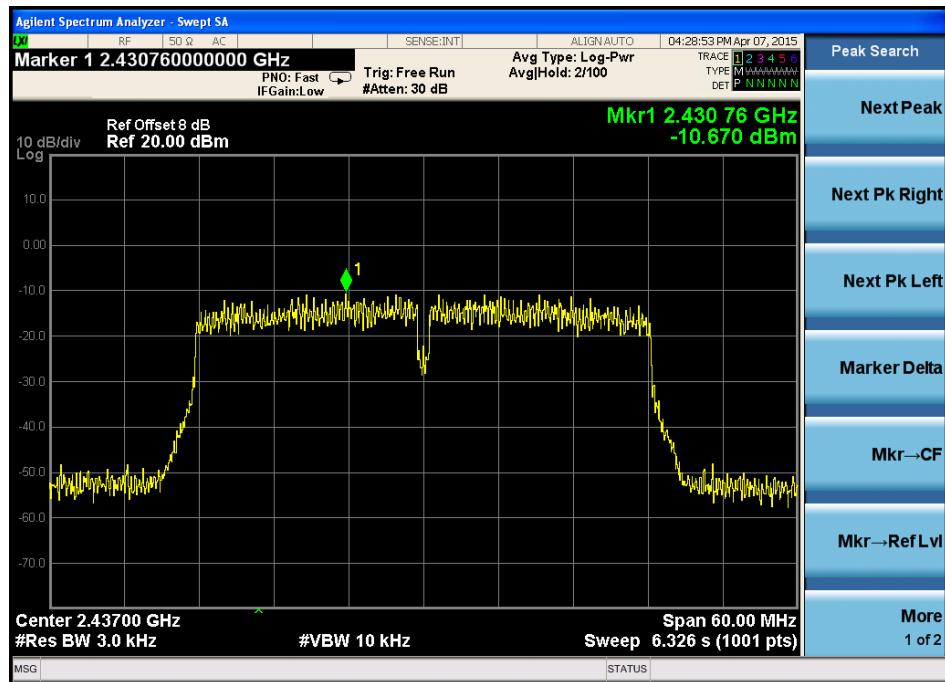
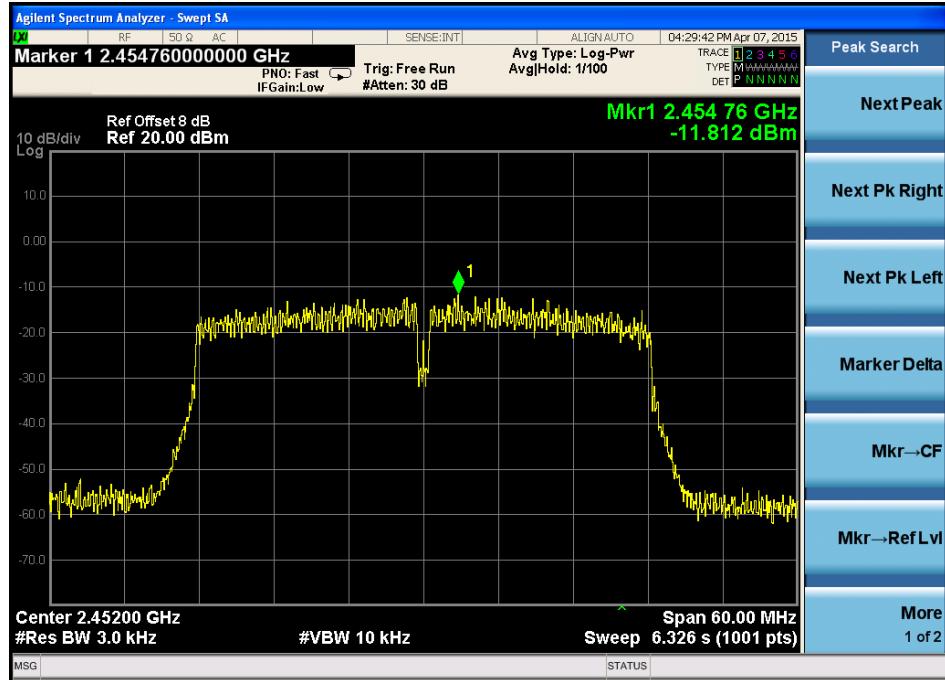


CH Mid:



CH Hig:



## 9 Bandwidth

### 9.1 Test limit

Please refer section 15.247

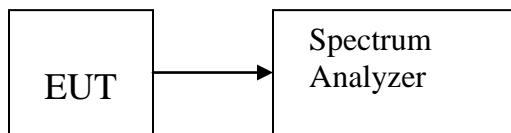
For direct sequence systems, the minimum 6dB bandwidth shall be at least 500 kHz.

### 9.2 Method of measurement

Details see the KDB558074 D01 Meas Guidance

- a) The bandwidth is measured at an amplitude level reduced 20dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst-case (i.e. the widest) bandwidth.
- b) The test receiver set RBW = 1-5 % EBW, VBW $\geq$ 3RBW, Sweep time set auto, detail see the test plot.

### 9.3 Test Setup



### 9.4 Test Results

PASS.

Antenna 0 and Antenna 1 port all have been tested ,  
only worse case is reported

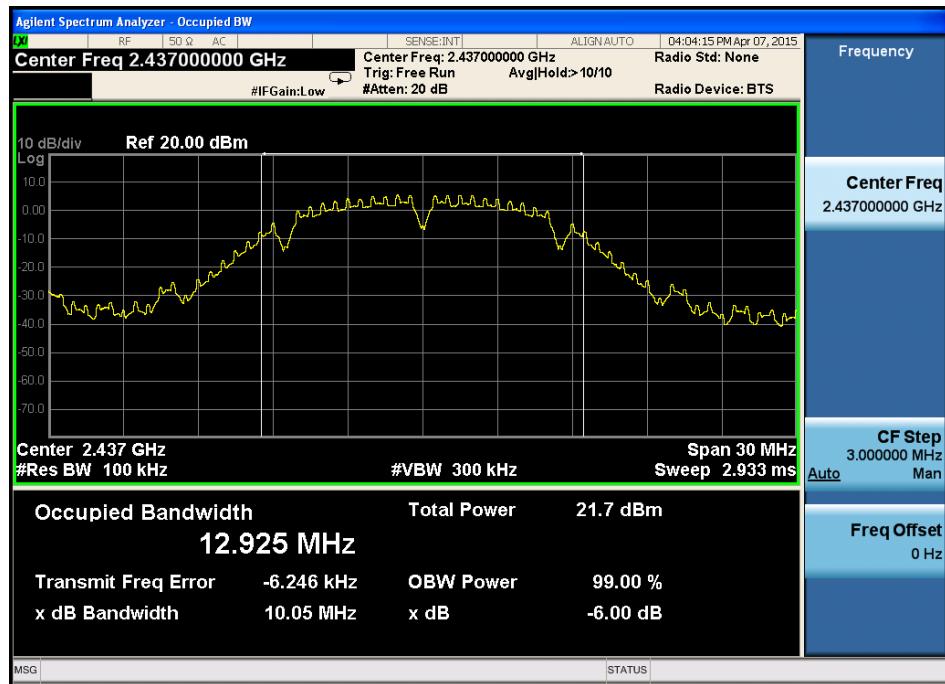
Detailed information please see the following page.

| Channel            | Frequency (MHz) | 6dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) | Limit (MHz) | Result |
|--------------------|-----------------|---------------------|------------------------------|-------------|--------|
| IEEE 802.11b:      |                 |                     |                              |             |        |
| Low                | 2412            | 10.05               | 12.962                       | 0.5         | PASS   |
| Mid                | 2437            | 10.05               | 12.925                       | 0.5         | PASS   |
| High               | 2462            | 9.588               | 12.887                       | 0.5         | PASS   |
| IEEE 802.11g       |                 |                     |                              |             |        |
| Low                | 2412            | 15.11               | 16.381                       | 0.5         | PASS   |
| Mid                | 2437            | 15.45               | 16.397                       | 0.5         | PASS   |
| High               | 2462            | 15.16               | 16.378                       | 0.5         | PASS   |
| IEEE 802.11n/HT20: |                 |                     |                              |             |        |
| Low                | 2412            | 15.16               | 17.544                       | 0.5         | PASS   |
| Mid                | 2437            | 15.16               | 17.568                       | 0.5         | PASS   |
| High               | 2462            | 15.16               | 17.532                       | 0.5         | PASS   |
| IEEE 802.11n/HT40: |                 |                     |                              |             |        |
| Low                | 2422            | 35.24               | 35.775                       | 0.5         | PASS   |
| Mid                | 2437            | 35.22               | 35.795                       | 0.5         | PASS   |
| High               | 2452            | 35.14               | 35.773                       | 0.5         | PASS   |

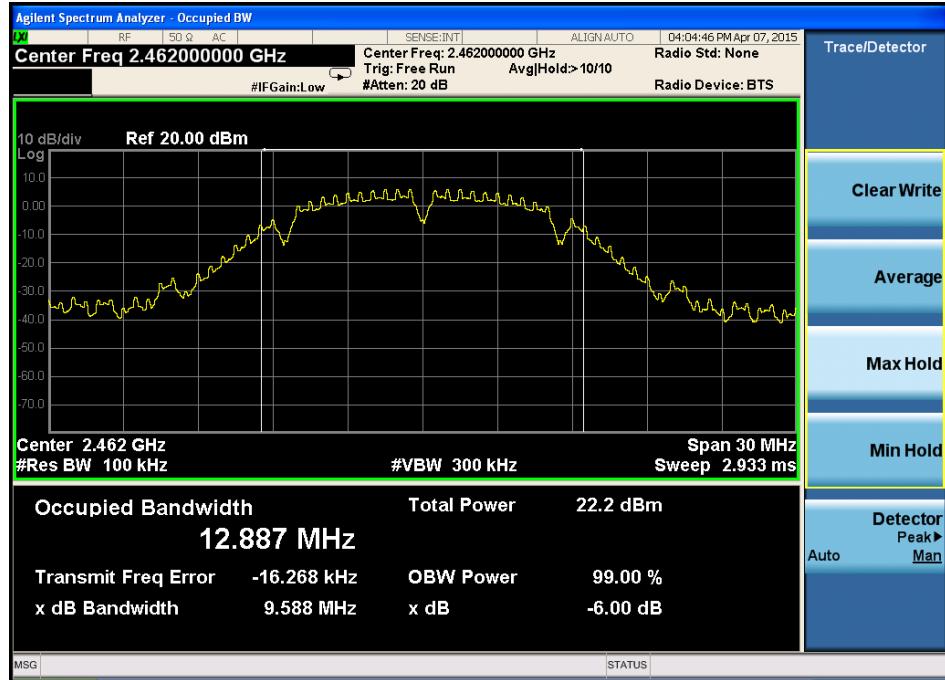
IEEE 802.11b:  
CH Low :



CH Mid :

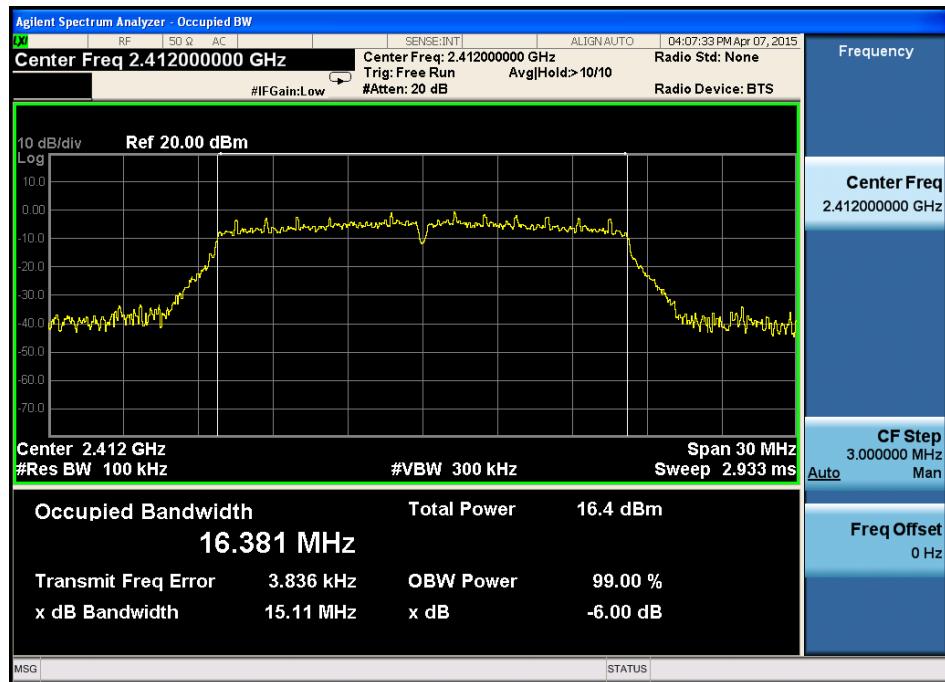


CH High :



IEEE 802.11g:

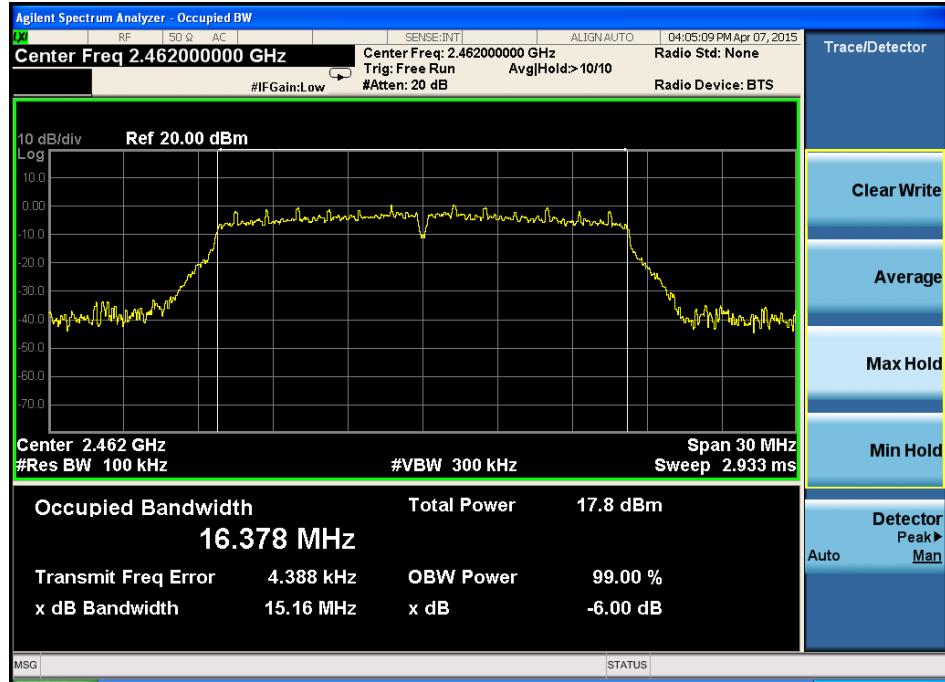
CH Low :



CH Mid:

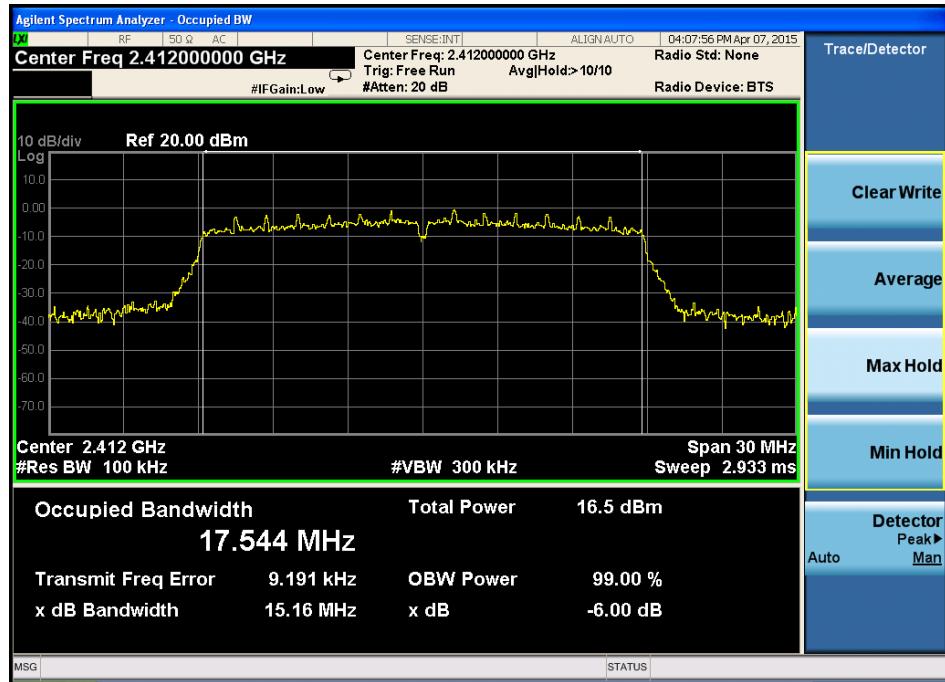


CH Hig:

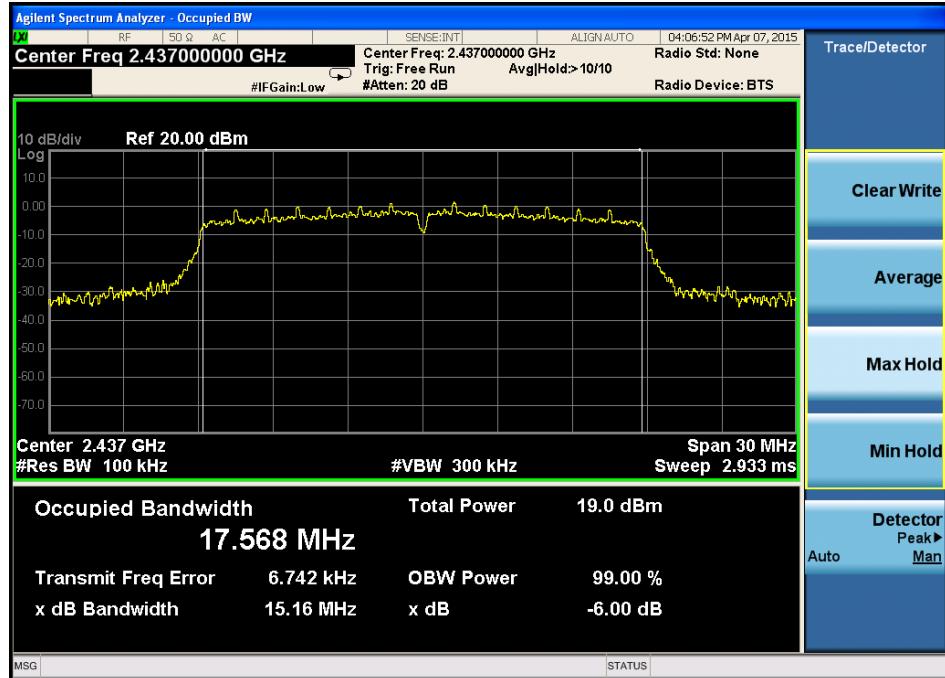


IEEE 802.11n HT20:

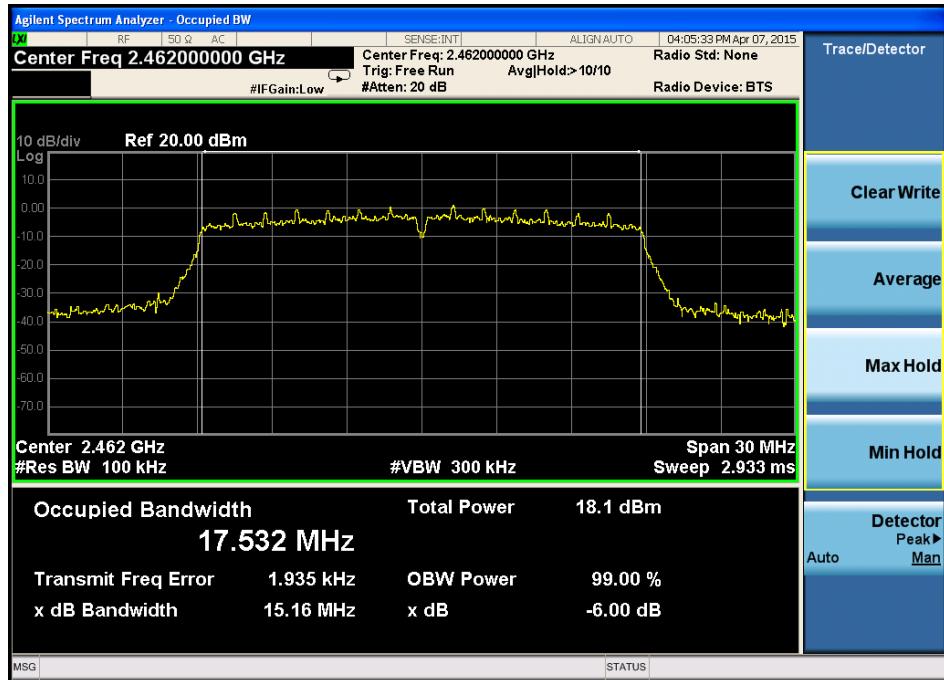
CH Low :



CH Mid :

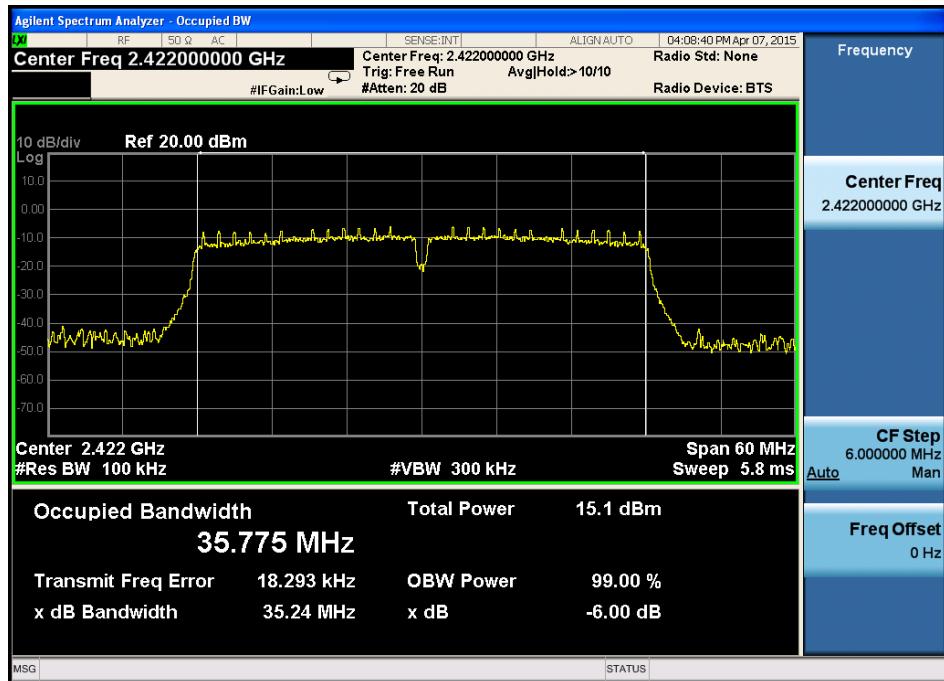


CH High :

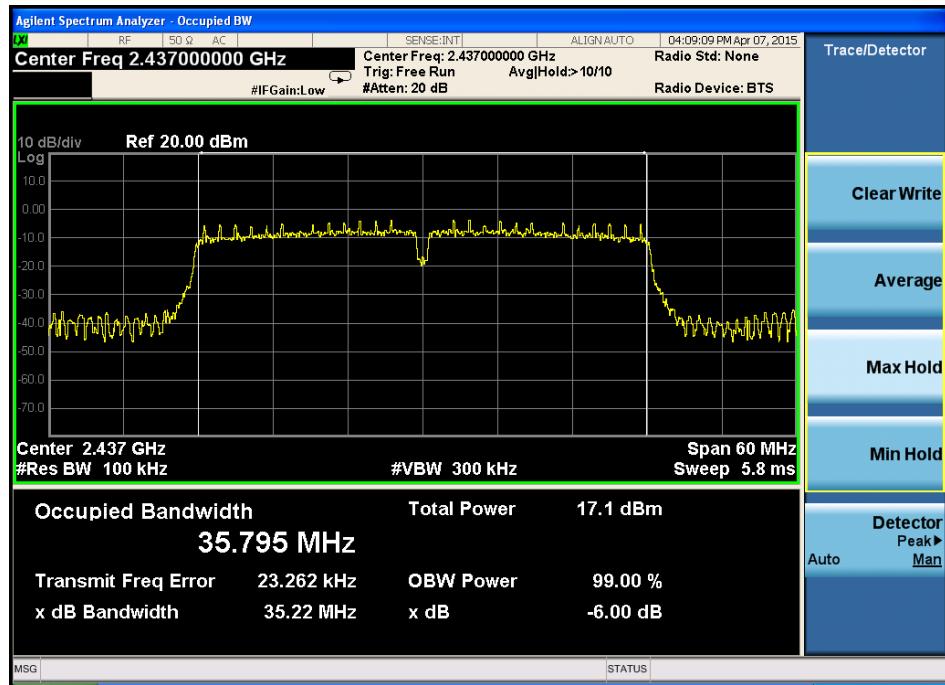


IEEE 802.11n/HT40:

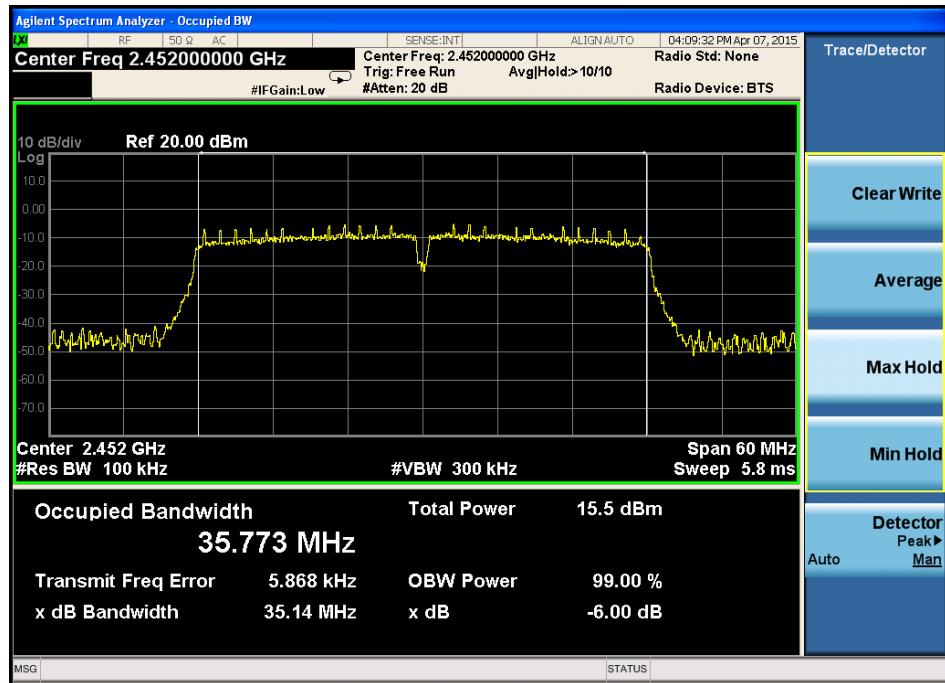
CH Low :



CH Mid:



CH High :



## 10 Band Edge Check

### 10.1 Test limit

Please refer section 15.247

All the lower and upper band-edges emissions appearing within 2310MHz to 2390MHz and 2483.5MHz to 2500MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz and 5725MHz to 5850MHz shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

### 10.2 Test Procedure

- 12.2.1 Put the EUT on a 0.8m high table, power on the EUT. Emissions were scanned and measured rotating the EUT to 360 degrees, Find the maximum Emission
- 12.2.2 Check the spurious emissions out of band.
- 12.2.3 RBW 1MHz ,VBW 3MHz ,peak detector for peak value , RBW 1MHz ,VBW 10Hz ,peak detector for AV value.

### 10.3 Test Setup

Same as 5.2.2.

### 10.4 Test Result

PASS.

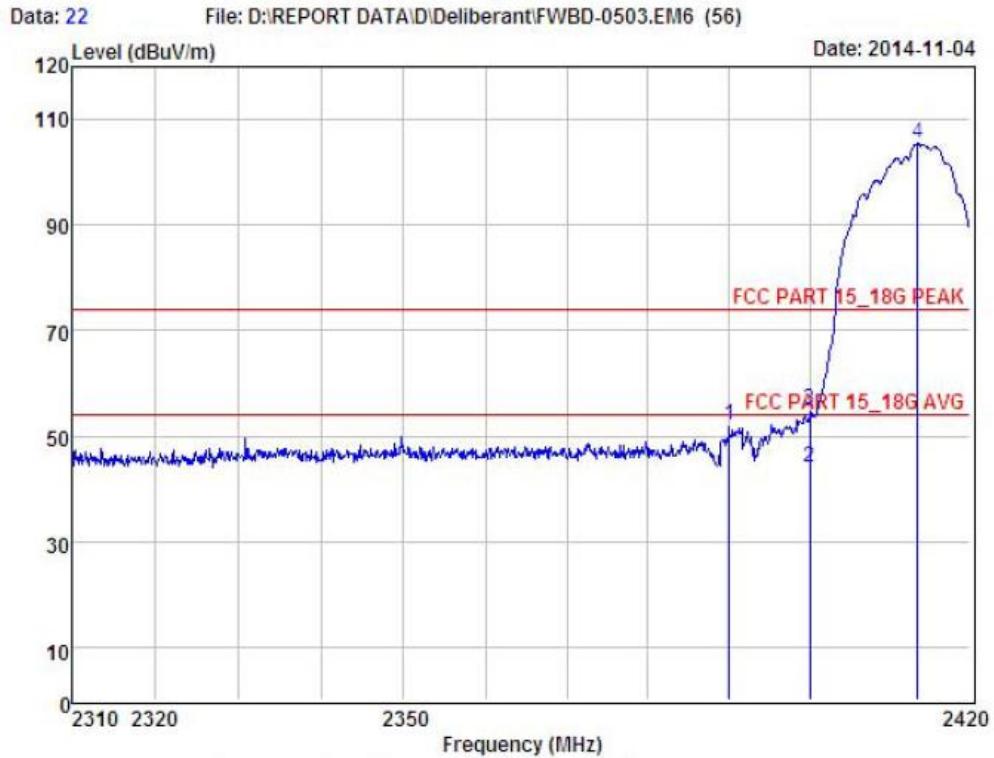
Detailed information please see the following page.

Radiated Method:

3dBi antenna

IEEE 802.11b

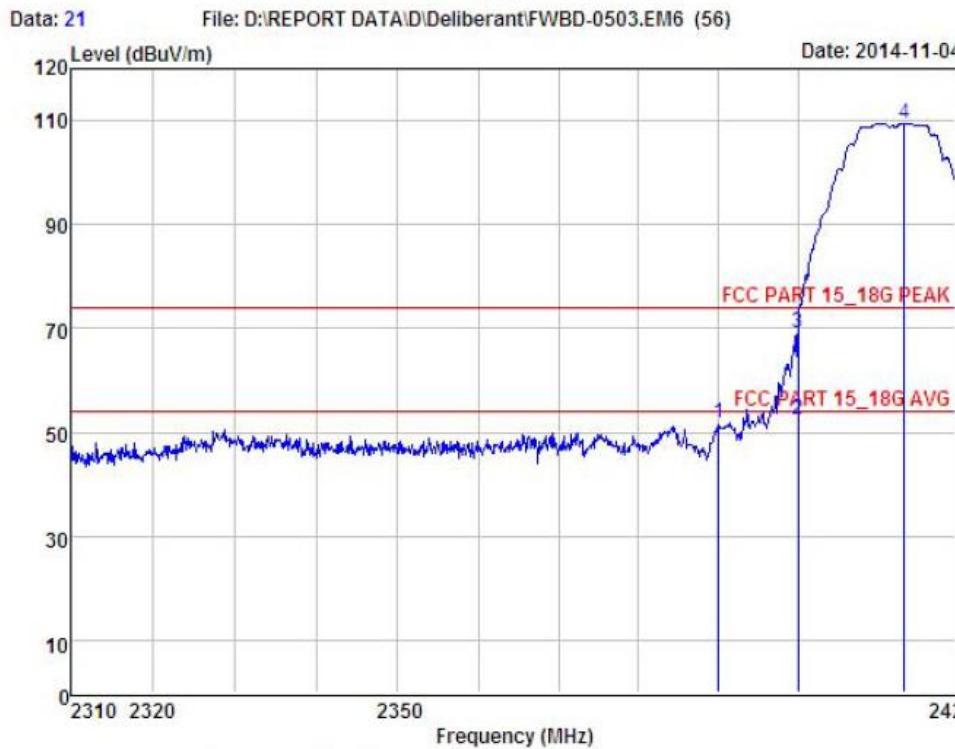
CH LOW



Condition : FCC PART 15\_18G PEAK 3m POL: HORIZONTAL  
 EUT : Broadband Digital Transmission System  
 Model No : FWBD-0503  
 Test Mode : 802.11b Low  
 Power : DC 24V from adapter with AC 120V/60Hz  
 Test Engineer :  
 Remark :  
 Temp : 24.2°C  
 Hum : 54%

| Item | Freq    | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Level  | Limit | Margin | Remark  |
|------|---------|------------|----------------|---------------|------------|--------|-------|--------|---------|
|      | MHz     | dBuV       | dB             | dB            | dB         | dBuV   | dBuV  | dBuV   |         |
| 1    | 2390.00 | 55.43      | 27.62          | 34.97         | 3.92       | 52.00  | 74.00 | -22.00 | Peak    |
| 2    | 2400.00 | 47.52      | 27.62          | 34.97         | 3.94       | 44.11  | 54.00 | -9.89  | Average |
| 3    | 2400.00 | 58.58      | 27.62          | 34.97         | 3.94       | 55.17  | 74.00 | -18.83 | Peak    |
| 4    | 2413.48 | 108.93     | 27.61          | 34.97         | 3.95       | 105.52 | 74.00 | 31.52  | Peak    |

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

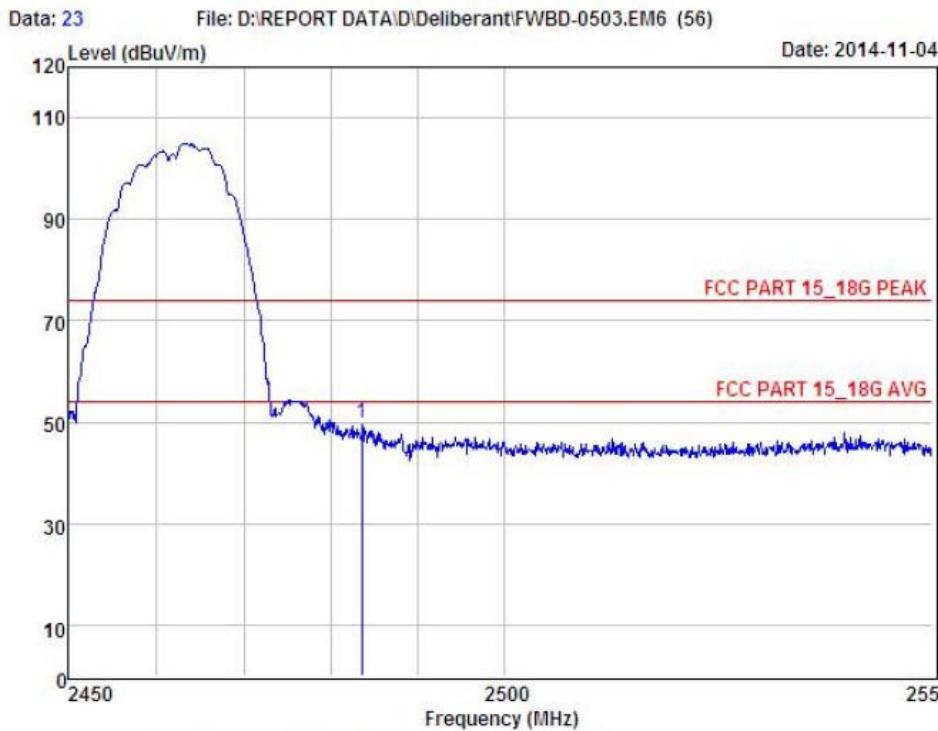


Condition : FCC PART 15\_18G PEAK 3m POL: VERTICAL  
 EUT : Broadband Digital Transmission System  
 Model No : FWBD-0503  
 Test Mode : 802.11b Low  
 Power : DC 24V from adapter with AC 120V/60Hz  
 Test Engineer :  
 Remark :  
 Temp : 24.2°C  
 Hum : 54%

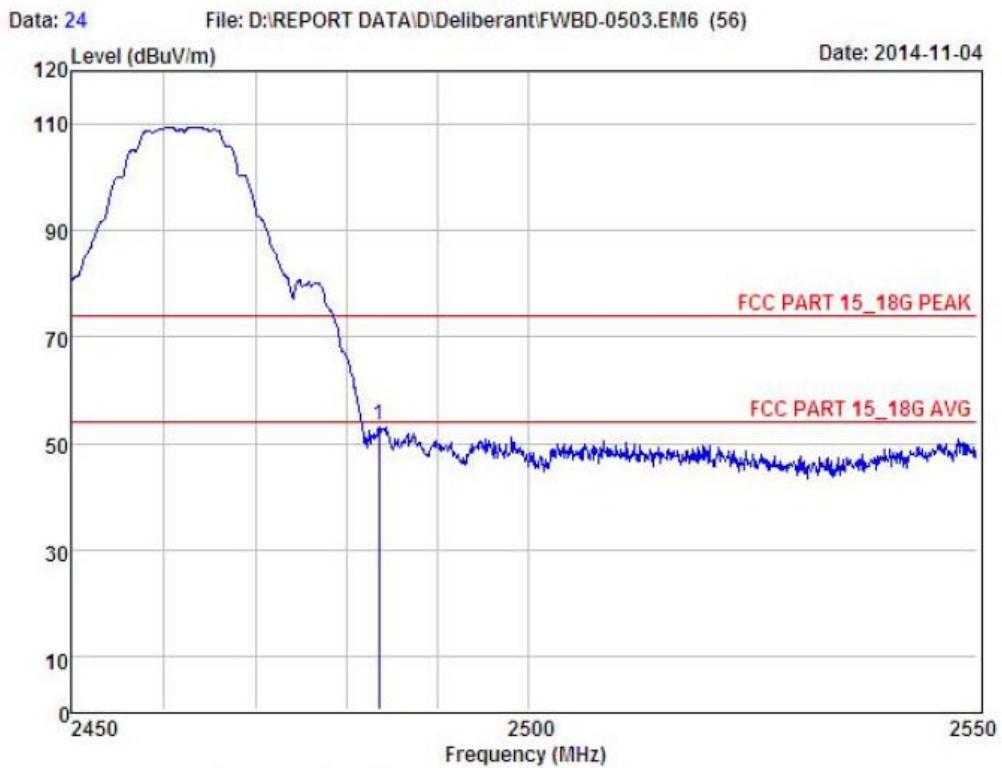
| Item | Freq    | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Level  | Limit | Margin | Remark  |
|------|---------|------------|----------------|---------------|------------|--------|-------|--------|---------|
|      | MHz     | dBuV       | dB             | dB            | dB         | dBuV   | dBuV  | dBuV   |         |
| 1    | 2390.00 | 55.27      | 27.62          | 34.97         | 3.92       | 51.84  | 74.00 | -22.16 | Peak    |
| 2    | 2400.00 | 55.72      | 27.62          | 34.97         | 3.94       | 52.31  | 54.00 | -1.69  | Average |
| 3    | 2400.00 | 72.72      | 27.62          | 34.97         | 3.94       | 69.31  | 74.00 | -4.69  | Peak    |
| 4    | 2413.48 | 112.94     | 27.61          | 34.97         | 3.95       | 109.53 | 74.00 | 35.53  | Peak    |

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

CH High :



Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

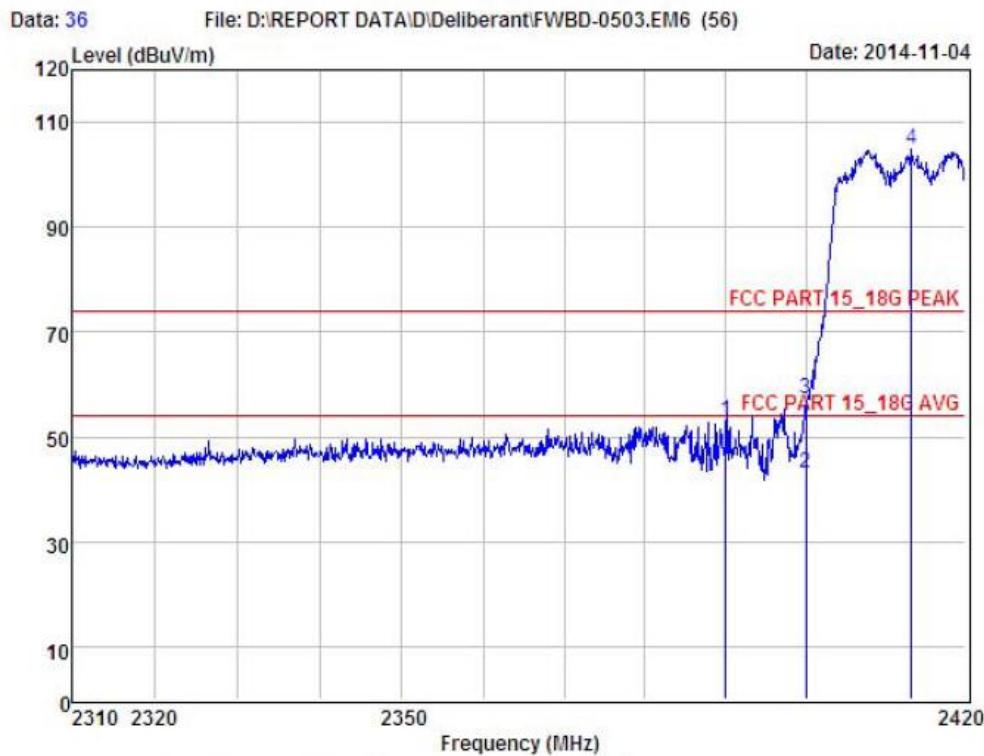


Condition : FCC PART 15\_18G PEAK 3m POL: VERTICAL  
EUT : Broadband Digital Transmission System  
Model No : FWBD-0503  
Test Mode : 802.11b High  
Power : DC 24V from adapter with AC 120V/60Hz  
Test Engineer :  
Remark :  
Temp : 24.2°C  
Hum : 54%

| Item | Freq    | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Level | Limit | Margin | Remark |
|------|---------|------------|----------------|---------------|------------|-------|-------|--------|--------|
|      | MHz     | dBuV       | dB             | dB            | dB         | dBuV  | dBuV  | dBuV   |        |
| 1    | 2483.50 | 56.64      | 27.59          | 34.97         | 4.00       | 53.26 | 74.00 | -20.74 | Peak   |

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

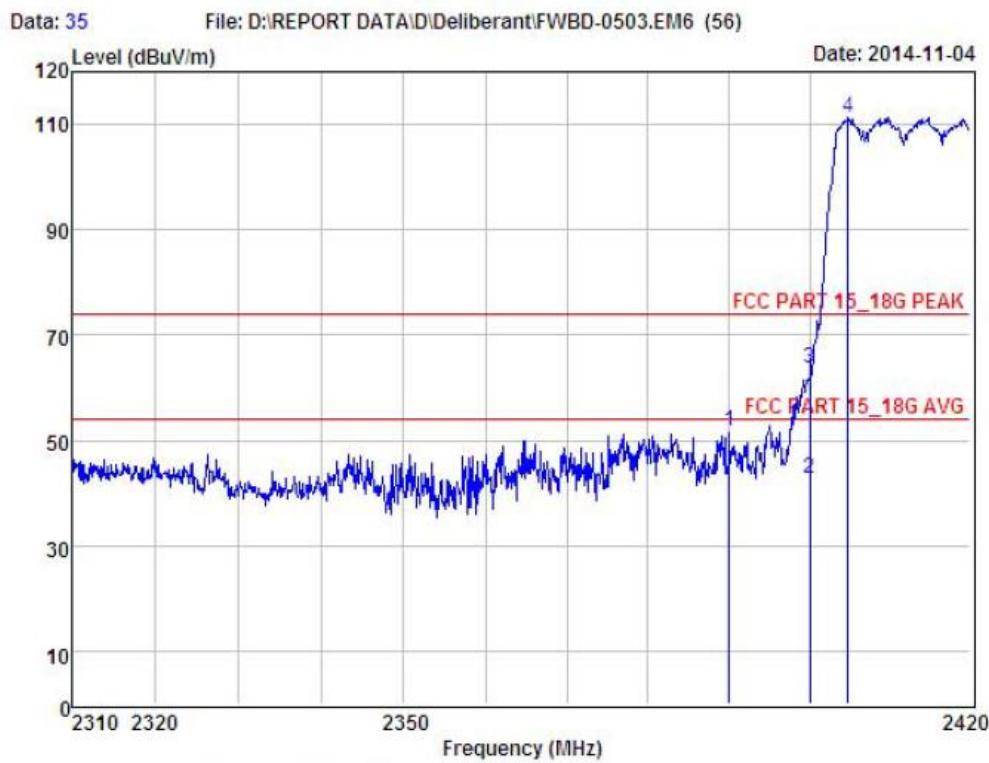
IEEE 802.11g:  
CH LOW :



Condition : FCC PART 15\_18G PEAK 3m POL: HORIZONTAL  
 EUT : Broadband Digital Transmission System  
 Model No : FEBD-0503  
 Test Mode : 802.11g Low  
 Power : DC 24V from adapter with AC 120V/60Hz  
 Test Engineer :  
 Remark :  
 Temp : 24.2°C  
 Hum : 54%

| Item | Freq    | Read   | Antenna | Preamp | Cable      | Level  | Limit | Margin | Remark  |
|------|---------|--------|---------|--------|------------|--------|-------|--------|---------|
|      |         | Level  | Factor  | Factor | Cable Loss |        |       |        |         |
|      | MHz     | dBuV   | dB      | dB     | dB         | dBuV   | dBuV  | dBuV   |         |
| 1    | 2390.00 | 56.59  | 27.62   | 34.97  | 3.92       | 53.16  | 74.00 | -20.84 | Peak    |
| 2    | 2400.00 | 46.58  | 27.62   | 34.97  | 3.94       | 43.17  | 54.00 | -10.83 | Average |
| 3    | 2400.00 | 60.58  | 27.62   | 34.97  | 3.94       | 57.17  | 74.00 | -16.83 | Peak    |
| 4    | 2413.26 | 108.19 | 27.61   | 34.97  | 3.95       | 104.78 | 74.00 | 30.78  | Peak    |

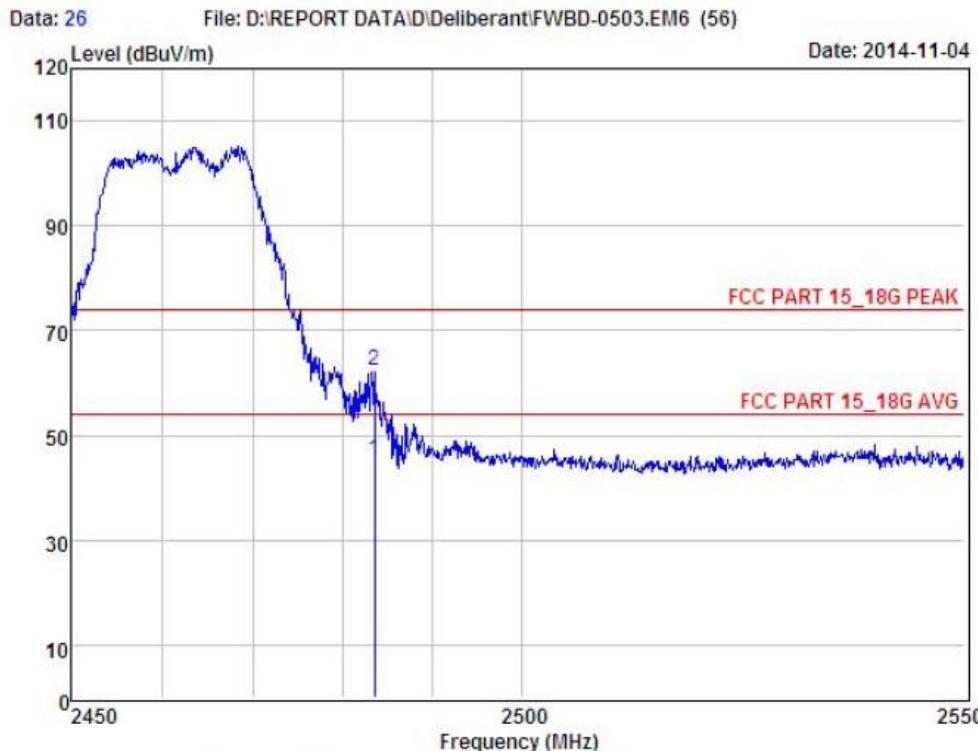
Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



| Item | Freq    | Read   | Antenna | Preamp | Cable | Level  | Limit | Margin | Remark  |
|------|---------|--------|---------|--------|-------|--------|-------|--------|---------|
|      |         | Level  | Factor  | Factor | Loss  |        |       |        |         |
|      | MHz     | dBuV   | dB      | dB     | dB    | dBuV   | dBuV  | dBuV   |         |
| 1    | 2390.00 | 55.19  | 27.62   | 34.97  | 3.92  | 51.76  | 74.00 | -22.24 | Peak    |
| 2    | 2400.00 | 46.18  | 27.62   | 34.97  | 3.94  | 42.77  | 54.00 | -11.23 | Average |
| 3    | 2400.00 | 67.18  | 27.62   | 34.97  | 3.94  | 63.77  | 74.00 | -10.23 | Peak    |
| 4    | 2404.74 | 114.79 | 27.61   | 34.97  | 3.94  | 111.37 | 74.00 | 37.37  | Peak    |

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

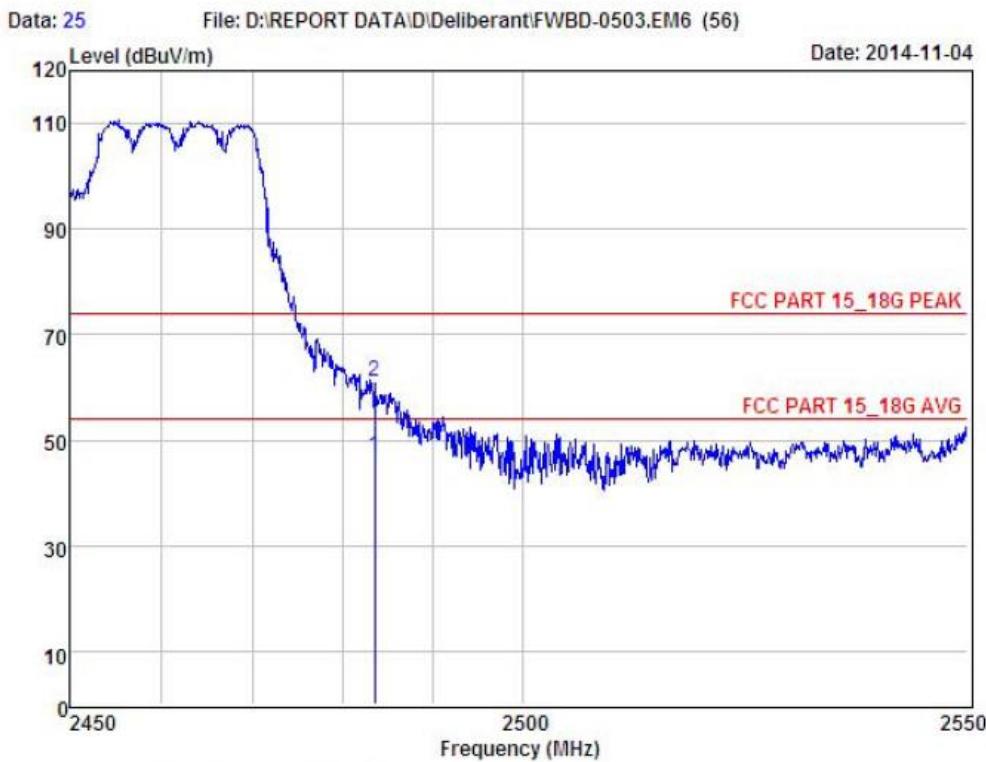
CH Hig:



Condition : FCC PART 15\_18G PEAK 3m        POL: HORIZONTAL  
 EUT : Broadband Digital Transmission System  
 Model No : FEBD-0503  
 Test Mode : 802.11g High  
 Power : DC 24V from adapter with AC 120V/60Hz  
 Test Engineer :  
 Remark :  
 Temp : 24.2°C  
 Hum : 54%

| Item | Freq    | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Level | Limit | Margin | Remark  |
|------|---------|------------|----------------|---------------|------------|-------|-------|--------|---------|
|      | MHz     | dBuV       | dB             | dB            | dB         | dBuV  | dBuV  | dBuV   |         |
| 1    | 2483.50 | 48.85      | 27.59          | 34.97         | 4.00       | 45.47 | 54.00 | -8.53  | Average |
| 2    | 2483.50 | 65.74      | 27.59          | 34.97         | 4.00       | 62.36 | 74.00 | -11.64 | Peak    |

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



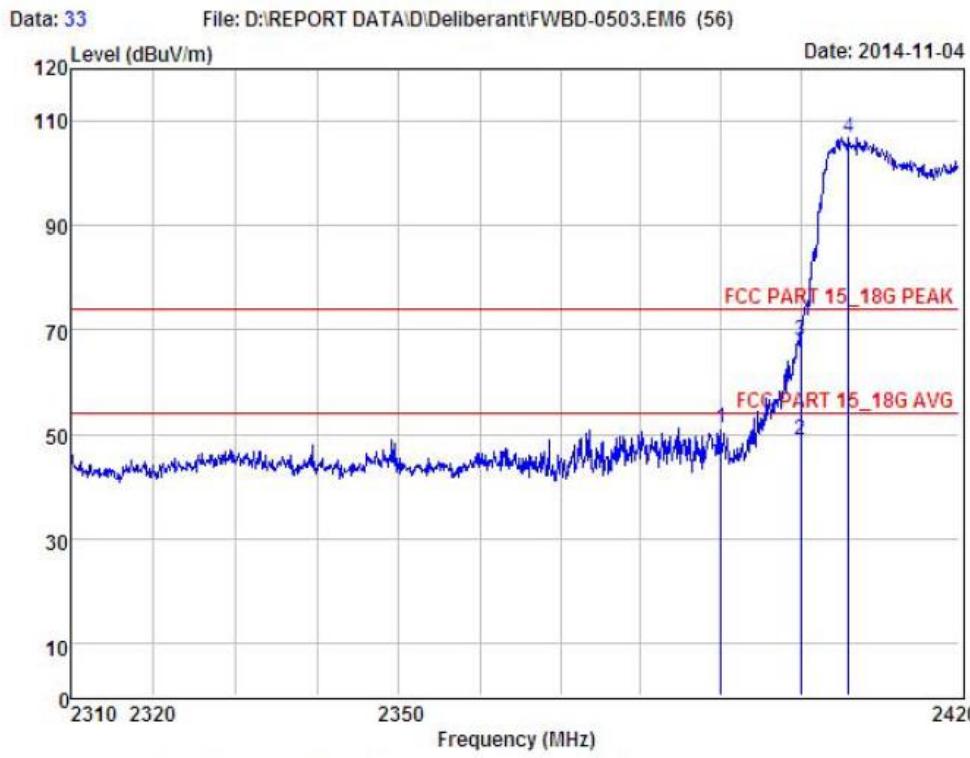
Condition : FCC PART 15\_18G PEAK 3m POL: VERTICAL  
EUT : Broadband Digital Transmission System  
Model No : FEBD-0503  
Test Mode : 802.11g High  
Power : DC 24V from adapter with AC 120V/60Hz  
Test Engineer :  
Remark :  
Temp : 24.2°C  
Hum : 54%

| Item | Freq    | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Level | Limit | Margin | Remark  |
|------|---------|------------|----------------|---------------|------------|-------|-------|--------|---------|
|      | MHz     | dBuV       | dB             | dB            | dB         | dBuV  | dBuV  | dBuV   |         |
| 1    | 2483.50 | 50.29      | 27.59          | 34.97         | 4.00       | 46.91 | 54.00 | -7.09  | Average |
| 2    | 2483.50 | 64.49      | 27.59          | 34.97         | 4.00       | 61.11 | 74.00 | -12.89 | Peak    |

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

IEEE 802.11n HT20:

CH LOW :



Condition : FCC PART 15\_18G PEAK 3m                  POL: HORIZONTAL  
 EUT : Broadband Digital Transmission System

Model No : FEBD-0503

Test Mode : 802.11n/HT20 Low

Power : DC 24V from adapter with AC 120V/60Hz

Test Engineer :

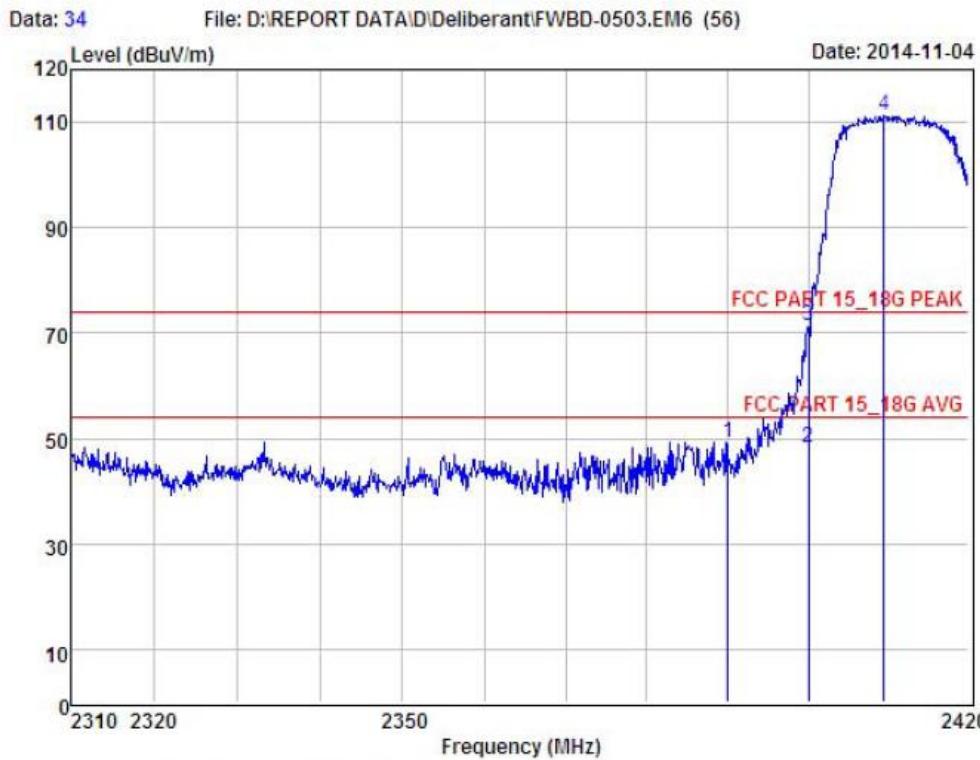
Remark :

Temp : 24.2°C

Hum : 54%

| Item | Freq    | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Level  | Limit | Margin | Remark  |
|------|---------|------------|----------------|---------------|------------|--------|-------|--------|---------|
|      | MHz     | dBuV       | dB             | dB            | dB         | dBuV   | dBuV  | dBuV   |         |
| 1    | 2390.00 | 54.49      | 27.62          | 34.97         | 3.92       | 51.06  | 74.00 | -22.94 | Peak    |
| 2    | 2400.00 | 52.18      | 27.62          | 34.97         | 3.94       | 48.77  | 54.00 | -5.23  | Average |
| 3    | 2400.00 | 71.18      | 27.62          | 34.97         | 3.94       | 67.77  | 74.00 | -6.23  | Peak    |
| 4    | 2406.08 | 110.27     | 27.61          | 34.97         | 3.94       | 106.85 | 74.00 | 32.85  | Peak    |

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

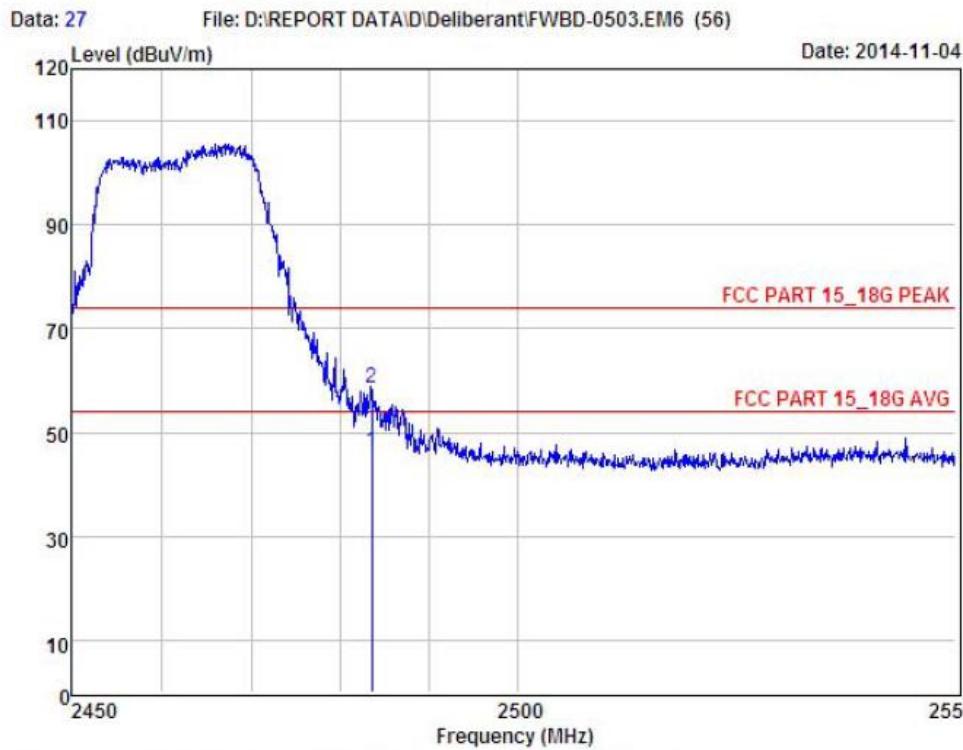


Condition : FCC PART 15\_18G PEAK 3m POL: VERTICAL  
 EUT : Broadband Digital Transmission System  
 Model No : FWBD-0503  
 Test Mode : 802.11n/HT20 Low  
 Power : DC 24V from adapter with AC 120V/60Hz  
 Test Engineer :  
 Remark :  
 Temp : 24.2°C  
 Hum : 54%

| Item | Freq    | Read   | Antenna | Preamp | Cable | Level  | Limit | Margin | Remark  |
|------|---------|--------|---------|--------|-------|--------|-------|--------|---------|
|      |         | Level  | Factor  | Factor | Loss  |        |       |        |         |
|      | MHz     | dBuV   | dB      | dB     | dB    | dBuV   | dBuV  | dBuV   |         |
| 1    | 2390.00 | 52.76  | 27.62   | 34.97  | 3.92  | 49.33  | 74.00 | -24.67 | Peak    |
| 2    | 2400.00 | 51.75  | 27.62   | 34.97  | 3.94  | 48.34  | 54.00 | -5.66  | Average |
| 3    | 2400.00 | 74.75  | 27.62   | 34.97  | 3.94  | 71.34  | 74.00 | -2.66  | Peak    |
| 4    | 2409.44 | 114.68 | 27.61   | 34.97  | 3.94  | 111.26 | 74.00 | 37.26  | Peak    |

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

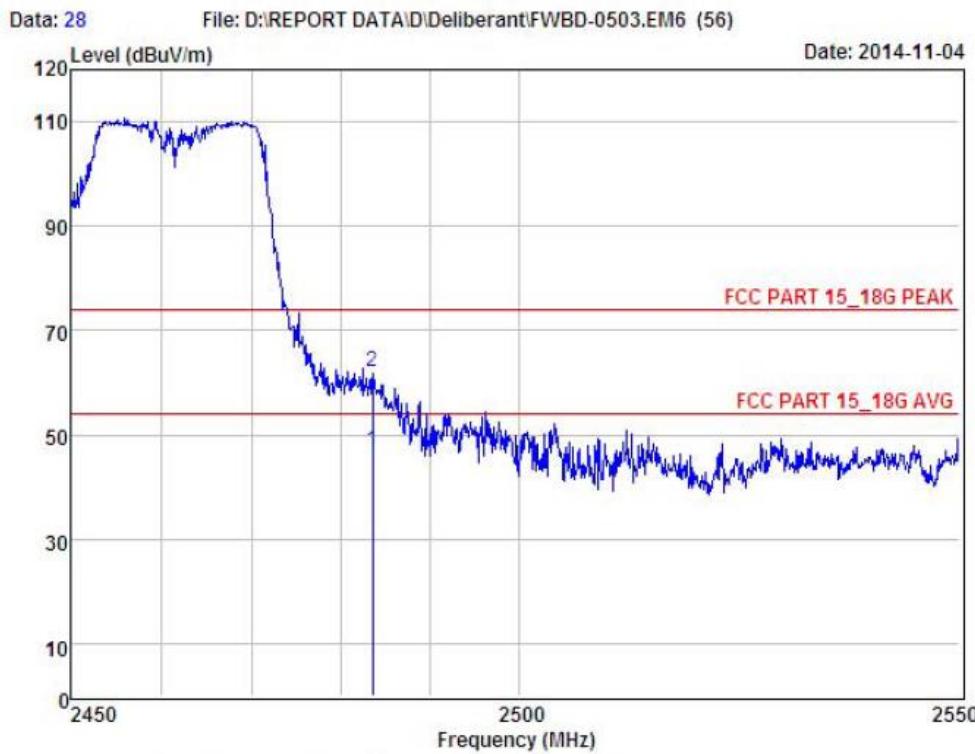
CH High :



Condition : FCC PART 15\_18G PEAK 3m      POL: HORIZONTAL  
 EUT : Broadband Digital Transmission System  
 Model No : FEBD-0503  
 Test Mode : 802.11n/HT20 High  
 Power : DC 24V from adapter with AC 120V/60Hz  
 Test Engineer :  
 Remark :  
 Temp : 24.2°C  
 Hum : 54%

| Item | Freq    | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Level | Limit | Margin | Remark  |
|------|---------|------------|----------------|---------------|------------|-------|-------|--------|---------|
|      | MHz     | dBuV       | dB             | dB            | dB         | dBuV  | dBuV  | dBuV   |         |
| 1    | 2483.50 | 49.77      | 27.59          | 34.97         | 4.00       | 46.39 | 54.00 | -7.61  | Average |
| 2    | 2483.50 | 61.77      | 27.59          | 34.97         | 4.00       | 58.39 | 74.00 | -15.61 | Peak    |

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

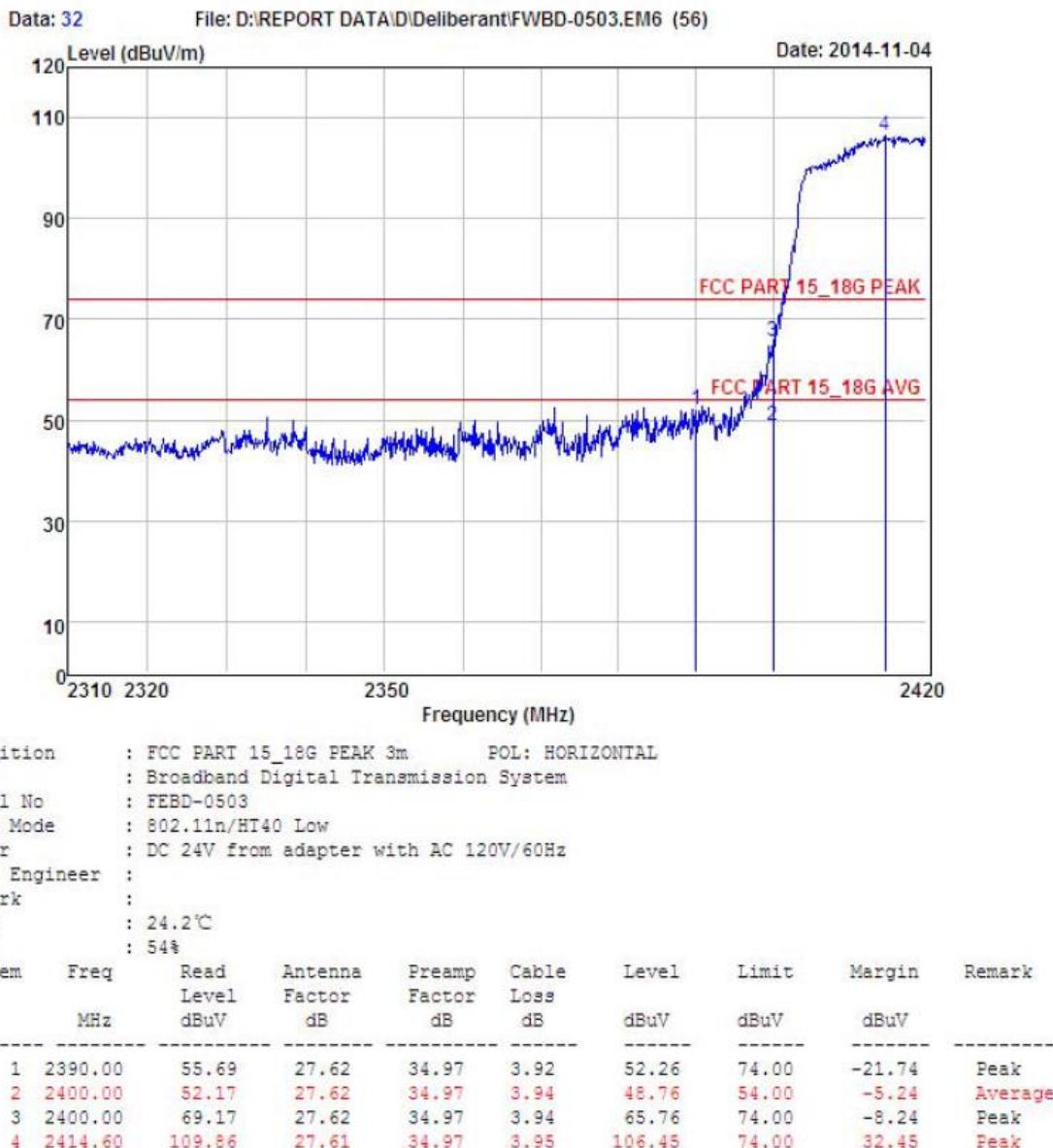


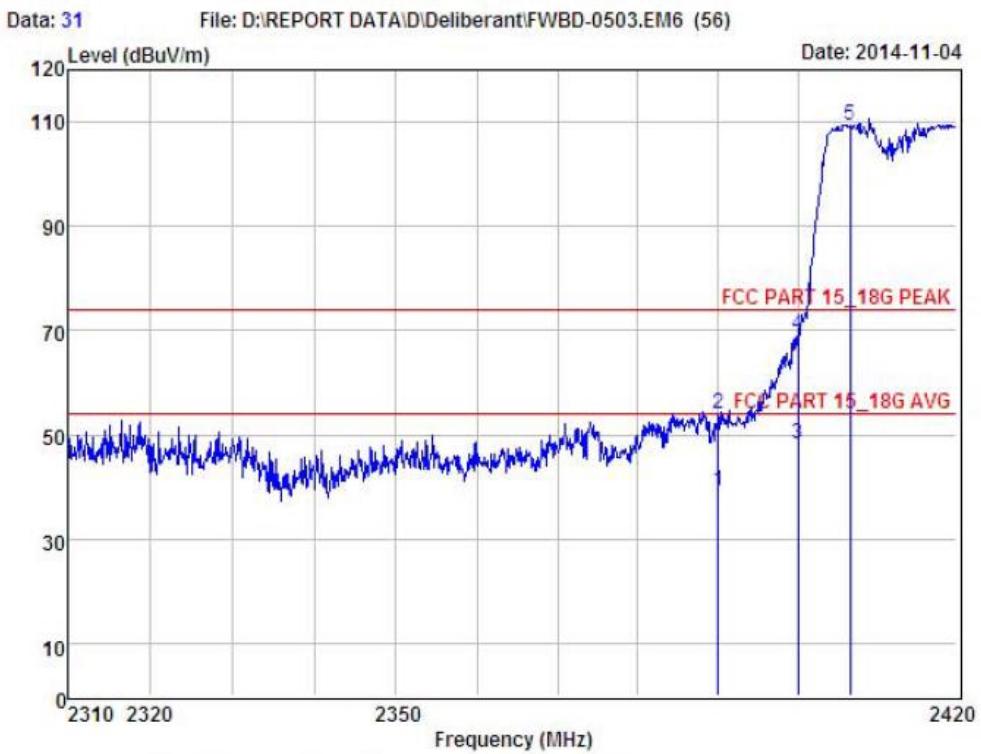
Condition : FCC PART 15\_18G PEAK 3m POL: VERTICAL  
 EUT : Broadband Digital Transmission System  
 Model No : FWBD-0503  
 Test Mode : 802.11n/HT20 High  
 Power : DC 24V from adapter with AC 120V/60Hz  
 Test Engineer :  
 Remark :  
 Temp : 24.2°C  
 Hum : 54%

| Item  | Freq    | Read Level | Antenna Factor | Preamplifier Factor | Cable Loss | Level | Limit | Margin | Remark  |
|-------|---------|------------|----------------|---------------------|------------|-------|-------|--------|---------|
|       | MHz     | dBuV       | dB             | dB                  | dB         | dBuV  | dBuV  | dBuV   |         |
| <hr/> |         |            |                |                     |            |       |       |        |         |
| 1     | 2483.50 | 50.37      | 27.59          | 34.97               | 4.00       | 46.99 | 54.00 | -7.01  | Average |
| 2     | 2483.50 | 65.44      | 27.59          | 34.97               | 4.00       | 62.06 | 74.00 | -11.94 | Peak    |

Remark: Level = Read Level + Antenna Factor - Preamplifier Factor + Cable Loss

IEEE 802.11n/HT40:  
CH LOW :



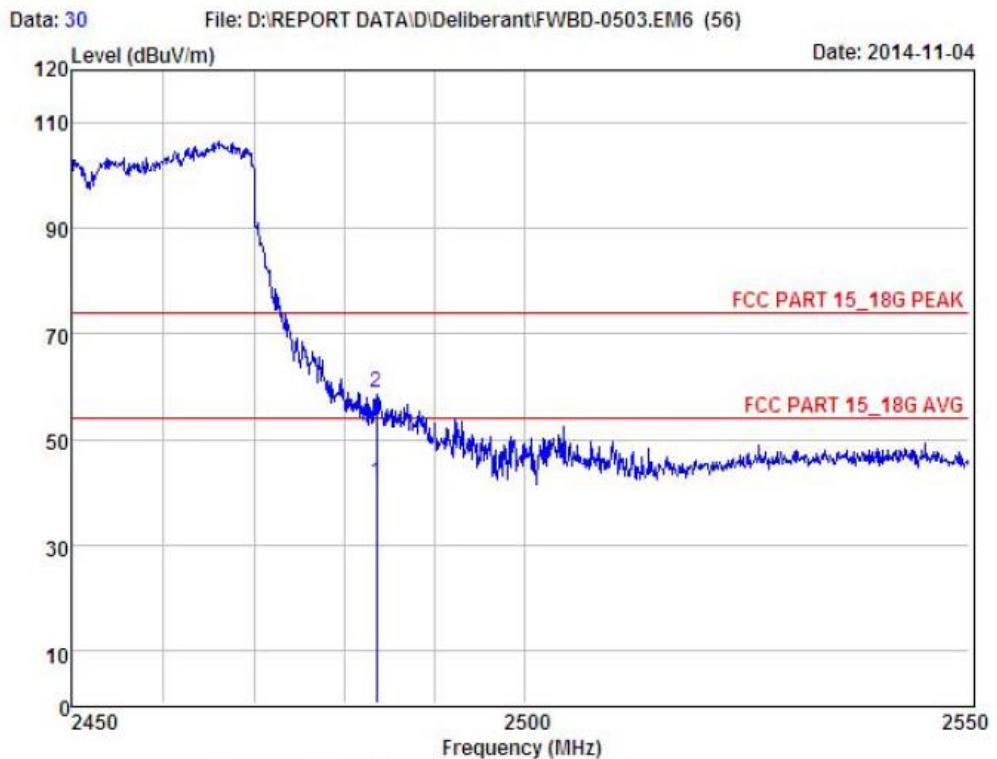


Condition : FCC PART 15\_18G PEAK 3m POL: VERTICAL  
 EUT : Broadband Digital Transmission System  
 Model No : FWBD-0503  
 Test Mode : 802.11n/HT40 Low  
 Power : DC 24V from adapter with AC 120V/60Hz  
 Test Engineer :  
 Remark :  
 Temp : 24.2°C  
 Hum : 54%

| Item | Freq    | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Level  | Limit | Margin | Remark  |
|------|---------|------------|----------------|---------------|------------|--------|-------|--------|---------|
|      | MHz     | dBuV       | dB             | dB            | dB         | dBuV   | dBuV  | dBuV   |         |
| 1    | 2390.00 | 42.59      | 27.62          | 34.97         | 3.92       | 39.16  | 54.00 | -14.84 | Average |
| 2    | 2390.00 | 57.59      | 27.62          | 34.97         | 3.92       | 54.16  | 74.00 | -19.84 | Peak    |
| 3    | 2400.00 | 51.78      | 27.62          | 34.97         | 3.94       | 48.37  | 54.00 | -5.63  | Average |
| 4    | 2400.00 | 72.56      | 27.62          | 34.97         | 3.94       | 69.15  | 74.00 | -4.85  | Peak    |
| 5    | 2406.53 | 112.89     | 27.61          | 34.97         | 3.94       | 109.47 | 74.00 | 35.47  | Peak    |

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

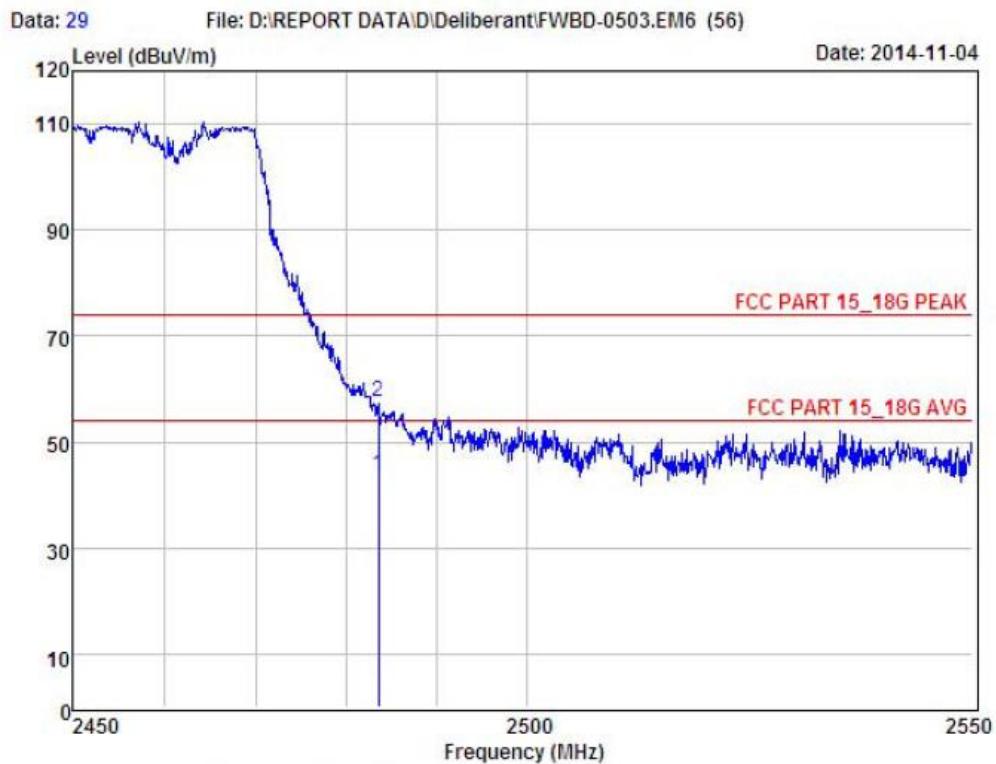
CH High :



Condition : FCC PART 15\_18G PEAK 3m                  POL: HORIZONTAL  
 EUT : Broadband Digital Transmission System  
 Model No : FWBD-0503  
 Test Mode : 802.11n/HT40 High  
 Power : DC 24V from adapter with AC 120V/60Hz  
 Test Engineer :  
 Remark :  
 Temp : 24.2°C  
 Hum : 54%

| Item | Freq    | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Level | Limit | Margin | Remark  |
|------|---------|------------|----------------|---------------|------------|-------|-------|--------|---------|
|      | MHz     | dBuV       | dB             | dB            | dB         | dBuV  | dBuV  | dBuV   |         |
| 1    | 2483.50 | 45.27      | 27.59          | 34.97         | 4.00       | 41.89 | 54.00 | -12.11 | Average |
| 2    | 2483.50 | 62.27      | 27.59          | 34.97         | 4.00       | 58.89 | 74.00 | -15.11 | Peak    |

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



Condition : FCC PART 15\_18G PEAK 3m      POL: VERTICAL  
 EUT : Broadband Digital Transmission System  
 Model No : FWBD-0503  
 Test Mode : 802.11n/HT40 High  
 Power : DC 24V from adapter with AC 120V/60Hz  
 Test Engineer :  
 Remark :  
 Temp : 24.2°C  
 Hum : 54%

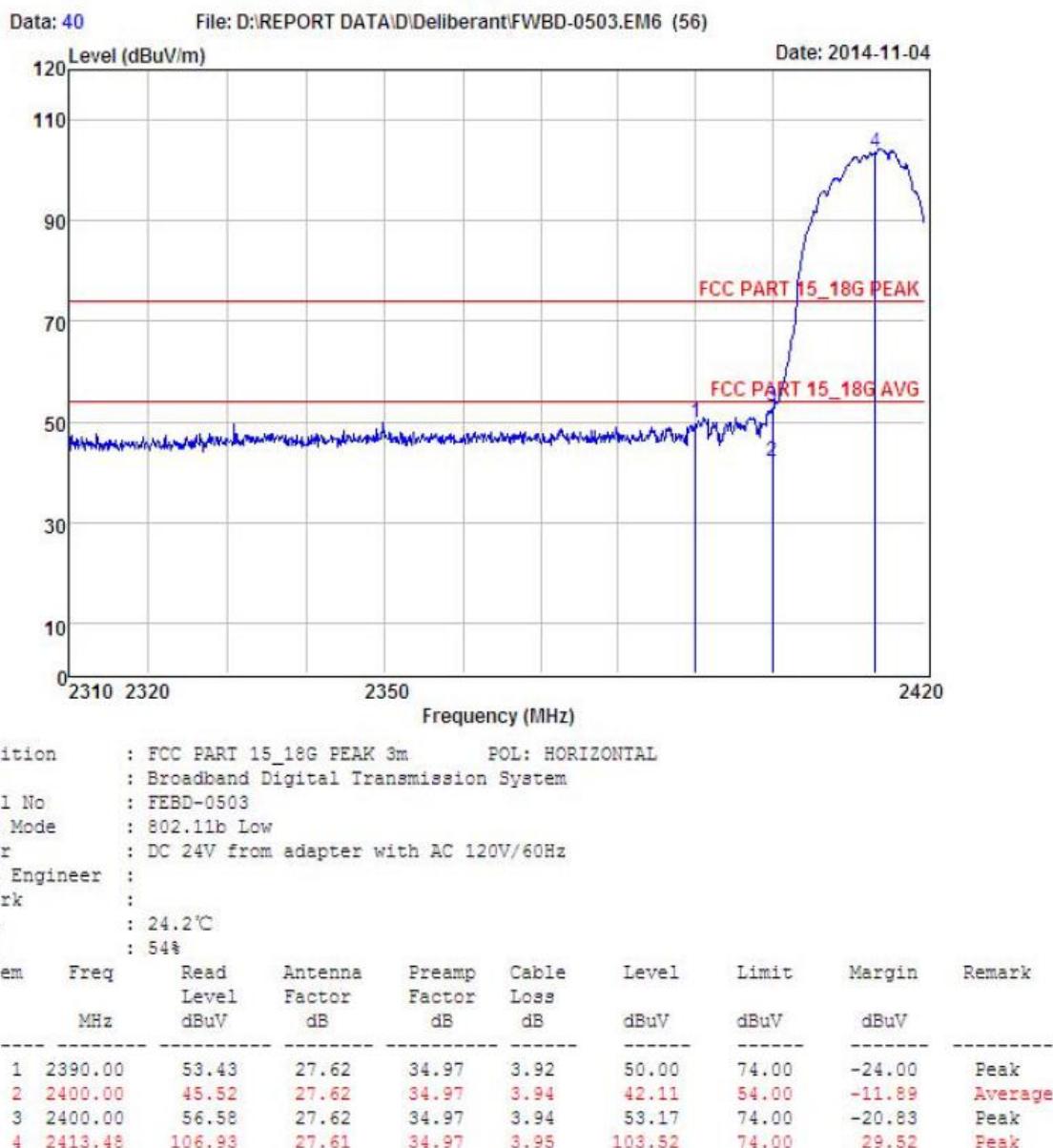
| Item | Freq    | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Level | Limit | Margin | Remark  |
|------|---------|------------|----------------|---------------|------------|-------|-------|--------|---------|
|      | MHz     | dBuV       | dB             | dB            | dB         | dBuV  | dBuV  | dBuV   |         |
| 1    | 2483.50 | 47.25      | 27.59          | 34.97         | 4.00       | 43.87 | 54.00 | -10.13 | Average |
| 2    | 2483.50 | 60.81      | 27.59          | 34.97         | 4.00       | 57.43 | 74.00 | -16.57 | Peak    |

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

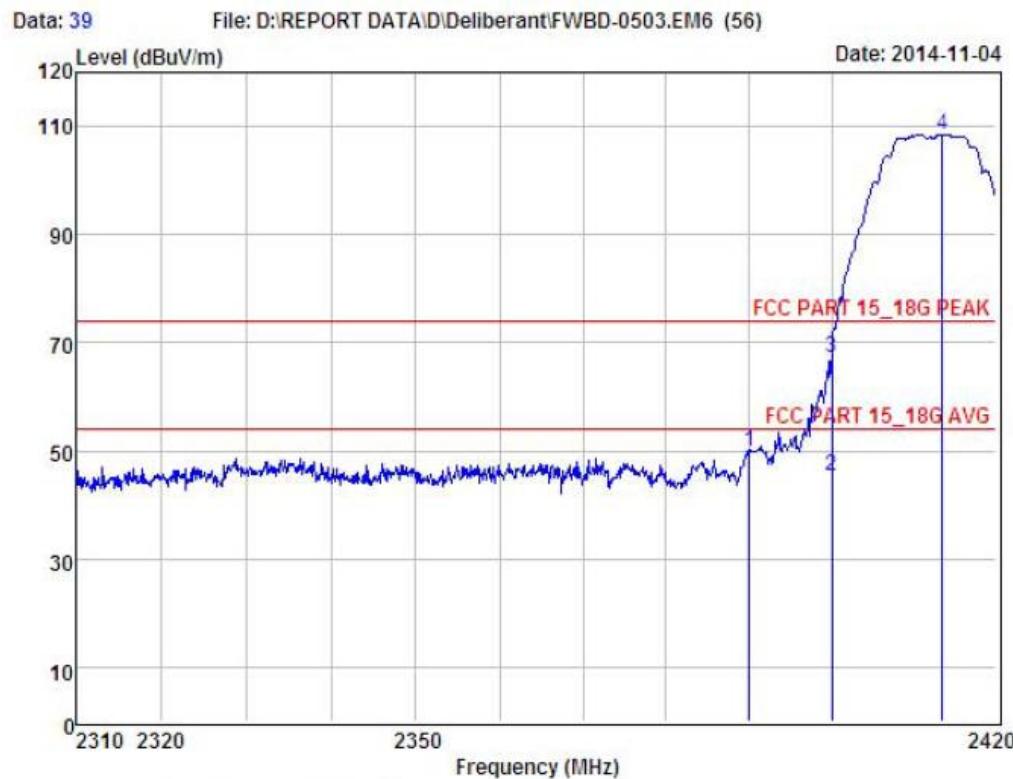
12dBi antenna :

IEEE 802.11b:

CH Low :

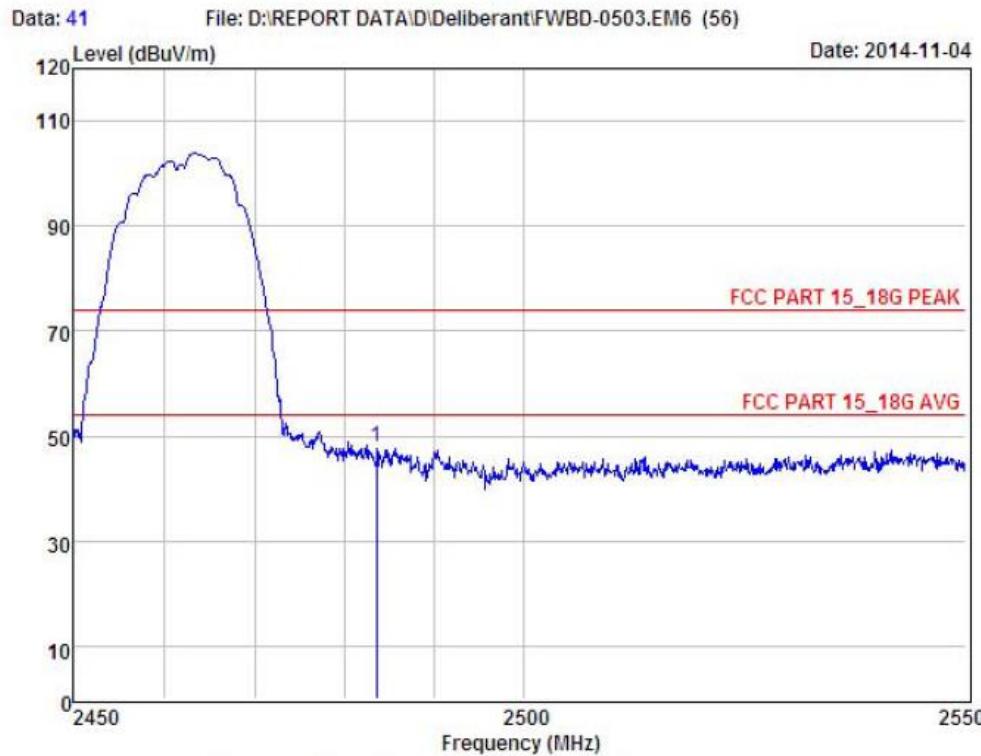


Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

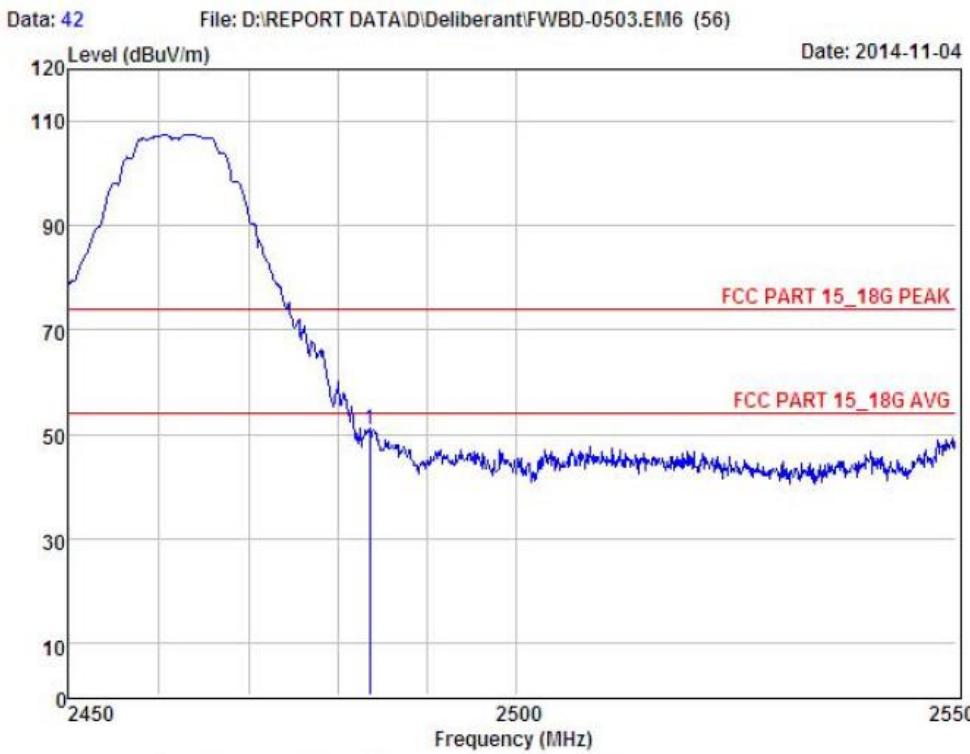
IEEE 802.11b:  
CH High :



Condition : FCC PART 15\_18G PEAK 3m      POL: HORIZONTAL  
 EUT : Broadband Digital Transmission System  
 Model No : FEBD-0503  
 Test Mode : 802.11b High  
 Power : DC 24V from adapter with AC 120V/60Hz  
 Test Engineer :  
 Remark :  
 Temp : 24.2°C  
 Hum : 54%

| Item | Freq    | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Level | Limit | Margin | Remark |
|------|---------|------------|----------------|---------------|------------|-------|-------|--------|--------|
|      | MHz     | dBuV       | dB             | dB            | dB         | dBuV  | dBuV  | dBuV   |        |
| 1    | 2483.50 | 51.17      | 27.59          | 34.97         | 4.00       | 47.79 | 74.00 | -26.21 | Peak   |

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

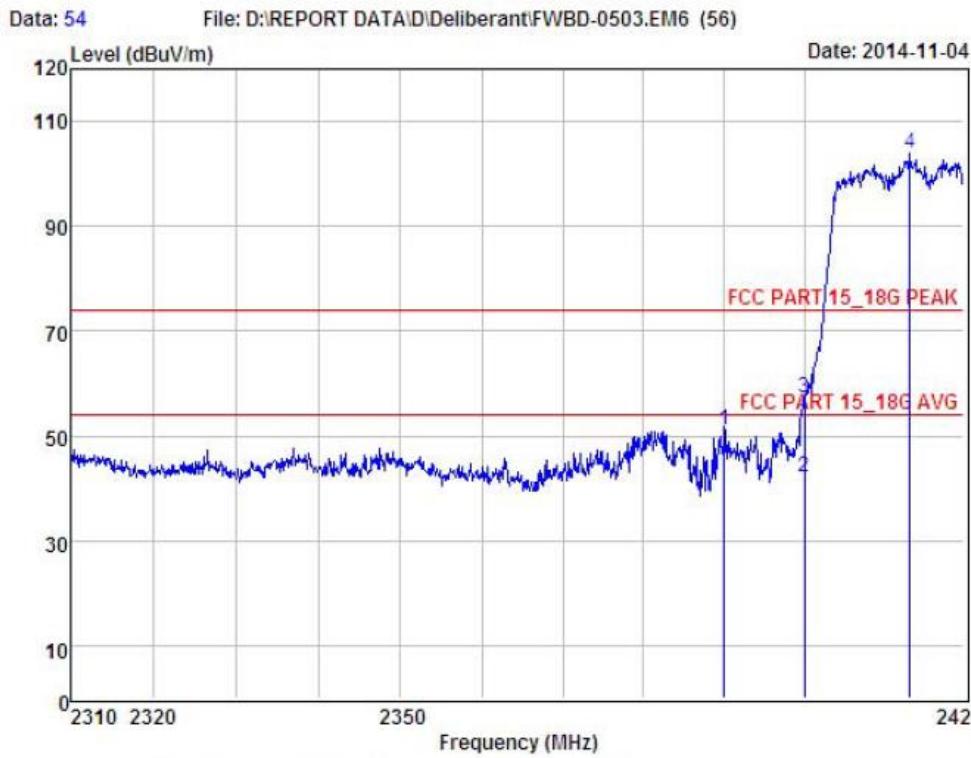


Condition : FCC PART 15\_18G PEAK 3m POL: VERTICAL  
EUT : Broadband Digital Transmission System  
Model No : FEBD-0503  
Test Mode : 802.11b High  
Power : DC 24V from adapter with AC 120V/60Hz  
Test Engineer :  
Remark :  
Temp : 24.2°C  
Hum : 54%

| Item | Freq    | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Level | Limit | Margin | Remark |
|------|---------|------------|----------------|---------------|------------|-------|-------|--------|--------|
|      | MHz     | dBuV       | dB             | dB            | dB         | dBuV  | dBuV  | dBuV   |        |
| 1    | 2483.50 | 54.36      | 27.59          | 34.97         | 4.00       | 50.98 | 74.00 | -23.02 | Peak   |

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

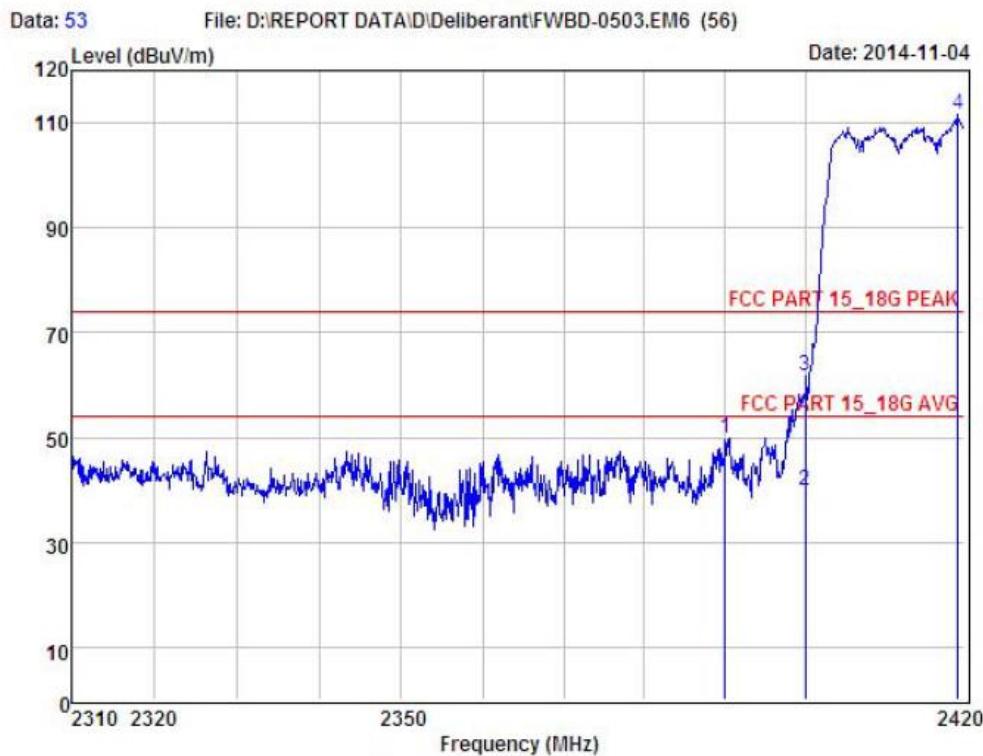
IEEE 802.11g:  
CH Low :



Condition : FCC PART 15\_18G PEAK 3m      POL: HORIZONTAL  
 EUT : Broadband Digital Transmission System  
 Model No : FEBD-0503  
 Test Mode : 802.11g Low  
 Power : DC 24V from adapter with AC 120V/60Hz  
 Test Engineer :  
 Remark :  
 Temp : 24.2°C  
 Hum : 54%

| Item | Freq    | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Level  | Limit | Margin | Remark  |
|------|---------|------------|----------------|---------------|------------|--------|-------|--------|---------|
|      | MHz     | dBuV       | dB             | dB            | dB         | dBuV   | dBuV  | dBuV   |         |
| 1    | 2390.00 | 54.49      | 27.62          | 34.97         | 3.92       | 51.06  | 74.00 | -22.94 | Peak    |
| 2    | 2400.00 | 45.58      | 27.62          | 34.97         | 3.94       | 42.17  | 54.00 | -11.83 | Average |
| 3    | 2400.00 | 60.58      | 27.62          | 34.97         | 3.94       | 57.17  | 74.00 | -16.83 | Peak    |
| 4    | 2413.26 | 107.19     | 27.61          | 34.97         | 3.95       | 103.78 | 74.00 | 29.78  | Peak    |

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

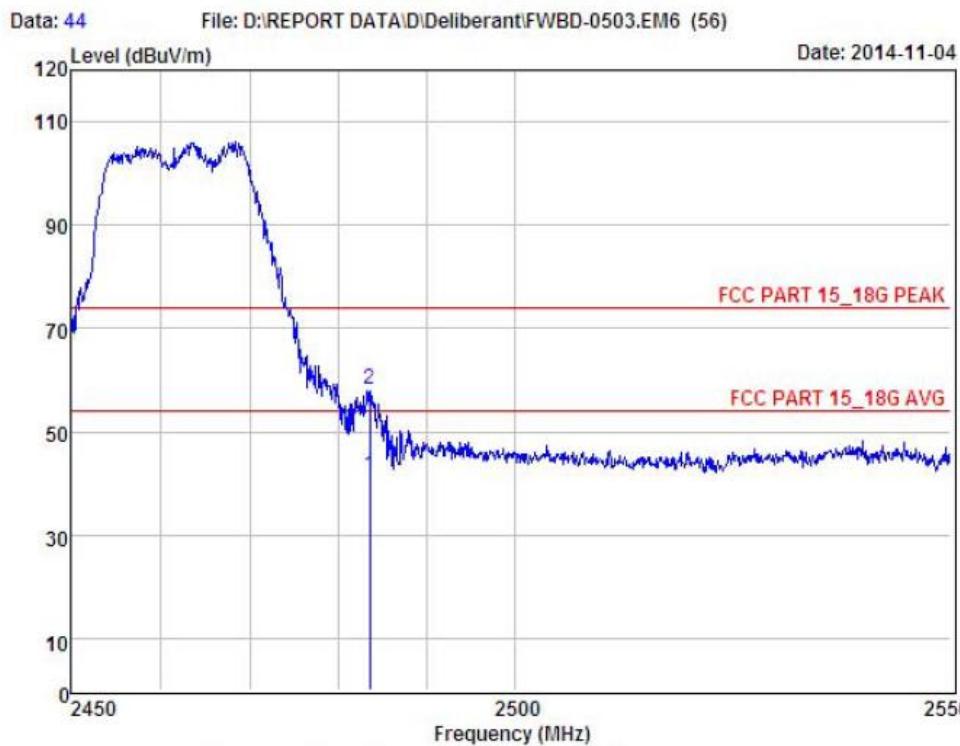


Condition : FCC PART 15\_18G PEAK 3m POL: VERTICAL  
 EUT : Broadband Digital Transmission System  
 Model No : FEBD-0503  
 Test Mode : 802.11g Low  
 Power : DC 24V from adapter with AC 120V/60Hz  
 Test Engineer :  
 Remark :  
 Temp : 24.2°C  
 Hum : 54%

| Item | Freq    | Read   | Antenna | Preamp | Cable      | Level  | Limit | Margin | Remark  |
|------|---------|--------|---------|--------|------------|--------|-------|--------|---------|
|      |         | Level  | Factor  | Factor | Cable Loss | dBuV   | dBuV  | dBuV   |         |
|      | MHz     | dBuV   | dB      | dB     | dB         |        |       |        |         |
| 1    | 2390.00 | 53.19  | 27.62   | 34.97  | 3.92       | 49.76  | 74.00 | -24.24 | Peak    |
| 2    | 2400.00 | 43.18  | 27.62   | 34.97  | 3.94       | 39.77  | 54.00 | -14.23 | Average |
| 3    | 2400.00 | 65.18  | 27.62   | 34.97  | 3.94       | 61.77  | 74.00 | -12.23 | Peak    |
| 4    | 2419.21 | 115.05 | 27.61   | 34.97  | 3.95       | 111.64 | 74.00 | 37.64  | Peak    |

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

CH Hig:



Condition : FCC PART 15\_18G PEAK 3m POL: HORIZONTAL

EUT : Broadband Digital Transmission System

Model No : FEBD-0503

Test Mode : 802.11g High

Power : DC 24V from adapter with AC 120V/60Hz

Test Engineer :

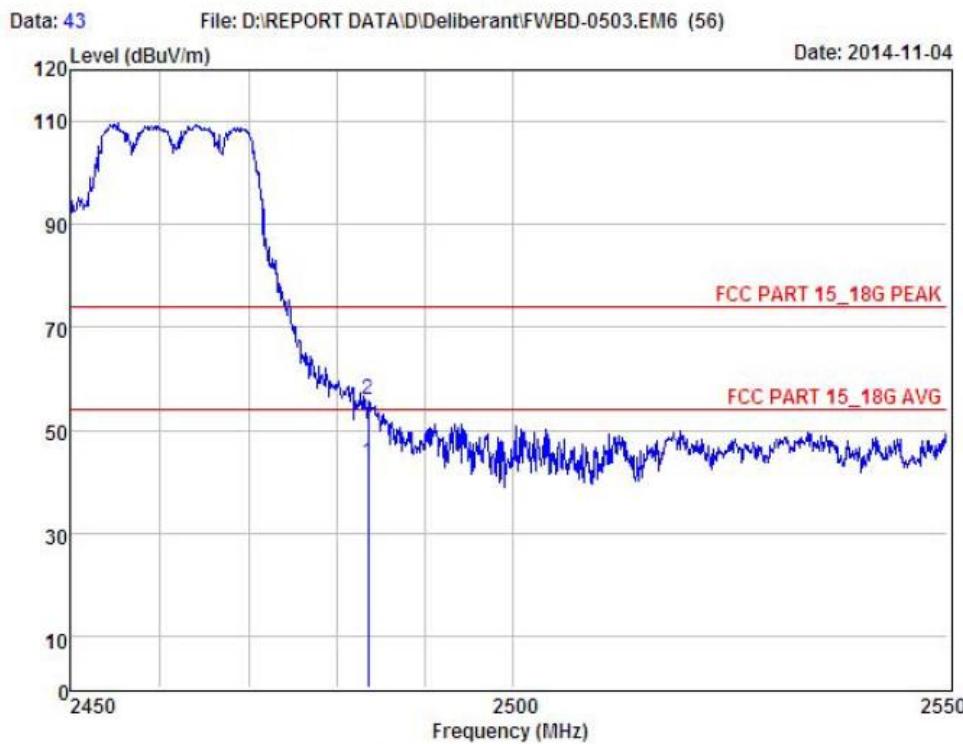
Remark :

Temp : 24.2°C

Hum : 54%

| Item | Freq    | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Level | Limit | Margin | Remark  |
|------|---------|------------|----------------|---------------|------------|-------|-------|--------|---------|
|      | MHz     | dBuV       | dB             | dB            | dB         | dBuV  | dBuV  | dBuV   |         |
| 1    | 2483.50 | 44.85      | 27.59          | 34.97         | 4.00       | 41.47 | 54.00 | -12.53 | Average |
| 2    | 2483.50 | 61.74      | 27.59          | 34.97         | 4.00       | 58.36 | 74.00 | -15.64 | Peak    |

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



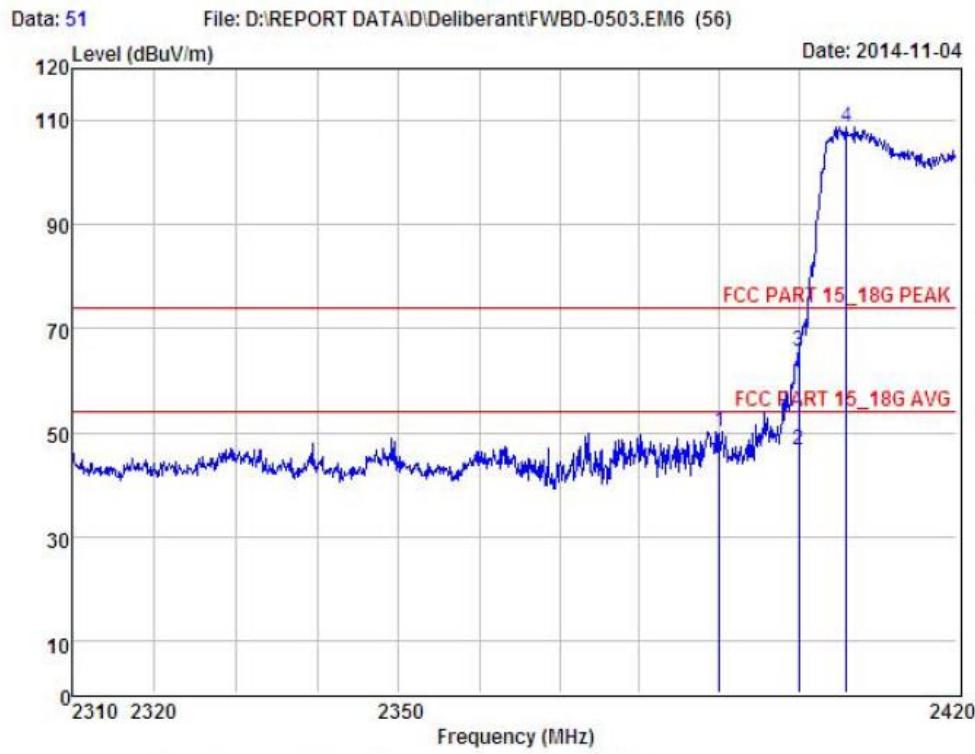
Condition : FCC PART 15\_18G PEAK 3m POL: VERTICAL  
 EUT : Broadband Digital Transmission System  
 Model No : FEBD-0503  
 Test Mode : 802.11g High  
 Power : DC 24V from adapter with AC 120V/60Hz  
 Test Engineer :  
 Remark :  
 Temp : 24.2°C  
 Hum : 54%

| Item | Freq    | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Level | Limit | Margin | Remark  |
|------|---------|------------|----------------|---------------|------------|-------|-------|--------|---------|
|      | MHz     | dBuV       | dB             | dB            | dB         | dBuV  | dBuV  | dBuV   |         |
| 1    | 2483.50 | 47.29      | 27.59          | 34.97         | 4.00       | 43.91 | 54.00 | -10.09 | Average |
| 2    | 2483.50 | 59.28      | 27.59          | 34.97         | 4.00       | 55.90 | 74.00 | -18.10 | Peak    |

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

IEEE 802.11n HT20:

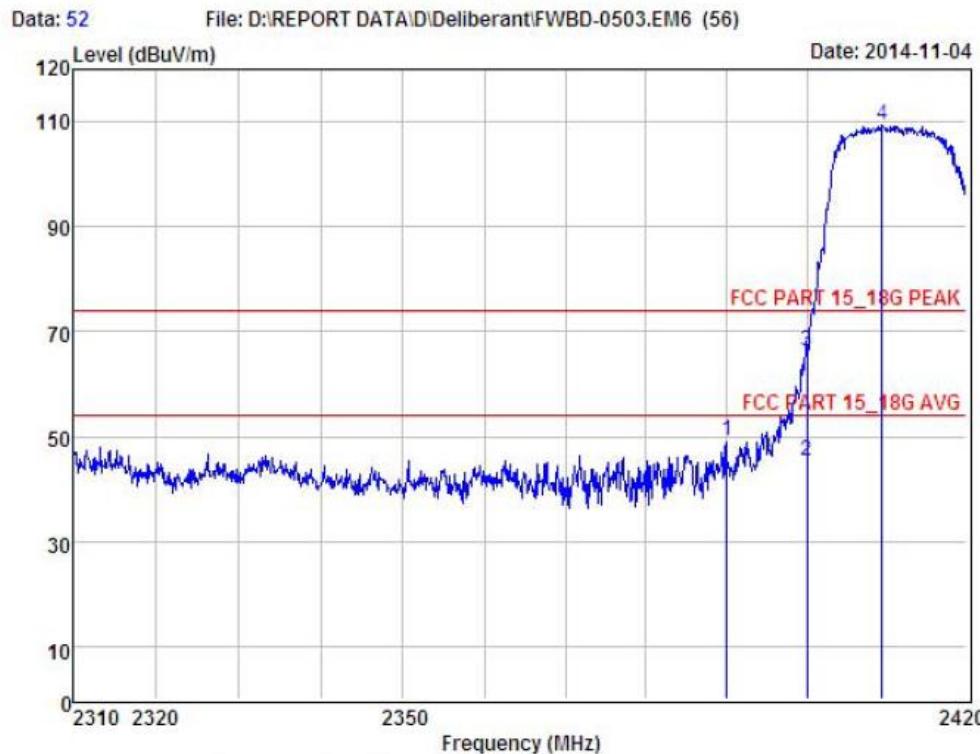
CH Low :



Condition : FCC PART 15\_18G PEAK 3m                  POL: HORIZONTAL  
 EUT : Broadband Digital Transmission System  
 Model No : FEBD-0503  
 Test Mode : 802.11n/HT20 Low  
 Power : DC 24V from adapter with AC 120V/60Hz  
 Test Engineer :  
 Remark :  
 Temp : 24.2°C  
 Hum : 54%

| Item | Freq    | Read   | Antenna | Preamp | Cable      | Level  | Limit | Margin | Remark  |
|------|---------|--------|---------|--------|------------|--------|-------|--------|---------|
|      |         | Level  | Factor  | Factor | Cable Loss | dBuV   | dBuV  | dBuV   |         |
|      | MHz     | dBuV   | dB      | dB     | dB         |        |       |        |         |
| 1    | 2390.00 | 53.49  | 27.62   | 34.97  | 3.92       | 50.06  | 74.00 | -23.94 | Peak    |
| 2    | 2400.00 | 50.18  | 27.62   | 34.97  | 3.94       | 46.77  | 54.00 | -7.23  | Average |
| 3    | 2400.00 | 69.18  | 27.62   | 34.97  | 3.94       | 65.77  | 74.00 | -8.23  | Peak    |
| 4    | 2406.08 | 112.27 | 27.61   | 34.97  | 3.94       | 108.85 | 74.00 | 34.85  | Peak    |

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

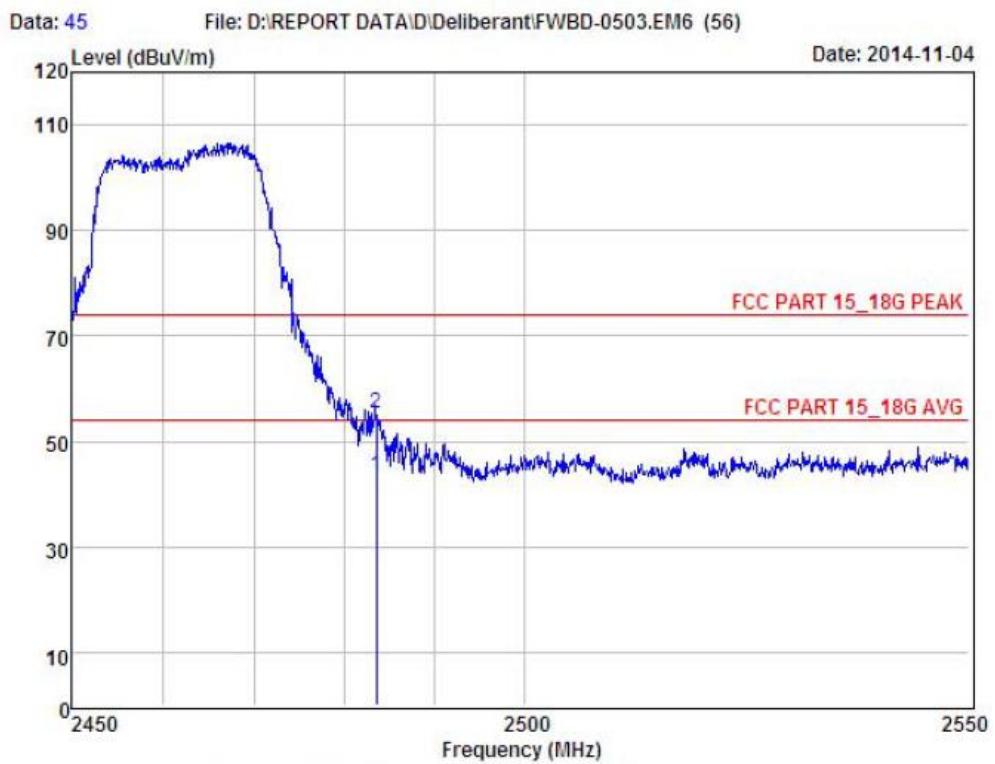


Condition : FCC PART 15\_18G PEAK 3m      POL: VERTICAL  
 EUT : Broadband Digital Transmission System  
 Model No : FEBD-0503  
 Test Mode : 802.11n/HT20 Low  
 Power : DC 24V from adapter with AC 120V/60Hz  
 Test Engineer :  
 Remark :  
 Temp : 24.2°C  
 Hum : 54%

| Item | Freq    | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Level  | Limit | Margin | Remark  |
|------|---------|------------|----------------|---------------|------------|--------|-------|--------|---------|
|      | MHz     | dBuV       | dB             | dB            | dB         | dBuV   | dBuV  | dBuV   |         |
| 1    | 2390.00 | 52.76      | 27.62          | 34.97         | 3.92       | 49.33  | 74.00 | -24.67 | Peak    |
| 2    | 2400.00 | 48.75      | 27.62          | 34.97         | 3.94       | 45.34  | 54.00 | -8.66  | Average |
| 3    | 2400.00 | 69.75      | 27.62          | 34.97         | 3.94       | 66.34  | 74.00 | -7.66  | Peak    |
| 4    | 2409.44 | 112.68     | 27.61          | 34.97         | 3.94       | 109.26 | 74.00 | 35.26  | Peak    |

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

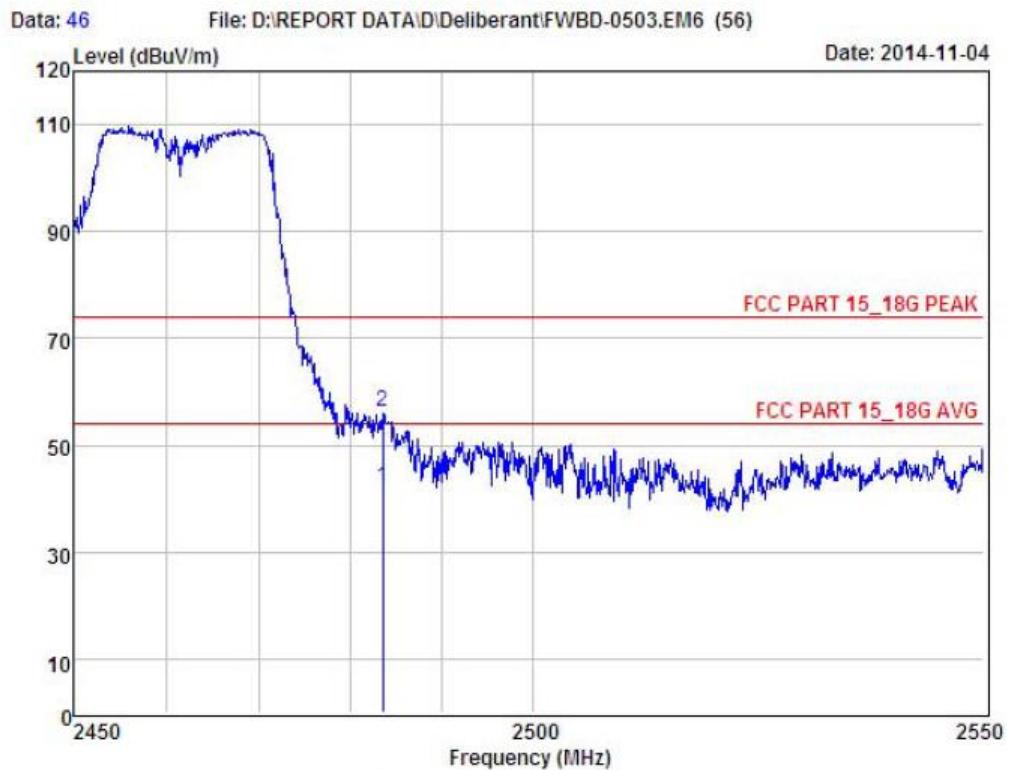
IEEE 802.11n HT20:  
CH High :



Condition : FCC PART 15\_18G PEAK 3m POL: HORIZONTAL  
 EUT : Broadband Digital Transmission System  
 Model No : FWBD-0503  
 Test Mode : 802.11n/HT20 High  
 Power : DC 24V from adapter with AC 120V/60Hz  
 Test Engineer :  
 Remark :  
 Temp : 24.2°C  
 Hum : 54%

| Item | Freq    | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Level | Limit | Margin | Remark  |
|------|---------|------------|----------------|---------------|------------|-------|-------|--------|---------|
|      | MHz     | dBuV       | dB             | dB            | dB         | dBuV  | dBuV  | dBuV   |         |
| 1    | 2483.50 | 46.77      | 27.59          | 34.97         | 4.00       | 43.39 | 54.00 | -10.61 | Average |
| 2    | 2483.50 | 58.77      | 27.59          | 34.97         | 4.00       | 55.39 | 74.00 | -18.61 | Peak    |

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



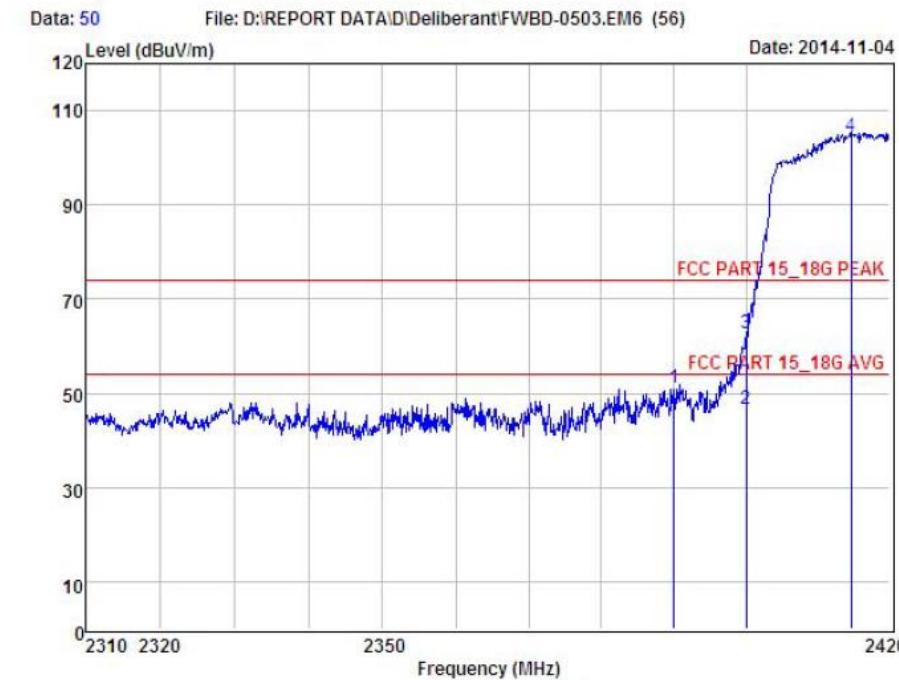
Condition : FCC PART 15\_18G PEAK 3m POL: VERTICAL  
EUT : Broadband Digital Transmission System  
Model No : FWBD-0503  
Test Mode : 802.11n/HT20 High  
Power : DC 24V from adapter with AC 120V/60Hz  
Test Engineer :  
Remark :  
Temp : 24.2°C  
Hum : 54%

| Item | Freq    | Read  | Antenna | Preamp | Cable | Level | Limit | Margin | Remark  |
|------|---------|-------|---------|--------|-------|-------|-------|--------|---------|
|      |         | Level | Factor  | Factor | Loss  |       |       |        |         |
|      | MHz     | dBuV  | dB      | dB     | dB    | dBuV  | dBuV  | dBuV   |         |
| 1    | 2483.50 | 45.37 | 27.59   | 34.97  | 4.00  | 41.99 | 54.00 | -12.01 | Average |
| 2    | 2483.50 | 59.72 | 27.59   | 34.97  | 4.00  | 56.34 | 74.00 | -17.66 | Peak    |

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

IEEE 802.11n HT40:

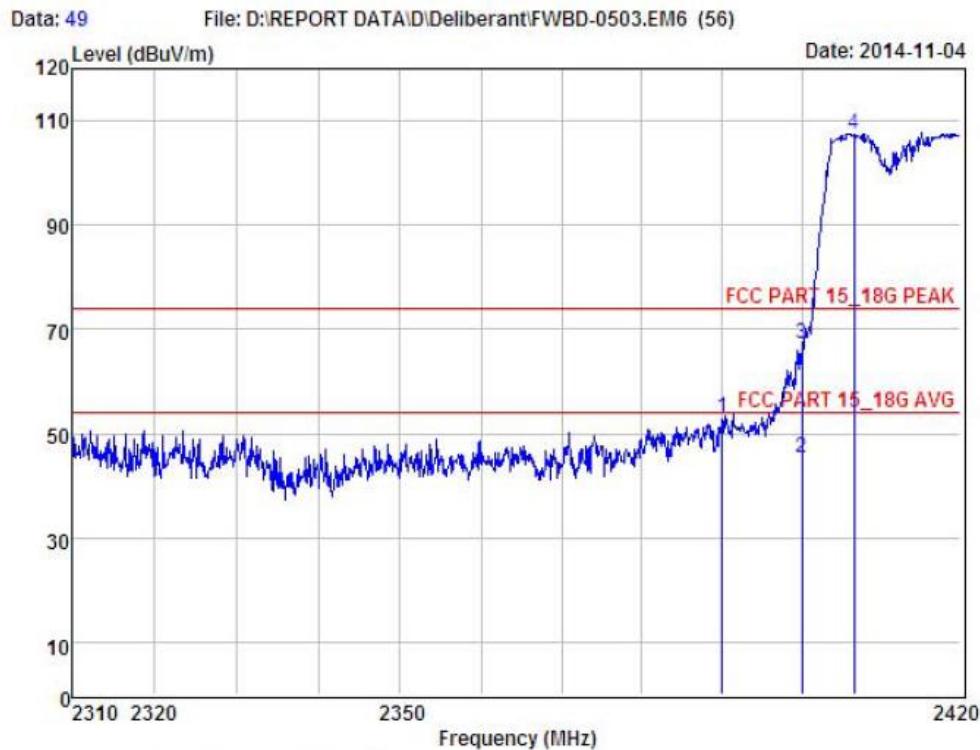
CH Low :



Condition : FCC PART 15\_18G PEAK 3m                  POL: HORIZONTAL  
 EUT : Broadband Digital Transmission System  
 Model No : FWBD-0503  
 Test Mode : 802.11n/HT40 Low  
 Power : DC 24V from adapter with AC 120V/60Hz  
 Test Engineer :  
 Remark :  
 Temp : 24.2°C  
 Hum : 54%

| Item | Freq    | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Level  | Limit | Margin | Remark  |
|------|---------|------------|----------------|---------------|------------|--------|-------|--------|---------|
|      | MHz     | dBuV       | dB             | dB            | dB         | dBuV   | dBuV  | dBuV   |         |
| 1    | 2390.00 | 54.69      | 27.62          | 34.97         | 3.92       | 51.26  | 74.00 | -22.74 | Peak    |
| 2    | 2400.00 | 50.17      | 27.62          | 34.97         | 3.94       | 46.76  | 54.00 | -7.24  | Average |
| 3    | 2400.00 | 66.17      | 27.62          | 34.97         | 3.94       | 62.76  | 74.00 | -11.24 | Peak    |
| 4    | 2414.60 | 107.86     | 27.61          | 34.97         | 3.95       | 104.45 | 74.00 | 30.45  | Peak    |

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

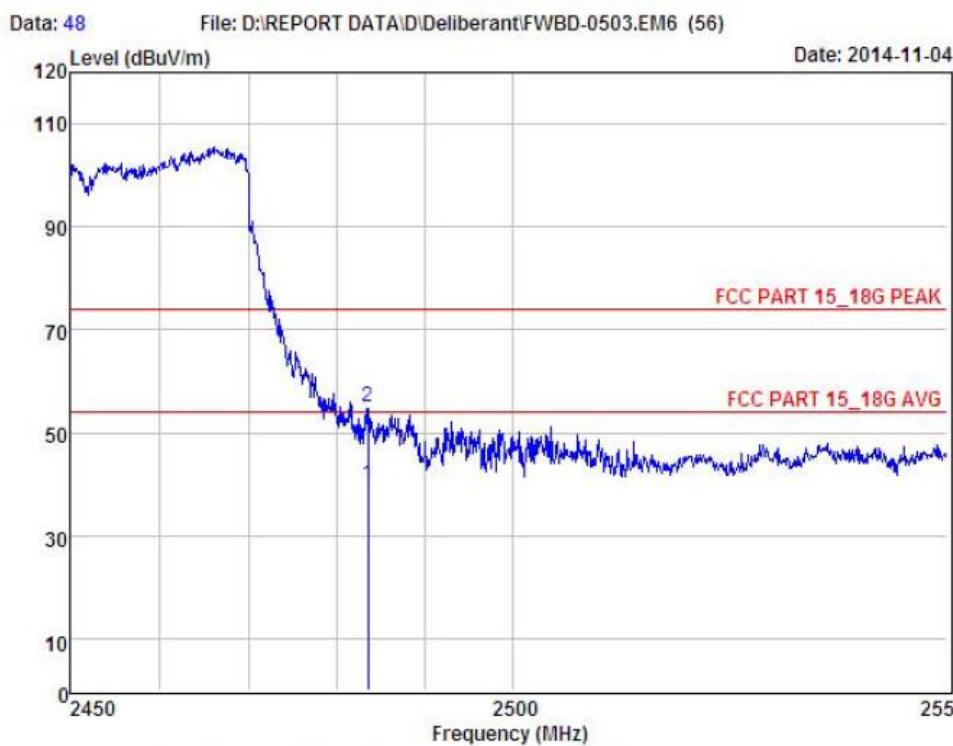


| Item | Freq    | Read   | Antenna | Preamp | Cable | Level  | Limit | Margin | Remark  |
|------|---------|--------|---------|--------|-------|--------|-------|--------|---------|
|      |         | Level  | Factor  | Factor | Loss  | dBuV   | dBuV  | dBuV   |         |
|      | MHz     | dBuV   | dB      | dB     | dB    |        |       |        |         |
| 1    | 2390.00 | 56.59  | 27.62   | 34.97  | 3.92  | 53.16  | 74.00 | -20.84 | Peak    |
| 2    | 2400.00 | 48.78  | 27.62   | 34.97  | 3.94  | 45.37  | 54.00 | -8.63  | Average |
| 3    | 2400.00 | 70.56  | 27.62   | 34.97  | 3.94  | 67.15  | 74.00 | -6.85  | Peak    |
| 4    | 2406.53 | 110.89 | 27.61   | 34.97  | 3.94  | 107.47 | 74.00 | 33.47  | Peak    |

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

IEEE 802.11n HT40:

CH High :



Condition : FCC PART 15\_18G PEAK 3m      POL: HORIZONTAL

EUT : Broadband Digital Transmission System

Model No : FEBD-0503

Test Mode : 802.11n/HT40 High

Power : DC 24V from adapter with AC 120V/60Hz

Test Engineer :

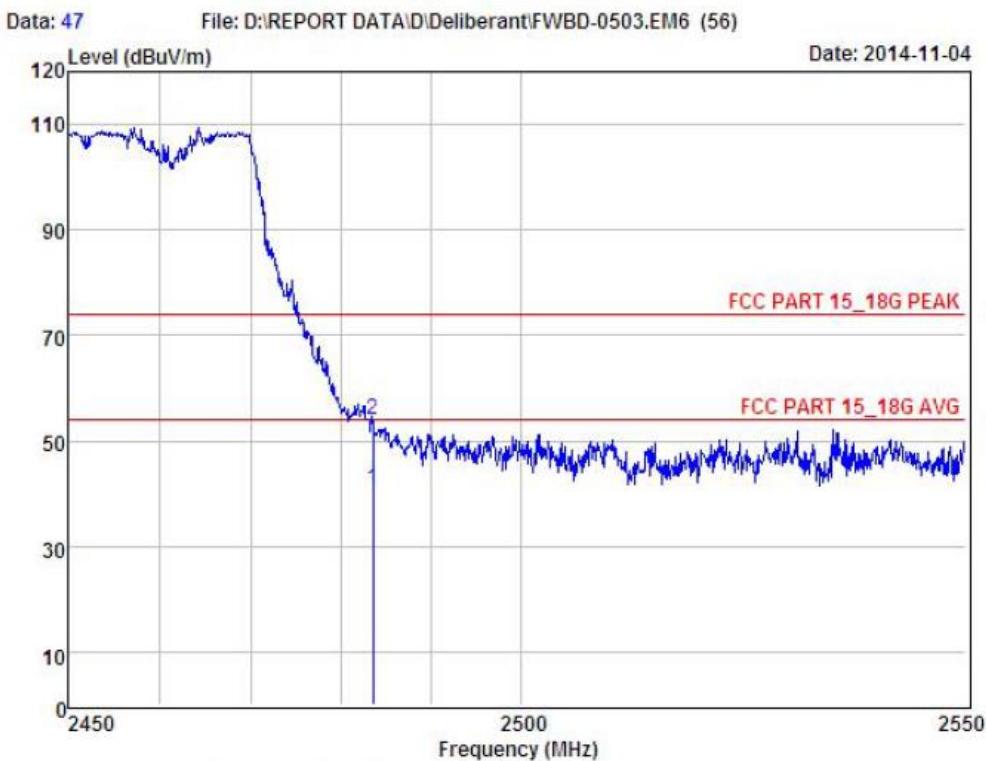
Remark :

Temp : 24.2°C

Hum : 54%

| Item | Freq    | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Level | Limit | Margin | Remark  |
|------|---------|------------|----------------|---------------|------------|-------|-------|--------|---------|
|      | MHz     | dBuV       | dB             | dB            | dB         | dBuV  | dBuV  | dBuV   |         |
| 1    | 2483.50 | 43.27      | 27.59          | 34.97         | 4.00       | 39.89 | 54.00 | -14.11 | Average |
| 2    | 2483.50 | 58.27      | 27.59          | 34.97         | 4.00       | 54.89 | 74.00 | -19.11 | Peak    |

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



Condition : FCC PART 15\_18G PEAK 3m POL: VERTICAL  
 EUT : Broadband Digital Transmission System  
 Model No : FWBD-0503  
 Test Mode : 802.11n/HT40 High  
 Power : DC 24V from adapter with AC 120V/60Hz  
 Test Engineer :  
 Remark :  
 Temp : 24.2°C  
 Hum : 54%

| Item | Freq    | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Level | Limit | Margin | Remark  |
|------|---------|------------|----------------|---------------|------------|-------|-------|--------|---------|
|      | MHz     | dBuV       | dB             | dB            | dB         | dBuV  | dBuV  | dBuV   |         |
| 1    | 2483.50 | 44.25      | 27.59          | 34.97         | 4.00       | 40.87 | 54.00 | -13.13 | Average |
| 2    | 2483.50 | 57.28      | 27.59          | 34.97         | 4.00       | 53.90 | 74.00 | -20.10 | Peak    |

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

Conducted Method: ANT PORT 0 and 1 all have been tested ,only report worse case



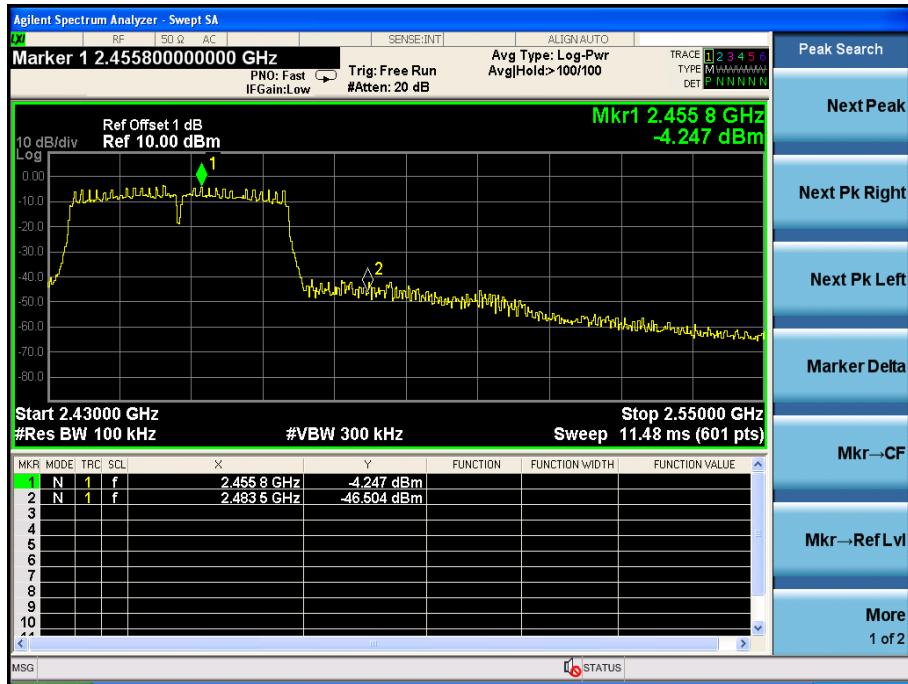
802.11g



802.11n HT20



802.11n HT40



## 11 Antenna Requirement

### 11.1 Standard Requirement

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

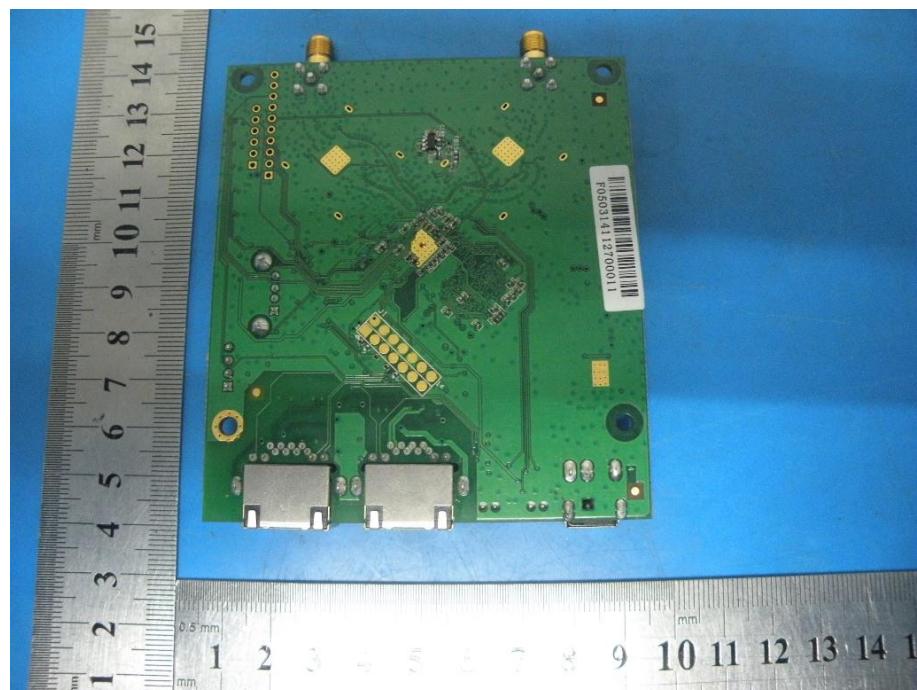
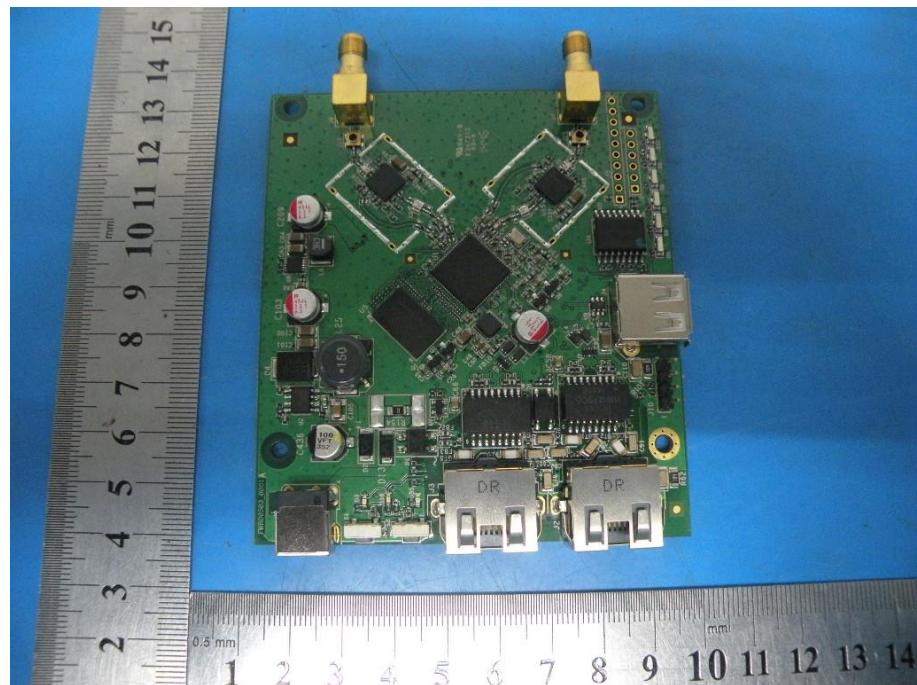
### 11.2 Antenna Connected Construction

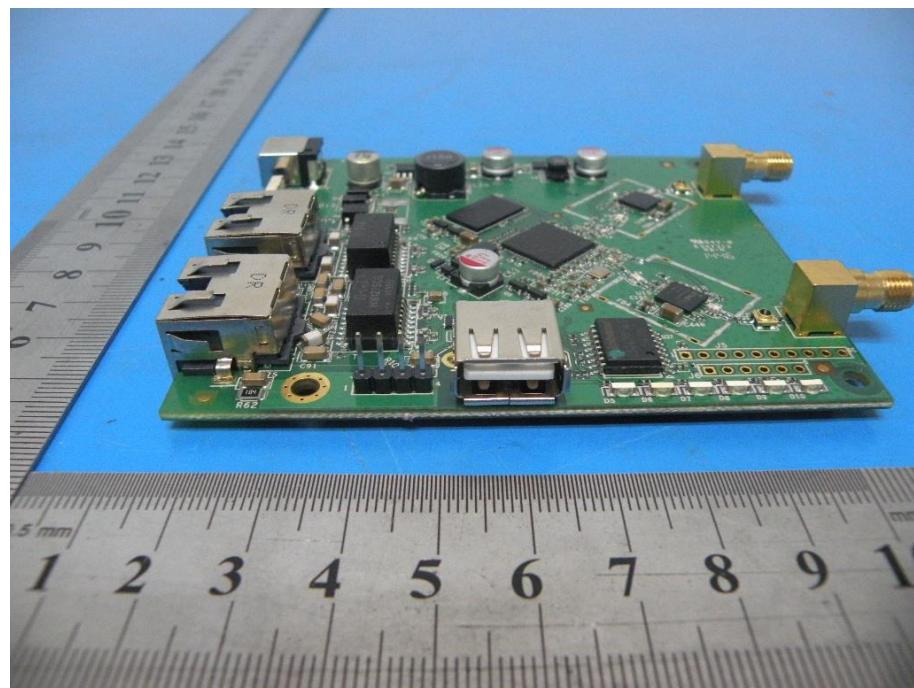
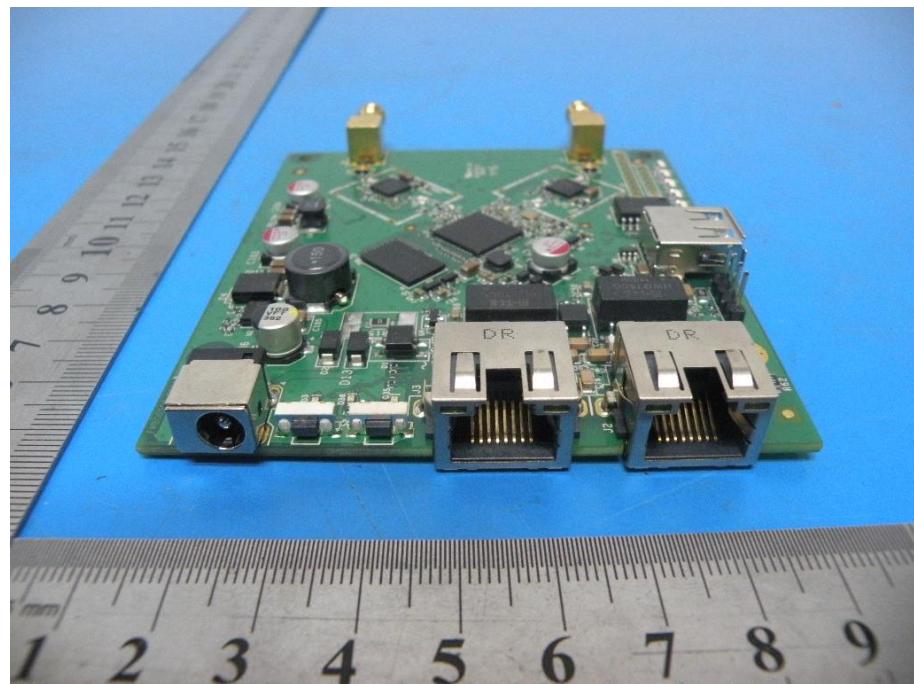
The antenna connector is unique antenna and no consideration of replacement. Please see EUT photo for details.

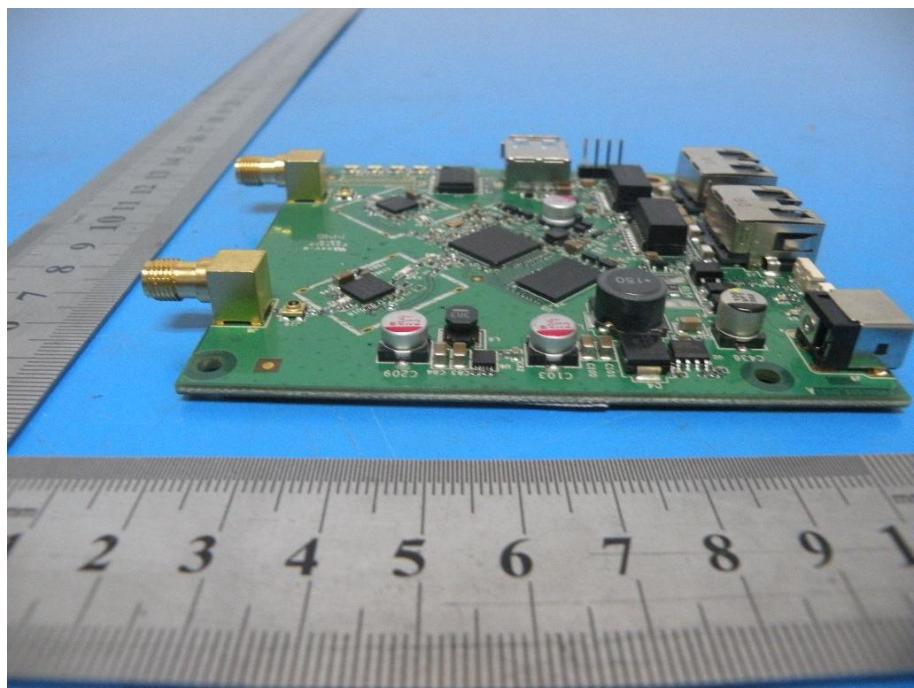
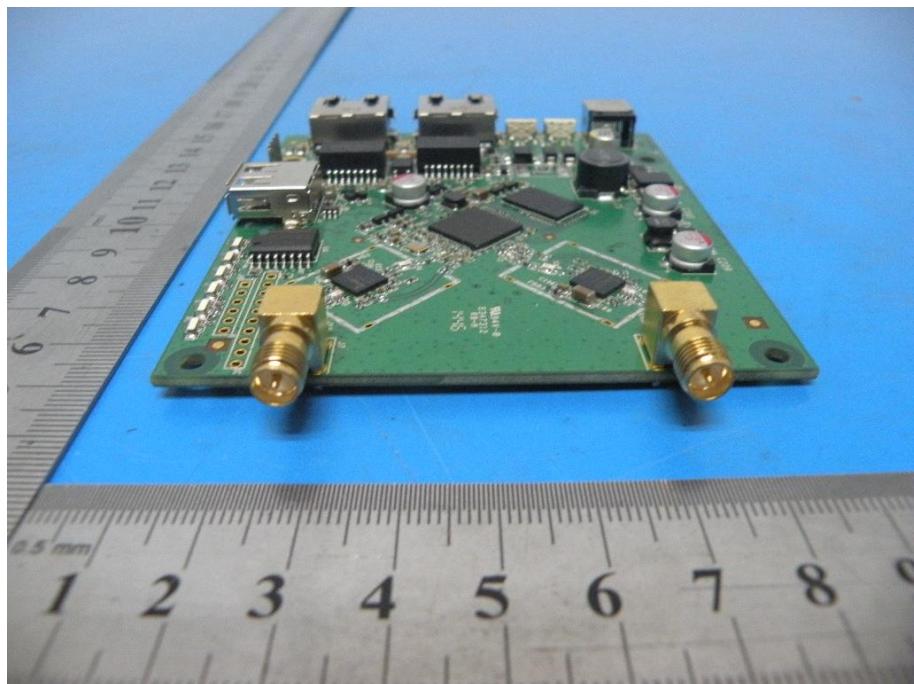
### 11.3 Result

The EUT antenna is external Antenna. It comply with the standard requirement.

## 12 Photographs of EUT











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