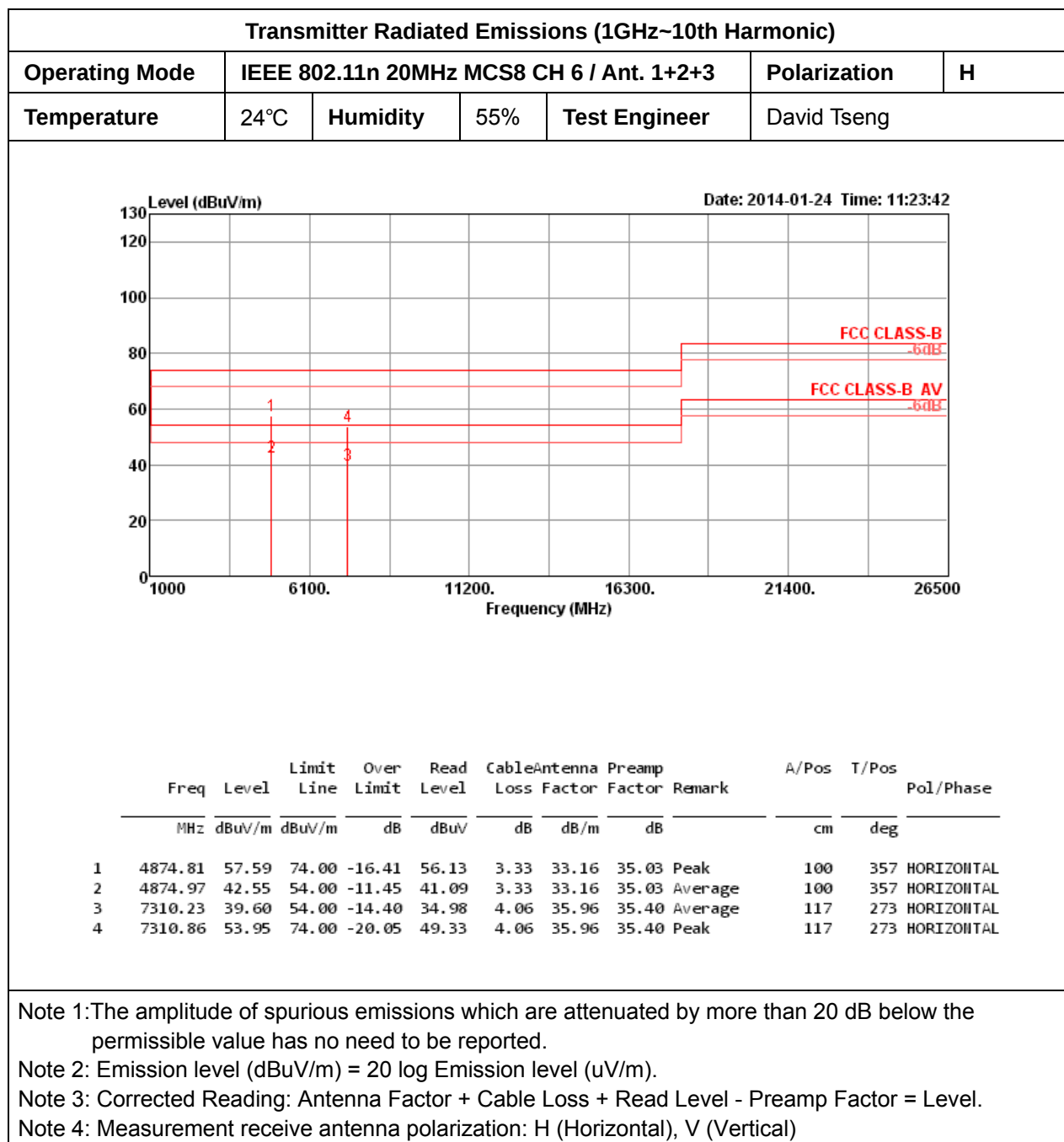


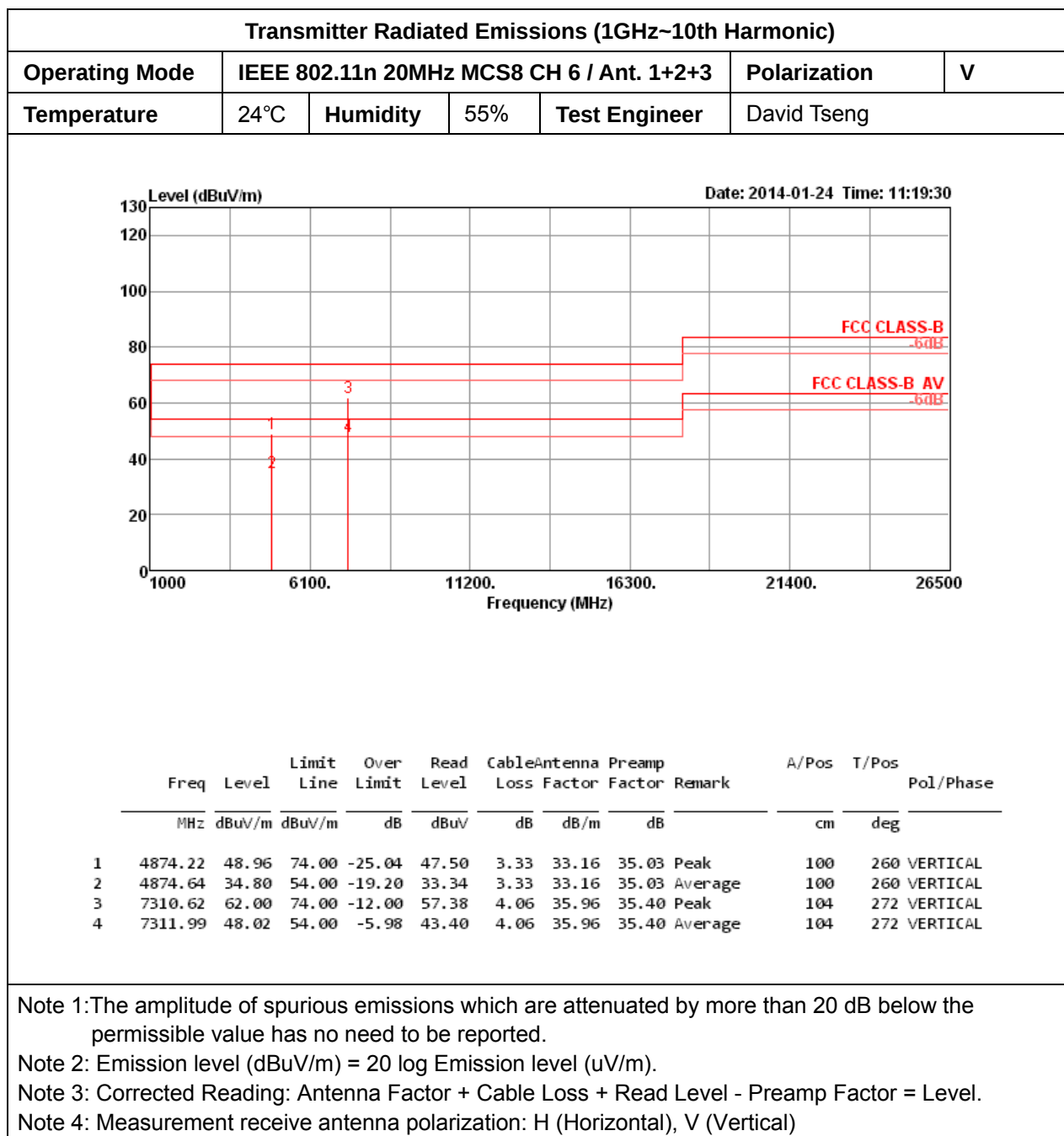


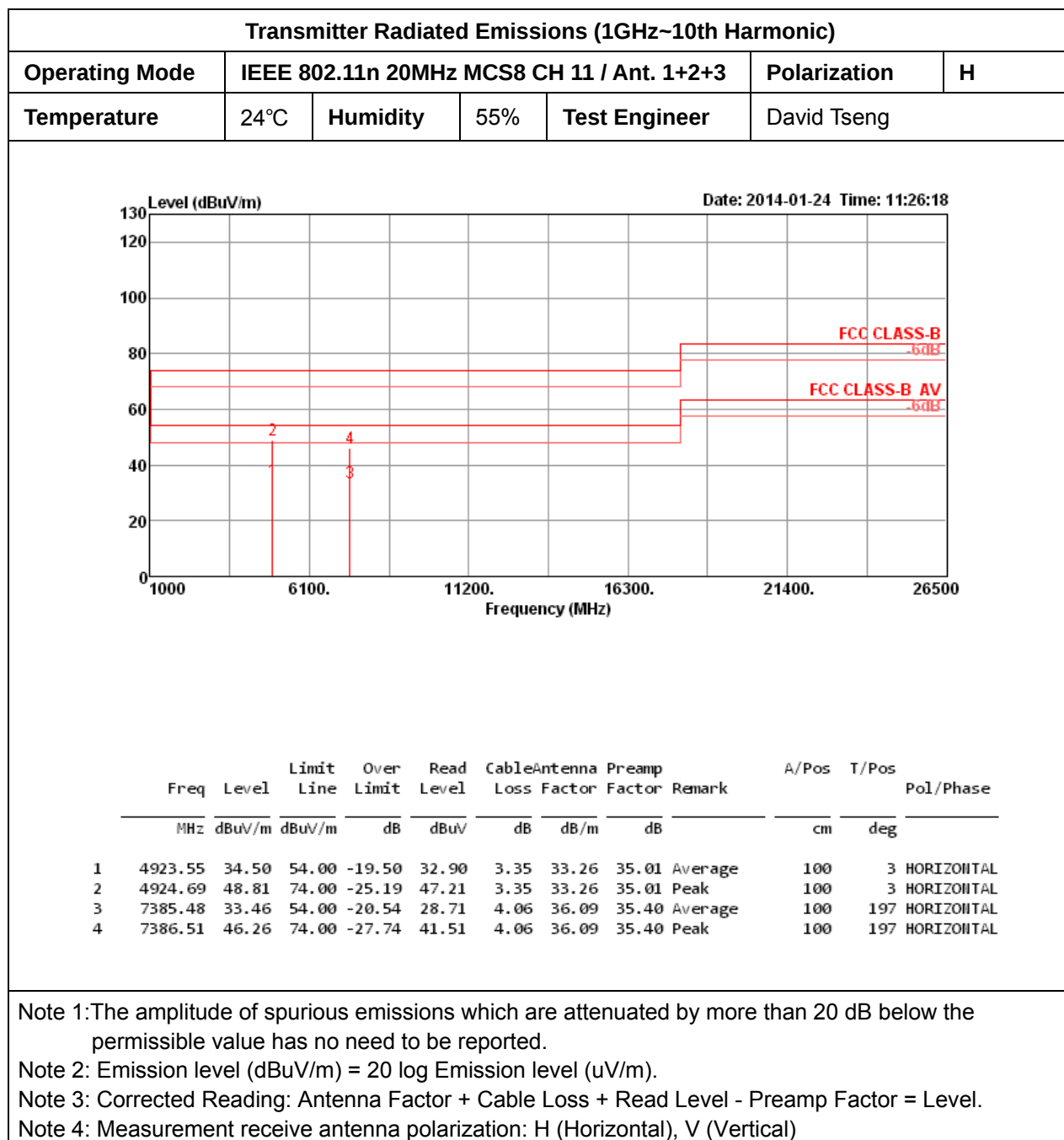


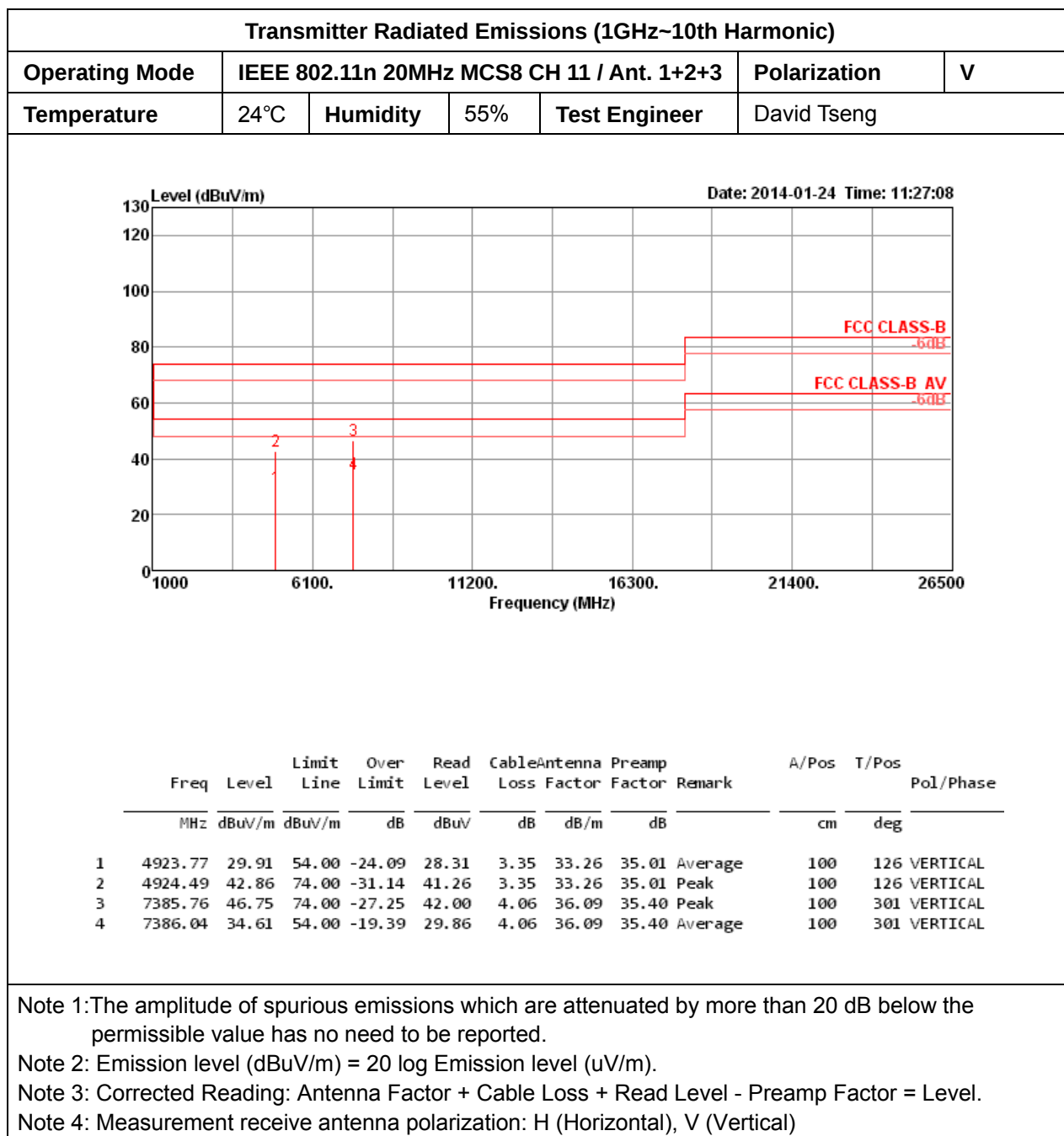


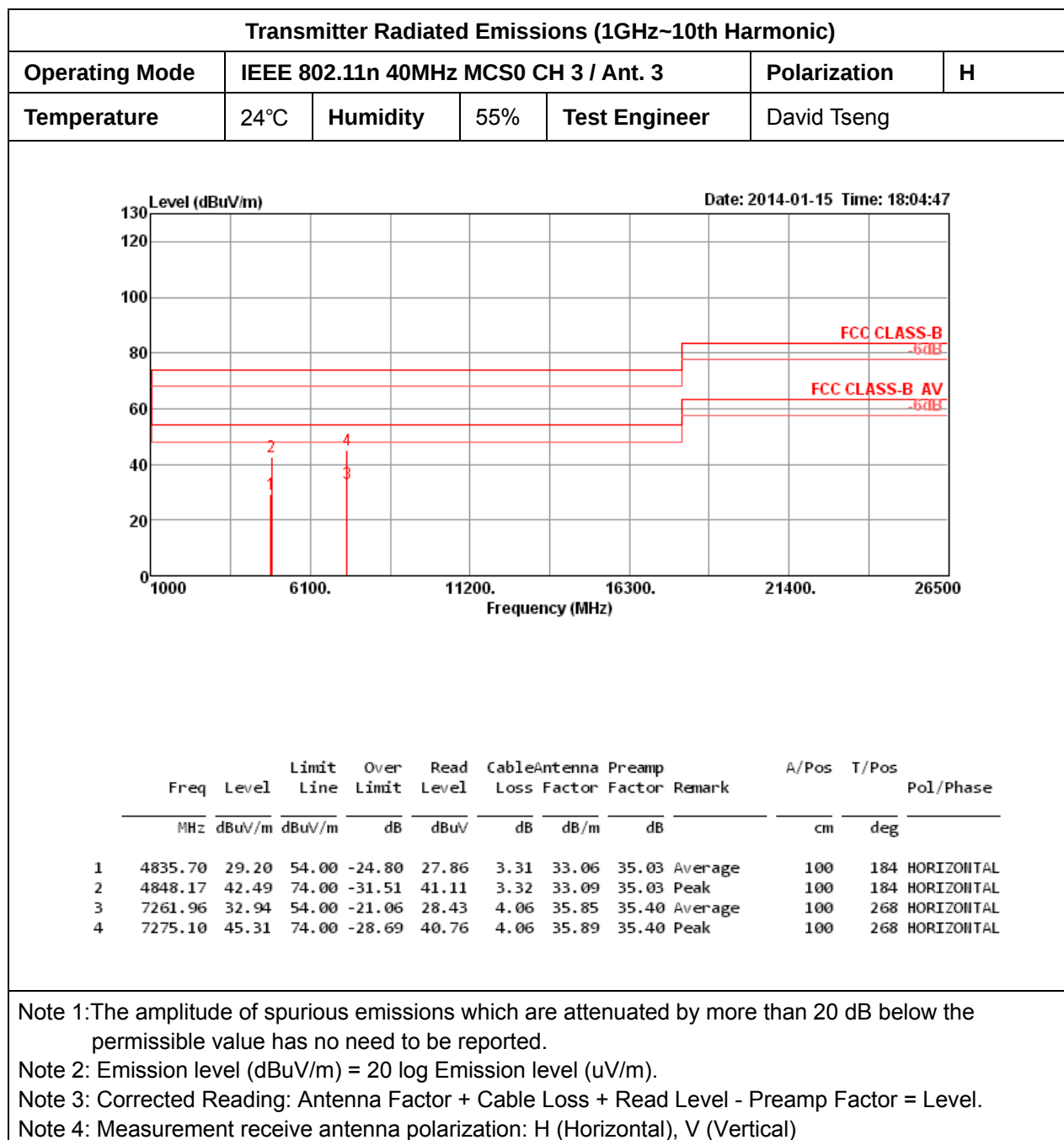


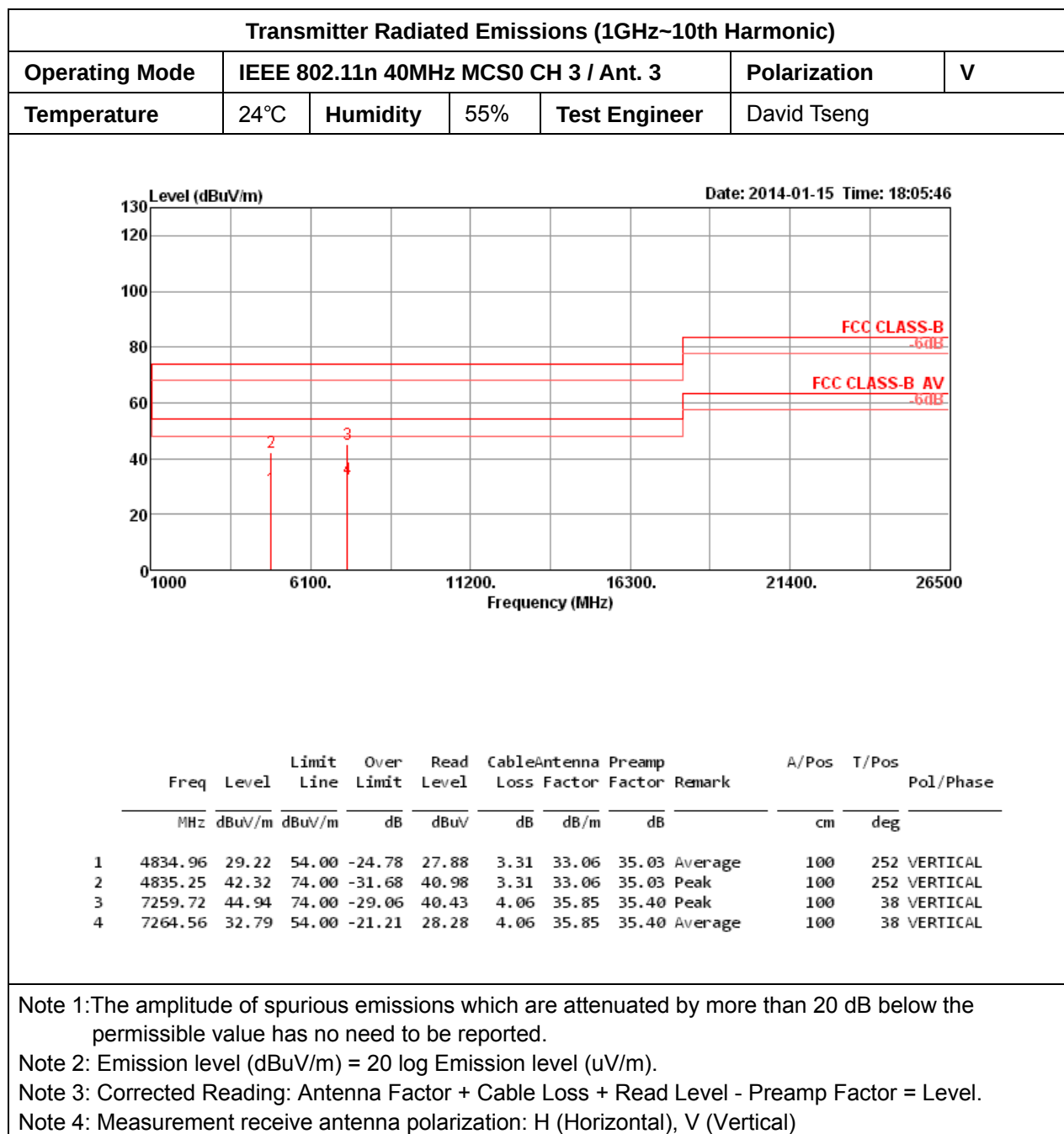


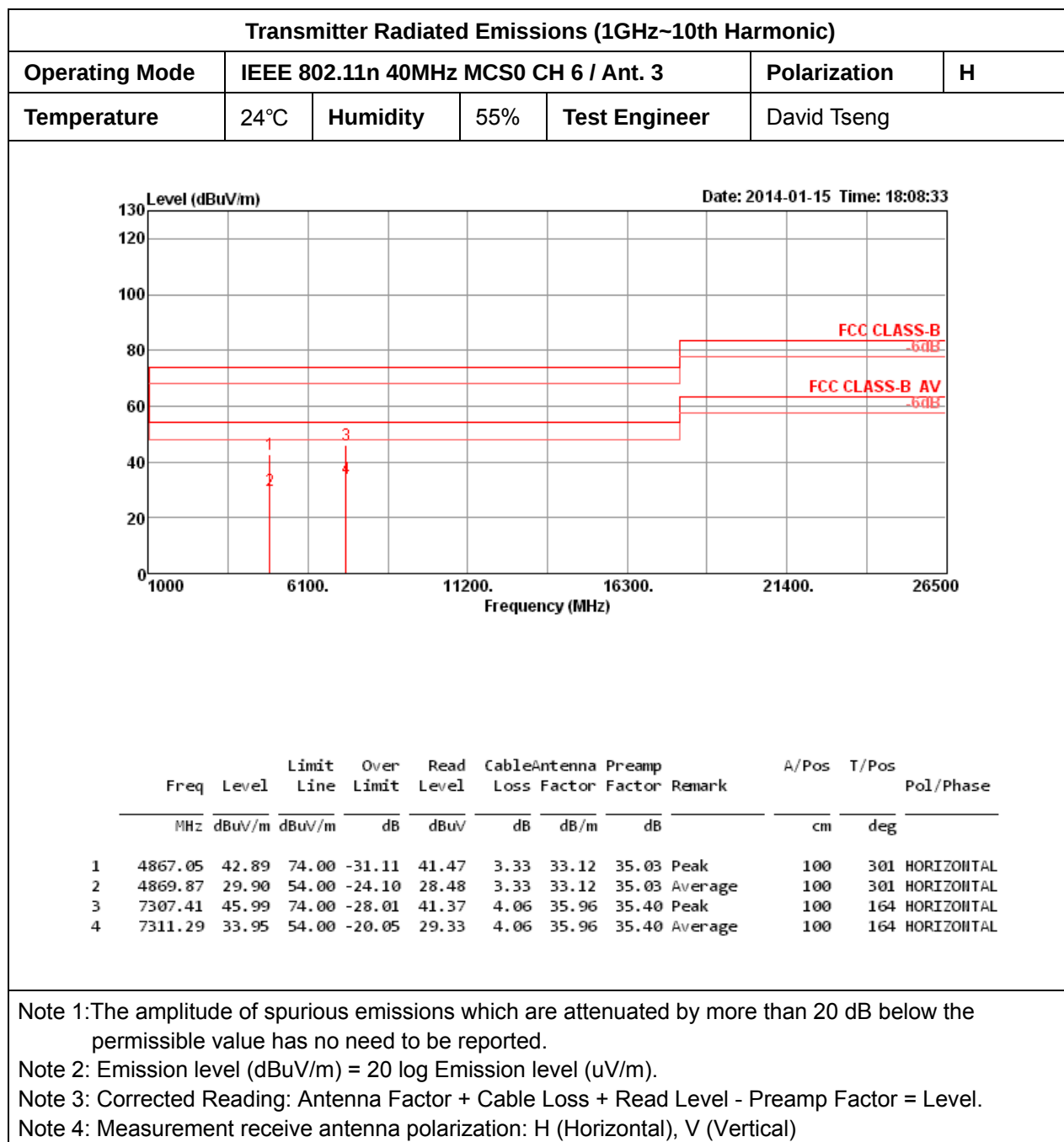


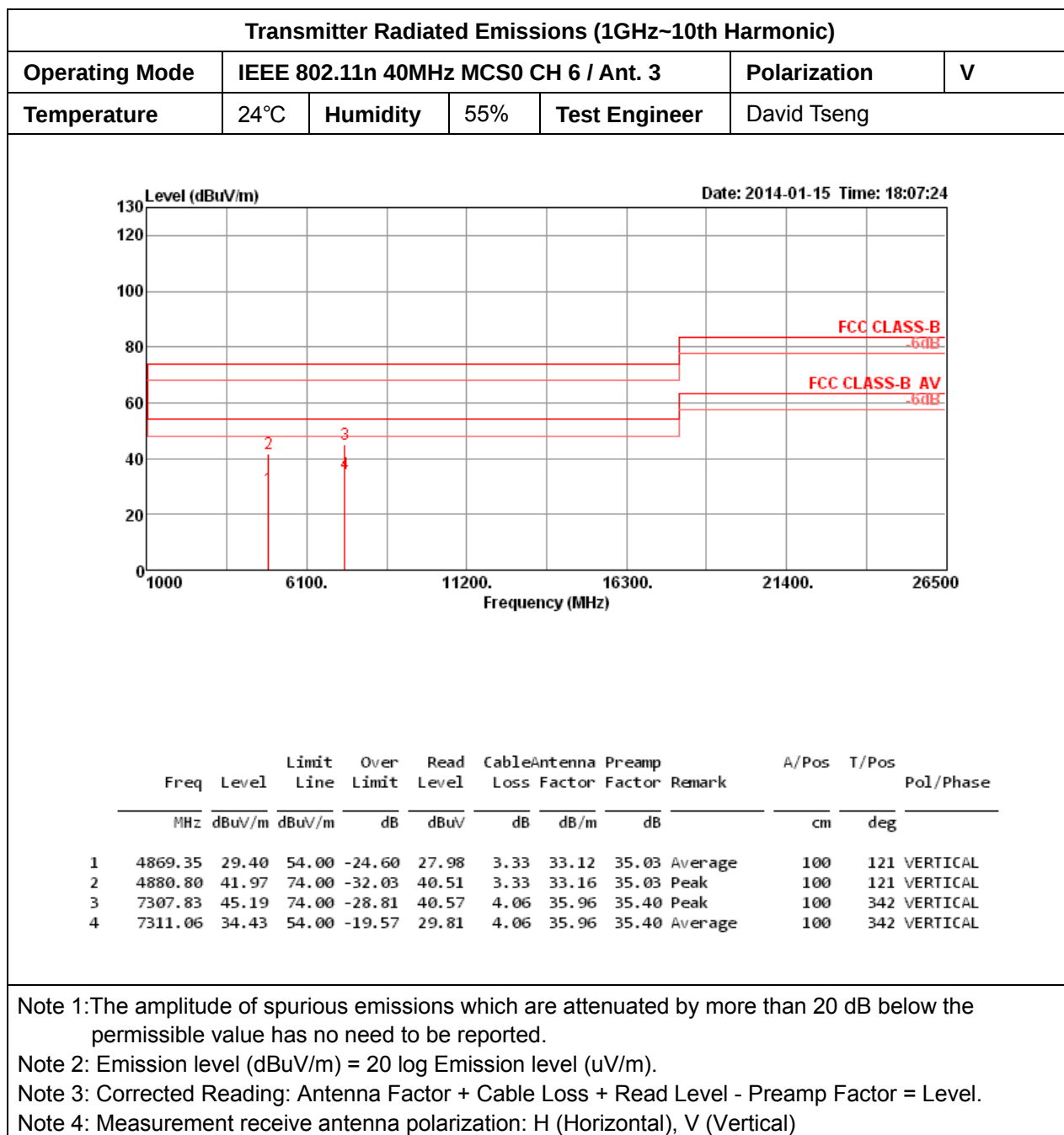


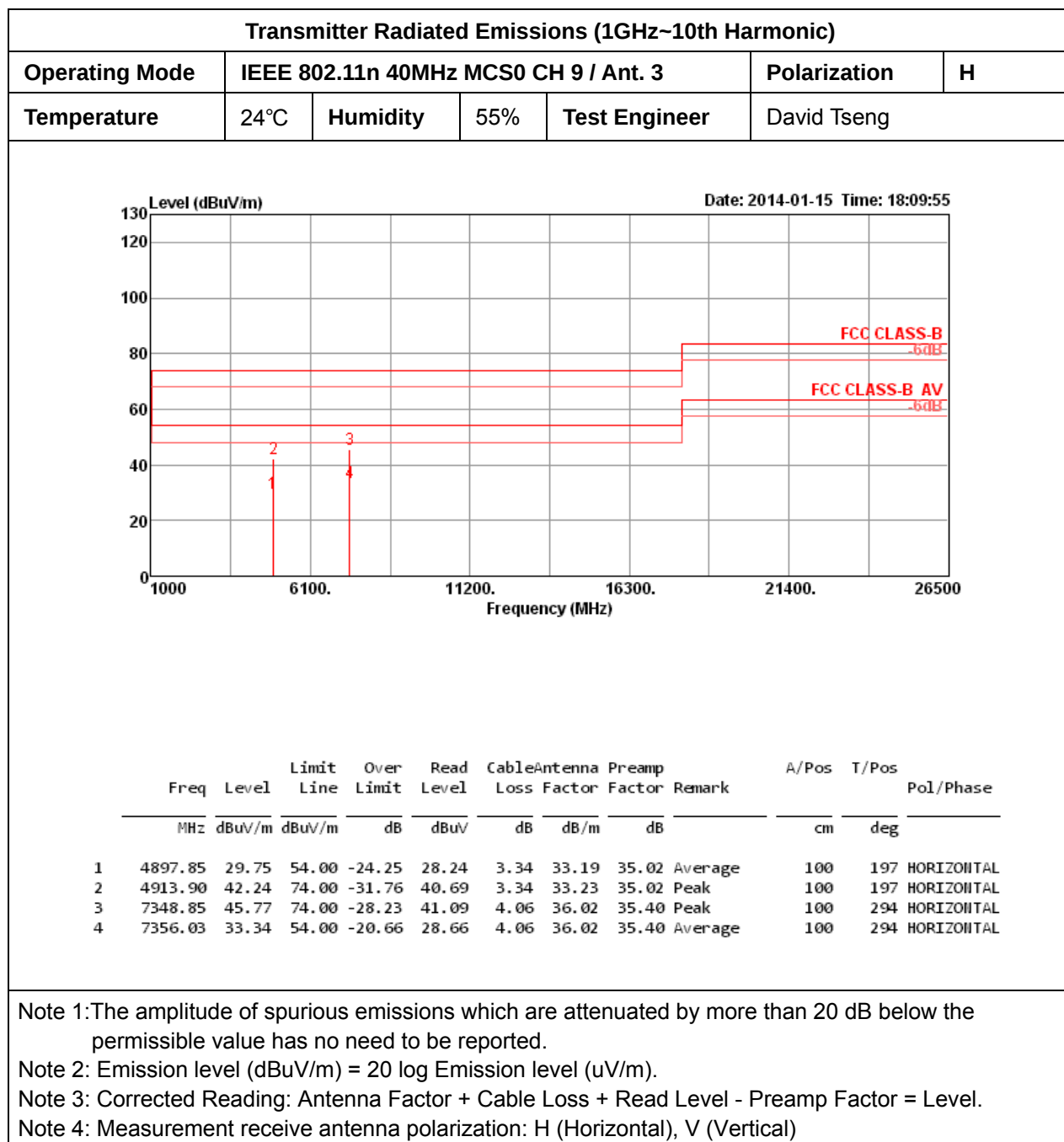


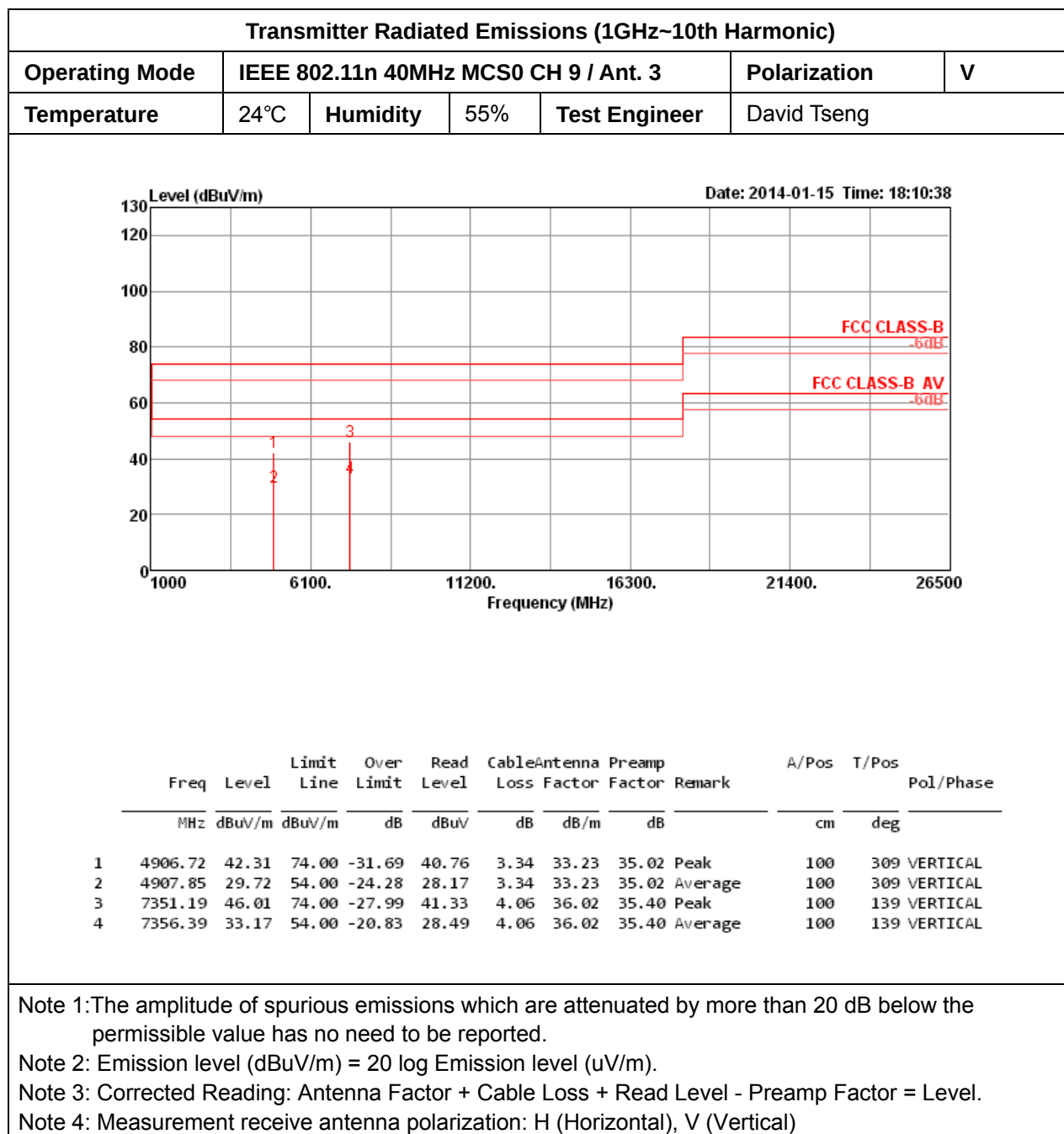


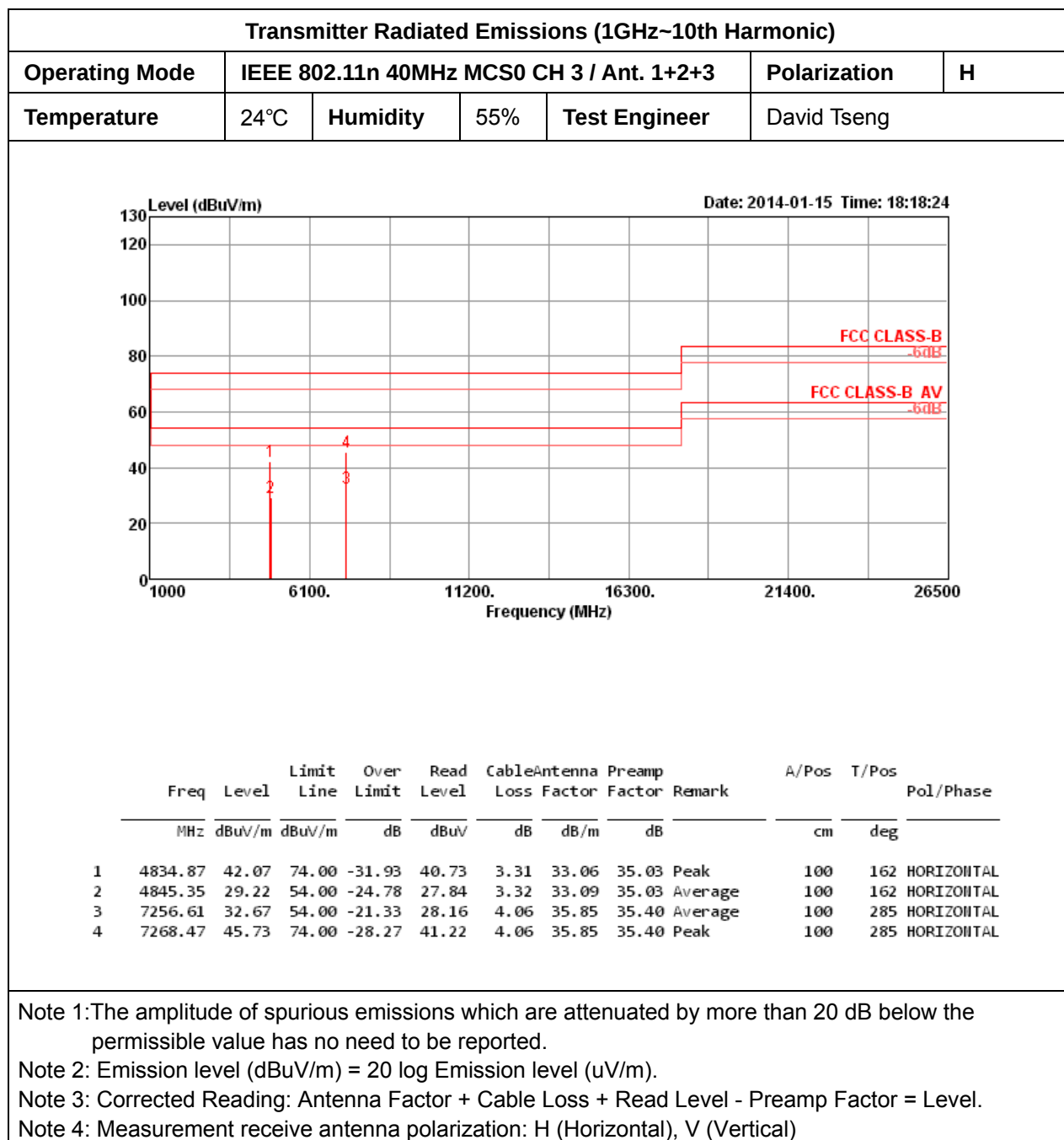


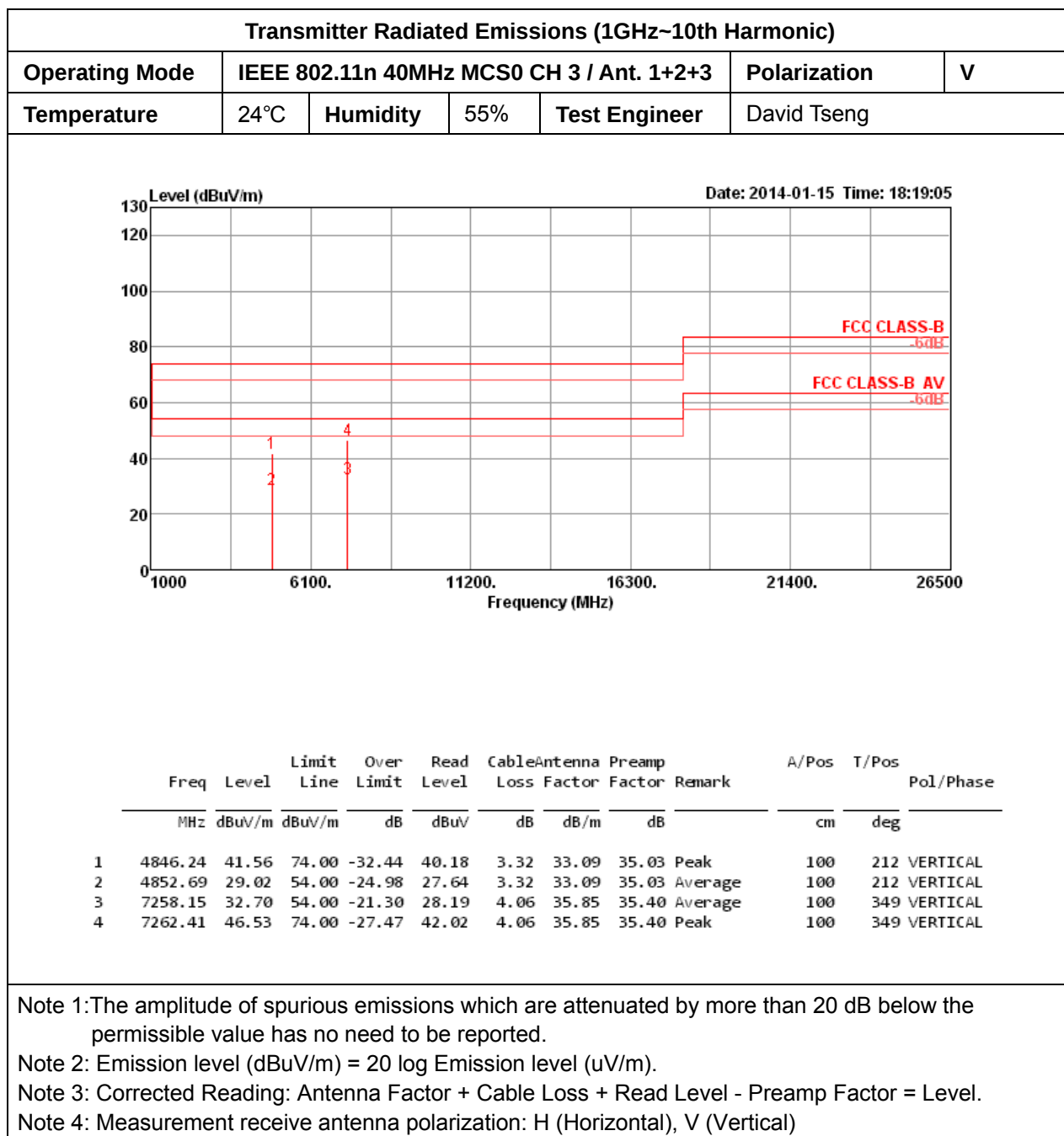


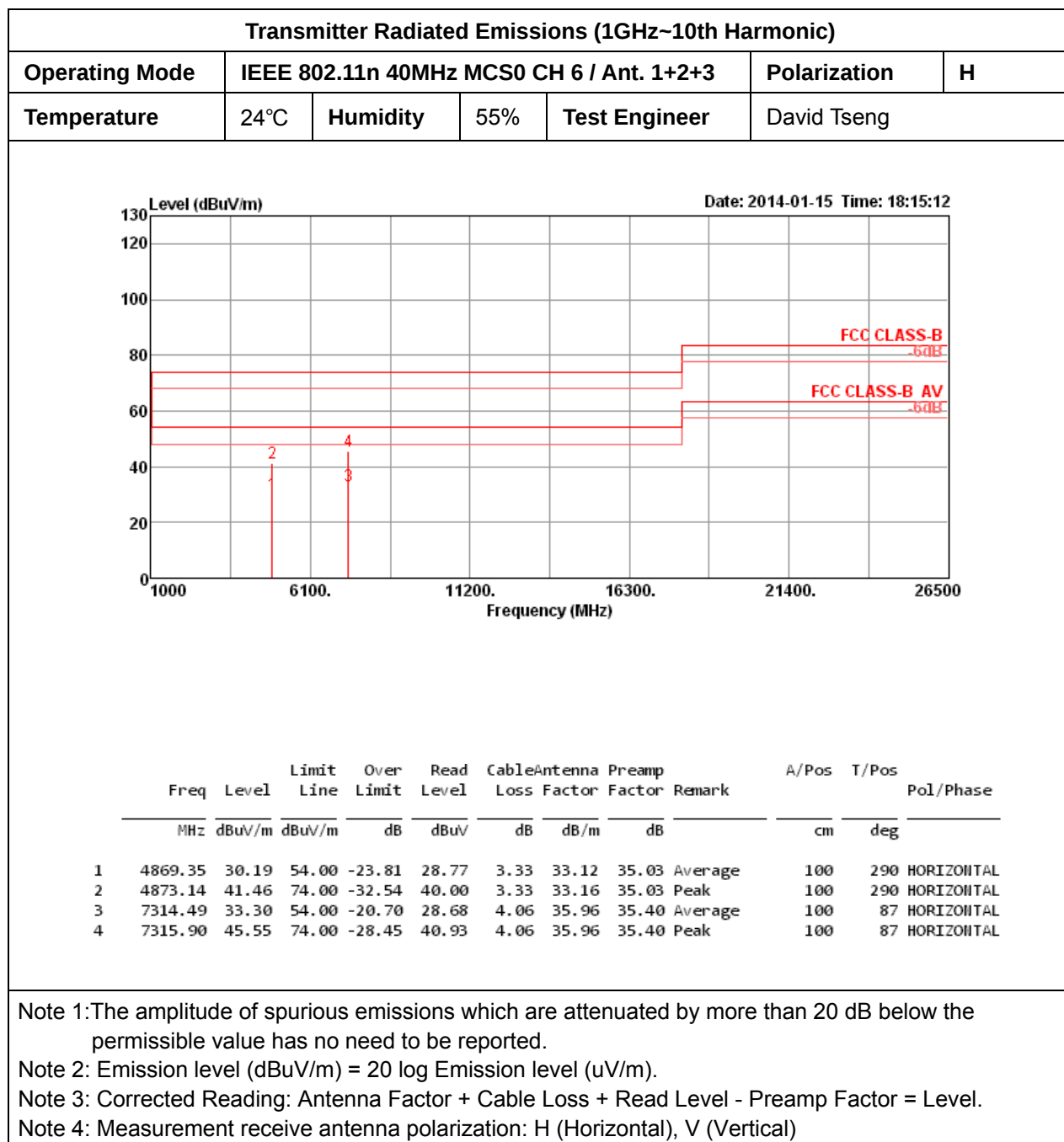


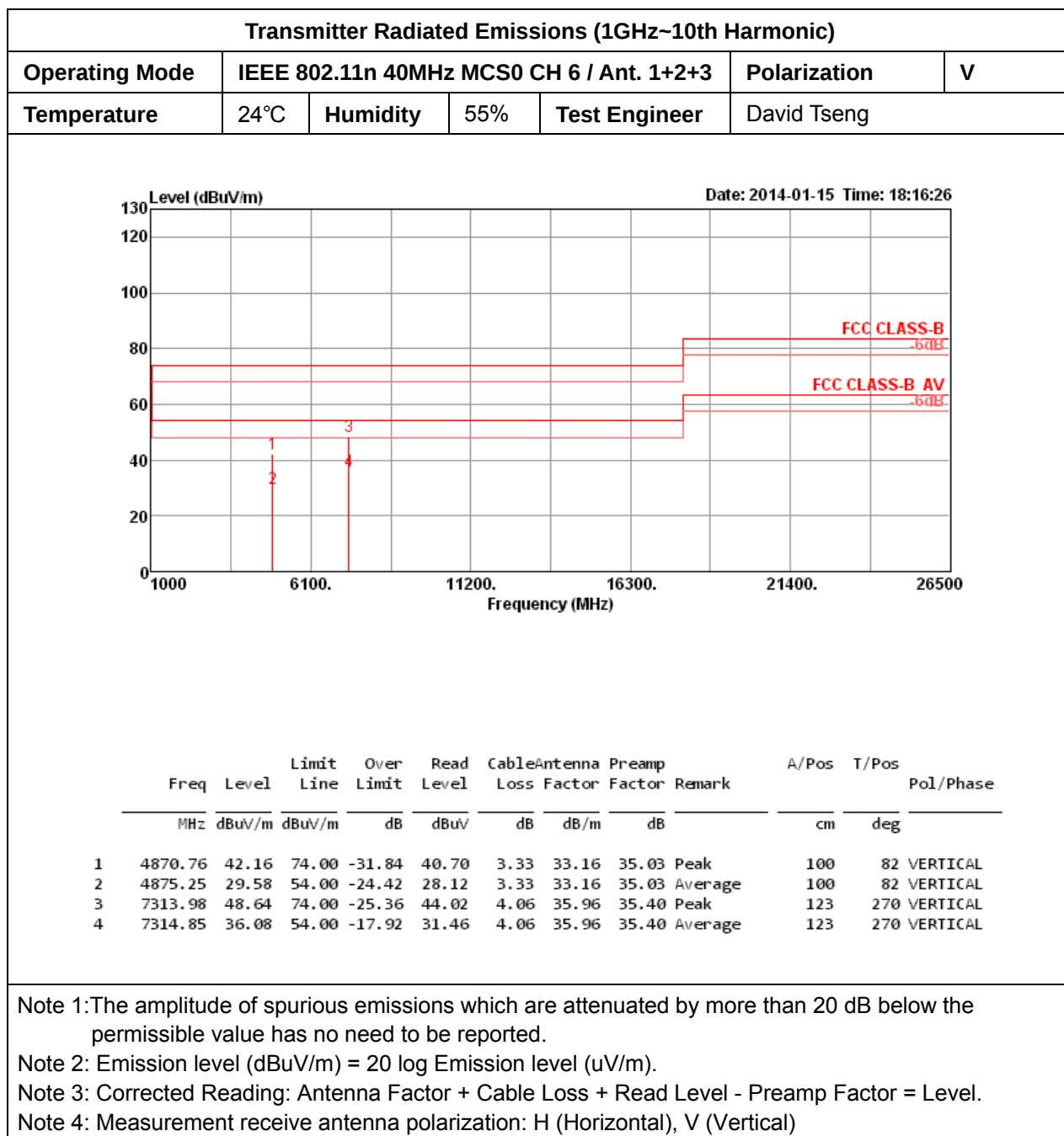


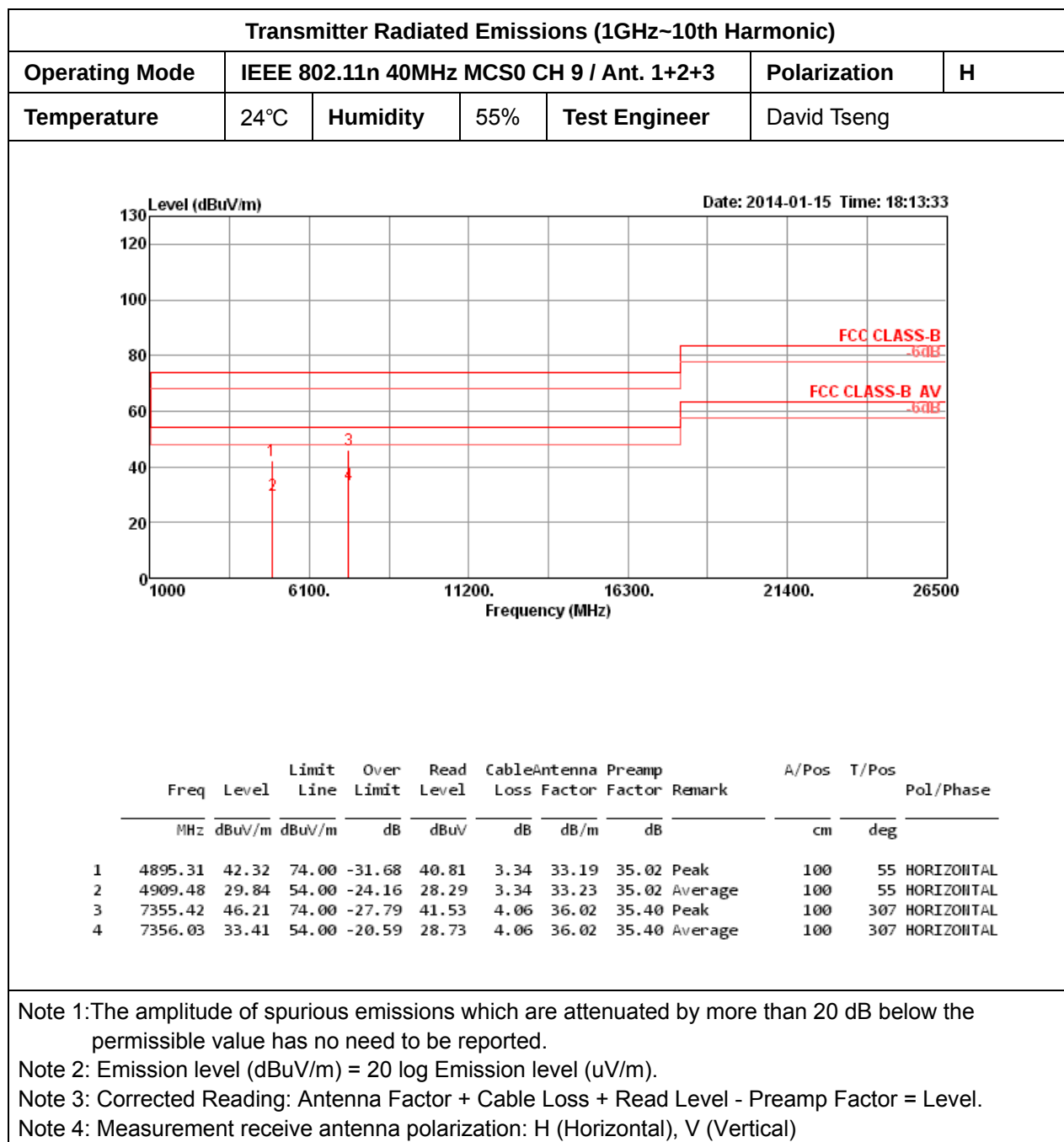


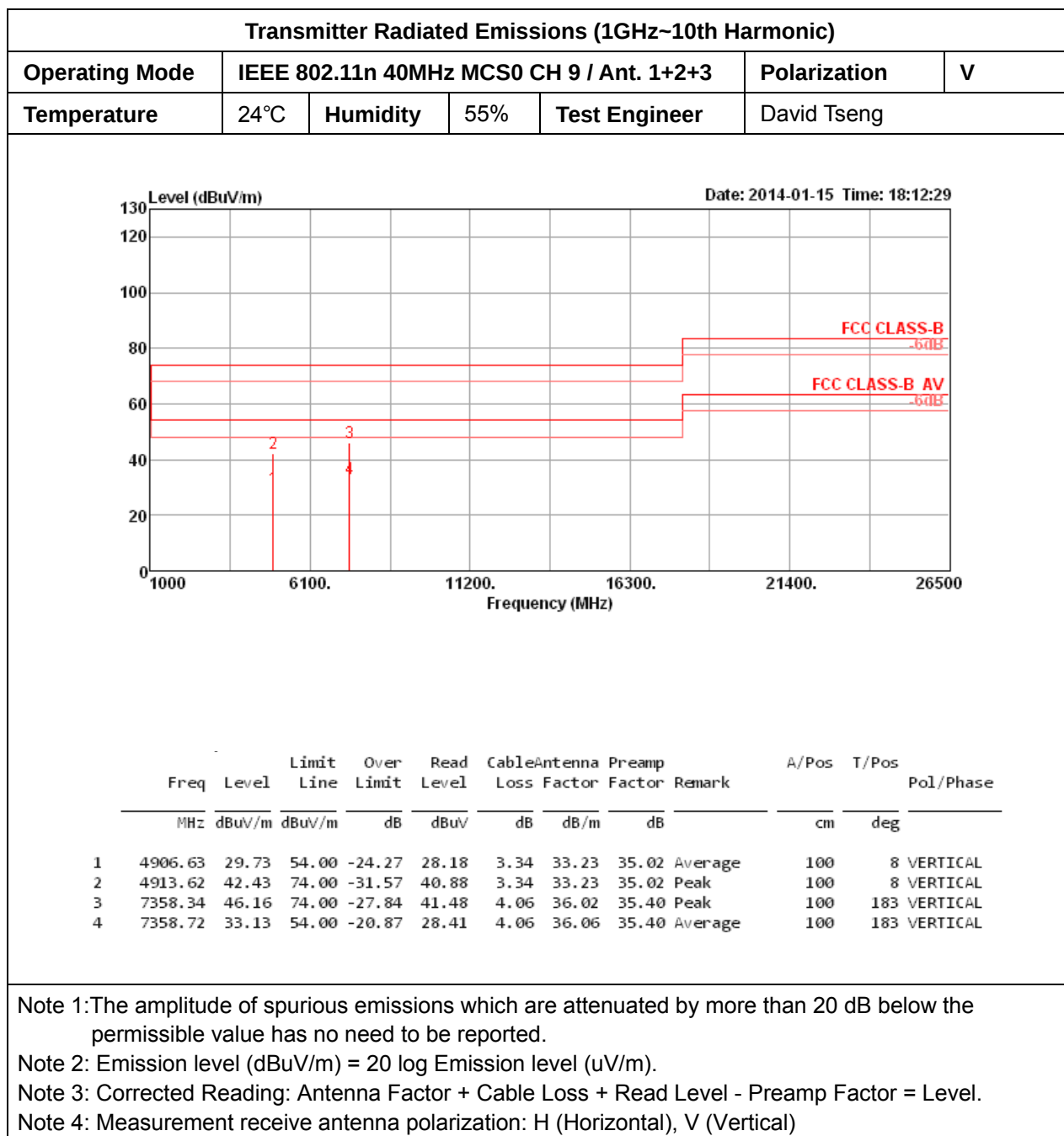


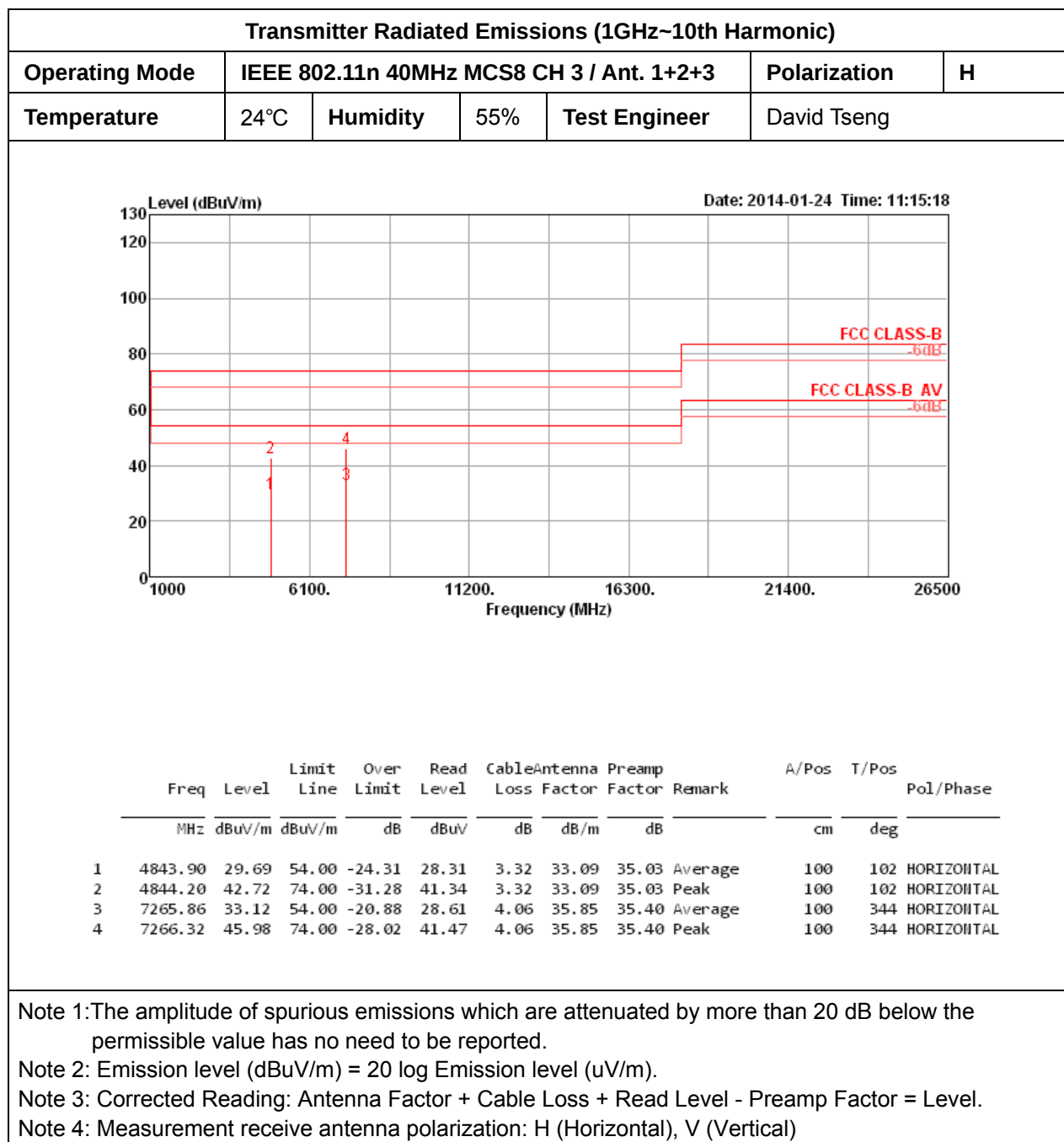


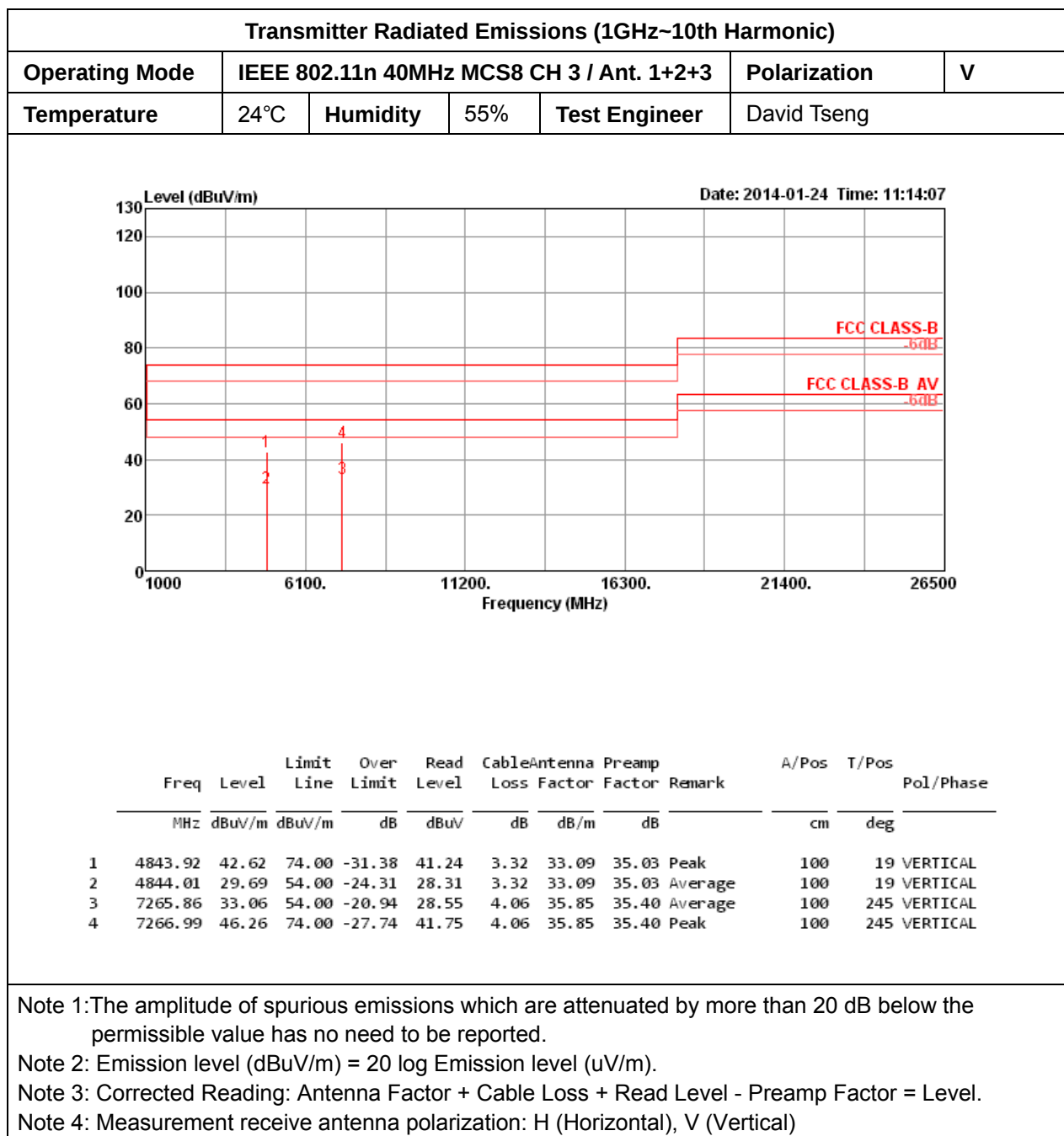


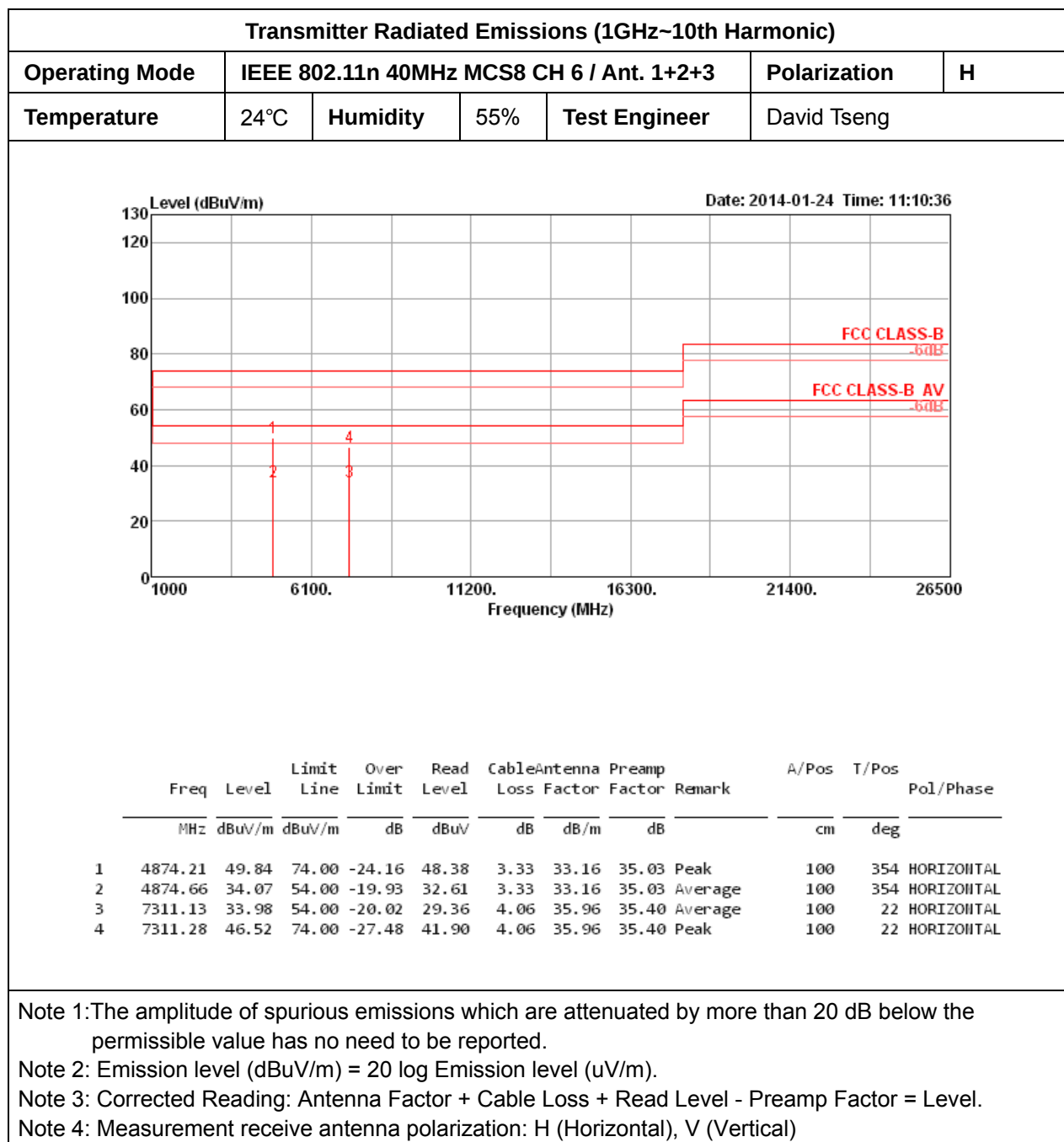


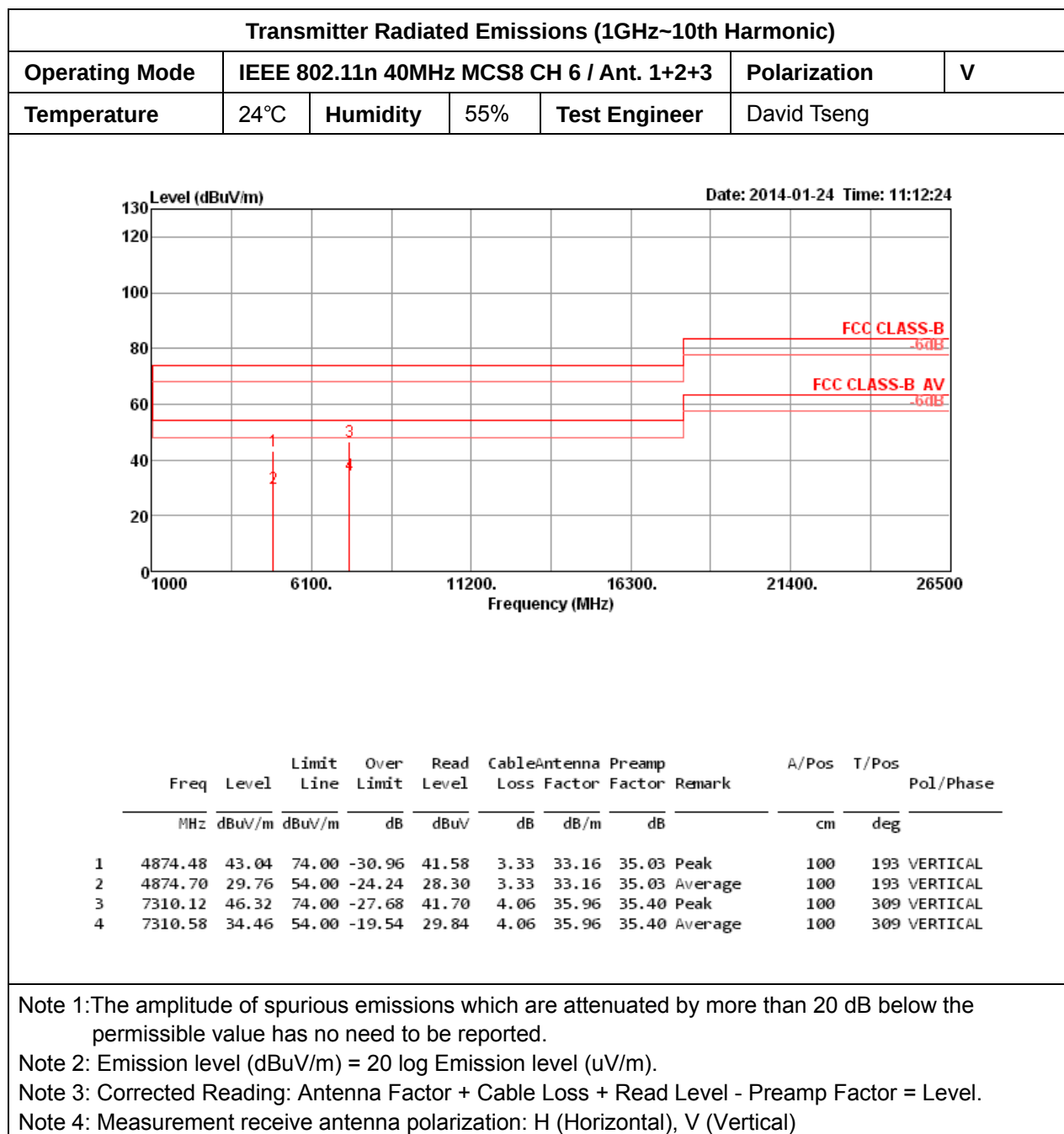


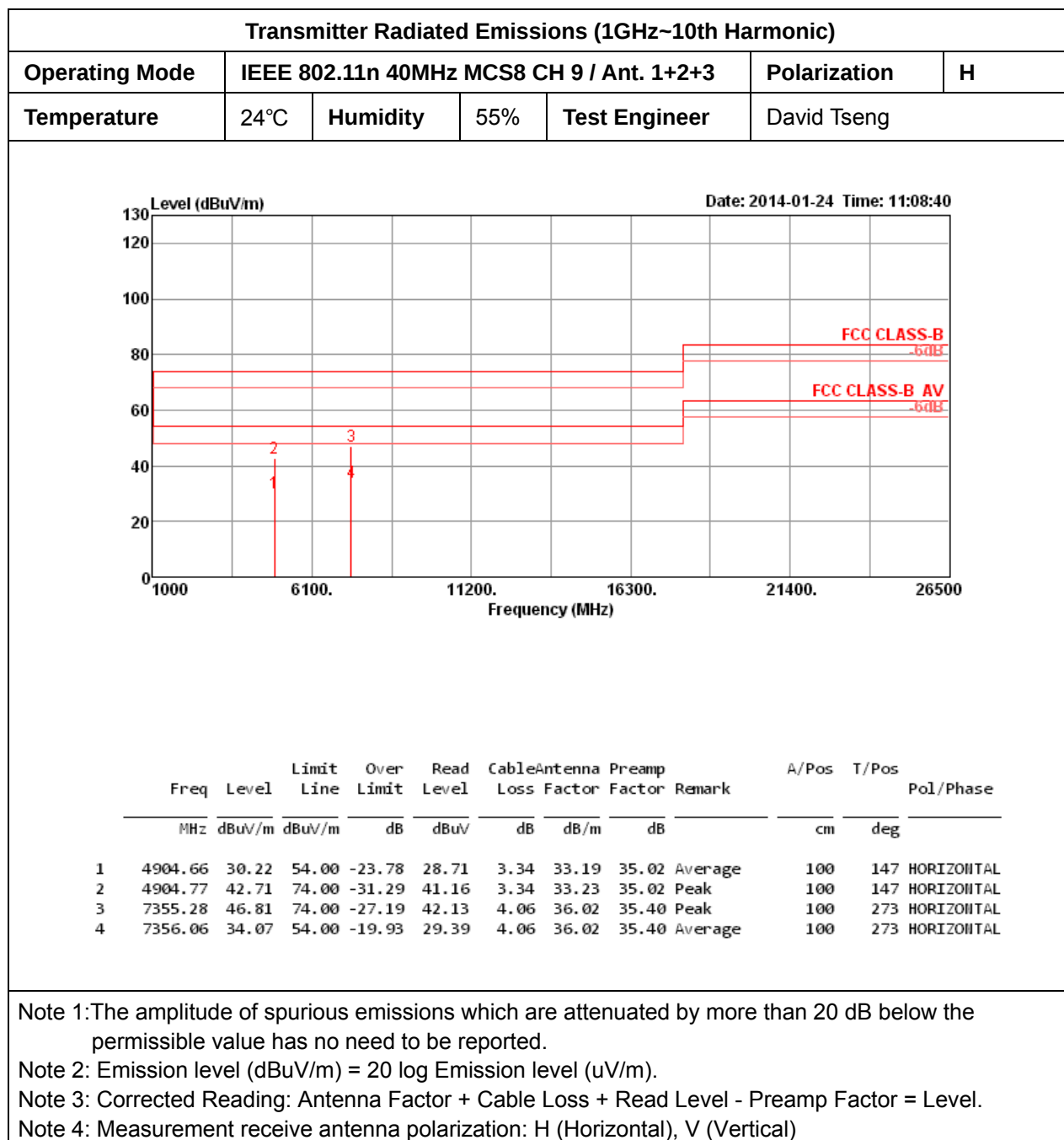


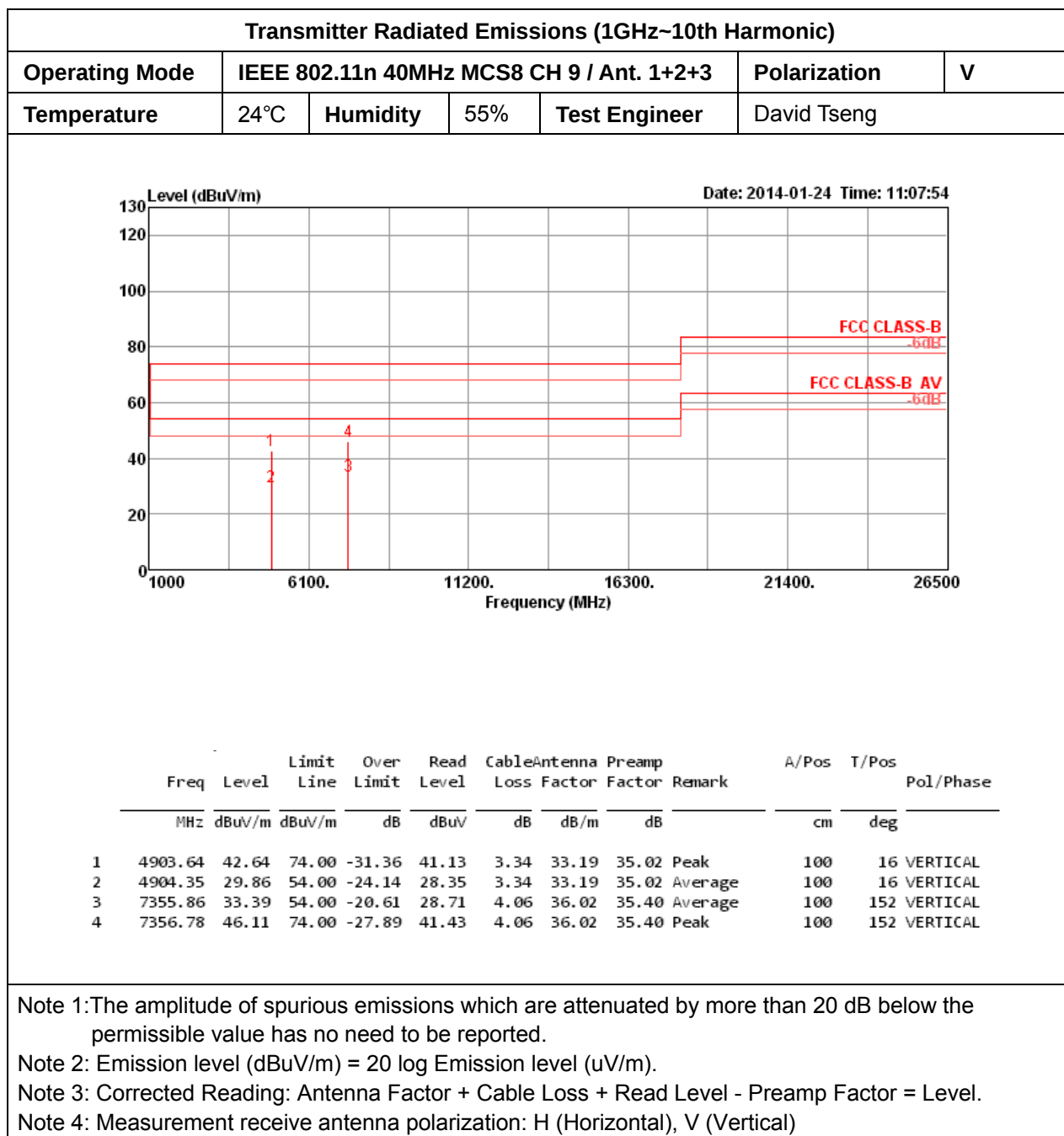












### 3.6. Band Edge and Fundamental Emissions Measurement

#### 3.6.1. Limit

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

| Frequencies (MHz) | Field Strength (microvolt/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                             |

#### 3.6.2. Measuring Instruments and Setting

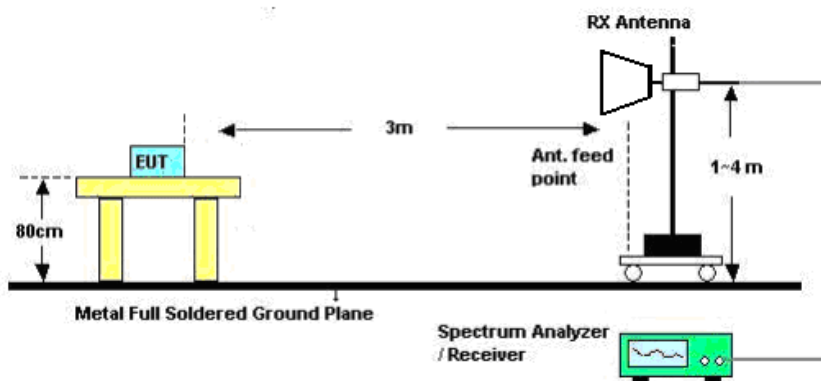
Please refer to section 6 of equipments list in this report. The following table is the setting of the spectrum analyzer.

| Spectrum Analyzer                           | Setting                                       |
|---------------------------------------------|-----------------------------------------------|
| Attenuation                                 | Auto                                          |
| Span Frequency                              | 100 MHz                                       |
| RBW / VBW (Emission in restricted band)     | 1MHz / 3MHz for Peak, 1MHz / 10Hz for Average |
| RBW / VBW (Emission in non-restricted band) | 100 kHz /300 kHz for Peak                     |

#### 3.6.3. Test Procedures

1. The test procedure is the same as section 3.5.3, only the frequency range investigated is limited to 100MHz around bandedges.
2. In case the emission is fail due to the used RBW/VBW is too wide, marker-delta method of FCC Public Notice DA00-705 will be followed.

#### 3.6.4. Test Setup Layout



**3.6.5. Test Deviation**

There is no deviation with the original standard.

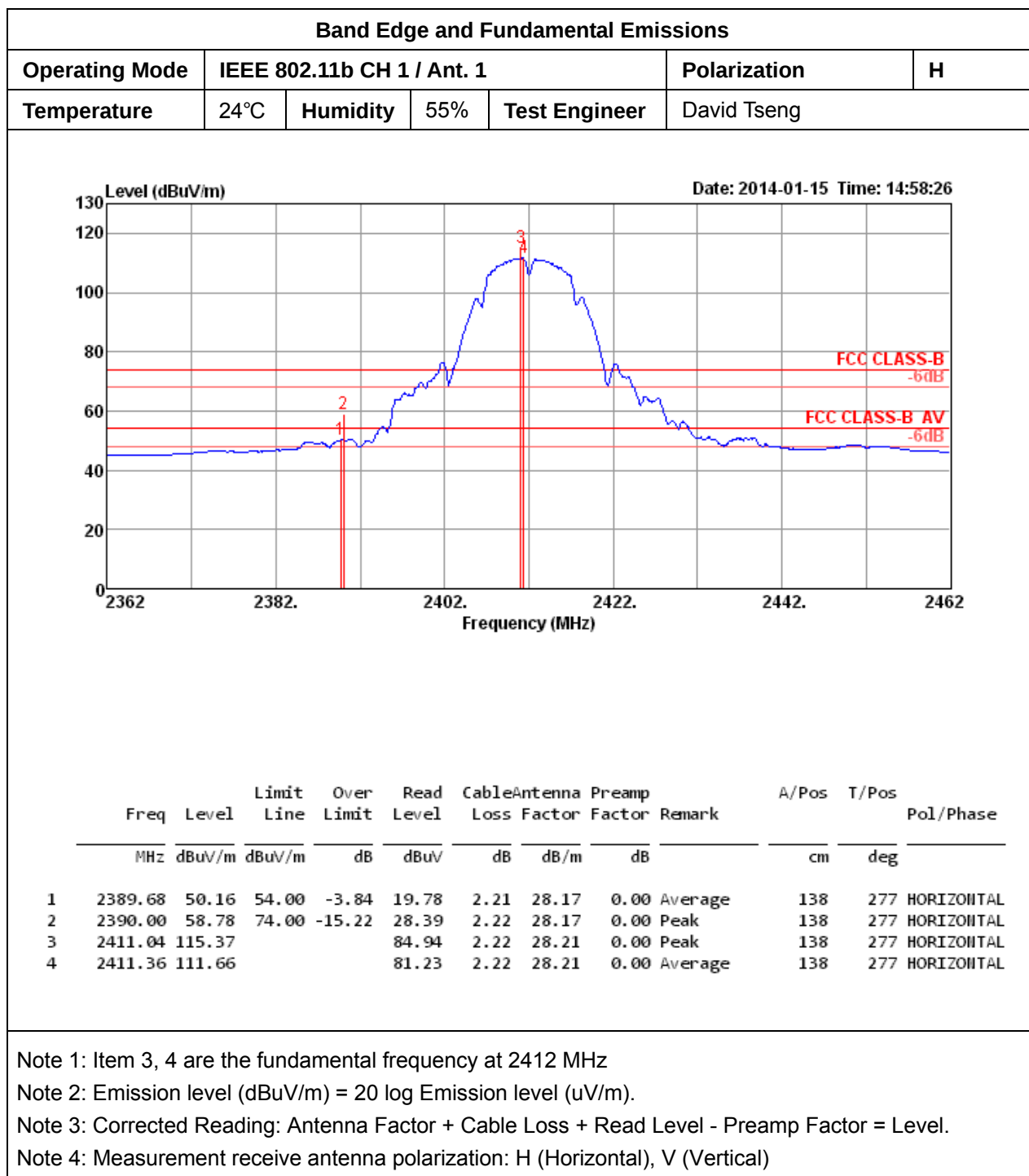
**3.6.6. EUT Operation during Test**

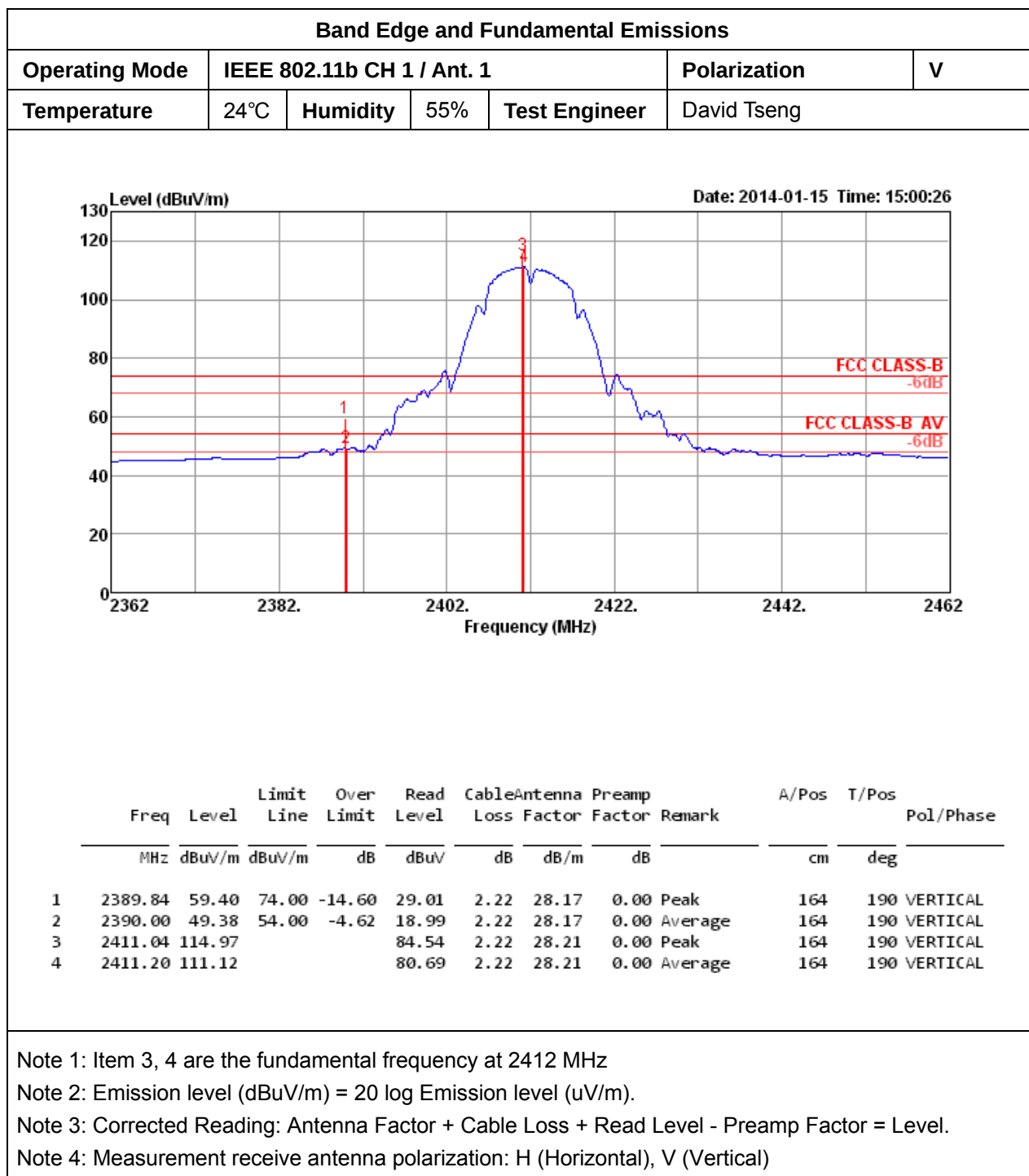
The EUT was programmed to be in continuously transmitting mode.

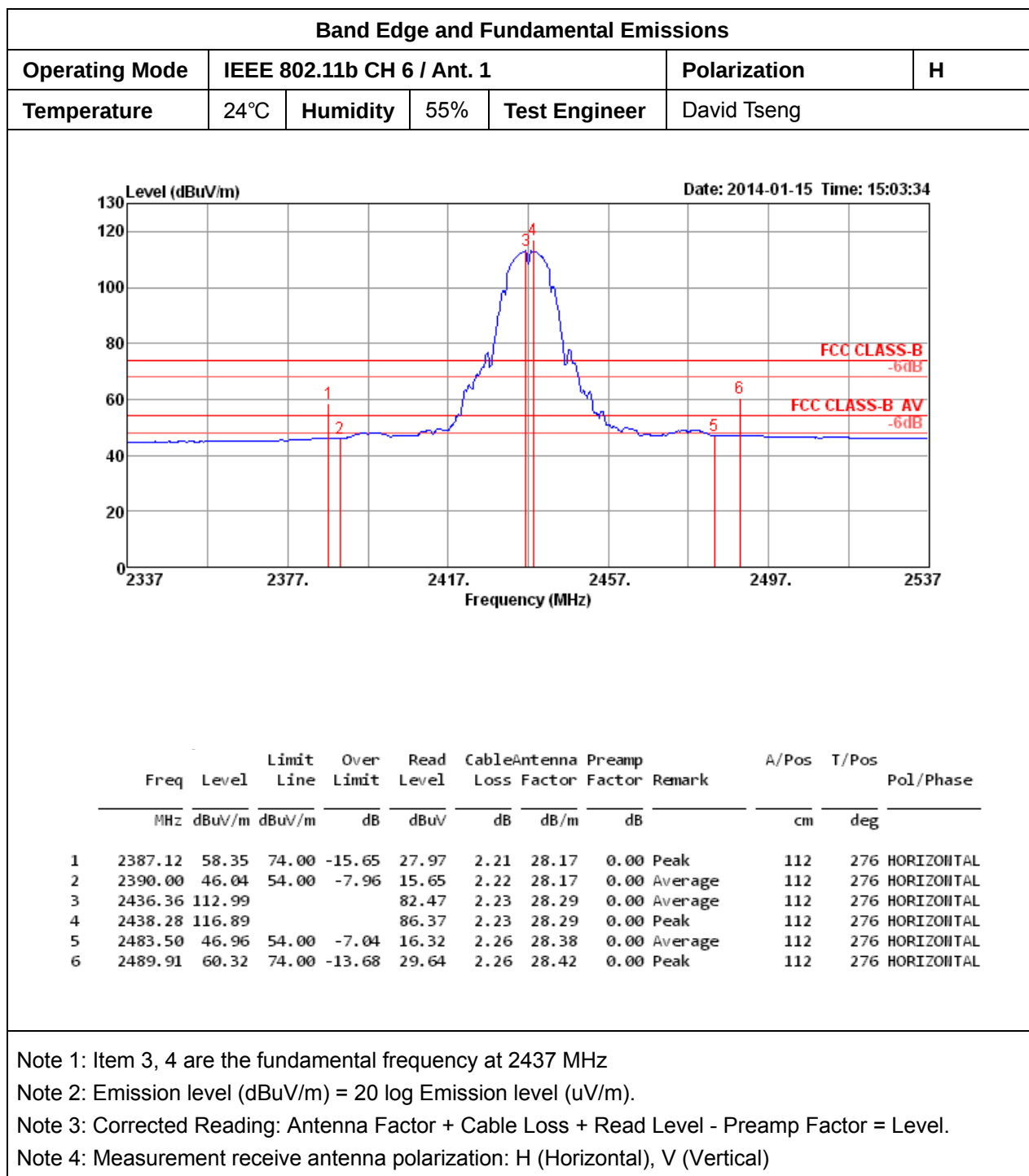
**3.6.7. Test Result of Band Edge and Fundamental Emissions**

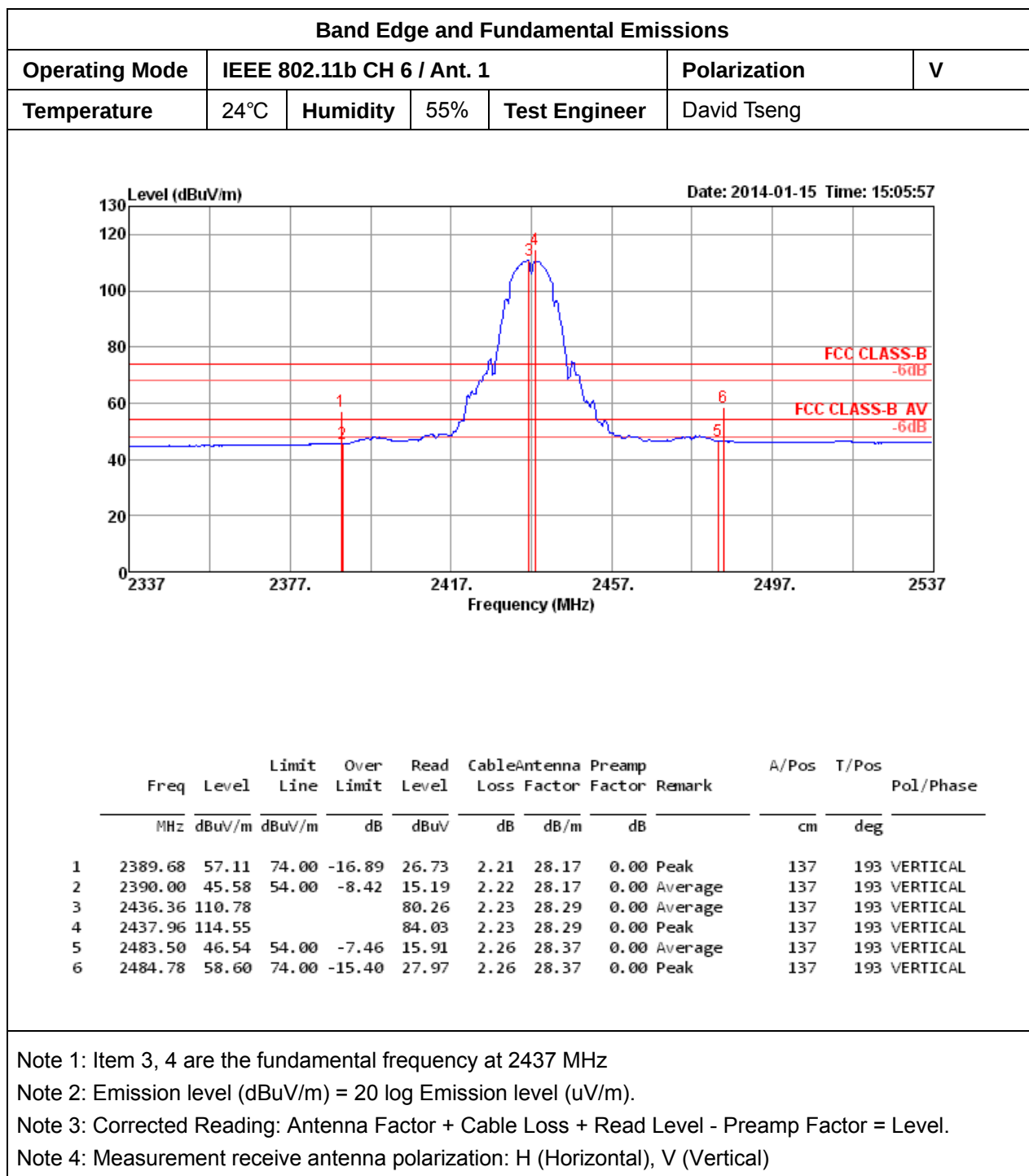
Following channel(s) was (were) selected for the final test as listed below.

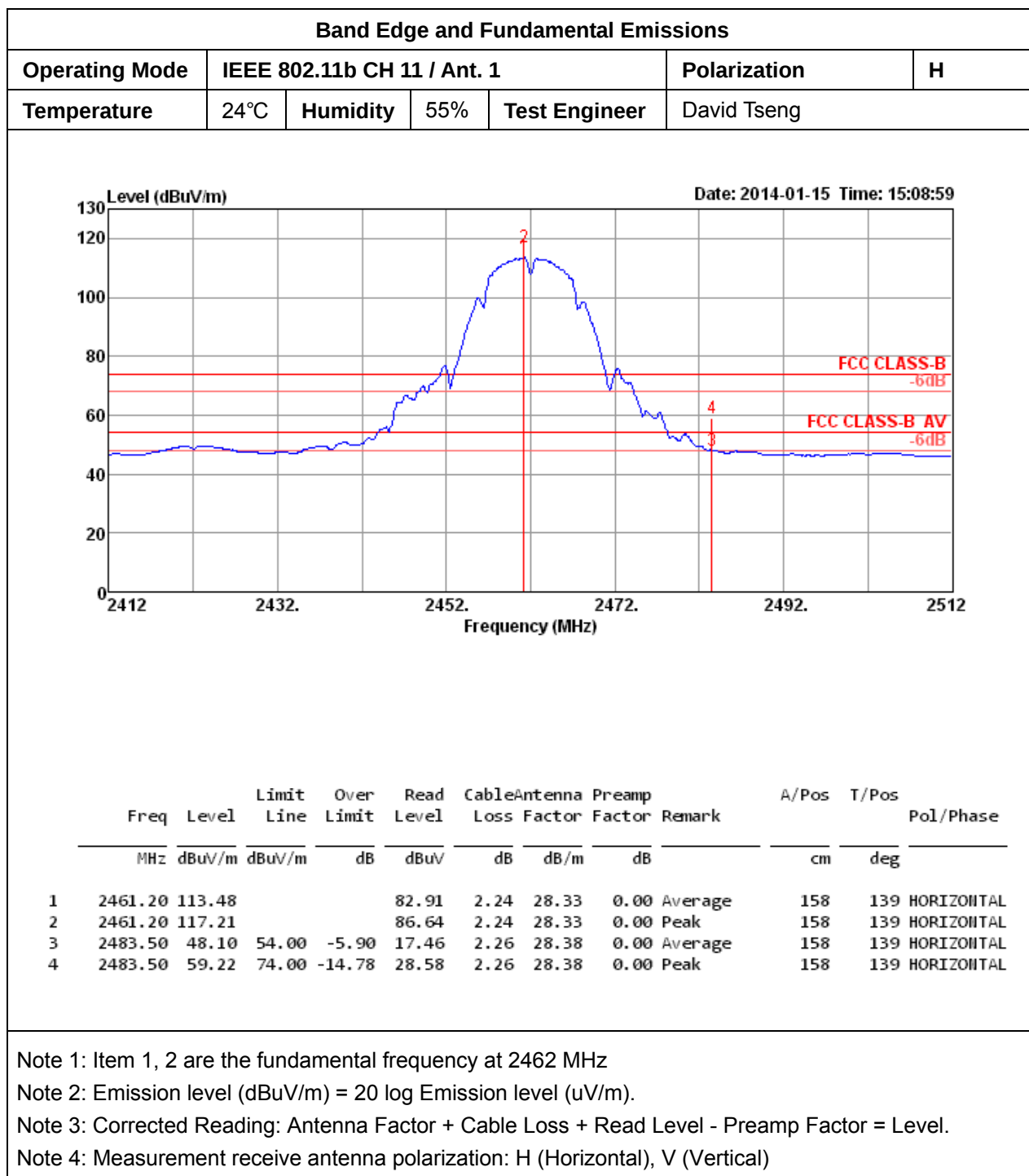
| MODE          | TX Chain       | TESTED CHANNEL | MODULATION TECHNOLOGY | MODULATION TYPE | DATA RATE (Mbps) |
|---------------|----------------|----------------|-----------------------|-----------------|------------------|
| 802.11b       | Ant.1          | 1, 6, 11       | DSSS                  | DBPSK           | 1                |
| 802.11b       | Ant.1+2+3, CDD | 1, 6, 11       | DSSS                  | DBPSK           | 1                |
| 802.11g       | Ant.1          | 1, 6, 11       | OFDM                  | BPSK            | 6                |
| 802.11g       | Ant.1+2+3, CDD | 1, 6, 11       | OFDM                  | BPSK            | 6                |
| 802.11n 20MHz | Ant.1          | 1, 6, 11       | OFDM                  | BPSK            | MCS0 (6.5)       |
| 802.11n 20MHz | Ant.1+2+3, CDD | 1, 6, 11       | OFDM                  | BPSK            | MCS0 (6.5)       |
| 802.11n 20MHz | Ant.1+2+3, CDD | 1, 6, 11       | OFDM                  | BPSK            | MCS8 (13)        |
| 802.11n 40MHz | Ant.3          | 3, 6, 9        | OFDM                  | BPSK            | MCS0 (13)        |
| 802.11n 40MHz | Ant.1+2+3, CDD | 3, 6, 9        | OFDM                  | BPSK            | MCS0 (13)        |
| 802.11n 40MHz | Ant.1+2+3, CDD | 3, 6, 9        | OFDM                  | BPSK            | MCS8 (27)        |

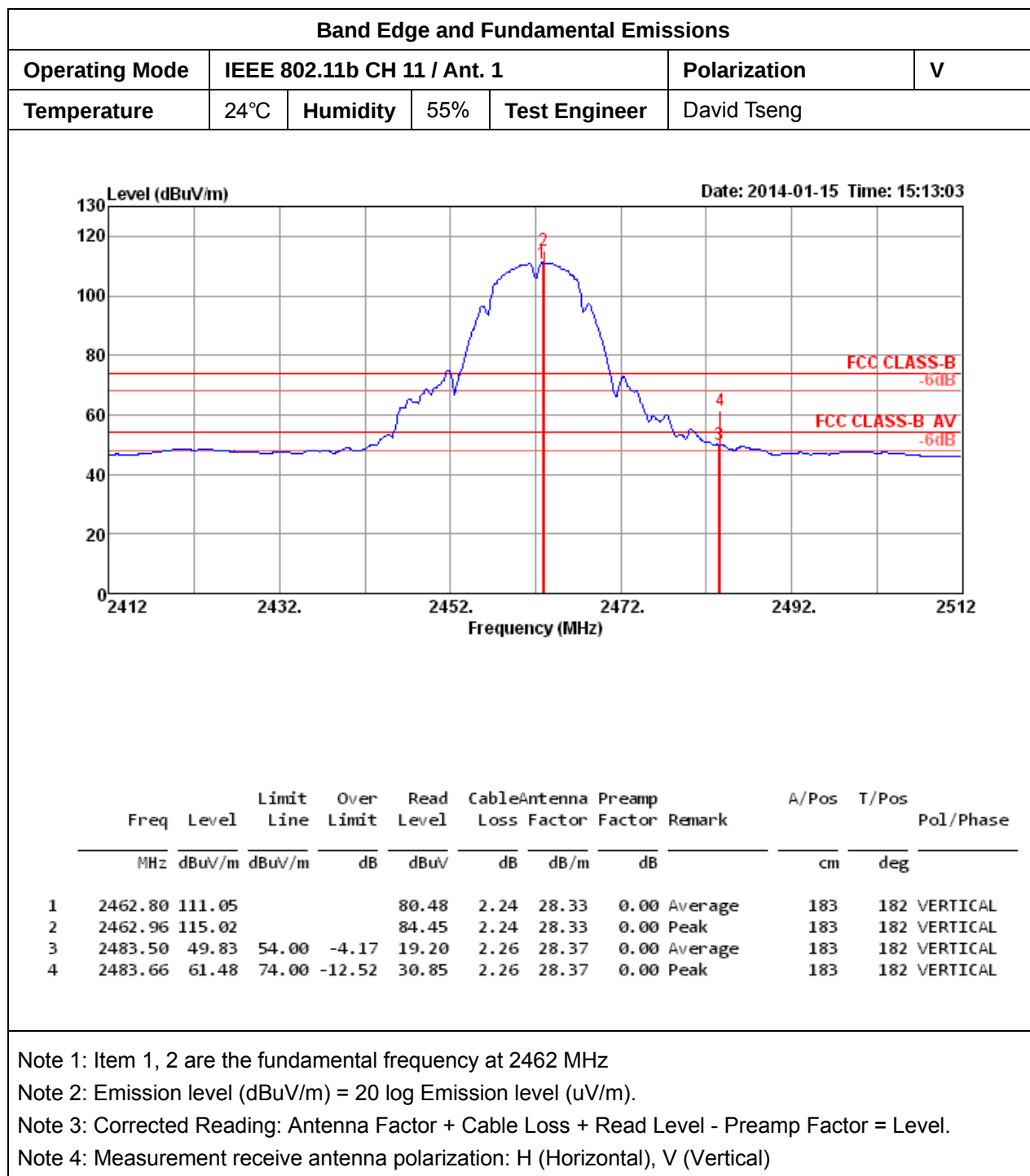


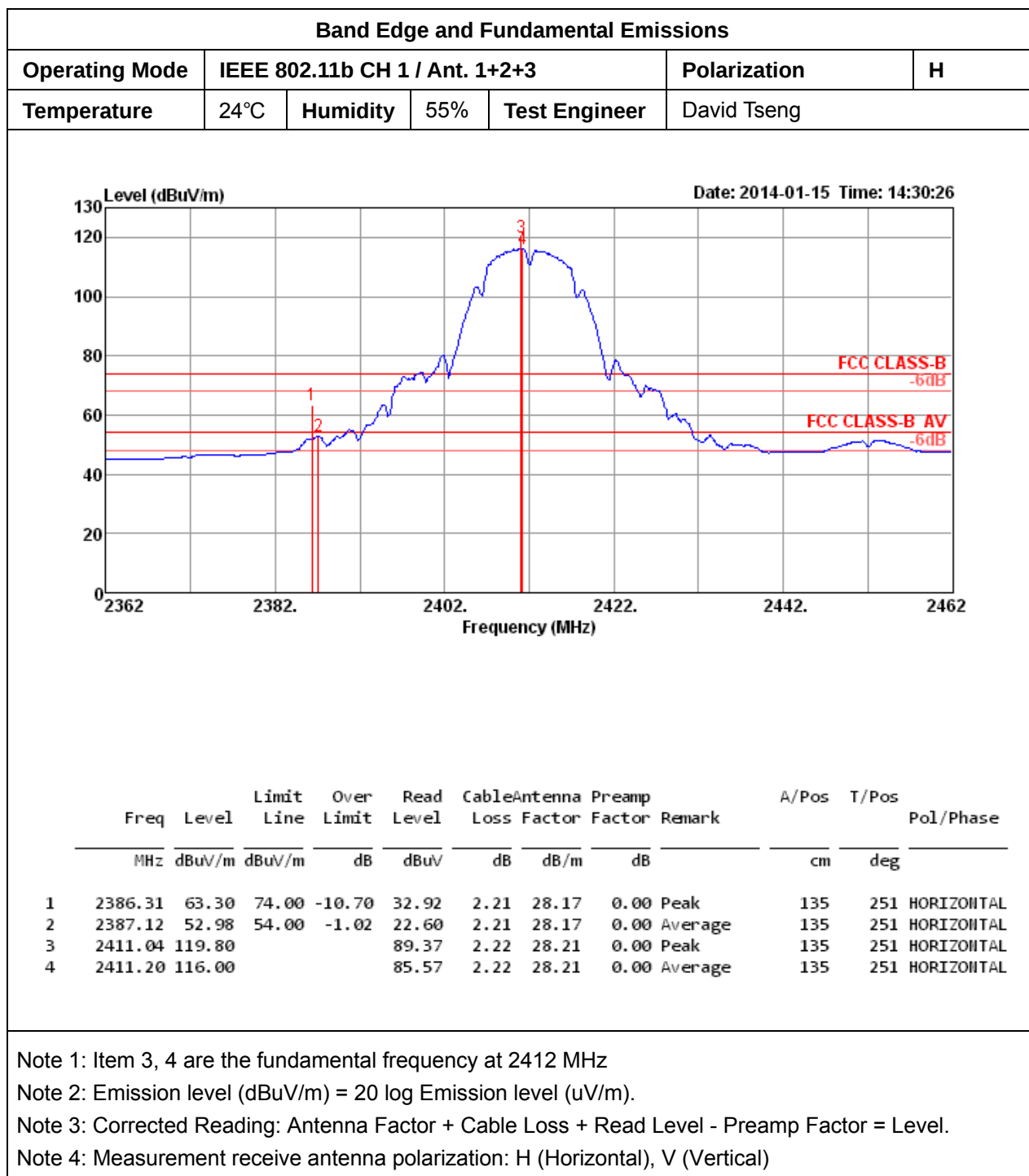


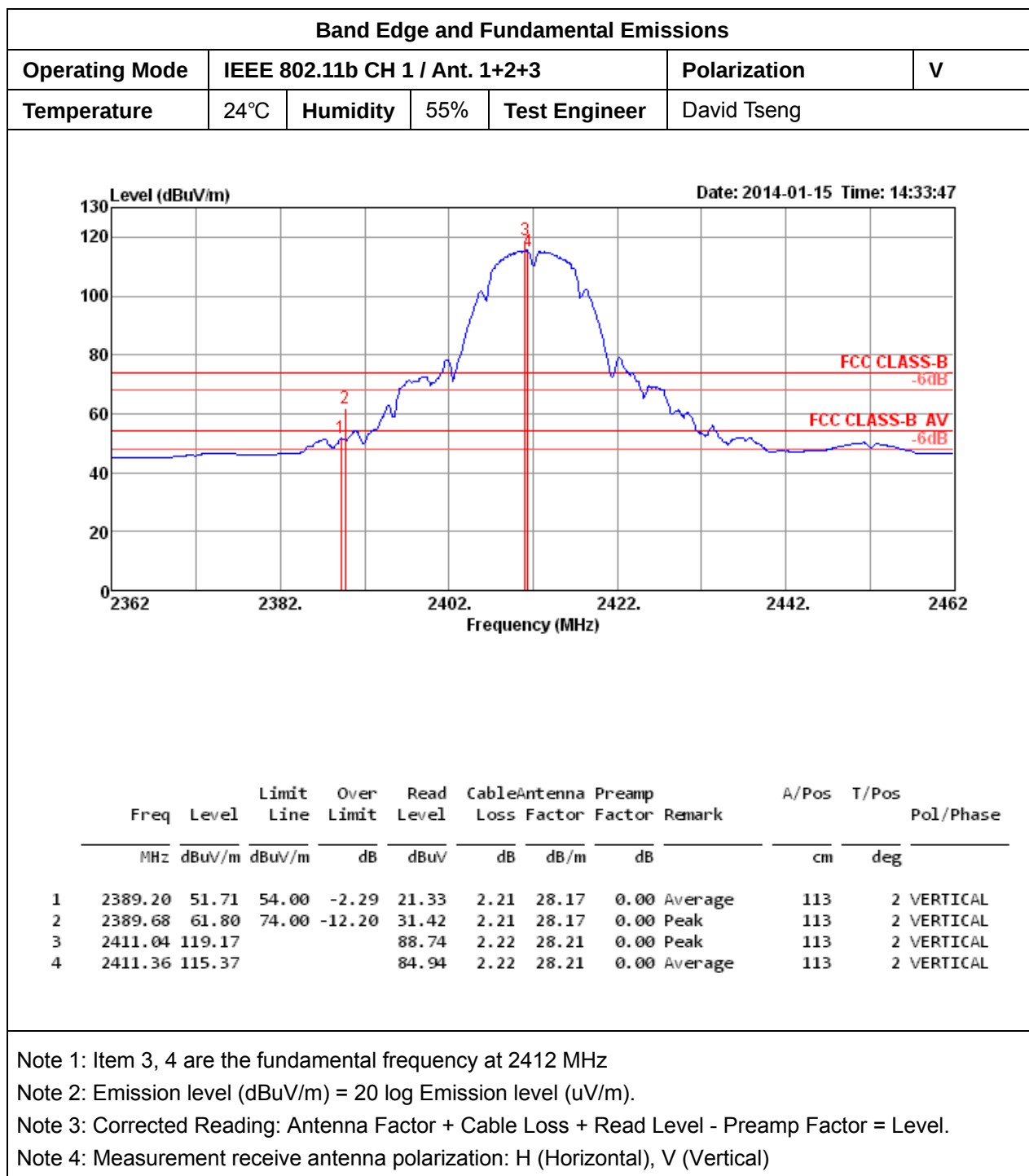


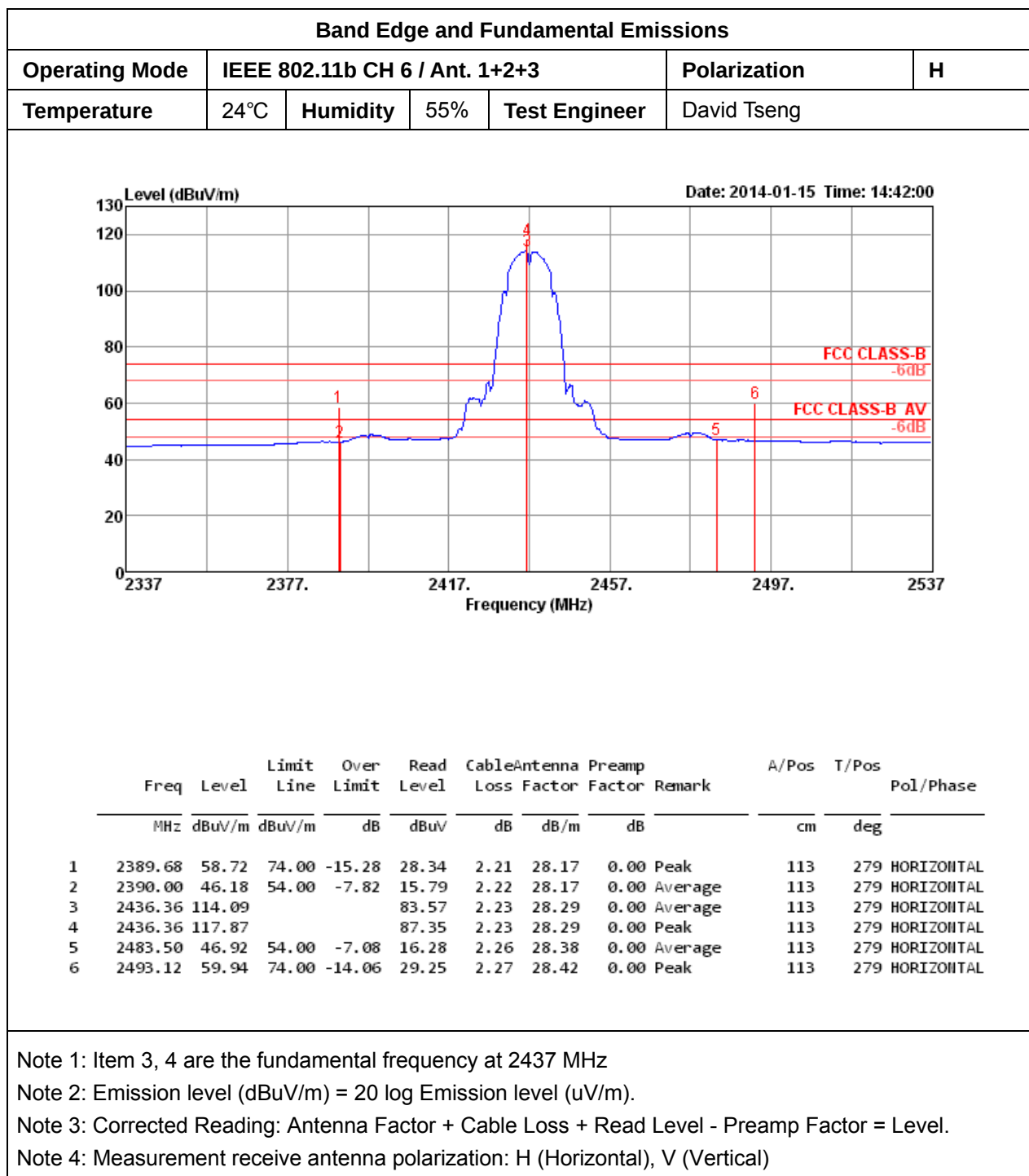


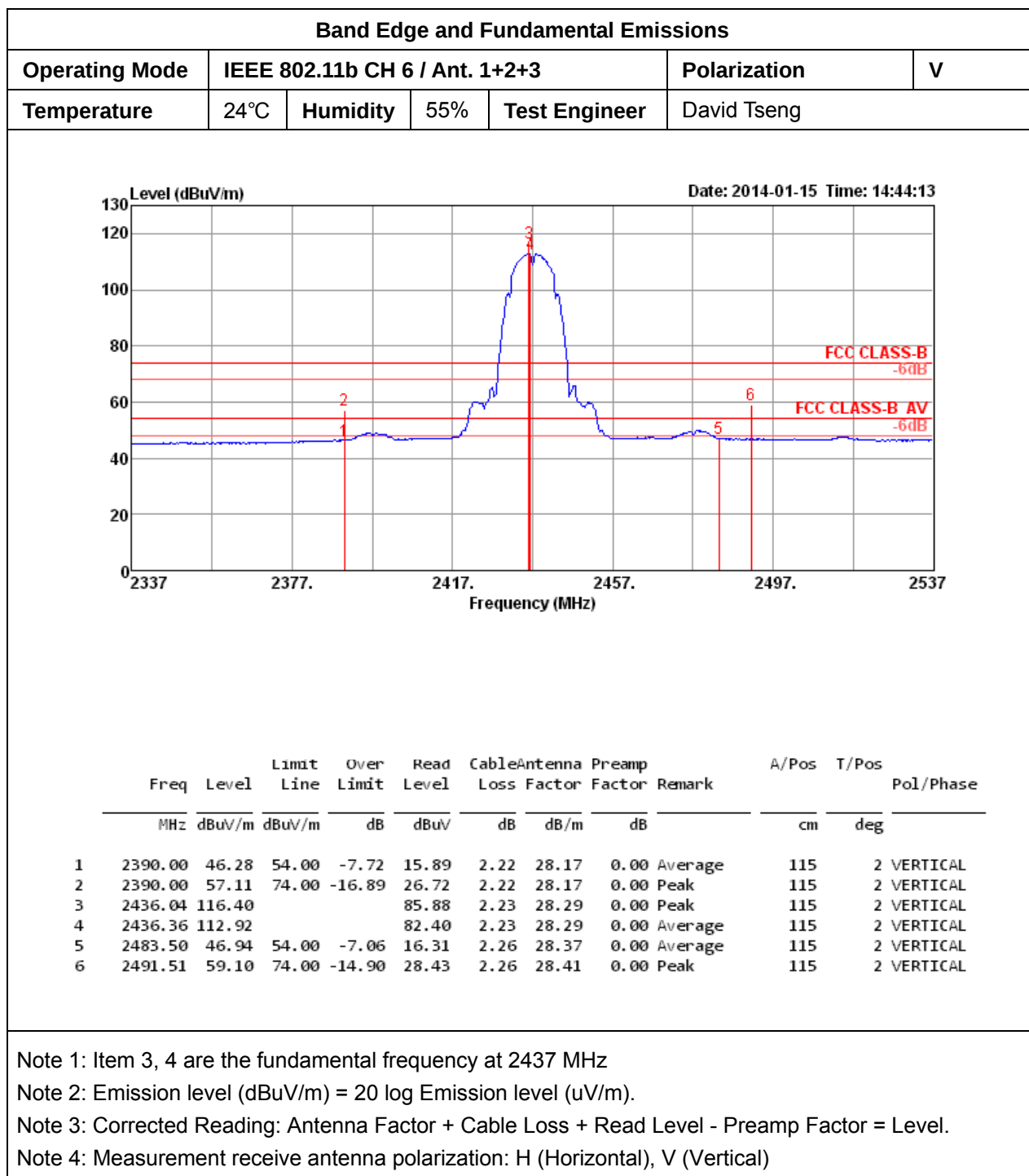


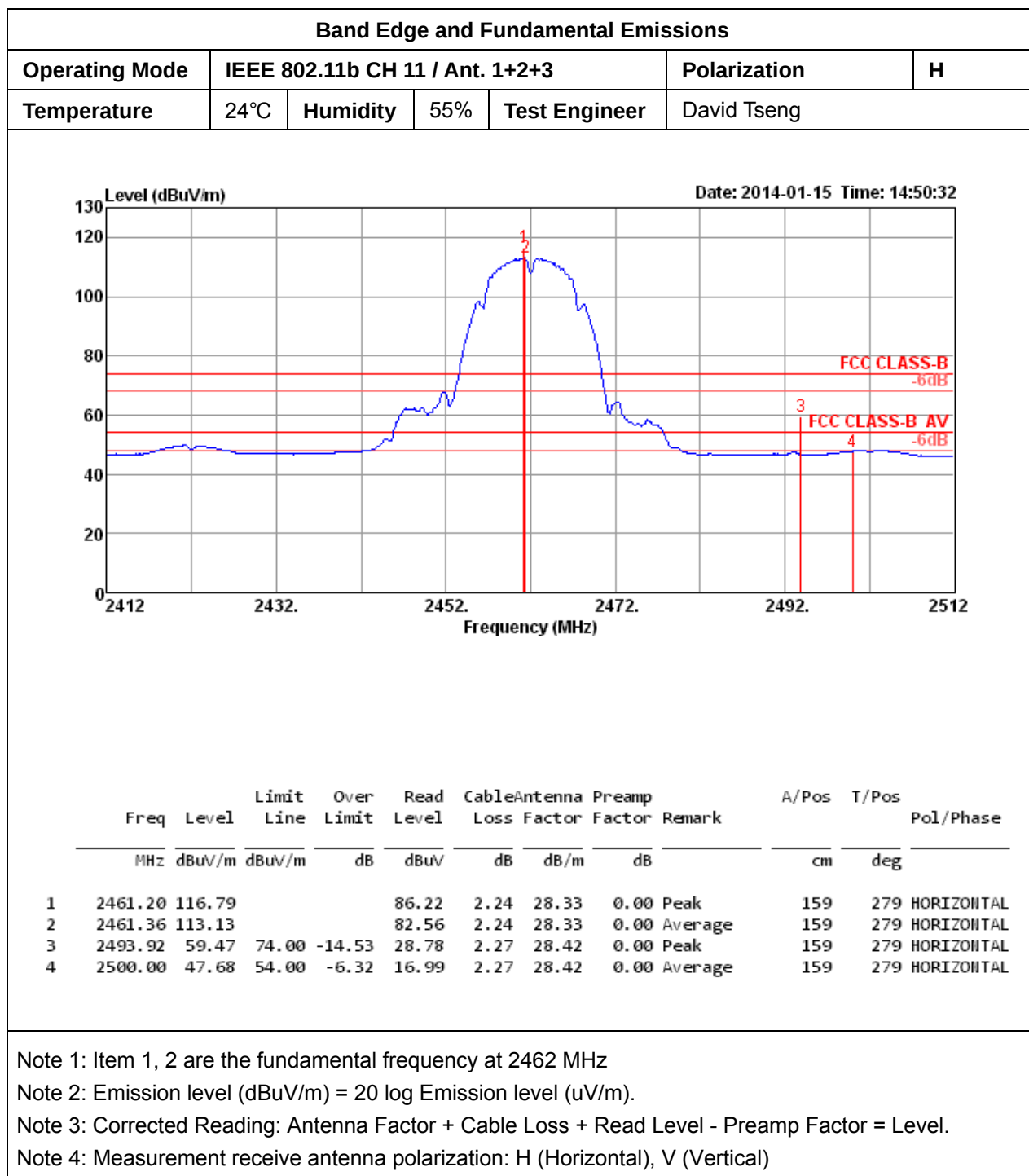


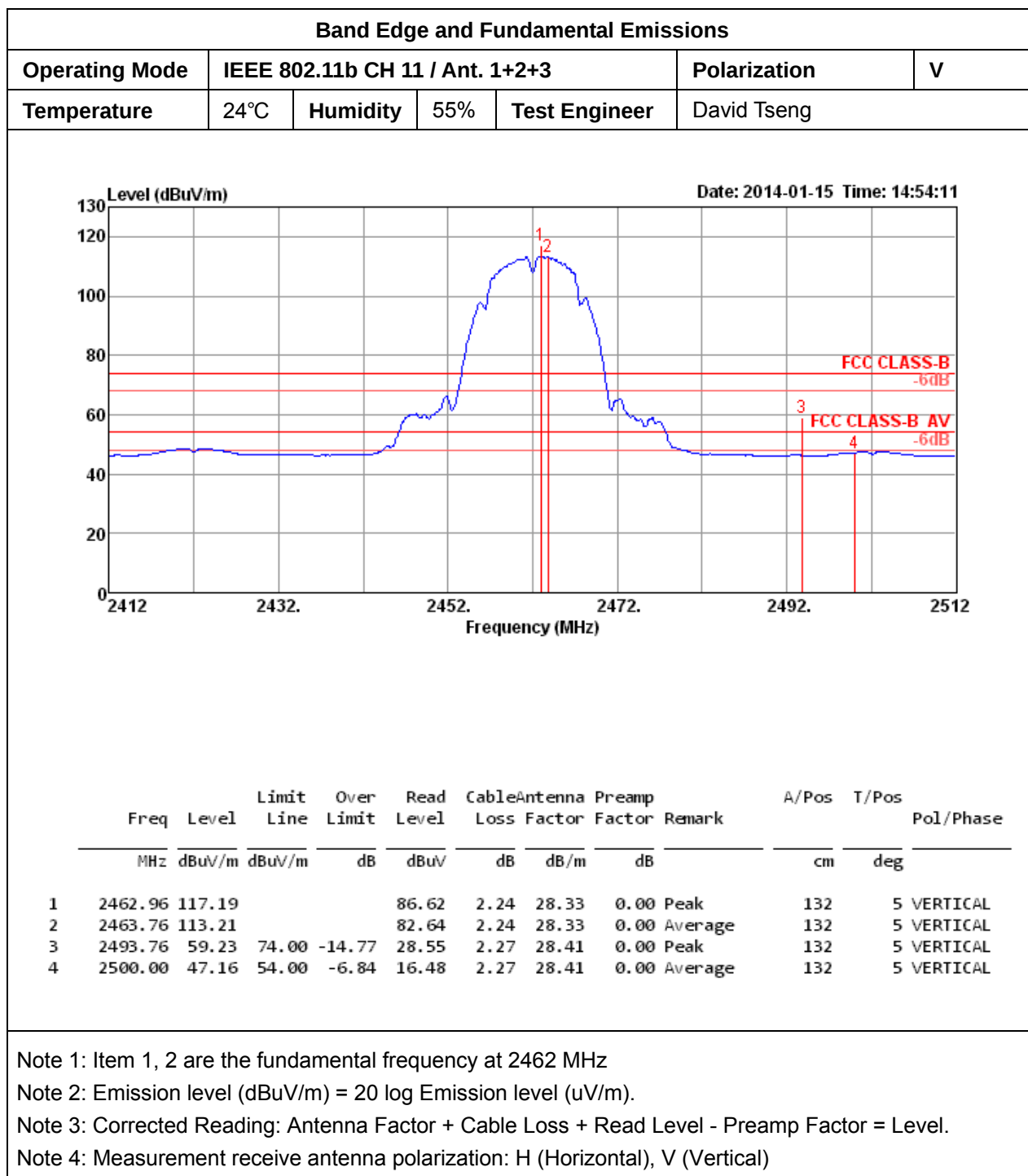


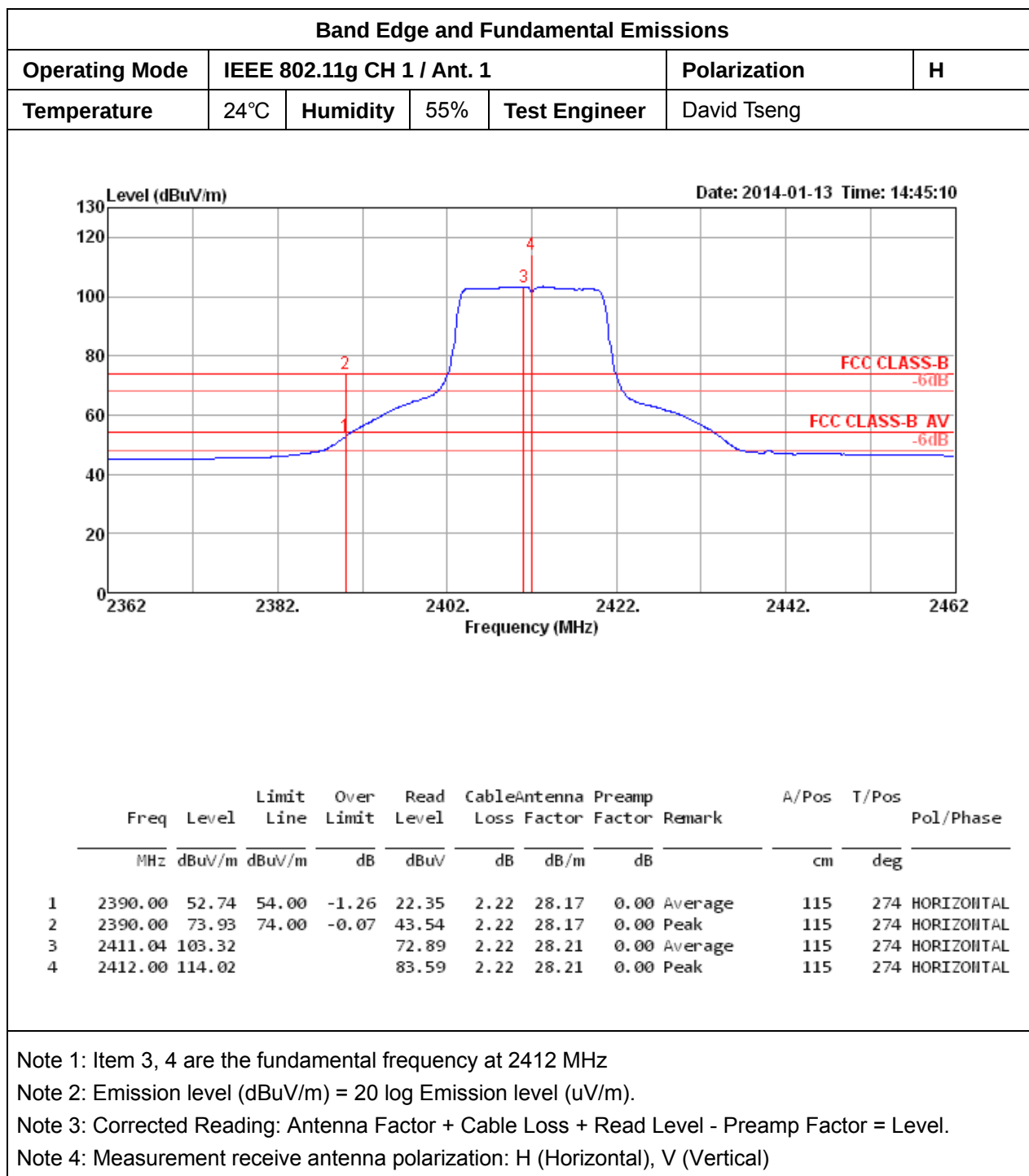


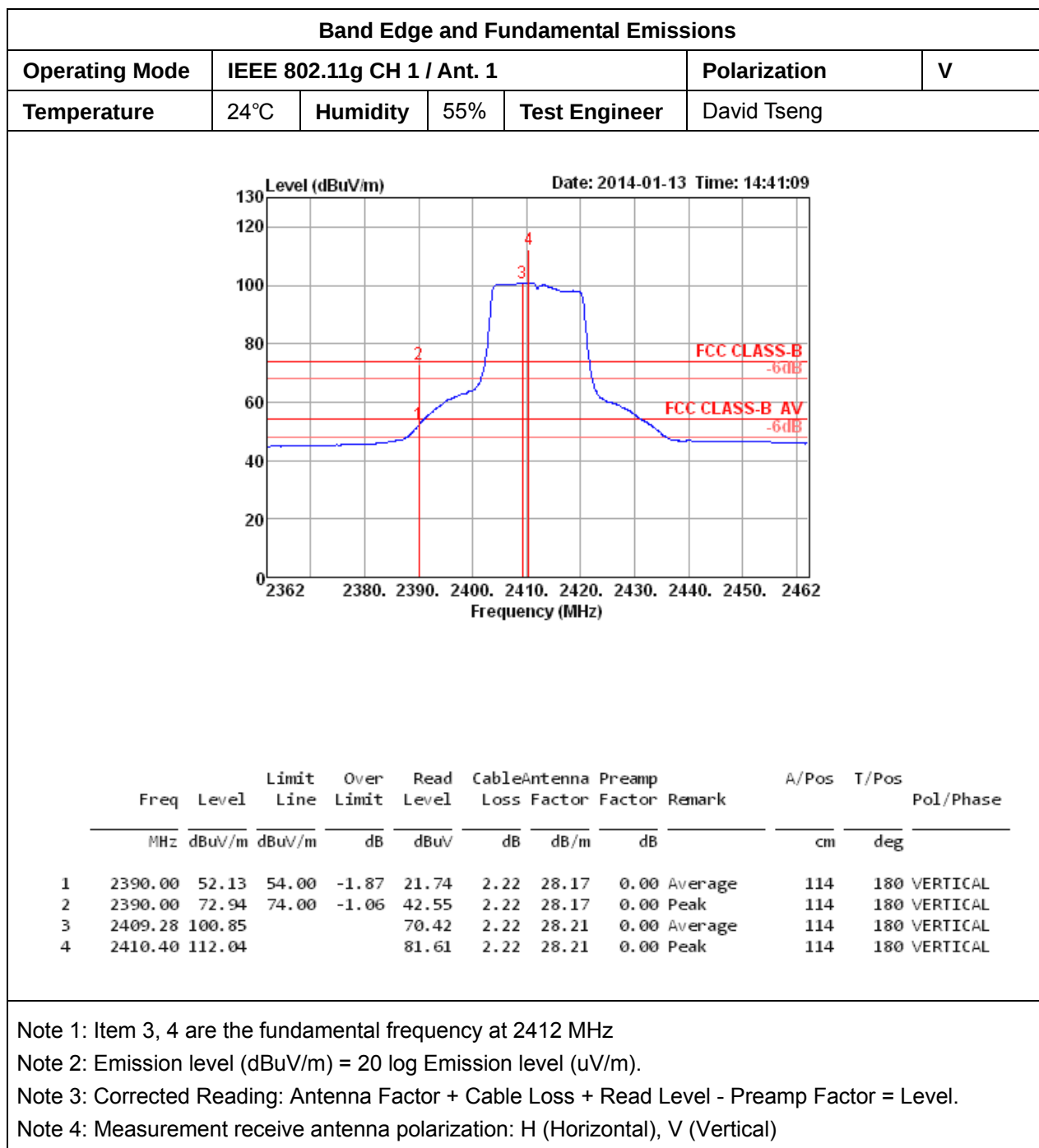


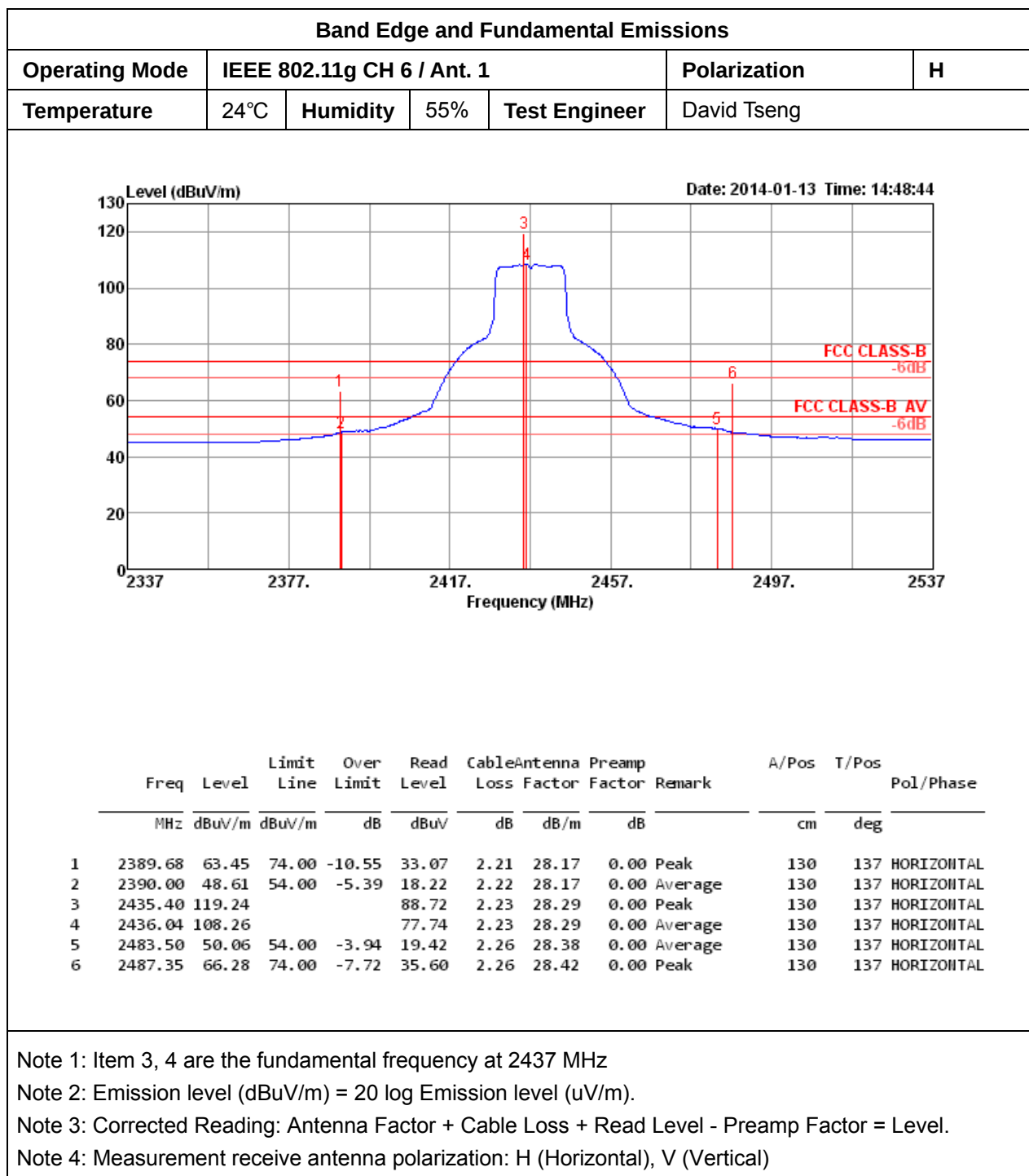


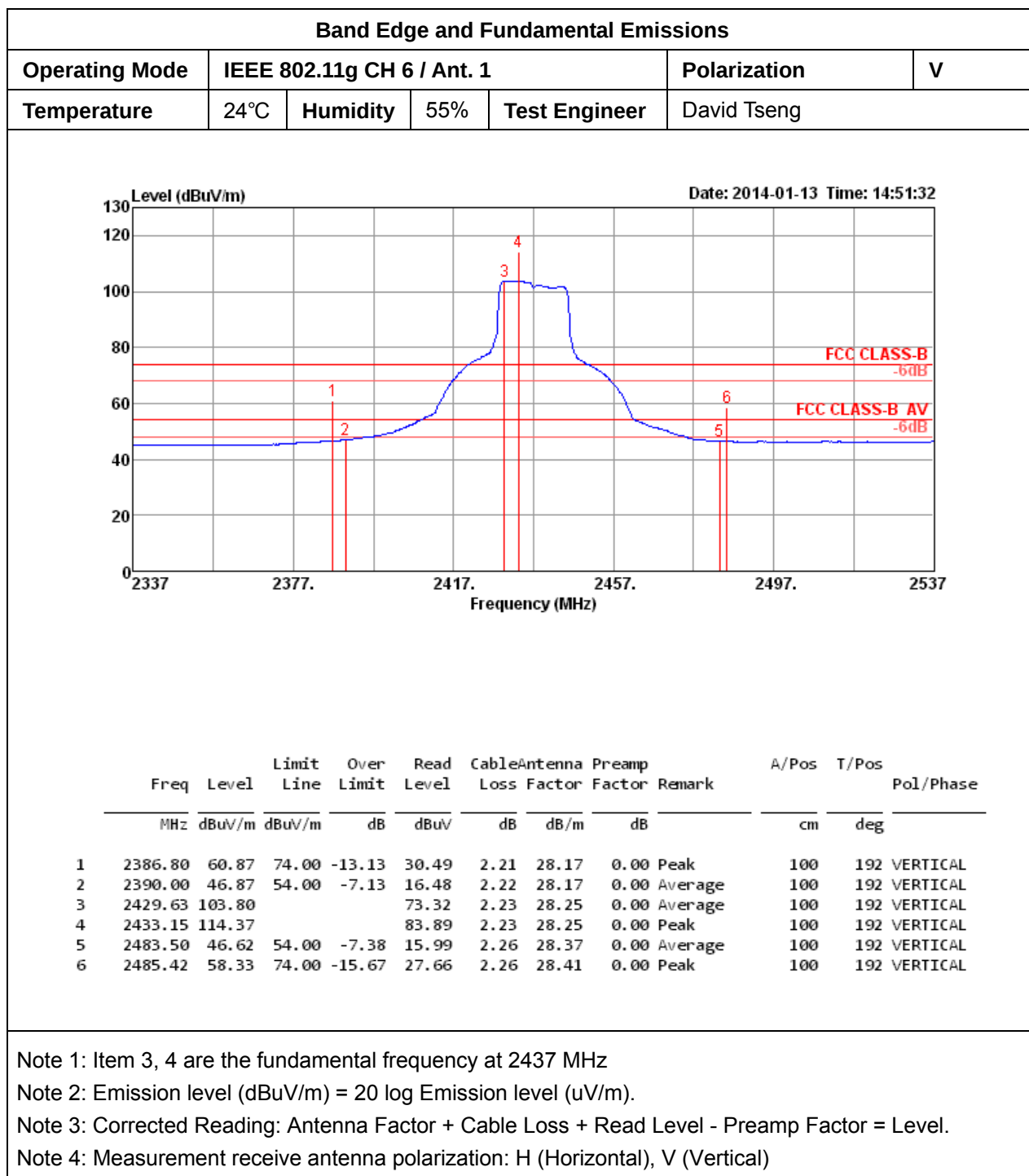


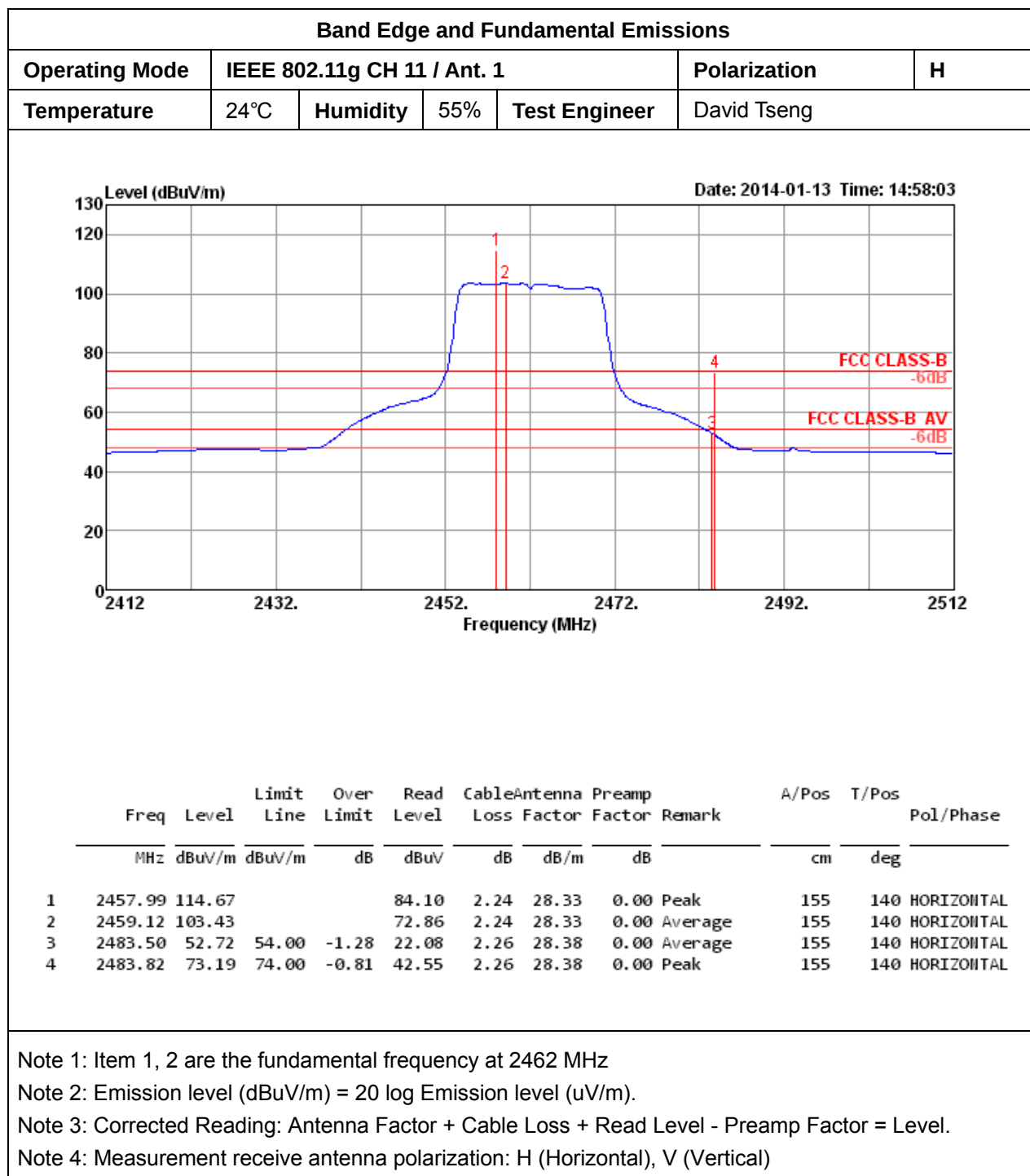


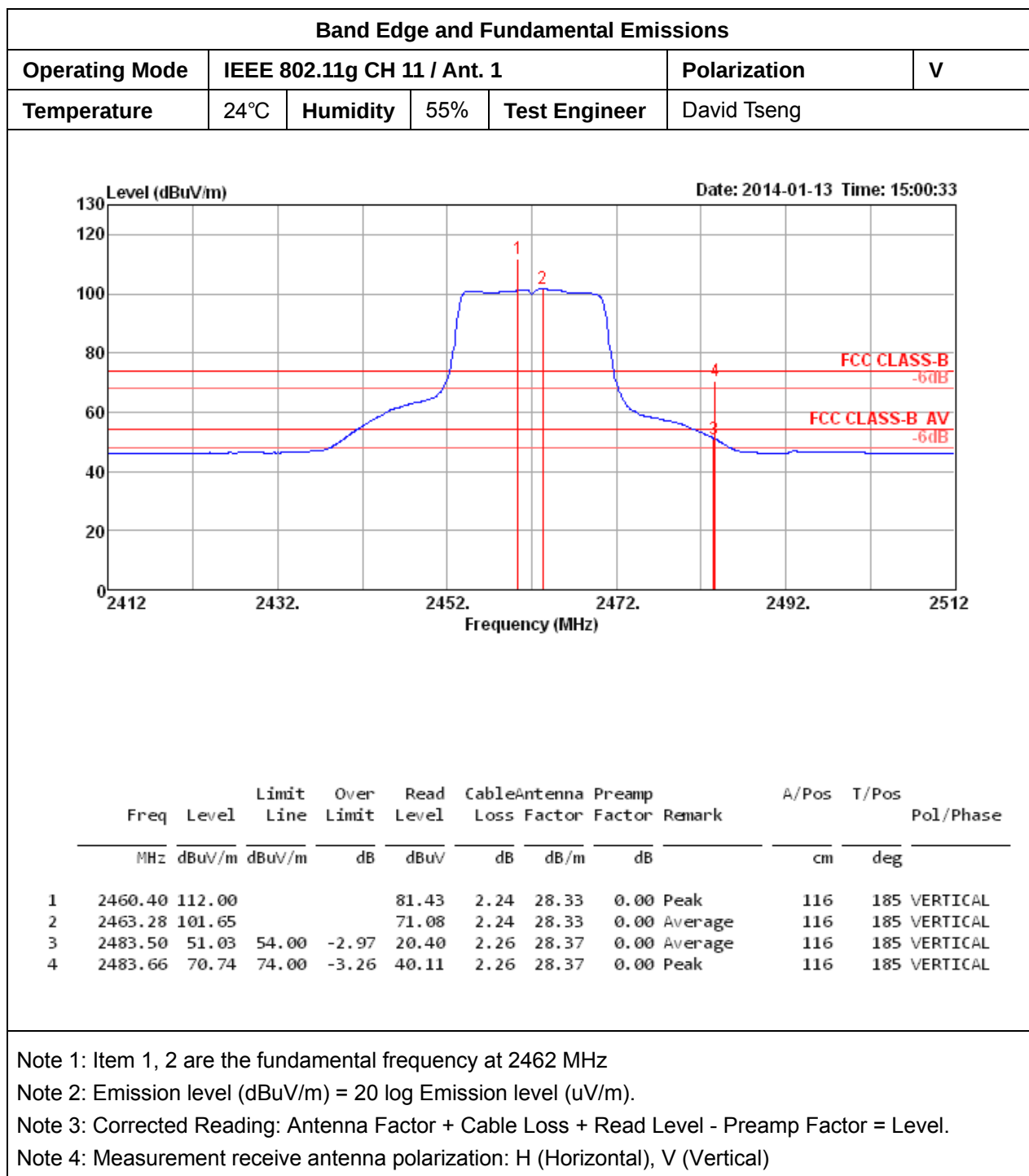


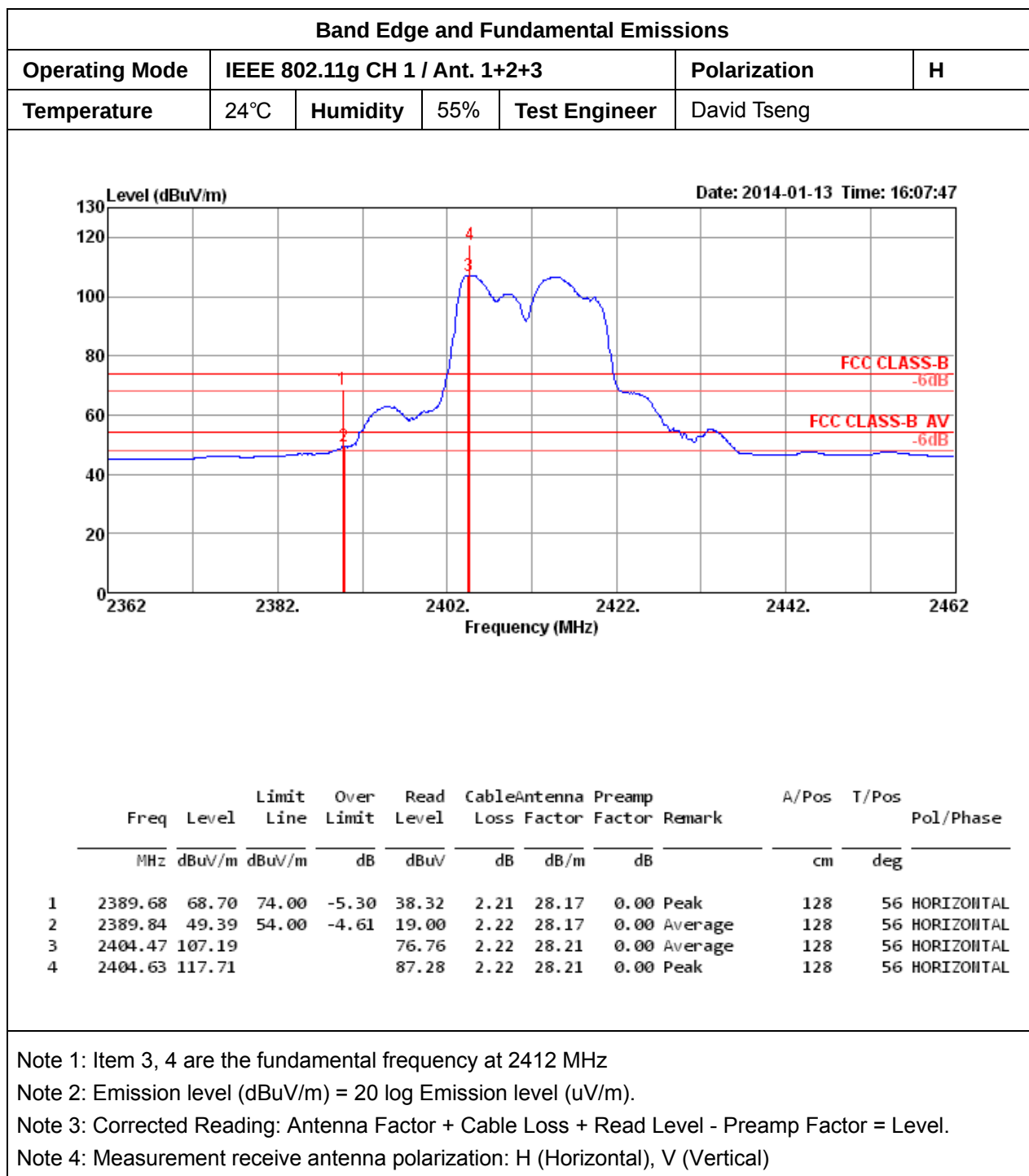


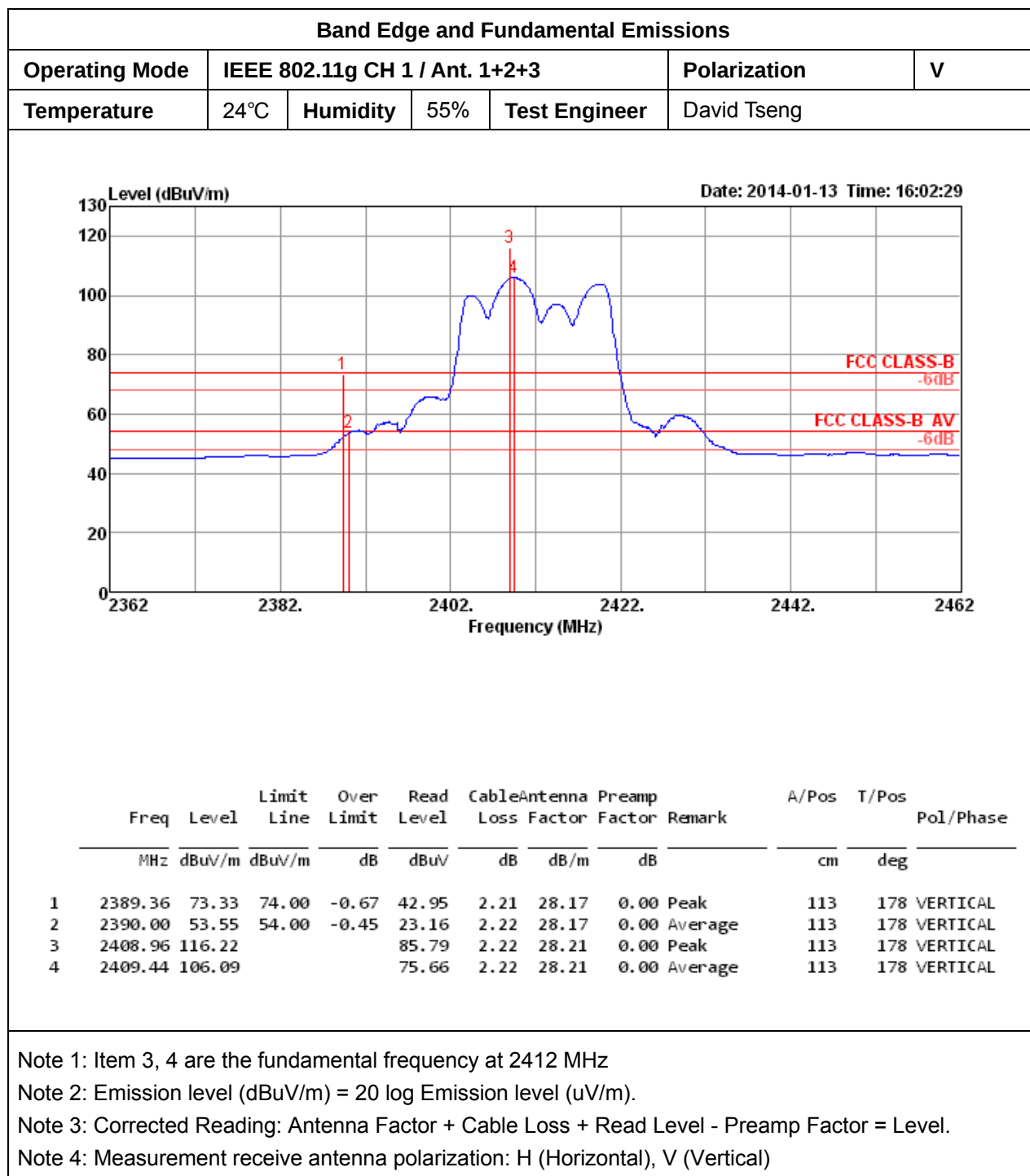


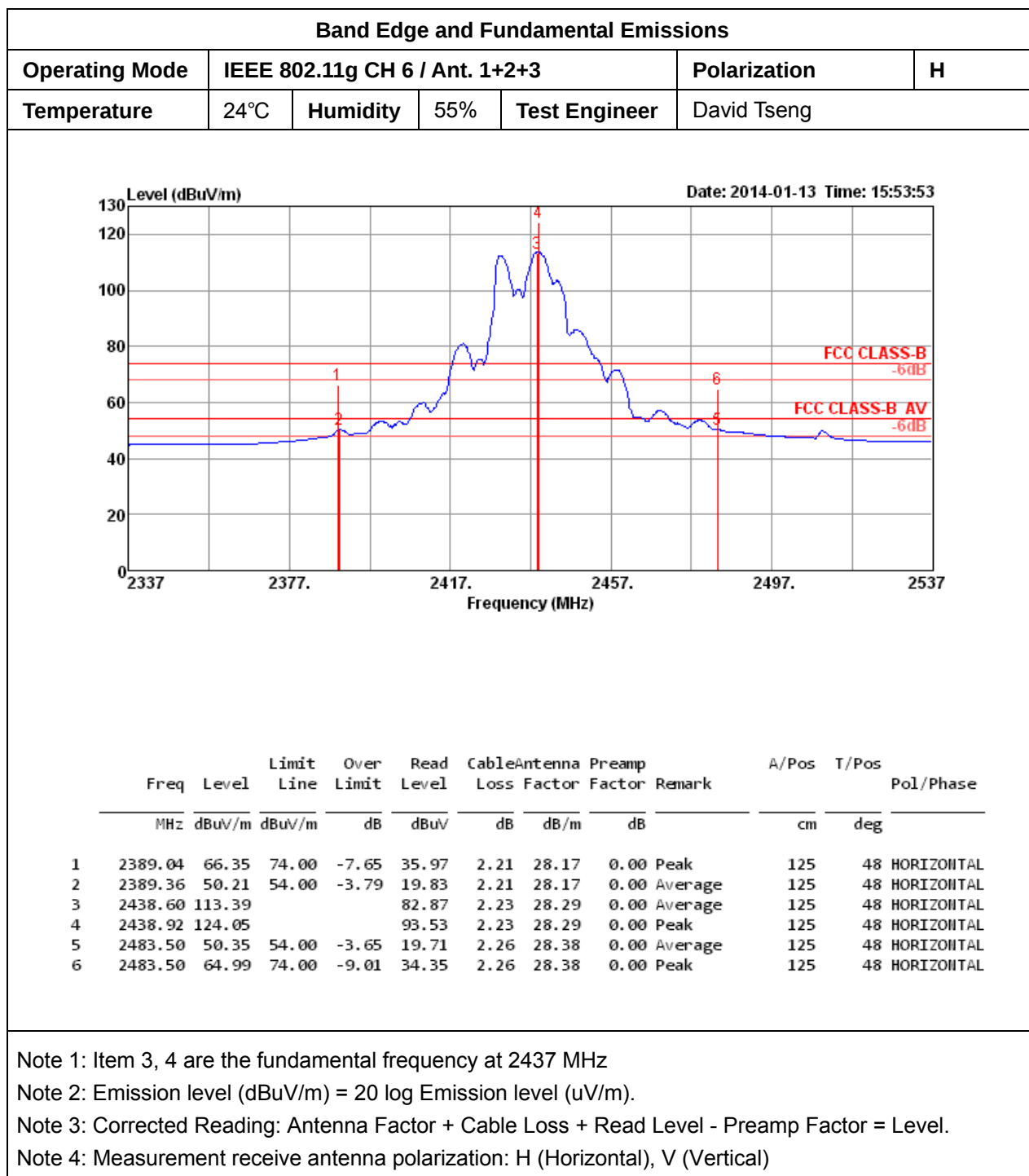


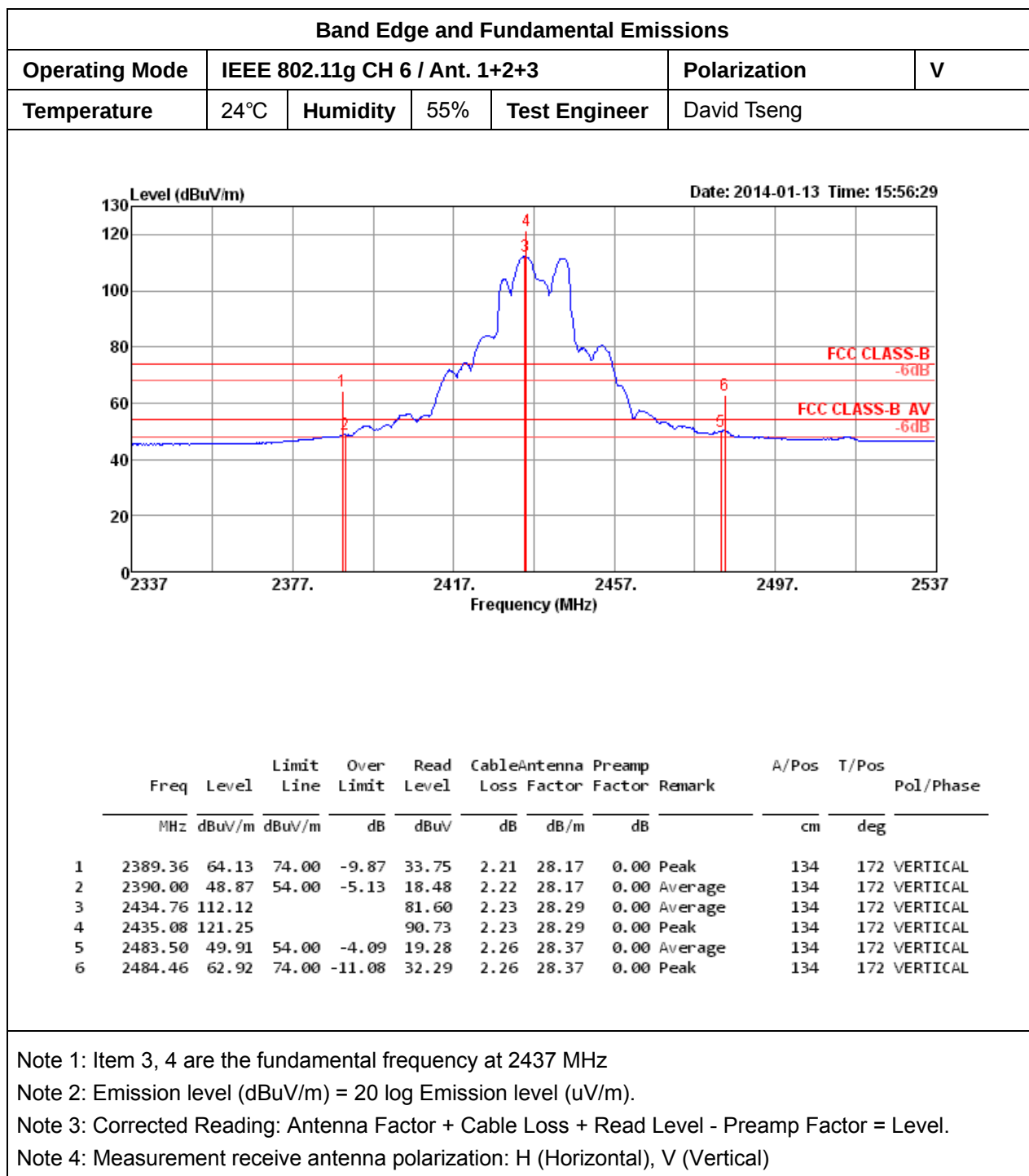


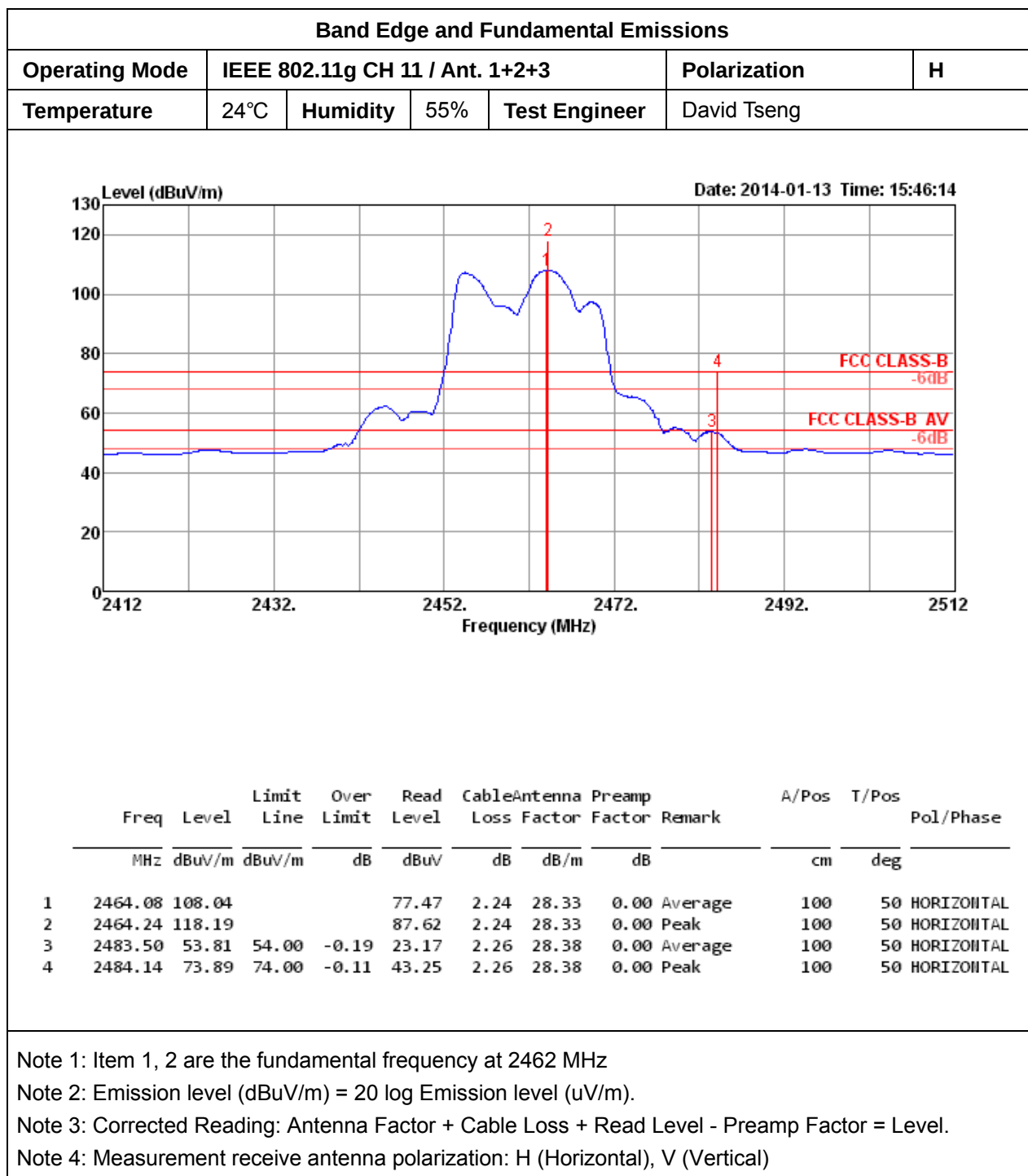


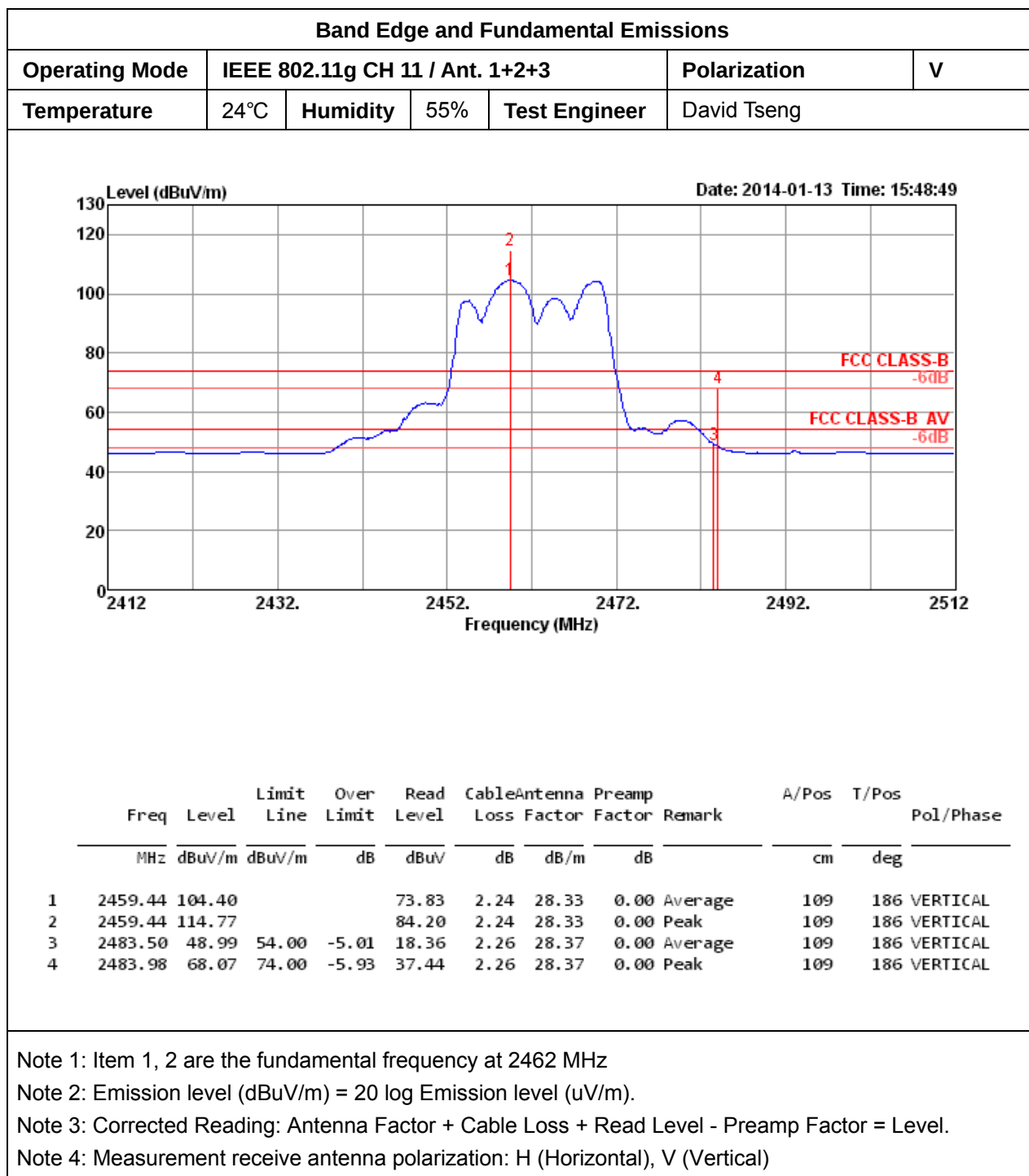


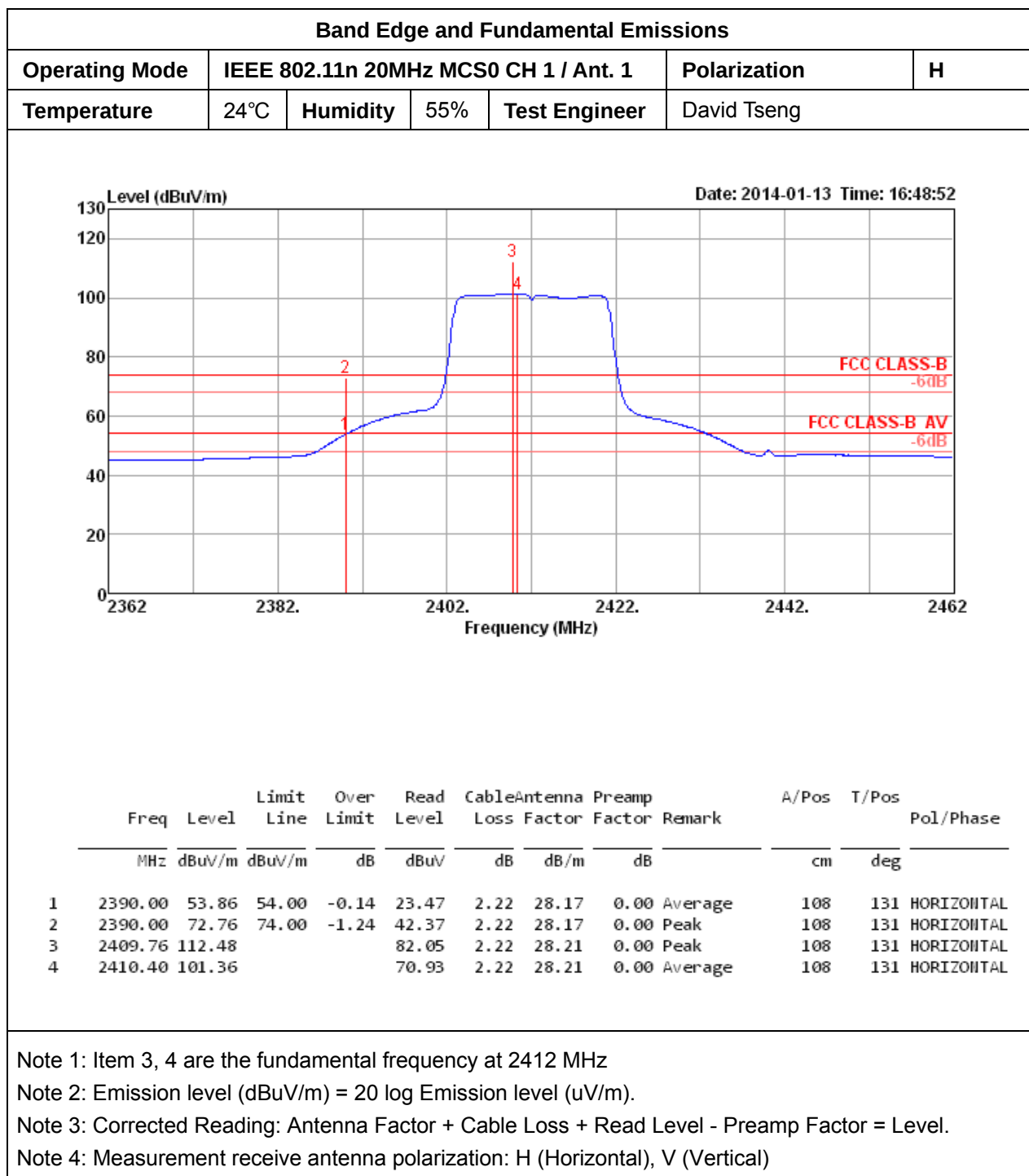


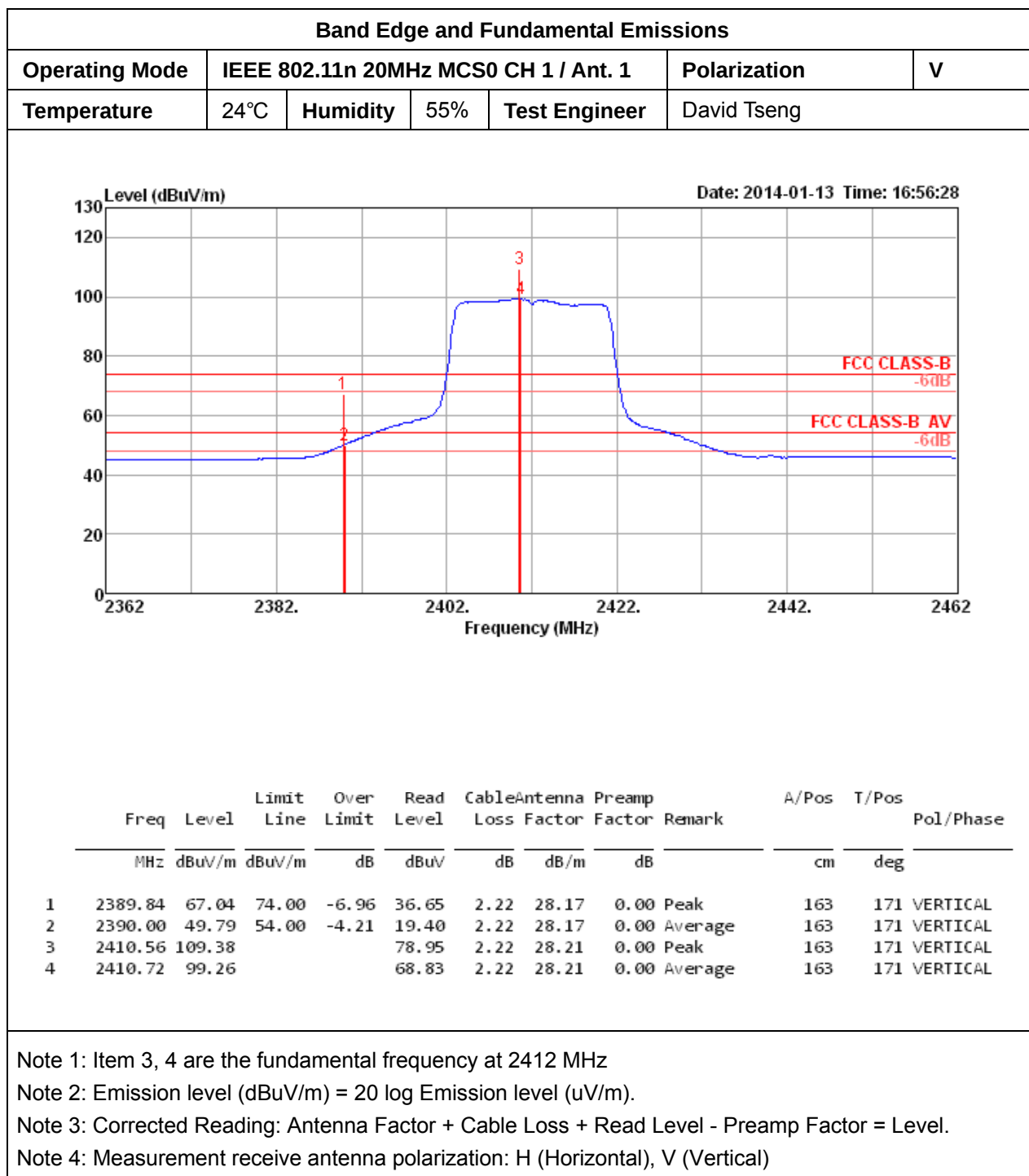


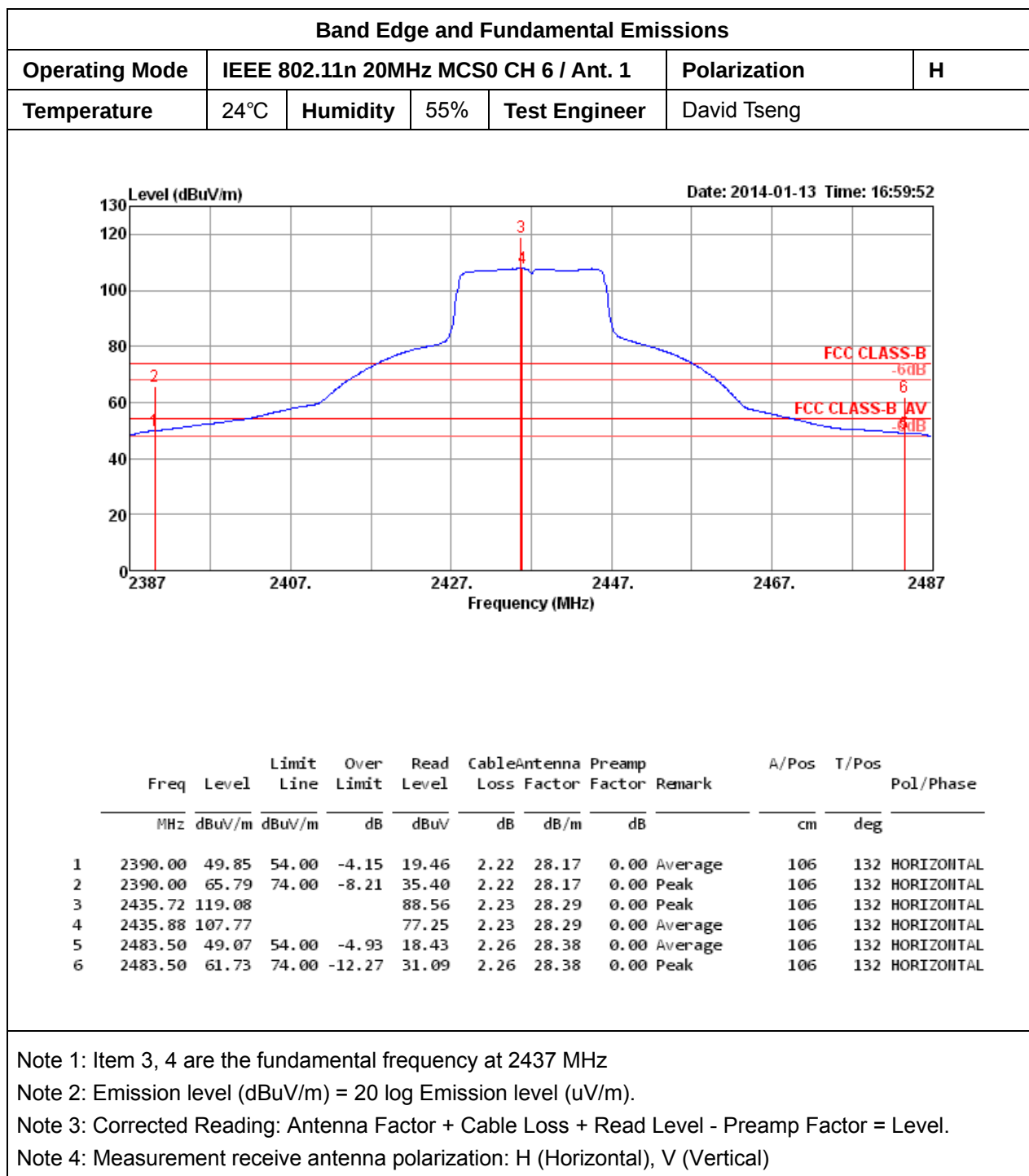


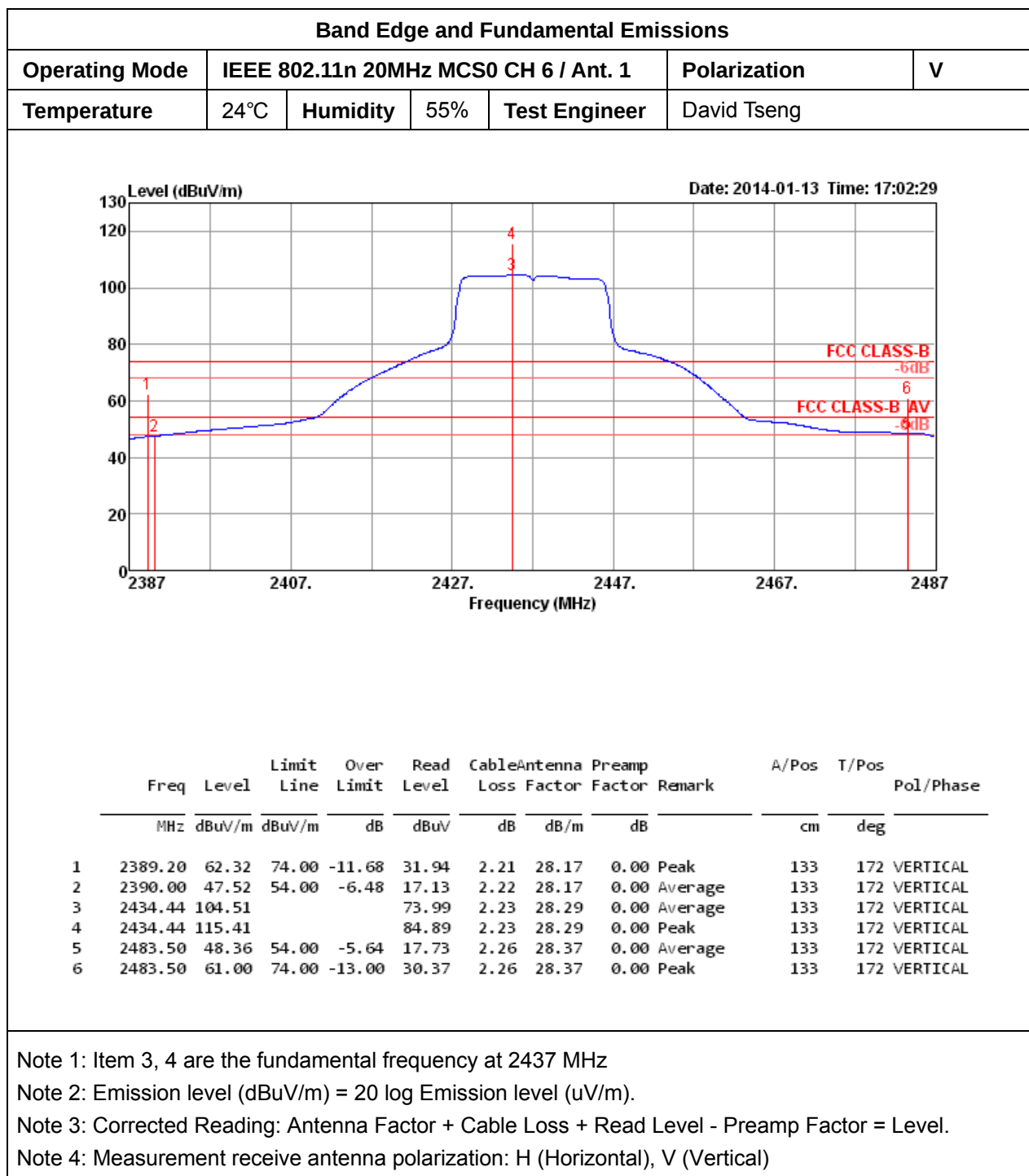


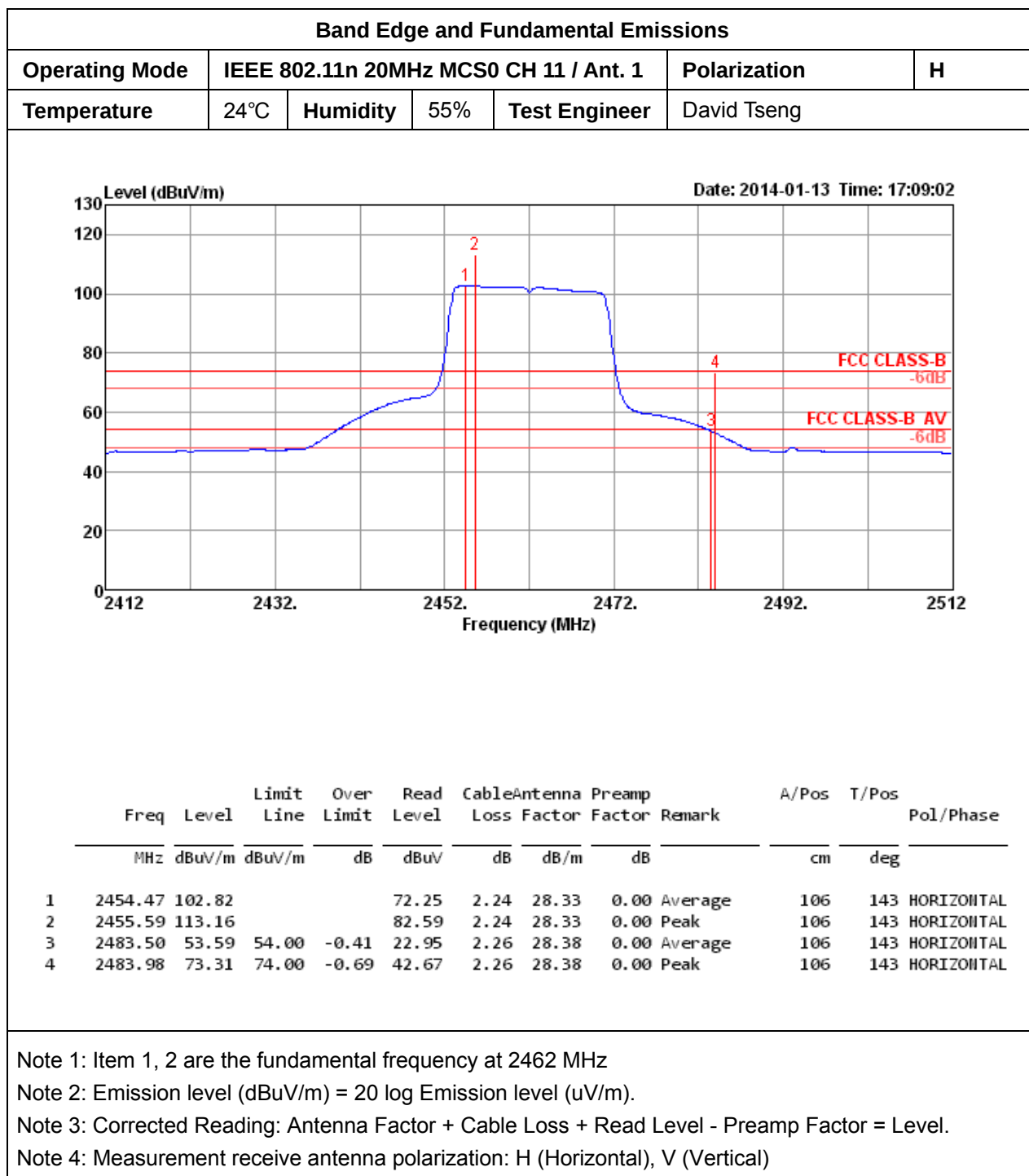


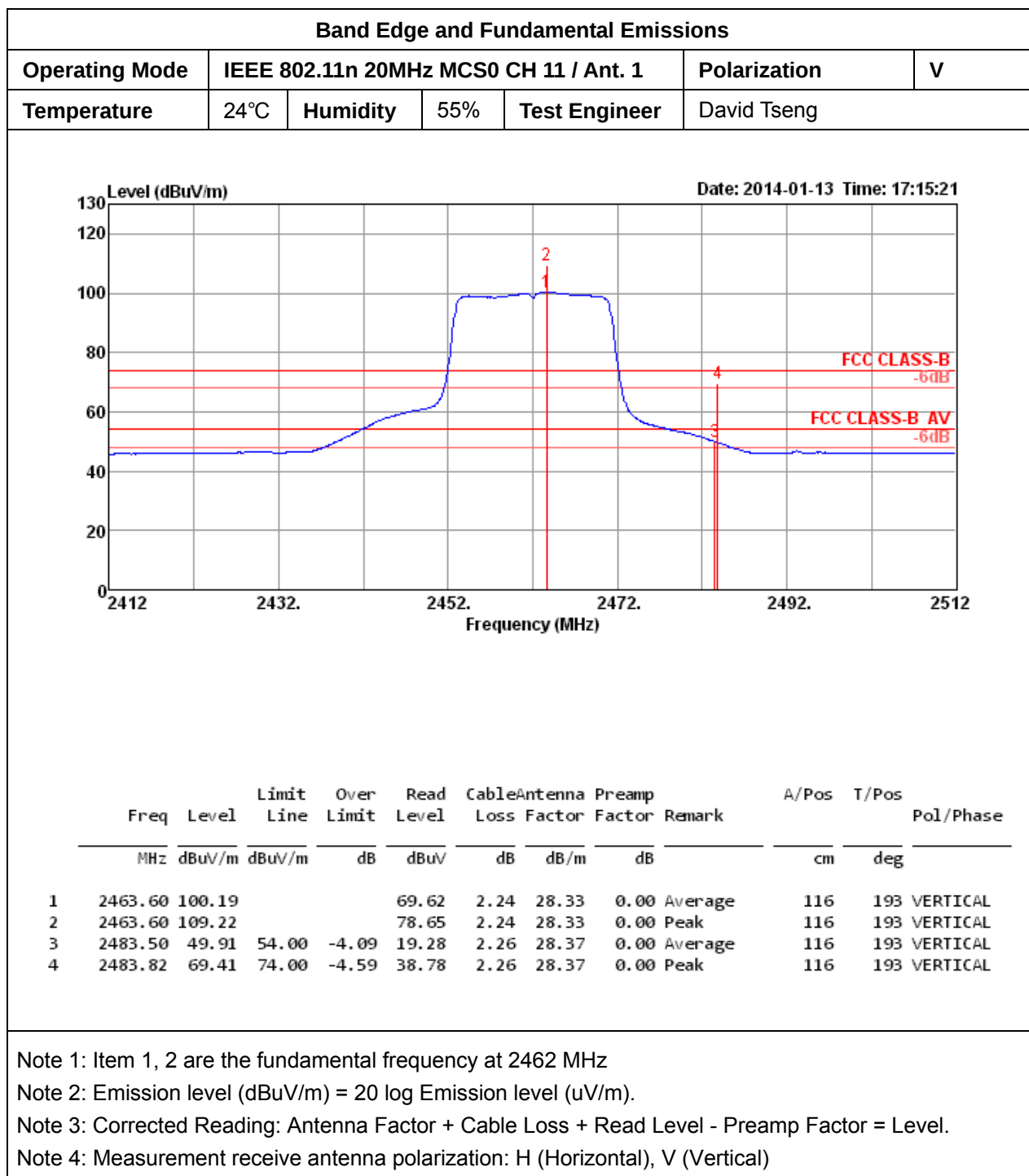


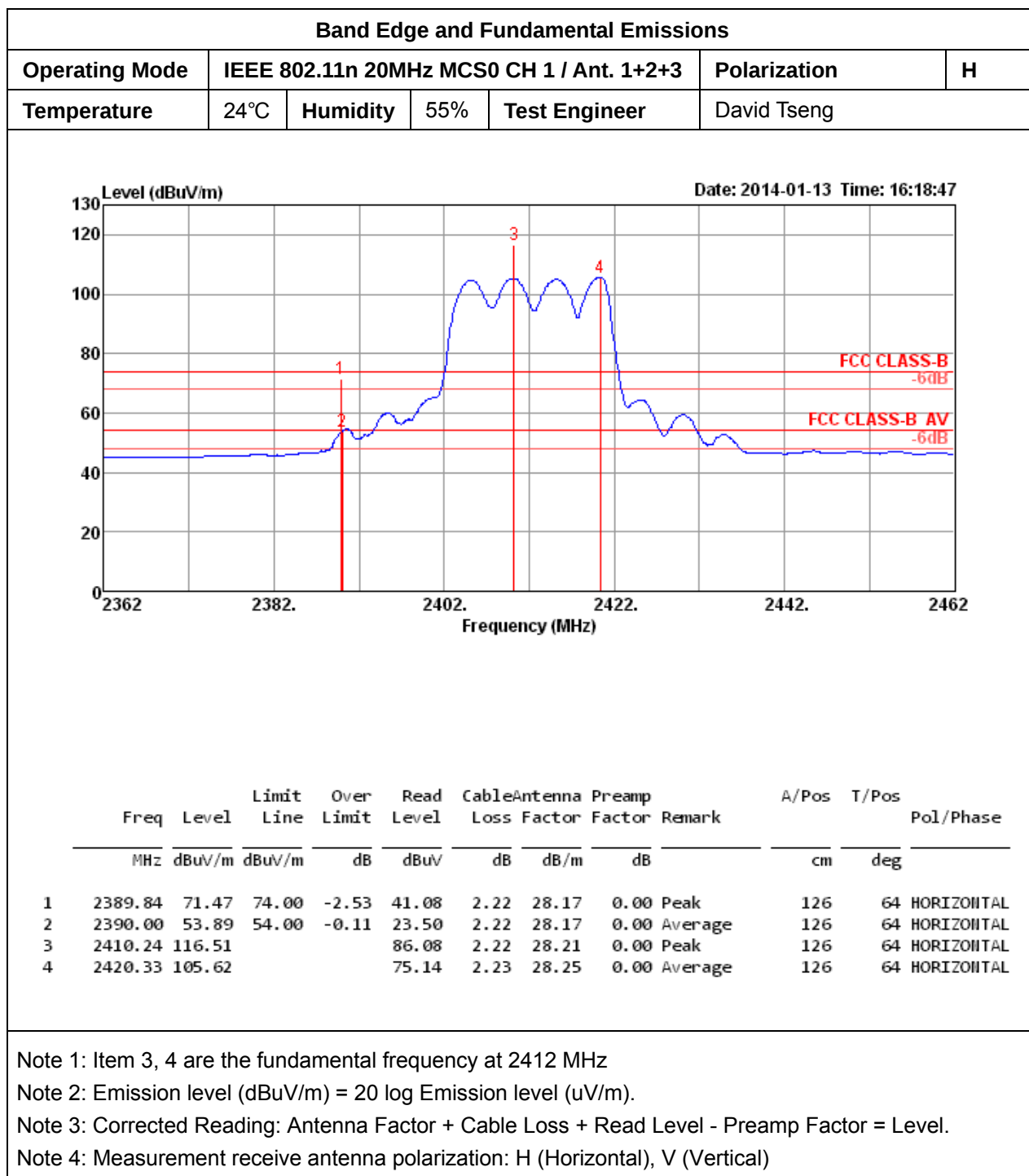


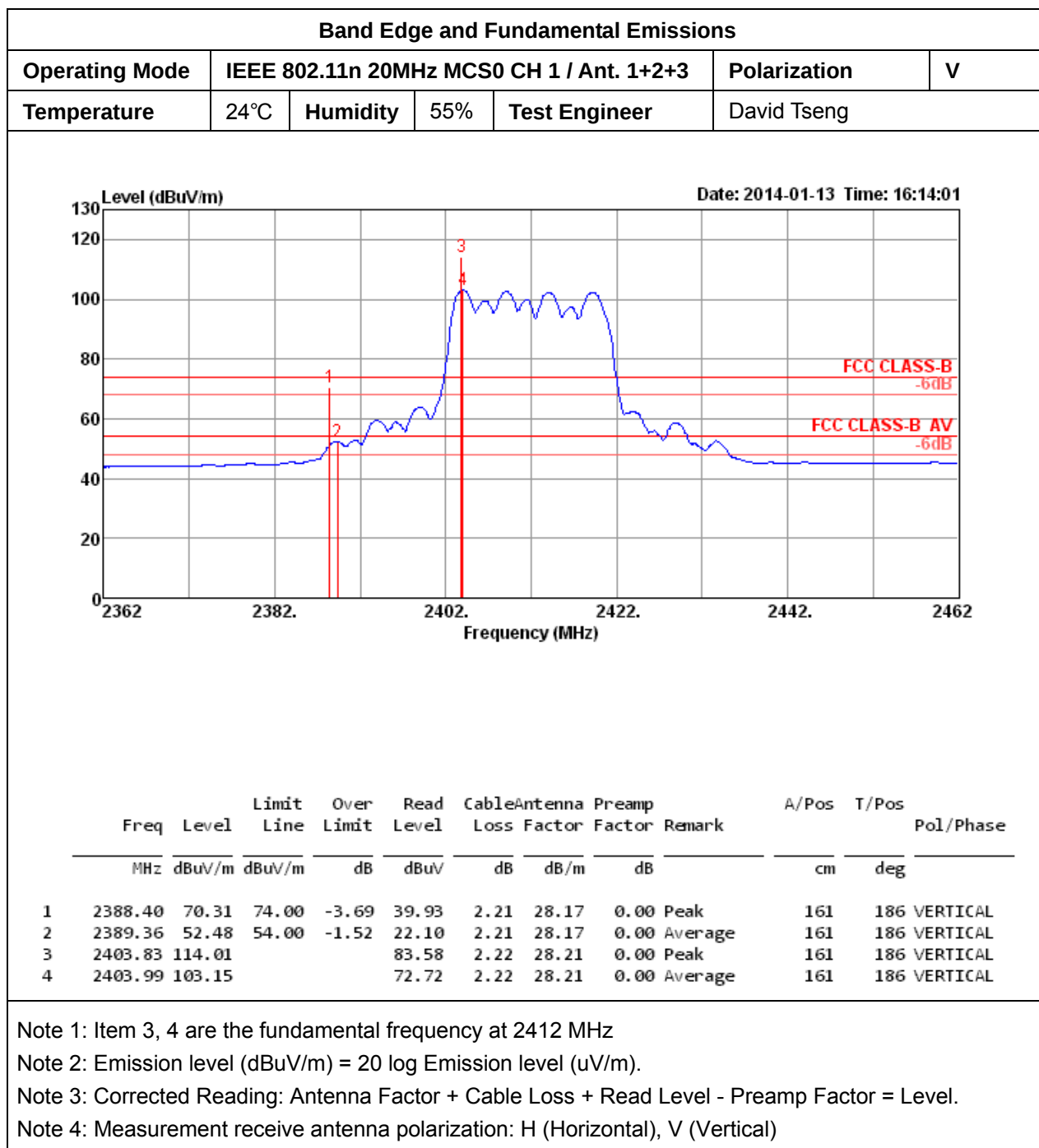


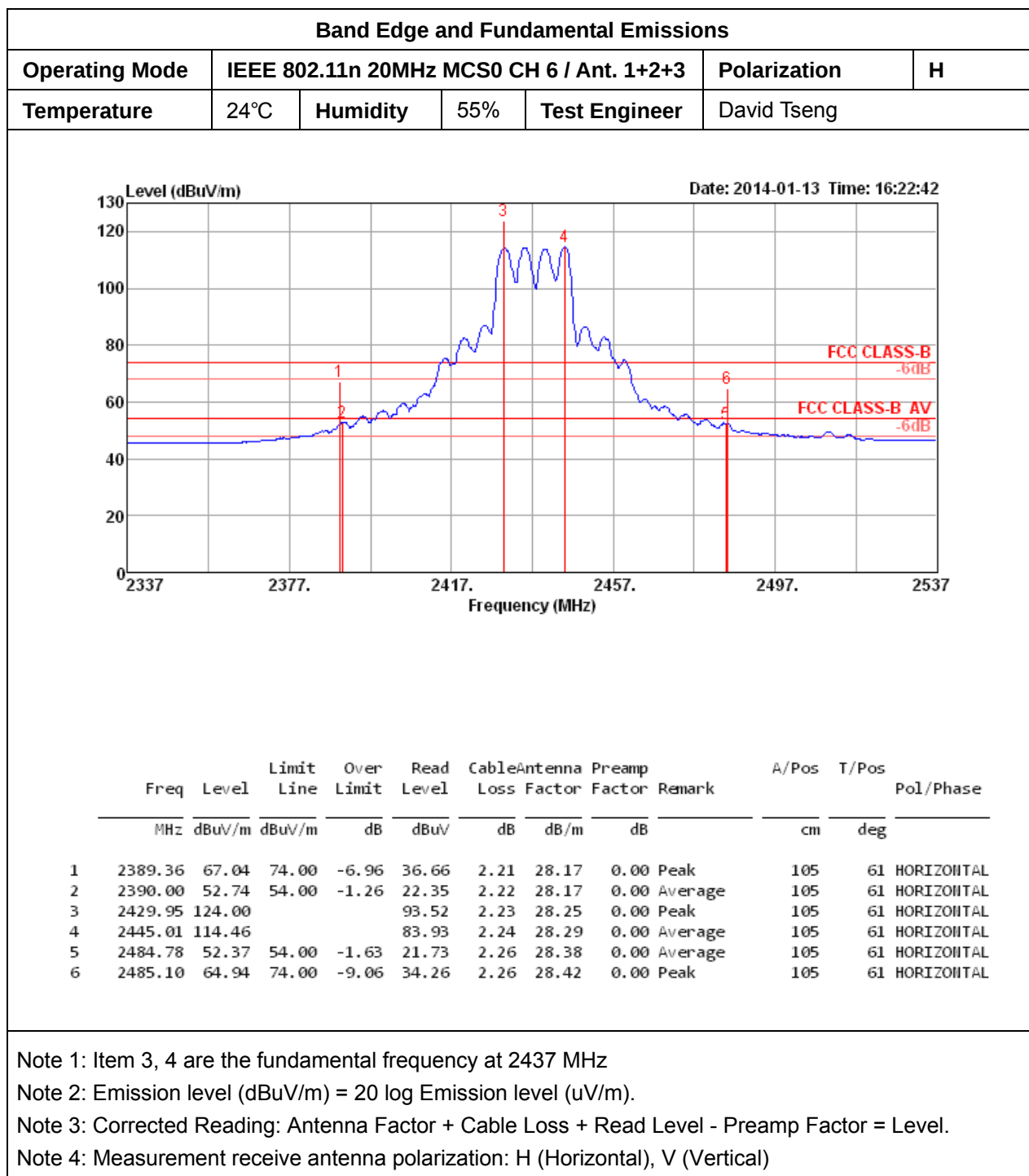


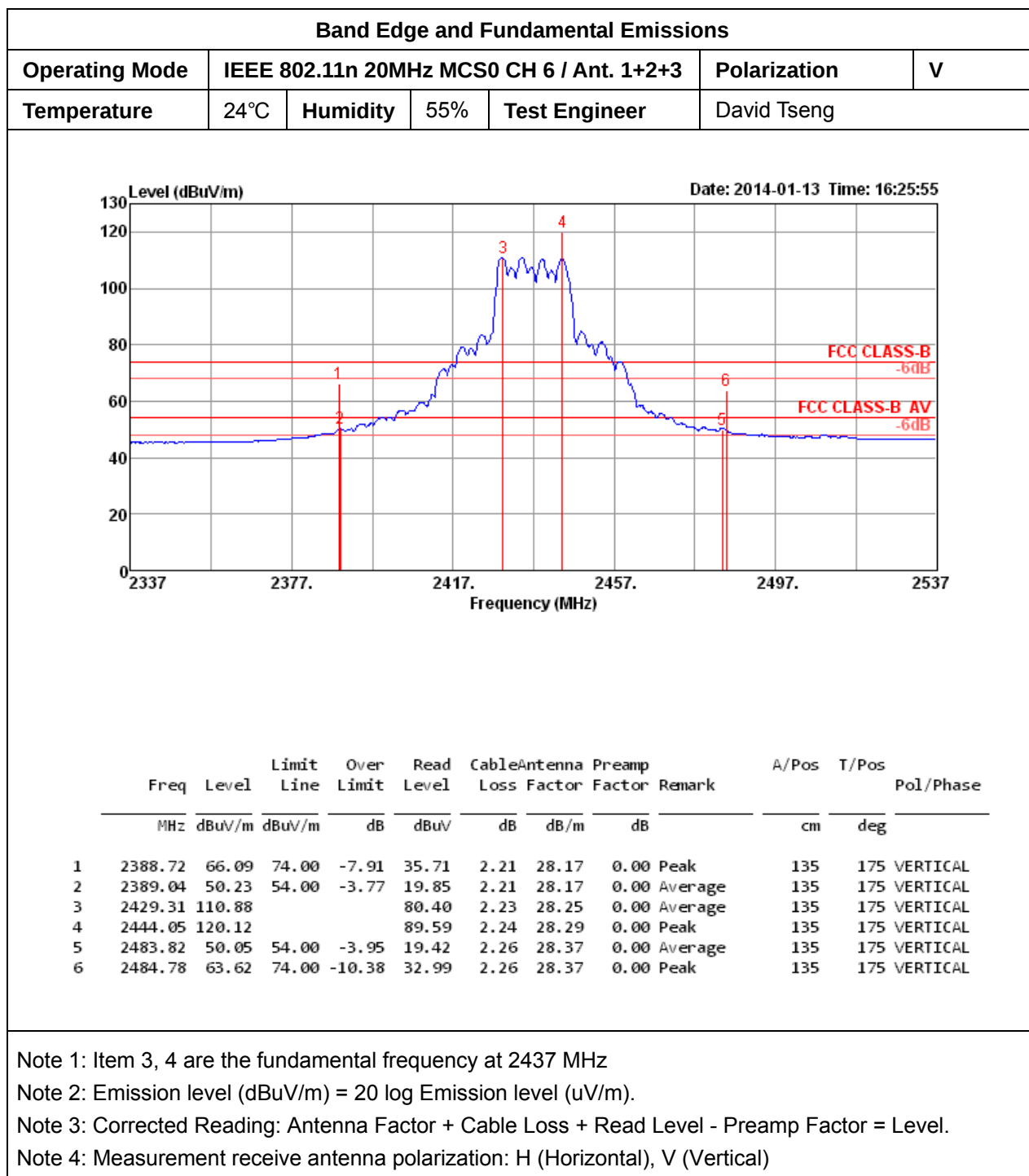


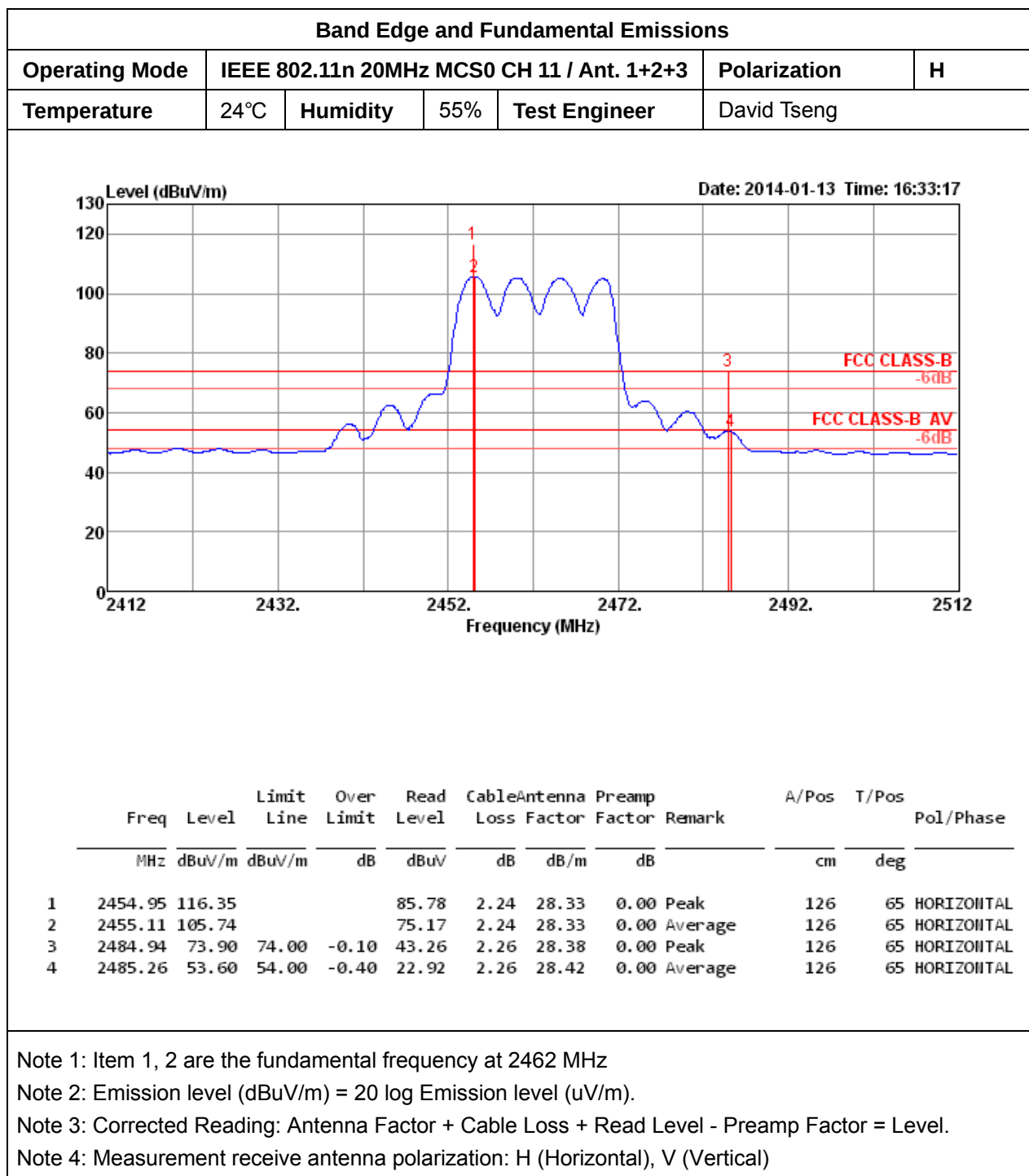


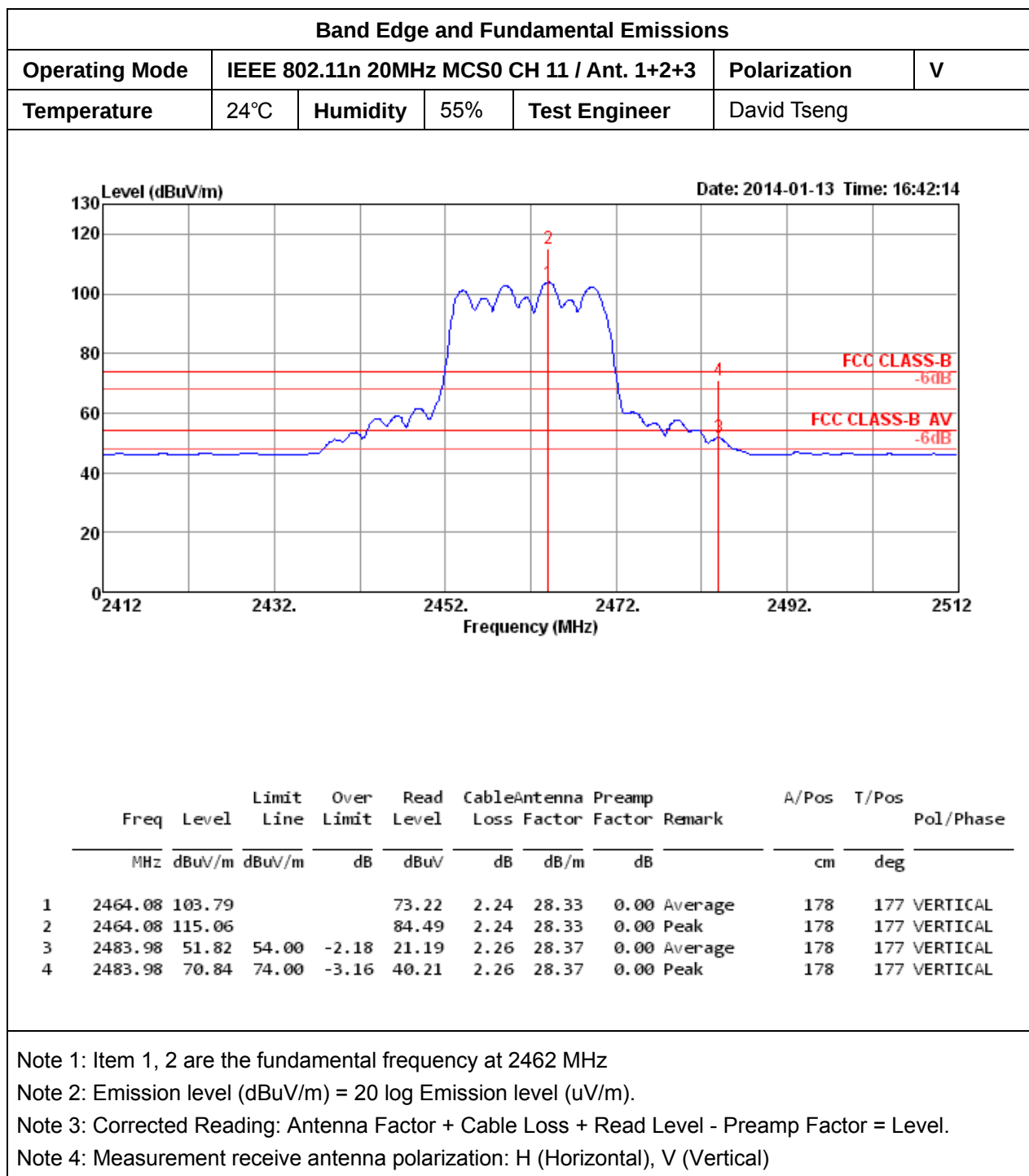


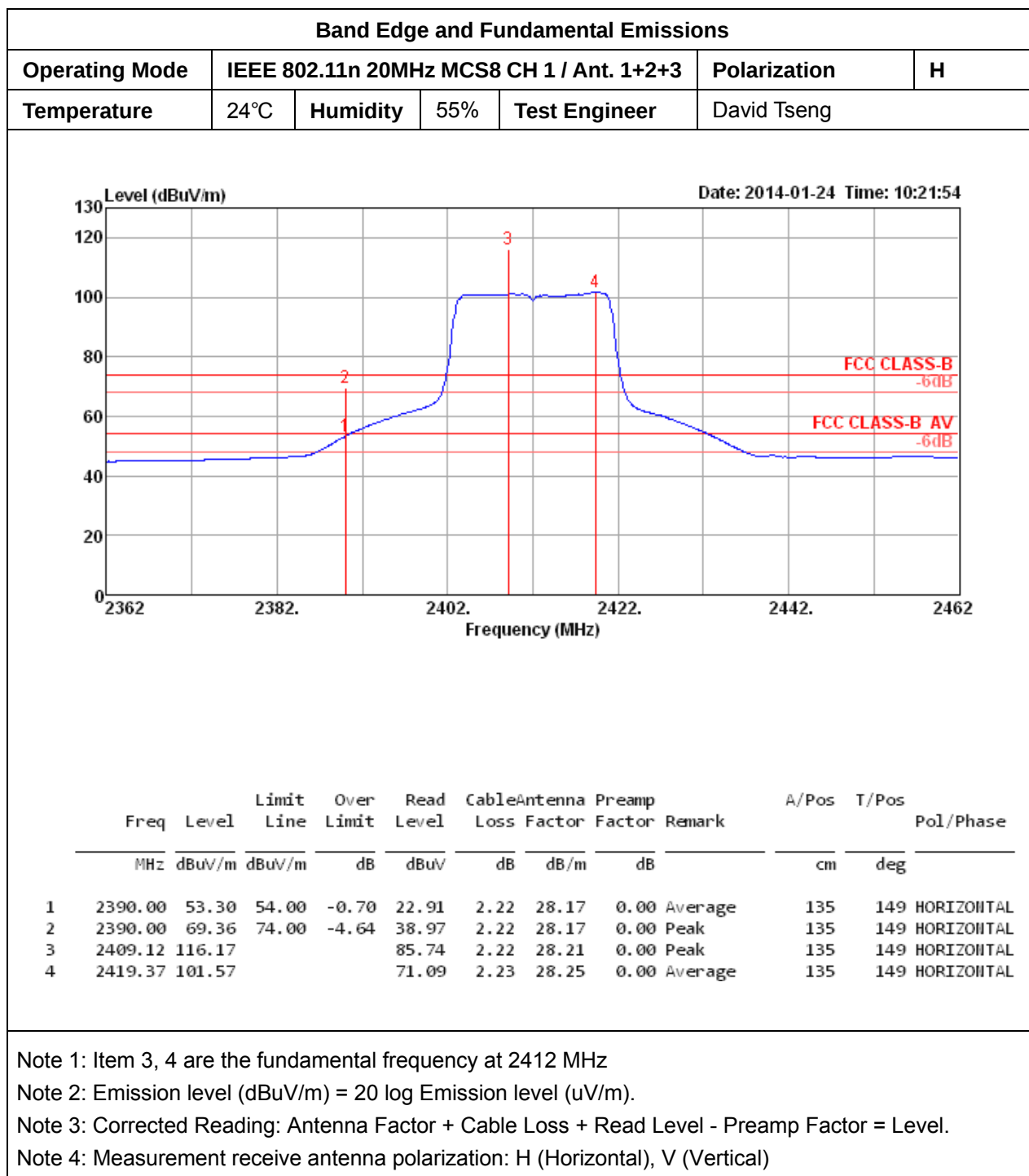


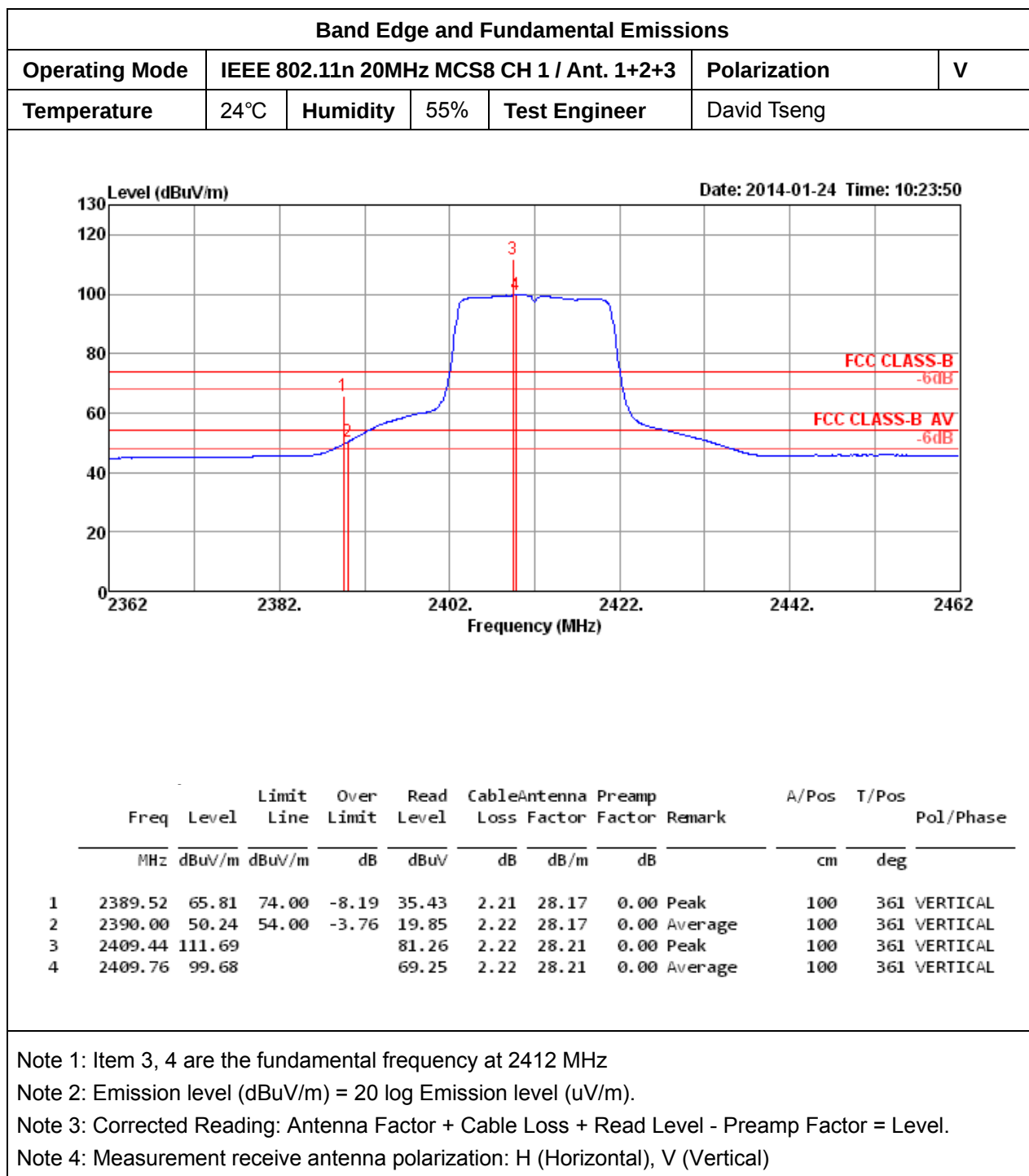


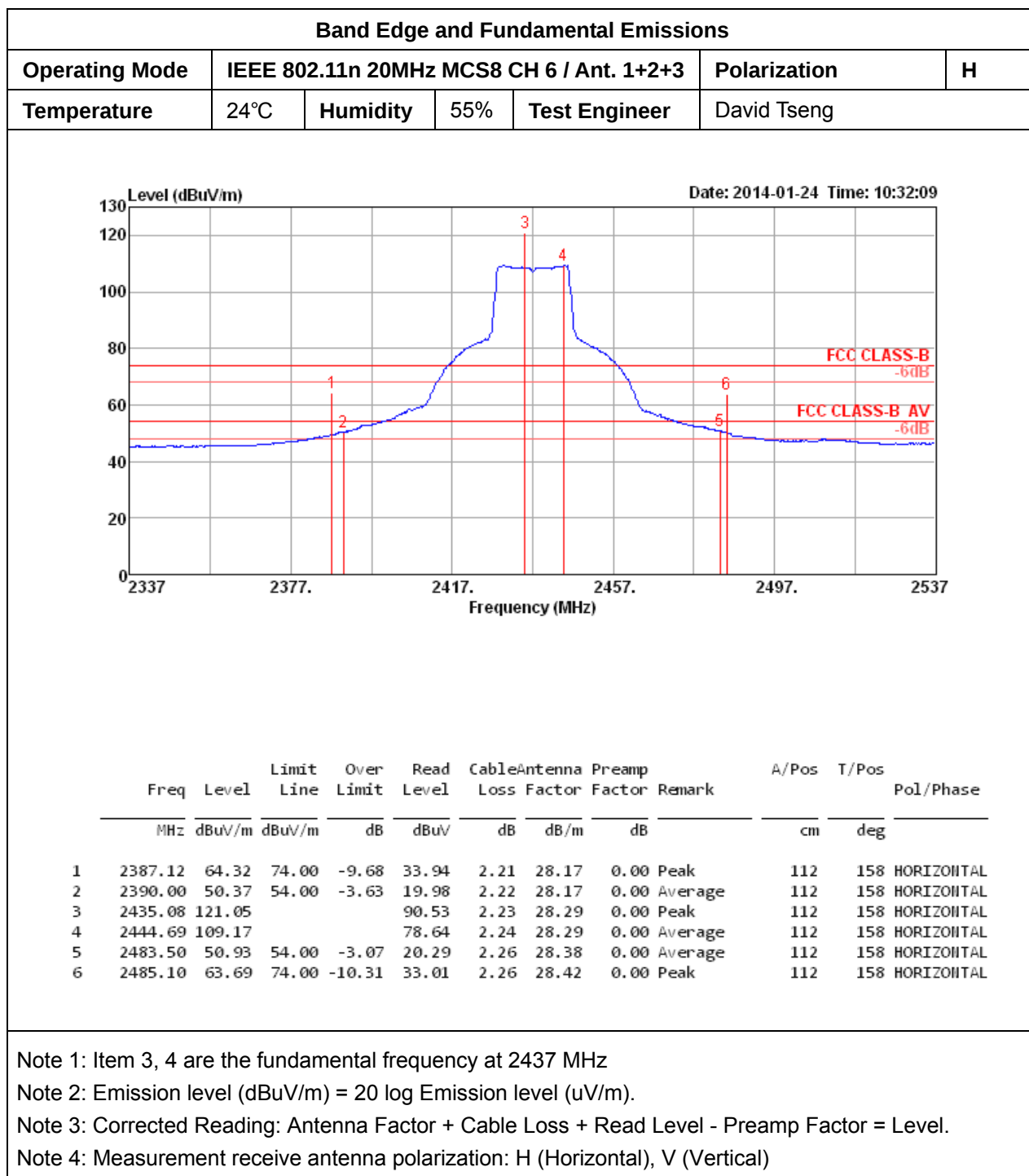


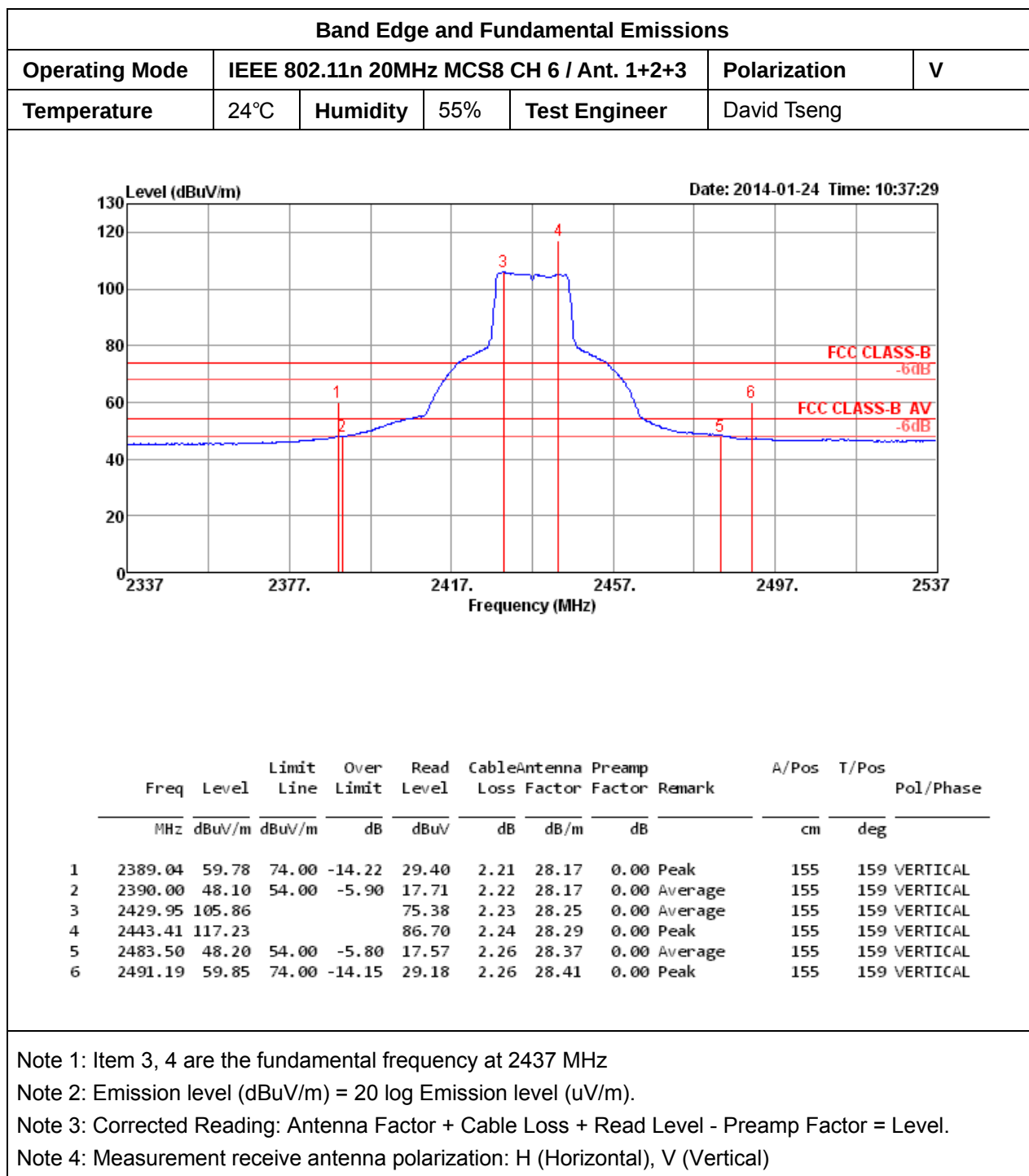


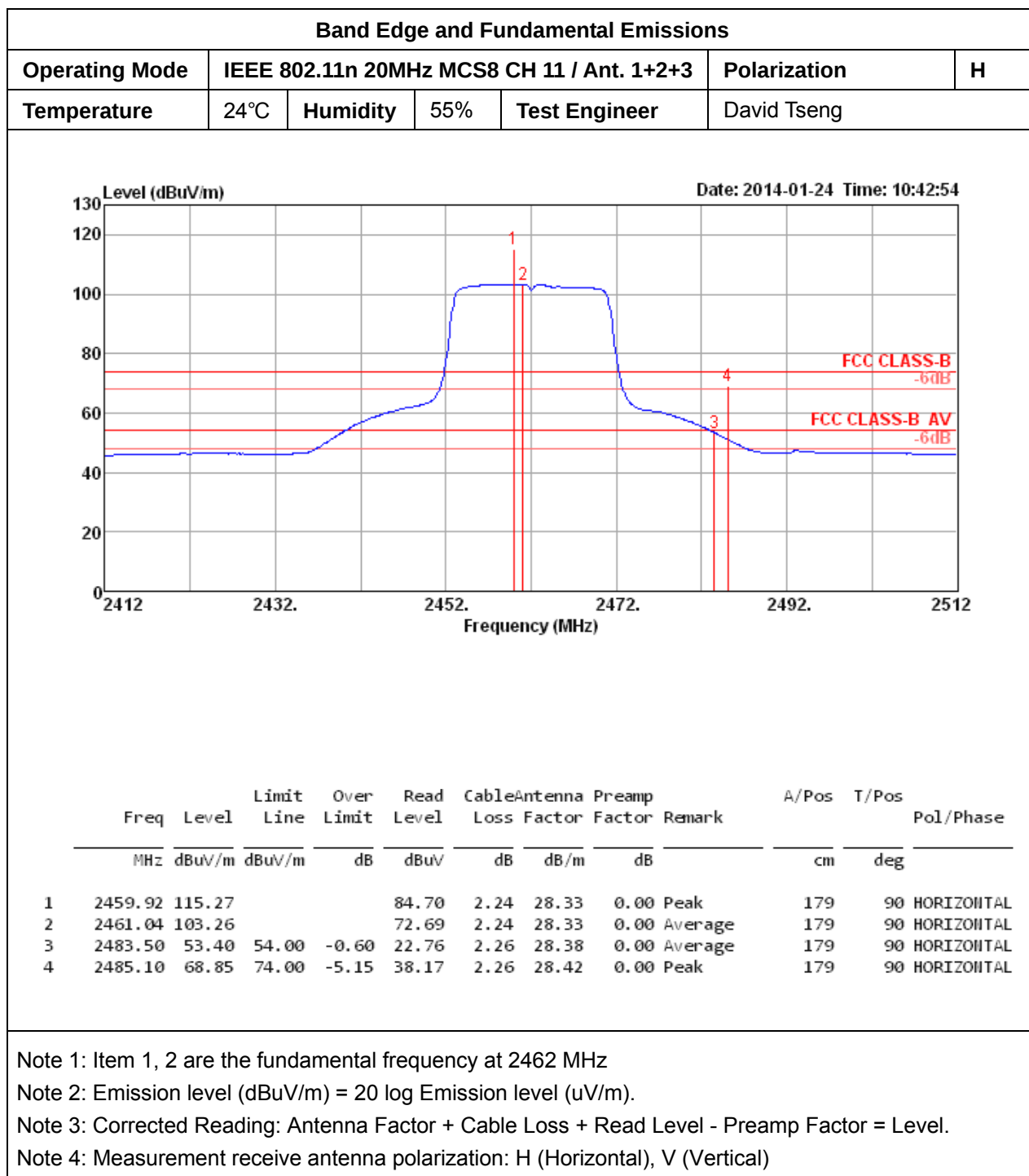


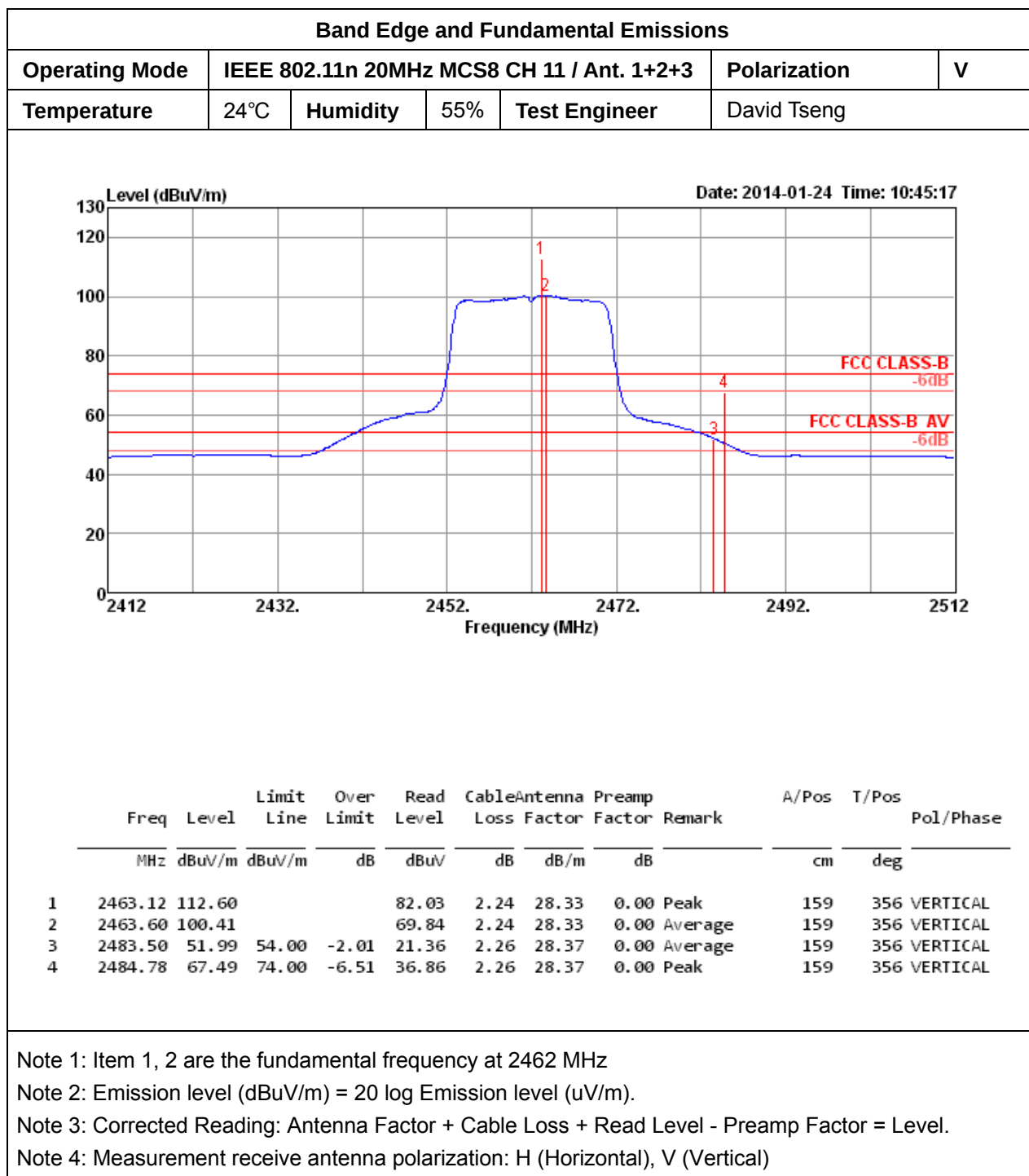


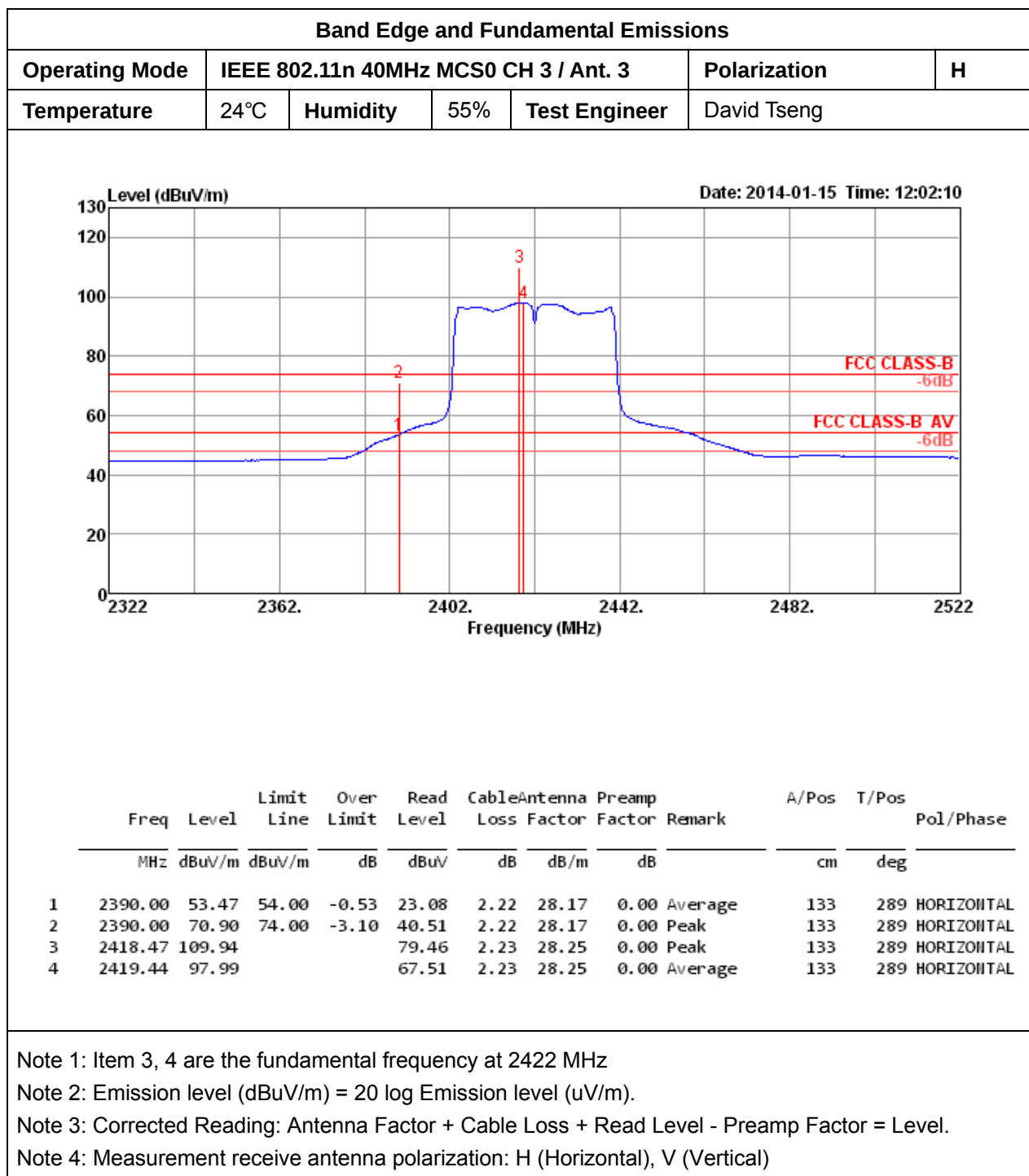


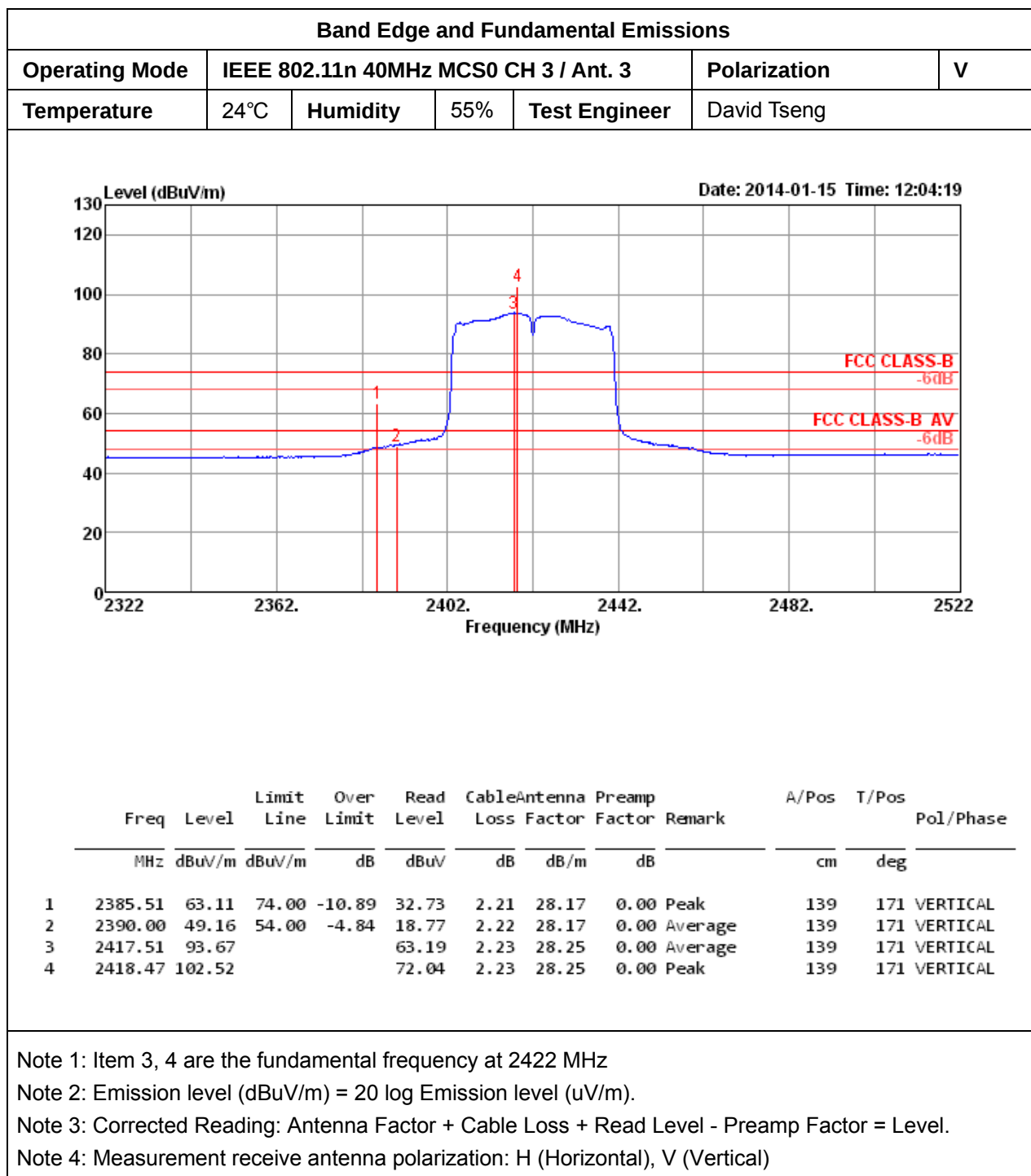


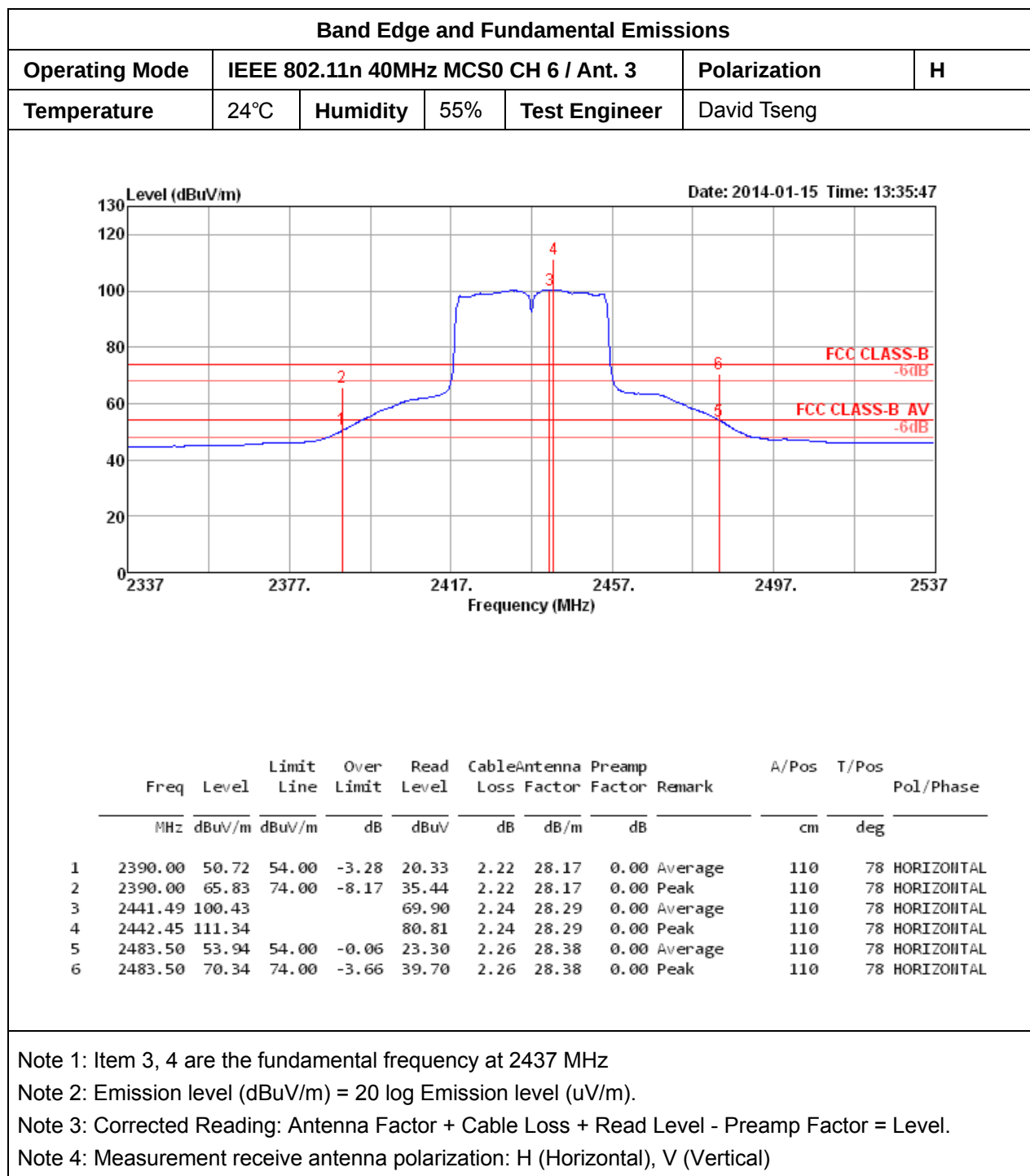


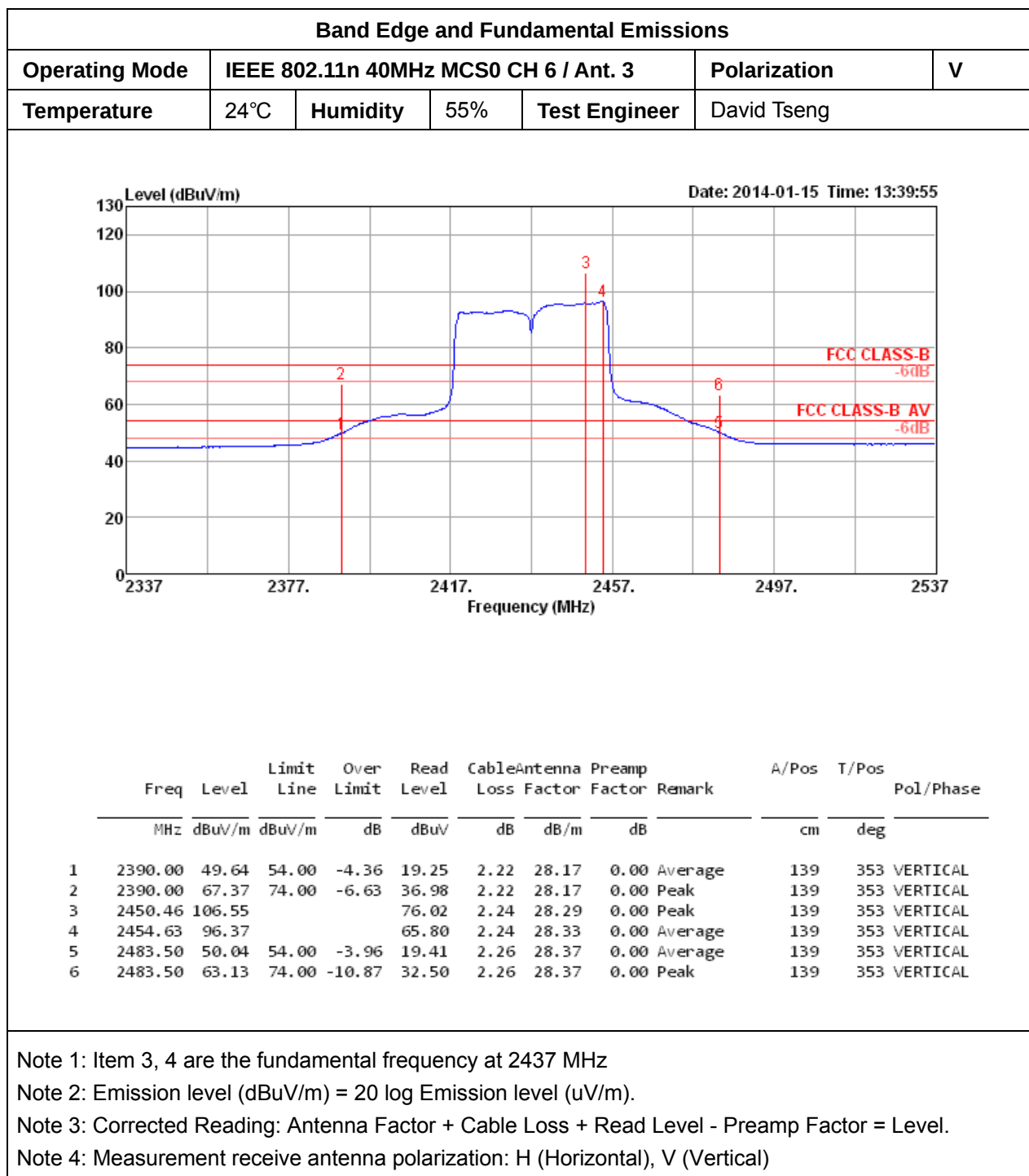


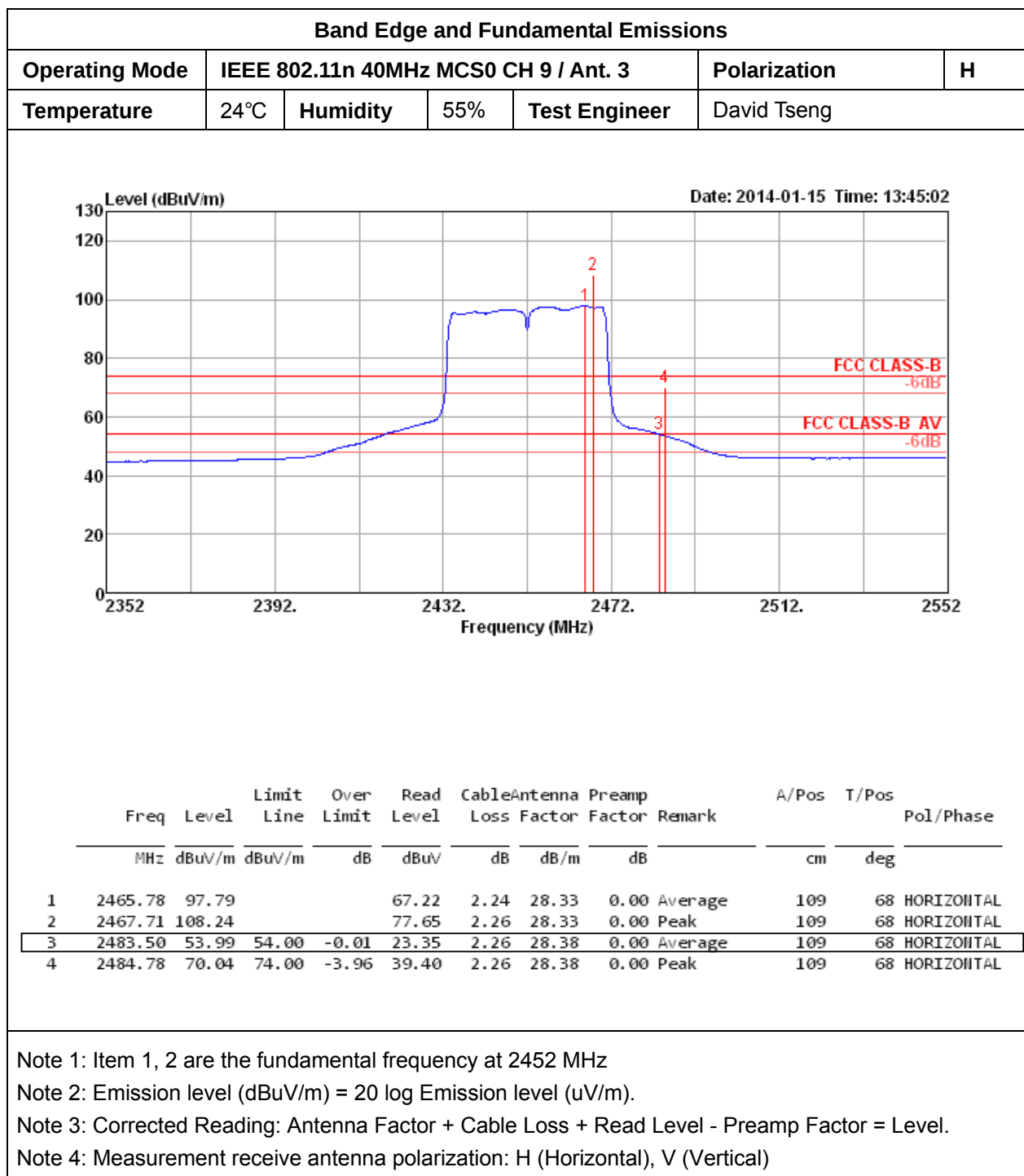


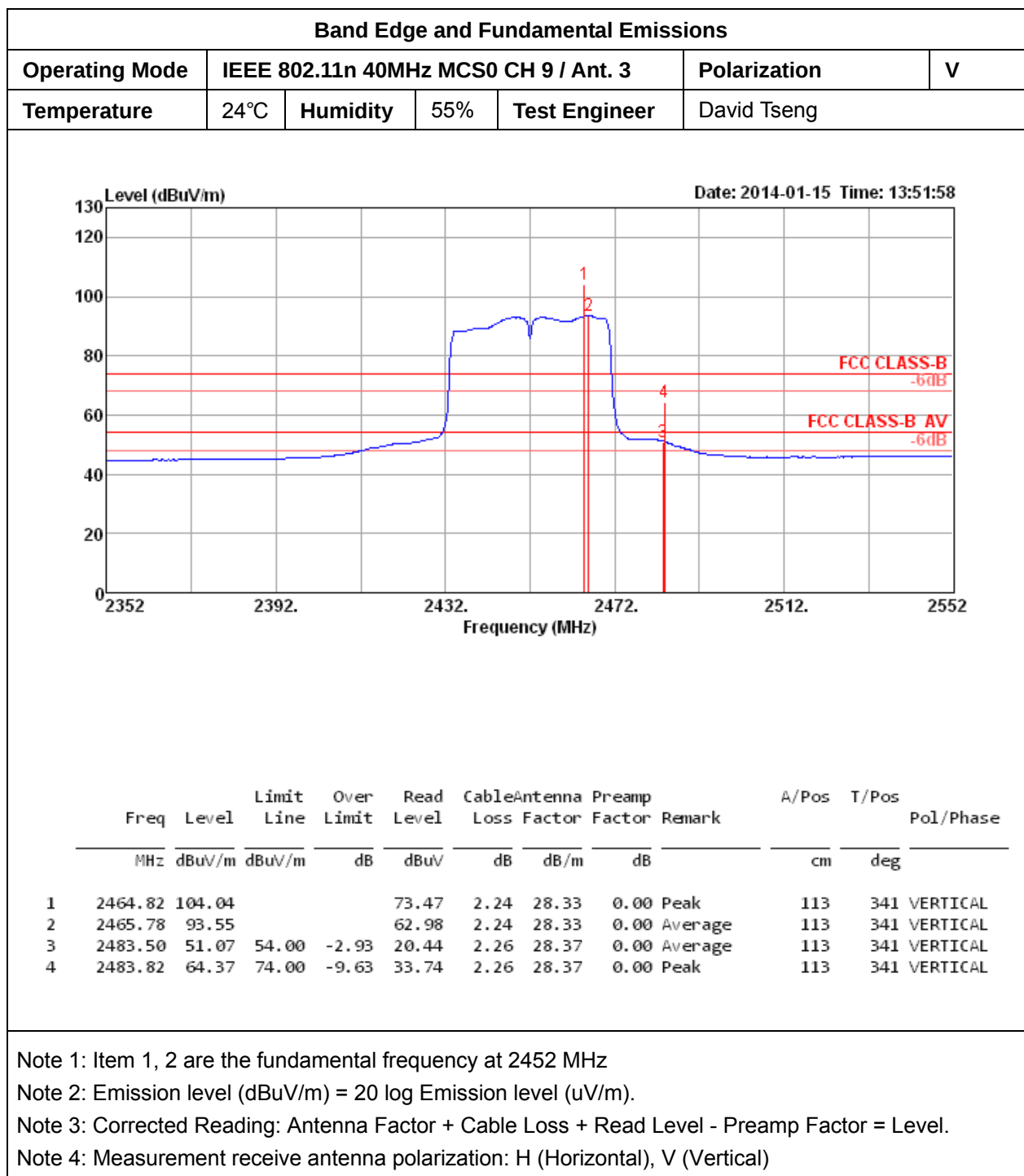


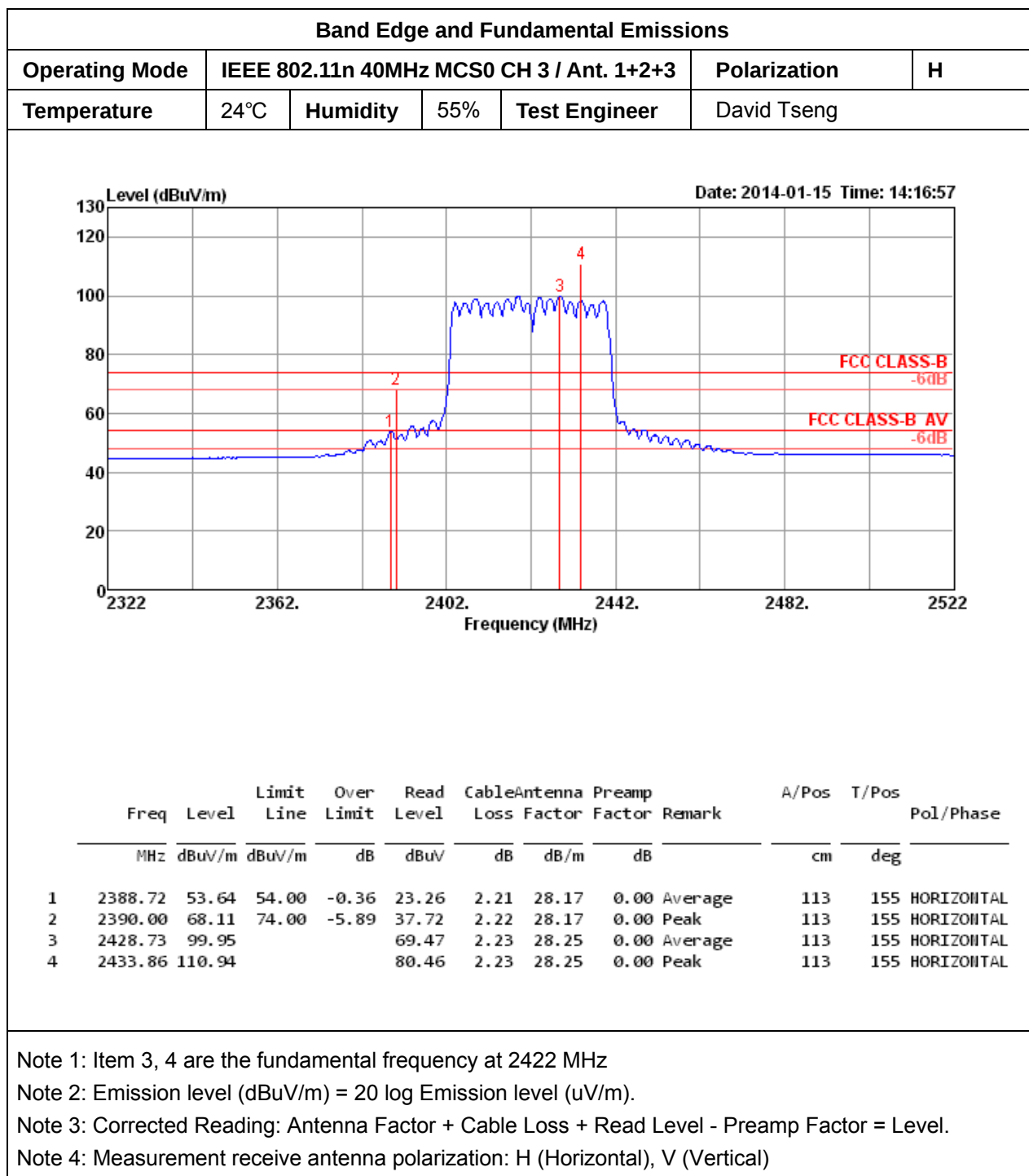


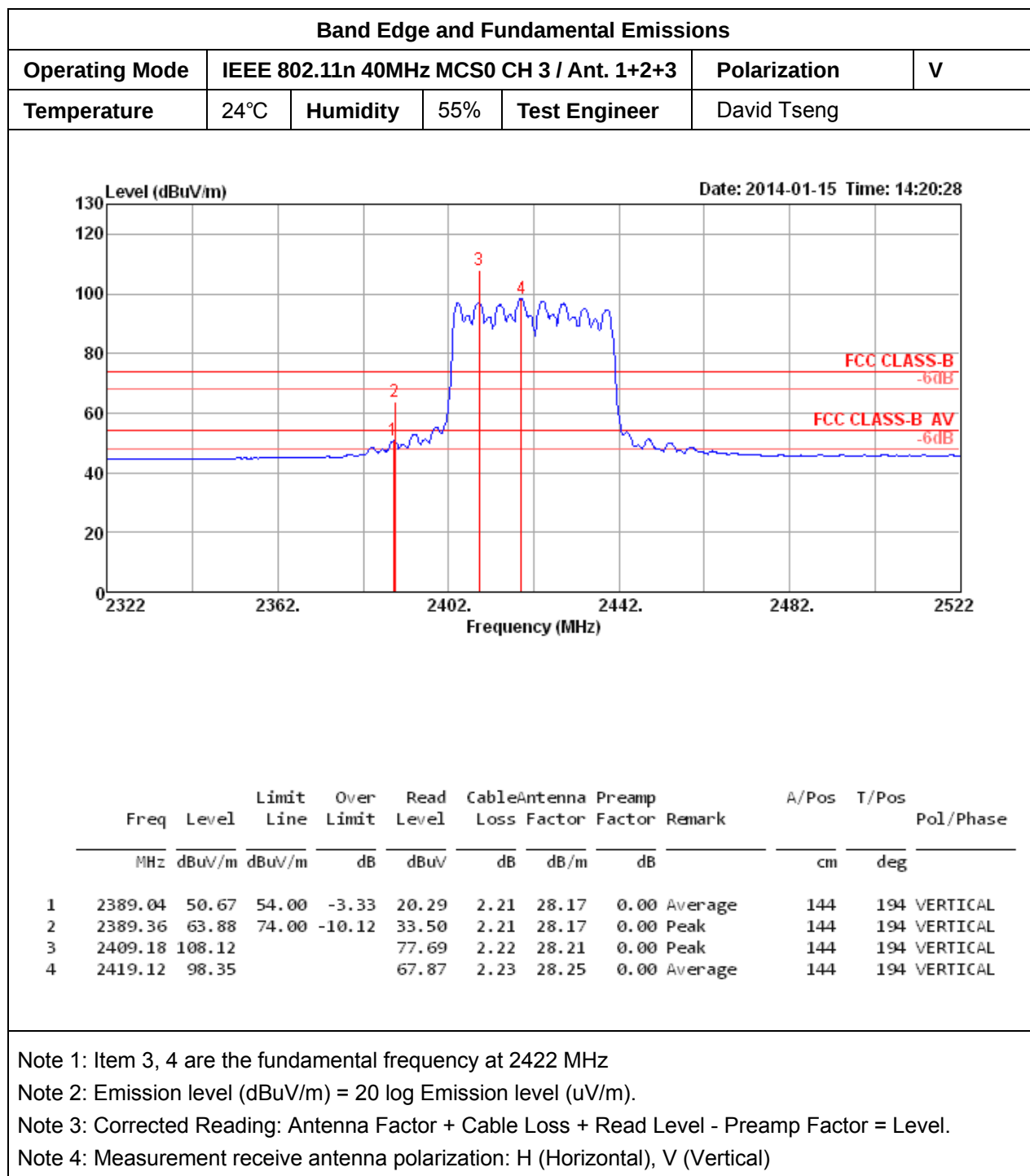


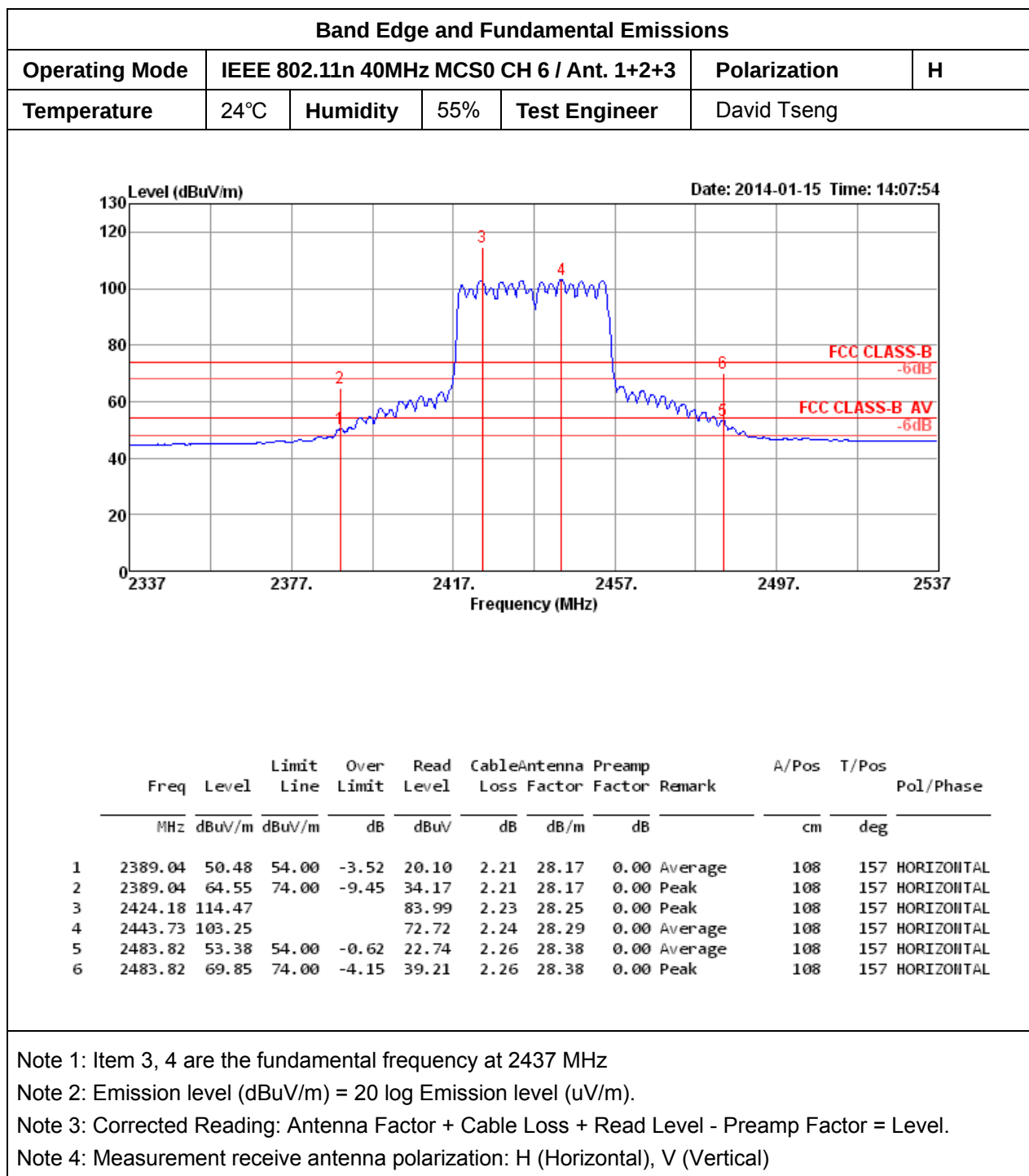


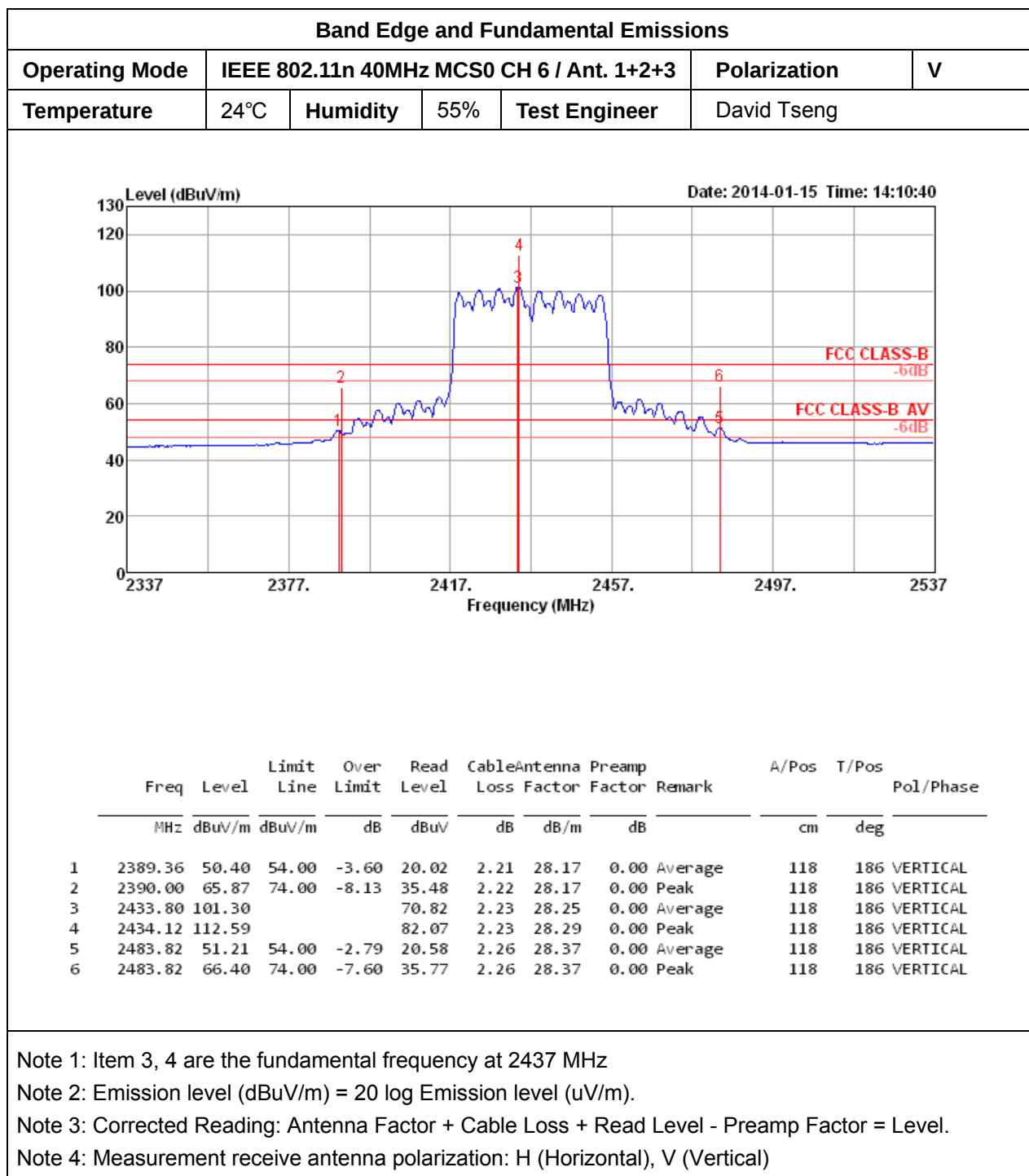


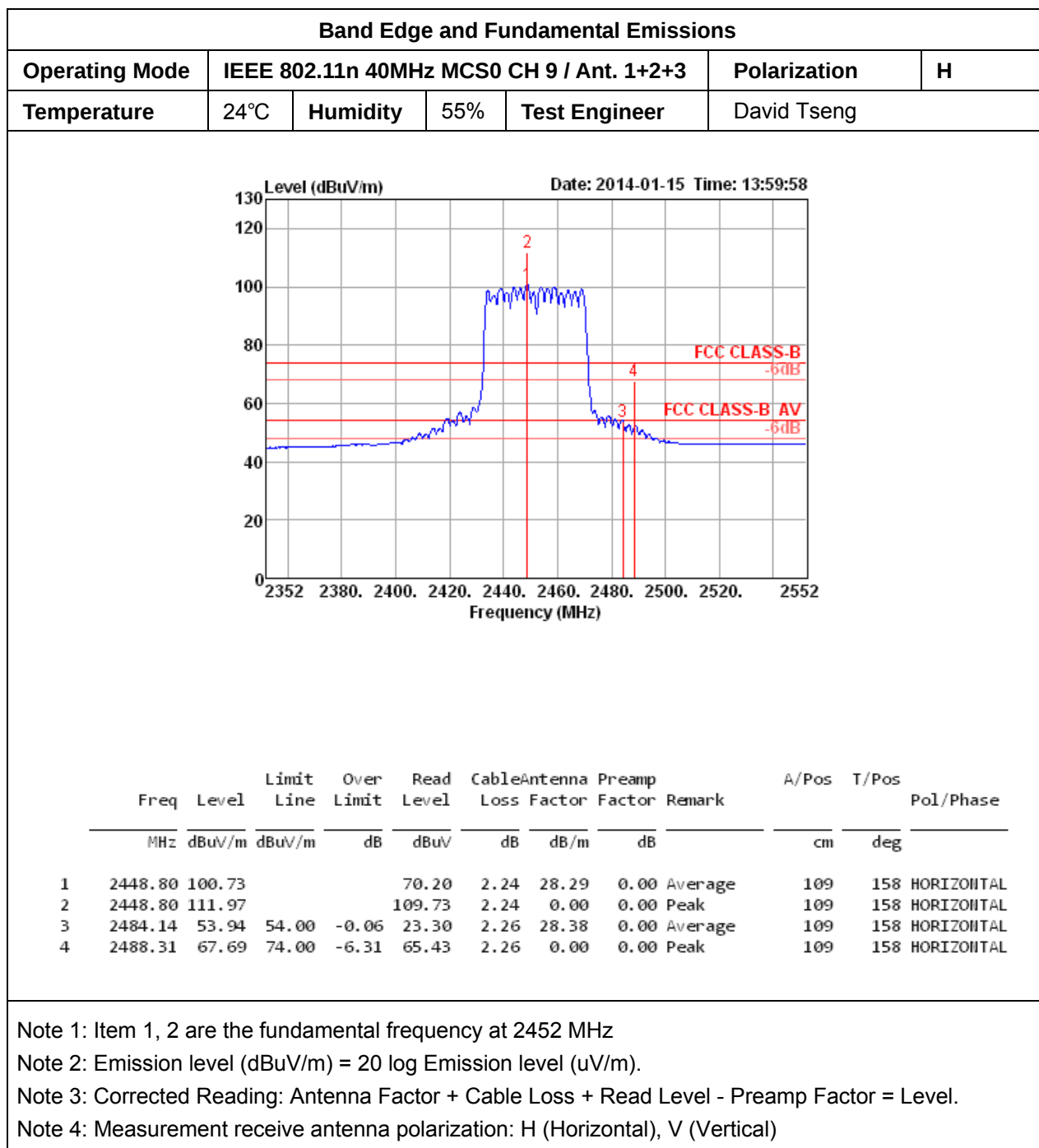


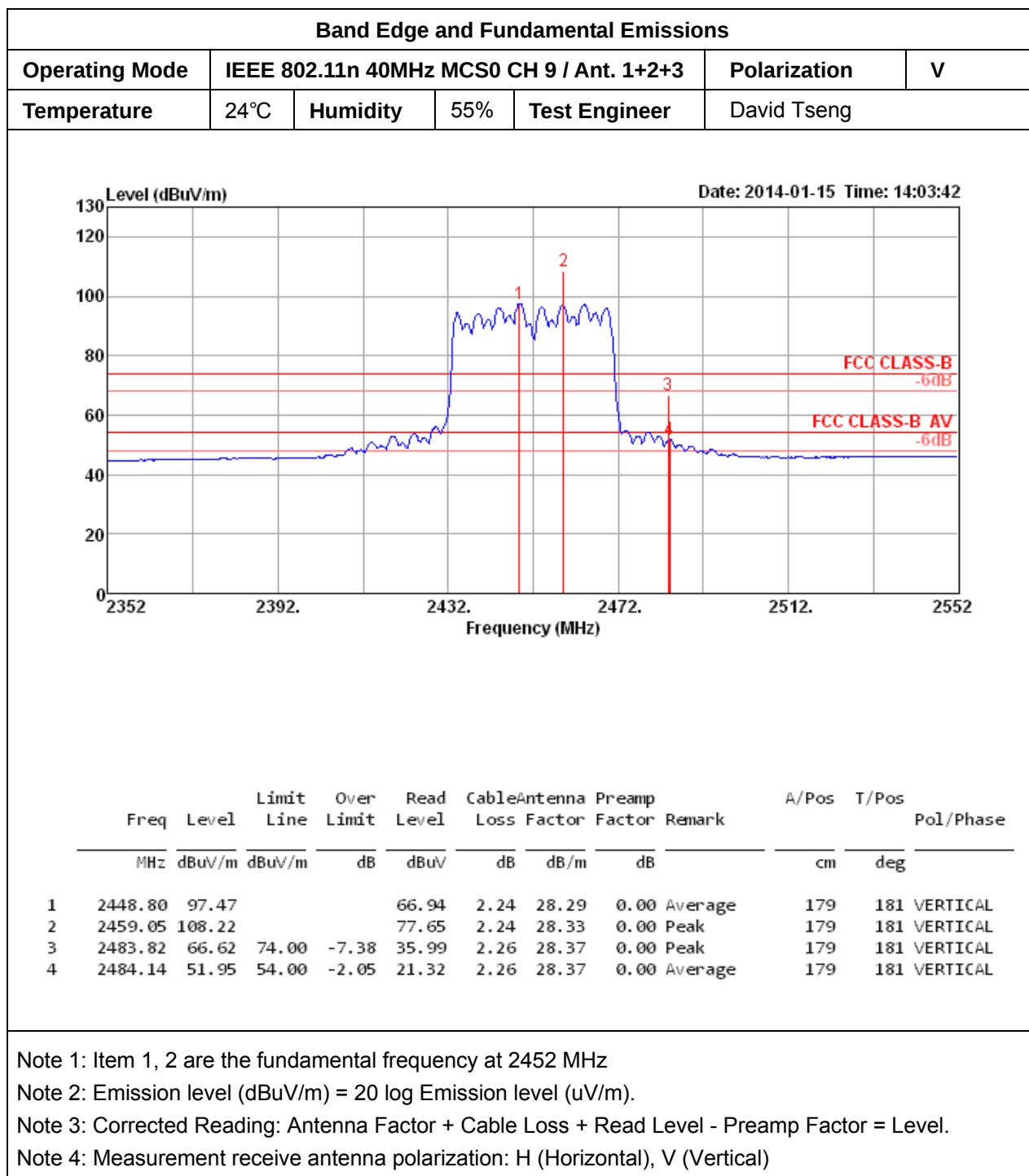


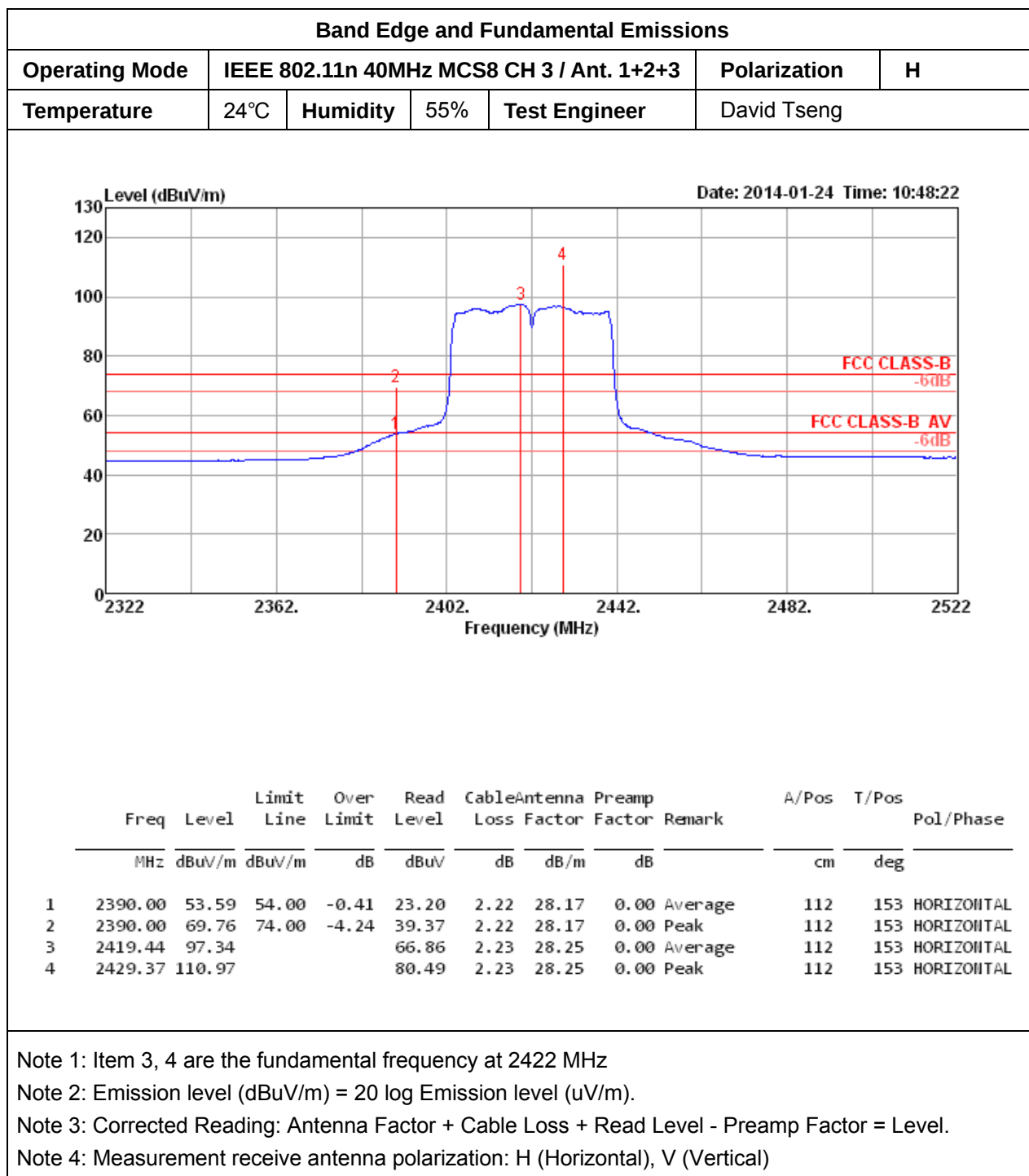


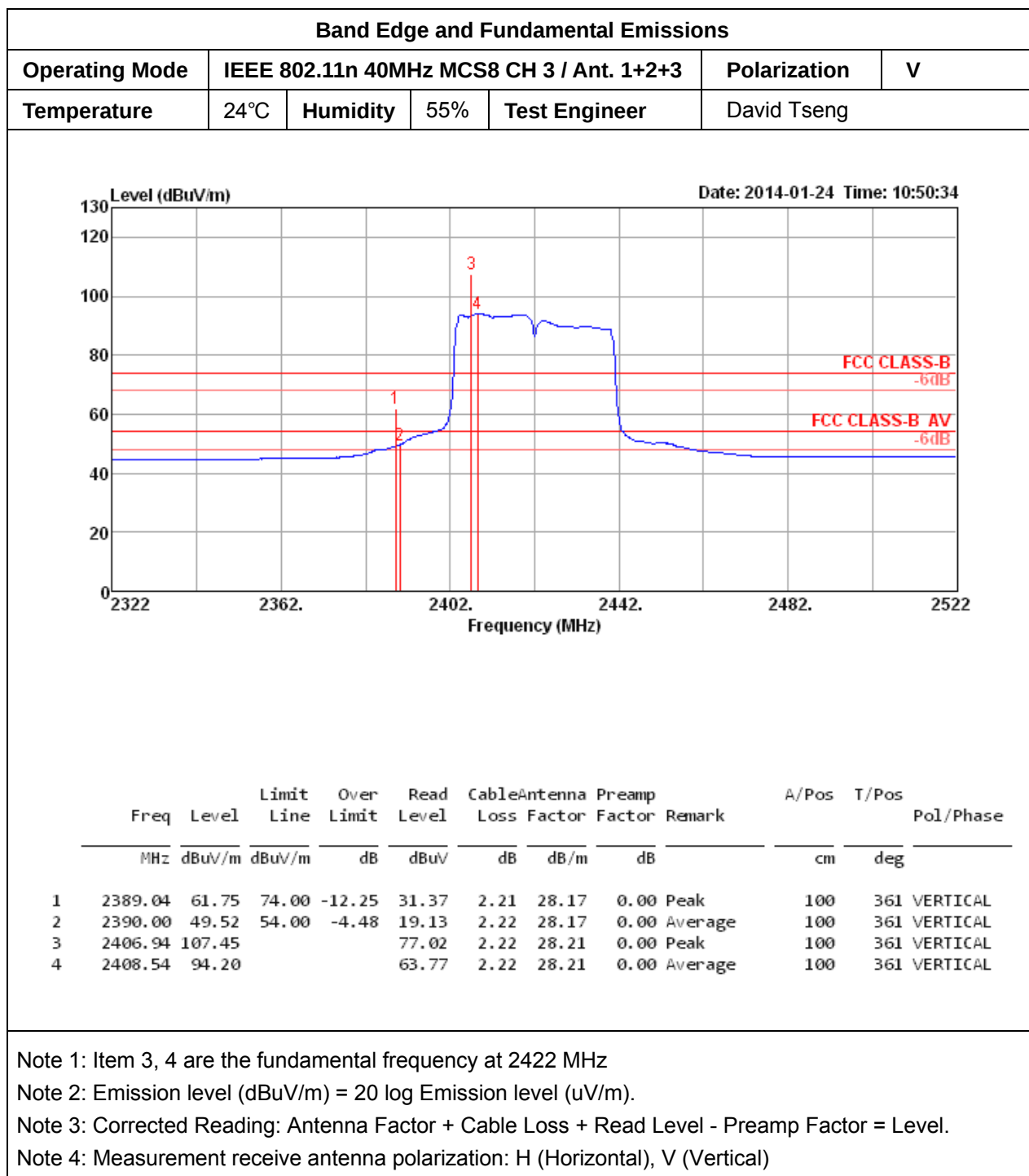


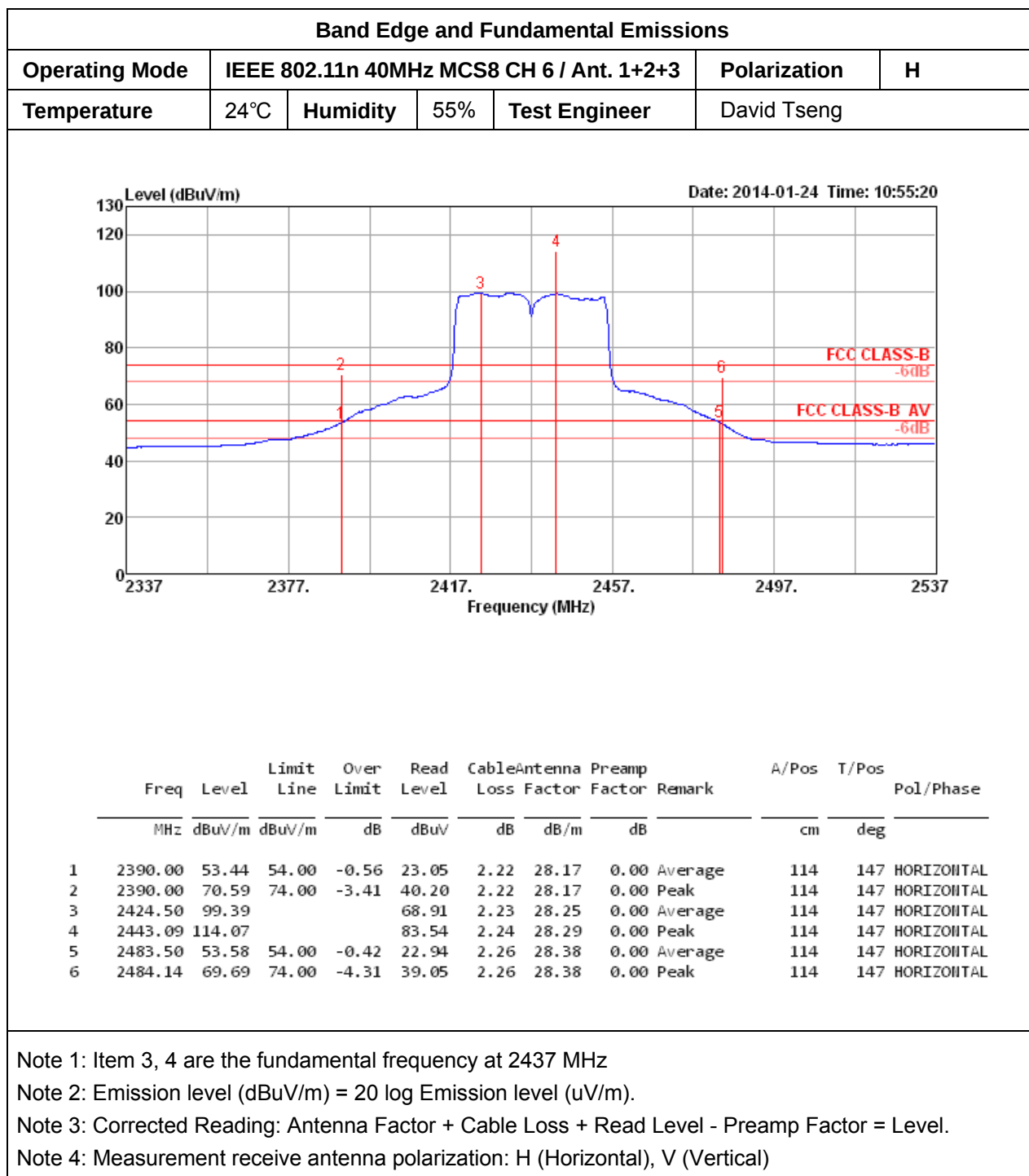


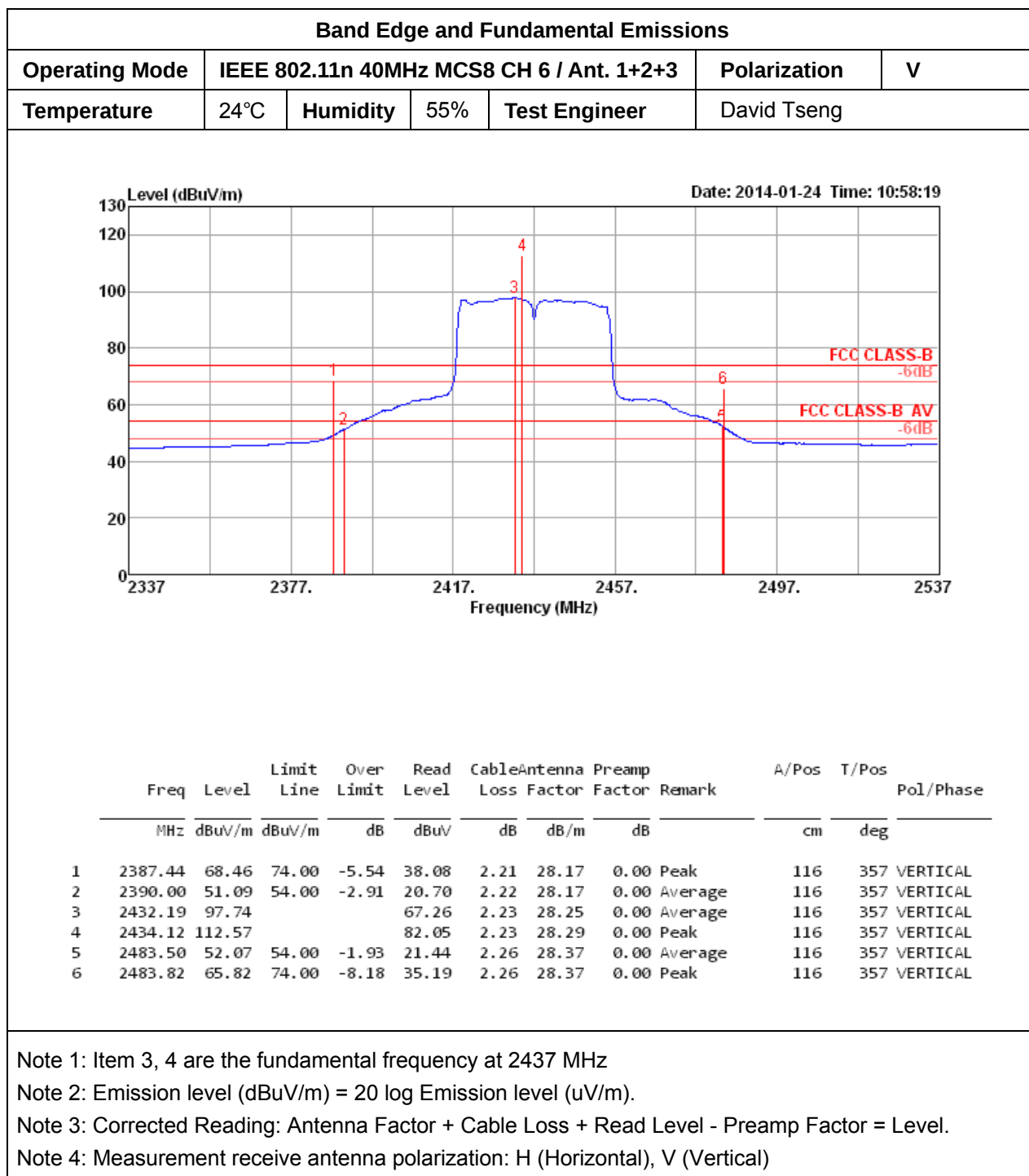


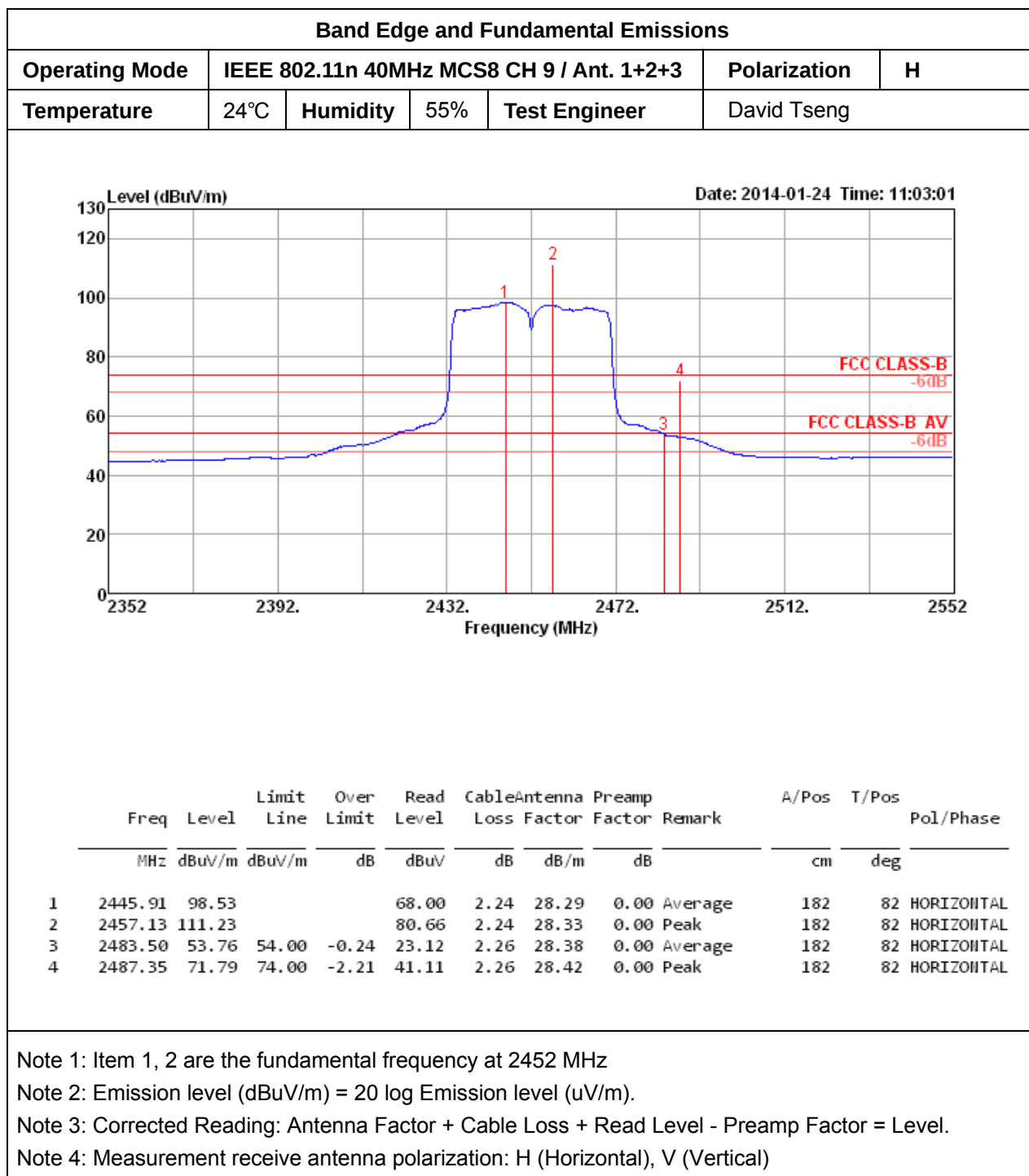


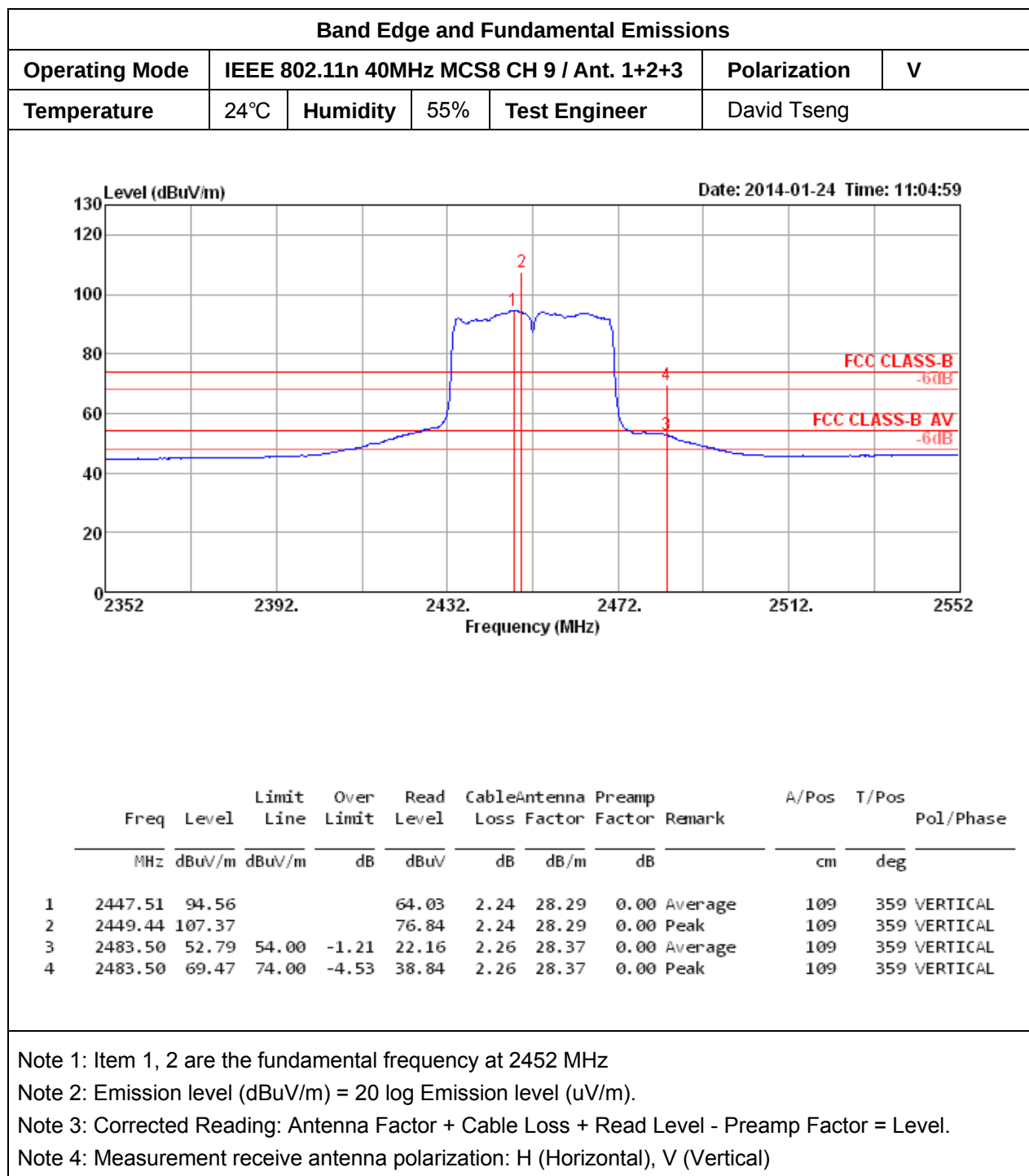










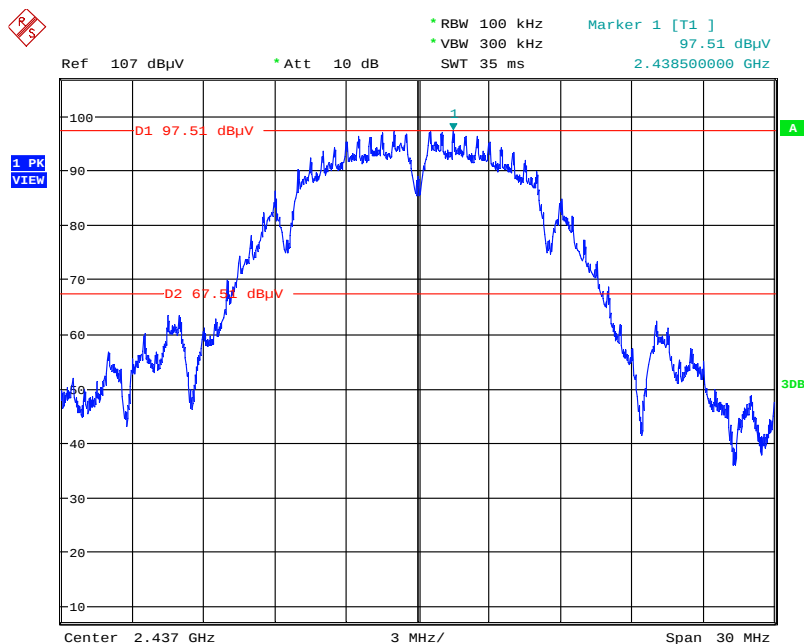


**3.6.8. Results of Emission not in Restricted Band**

Following channel(s) was (were) selected for the final test as listed below.

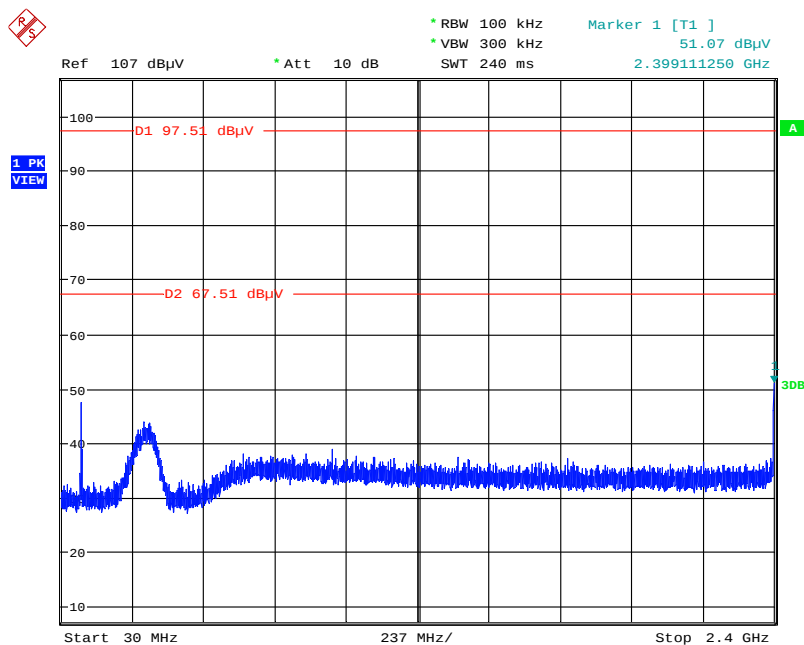
| MODE          | TX Chain       | TESTED CHANNEL | MODULATION TECHNOLOGY | MODULATION TYPE | DATA RATE (Mbps) |
|---------------|----------------|----------------|-----------------------|-----------------|------------------|
| 802.11b       | Ant.1          | 1, 6, 11       | DSSS                  | DBPSK           | 1                |
| 802.11b       | Ant.1+2+3, CDD | 1, 6, 11       | DSSS                  | DBPSK           | 1                |
| 802.11g       | Ant.1          | 1, 6, 11       | OFDM                  | BPSK            | 6                |
| 802.11g       | Ant.1+2+3, CDD | 1, 6, 11       | OFDM                  | BPSK            | 6                |
| 802.11n 20MHz | Ant.1          | 1, 6, 11       | OFDM                  | BPSK            | MCS0 (6.5)       |
| 802.11n 20MHz | Ant.1+2+3, CDD | 1, 6, 11       | OFDM                  | BPSK            | MCS0 (6.5)       |
| 802.11n 20MHz | Ant.1+2+3, CDD | 1, 6, 11       | OFDM                  | BPSK            | MCS8 (13)        |
| 802.11n 40MHz | Ant.3          | 3, 6, 9        | OFDM                  | BPSK            | MCS0 (13)        |
| 802.11n 40MHz | Ant.1+2+3, CDD | 3, 6, 9        | OFDM                  | BPSK            | MCS0 (13)        |
| 802.11n 40MHz | Ant.1+2+3, CDD | 3, 6, 9        | OFDM                  | BPSK            | MCS8 (27)        |

## Low Band Edge Plot on Configuration IEEE 802.11b / Reference Level / Ant. 1



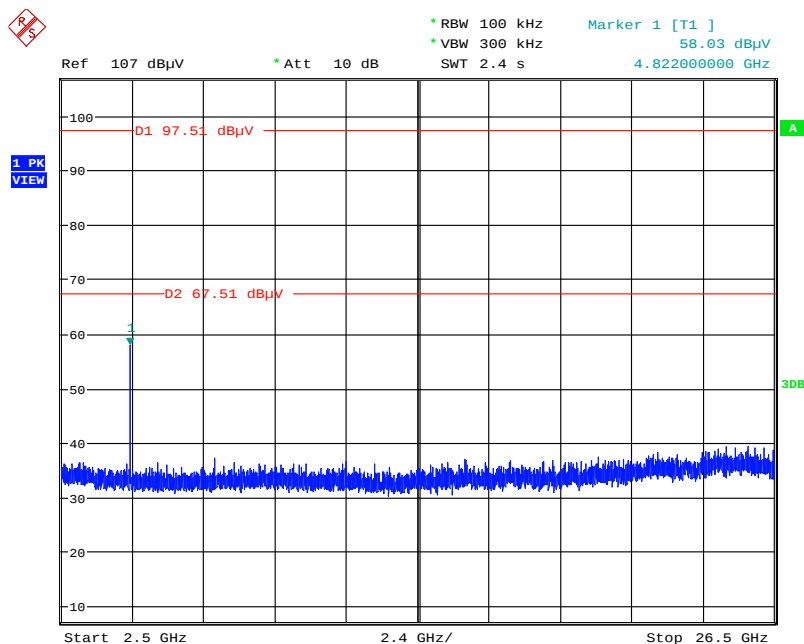
Date: 21.JAN.2014 11:13:29

## Low Band Edge Plot on Configuration IEEE 802.11b / CH 1 / Ant. 1



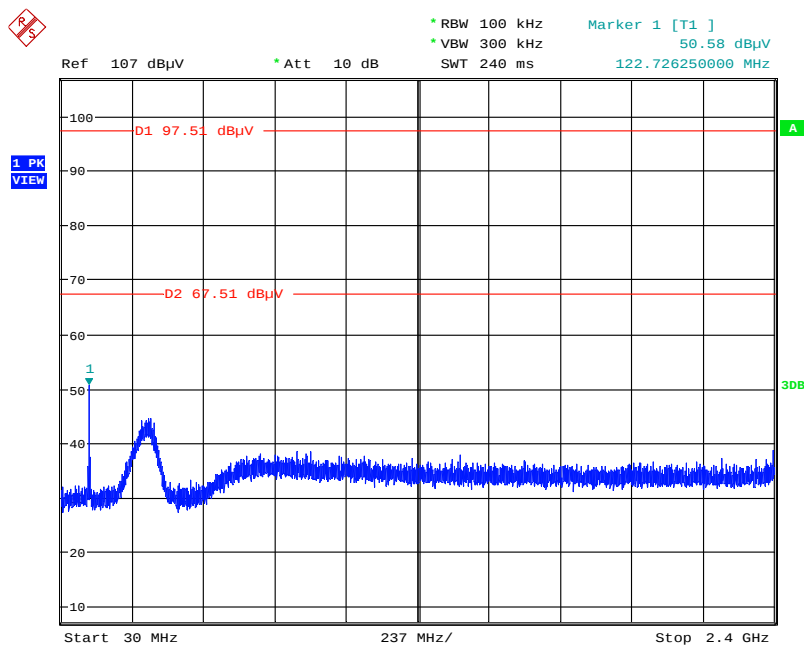
Date: 21.JAN.2014 11:14:12

## Low Band Edge Plot on Configuration IEEE 802.11b / CH 1 / Ant. 1



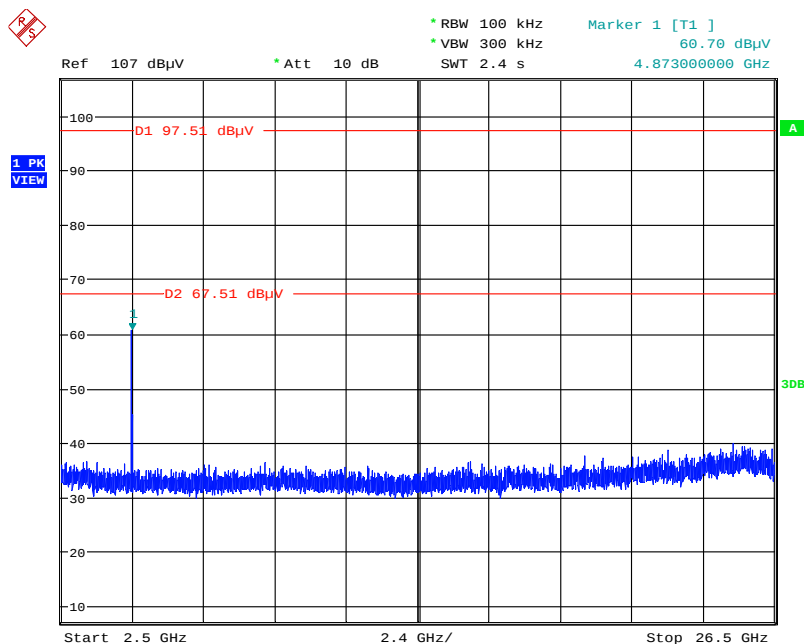
Date: 21.JAN.2014 11:14:36

## Low Band Edge Plot on Configuration IEEE 802.11b / CH 6 / Ant. 1



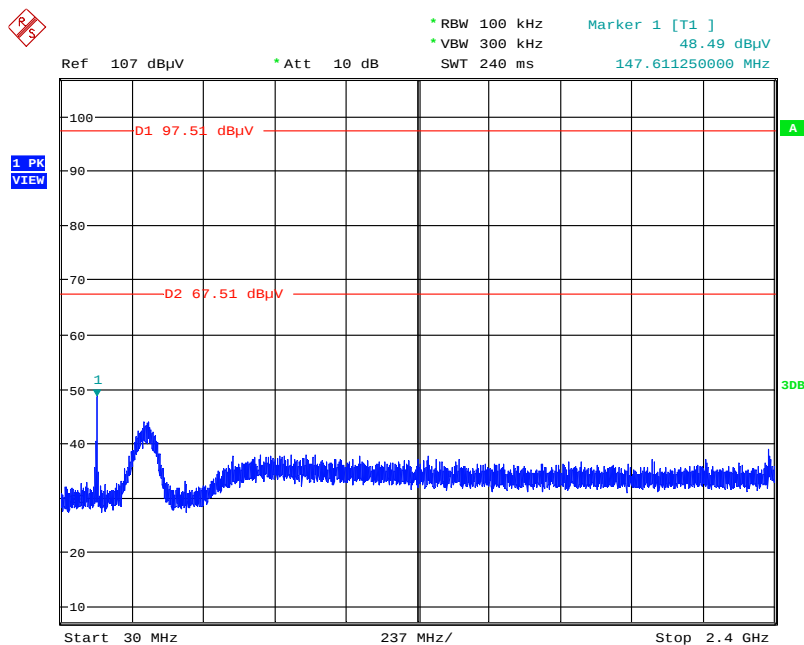
Date: 29.JAN.2014 17:53:49

## Low Band Edge Plot on Configuration IEEE 802.11b / CH 6 / Ant. 1



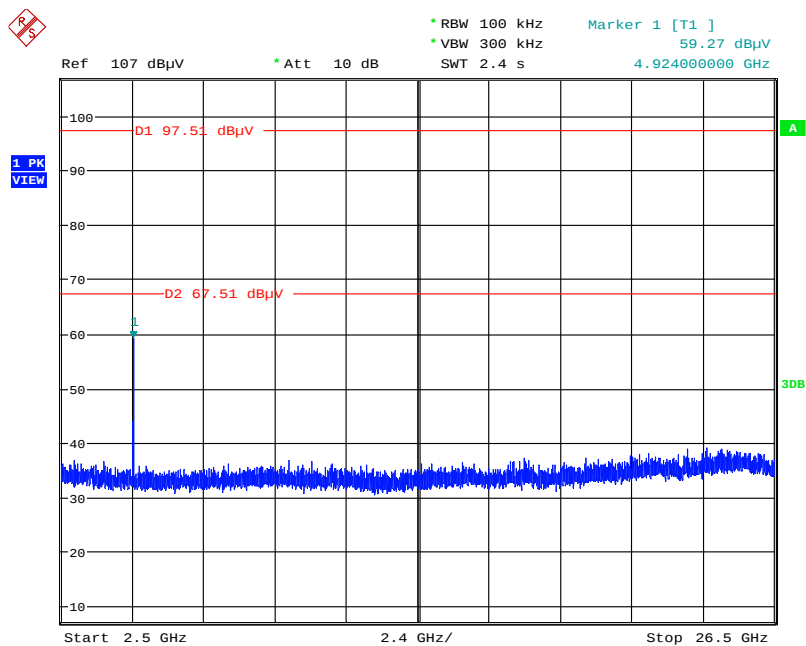
Date: 29.JAN.2014 17:54:25

## Low Band Edge Plot on Configuration IEEE 802.11b / CH 11 / Ant. 1



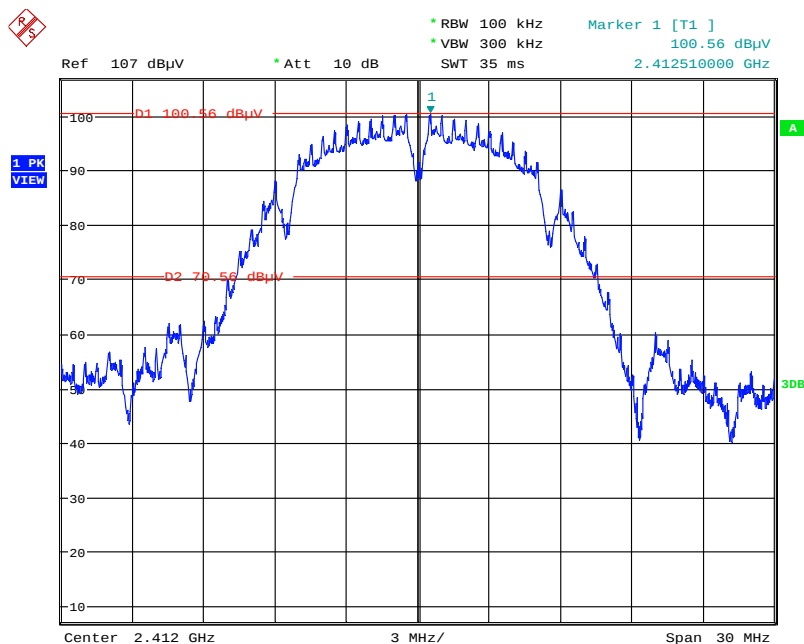
Date: 21.JAN.2014 11:15:36

## Low Band Edge Plot on Configuration IEEE 802.11b / CH 11 / Ant. 1



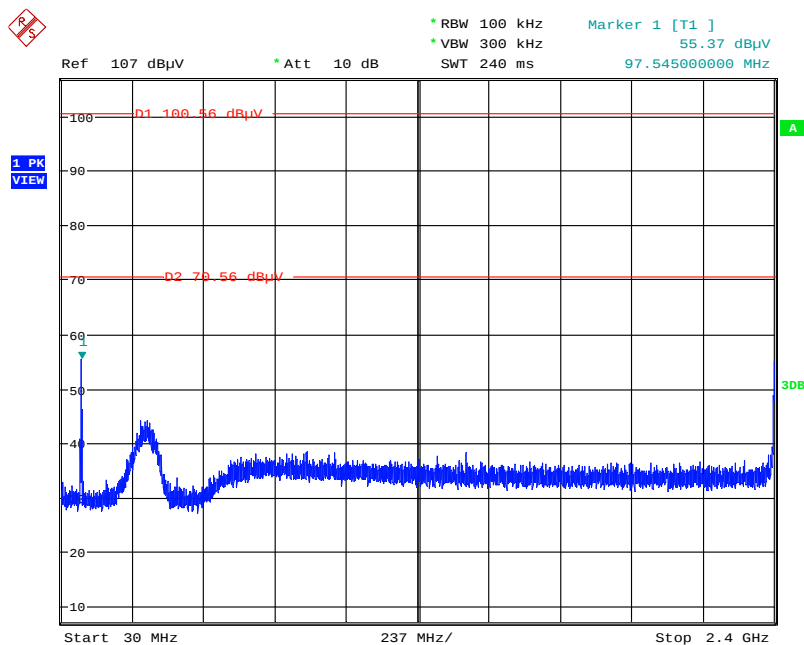
Date: 21.JAN.2014 11:15:18

## Low Band Edge Plot on Configuration IEEE 802.11b / Reference Level / Ant. 1+2+3



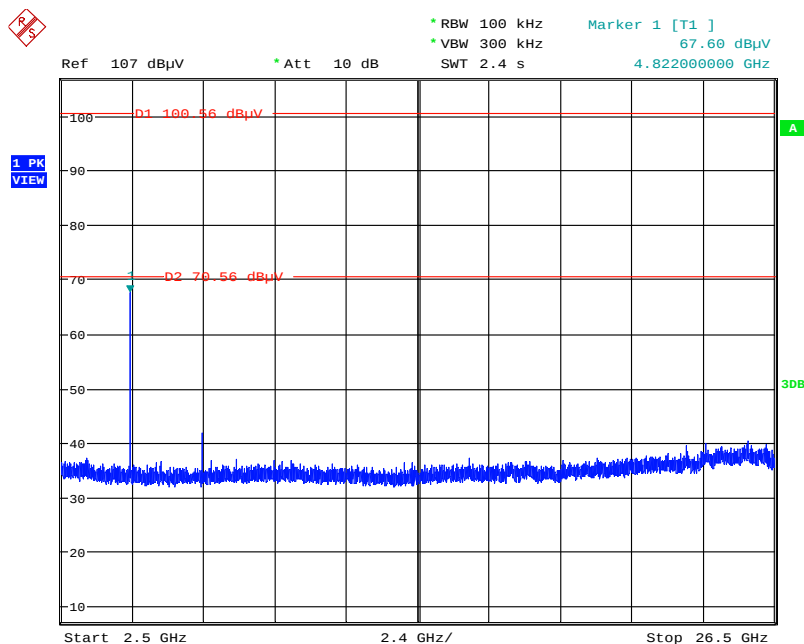
Date: 29.JAN.2014 17:44:34

## Low Band Edge Plot on Configuration IEEE 802.11b / CH 1 / Ant. 1+2+3



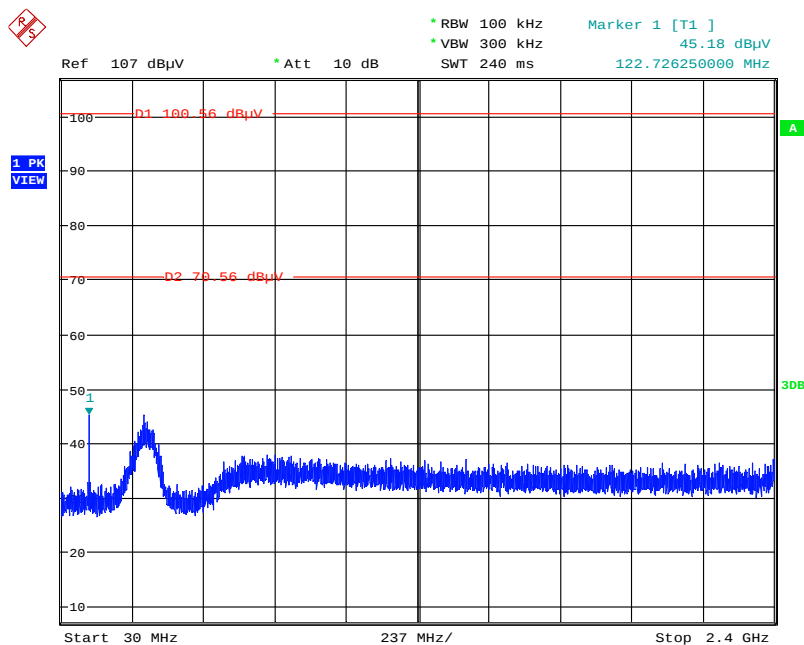
Date: 29.JAN.2014 17:45:03

## Low Band Edge Plot on Configuration IEEE 802.11b / CH 1 / Ant. 1+2+3



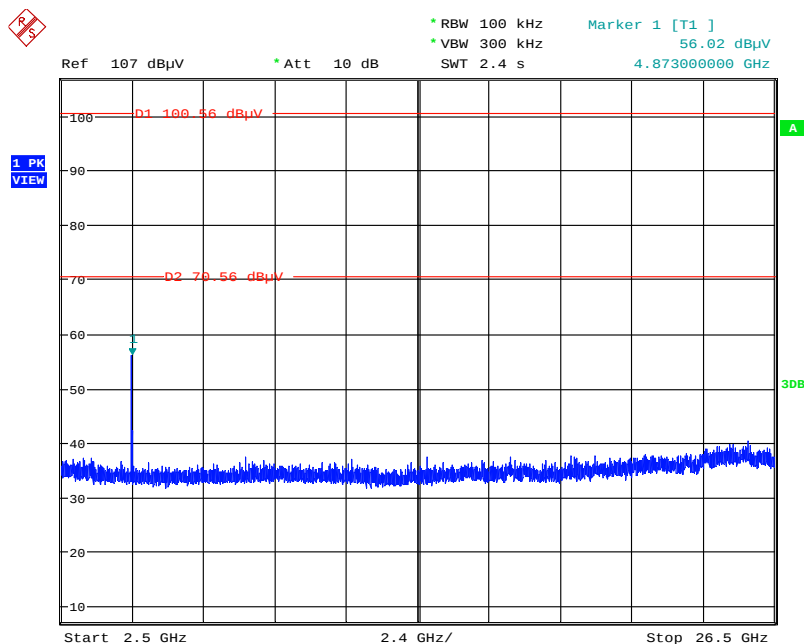
Date: 29.JAN.2014 17:46:10

## Low Band Edge Plot on Configuration IEEE 802.11b / CH 6 / Ant. 1+2+3



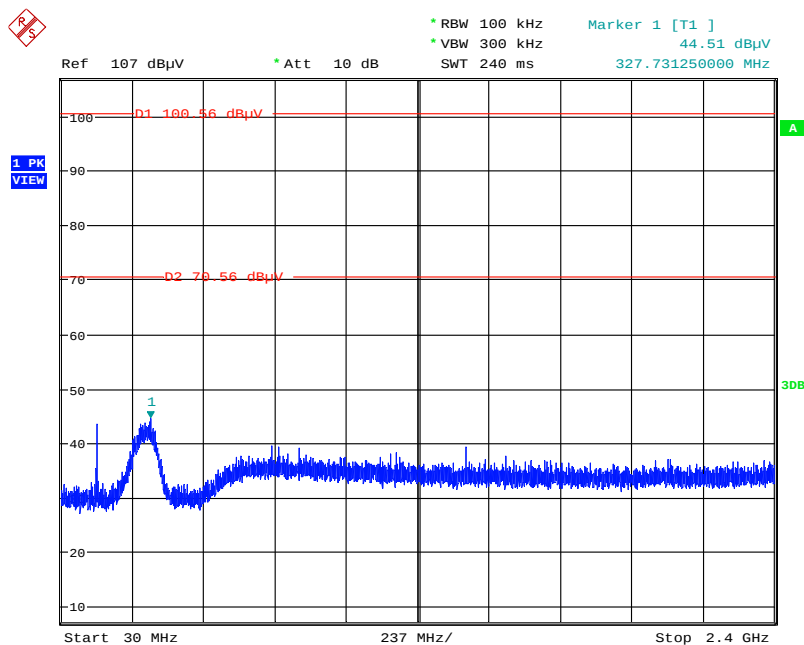
Date: 29.JAN.2014 17:48:21

## Low Band Edge Plot on Configuration IEEE 802.11b / CH 6 / Ant. 1+2+3



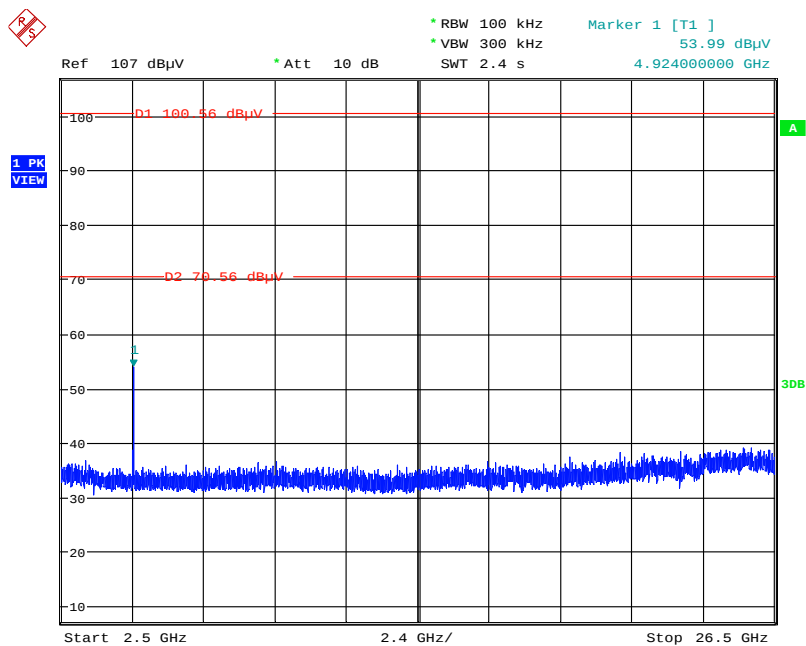
Date: 29.JAN.2014 17:47:58

## Low Band Edge Plot on Configuration IEEE 802.11b / CH 11 / Ant. 1+2+3



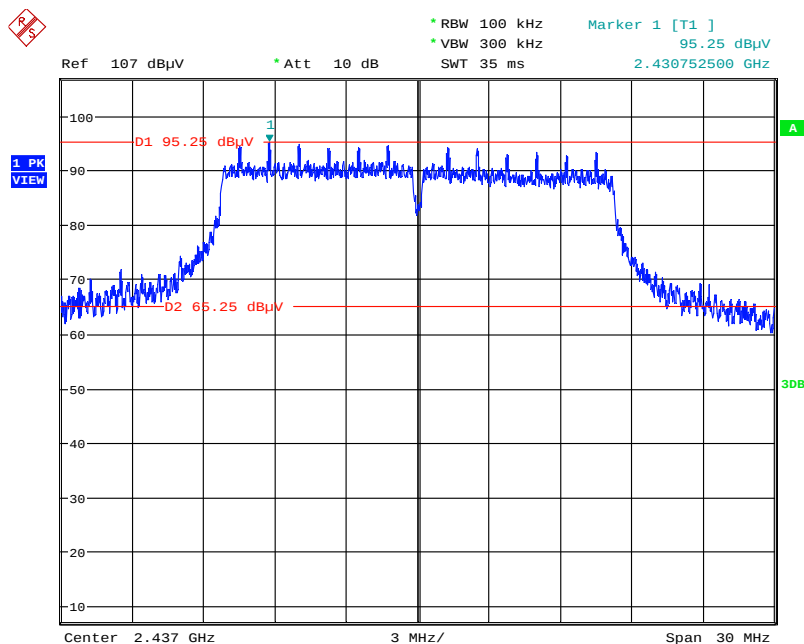
Date: 29.JAN.2014 17:49:11

## Low Band Edge Plot on Configuration IEEE 802.11b / CH 11 / Ant. 1+2+3



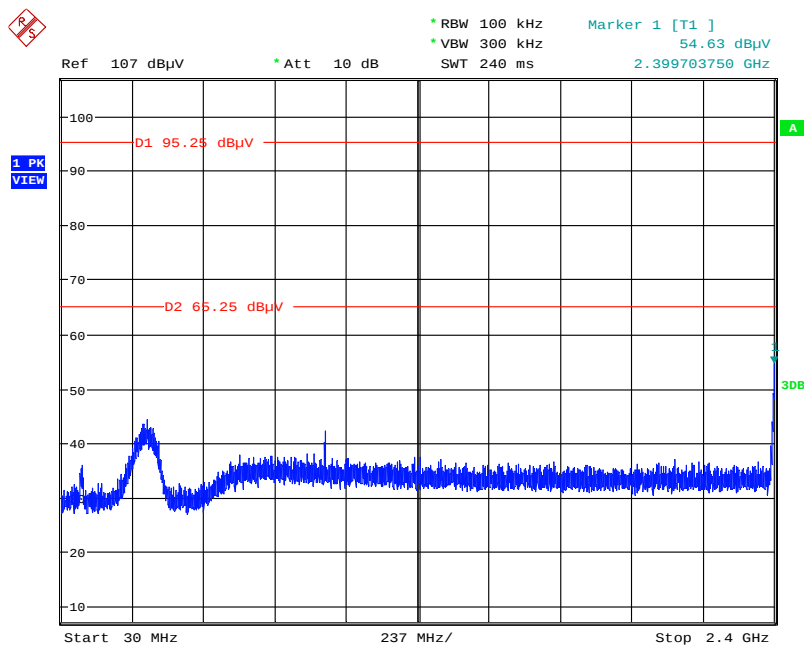
Date: 29.JAN.2014 17:49:36

## Low Band Edge Plot on Configuration IEEE 802.11g / Reference Level / Ant. 1



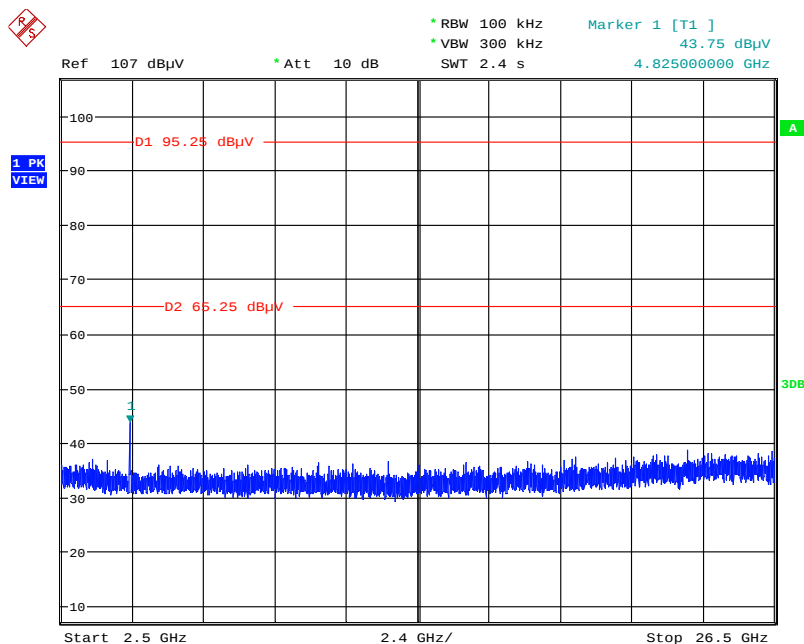
Date: 21.JAN.2014 14:06:08

## Low Band Edge Plot on Configuration IEEE 802.11g / CH 1 / Ant. 1



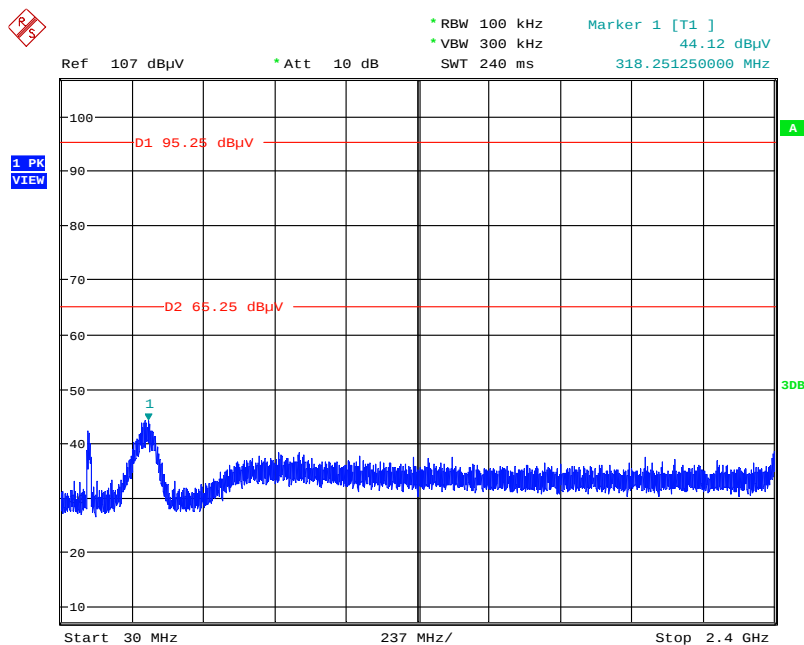
Date: 21.JAN.2014 14:07:22

## Low Band Edge Plot on Configuration IEEE 802.11g / CH 1 / Ant. 1



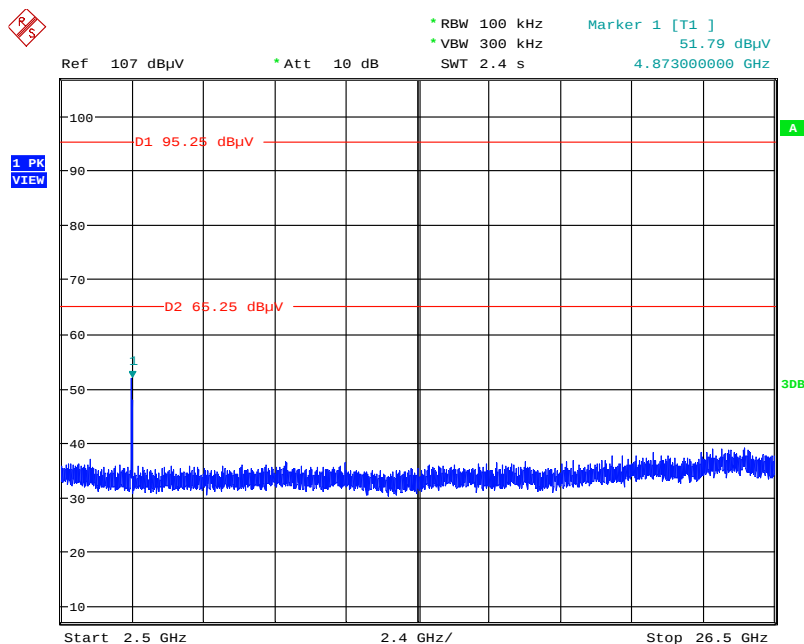
Date: 21.JAN.2014 14:07:37

## Low Band Edge Plot on Configuration IEEE 802.11g / CH 6 / Ant. 1



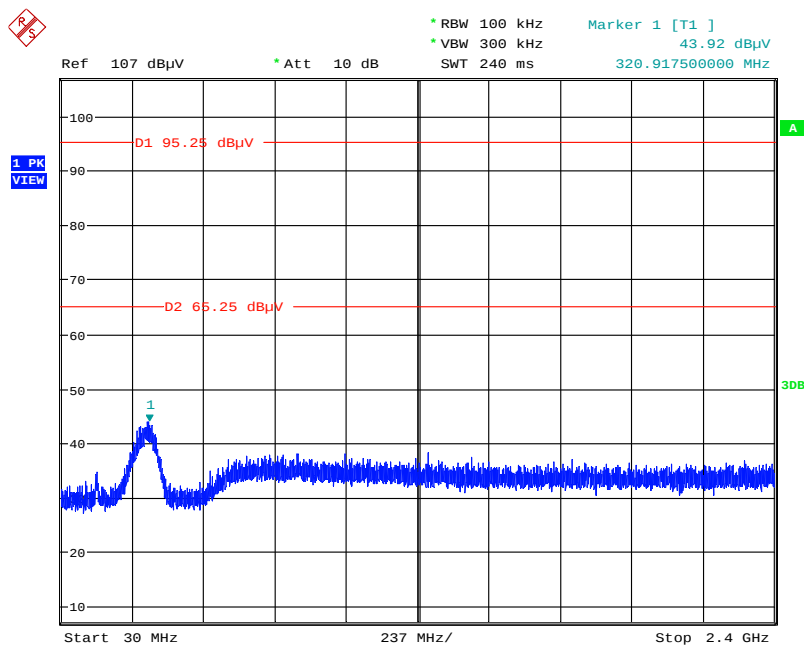
Date: 5.FEB.2014 09:20:21

## Low Band Edge Plot on Configuration IEEE 802.11g / CH 6 / Ant. 1



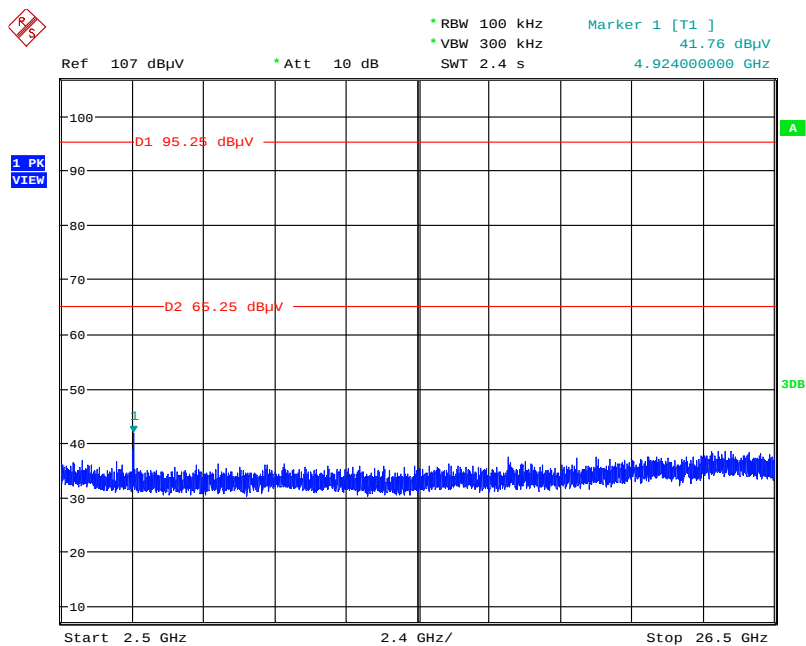
Date: 5.FEB.2014 09:20:55

## Low Band Edge Plot on Configuration IEEE 802.11g / CH 11 / Ant. 1



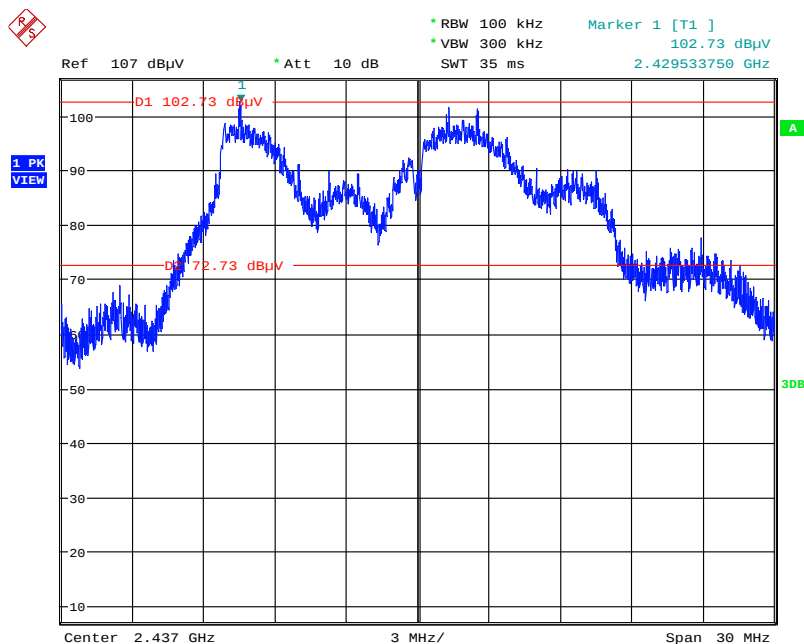
Date: 21.JAN.2014 14:08:40

## Low Band Edge Plot on Configuration IEEE 802.11g / CH 11 / Ant. 1



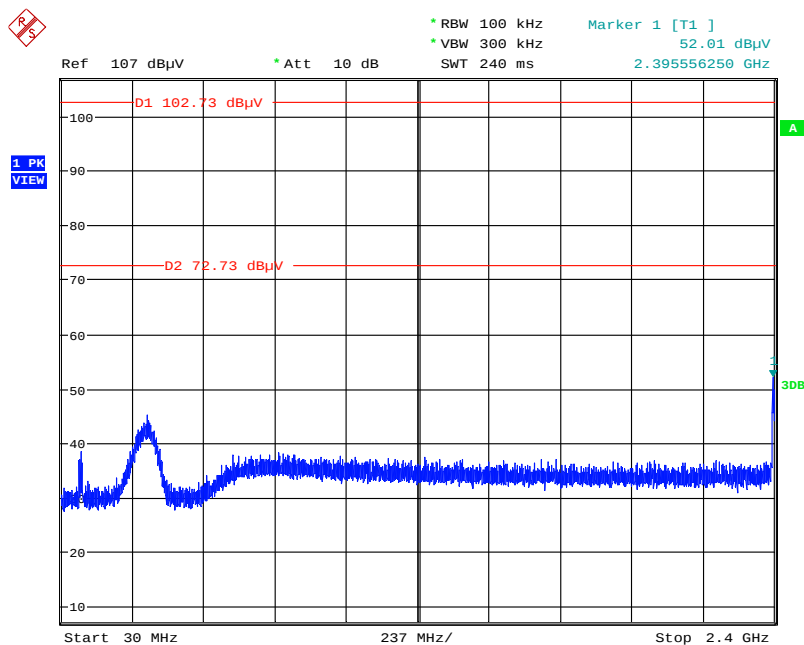
Date: 21.JAN.2014 14:08:21

## Low Band Edge Plot on Configuration IEEE 802.11g / Reference Level / Ant. 1+2+3



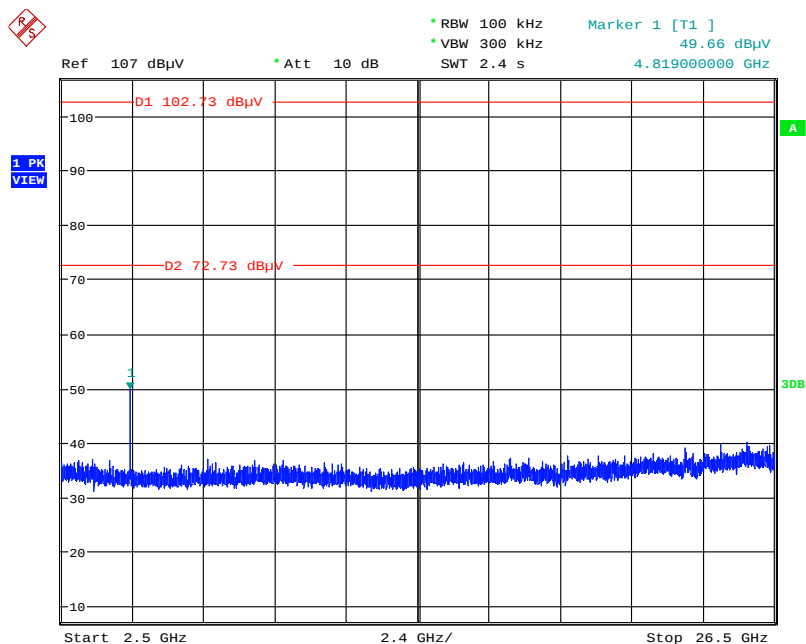
Date: 29.JAN.2014 13:49:31

## Low Band Edge Plot on Configuration IEEE 802.11g / CH 1 / Ant. 1+2+3



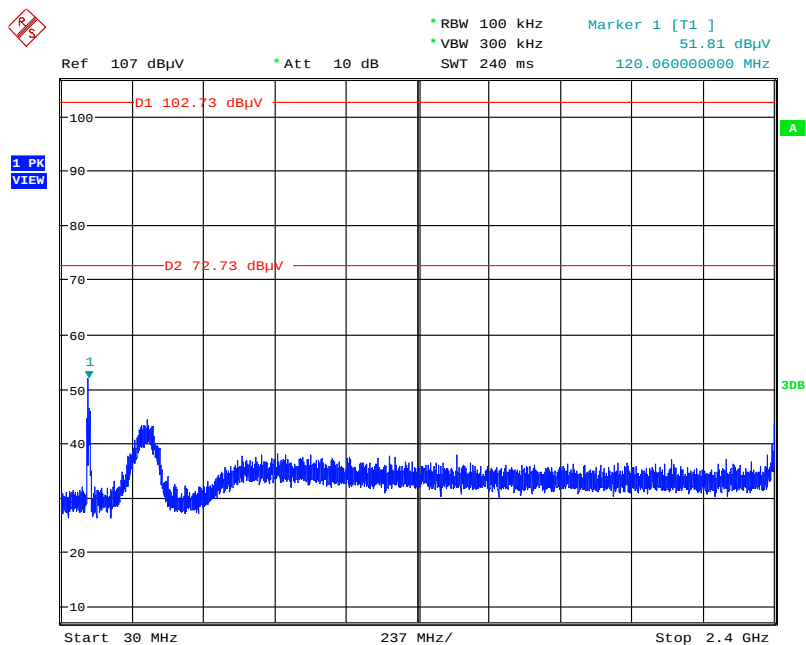
Date: 29.JAN.2014 13:55:17

## Low Band Edge Plot on Configuration IEEE 802.11g / CH 1 / Ant. 1+2+3



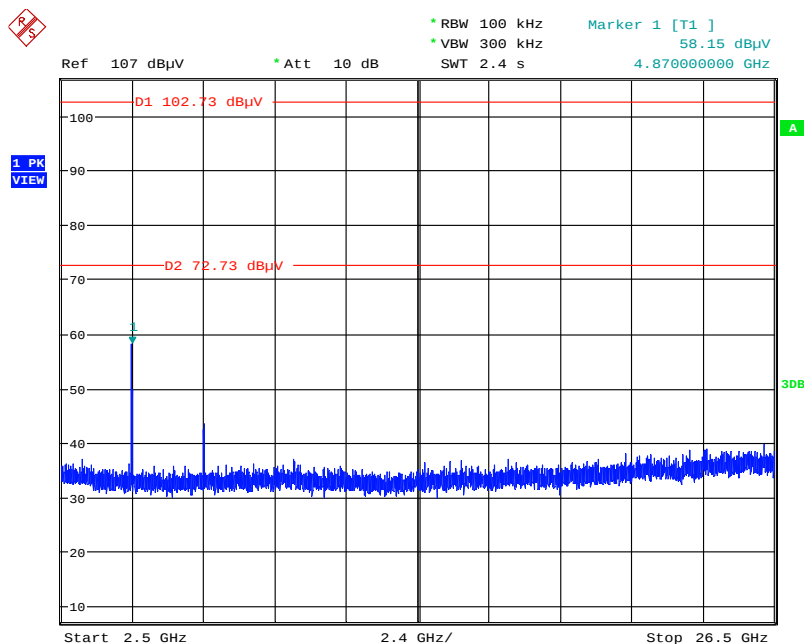
Date: 29.JAN.2014 13:53:12

## Low Band Edge Plot on Configuration IEEE 802.11g / CH 6 / Ant. 1+2+3



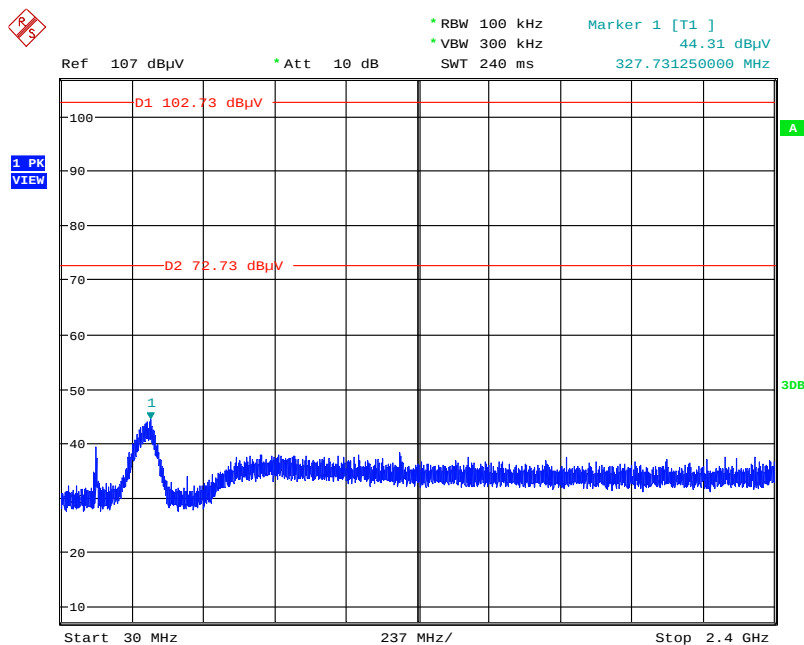
Date: 29.JAN.2014 13:50:08

## Low Band Edge Plot on Configuration IEEE 802.11g / CH 6 / Ant. 1+2+3



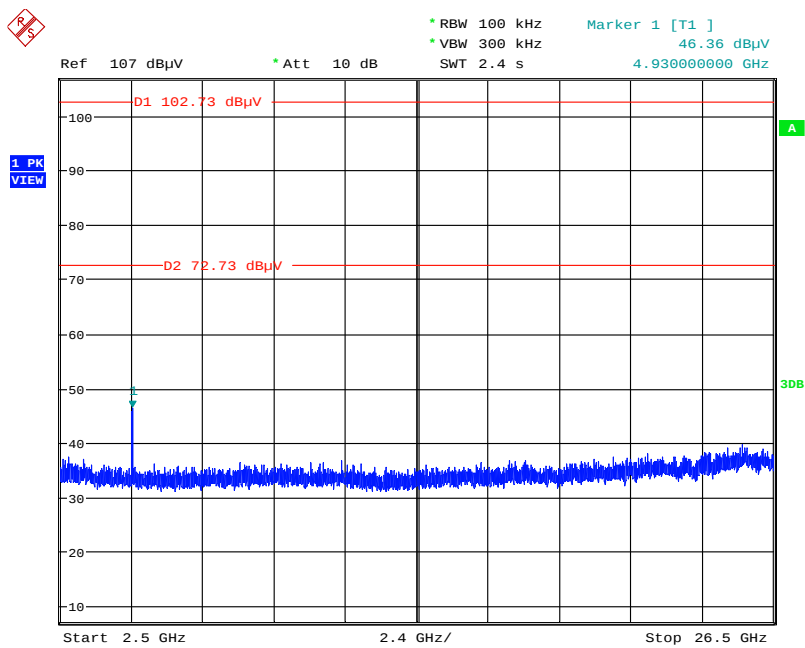
Date: 29.JAN.2014 13:50:58

## Low Band Edge Plot on Configuration IEEE 802.11g / CH 11 / Ant. 1+2+3



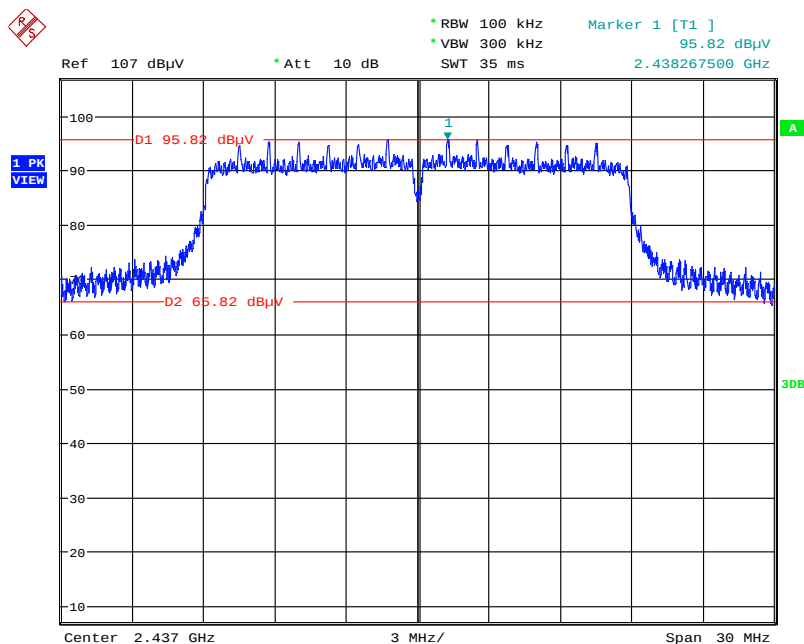
Date: 29.JAN.2014 13:57:00

Low Band Edge Plot on Configuration IEEE 802.11g / CH 11 / Ant. 1+2+3



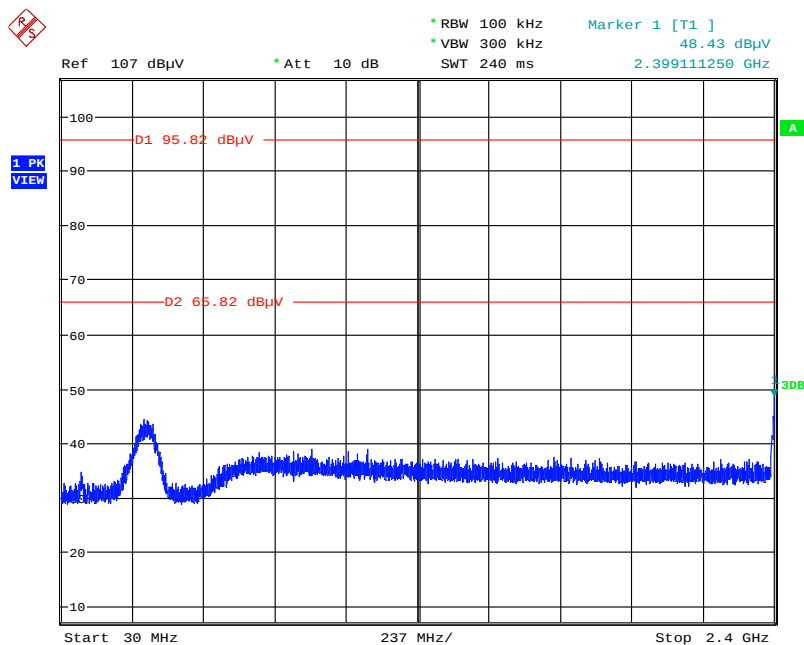
Date: 29.JAN.2014 13:57:38

## Low Band Edge Plot on Configuration IEEE 802.11n 20MHz MCS0 / Reference Level / Ant. 1



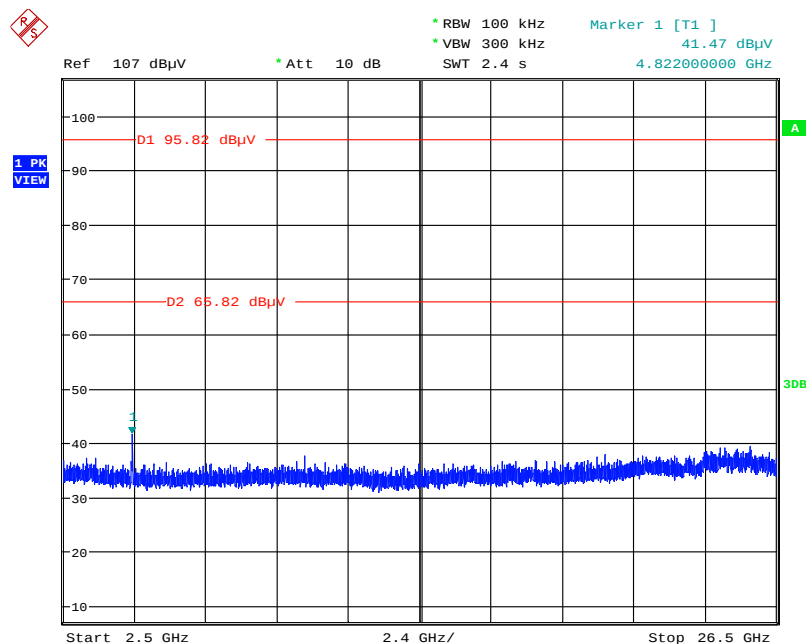
Date: 5.FEB.2014 09:57:18

## Low Band Edge Plot on Configuration IEEE 802.11n 20MHz MCS0 / CH1 / Ant. 1



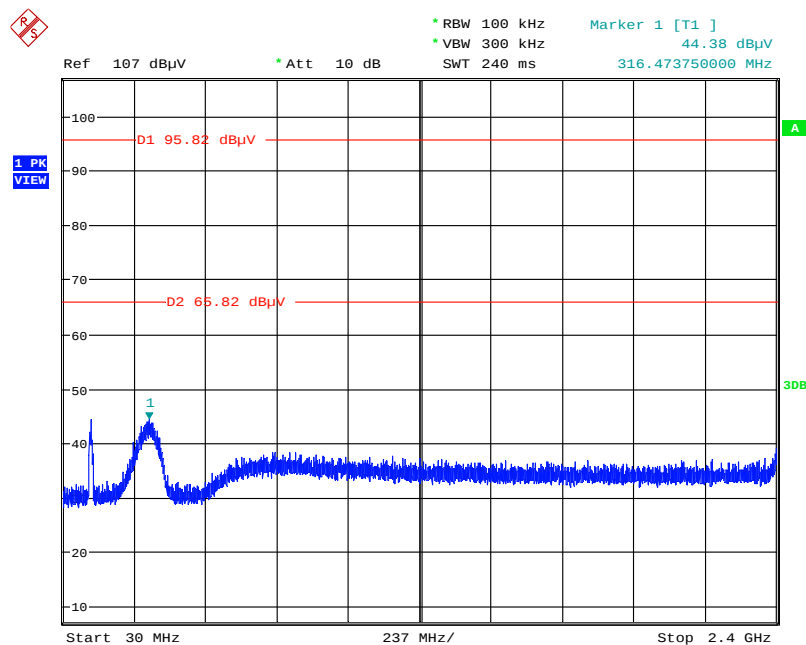
Date: 5.FEB.2014 10:13:08

## Low Band Edge Plot on Configuration IEEE 802.11n 20MHz MCS0 / CH1 / Ant. 1



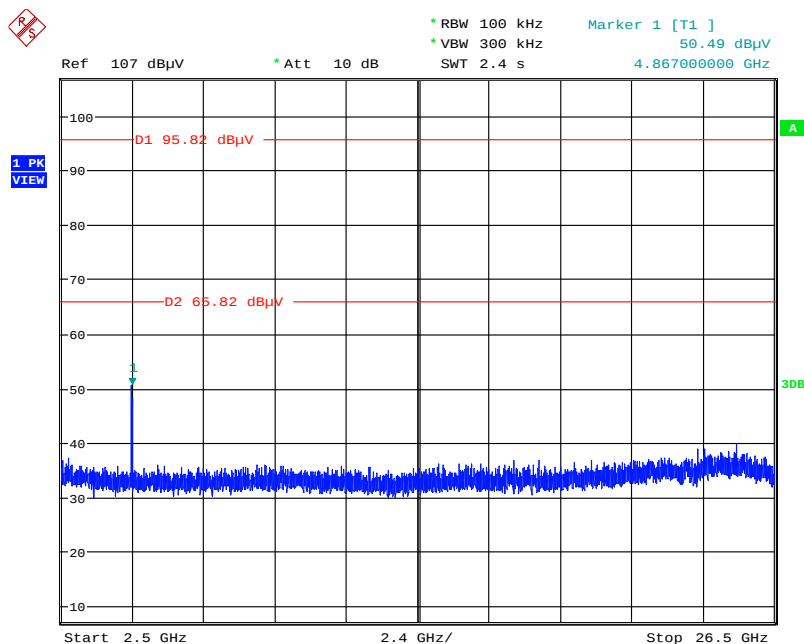
Date: 5.FEB.2014 10:13:48

## Low Band Edge Plot on Configuration IEEE 802.11n 20MHz MCS0 / CH6 / Ant. 1



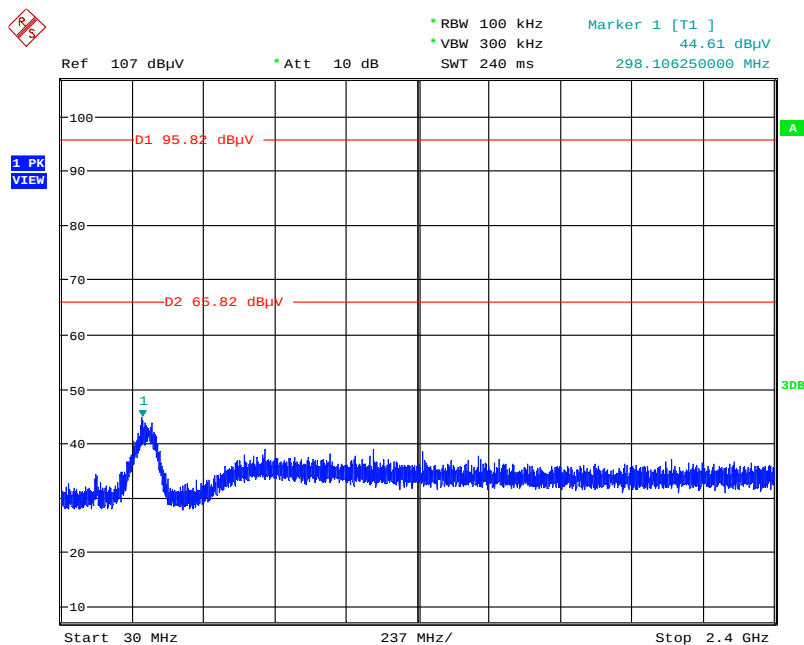
Date: 5.FEB.2014 09:59:00

## Low Band Edge Plot on Configuration IEEE 802.11n 20MHz MCS0 / CH6 / Ant. 1



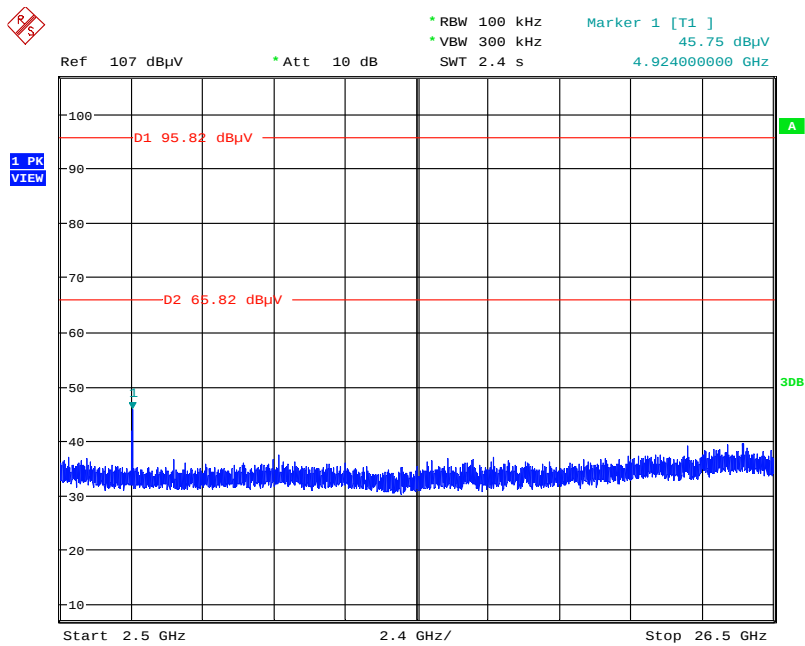
Date: 5.FEB.2014 09:59:22

## Low Band Edge Plot on Configuration IEEE 802.11n 20MHz MCS0 / CH11 / Ant. 1



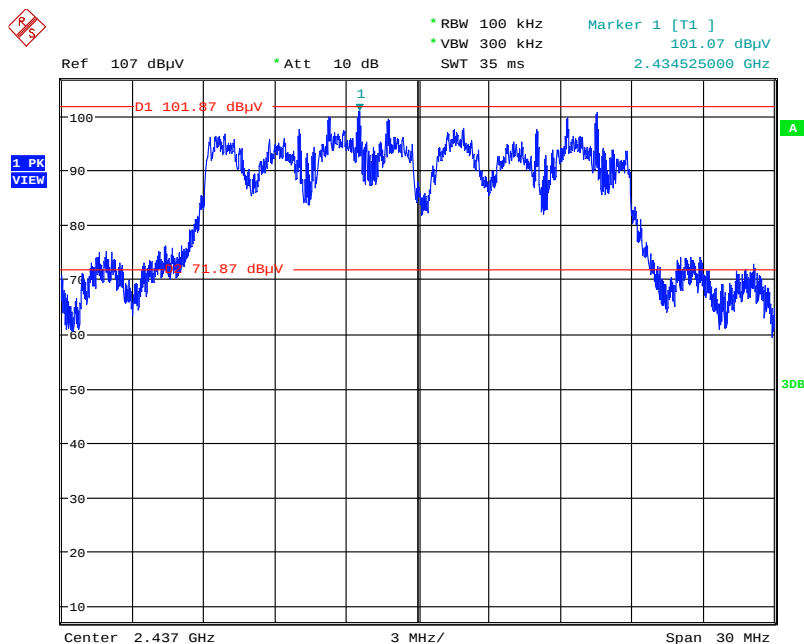
Date: 5.FEB.2014 10:15:24

Low Band Edge Plot on Configuration IEEE 802.11n 20MHz MCS0 / CH11 / Ant. 1



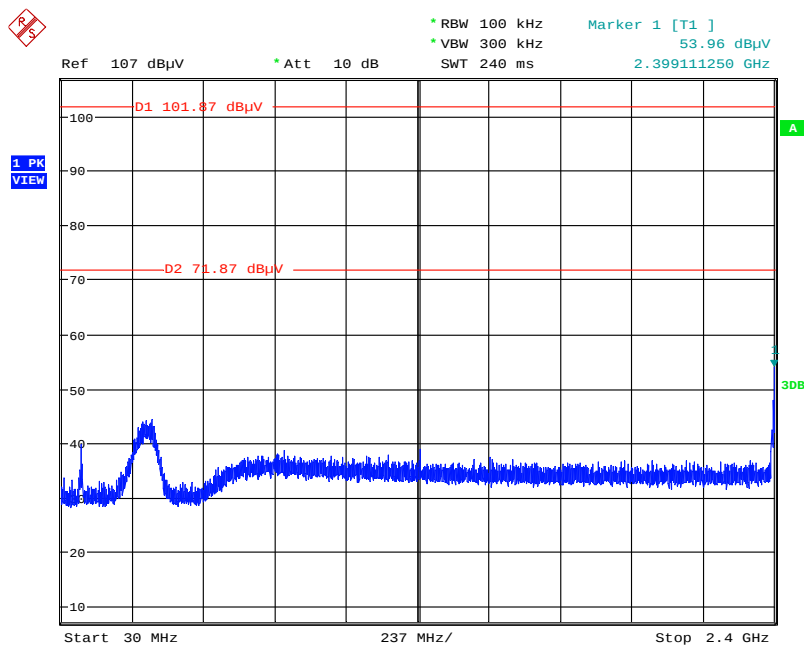
Date: 5.FEB.2014 10:17:53

## Low Band Edge Plot on Configuration IEEE 802.11n 20MHz MCS0 / Reference Level / Ant. 1+2+3



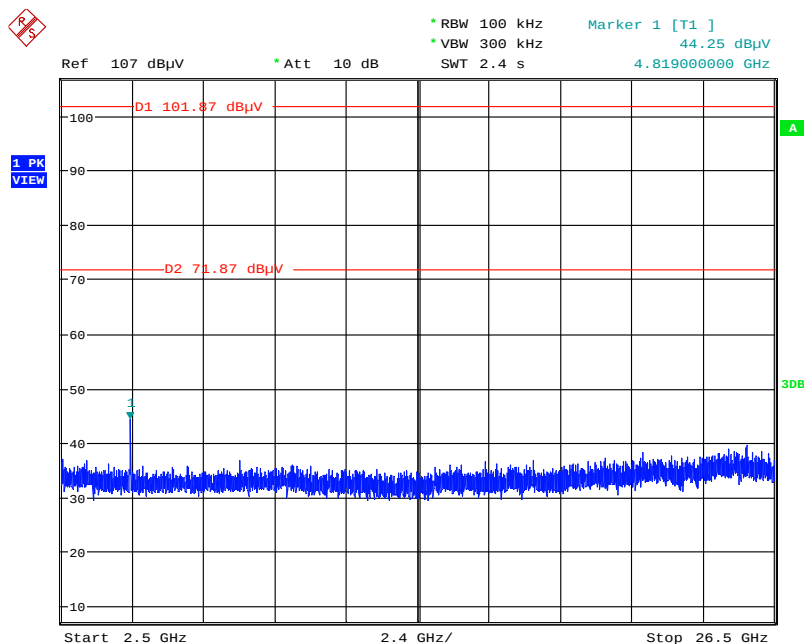
Date: 21. JAN. 2014 11:28:43

## Low Band Edge Plot on Configuration IEEE 802.11n 20MHz MCS0 / CH 1 / Ant. 1+2+3



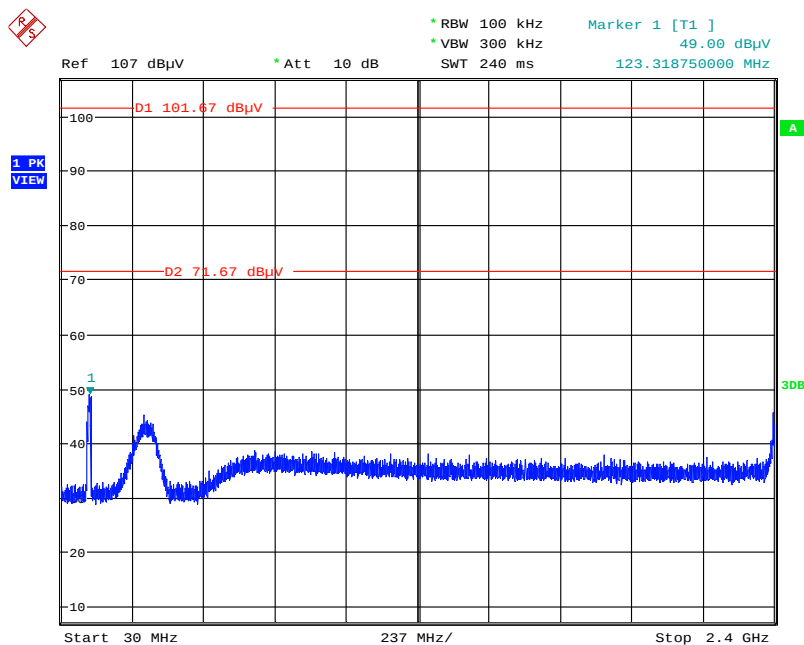
Date: 21. JAN. 2014 11:29:55

## Low Band Edge Plot on Configuration IEEE 802.11n 20MHz MCS0 / CH 1 / Ant. 1+2+3



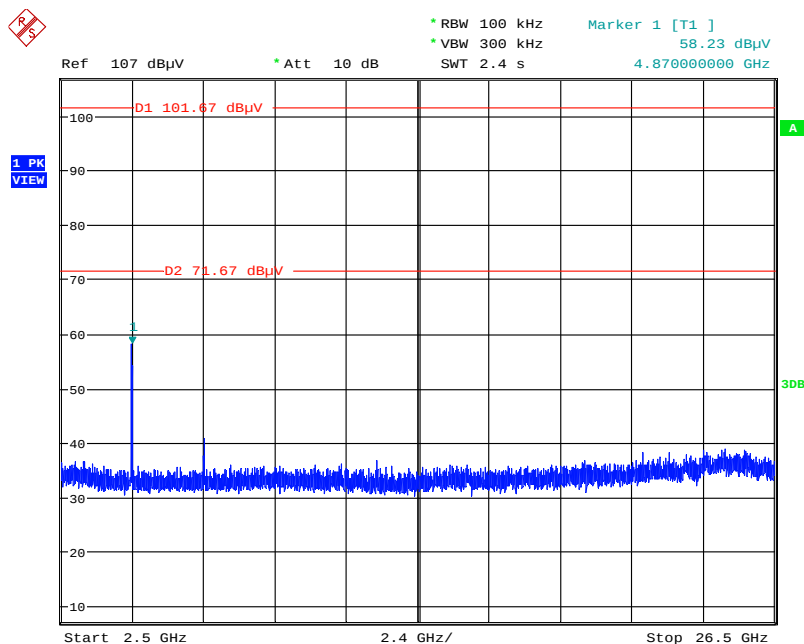
Date: 21.JAN.2014 11:30:14

## Low Band Edge Plot on Configuration IEEE 802.11n 20MHz MCS0 / CH 6 / Ant. 1+2+3



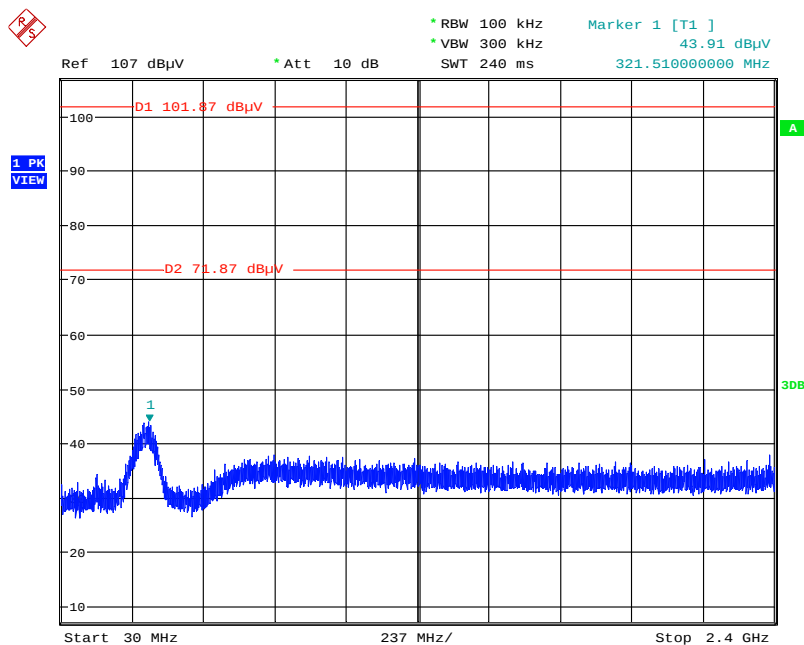
Date: 5.FEB.2014 09:28:47

## Low Band Edge Plot on Configuration IEEE 802.11n 20MHz MCS0 / CH 6 / Ant. 1+2+3



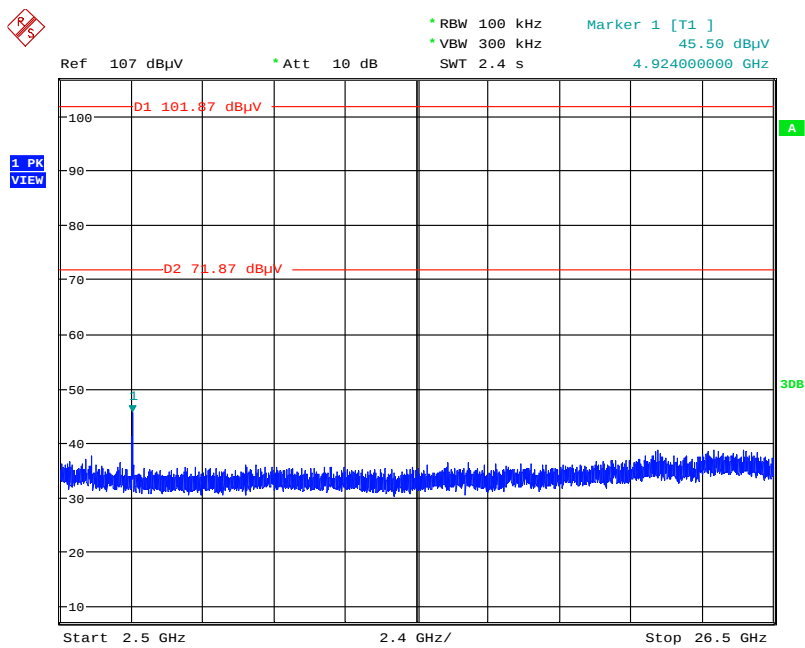
Date: 5.FEB.2014 09:29:13

## Low Band Edge Plot on Configuration IEEE 802.11n 20MHz MCS0 / CH 11 / Ant. 1+2+3



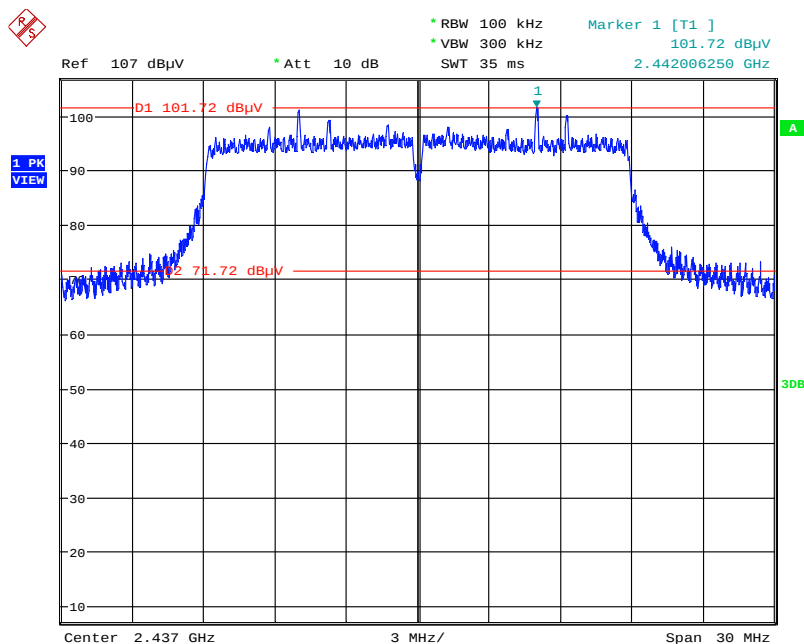
Date: 21.JAN.2014 11:31:20

Low Band Edge Plot on Configuration IEEE 802.11n 20MHz MCS0 / CH 11 / Ant. 1+2+3



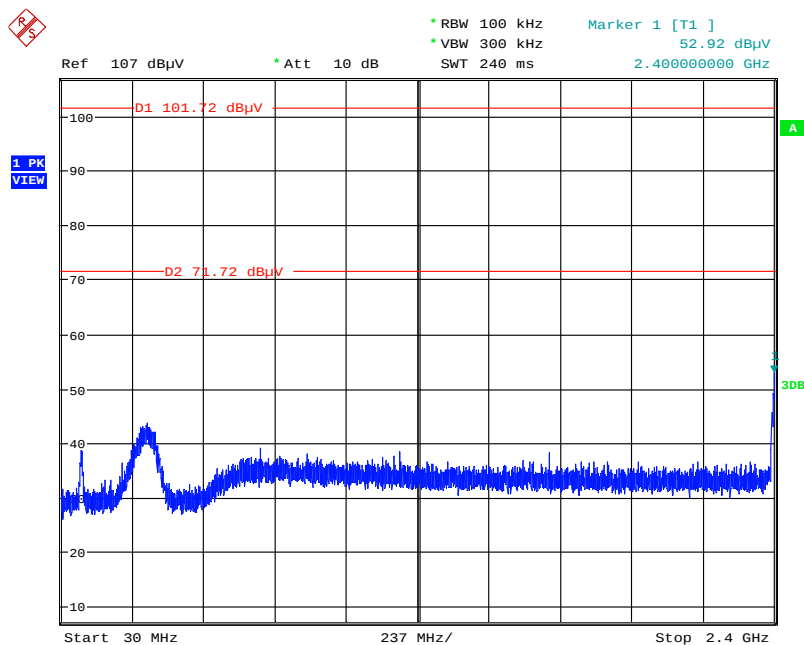
Date: 21.JAN.2014 11:31:05

## Low Band Edge Plot on Configuration IEEE 802.11n 20MHz MCS8 / Reference Level / Ant. 1+2+3



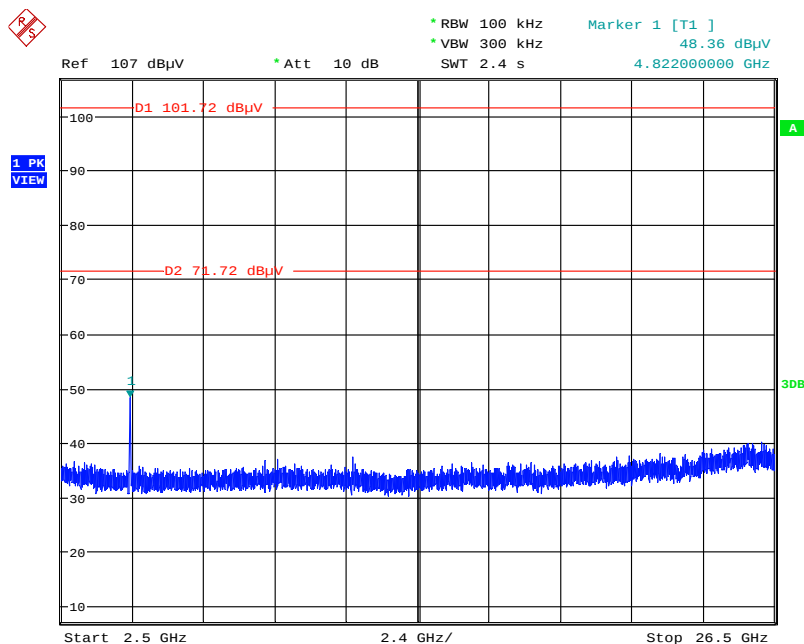
Date: 24. JAN. 2014 11:24:04

## Low Band Edge Plot on Configuration IEEE 802.11n 20MHz MCS8 / CH 1 / Ant. 1+2+3



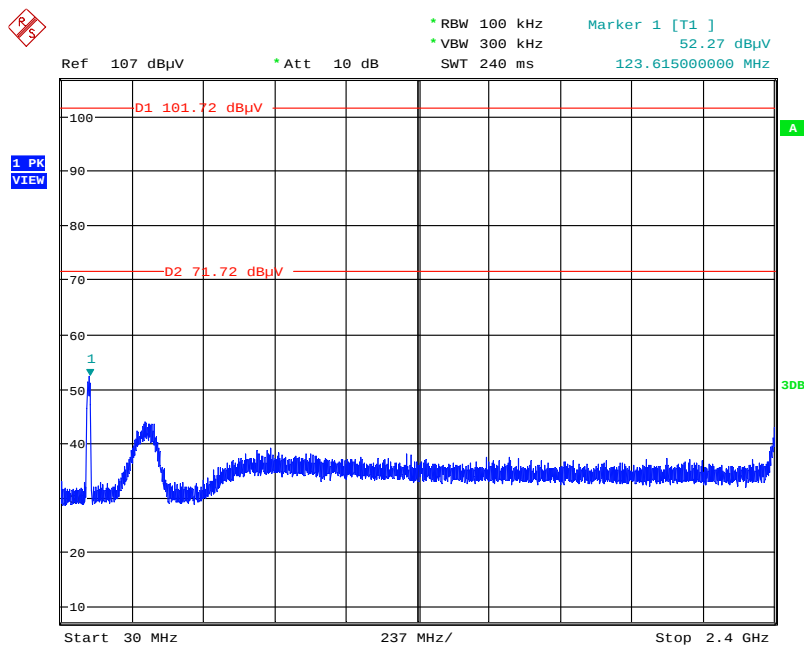
Date: 24. JAN. 2014 11:25:01

## Low Band Edge Plot on Configuration IEEE 802.11n 20MHz MCS8 / CH 1 / Ant. 1+2+3



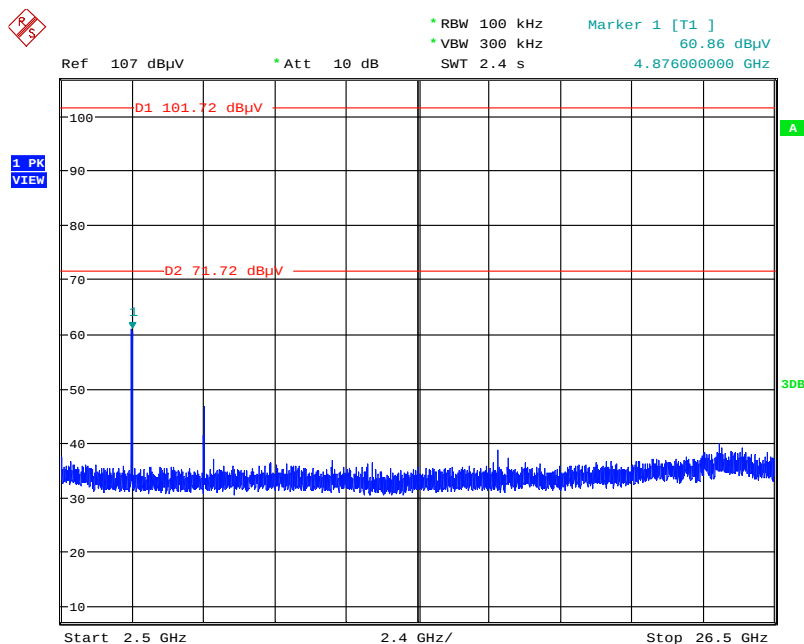
Date: 24.JAN.2014 11:25:25

## Low Band Edge Plot on Configuration IEEE 802.11n 20MHz MCS8 / CH 6 / Ant. 1+2+3



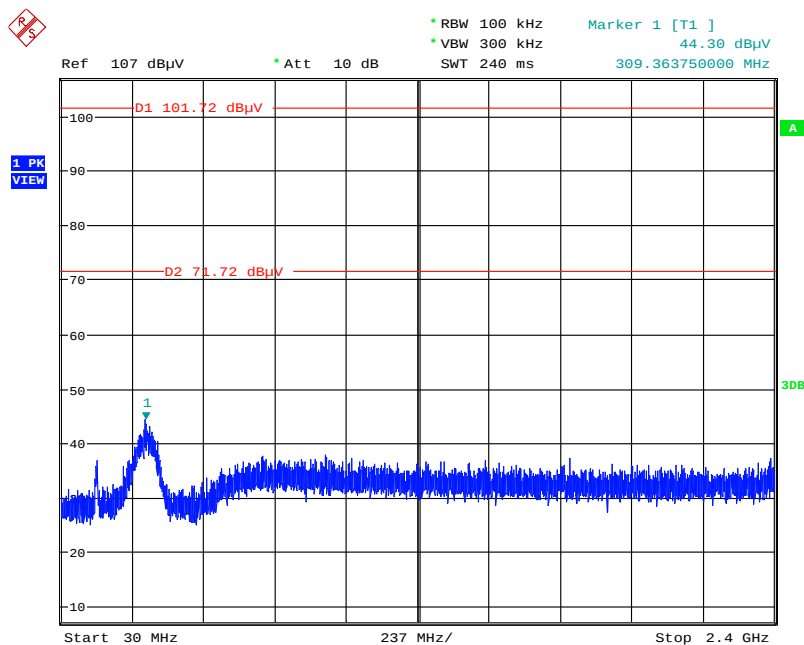
Date: 5.FEB.2014 09:31:30

## Low Band Edge Plot on Configuration IEEE 802.11n 20MHz MCS8 / CH 6 / Ant. 1+2+3



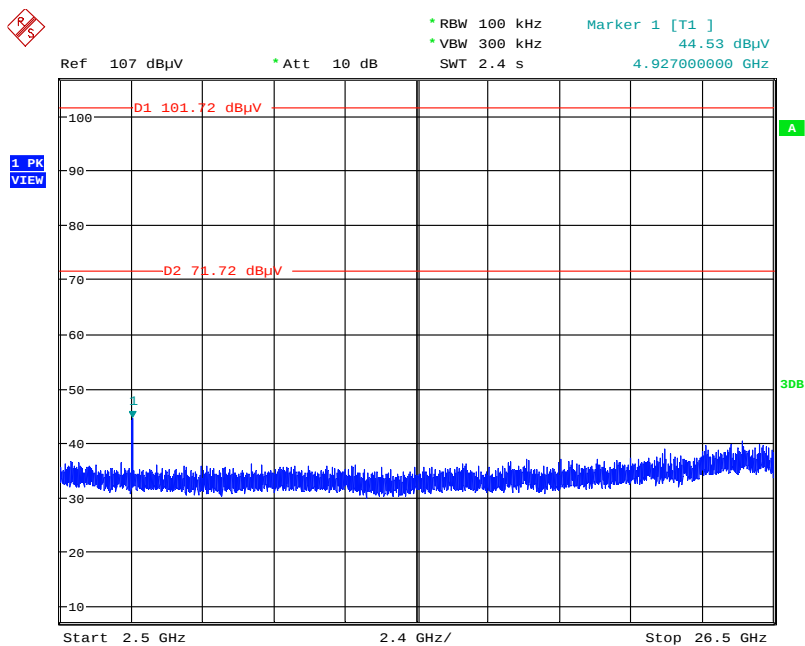
Date: 5.FEB.2014 09:32:15

## Low Band Edge Plot on Configuration IEEE 802.11n 20MHz MCS8 / CH 11 / Ant. 1+2+3



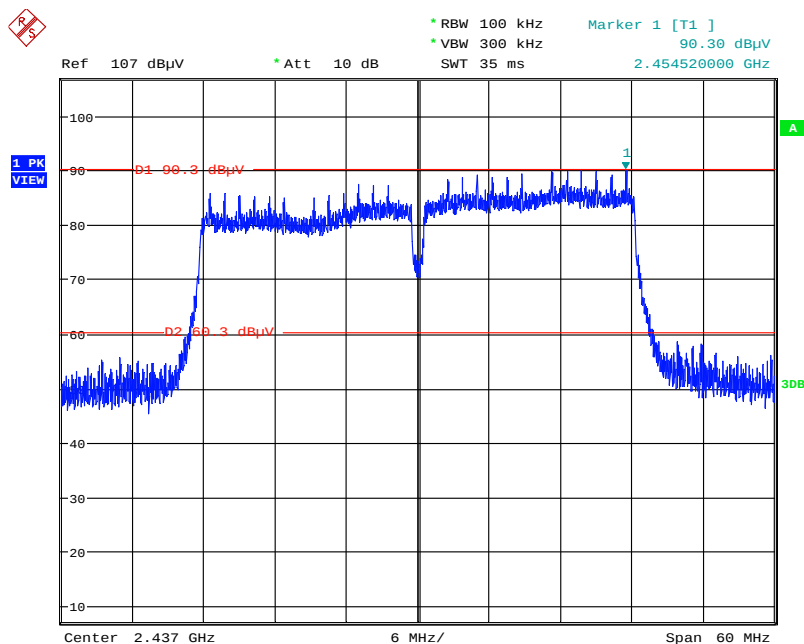
Date: 24.JAN.2014 11:26:15

Low Band Edge Plot on Configuration IEEE 802.11n 20MHz MCS8 / CH 11 / Ant. 1+2+3



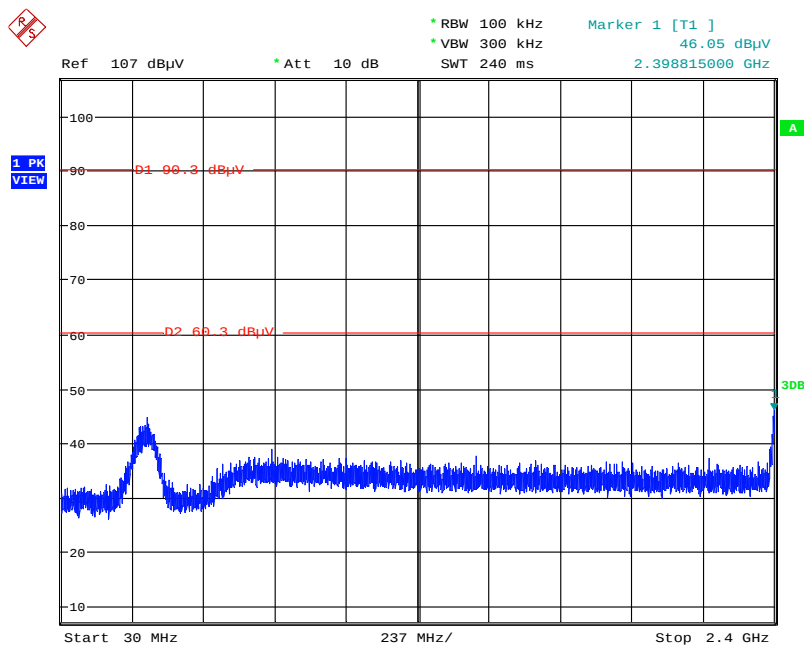
Date: 24.JAN.2014 11:25:58

## Low Band Edge Plot on Configuration IEEE 802.11n 40MHz MCS0 / Reference Level / Ant. 3



Date: 5.FEB.2014 11:17:04

## Low Band Edge Plot on Configuration IEEE 802.11n 40MHz MCS0 / CH 3 / Ant. 3



Date: 5.FEB.2014 11:18:35

Ref 107 dBμV \* Att 10 dB RBW 100 kHz VBW 300 kHz SWT 2.4 s Marker 1 [T1] 38.72 dBμV 25.708000000 GHz

1 PK VIEW

90 dBμV

60 dBμV

38.72 dBμV

2.4 GHz

Start 2.5 GHz Stop 26.5 GHz

The screenshot displays a spectrum analyzer interface. At the top, a red 'X' icon is visible. The main display area shows a blue signal trace. A prominent peak is observed at 30 MHz, reaching a level of approximately 45 dBμV. The signal then drops and settles into a noisy baseline around 35 dBμV, extending to 237 MHz. A vertical black line is positioned at 237 MHz. The y-axis represents power in dBμV, ranging from 10 to 100. The x-axis represents frequency in MHz, with markers at 30 MHz and 237 MHz. Two horizontal red lines are drawn across the plot: one at 90 dBμV labeled 'd1 90.3 dBμV' and another at 60 dBμV labeled 'd2 60.3 dBμV'. The top of the screen shows various settings: Ref 107 dBμV, Att 10 dB, RBW 100 kHz, VBW 300 kHz, and SWT 240 ms. A green 'A' icon is in the top right corner. The bottom of the screen shows the frequency range: Start 30 MHz, Stop 2.4 GHz.

Ref 107 dBμV      \* Att 10 dB      \* RBW 100 kHz      \* VBW 300 kHz      \* SWT 240 ms      Marker 1 [T1]      51.96 dBμV      2.399703750 GHz

1 PK VIEW

d1 90.3 dBμV

d2 60.3 dBμV

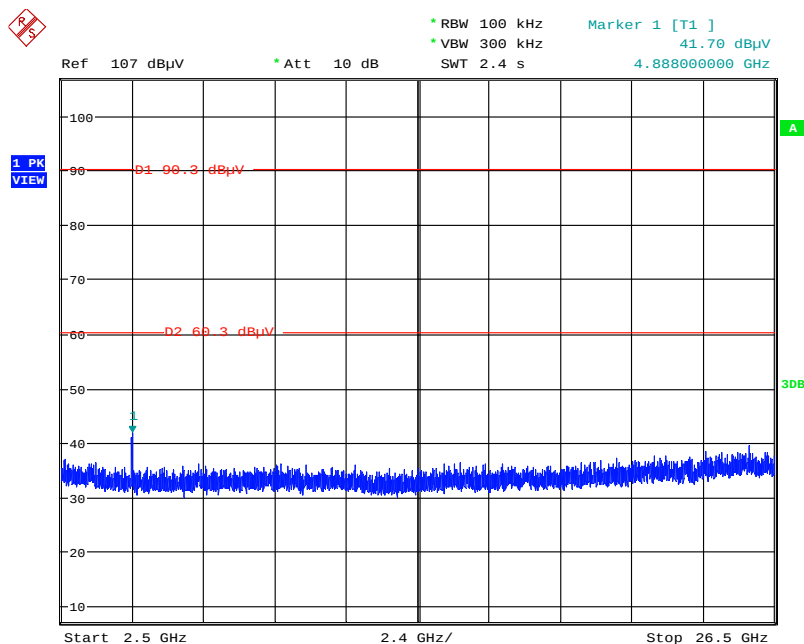
30 MHz

237 MHz/

2.4 GHz

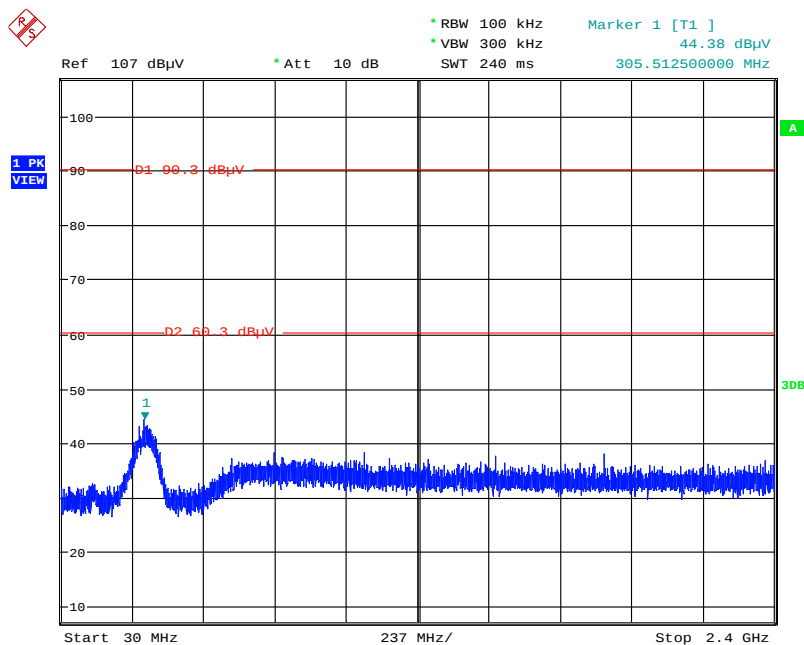
FCC ID : RSE-TC8717T

## Low Band Edge Plot on Configuration IEEE 802.11n 40MHz MCS0 / CH 6 / Ant. 3



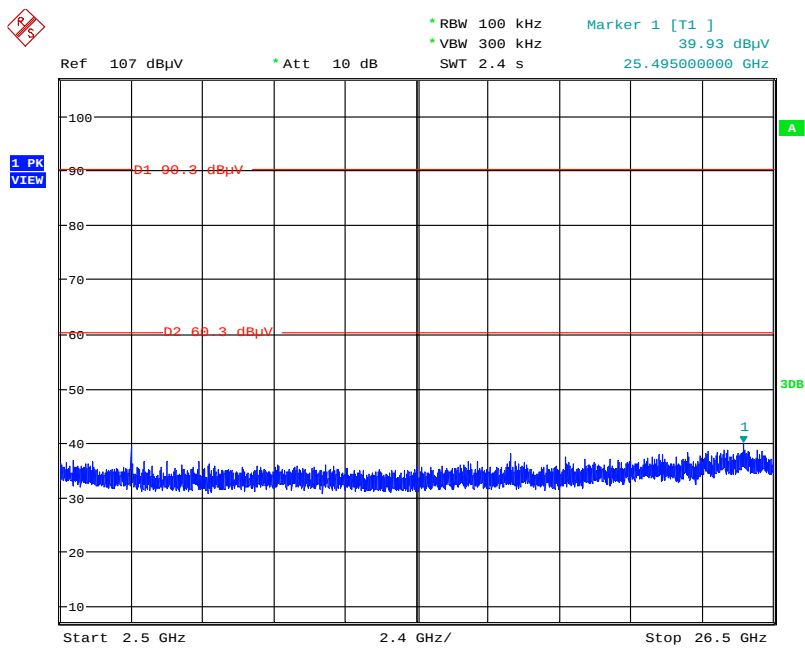
Date: 5.FEB.2014 11:17:57

## Low Band Edge Plot on Configuration IEEE 802.11n 40MHz MCS0 / CH 9 / Ant. 3



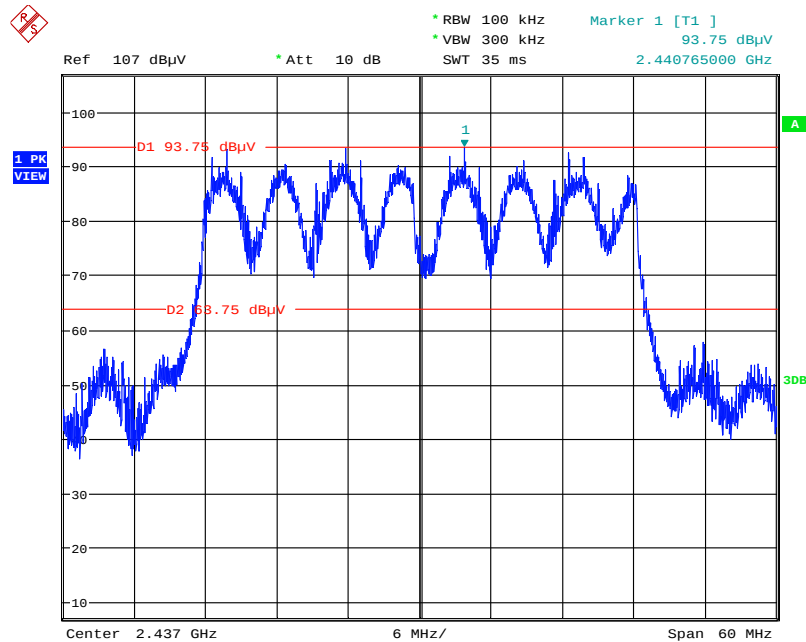
Date: 5.FEB.2014 11:22:04

Low Band Edge Plot on Configuration IEEE 802.11n 40MHz MCS0 / CH 9 / Ant. 3



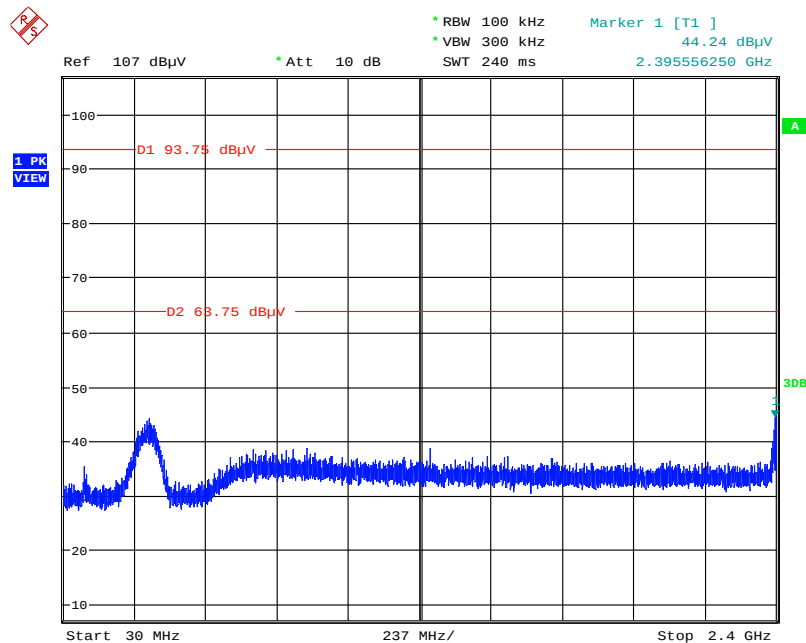
Date: 5.FEB.2014 11:22:31

## Low Band Edge Plot on Configuration IEEE 802.11n 40MHz MCS0 / Reference Level / Ant. 1+2+3



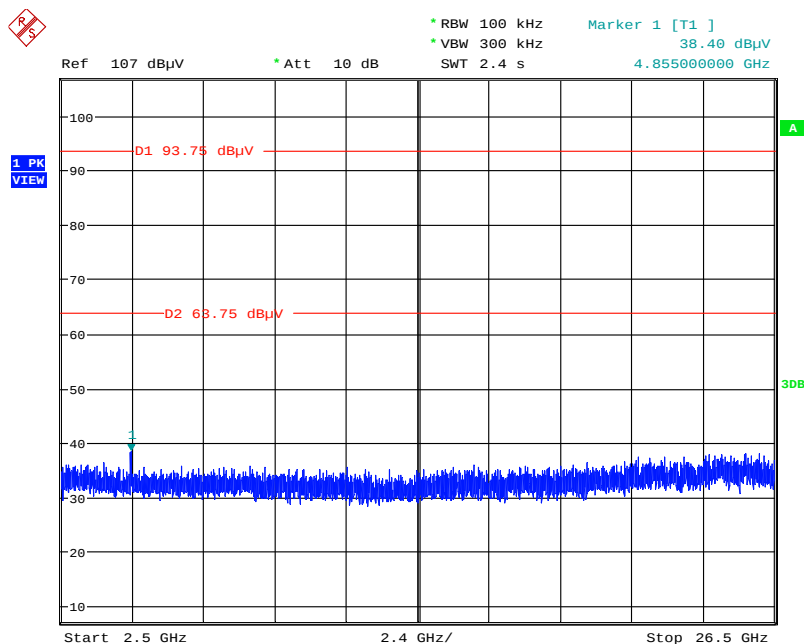
Date: 21. JAN. 2014 11:34:29

## Low Band Edge Plot on Configuration IEEE 802.11n 40MHz MCS0 / CH 3 / Ant. 1+2+3



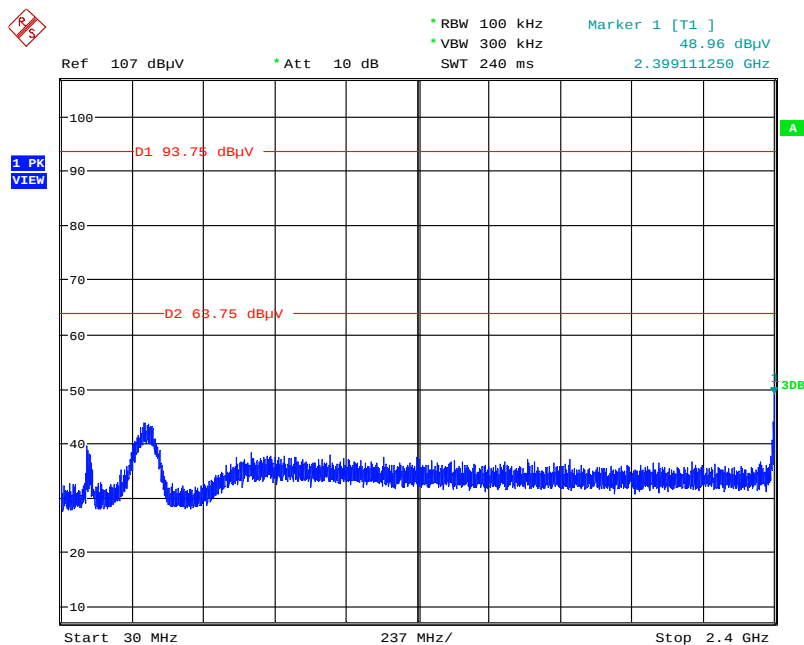
Date: 21. JAN. 2014 11:35:23

## Low Band Edge Plot on Configuration IEEE 802.11n 40MHz MCS0 / CH 3 / Ant. 1+2+3



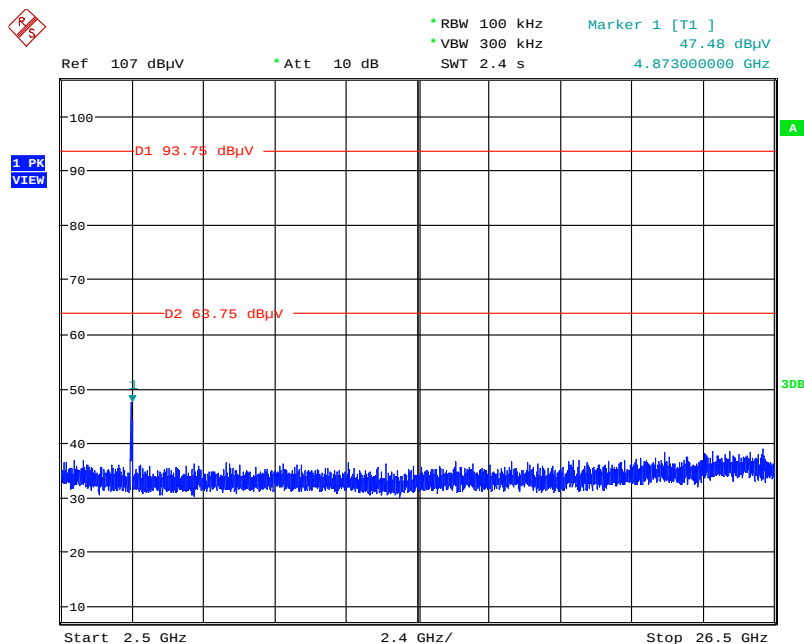
Date: 21.JAN.2014 11:35:41

## Low Band Edge Plot on Configuration IEEE 802.11n 40MHz MCS0 / CH 6 / Ant. 1+2+3



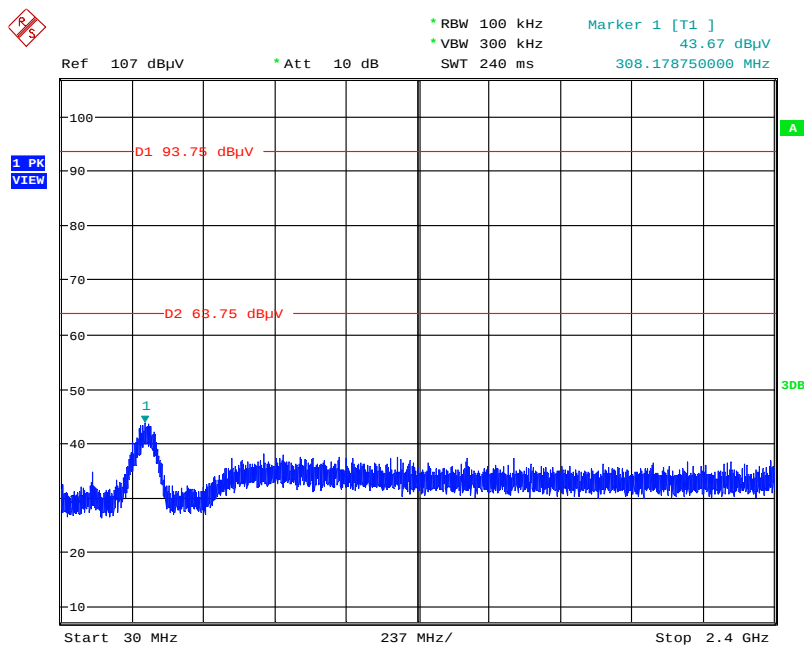
Date: 5.FEB.2014 10:45:47

## Low Band Edge Plot on Configuration IEEE 802.11n 40MHz MCS0 / CH 6 / Ant. 1+2+3



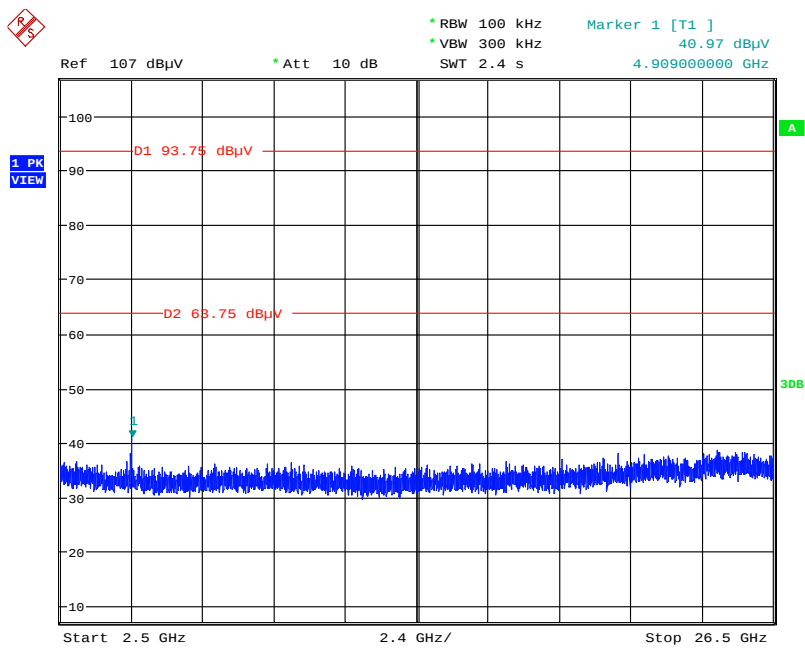
Date: 5.FEB.2014 10:46:10

## Low Band Edge Plot on Configuration IEEE 802.11n 40MHz MCS0 / CH 9 / Ant. 1+2+3



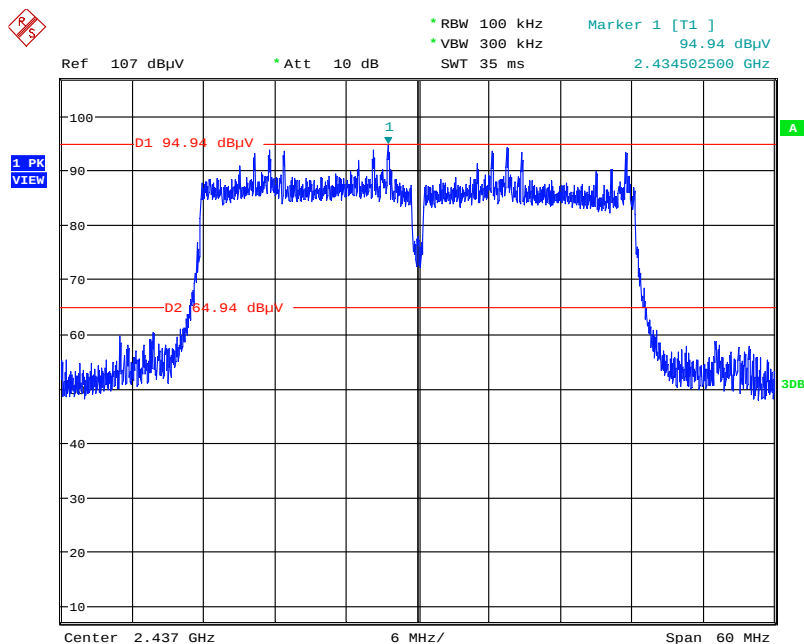
Date: 21.JAN.2014 11:36:31

Low Band Edge Plot on Configuration IEEE 802.11n 40MHz MCS0 / CH 9 / Ant. 1+2+3



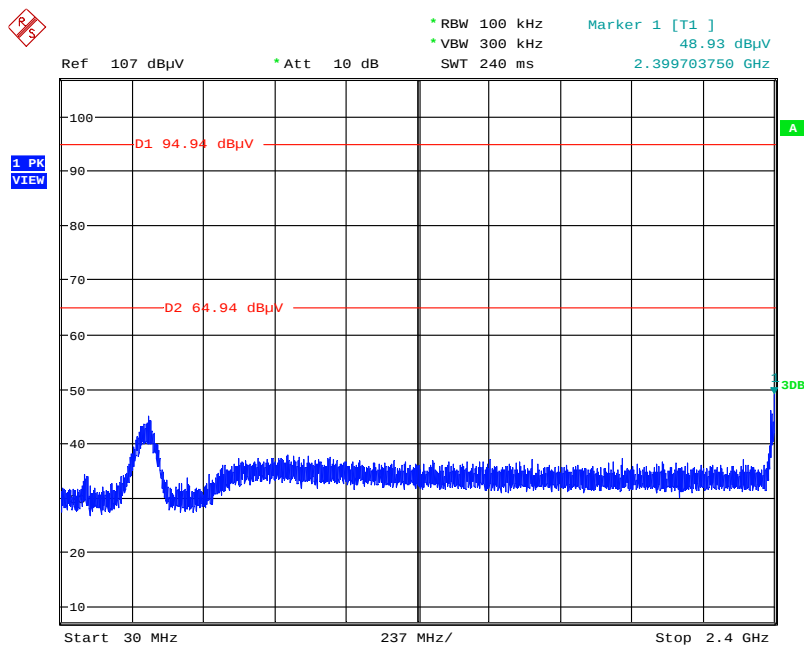
Date: 21.JAN.2014 11:36:16

## Low Band Edge Plot on Configuration IEEE 802.11n 40MHz MCS8 / Reference Level / Ant. 1+2+3



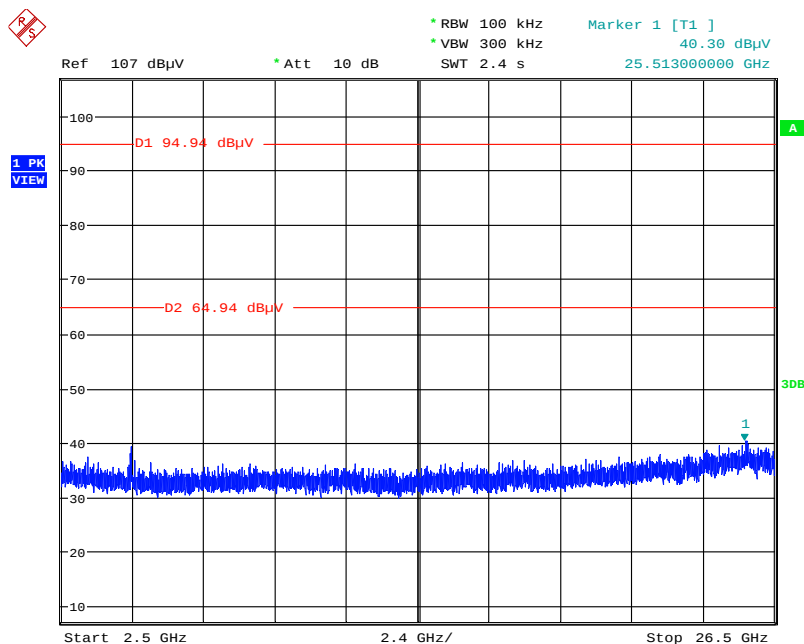
Date: 24.JAN.2014 11:28:07

## Low Band Edge Plot on Configuration IEEE 802.11n 40MHz MCS8 / CH 3 / Ant. 1+2+3



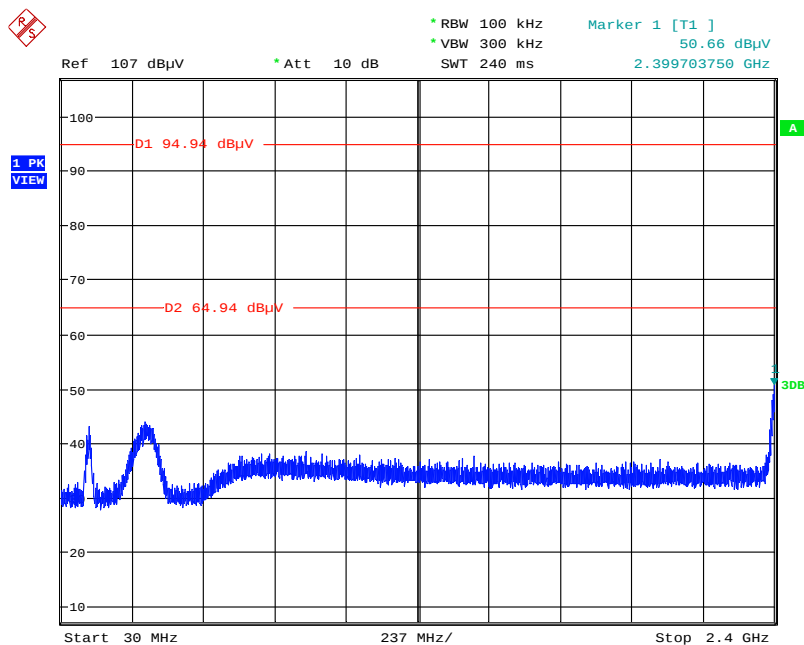
Date: 24.JAN.2014 11:29:16

## Low Band Edge Plot on Configuration IEEE 802.11n 40MHz MCS8 / CH 3 / Ant. 1+2+3



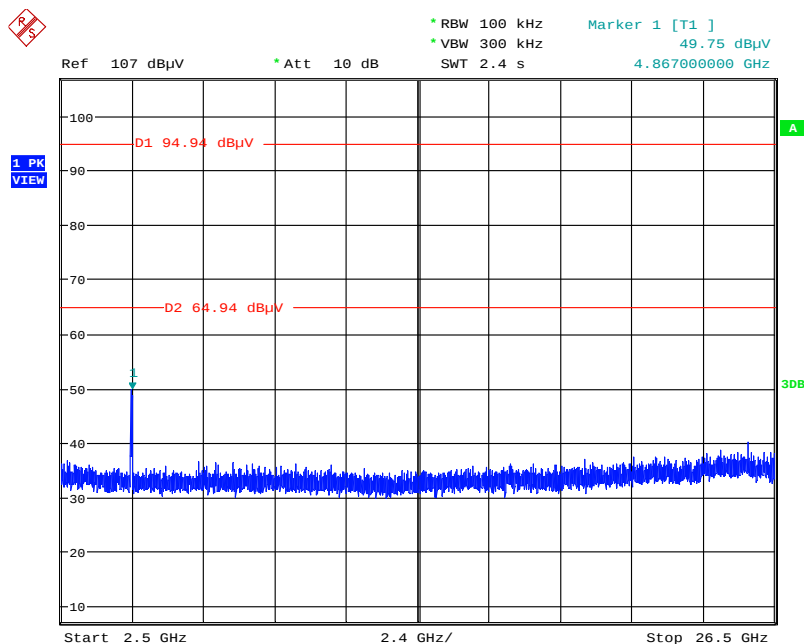
Date: 24.JAN.2014 11:29:31

## Low Band Edge Plot on Configuration IEEE 802.11n 40MHz MCS8 / CH 6 / Ant. 1+2+3



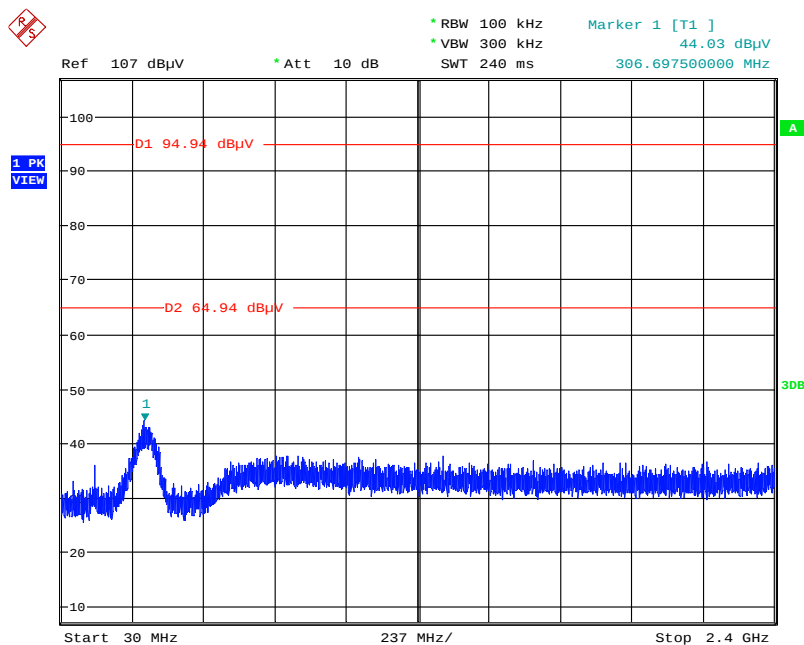
Date: 5.FEB.2014 10:51:09

## Low Band Edge Plot on Configuration IEEE 802.11n 40MHz MCS8 / CH 6 / Ant. 1+2+3



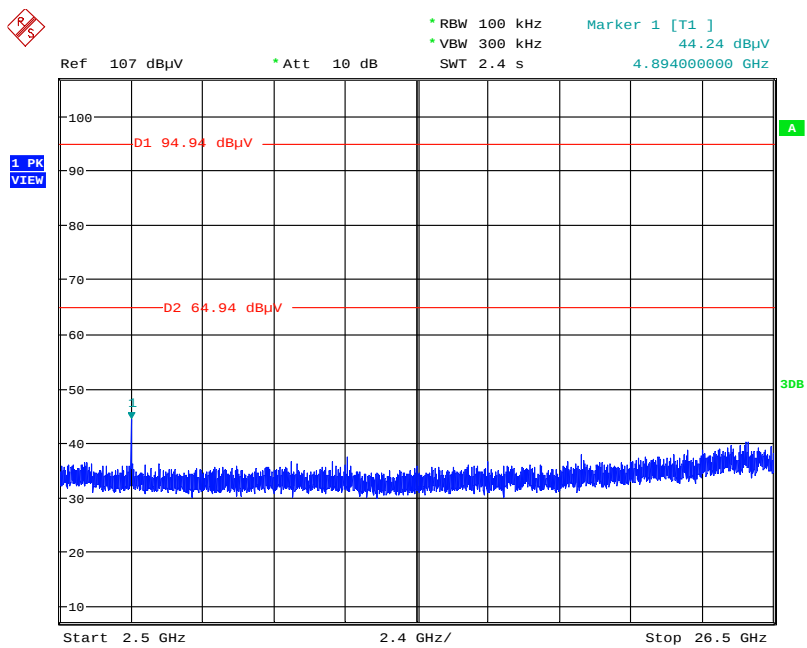
Date: 5.FEB.2014 10:51:29

## Low Band Edge Plot on Configuration IEEE 802.11n 40MHz MCS8 / CH 9 / Ant. 1+2+3



Date: 24.JAN.2014 11:30:18

Low Band Edge Plot on Configuration IEEE 802.11n 40MHz MCS8 / CH 9 / Ant. 1+2+3



Date: 24.JAN.2014 11:30:07

## 4. THE 5G BAND 4 (5725~5850MHZ) TEST RESULT

### 4.1. AC Power Line Conducted Emissions Measurement

#### 4.1.1. Limit

For this product which is designed to be connected to the AC power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed below limits table.

| Frequency (MHz) | QP Limit (dBuV) | AV Limit (dBuV) |
|-----------------|-----------------|-----------------|
| 0.15~0.5        | 66~56           | 56~46           |
| 0.5~5           | 56              | 46              |
| 5~30            | 60              | 50              |

#### 4.1.2. Measuring Instruments and Setting

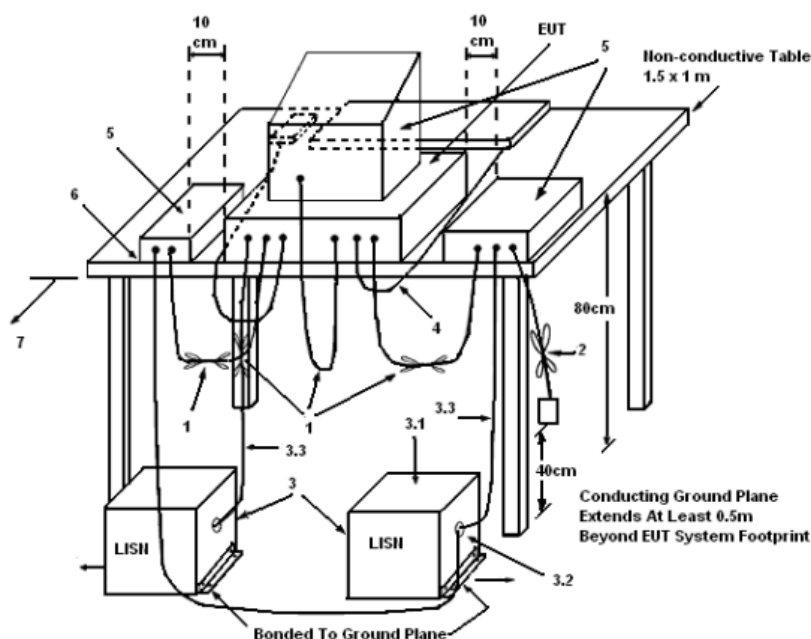
Please refer to section 6 of equipments list in this report. The following table is the setting of the receiver.

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

#### 4.1.3. Test Procedures

1. Configure the EUT according to ANSI C63.10. The EUT or host of EUT has to be placed 0.4 meter far from the conducting wall of the shielding room and at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT or host of EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connected to the other LISNs. The LISN should provide 50uH/50ohms coupling impedance.
4. The frequency range from 150 kHz to 30 MHz was searched.
5. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. The measurement has to be done between each power line and ground at the power terminal.

#### 4.1.4. Test Setup Layout



#### LEGEND:

1. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
2. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
3. EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50  $\Omega$ . LISN can be placed on top of, or immediately beneath, reference ground plane.
4. All other equipment powered from additional LISN(s).
5. Multiple outlet strip can be used for multiple power cords of non-EUT equipment.
6. LISN at least 80 cm from nearest part of EUT chassis.
7. Cables of hand-operated devices, such as keyboards, mice, etc., shall be placed as for normal use.
8. Non-EUT components of EUT system being tested.
9. Rear of EUT, including peripherals, shall all be aligned and flush with rear of tabletop.
10. Rear of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.

#### 4.1.5. Test Deviation

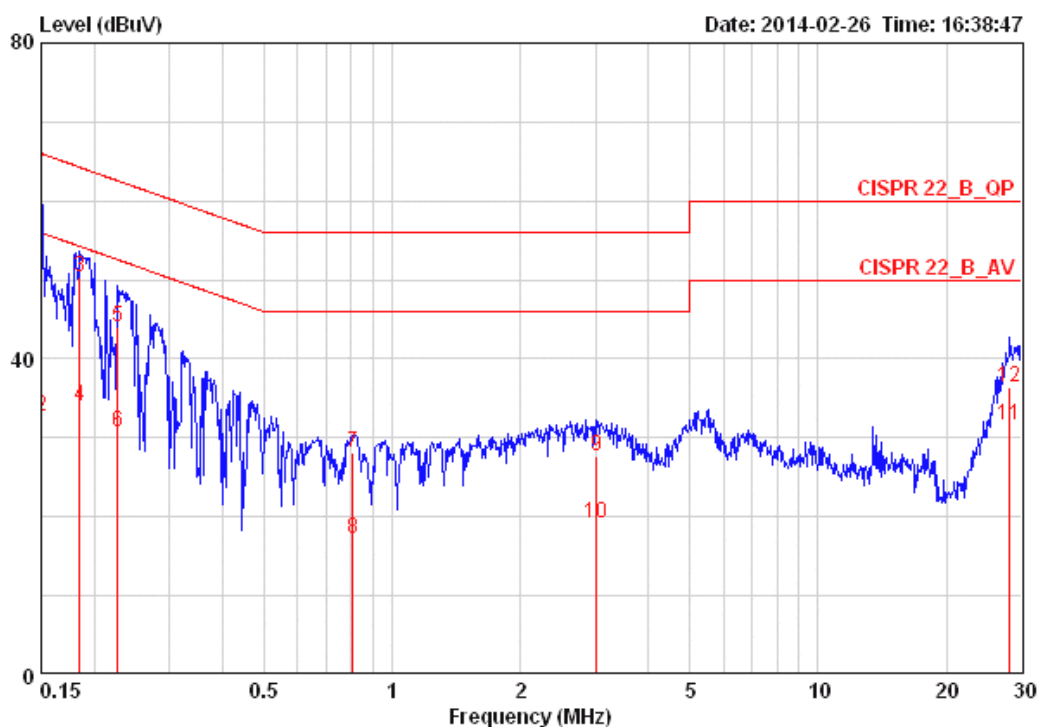
There is no deviation with the original standard.

#### 4.1.6. EUT Operation during Test

The EUT was placed on the test table and programmed in normal function.

## 4.1.7. Results of AC Power Line Conducted Emissions Measurement

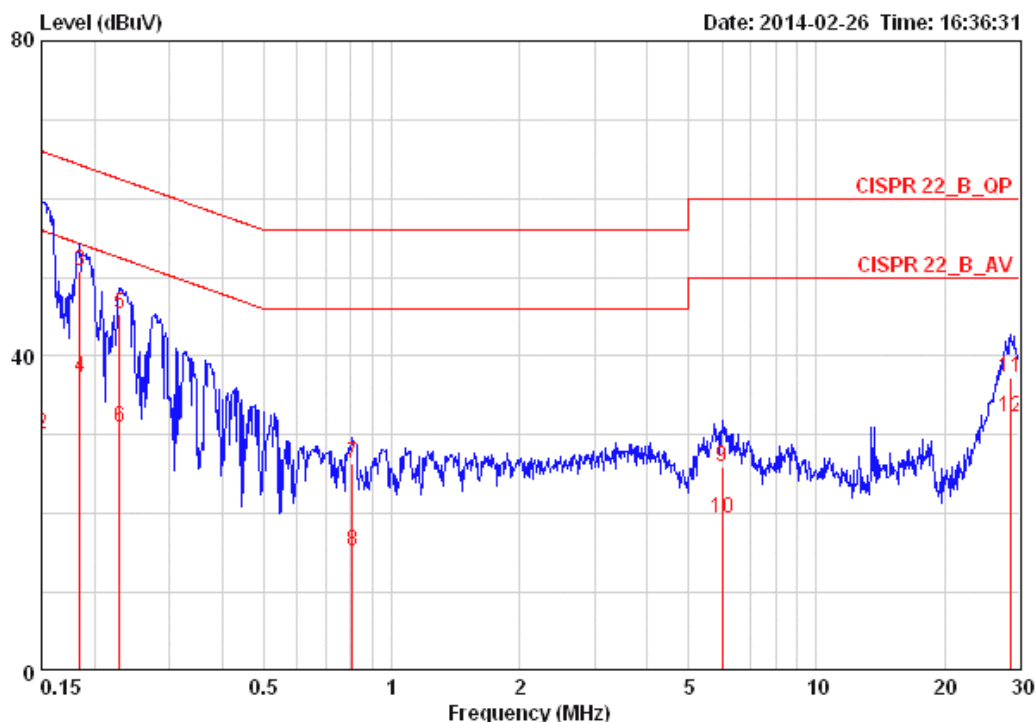
|               |             |          |      |
|---------------|-------------|----------|------|
| Temperature   | 24°C        | Humidity | 51%  |
| Test Engineer | Justin Chiu | Phase    | Line |
| Configuration | CTX         |          |      |



|     | Freq    | Level | Over Limit | Limit Line | LISN Factor | Read Level | Cable Loss | Pol/Phase | Remark  |
|-----|---------|-------|------------|------------|-------------|------------|------------|-----------|---------|
|     | MHz     | dBuV  | dB         | dBuV       | dB          | dBuV       | dB         |           |         |
| 1 @ | 0.15000 | 52.97 | -13.03     | 66.00      | 0.15        | 52.66      | 0.16       | LINE      | QP      |
| 2   | 0.15000 | 32.63 | -23.37     | 56.00      | 0.15        | 32.32      | 0.16       | LINE      | AVERAGE |
| 3   | 0.18443 | 50.34 | -13.94     | 64.28      | 0.15        | 50.03      | 0.16       | LINE      | QP      |
| 4   | 0.18443 | 33.96 | -20.32     | 54.28      | 0.15        | 33.65      | 0.16       | LINE      | AVERAGE |
| 5   | 0.22676 | 44.14 | -18.43     | 62.57      | 0.15        | 43.82      | 0.17       | LINE      | QP      |
| 6   | 0.22676 | 30.65 | -21.92     | 52.57      | 0.15        | 30.33      | 0.17       | LINE      | AVERAGE |
| 7   | 0.80876 | 28.08 | -27.92     | 56.00      | 0.16        | 27.73      | 0.20       | LINE      | QP      |
| 8   | 0.80876 | 17.24 | -28.76     | 46.00      | 0.16        | 16.89      | 0.20       | LINE      | AVERAGE |
| 9   | 3.025   | 27.61 | -28.39     | 56.00      | 0.24        | 27.09      | 0.28       | LINE      | QP      |
| 10  | 3.025   | 19.22 | -26.78     | 46.00      | 0.24        | 18.70      | 0.28       | LINE      | AVERAGE |
| 11  | 28.152  | 31.53 | -18.47     | 50.00      | 0.85        | 30.07      | 0.60       | LINE      | AVERAGE |
| 12  | 28.152  | 36.44 | -23.56     | 60.00      | 0.85        | 34.98      | 0.60       | LINE      | QP      |

Note 1: The test was passed at the minimum margin that marked by the frame in the following data  
 Note 2: The emission levels of other frequencies were very low against the limit.  
 Note 3: Q.P. and AV. are abbreviations of quasi-peak and average individually.  
 Note 4: Corrected Reading (dBuV) = LISN Factor + Cable Loss + Read Level = Level  
 Note 5: Over Limit value = level - Limit value

|               |             |          |         |
|---------------|-------------|----------|---------|
| Temperature   | 24°C        | Humidity | 51%     |
| Test Engineer | Justin Chiu | Phase    | Neutral |
| Configuration | CTX         |          |         |



|    | Freq    | Level | Over   | Limit | LISN   | Read  | Cable |           |         |
|----|---------|-------|--------|-------|--------|-------|-------|-----------|---------|
|    | MHz     | dBuV  | Limit  | Line  | Factor | Level | Loss  | Pol/Phase | Remark  |
|    | MHz     | dBuV  | dB     | dBuV  | dB     | dBuV  | dB    |           |         |
| 1  | 0.15000 | 53.01 | -12.99 | 66.00 | 0.07   | 52.78 | 0.16  | NEUTRAL   | QP      |
| 2  | 0.15000 | 29.98 | -26.02 | 56.00 | 0.07   | 29.75 | 0.16  | NEUTRAL   | AVERAGE |
| 3  | 0.18443 | 50.79 | -13.49 | 64.28 | 0.07   | 50.56 | 0.16  | NEUTRAL   | QP      |
| 4  | 0.18443 | 37.23 | -17.05 | 54.28 | 0.07   | 37.00 | 0.16  | NEUTRAL   | AVERAGE |
| 5  | 0.22918 | 45.25 | -17.23 | 62.48 | 0.07   | 45.01 | 0.17  | NEUTRAL   | QP      |
| 6  | 0.22918 | 30.85 | -21.63 | 52.48 | 0.07   | 30.61 | 0.17  | NEUTRAL   | AVERAGE |
| 7  | 0.80876 | 26.34 | -29.66 | 56.00 | 0.08   | 26.07 | 0.20  | NEUTRAL   | QP      |
| 8  | 0.80876 | 15.26 | -30.74 | 46.00 | 0.08   | 14.99 | 0.20  | NEUTRAL   | AVERAGE |
| 9  | 5.993   | 25.92 | -34.08 | 60.00 | 0.18   | 25.41 | 0.34  | NEUTRAL   | QP      |
| 10 | 5.993   | 19.39 | -30.61 | 50.00 | 0.18   | 18.88 | 0.34  | NEUTRAL   | AVERAGE |
| 11 | 28.755  | 37.19 | -22.81 | 60.00 | 0.81   | 35.77 | 0.61  | NEUTRAL   | QP      |
| 12 | 28.755  | 32.17 | -17.83 | 50.00 | 0.81   | 30.75 | 0.61  | NEUTRAL   | AVERAGE |

Note 1: The test was passed at the minimum margin that marked by the frame in the following data

Note 2: The emission levels of other frequencies were very low against the limit.

Note 3: Q.P. and AV. are abbreviations of quasi-peak and average individually.

Note 4: Corrected Reading (dBuV) = LISN Factor + Cable Loss + Read Level = Level

Note 5: Over Limit value = level - Limit value

## 4.2. Maximum Conducted Output Power Measurement

### 4.2.1. Limit

For systems using digital modulation in the 5725~5850MHz, the limit for peak output power is 30dBm. The limited has to be reduced by the amount in dB that the gain of the antenna exceed 6dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

### 4.2.2. Measuring Instruments and Setting

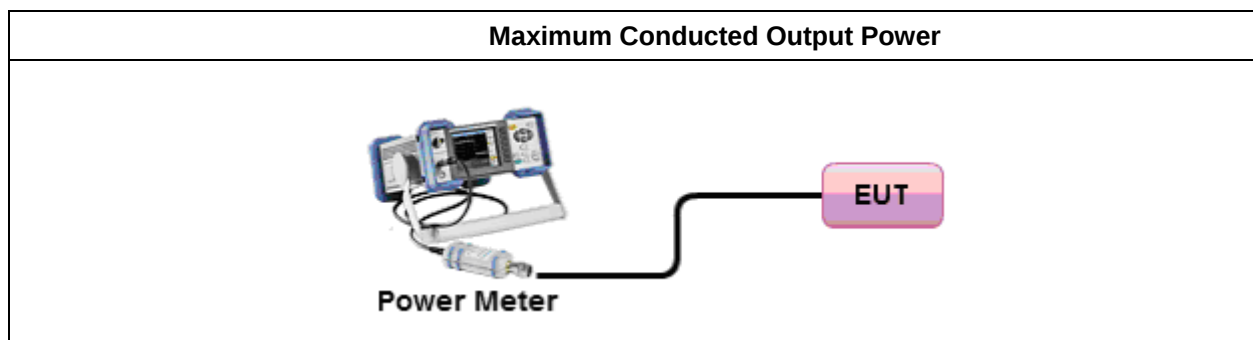
Please refer to section 6 of equipments list in this report. The following table is the setting of the power meter.

| Power Meter Parameter | Setting |
|-----------------------|---------|
| Detector              | Average |

### 4.2.3. Test Procedures

1. Test procedures refer KDB 662911 D01 v02r01 section 9.2.2 Measurement using a power meter (PM).
2. This procedure provides an alternative for determining the RMS output power using a broadband RF average power meter with a thermocouple detector.

### 4.2.4. Test Setup Layout



### 4.2.5. Test Deviation

There is no deviation with the original standard.

### 4.2.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

## 4.2.7. Test Result for Maximum Conducted Output Power

## For Non-Beamforming

|               |                                                 |               |         |
|---------------|-------------------------------------------------|---------------|---------|
| Test date     | Feb. 13, 2014                                   | Test Site No. | TH01-CB |
| Temperature   | 26°C                                            | Humidity      | 63%     |
| Test Engineer | Wen Chao                                        | Configuration | 802.11a |
| Duty Cycle    | Ant. 1, 2, 3: 99.04%<br>Ant. 1+2+3, CDD: 98.80% |               |         |

## Configuration IEEE 802.11a

## &lt;Ant. 1&gt;

| Channel | Frequency | Conducted Power (dBm) | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------------------|------------------|----------|
| 149     | 5745 MHz  | 22.27                 | 5.65               | 30.00            | Complies |
| 157     | 5785 MHz  | 22.30                 | 4.93               | 30.00            | Complies |
| 165     | 5825 MHz  | 22.30                 | 4.18               | 30.00            | Complies |

## &lt;Ant. 2&gt;

| Channel | Frequency | Conducted Power (dBm) | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------------------|------------------|----------|
| 149     | 5745 MHz  | 20.73                 | 4.38               | 30.00            | Complies |
| 157     | 5785 MHz  | 20.73                 | 3.78               | 30.00            | Complies |
| 165     | 5825 MHz  | 20.72                 | 3.69               | 30.00            | Complies |

## &lt;Ant. 3&gt;

| Channel | Frequency | Conducted Power (dBm) | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------------------|------------------|----------|
| 149     | 5745 MHz  | 22.38                 | 5.53               | 30.00            | Complies |
| 157     | 5785 MHz  | 22.26                 | 4.70               | 30.00            | Complies |
| 165     | 5825 MHz  | 22.47                 | 5.03               | 30.00            | Complies |

## &lt;Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Conducted Power (dBm) |        |        |       | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------|--------|-------|--------------------|------------------|----------|
|         |           | Ant. 1                | Ant. 2 | Ant. 3 | Total |                    |                  |          |
| 149     | 5745 MHz  | 22.05                 | 20.46  | 21.98  | 26.38 | 5.65               | 30.00            | Complies |
| 157     | 5785 MHz  | 21.96                 | 20.43  | 21.87  | 26.30 | 4.93               | 30.00            | Complies |
| 165     | 5825 MHz  | 21.98                 | 20.49  | 22.09  | 26.40 | 5.03               | 30.00            | Complies |

|               |                                                                                                                                                    |               |                |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------|
| Test date     | Feb. 13, 2014                                                                                                                                      | Test Site No. | TH01-CB        |
| Temperature   | 26°C                                                                                                                                               | Humidity      | 63%            |
| Test Engineer | Wen Chao                                                                                                                                           | Configuration | 802.11ac 20MHz |
| Duty Cycle    | Ant. 1, 2: 98.72%<br>Ant. 3: 98.87%<br>Nss1MCS0, Ant. 1+2+3, CDD: 98.98%<br>Nss2MCS0, Ant. 1+2+3, CDD: 96.29%<br>Nss3MCS0, Ant. 1+2+3, SDM: 95.51% |               |                |

## Configuration IEEE 802.11ac 20MHz

## &lt;Nss1MCS0, Ant. 1&gt;

| Channel | Frequency | Conducted Power (dBm) | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------------------|------------------|----------|
| 149     | 5745 MHz  | 22.28                 | 5.65               | 30.00            | Complies |
| 157     | 5785 MHz  | 22.24                 | 4.93               | 30.00            | Complies |
| 165     | 5825 MHz  | 22.18                 | 4.18               | 30.00            | Complies |

## &lt;Nss1MCS0, Ant. 2&gt;

| Channel | Frequency | Conducted Power (dBm) | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------------------|------------------|----------|
| 149     | 5745 MHz  | 20.83                 | 4.38               | 30.00            | Complies |
| 157     | 5785 MHz  | 20.58                 | 3.78               | 30.00            | Complies |
| 165     | 5825 MHz  | 20.80                 | 3.69               | 30.00            | Complies |

## &lt;Nss1MCS0, Ant. 3&gt;

| Channel | Frequency | Conducted Power (dBm) | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------------------|------------------|----------|
| 149     | 5745 MHz  | 22.34                 | 5.53               | 30.00            | Complies |
| 157     | 5785 MHz  | 22.32                 | 4.70               | 30.00            | Complies |
| 165     | 5825 MHz  | 22.33                 | 5.03               | 30.00            | Complies |

## &lt;Nss1MCS0, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Conducted Power (dBm) |        |        |       | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------|--------|-------|--------------------|------------------|----------|
|         |           | Ant. 1                | Ant. 2 | Ant. 3 | Total |                    |                  |          |
| 149     | 5745 MHz  | 22.06                 | 20.15  | 21.96  | 26.29 | 5.65               | 30.00            | Complies |
| 157     | 5785 MHz  | 21.95                 | 20.33  | 21.91  | 26.27 | 4.93               | 30.00            | Complies |
| 165     | 5825 MHz  | 22.06                 | 20.23  | 21.93  | 26.29 | 5.03               | 30.00            | Complies |

## &lt;Nss2MCS0, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Conducted Power (dBm) |        |        |       | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------|--------|-------|--------------------|------------------|----------|
|         |           | Ant. 1                | Ant. 2 | Ant. 3 | Total |                    |                  |          |
| 149     | 5745 MHz  | 22.02                 | 20.08  | 21.69  | 26.27 | 5.65               | 30.00            | Complies |
| 157     | 5785 MHz  | 21.94                 | 20.02  | 21.71  | 26.23 | 4.93               | 30.00            | Complies |
| 165     | 5825 MHz  | 21.99                 | 20.07  | 21.86  | 26.32 | 5.03               | 30.00            | Complies |

## &lt;Nss3MCS0, Ant. 1+2+3, SDM&gt;

| Channel | Frequency | Conducted Power (dBm) |        |        |       | Directional Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------|--------|-------|------------------------|------------------|----------|
|         |           | Ant. 1                | Ant. 2 | Ant. 3 | Total |                        |                  |          |
| 149     | 5745 MHz  | 24.45                 | 23.16  | 23.75  | 28.79 | 3.32                   | 30.00            | Complies |
| 157     | 5785 MHz  | 24.14                 | 22.90  | 23.78  | 28.61 | 2.67                   | 30.00            | Complies |
| 165     | 5825 MHz  | 24.19                 | 22.89  | 23.67  | 28.59 | 2.46                   | 30.00            | Complies |

|               |                                                                                                                                                    |               |                |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------|
| Test date     | Feb. 13, 2014                                                                                                                                      | Test Site No. | TH01-CB        |
| Temperature   | 26°C                                                                                                                                               | Humidity      | 63%            |
| Test Engineer | Wen Chao                                                                                                                                           | Configuration | 802.11ac 40MHz |
| Duty Cycle    | Ant. 1: 97.46%<br>Ant. 2, 3: 97.95%<br>Nss1MCS0, Ant. 1+2+3, CDD: 97.95%<br>Nss2MCS0, Ant. 1+2+3, CDD: 96.19%<br>Nss3MCS0, Ant. 1+2+3, SDM: 92.19% |               |                |

## Configuration IEEE 802.11ac 40MHz

## &lt;Nss1MCS0, Ant. 1&gt;

| Channel | Frequency | Conducted Power (dBm) | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------------------|------------------|----------|
| 151     | 5755 MHz  | 21.44                 | 5.79               | 30.00            | Complies |
| 159     | 5795 MHz  | 21.43                 | 5.12               | 30.00            | Complies |

## &lt;Nss1MCS0, Ant. 2&gt;

| Channel | Frequency | Conducted Power (dBm) | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------------------|------------------|----------|
| 151     | 5755 MHz  | 19.95                 | 5.06               | 30.00            | Complies |
| 159     | 5795 MHz  | 19.97                 | 3.92               | 30.00            | Complies |

## &lt;Nss1MCS0, Ant. 3&gt;

| Channel | Frequency | Conducted Power (dBm) | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------------------|------------------|----------|
| 151     | 5755 MHz  | 21.13                 | 5.40               | 30.00            | Complies |
| 159     | 5795 MHz  | 21.02                 | 5.20               | 30.00            | Complies |

## &lt;Nss1MCS0, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Conducted Power (dBm) |        |        |       | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------|--------|-------|--------------------|------------------|----------|
|         |           | Ant. 1                | Ant. 2 | Ant. 3 | Total |                    |                  |          |
| 151     | 5755 MHz  | 21.02                 | 19.65  | 20.68  | 25.35 | 5.79               | 30.00            | Complies |
| 159     | 5795 MHz  | 21.05                 | 19.63  | 20.82  | 25.40 | 5.20               | 30.00            | Complies |

## &lt;Nss2MCS0, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Conducted Power (dBm) |        |        |       | Antenna Gain | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------|--------|-------|--------------|------------------|----------|
|         |           | Ant. 1                | Ant. 2 | Ant. 3 | Total |              |                  |          |
| 151     | 5755 MHz  | 21.12                 | 19.51  | 20.67  | 25.43 | 5.79         | 30.00            | Complies |
| 159     | 5795 MHz  | 20.92                 | 19.49  | 20.82  | 25.40 | 5.20         | 30.00            | Complies |

## &lt;Nss3MCS0, Ant. 1+2+3, SDM&gt;

| Channel | Frequency | Conducted Power (dBm) |        |        |       | Directional Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------|--------|-------|------------------------|------------------|----------|
|         |           | Ant. 1                | Ant. 2 | Ant. 3 | Total |                        |                  |          |
| 151     | 5755 MHz  | 22.71                 | 21.18  | 22.82  | 27.42 | 3.62                   | 30.00            | Complies |
| 159     | 5795 MHz  | 23.20                 | 21.74  | 23.06  | 27.84 | 2.95                   | 30.00            | Complies |

|               |                                                                                                                                                    |               |                |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------|
| Test date     | Feb. 13, 2014                                                                                                                                      | Test Site No. | TH01-CB        |
| Temperature   | 26°C                                                                                                                                               | Humidity      | 63%            |
| Test Engineer | Wen Chao                                                                                                                                           | Configuration | 802.11ac 80MHz |
| Duty Cycle    | Ant. 1: 95.91%<br>Ant. 2, 3: 95.87%<br>Nss1MCS0, Ant. 1+2+3, CDD: 95.87%<br>Nss2MCS0, Ant. 1+2+3, CDD: 91.48%<br>Nss3MCS0, Ant. 1+2+3, SDM: 89.09% |               |                |

## Configuration IEEE 802.11ac 80MHz

## &lt;Nss1MCS0, Ant. 1&gt;

| Channel | Frequency | Conducted Power (dBm) | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------------------|------------------|----------|
| 155     | 5775 MHz  | 21.62                 | 5.19               | 30.00            | Complies |

## &lt;Nss1MCS0, Ant. 2&gt;

| Channel | Frequency | Conducted Power (dBm) | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------------------|------------------|----------|
| 155     | 5775 MHz  | 20.80                 | 4.42               | 30.00            | Complies |

## &lt;Nss1MCS0, Ant. 3&gt;

| Channel | Frequency | Conducted Power (dBm) | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------------------|------------------|----------|
| 155     | 5775 MHz  | 21.44                 | 5.09               | 30.00            | Complies |

## &lt;Nss1MCS0, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Conducted Power (dBm) |        |        |       | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------|--------|-------|--------------------|------------------|----------|
|         |           | Ant. 1                | Ant. 2 | Ant. 3 | Total |                    |                  |          |
| 155     | 5775 MHz  | 21.23                 | 20.28  | 21.21  | 25.88 | 5.19               | 30.00            | Complies |

## &lt;Nss2MCS0, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Conducted Power (dBm) |        |        |       | Antenna Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------|--------|-------|--------------------|------------------|----------|
|         |           | Ant. 1                | Ant. 2 | Ant. 3 | Total |                    |                  |          |
| 155     | 5775 MHz  | 21.26                 | 19.98  | 20.87  | 25.90 | 5.19               | 30.00            | Complies |

&lt;Nss3MCS0, Ant. 1+2+3, SDM&gt;

| Channel | Frequency | Conducted Power (dBm) |        |        |       | Directional Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------|--------|-------|------------------------|------------------|----------|
|         |           | Ant. 1                | Ant. 2 | Ant. 3 | Total |                        |                  |          |
| 155     | 5775 MHz  | 21.05                 | 20.15  | 21.14  | 26.08 | 3.16                   | 30.00            | Complies |

## For Beamforming

|               |                                                                        |               |                |
|---------------|------------------------------------------------------------------------|---------------|----------------|
| Test date     | Feb. 13, 2014                                                          | Test Site No. | TH01-CB        |
| Temperature   | 26°C                                                                   | Humidity      | 63%            |
| Test Engineer | Magic Lai                                                              | Configuration | 802.11ac 20MHz |
| Duty Cycle    | Nss1MCS0, Ant. 1+2+3, CDD: 98.97%<br>Nss2MCS0, Ant. 1+2+3, CDD: 98.20% |               |                |

## Configuration IEEE 802.11ac 20MHz

## &lt;Nss1MCS0, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Conducted Power (dBm) |        |        |       | Directional Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------|--------|-------|------------------------|------------------|----------|
|         |           | Ant. 1                | Ant. 2 | Ant. 3 | Total |                        |                  |          |
| 149     | 5745 MHz  | 22.32                 | 20.65  | 21.96  | 26.51 | 7.25                   | 28.75            | Complies |
| 157     | 5785 MHz  | 22.09                 | 20.25  | 22.05  | 26.36 | 6.80                   | 29.20            | Complies |
| 165     | 5825 MHz  | 22.24                 | 20.52  | 21.82  | 26.40 | 6.68                   | 29.32            | Complies |

## &lt;Nss2MCS0, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Conducted Power (dBm) |        |        |       | Directional Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------|--------|-------|------------------------|------------------|----------|
|         |           | Ant. 1                | Ant. 2 | Ant. 3 | Total |                        |                  |          |
| 149     | 5745 MHz  | 22.62                 | 20.99  | 21.13  | 26.50 | 6.24                   | 29.76            | Complies |
| 157     | 5785 MHz  | 22.42                 | 20.89  | 22.23  | 26.75 | 5.54                   | 30.00            | Complies |
| 165     | 5825 MHz  | 22.42                 | 20.76  | 22.02  | 26.64 | 5.30                   | 30.00            | Complies |

|               |                                                                        |               |                |
|---------------|------------------------------------------------------------------------|---------------|----------------|
| Test date     | Feb. 13, 2014                                                          | Test Site No. | TH01-CB        |
| Temperature   | 26°C                                                                   | Humidity      | 63%            |
| Test Engineer | Magic Lai                                                              | Configuration | 802.11ac 40MHz |
| Duty Cycle    | Nss1MCS0, Ant. 1+2+3, CDD: 97.46%<br>Nss2MCS0, Ant. 1+2+3, CDD: 98.15% |               |                |

## Configuration IEEE 802.11ac 40MHz

## &lt;Nss1MCS0, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Conducted Power (dBm) |        |        |       | Directional Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------|--------|-------|------------------------|------------------|----------|
|         |           | Ant. 1                | Ant. 2 | Ant. 3 | Total |                        |                  |          |
| 151     | 5755 MHz  | 21.72                 | 19.95  | 20.92  | 25.80 | 7.68                   | 28.32            | Complies |
| 159     | 5795 MHz  | 21.33                 | 19.78  | 21.13  | 25.68 | 7.07                   | 28.93            | Complies |

## &lt;Nss2MCS0, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Conducted Power (dBm) |        |        |       | Directional Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------|--------|-------|------------------------|------------------|----------|
|         |           | Ant. 1                | Ant. 2 | Ant. 3 | Total |                        |                  |          |
| 151     | 5755 MHz  | 21.56                 | 19.76  | 20.85  | 25.64 | 6.53                   | 29.47            | Complies |
| 159     | 5795 MHz  | 21.42                 | 19.65  | 20.82  | 25.54 | 5.79                   | 30.00            | Complies |

|               |                                                                        |               |                |
|---------------|------------------------------------------------------------------------|---------------|----------------|
| Test date     | Feb. 13, 2014                                                          | Test Site No. | TH01-CB        |
| Temperature   | 26°C                                                                   | Humidity      | 63%            |
| Test Engineer | Magic Lai                                                              | Configuration | 802.11ac 80MHz |
| Duty Cycle    | Nss1MCS0, Ant. 1+2+3, CDD: 95.49%<br>Nss2MCS0, Ant. 1+2+3, CDD: 96.38% |               |                |

## Configuration IEEE 802.11ac 80MHz

## &lt;Nss1MCS0, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Conducted Power (dBm) |        |        |       | Directional Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------|--------|-------|------------------------|------------------|----------|
|         |           | Ant. 1                | Ant. 2 | Ant. 3 | Total |                        |                  |          |
| 155     | 5775 MHz  | 21.86                 | 20.43  | 21.03  | 26.12 | 7.28                   | 28.72            | Complies |

## &lt;Nss2MCS0, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Conducted Power (dBm) |        |        |       | Directional Gain (dBi) | Max. Limit (dBm) | Result   |
|---------|-----------|-----------------------|--------|--------|-------|------------------------|------------------|----------|
|         |           | Ant. 1                | Ant. 2 | Ant. 3 | Total |                        |                  |          |
| 155     | 5775 MHz  | 21.62                 | 20.48  | 20.92  | 25.96 | 6.04                   | 29.96            | Complies |

### 4.3. Power Spectral Density Measurement

#### 4.3.1. Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

#### 4.3.2. Measuring Instruments and Setting

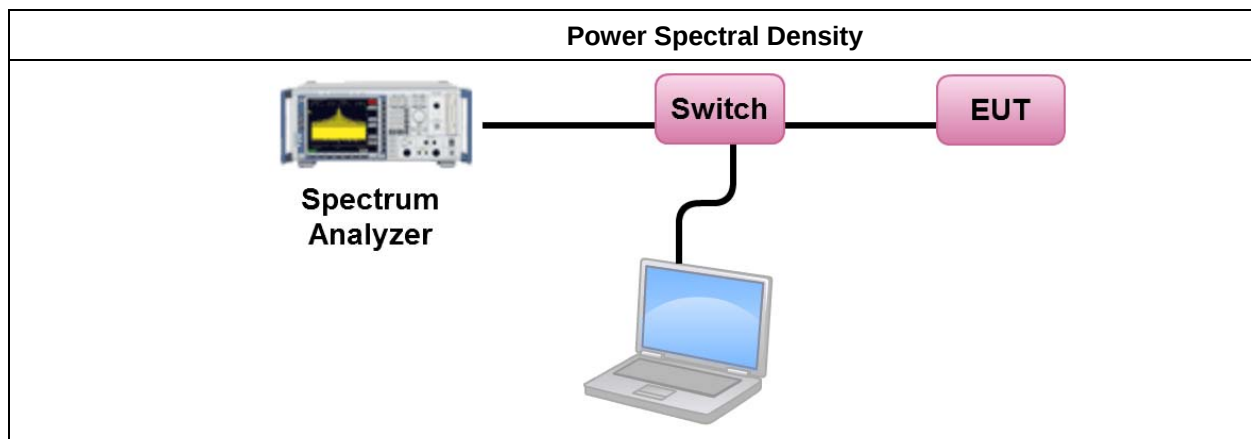
Please refer to section 6 of equipments list in this report. The following table is the setting of Spectrum Analyzer.

| Power Meter Parameter | Setting                                 |
|-----------------------|-----------------------------------------|
| Attenuation           | Auto                                    |
| Span Frequency        | Set span to at least 1.5 times the OBW. |
| RBW                   | 10 kHz                                  |
| VBW                   | 30 kHz                                  |
| Detector              | RMS                                     |
| Trace                 | Average                                 |
| Sweep Time            | Auto                                    |
| Trace Average         | 100 times                               |

#### 4.3.3. Test Procedures

1. The transmitter output (antenna port) was connected RF switch to the spectrum analyzer.
2. Test was performed in accordance with KDB 558074 D01 v03r02 for Compliance Testing of Digital Transmission Systems (DTS) Devices - Part 15, Subpart C => Method AVGPSD-2 (trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).
3. Multiple antenna systems was performed in accordance KDB 662911 D01 v02 in-Band Power Spectral Density (PSD) Measurements (a) Measure and sum the spectra across the outputs (bin-by-bin summing).
4. When measuring first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3 and so on up to the Nth output to obtain the value for the first frequency bin of the summed spectrum. The summed spectrum value for each of the other frequency bins is computed in the same way.

#### 4.3.4. Test Setup Layout



#### 4.3.5. Test Deviation

There is no deviation with the original standard.

#### 4.3.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

## 4.3.7. Test Result of Power Spectral Density

## For Non-Beamforming

|               |                                                 |               |         |
|---------------|-------------------------------------------------|---------------|---------|
| Test date     | Feb. 13, 2014                                   | Test Site No. | TH01-CB |
| Temperature   | 26°C                                            | Humidity      | 63%     |
| Test Engineer | Wen Chao                                        | Configuration | 802.11a |
| Duty Cycle    | Ant. 1, 2, 3: 99.04%<br>Ant. 1+2+3, CDD: 98.80% |               |         |

## Configuration IEEE 802.11a

## &lt;Ant. 1&gt;

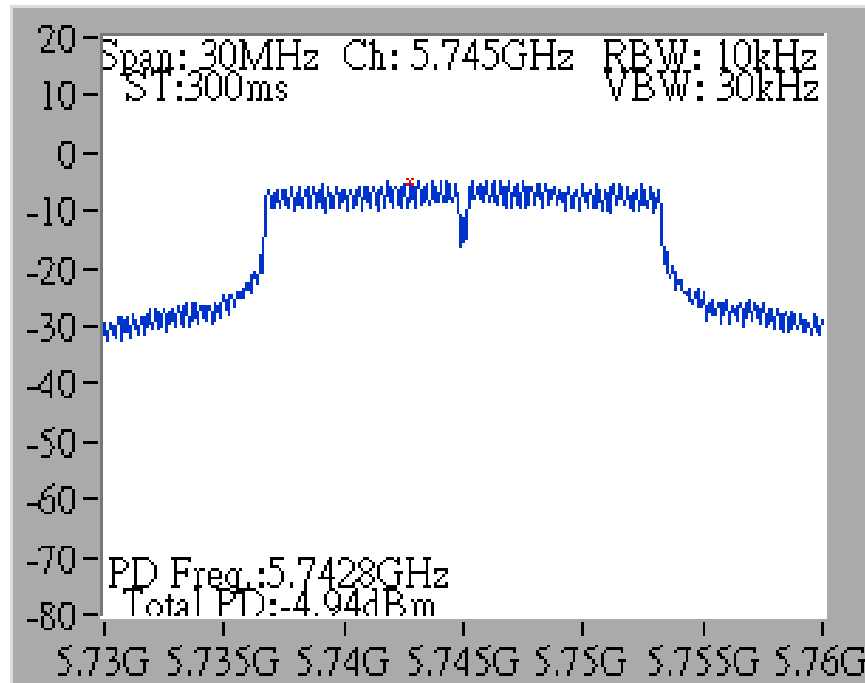
| Channel | Frequency | Total Power Density (dBm/10kHz) | Antenna Gain (dBi) | Max. Limit (dBm/10kHz) | Result   |
|---------|-----------|---------------------------------|--------------------|------------------------|----------|
| 149     | 5745 MHz  | -4.94                           | 5.65               | 8.00                   | Complies |
| 157     | 5785 MHz  | -4.38                           | 4.93               | 8.00                   | Complies |
| 165     | 5825 MHz  | -4.81                           | 4.18               | 8.00                   | Complies |

## &lt;Ant. 1+2+3, CDD&gt;

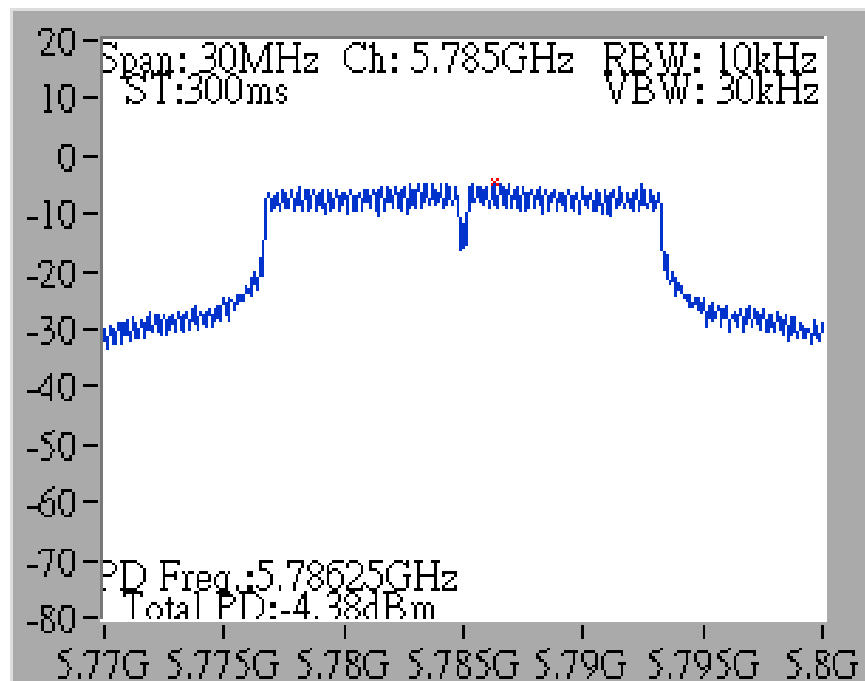
| Channel | Frequency | Total Power Density (dBm/10kHz) | Antenna Gain (dBi) | Max. Limit (dBm/10kHz) | Result   |
|---------|-----------|---------------------------------|--------------------|------------------------|----------|
| 149     | 5745 MHz  | -1.25                           | 5.65               | 8.00                   | Complies |
| 157     | 5785 MHz  | -1.02                           | 4.93               | 8.00                   | Complies |
| 165     | 5825 MHz  | -1.14                           | 5.03               | 8.00                   | Complies |

## For Non-Beamforming

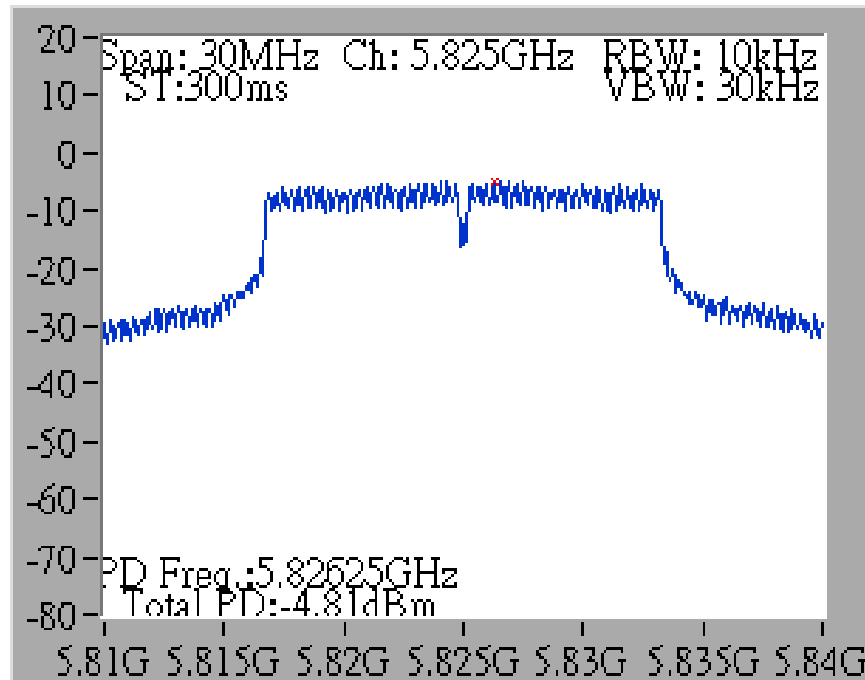
## Power Density Plot on Configuration IEEE 802.11a / CH 149 / Ant. 1



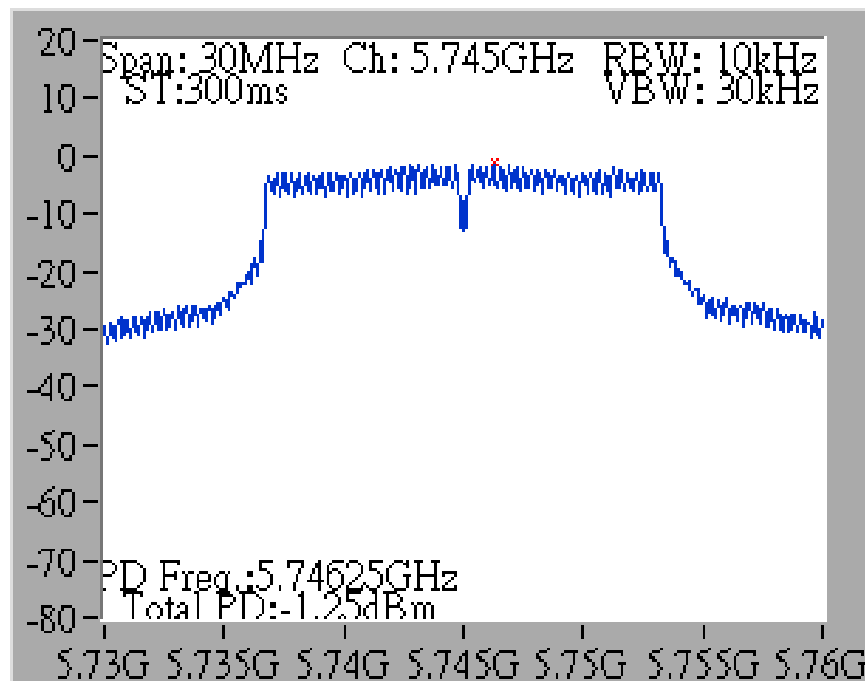
## Power Density Plot on Configuration IEEE 802.11a / CH 157 / Ant. 1



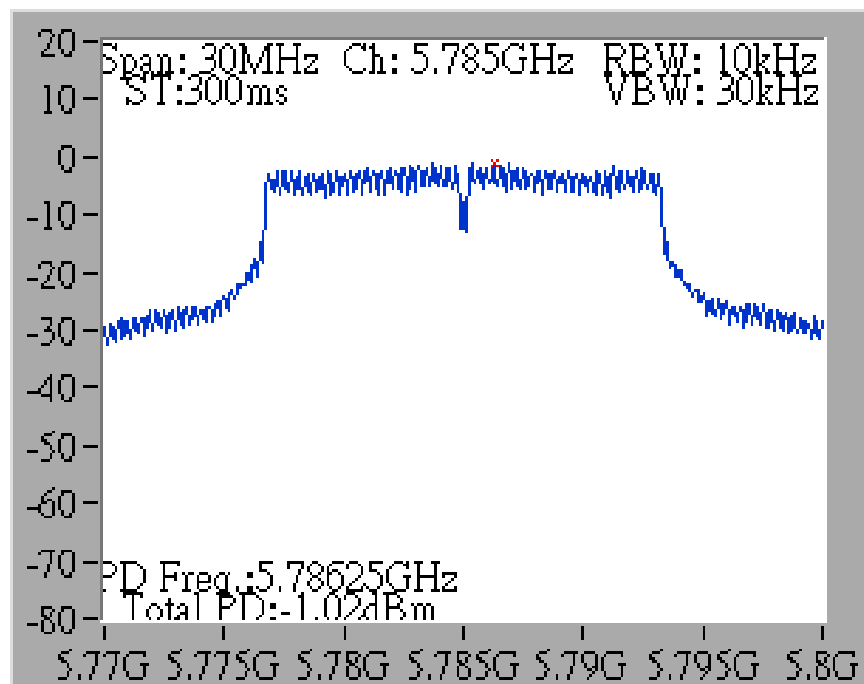
## Power Density Plot on Configuration IEEE 802.11a / CH 165 / Ant. 1



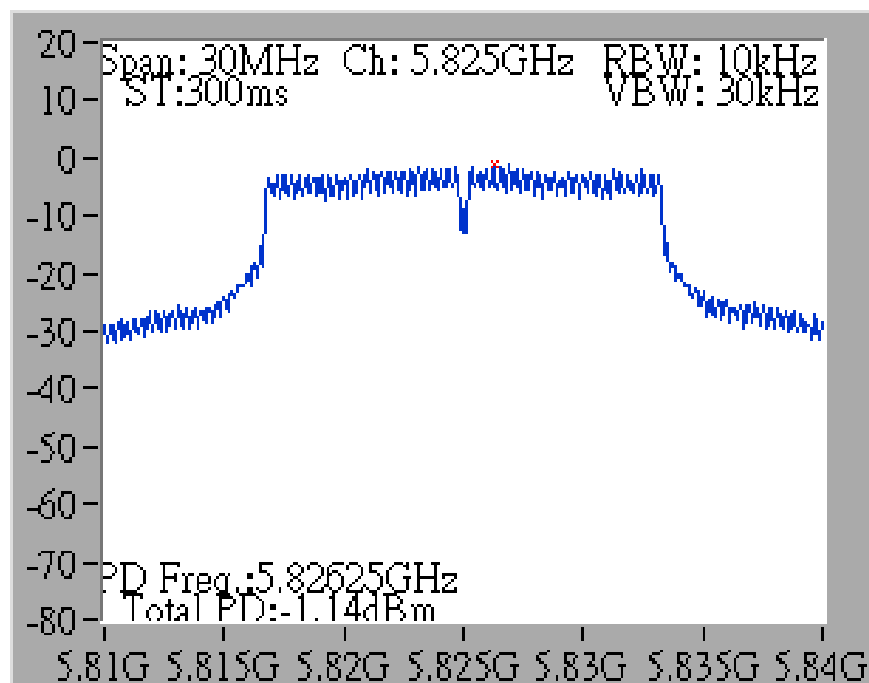
## Power Density Plot on Configuration IEEE 802.11a / CH 149 / Ant. 1+2+3



## Power Density Plot on Configuration IEEE 802.11a / CH 157 / Ant. 1+2+3



## Power Density Plot on Configuration IEEE 802.11a / CH 165 / Ant. 1+2+3



|               |                                                                        |               |                |
|---------------|------------------------------------------------------------------------|---------------|----------------|
| Test date     | Feb. 13, 2014                                                          | Test Site No. | TH01-CB        |
| Temperature   | 26°C                                                                   | Humidity      | 63%            |
| Test Engineer | Wen Chao                                                               | Configuration | 802.11ac 20MHz |
| Duty Cycle    | Nss1MCS0, Ant. 1+2+3, CDD: 98.98%<br>Nss2MCS0, Ant. 1+2+3, CDD: 96.29% |               |                |

## Configuration IEEE 802.11ac 20MHz

## &lt;Nss1MCS0, Ant. 1&gt;

| Channel | Frequency | Total Power Density (dBm/10kHz) | Antenna Gain (dBi) | Max. Limit (dBm/10kHz) | Result   |
|---------|-----------|---------------------------------|--------------------|------------------------|----------|
| 149     | 5745 MHz  | -5.38                           | 5.65               | 8.00                   | Complies |
| 157     | 5785 MHz  | -5.05                           | 4.93               | 8.00                   | Complies |
| 165     | 5825 MHz  | -5.46                           | 4.18               | 8.00                   | Complies |

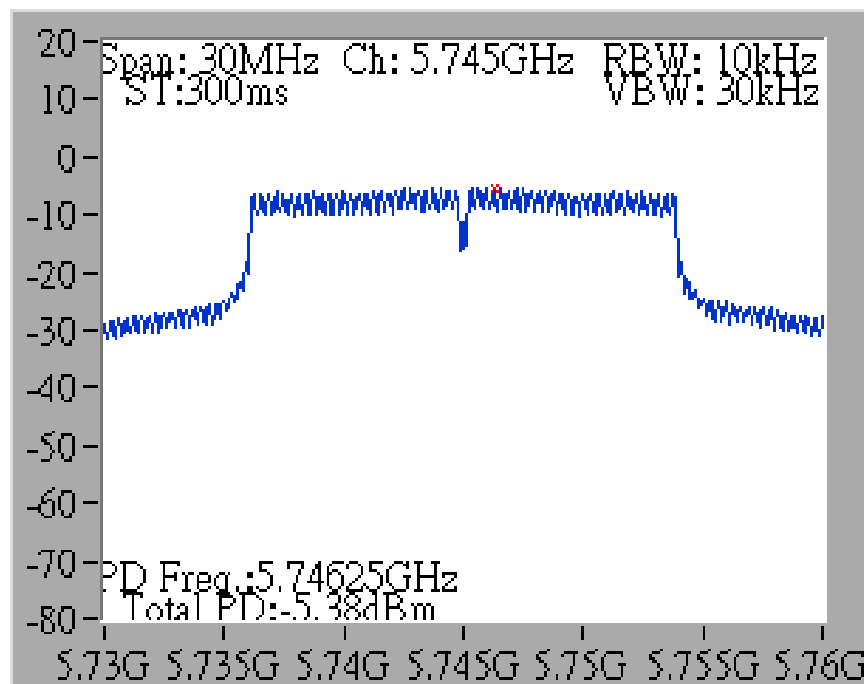
## &lt;Nss1MCS0, Ant. 1+2+3&gt;

| Channel | Frequency | Total Power Density (dBm/10kHz) | Antenna Gain (dBi) | Max. Limit (dBm/10kHz) | Result   |
|---------|-----------|---------------------------------|--------------------|------------------------|----------|
| 149     | 5745 MHz  | -2.08                           | 4.38               | 8.00                   | Complies |
| 157     | 5785 MHz  | -1.74                           | 3.78               | 8.00                   | Complies |
| 165     | 5825 MHz  | -1.94                           | 3.69               | 8.00                   | Complies |

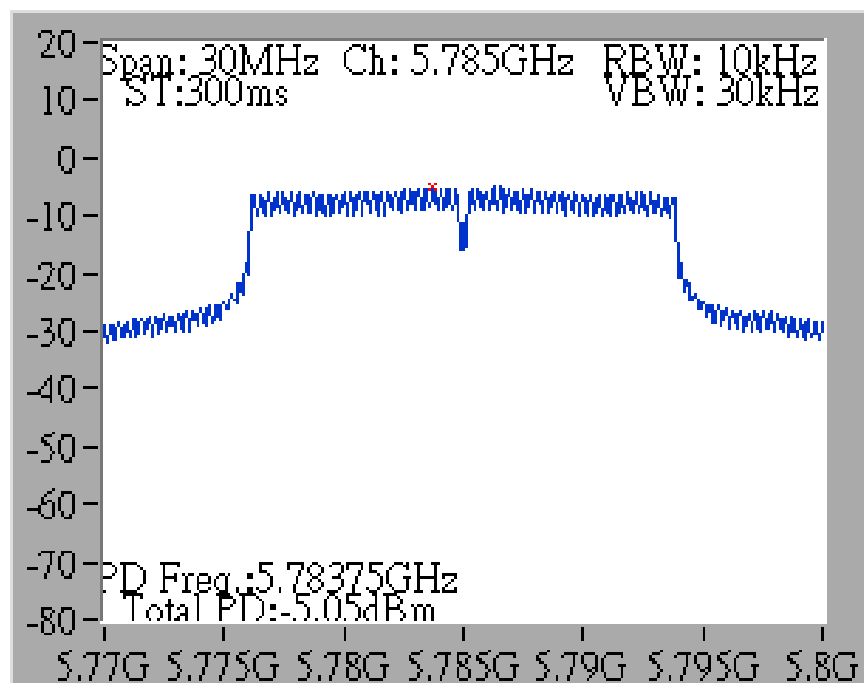
## &lt;Nss2MCS0, Ant. 1+2+3&gt;

| Channel | Frequency | Total Power Density (dBm/10kHz) | Antenna Gain (dBi) | Max. Limit (dBm/10kHz) | Result   |
|---------|-----------|---------------------------------|--------------------|------------------------|----------|
| 149     | 5745 MHz  | -1.85                           | 4.38               | 8.00                   | Complies |
| 157     | 5785 MHz  | -1.46                           | 3.78               | 8.00                   | Complies |
| 165     | 5825 MHz  | -1.83                           | 3.69               | 8.00                   | Complies |

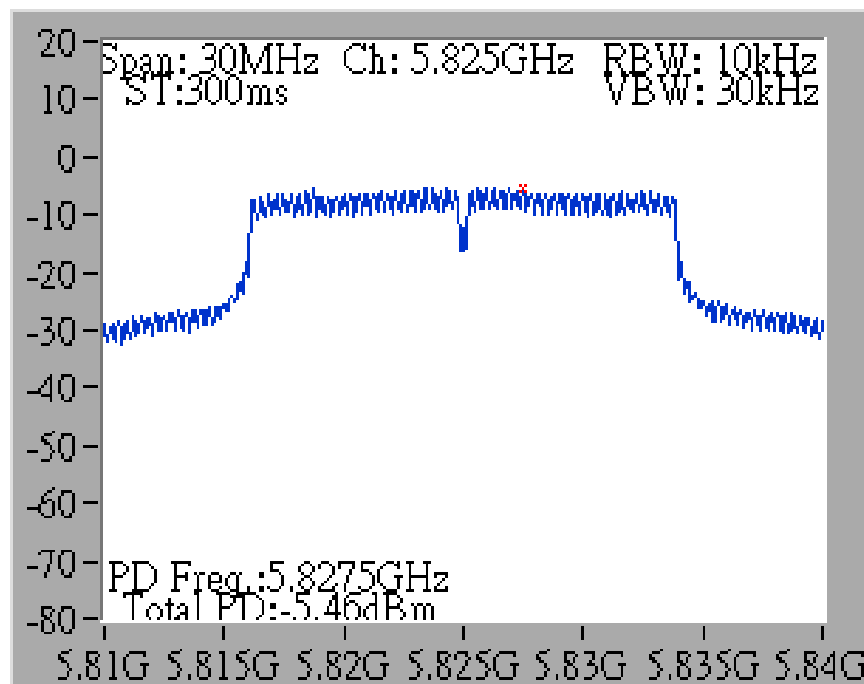
## Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 149 / Ant. 1



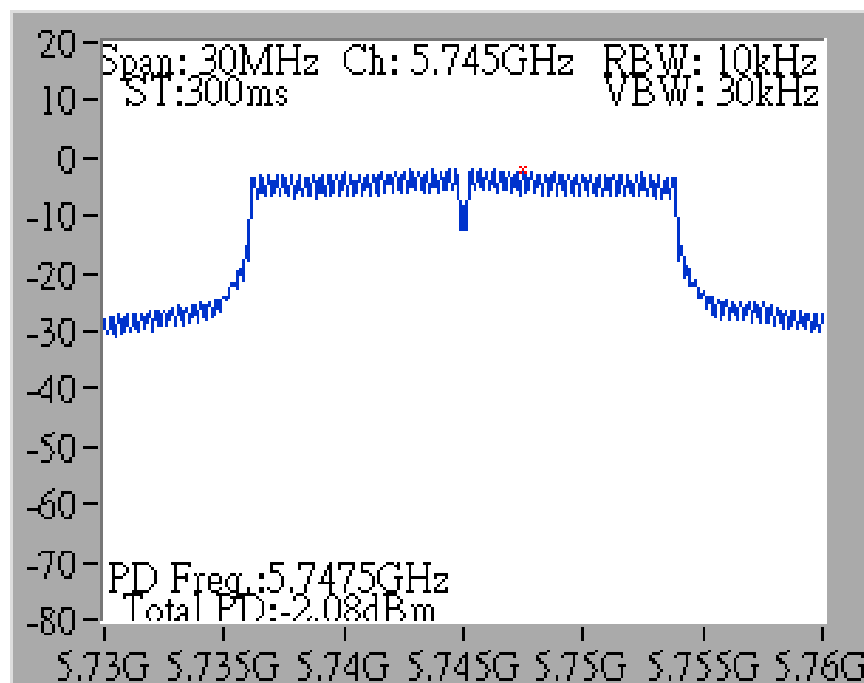
## Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 157 / Ant. 1



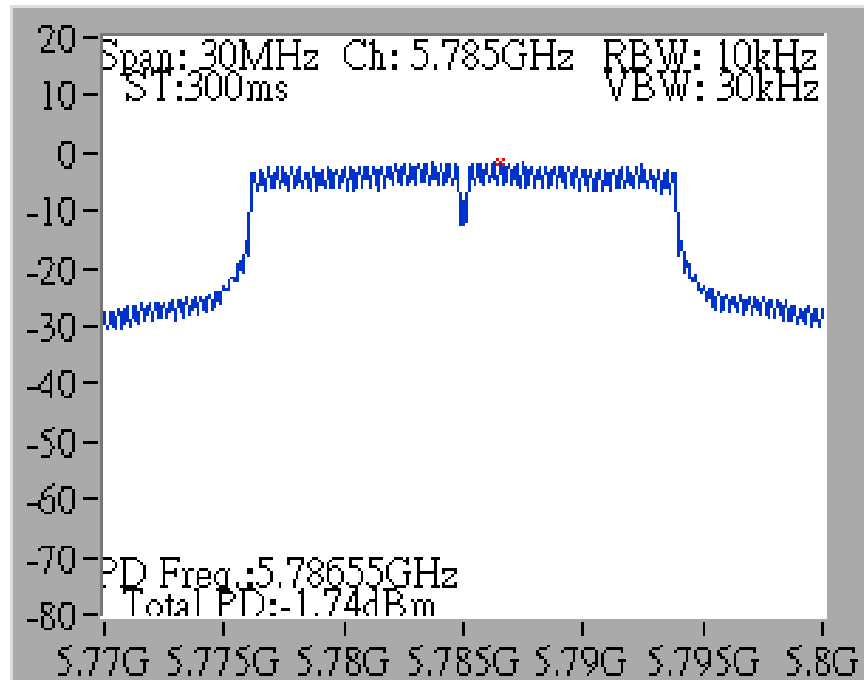
## Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 165 / Ant. 1



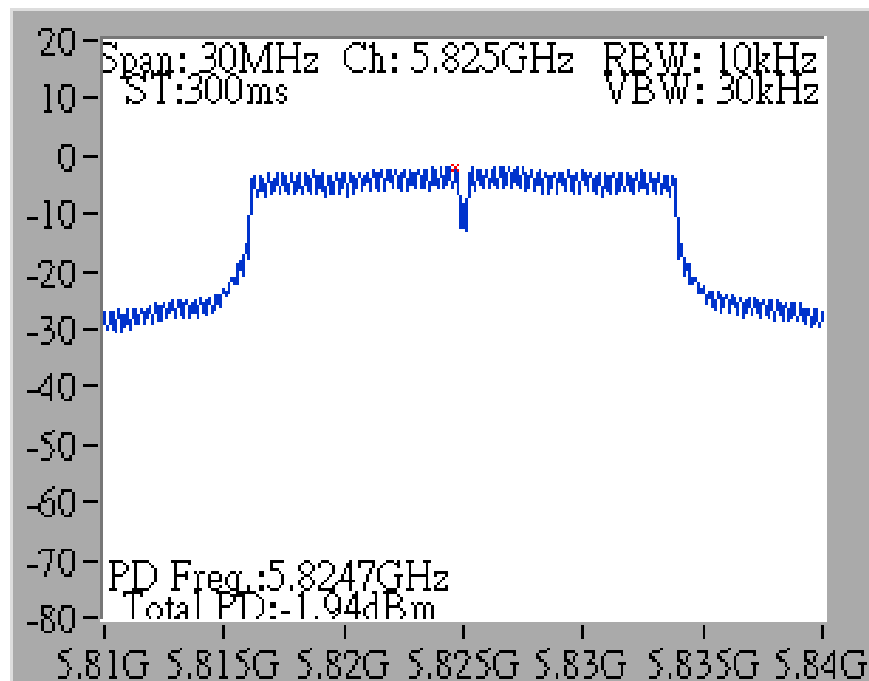
## Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 149 / Ant. 1+2+3



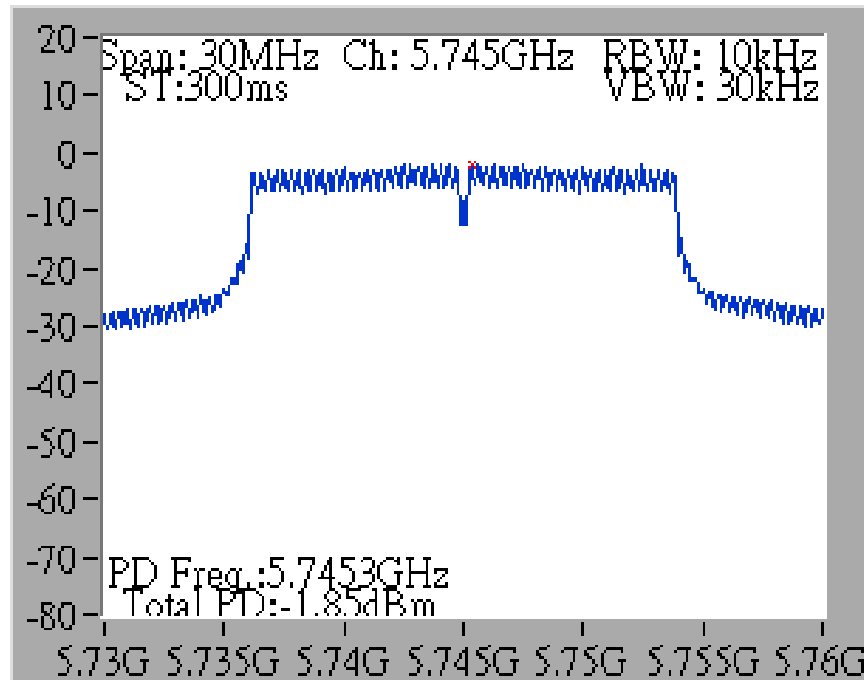
## Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 157 / Ant. 1+2+3



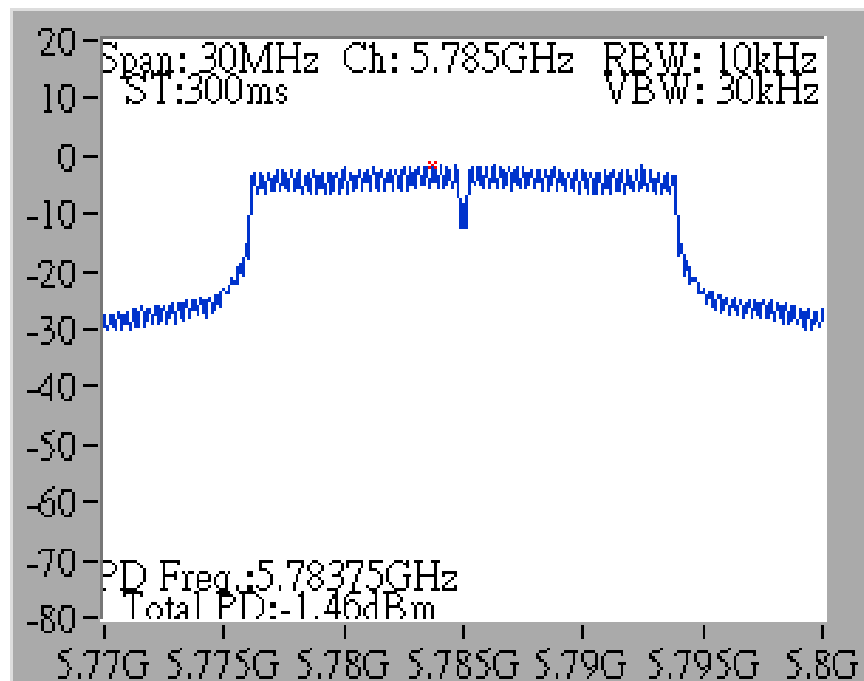
## Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 165 / Ant. 1+2+3



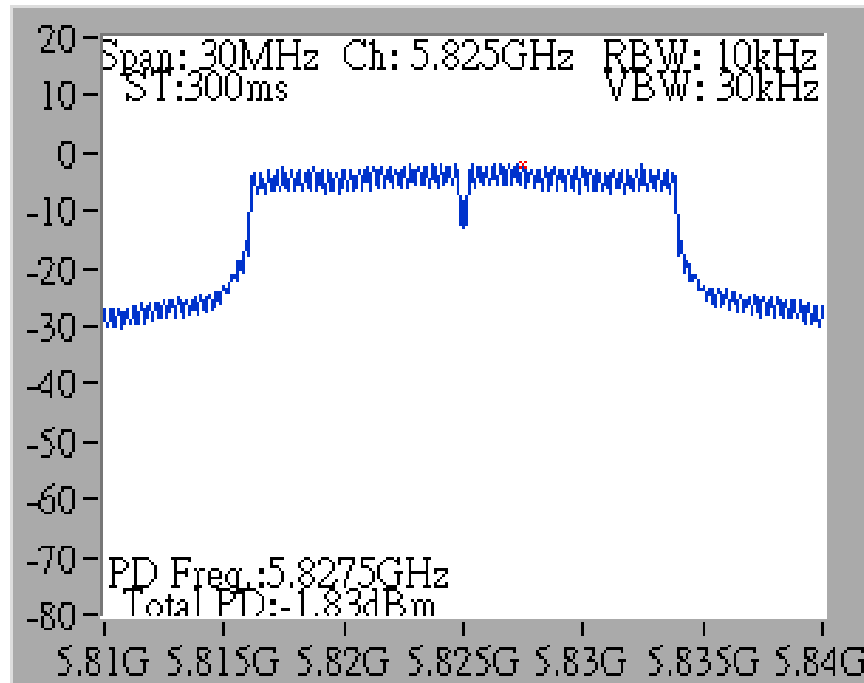
## Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 149 / Ant. 1+2+3



## Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 157 / Ant. 1+2+3



## Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 165 / Ant. 1+2+3



|               |                                                                        |               |                |
|---------------|------------------------------------------------------------------------|---------------|----------------|
| Test date     | Feb. 13, 2014                                                          | Test Site No. | TH01-CB        |
| Temperature   | 26°C                                                                   | Humidity      | 63%            |
| Test Engineer | Wen Chao                                                               | Configuration | 802.11ac 40MHz |
| Duty Cycle    | Nss1MCS0, Ant. 1+2+3, CDD: 97.95%<br>Nss2MCS0, Ant. 1+2+3, CDD: 96.19% |               |                |

## Configuration IEEE 802.11ac 40MHz

## &lt;Nss1MCS0, Ant. 1&gt;

| Channel | Frequency | Total Power Density (dBm/10kHz) | Antenna Gain (dBi) | Max. Limit (dBm/10kHz) | Result   |
|---------|-----------|---------------------------------|--------------------|------------------------|----------|
| 151     | 5755 MHz  | -10.13                          | 5.79               | 8.00                   | Complies |
| 159     | 5795 MHz  | -8.88                           | 5.12               | 8.00                   | Complies |

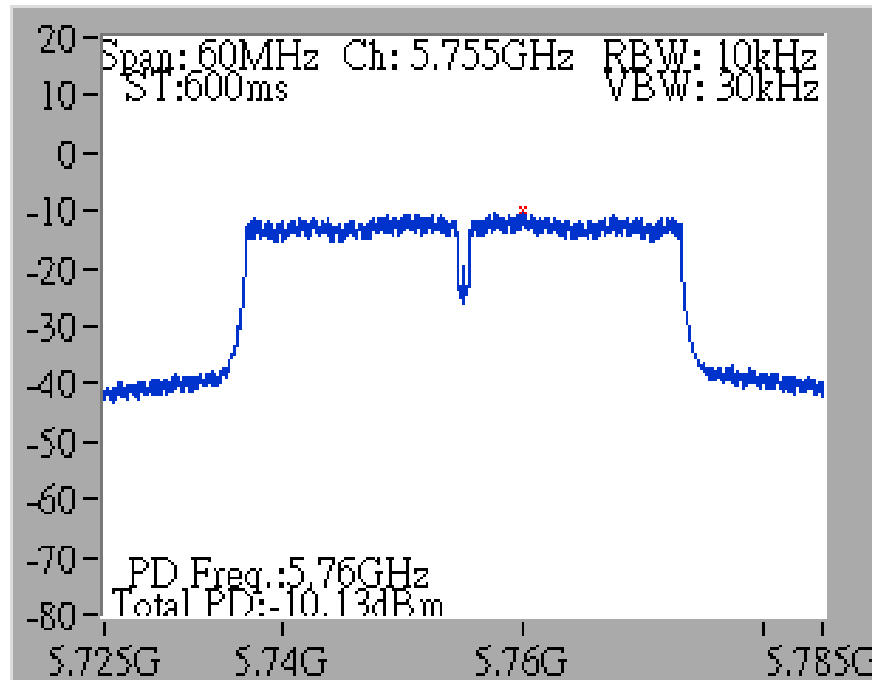
## &lt;Nss1MCS0, Ant. 1+2+3&gt;

| Channel | Frequency | Total Power Density (dBm/10kHz) | Antenna Gain (dBi) | Max. Limit (dBm/10kHz) | Result   |
|---------|-----------|---------------------------------|--------------------|------------------------|----------|
| 151     | 5755 MHz  | -5.41                           | 5.79               | 8.00                   | Complies |
| 159     | 5795 MHz  | -5.12                           | 5.20               | 8.00                   | Complies |

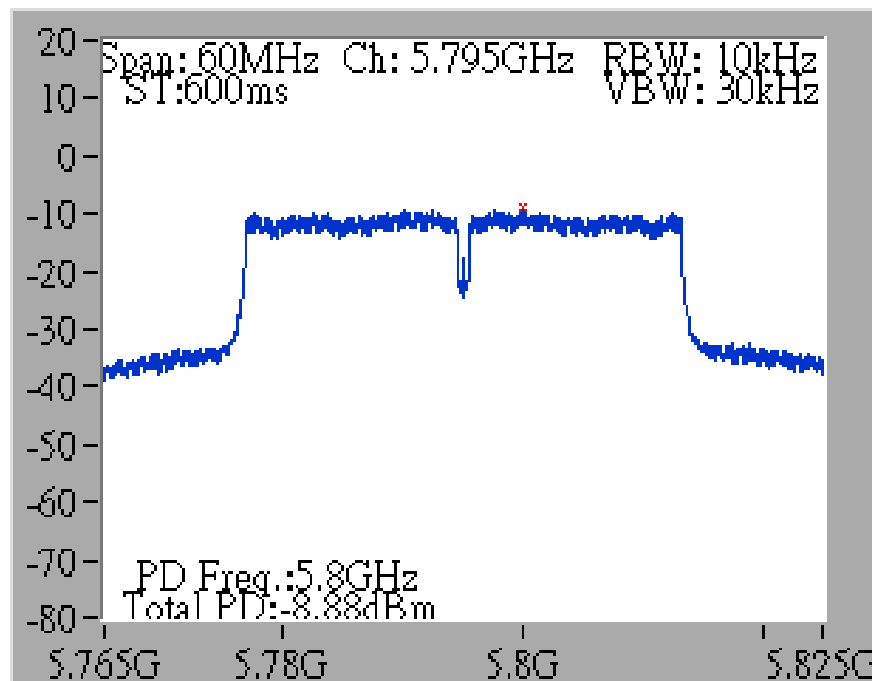
## &lt;Nss2MCS0, Ant. 1+2+3&gt;

| Channel | Frequency | Total Power Density (dBm/10kHz) | Antenna Gain (dBi) | Max. Limit (dBm/10kHz) | Result   |
|---------|-----------|---------------------------------|--------------------|------------------------|----------|
| 151     | 5755 MHz  | -5.31                           | 5.79               | 8.00                   | Complies |
| 159     | 5795 MHz  | -4.96                           | 5.20               | 8.00                   | Complies |

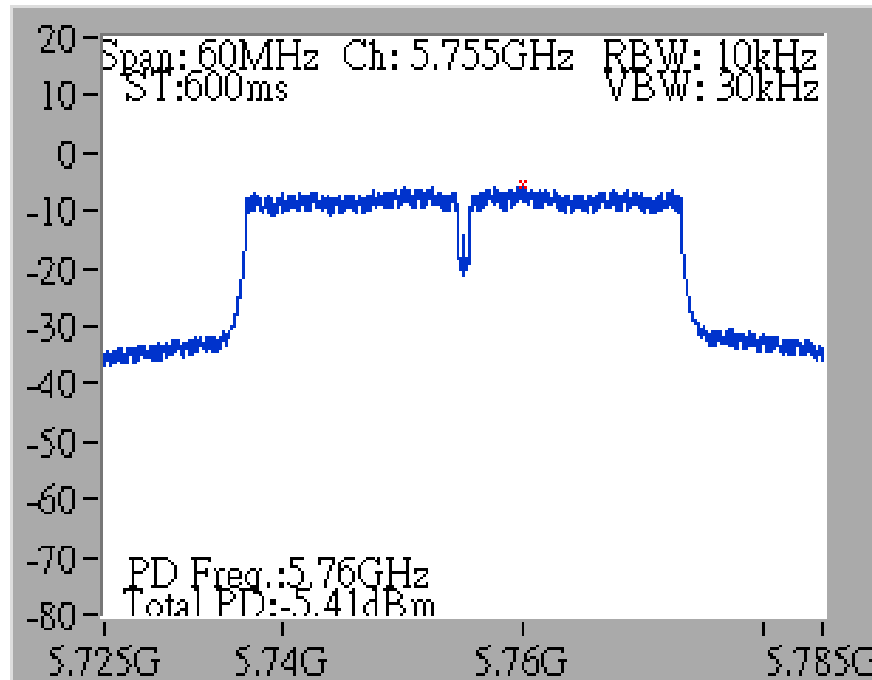
## Power Density Plot on Configuration IEEE 802.11ac 40MHz Nss1MCS0 / CH 151 / Ant. 1



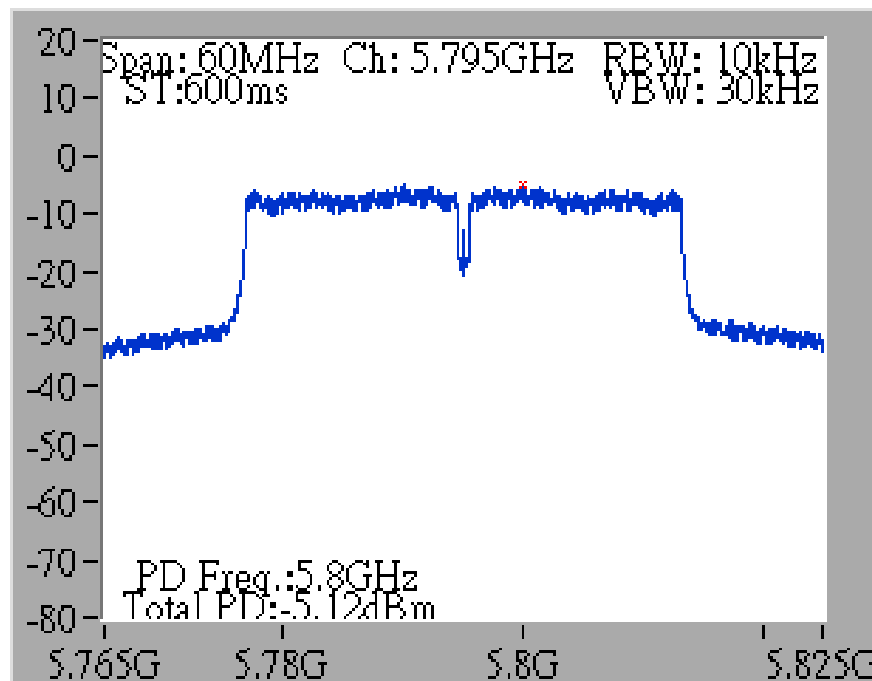
## Power Density Plot on Configuration IEEE 802.11ac 40MHz Nss1MCS0 / CH 159 / Ant. 1



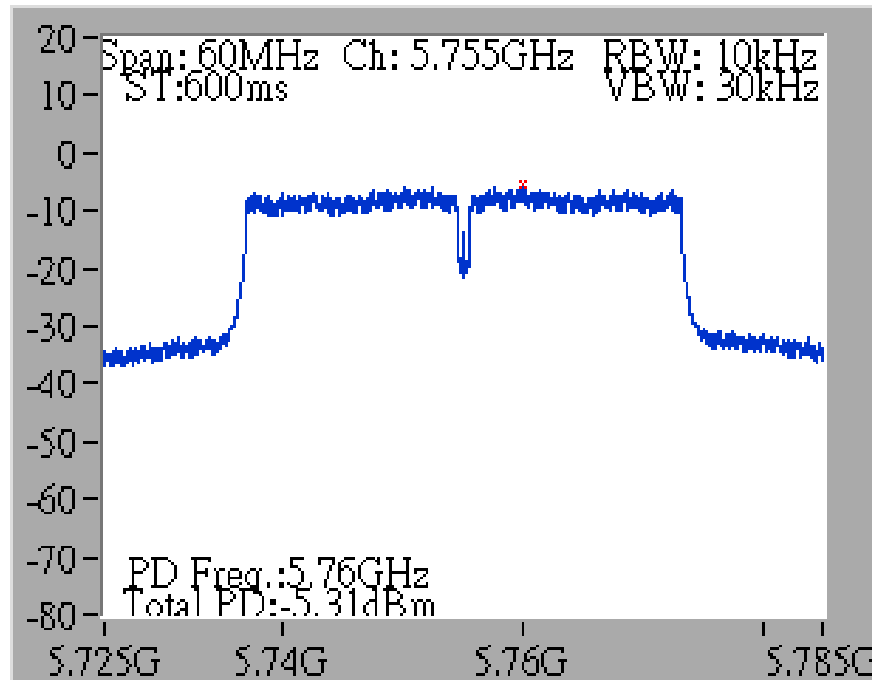
## Power Density Plot on Configuration IEEE 802.11ac 40MHz Nss1MCS0 / CH 151 / Ant. 1+2+3



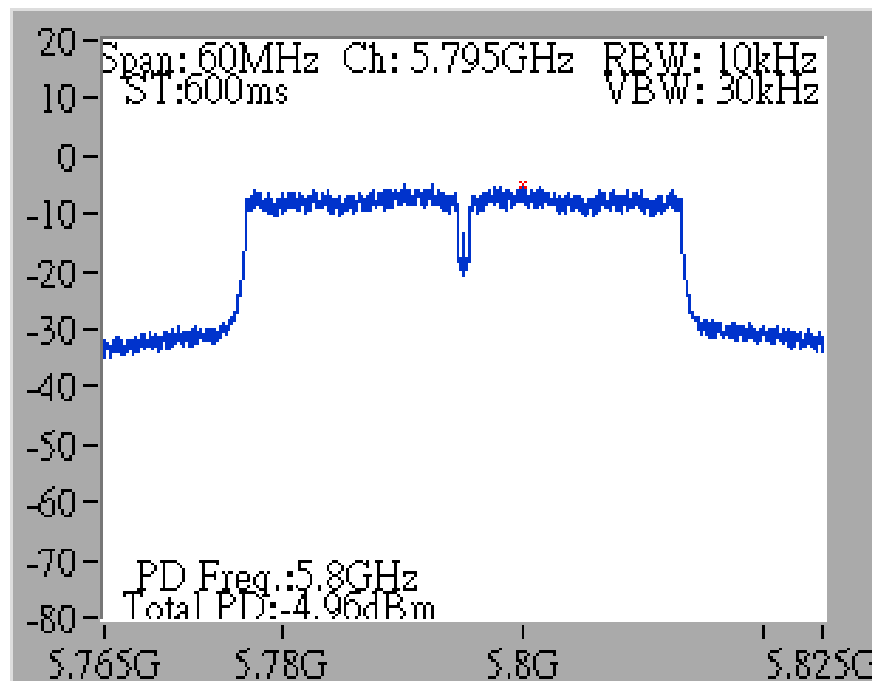
## Power Density Plot on Configuration IEEE 802.11ac 40MHz Nss1MCS0 / CH 159 / Ant. 1+2+3



## Power Density Plot on Configuration IEEE 802.11ac 40MHz Nss2MCS0 / CH 151 / Ant. 1+2+3



## Power Density Plot on Configuration IEEE 802.11ac 40MHz Nss2MCS0 / CH 159 / Ant. 1+2+3



|               |                                                                        |               |                |
|---------------|------------------------------------------------------------------------|---------------|----------------|
| Test date     | Feb. 13, 2014                                                          | Test Site No. | TH01-CB        |
| Temperature   | 26°C                                                                   | Humidity      | 63%            |
| Test Engineer | Wen Chao                                                               | Configuration | 802.11ac 80MHz |
| Duty Cycle    | Nss1MCS0, Ant. 1+2+3, CDD: 95.87%<br>Nss2MCS0, Ant. 1+2+3, CDD: 91.48% |               |                |

## Configuration IEEE 802.11ac 80MHz

## &lt;Nss1MCS0, Ant. 3&gt;

| Channel | Frequency | Total Power Density (dBm/10kHz) | Antenna Gain (dBi) | Max. Limit (dBm/10kHz) | Result   |
|---------|-----------|---------------------------------|--------------------|------------------------|----------|
| 155     | 5775 MHz  | -14.04                          | 5.09               | 8.00                   | Complies |

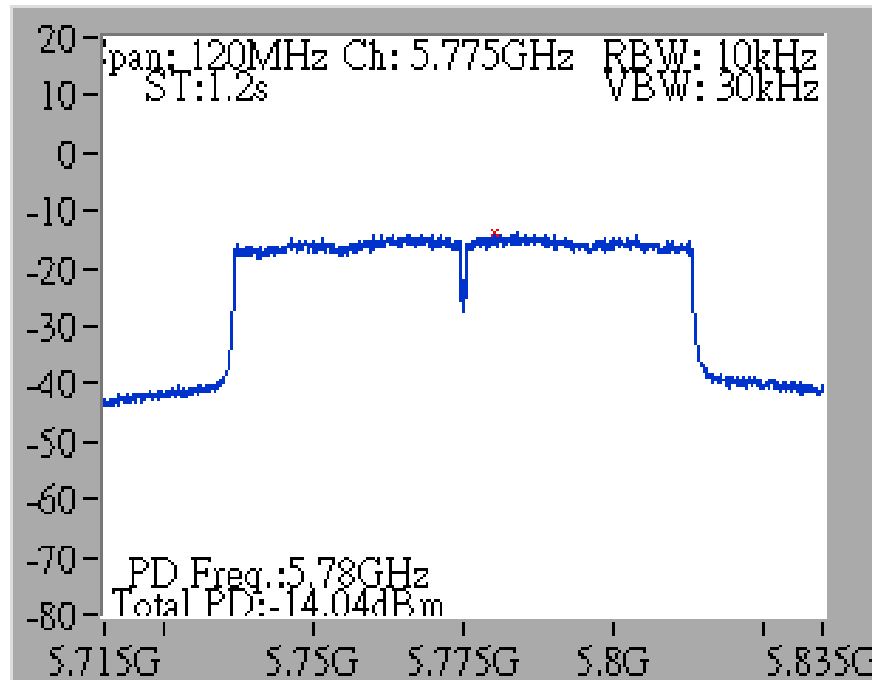
## &lt;Nss1MCS0, Ant. 1+2+3&gt;

| Channel | Frequency | Total Power Density (dBm/10kHz) | Antenna Gain (dBi) | Max. Limit (dBm/10kHz) | Result   |
|---------|-----------|---------------------------------|--------------------|------------------------|----------|
| 155     | 5775 MHz  | -10.62                          | 5.19               | 8.00                   | Complies |

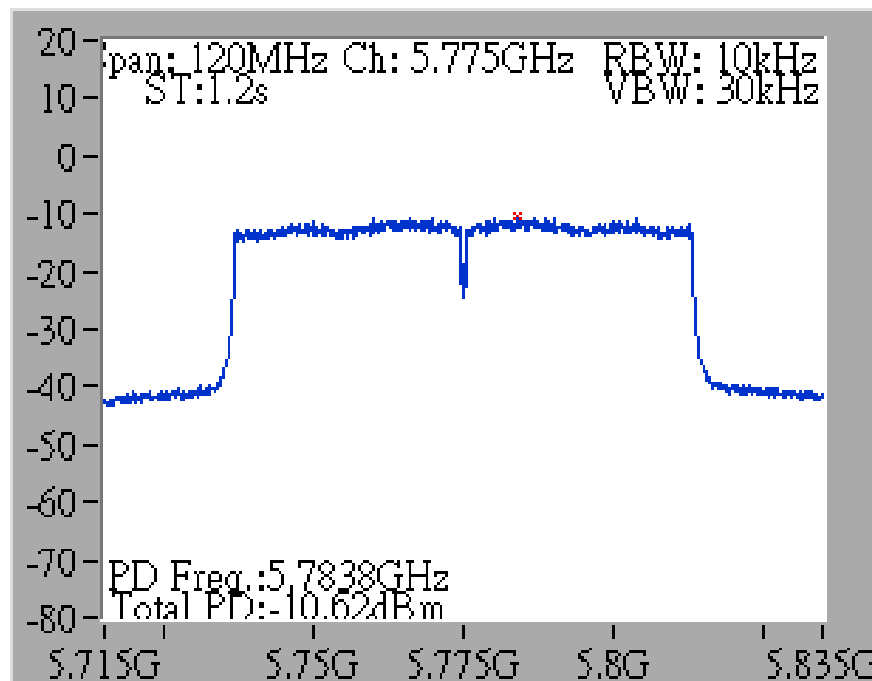
## &lt;Nss2MCS0, Ant. 1+2+3&gt;

| Channel | Frequency | Total Power Density (dBm/10kHz) | Antenna Gain (dBi) | Max. Limit (dBm/10kHz) | Result   |
|---------|-----------|---------------------------------|--------------------|------------------------|----------|
| 155     | 5775 MHz  | -9.24                           | 5.19               | 8.00                   | Complies |

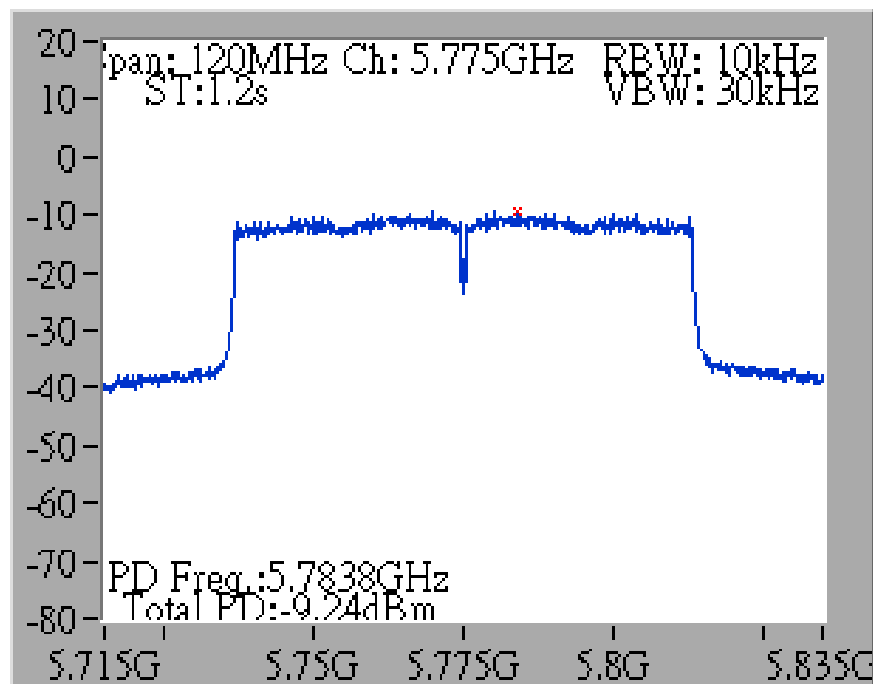
## Power Density Plot on Configuration IEEE 802.11ac 80MHz Nss1MCS0 / CH 155 / Ant. 3



## Power Density Plot on Configuration IEEE 802.11ac 80MHz Nss1MCS0 / CH 155 / Ant. 1+2+3



## Power Density Plot on Configuration IEEE 802.11ac 80MHz Nss2MCS0 / CH 155 / Ant. 1+2+3



## For Beamforming

|               |                                                                        |               |                |
|---------------|------------------------------------------------------------------------|---------------|----------------|
| Test date     | Feb. 13, 2014                                                          | Test Site No. | TH01-CB        |
| Temperature   | 26°C                                                                   | Humidity      | 63%            |
| Test Engineer | Magic Lai                                                              | Configuration | 802.11ac 20MHz |
| Duty Cycle    | Nss1MCS0, Ant. 1+2+3, CDD: 98.97%<br>Nss2MCS0, Ant. 1+2+3, CDD: 98.20% |               |                |

## Configuration IEEE 802.11ac 20MHz

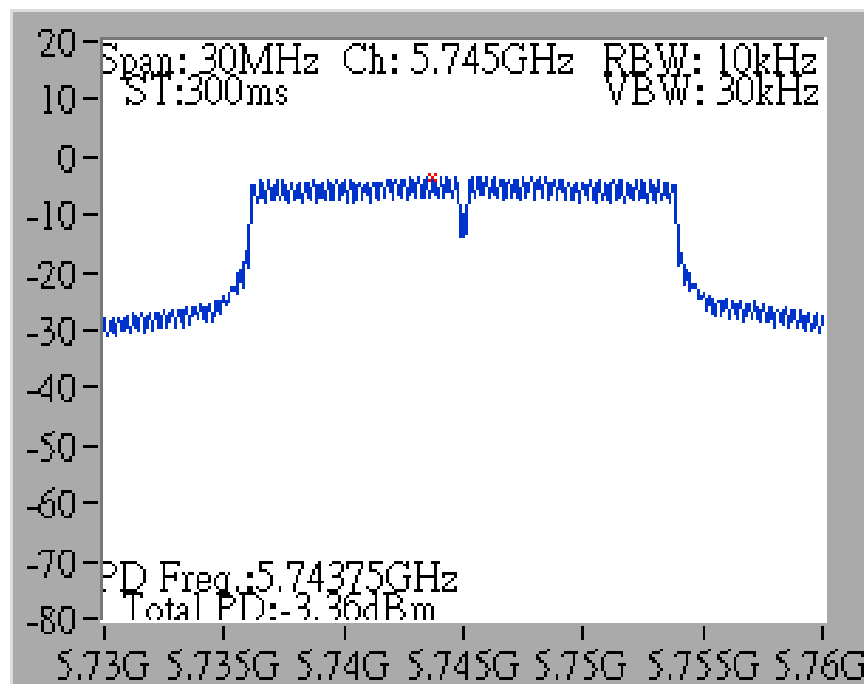
## &lt;Nss1MCS0, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Total Power Density (dBm/10kHz) | Directional Gain (dBi) | Max. Limit (dBm/10kHz) | Result   |
|---------|-----------|---------------------------------|------------------------|------------------------|----------|
| 149     | 5745 MHz  | -3.36                           | 7.25                   | 6.75                   | Complies |
| 157     | 5785 MHz  | -3.38                           | 6.80                   | 7.20                   | Complies |
| 165     | 5825 MHz  | -3.45                           | 6.68                   | 7.32                   | Complies |

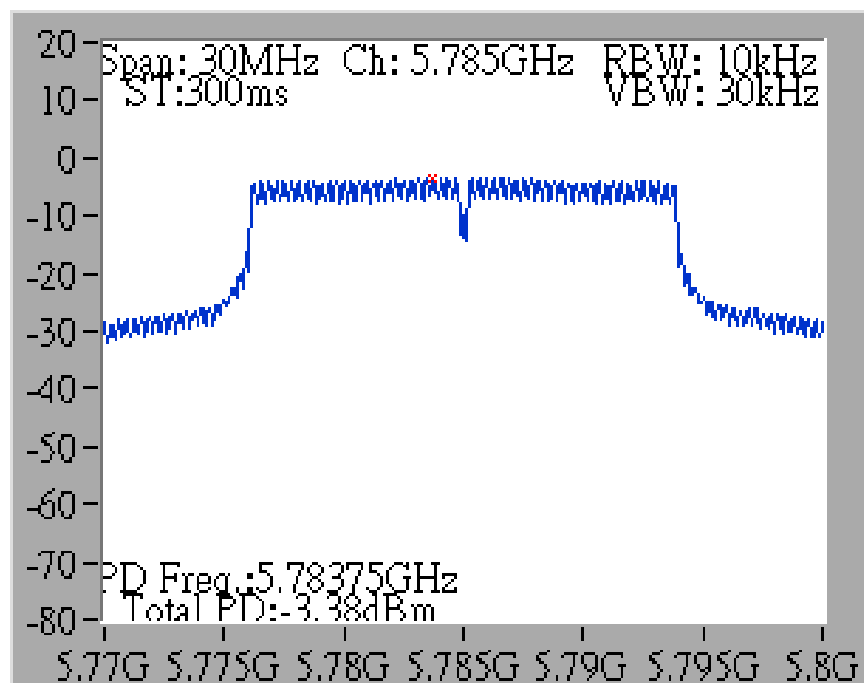
## &lt;Nss2MCS0, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Total Power Density (dBm/10kHz) | Directional Gain (dBi) | Max. Limit (dBm/10kHz) | Result   |
|---------|-----------|---------------------------------|------------------------|------------------------|----------|
| 149     | 5745 MHz  | -3.83                           | 6.24                   | 7.76                   | Complies |
| 157     | 5785 MHz  | -3.19                           | 5.54                   | 8.00                   | Complies |
| 165     | 5825 MHz  | -3.28                           | 5.30                   | 8.00                   | Complies |

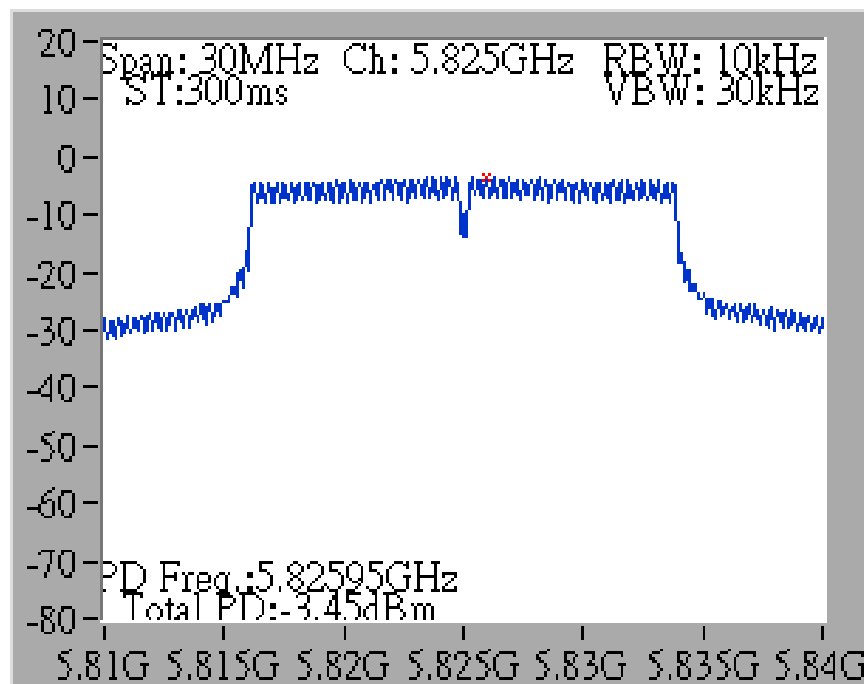
## Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 149 / Ant. 1+2+3



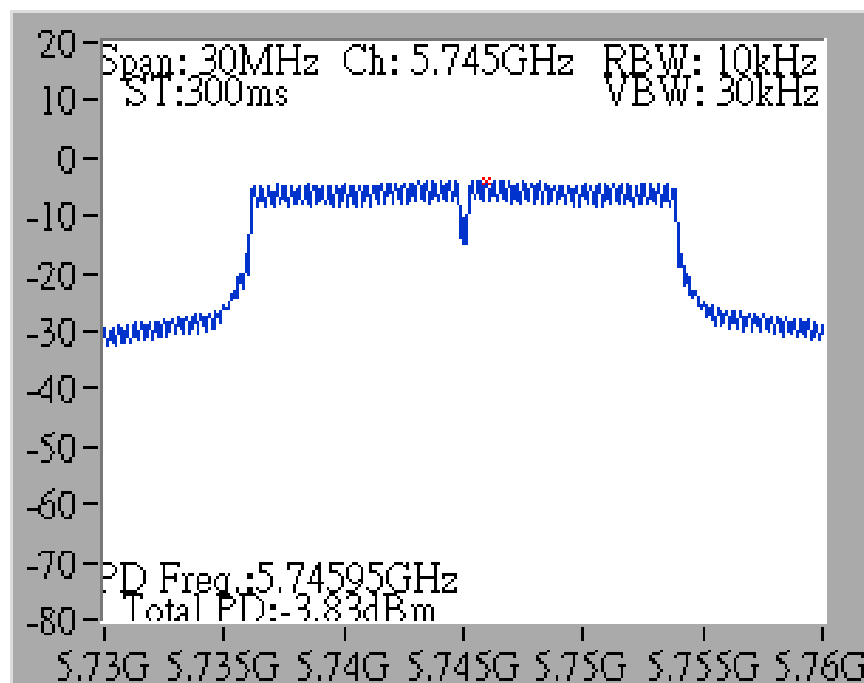
## Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 157 / Ant. 1+2+3



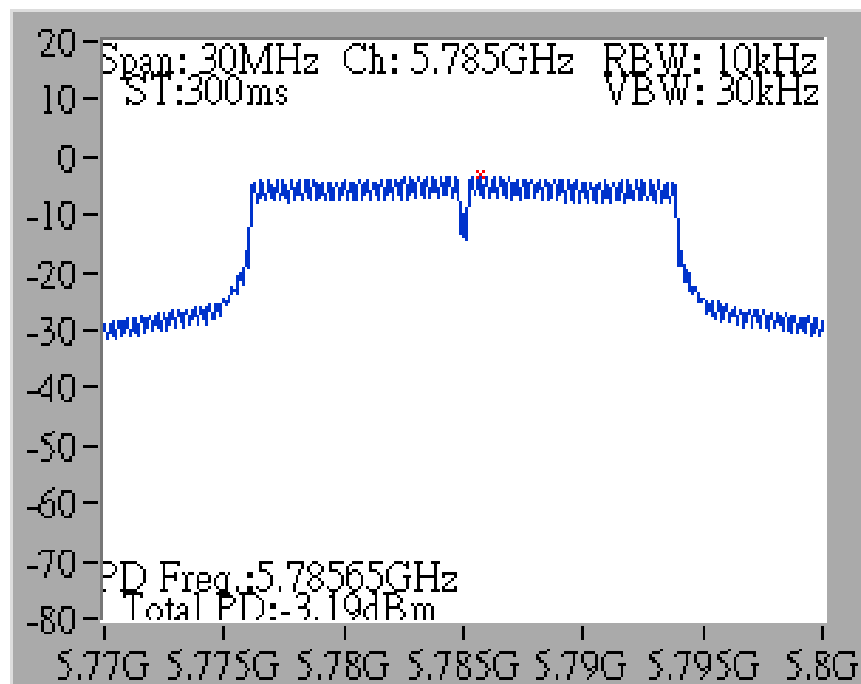
## Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 165 / Ant. 1+2+3



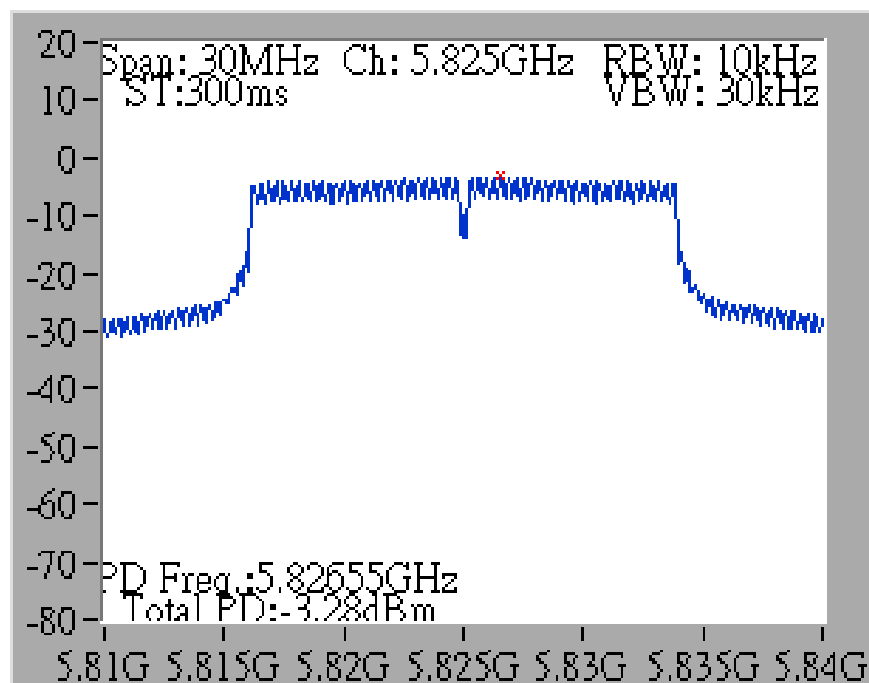
## Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 149 / Ant. 1+2+3



## Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 157 / Ant. 1+2+3



## Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 165 / Ant. 1+2+3



|               |                                                                        |               |                |
|---------------|------------------------------------------------------------------------|---------------|----------------|
| Test date     | Feb. 13, 2014                                                          | Test Site No. | TH01-CB        |
| Temperature   | 26°C                                                                   | Humidity      | 63%            |
| Test Engineer | Magic Lai                                                              | Configuration | 802.11ac 40MHz |
| Duty Cycle    | Nss1MCS0, Ant. 1+2+3, CDD: 97.46%<br>Nss2MCS0, Ant. 1+2+3, CDD: 98.15% |               |                |

## Configuration IEEE 802.11ac 40MHz

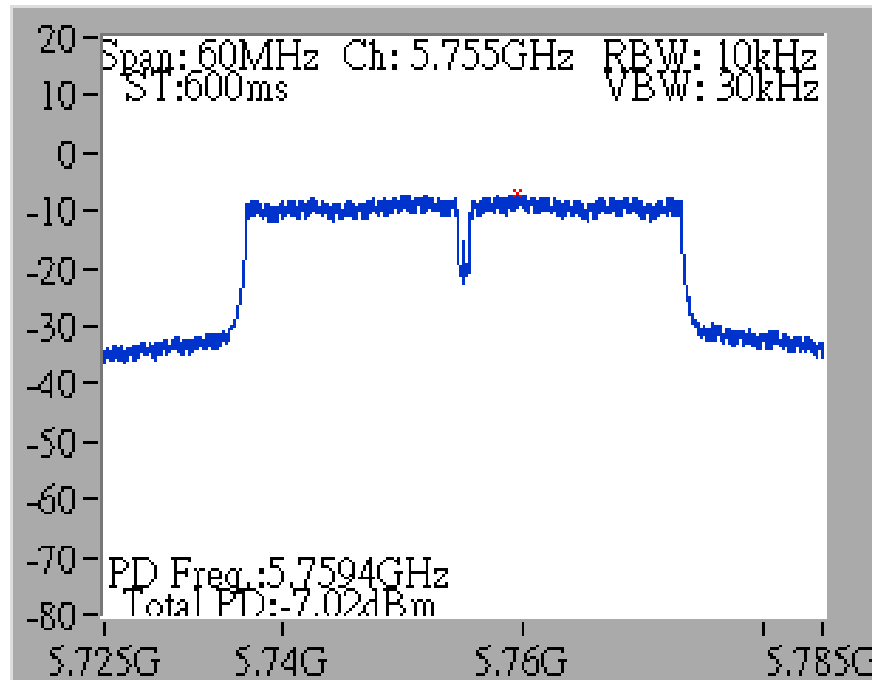
## &lt;Nss1MCS0, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Total Power Density (dBm/10kHz) | Directional Gain (dBi) | Max. Limit (dBm/10kHz) | Result   |
|---------|-----------|---------------------------------|------------------------|------------------------|----------|
| 151     | 5755 MHz  | -7.02                           | 7.68                   | 6.32                   | Complies |
| 159     | 5795 MHz  | -7.02                           | 7.07                   | 6.93                   | Complies |

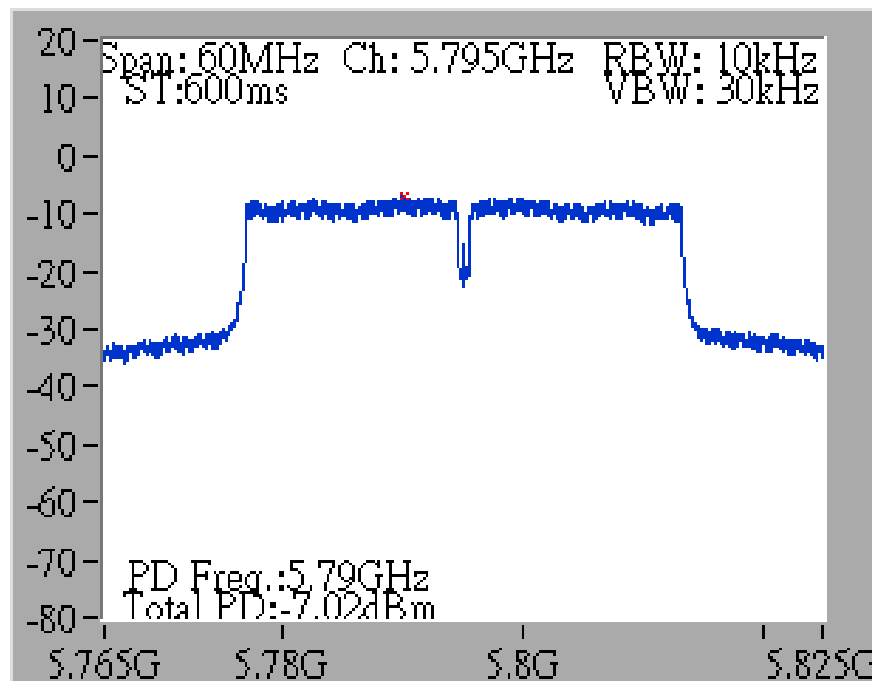
## &lt;Nss2MCS0, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Total Power Density (dBm/10kHz) | Directional Gain (dBi) | Max. Limit (dBm/10kHz) | Result   |
|---------|-----------|---------------------------------|------------------------|------------------------|----------|
| 151     | 5755 MHz  | -7.14                           | 6.53                   | 7.47                   | Complies |
| 159     | 5795 MHz  | -7.09                           | 5.79                   | 8.00                   | Complies |

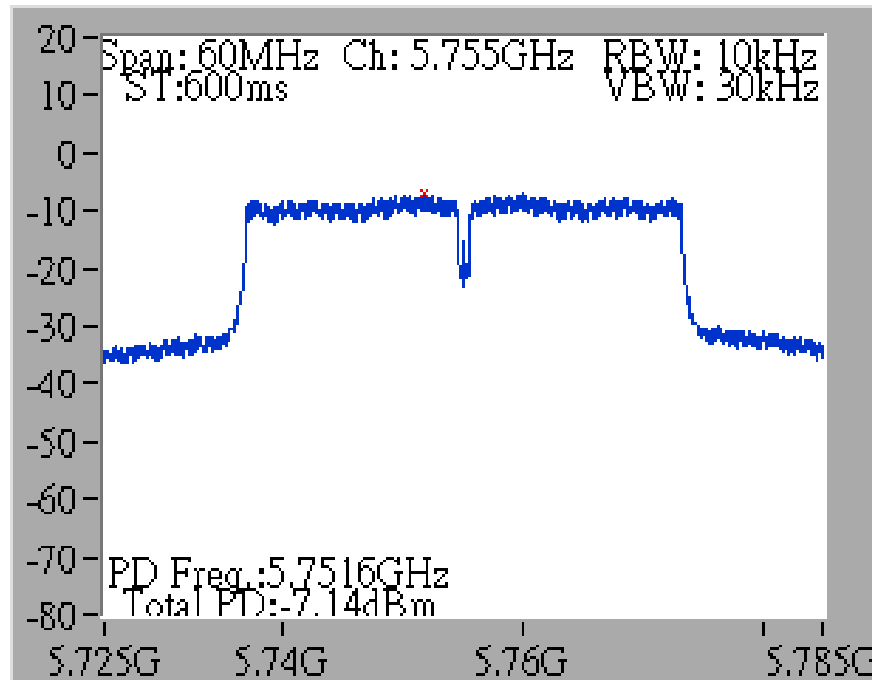
## Power Density Plot on Configuration IEEE 802.11ac 40MHz Nss1MCS0 / CH 151 / Ant. 1+2+3



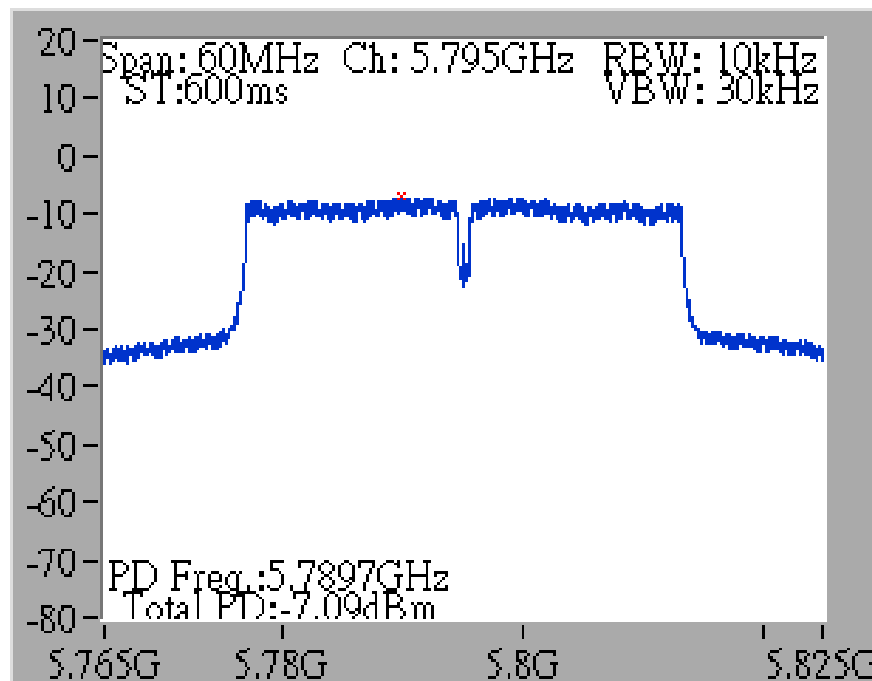
## Power Density Plot on Configuration IEEE 802.11ac 40MHz Nss1MCS0 / CH 159 / Ant. 1+2+3



## Power Density Plot on Configuration IEEE 802.11ac 40MHz Nss2MCS0 / CH 151 / Ant. 1+2+3



## Power Density Plot on Configuration IEEE 802.11ac 40MHz Nss2MCS0 / CH 159 / Ant. 1+2+3



|               |                                                                        |               |                |
|---------------|------------------------------------------------------------------------|---------------|----------------|
| Test date     | Feb. 13, 2014                                                          | Test Site No. | TH01-CB        |
| Temperature   | 26°C                                                                   | Humidity      | 63%            |
| Test Engineer | Magic Lai                                                              | Configuration | 802.11ac 80MHz |
| Duty Cycle    | Nss1MCS0, Ant. 1+2+3, CDD: 95.49%<br>Nss2MCS0, Ant. 1+2+3, CDD: 96.38% |               |                |

## Configuration IEEE 802.11ac 80MHz

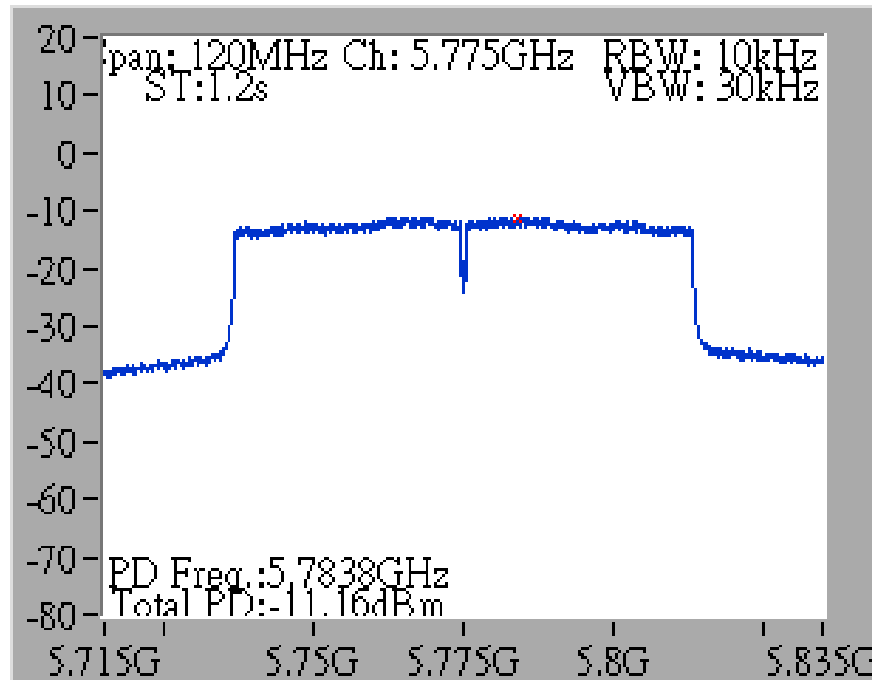
## &lt;Nss1MCS0, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Total Power Density<br>(dBm/10kHz) | Directional Gain<br>(dBi) | Max. Limit<br>(dBm/10kHz) | Result   |
|---------|-----------|------------------------------------|---------------------------|---------------------------|----------|
| 155     | 5775 MHz  | -11.16                             | 7.28                      | 6.72                      | Complies |

## &lt;Nss1MCS0, Ant. 1+2+3, CDD&gt;

| Channel | Frequency | Total Power Density<br>(dBm/10kHz) | Directional Gain<br>(dBi) | Max. Limit<br>(dBm/10kHz) | Result   |
|---------|-----------|------------------------------------|---------------------------|---------------------------|----------|
| 155     | 5775 MHz  | -11.05                             | 6.04                      | 7.96                      | Complies |

## Power Density Plot on Configuration IEEE 802.11ac 80MHz Nss1MCS0 / CH 155 / Ant. 1+2+3



## Power Density Plot on Configuration IEEE 802.11ac 80MHz Nss2MCS0 / CH 155 / Ant. 1+2+3

