# FCC Test Report

Part 15 subpart E

## Client Information:

Applicant : Wistron Corporation

Applicant add.: 21F, 88, Sec. 1, Hsintai 5th Rd., Hsichih New Taipei City 22181 Taiwan, R.O.C.

## EUT Information:

EUT Name : LCD Monitor

Model No. : DW271HL

Brand Name : acer

FCC ID : PU5DW271HL

## Prepared By:

**Asia Institute Technology (Dongguan) Limited**

Add. : No.6 Binhe Road, Tianxin Village, Huangjiang, Dongguan, Guangdong, China.

Date of Receipt: Feb. 05, 2012 Date of Test: Feb. 06~Mar. 29, 2012

Date of Issue: Mar. 29, 2012 Test Result: **Pass**

**Test procedure used:** ANSI C63.4-2009

This device described above has been tested by Asia Institute Technology (Dongguan) Limited, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

*This test report must not be used by the client to claim product endorsement by any agency of the U.S. government.

**Reviewed by:** Seal.Chen

**Approved by:** Jason.Zhu

# 1 Contents

# 2 Test Summary

## 2.1 Compliance with FCC Part 15 subpart E

| Test | Test Requirement | Standard Paragraph | Result |
|---|---|---|---|
| 26 dB EMISSION BANDWIDTH | FCC Part 15 E:2008 | Section 15.303(c) | **PASS** |
| Peak Transmit Power | FCC Part 15 E:2008 | Section 15.407 (a) | **PASS** |
| Peak Power Spectral Density | FCC Part 15 E:2008 | Section 15.407 (a) | **PASS** |
| AC Power Line Emissions | FCC Part 15 E:2008 | Section 15.407 (b) | **PASS** |
| Radiated Emissions 30MHz – 40 GHz | FCC Part 15 E:2008 | Section 15.407 (b) | **PASS** |
| Band Edge | FCC Part 15 E:2008 | Section 15.407 (b) | **PASS** |
| Peak Power Excursion | FCC Part 15 E:2008 | Section 15.407 (a)(6) | **PASS** |
| Note: Reference to the KDB-789033 and KDB-662911 | | | |

## 2.2 Measurement Uncertainty

All measurements involve certain levels of uncertainties, The following measurements uncertainty Levels have estimated based on ANSI C63.4:2009, the maximum value of the uncertainty as below

| No. | Item | Uncertainty |
|---|---|---|
| 1 | Conducted Emission Test | ±1.38dB |
| 2 | Radiated Emission Test | ±3.57dB |

# 3 Test Facility

**The test facility is recognized, certified or accredited by the following organizations:**

**.FCC- Registration No: 248337**

The 3m Semi-Anechoic Chamber, 3m/10m Open Area Test Site and Shielding Room of Asia Institute Technology (Dong guan) Limited have been registered by Federal Communications Commission (FCC) on Nov.20, 2009.

**.Industry Canada(IC)-Registration No: IC6819A-1 & IC6819A-2**

The 3m Semi-Anechoic Chamber and 3m/10m Open Area Test Site of Asia Institute Technology (Dongguan) Limited have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing on Nov.07, 2010.

**.VCCI- Registration No: 2705**

The 3m/10m Open Area Test Site and Shielding Room of Asia Institute Technology (Dongguan) Limited have been registered by Voluntary Control Council for Interference on Jan.24, 2010 and Oct. 30, 2010. The Telecommunication Ports Conducted Disturbance Measurement of Asia Institute Technology (Dongguan) Limited have been registered by Voluntary Control Council for Interference on Sep. 06, 2011.

**.TUV Rhineland**

Asia Institute Technology (Dongguan) Limited has been assessed on Dec.29, 2011 that it can carry out EMC tests by order and under supervision of TUV Rhineland.

**.ITS- Registration No: TMPSHA031**

Asia Institute Technology (Dongguan) Limited has been assessed and included in Intertek Shanghai TMP Program regarding Laboratory facilities and test equipment on Jul.22, 2011.

## 3.1 Deviation from standard

None

## 3.2 Abnormalities from standard conditions

None

# 4 General Information

## 4.1 General Description of EUT

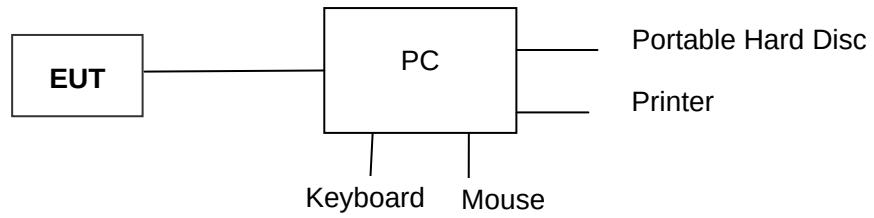
| | |
|---|---|
| Manufacturer: | Wistron Corporation |
| Manufacturer Address: | 21F, 88, Sec. 1, Hsintai 5th Rd., Hsichih New Taipei City 22181 Taiwan, R.O.C. |
| EUT Name: | LCD Monitor |
| Model No: | DW271HL |
| Operation frequency: | 2400 MHz to 2483.5MHz & 5150 MHz to 5250MHz |
| Modulation Technology: | 802.11a:BPSK(6Mbps,9Mbps),QPSK(12Mbps,18Mbps), 16QAM(24Mbps,36Mbps),64QAM(48Mbps,54Mbps)<br>802.11b:DBPSK(1Mbps),DQPSK(2Mbps),CCK(5.5Mbps,11Mbps)<br>802.11g:BPSK(6Mbps,9Mbps),QPSK(12Mbps,18Mbps), 16QAM(24Mbps,36Mbps),64QAM(48Mbps,54Mbps)<br>802.11n:BPSK(7.2Mbps,15Mbps),QPSK(14.4Mbps,21.7Mbps,30Mbps, 45Mbps), 16QAM(28.9Mbps, 43.3Mbps, 60Mbps, 90Mbps), 64QAM(57.8Mbps,65Mbps,72.2Mbps,120Mbps, 135 Mbps, 300Mbps) |
| Antenna Type: | PIFA |
| Brand Name: | acer |
| Serial No: | N/A |
| Power Supply Range: | AC 120V/60Hz |
| Power Supply: | AC 120V/60Hz |
| Power Cord: | N/A |
| Output power（max）: | ANT 1 802.11n(20M) (5.15GHz-5.25GHz): 8.31dBm<br>ANT 1 802.11n(40M) (5.15GHz-5.25GHz): 6.59dBm<br>ANT 1 802.11a (5.15GHz-5.25GHz): 6.74dBm<br><br>ANT 2 802.11n(20M) (5.15GHz-5.25GHz): 9.00dBm<br>ANT 2 802.11n(40M) (5.15GHz-5.25GHz): 6.69dBm<br>ANT 2 802.11a (5.15GHz-5.25GHz):6.05dBm |
| **Model description:** N/A | |

| Description of Channel: | | | |
|---|---|---|---|
| **802.11n(20M) (5.15GHz-5.25GHz) / 802.11a (5.15GHz-5.25GHz)** | | | |
| Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| 36 | 5180 | 44 | 5220 |
| 38 | 5190 | 46 | 5230 |
| 42 | 5210 | | |
| | | | |
| **802.11n(40M) (5.15GHz-5.25GHz)** | | | |
| Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| 38 | 5190 | 44 | 5220 |
| 42 | 5210 | | |

## 4.2 Description of Test conditions

(1) EUT was tested in normal configuration (Please See following Block diagram)

1. Block diagram of EUT configuration(TX Mode)




(2) E.U.T. test conditions:

15.31(e): For intentional radiators, measurements of the variation of the input power or the adiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. For battery operated equipment, the equipment tests shall be performed using a new battery.

(3) Test frequencies:

According to the 15.31(m) Measurements on intentional radiators or receivers, other than TV broadcast receivers, shall be performed and. If required reported for each band in which the device can be operated with the device operating at the number of frequencies in each band specified in the following table:

| Frequency range over which device operates | Number of frequencies | Location in the range of operation |
|---|---|---|
| 1 MHz or less | 1 | Middle |
| 1 to 10 MHz | 2 | 1 near top and 1 near bottom |
| More than 10 MHz | 3 | 1 near top, 1 near middle and 1 near bottom |

(4) Frequency range of radiated measurements:

According to the 15.33, The test range will be up to the tenth harmonic of the highest fundamental frequency .

(5) For all tests the worst-case was selected as the table below, the data of the worst-case is shown in the report.

| | |
|---|---|
| ANT 1 802.11n(20M) (5.15GHz-5.25GHz) | : BPSK(7.2Mbps) |
| ANT 1 802.11n(40M) (5.15GHz-5.25GHz) | : BPSK(7.2Mbps) |
| ANT 1 802.11a (5.15GHz-5.25GHz) | : BPSK(6Mbps) |
| ANT 2 802.11n(20M) (5.15GHz-5.25GHz) | : BPSK(7.2Mbps) |
| ANT 2 802.11n(40M) (5.15GHz-5.25GHz) | : BPSK(7.2Mbps) |
| ANT 2 802.11a (5.15GHz-5.25GHz) | : BPSK(6Mbps) |

## 4.3 EUT Peripheral List

| No. | Equipment | Manufacturer | Model No. | Serial No. | Power cord | signal cable |
|---|---|---|---|---|---|---|
| 1 | AC/DC ADAPTER | DELTA ELECTRONIC, INC. | ADP-40PH BB | N/A | N/A | N/A |

## 4.4 Test Peripheral List

| No. | Equipment | Manufacturer | EMC Compliance | Model No. | Serial No. | Power cord | signal cable |
|---|---|---|---|---|---|---|---|
| 1 | Personal computer | H P | CE 、FCC | DX2310 | CNG8250MZ3 | 1.8m/unshielded /detachable | N/A |
| 2 | Keyboard | DELL | CE | SK-8115 | CN-ONM432-71616-81M-OLKB | N/A | 1.5m/unshielded /undetachable |
| 3 | Mouse | Microsoft | CE | X800898 | 30603 | N/A | 1.5m/unshielded /undetachable |
| 4 | Printer | EPSON | CE | STYLUS C45 | FY9YC48288 | 1.5m/unshielded /detachable | 1.8m/unshielded /detachable |
| 5 | Portable Hard Disc | ALUMINUM | CE | 3.5 HDD Storage Box | 06832c009 | 1.8m/unshielded /detachable | 1.2m/unshielded /detachable |

# 5 Equipments List for All Test Items

| No | Test Equipment | Manufacturer | Model No | Serial No | Cal. Date | Cal. Due Date |
|---|---|---|---|---|---|---|
| 1 | Spectrum Analyzer | ADVANTEST | R3182 | 150900201 | 2011.10.16 | 2012.10.15 |
| 2 | EMI Measuring Receiver | Schaffner | SCR3501 | 235 | 2011.10.16 | 2012.10.15 |
| 3 | Preamplifier | Agilent | 8449B | 3008A01911 | 2011.09.08 | 2012.09.07 |
| 4 | Preamplifier | Agilent | 8447D | 2944A10634 | 2011.04.08 | 2012.04.07 |
| 5 | BILOG Antenna | SCHWARZBECK | VULB9168 | 9168-156 | 2011.07.15 | 2012.07.14 |
| 6 | HORN Antenna | SCHWARZBECK | BBHA 9170 | BBHA9170242 | 2011.07.15 | 2012.07.14 |
| 7 | 50Ω Coaxial Switch | Anritsu | MP59B | 6200264416 | 2011.09.08 | 2012.09.07 |
| 8 | EMI Test Receiver | R&S | ESCI | 100124 | 2011.12.29 | 2012.12.28 |
| 9 | LISN | Kyoritsu | KNW-242 | 8-837-4 | 2011.04.08 | 2012.04.07 |
| 10 | LISN | Kyoritsu | KNW-407 | 8-1789-3 | 2011.04.08 | 2012.04.07 |
| 11 | 50Ω Coaxial Switch | Anritsu | MP59B | 6200264417 | 2011.09.08 | 2012.09.07 |
| 12 | Loop Antenna | ARA | PLA-1030/B | 1029 | 2012.03.20 | 2013.03.19 |
| 13 | Power Meter | R&S | NRVS | 101336 | 2011.04.08 | 2012.04.07 |
| 14 | 26GHz ~ 40GHz Amplifier | Agilent | EM26400 | 07026401 | 2011.04.08 | 2012.04.07 |

# 6 Test Result

## 6.1 Conduction Emissions Measurement

### 6.1.1 Applied procedures / Limit

| Frequency of Emission (MHz) | Conducted Limit (dBμV) | |
|---|---|---|
| | Quasi-peak | Average |
| 0.15-0.5 | 66 to 56 * | 56 to 46 * |
| 0.5-5 | 56 | 46 |
| 5-30 | 60 | 50 |

Note: Decreases with the logarithm of the frequency.

### 6.1.2 Test procedure

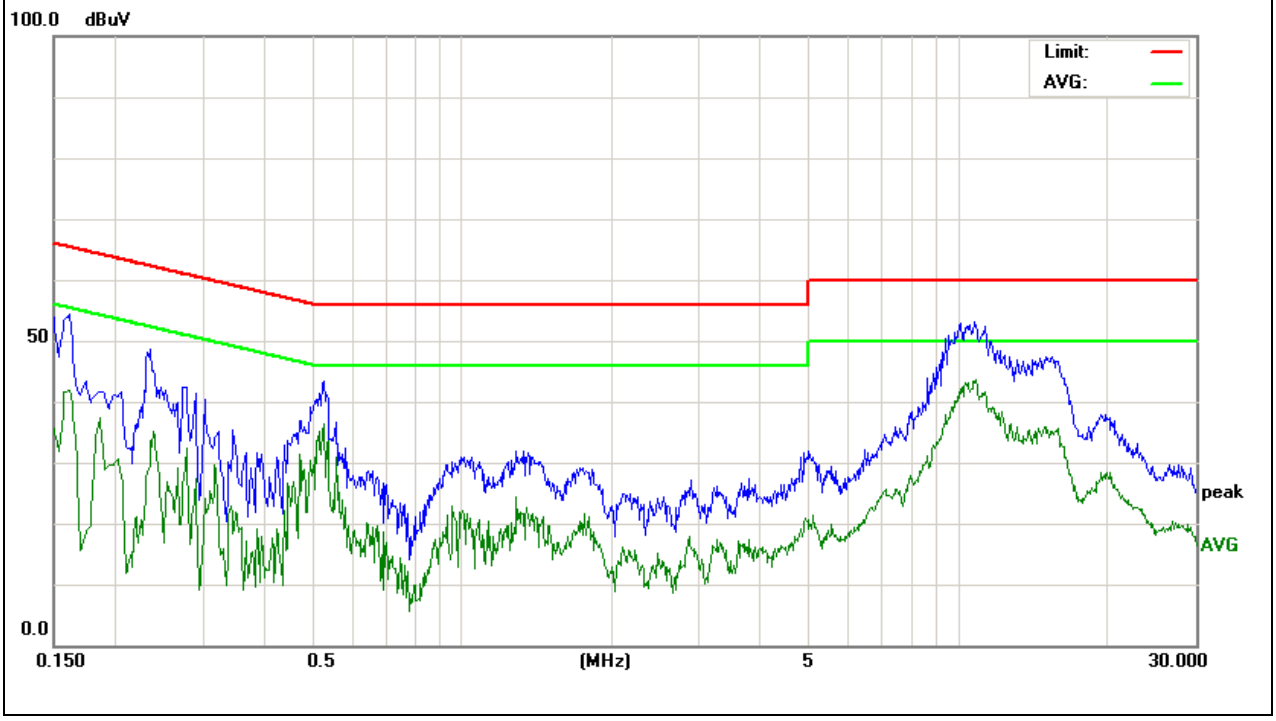
EUT was placed upon a wooden test table 0.8m above the horizontal metal reference plane and 0.4m from the vertical ground plane, and it was connected to an AMN. The closest distance between the boundary of the EUT and the surface of the AMN is 0.8m. All peripherals were connected to another AMN, and placed at a distance of 10cm from each other. A spectrum and receiver was connected to the RF output port of the AMN. Both average and quasi-peak value were detected.

### 6.1.3 Test results

| | | | |
|---|---|---|---|
| EUT: | LCD Monitor | Model Name. : | DW271HL |
| Temperature: | 26 ℃ | Relative Humidity: | 54% |
| Pressure: | 1010hPa | Test Date : | 2012-02-09 |
| Test Mode: | TX | Phase : | Line |
| **Test Voltage** : | AC 120V/60Hz | | |

| Frequency | Factor | Meter Reading (dBμV) | | Emission Level (dBμV) | | Limits (dBμV) | | Margin (dB) | |
|---|---|---|---|---|---|---|---|---|---|
| (MHz) | (dB) | QP | Average | QP | Average | QP | Average | QP | Average |
| 0.1620 | 11.68 | 42.70 | 30.28 | 54.38 | 41.96 | 65.36 | 55.36 | -10.98 | -13.40 |
| 0.2379 | 10.93 | 34.22 | 24.12 | 45.15 | 35.05 | 62.17 | 52.17 | -17.02 | -17.12 |
| 0.5262 | 10.33 | 33.17 | 26.03 | 43.50 | 36.36 | 56.00 | 46.00 | -12.50 | -9.64 |
| 1.2860 | 10.19 | 21.58 | 14.18 | 31.77 | 24.37 | 56.00 | 46.00 | -24.23 | -21.63 |
| 5.1097 | 10.19 | 20.69 | 11.27 | 30.88 | 21.46 | 60.00 | 50.00 | -29.12 | -28.54 |
| *10.8459 | 1.32 | 51.40 | 42.24 | 52.72 | 43.56 | 60.00 | 50.00 | -7.28 | -6.44 |

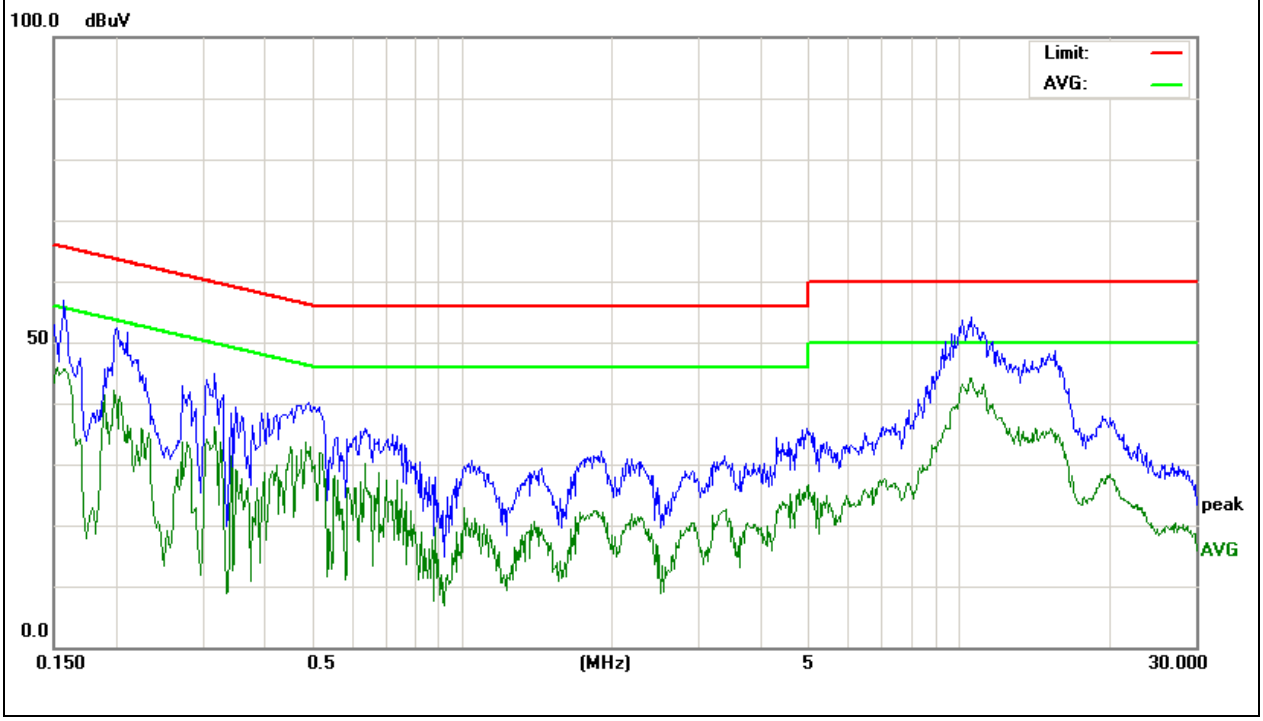
Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. '*' means the worst case



| EUT： | LCD Monitor | Model Name. ： | DW271HL |
|---|---|---|---|
| Temperature： | 26 ℃ | Relative Humidity： | 54% |
| Pressure： | 1010hPa | Test Date : | 2012-02-09 |
| Test Mode： | TX | Phase : | Neutral |
| **Test Voltage** ： | AC 120V/60Hz | | |

| Frequency | Factor | Meter Reading (dBμV) | | Emission Level (dBμV) | | Limits (dBμV) | | Margin (dB) | |
|---|---|---|---|---|---|---|---|---|---|
| (MHz) | (dB) | QP | Average | QP | Average | QP | Average | QP | Average |
| 0.1524 | 11.88 | 37.58 | 33.98 | 49.46 | 45.86 | 65.86 | 55.86 | -16.40 | -10.00 |
| 0.1980 | 11.16 | 37.68 | 30.98 | 48.84 | 42.14 | 63.69 | 53.69 | -14.85 | -11.55 |
| 0.3180 | 10.69 | 34.24 | 25.37 | 44.93 | 36.06 | 59.76 | 49.76 | -14.83 | -13.70 |
| 0.6340 | 10.29 | 25.48 | 19.87 | 35.77 | 30.16 | 56.00 | 46.00 | -20.23 | -15.84 |
| 4.9659 | 10.19 | 25.01 | 16.50 | 35.20 | 26.69 | 56.00 | 46.00 | -20.80 | -19.31 |
| *10.5335 | 1.29 | 51.31 | 42.91 | 52.60 | 44.20 | 60.00 | 50.00 | -7.40 | -5.80 |

Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. '*' means the worst case



## 6.2 Radiated Emissions Measurement

### 6.2.1 Applied procedures / Limit

| Frequency of Emission (MHz) | Field Strength | | Measurement Distance (meters) |
|---|---|---|---|
| | μV/m | dBμV/m | |
| 0.009-0.49 | 2400/F(kHz) | | 300 |
| 0.49-1.705 | 24000/F(kHz) | | 30 |
| 1.705-30 | 30 | | 30 |
| 30-88 | 100 | 40 | 3 |
| 88-216 | 150 | 43.5 | 3 |
| 216-960 | 200 | 46 | 3 |
| Above 960 | 500 | 54 | 3 |

### 6.2.2 Test procedure

EUT was placed upon a wooden test table which was placed on the turn table 0.8m above the horizontal metal ground plane, and operating in the mode as mentioned above. A receiving antenna was placed 3m away from the EUT. During testing, turn around the turn table and move the antenna from 1m to 4m to find the maximum field-strength reading. All peripherals were placed at a distance of 10cm between each other. Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

### 6.2.3 Test Result

There is not detected blow 30MHz.

| | | | |
|---|---|---|---|
| EUT： | LCD Monitor | Model Name ： | DW271HL |
| Temperature： | 25 ℃ | Test Data | 2012-02-09 |
| Pressure： | 1010 hPa | Relative Humidity： | 60% |
| Test Mode ： | TX | Test Voltage ： | AC 120V/60Hz |
| Measurement Distance | 3 m | Frenqucy Range | 30MHz to 1GHz |
| RBW/VBW | 100KHz / 300KHz for spectrum, RBW=120KHz for receiver. | | |

(a) Antenna polarization: Horizontal

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| ***30.3170** | **51.46** | **-15.26** | **36.20** | **40.00** | **-3.80** | **QUASIPEAK** |
| 42.0065 | 52.38 | -16.48 | 35.90 | 40.00 | -4.10 | QUASIPEAK |
| 96.0986 | 48.66 | -16.36 | 32.30 | 43.50 | -11.20 | QUASIPEAK |
| 244.2321 | 37.40 | -10.67 | 26.73 | 46.00 | -19.27 | QUASIPEAK |
| 389.3548 | 43.94 | -8.66 | 35.28 | 46.00 | -10.72 | QUASIPEAK |
| 721.7259 | 30.56 | -1.48 | 29.08 | 46.00 | -16.92 | QUASIPEAK |

(b) Antenna polarization: vertical

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 30.2105 | 49.38 | -15.18 | 34.20 | 40.00 | -5.80 | QUASIPEAK |
| ***41.4215** | **52.87** | **-16.57** | **36.30** | **40.00** | **-3.70** | **QUASIPEAK** |
| 76.5121 | 45.08 | -17.38 | 27.70 | 40.00 | -12.30 | QUASIPEAK |
| 122.4038 | 45.82 | -13.02 | 32.80 | 43.50 | -10.70 | QUASIPEAK |
| 204.2375 | 43.91 | -11.21 | 32.70 | 43.50 | -10.80 | QUASIPEAK |
| 570.6100 | 38.11 | -3.59 | 34.52 | 46.00 | -11.48 | QUASIPEAK |

Note: '*' means the worst case
Measurement Level = Reading Level + Factor
Factor=Ant Factor + Cable Loss

| EUT： | LCD Monitor | Model Name ： | DW271HL |
|---|---|---|---|
| Temperature： | 25 ℃ | Test Data | 2012-02-09 |
| Pressure： | 1010 hPa | Relative Humidity： | 60% |
| Test Mode ： | 802.11n(20M)(5.15-5.25G)<br>(ANT1) | Test Voltage ： | AC 120V/60Hz |
| Measurement Distance | 3 m | Frenqucy Range | 1GHz to 40GHz |
| RBW/VBW | 1MHz/1MHz for Peak, 1MHz/10Hz for Average. | | |

(a) Antenna polarization: Horizontal

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| ***10360.000** | **55.48** | **12.56** | **68.04** | **74.00** | **-5.96** | **PEAK** |
| 10360.000 | 35.25 | 12.56 | 47.81 | 54.00 | -6.19 | AVERAGE |
| 15540.000 | 50.11 | 16.45 | 66.56 | 74.00 | -7.44 | PEAK |
| 15540.000 | 27.65 | 16.45 | 44.10 | 54.00 | -9.90 | AVERAGE |

(b) Antenna polarization: Vertical

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10360.000 | 54.31 | 12.56 | 66.87 | 74.00 | -7.13 | PEAK |
| 10360.000 | 33.54 | 12.56 | 46.10 | 54.00 | -7.90 | AVERAGE |
| ***15540.000** | **51.21** | **16.45** | **67.66** | **74.00** | **-6.34** | **PEAK** |
| 15540.000 | 28.46 | 16.45 | 44.91 | 54.00 | -9.09 | AVERAGE |

Note: '*' means the worst case

Measurement Level = Reading Level + Factor

Factor=Ant Factor + Cable Loss

Low Channel 36: 5180 MHz

Data rate: 7.2Mbps

(a) Antenna polarization: Horizontal

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10440.000 | 53.47 | 12.64 | 66.11 | 74.00 | -7.89 | PEAK |
| 10440.000 | 32.58 | 12.64 | 45.22 | 54.00 | -8.78 | AVERAGE |
| ***15660.000** | **50.16** | **16.53** | **66.69** | **74.00** | **-7.31** | **PEAK** |
| 15660.000 | 27.95 | 16.53 | 44.48 | 54.00 | -9.52 | AVERAGE |

(b) Antenna polarization: Vertical

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10440.000 | 52.39 | 12.64 | 65.03 | 74.00 | -8.97 | PEAK |
| 10440.000 | 32.08 | 12.64 | 44.72 | 54.00 | -9.28 | AVERAGE |
| ***15660.000** | **51.62** | **16.53** | **68.15** | **74.00** | **-5.85** | **PEAK** |
| 15660.000 | 31.12 | 16.53 | 47.65 | 54.00 | -6.35 | AVERAGE |

Note: '*' means the worst case

Measurement Level = Reading Level + Factor

Factor=Ant Factor + Cable Loss

Middle Channel 44: 5220 MHz

Data rate: 7.2Mbps

(a) Antenna polarization: Horizontal

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10460.000 | 52.45 | 12.66 | 65.11 | 74.00 | -8.89 | PEAK |
| 10460.000 | 32.34 | 12.66 | 45.00 | 54.00 | -9.00 | AVERAGE |
| ***15690.000** | **49.21** | **16.53** | **65.74** | **74.00** | **-8.26** | **PEAK** |
| 15690.000 | 29.15 | 16.53 | 45.68 | 54.00 | -8.32 | AVERAGE |

(b) Antenna polarization: Vertical

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10460.000 | 51.45 | 12.66 | 64.11 | 74.00 | -9.89 | PEAK |
| 10460.000 | 31.28 | 12.66 | 43.94 | 54.00 | -10.06 | AVERAGE |
| ***15690.000** | **51.10** | **16.53** | **67.63** | **74.00** | **-6.37** | **PEAK** |
| 15690.000 | 30.16 | 16.53 | 46.69 | 54.00 | -7.31 | AVERAGE |

Note: '*' means the worst case

Measurement Level = Reading Level + Factor

Factor=Ant Factor + Cable Loss

High Channel 46: 5230 MHz

Data rate: 7.2Mbps

| | | | |
|---|---|---|---|
| EUT： | LCD Monitor | Model Name ： | DW271HL |
| Temperature： | 25 ℃ | Test Data | 2012-02-09 |
| Pressure： | 1010 hPa | Relative Humidity： | 60% |
| Test Mode ： | 802.11n(40M)(5.15-5.25G)<br>(ANT1) | Test Voltage ： | AC 120V/60Hz |
| Measurement Distance | 3 m | Frenqucy Range | 1GHz to 18GHz |
| RBW/VBW | 1MHz/1MHz for Peak, 1MHz/10Hz for Average. | | |

(a) Antenna polarization: Horizontal

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10380.000 | 54.02 | 12.58 | 66.60 | 74.00 | -7.40 | PEAK |
| 10380.000 | 33.36 | 12.58 | 45.94 | 54.00 | -8.06 | AVERAGE |
| ***15570.000** | **50.22** | **16.48** | **66.70** | **74.00** | **-7.30** | **PEAK** |
| 15570.000 | 28.61 | 16.48 | 45.09 | 54.00 | -8.91 | AVERAGE |

(b) Antenna polarization: Vertical

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| ***10380.000** | **54.27** | **12.58** | **66.85** | **74.00** | **-7.15** | **PEAK** |
| 10380.000 | 33.36 | 12.58 | 45.94 | 54.00 | -8.06 | AVERAGE |
| 15570.000 | 49.16 | 16.48 | 65.64 | 74.00 | -8.36 | PEAK |
| 15570.000 | 27.62 | 16.48 | 44.10 | 54.00 | -9.90 | AVERAGE |

Note: '*' means the worst case

Measurement Level = Reading Level + Factor

Factor=Ant Factor + Cable Loss

Low Channel 38: 5190 MHz

Data rate: 7.2Mbps

(a) Antenna polarization: Horizontal

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10440.000 | 54.26 | 12.64 | 66.90 | 74.00 | -7.10 | PEAK |
| 10440.000 | 33.32 | 12.64 | 45.96 | 54.00 | -8.04 | AVERAGE |
| ***15660.000** | **51.83** | **16.53** | **68.36** | **74.00** | **-5.64** | **PEAK** |
| 15660.000 | 27.96 | 16.53 | 44.49 | 54.00 | -9.51 | AVERAGE |

(b) Antenna polarization: Vertical

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10440.000 | 53.24 | 12.64 | 65.88 | 74.00 | -8.12 | PEAK |
| 10440.000 | 33.17 | 12.64 | 45.81 | 54.00 | -8.19 | AVERAGE |
| ***15660.000** | **50.41** | **16.53** | **66.94** | **74.00** | **-7.06** | **PEAK** |
| 15660.000 | 28.15 | 16.53 | 44.68 | 54.00 | -9.32 | AVERAGE |

Note: '*' means the worst case
Measurement Level = Reading Level + Factor
Factor=Ant Factor + Cable Loss
High Channel 44: 5220 MHz
Data rate: 7.2Mbps

| EUT： | LCD Monitor | Model Name ： | DW271HL |
|---|---|---|---|
| Temperature： | 25 ℃ | Test Data | 2012-02-09 |
| Pressure： | 1010 hPa | Relative Humidity： | 60% |
| Test Mode ： | 802.11a(5.15-5.25G) | Test Voltage ： | AC 120V/60Hz |
| Measurement Distance | 3 m | Frenqucy Range | 1GHz to 18GHz |
| RBW/VBW | 1MHz/1MHz for Peak, 1MHz/10Hz for Average. | | |

(a) Antenna polarization: Horizontal

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10360.000 | 50.26 | 12.56 | 62.82 | 74.00 | -11.18 | PEAK |
| 10360.000 | 29.71 | 12.56 | 42.27 | 54.00 | -11.73 | AVERAGE |
| 15540.000 | 49.42 | 16.45 | 65.87 | 74.00 | -8.13 | PEAK |
| ***15540.000** | **29.65** | **16.45** | **46.10** | **54.00** | **-7.90** | **AVERAGE** |

(b) Antenna polarization: Vertical

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10360.000 | 51.44 | 12.56 | 64.00 | 74.00 | -10.00 | PEAK |
| 10360.000 | 30.75 | 12.56 | 43.31 | 54.00 | -10.69 | AVERAGE |
| ***15540.000** | **49.53** | **16.45** | **65.98** | **74.00** | **-8.02** | **PEAK** |
| 15540.000 | 28.65 | 16.45 | 45.10 | 54.00 | -8.90 | AVERAGE |

Note: '*' means the worst case

Measurement Level = Reading Level + Factor

Factor=Ant Factor + Cable Loss

Low Channel 36: 5180 MHz

Data rate: 6Mbps

(a) Antenna polarization: Horizontal

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10440.000 | 51.87 | 12.64 | 64.51 | 74.00 | -9.49 | PEAK |
| 10440.000 | 31.45 | 12.64 | 44.09 | 54.00 | -9.91 | AVERAGE |
| ***15660.000** | **49.82** | **16.53** | **66.35** | **74.00** | **-7.65** | **PEAK** |
| 15660.000 | 29.56 | 16.53 | 46.09 | 54.00 | -7.91 | AVERAGE |

(b) Antenna polarization: Vertical

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10440.000 | 50.42 | 12.64 | 63.06 | 74.00 | -10.94 | PEAK |
| 10440.000 | 29.78 | 12.64 | 42.42 | 54.00 | -11.58 | AVERAGE |
| ***15660.000** | **50.19** | **16.53** | **66.72** | **74.00** | **-7.28** | **PEAK** |
| 15660.000 | 28.00 | 16.53 | 44.53 | 54.00 | -9.47 | AVERAGE |

Note: '*' means the worst case
Measurement Level = Reading Level + Factor
Factor=Ant Factor + Cable Loss
Middle Channel 44: 5220 MHz
Data rate: 6Mbps

(a) Antenna polarization: Horizontal

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10460.000 | 52.45 | 12.66 | 65.11 | 74.00 | -8.89 | PEAK |
| 10460.000 | 32.16 | 12.66 | 44.82 | 54.00 | -9.18 | AVERAGE |
| ***15690.000** | **51.92** | **16.53** | **68.45** | **74.00** | **-5.55** | **PEAK** |
| 15690.000 | 29.16 | 16.53 | 45.69 | 54.00 | -8.31 | AVERAGE |

(b) Antenna polarization: Vertical

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10460.000 | 50.52 | 12.66 | 63.18 | 74.00 | -10.82 | PEAK |
| 10460.000 | 30.16 | 12.66 | 42.82 | 54.00 | -11.18 | AVERAGE |
| ***15690.000** | **50.64** | **16.53** | **67.17** | **74.00** | **-6.83** | **PEAK** |
| 15690.000 | 30.21 | 16.53 | 46.74 | 54.00 | -7.26 | AVERAGE |

Note: '*' means the worst case
Measurement Level = Reading Level + Factor
Factor=Ant Factor + Cable Loss
High Channel 46: 5230 MHz
Data rate: 6Mbps

| EUT： | LCD Monitor | Model Name ： | DW271HL |
|---|---|---|---|
| Temperature： | 25 ℃ | Test Data | 2012-02-09 |
| Pressure： | 1010 hPa | Relative Humidity： | 60% |
| Test Mode ： | 802.11n(20M)(5.15-5.25G) (ANT2) | Test Voltage ： | AC 120V/60Hz |
| Measurement Distance | 3 m | Frenqucy Range | 1GHz to 18GHz |
| RBW/VBW | 1MHz/1MHz for Peak, 1MHz/10Hz for Average. | | |

(a) Antenna polarization: Horizontal

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| ***10360.000** | **55.36** | **12.56** | **67.92** | **74.00** | **-6.08** | **PEAK** |
| 10360.000 | 34.69 | 12.56 | 47.25 | 54.00 | -6.75 | AVERAGE |
| 15540.000 | 50.73 | 16.45 | 67.18 | 74.00 | -6.82 | PEAK |
| 15540.000 | 27.64 | 16.45 | 47.09 | 54.00 | -6.91 | AVERAGE |

(b) Antenna polarization: Vertical

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| ***10360.000** | **55.13** | **12.56** | **67.69** | **74.00** | **-6.31** | **PEAK** |
| 10360.000 | 34.86 | 12.56 | 47.42 | 54.00 | -6.58 | AVERAGE |
| 15540.000 | 49.73 | 16.45 | 66.18 | 74.00 | -7.82 | PEAK |
| 15540.000 | 28.92 | 16.45 | 45.37 | 54.00 | -8.63 | AVERAGE |

Note: '*' means the worst case

Measurement Level = Reading Level + Factor

Factor=Ant Factor + Cable Loss

Low Channel 36: 5180 MHz

Data rate: 7.2Mbps

(a) Antenna polarization: Horizontal

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10440.000 | 52.39 | 12.64 | 65.03 | 74.00 | -8.97 | PEAK |
| 10440.000 | 31.58 | 12.64 | 44.22 | 54.00 | -9.78 | AVERAGE |
| ***15660.000** | **51.91** | **16.53** | **68.44** | **74.00** | **-5.56** | **PEAK** |
| 15660.000 | 29.19 | 16.53 | 47.72 | 54.00 | -6.28 | AVERAGE |

(b) Antenna polarization: Vertical

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| ***10440.000** | **55.41** | **12.64** | **68.05** | **74.00** | **-5.95** | **PEAK** |
| 10440.000 | 34.42 | 12.64 | 47.06 | 54.00 | -6.94 | AVERAGE |
| 15660.000 | 50.18 | 16.53 | 66.71 | 74.00 | -7.29 | PEAK |
| 15660.000 | 29.40 | 16.53 | 45.93 | 54.00 | -8.07 | AVERAGE |

Note: '*' means the worst case

Measurement Level = Reading Level + Factor

Factor=Ant Factor + Cable Loss

Middle Channel 44: 5220 MHz

Data rate: 7.2Mbps

(a) Antenna polarization: Horizontal

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| ***10460.000** | **53.71** | **12.66** | **66.37** | **74.00** | **-7.63** | **PEAK** |
| 10460.000 | 33.50 | 12.66 | 46.16 | 54.00 | -7.84 | AVERAGE |
| 15690.000 | 49.89 | 16.53 | 66.42 | 74.00 | -7.58 | PEAK |
| 15690.000 | 28.96 | 16.53 | 45.49 | 54.00 | -8.51 | AVERAGE |

(b) Antenna polarization: Vertical

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| ***10460.000** | **53.66** | **12.66** | **66.32** | **74.00** | **-7.68** | **PEAK** |
| 10460.000 | 33.16 | 12.66 | 45.82 | 54.00 | -8.18 | AVERAGE |
| 15690.000 | 48.16 | 16.53 | 64.69 | 74.00 | -9.31 | PEAK |
| 15690.000 | 27.48 | 16.53 | 44.01 | 54.00 | -9.99 | AVERAGE |

Note: '*' means the worst case

Measurement Level = Reading Level + Factor

Factor=Ant Factor + Cable Loss

High Channel 46: 5230 MHz

Data rate: 7.2Mbps

| EUT： | LCD Monitor | Model Name ： | DW271HL |
|---|---|---|---|
| Temperature： | 25 ℃ | Test Data | 2012-02-09 |
| Pressure： | 1010 hPa | Relative Humidity： | 60% |
| Test Mode ： | 802.11n(40M)(5.15-5.25G)<br>(ANT2) | Test Voltage ： | AC 120V/60Hz |
| Measurement Distance | 3 m | Frenqucy Range | 1GHz to 18GHz |
| RBW/VBW | 1MHz/1MHz for Peak, 1MHz/10Hz for Average. | | |

(a) Antenna polarization: Horizontal

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10380.000 | 53.95 | 12.58 | 66.53 | 74.00 | -7.47 | PEAK |
| 10380.000 | 33.24 | 12.58 | 45.82 | 54.00 | -8.18 | AVERAGE |
| ***15570.000** | **51.13** | **16.48** | **67.61** | **74.00** | **-6.39** | **PEAK** |
| 15570.000 | 28.94 | 16.48 | 45.42 | 54.00 | -8.58 | AVERAGE |

(b) Antenna polarization: Vertical

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10380.000 | 53.27 | 12.58 | 65.85 | 74.00 | -8.15 | PEAK |
| 10380.000 | 32.36 | 12.58 | 44.94 | 54.00 | -9.06 | AVERAGE |
| **15570.000** | **51.50** | **16.48** | **67.98** | **74.00** | **-6.02** | **PEAK** |
| 15570.000 | 29.16 | 16.48 | 45.64 | 54.00 | -8.36 | AVERAGE |

Note: '*' means the worst case

Measurement Level = Reading Level + Factor

Factor=Ant Factor + Cable Loss

Low Channel 38: 5190 MHz

Data rate: 7.2Mbps

(a) Antenna polarization: Horizontal

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| ***10440.000** | **53.21** | **12.64** | **65.85** | **74.00** | **-8.15** | **PEAK** |
| 10440.000 | 32.32 | 12.64 | 44.96 | 54.00 | -9.04 | AVERAGE |
| 15660.000 | 49.30 | 16.53 | 65.83 | 74.00 | -8.17 | PEAK |
| 15660.000 | 27.60 | 16.53 | 44.13 | 54.00 | -9.87 | AVERAGE |

(b) Antenna polarization: Vertical

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10440.000 | 53.26 | 12.64 | 65.90 | 74.00 | -8.10 | PEAK |
| 10440.000 | 32.54 | 12.64 | 45.18 | 54.00 | -8.82 | AVERAGE |
| ***15660.000** | **50.16** | **16.53** | **66.69** | **74.00** | **-7.31** | **PEAK** |
| 15660.000 | 29.46 | 16.53 | 45.99 | 54.00 | -8.01 | AVERAGE |

Note: '*' means the worst case
Measurement Level = Reading Level + Factor
Factor=Ant Factor + Cable Loss
High Channel 44: 5220 MHz
Data rate: 7.2Mbps

| | | | |
|---|---|---|---|
| EUT： | LCD Monitor | Model Name ： | DW271HL |
| Temperature： | 25 ℃ | Test Data | 2012-02-09 |
| Pressure： | 1010 hPa | Relative Humidity： | 60% |
| Test Mode ： | 802.11a(5.15-5.25)(ANT2) | Test Voltage ： | AC 120V/60Hz |
| Measurement Distance | 3 m | Frenqucy Range | 1GHz to 18GHz |
| RBW/VBW | 1MHz/1MHz for Peak, 1MHz/10Hz for Average. | | |

(a) Antenna polarization: Horizontal

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10360.000 | 52.41 | 12.56 | 64.97 | 74.00 | -9.03 | PEAK |
| 10360.000 | 31.01 | 12.56 | 43.57 | 54.00 | -10.43 | AVERAGE |
| **15540.000** | **49.14** | **16.45** | **65.59** | **74.00** | **-8.41** | **PEAK** |
| 15540.000 | 28.19 | 16.45 | 44.64 | 54.00 | -9.36 | AVERAGE |

(b) Antenna polarization: Vertical

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10360.000 | 51.35 | 12.56 | 63.91 | 74.00 | -10.09 | PEAK |
| 10360.000 | 31.12 | 12.56 | 43.68 | 54.00 | -10.32 | AVERAGE |
| **15540.000** | **50.87** | **16.45** | **67.32** | **74.00** | **-6.68** | **PEAK** |
| 15540.000 | 29.25 | 16.45 | 45.70 | 54.00 | -8.30 | AVERAGE |

Note: '*' means the worst case

Measurement Level = Reading Level + Factor

Factor=Ant Factor + Cable Loss

Low Channel 36: 5180 MHz

Data rate: 6Mbps

(a) Antenna polarization: Horizontal

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10440.000 | 51.24 | 12.64 | 63.88 | 74.00 | -10.12 | PEAK |
| 10440.000 | 30.40 | 12.64 | 43.04 | 54.00 | -10.96 | AVERAGE |
| ***15660.000** | **49.39** | **16.53** | **65.92** | **74.00** | **-8.08** | **PEAK** |
| 15660.000 | 27.61 | 16.53 | 44.14 | 54.00 | -9.86 | AVERAGE |

(b) Antenna polarization: Vertical

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10440.000 | 50.58 | 12.64 | 63.22 | 74.00 | -10.78 | PEAK |
| 10440.000 | 29.75 | 12.64 | 42.39 | 54.00 | -11.61 | AVERAGE |
| ***15660.000** | **49.88** | **16.53** | **66.41** | **74.00** | **-7.59** | **PEAK** |
| 15660.000 | 28.46 | 16.53 | 44.99 | 54.00 | -9.01 | AVERAGE |

Note: '*' means the worst case
Measurement Level = Reading Level + Factor
Factor=Ant Factor + Cable Loss
Middle Channel 44: 5220 MHz
Data rate: 6Mbps

(a) Antenna polarization: Horizontal

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10460.000 | 50.40 | 12.66 | 63.06 | 74.00 | -10.94 | PEAK |
| 10460.000 | 29.79 | 12.66 | 42.45 | 54.00 | -11.55 | AVERAGE |
| **15690.000** | **51.16** | **16.53** | **67.69** | **74.00** | **-6.31** | **PEAK** |
| 15690.000 | 28.39 | 16.53 | 44.92 | 54.00 | -9.08 | AVERAGE |

(b) Antenna polarization: Vertical

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10460.000 | 51.88 | 12.66 | 64.54 | 74.00 | -9.46 | PEAK |
| 10460.000 | 31.16 | 12.66 | 43.82 | 54.00 | -10.18 | AVERAGE |
| ***15690.000** | **50.56** | **16.53** | **67.09** | **74.00** | **-6.91** | **PEAK** |
| 15690.000 | 27.60 | 16.53 | 44.13 | 54.00 | -9.87 | AVERAGE |

Note: '*' means the worst case
Measurement Level = Reading Level + Factor
Factor=Ant Factor + Cable Loss
High Channel 46: 5230 MHz
Data rate: 6Mbps

| | | | |
|---|---|---|---|
| EUT： | LCD Monitor | Model Name ： | DW271HL |
| Temperature： | 25 ℃ | Test Data | 2012-03-29 |
| Pressure： | 1010 hPa | Relative Humidity： | 60% |
| Test Mode ： | 802.11n(20M)(5.15-5.25G)<br>(ANT1+ANT2) | Test Voltage ： | AC 120V/60Hz |
| Measurement Distance | 3 m | Frenqucy Range | 1GHz to 40GHz |
| RBW/VBW | 1MHz/1MHz for Peak, 1MHz/10Hz for Average. | | |

(a) Antenna polarization: Horizontal

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10360.000 | 56.51 | 12.56 | 69.07 | 74.00 | -4.93 | PEAK |
| ***10360.000** | **36.85** | **12.56** | **49.41** | **54.00** | **-4.59** | **AVERAGE** |
| 15540.000 | 52.36 | 16.45 | 68.81 | 74.00 | -5.19 | PEAK |
| 15540.000 | 31.13 | 16.45 | 47.58 | 54.00 | -6.42 | AVERAGE |

(b) Antenna polarization: Vertical

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10360.000 | 56.77 | 12.56 | 69.33 | 74.00 | -4.67 | PEAK |
| 10360.000 | 35.44 | 12.56 | 48.00 | 54.00 | -6.00 | AVERAGE |
| ***15540.000** | **53.11** | **16.45** | **69.56** | **74.00** | **-4.44** | **PEAK** |
| 15540.000 | 32.51 | 16.45 | 48.96 | 54.00 | -5.04 | AVERAGE |

Note: '*' means the worst case

Measurement Level = Reading Level + Factor

Factor=Ant Factor + Cable Loss

Low Channel 36: 5180 MHz

Data rate: 7.2Mbps

(a) Antenna polarization: Horizontal

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10440.000 | 54.84 | 12.64 | 67.48 | 74.00 | -6.52 | PEAK |
| 10440.000 | 33.62 | 12.64 | 46.26 | 54.00 | -7.74 | AVERAGE |
| ***15660.000** | **52.12** | **16.53** | **68.65** | **74.00** | **-5.35** | **PEAK** |
| 15660.000 | 30.01 | 16.53 | 46.54 | 54.00 | -7.46 | AVERAGE |

(b) Antenna polarization: Vertical

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10440.000 | 55.41 | 12.64 | 68.05 | 74.00 | -5.95 | PEAK |
| 10440.000 | 34.72 | 12.64 | 47.36 | 54.00 | -6.64 | AVERAGE |
| ***15660.000** | **53.13** | **16.53** | **69.66** | **74.00** | **-4.34** | **PEAK** |
| 15660.000 | 33.12 | 16.53 | 49.65 | 54.00 | -4.35 | AVERAGE |

Note: '*' means the worst case

Measurement Level = Reading Level + Factor

Factor=Ant Factor + Cable Loss

Middle Channel 44: 5220 MHz

Data rate: 7.2Mbps

(a) Antenna polarization: Horizontal

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10460.000 | 55.13 | 12.66 | 67.79 | 74.00 | -6.21 | PEAK |
| 10460.000 | 34.70 | 12.66 | 47.36 | 54.00 | -6.64 | AVERAGE |
| 15690.000 | 51.32 | 16.53 | 67.85 | 74.00 | -6.15 | PEAK |
| ***15690.000** | **31.41** | **16.53** | **47.94** | **54.00** | **-6.06** | **AVERAGE** |

(b) Antenna polarization: Vertical

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10460.000 | 53.78 | 12.66 | 66.44 | 74.00 | -7.56 | PEAK |
| 10460.000 | 32.77 | 12.66 | 45.43 | 54.00 | -8.57 | AVERAGE |
| ***15690.000** | **53.13** | **16.53** | **69.66** | **74.00** | **-4.34** | **PEAK** |
| 15690.000 | 32.49 | 16.53 | 49.02 | 54.00 | -4.98 | AVERAGE |

Note: '*' means the worst case

Measurement Level = Reading Level + Factor

Factor=Ant Factor + Cable Loss

High Channel 46: 5230 MHz

Data rate: 7.2Mbps

| | | | |
|---|---|---|---|
| EUT： | LCD Monitor | Model Name ： | DW271HL |
| Temperature： | 25 ℃ | Test Data | 2012-03-29 |
| Pressure： | 1010 hPa | Relative Humidity： | 60% |
| Test Mode ： | 802.11n(40M)(5.15-5.25G)<br>(ANT1+ANT2) | Test Voltage ： | AC 120V/60Hz |
| Measurement Distance | 3 m | Frenqucy Range | 1GHz to 18GHz |
| RBW/VBW | 1MHz/1MHz for Peak, 1MHz/10Hz for Average. | | |

(a) Antenna polarization: Horizontal

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10380.000 | 55.77 | 12.58 | 68.35 | 74.00 | -5.65 | PEAK |
| 10380.000 | 34.86 | 12.58 | 47.44 | 54.00 | -6.56 | AVERAGE |
| ***15570.000** | **52.38** | **16.48** | **68.86** | **74.00** | **-5.14** | **PEAK** |
| 15570.000 | 31.12 | 16.48 | 47.60 | 54.00 | -6.40 | AVERAGE |

(b) Antenna polarization: Vertical

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10380.000 | 55.36 | 12.58 | 67.94 | 74.00 | -6.06 | PEAK |
| 10380.000 | 35.18 | 12.58 | 47.76 | 54.00 | -6.24 | AVERAGE |
| ***15570.000** | **52.33** | **16.48** | **68.81** | **74.00** | **-5.19** | **PEAK** |
| 15570.000 | 29.65 | 16.48 | 46.13 | 54.00 | -7.87 | AVERAGE |

Note: '*' means the worst case

Measurement Level = Reading Level + Factor

Factor=Ant Factor + Cable Loss

Low Channel 38: 5190 MHz

Data rate: 7.2Mbps

(a) Antenna polarization: Horizontal

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10440.000 | 55.65 | 12.64 | 68.29 | 74.00 | -5.71 | PEAK |
| 10440.000 | 34.78 | 12.64 | 47.42 | 54.00 | -6.58 | AVERAGE |
| ***15660.000** | **52.31** | **16.53** | **68.84** | **74.00** | **-5.16** | **PEAK** |
| 15660.000 | 29.62 | 16.53 | 46.15 | 54.00 | -7.85 | AVERAGE |

(b) Antenna polarization: Vertical

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| ***10440.000** | **56.03** | **12.64** | **68.67** | **74.00** | **-5.33** | **PEAK** |
| 10440.000 | 35.88 | 12.64 | 48.52 | 54.00 | -5.48 | AVERAGE |
| 15660.000 | 51.33 | 16.53 | 67.86 | 74.00 | -6.14 | PEAK |
| 15660.000 | 30.78 | 16.53 | 47.31 | 54.00 | -6.69 | AVERAGE |

Note: '*' means the worst case
Measurement Level = Reading Level + Factor
Factor=Ant Factor + Cable Loss
High Channel 44: 5220 MHz
Data rate: 7.2Mbps

| | | | |
|---|---|---|---|
| EUT： | LCD Monitor | Model Name ： | DW271HL |
| Temperature： | 25 ℃ | Test Data | 2012-03-29 |
| Pressure： | 1010 hPa | Relative Humidity： | 60% |
| Test Mode ： | 802.11a(5.15-5.25G)<br>(ANT1+ANT2) | Test Voltage ： | AC 120V/60Hz |
| Measurement Distance | 3 m | Frenqucy Range | 1GHz to 18GHz |
| RBW/VBW | 1MHz/1MHz for Peak, 1MHz/10Hz for Average. | | |

(a) Antenna polarization: Horizontal

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10360.000 | 52.33 | 12.56 | 64.89 | 74.00 | -9.11 | PEAK |
| 10360.000 | 31.28 | 12.56 | 43.84 | 54.00 | -10.16 | AVERAGE |
| ***15540.000** | **52.31** | **16.45** | **68.76** | **74.00** | **-5.24** | **PEAK** |
| 15540.000 | 31.40 | 16.45 | 47.85 | 54.00 | -6.15 | AVERAGE |

(b) Antenna polarization: Vertical

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10360.000 | 53.52 | 12.56 | 66.08 | 74.00 | -7.92 | PEAK |
| 10360.000 | 33.25 | 12.56 | 45.81 | 54.00 | -8.19 | AVERAGE |
| ***15540.000** | **51.10** | **16.45** | **67.55** | **74.00** | **-6.45** | **PEAK** |
| 15540.000 | 29.74 | 16.45 | 46.19 | 54.00 | -7.81 | AVERAGE |

Note: '*' means the worst case

Measurement Level = Reading Level + Factor

Factor=Ant Factor + Cable Loss

Low Channel 36: 5180 MHz

Data rate: 6Mbps

(a) Antenna polarization: Horizontal

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10440.000 | 54.32 | 12.64 | 66.96 | 74.00 | -7.04 | PEAK |
| 10440.000 | 33.78 | 12.64 | 46.42 | 54.00 | -7.58 | AVERAGE |
| 15660.000 | 51.48 | 16.53 | 68.01 | 74.00 | -5.99 | PEAK |
| ***15660.000** | **32.33** | **16.53** | **48.86** | **54.00** | **-5.14** | **AVERAGE** |

(b) Antenna polarization: Vertical

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10440.000 | 52.37 | 12.64 | 65.01 | 74.00 | -8.99 | PEAK |
| 10440.000 | 31.25 | 12.64 | 43.89 | 54.00 | -10.11 | AVERAGE |
| ***15660.000** | **52.77** | **16.53** | **69.30** | **74.00** | **-4.70** | **PEAK** |
| 15660.000 | 32.22 | 16.53 | 48.75 | 54.00 | -5.25 | AVERAGE |

Note: '*' means the worst case
Measurement Level = Reading Level + Factor
Factor=Ant Factor + Cable Loss
Middle Channel 44: 5220 MHz
Data rate: 6Mbps

(a) Antenna polarization: Horizontal

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10460.000 | 54.78 | 12.66 | 67.44 | 74.00 | -6.56 | PEAK |
| 10460.000 | 35.12 | 12.66 | 47.78 | 54.00 | -6.22 | AVERAGE |
| ***15690.000** | **53.24** | **16.53** | **69.77** | **74.00** | **-4.23** | **PEAK** |
| 15690.000 | 32.71 | 16.53 | 49.24 | 54.00 | -4.76 | AVERAGE |

(b) Antenna polarization: Vertical

| Frequency (MHz) | Reading Level (dBuV) | Correct Factor (dB) | Measure Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 10460.000 | 52.13 | 12.66 | 64.79 | 74.00 | -9.21 | PEAK |
| 10460.000 | 31.72 | 12.66 | 44.38 | 54.00 | -9.62 | AVERAGE |
| ***15690.000** | **52.69** | **16.53** | **69.22** | **74.00** | **-4.78** | **PEAK** |
| 15690.000 | 31.78 | 16.53 | 48.31 | 54.00 | -5.69 | AVERAGE |

Note: '*' means the worst case
Measurement Level = Reading Level + Factor
Factor=Ant Factor + Cable Loss
High Channel 46: 5230 MHz
Data rate: 6Mbps

# 6.3 26dB BANDWIDTH TEST

## 6.3.1 Applied procedures / Limit

According to §15.303(c), for purposes of this subpart the emission bandwidth shall be determined by measuring the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, that are 26 dB down relative to the maximum level of the modulated carrier. Compliance with the emissions limits is based on the use of measurement instrumentation employing a peak detector function with an instrument resolutions bandwidth approximately equal to 1.0 percent of the emission bandwidth of the device under measurement.

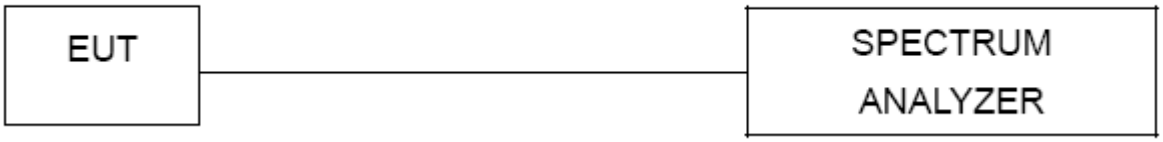
## 6.3.2 Test procedure

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
b. Spectrum Setting: RBW= 100KHz, VBW≧RBW, Sweep time = Auto.

## 6.3.3 Deviation from standard

No deviation.

## 6.3.4 Test setup



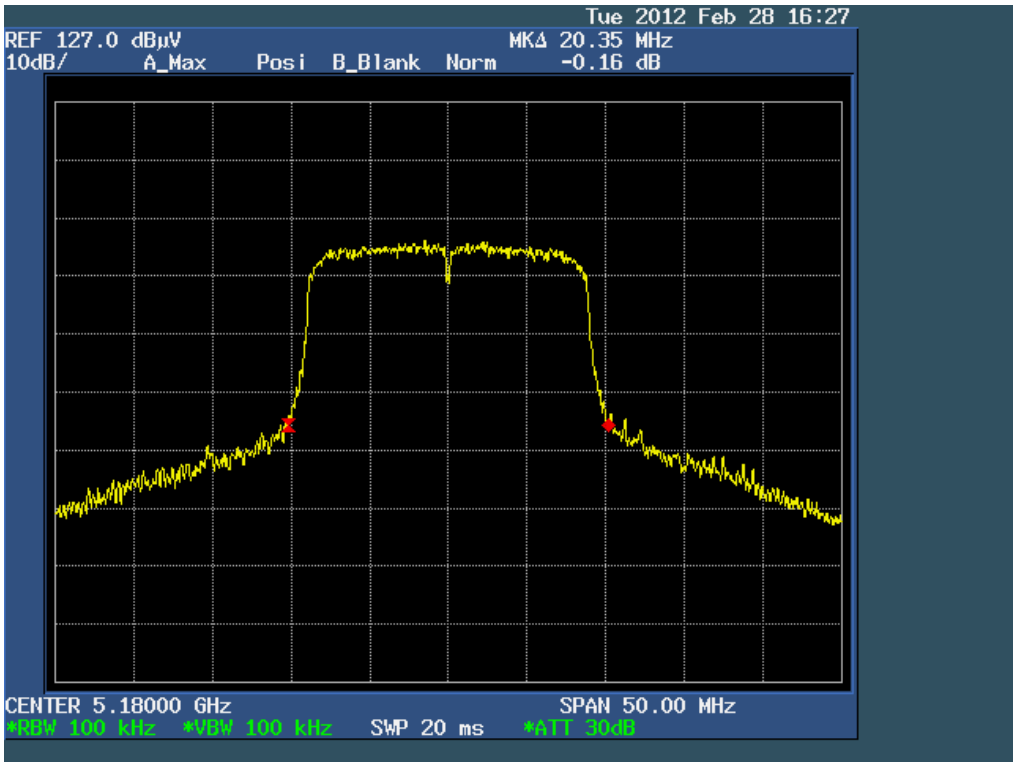
### 6.3.5 Test results

| EUT： | LCD Monitor | Model Name ： | DW271HL |
|---|---|---|---|
| Temperature： | 26 ℃ | Relative Humidity： | 53% |
| Pressure： | 1010 hPa | Test Power ： | AC 120V/60Hz |
| Test Mode ： | TX | | |

| Test Mode | Test Channel | Frequency (MHz) | 26 dB Bandwidth (KHz) |
|---|---|---|---|
| Ant 1 802.11n(20M) (5.15GHz-5.25GHz) Data rate 7.2Mbps | CH36 | 5180 | 20350 |
| | CH44 | 5220 | 20300 |
| | CH46 | 5230 | 20300 |
| Ant 1 802.11n(40M) (5.15GHz-5.25GHz) Data rate 7.2Mbps | CH38 | 5190 | 52160 |
| | CH44 | 5220 | 48320 |
| Ant 1 802.11a (5.15GHz-5.25GHz) Data rate 6Mbps | CH36 | 5180 | 21450 |
| | CH44 | 5220 | 20800 |
| | CH46 | 5230 | 20600 |
| Ant 2 802.11n(20M) (5.15GHz-5.25GHz) Data rate 7.2Mbps | CH36 | 5180 | 21000 |
| | CH44 | 5220 | 21000 |
| | CH48 | 5230 | 21550 |
| Ant 2 802.11n(40M) (5.15GHz-5.25GHz) Data rate 7.2Mbps | CH38 | 5190 | 66300 |
| | CH44 | 5220 | 52200 |
| Ant 2 802.11a (5.15GHz-5.25GHz) Data rate 6Mbps | CH36 | 5180 | 21050 |
| | CH44 | 5220 | 21250 |
| | CH46 | 5230 | 21550 |

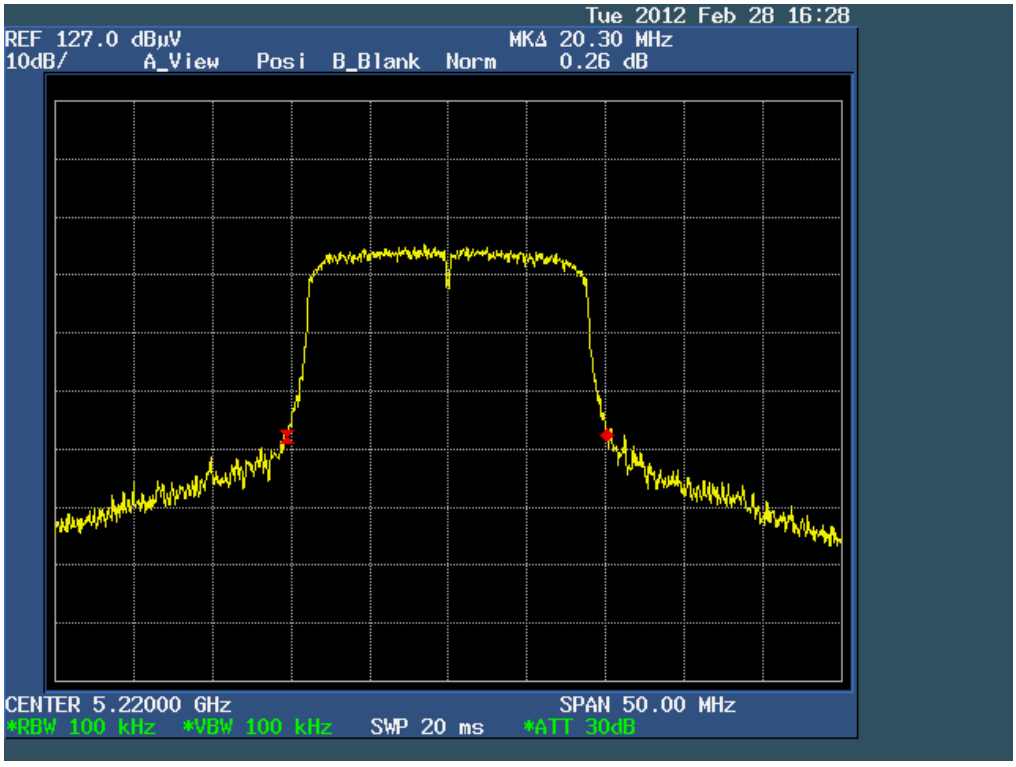
**Ant 1 802.11n(20M) (5.15GHz-5.25GHz)**

**The Lowest Channel 36: 5180MHz**



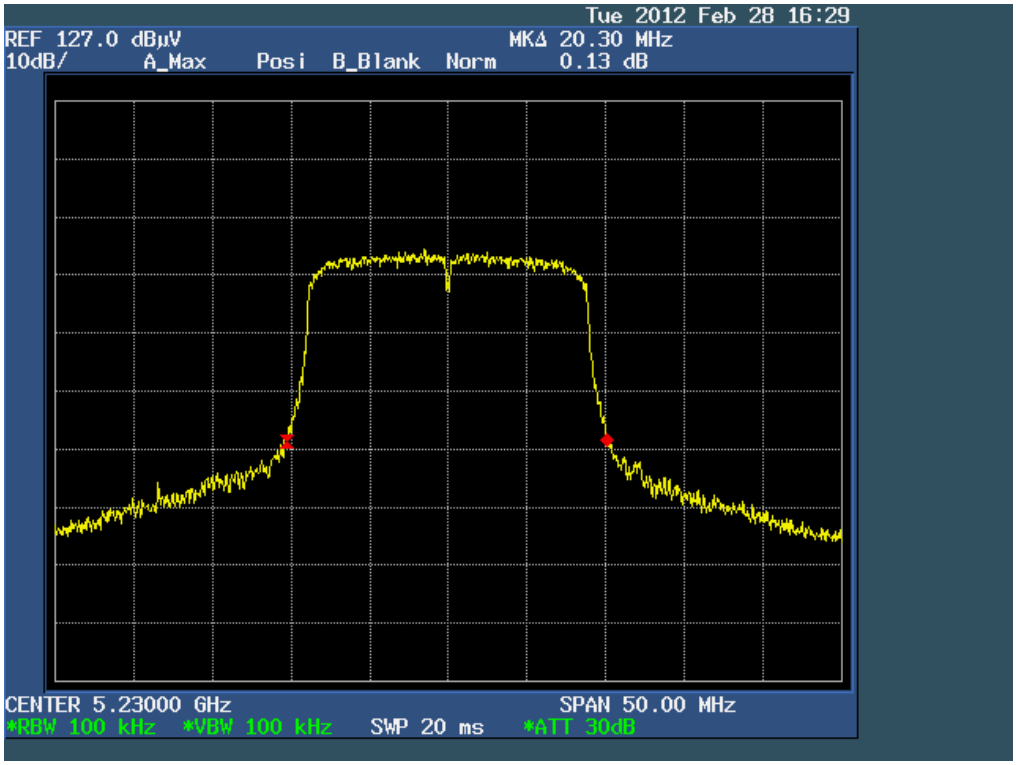

**Ant 1 802.11n(20M) (5.15GHz-5.25GHz)**

**The Middle Channel 44: 5220MHz**



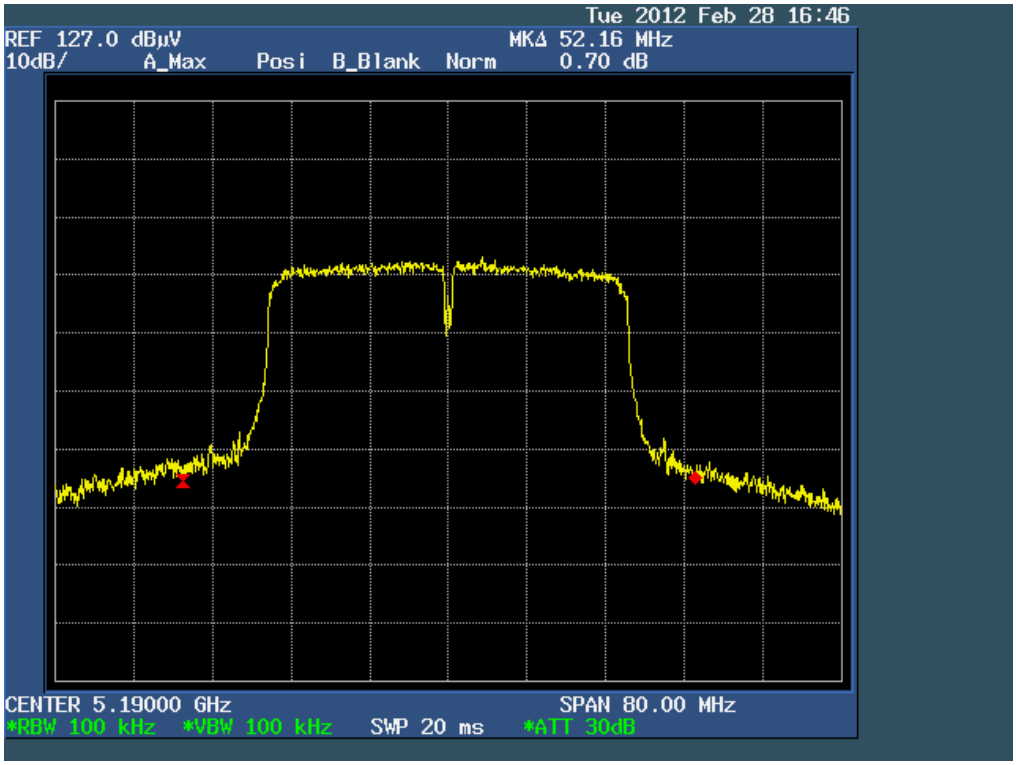
**Ant 1 802.11n(20M) (5.15GHz-5.25GHz)**

**The High Channel 46: 5230MHz**



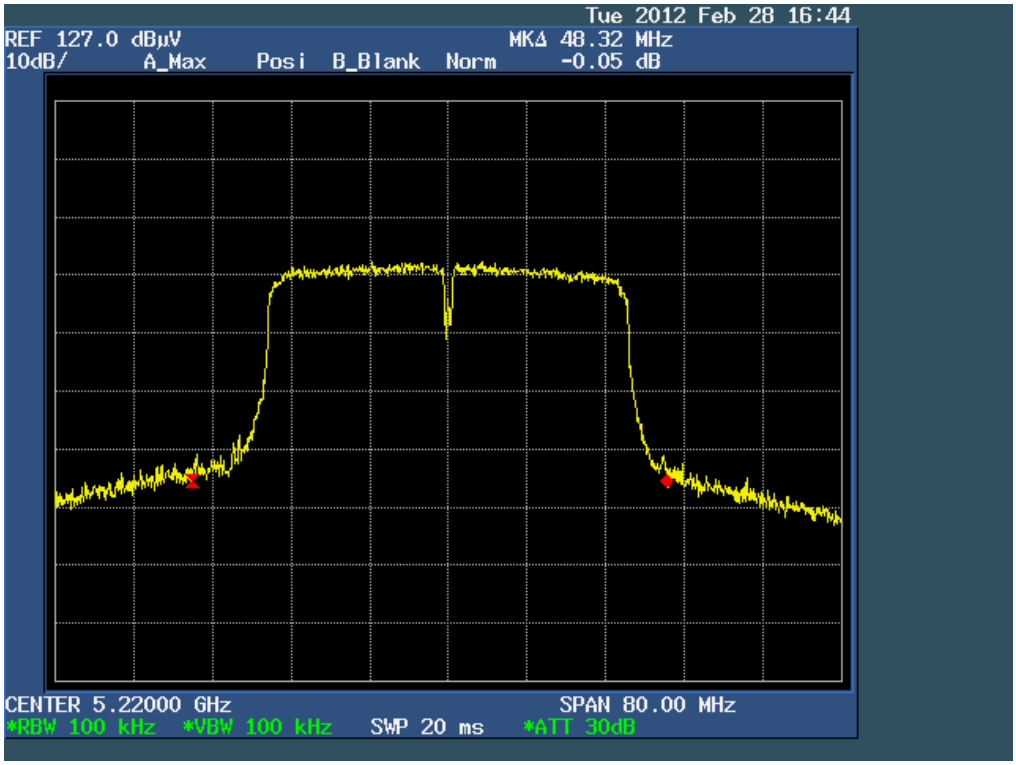

**Ant 1 802.11n(40M) (5.15GHz-5.25GHz)**

**The Lowest Channel 38: 5190MHz**



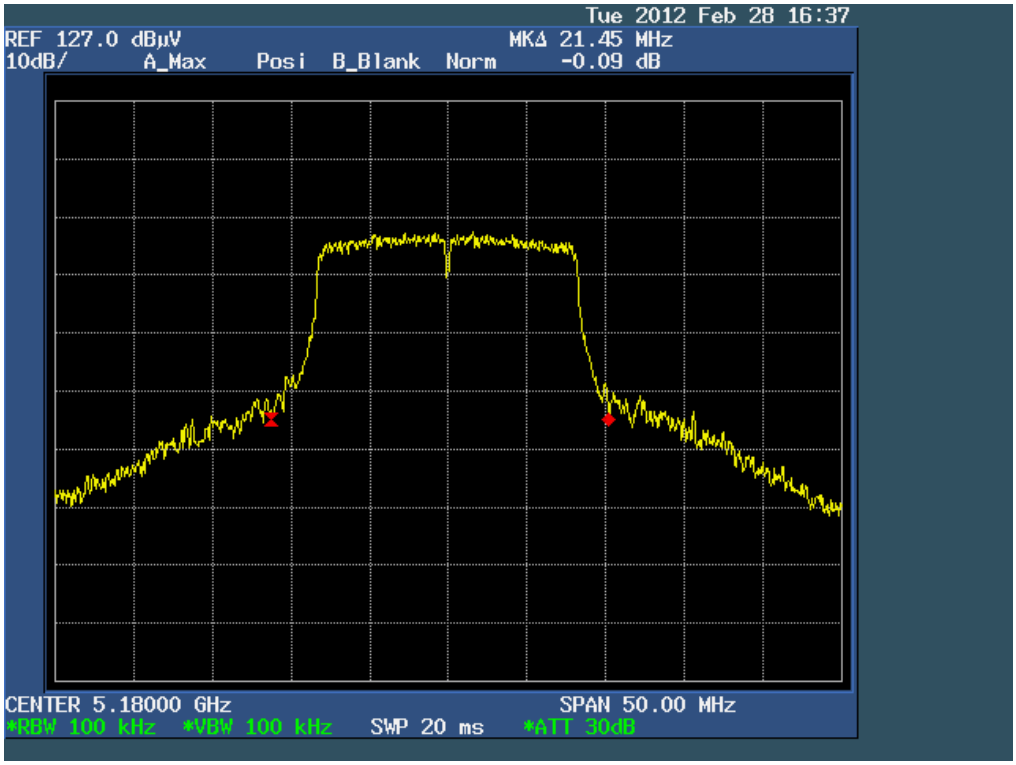
**Ant 1 802.11n(40M) (5.15GHz-5.25GHz)**

**The High Channel 44: 5220MHz**



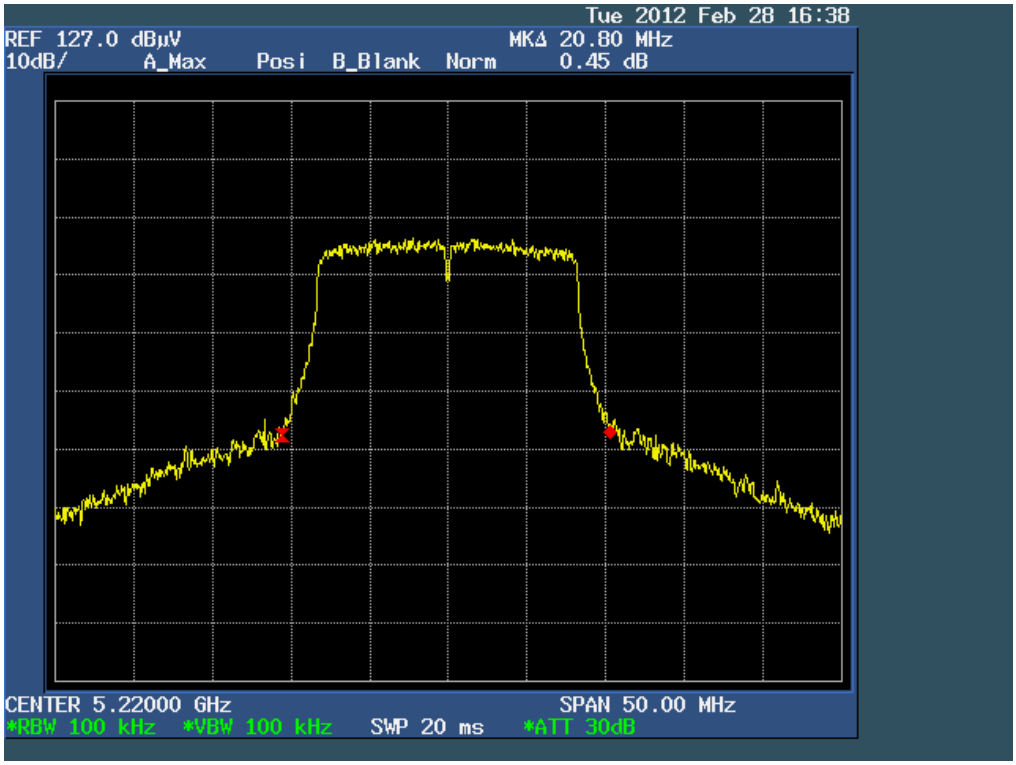

**Ant 1 802.11a (5.15GHz-5.25GHz)**

**The Lowest Channel 36: 5180MHz**



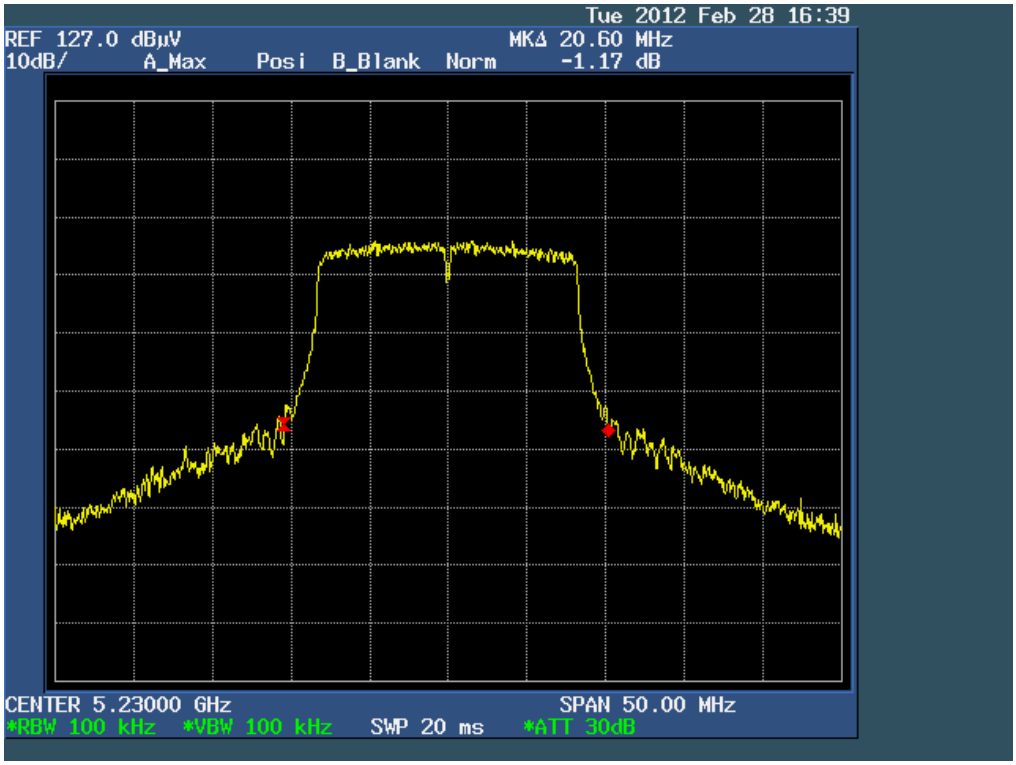
**Ant 1 802.11a (5.15GHz-5.25GHz)**

**The Middle Channel 44: 5220MHz**



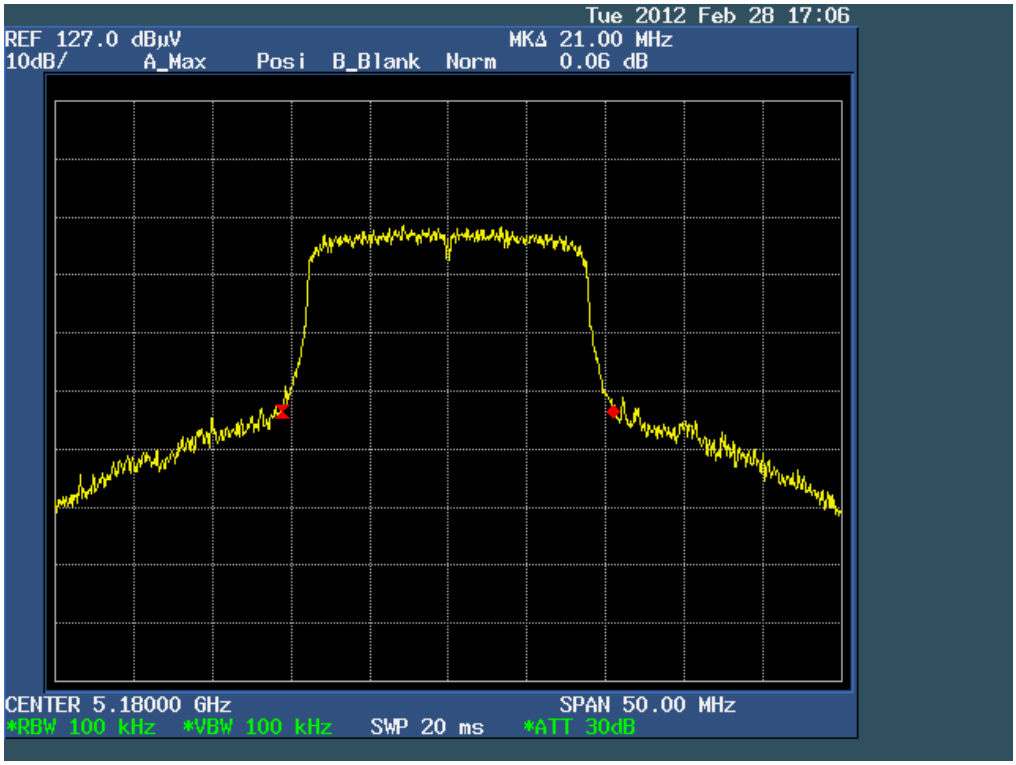

**Ant 1 802.11a (5.15GHz-5.25GHz)**

**The Middle Channel 46: 5230MHz**



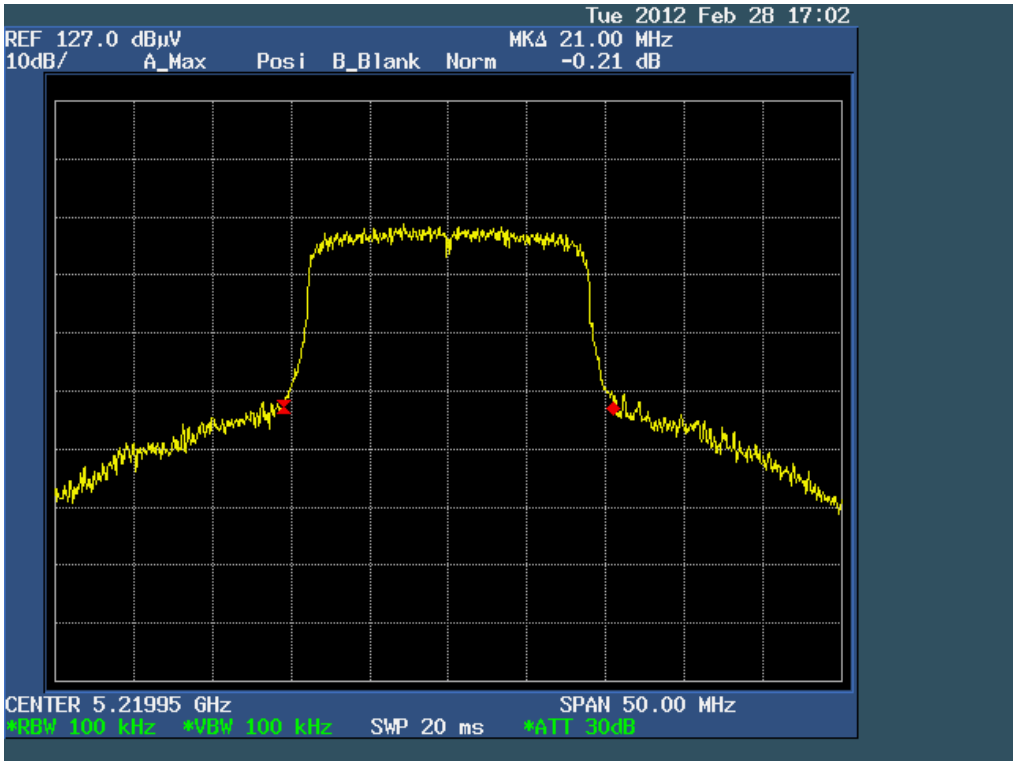
**Ant 2 802.11n(20M) (5.15GHz-5.25GHz)**

**The Lowest Channel 36: 5180MHz**



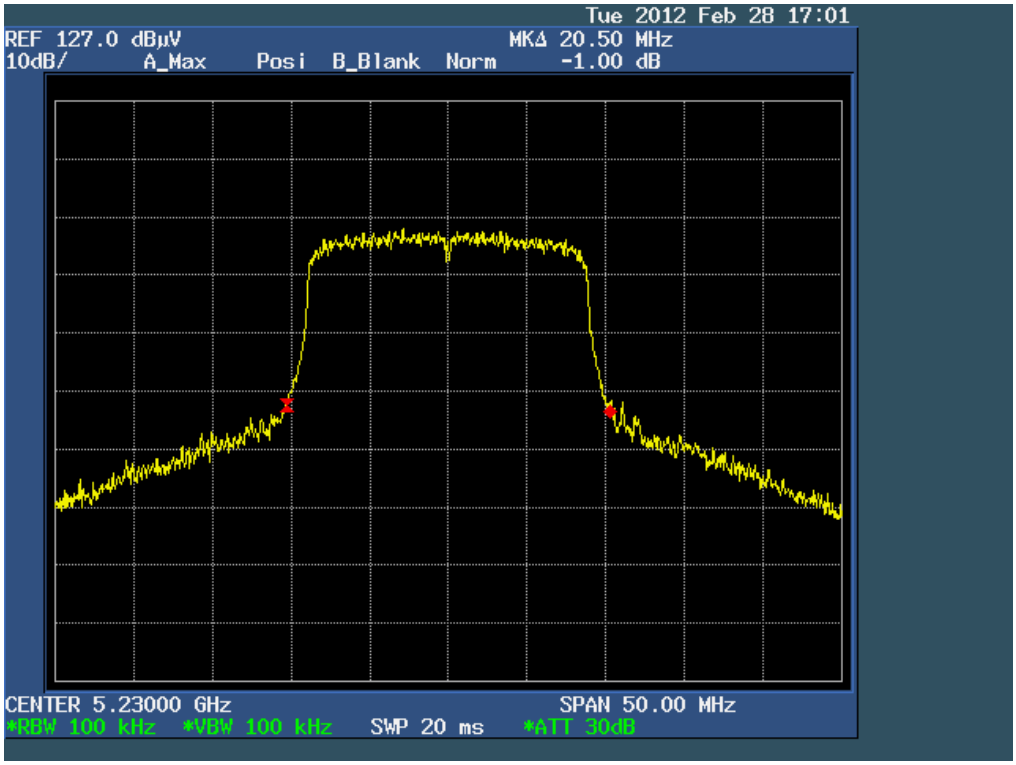

**Ant 2 802.11n(20M) (5.15GHz-5.25GHz)**

**The Middle Channel 44: 5220MHz**



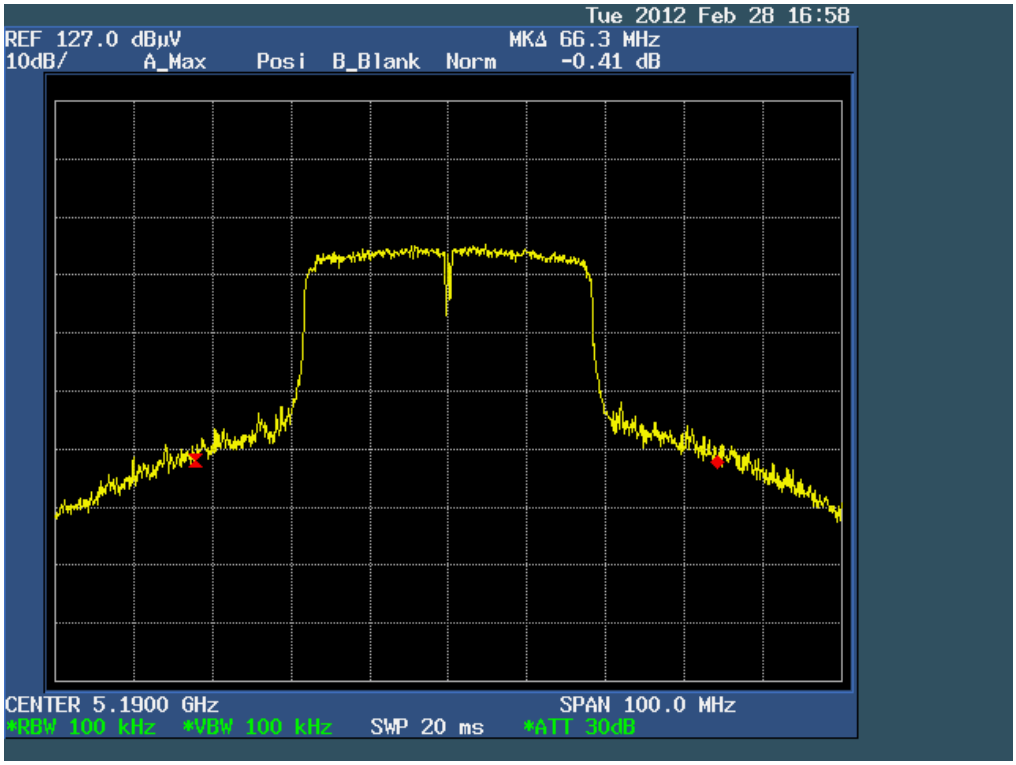
**Ant 2 802.11n(20M) (5.15GHz-5.25GHz)**

**The High Channel 46: 5230MHz**



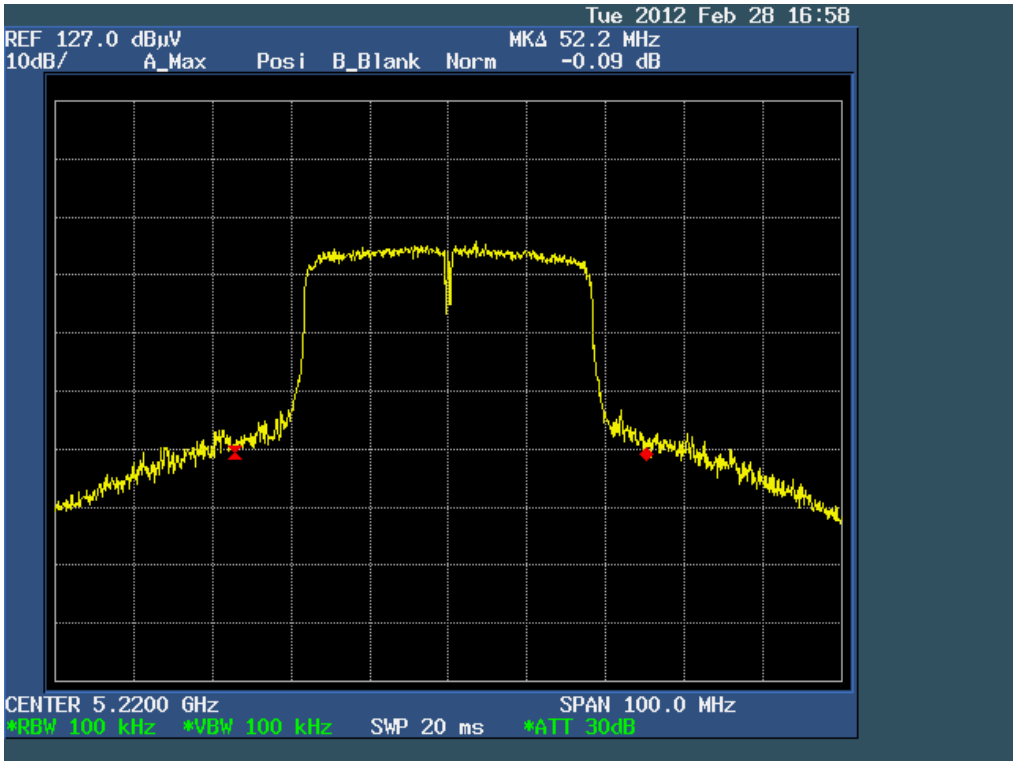

**Ant 2 802.11n(40M) (5.15GHz-5.25GHz)**

**The Lowest Channel 38: 5190MHz**



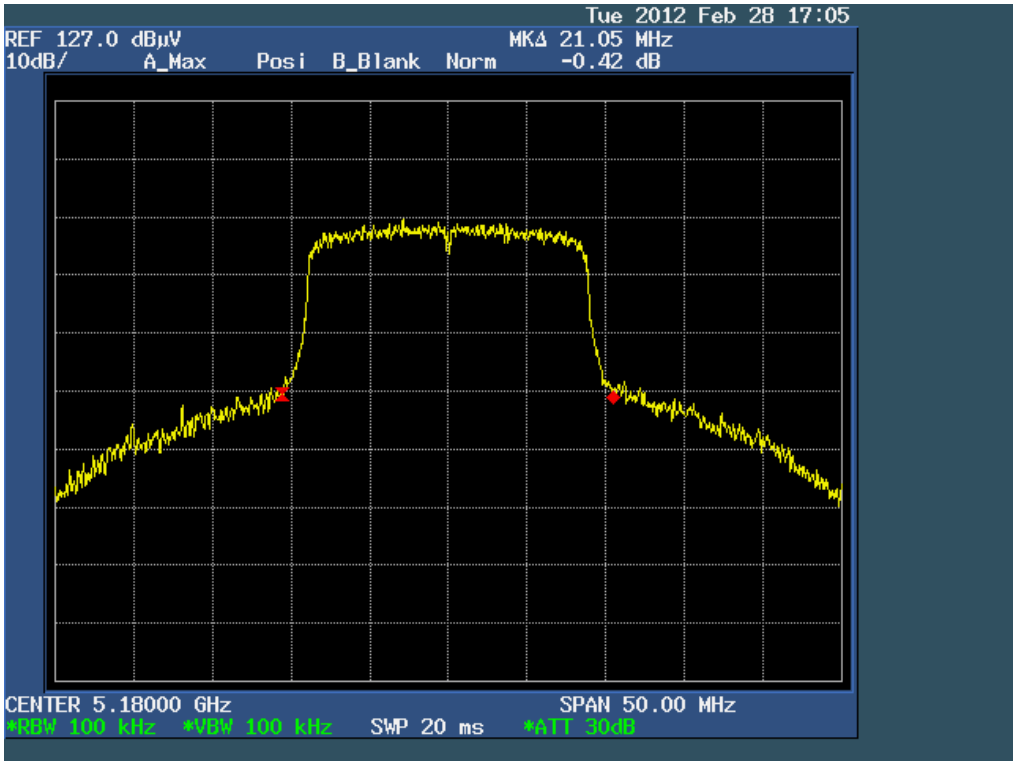
**Ant 2 802.11n(40M) (5.15GHz-5.25GHz)**

**The High Channel 44: 5220MHz**



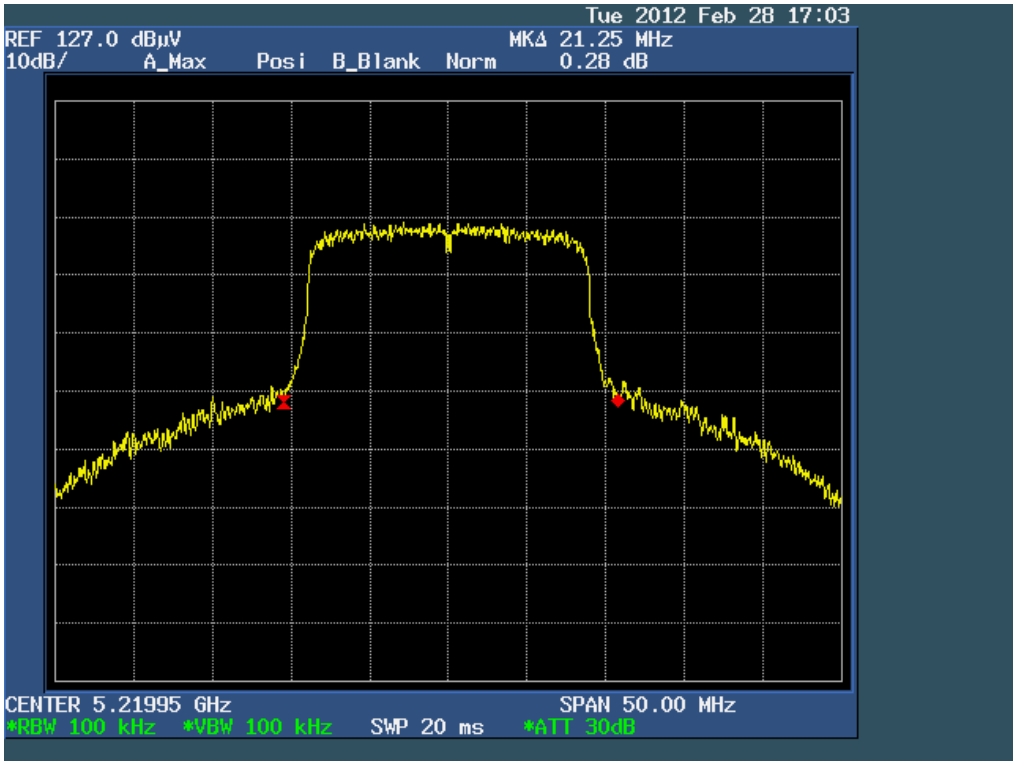

**Ant 2 802.11a (5.15GHz-5.25GHz)**

**The Lowest Channel 36: 5180MHz**



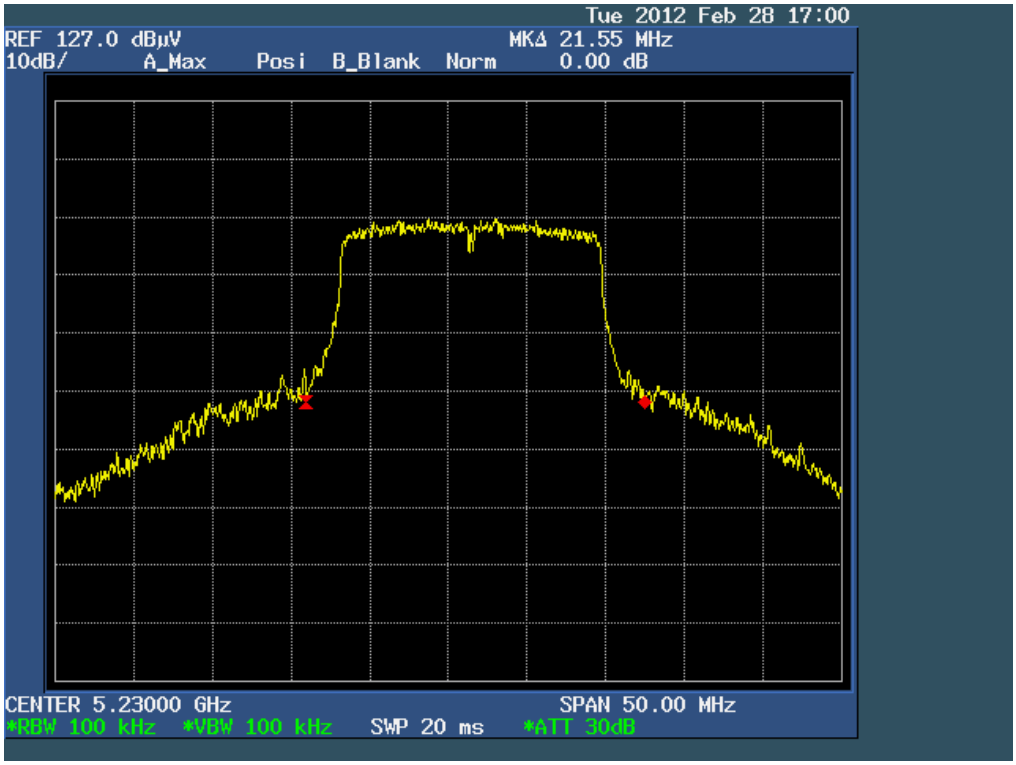
**Ant 2 802.11a (5.15GHz-5.25GHz)**

**The Middle Channel 44: 5220MHz**




**Ant 2 802.11a (5.15GHz-5.25GHz)**

**The High Channel 46: 5230MHz**



# 6.4 Peak Power Density

## 6.4.1 Applied procedures / Limit

15.407(a) For UNII Device in the 5.15-5.25 GHz and 5.725-5.825 GHz bands: different band have different peak power Density as follow.

| Frequency Band | Limit |
|---|---|
| 5.15 – 5.25 GHz | 4dBm/MHz |

## 6.4.2 Test procedure

a. The Transmitter output of EUT was connected to the spectrum analyzer.
   Equipment mode: Spectrum analyzer
   Detector function: Peak mode
   SPAN: 30MHz or 50MHz
   RBW: 1MHz
   VBW: 3MHz
   Center frequency: fundamental frequency tested.
   Sweep time= 30 or 50 sec.

b. Using Peak Search to read the peak power after Maximum Hold function is completed.

## 6.4.3 Deviation from standard

No deviation.

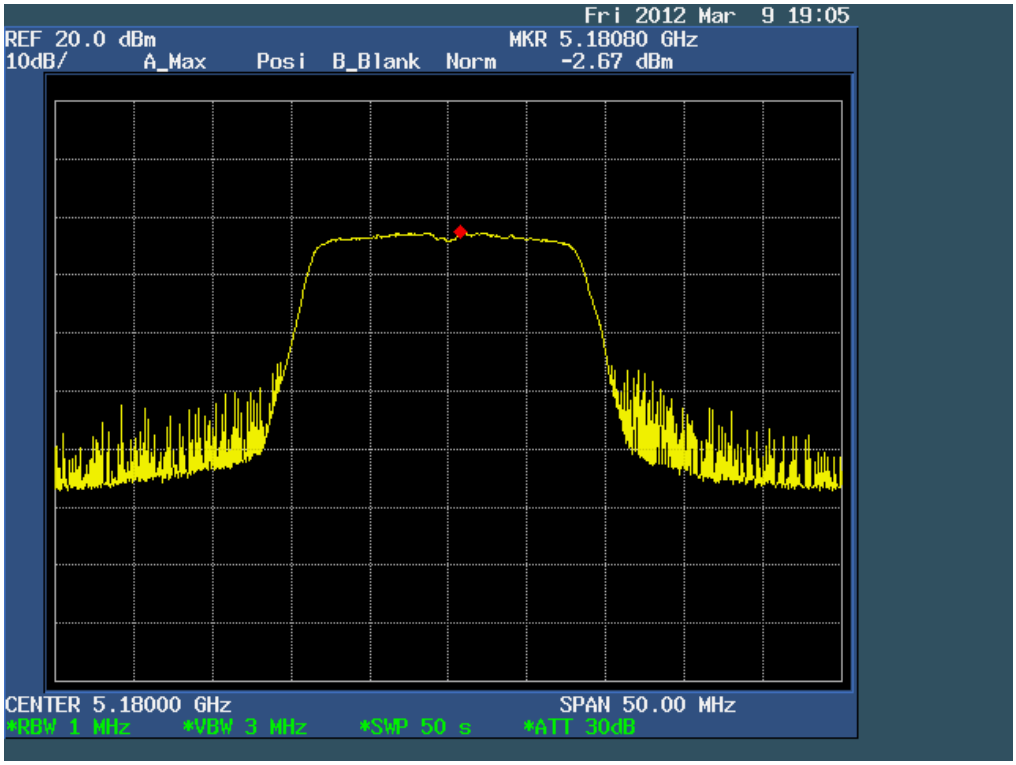
### 6.4.4 Test results

| | | | |
|---|---|---|---|
| EUT： | LCD Monitor | Model Name ： | DW271HL |
| Temperature： | 22 ℃ | Relative Humidity： | 53% |
| Pressure： | 1010 hPa | Test Power ： | AC 120V/60Hz |
| Test Mode ： | TX | | |

| Test Mode | Channel | Channel frenqucy (MHz) | Ant 1 Reading (dBm) | Ant 2 Reading (dBm) | Total power Ant 1+ Ant 2 (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|
| 802.11n(20M) (5.15GHz-5.25GHz) Data rate 7.2Mbps | Low | 5180 | -2.67 | -5.58 | -2.67+(-5.58)= -1.55 | 4 | Pass |
| | Middle | 5220 | -3.10 | -5.85 | -3.10+(-5.85)= -1.83 | 4 | Pass |
| | Highest | 5230 | -3.31 | -2.71 | -3.31+(-2.71)= -1.91 | 4 | Pass |
| 802.11n(40M) (5.15GHz-5.25GHz) Data rate 7.2Mbps | Low | 5190 | -5.59 | -3.26 | -5.59+(-3.26)= -2.29 | 4 | Pass |
| | Highest | 5220 | -6.12 | -4.15 | -6.12+(-4.15)= -3.26 | 4 | Pass |
| 802.11a (5.15GHz-5.25GHz) Data rate 6Mbps | Low | 5180 | -2.60 | -5.68 | -2.60+(-5.68)= -1.35 | 4 | Pass |
| | Middle | 5220 | -3.15 | -5.70 | -3.15+(-5.70)= -2.35 | 4 | Pass |
| | Highest | 5230 | -3.32 | -6.61 | -3.32+(-6.61)= -1.75 | 4 | Pass |

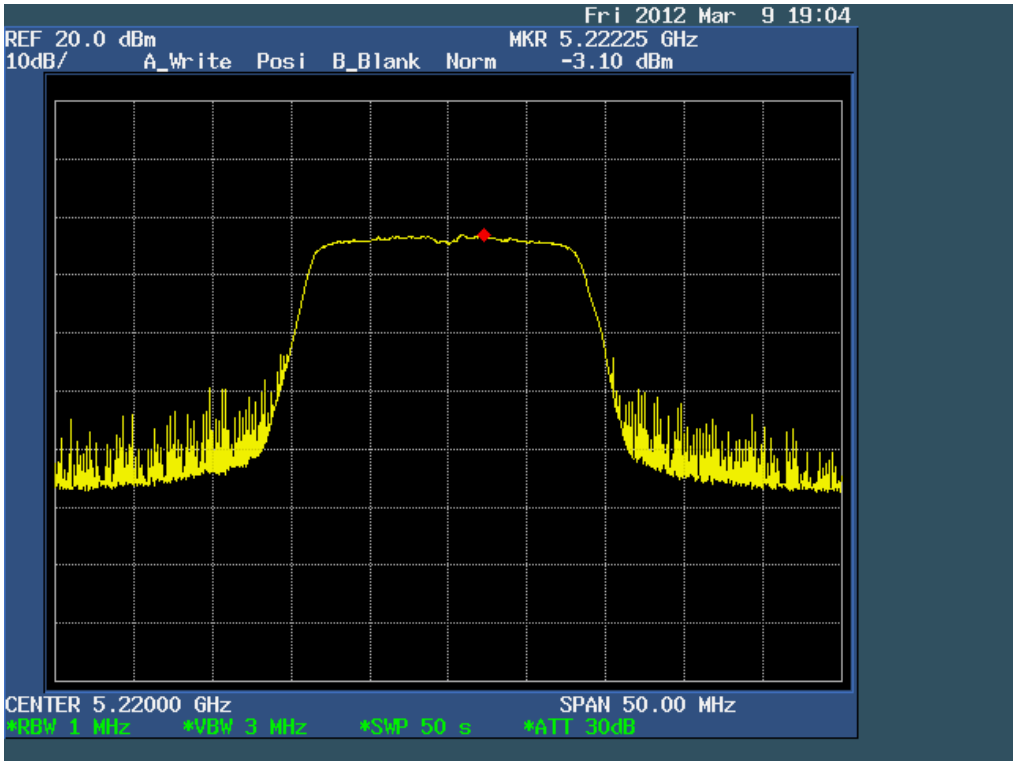
**Ant 1 802.11n(20M) (5.15GHz-5.25GHz)**

**The Lowest Channel 36: 5180MHz**



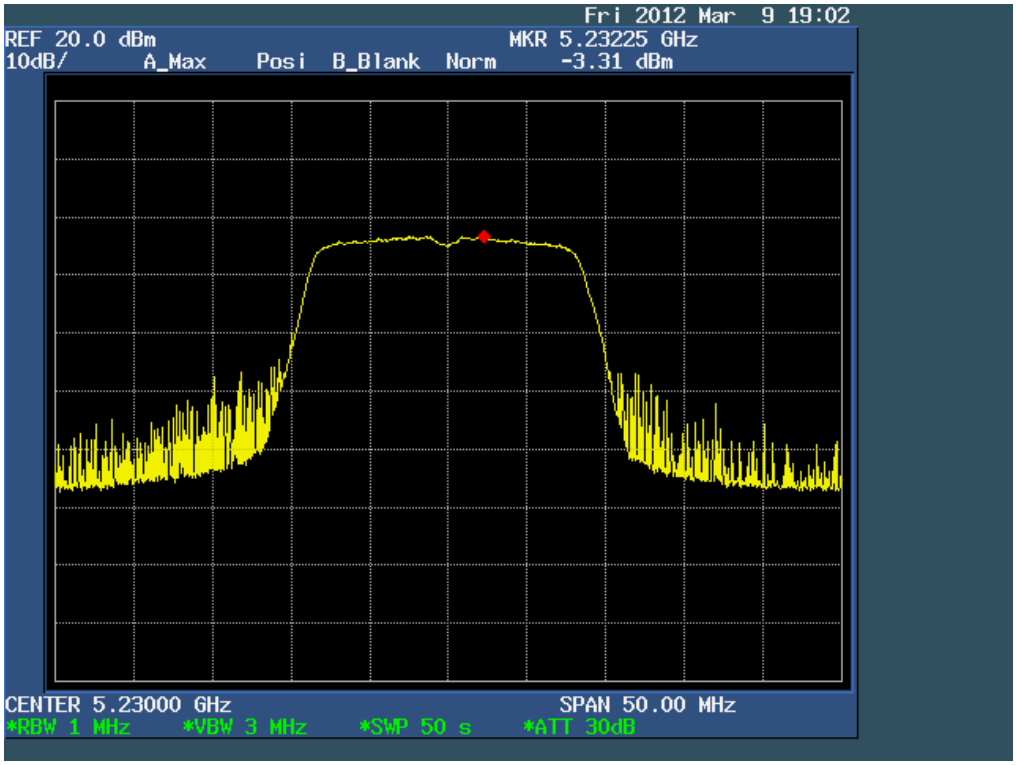

**Ant 1 802.11n(20M) (5.15GHz-5.25GHz)**

**The Middle Channel 44: 5220MHz**



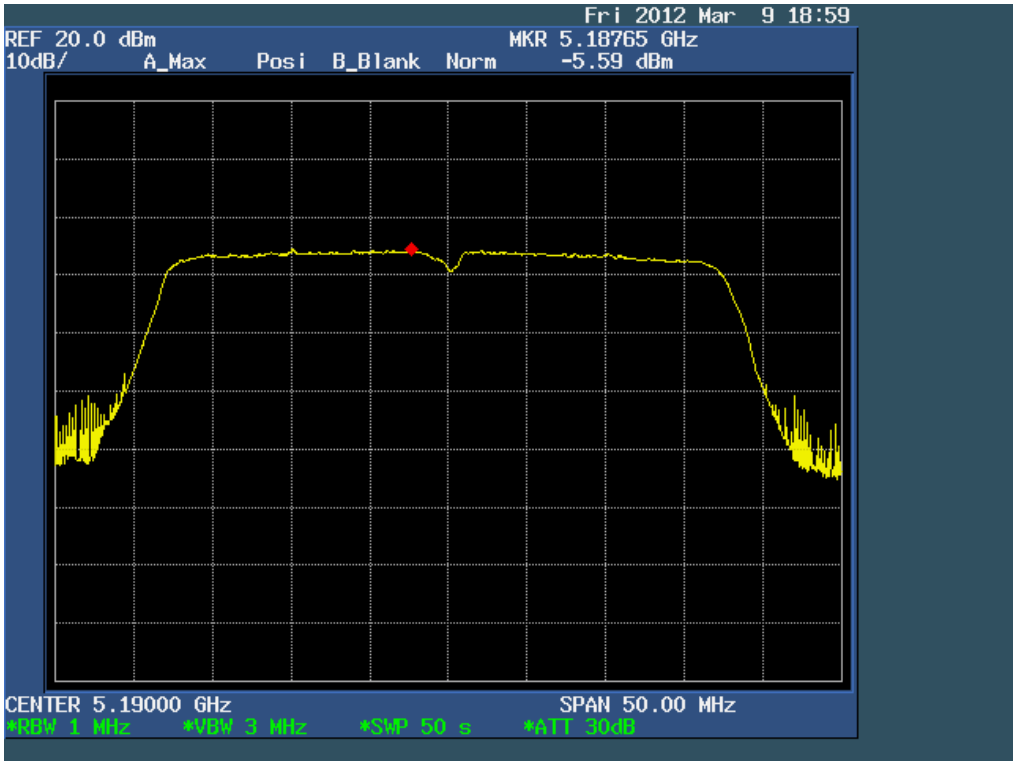
**Ant 1 802.11n(20M) (5.15GHz-5.25GHz)**

**The Highest Channel 46: 5230MHz**



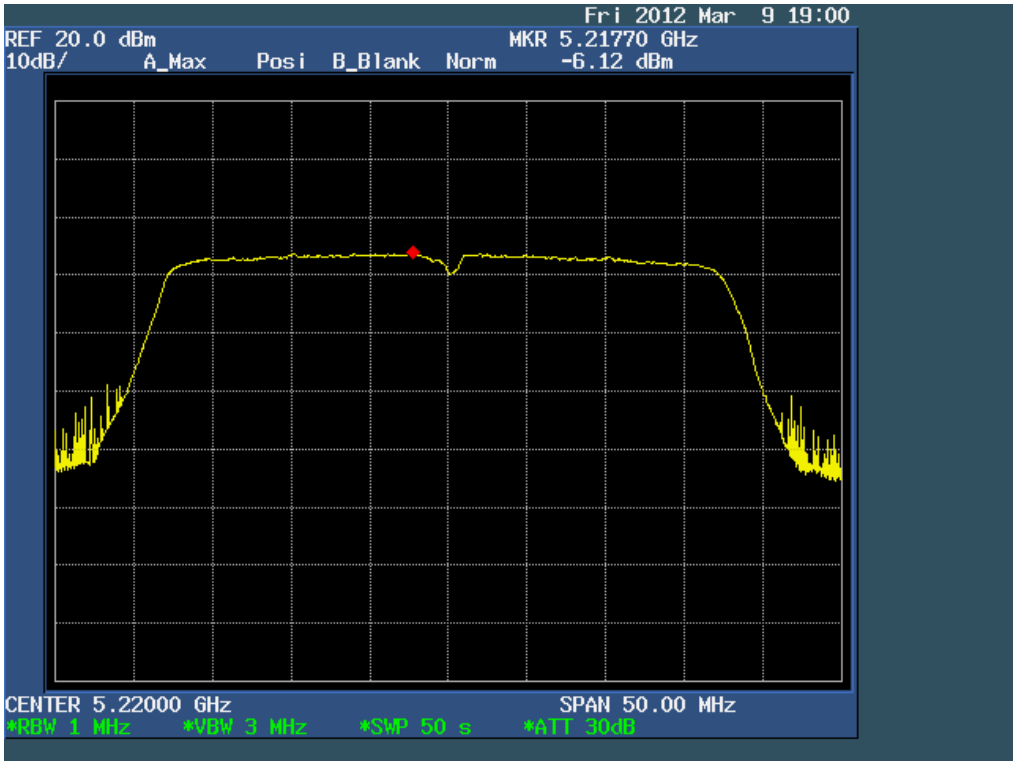

**Ant 1 802.11n(40M) (5.15GHz-5.25GHz)**

**The Lowest Channel 38: 5190MHz**



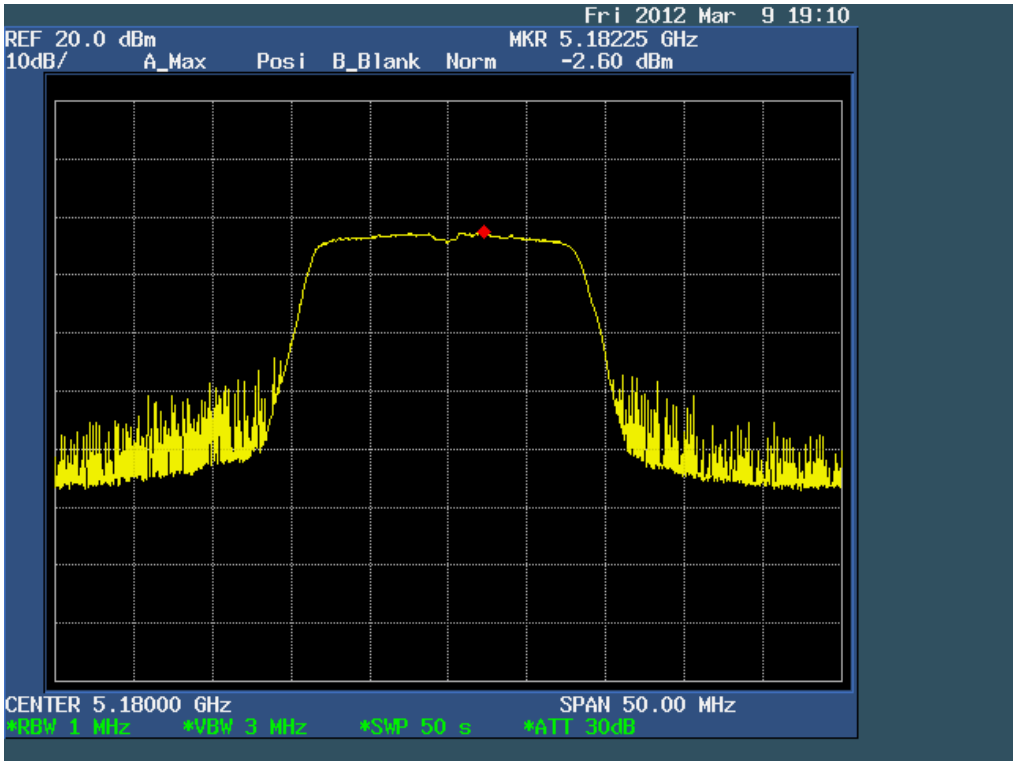
**Ant 1 802.11n(40M) (5.15GHz-5.25GHz)**

**The Highest Channel 44: 5220MHz**



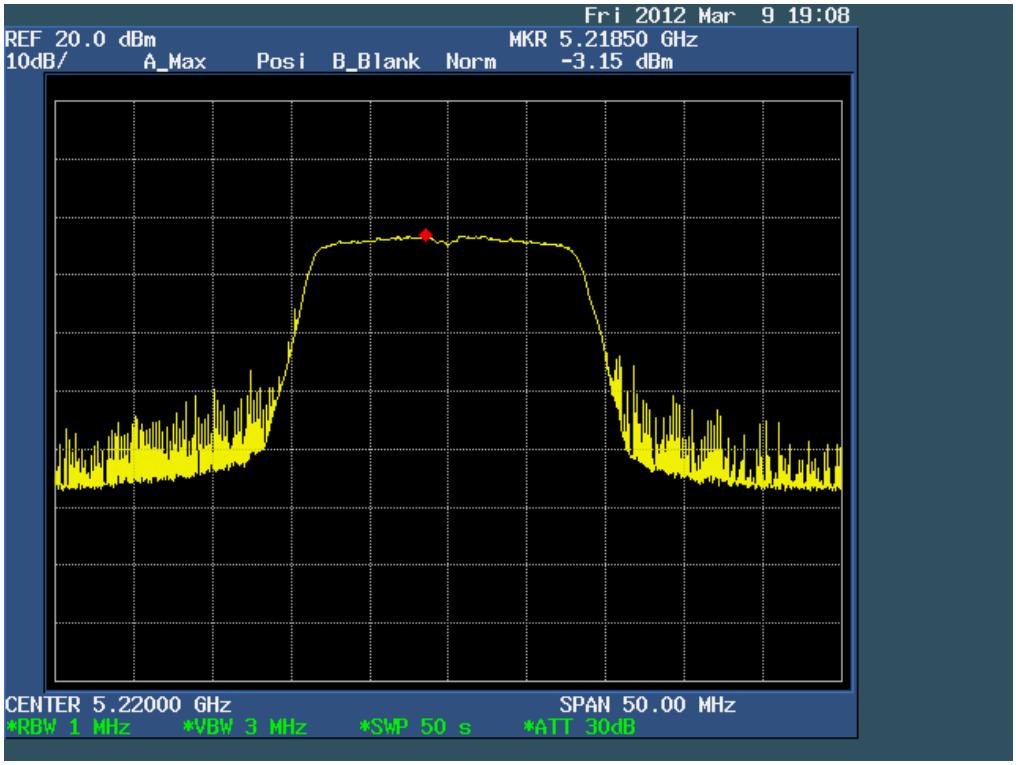

**Ant 1 802.11a (5.15GHz-5.25GHz)**

**The Lowest Channel 36: 5180MHz**



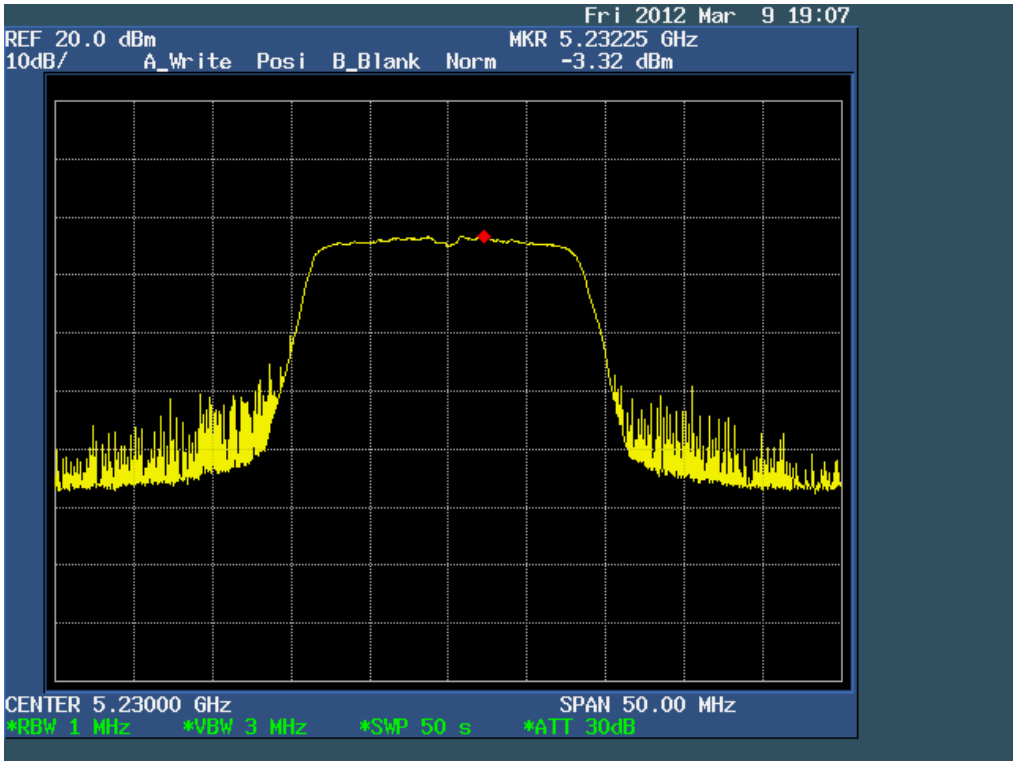
**Ant 1 802.11a (5.15GHz-5.25GHz)**

**The Mddle Channel 44: 5220MHz**



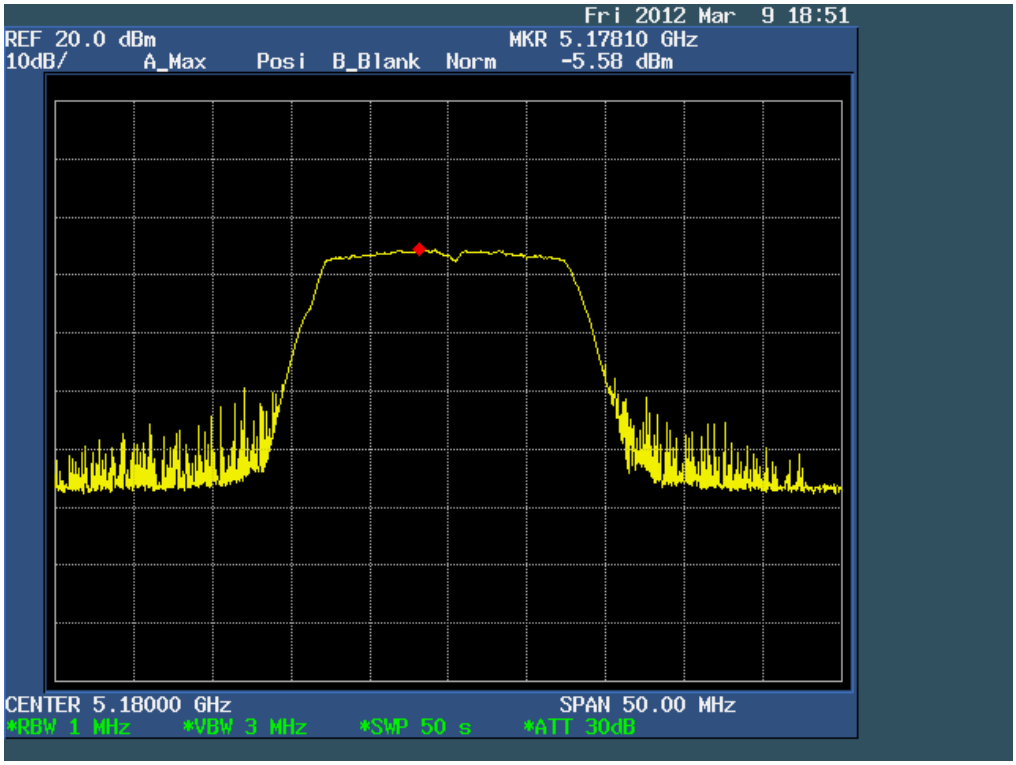

**Ant 1 802.11a (5.15GHz-5.25GHz)**

**The Highest Channel 46: 5230MHz**



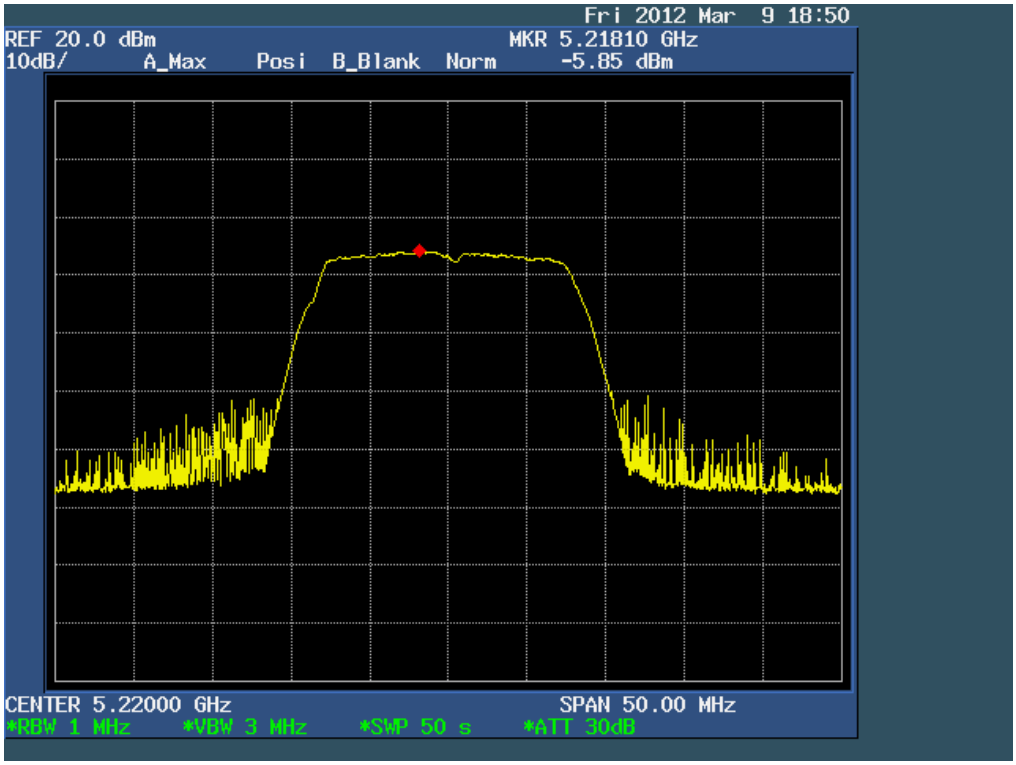
**Ant 2 802.11n(20M) (5.15GHz-5.25GHz)**

**The Lowest Channel 36: 5180MHz**



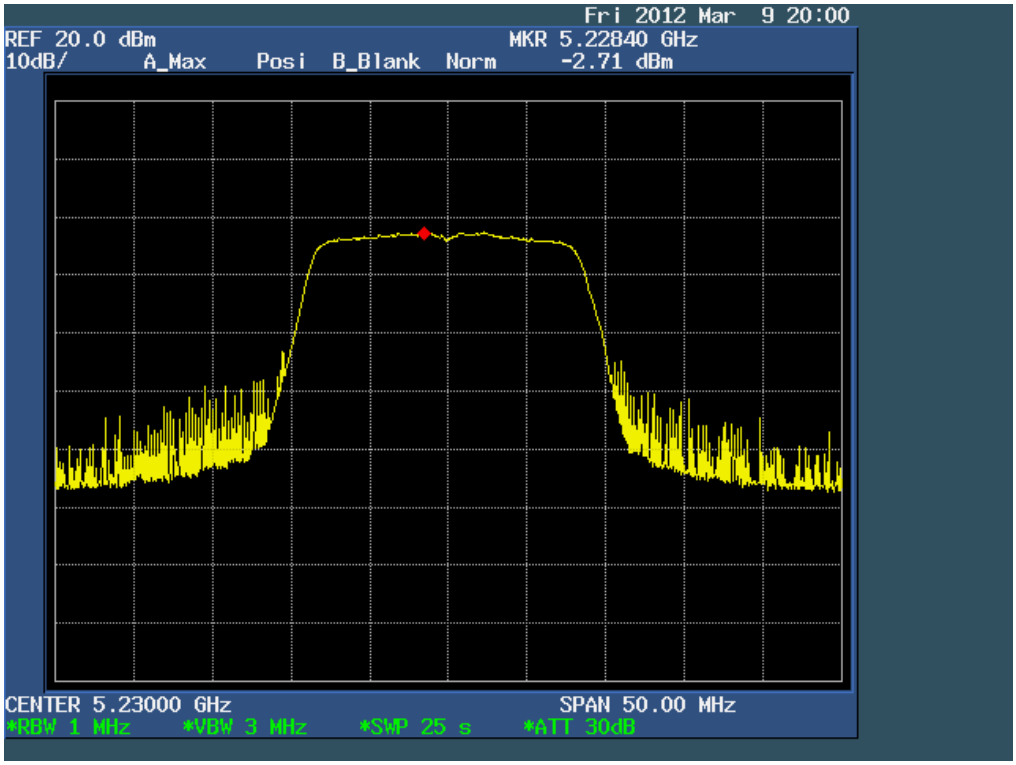

**Ant 2 802.11n(20M) (5.15GHz-5.25GHz)**

**The Middle Channel 44: 5220MHz**



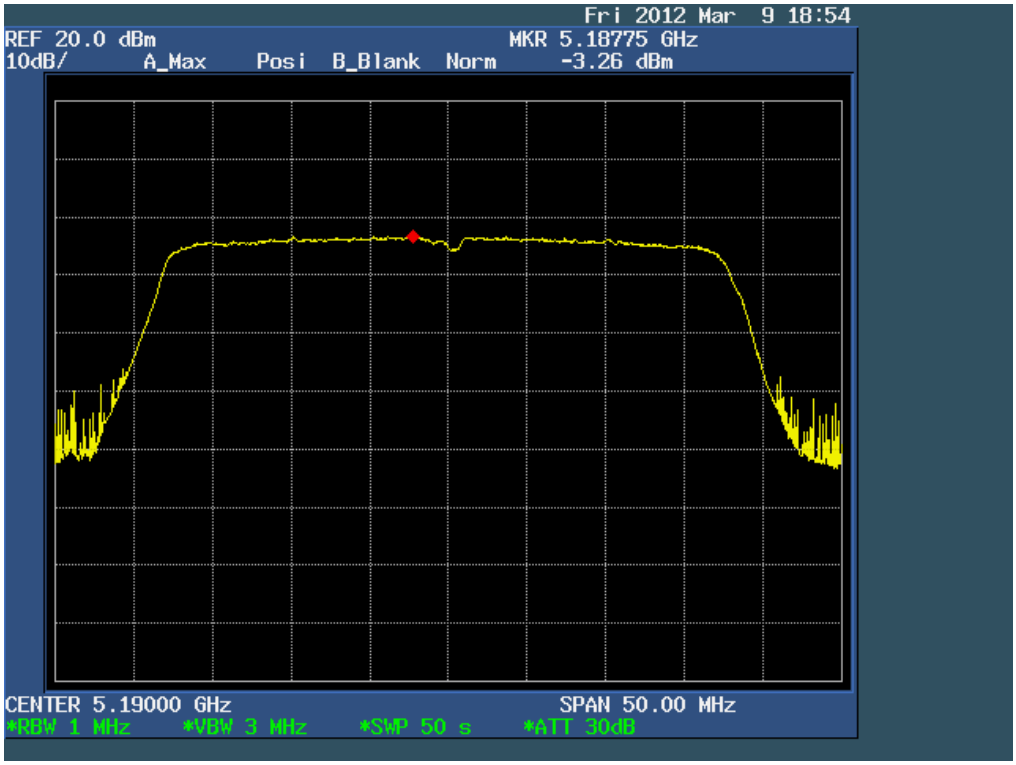
**Ant 2 802.11n(20M) (5.15GHz-5.25GHz)**

**The Highest Channel 46: 5230MHz**

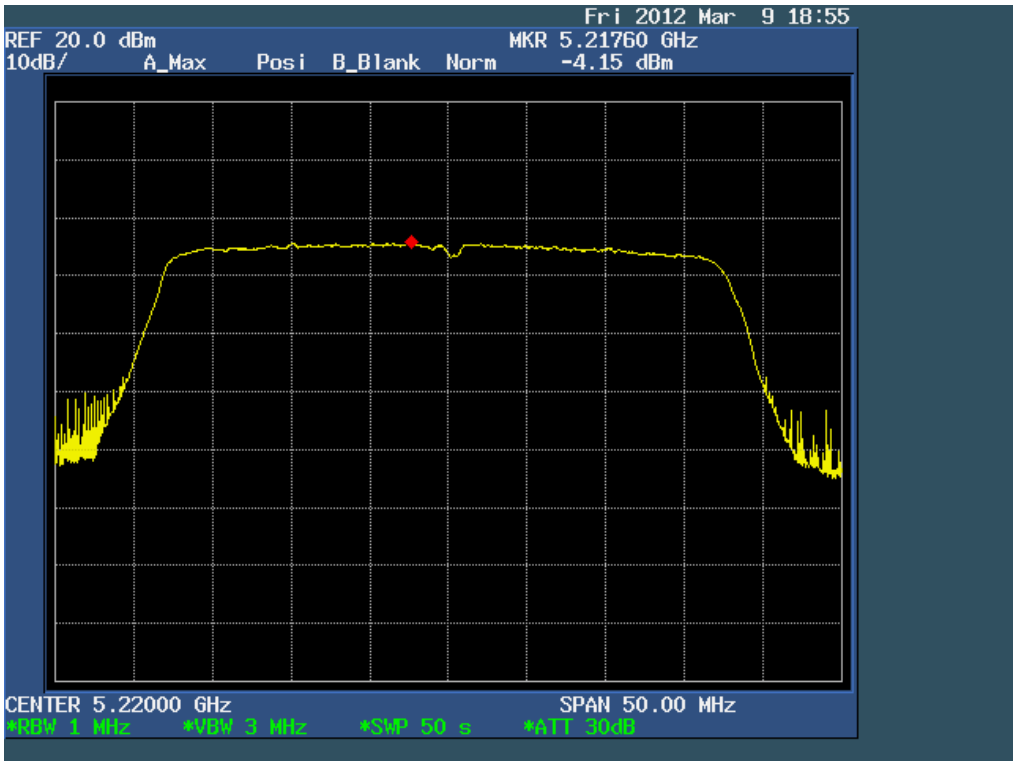



**Ant 2 802.11n(40M) (5.15GHz-5.25GHz)**

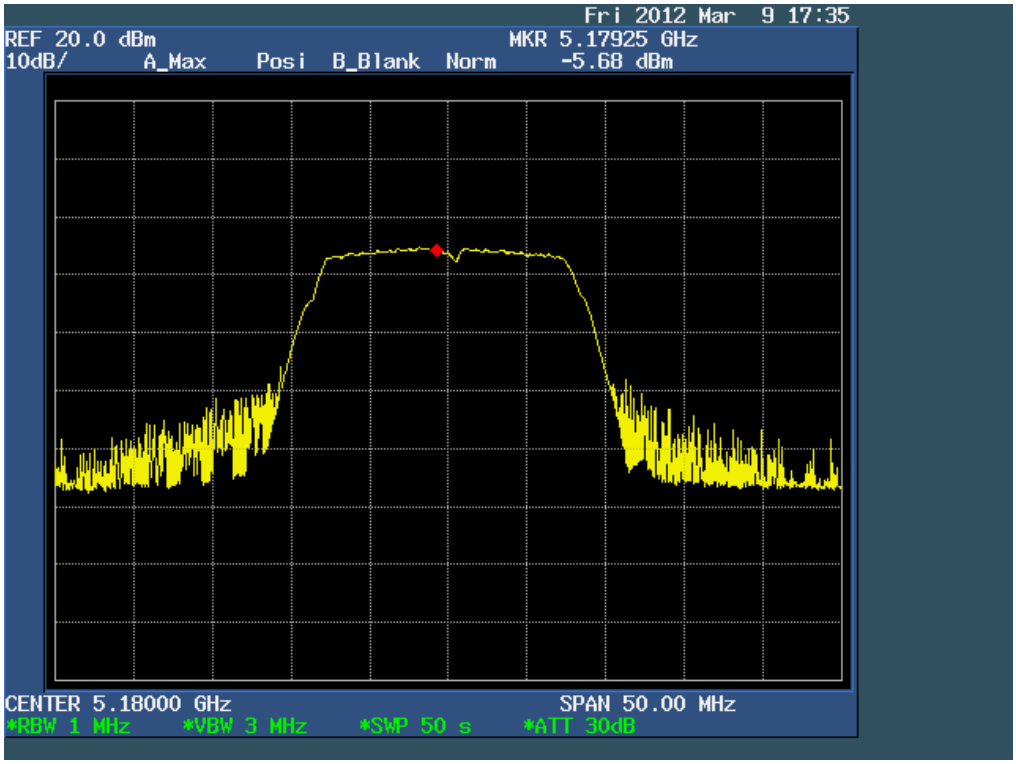
**The Lowest Channel 38: 5190MHz**



**Ant 2 802.11n(40M) (5.15GHz-5.25GHz)**
**The Highest Channel 44: 5220MHz**

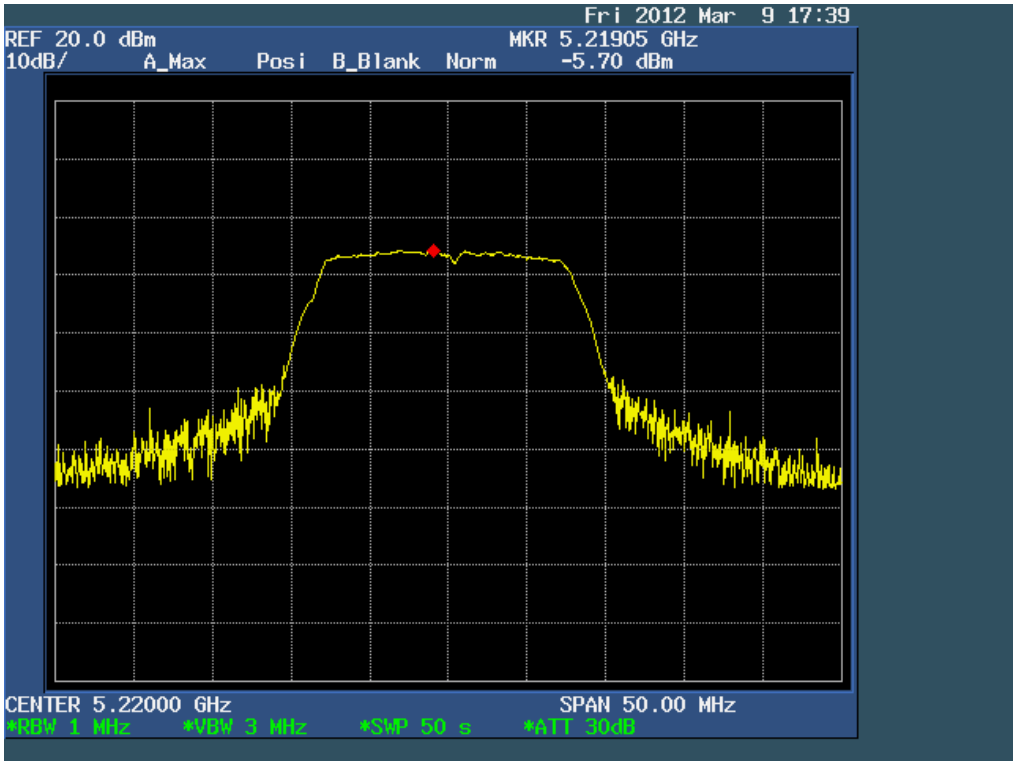



**Ant 2 802.11a (5.15GHz-5.25GHz)**
**The Lowest Channel 36: 5180MHz**



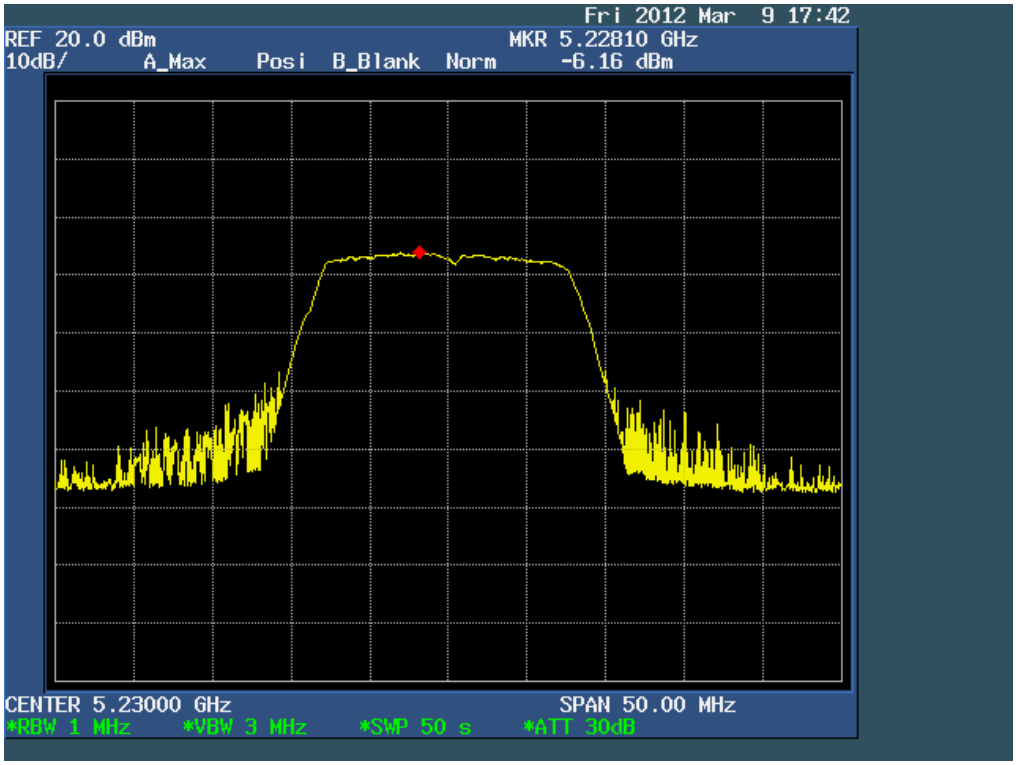
**Ant 2 802.11a (5.15GHz-5.25GHz)**

**The Mddle Channel 44: 5220MHz**




**Ant 2 802.11a (5.15GHz-5.25GHz)**

**The Highest Channel 46: 5230MHz**



# 6.5 Maximum Peak Output Power

## 6.5.1 Applied procedures / Limit

15.407(a) For UNII Device in the 5.15-5.25 GHz and 5.725-5.825 GHz bands: different band have different peak power as follow.

| Frequency Band | Limit |
|---|---|
| 5.15 – 5.25 GHz | 50mW (17dBm) |
| 5.725 - 5.825 GHz | 1000mW (30dBm) |

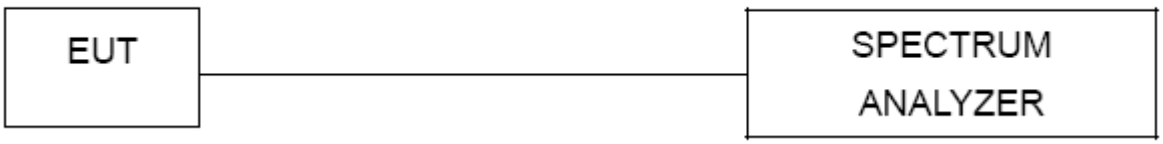
## 6.5.2 Test procedure

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
b. Spectrum Setting: RBW= 1MHz, VBW= 3MHz, Sweep time = Auto, Span=40or80MHz, Channel power function=RMS.

## 6.5.3 Deviation from standard

No deviation.

## 6.5.4 Test setup



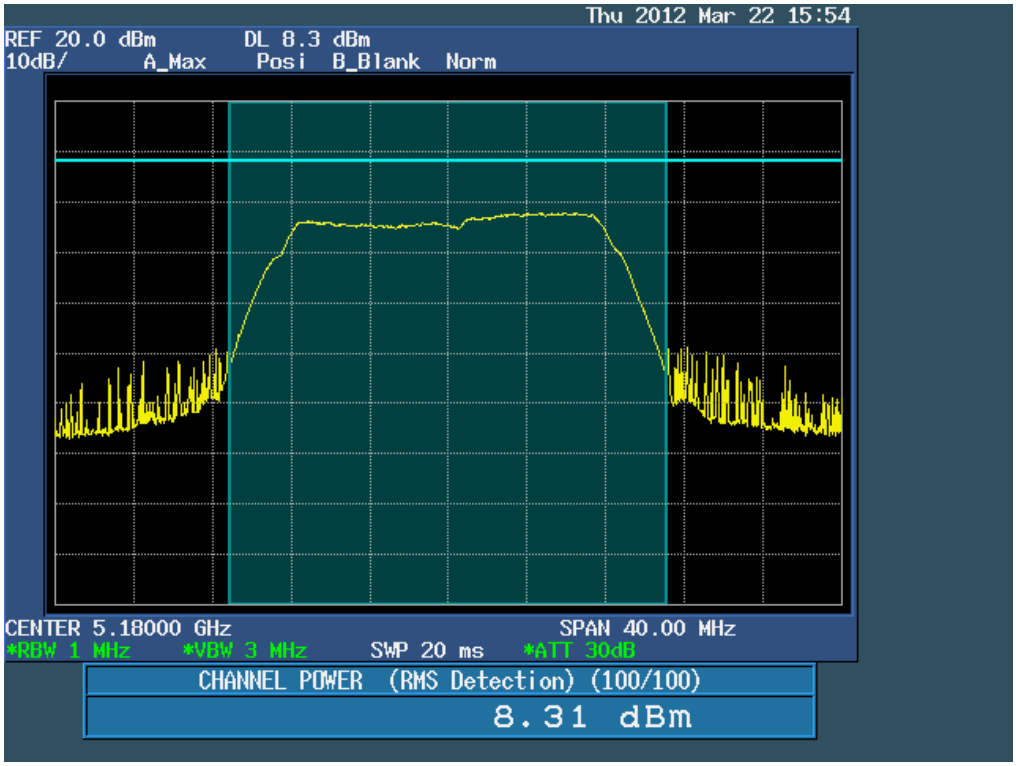
### 6.5.5 Test results

| | | | |
|---|---|---|---|
| EUT： | LCD Monitor | Model Name ： | DW271HL |
| Temperature： | 22 ℃ | Relative Humidity： | 60% |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX | | |
| Note: All the data rates have be tested and the worst-case as the table below. | | | |

| Test Mode | Frequency | Ant 1 Reading Power (dBm) | Ant 2 Reading Power (dBm)) | Total power Ant 1+ Ant 2 (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|
| 802.11n(20M) (5.15GHz-5.25GHz) Data rate 7.2Mbps | 5180 MHz | 8.31 | 9.00 | 8.31+9.00=10.23 | 17 | Pass |
| | 5220 MHz | 6.82 | 7.64 | 6.82+7.64=8.72 | 17 | Pass |
| | 5230 MHz | 8.08 | 7.61 | 8.08+7.61=10.21 | 17 | Pass |
| 802.11n(40M) (5.15GHz-5.25GHz) Data rate 7.2Mbps | 5190 MHz | 6.59 | 6.69 | 6.59+6.69=7.80 | 17 | Pass |
| | 5220 MHz | 5.96 | 6.25 | 5.96+6.25=7.57 | 17 | Pass |
| 802.11a (5.15GHz-5.25GHz) Data rate 6Mbps | 5180 MHz | 5.08 | 5.71 | 5.08+5.71=7.13 | 17 | Pass |
| | 5220 MHz | 6.74 | 6.05 | 6.74+6.05=8.25 | 17 | Pass |
| | 5230 MHz | 4.66 | 5.40 | 4.66+5.40=6.46 | 17 | Pass |

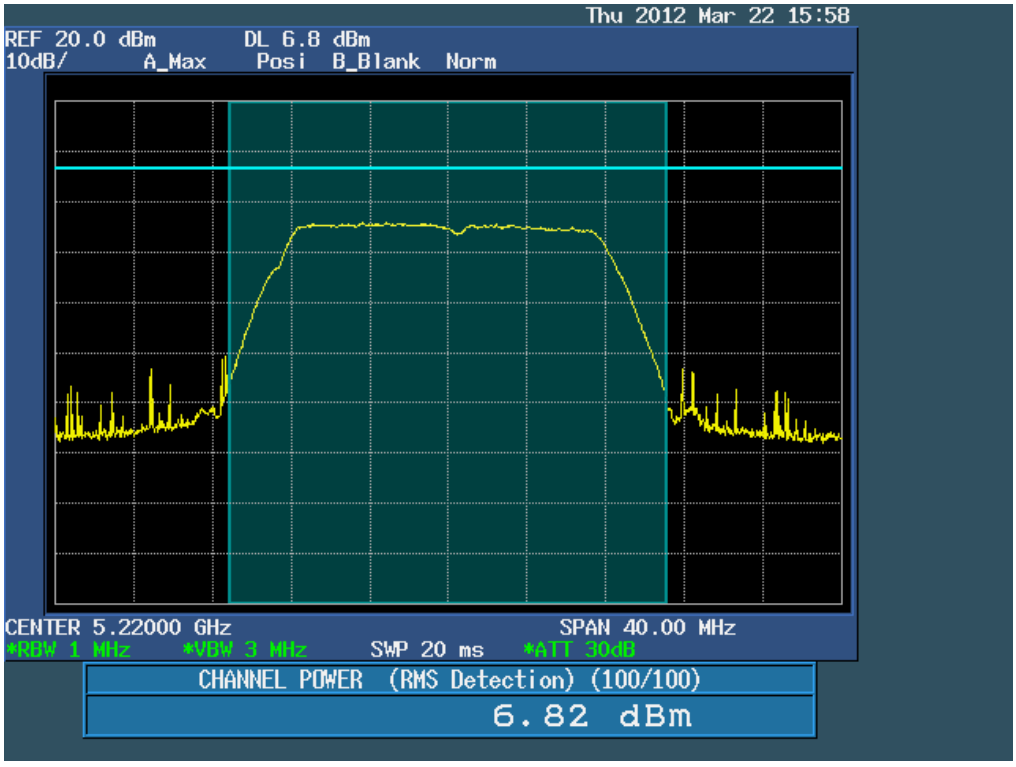
**Ant 1 802.11n(20M) (5.15GHz-5.25GHz)**

**The Lowest Channel 36: 5180MHz**



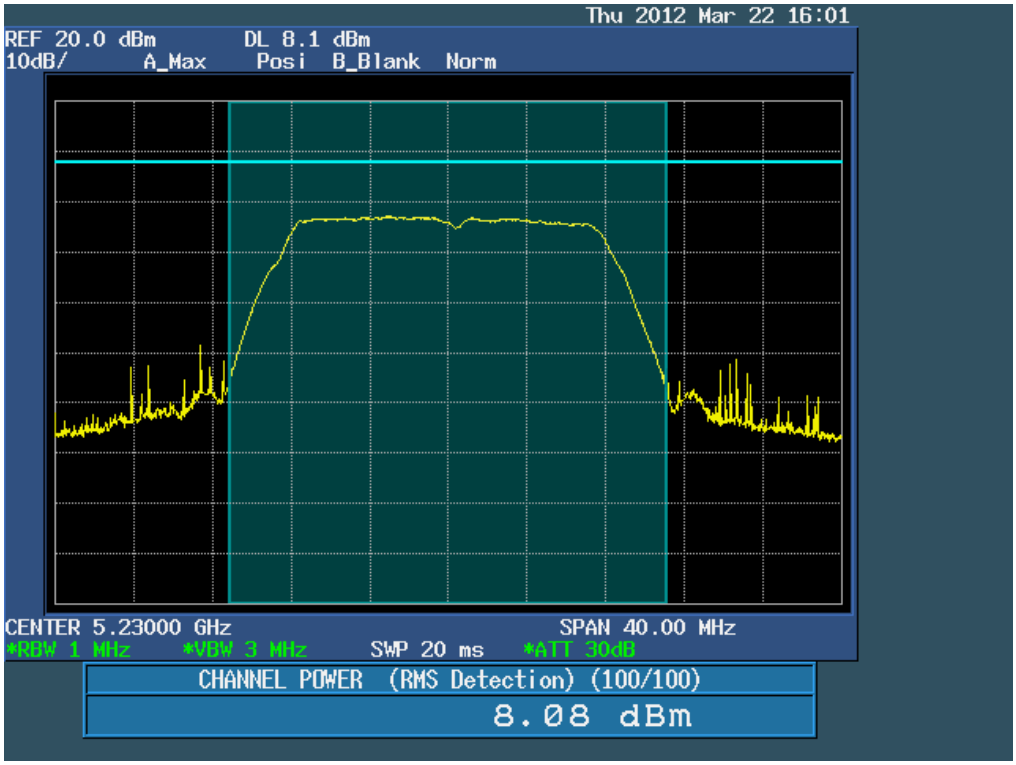

**Ant 1 802.11n(20M) (5.15GHz-5.25GHz)**

**The Middle Channel 44: 5220MHz**



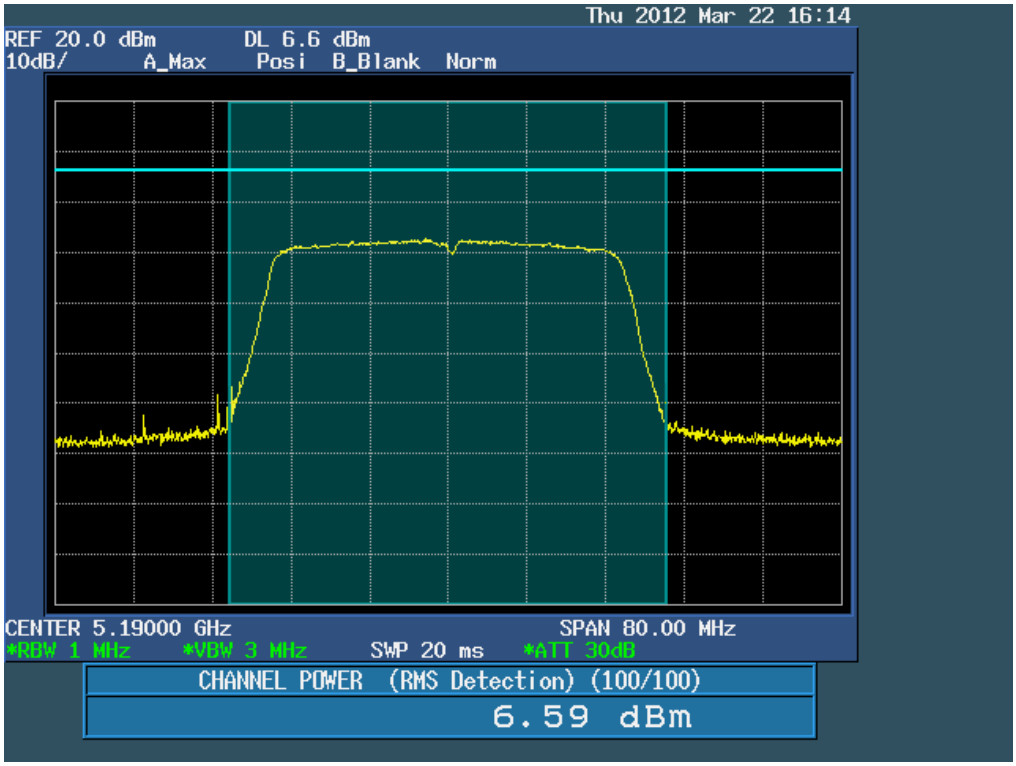
**Ant 1 802.11n(20M) (5.15GHz-5.25GHz)**

**The Highest Channel 46: 5230MHz**



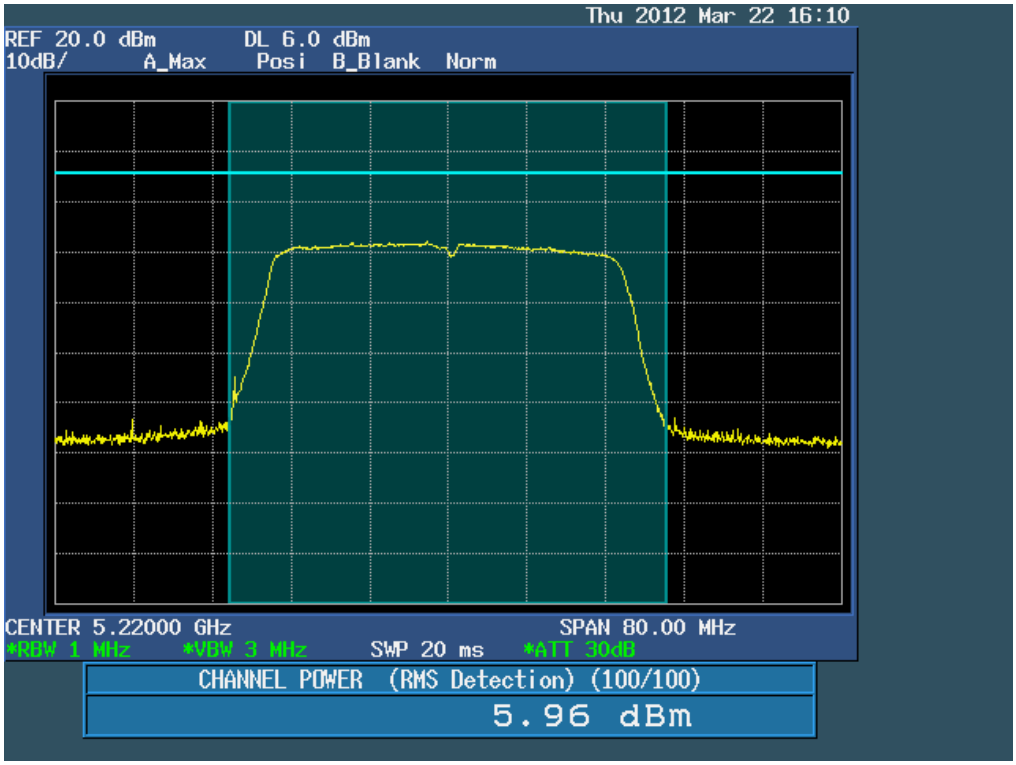

**Ant 1 802.11n(40M) (5.15GHz-5.25GHz)**

**The Lowest Channel 38: 5190MHz**



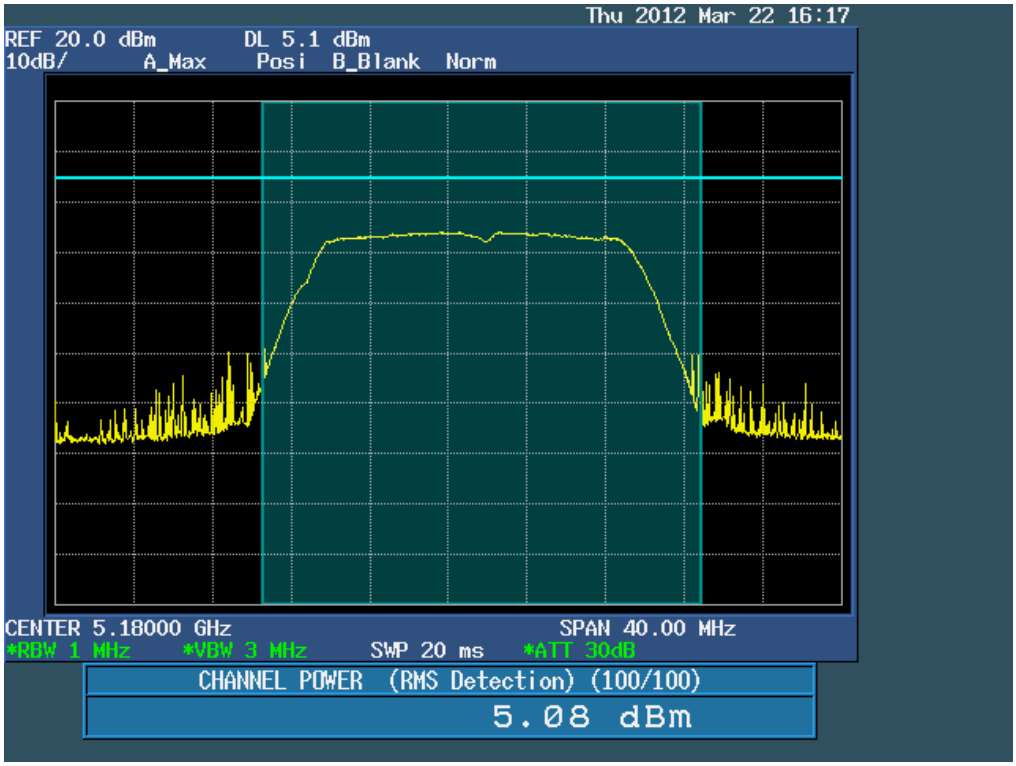
**Ant 1 802.11n(40M) (5.15GHz-5.25GHz)**

**The Highest Channel 44: 5220MHz**

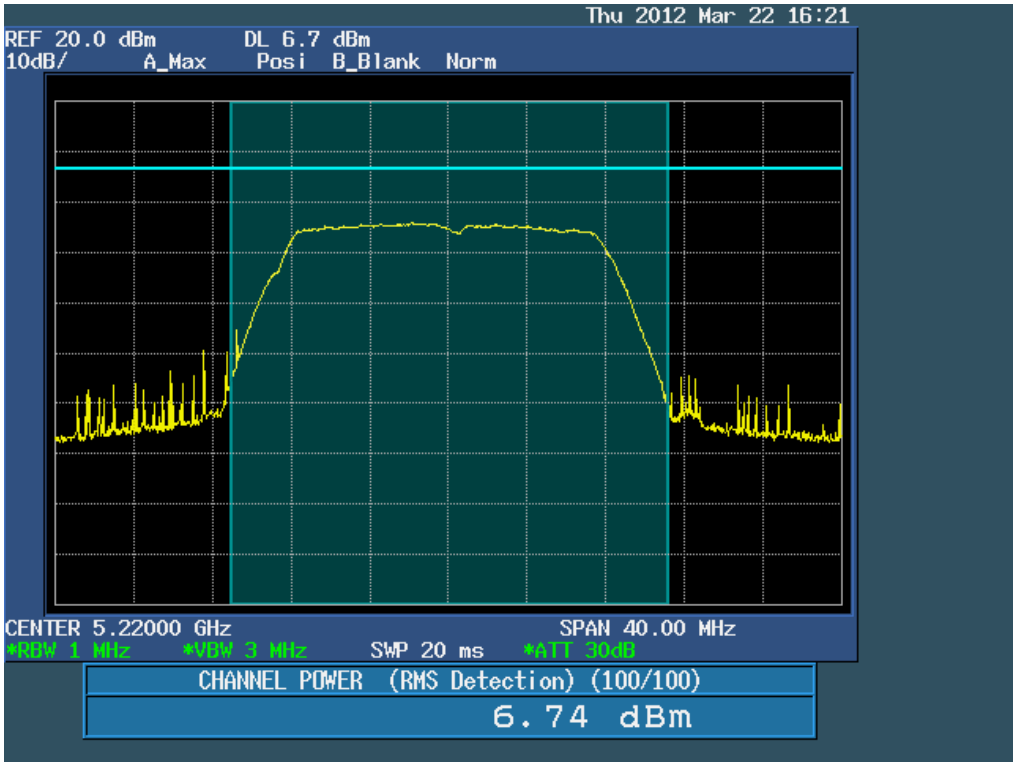



**Ant 1 802.11a (5.15GHz-5.25GHz)**

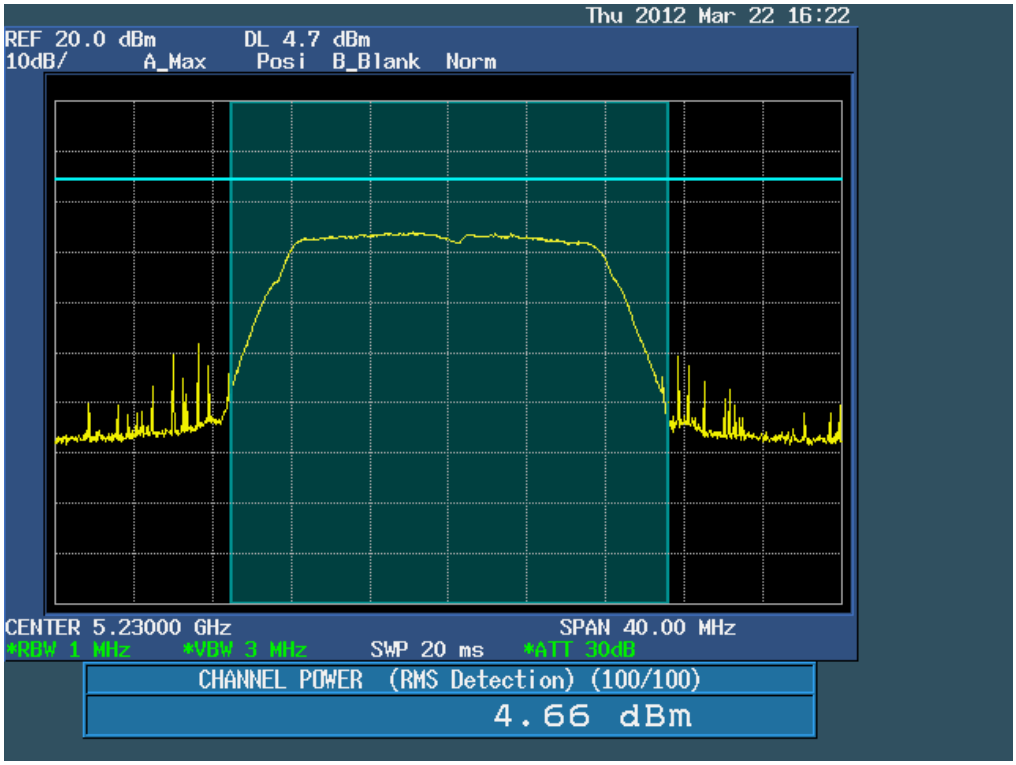
**The Lowest Channel 36: 5180MHz**



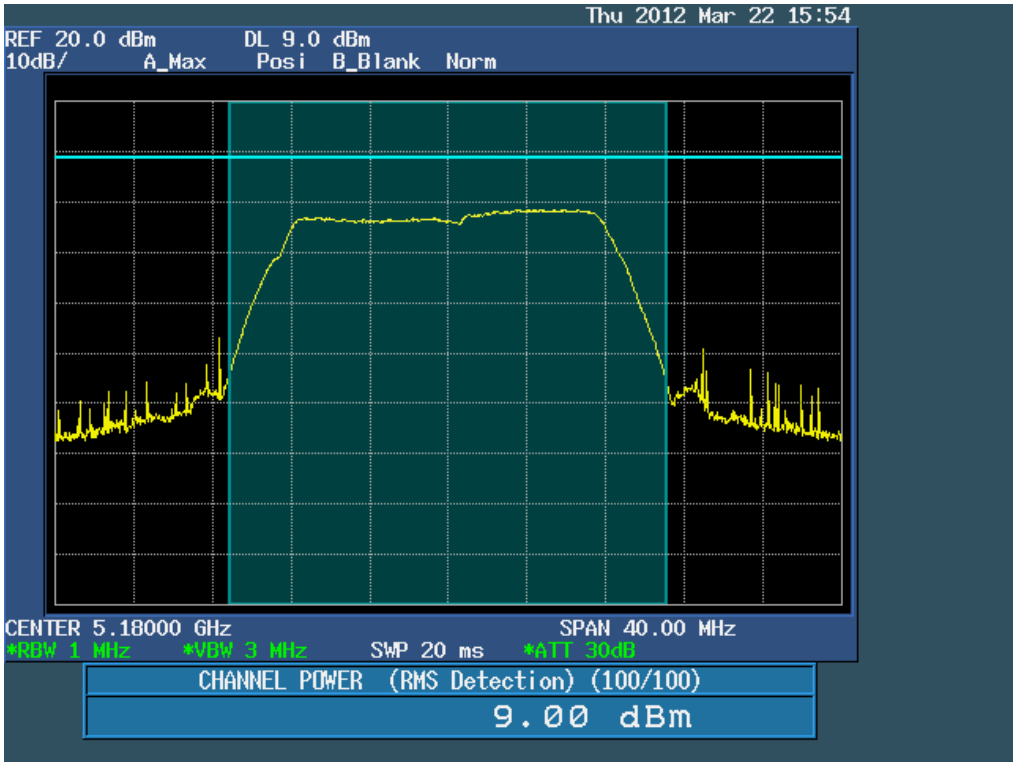
**Ant 1 802.11a (5.15GHz-5.25GHz)**
**The Middle Channel 44: 5220MHz**



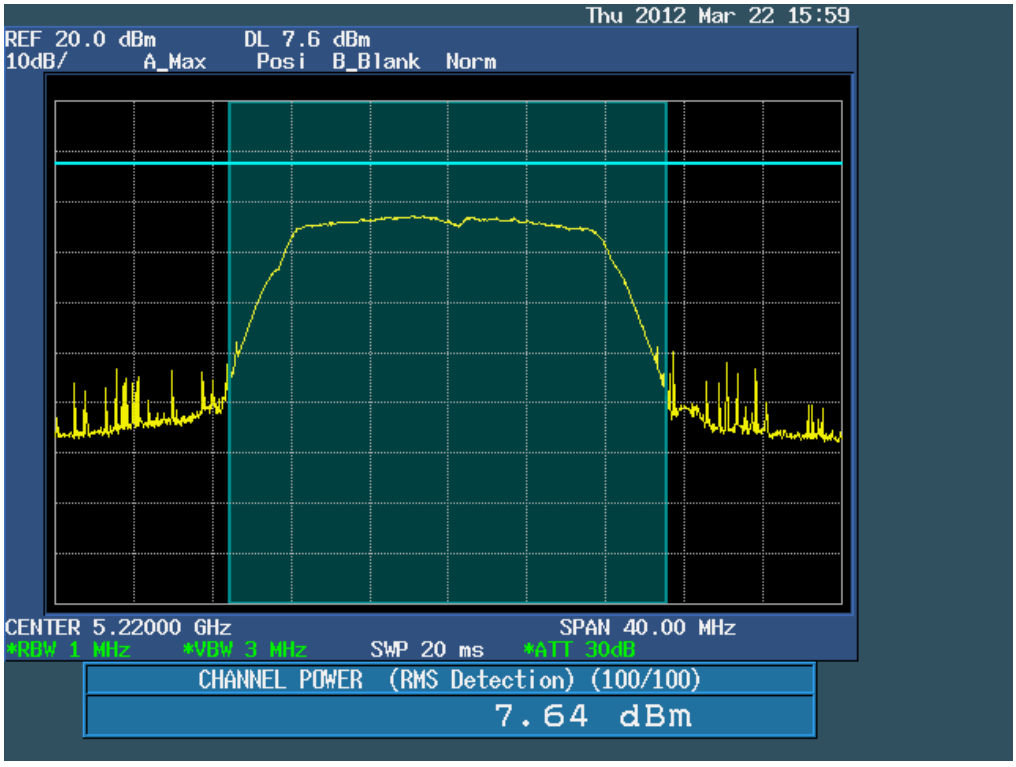

**Ant 1 802.11a (5.15GHz-5.25GHz)**
**The Highest Channel 46: 5230MHz**



**Ant 2 802.11n(20M) (5.15GHz-5.25GHz)**
**The Lowest Channel 36: 5180MHz**

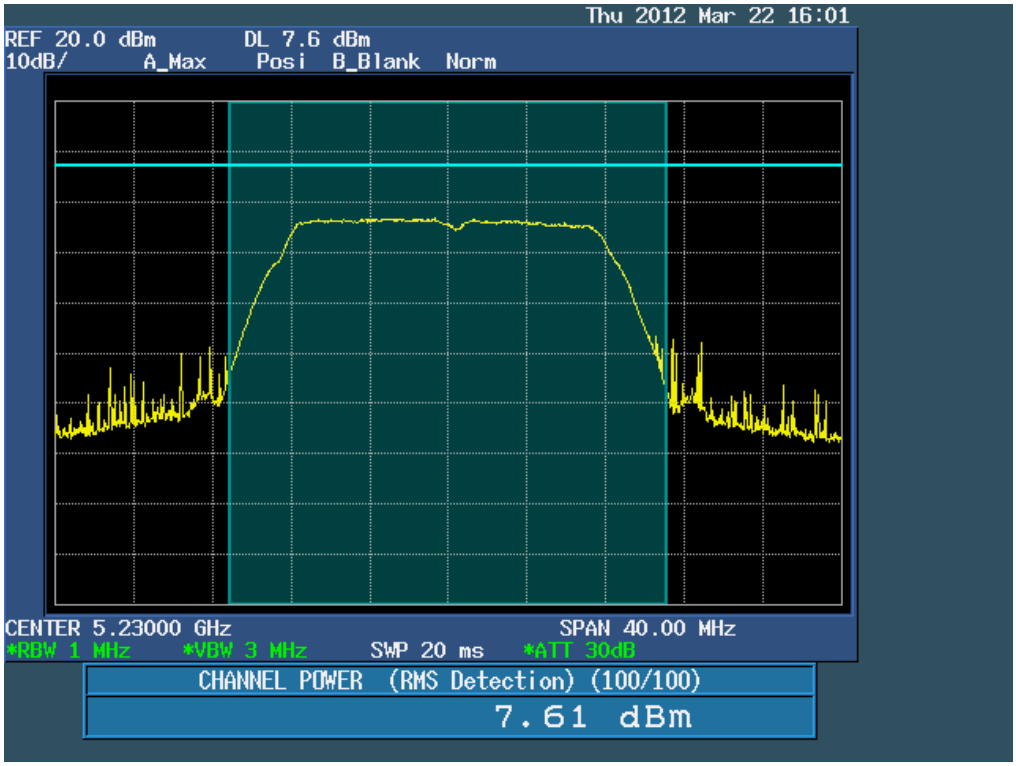



**Ant 2 802.11n(20M) (5.15GHz-5.25GHz)**
**The Middle Channel 44: 5220MHz**



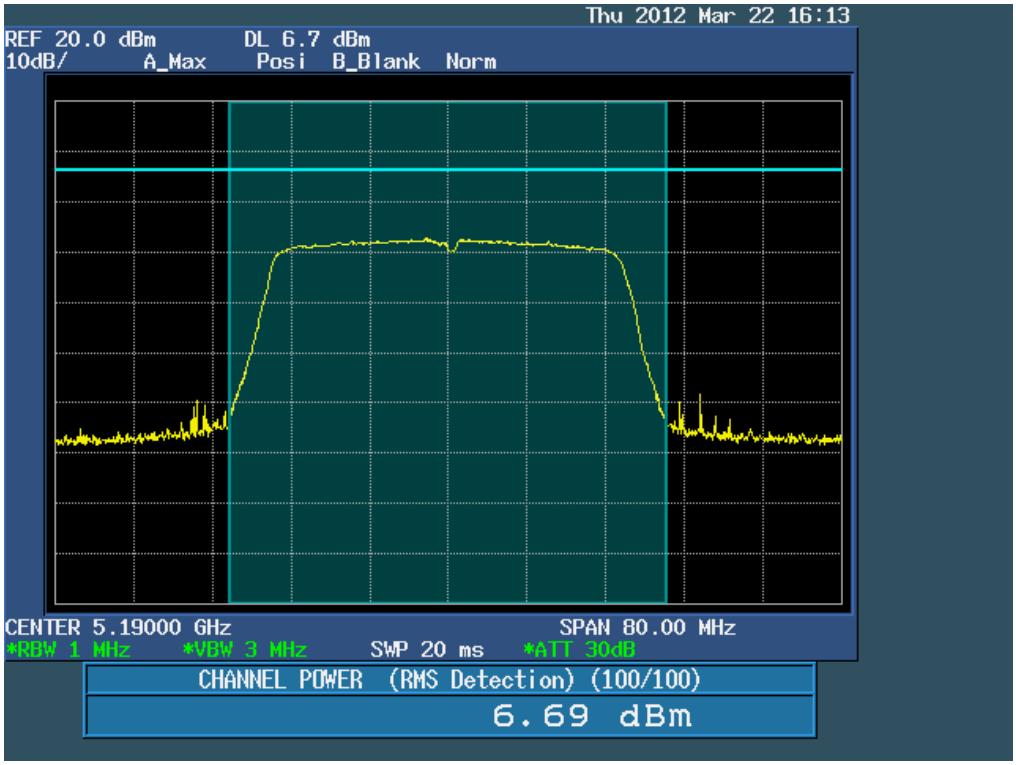
**Ant 2 802.11n(20M) (5.15GHz-5.25GHz)**

**The Highest Channel 46: 5230MHz**



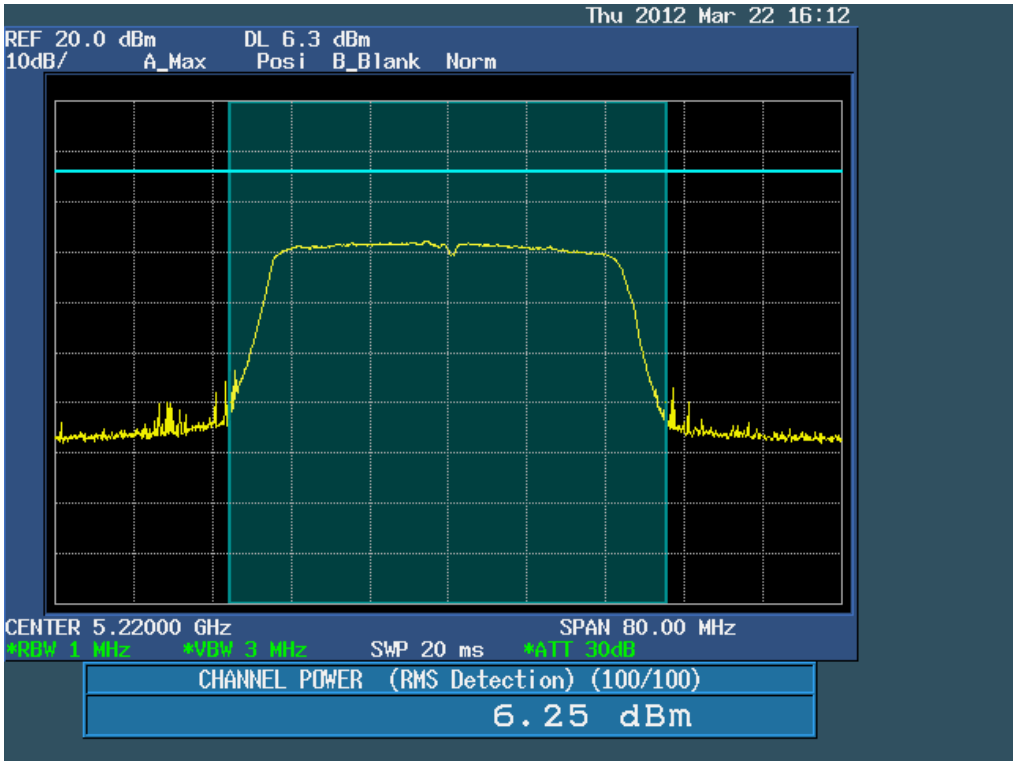

**Ant 2 802.11n(40M) (5.15GHz-5.25GHz)**

**The Lowest Channel 38: 5190MHz**



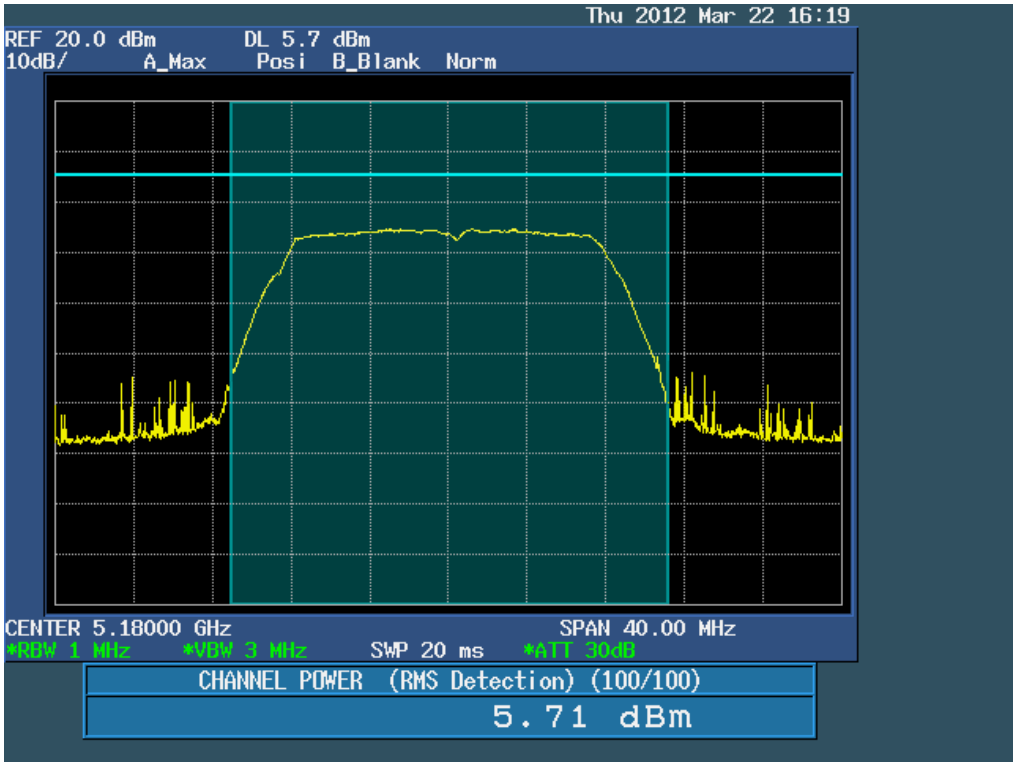
**Ant 2 802.11n(40M) (5.15GHz-5.25GHz)**

**The Highest Channel 44: 5220MHz**

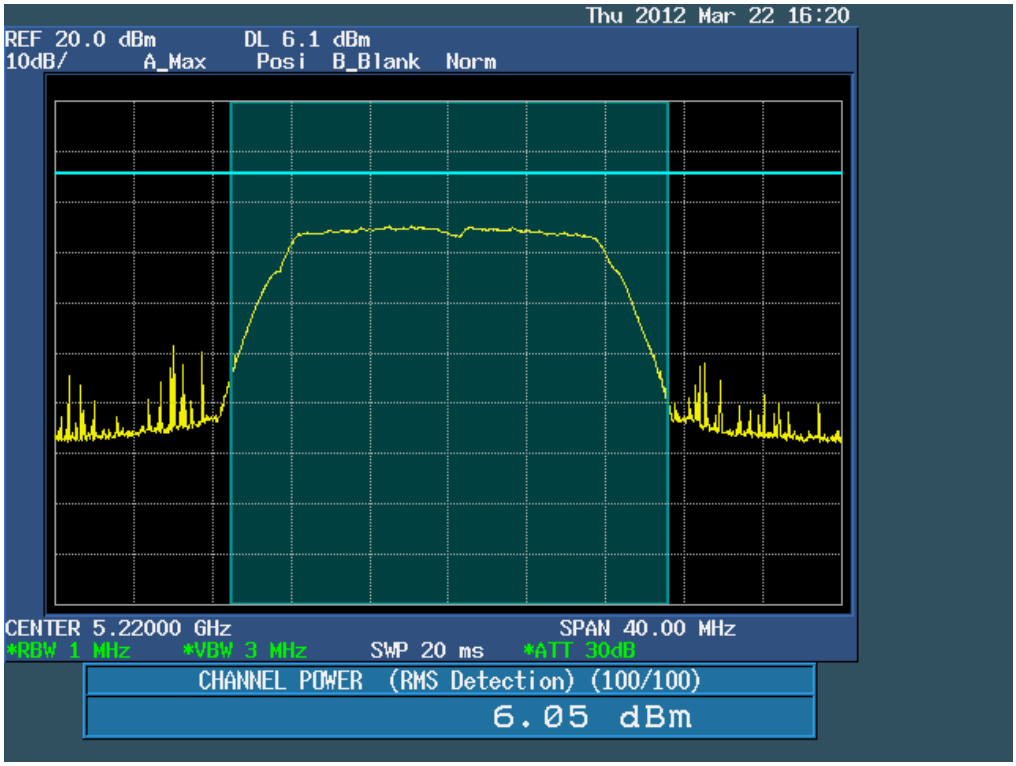



**Ant 2 802.11a (5.15GHz-5.25GHz)**

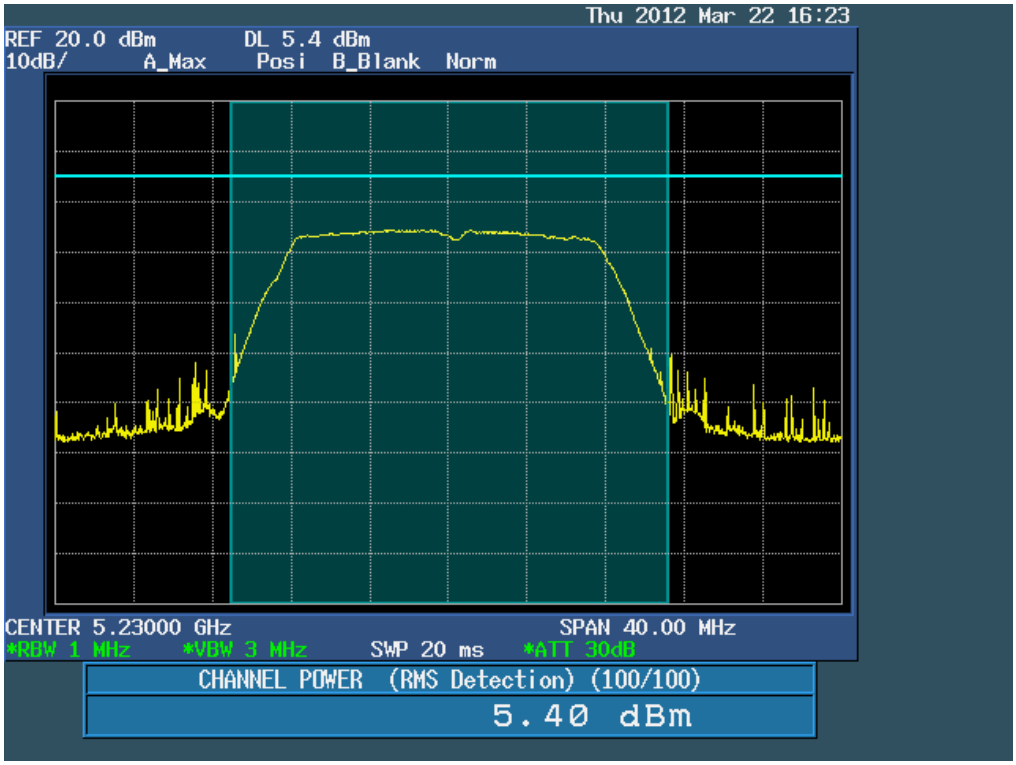
**The Lowest Channel 36: 5180MHz**



**Ant 2 802.11a (5.15GHz-5.25GHz)**
**The Middle Channel 44: 5220MHz**




**Ant 2 802.11a (5.15GHz-5.25GHz)**
**The High Channel 46: 5230MHz**



# 6.6 Band edge

## 6.6.1 Applied procedures / Limit

15.407 (b) In any 1 MHz bandwidth outside the frequency band in which the spread spectrum, the radio frequency power that is produced by the intentional radiator shall be below -27 dBm.

## 6.6.2 Test procedure

a. The Transmitter output of EUT was connected to the spectrum analyzer.
Equipment mode: Spectrum analyzer
Detector function: Peak mode
SPAN: 100MHz
RBW: 1 MHHz
VBW: 1 MHz
Sweep time= Auto.

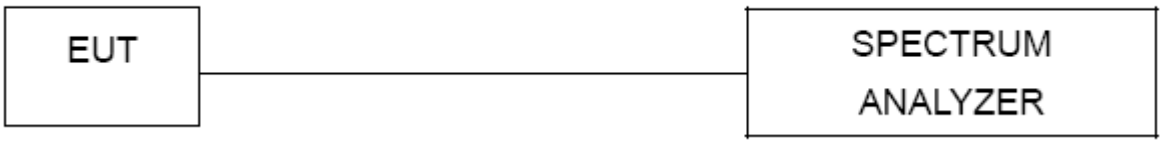
b. Using Peak Search to read the peak power of Carrier frequencies after Maximum Hold function is completed.

c. Find the next peak frequency outside the operation frequency band.

## 6.6.3 Deviation from standard

No deviation.

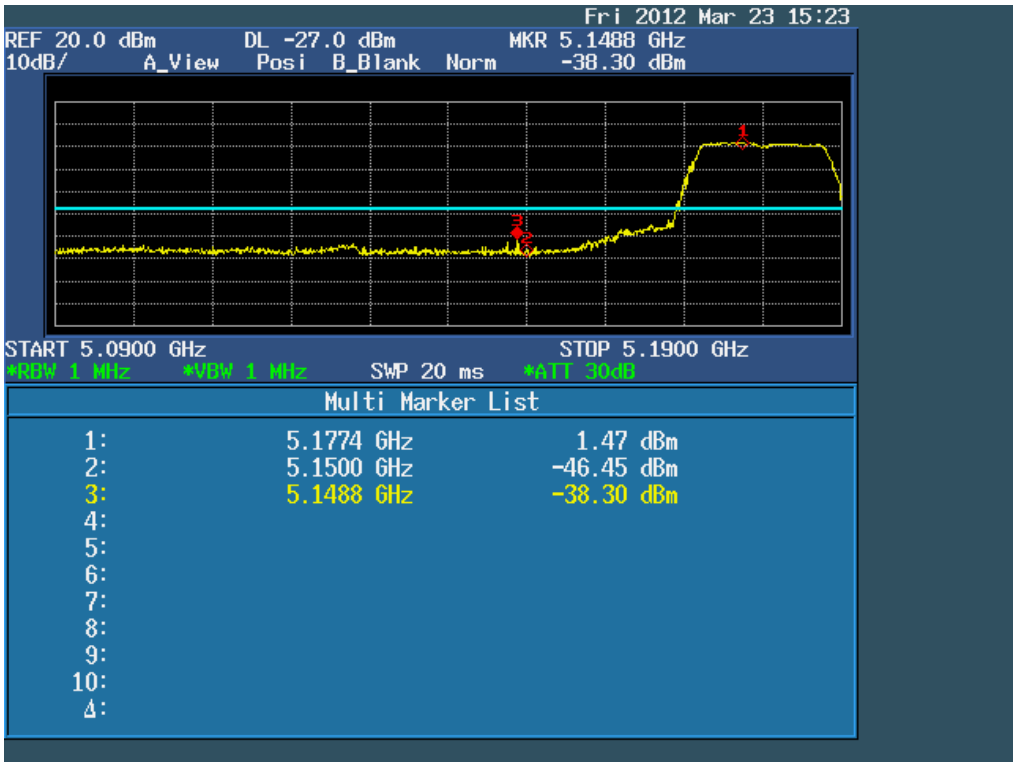
## 6.6.4 Test setup



### 6.6.5 Test results

**Ant 1 802.11n(20M) (5.15GHz-5.25GHz)**

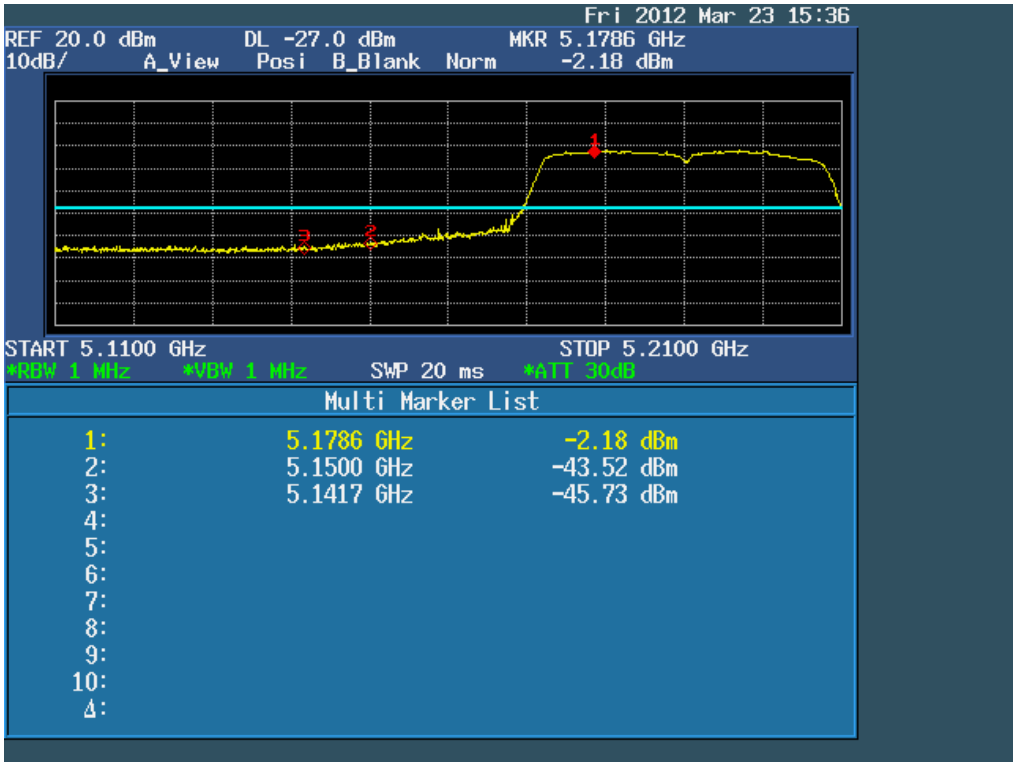
**CH 36 (Lower) Data rate 7.2Mbps**



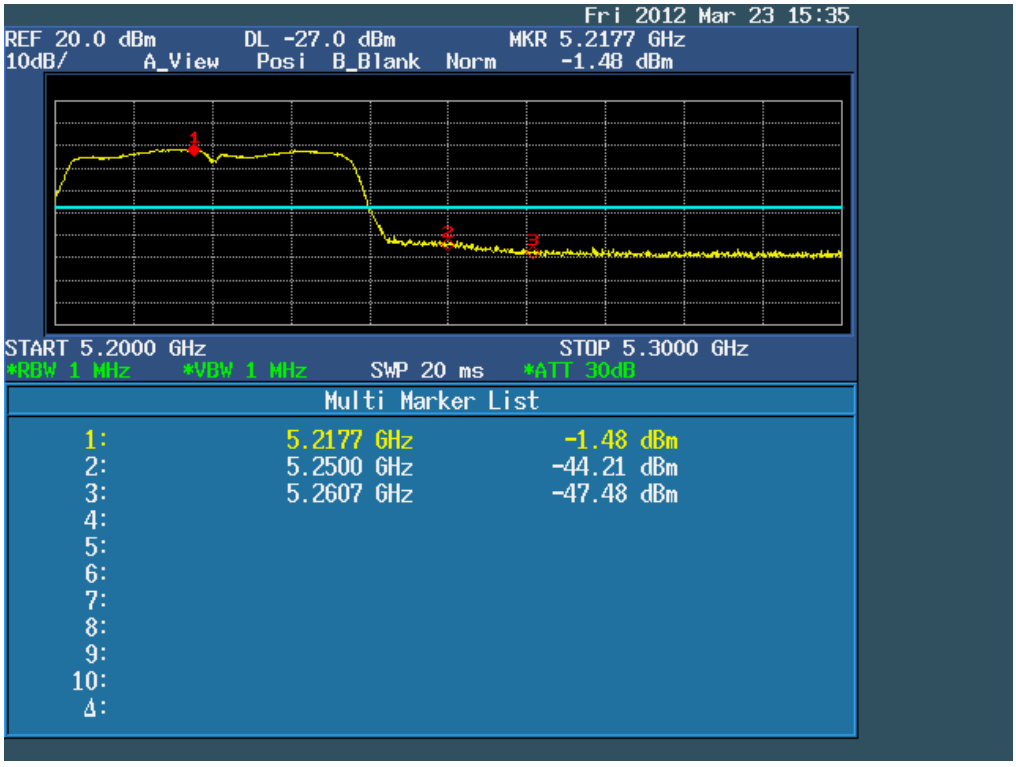

**Ant 1 802.11n(20M) (5.15GHz-5.25GHz)**

**CH 46 (Upper) Data rate 7.2Mbps**

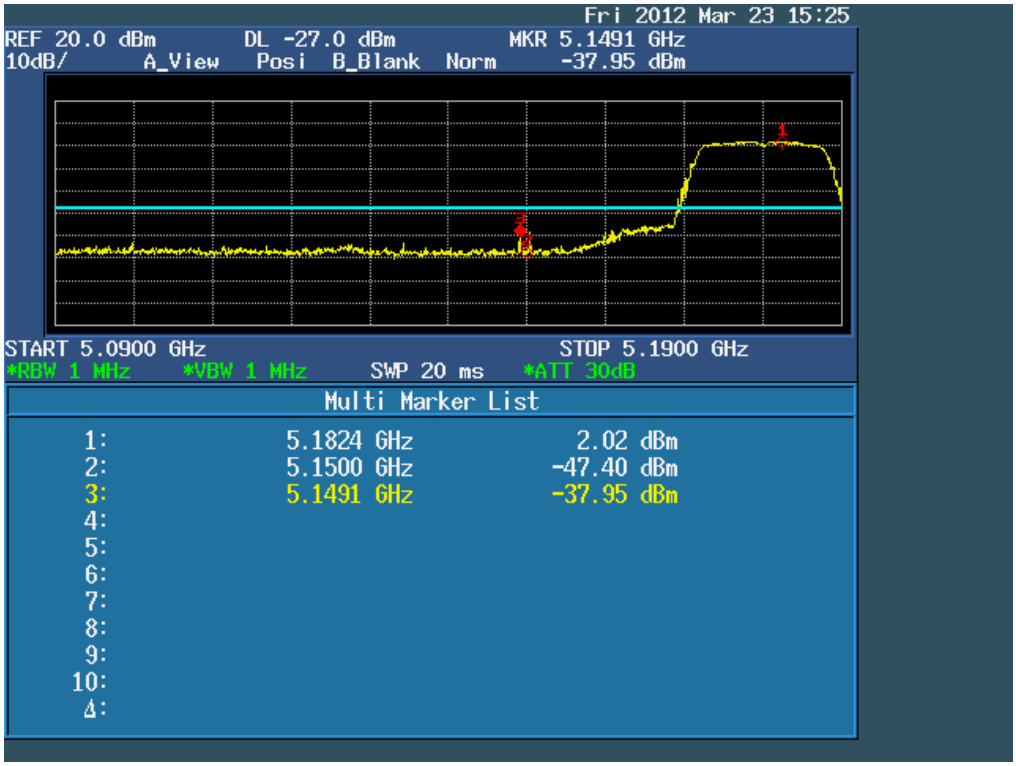
**Ant 1 802.11n(40M) (5.15GHz-5.25GHz)**
**CH 38 (Lower) Data rate 7.2Mbps**




**Ant 1 802.11n(40M) (5.15GHz-5.25GHz)**
**CH 44 (Upper) Data rate 7.2Mbps**

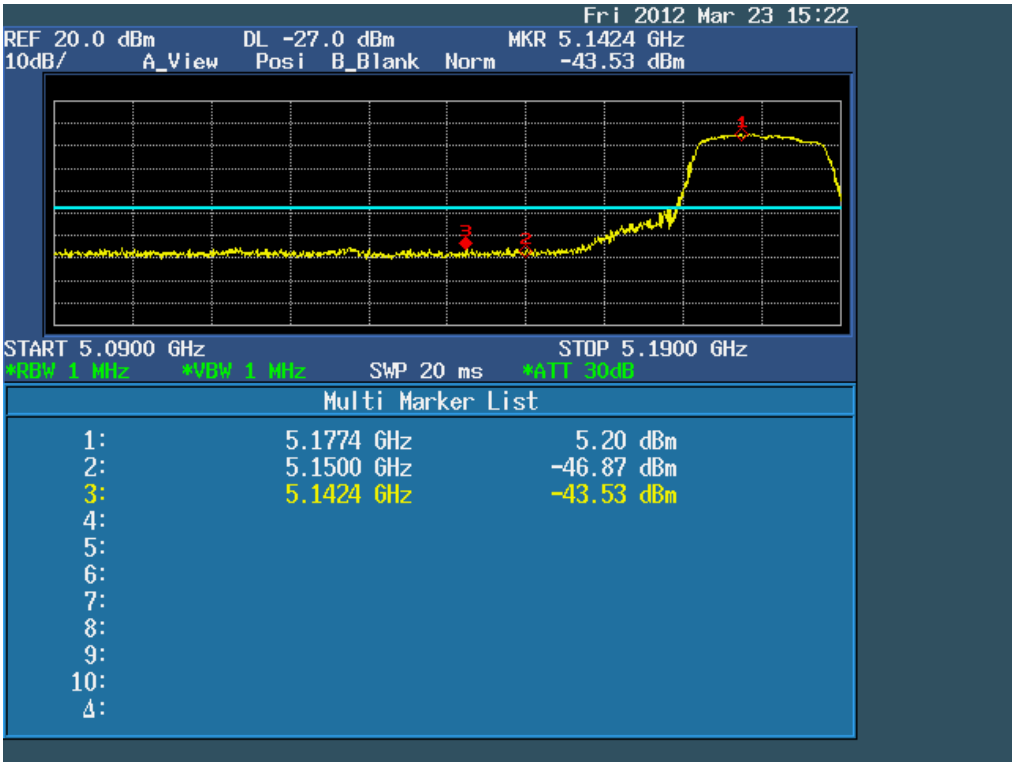


**Ant 1 802.11a (5.15GHz-5.25GHz)**
**CH 36 (Lower) Data rate 6Mbps**

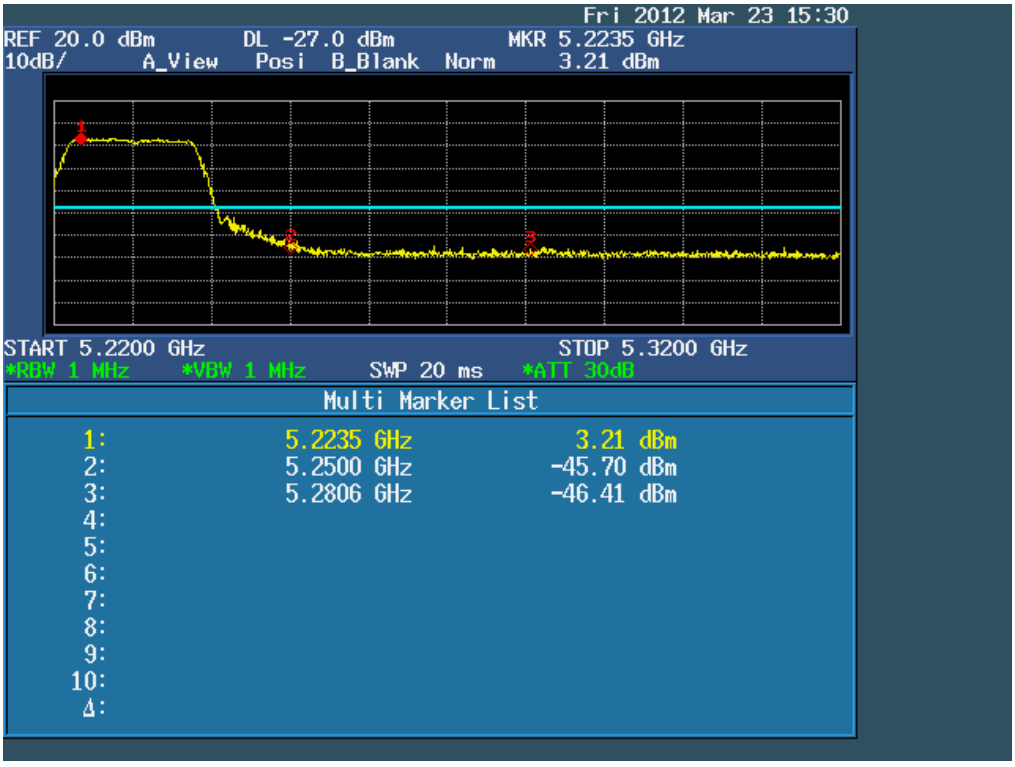



**Ant 1 802.11a (5.15GHz-5.25GHz)**
**CH 46 (Upper) Data rate 6Mbps**

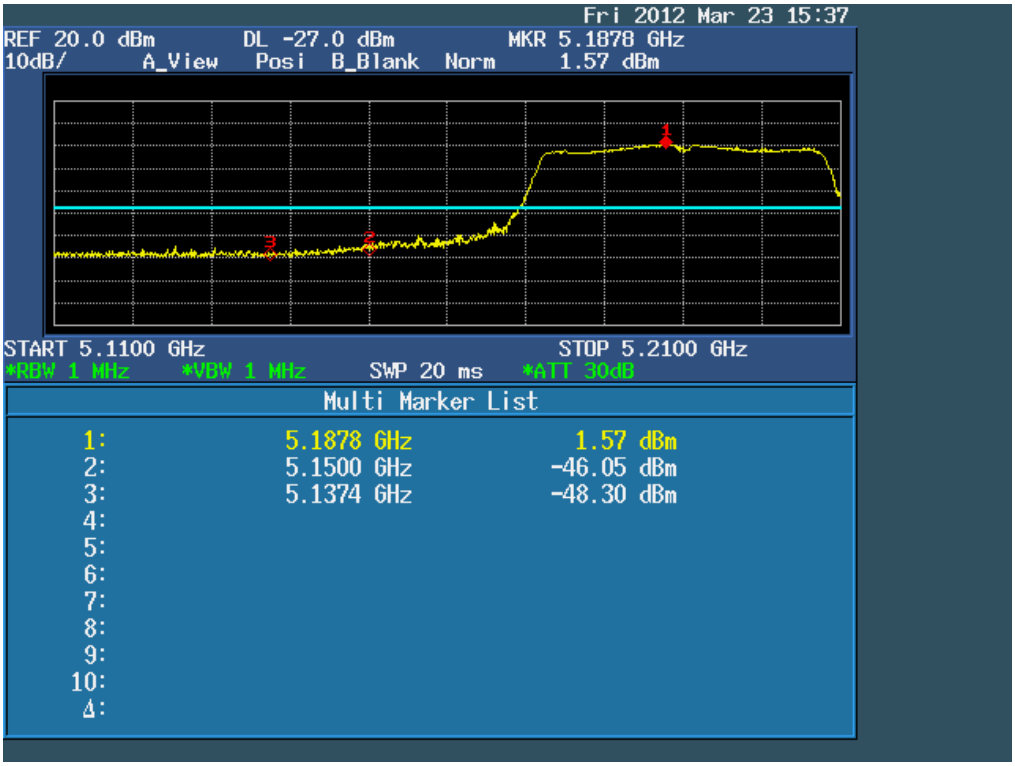
**Ant 2 802.11n(20M) (5.15GHz-5.25GHz)**
**CH 36 (Lower) Data rate 7.2Mbps**



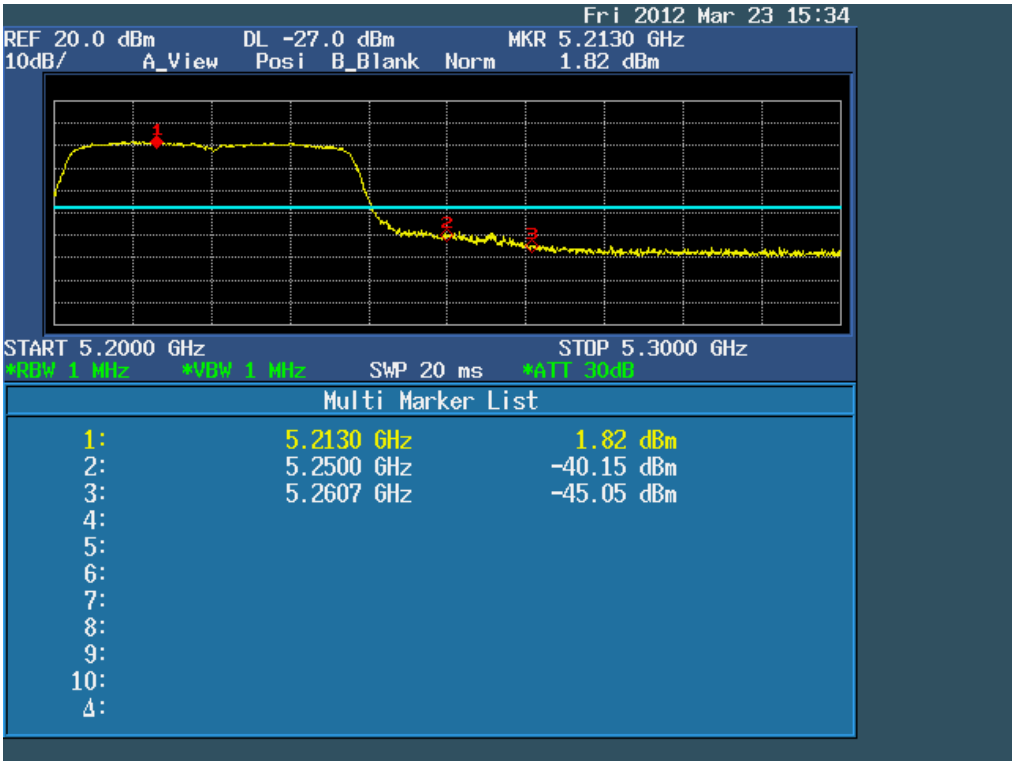

**Ant 2 802.11n(20M) (5.15GHz-5.25GHz)**
**CH 46 (Upper) Data rate 7.2Mbps**



**Ant 2 802.11n(40M) (5.15GHz-5.25GHz)**
**CH 38 (Lower) Data rate 7.2Mbps**

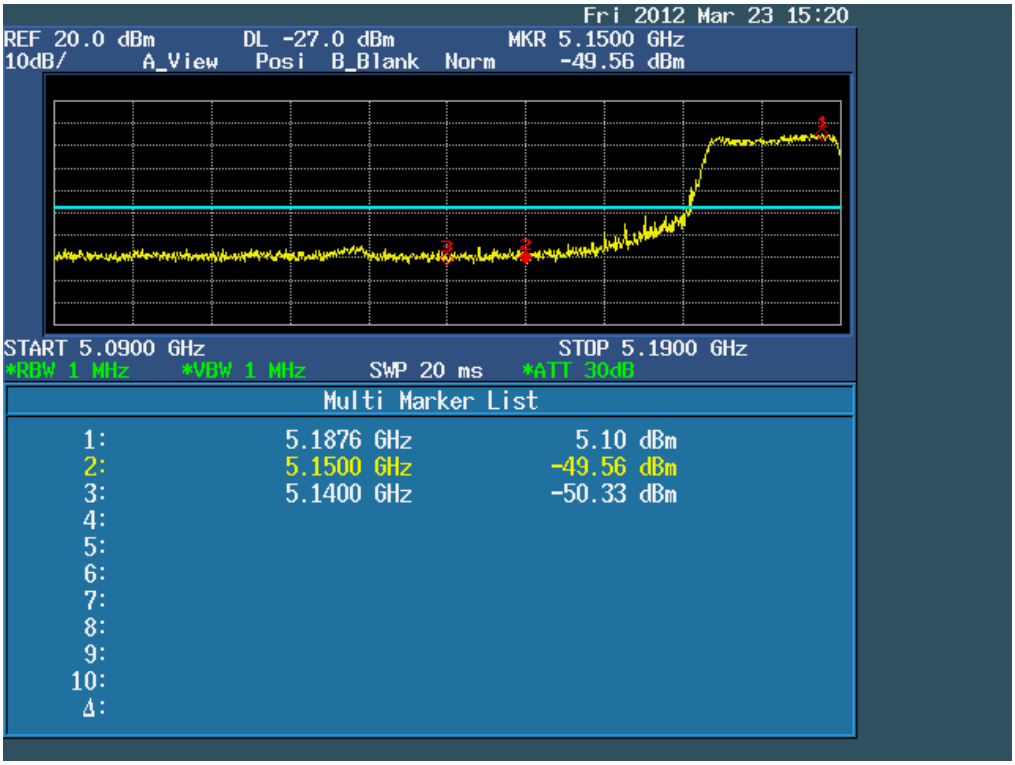



**Ant 2 802.11n(40M) (5.15GHz-5.25GHz)**
**CH 44 (Upper) Data rate 7.2Mbps**



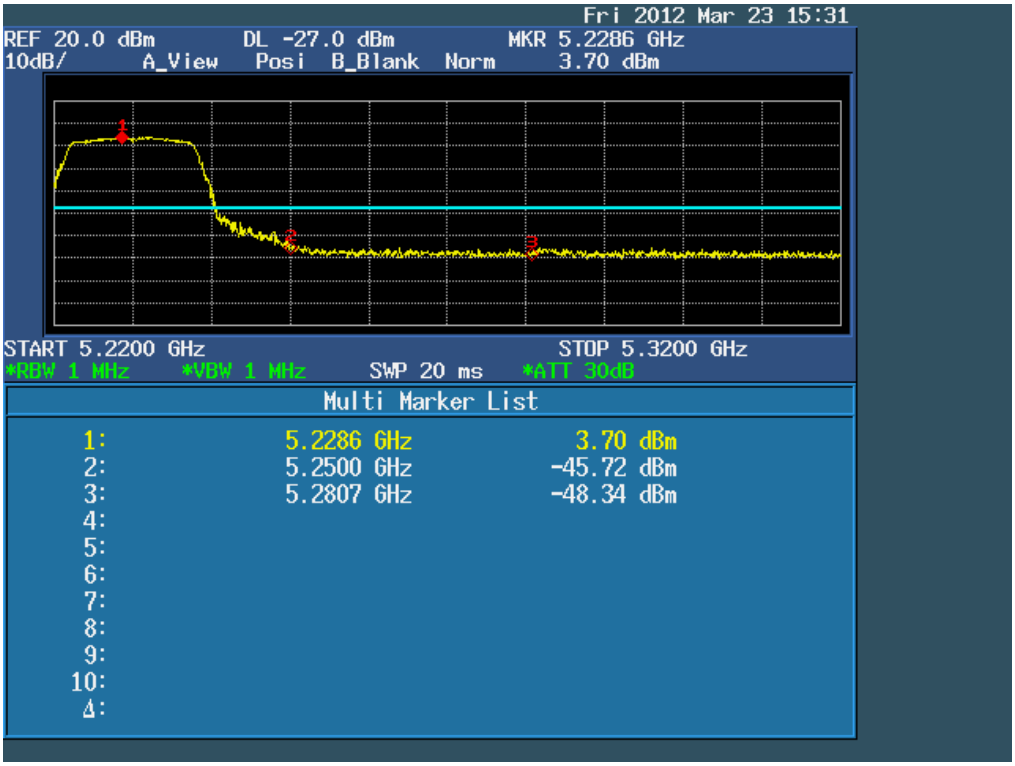
**Ant 2 802.11a (5.15GHz-5.25GHz)**

**CH 36 (Lower) Data rate 6Mbps**

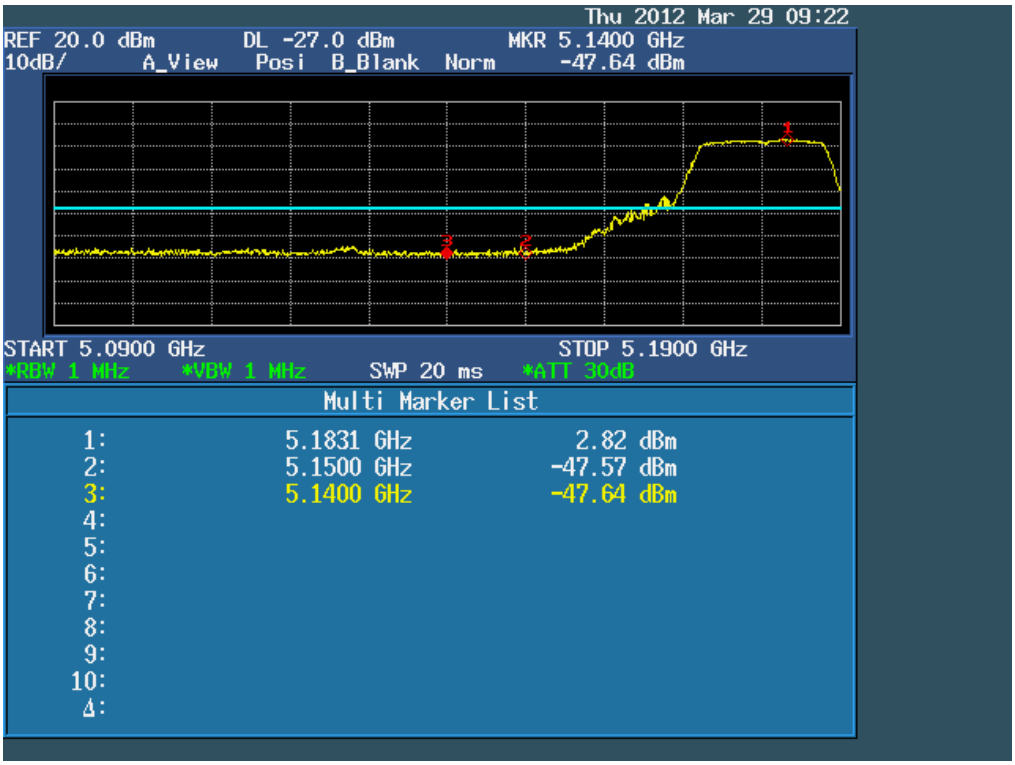



**Ant 2 802.11a (5.15GHz-5.25GHz)**

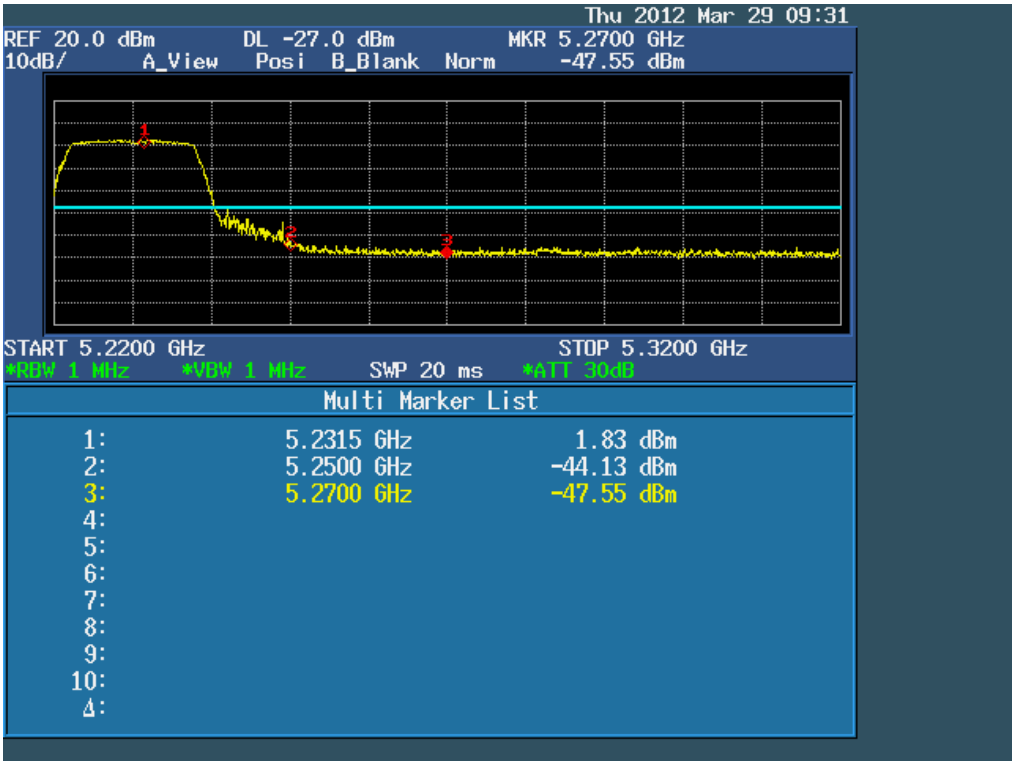
**CH 46 (Upper) Data rate 6Mbps**



**Ant 1 +Ant 2 802.11n(20M) (5.15GHz-5.25GHz)**
**CH 36 (Lower) Data rate 7.2Mbps**




**Ant 1 +Ant 2 802.11n(20M) (5.15GHz-5.25GHz)**
**CH 46 (Upper) Data rate 7.2Mbps**

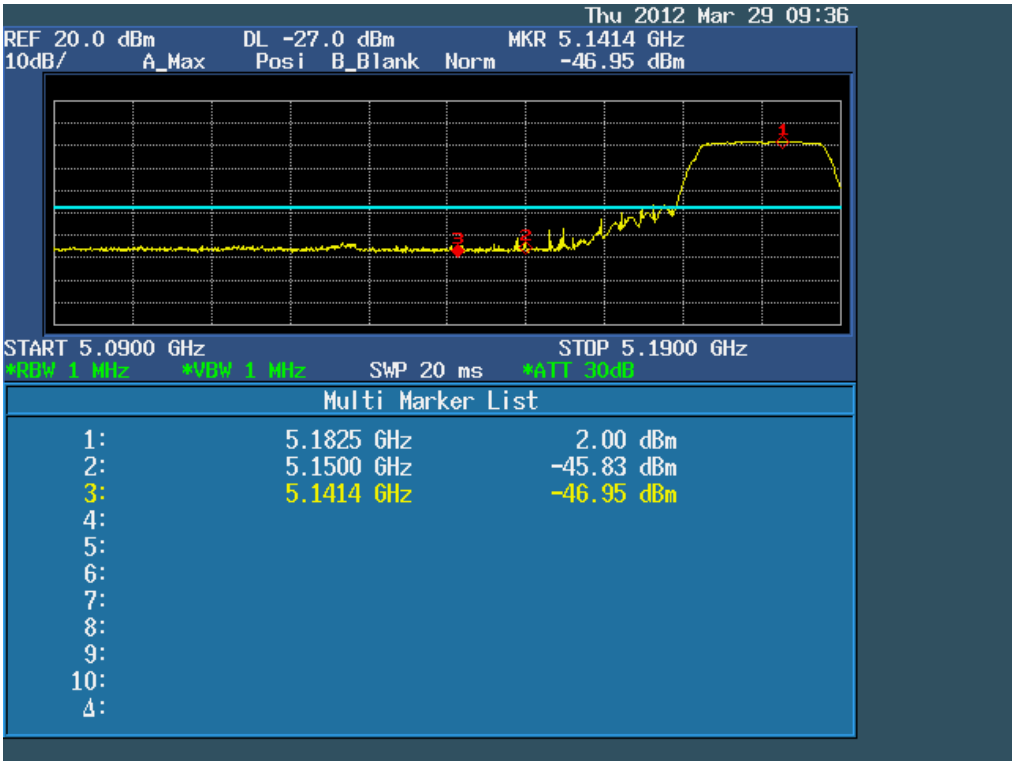


**Ant 1 +Ant 2 802.11n(40M) (5.15GHz-5.25GHz)**
**CH 38 (Lower) Data rate 7.2Mbps**


**Ant 1 +Ant 2 802.11n(40M) (5.15GHz-5.25GHz)**
**CH 44 (Upper) Data rate 7.2Mbps**

**Ant 1 +Ant 2 802.11a (5.15GHz-5.25GHz)**

**CH 36 (Lower) Data rate 6Mbps**




**Ant 1 +Ant 2 802.11a (5.15GHz-5.25GHz)**

**CH 46 (Upper) Data rate 6Mbps**

# 6.7 PEAK EXCURSION

## 6.7.1 Applied procedures / Limit

According to §15.407(a)(6), the ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

## 6.7.2 Test procedure

a. Place the EUT on the table and set it in transmitting mode.

b. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to spectrum.

c. Trace A, Set RBW =1MHz, VBW >= RBW, Span >26dB bandwidth, Max. hold.

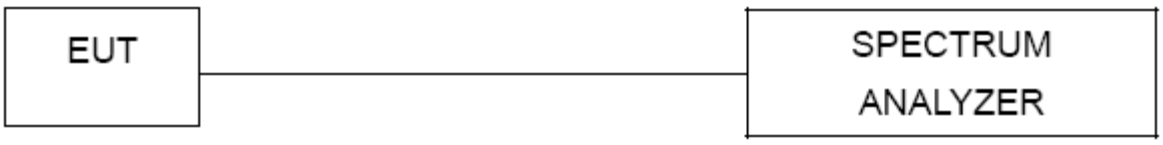
d. Delta Mark trace A Maximum frequency and trace B same frequency.

e. Repeat the above procedure until measurements for all frequencies were complete.

## 6.7.3 Deviation from standard

No deviation.

## 6.7.4 Test setup



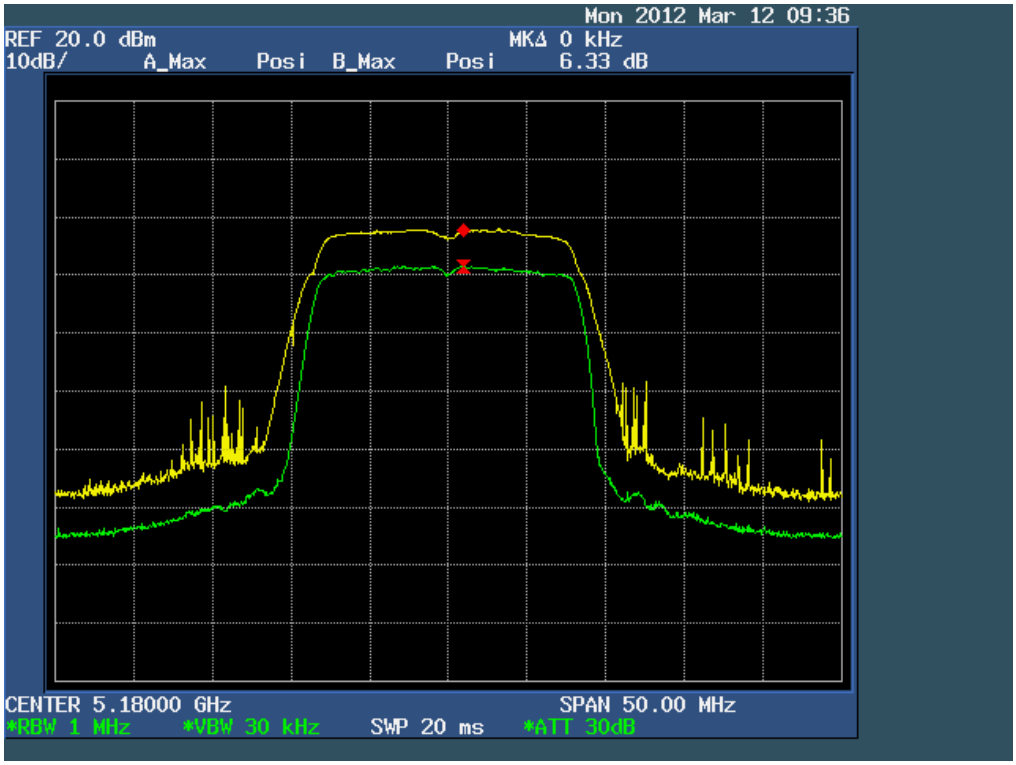
### 6.7.5 Test results

| | | | |
|---|---|---|---|
| EUT： | LCD Monitor | Model Name ： | DW271HL |
| Temperature： | 26 ℃ | Relative Humidity： | 53% |
| Pressure： | 1010 hPa | Test Power ： | AC 120V/60Hz |
| Test Mode ： | TX | | |

| Test Mode | Frequency | Peak Excursion (dB ) | Limit (dBm) | Margin (dB ) | Result |
|---|---|---|---|---|---|
| Ant1 802.11n(20M) (5.15GHz-5.25GHz) Data rate 7.2Mbps | 5180 MHz | 6.33 | 13 | -6.67 | Pass |
| | 5220 MHz | 5.91 | 13 | -7.09 | Pass |
| | 5230 MHz | 5.83 | 13 | -7.17 | Pass |
| Ant1 802.11n(40M) (5.15GHz-5.25GHz) Data rate 7.2Mbps | 5190 MHz | 5.71 | 13 | -7.29 | Pass |
| | 5220 MHz | 5.65 | 13 | -7.35 | Pass |
| Ant1 802.11a (5.15GHz-5.25GHz) Data rate 6Mbps | 5180 MHz | 6.30 | 13 | -6.70 | Pass |
| | 5220 MHz | 5.88 | 13 | -7.12 | Pass |
| | 5230 MHz | 6.02 | 13 | -6.98 | Pass |
| Ant 2 802.11n(20M) (5.15GHz-5.25GHz) Data rate 7.2Mbps | 5180 MHz | 6.03 | 13 | -6.97 | Pass |
| | 5220 MHz | 5.61 | 13 | -7.39 | Pass |
| | 5230 MHz | 5.94 | 13 | -7.06 | Pass |
| Ant 2 802.11n(40M) (5.15GHz-5.25GHz) Data rate 7.2Mbps | 5190 MHz | 5.87 | 13 | -7.13 | Pass |
| | 5220 MHz | 5.73 | 13 | -7.27 | Pass |
| Ant 2 802.11a (5.15GHz-5.25GHz) Data rate 6Mbps | 5180 MHz | 5.82 | 13 | -7.18 | Pass |
| | 5220 MHz | 6.01 | 13 | -6.99 | Pass |
| | 5230 MHz | 5.88 | 13 | -7.12 | Pass |

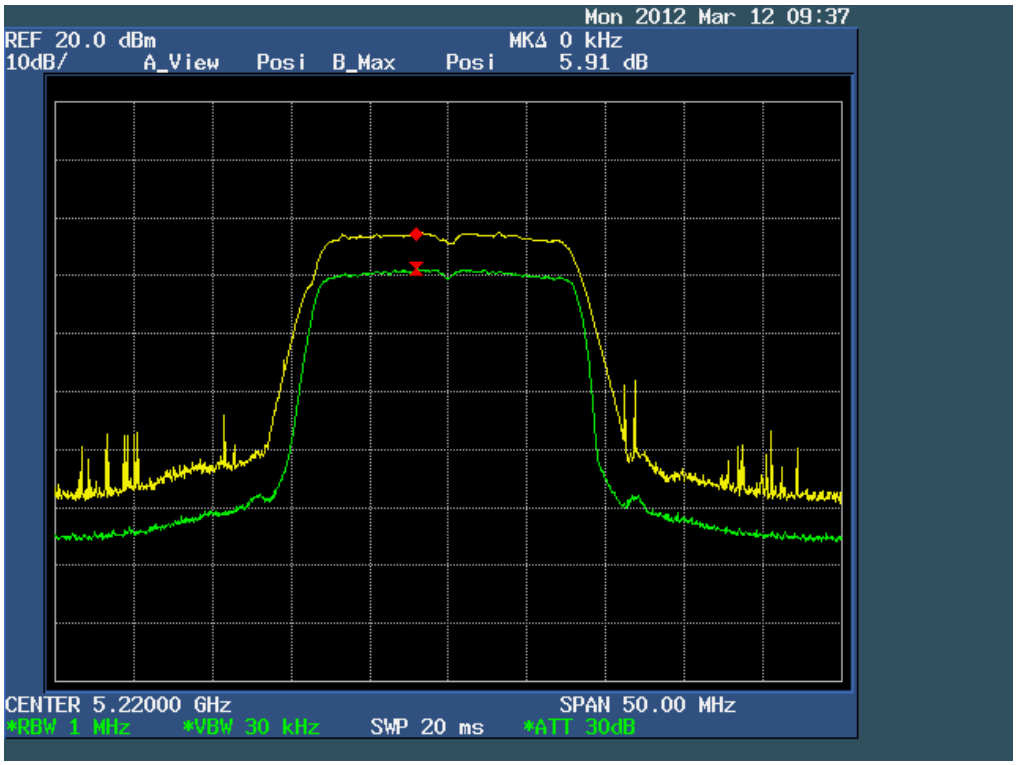
**Ant 1 802.11n(20M) (5.15GHz-5.25GHz)**

**The Lowest Channel 36: 5180MHz**



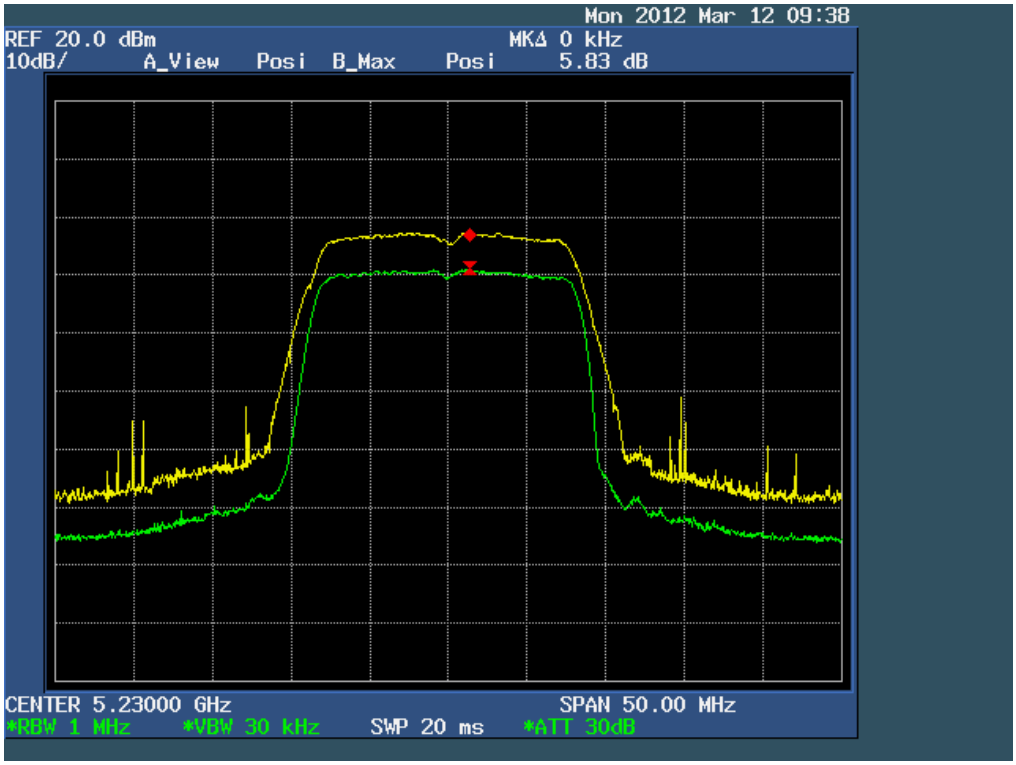

**Ant 1 802.11n(20M) (5.15GHz-5.25GHz)**

**The Middle Channel 44: 5220MHz**



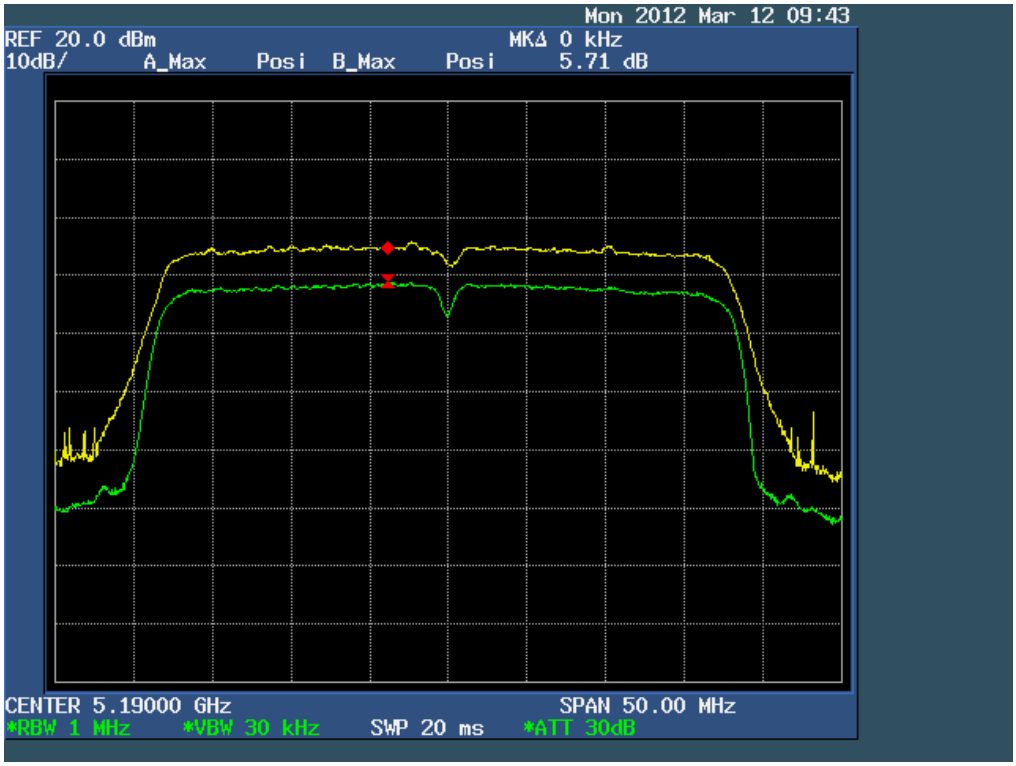
**Ant 1 802.11n(20M) (5.15GHz-5.25GHz)**

**The Highest Channel 46: 5230MHz**



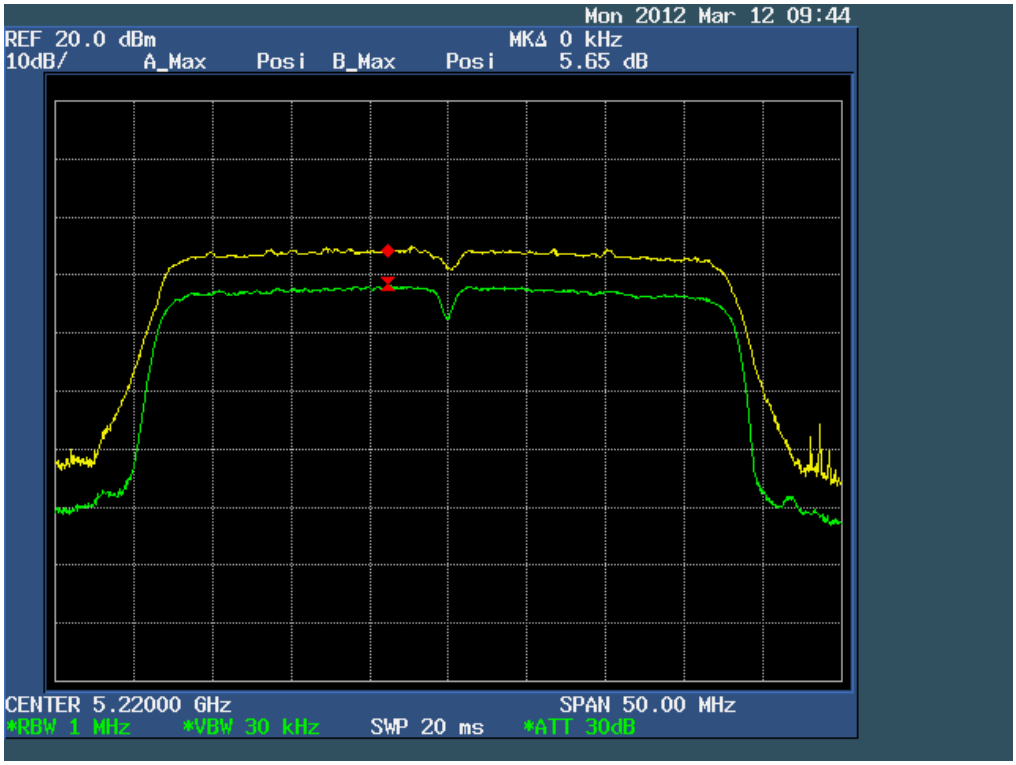

**Ant 1 802.11n(40M) (5.15GHz-5.25GHz)**

**The Lowest Channel 38: 5190MHz**



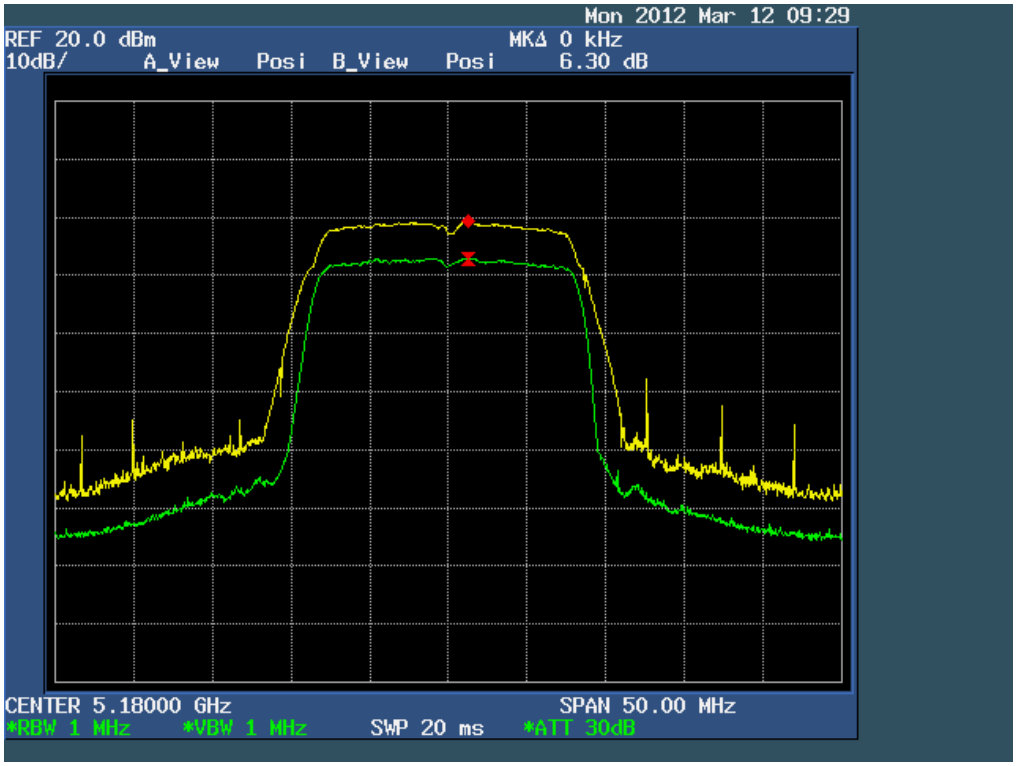
**Ant 1 802.11n(40M) (5.15GHz-5.25GHz)**

**The highest Channel 44: 5220MHz**



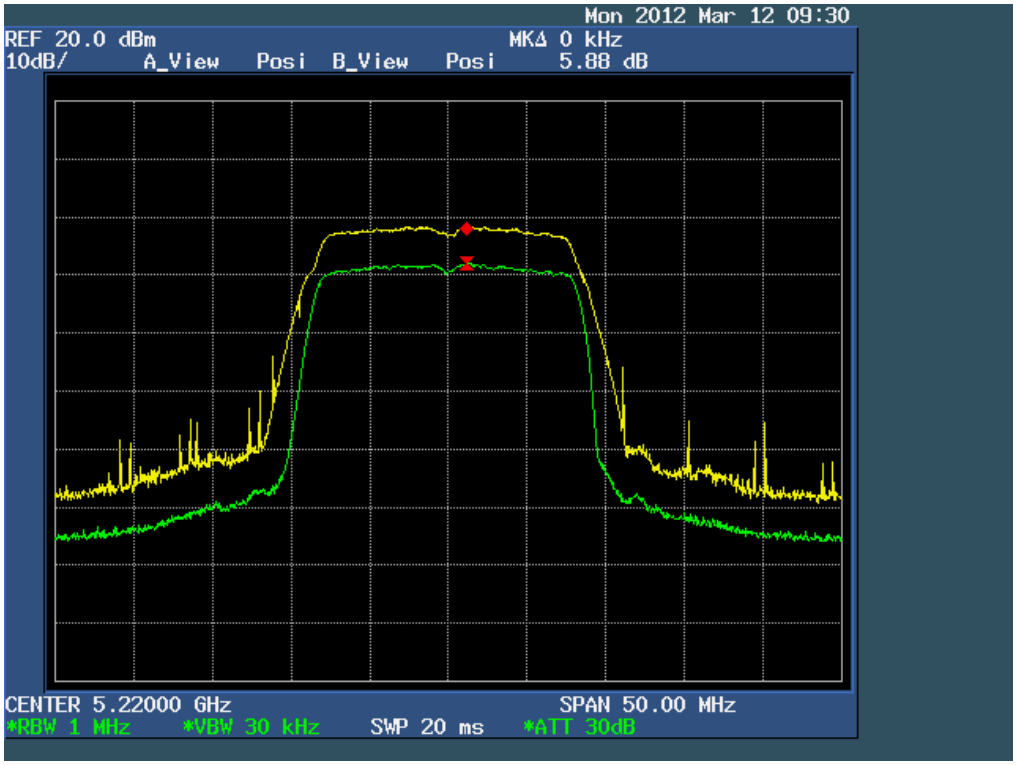

**Ant 1 802.11a (5.15GHz-5.25GHz)**

**The Lowest Channel 36: 5180MHz**



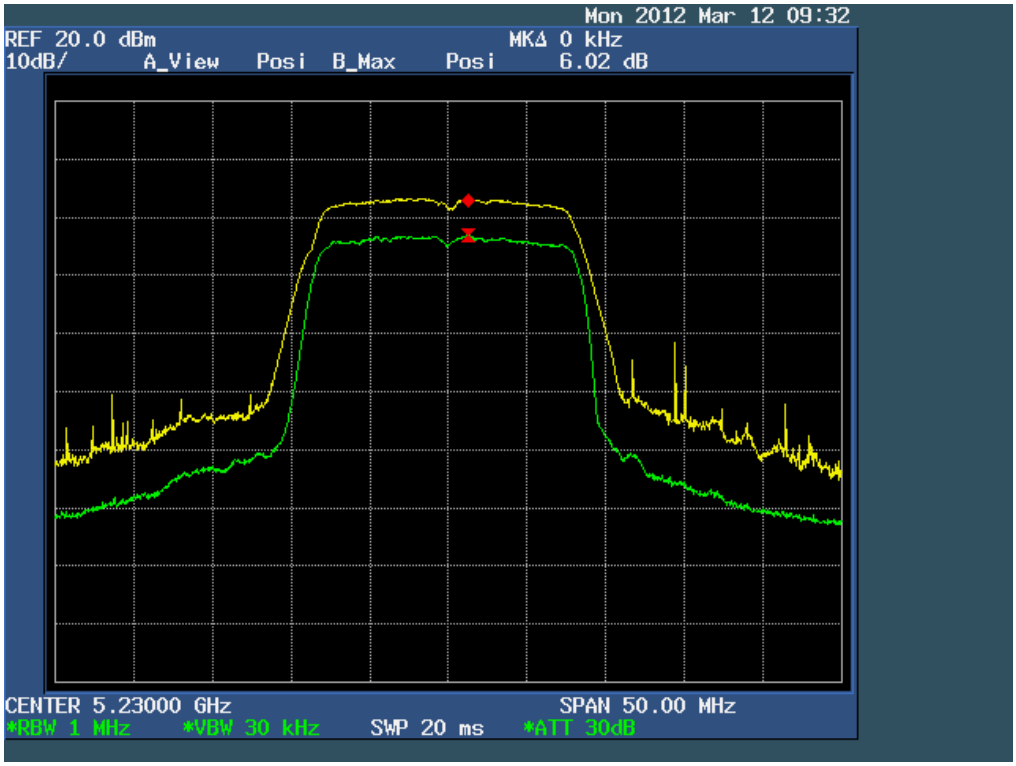
**Ant 1 802.11a (5.15GHz-5.25GHz)**

**The Middle Channel 44: 5220MHz**



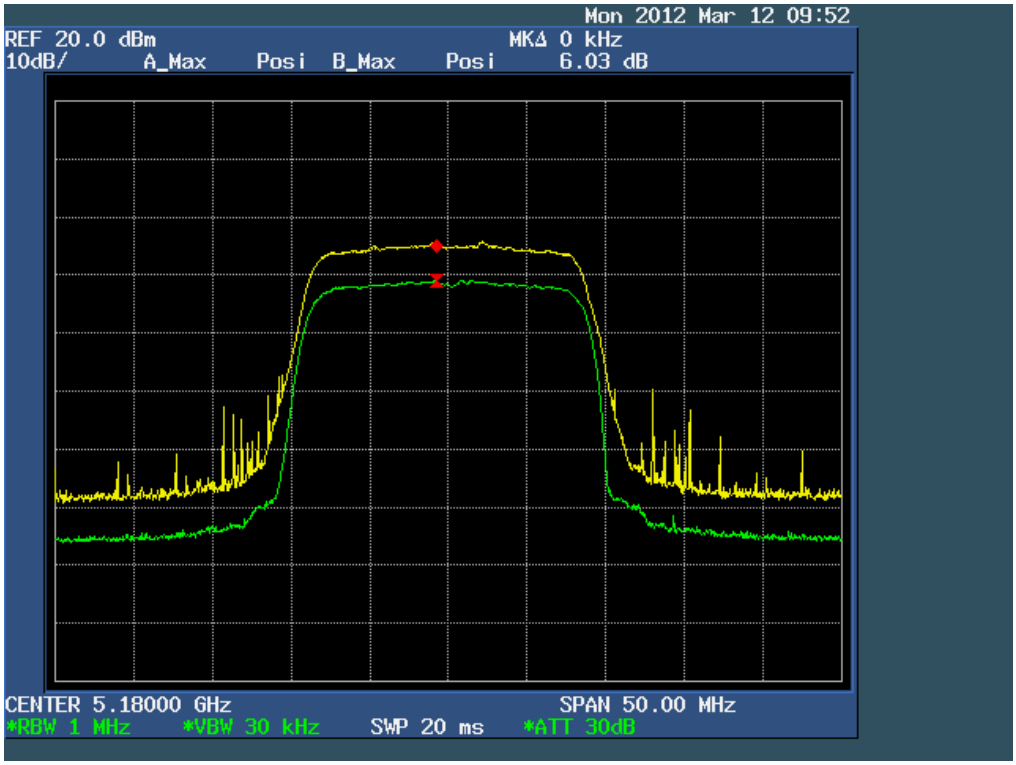

**Ant 1 802.11a (5.15GHz-5.25GHz)**

**The Highest Channel 46: 5230MHz**



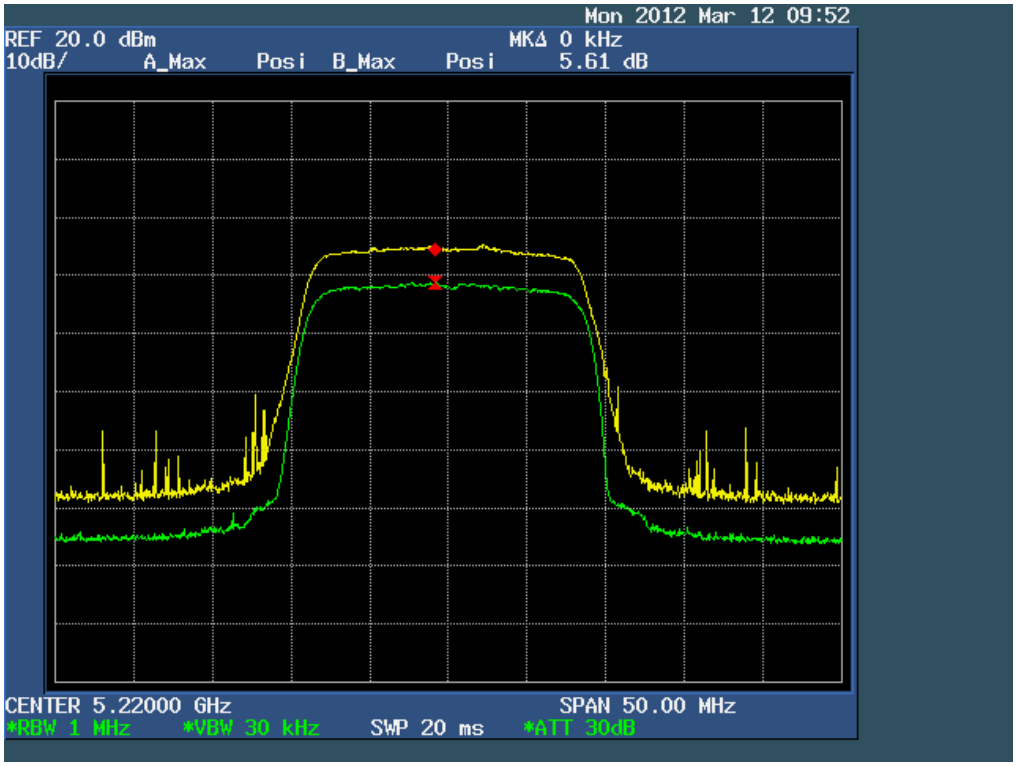
**Ant 2 802.11n(20M) (5.15GHz-5.25GHz)**

**The Lowest Channel 36: 5180MHz**



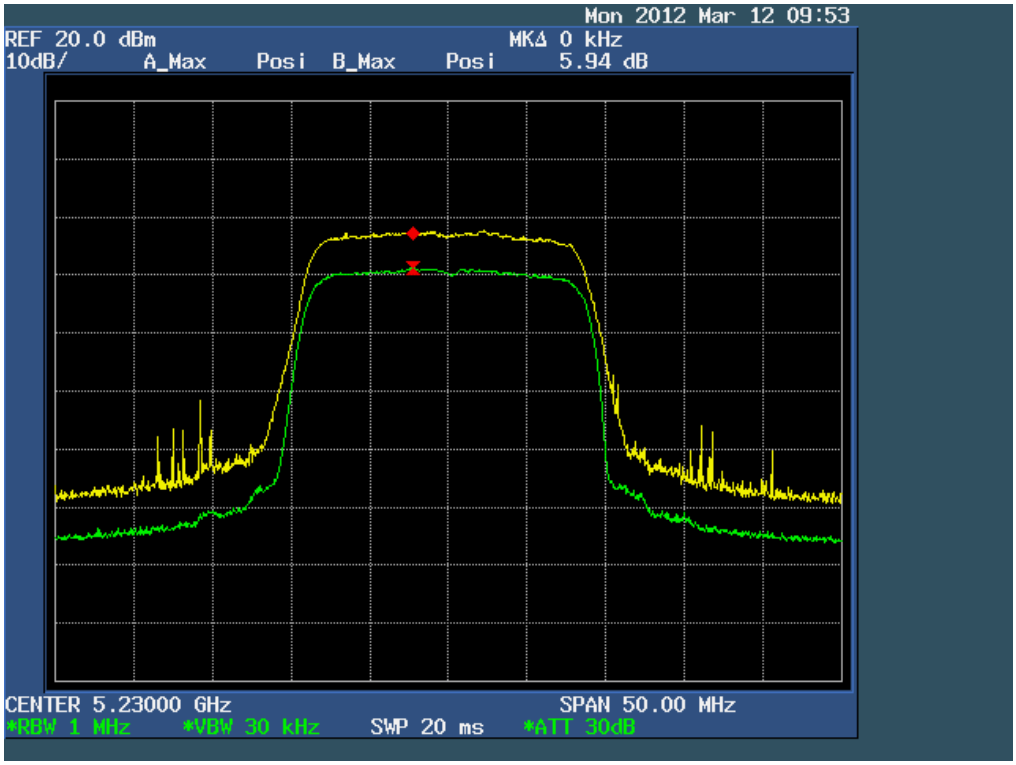

**Ant 2 802.11n(20M) (5.15GHz-5.25GHz)**

**The Middle Channel 44: 5220MHz**



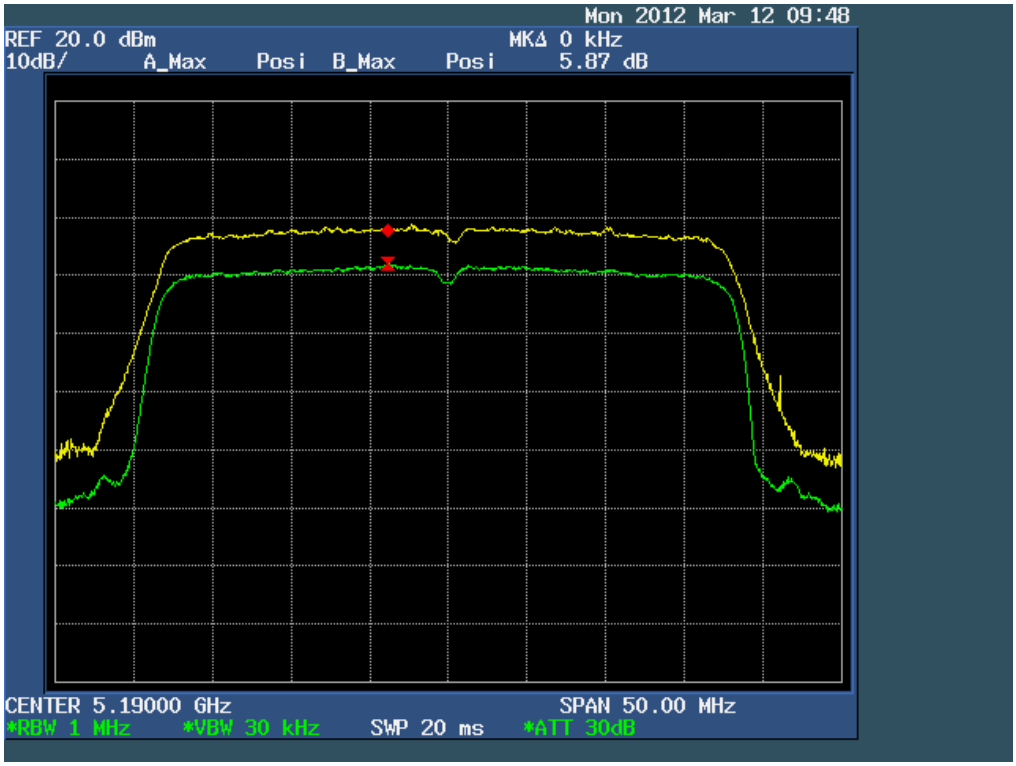
**Ant 2 802.11n(20M) (5.15GHz-5.25GHz)**

**The Highest Channel 46: 5230MHz**



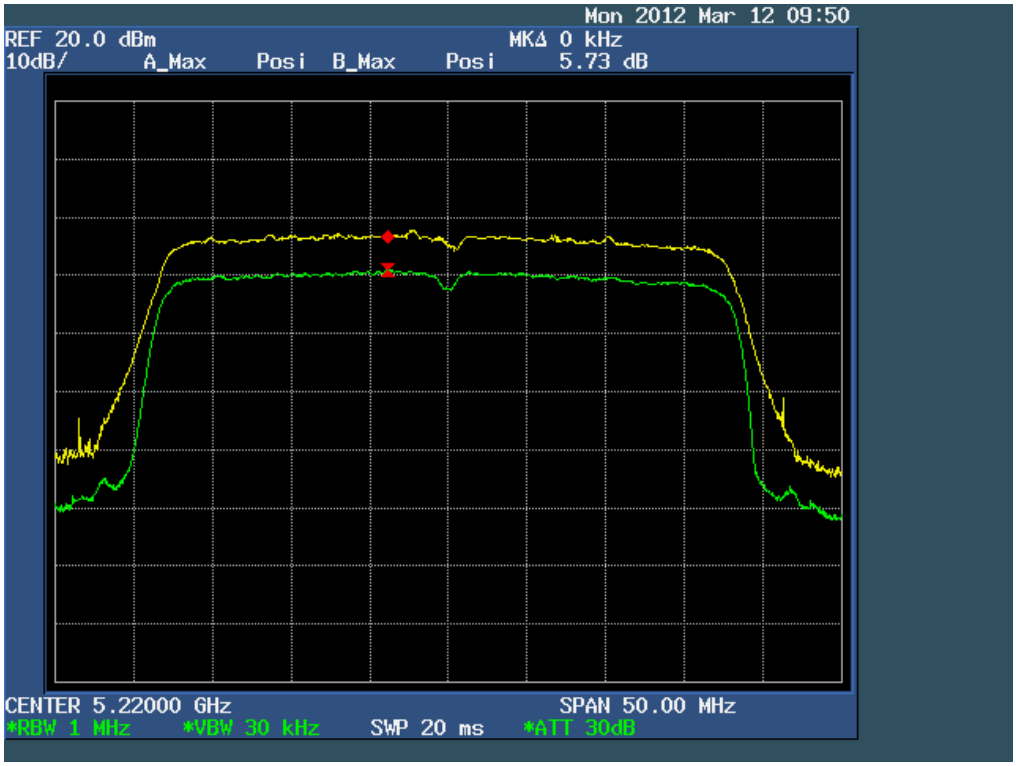

**Ant 2 802.11n(40M) (5.15GHz-5.25GHz)**

**The Lowest Channel 38: 5190MHz**



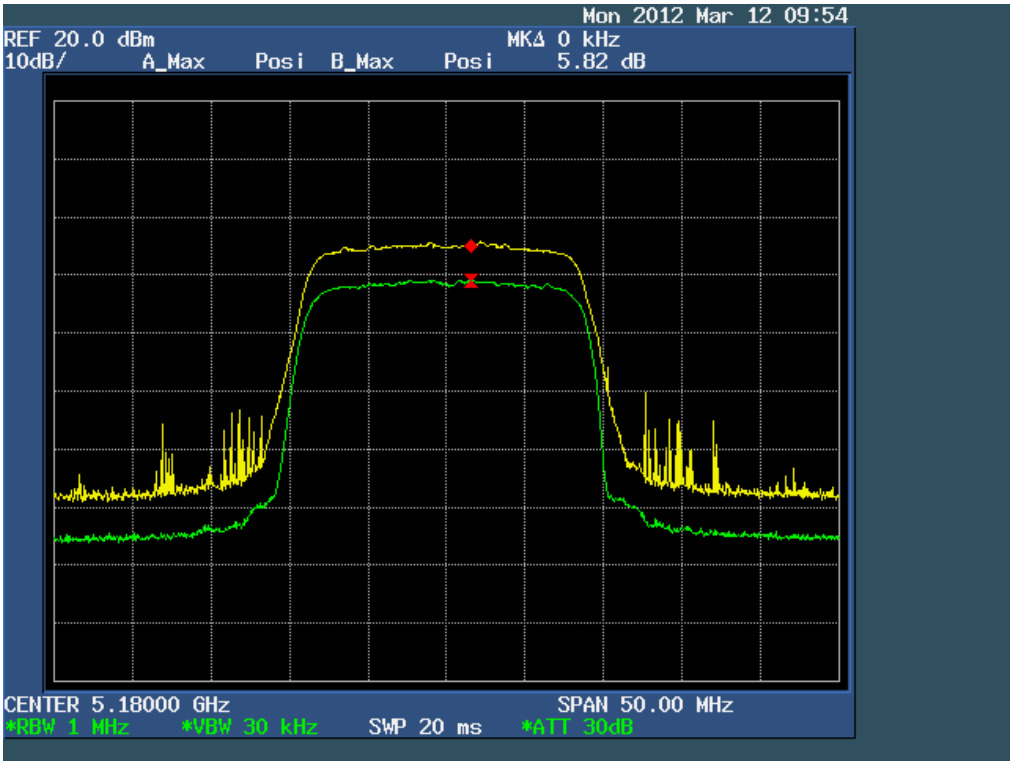
**Ant 2 802.11n(40M) (5.15GHz-5.25GHz)**

**The Highest Channel 44: 5220MHz**



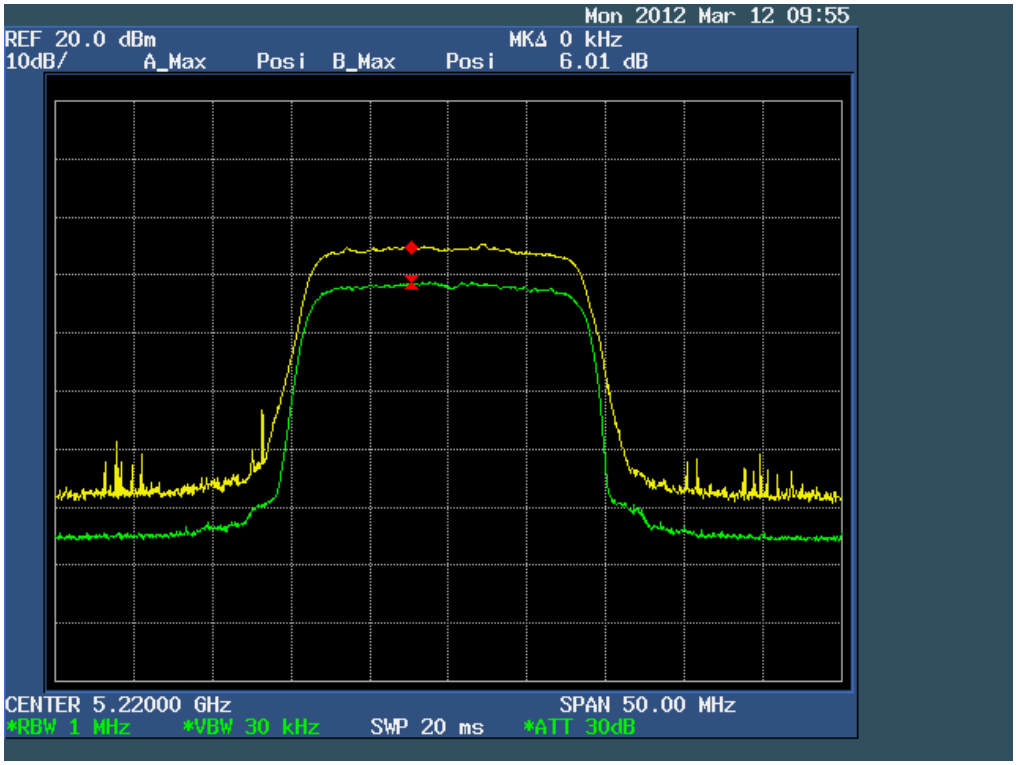

**Ant 2 802.11a (5.15GHz-5.25GHz)**

**The Lowest Channel 36: 5180MHz**



**Ant 2 802.11a (5.15GHz-5.25GHz)**

**The Middle Channel 44: 5220MHz**




**Ant 2 802.11a (5.15GHz-5.25GHz)**

**The Highest Channel 46: 5230MHz**