# FCC/IC Radio Test Report

## FCC ID: QISAP7110DNAGN
## IC: 6369A-AP7110DNAGN

**This report concerns (check one):** ■ **Original Grant** □ **Class I Change**

| | |
|---|---|
| **Issued Date** | : Nov. 13, 2012 |
| **Project No.** | : 1209C078A |
| **Equipment** | : Wireless LAN Access Point |
| **Model Name** | : AP7110DN-AGN |
| **Applicant** | : Huawei Technologies Co.,Ltd. |
| **Address for FCC** | : Bantian, Longgang District, Shenzhen China |
| **Address for IC** | : Bantian, Longgang District, Shenzhen, 518129 China |

**Tested by:**
Neutron Engineering Inc. EMC Laboratory
**Date of Receipt:** Sep. 13, 2012
**Date of Test:** Sep. 13, 2012 ~ Nov. 12, 2012

**Testing Engineer** : David Mao
(David Mao)

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## Declaration

**Neutron** represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with the standards traceable to National Measurement Laboratory (**NML**) of **CHINA**, or National Institute of Standards and Technology (**NIST**) of **U.S.A.**

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## Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

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## 1. CERTIFICATION

| | | |
|---|---|---|
| Equipment | : | Wireless LAN Access Point |
| Brand Name | : | HUAWEI |
| Model Name | : | AP7110DN-AGN |
| Applicant | : | Huawei Technologies Co.,Ltd. |
| Date of Test | : | Sep. 13, 2012 ~ Nov. 12, 2012 |
| Test Item | : | ENGINEERING SAMPLE |
| Standards | : | FCC Part15, Subpart C(15.247) / ANSI C63.4 : 2009; Canada RSS-210:2010 |

The above equipment has been tested and found compliance with the requirement of the relative standards by Neutron Engineering Inc. EMC Laboratory.
The test data, data evaluation, and equipment configuration contained in our test report (Ref No. NEI-FICP-2-1209C078A) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of NVLAP and TAF according to the ISO-17025 quality assessment standard and technical standard(s).

**Test result included in this report is only for the 5725~5825 MHz part of the product.**

## 2. SUMMARY OF TEST RESULTS

| FCC Part15 (15.247) , Subpart C / RSS-210: 2010 | | | | |
|---|---|---|---|---|
| Standard | Section | Test Item | Judgment | Remark |
| RSS-GEN 7.2.2 | 15.207 | Conducted Emission | PASS | |
| RSS-210 A8.5 | 15.247 (d) | Antenna conducted Spurious Emission | PASS | |
| RSS-210 A8.2(a) | 15.247 (a)(2) | 6dB Bandwidth | PASS | |
| RSS-210 A8.4(4) | 15.247 (b) | Peak Output Power | PASS | |
| RSS-210 A8.2(b) | 15.247 (e) | Power Spectral Density | PASS | |
| - | 15.203 | Antenna Requirement | PASS | |
| RSS-210 Annex 8 (A8.5) | 15.247(d) | Transmitter Radiated Emissions<br>FCC Limit: Table 15.209<br>RSS-210 Limit: Table 3 | PASS | |
| RSS-Gen 7.2.3 | Note(1) | Receiver Radiated Emissions<br>RSS-210 Limit: Table 3 | PASS | |
| - | 1.1307<br>1.1310<br>2.1091<br>2.1093 | RF Exposure Compliance | PASS | |

Test procedures according to the technical standards:

NOTE:

(1)” N/A” denotes test is not applicable in this test report.

## 2.1 TEST FACILITY

The test facilities used to collect the test data in this report is **DG-CB02/DG-C02** at the location of No.3,Jinshagang 1st Road, ShiXia, Dalang Town, Dong Guan, China.523792
Neutron's test firm number for FCC 319330
Neutron's test firm number for IC 4428B-1

## 2.2 MEASUREMENT UNCERTAINTY

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

The reported uncertainty of measurement y ± U，where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2，providing a level of confidence of approximately 95 %。

A. Conducted Measurement :

| Test Site | Method | Measurement Frequency Range | U，(dB) | NOTE |
|---|---|---|---|---|
| DG-C02 | CISPR | 150 KHz ~ 30MHz | 1.94 | |

B. Radiated Measurement :

| Test Site | Method | Measurement Frequency Range | Ant. H / V | U，(dB) | NOTE |
|---|---|---|---|---|---|
| DG-CB03 | CISPR | 30MHz ~ 200MHz | V | 3.82 | |
| | | 30MHz ~ 200MHz | H | 3.60 | |
| | | 200MHz ~ 1,000MHz | V | 3.86 | |
| | | 200MHz ~ 1,000MHz | H | 3.94 | |
| | | 1GHz~18GHz | V | 4.23 | |
| | | 18GHz~40GHz | V | 4.15 | |
| | | 1GHz~18GHz | H | 4.15 | |
| | | 18GHz~40GHz | H | 4.14 | |

# 3. GENERAL INFORMATION

## 3.1 GENERAL DESCRIPTION OF EUT

<table>
<tr><td>Equipment</td><td>Wireless LAN Access Point</td></tr>
<tr><td>Brand Name</td><td>HUAWEI</td></tr>
<tr><td>Model Name</td><td>AP7110DN-AGN</td></tr>
<tr><td>Product Description</td><td>The EUT is a Wireless LAN Access Point.<br><br>
<table>
<tr><td>Operation Frequency</td><td>5725~5825 MHz</td></tr>
<tr><td>Modulation Type</td><td>802.11a/n:OFDM</td></tr>
<tr><td>Bit Rate of Transmitter</td><td>450Mbps</td></tr>
<tr><td>Number of Channel</td><td>5 CH, Please see note 2.(Page 10)</td></tr>
<tr><td>Antenna Designation</td><td rowspan="2">Please see note 3.(Page 10)</td></tr>
<tr><td>Antenna Gain(Peak)</td></tr>
<tr><td>Output Power</td><td>1TX:<br>802.11a: 21.28 dBm<br>802.11n (20M): 21.77 dBm<br>802.11n (40M): 20.97 dBm<br>2TX:<br>802.11a: 23.60 dBm<br>802.11n (20M): 24.06 dBm<br>802.11n (40M): 23.78 dBm<br>3TX:<br>802.11a: 24.39 dBm<br>802.11n (20M): 24.47 dBm<br>802.11n (40M): 24.27 dBm</td></tr>
</table>
<br>Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.</td></tr>
<tr><td>Power Source</td><td>#1 DC voltage supplied from POE.<br>#2 DC voltage supplied from AC adapter.<br>Adapter model: HW-120200U1W</td></tr>
<tr><td>Power Rating</td><td>#1 I/P: AC120V/60Hz O/P: DC 48V<br>#2 I/P: AC100~240V~50/60Hz 0.8A O/P: DC 12.0V 2.0A</td></tr>
<tr><td>Connecting I/O Port(s)</td><td>Please refer to the User's Manual</td></tr>
</table>

Note:
1. For a more detailed features description, please refer to the manufacturer’s specifications or the User's Manual.

2.

| 802.11a / 802.11n 20M | | | | | |
|---|---|---|---|---|---|
| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| **149** | **5745** | 153 | 5765 | **157** | **5785** |
| 161 | 5805 | **165** | **5825** | | |

| 802.11n 40M | | | |
|---|---|---|---|
| Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| **151** | **5755** | **159** | **5795** |

3. Antenna Specification:

**The product has 2 group antenna: Shenglu and Tongyu, The 5.74dBi of Shenglu was the worst case.**

Group 1

| Ant. | Manufacturer | Model Name | Antenna Type / Connector | function | Gain (dBi) |
|---|---|---|---|---|---|
| 1 | Guangdong Shenglu Telecommunication Tech.Co.Ltd | SL15870A | Dipole / R-SMA | TX/RX | 5.74 |
| 2 | Guangdong Shenglu Telecommunication Tech.Co.Ltd | SL15870A | Dipole / R-SMA | TX/RX | 5.74 |
| 3 | Guangdong Shenglu Telecommunication Tech.Co.Ltd | SL15870A | Dipole / R-SMA | TX/RX | 5.74 |

Group 2

| Ant. | Manufacturer | Model Name | Antenna Type / Connector | function | Gain (dBi) |
|---|---|---|---|---|---|
| 1 | Tongyu Communication Inc | TT-2403-6W1 | Dipole / R-SMA | TX/RX | 5.08 |
| 2 | Tongyu Communication Inc | TT-2403-6W1 | Dipole / R-SMA | TX/RX | 5.08 |
| 3 | Tongyu Communication Inc | TT-2403-6W1 | Dipole / R-SMA | TX/RX | 5.08 |

Note: This EUT supports MIMO, all transmit signals are completely uncorrelated, then, **Direction gain = $G_{ANT}$**, that is Directional gain=5.74.

| Operating Mode / TX Mode | 1TX | 2TX | 3TX |
|---|---|---|---|
| 802.11a | V (ANT2 ) | V (ANT1& ANT2 ) | V (ANT1 & ANT2 & ANT3) |
| 802.11n(20MHz) | V (ANT2 ) | V (ANT1& ANT2 ) | V (ANT1 & ANT2 & ANT3) |
| 802.11n(40MHz) | V (ANT2 ) | V (ANT1& ANT2 ) | V (ANT1 & ANT2 & ANT3) |

## 3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

| Pretest Mode | Description |
|---|---|
| Mode 1 | TX A Mode CHANNEL 149/157/165 |
| Mode 2 | TX N20 Mode CHANNEL 149/157/165 |
| Mode 3 | TX N40 Mode CHANNEL 151/159 |
| Mode 4 | Normal Link |

The EUT system operated these modes were found to be the worst case during the pre-scanning test as following: **(Worst case for 3TX)**

| **For Conducted Test** | |
|---|---|
| Final Test Mode | Description |
| Mode 4 | Normal Link |

| **For Radiated Test** | |
|---|---|
| Final Test Mode | Description |
| Mode 1 | TX A Mode CHANNEL 149/157/165 |
| Mode 2 | TX N20 Mode CHANNEL 149/157/165 |
| Mode 3 | TX N40 Mode CHANNEL 151/159 |

Note:

(1) The measurements are performed at the high, middle, low available channels.

### 3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

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

| Test software version | Cart - For 1TX | | |
|---|---|---|---|
| Frequency | 5745 MHz | 5785 MHz | 5825MHz |
| A Mode | 17 | 17 | 17 |
| N20M Mode | 17 | 17 | 17 |

| Test software version | Cart - For 1TX | |
|---|---|---|
| Frequency | 5755 MHz | 5795 MHz |
| N40M Mode | 17 | 17 |

| Test software version | Cart - For 2TX | | |
|---|---|---|---|
| Frequency | 5745 MHz | 5785 MHz | 5825MHz |
| A Mode | 16 | 16 | 16 |
| N20M Mode | 16 | 16 | 16 |

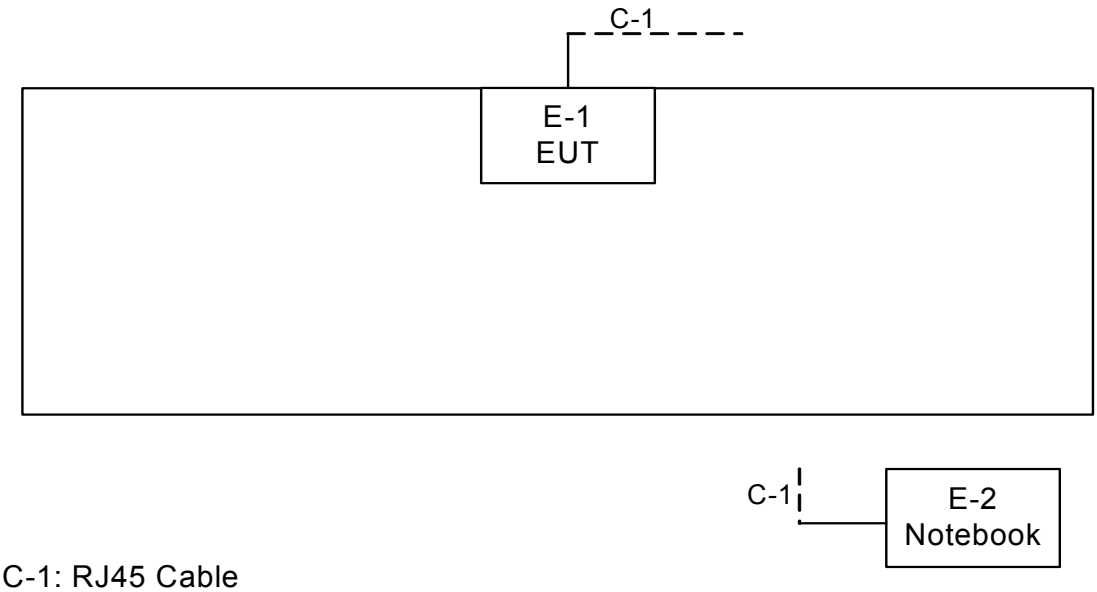
| Test software version | Cart - For 2TX | |
|---|---|---|
| Frequency | 5755 MHz | 5795 MHz |
| N40M Mode | 16 | 16 |

| Test software version | Cart - For 3TX | | |
|---|---|---|---|
| Frequency | 5745 MHz | 5785 MHz | 5825MHz |
| A Mode | 14 | 14 | 14 |
| N20M Mode | 14 | 14 | 14 |

| Test software version | Cart - For 3TX | |
|---|---|---|
| Frequency | 5755 MHz | 5795 MHz |
| N40M Mode | 14 | 14 |

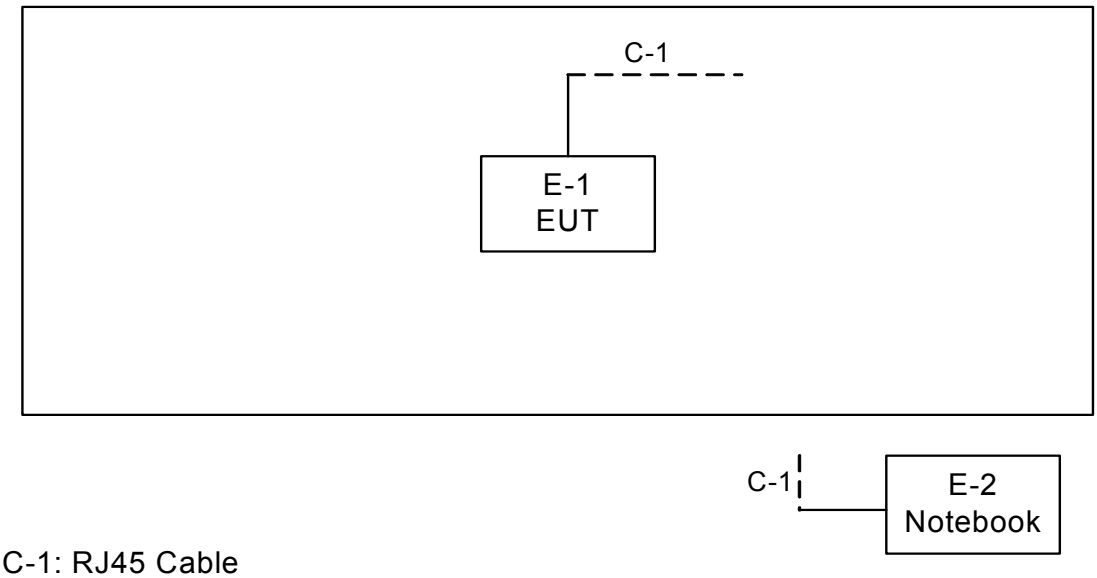
### 3.4 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

**Conducted Mode:**




C-1: RJ45 Cable

**Radiated Mode:**




C-1: RJ45 Cable

### 3.5 DESCRIPTION OF SUPPORT UNITS

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

| Item | Equipment | Mfr/Brand | Model/Type No. | FCC /IC ID | Series No. | Note |
|---|---|---|---|---|---|---|
| E-1 | Wireless LAN Access Point | HUAWEI | AP7110DN-AGN | FCC ID:QISAP7110DNAGN<br>IC:6369A-AP7110DNAGN | N/A | EUT |
| E-2 | Notebook | HP | 2540p | N/A | PD9622ANHU | |

| Item | Shielded Type | Ferrite Core | Length | Note |
|---|---|---|---|---|
| - | - | - | - | - |

Note:

(1) The support equipment was authorized by Declaration of Confirmation.
(2) For detachable type I/O cable should be specified the length in m in『Length』column.

# 4. EMC EMISSION TEST

## 4.1 CONDUCTED EMISSION MEASUREMENT

### 4.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

| FREQUENCY (MHz) | Class A (dBuV) | | Class B (dBuV) | | Standard |
|---|---|---|---|---|---|
| | Quasi-peak | Average | Quasi-peak | Average | |
| 0.15 -0.5 | 79.00 | 66.0 | 66 - 56 * | 56 - 46 * | CISPR |
| 0.50 -5.0 | 73.00 | 60.00 | 56.00 | 46.00 | CISPR |
| 5.0 -30.0 | 73.00 | 60.00 | 60.00 | 50.00 | CISPR |

| | | | | | |
|---|---|---|---|---|---|
| 0.15 -0.5 | 79.00 | 66.00 | 66 - 56 * | 56 - 46 * | FCC |
| 0.50 -5.0 | 73.00 | 60.00 | 56.00 | 46.00 | FCC |
| 5.0 -30.0 | 73.00 | 60.00 | 60.00 | 50.00 | FCC |

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

### 4.1.2 MEASUREMENT INSTRUMENTS LIST AND SETTING

| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Last Calibration | Next Calibration |
|---|---|---|---|---|---|---|
| 1 | LISN | EMCO | 3816/2 | 00052765 | May.26.2012 | May.04.2013 |
| 2 | LISN | R&S | ENV216 | 100087 | May.26.2012 | May.04.2013 |
| 3 | Test Cable | N/A | C_17 | N/A | Mar.18.2012 | Mar.28.2013 |
| 4 | EMI TEST RECEIVER | R&S | ESCS30 | 826547/022 | May.26.2012 | May.04.2013 |
| 5 | 50Ω Terminator | SHX | TF2-3G-A | 08122902 | May.26.2012 | May.04.2013 |

Remark: “N/A” denotes no model name, serial no. or calibration specified.
All calibration period of Equipment List is One Year.

The following table is the setting of the receiver

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

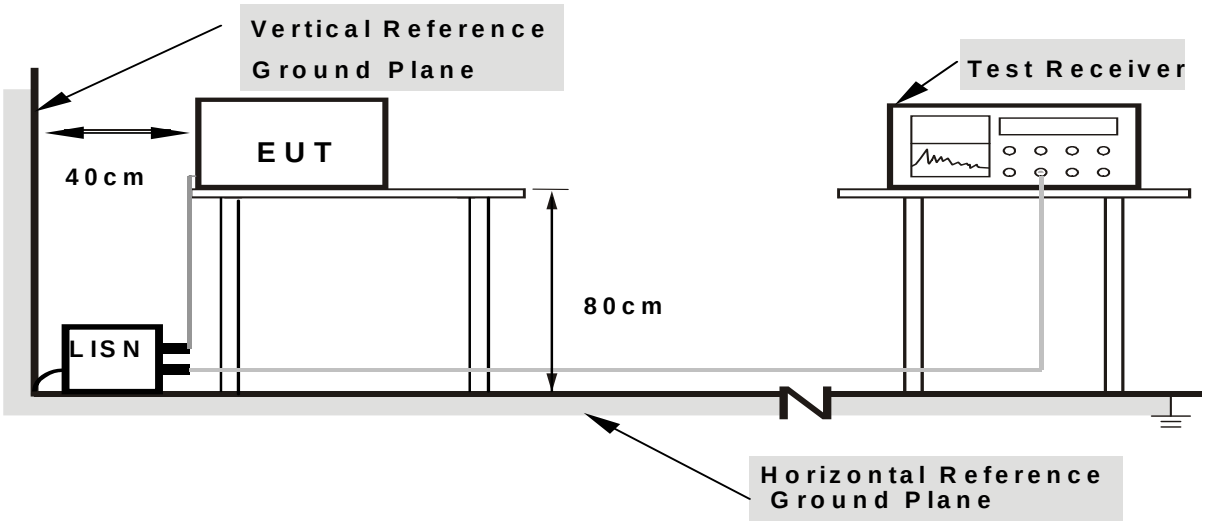
### 4.1.3 TEST PROCEDURE

a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN at least 80 cm from nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

### 4.1.4 DEVIATION FROM TEST STANDARD

No deviation

### 4.1.5 TEST SETUP




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

### 4.1.6 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.
The EUT was programmed to be in continuously transmitting/Normal Link mode.

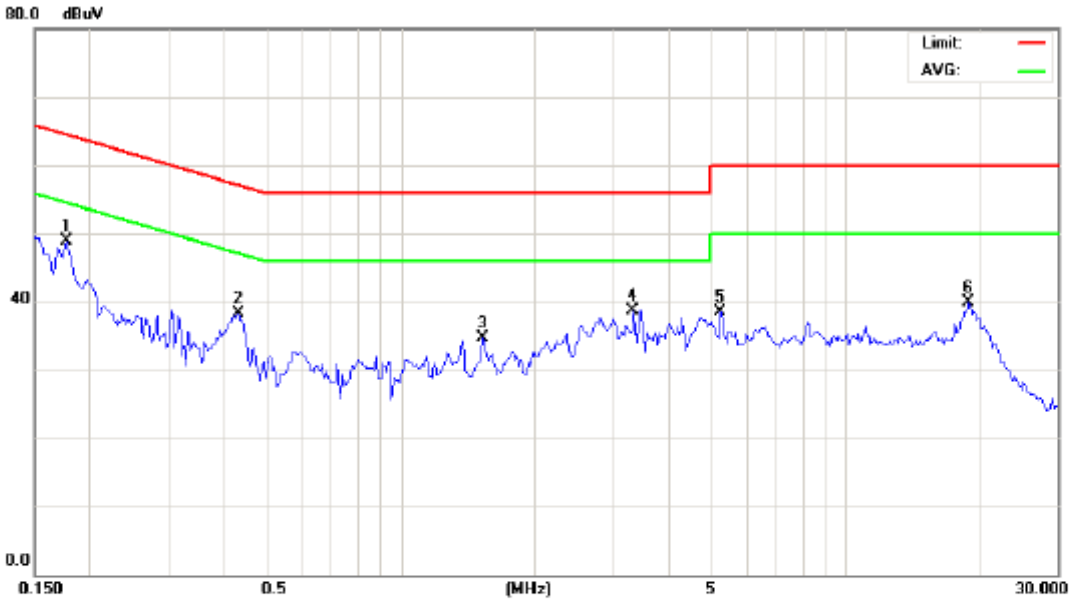
### 4.1.7 TEST RESULTS

Remark

(1) All readings are QP Mode value unless otherwise stated AVG in column of『Note』. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform。In this case, a " * " marked in AVG Mode column of Interference Voltage Measured。

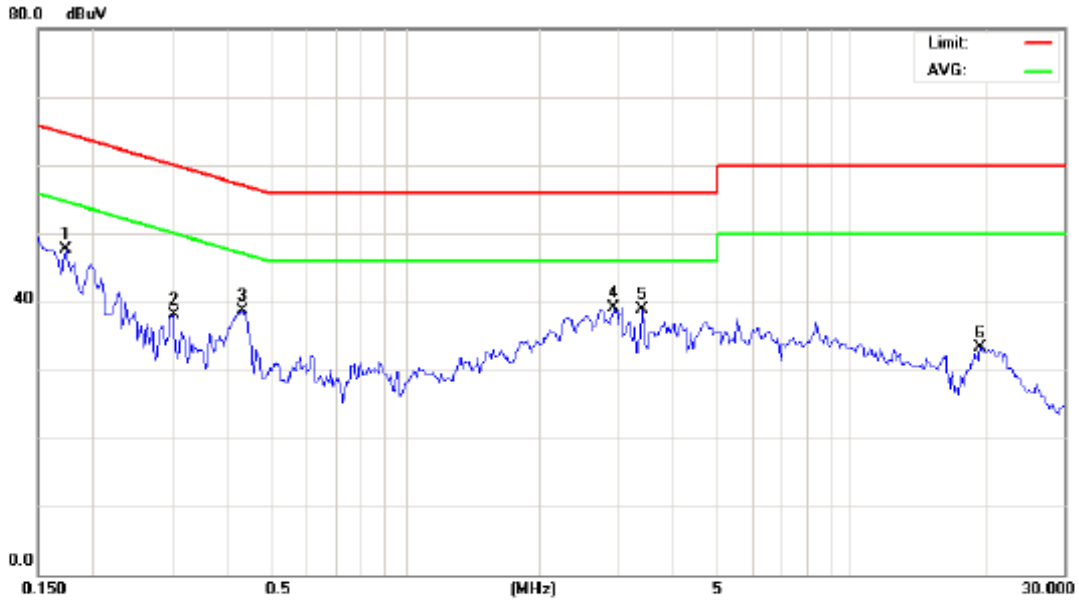
(2) Measuring frequency range from 150KHz to 30MHz。

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010hPa | Test Power ： | AC 120V/60Hz |
| Test Mode ： | Normal Link – Worst case(3TX) | Phase: | Line |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | * | 0.1773 | 39.42 | 9.58 | 49.00 | 64.61 | -15.61 | peak | |
| 2 | | 0.4312 | 28.66 | 9.64 | 38.30 | 57.23 | -18.93 | peak | |
| 3 | | 1.5327 | 24.96 | 9.76 | 34.72 | 56.00 | -21.28 | peak | |
| 4 | | 3.3320 | 28.92 | 9.86 | 38.78 | 56.00 | -17.22 | peak | |
| 5 | | 5.2460 | 28.60 | 9.96 | 38.56 | 60.00 | -21.44 | peak | |
| 6 | | 19.0000 | 29.48 | 10.42 | 39.90 | 60.00 | -20.10 | peak | |

| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010hPa | Test Power ： | AC 120V/60Hz |
| Test Mode ： | Normal Link – Worst case(3TX) | Phase: | Neutral |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 0.1733 | 38.20 | 9.54 | 47.74 | 64.80 | -17.06 | peak | |
| 2 | | 0.3023 | 28.50 | 9.63 | 38.13 | 60.18 | -22.05 | peak | |
| 3 | | 0.4312 | 29.10 | 9.67 | 38.77 | 57.23 | -18.46 | peak | |
| 4 | * | 2.9390 | 29.18 | 9.94 | 39.12 | 56.00 | -16.88 | peak | |
| 5 | | 3.3984 | 29.02 | 9.96 | 38.98 | 56.00 | -17.02 | peak | |
| 6 | | 19.5077 | 22.94 | 10.45 | 33.39 | 60.00 | -26.61 | peak | |

## 4.2 RADIATED EMISSION MEASUREMENT

### 4.2.1 RADIATED EMISSION LIMITS (Frequency Range 9KHz-1000MHz)

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

| Frequencies (MHz) | Field Strength (micorvolts/meter) | Measurement Distance (meters) |
|---|---|---|
| 0.009~0.490 | 2400/F(KHz) | 300 |
| 0.490~1.705 | 24000/F(KHz) | 30 |
| 1.705~30.0 | 30 | 30 |
| 30~88 | 100 | 3 |
| 88~216 | 150 | 3 |
| 216~960 | 200 | 3 |
| Above 960 | 500 | 3 |

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

| FREQUENCY (MHz) | (dBuV/m) (at 1.5m) | |
|---|---|---|
| | PEAK | AVERAGE |
| Above 1000 | 80 | 60 |

Notes:

(1) The limit for radiated test was performed according to FCC PART 15C.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).
The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = 20 log (3m/1.5m) dB ;
Limit line = specific limits (dBuV) + 6 dB

FREQUENCY RANGE OF RADIATED MEASUREMENT (For unintentional radiators)

| Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz) | Range (MHz) |
|---|---|
| Below 1.705 | 30 |
| 1.705 – 108 | 1000 |
| 108 – 500 | 2000 |
| 500 – 1000 | 5000 |
| Above 1000 | 5$^{th}$ harmonic of the highest frequency or 40 GHz, whichever is lower |

### 4.2.2 MEASUREMENT INSTRUMENTS LIST ANS SETTING

| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Last Calibration | Next Calibration |
|---|---|---|---|---|---|---|
| 1 | Antenna | Schwarbeck | VULB9160 | 9160-3232 | Jun .04.2012 | May.25.2013 |
| 2 | Amplifier | HP | 8447D | 2944A09673 | May.26.2012 | May.04.2013 |
| 3 | Test Receiver | R&S | ESCI | 100382 | May.26.2012 | May.04.2013 |
| 4 | Test Cable | N/A | C-01_CB03 | N/A | Jul.01.2011 | Jul.01.2013 |
| 5 | Antenna | ETS | 3115 | 00075789 | May.26.2012 | May.25.2013 |
| 6 | Amplifier | Agilent | 8449B | 3008A02274 | May.26.2012 | May.04.2013 |
| 7 | Spectrum | Agilent | E4408B | US39240143 | Nov.25.2011 | Nov.25.2012 |
| 8 | Test Cable | HUBER+SUHNER | C-45 | N/A | May.04.2012 | May.02.2013 |
| 9 | Controller | CT | SC100 | N/A | N/A | N/A |
| 10 | Active Loop Antenna | R&S | HFH2-Z2 | 830749/020 | May.26.2012 | May.04.2013 |
| 11 | Broad-Band Horn Antenna | Schwarzbeck | BBHA 9170 | 9170319 | Oct.13.2012 | Oct.13.2013 |
| 12 | Horn Antenna | EMCO | 3115 | 9605-4803 | May.26.2012 | May.25.2013 |

Remark: “N/A” denotes no model name, serial no. or calibration specified.
All calibration period of Equipment List is One Year.

| Spectrum Parameter | Setting |
|---|---|
| Attenuation | Auto |
| Start Frequency | 1000 MHz |
| Stop Frequency | 10th carrier harmonic |
| RB / VB (Emission in restricted band) | 1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average |

| Receiver Parameter | Setting |
|---|---|
| Attenuation | Auto |
| Start ~ Stop Frequency | 9kHz~90kHz for PK/AVG detector |
| Start ~ Stop Frequency | 90kHz~110kHz for QP detector |
| Start ~ Stop Frequency | 110kHz~490kHz for PK/AVG detector |
| Start ~ Stop Frequency | 490kHz~30MHz for QP detector |
| Start ~ Stop Frequency | 30MHz~1000MHz for QP detector |

### 4.2.3 TEST PROCEDURE

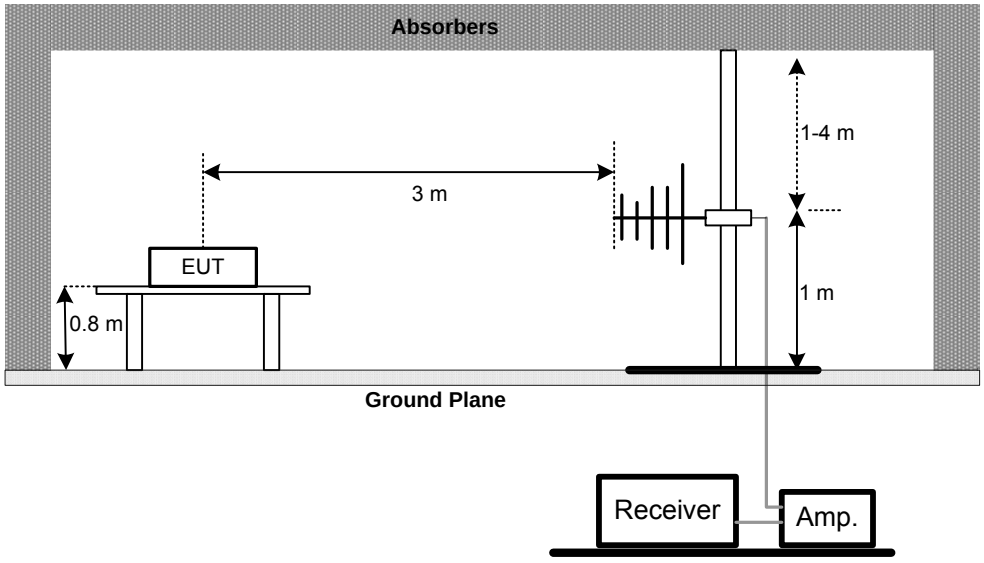
a. The measuring distance of at 1.5 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

### 4.2.4 DEVIATION FROM TEST STANDARD

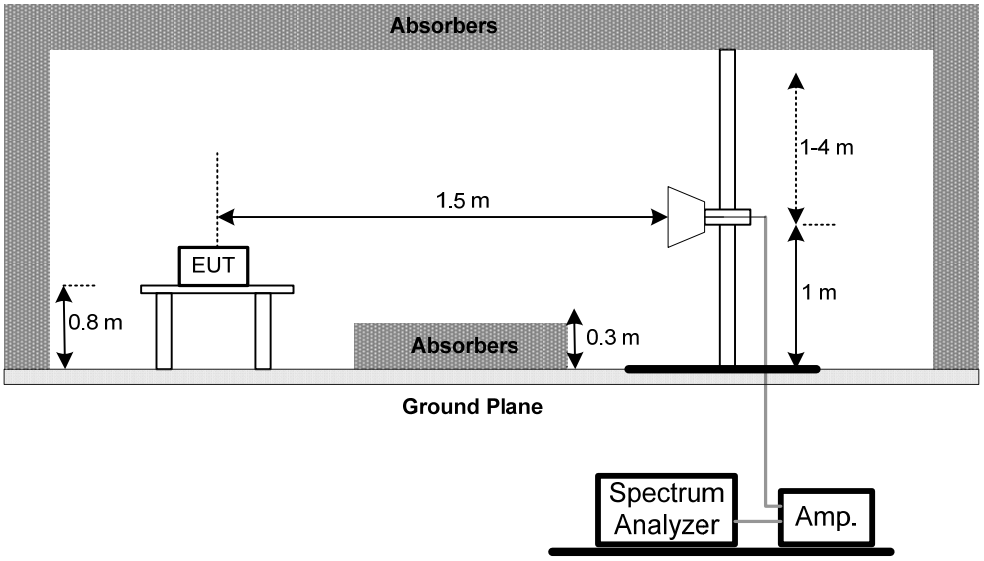
No deviation

### 4.2.5 TEST SETUP

(A) Radiated Emission Test Set-Up Frequency Below 1 GHz




(B) Radiated Emission Test Set-Up Frequency Above 1 GHz




### 4.2.6 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

### 4.2.7 TEST RESULTS (BELOW 30MHZ)

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX Mode – Worst case(3TX) | | |

| Freq. (MHz) | Ant. 0°/90° | Reading(RA) (dBuV) | Corr.Factor(CF) (dB) | Measured(FS) (dBuV/m) | Limits(QP) (dBuV/m) | Margin (dB) | Note |
|---|---|---|---|---|---|---|---|
| 0.091 | 0° | 29.78 | 21.58 | 51.36 | 108.44 | -57.08 | QP |
| 0.098 | 0° | 43.52 | 21.45 | 64.97 | 107.82 | -42.85 | QP |
| 0.107 | 0° | 24.82 | 21.29 | 46.11 | 107.06 | -60.95 | QP |
| 0.108 | 0° | 22.71 | 21.27 | 43.98 | 106.93 | -62.95 | QP |
| 0.522 | 0° | 22.46 | 19.87 | 42.33 | 73.25 | -30.92 | QP |
| 1.288 | 0° | 25.76 | 19.57 | 45.33 | 65.41 | -20.08 | QP |

| Freq. (MHz) | Ant. 0°/90° | Reading(RA) (dBuV) | Corr.Factor(CF) (dB) | Measured(FS) (dBuV/m) | Limits(QP) (dBuV/m) | Margin (dB) | Note |
|---|---|---|---|---|---|---|---|
| 0.0942 | 90° | 27.28 | 21.52 | 48.80 | 108.12 | -59.33 | QP |
| 0.1051 | 90° | 25.36 | 21.32 | 46.68 | 107.17 | -60.49 | QP |
| 0.1097 | 90° | 27.52 | 21.24 | 48.76 | 106.80 | -58.04 | QP |
| 0.5138 | 90° | 20.82 | 19.84 | 40.66 | 73.39 | -32.72 | QP |
| 0.6245 | 90° | 22.39 | 20.20 | 42.59 | 71.69 | -29.10 | QP |
| 1.2140 | 90° | 21.93 | 19.58 | 41.51 | 65.92 | -24.41 | QP |

Remark：

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

(2) Distance extrapolation factor = 40 log (specific distance / test distance) (dB);。

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

### 4.2.8 TEST RESULTS (BETWEEN 30 – 1000 MHZ)

Remark：

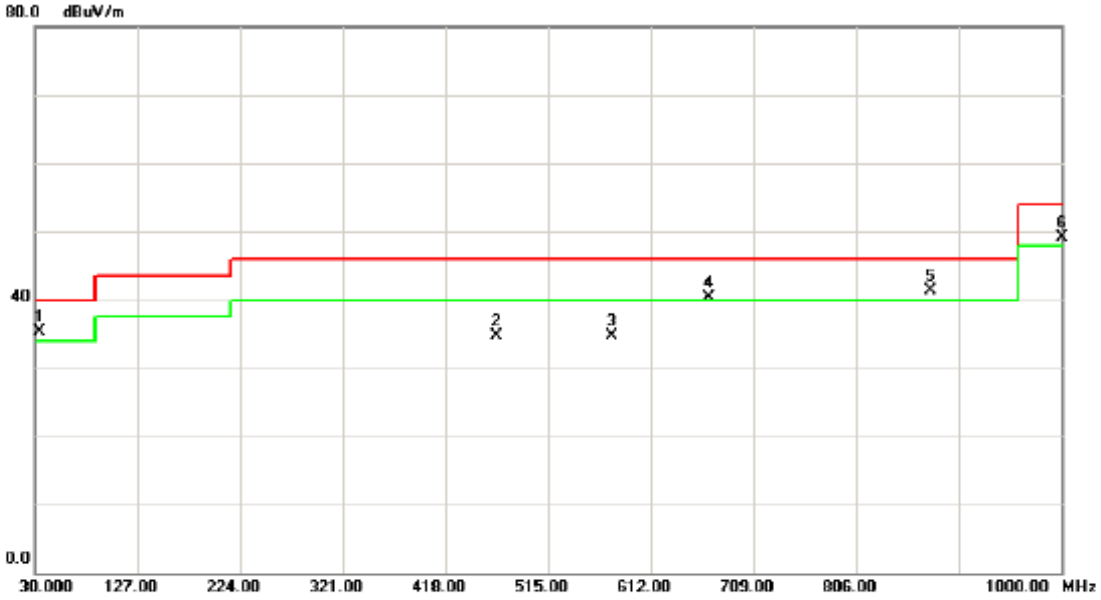
(1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz；SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time = 0.3 sec./MHz。

(2) All readings are Peak unless otherwise stated QP in column of 『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz。

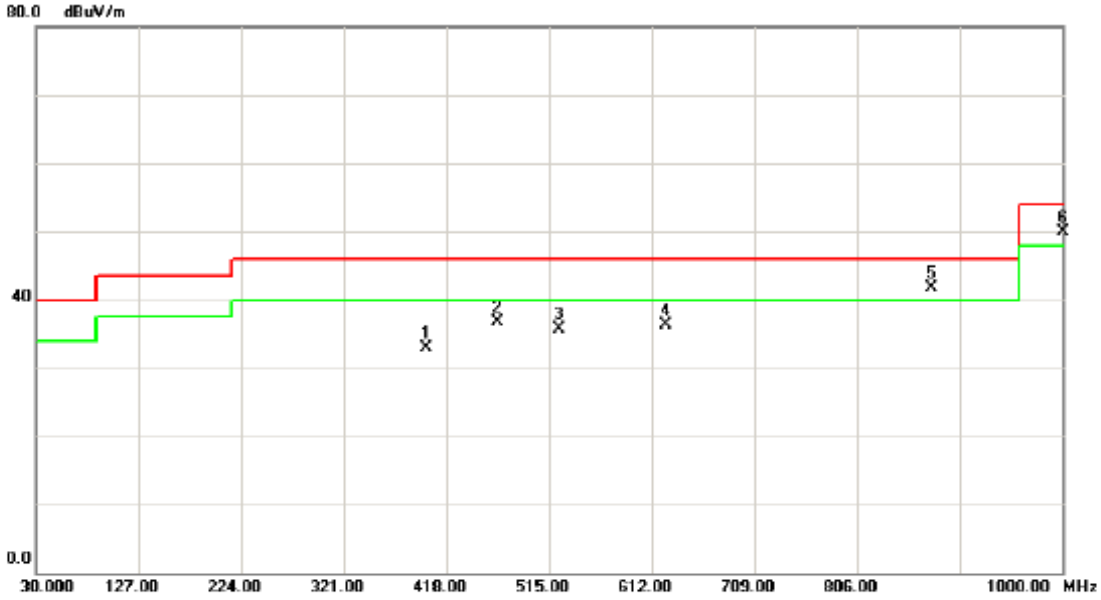
(4) If the peak scan value lower limit more than 20dB, then this signal data does not show in table。

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX A Mode 5745MHz – Worst case(3TX) | Phase: | Vertical |



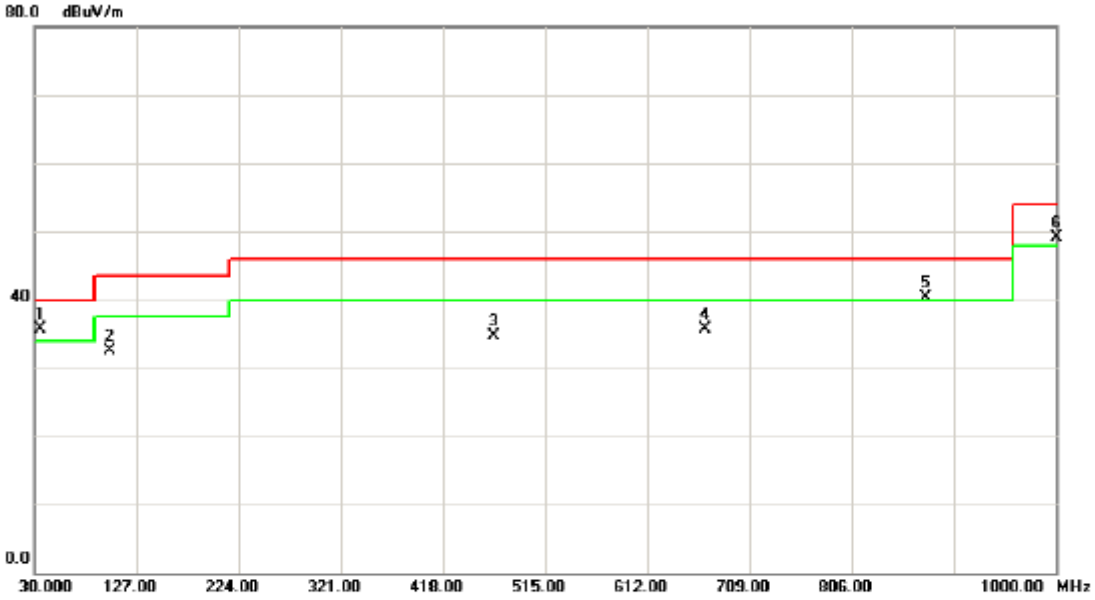

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 34.8500 | 49.34 | -14.08 | 35.26 | 40.00 | -4.74 | peak | |
| 2 | | 466.5000 | 48.26 | -13.54 | 34.72 | 46.00 | -11.28 | peak | |
| 3 | | 575.1400 | 45.54 | -10.85 | 34.69 | 46.00 | -11.31 | peak | |
| 4 | ! | 667.2900 | 49.09 | -8.79 | 40.30 | 46.00 | -5.70 | peak | |
| 5 | ! | 875.8400 | 46.62 | -5.38 | 41.24 | 46.00 | -4.76 | peak | |
| 6 | ! | 1000.000 | 52.06 | -2.99 | 49.07 | 54.00 | -4.93 | peak | |

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX A Mode 5745MHz – Worst case(3TX) | Phase: | Horizontal |



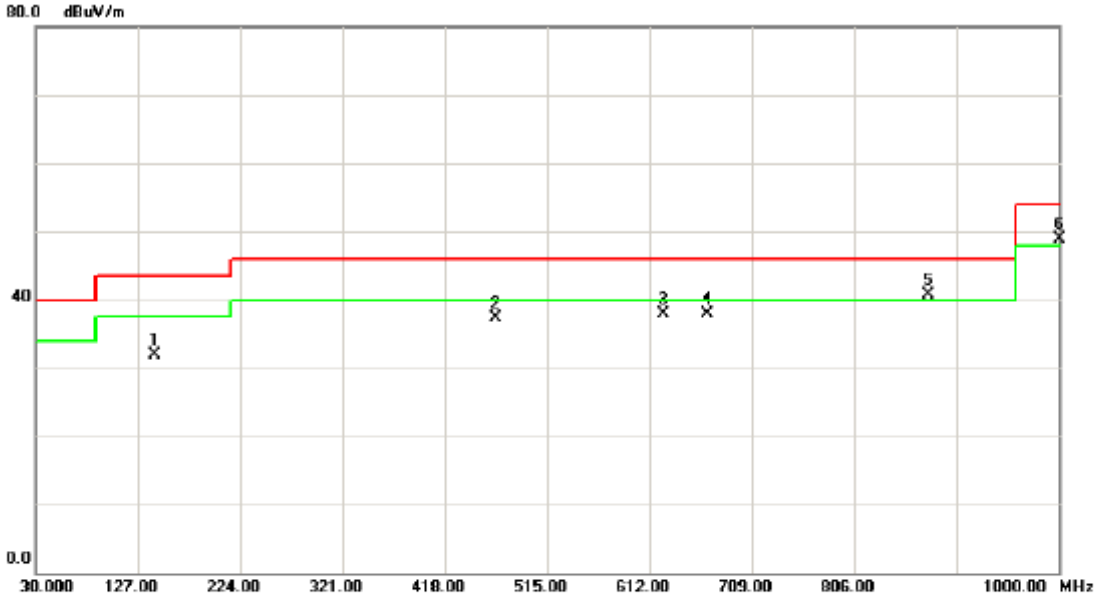

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 399.5700 | 47.01 | -14.12 | 32.89 | 46.00 | -13.11 | peak | |
| 2 | | 466.5000 | 50.31 | -13.54 | 36.77 | 46.00 | -9.23 | peak | |
| 3 | | 524.7000 | 47.27 | -11.63 | 35.64 | 46.00 | -10.36 | peak | |
| 4 | | 625.5800 | 46.60 | -10.23 | 36.37 | 46.00 | -9.63 | peak | |
| 5 | ! | 875.8400 | 47.06 | -5.38 | 41.68 | 46.00 | -4.32 | peak | |
| 6 | * | 1000.000 | 52.85 | -2.99 | 49.86 | 54.00 | -4.14 | peak | |

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX A Mode 5785MHz – Worst case(3TX) | Phase: | Vertical |



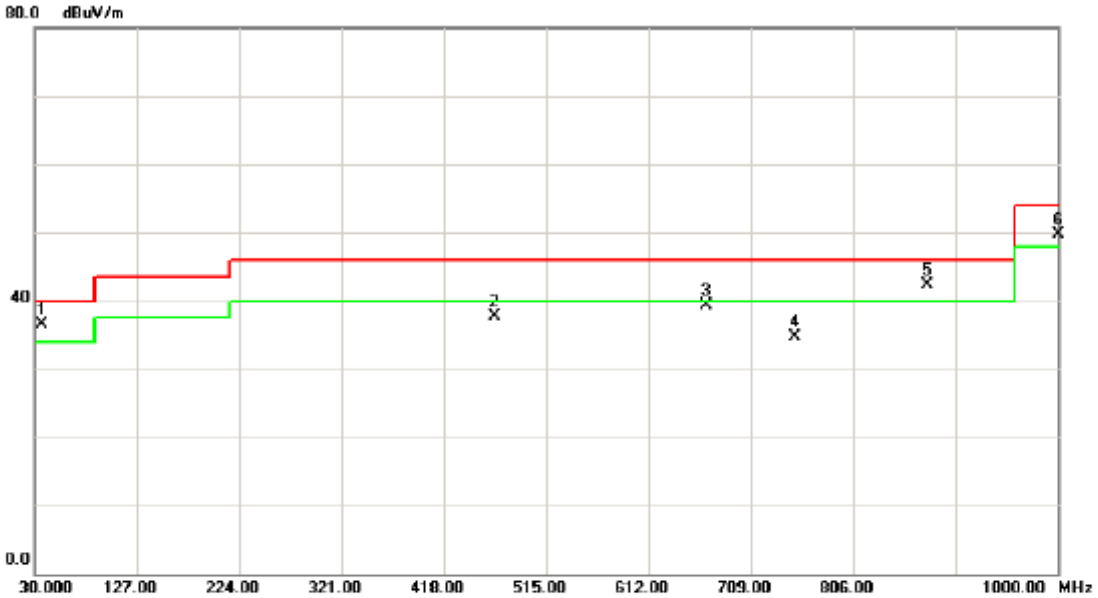

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 35.8200 | 49.68 | -14.06 | 35.62 | 40.00 | -4.38 | peak | |
| 2 | | 101.7800 | 56.11 | -23.58 | 32.53 | 43.50 | -10.97 | peak | |
| 3 | | 466.5000 | 48.26 | -13.54 | 34.72 | 46.00 | -11.28 | peak | |
| 4 | | 667.2900 | 44.59 | -8.79 | 35.80 | 46.00 | -10.20 | peak | |
| 5 | ! | 875.8400 | 45.62 | -5.38 | 40.24 | 46.00 | -5.76 | peak | |
| 6 | ! | 1000.000 | 52.16 | -2.99 | 49.17 | 54.00 | -4.83 | peak | |

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX A Mode 5785MHz – Worst case(3TX) | Phase: | Horizontal |



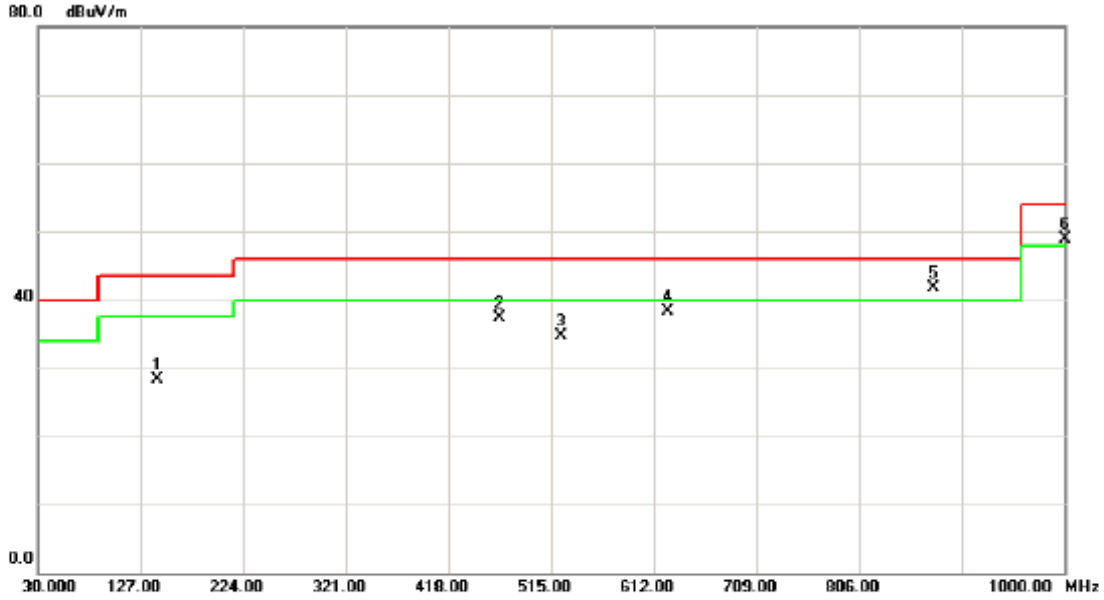

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 143.4900 | 55.00 | -23.13 | 31.87 | 43.50 | -11.63 | peak | |
| 2 | | 466.5000 | 50.81 | -13.54 | 37.27 | 46.00 | -8.73 | peak | |
| 3 | | 625.5800 | 48.10 | -10.23 | 37.87 | 46.00 | -8.13 | peak | |
| 4 | | 667.2900 | 46.63 | -8.79 | 37.84 | 46.00 | -8.16 | peak | |
| 5 | ! | 875.8400 | 46.06 | -5.38 | 40.68 | 46.00 | -5.32 | peak | |
| 6 | * | 1000.000 | 51.85 | -2.99 | 48.86 | 54.00 | -5.14 | peak | |

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX A Mode 5825MHz – Worst case(3TX) | Phase: | Vertical |



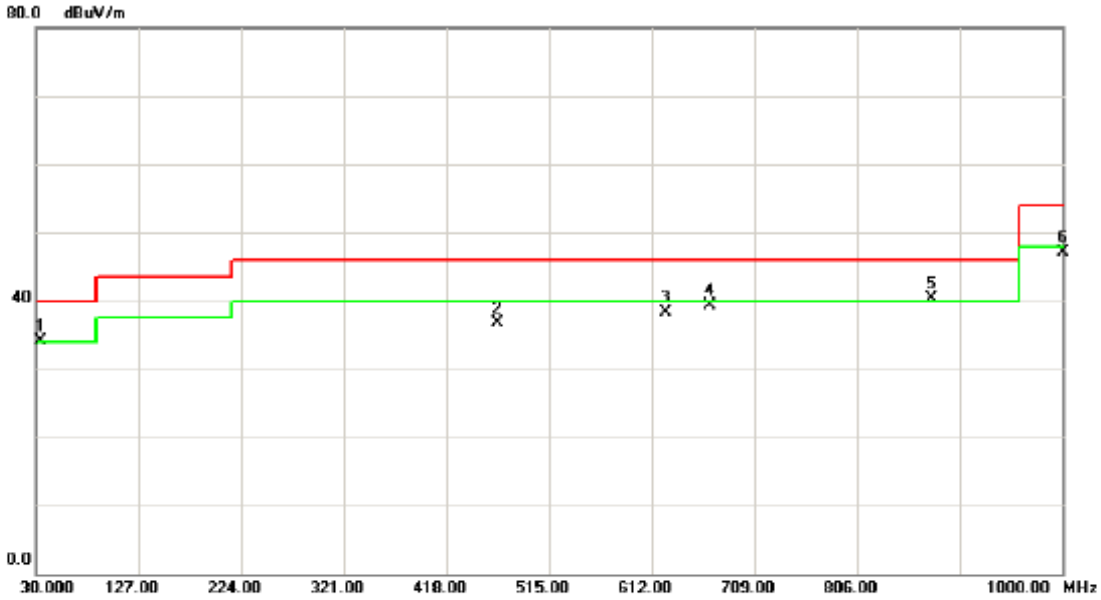

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 36.7900 | 50.66 | -14.20 | 36.46 | 40.00 | -3.54 | peak | |
| 2 | | 466.5000 | 51.26 | -13.54 | 37.72 | 46.00 | -8.28 | peak | |
| 3 | | 667.2900 | 48.09 | -8.79 | 39.30 | 46.00 | -6.70 | peak | |
| 4 | | 750.7100 | 43.21 | -8.42 | 34.79 | 46.00 | -11.21 | peak | |
| 5 | ! | 875.8400 | 47.62 | -5.38 | 42.24 | 46.00 | -3.76 | peak | |
| 6 | ! | 1000.000 | 52.66 | -2.99 | 49.67 | 54.00 | -4.33 | peak | |

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX A Mode 5825MHz – Worst case(3TX) | Phase: | Horizontal |



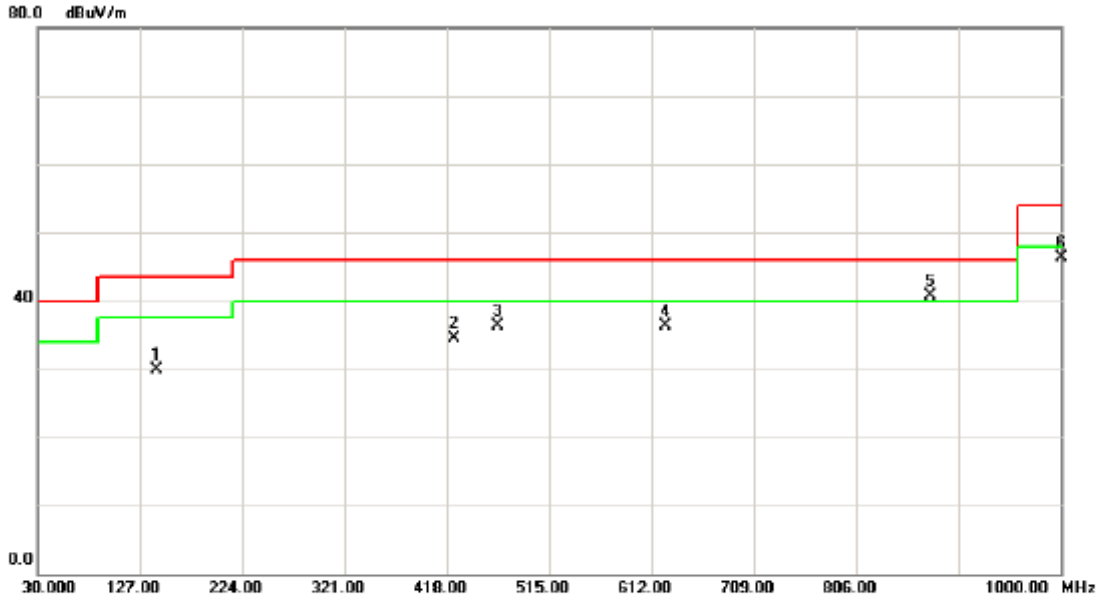

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 143.4900 | 51.50 | -23.13 | 28.37 | 43.50 | -15.13 | peak | |
| 2 | | 466.5000 | 50.81 | -13.54 | 37.27 | 46.00 | -8.73 | peak | |
| 3 | | 524.7000 | 46.27 | -11.63 | 34.64 | 46.00 | -11.36 | peak | |
| 4 | | 625.5800 | 48.60 | -10.23 | 38.37 | 46.00 | -7.63 | peak | |
| 5 | * | 875.8400 | 47.06 | -5.38 | 41.68 | 46.00 | -4.32 | peak | |
| 6 | ! | 1000.000 | 51.85 | -2.99 | 48.86 | 54.00 | -5.14 | peak | |

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | RX Mode – Worst case(3TX) | Phase: | Vertical |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | ! | 33.8800 | 48.22 | -14.11 | 34.11 | 40.00 | -5.89 | peak | |
| 2 | | 466.5000 | 50.26 | -13.54 | 36.72 | 46.00 | -9.28 | peak | |
| 3 | | 625.5800 | 48.54 | -10.23 | 38.31 | 46.00 | -7.69 | peak | |
| 4 | | 667.2900 | 48.09 | -8.79 | 39.30 | 46.00 | -6.70 | peak | |
| 5 | * | 875.8400 | 45.62 | -5.38 | 40.24 | 46.00 | -5.76 | peak | |
| 6 | | 1000.000 | 50.16 | -2.99 | 47.17 | 54.00 | -6.83 | peak | |

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | RX Mode – Worst case(3TX) | Phase: | Horizontal |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 143.4900 | 53.00 | -23.13 | 29.87 | 43.50 | -13.63 | peak | |
| 2 | | 424.7900 | 48.66 | -14.09 | 34.57 | 46.00 | -11.43 | peak | |
| 3 | | 466.5000 | 49.81 | -13.54 | 36.27 | 46.00 | -9.73 | peak | |
| 4 | | 625.5800 | 46.60 | -10.23 | 36.37 | 46.00 | -9.63 | peak | |
| 5 | * | 875.8400 | 46.06 | -5.38 | 40.68 | 46.00 | -5.32 | peak | |
| 6 | | 1000.000 | 49.35 | -2.99 | 46.36 | 54.00 | -7.64 | peak | |

### 4.2.9 TEST RESULTS (ABOVE 1000 MHZ)

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX A Mode 5745MHz – Worst case(3TX) | | |

| Freq. | Ant.Pol. | Reading | | Ant./CF | Act. | | Limit | | Note |
|---|---|---|---|---|---|---|---|---|---|
| | | Peak | AV | | Peak | AV | Peak | AV | |
| (MHz) | H/V | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | |
| 5725.00 | V | 32.18 | 18.60 | 41.90 | 74.08 | 60.50 | 99.19 | 88.62 | X/E |
| **5746.25** | **V** | **77.20** | **66.63** | **41.99** | **119.19** | **108.62** | | | **X/F** |
| 11490.13 | V | 40.56 | 29.01 | 14.25 | 54.81 | 43.26 | 80.00 | 60.00 | X/H |

Remark：

(1) All readings are Peak unless otherwise stated QP in column of 『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

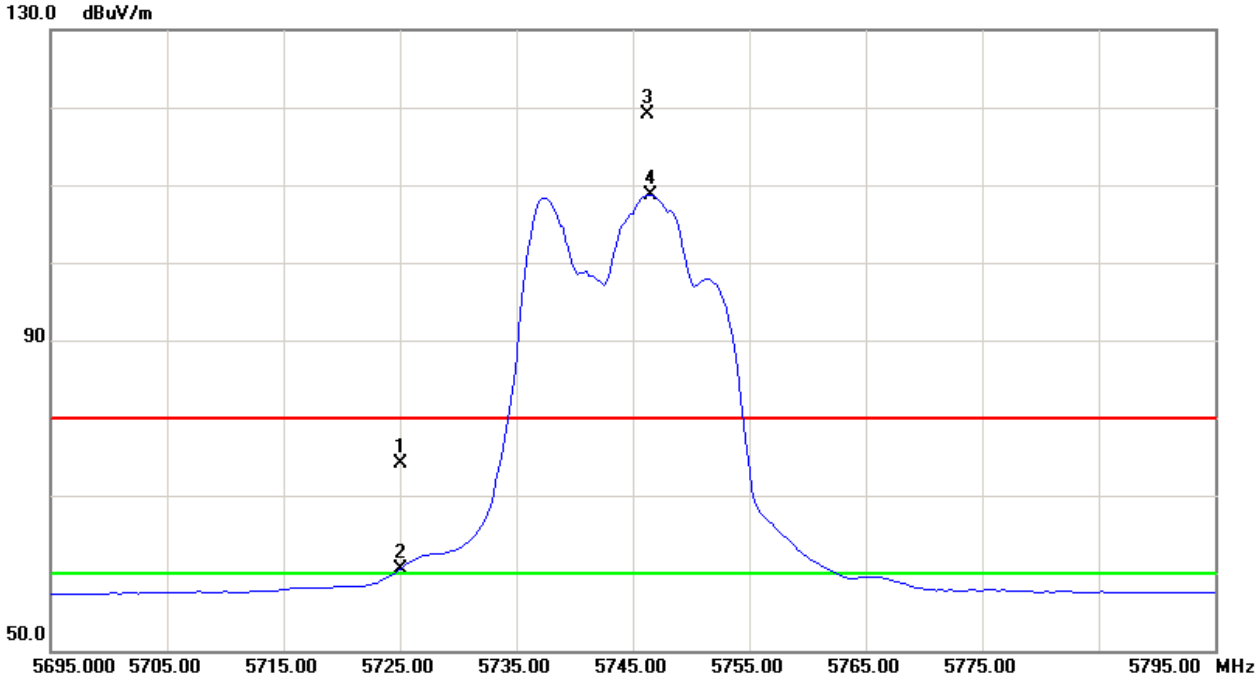
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

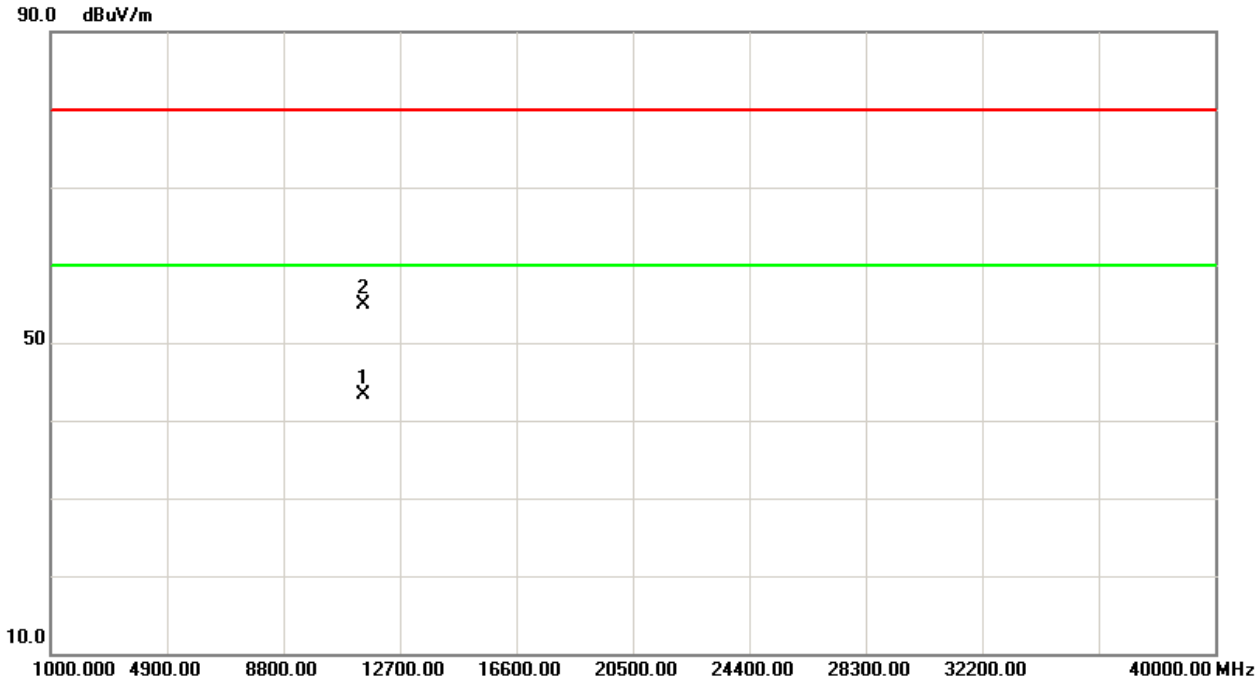
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = 20 log (3m/1.5m) dB ;
Limit line = specific limits (dBuV) + 6 dB

**TX CH149 (Above 1000 MHz, Vertical)**



| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX A Mode 5745MHz – Worst case(3TX) | | |

| Freq. | Ant.Pol. | Reading | | Ant./CF | Act. | | Limit | | Note |
|---|---|---|---|---|---|---|---|---|---|
| | | Peak | AV | | Peak | AV | Peak | AV | |
| (MHz) | H/V | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | |
| 5725.00 | H | 26.79 | 16.58 | 41.90 | 68.69 | 58.48 | 91.02 | 82.00 | X/E |
| **5744.25** | **H** | **69.04** | **60.02** | **41.98** | **111.02** | **102.00** | | | **X/F** |
| 11490.86 | H | 39.57 | 28.89 | 14.25 | 53.82 | 43.14 | 80.00 | 60.00 | X/H |

Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

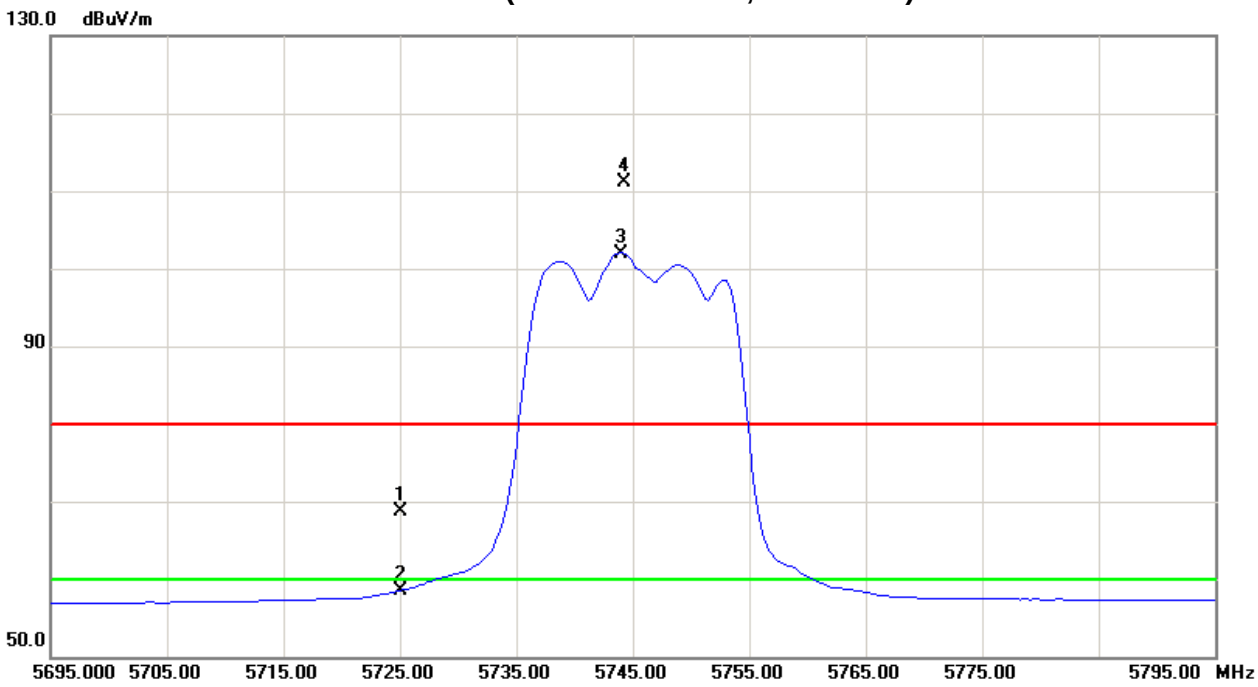
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

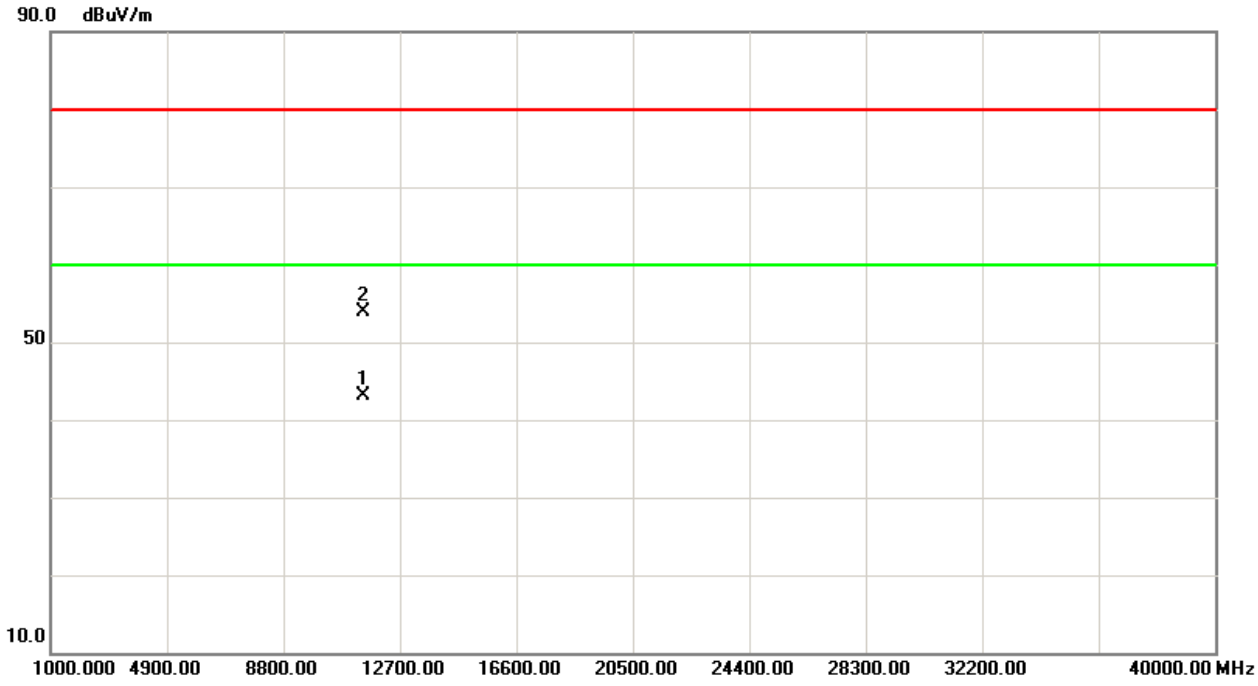
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = 20 log (3m/1.5m) dB ;
Limit line = specific limits (dBuV) + 6 dB

**TX CH149 (Above 1000 MHz, Horizontal)**



| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX A Mode 5785MHz – Worst case(3TX) | | |

| Freq. | Ant.Pol. | Reading | | Ant./CF | Act. | | Limit | | Note |
|---|---|---|---|---|---|---|---|---|---|
| | | Peak | AV | | Peak | AV | Peak | AV | |
| (MHz) | H/V | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | |
| **5789.25** | **V** | **77.49** | **68.69** | **42.15** | **119.64** | **110.84** | | | **X/F** |
| 11570.47 | V | 40.68 | 29.21 | 14.30 | 54.98 | 43.51 | 80.00 | 60.00 | X/H |

Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

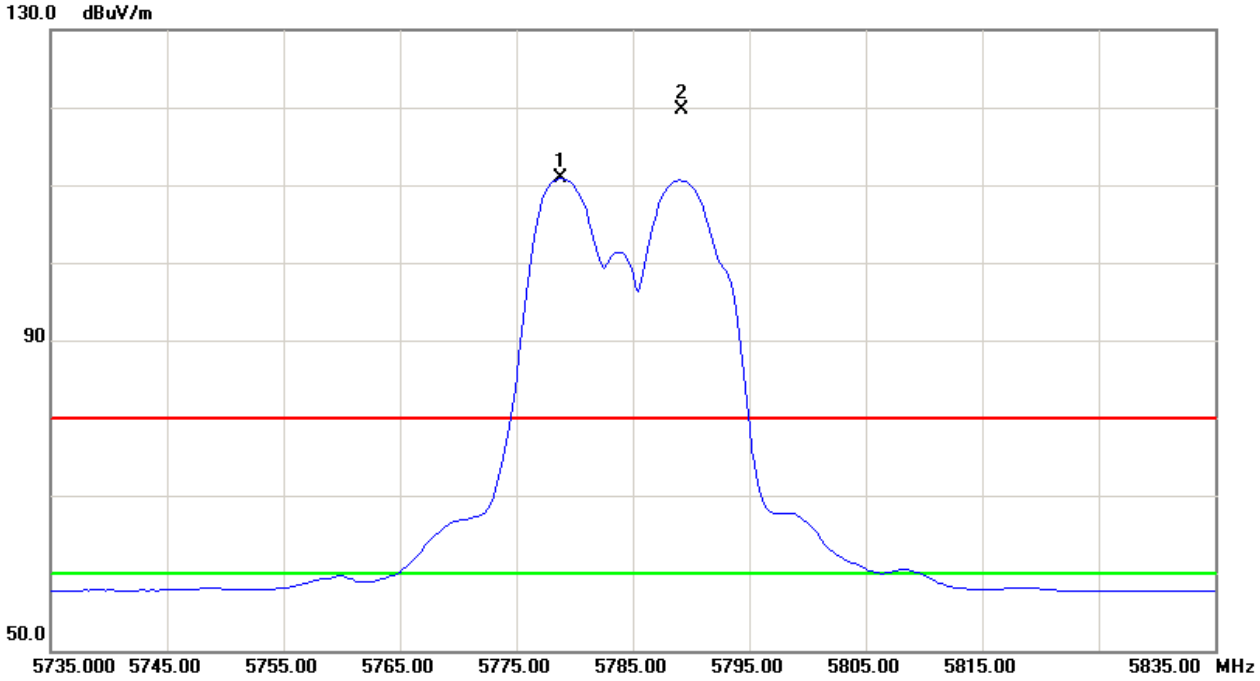
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

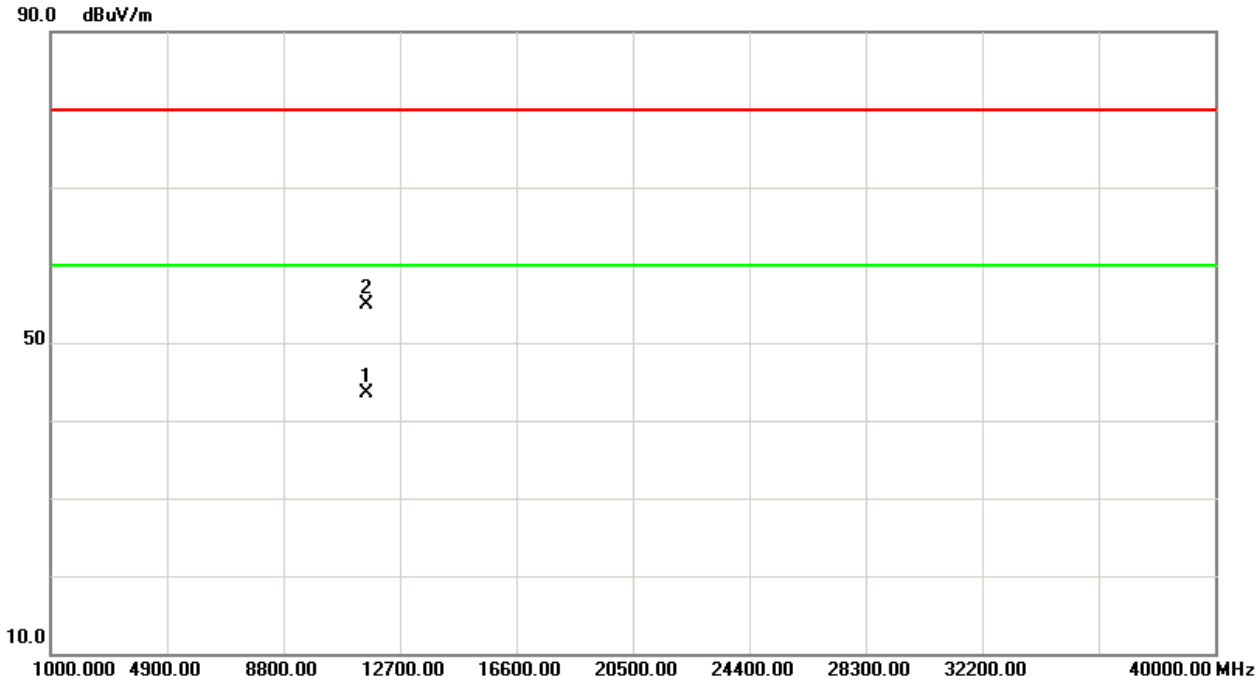
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = 20 log (3m/1.5m) dB ;
Limit line = specific limits (dBuV) + 6 dB

**TX CH157 (Above 1000 MHz, Vertical)**



| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX A Mode 5785MHz – Worst case(3TX) | | |

| Freq. | Ant.Pol. | Reading | | Ant./CF | Act. | | Limit | | Note |
|---|---|---|---|---|---|---|---|---|---|
| | | Peak | AV | | Peak | AV | Peak | AV | |
| (MHz) | H/V | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | |
| **5784.00** | **H** | **69.05** | **60.47** | **42.14** | **111.19** | **102.61** | | | **X/F** |
| 11570.58 | H | 39.52 | 28.61 | 14.30 | 53.82 | 42.91 | 80.00 | 60.00 | X/H |

Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

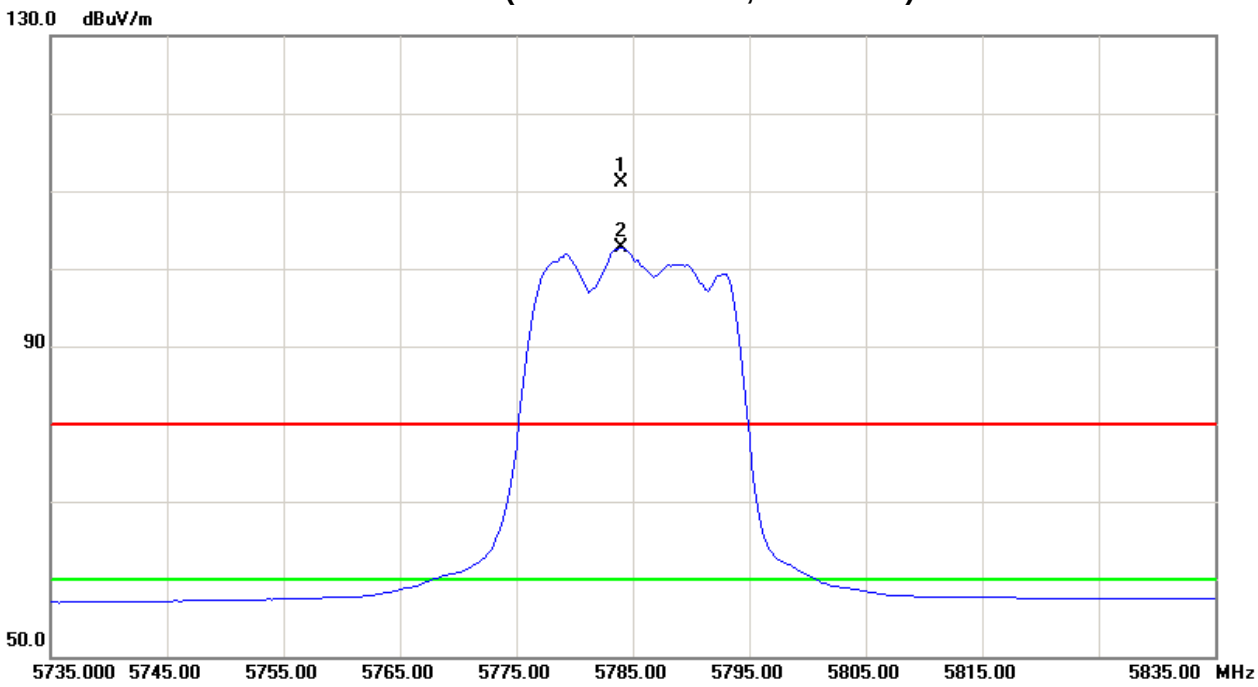
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

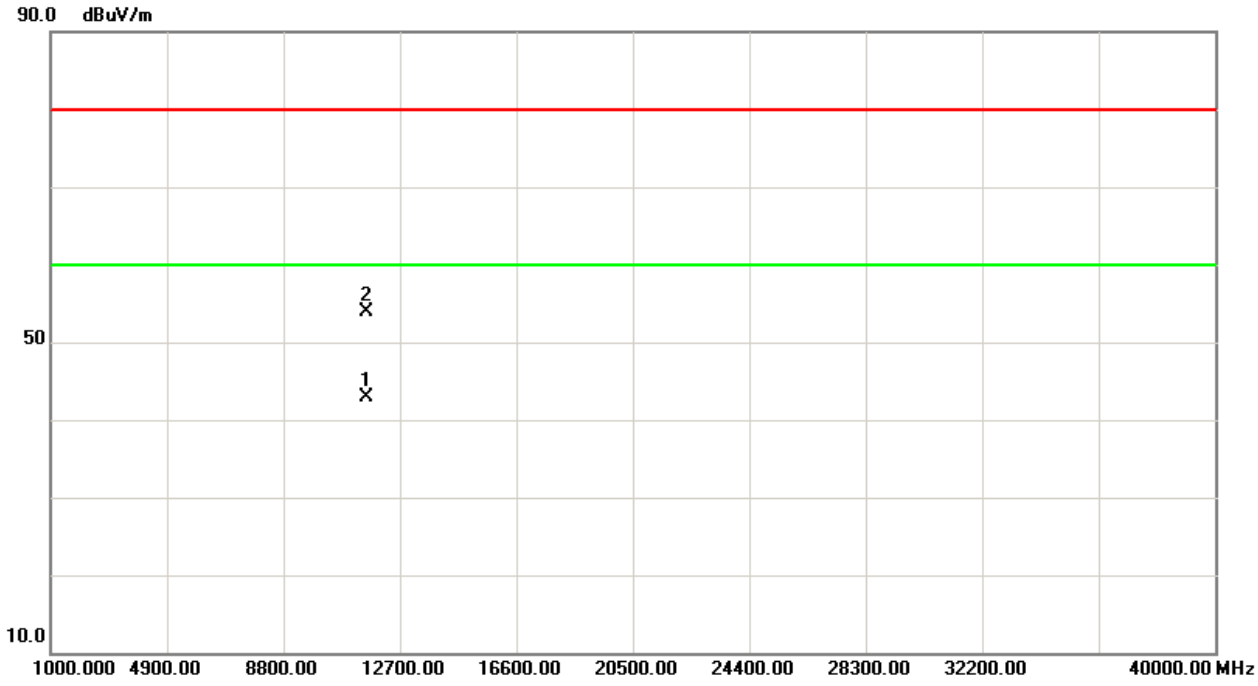
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = 20 log (3m/1.5m) dB ;
Limit line = specific limits (dBuV) + 6 dB

**TX CH157 (Above 1000 MHz, Horizontal)**



| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX A Mode 5825MHz – Worst case(3TX) | | |

| Freq. | Ant.Pol. | Reading | | Ant./CF | Act. | | Limit | | Note |
|---|---|---|---|---|---|---|---|---|---|
| | | Peak | AV | | Peak | AV | Peak | AV | |
| (MHz) | H/V | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | |
| **5818.75** | **V** | **79.83** | **69.35** | **42.27** | **122.10** | **111.62** | | | **X/F** |
| 5850.00 | V | 28.41 | 16.87 | 42.40 | 70.81 | 59.27 | 102.10 | 91.62 | X/E |
| 11650.54 | V | 40.60 | 28.76 | 14.34 | 54.94 | 43.10 | 80.00 | 60.00 | X/H |

Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

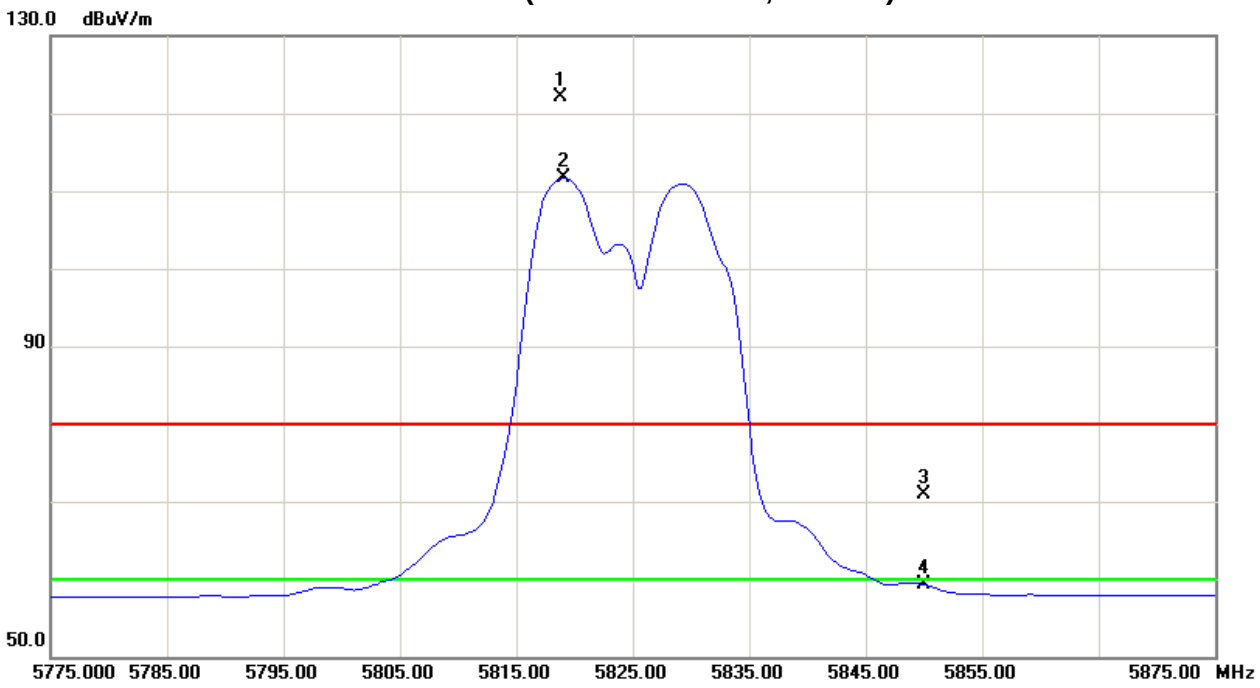
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

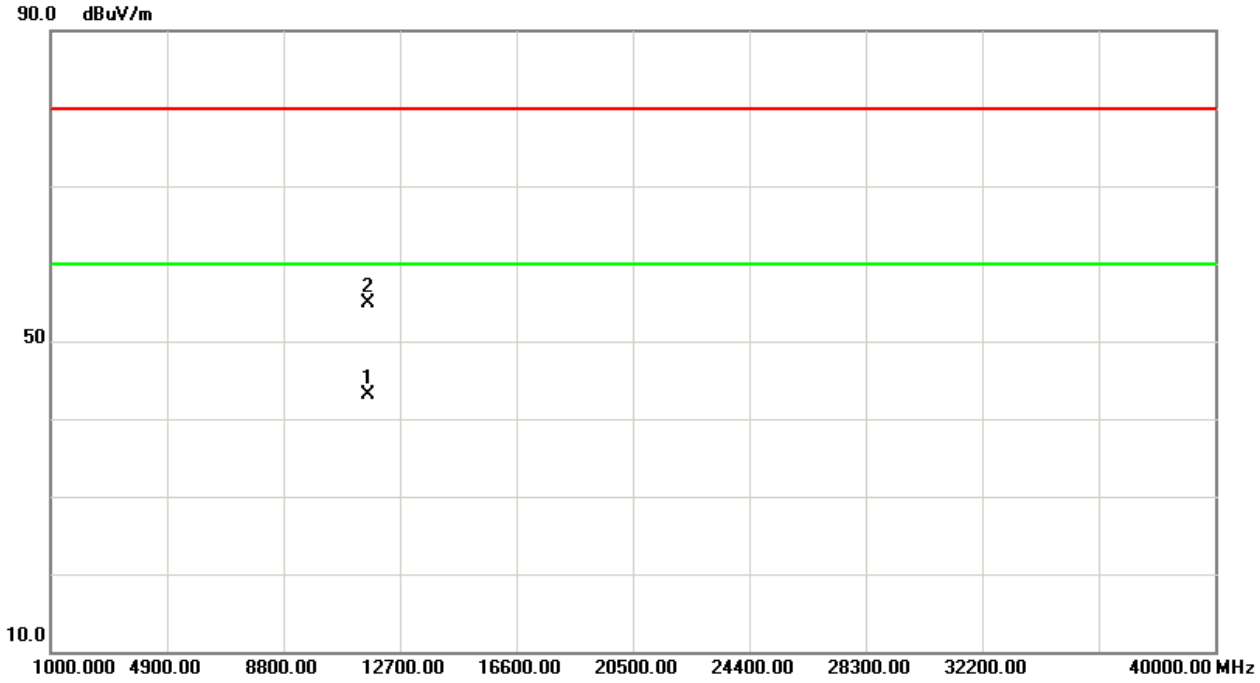
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = 20 log (3m/1.5m) dB ;
Limit line = specific limits (dBuV) + 6 dB

**TX CH165 (Above 1000 MHz, Vertical)**



| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX A Mode 5825MHz – Worst case(3TX) | | |

| Freq. | Ant.Pol. | Reading | | Ant./CF | Act. | | Limit | | Note |
|---|---|---|---|---|---|---|---|---|---|
| | | Peak | AV | | Peak | AV | Peak | AV | |
| (MHz) | H/V | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | |
| **5820.75** | **H** | **69.68** | **61.30** | **42.28** | **111.96** | **103.58** | | | **X/F** |
| 5850.00 | H | 25.22 | 15.41 | 42.40 | 67.62 | 57.81 | 91.96 | 83.58 | X/E |
| 11650.89 | H | 38.57 | 28.12 | 14.34 | 52.91 | 42.46 | 80.00 | 60.00 | X/H |

Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

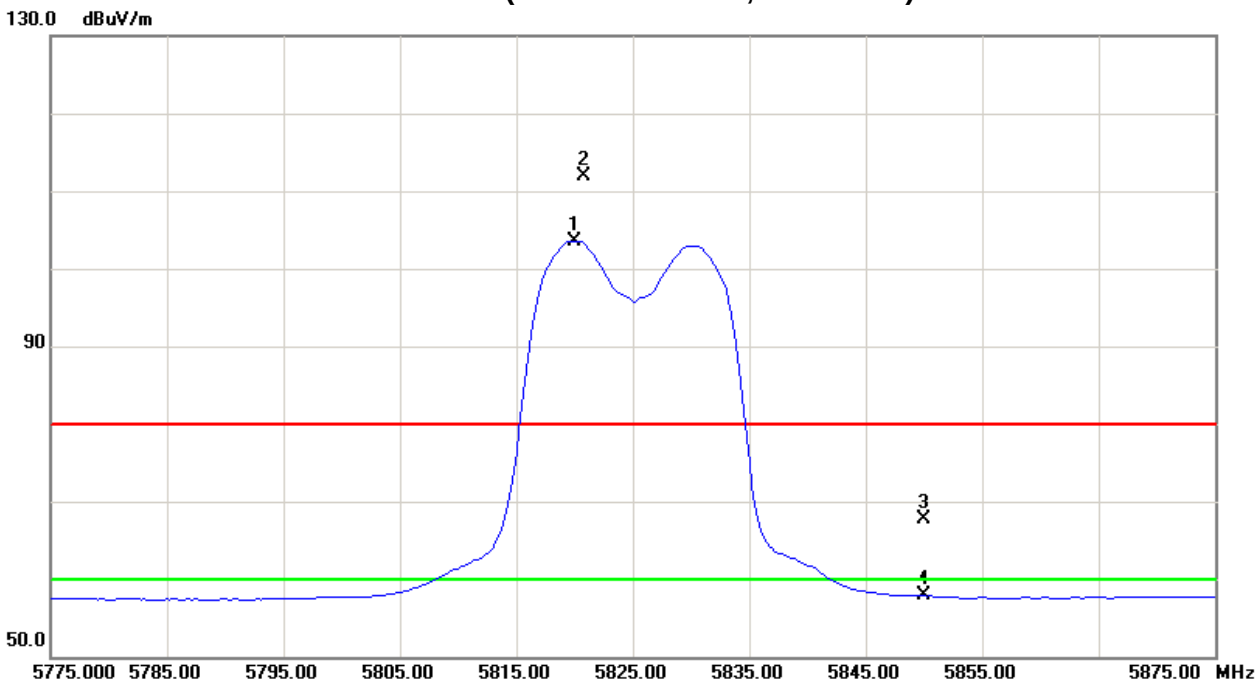
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

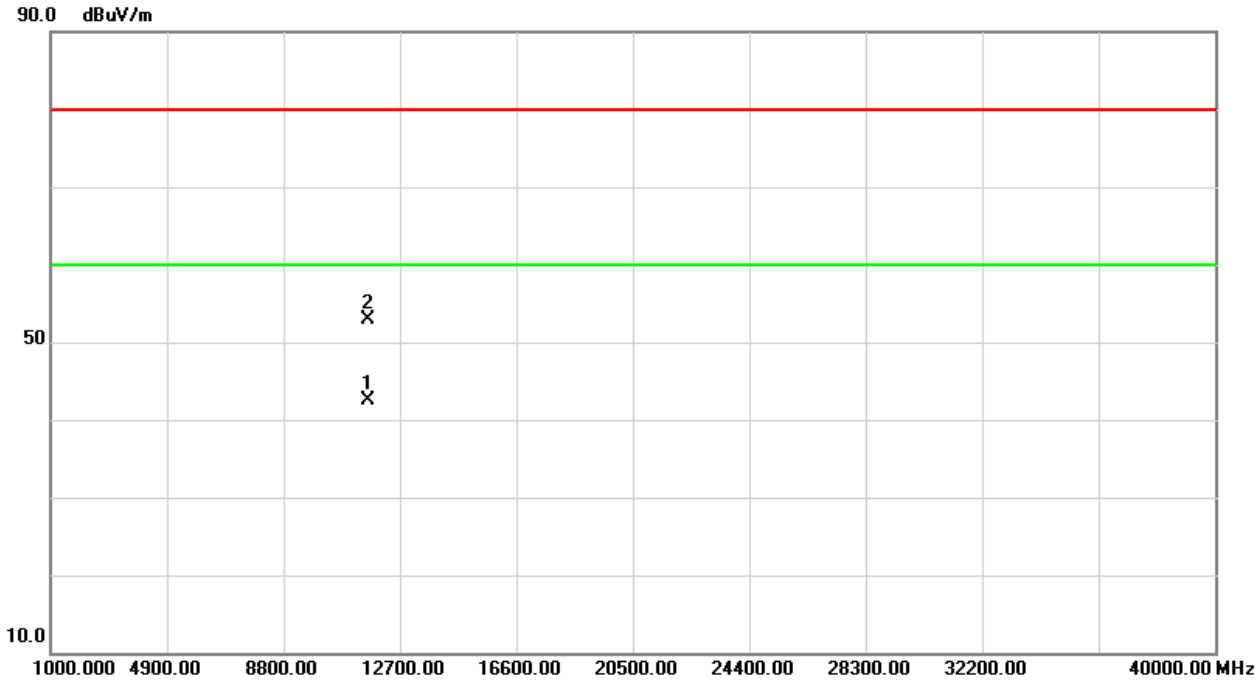
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = 20 log (3m/1.5m) dB ;
Limit line = specific limits (dBuV) + 6 dB

**TX CH165 (Above 1000 MHz, Horizontal)**



| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N20 Mode 5745MHz – Worst case(3TX) | | |

| Freq. | Ant.Pol. | Reading | | Ant./CF | Act. | | Limit | | Note |
|---|---|---|---|---|---|---|---|---|---|
| | | Peak | AV | | Peak | AV | Peak | AV | |
| (MHz) | H/V | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | |
| 5725.00 | V | 34.20 | 18.57 | 41.90 | 76.10 | 60.47 | 96.63 | 85.01 | X/E |
| **5738.00** | **V** | **74.68** | **63.06** | **41.95** | **116.63** | **105.01** | | | **X/F** |
| 11489.85 | V | 40.01 | 29.53 | 14.25 | 54.26 | 43.78 | 80.00 | 60.00 | X/H |

Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

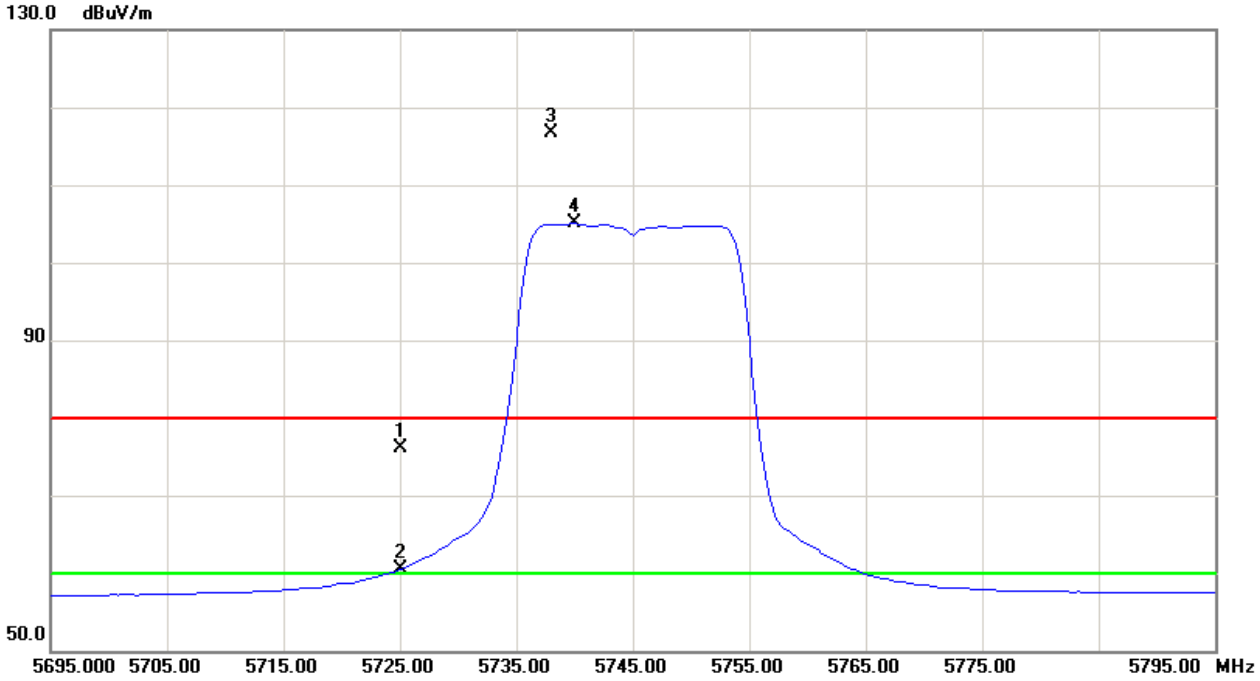
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

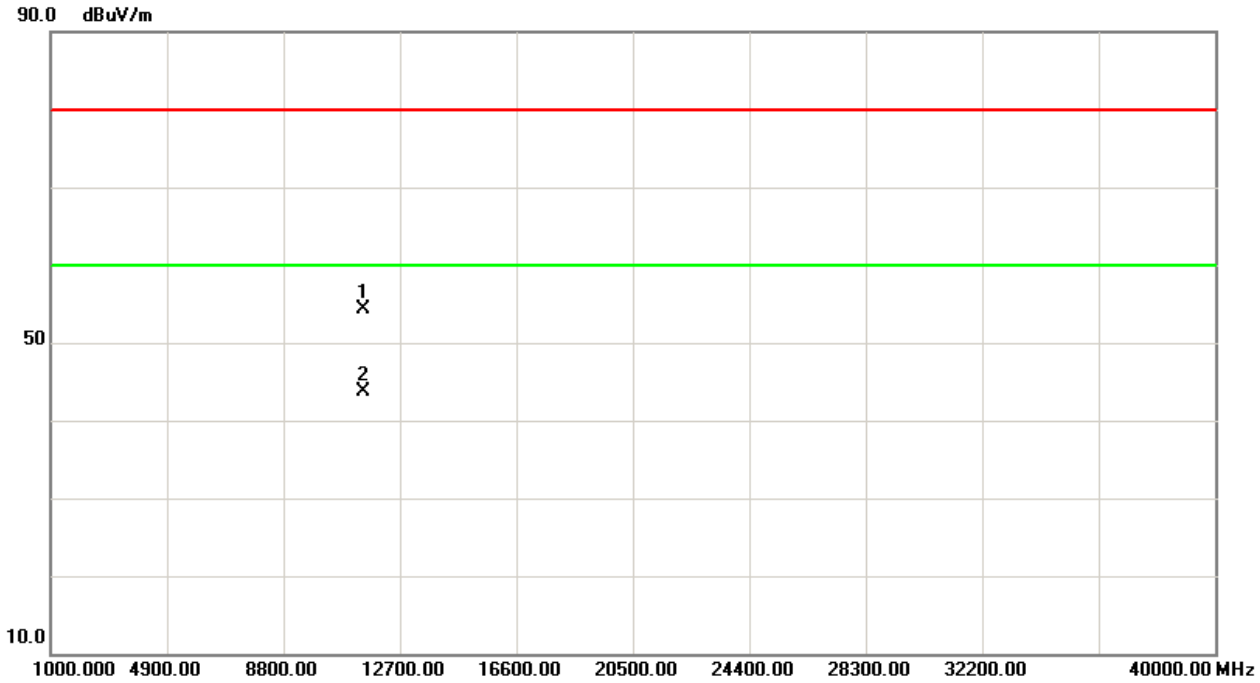
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = 20 log (3m/1.5m) dB ;
Limit line = specific limits (dBuV) + 6 dB

**TX CH149 (Above 1000 MHz, Vertical)**



| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N20 Mode 5745MHz – Worst case(3TX) | | |

| Freq. | Ant.Pol. | Reading | | Ant./CF | Act. | | Limit | | Note |
|---|---|---|---|---|---|---|---|---|---|
| | | Peak | AV | | Peak | AV | Peak | AV | |
| (MHz) | H/V | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | |
| 5725.00 | H | 26.85 | 16.45 | 41.90 | 68.75 | 58.35 | 88.83 | 78.84 | X/E |
| **5751.75** | **H** | **66.82** | **56.83** | **42.01** | **108.83** | **98.84** | | | **X/F** |
| 11489.74 | H | 39.50 | 28.59 | 14.25 | 53.75 | 42.84 | 80.00 | 60.00 | X/H |

Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

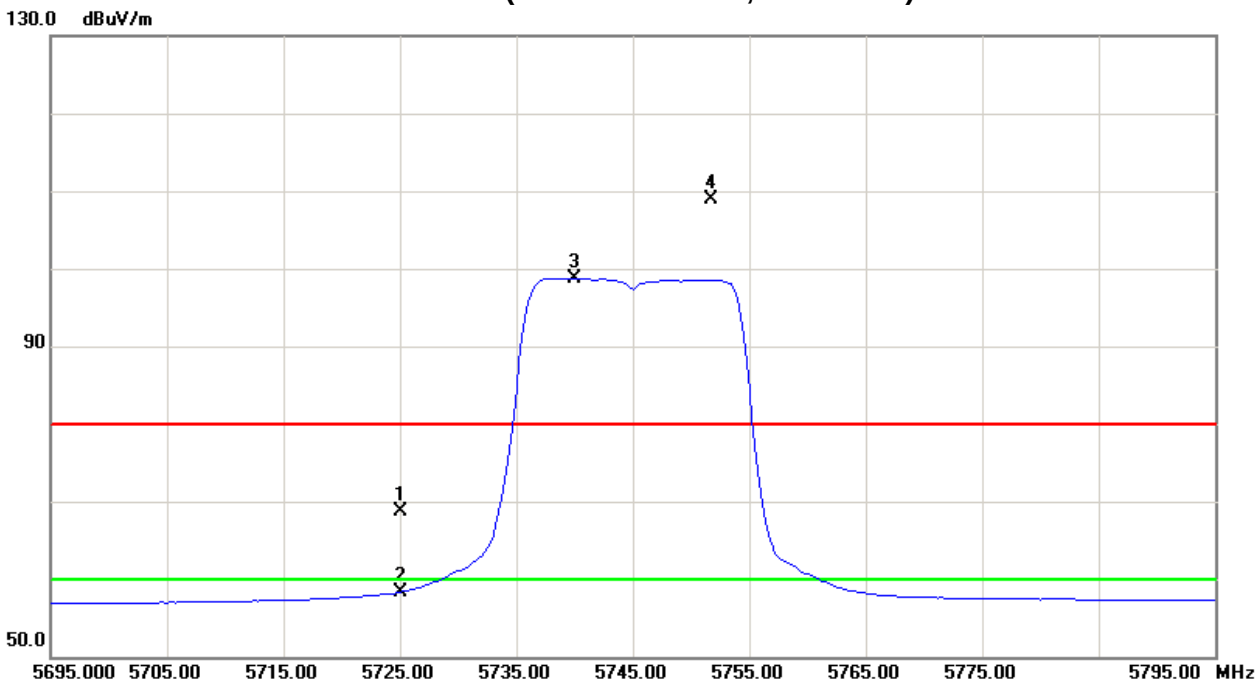
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

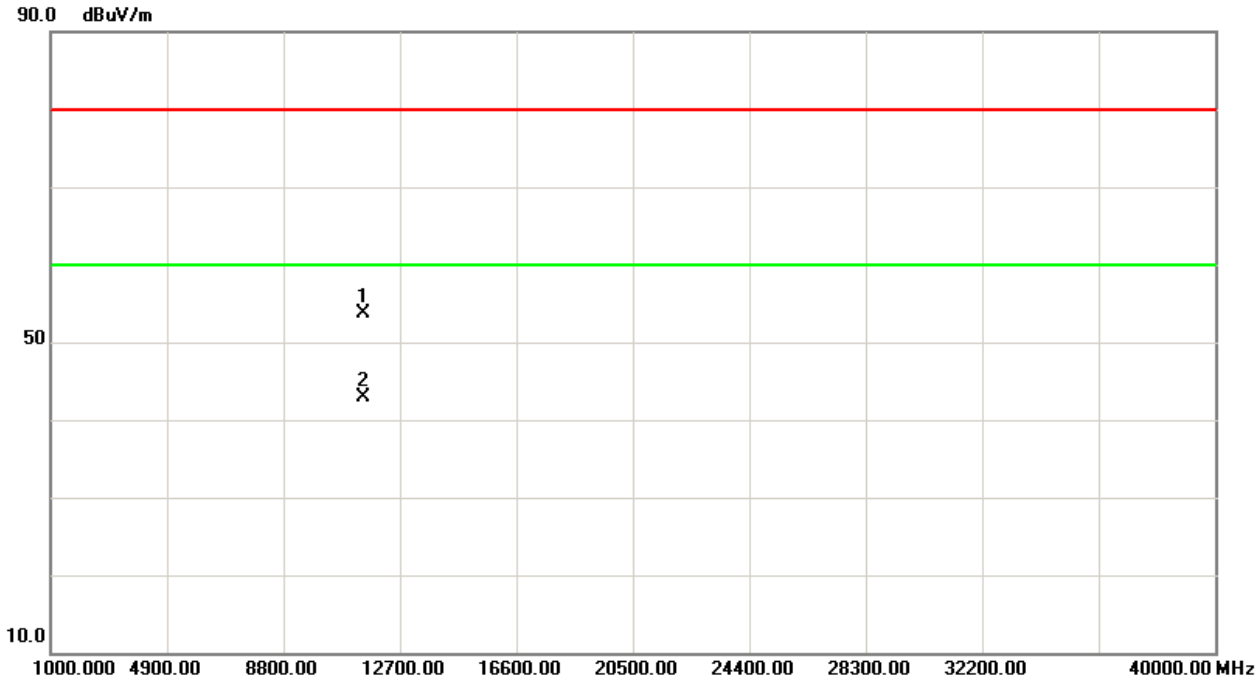
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = 20 log (3m/1.5m) dB ;
Limit line = specific limits (dBuV) + 6 dB

**TX CH149 (Above 1000 MHz, Horizontal)**



| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N20 Mode 5785MHz – Worst case(3TX) | | |

| Freq. | Ant.Pol. | Reading | | Ant./CF | Act. | | Limit | | Note |
|---|---|---|---|---|---|---|---|---|---|
| | | Peak | AV | | Peak | AV | Peak | AV | |
| (MHz) | H/V | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | |
| **5783.75** | **V** | **72.12** | **63.94** | **42.13** | **114.25** | **106.07** | | | **X/F** |
| 11570.63 | V | 40.56 | 29.17 | 14.30 | 54.86 | 43.47 | 80.00 | 60.00 | X/H |

Remark：

(1) All readings are Peak unless otherwise stated QP in column of 『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

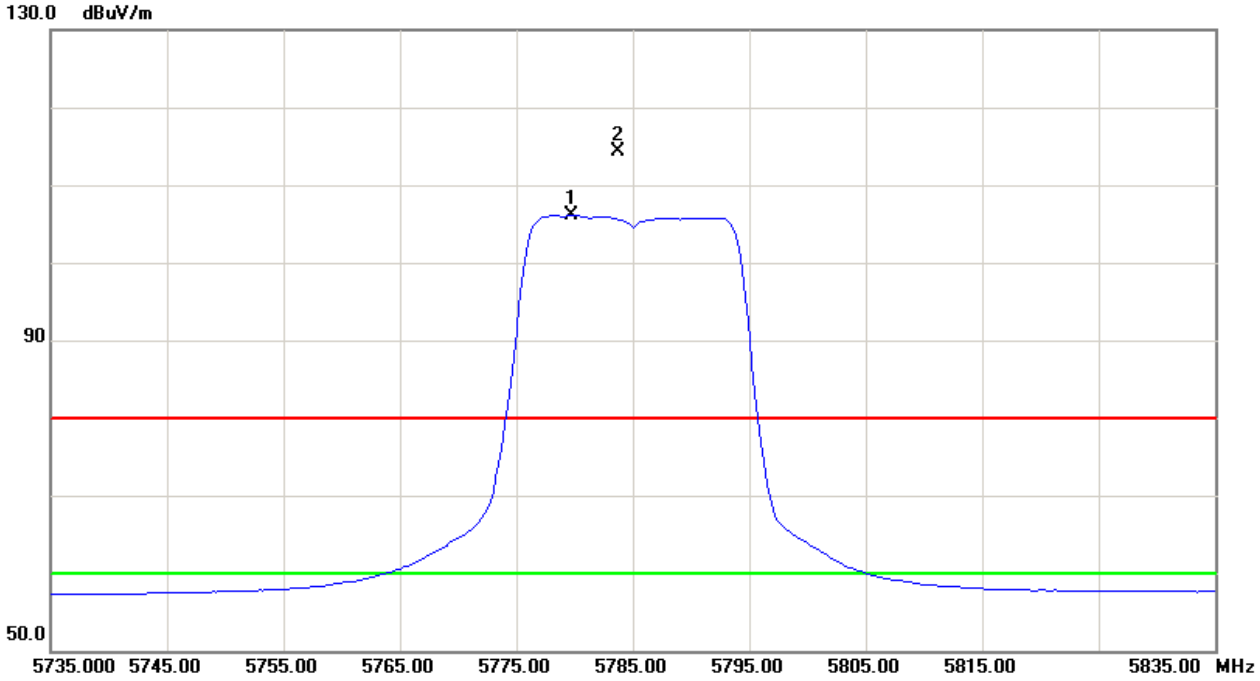
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

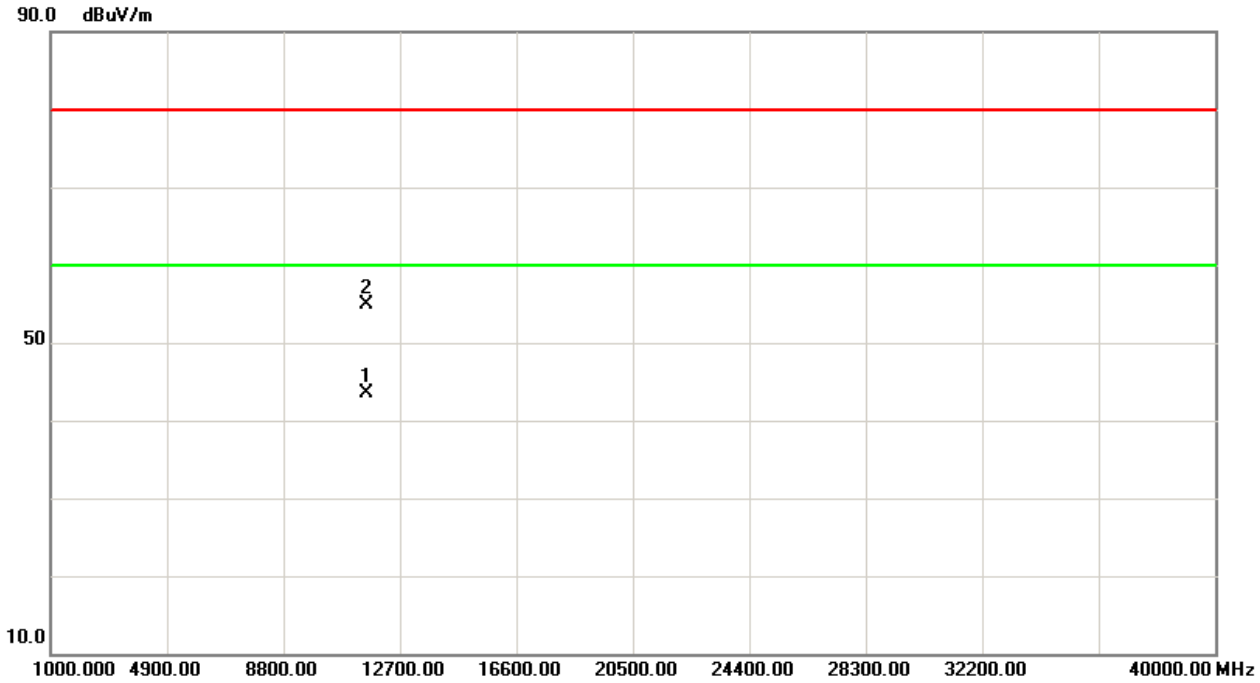
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = 20 log (3m/1.5m) dB ;
Limit line = specific limits (dBuV) + 6 dB

**TX CH157 (Above 1000 MHz, Vertical)**



| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N20 Mode 5785MHz – Worst case(3TX) | | |

| Freq. | Ant.Pol. | Reading | | Ant./CF | Act. | | Limit | | Note |
|---|---|---|---|---|---|---|---|---|---|
| | | Peak | AV | | Peak | AV | Peak | AV | |
| (MHz) | H/V | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | |
| **5779.00** | **H** | **67.22** | **57.83** | **42.12** | **109.34** | **99.95** | | | **X/F** |
| 11570.51 | H | 39.56 | 28.35 | 14.30 | 53.86 | 42.65 | 80.00 | 60.00 | X/H |

Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

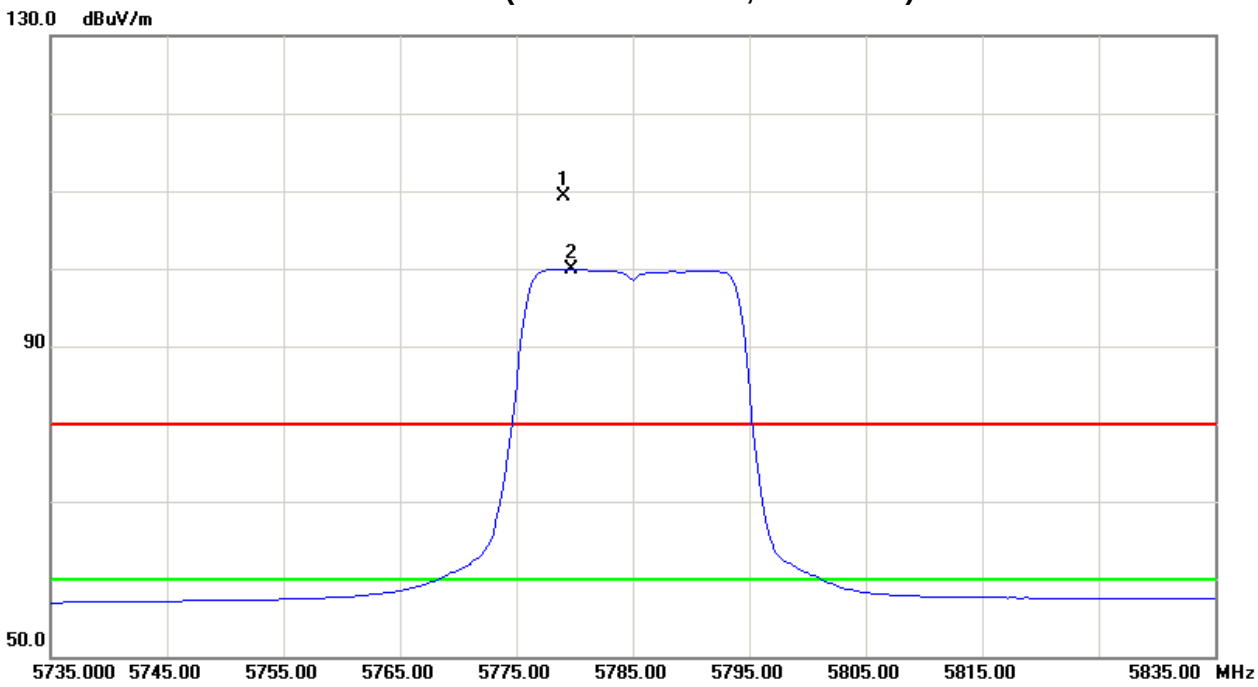
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

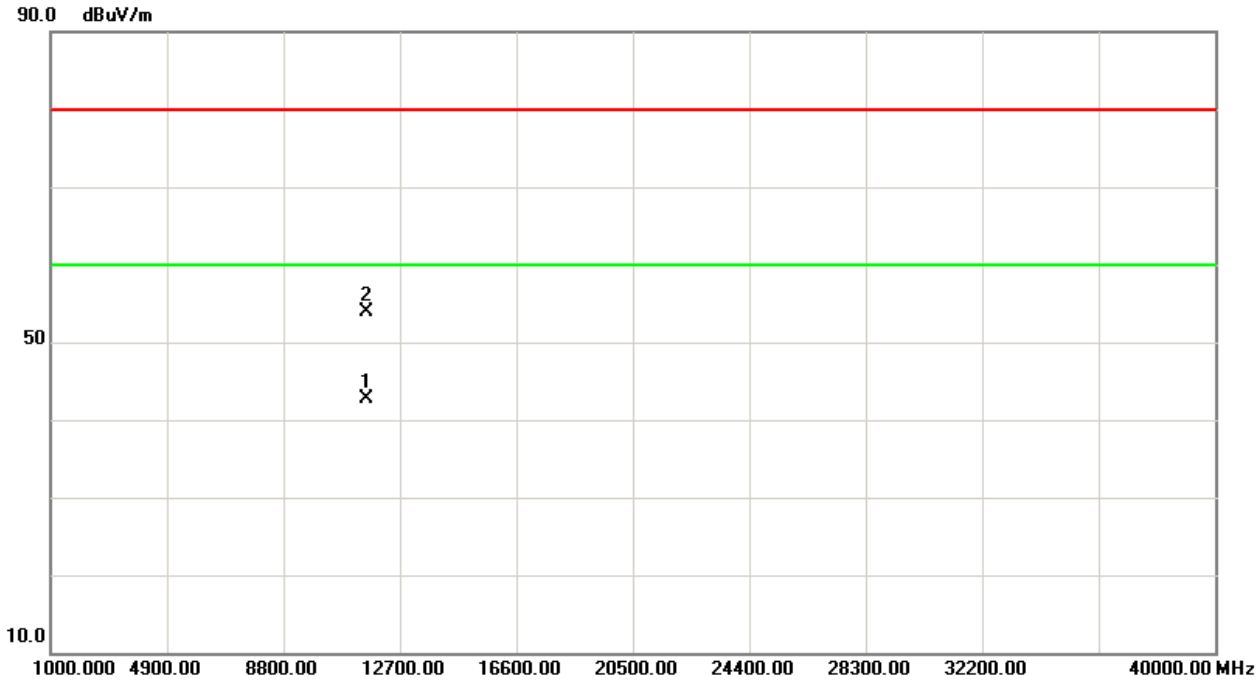
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = 20 log (3m/1.5m) dB ;
Limit line = specific limits (dBuV) + 6 dB

**TX CH157 (Above 1000 MHz, Horizontal)**



| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N20 Mode 5825MHz – Worst case(3TX) | | |

| Freq. | Ant.Pol. | Reading | | Ant./CF | Act. | | Limit | | Note |
|---|---|---|---|---|---|---|---|---|---|
| | | Peak | AV | | Peak | AV | Peak | AV | |
| (MHz) | H/V | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | |
| **5826.50** | **V** | **74.96** | **63.46** | **42.31** | **117.27** | **105.77** | | | **X/F** |
| 5850.00 | V | 27.65 | 16.36 | 42.40 | 70.05 | 58.76 | 97.27 | 85.77 | X/E |
| 11650.32 | V | 40.64 | 29.48 | 14.34 | 54.98 | 43.82 | 80.00 | 60.00 | X/H |

Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

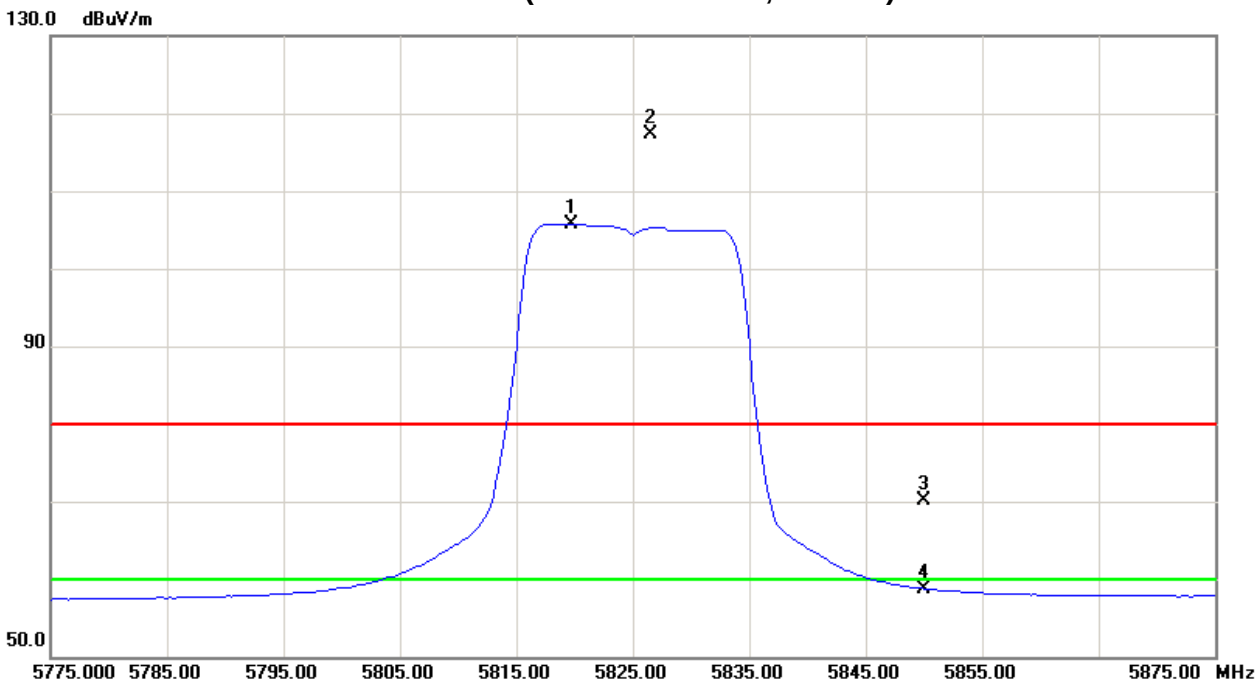
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

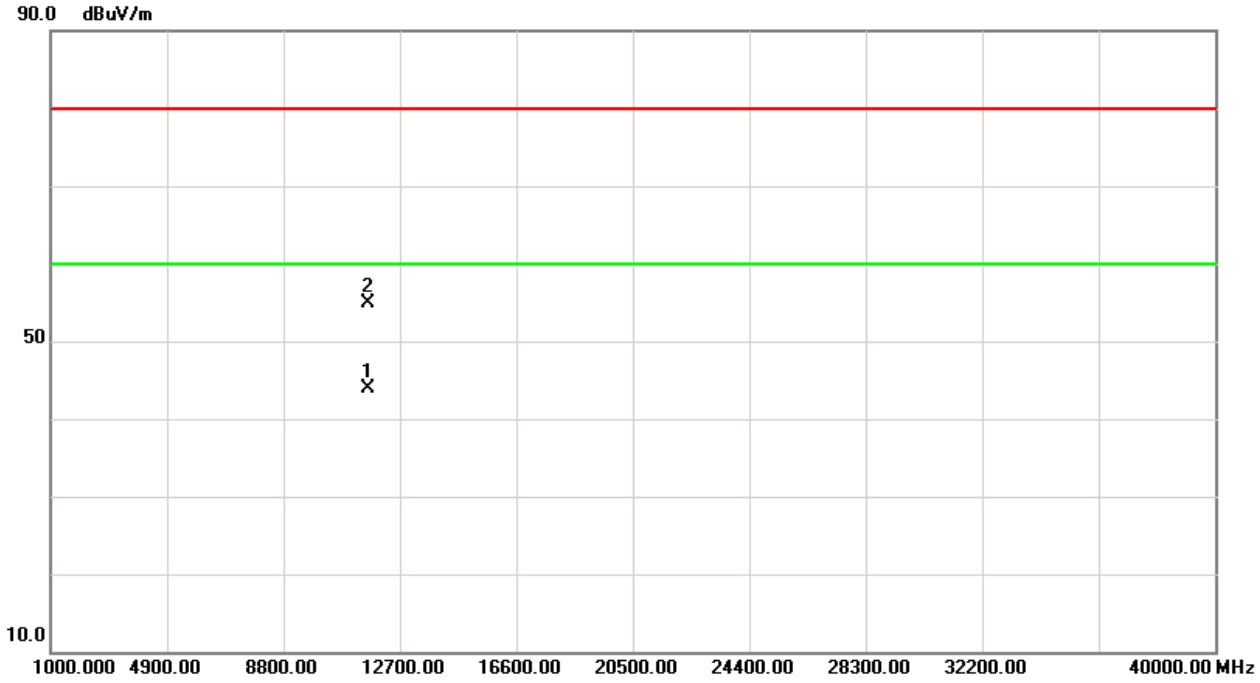
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = 20 log (3m/1.5m) dB ;
Limit line = specific limits (dBuV) + 6 dB

**TX CH165 (Above 1000 MHz, Vertical)**



| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N20Mode 5825MHz – Worst case(3TX) | | |

| Freq. | Ant.Pol. | Reading | | Ant./CF | Act. | | Limit | | Note |
|---|---|---|---|---|---|---|---|---|---|
| | | Peak | AV | | Peak | AV | Peak | AV | |
| (MHz) | H/V | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | |
| **5822.00** | **H** | **69.36** | **57.28** | **42.28** | **111.64** | **99.56** | | | **X/F** |
| 5850.00 | H | 25.20 | 15.57 | 42.40 | 67.60 | 57.97 | 91.64 | 79.56 | X/E |
| 11650.64 | H | 39.52 | 28.76 | 14.34 | 53.86 | 43.10 | 80.00 | 60.00 | X/H |

Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

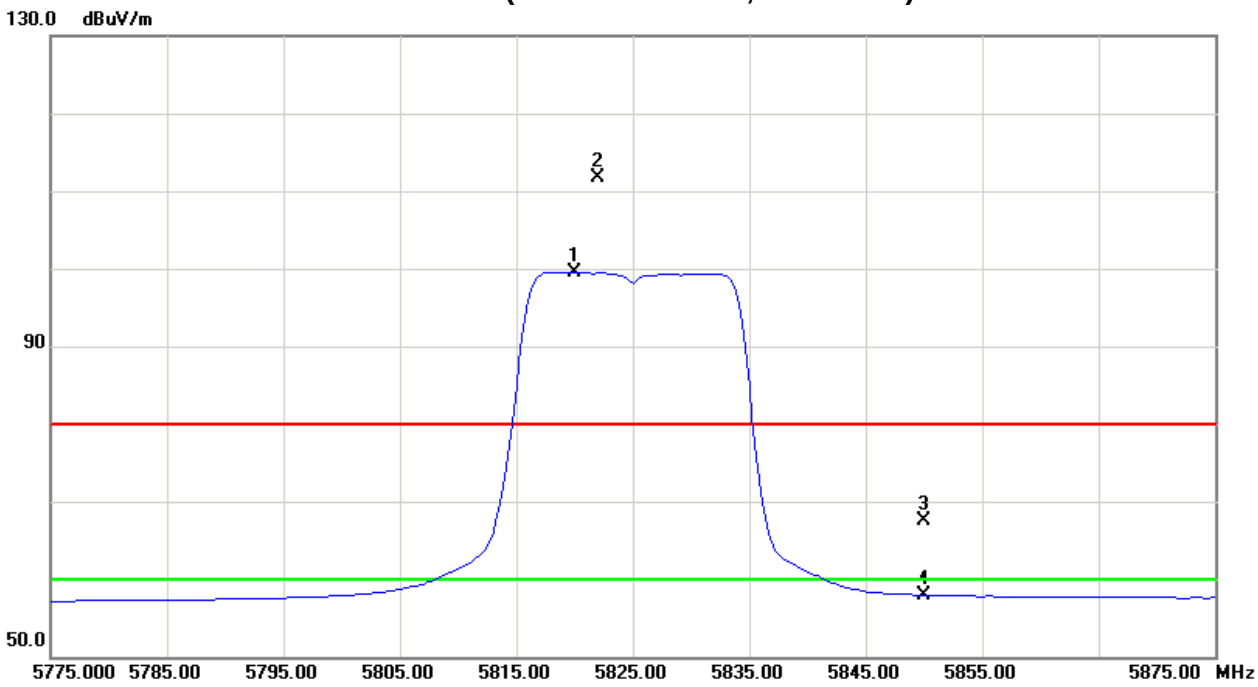
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

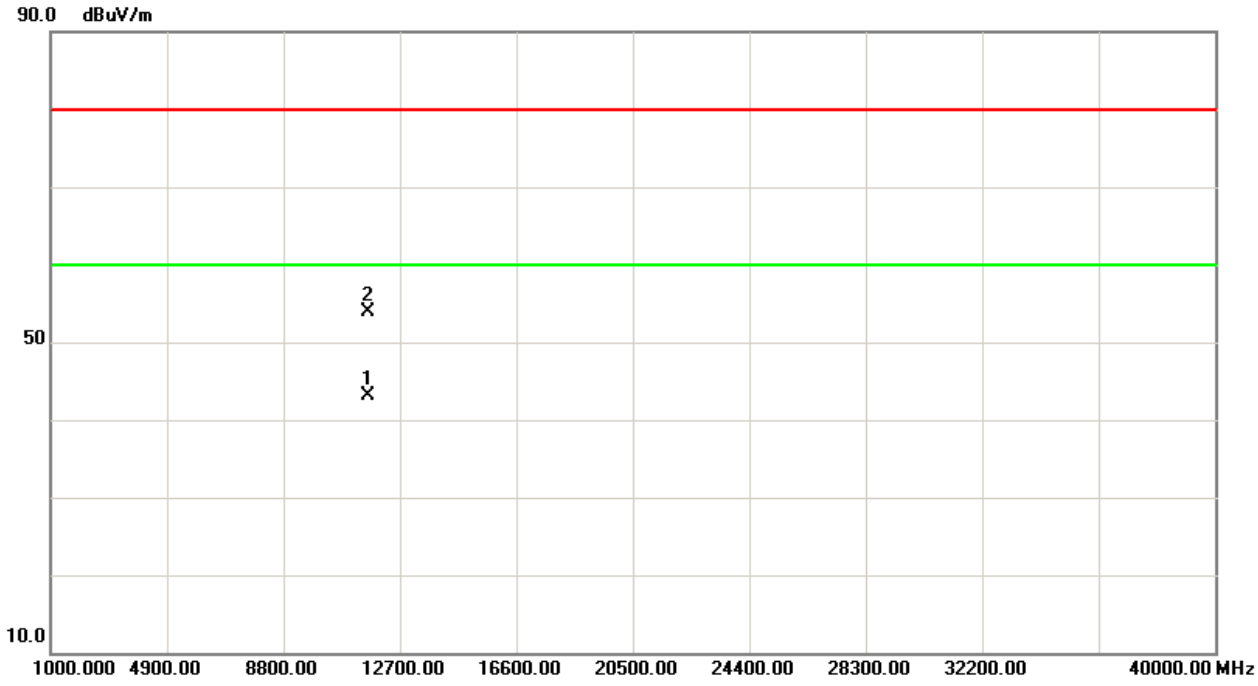
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = 20 log (3m/1.5m) dB ;
Limit line = specific limits (dBuV) + 6 dB

**TX CH165 (Above 1000 MHz, Horizontal)**



| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N40 Mode 5755MHz – Worst case(3TX) | | |

| Freq. | Ant.Pol. | Reading | | Ant./CF | Act. | | Limit | | Note |
|---|---|---|---|---|---|---|---|---|---|
| | | Peak | AV | | Peak | AV | Peak | AV | |
| (MHz) | H/V | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | |
| 5725.00 | V | 34.06 | 20.20 | 41.90 | 75.96 | 62.10 | 92.20 | 81.58 | X/E |
| **5757.00** | **V** | **70.18** | **59.56** | **42.02** | **112.20** | **101.58** | | | **X/F** |
| 11510.10 | V | 39.31 | 29.54 | 14.27 | 53.58 | 43.81 | 80.00 | 60.00 | X/H |

Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

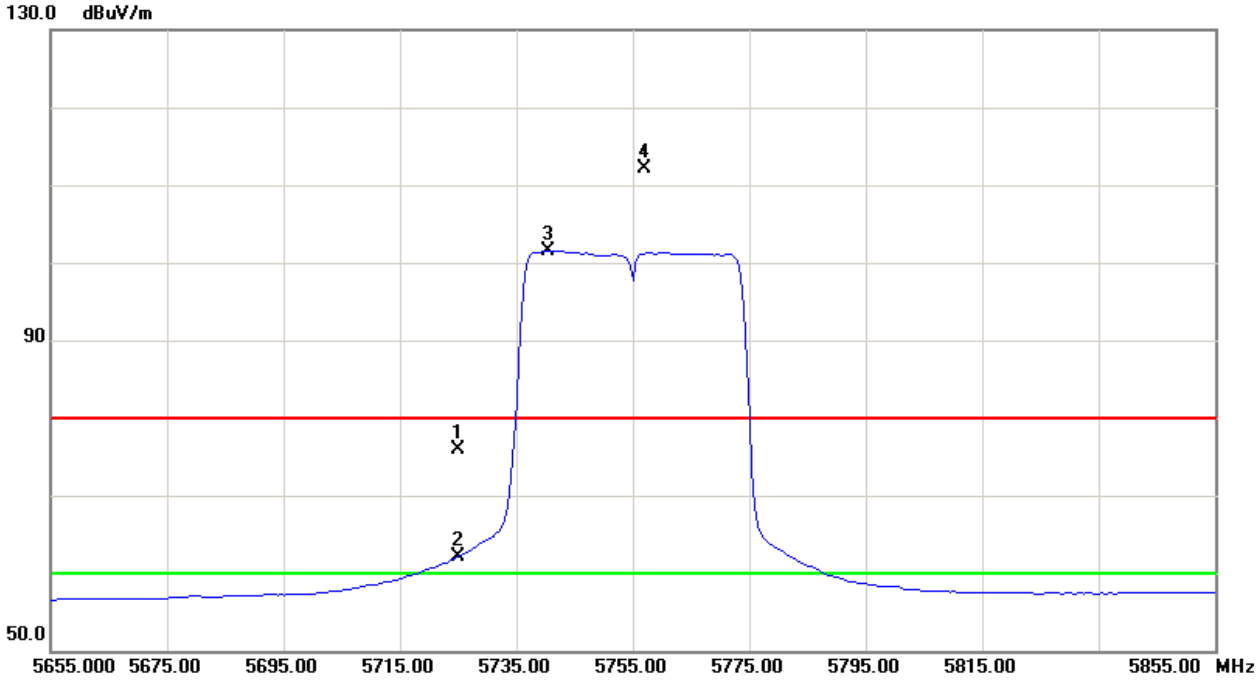
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

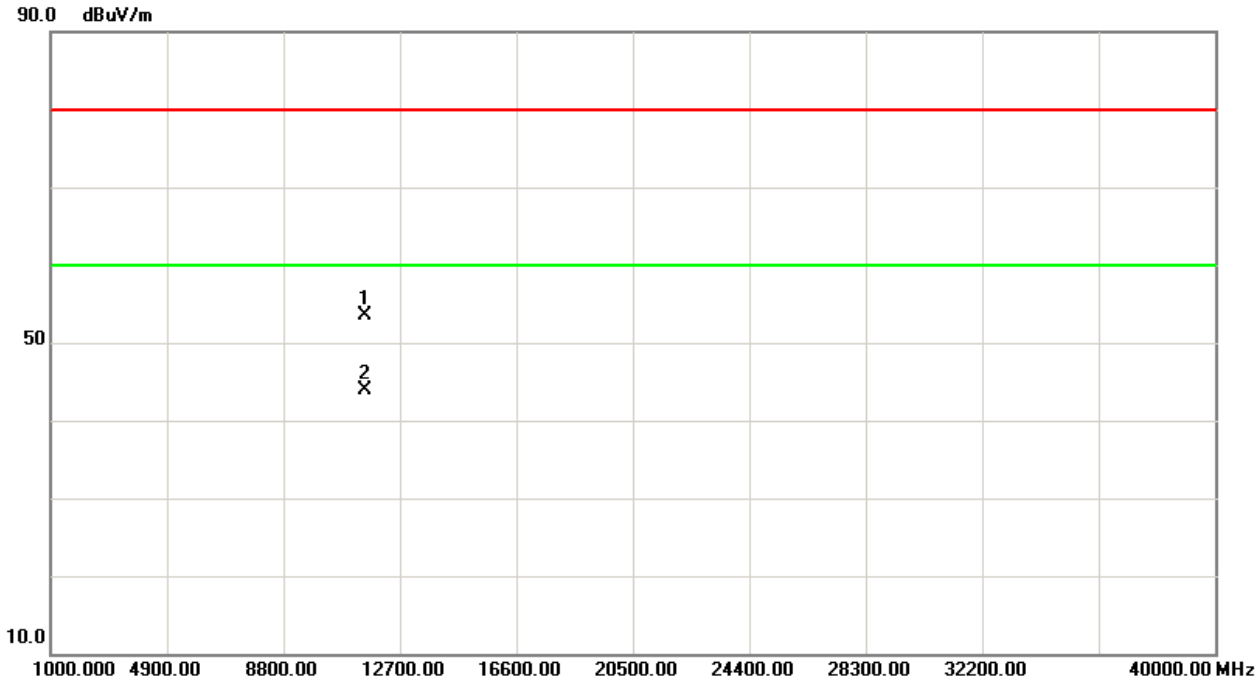
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = 20 log (3m/1.5m) dB ;
Limit line = specific limits (dBuV) + 6 dB

**TX CH151 (Above 1000 MHz, Vertical)**



| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N40 Mode 5755MHz – Worst case(3TX) | | |

| Freq. | Ant.Pol. | Reading | | Ant./CF | Act. | | Limit | | Note |
|---|---|---|---|---|---|---|---|---|---|
| | | Peak | AV | | Peak | AV | Peak | AV | |
| (MHz) | H/V | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | |
| 5725.00 | H | 34.25 | 17.57 | 41.90 | 76.15 | 59.47 | 88.26 | 76.36 | X/E |
| **5762.50** | **H** | **66.21** | **54.31** | **42.05** | **108.26** | **96.36** | | | **X/F** |
| 11510.47 | H | 38.59 | 28.48 | 14.27 | 52.86 | 42.75 | 80.00 | 60.00 | X/H |

Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

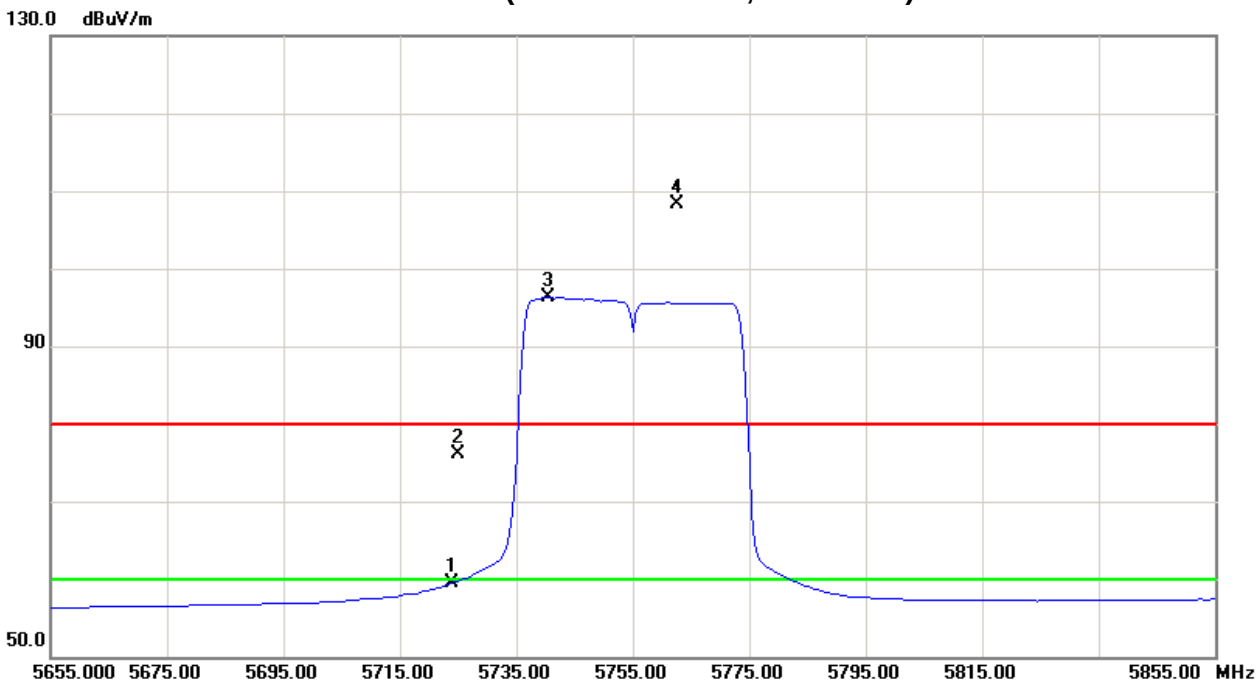
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

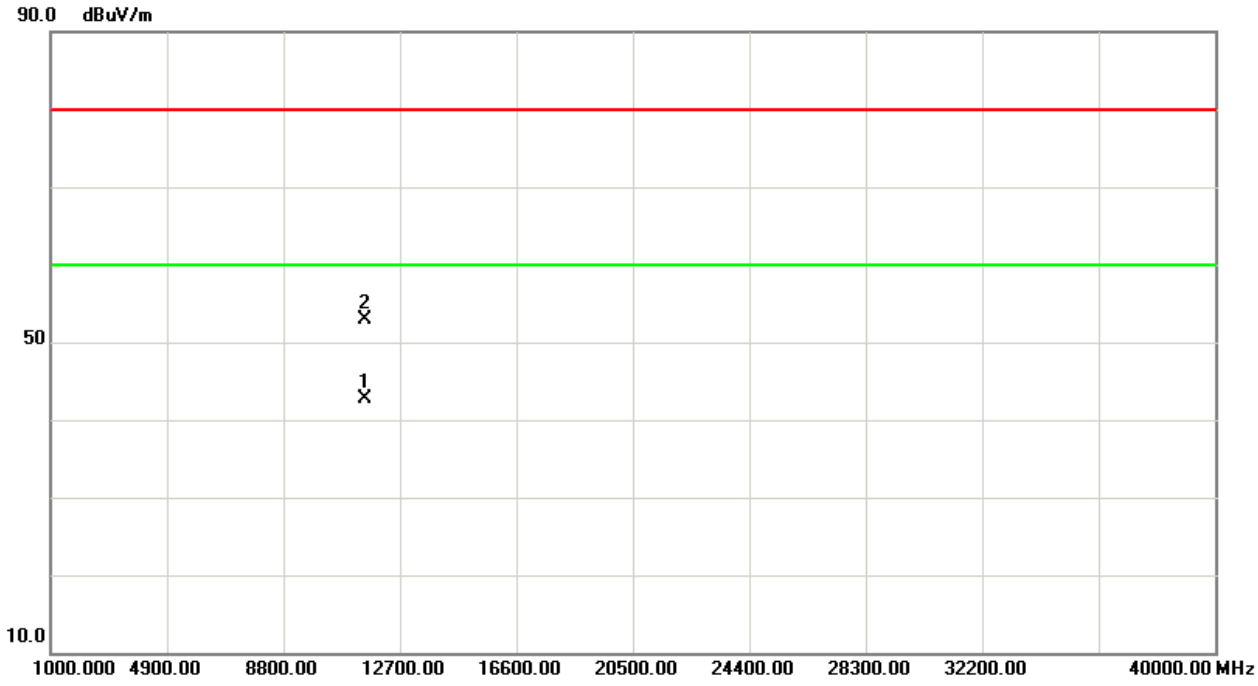
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = 20 log (3m/1.5m) dB ;
Limit line = specific limits (dBuV) + 6 dB

**TX CH151 (Above 1000 MHz, Horizontal)**



| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N40 Mode 5795MHz – Worst case(3TX) | | |

| Freq. | Ant.Pol. | Reading | | Ant./CF | Act. | | Limit | | Note |
|---|---|---|---|---|---|---|---|---|---|
| | | Peak | AV | | Peak | AV | Peak | AV | |
| (MHz) | H/V | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | |
| **5785.50** | **V** | **68.21** | **59.54** | **42.14** | **110.35** | **101.68** | | | **X/F** |
| 5850.00 | V | 24.56 | 15.33 | 42.40 | 66.96 | 57.73 | 90.35 | 81.68 | X/E |
| 11590.84 | V | 39.70 | 28.60 | 14.31 | 54.01 | 42.91 | 80.00 | 60.00 | X/H |

Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

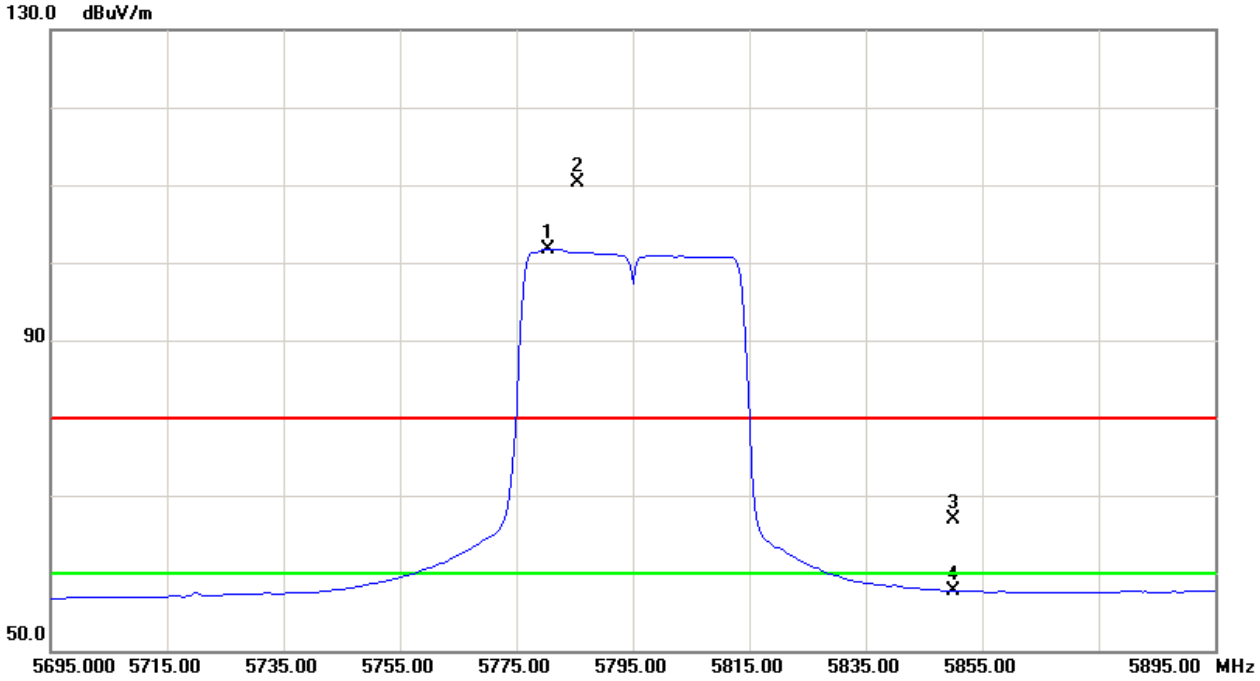
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

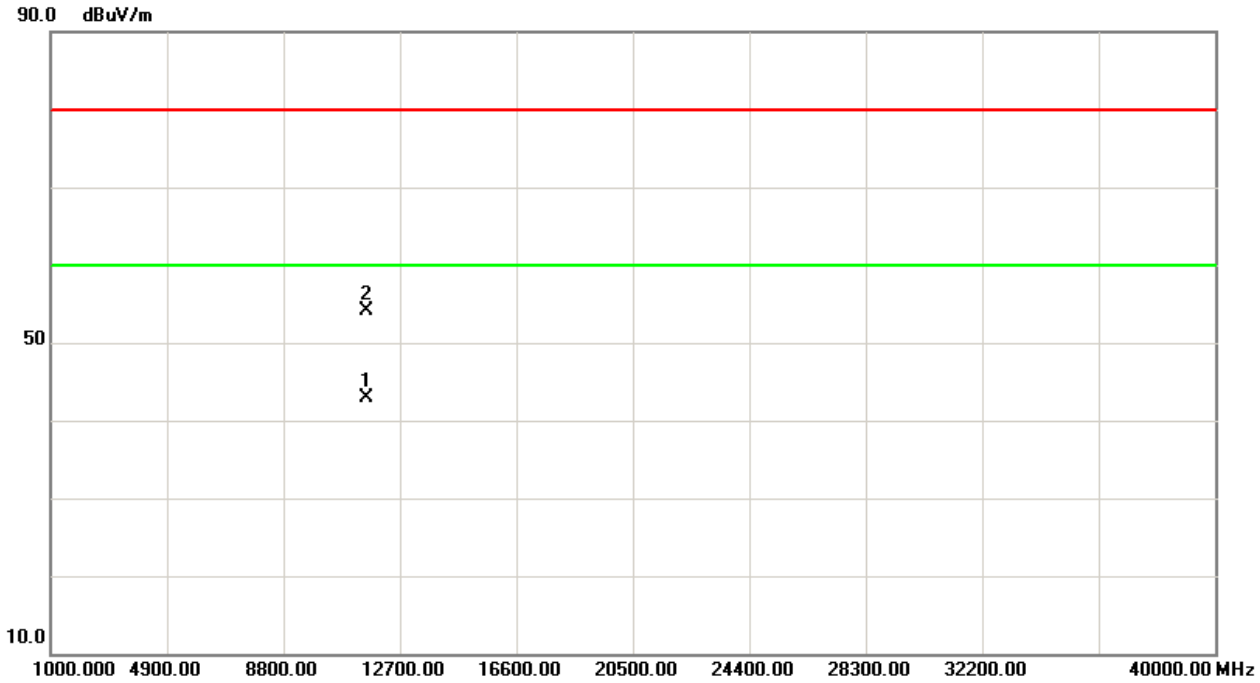
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = 20 log (3m/1.5m) dB ;
Limit line = specific limits (dBuV) + 6 dB

**TX CH159 (Above 1000 MHz, Vertical)**



| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N40 Mode 5795MHz – Worst case(3TX) | | |

| Freq. | Ant.Pol. | Reading | | Ant./CF | Act. | | Limit | | Note |
|---|---|---|---|---|---|---|---|---|---|
| | | Peak | AV | | Peak | AV | Peak | AV | |
| (MHz) | H/V | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | |
| **5791.50** | **H** | **65.82** | **54.16** | **42.16** | **107.98** | **96.32** | | | **X/F** |
| 5850.00 | H | 25.30 | 15.02 | 42.40 | 67.70 | 57.42 | 87.98 | 76.32 | X/E |
| 11590.46 | H | 37.82 | 26.75 | 14.31 | 52.13 | 41.06 | 80.00 | 60.00 | X/H |

Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

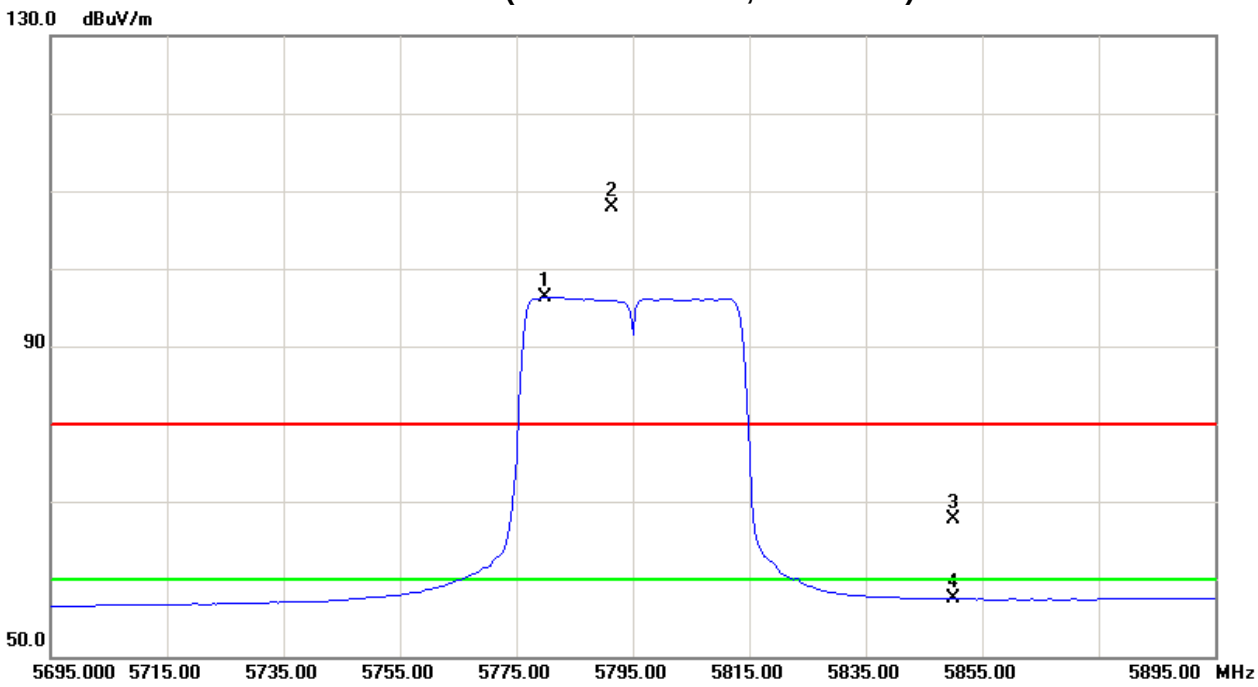
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

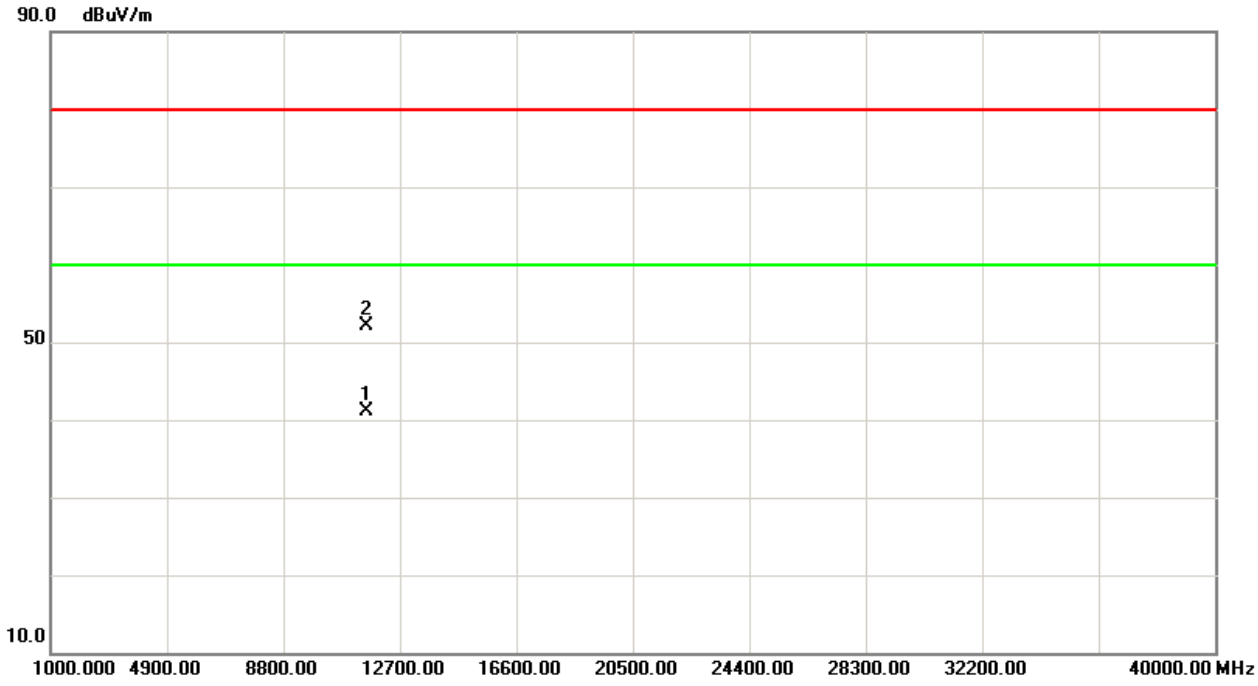
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = 20 log (3m/1.5m) dB ;
Limit line = specific limits (dBuV) + 6 dB

**TX CH159 (Above 1000 MHz, Horizontal)**



| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1006hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | RX Mode – Worst case(3TX) | | |

| Freq. | Ant.Pol. | Reading | | Ant./CF | Act. | | Limit | | Note |
|---|---|---|---|---|---|---|---|---|---|
| | | Peak | AV | | Peak | AV | Peak | AV | |
| (MHz) | H/V | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | |
| 1660.54 | V | 56.60 | 48.24 | -4.41 | 52.19 | 43.83 | 80.00 | 60.00 | X/H |

Remark：

(1) All readings are Peak unless otherwise stated QP in column of 『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

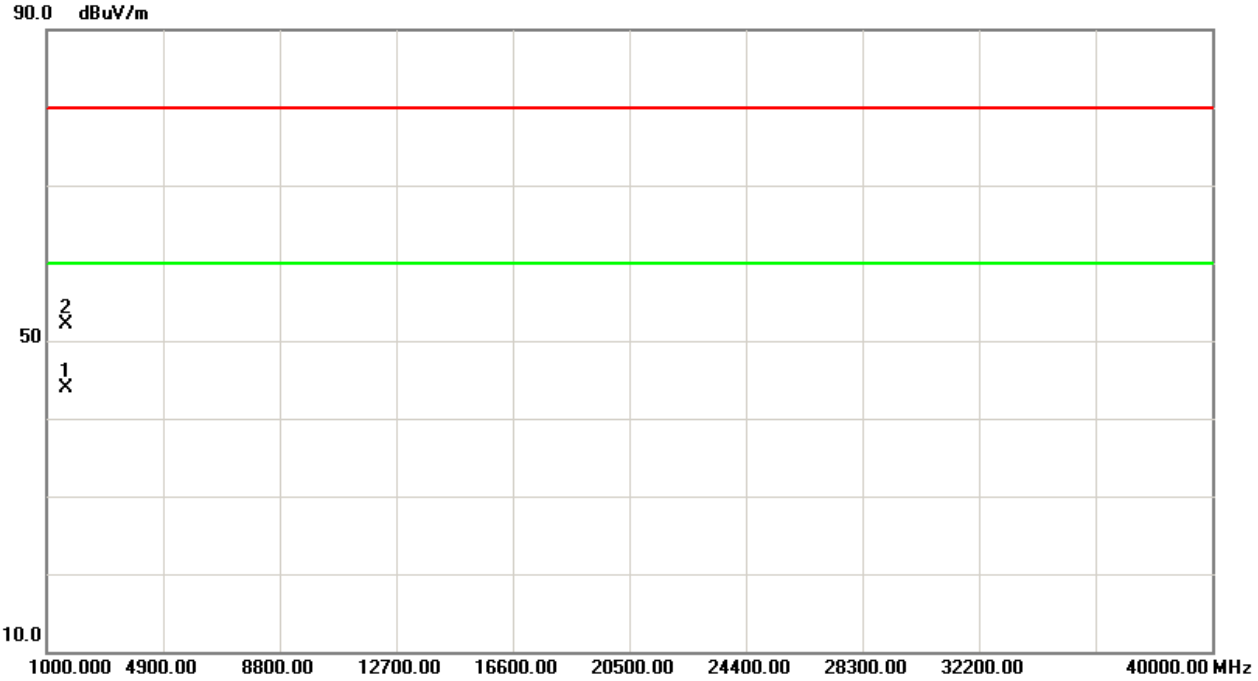
(2) Measuring frequency range from 1000MHz to 6000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand



| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1006hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | RX Mode – Worst case(3TX) | | |

| Freq. | Ant.Pol. | Reading | | Ant./CF | Act. | | Limit | | Note |
|---|---|---|---|---|---|---|---|---|---|
| | | Peak | AV | | Peak | AV | Peak | AV | |
| (MHz) | H/V | (dBuV) | (dBuV) | CF(dB) | (dBuV/m) | (dBuV/m) | (dBuV/m) | (dBuV/m) | |
| 1660.35 | H | 58.95 | 49.33 | -4.41 | 54.54 | 44.92 | 80.00 | 60.00 | X/H |

Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

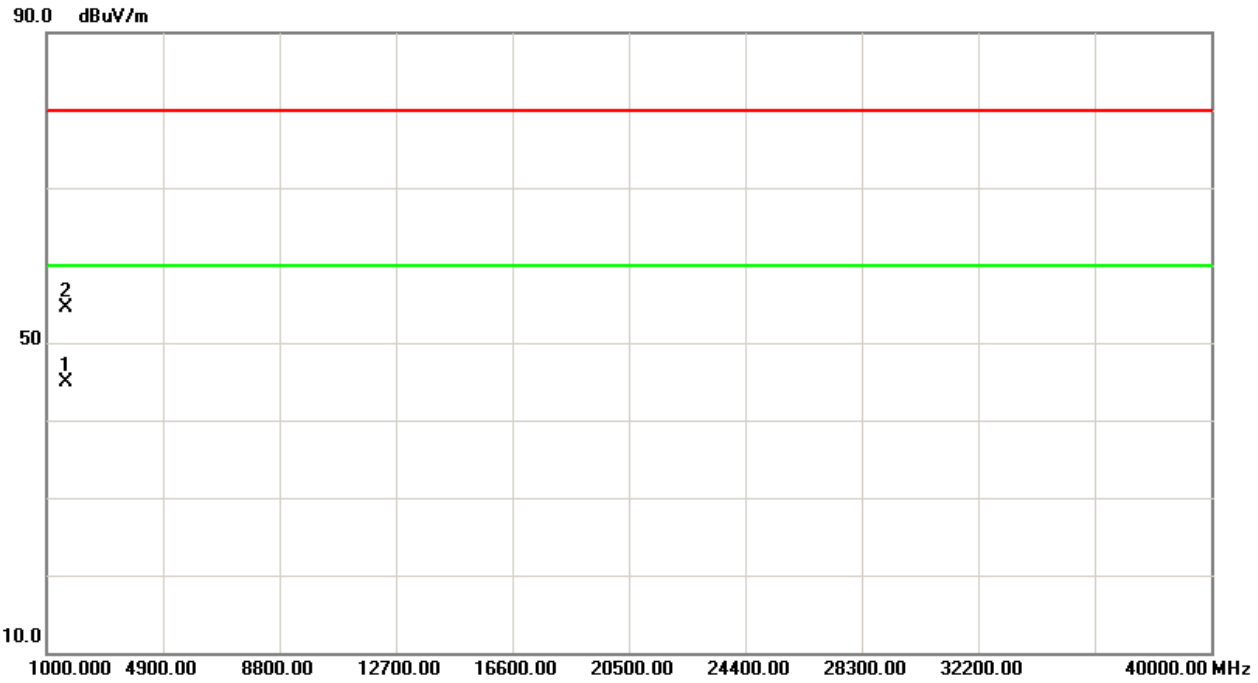
(2) Measuring frequency range from 1000MHz to 6000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand



# 5. BANDWIDTH TEST

## 5.1 Applied procedures / limit

| FCC Part15 (15.247) , Subpart C | | | | |
|---|---|---|---|---|
| Section | Test Item | Limit | Frequency Range (MHz) | Result |
| 15.247(a)(2) | Bandwidth | >= 500KHz (6dB bandwidth) | 5725 - 5825 | PASS |

### 5.1.1 MEASUREMENT INSTRUMENTS LIST

| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Last Calibration | Next Calibration |
|---|---|---|---|---|---|---|
| 1 | Spectrum Analyzer | R&S | FSP_40 | 100185 | Nov.26.2011 | Nov.26.2012 |

Remark: “N/A” denotes no model name, serial no. or calibration specified.
All calibration period of Equipment List is One Year.

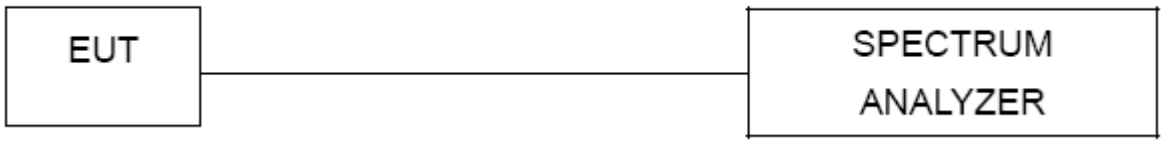
### 5.1.2 TEST PROCEDURE

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= 300KHz, VBW=1MHz, Sweep time = 20 ms.

### 5.1.3 DEVIATION FROM STANDARD

No deviation.

### 5.1.4 TEST SETUP




### 5.1.5 EUT OPERATION CONDITIONS

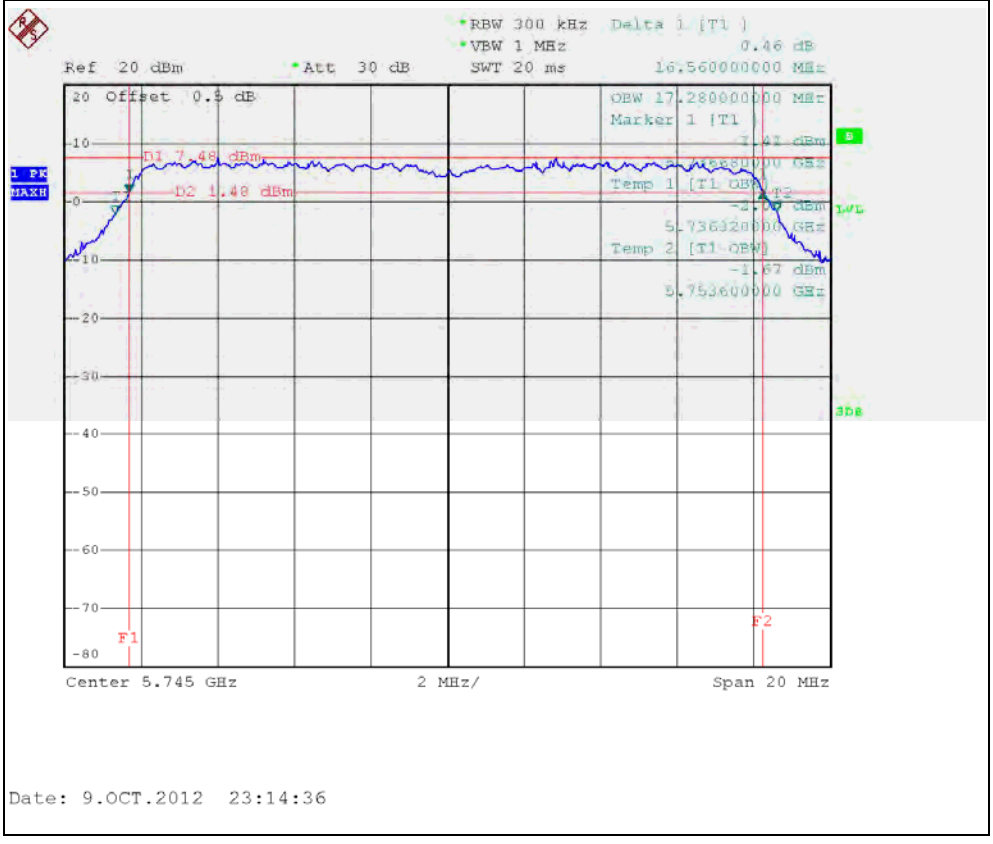
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

### 5.1.6 TEST RESULTS

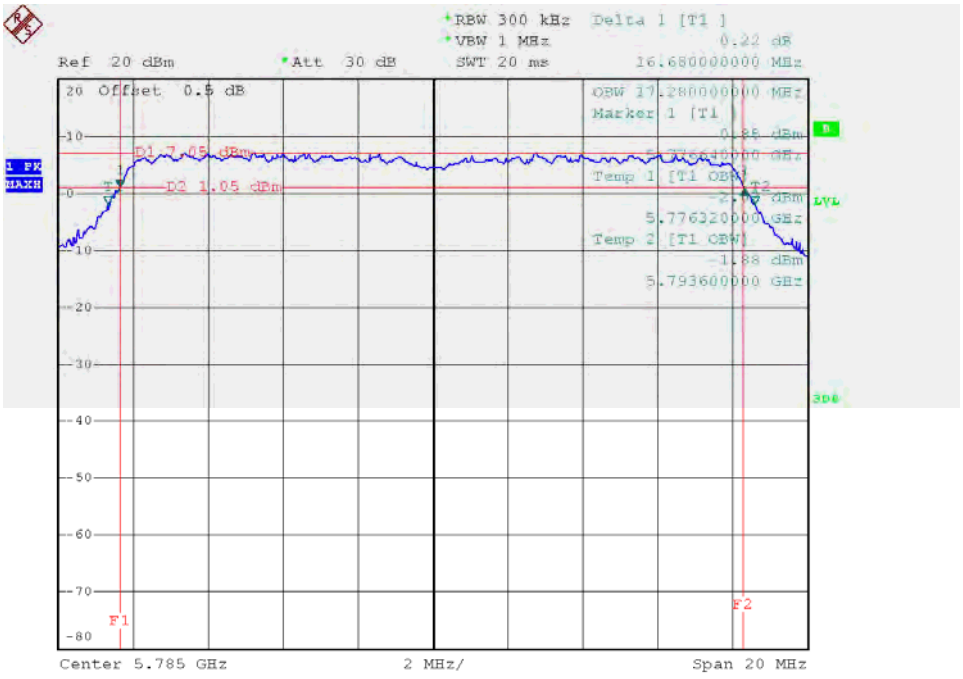
| EUT： | Wireless LAN Access Point | Model Name. ： | AP7110DN-AGN |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX A Mode /CH149, CH157, CH165 | | |

| Test Channel | Frequency (MHz) | 6dB Bandwidth (MHz) | 99% Occupied BW (MHz) | LIMIT (MHz) |
|---|---|---|---|---|
| CH149 | 5745 | 16.56 | 17.28 | >=500KHz |
| CH157 | 5785 | 16.68 | 17.28 | >=500KHz |
| CH165 | 5825 | 16.76 | 17.20 | >=500KHz |

**TX CH149**

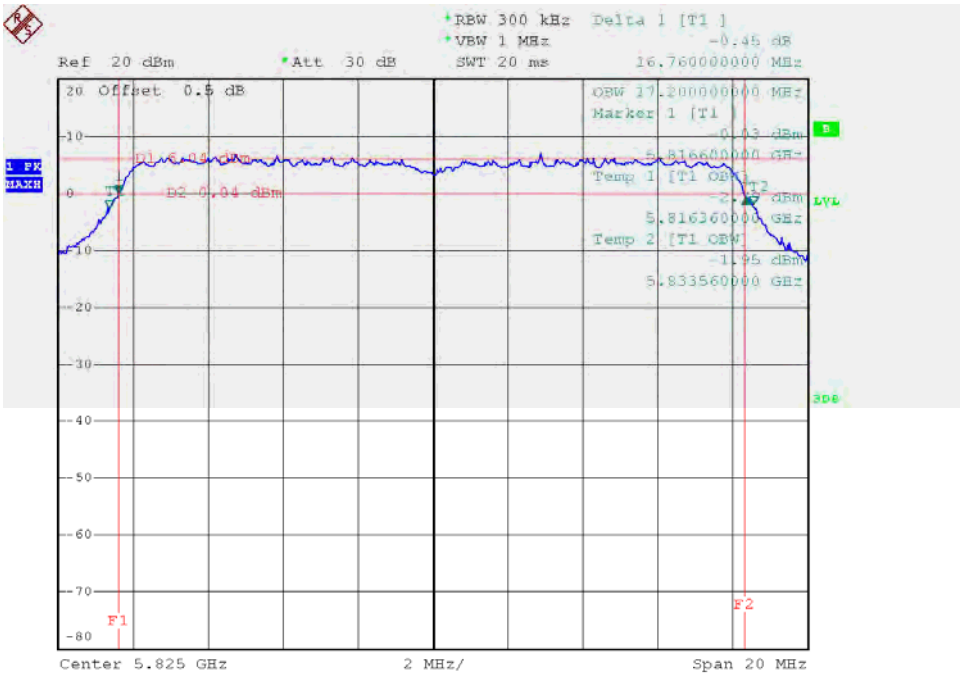


**TX CH157**




Date: 9.OCT.2012 23:13:20

**TX CH165**

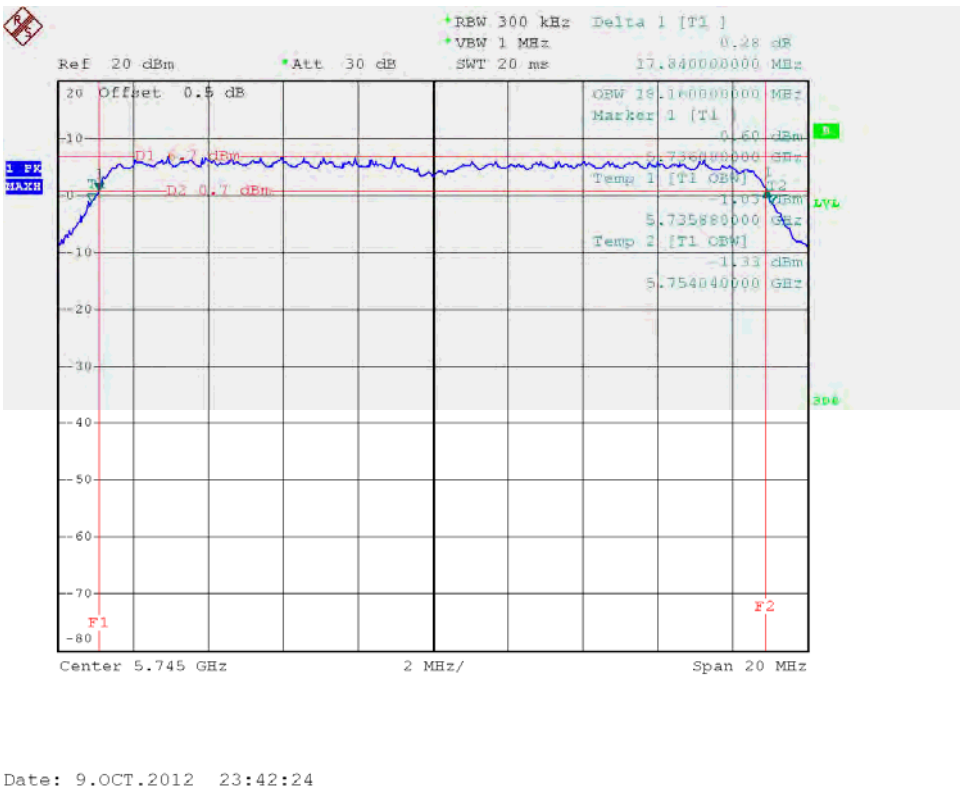



Date: 9.OCT.2012 23:23:57

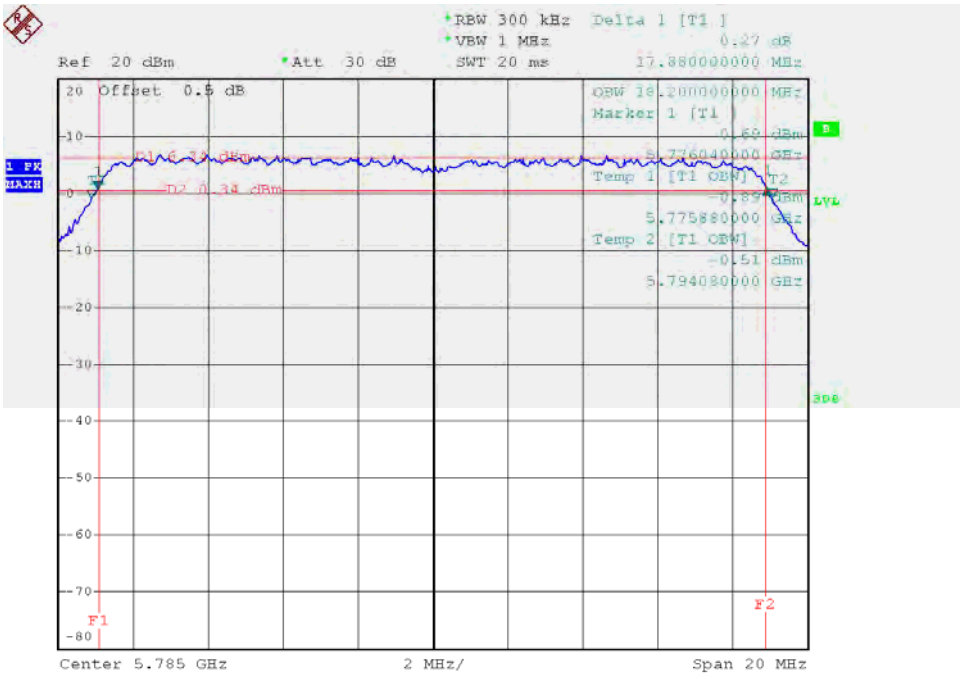
| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name. ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N20 Mode /CH149, CH157, CH165 | | |

| Test Channel | Frequency (MHz) | 6dB Bandwidth (MHz) | 99% Occupied BW (MHz) | LIMIT (MHz) |
|---|---|---|---|---|
| CH149 | 5745 | 17.84 | 18.16 | >=500KHz |
| CH157 | 5785 | 17.88 | 18.20 | >=500KHz |
| CH165 | 5825 | 17.80 | 18.20 | >=500KHz |

**TX CH149**

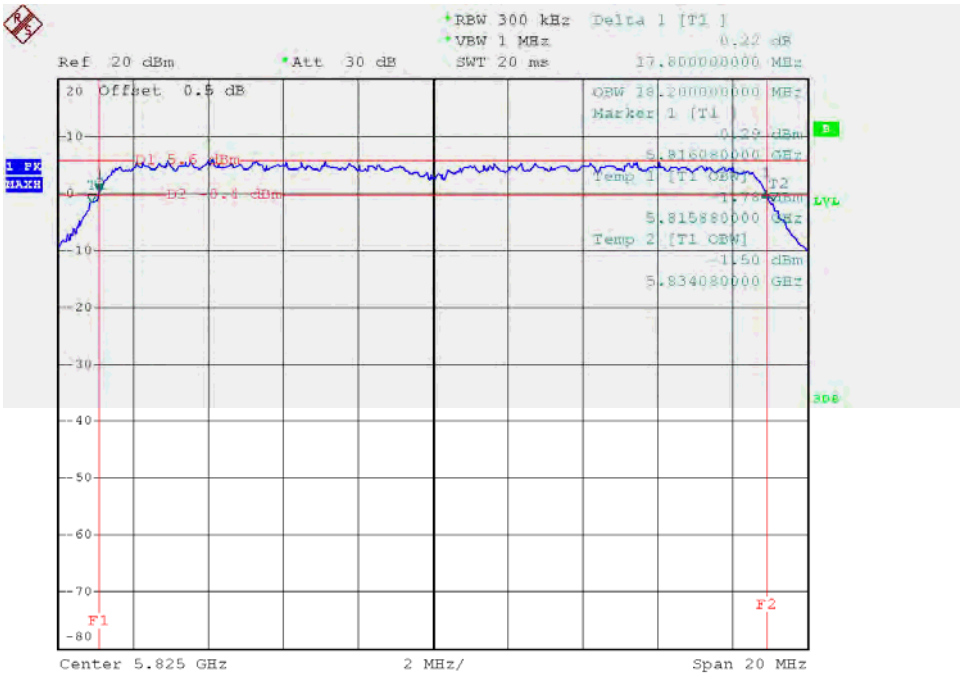


**TX CH157**




Date: 9.OCT.2012 23:41:32

**TX CH165**

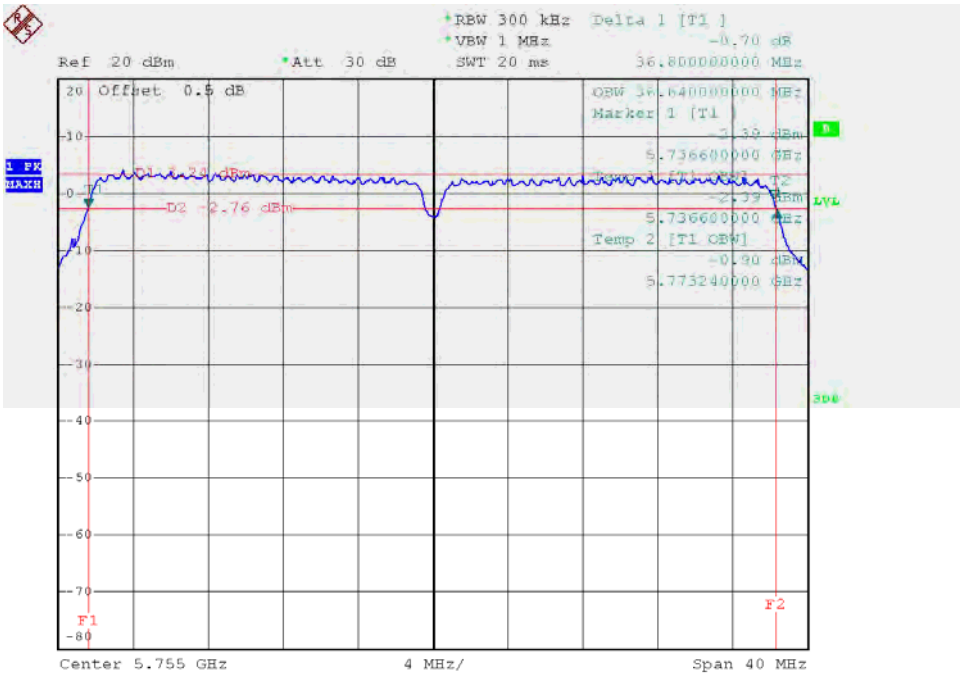



Date: 9.OCT.2012 23:27:49

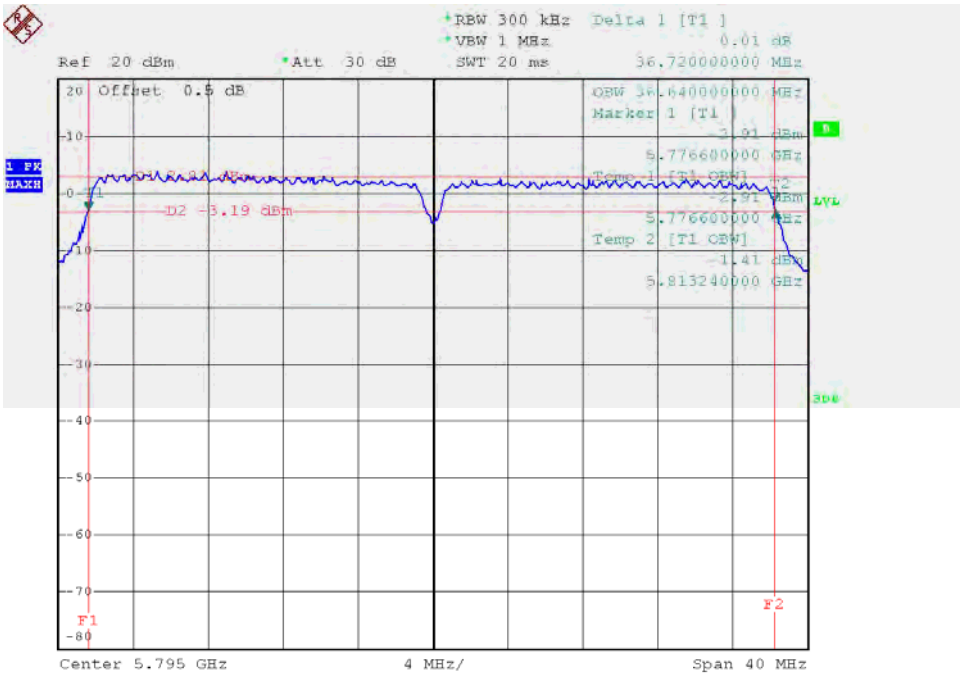
| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name. ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N40 Mode /CH151, CH159 | | |

| Test Channel | Frequency (MHz) | 6dB Bandwidth (MHz) | 99% Occupied BW (MHz) | LIMIT (MHz) |
|---|---|---|---|---|
| CH151 | 5755 | 36.72 | 36.64 | >=500KHz |
| CH159 | 5795 | 36.80 | 36.64 | >=500KHz |

**TX 5755MHz**



**TX 5795MHz**




Date: 9.OCT.2012 23:54:51

# 6. MAXIMUM OUTPUT POWER TEST

## 6.1 Applied procedures / limit

| FCC Part15 (15.247) , Subpart C | | | | |
|---|---|---|---|---|
| Section | Test Item | Limit | Frequency Range (MHz) | Result |
| 15.247(b)(3) | Maximum Output Power | 1 watt or 30dBm | 5725 - 5825 | PASS |

### 6.1.1 MEASUREMENT INSTRUMENTS LIST

| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Last Calibration | Next Calibration |
|---|---|---|---|---|---|---|
| 1 | Power Meter | Anritsu | ML2495A | 1128009 | Nov.01.2012 | Nov.01.2013 |
| 2 | Pluse Power Sensor | Anritsu | MA2411B | 1128009 | Nov.01.2012 | Nov.01.2013 |

Remark: “N/A” denotes no model name, serial no. or calibration specified.
All calibration period of Equipment List is One Year.

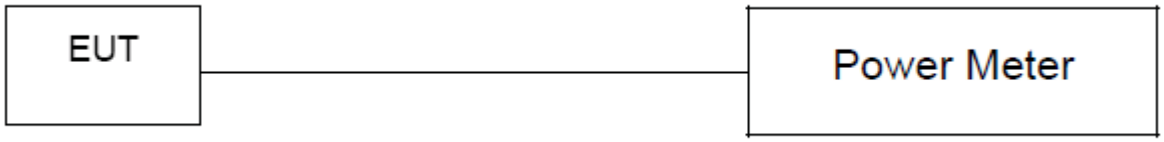
### 6.1.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,

### 6.1.3 DEVIATION FROM STANDARD

No deviation.

### 6.1.4 TEST SETUP




### 6.1.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

### 6.1.6 TEST RESULTS

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX A Mode /CH149, CH157, CH165 - For 1TX | | |

| ANT 2 | | | | |
|---|---|---|---|---|
| Test Channel | Frequency (MHz) | Maximum Output Power (dBm) | LIMIT (dBm) | LIMIT (W) |
| CH149 | 5745 MHz | 21.15 | 30 | 1 |
| CH157 | 5785 MHz | 21.28 | 30 | 1 |
| CH165 | 5825 MHz | 20.98 | 30 | 1 |

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N20 Mode /CH149, CH157, CH165 - For 1TX | | |

| ANT 2 | | | | |
|---|---|---|---|---|
| Test Channel | Frequency (MHz) | Maximum Output Power (dBm) | LIMIT (dBm) | LIMIT (W) |
| CH149 | 5745 MHz | 21.70 | 30 | 1 |
| CH157 | 5785 MHz | 21.77 | 30 | 1 |
| CH165 | 5825 MHz | 20.15 | 30 | 1 |

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N40 Mode /CH151, CH159 - For 1TX | | |

| ANT 2 | | | | |
|---|---|---|---|---|
| Test Channel | Frequency (MHz) | Maximum Output Power (dBm) | LIMIT (dBm) | LIMIT (W) |
| CH151 | 5755 MHz | 20.46 | 30 | 1 |
| CH159 | 5795 MHz | 20.97 | 30 | 1 |

| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX A Mode /CH149, CH157, CH165 - For 2TX | | |

| ANT 1 | | | | |
|---|---|---|---|---|
| Test Channel | Frequency (MHz) | Maximum Output Power (dBm) | LIMIT (dBm) | LIMIT (W) |
| CH149 | 5745 MHz | 20.27 | 30 | 1 |
| CH157 | 5785 MHz | 20.15 | 30 | 1 |
| CH165 | 5825 MHz | 20.33 | 30 | 1 |

| ANT 2 | | | | |
|---|---|---|---|---|
| Test Channel | Frequency (MHz) | Maximum Output Power (dBm) | LIMIT (dBm) | LIMIT (W) |
| CH149 | 5745 MHz | 20.47 | 30 | 1 |
| CH157 | 5785 MHz | 20.66 | 30 | 1 |
| CH165 | 5825 MHz | 20.84 | 30 | 1 |

| Total | | | | |
|---|---|---|---|---|
| Test Channel | Frequency (MHz) | Maximum Output Power (dBm) | LIMIT (dBm) | LIMIT (W) |
| CH149 | 5745 MHz | 23.38 | 30 | 1 |
| CH157 | 5785 MHz | 23.42 | 30 | 1 |
| CH165 | 5825 MHz | 23.60 | 30 | 1 |

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N20 Mode /CH149, CH157, CH165 - For 2TX | | |

| ANT 1 | | | | |
|---|---|---|---|---|
| Test Channel | Frequency (MHz) | Maximum Output Power (dBm) | LIMIT (dBm) | LIMIT (W) |
| CH149 | 5745 MHz | 20.91 | 30 | 1 |
| CH157 | 5785 MHz | 21.26 | 30 | 1 |
| CH165 | 5825 MHz | 19.58 | 30 | 1 |

| ANT 2 | | | | |
|---|---|---|---|---|
| Test Channel | Frequency (MHz) | Maximum Output Power (dBm) | LIMIT (dBm) | LIMIT (W) |
| CH149 | 5745 MHz | 21.03 | 30 | 1 |
| CH157 | 5785 MHz | 20.82 | 30 | 1 |
| CH165 | 5825 MHz | 20.13 | 30 | 1 |

| Total | | | | |
|---|---|---|---|---|
| Test Channel | Frequency (MHz) | Maximum Output Power (dBm) | LIMIT (dBm) | LIMIT (W) |
| CH149 | 5745 MHz | 23.98 | 30 | 1 |
| CH157 | 5785 MHz | 24.06 | 30 | 1 |
| CH165 | 5825 MHz | 22.87 | 30 | 1 |

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N40 Mode /CH151, CH159 - For 2TX | | |

| ANT 1 | | | | |
|---|---|---|---|---|
| Test Channel | Frequency (MHz) | Maximum Output Power (dBm) | LIMIT (dBm) | LIMIT (W) |
| CH151 | 5755 MHz | 20.16 | 30 | 1 |
| CH159 | 5795 MHz | 20.78 | 30 | 1 |

| ANT 2 | | | | |
|---|---|---|---|---|
| Test Channel | Frequency (MHz) | Maximum Output Power (dBm) | LIMIT (dBm) | LIMIT (W) |
| CH151 | 5755 MHz | 20.79 | 30 | 1 |
| CH159 | 5795 MHz | 20.75 | 30 | 1 |

| Total | | | | |
|---|---|---|---|---|
| Test Channel | Frequency (MHz) | Maximum Output Power (dBm) | LIMIT (dBm) | LIMIT (W) |
| CH151 | 5755 MHz | 23.50 | 30 | 1 |
| CH159 | 5795 MHz | 23.78 | 30 | 1 |

| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX A Mode /CH149, CH157, CH165 - For 3TX | | |

| ANT 1 | | | | |
|---|---|---|---|---|
| Test Channel | Frequency (MHz) | Maximum Output Power (dBm) | LIMIT (dBm) | LIMIT (W) |
| CH149 | 5745 MHz | 18.08 | 30 | 1 |
| CH157 | 5785 MHz | 18.57 | 30 | 1 |
| CH165 | 5825 MHz | 19.28 | 30 | 1 |

| ANT 2 | | | | |
|---|---|---|---|---|
| Test Channel | Frequency (MHz) | Maximum Output Power (dBm) | LIMIT (dBm) | LIMIT (W) |
| CH149 | 5745 MHz | 19.12 | 30 | 1 |
| CH157 | 5785 MHz | 19.98 | 30 | 1 |
| CH165 | 5825 MHz | 19.62 | 30 | 1 |

| ANT 3 | | | | |
|---|---|---|---|---|
| Test Channel | Frequency (MHz) | Maximum Output Power (dBm) | LIMIT (dBm) | LIMIT (W) |
| CH149 | 5745 MHz | 19.35 | 30 | 1 |
| CH157 | 5785 MHz | 20.14 | 30 | 1 |
| CH165 | 5825 MHz | 19.69 | 30 | 1 |

| Total | | | | |
|---|---|---|---|---|
| Test Channel | Frequency (MHz) | Maximum Output Power (dBm) | LIMIT (dBm) | LIMIT (W) |
| CH149 | 5745 MHz | 23.66 | 30 | 1 |
| CH157 | 5785 MHz | 24.39 | 30 | 1 |
| CH165 | 5825 MHz | 24.30 | 30 | 1 |

| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N20 Mode /CH149, CH157, CH165 - For 3TX | | |

| ANT 1 | | | | |
|---|---|---|---|---|
| Test Channel | Frequency (MHz) | Maximum Output Power (dBm) | LIMIT (dBm) | LIMIT (W) |
| CH149 | 5745 MHz | 19.13 | 30 | 1 |
| CH157 | 5785 MHz | 19.03 | 30 | 1 |
| CH165 | 5825 MHz | 18.86 | 30 | 1 |

| ANT 2 | | | | |
|---|---|---|---|---|
| Test Channel | Frequency (MHz) | Maximum Output Power (dBm) | LIMIT (dBm) | LIMIT (W) |
| CH149 | 5745 MHz | 19.87 | 30 | 1 |
| CH157 | 5785 MHz | 19.24 | 30 | 1 |
| CH165 | 5825 MHz | 19.74 | 30 | 1 |

| ANT 3 | | | | |
|---|---|---|---|---|
| Test Channel | Frequency (MHz) | Maximum Output Power (dBm) | LIMIT (dBm) | LIMIT (W) |
| CH149 | 5745 MHz | 20.03 | 30 | 1 |
| CH157 | 5785 MHz | 20.12 | 30 | 1 |
| CH165 | 5825 MHz | 20.03 | 30 | 1 |

| Total | | | | |
|---|---|---|---|---|
| Test Channel | Frequency (MHz) | Maximum Output Power (dBm) | LIMIT (dBm) | LIMIT (W) |
| CH149 | 5745 MHz | 24.47 | 30 | 1 |
| CH157 | 5785 MHz | 24.26 | 30 | 1 |
| CH165 | 5825 MHz | 24.34 | 30 | 1 |

| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
|---|---|---|---|
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N40 Mode /CH151, CH159 - For 3TX | | |

| ANT 1 | | | | |
|---|---|---|---|---|
| Test Channel | Frequency (MHz) | Maximum Output Power (dBm) | LIMIT (dBm) | LIMIT (W) |
| CH151 | 5755 MHz | 19.15 | 30 | 1 |
| CH159 | 5795 MHz | 18.81 | 30 | 1 |

| ANT 2 | | | | |
|---|---|---|---|---|
| Test Channel | Frequency (MHz) | Maximum Output Power (dBm) | LIMIT (dBm) | LIMIT (W) |
| CH151 | 5755 MHz | 19.38 | 30 | 1 |
| CH159 | 5795 MHz | 19.49 | 30 | 1 |

| ANT 3 | | | | |
|---|---|---|---|---|
| Test Channel | Frequency (MHz) | Maximum Output Power (dBm) | LIMIT (dBm) | LIMIT (W) |
| CH151 | 5755 MHz | 19.79 | 30 | 1 |
| CH159 | 5795 MHz | 20.11 | 30 | 1 |

| Total | | | | |
|---|---|---|---|---|
| Test Channel | Frequency (MHz) | Maximum Output Power (dBm) | LIMIT (dBm) | LIMIT (W) |
| CH151 | 5755 MHz | 24.22 | 30 | 1 |
| CH159 | 5795 MHz | 24.27 | 30 | 1 |

Remark：

(1) **The MIMO test requirement, RF conducted output power shall measure each transmitter chain by using channel power method.**
**And after obtain each individual transmitter chain power, then sum the output power by using the following formula:**
**((dBm/Chain 1)/10^Log) + ((dBm/Chain 2)/10^log) + ((dBm/ChainN)/10^log) = Combined peak output power in mW.**

(2) **Antenna Gain 1=5.74 dBi**

(3) **Note: This EUT supports MIMO, all transmit signals are completely uncorrelated, then, Direction gain = $G_{ANT}$, that is Directional gain=5.74.**

## 7. ANTENNA CONDUCTED SPURIOUS EMISSION

### 7.1 Applied procedures / limit

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

| Frequencies (MHz) | Field Strength (micorvolts/meter) | Measurement Distance (meters) |
|---|---|---|
| 0.009~0.490 | 2400/F(KHz) | 300 |
| 0.490~1.705 | 24000/F(KHz) | 30 |
| 1.705~30.0 | 30 | 30 |
| 30~88 | 100 | 3 |
| 88~216 | 150 | 3 |
| 216~960 | 200 | 3 |
| Above 960 | 500 | 3 |

### 7.1.1 MEASUREMENT INSTRUMENTS LIST

| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Last Calibration | Next Calibration |
|---|---|---|---|---|---|---|
| 1 | Spectrum Analyzer | R&S | FSP_40 | 100185 | Nov.26.2011 | Nov.26.2012 |

Remark: “N/A” denotes no model name, serial no. or calibration specified.
All calibration period of Equipment List is One Year.

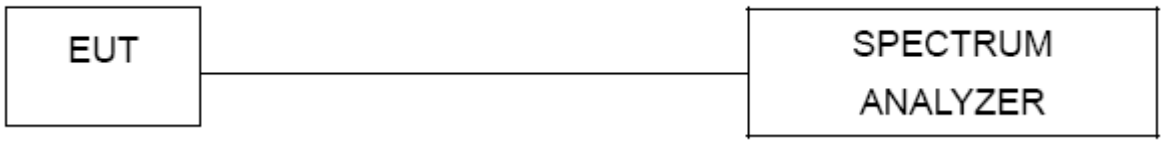
### 7.1.2 TEST PROCEDURE

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=300KHz, Sweep time =20 ms.

### 7.1.3 DEVIATION FROM STANDARD

No deviation.

### 7.1.4 TEST SETUP




### 7.1.5 EUT OPERATION CONDITIONS

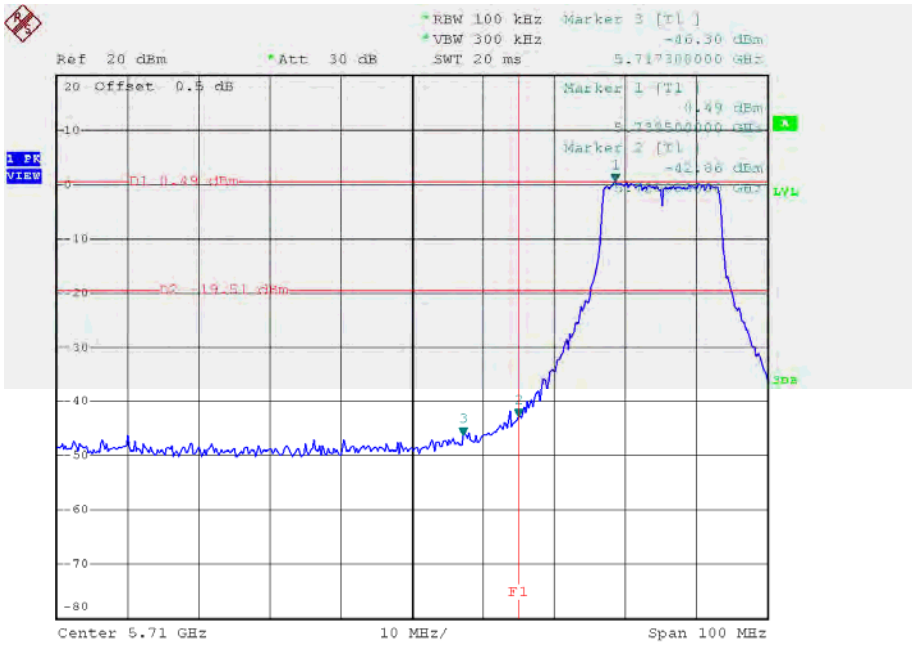
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

### 7.1.6 TEST RESULTS

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX A Mode /CH149, CH157, CH165 – ANT 2 For 1TX | | |

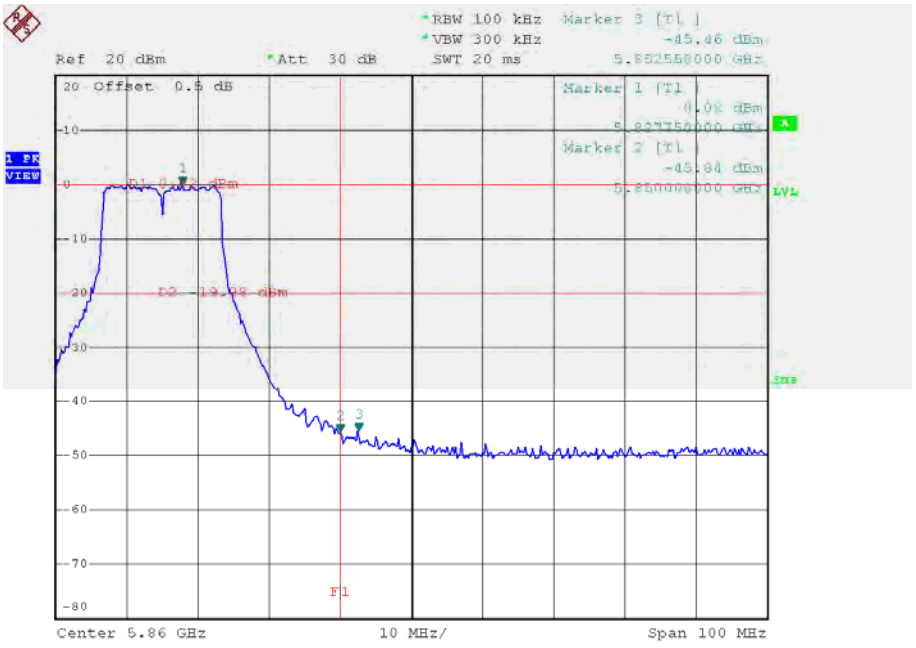
| Channel of Worst Data: CH149 | | | |
|---|---|---|---|
| The max. radio frequency power in any 100kHz bandwidth outside the frequency band | | The max. radio frequency power in any 100 kHz bandwidth within the frequency band. | |
| FREQUENCY(MHz) | POWER(dBm) | FREQUENCY(MHz) | POWER(dBm) |
| 5725.00 | -42.86 | 5825.50 | -45.46 |
| Result | | | |
| In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power. | | | |

**TX mode CH149**



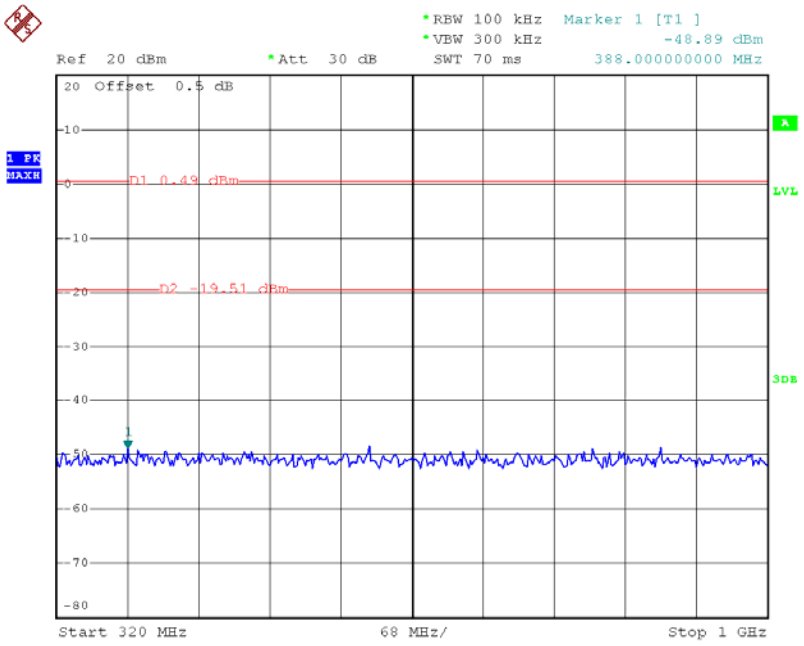

Date: 9.OCT.2012 23:07:32

**TX mode CH165**



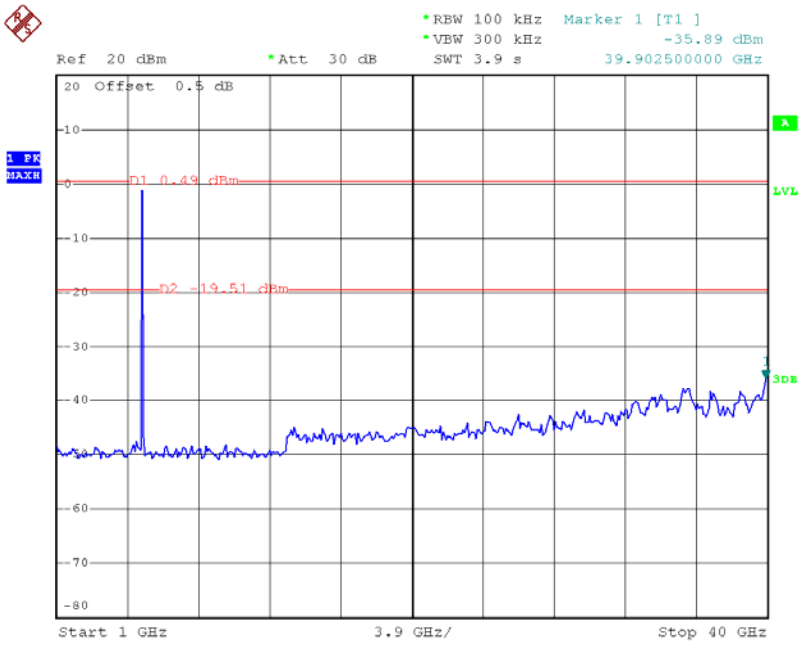

Date: 9.OCT.2012 23:20:19

## TX mode CH149 (30M~1000MHz)



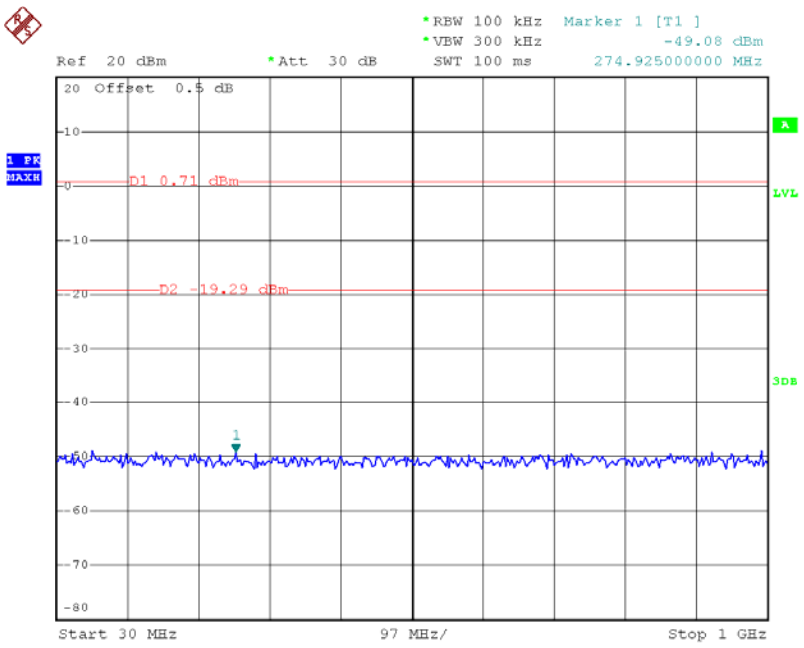

Date: 9.OCT.2012 23:07:48

## TX mode CH149 (1000MHz~10th Harmonic)



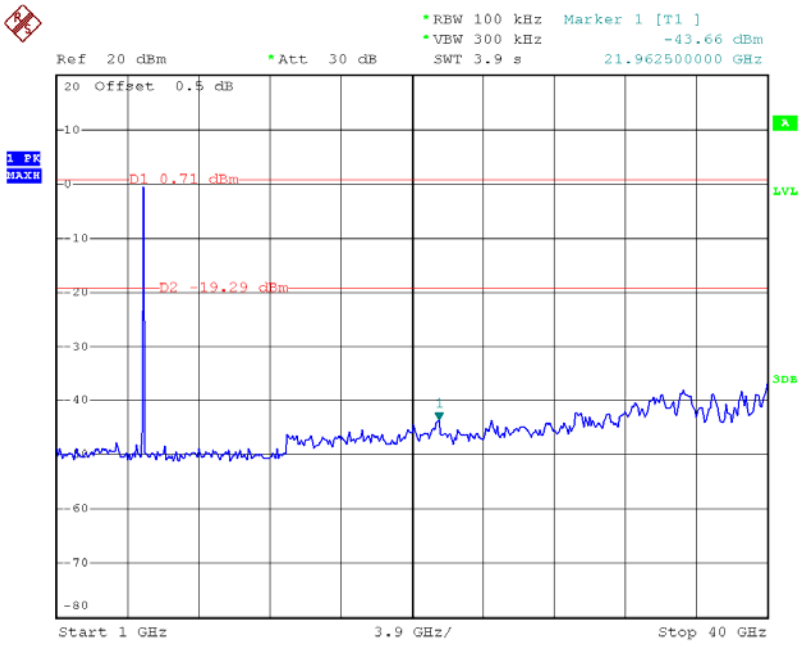

Date: 9.OCT.2012 23:08:07

## TX mode CH157 (30M~1000MHz)



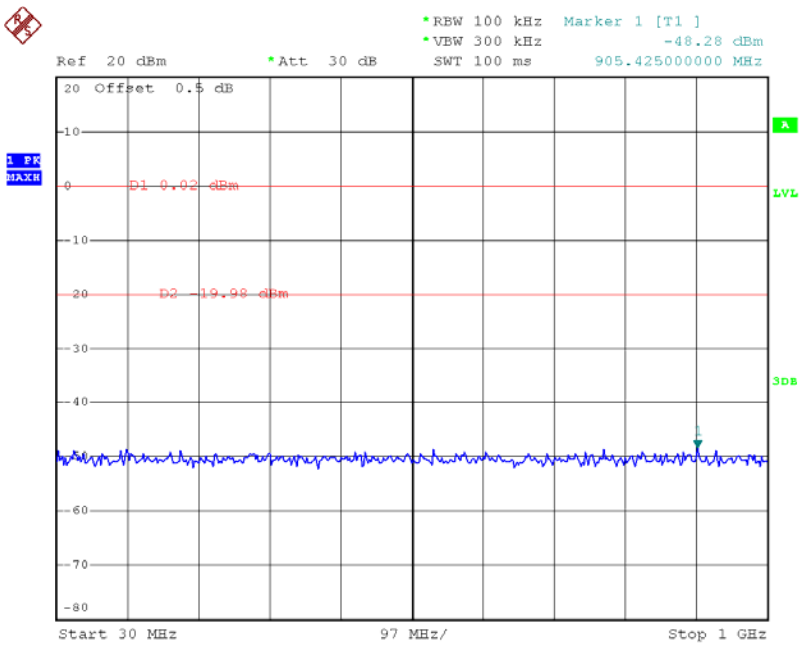

Date: 9.OCT.2012 23:18:11

## TX mode CH157 (1000MHz~10th Harmonic)



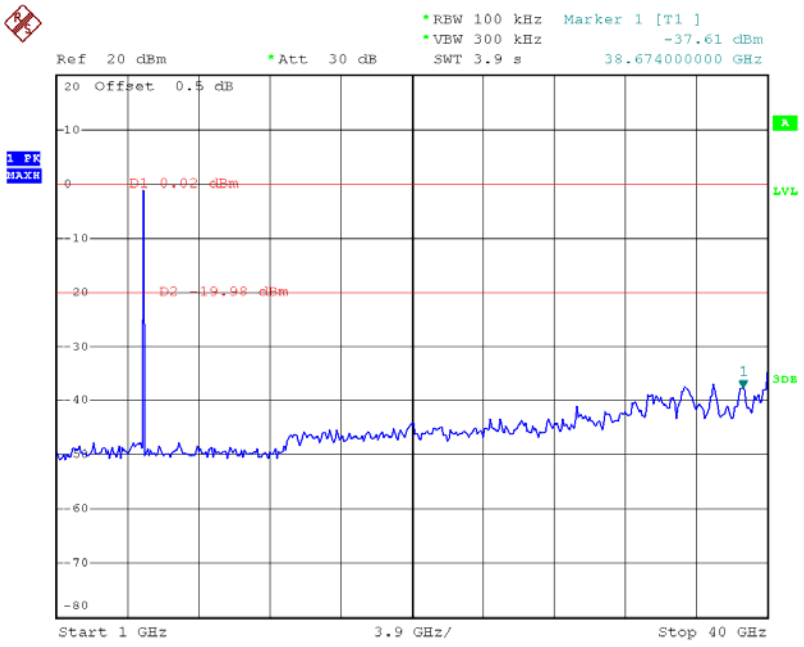

Date: 9.OCT.2012 23:18:24

## TX mode CH165 (30M~1000MHz)




Date: 9.OCT.2012 23:20:40

## TX mode CH165 (1000MHz~10th Harmonic)

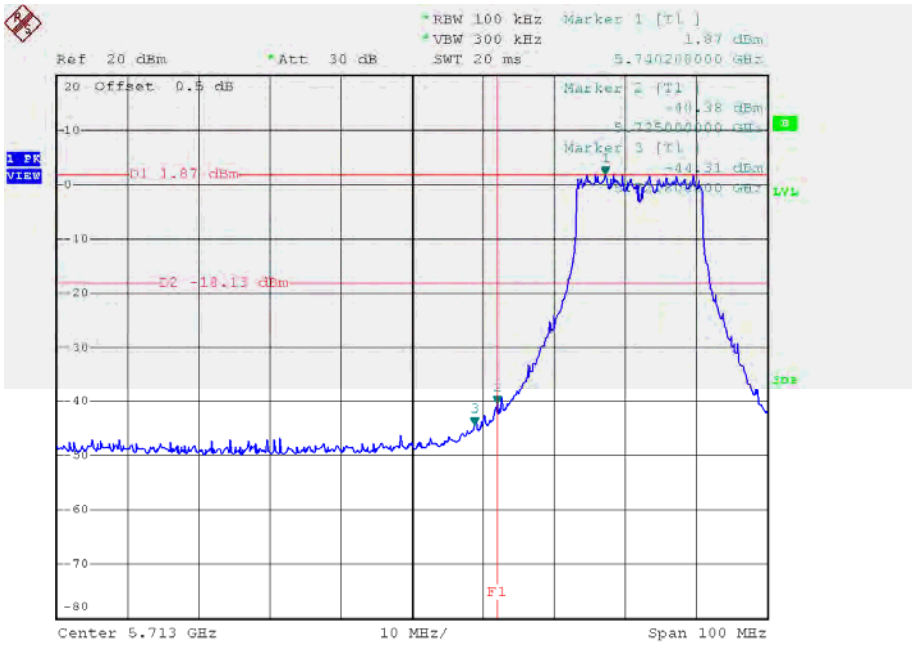



Date: 9.OCT.2012 23:20:58

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N20 Mode /CH149, CH157, CH165 – ANT 2 For 1TX | | |

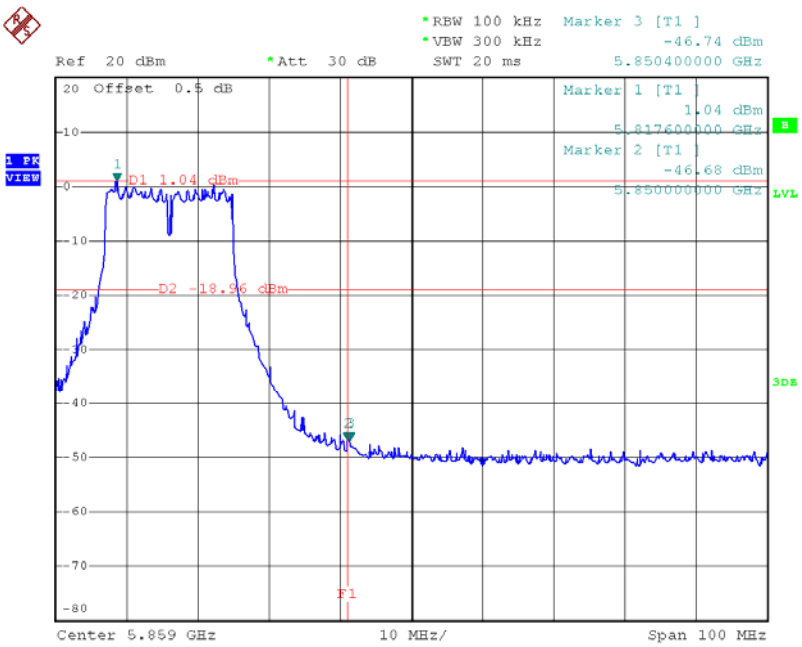
| Channel of Worst Data: CH149 | | | |
|---|---|---|---|
| The max. radio frequency power in any 100kHz bandwidth outside the frequency band | | The max. radio frequency power in any 100 kHz bandwidth within the frequency band. | |
| FREQUENCY(MHz) | POWER(dBm) | FREQUENCY(MHz) | POWER(dBm) |
| 5725.00 | -40.38 | 5850.00 | -46.68 |
| Result | | | |
| In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power. | | | |

**TX mode CH149**



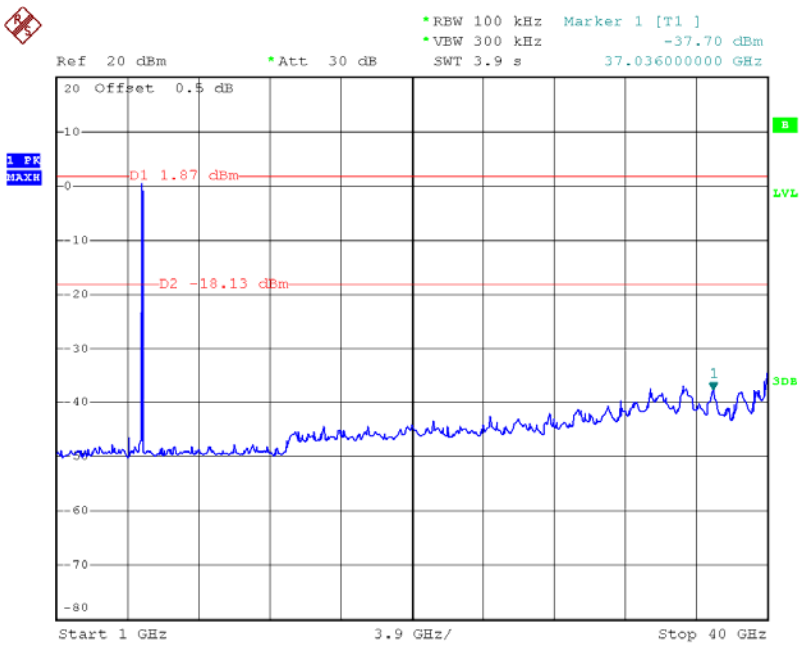

Date: 10.OCT.2012 00:21:02

**TX mode CH165**



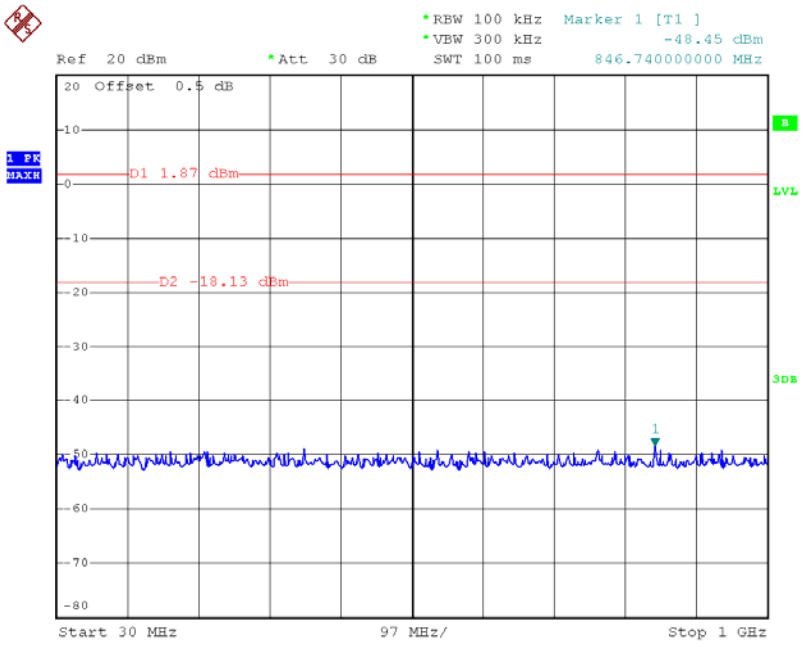

Date: 10.OCT.2012 00:33:36

## TX mode CH149 (30M~1000MHz)



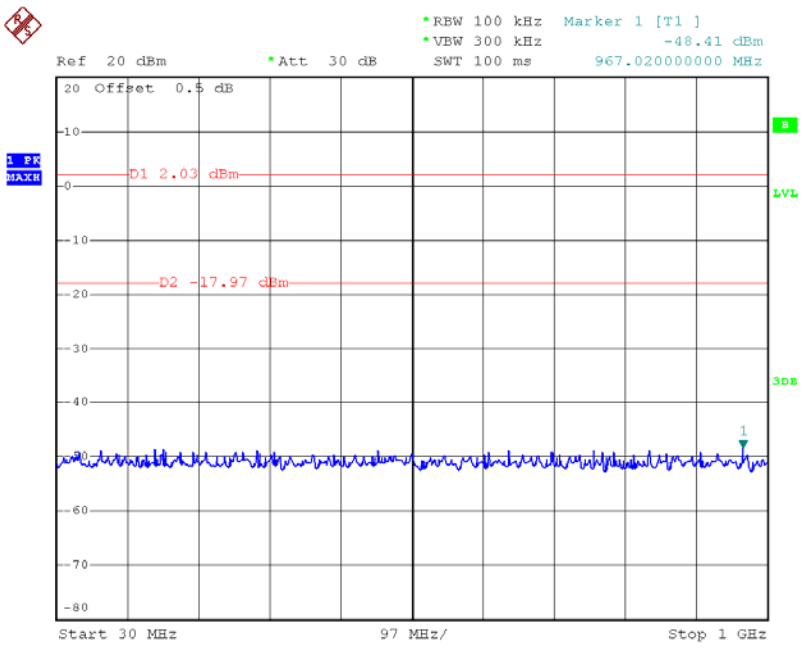

Date: 10.OCT.2012 00:23:11

## TX mode CH149 (1000MHz~10th Harmonic)



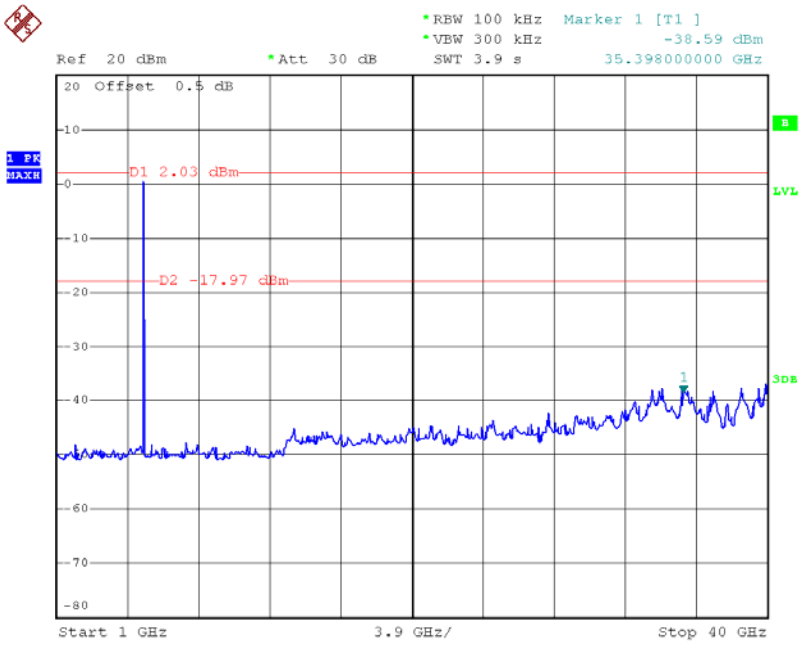

Date: 10.OCT.2012 00:23:19

## TX mode CH157 (30M~1000MHz)



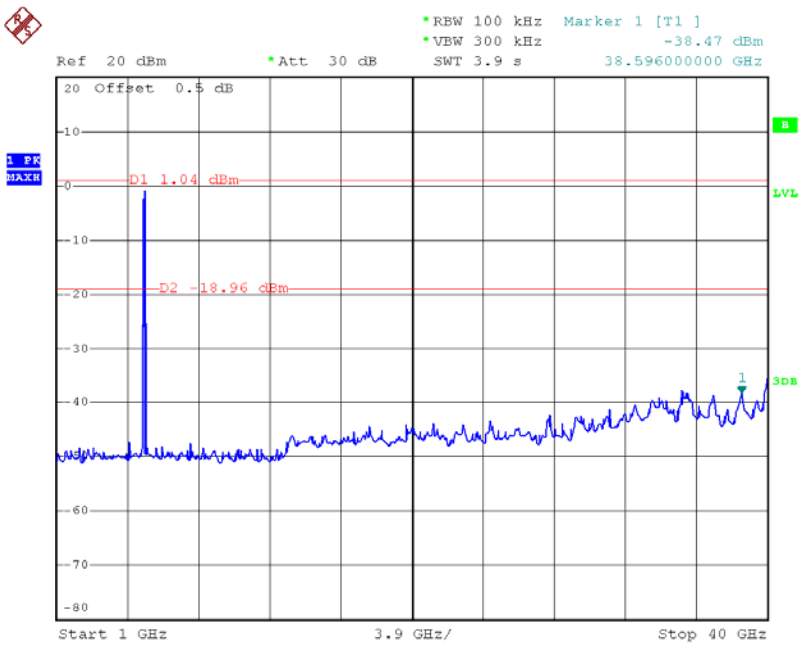

Date: 10.OCT.2012 00:27:31

## TX mode CH157 (1000MHz~10th Harmonic)



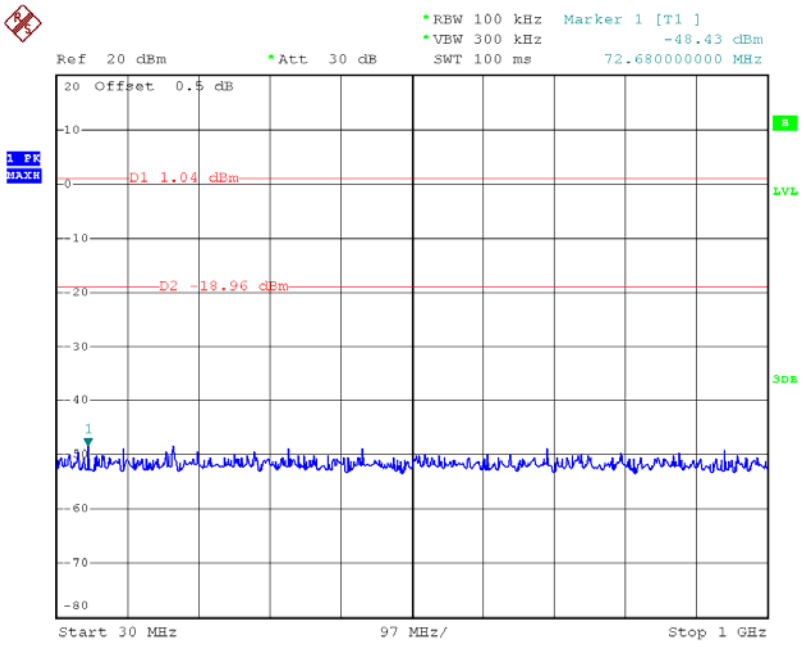

Date: 10.OCT.2012 00:27:47

## TX mode CH165 (30M~1000MHz)




Date: 10.OCT.2012 00:34:00

## TX mode CH165 (1000MHz~10th Harmonic)

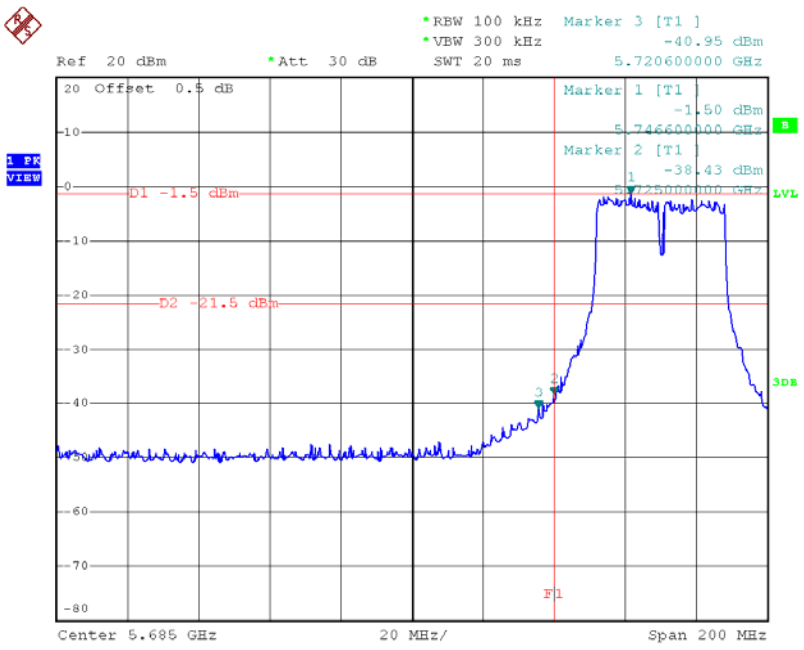



Date: 10.OCT.2012 00:34:06

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N40 Mode /CH151, CH159 – ANT 2 For 1TX | | |

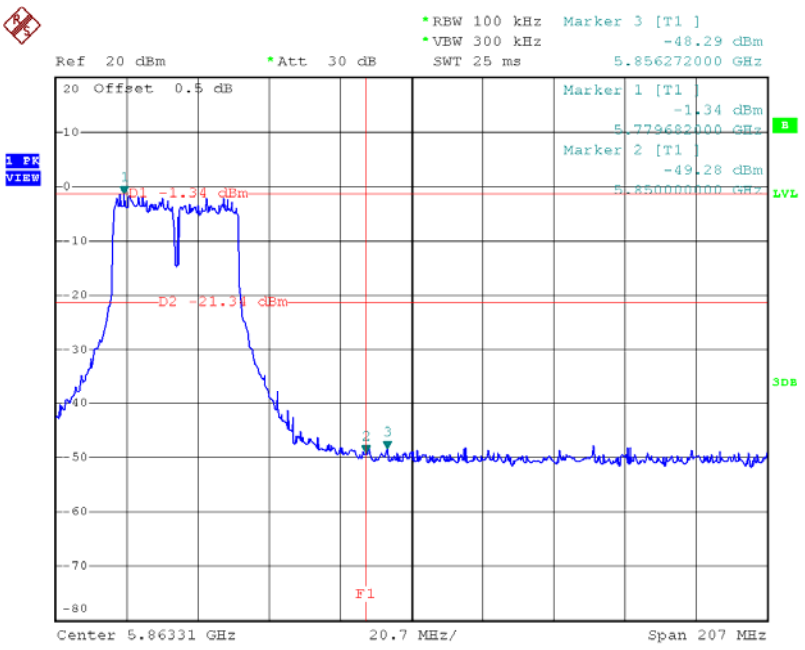
| Channel of Worst Data: CH151 | | | |
|---|---|---|---|
| The max. radio frequency power in any 100kHz bandwidth outside the frequency band | | The max. radio frequency power in any 100 kHz bandwidth within the frequency band. | |
| FREQUENCY(MHz) | POWER(dBm) | FREQUENCY(MHz) | POWER(dBm) |
| 5725.00 | -38.43 | 5856.27 | -48.29 |
| Result | | | |
| In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power. | | | |

## TX mode CH151



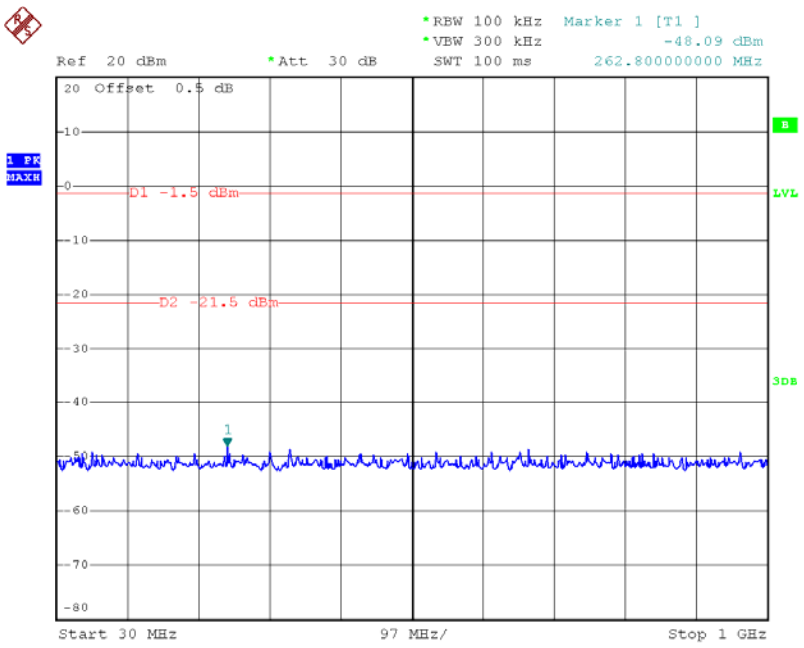

Date: 10.OCT.2012 00:04:30

## TX mode CH159



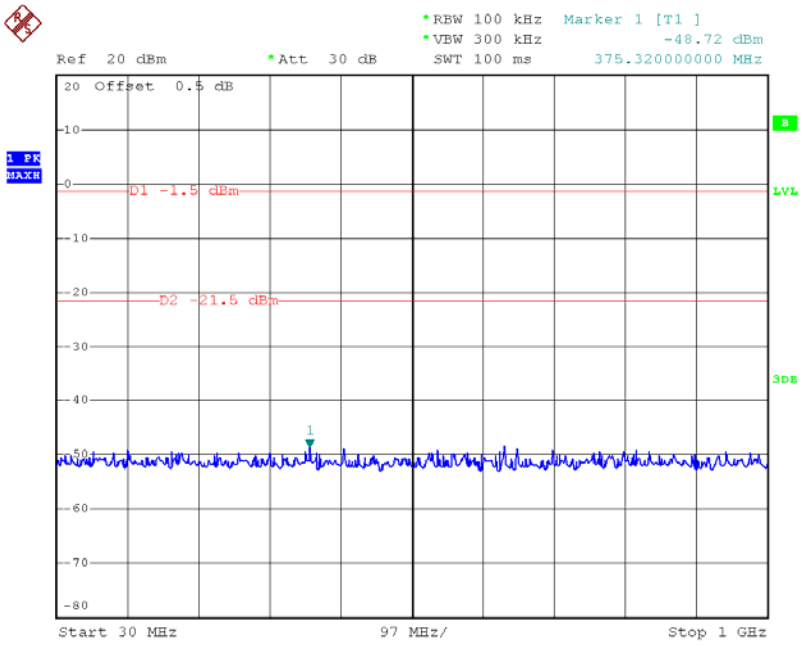

Date: 10.OCT.2012 00:10:54

## TX mode CH151 (30M~1000MHz)



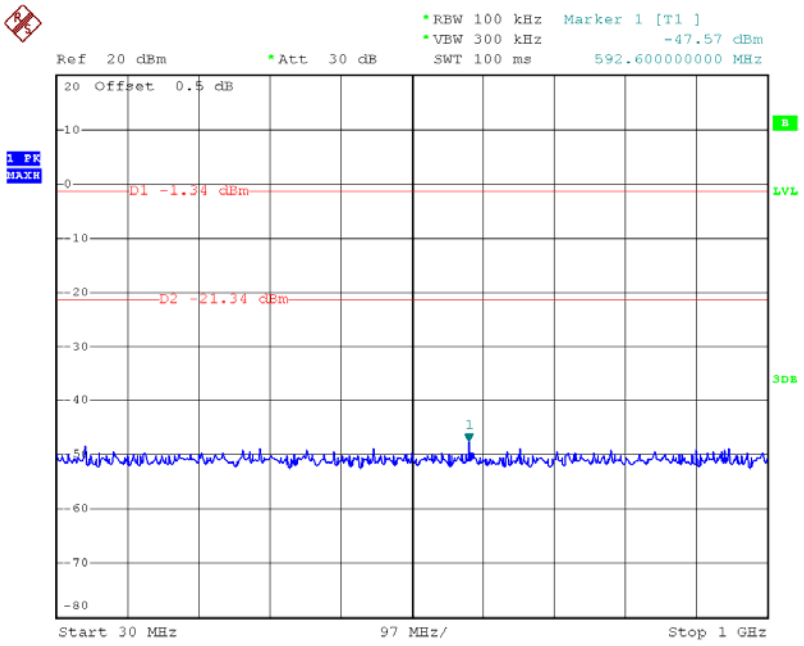

Date: 10.OCT.2012 00:04:47

## TX mode CH151 (1000MHz~10th Harmonic)



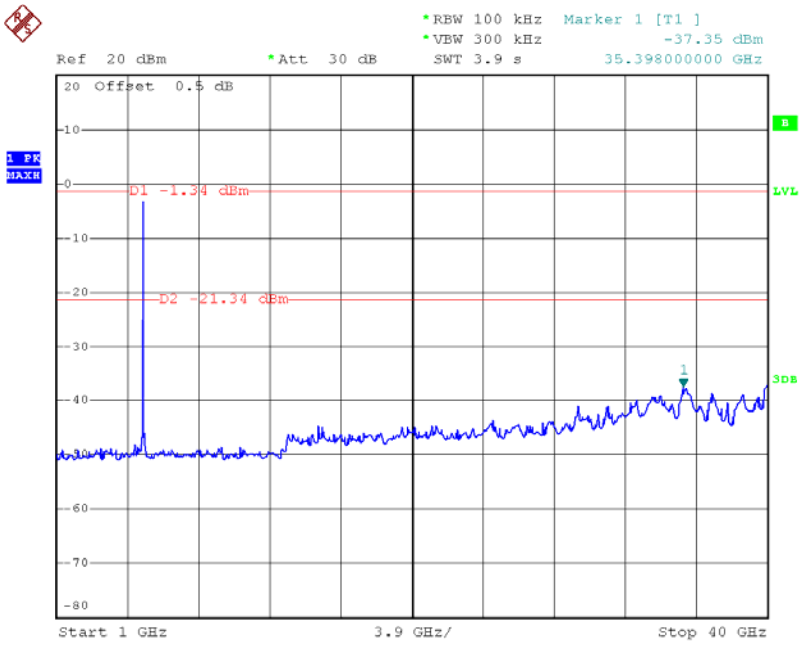

Date: 10.OCT.2012 00:04:52

## TX mode CH159 (30M~1000MHz)




Date: 10.OCT.2012 00:11:10

## TX mode CH159 (1000MHz~10th Harmonic)

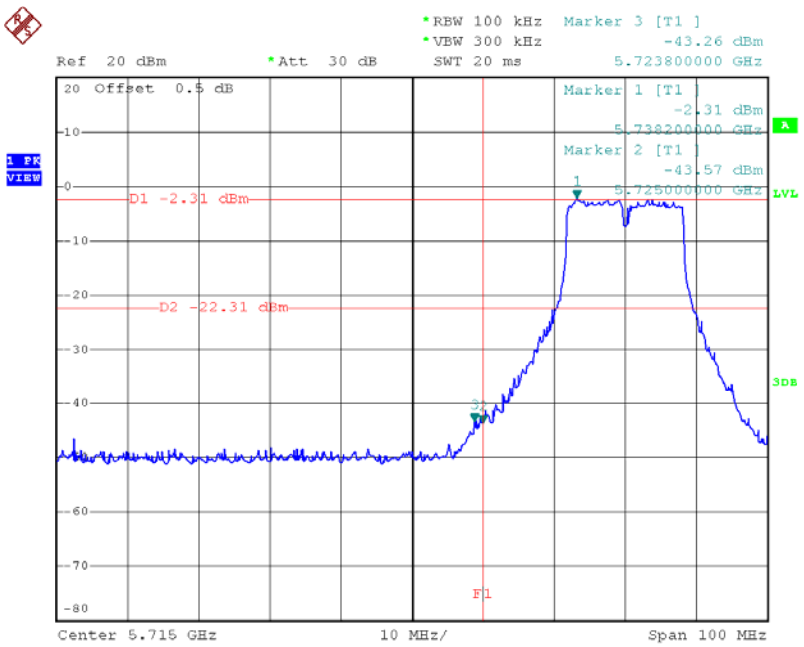



Date: 10.OCT.2012 00:11:28

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX A Mode /CH149, CH157, CH165 – ANT 1 For 2TX | | |

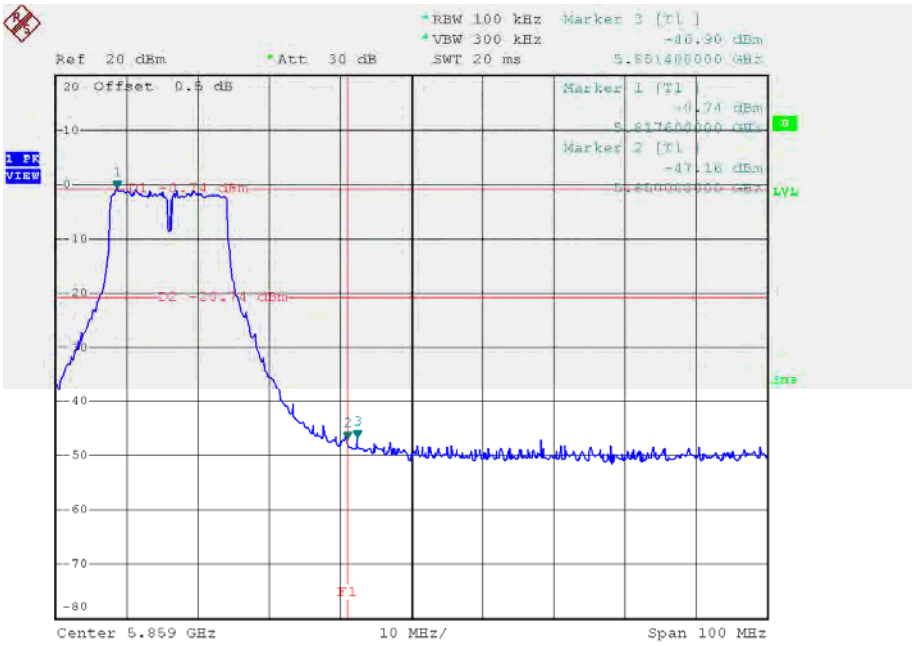
| Channel of Worst Data: CH149 | | | |
|---|---|---|---|
| The max. radio frequency power in any 100kHz bandwidth outside the frequency band | | The max. radio frequency power in any 100 kHz bandwidth within the frequency band. | |
| FREQUENCY(MHz) | POWER(dBm) | FREQUENCY(MHz) | POWER(dBm) |
| 5723.80 | -43.26 | 5851.40 | -46.90 |
| Result | | | |
| In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power. | | | |

## TX mode CH149



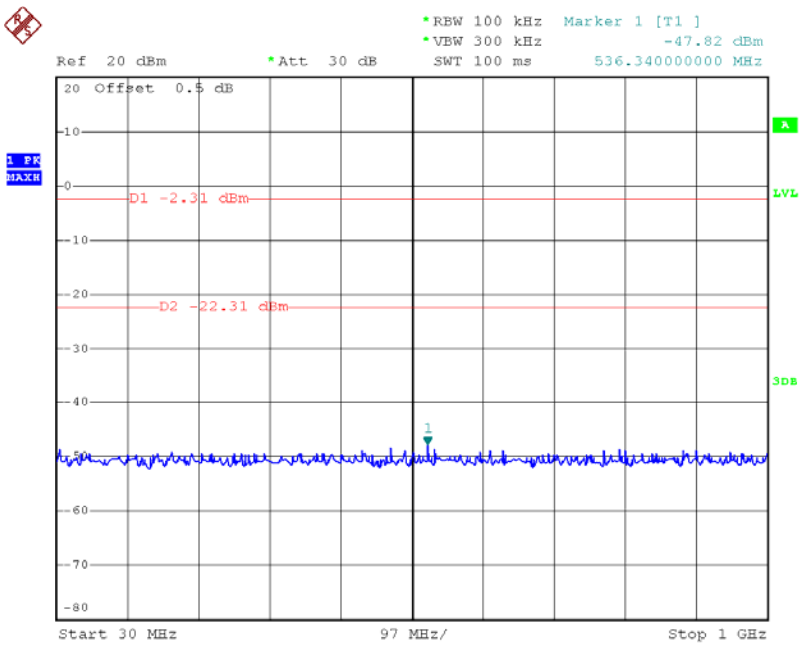

Date: 19.OCT.2012 04:57:56

## TX mode CH165



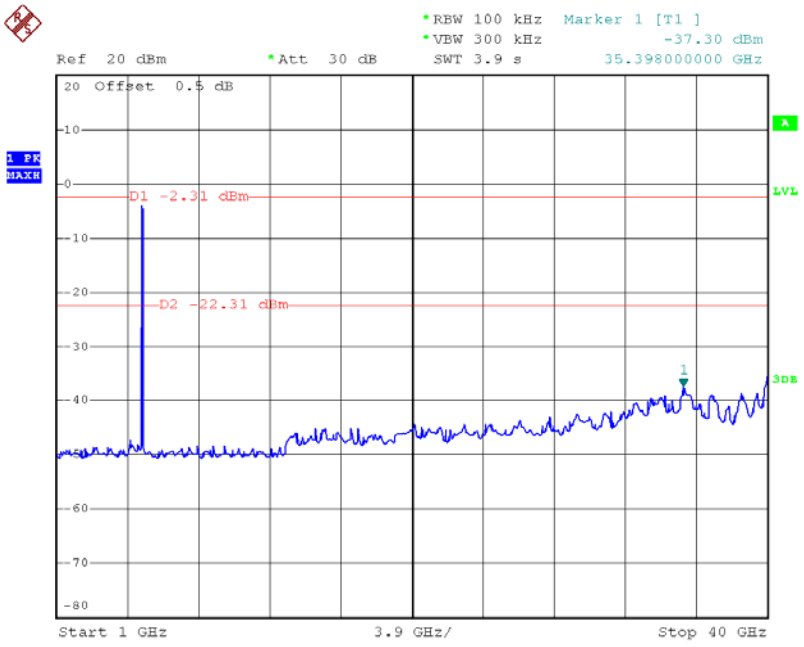

Date: 10.OCT.2012 00:39:33

## TX mode CH149 (30M~1000MHz)



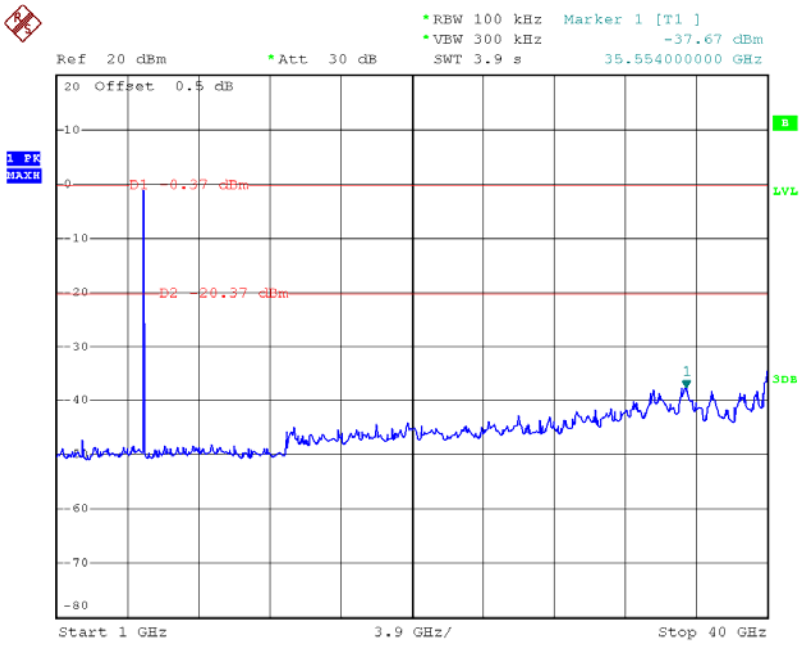

Date: 19.OCT.2012 04:58:37

## TX mode CH149 (1000MHz~10th Harmonic)



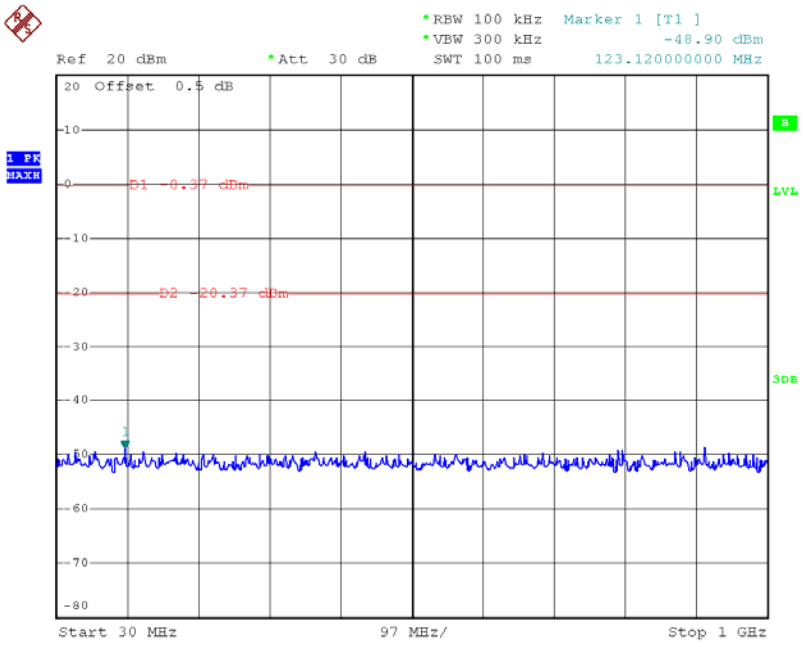

Date: 19.OCT.2012 04:59:09

## TX mode CH157 (30M~1000MHz)



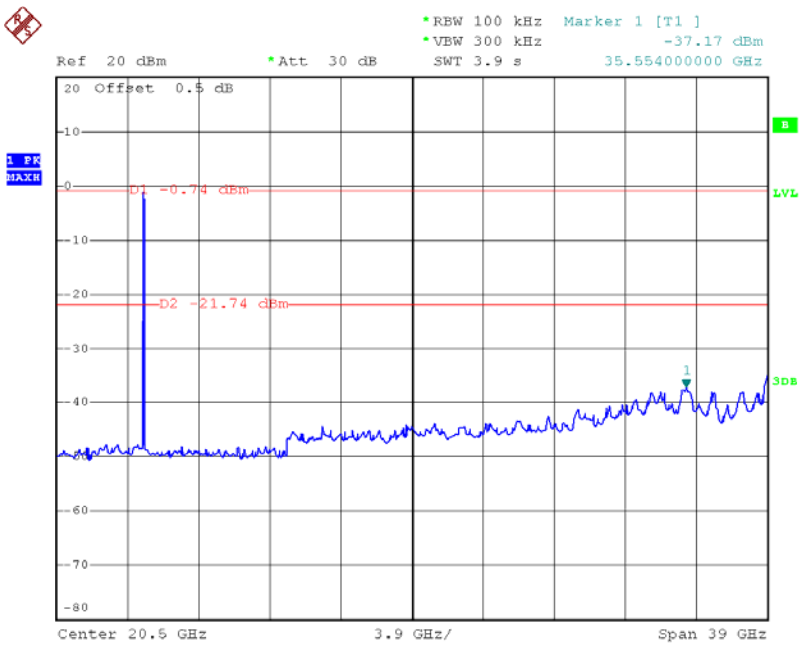

Date: 10.OCT.2012 00:46:20

## TX mode CH157 (1000MHz~10th Harmonic)



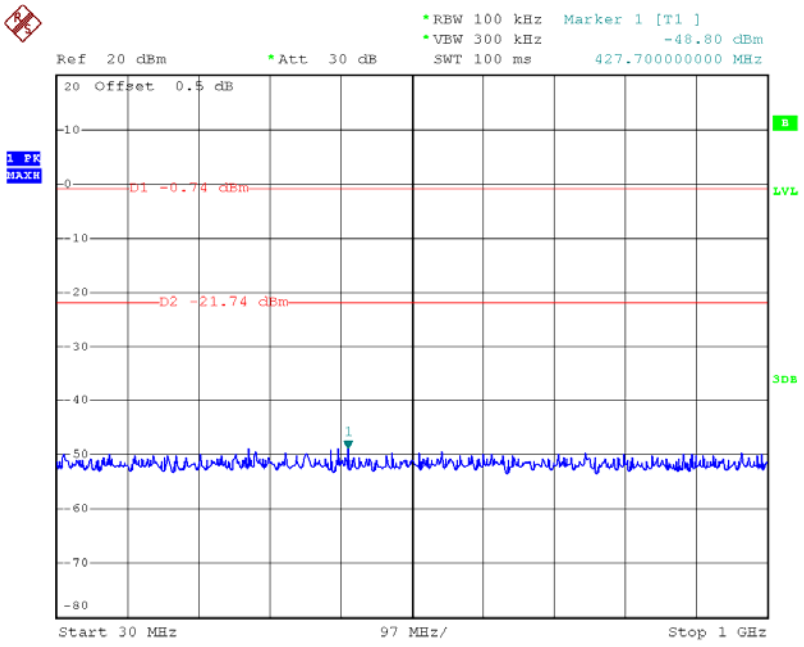

Date: 10.OCT.2012 00:45:58

## TX mode CH165 (30M~1000MHz)




Date: 10.OCT.2012 00:41:11

## TX mode CH165 (1000MHz~10th Harmonic)

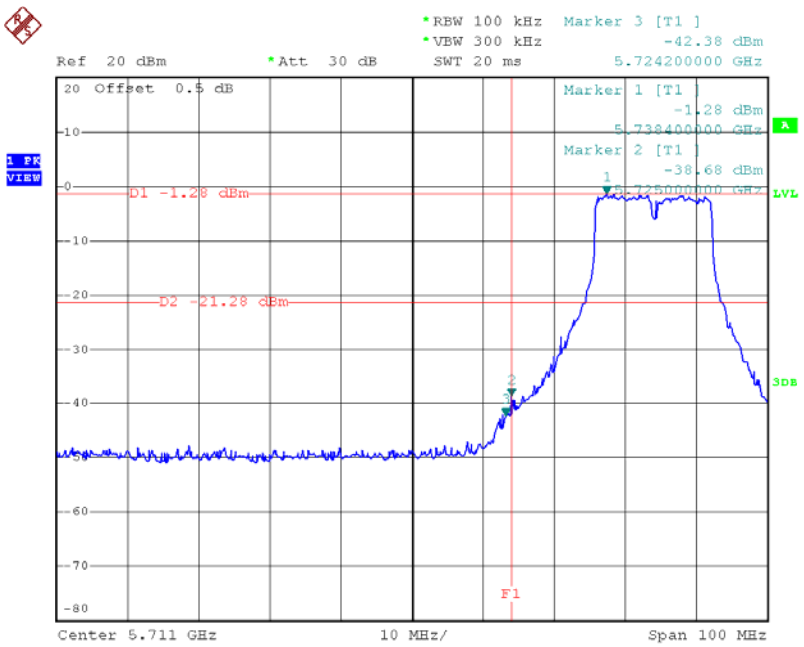



Date: 10.OCT.2012 00:41:19

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX A Mode /CH149, CH157, CH165 – ANT 2 For 2TX | | |

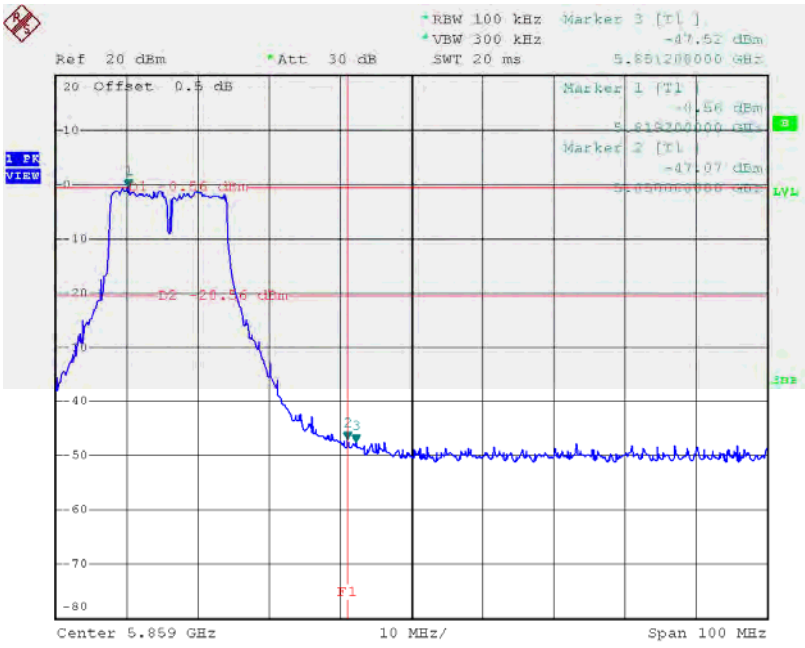
| Channel of Worst Data: CH149 | | | |
|---|---|---|---|
| The max. radio frequency power in any 100kHz bandwidth outside the frequency band | | The max. radio frequency power in any 100 kHz bandwidth within the frequency band. | |
| FREQUENCY(MHz) | POWER(dBm) | FREQUENCY(MHz) | POWER(dBm) |
| 5725.00 | -38.68 | 5850.00 | -47.07 |
| Result | | | |
| In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power. | | | |

## TX mode CH149



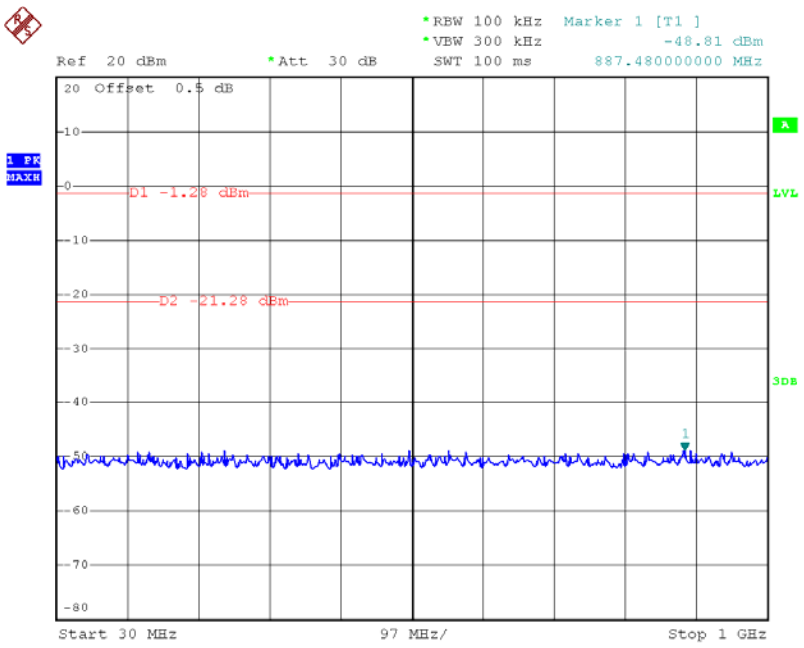

Date: 19.OCT.2012 04:55:22

## TX mode CH165



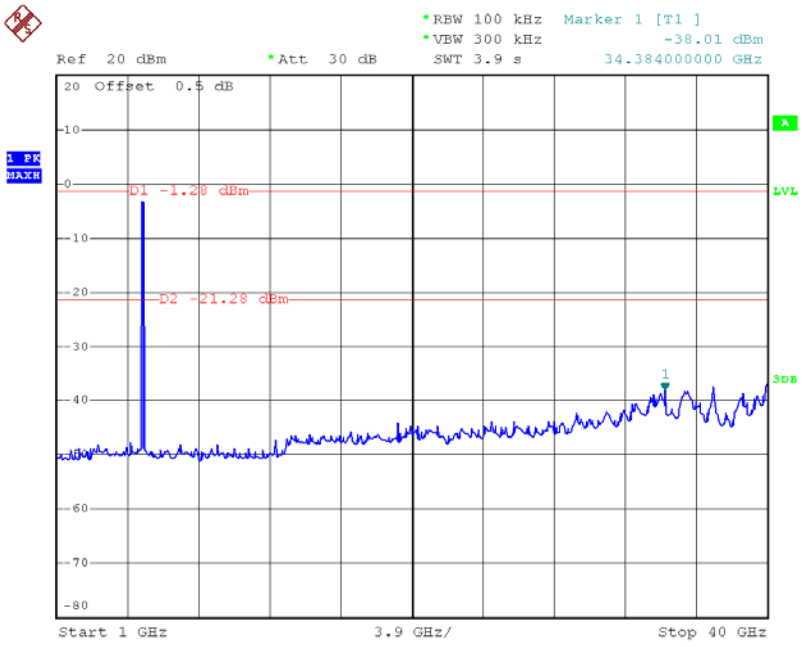

Date: 10.OCT.2012 00:40:06

## TX mode CH149 (30M~1000MHz)



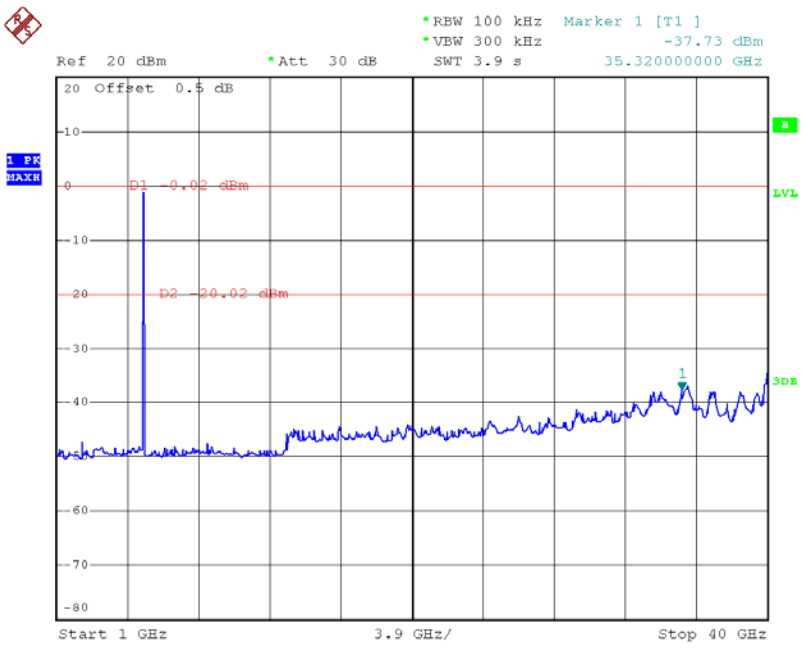

Date: 19.OCT.2012 04:55:59

## TX mode CH149 (1000MHz~10th Harmonic)



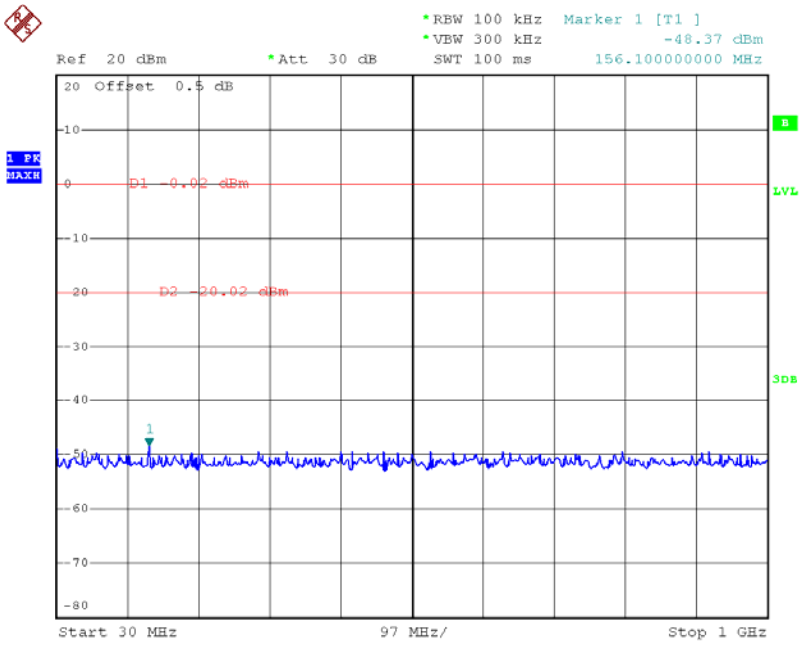

Date: 19.OCT.2012 04:56:39

## TX mode CH157 (30M~1000MHz)



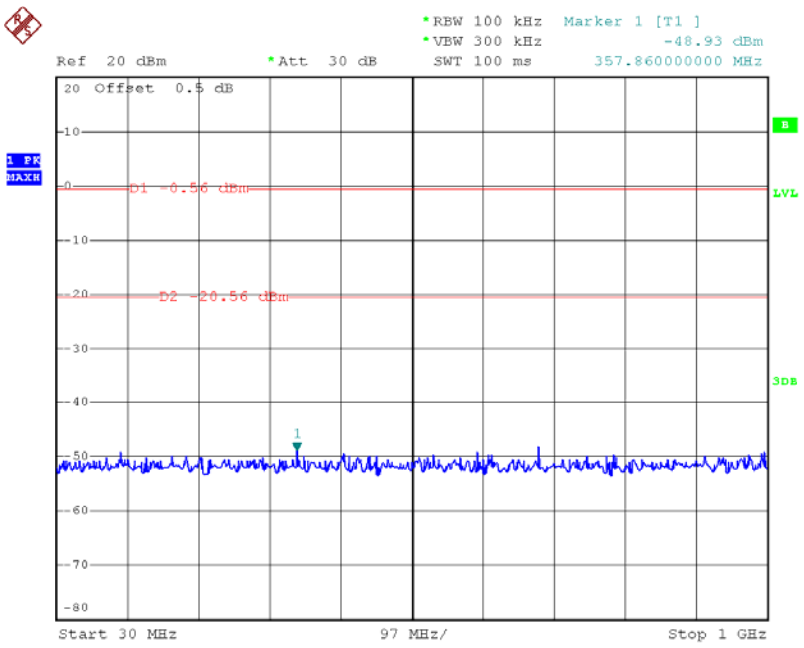

Date: 10.OCT.2012 00:46:44

## TX mode CH157 (1000MHz~10th Harmonic)



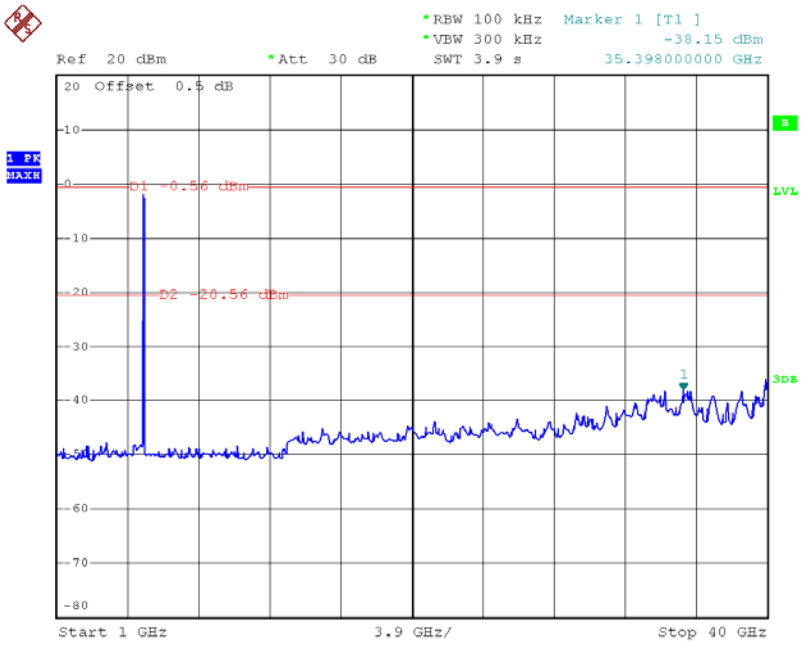

Date: 10.OCT.2012 00:46:51

## TX mode CH165 (30M~1000MHz)




Date: 10.OCT.2012 00:40:21

## TX mode CH165 (1000MHz~10th Harmonic)

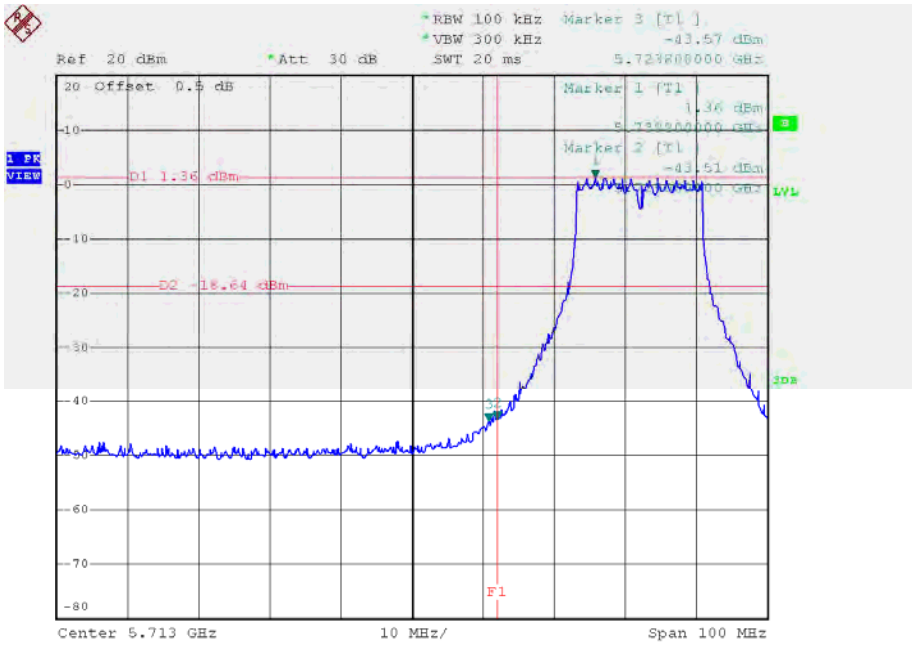



Date: 10.OCT.2012 00:40:36

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N20 Mode /CH149, CH157, CH165 – ANT 1 For 2TX | | |

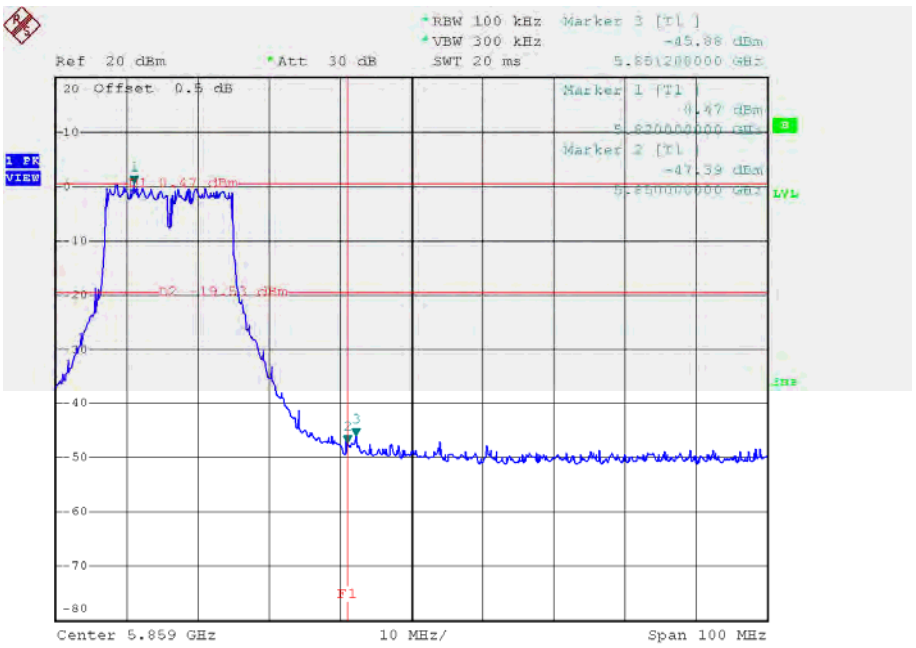
| Channel of Worst Data: CH149 | | | |
|---|---|---|---|
| The max. radio frequency power in any 100kHz bandwidth outside the frequency band | | The max. radio frequency power in any 100 kHz bandwidth within the frequency band. | |
| FREQUENCY(MHz) | POWER(dBm) | FREQUENCY(MHz) | POWER(dBm) |
| 5725.00 | -43.51 | 5851.20 | -45.88 |
| Result | | | |
| In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power. | | | |

**TX mode CH149**



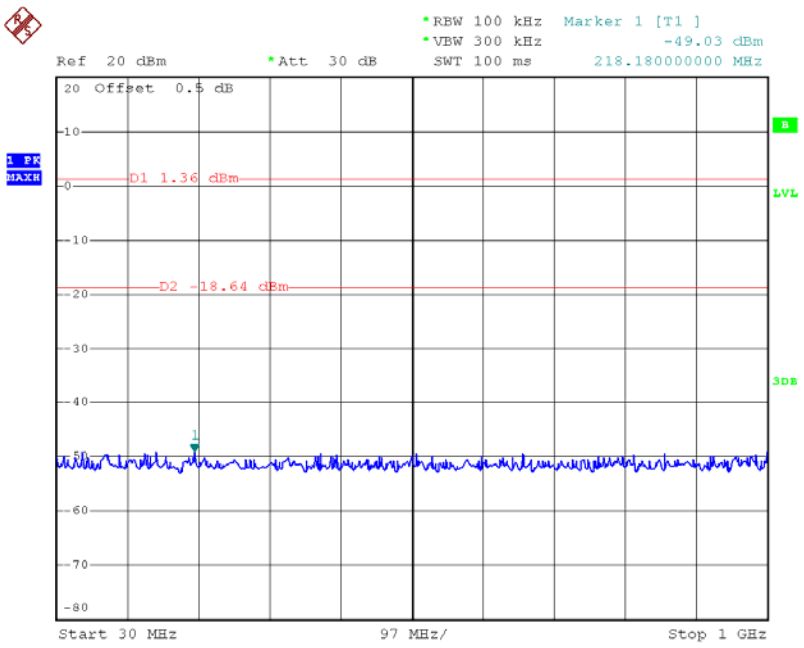

Date: 10.OCT.2012 00:21:45

**TX mode CH165**



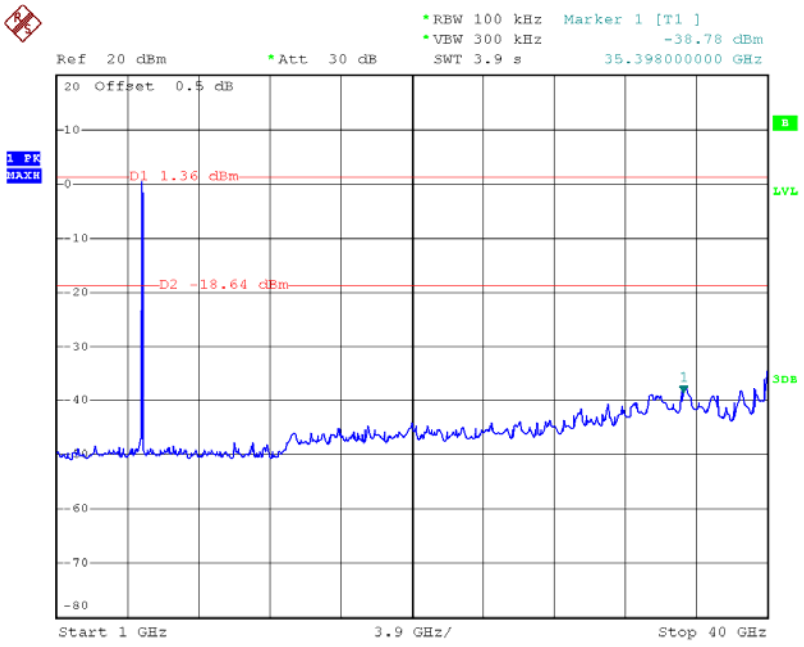

Date: 10.OCT.2012 00:32:59

## TX mode CH149 (30M~1000MHz)



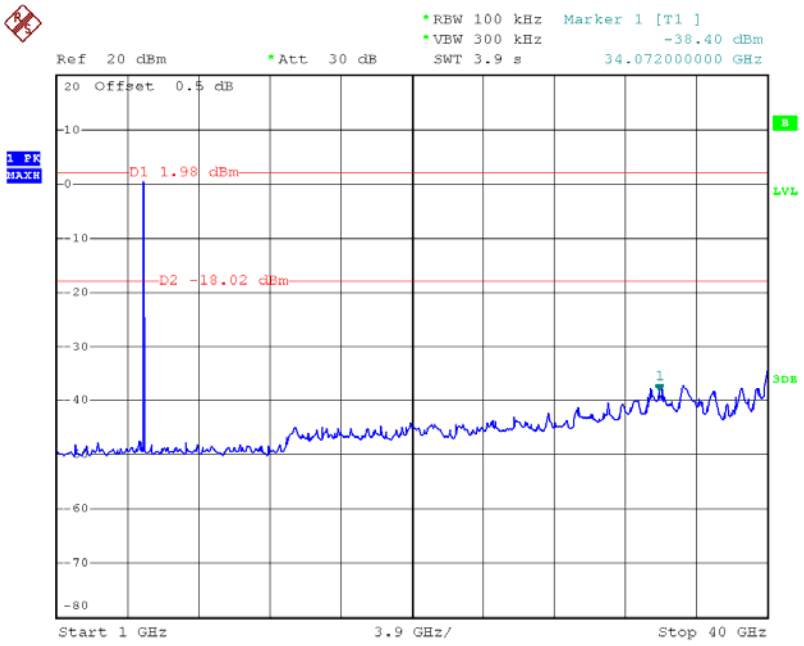

Date: 10.OCT.2012 00:22:00

## TX mode CH149 (1000MHz~10th Harmonic)



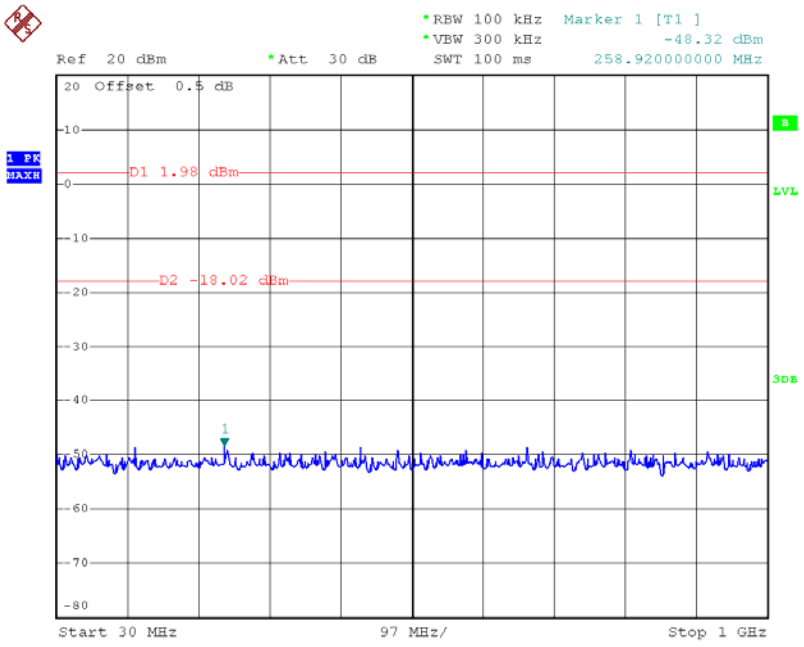

Date: 10.OCT.2012 00:22:24

## TX mode CH157 (30M~1000MHz)



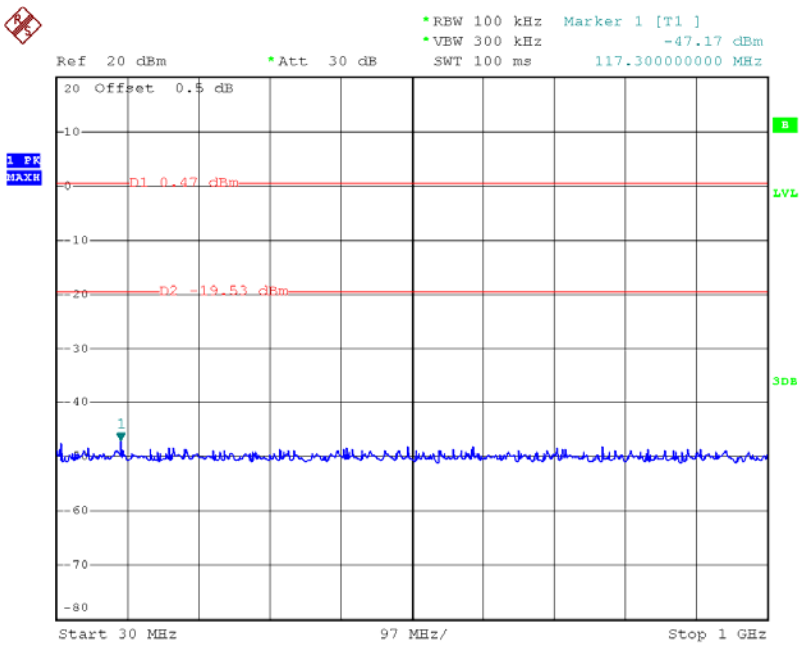

Date: 10.OCT.2012 00:28:21

## TX mode CH157 (1000MHz~10th Harmonic)



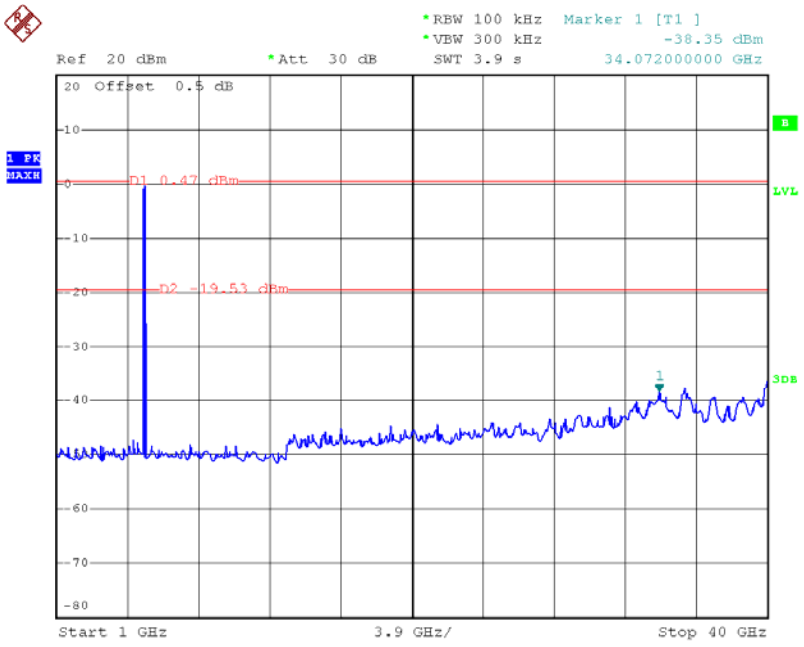

Date: 10.OCT.2012 00:28:29

## TX mode CH165 (30M~1000MHz)




Date: 10.OCT.2012 00:34:33

## TX mode CH165 (1000MHz~10th Harmonic)

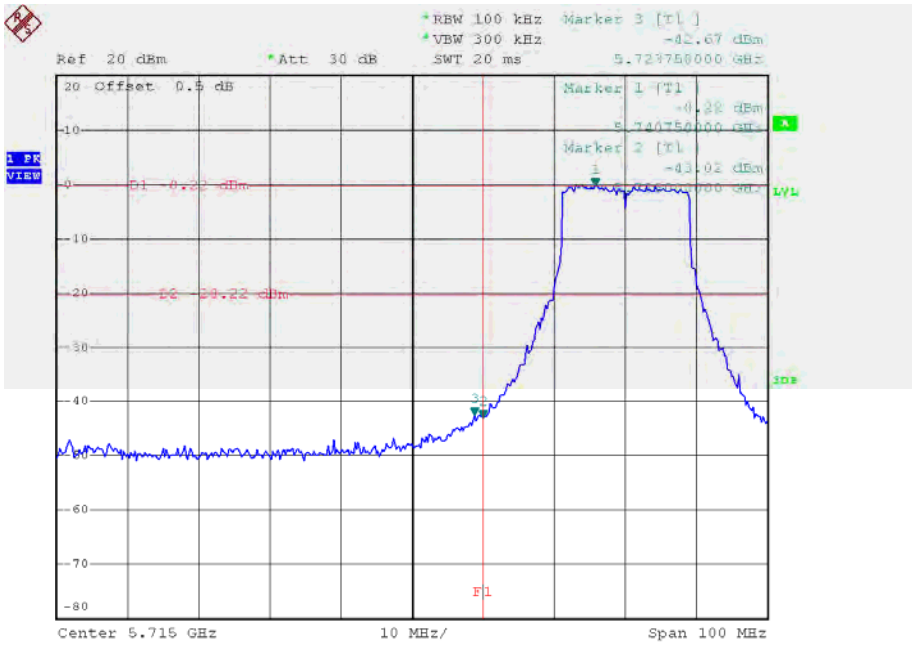



Date: 10.OCT.2012 00:34:46

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N20 Mode /CH149, CH157, CH165 – ANT 2 For 2TX | | |

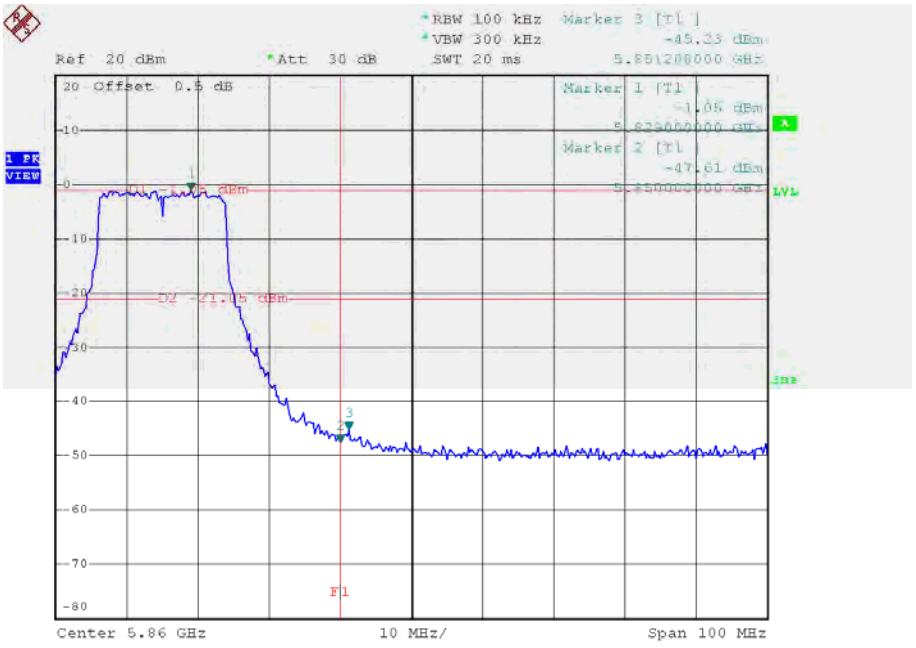
| Channel of Worst Data: CH149 | | | |
|---|---|---|---|
| The max. radio frequency power in any 100kHz bandwidth outside the frequency band | | The max. radio frequency power in any 100 kHz bandwidth within the frequency band. | |
| FREQUENCY(MHz) | POWER(dBm) | FREQUENCY(MHz) | POWER(dBm) |
| 5723.15 | -42.67 | 5851.20 | -45.23 |
| Result | | | |
| In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power. | | | |

**TX mode CH149**



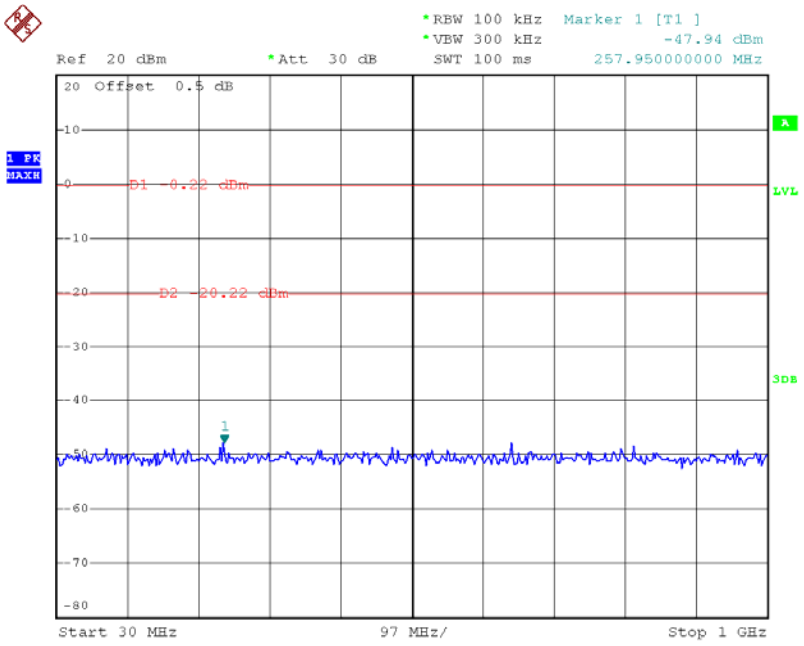

Date: 9.OCT.2012 23:35:56

**TX mode CH165**



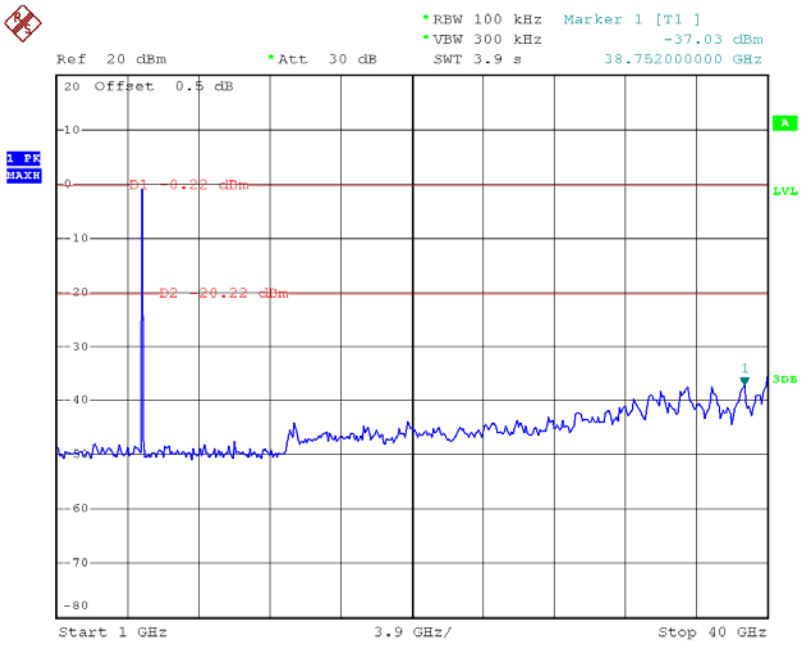

Date: 9.OCT.2012 23:31:21

## TX mode CH149 (30M~1000MHz)



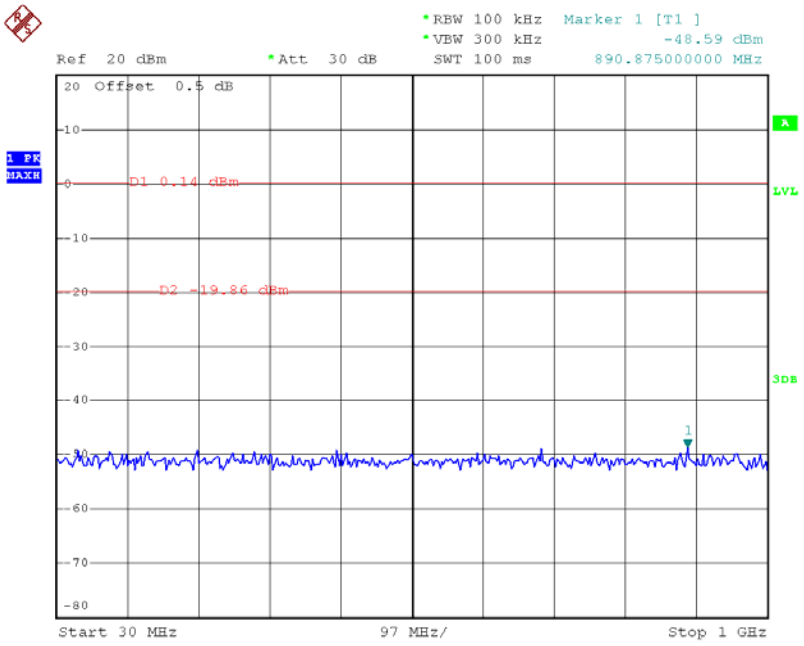

Date: 9.OCT.2012 23:36:27

## TX mode CH149 (1000MHz~10th Harmonic)



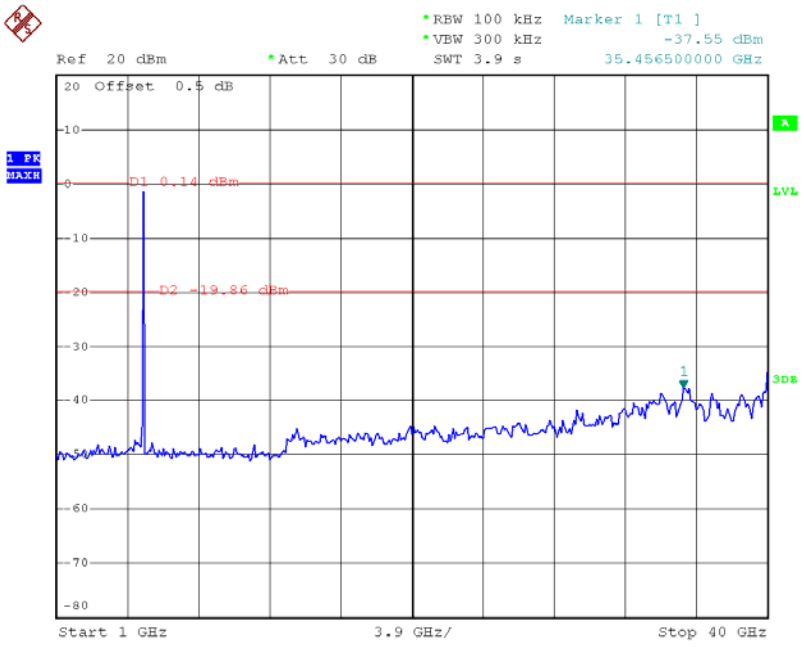

Date: 9.OCT.2012 23:36:50

## TX mode CH157 (30M~1000MHz)



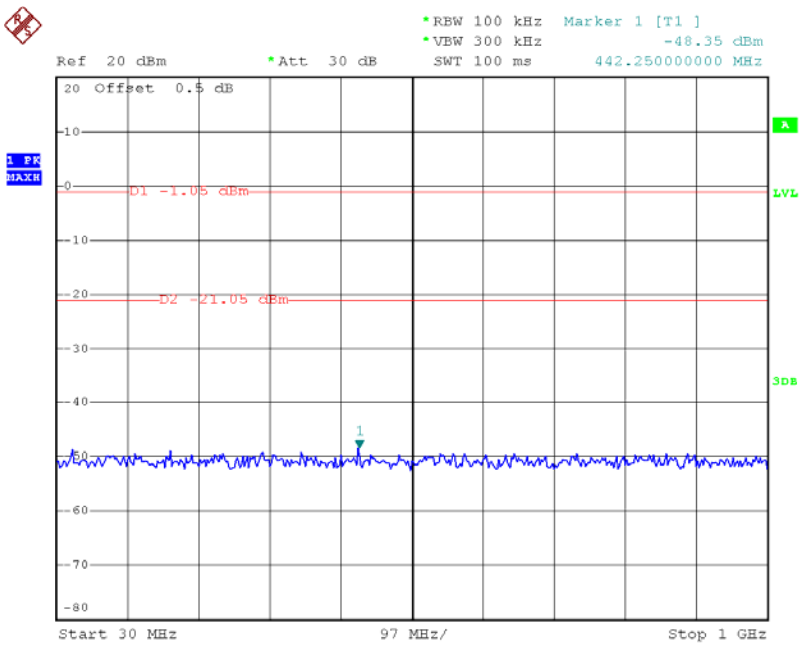

Date: 9.OCT.2012 23:44:30

## TX mode CH157 (1000MHz~10th Harmonic)



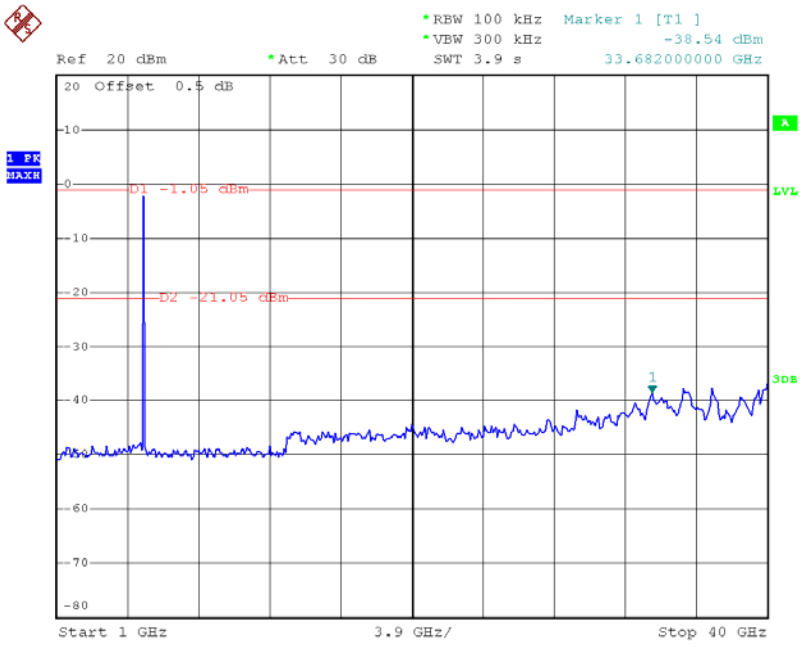

Date: 9.OCT.2012 23:44:46

## TX mode CH165 (30M~1000MHz)




Date: 9.OCT.2012 23:31:39

## TX mode CH165 (1000MHz~10th Harmonic)

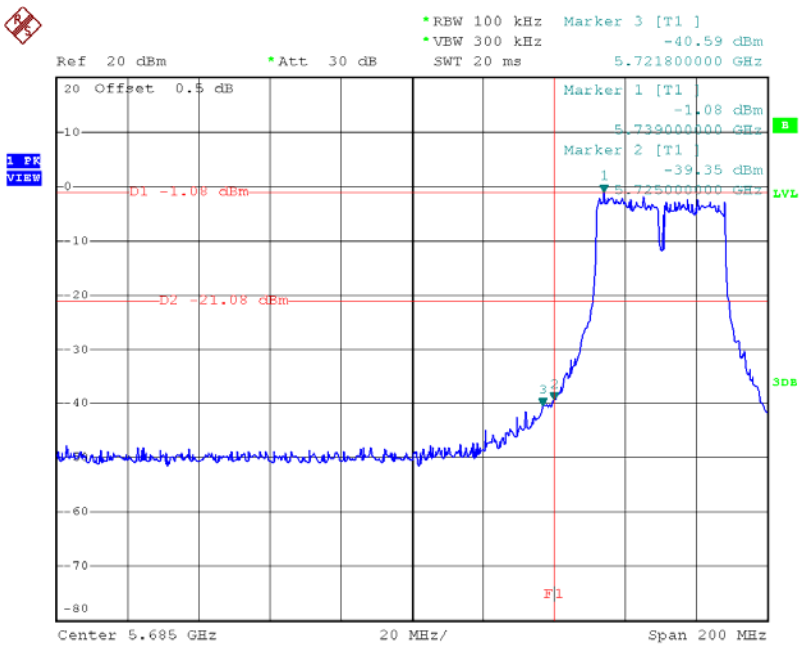



Date: 9.OCT.2012 23:31:54

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N40 Mode /CH151, CH159 – ANT 1 For 2TX | | |

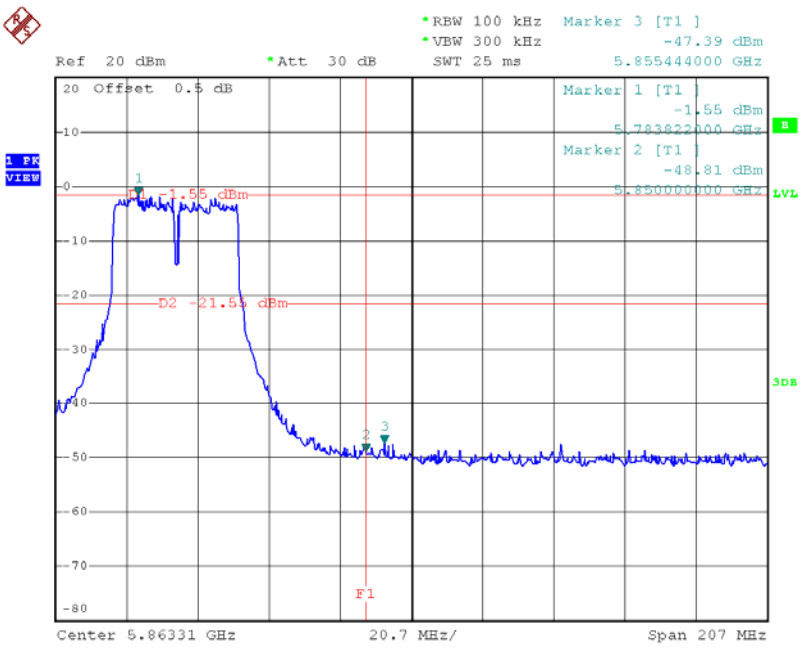
| Channel of Worst Data: CH151 | | | |
|---|---|---|---|
| The max. radio frequency power in any 100kHz bandwidth outside the frequency band | | The max. radio frequency power in any 100 kHz bandwidth within the frequency band. | |
| FREQUENCY(MHz) | POWER(dBm) | FREQUENCY(MHz) | POWER(dBm) |
| 5725.00 | -39.35 | 5855.44 | -47.39 |
| Result | | | |
| In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power. | | | |

## TX mode CH151



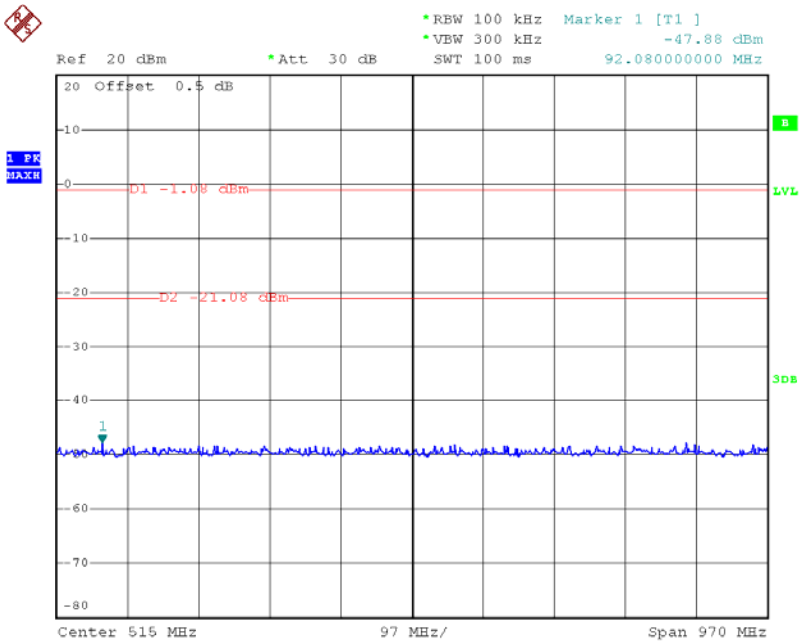

Date: 10.OCT.2012 00:03:47

## TX mode CH159



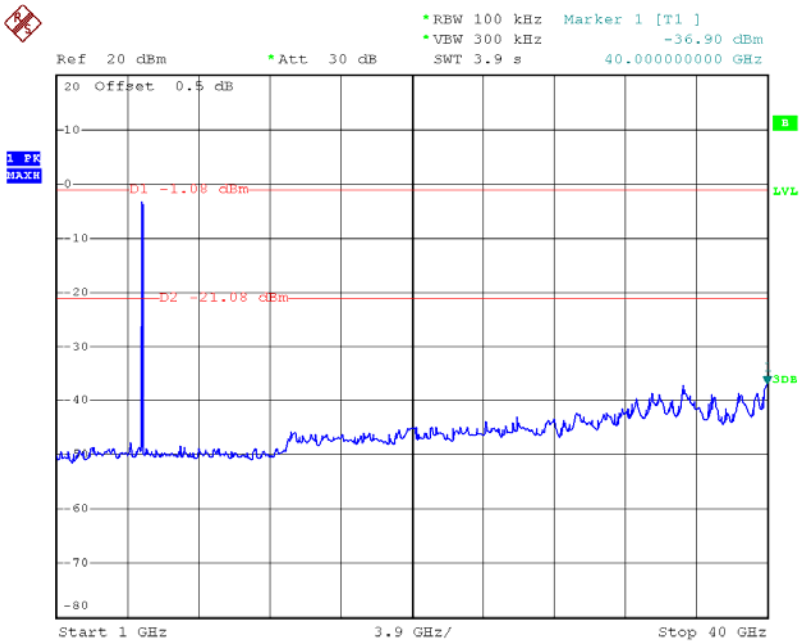

Date: 10.OCT.2012 00:10:12

## TX mode CH151 (30M~1000MHz)



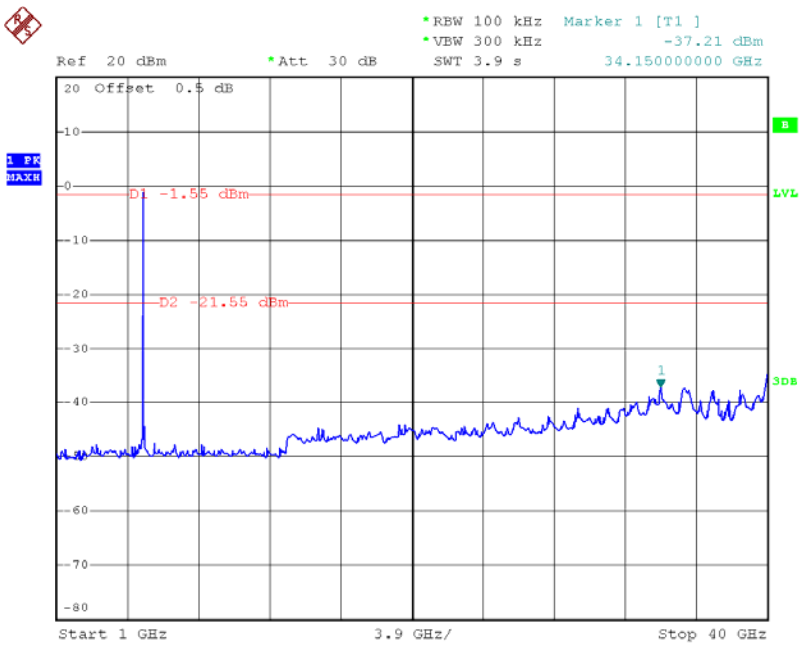

Date: 10.OCT.2012 00:06:13

## TX mode CH151 (1000MHz~10th Harmonic)



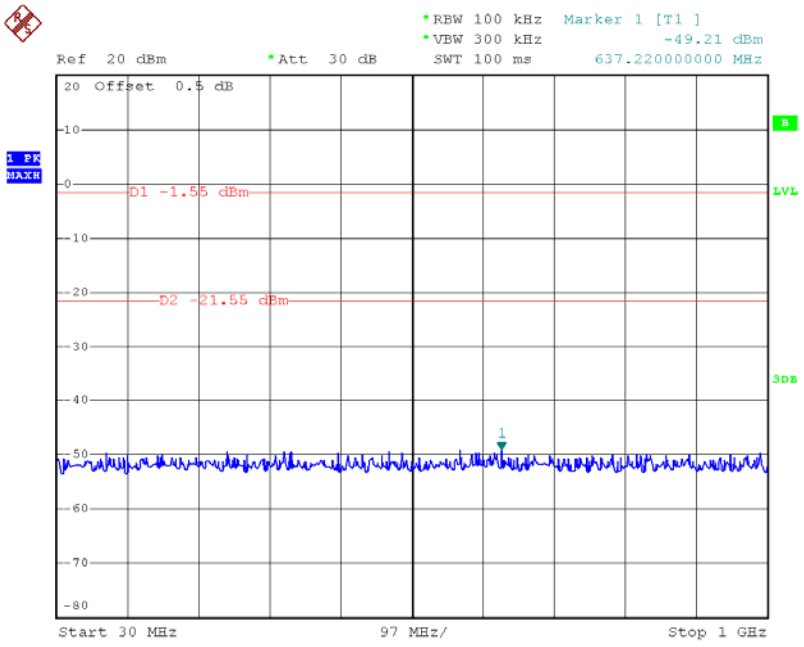

Date: 10.OCT.2012 00:06:30

## TX mode CH159 (30M~1000MHz)




Date: 10.OCT.2012 00:11:58

## TX mode CH159 (1000MHz~10th Harmonic)

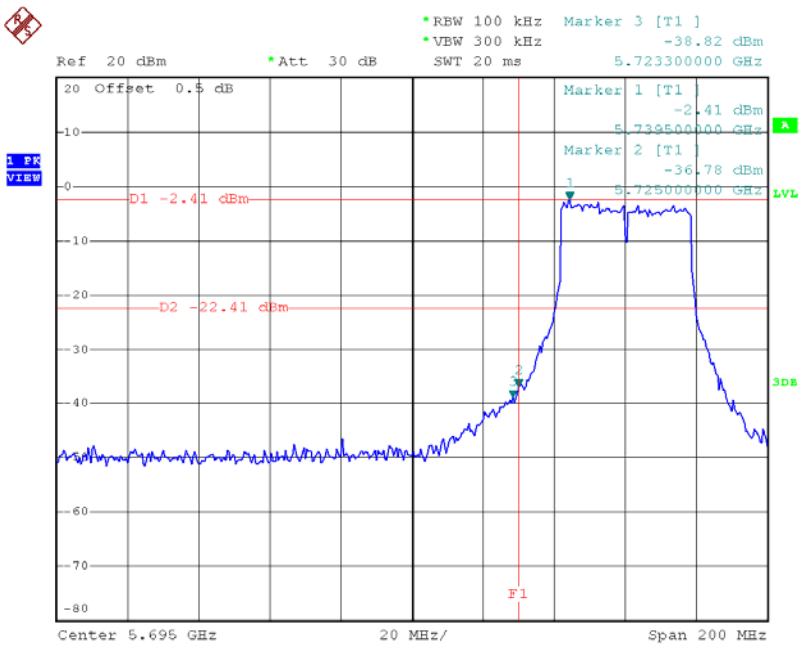



Date: 10.OCT.2012 00:12:05

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N40 Mode /CH151, CH159 – ANT 2 For 2TX | | |

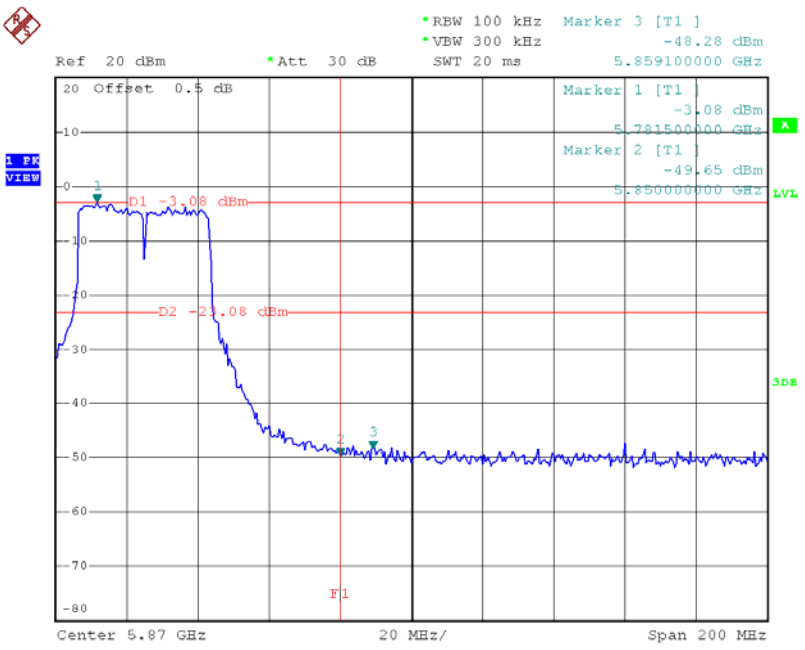
| Channel of Worst Data: CH151 | | | |
|---|---|---|---|
| The max. radio frequency power in any 100kHz bandwidth outside the frequency band | | The max. radio frequency power in any 100 kHz bandwidth within the frequency band. | |
| FREQUENCY(MHz) | POWER(dBm) | FREQUENCY(MHz) | POWER(dBm) |
| 5725.00 | -36.78 | 5859.10 | -48.28 |
| Result | | | |
| In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power. | | | |

## TX mode CH151



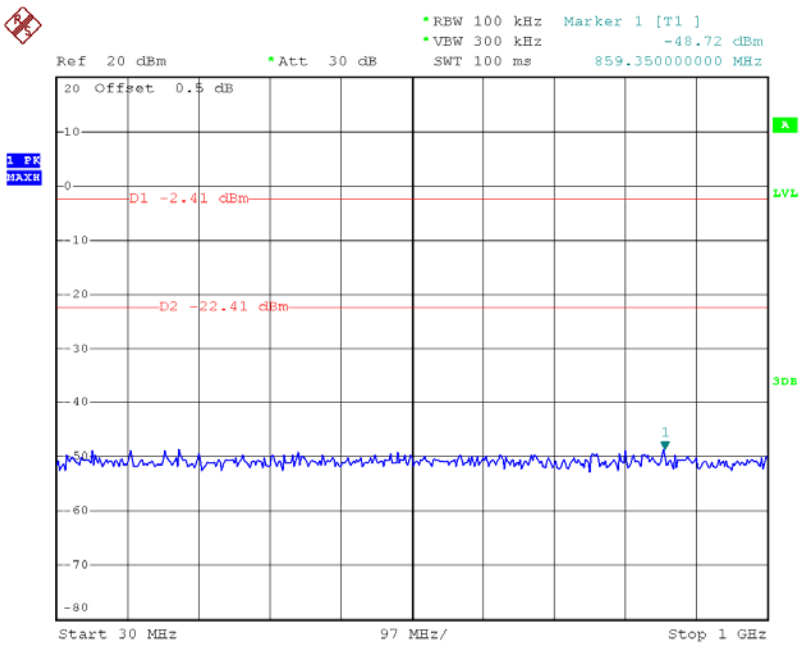

Date: 9.OCT.2012 23:49:53

## TX mode CH159



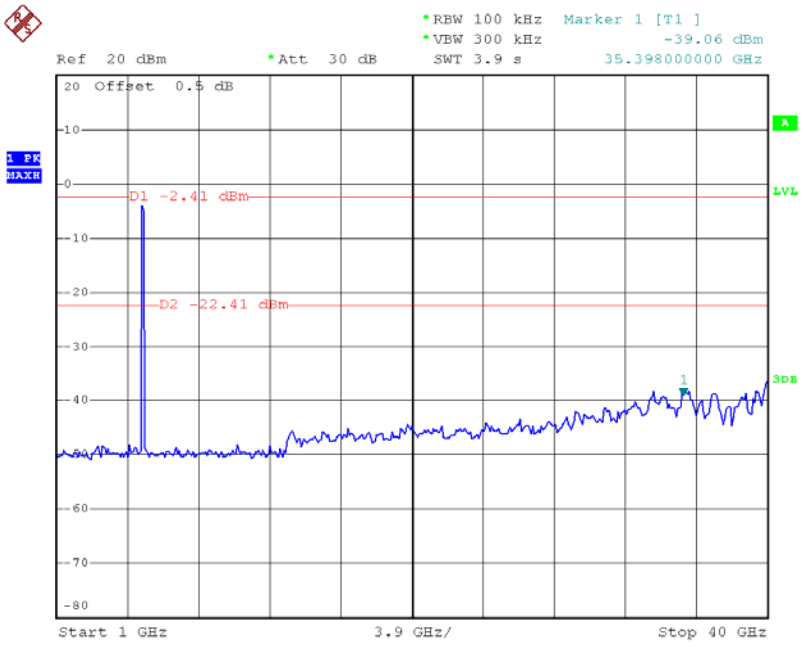

Date: 9.OCT.2012 23:56:15

## TX mode CH151 (30M~1000MHz)



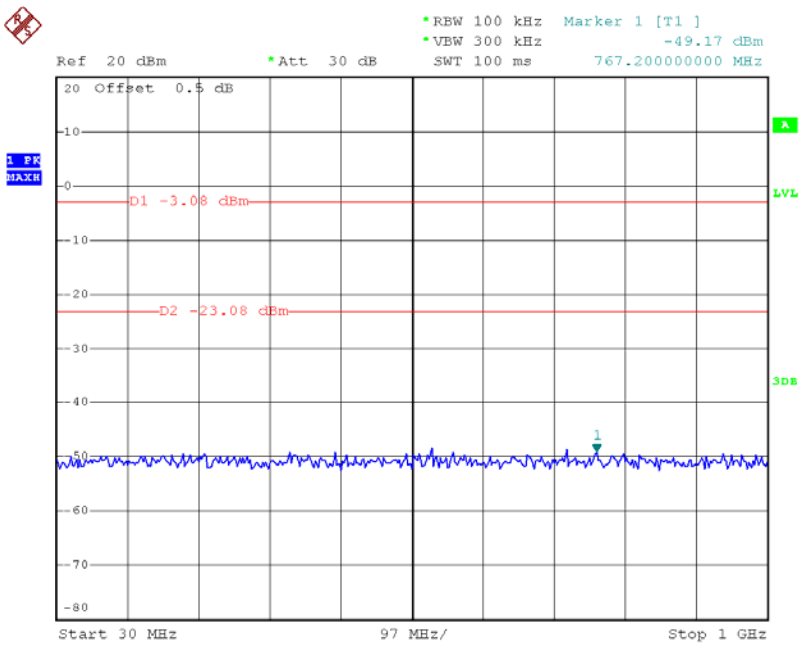

Date: 9.OCT.2012 23:50:12

## TX mode CH151 (1000MHz~10th Harmonic)



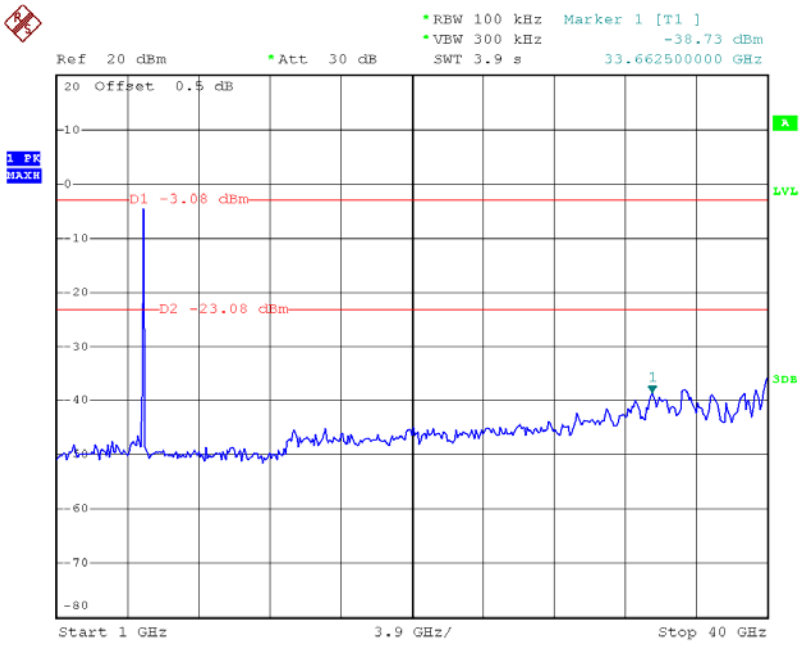

Date: 9.OCT.2012 23:50:28

## TX mode CH159 (30M~1000MHz)




Date: 9.OCT.2012 23:56:55

## TX mode CH159 (1000MHz~10th Harmonic)

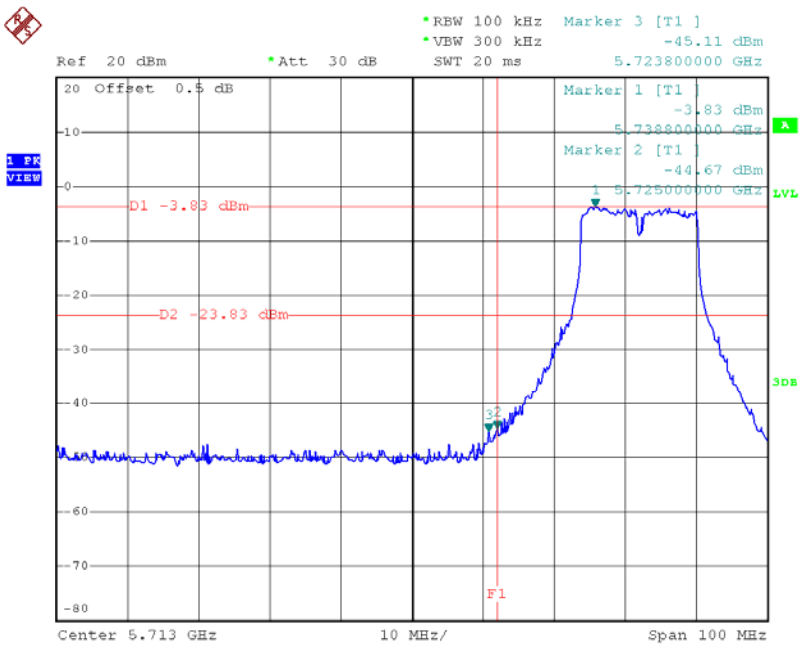



Date: 9.OCT.2012 23:57:09

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX A Mode /CH149, CH157, CH165 – ANT 1 For 3TX | | |

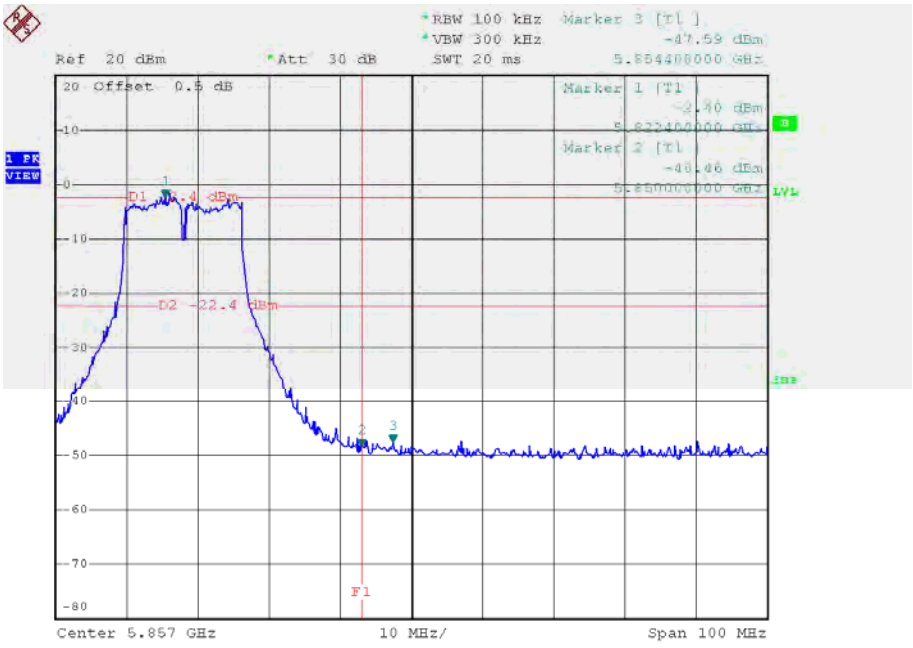
| Channel of Worst Data: CH149 | | | |
|---|---|---|---|
| The max. radio frequency power in any 100kHz bandwidth outside the frequency band | | The max. radio frequency power in any 100 kHz bandwidth within the frequency band. | |
| FREQUENCY(MHz) | POWER(dBm) | FREQUENCY(MHz) | POWER(dBm) |
| 5725.00 | -44.67 | 5854.40 | -47.59 |
| Result | | | |
| In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power. | | | |

## TX mode CH149



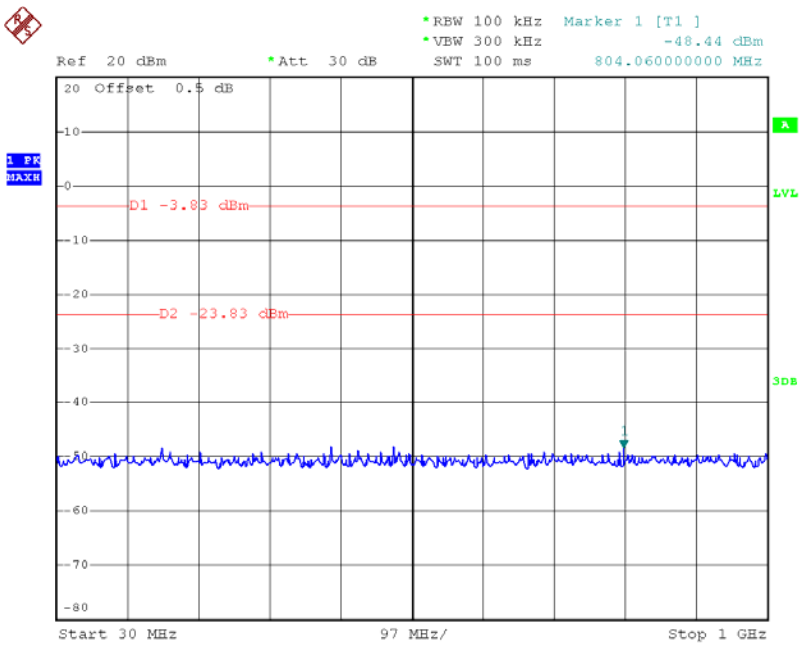

Date: 19.OCT.2012 05:06:06

## TX mode CH165



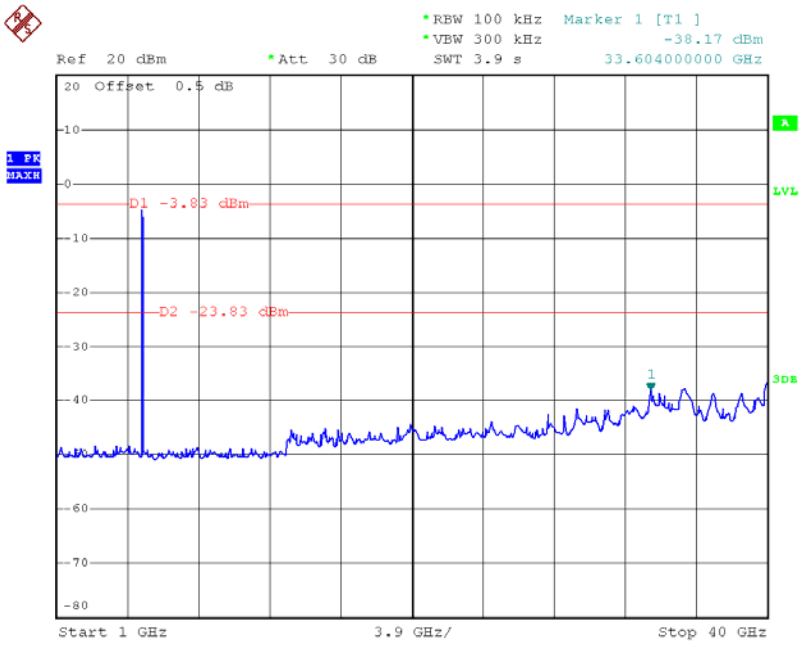

Date: 10.OCT.2012 00:59:54

## TX mode CH149 (30M~1000MHz)



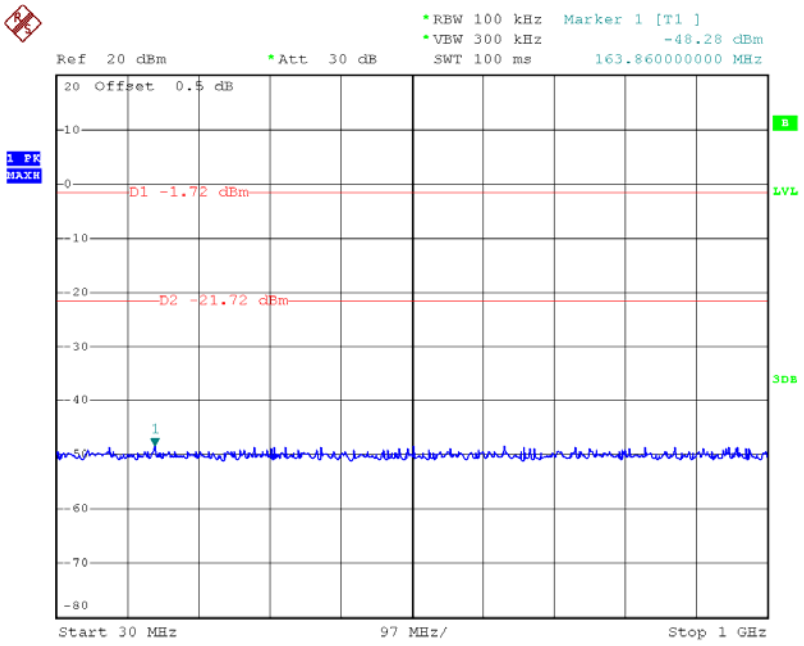

Date: 19.OCT.2012 05:06:29

## TX mode CH149 (1000MHz~10th Harmonic)



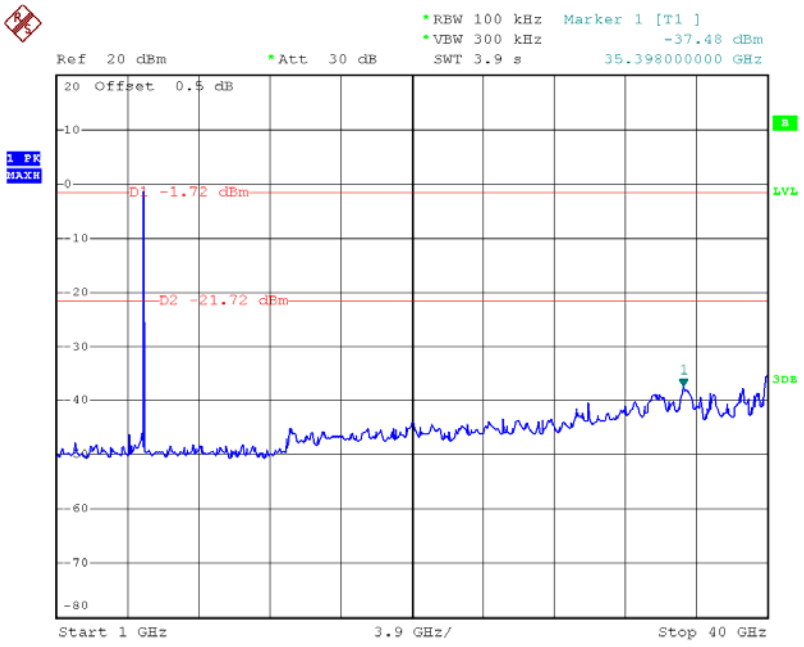

Date: 19.OCT.2012 05:06:50

## TX mode CH157 (30M~1000MHz)



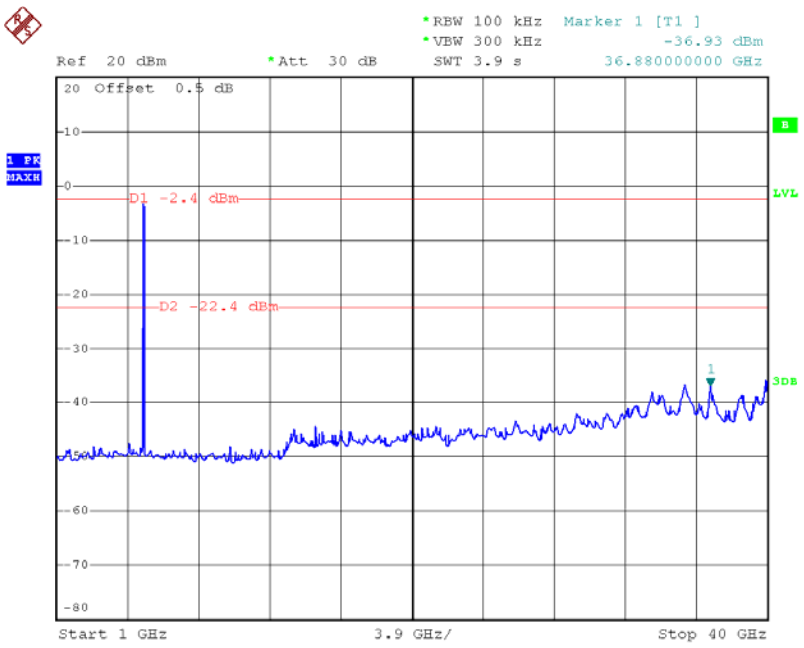

Date: 10.OCT.2012 01:07:30

## TX mode CH157 (1000MHz~10th Harmonic)



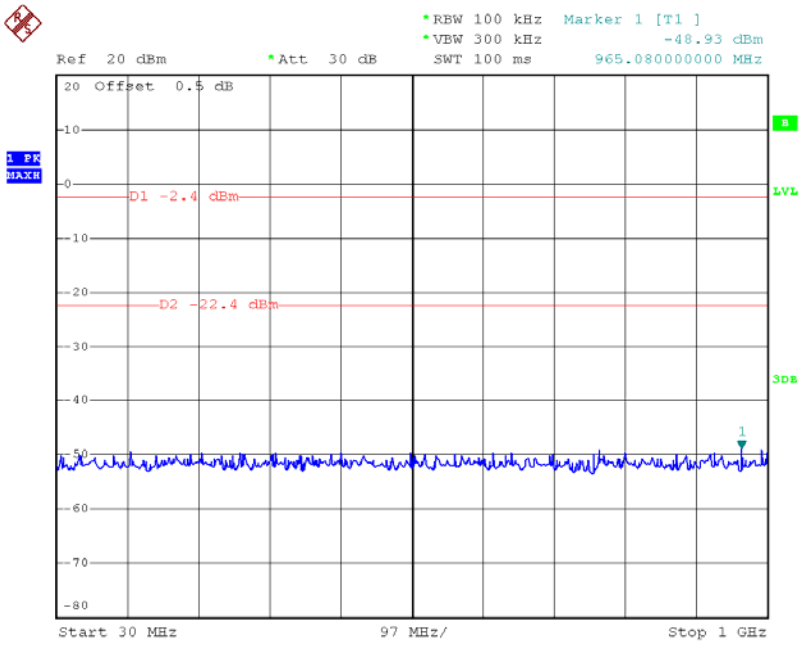

Date: 10.OCT.2012 01:08:01

## TX mode CH165 (30M~1000MHz)




Date: 10.OCT.2012 01:00:28

## TX mode CH165 (1000MHz~10th Harmonic)

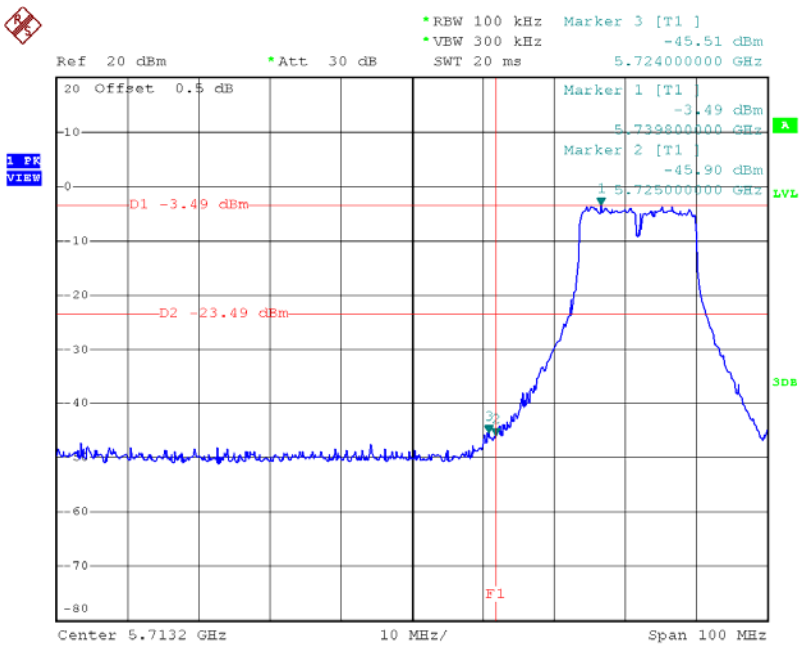



Date: 10.OCT.2012 01:00:37

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX A Mode /CH149, CH157, CH165 – ANT 2 For 3TX | | |

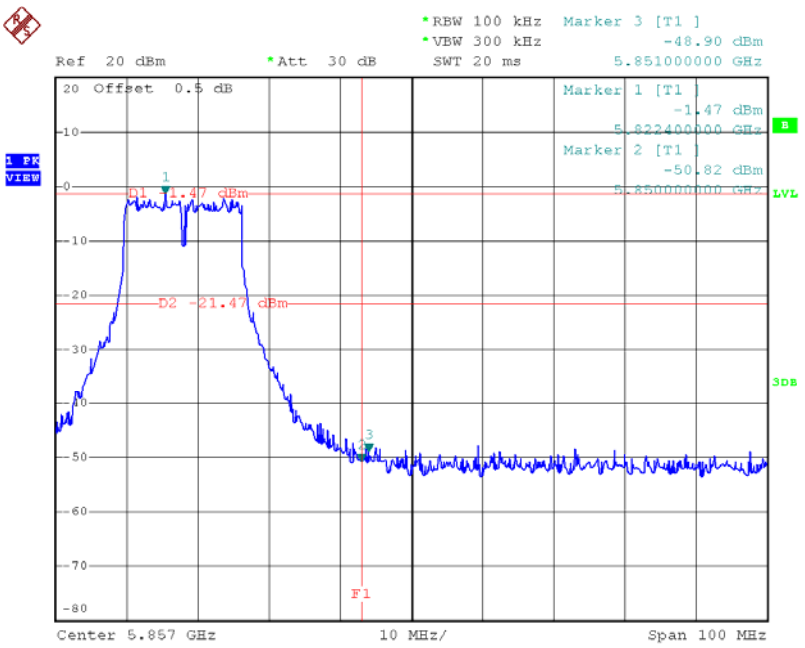
| Channel of Worst Data: CH149 | | | |
|---|---|---|---|
| The max. radio frequency power in any 100kHz bandwidth outside the frequency band | | The max. radio frequency power in any 100 kHz bandwidth within the frequency band. | |
| FREQUENCY(MHz) | POWER(dBm) | FREQUENCY(MHz) | POWER(dBm) |
| 5724.00 | -45.51 | 5851.00 | -48.90 |
| Result | | | |
| In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power. | | | |

## TX mode CH149



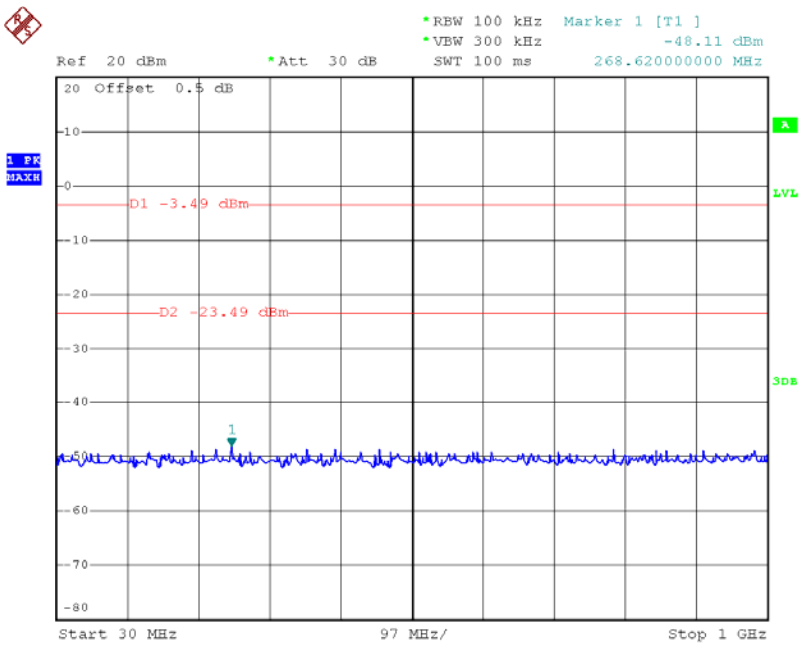

Date: 19.OCT.2012 05:09:02

## TX mode CH165



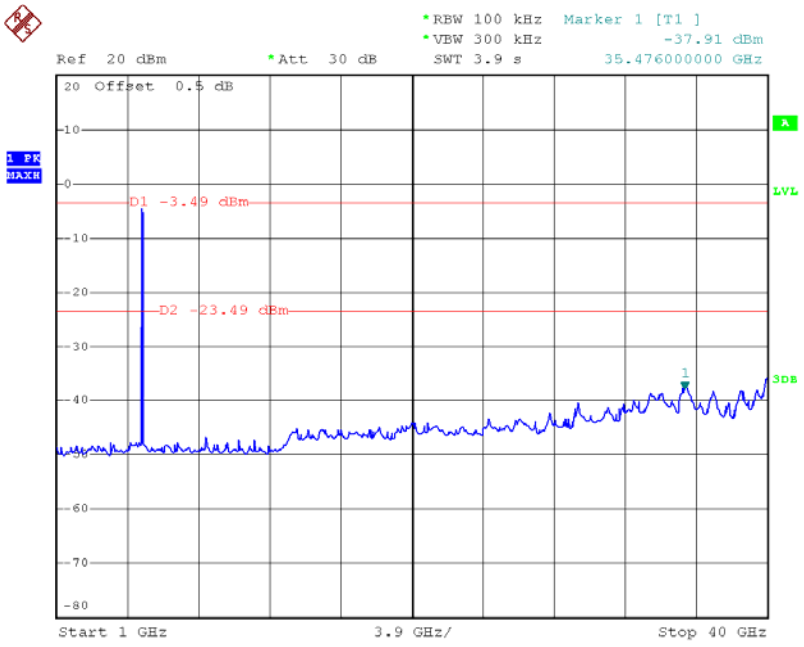

Date: 10.OCT.2012 00:58:54

## TX mode CH149 (30M~1000MHz)



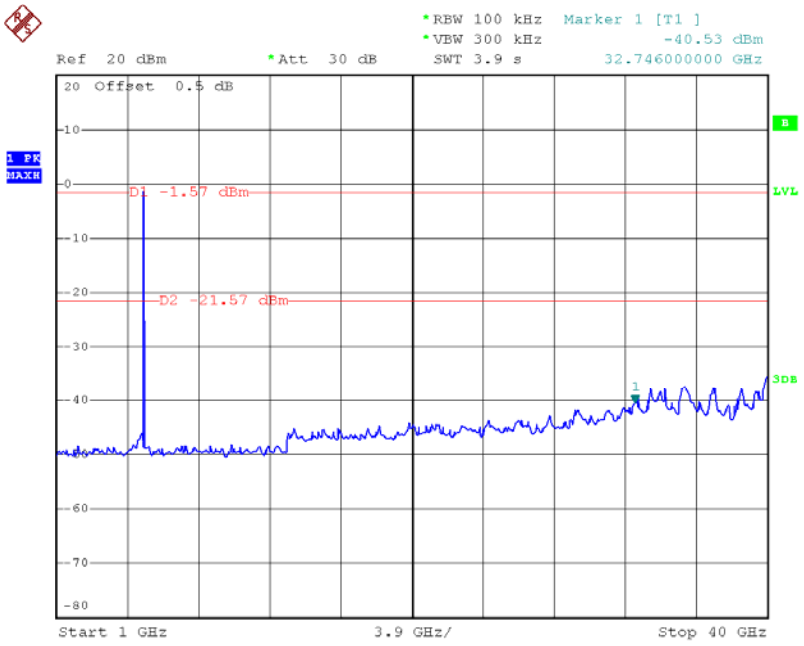

Date: 19.OCT.2012 05:09:30

## TX mode CH149 (1000MHz~10th Harmonic)



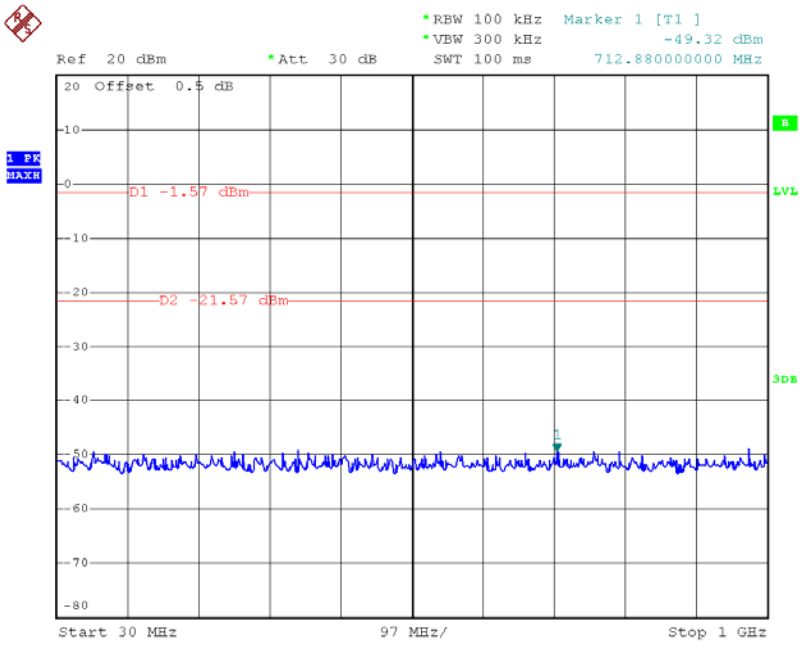

Date: 19.OCT.2012 05:10:46

## TX mode CH157 (30M~1000MHz)



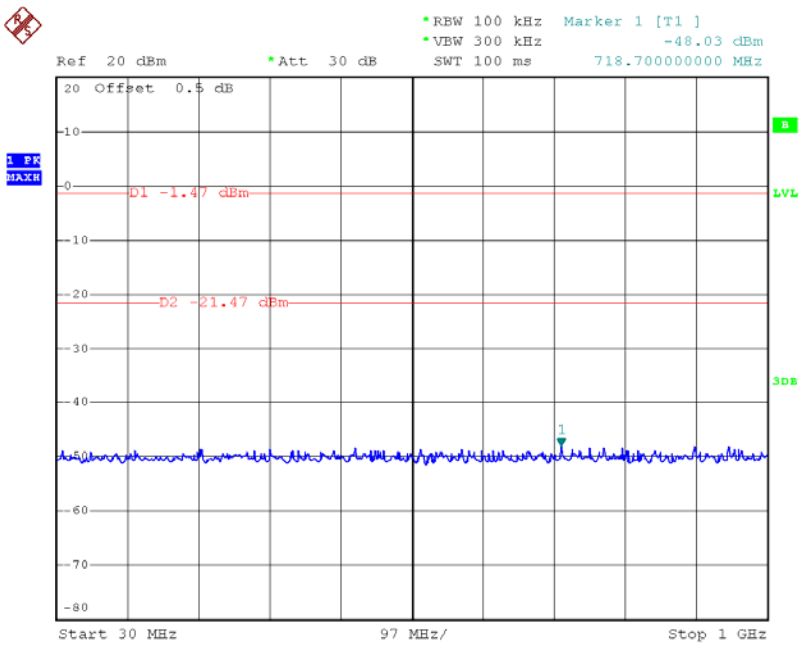

Date: 10.OCT.2012 01:06:58

## TX mode CH157 (1000MHz~10th Harmonic)



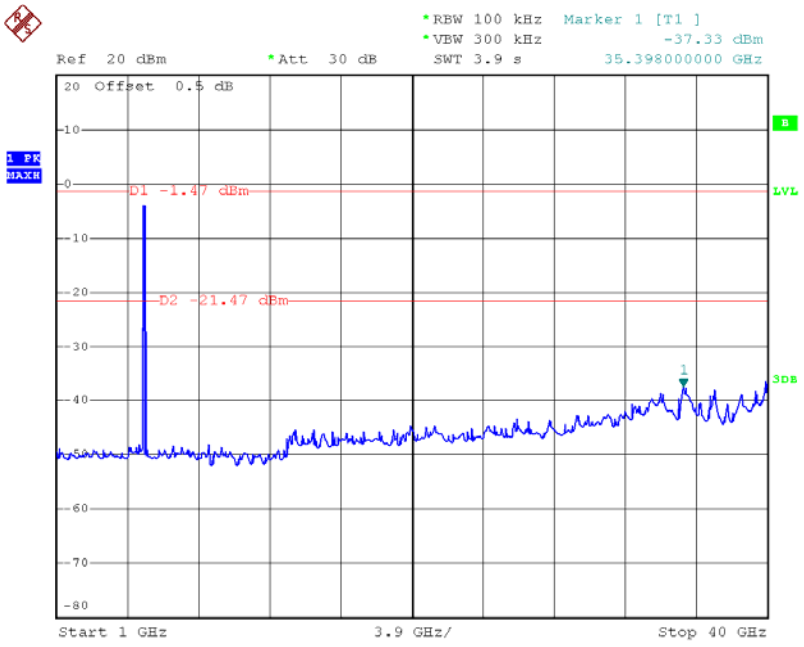

Date: 10.OCT.2012 01:07:06

## TX mode CH165 (30M~1000MHz)




Date: 10.OCT.2012 01:00:57

## TX mode CH165 (1000MHz~10th Harmonic)

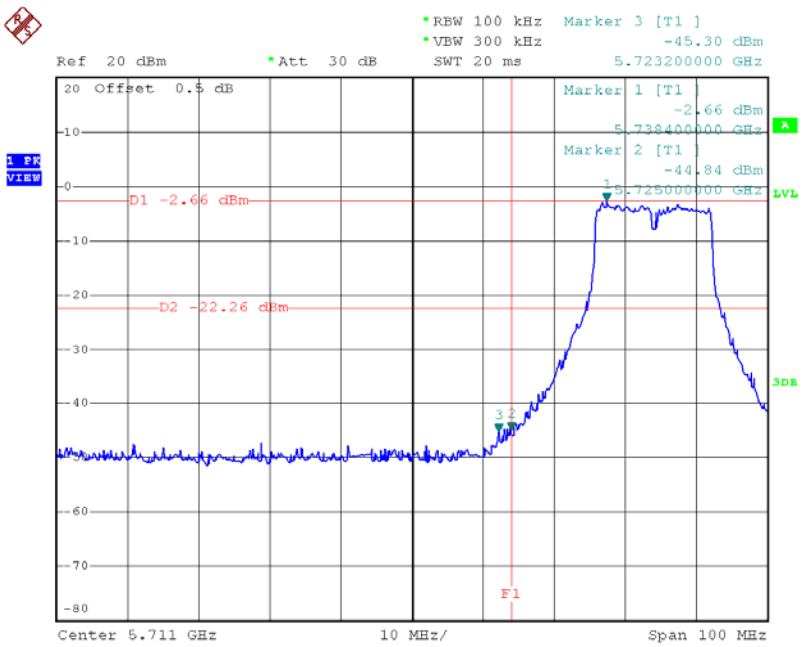



Date: 10.OCT.2012 01:01:13

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX A Mode /CH149, CH157, CH165 – ANT 3 For 3TX | | |

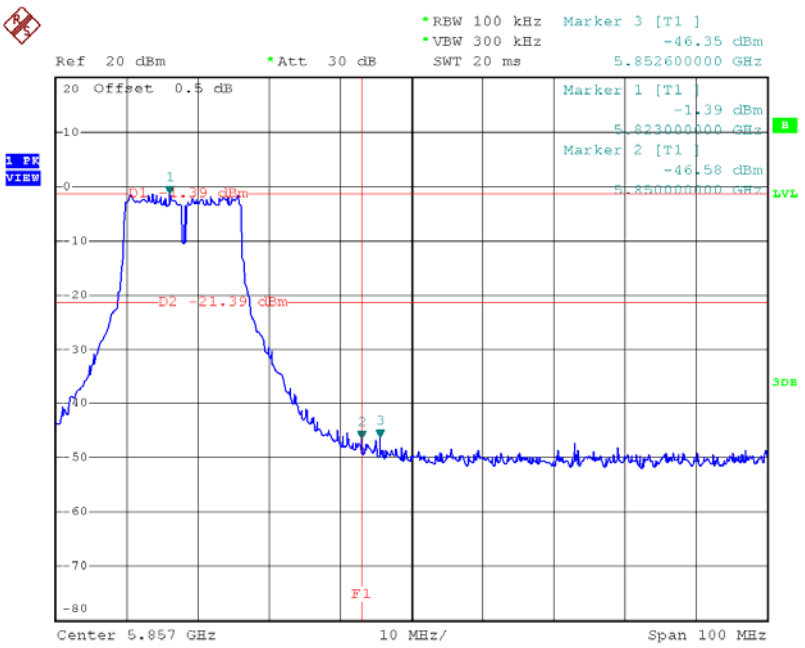
| Channel of Worst Data: CH149 | | | |
|---|---|---|---|
| The max. radio frequency power in any 100kHz bandwidth outside the frequency band | | The max. radio frequency power in any 100 kHz bandwidth within the frequency band. | |
| FREQUENCY(MHz) | POWER(dBm) | FREQUENCY(MHz) | POWER(dBm) |
| 5725.00 | -44.84 | 5852.60 | -46.35 |
| Result | | | |
| In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power. | | | |

## TX mode CH149



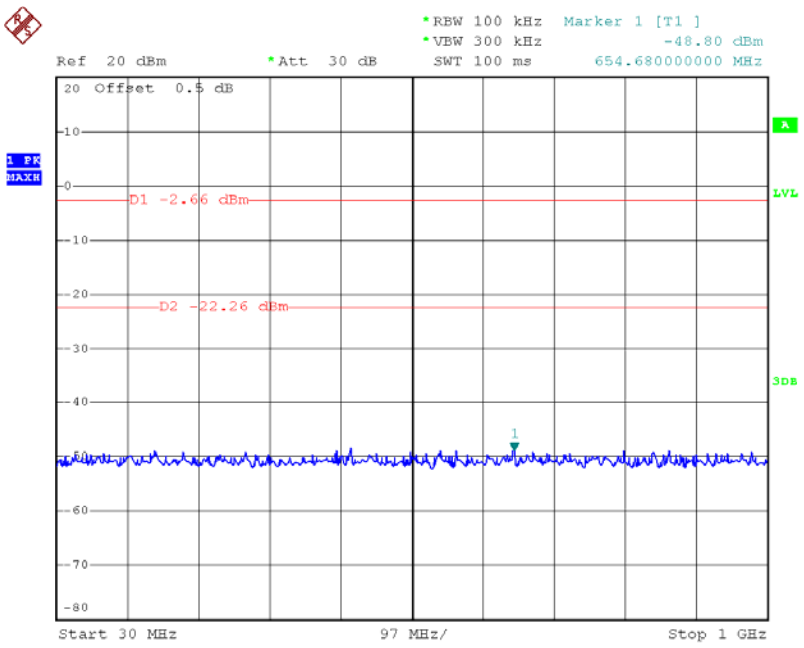

Date: 19.OCT.2012 05:03:48

## TX mode CH165



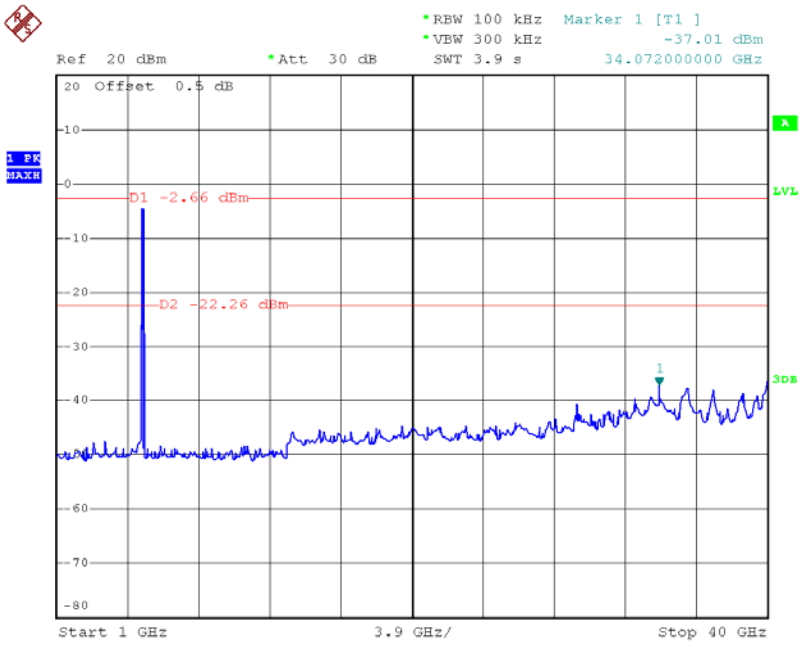

Date: 10.OCT.2012 00:57:54

## TX mode CH149 (30M~1000MHz)



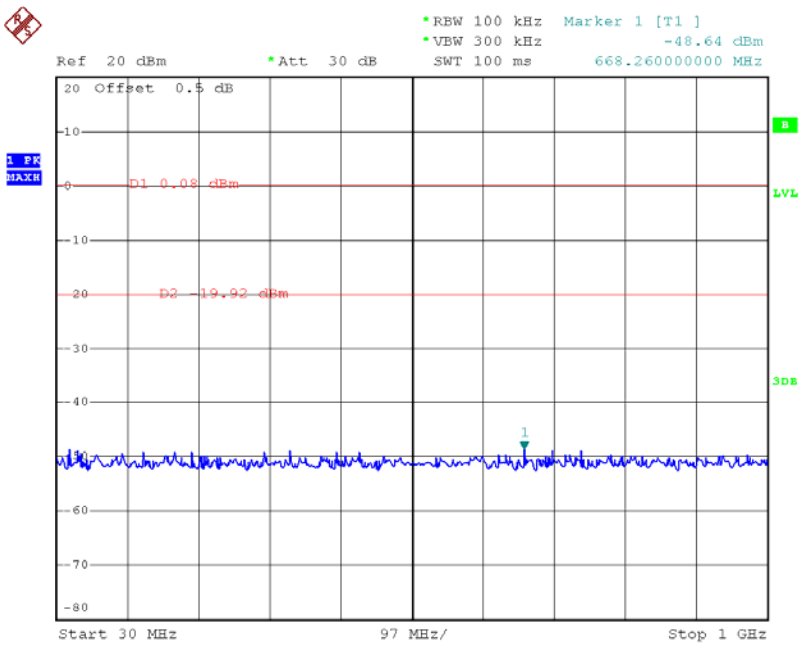

Date: 19.OCT.2012 05:04:20

## TX mode CH149 (1000MHz~10th Harmonic)



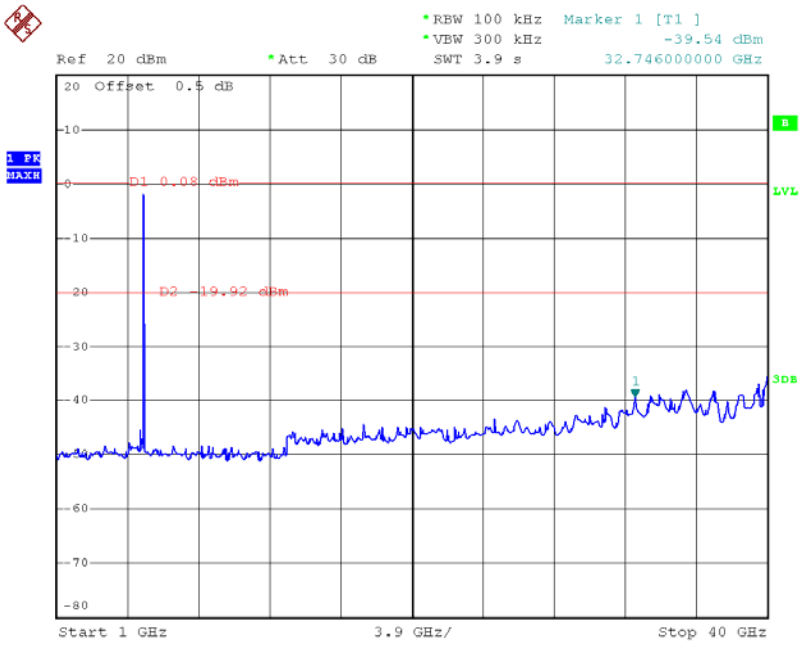

Date: 19.OCT.2012 05:04:57

## TX mode CH157 (30M~1000MHz)



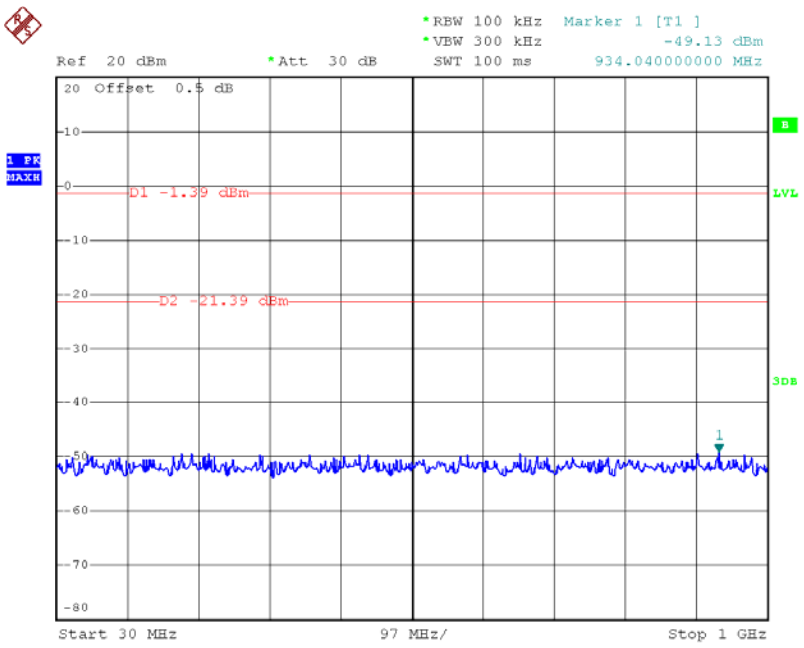

Date: 10.OCT.2012 01:05:19

## TX mode CH157 (1000MHz~10th Harmonic)



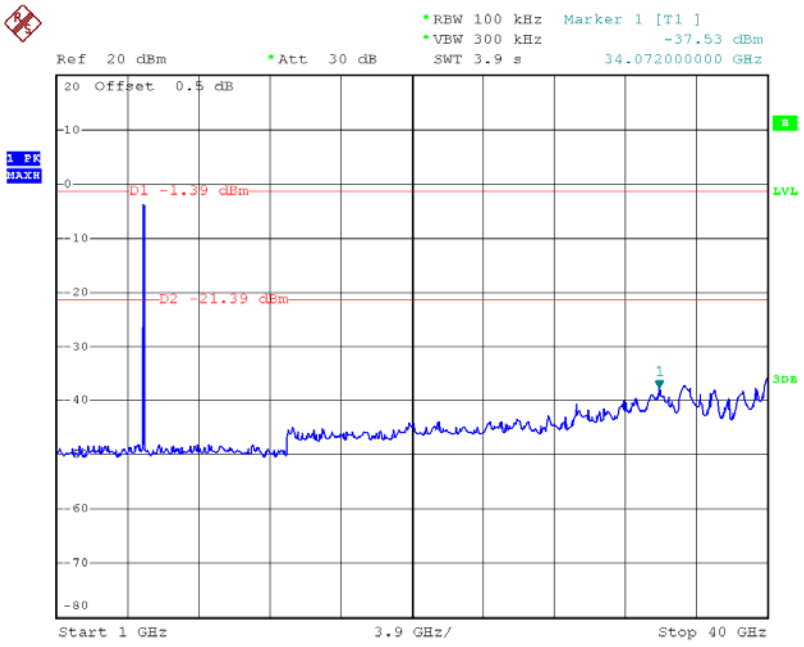

Date: 10.OCT.2012 01:05:38

## TX mode CH165 (30M~1000MHz)




Date: 10.OCT.2012 01:01:52

## TX mode CH165 (1000MHz~10th Harmonic)

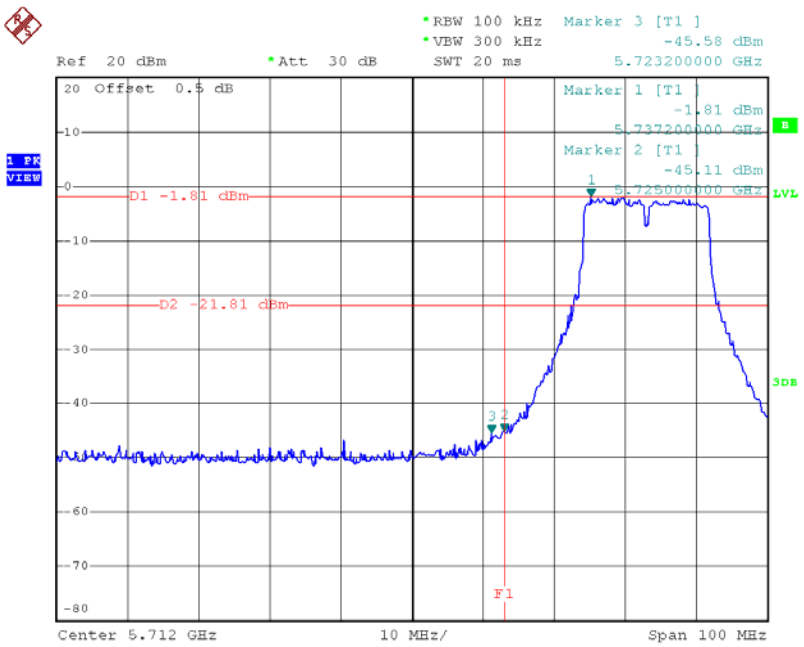



Date: 10.OCT.2012 01:01:46

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N20 Mode /CH149, CH157, CH165 – ANT 1 For 3TX | | |

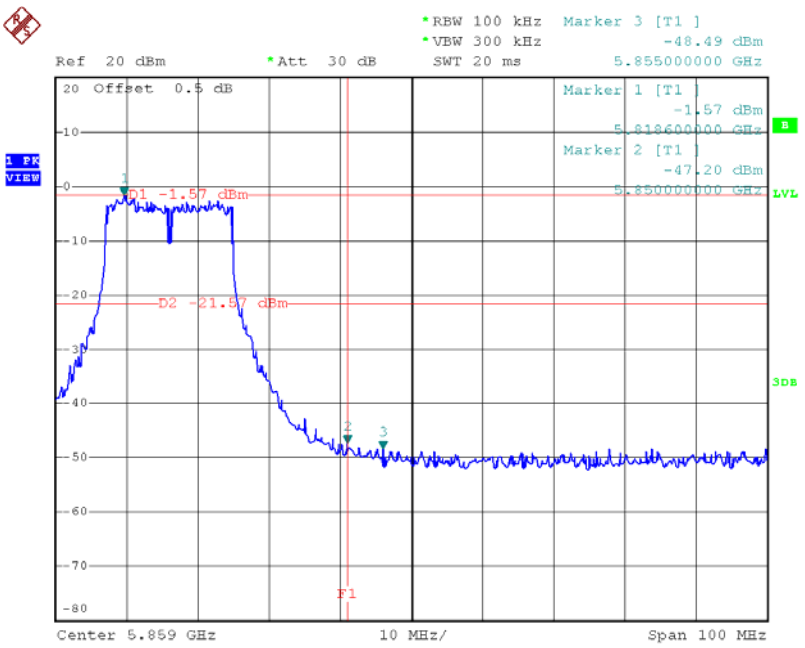
| Channel of Worst Data: CH149 | | | |
|---|---|---|---|
| The max. radio frequency power in any 100kHz bandwidth outside the frequency band | | The max. radio frequency power in any 100 kHz bandwidth within the frequency band. | |
| FREQUENCY(MHz) | POWER(dBm) | FREQUENCY(MHz) | POWER(dBm) |
| 5725.00 | -45.11 | 5855.00 | -48.49 |
| Result | | | |
| In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power. | | | |

## TX mode CH149



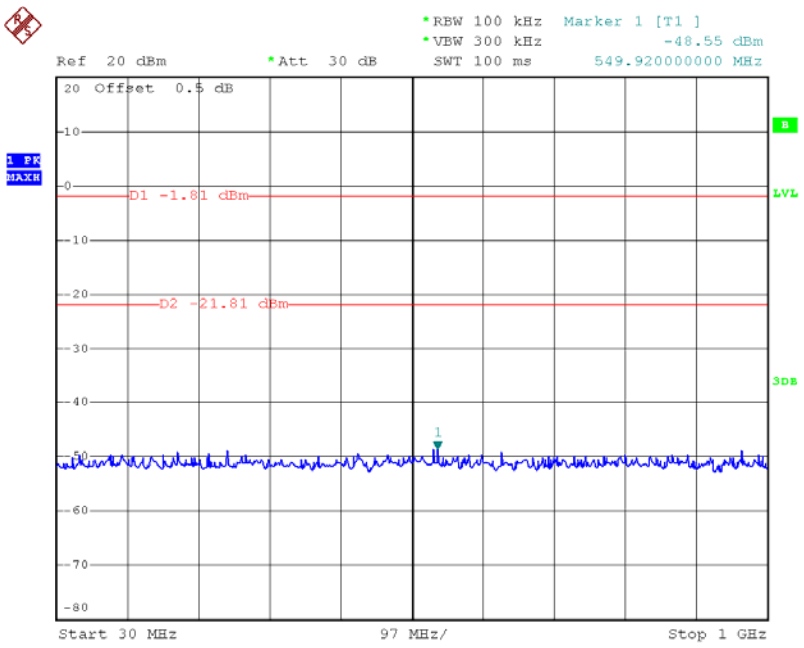

Date: 10.OCT.2012 01:35:26

## TX mode CH165



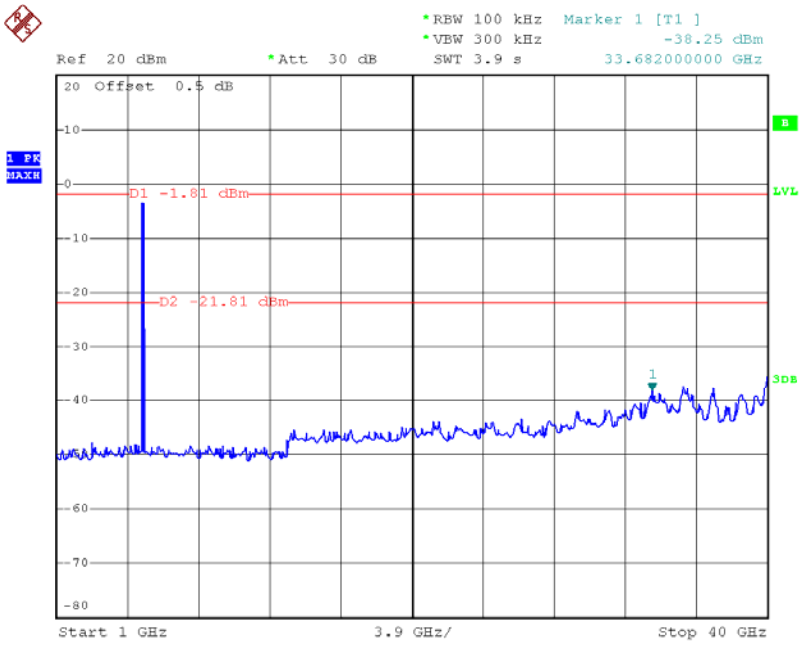

Date: 10.OCT.2012 01:20:49

## TX mode CH149 (30M~1000MHz)



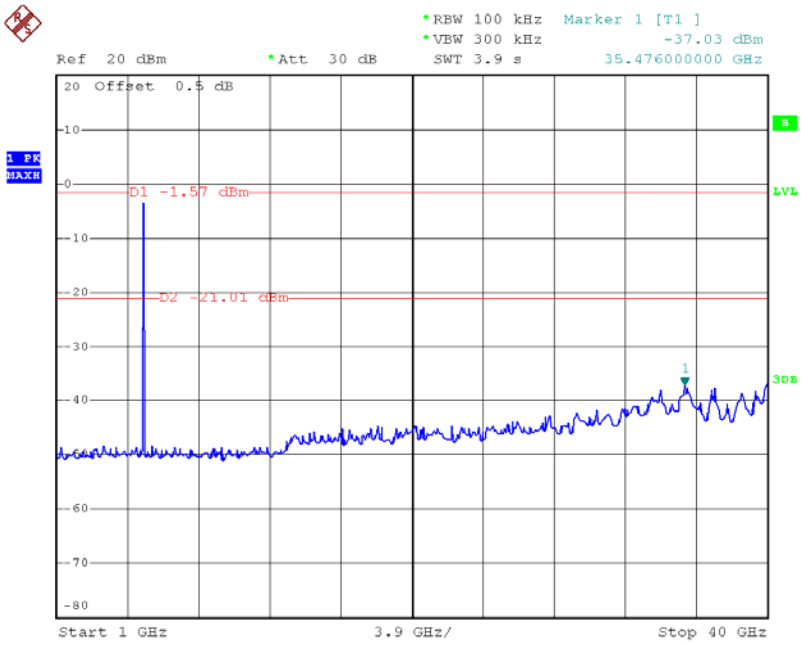

Date: 10.OCT.2012 01:35:50

## TX mode CH149 (1000MHz~10th Harmonic)



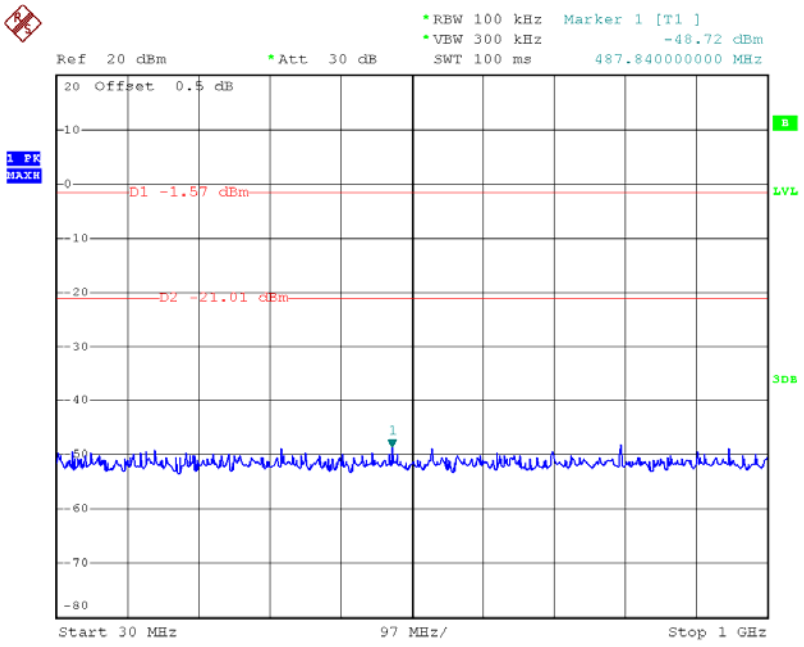

Date: 10.OCT.2012 01:36:11

## TX mode CH157 (30M~1000MHz)



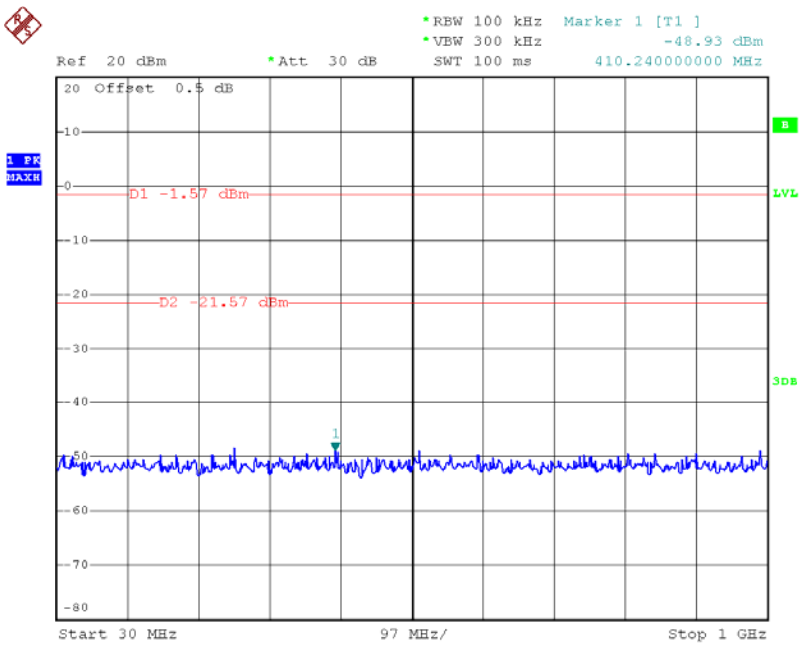

Date: 10.OCT.2012 01:29:22

## TX mode CH157 (1000MHz~10th Harmonic)



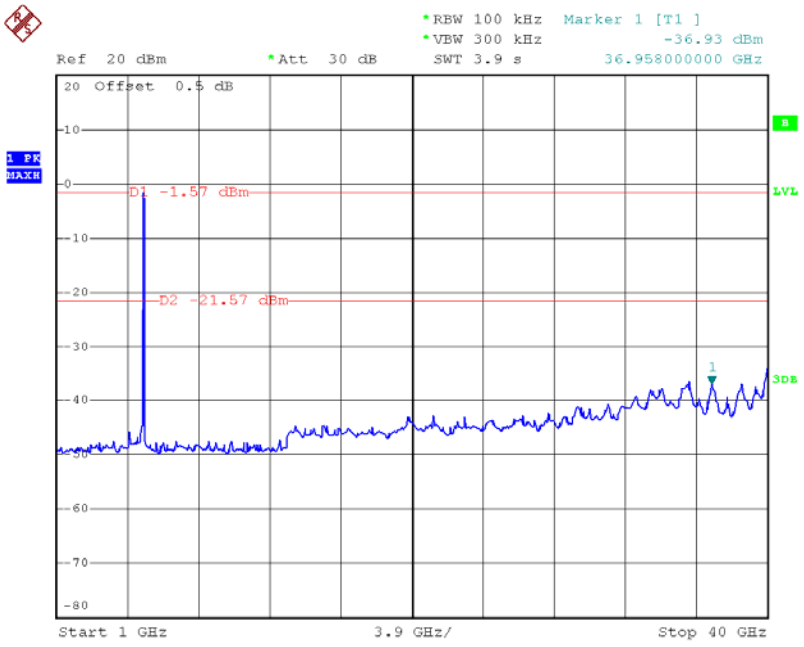

Date: 10.OCT.2012 01:29:30

## TX mode CH165 (30M~1000MHz)




Date: 10.OCT.2012 01:25:58

## TX mode CH165 (1000MHz~10th Harmonic)

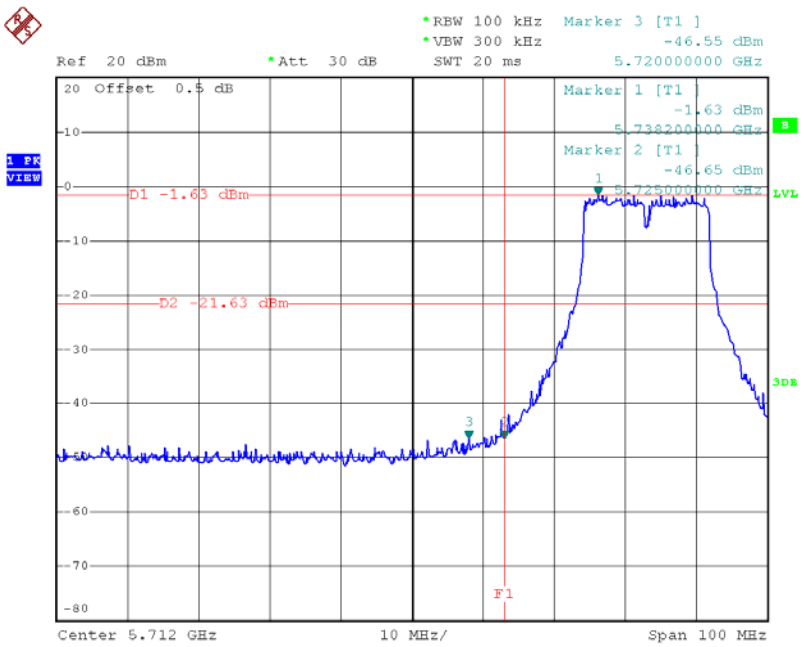



Date: 10.OCT.2012 01:25:51

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N20 Mode /CH149, CH157, CH165 – ANT 2 For 3TX | | |

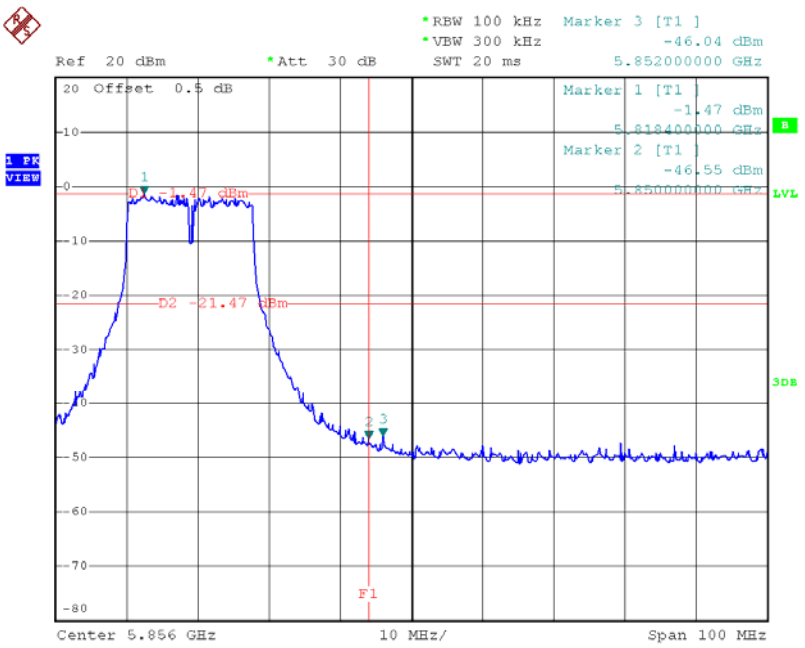
| Channel of Worst Data: CH165 | | | |
|---|---|---|---|
| The max. radio frequency power in any 100kHz bandwidth outside the frequency band | | The max. radio frequency power in any 100 kHz bandwidth within the frequency band. | |
| FREQUENCY(MHz) | POWER(dBm) | FREQUENCY(MHz) | POWER(dBm) |
| 5720.00 | -46.55 | 5852.00 | -46.04 |
| Result | | | |
| In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power. | | | |

## TX mode CH149



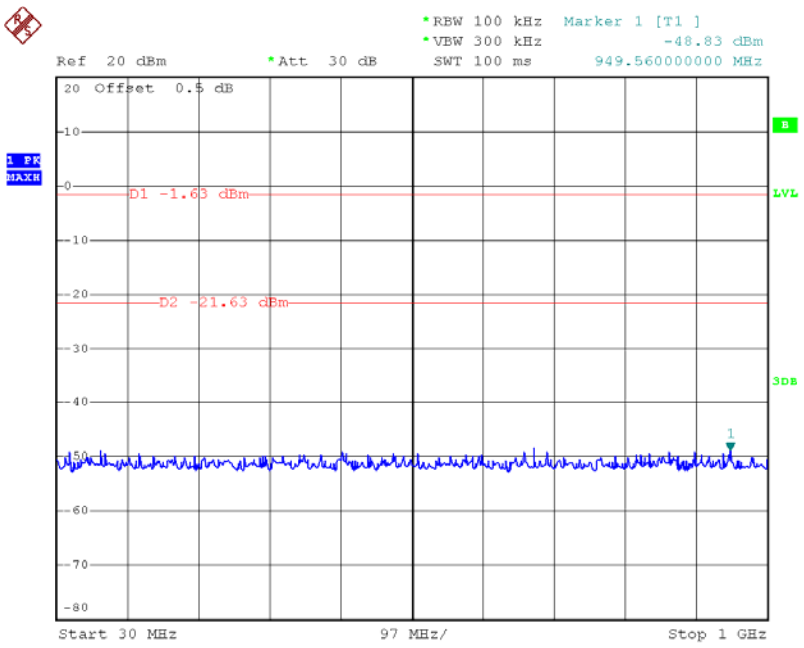

Date: 10.OCT.2012 01:37:18

## TX mode CH165



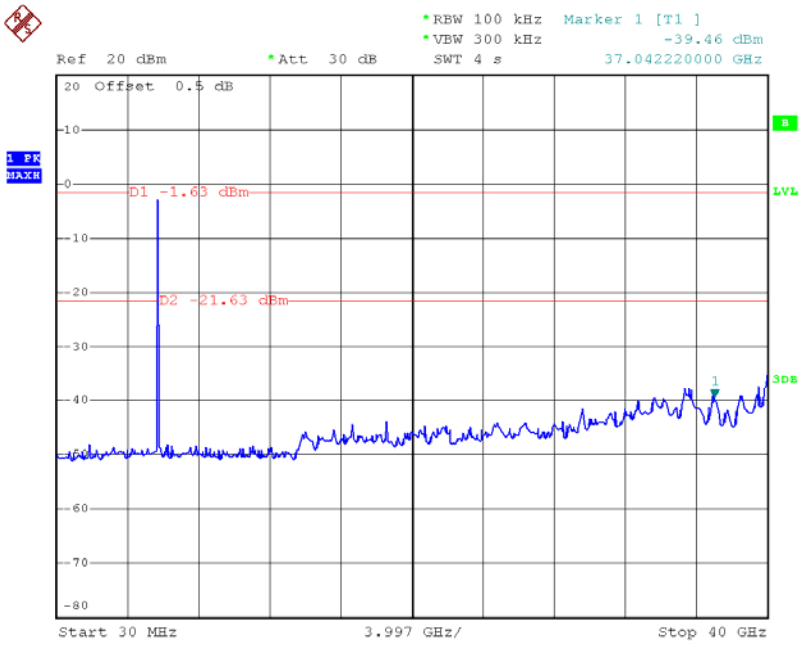

Date: 10.OCT.2012 01:23:05

## TX mode CH149 (30M~1000MHz)



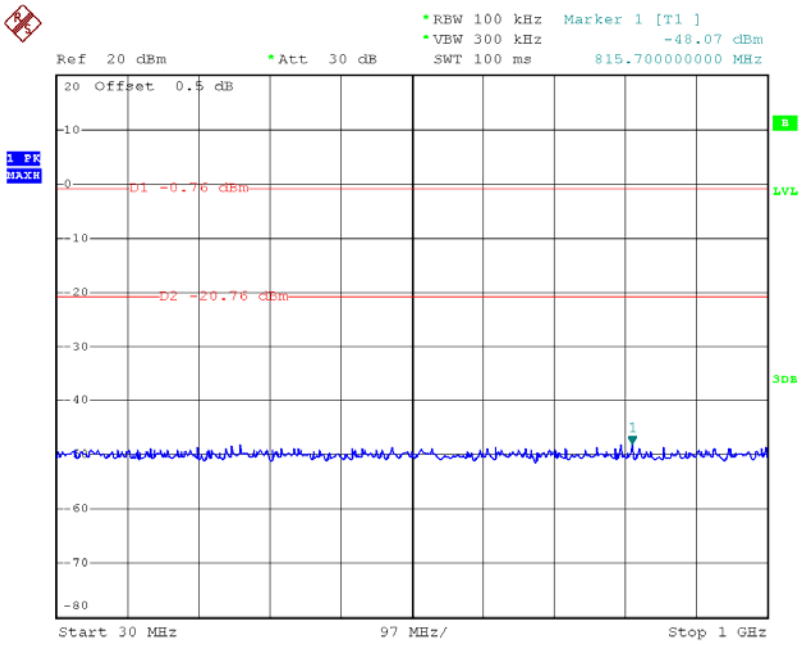

Date: 10.OCT.2012 01:37:34

## TX mode CH149 (1000MHz~10th Harmonic)



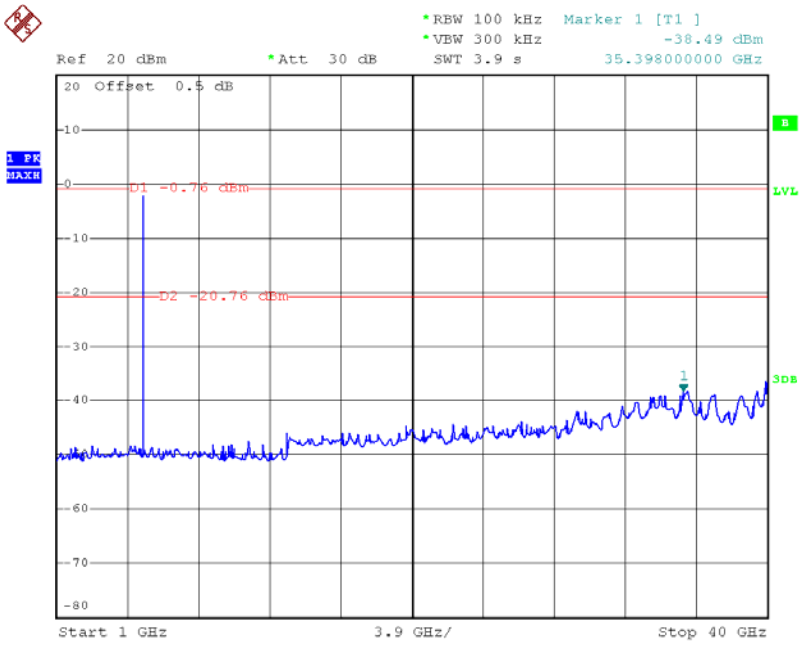

Date: 10.OCT.2012 01:37:50

## TX mode CH157 (30M~1000MHz)



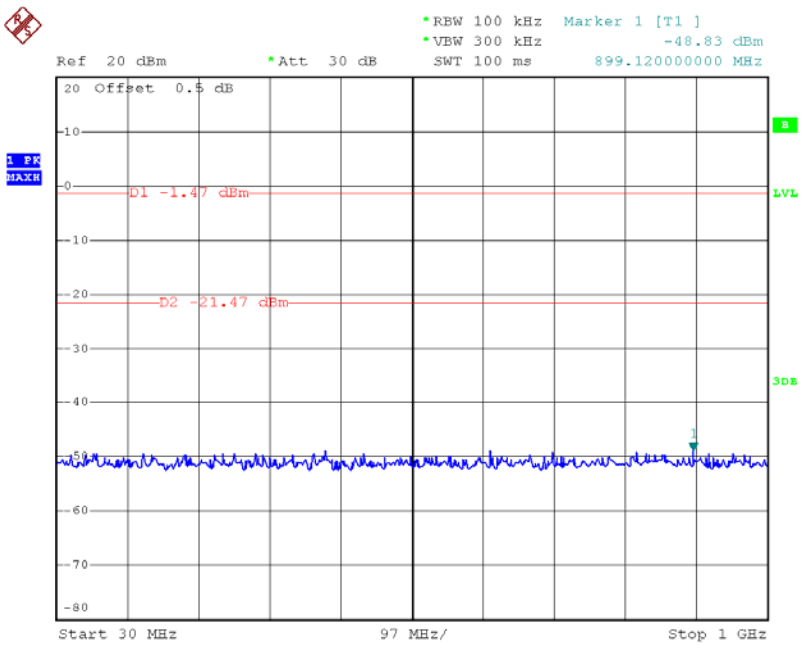

Date: 10.OCT.2012 01:29:55

## TX mode CH157 (1000MHz~10th Harmonic)



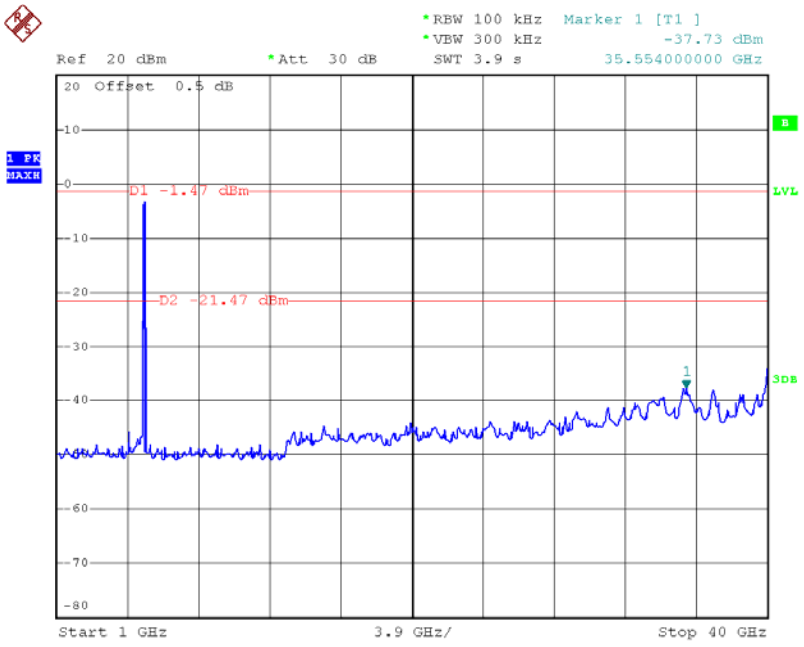

Date: 10.OCT.2012 01:30:09

## TX mode CH165 (30M~1000MHz)




Date: 10.OCT.2012 01:23:20

## TX mode CH165 (1000MHz~10th Harmonic)

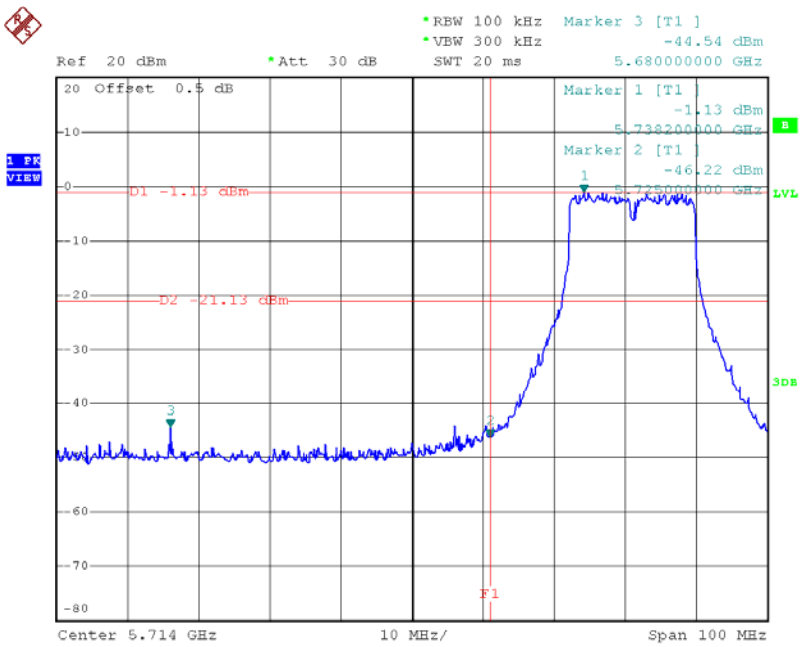



Date: 10.OCT.2012 01:23:59

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N20 Mode /CH149, CH157, CH165 – ANT 3 For 3TX | | |

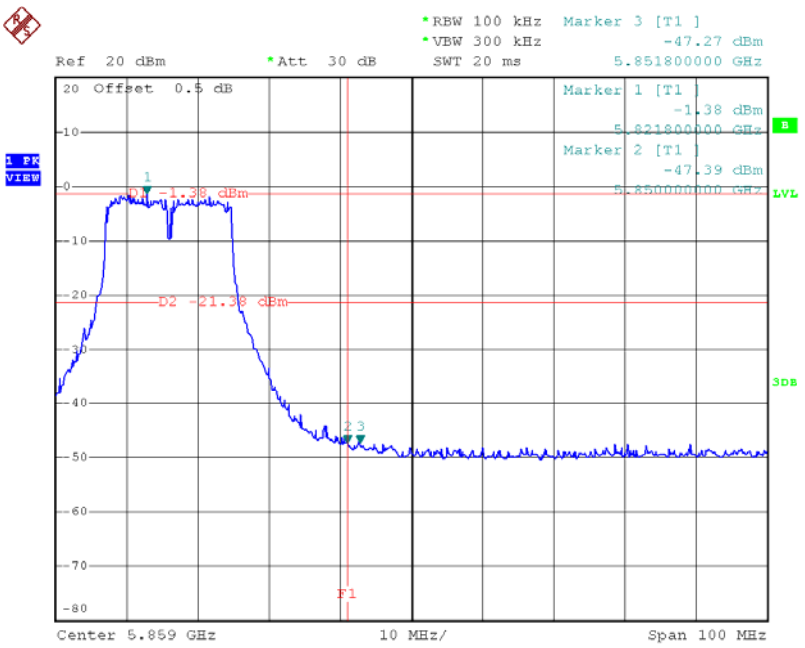
| Channel of Worst Data: CH149 | | | |
|---|---|---|---|
| The max. radio frequency power in any 100kHz bandwidth outside the frequency band | | The max. radio frequency power in any 100 kHz bandwidth within the frequency band. | |
| FREQUENCY(MHz) | POWER(dBm) | FREQUENCY(MHz) | POWER(dBm) |
| 5680.00 | -44.54 | 5851.80 | -47.27 |
| Result | | | |
| In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power. | | | |

## TX mode CH149



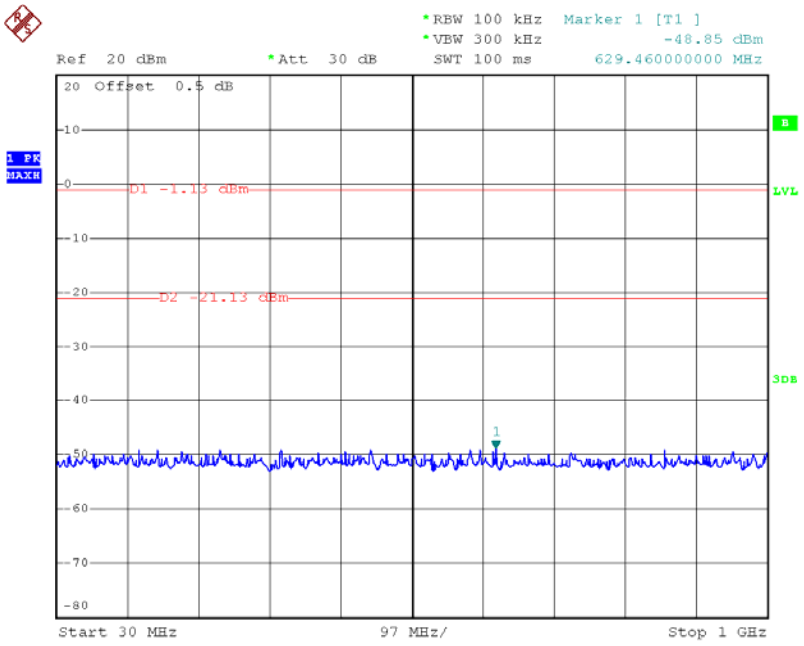

Date: 10.OCT.2012 01:39:13

## TX mode CH165



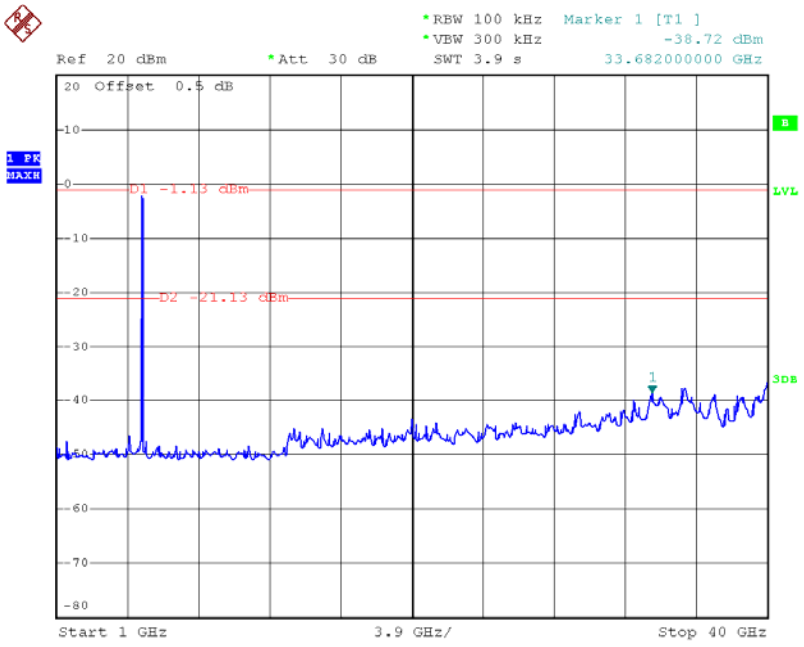

Date: 10.OCT.2012 01:21:40

## TX mode CH149 (30M~1000MHz)



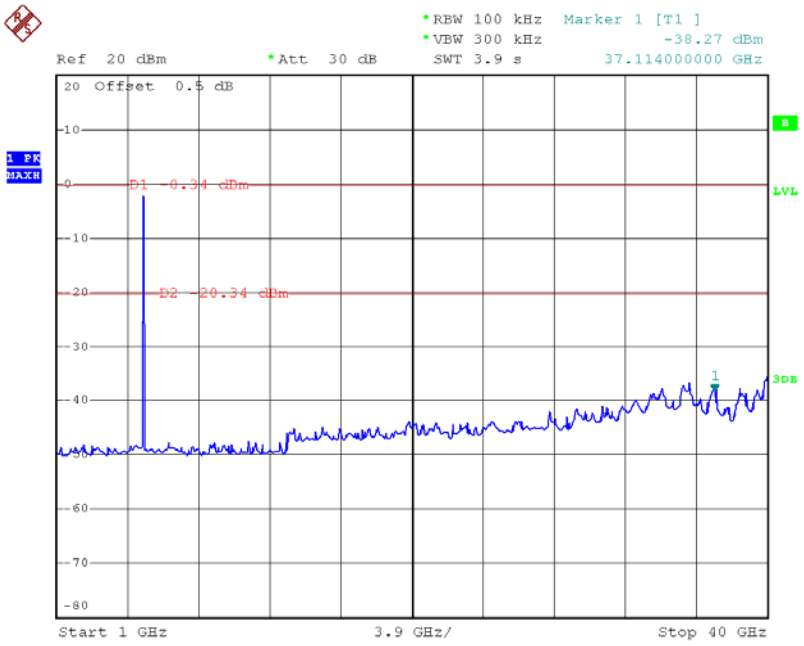

Date: 10.OCT.2012 01:39:30

## TX mode CH149 (1000MHz~10th Harmonic)



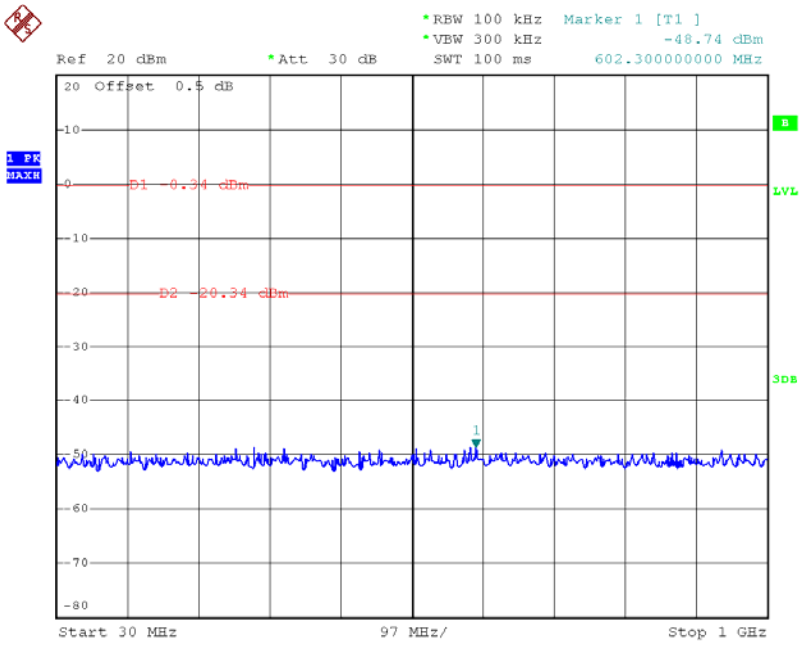

Date: 10.OCT.2012 01:39:45

## TX mode CH157 (30M~1000MHz)



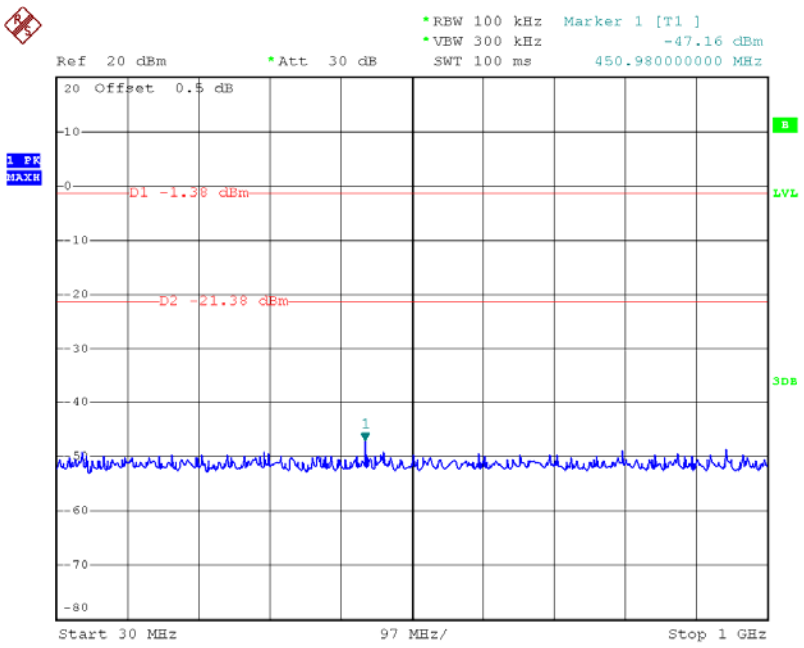

Date: 10.OCT.2012 01:30:43

## TX mode CH157 (1000MHz~10th Harmonic)



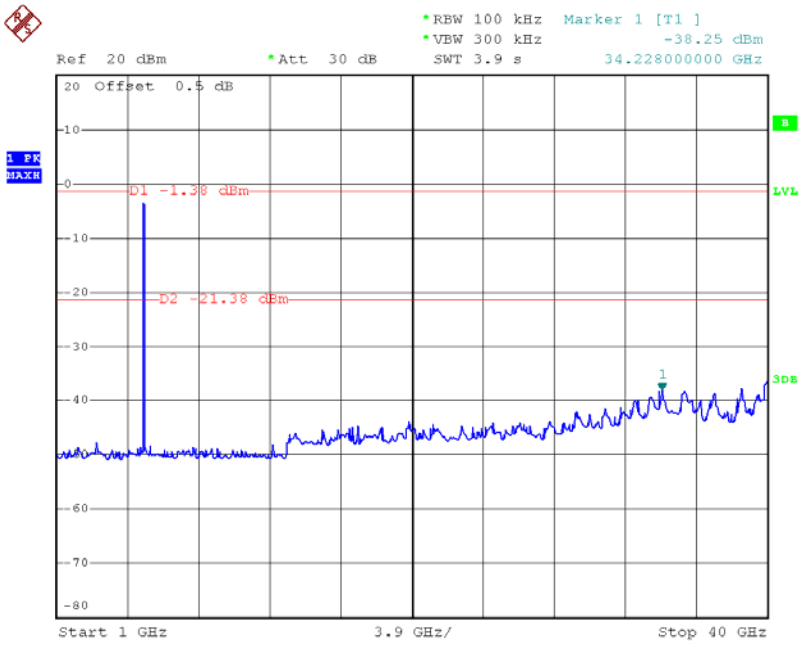

Date: 10.OCT.2012 01:30:57

## TX mode CH165 (30M~1000MHz)




Date: 10.OCT.2012 01:21:54

## TX mode CH165 (1000MHz~10th Harmonic)

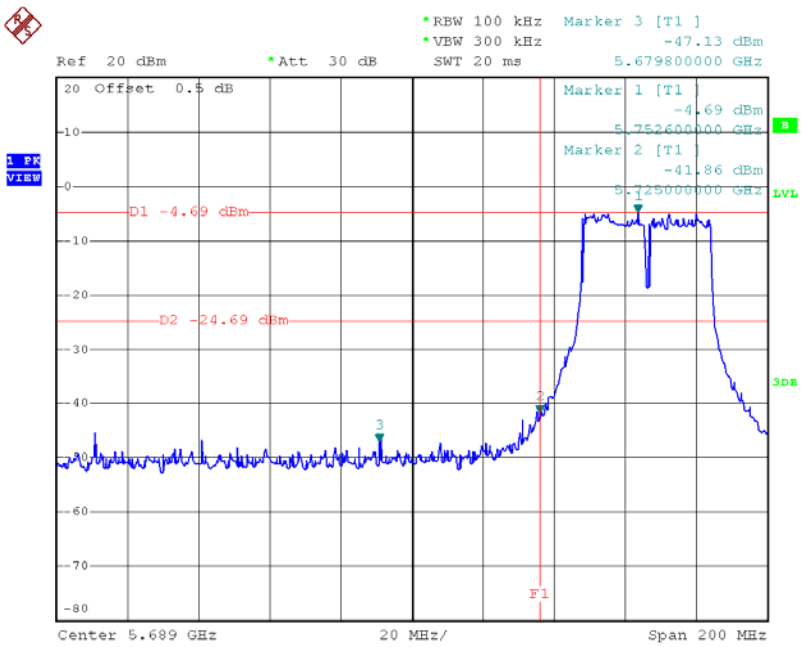



Date: 10.OCT.2012 01:22:20

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N40 Mode /CH151, CH159 – ANT 1 For 3TX | | |

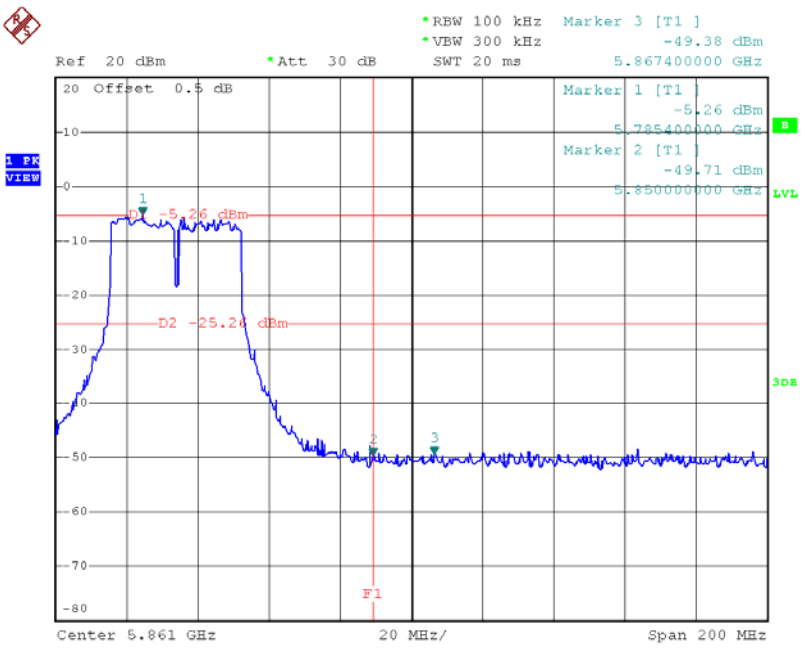
| Channel of Worst Data: CH151 | | | |
|---|---|---|---|
| The max. radio frequency power in any 100kHz bandwidth outside the frequency band | | The max. radio frequency power in any 100 kHz bandwidth within the frequency band. | |
| FREQUENCY(MHz) | POWER(dBm) | FREQUENCY(MHz) | POWER(dBm) |
| 5725.00 | -41.86 | 5867.40 | -49.38 |
| Result | | | |
| In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power. | | | |

## TX mode CH151



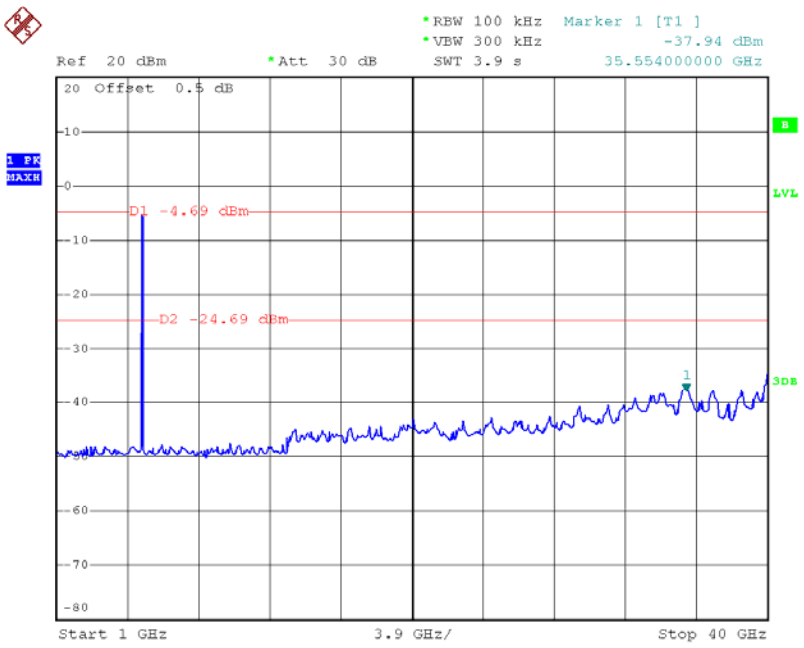

Date: 10.OCT.2012 01:46:13

## TX mode CH159



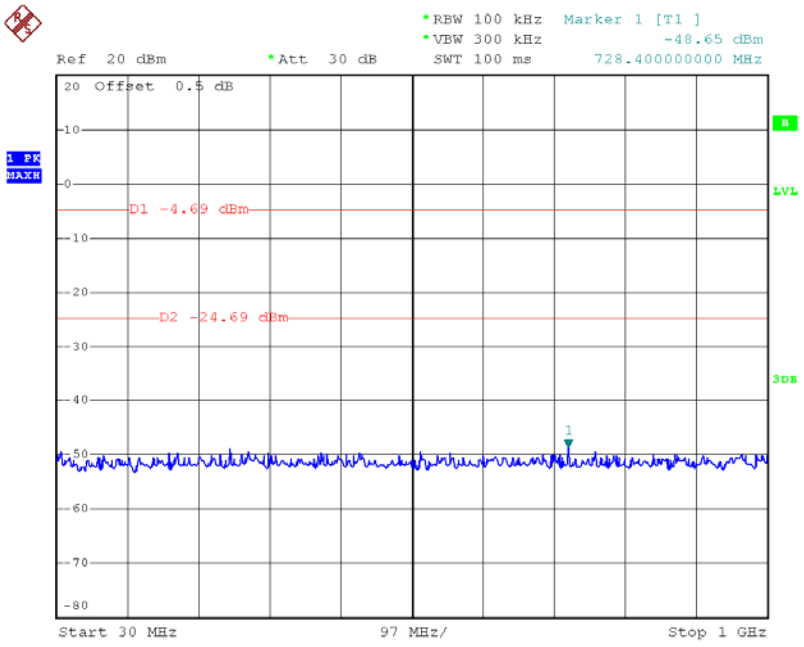

Date: 10.OCT.2012 01:55:58

## TX mode CH151 (30M~1000MHz)



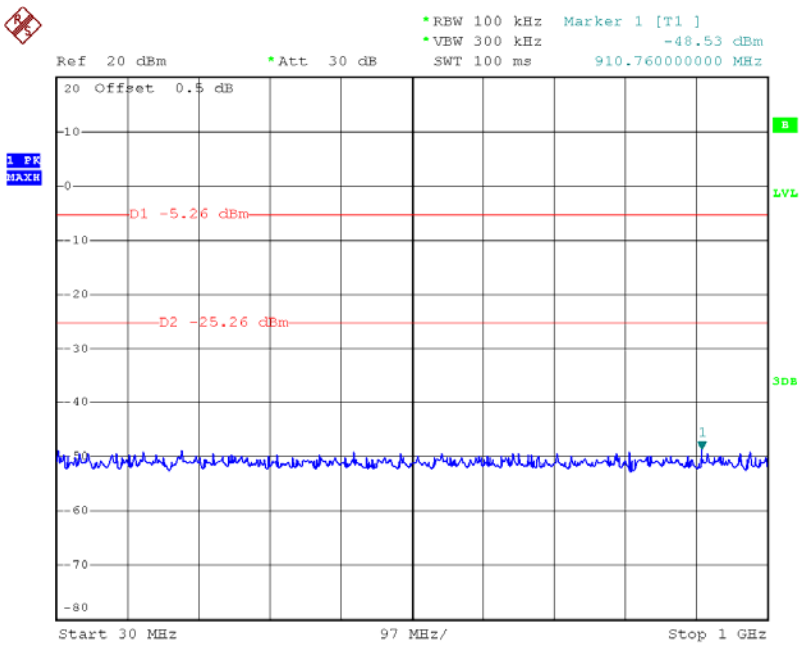

Date: 10.OCT.2012 01:48:27

## TX mode CH151 (1000MHz~10th Harmonic)



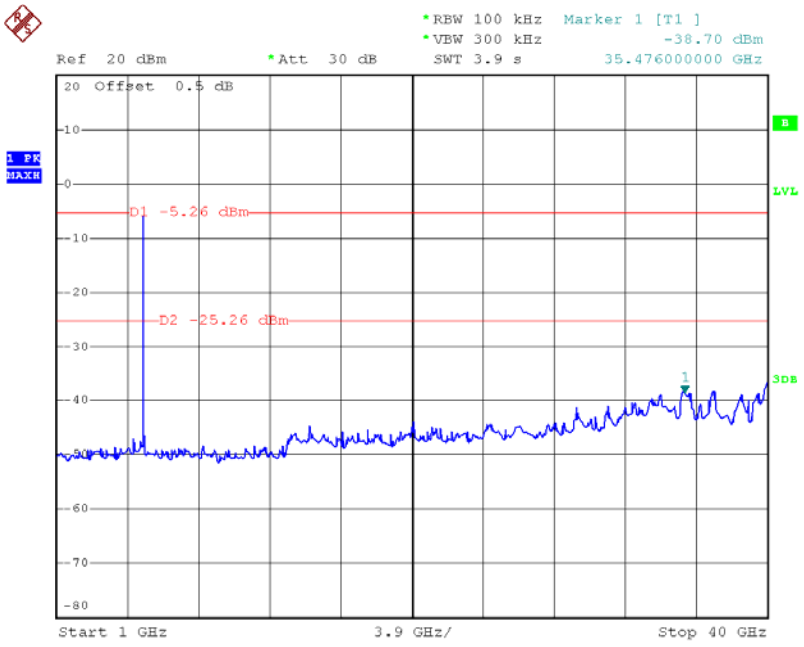

Date: 10.OCT.2012 01:48:34

**TX mode CH159 (30M~1000MHz)**




Date: 10.OCT.2012 01:56:14

**TX mode CH159 (1000MHz~10th Harmonic)**

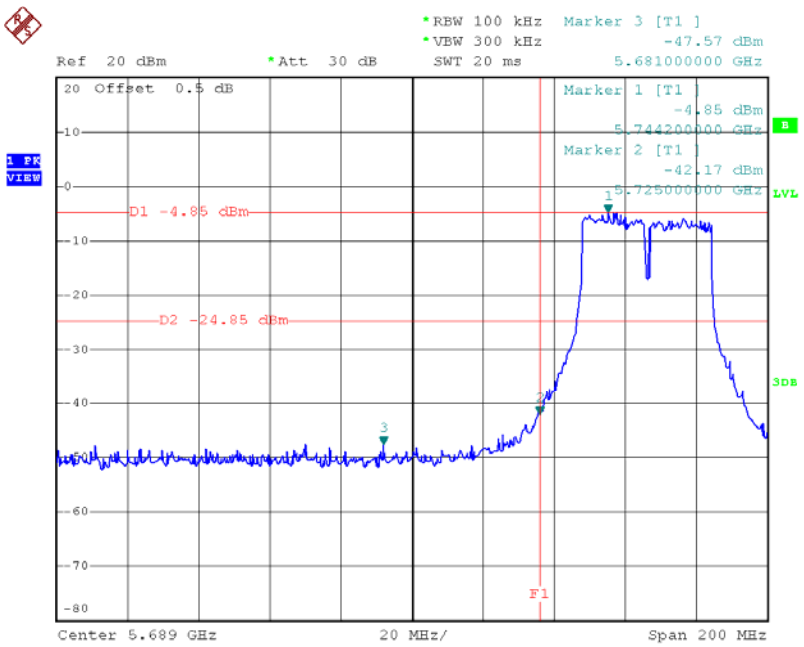



Date: 10.OCT.2012 01:56:31

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N40 Mode /CH151, CH159 – ANT 2 For 3TX | | |

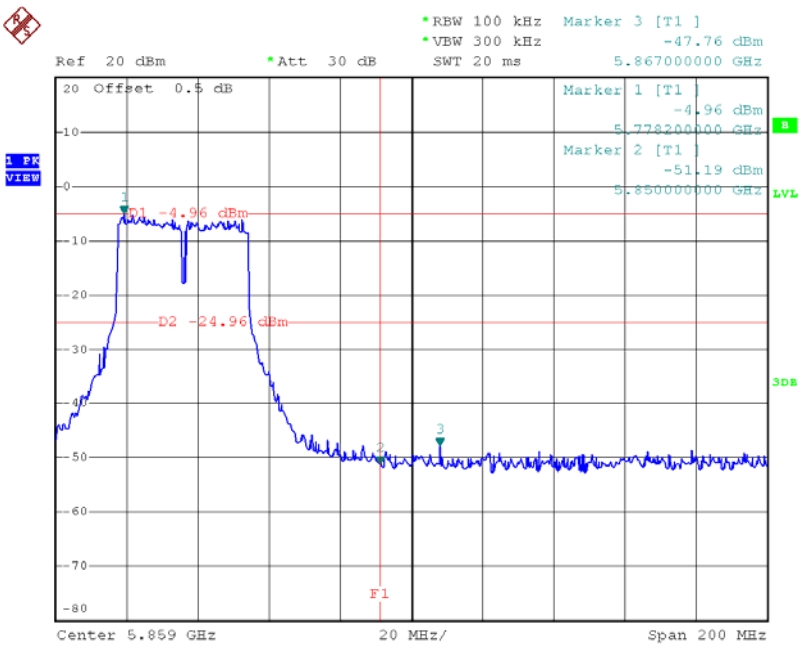
| Channel of Worst Data: CH151 | | | |
|---|---|---|---|
| The max. radio frequency power in any 100kHz bandwidth outside the frequency band | | The max. radio frequency power in any 100 kHz bandwidth within the frequency band. | |
| FREQUENCY(MHz) | POWER(dBm) | FREQUENCY(MHz) | POWER(dBm) |
| 5725.00 | -42.17 | 5867.00 | -47.76 |
| Result | | | |
| In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power. | | | |

## TX mode CH151



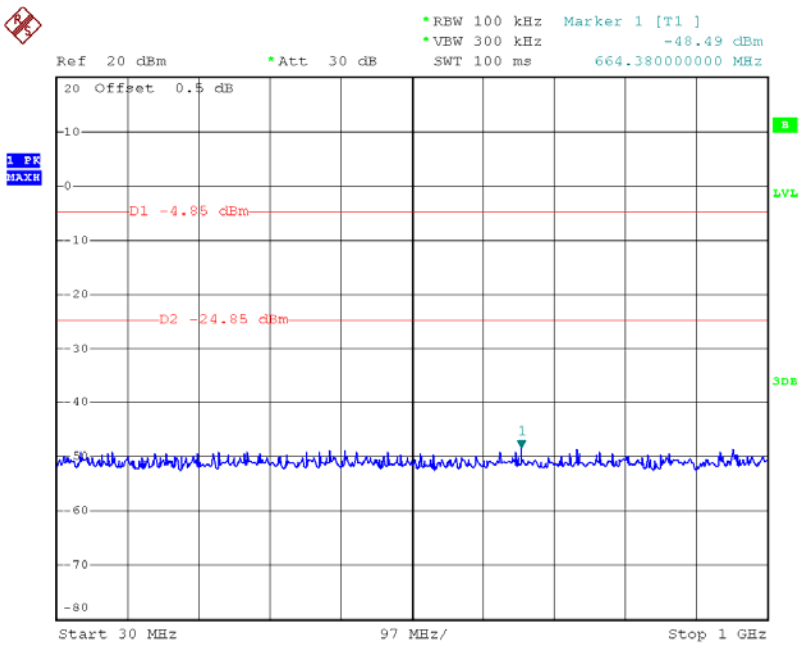

Date: 10.OCT.2012 01:47:00

## TX mode CH159



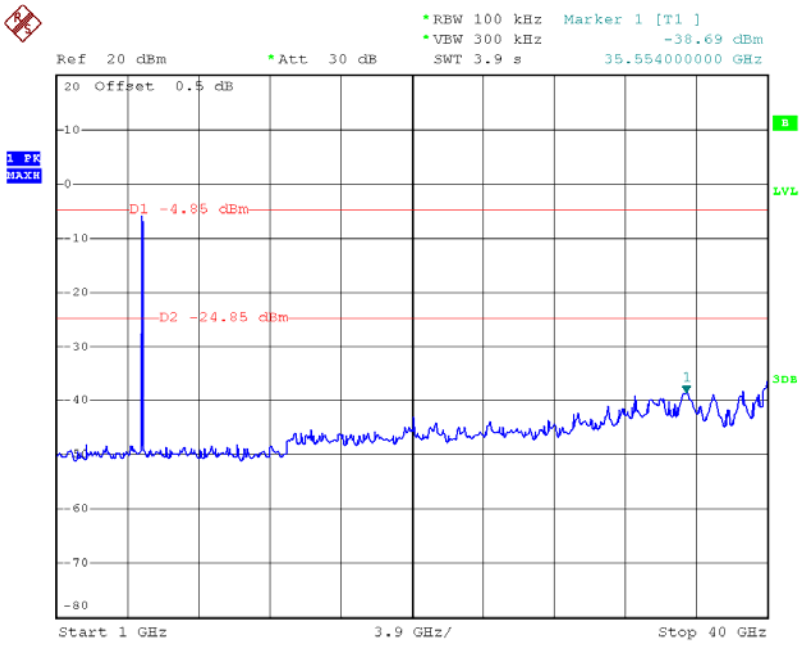

Date: 10.OCT.2012 01:54:25

## TX mode CH151 (30M~1000MHz)



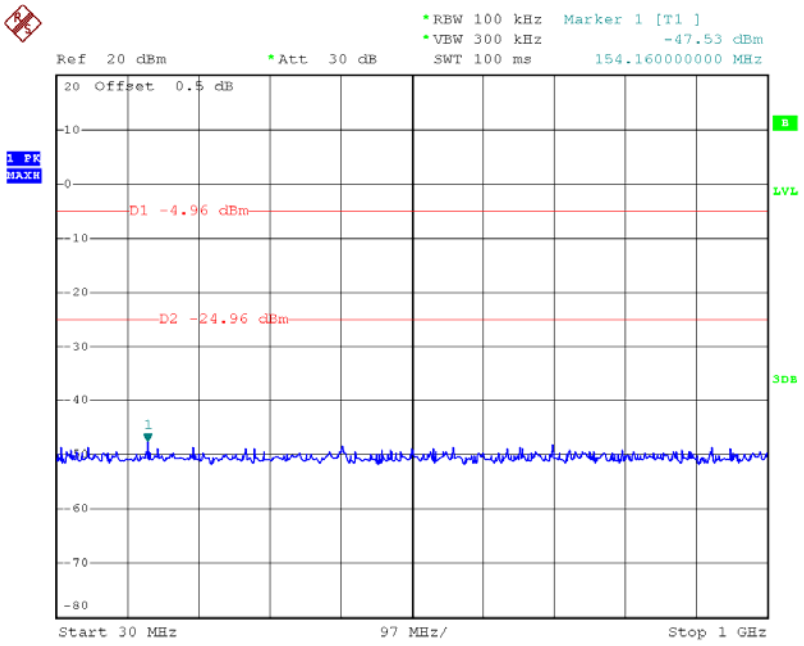

Date: 10.OCT.2012 01:47:18

## TX mode CH151 (1000MHz~10th Harmonic)



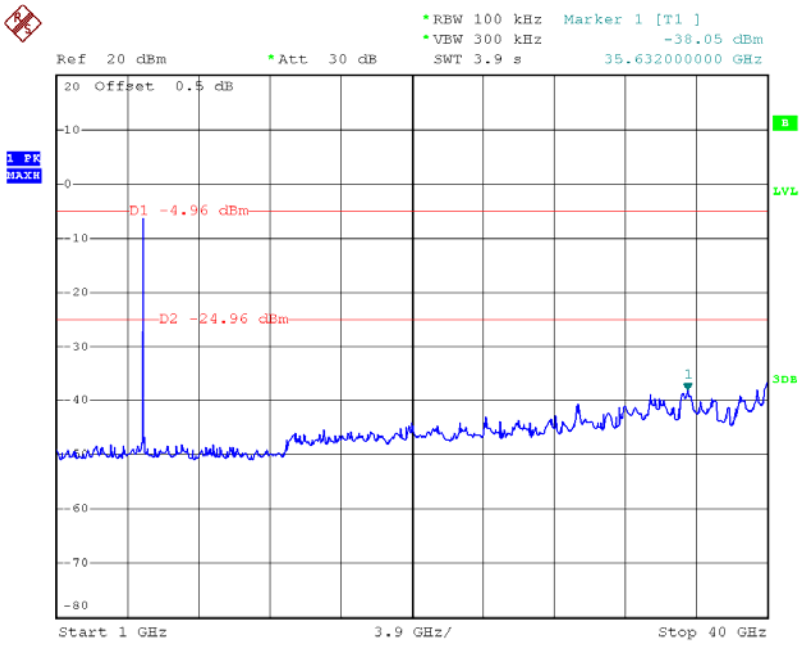

Date: 10.OCT.2012 01:47:34

## TX mode CH159 (30M~1000MHz)




Date: 10.OCT.2012 01:54:55

## TX mode CH159 (1000MHz~10th Harmonic)

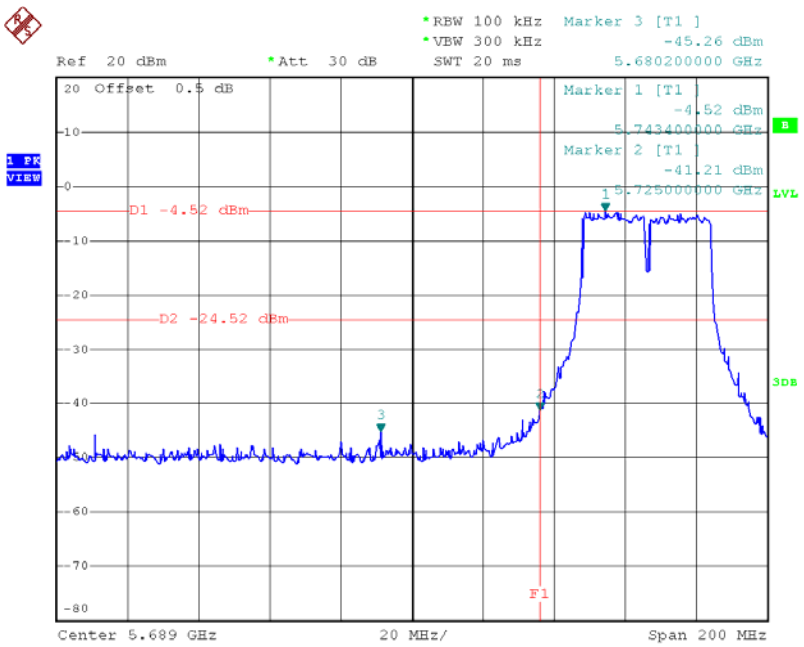



Date: 10.OCT.2012 01:55:11

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 25 ℃ | Relative Humidity： | 58 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N40 Mode /CH151, CH159 – ANT 3 For 3TX | | |

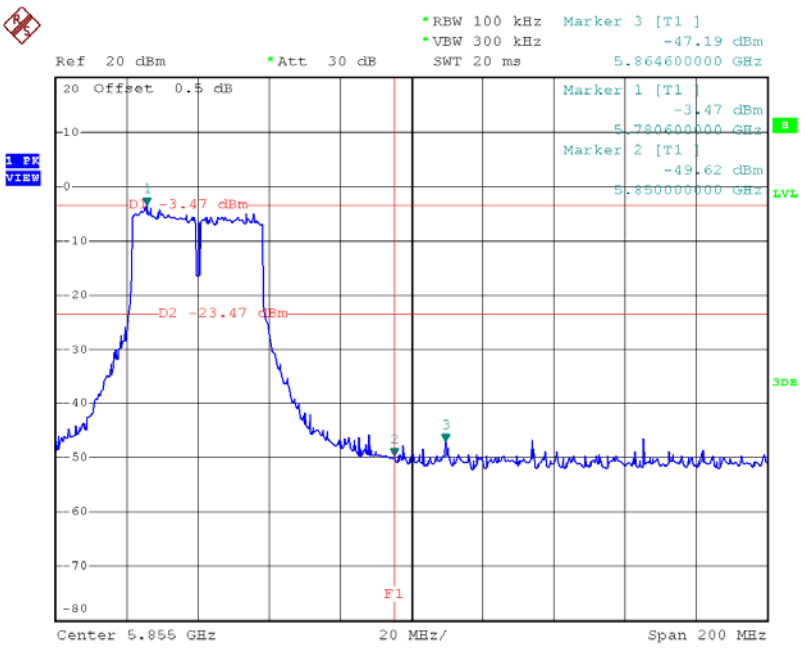
| Channel of Worst Data: CH151 | | | |
|---|---|---|---|
| The max. radio frequency power in any 100kHz bandwidth outside the frequency band | | The max. radio frequency power in any 100 kHz bandwidth within the frequency band. | |
| FREQUENCY(MHz) | POWER(dBm) | FREQUENCY(MHz) | POWER(dBm) |
| 5725.00 | -41.21 | 5864.60 | -47.19 |
| Result | | | |
| In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power. | | | |

## TX mode CH151



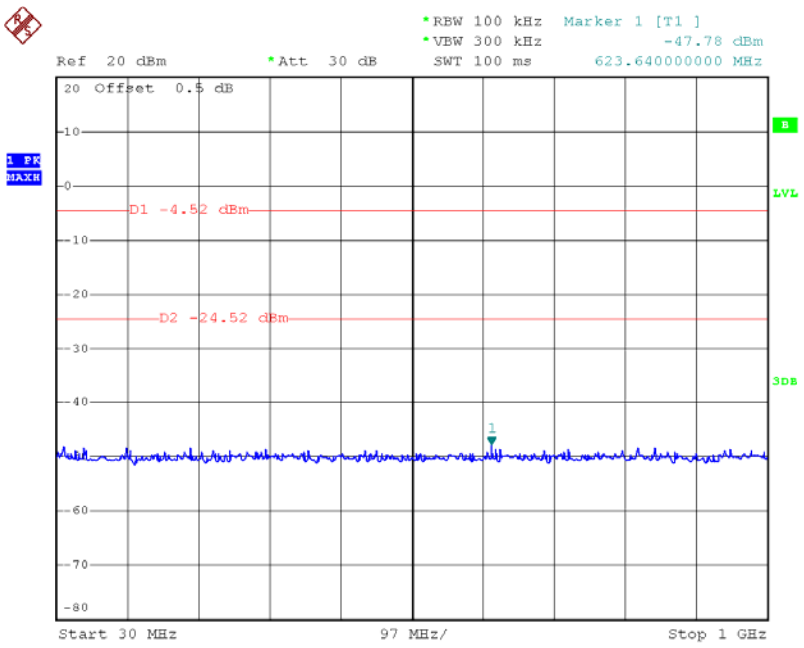

Date: 10.OCT.2012 01:44:54

## TX mode CH159



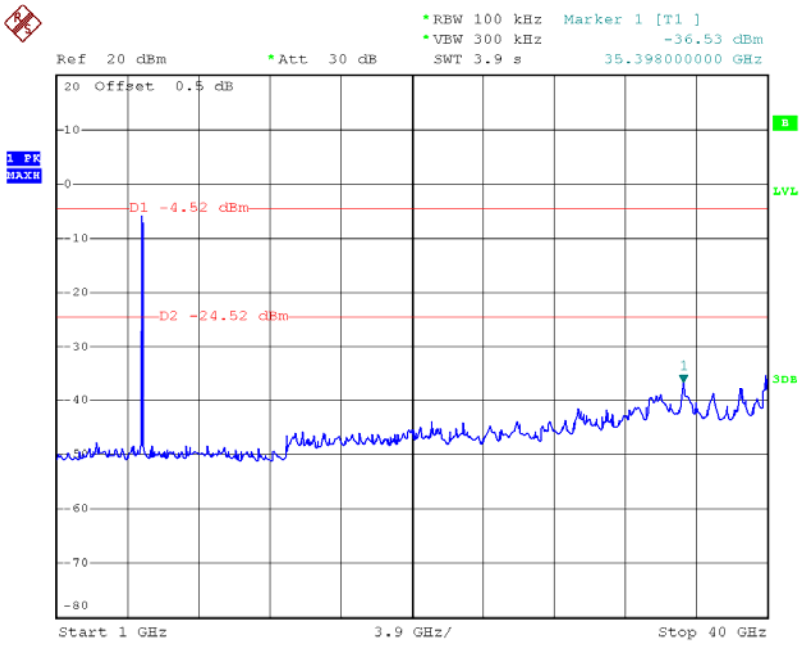

Date: 10.OCT.2012 01:58:05

## TX mode CH151 (30M~1000MHz)



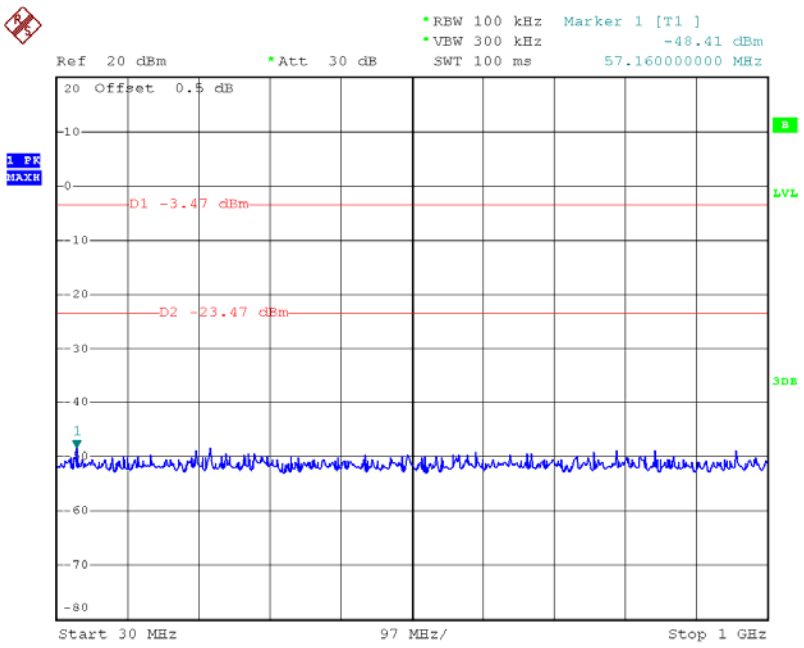

Date: 10.OCT.2012 01:48:56

## TX mode CH151 (1000MHz~10th Harmonic)



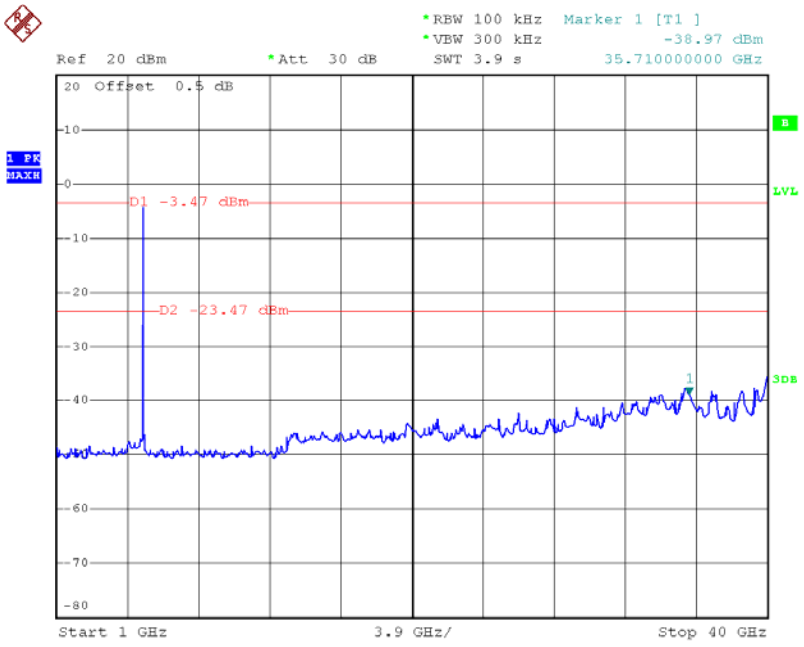

Date: 10.OCT.2012 01:49:09

## TX mode CH159 (30M~1000MHz)




Date: 10.OCT.2012 01:58:20

## TX mode CH159 (1000MHz~10th Harmonic)




Date: 10.OCT.2012 01:58:43

# 8. POWER SPECTRAL DENSITY TEST

## 8.1 Applied procedures / limit

| FCC Part15 (15.247) , Subpart C | | | | |
|---|---|---|---|---|
| Section | Test Item | Limit | Frequency Range (MHz) | Result |
| 15.247(e) | Power Spectral Density | 8 dBm (in any 3KHz) | 5745 - 5825 | PASS |

### 8.1.1 MEASUREMENT INSTRUMENTS LIST

| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Last Calibration | Next Calibration |
|---|---|---|---|---|---|---|
| 1 | Spectrum Analyzer | R&S | FSP_40 | 100185 | Nov.26.2011 | Nov.26.2012 |

Remark: “N/A” denotes no model name, serial no. or calibration specified.
All calibration period of Equipment List is One Year.

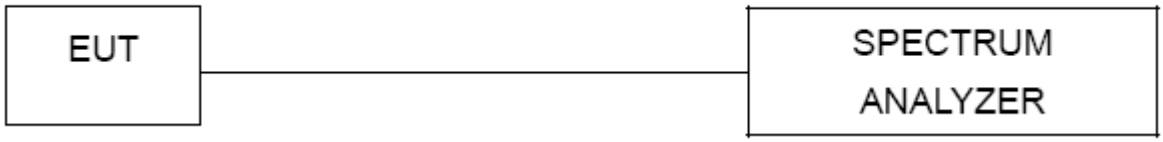
### 8.1.2 TEST PROCEDURE

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=300 KHz, Sweep time = 20s.

### 8.1.3 DEVIATION FROM STANDARD

No deviation.

### 8.1.4 TEST SETUP




### 8.1.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

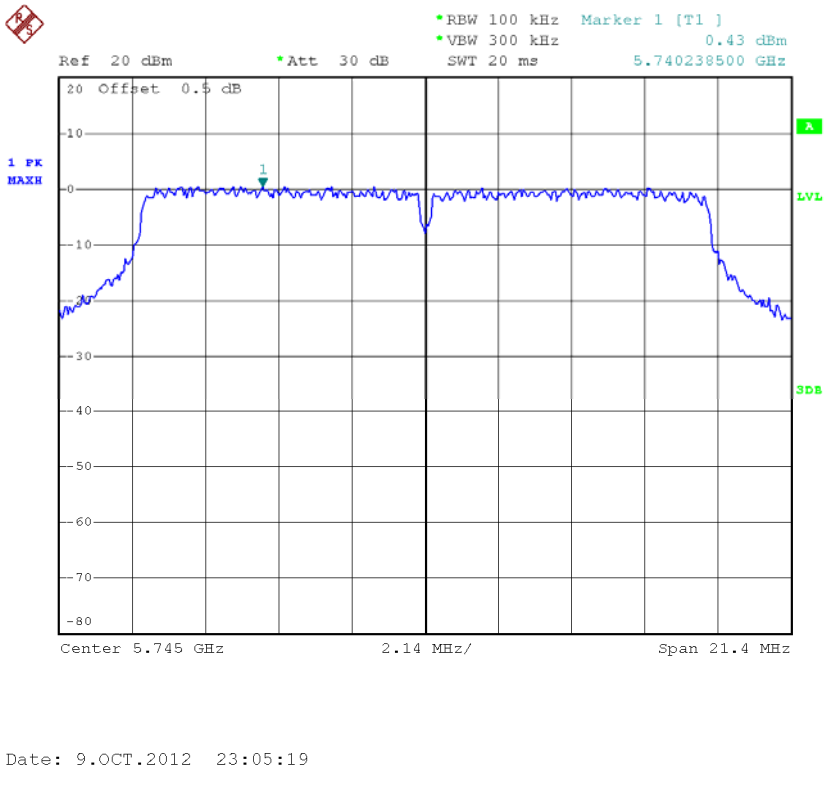
### 8.1.6 TEST RESULTS

| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 23 ℃ | Relative Humidity： | 51 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX A Mode /CH149, CH157, CH165 - For 1TX | | |

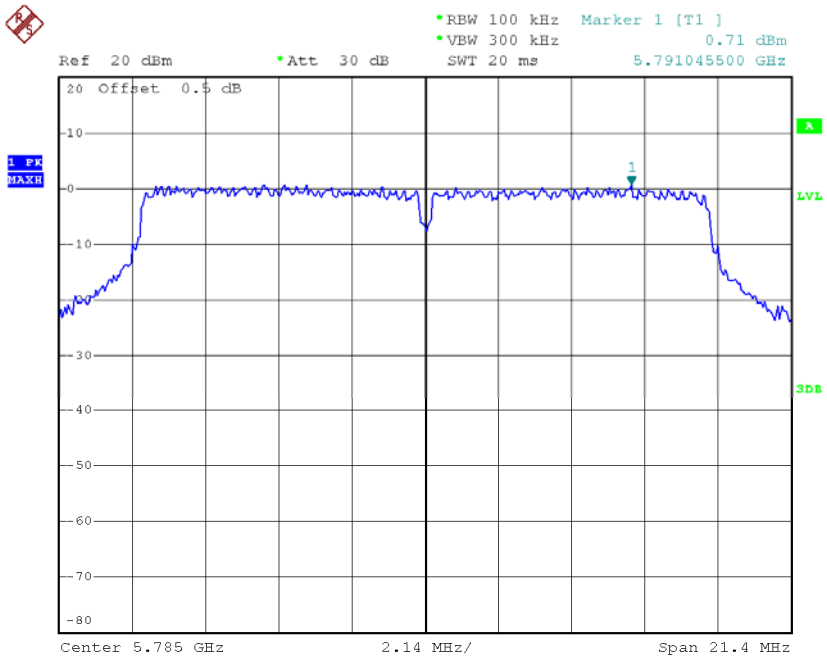
| ANT 2 | | | |
|---|---|---|---|
| Test Channel | Frequency (MHz) | Power Density (dBm) | LIMIT (dBm) |
| CH149 | 5745 MHz | -14.79 | 8 |
| CH157 | 5785 MHz | -14.51 | 8 |
| CH165 | 5825 MHz | -14.92 | 8 |

Note: DWCF (dB) = 10 log (3K/100K) = -15.22dB

**TX CH149**

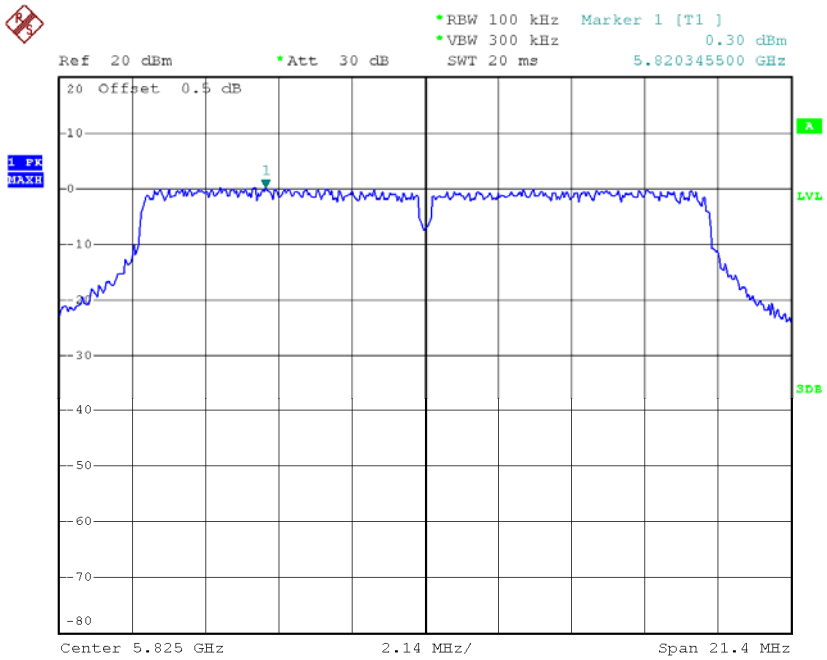


## TX CH157




Date: 9.OCT.2012 23:17:42

## TX CH165

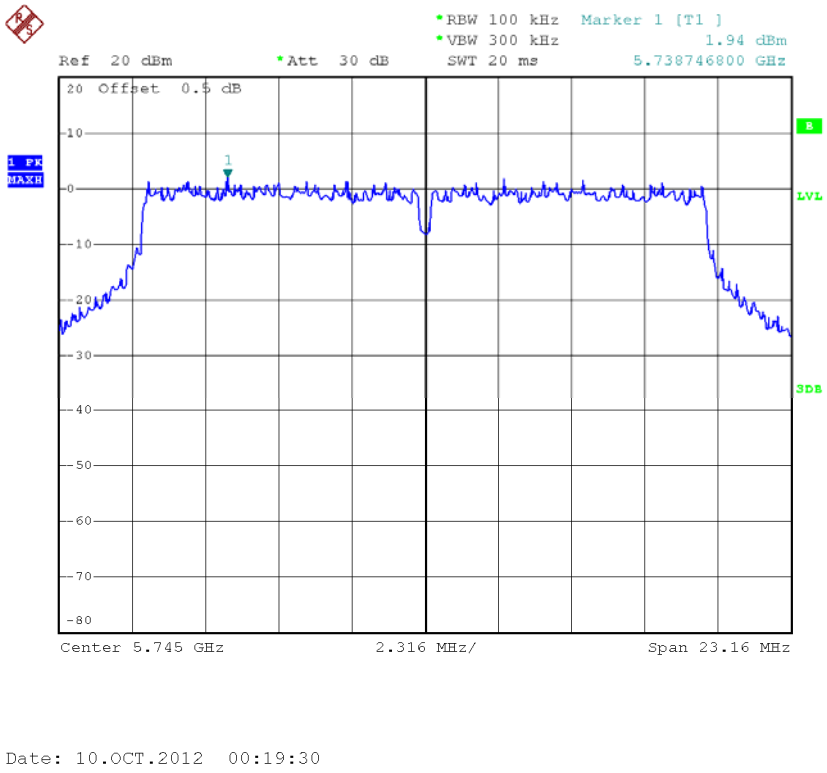



Date: 9.OCT.2012 23:19:34

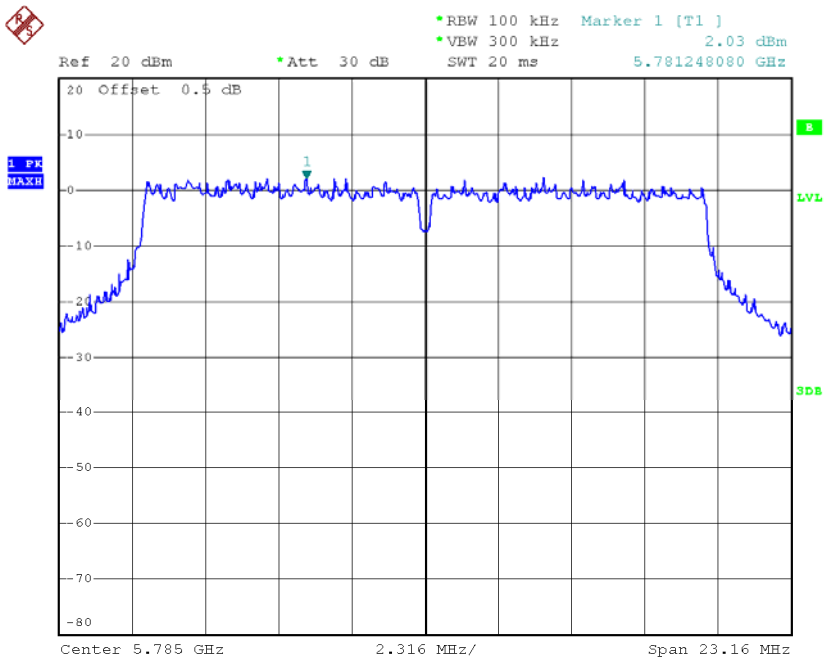
| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 23 ℃ | Relative Humidity： | 51 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N20 Mode /CH149, CH157, CH165 - For 1TX | | |

| ANT 2 | | | |
|---|---|---|---|
| Test Channel | Frequency (MHz) | Power Density (dBm) | LIMIT (dBm) |
| CH149 | 5745 MHz | -13.28 | 8 |
| CH157 | 5785 MHz | -13.19 | 8 |
| CH165 | 5825 MHz | -14.32 | 8 |

**TX CH149**

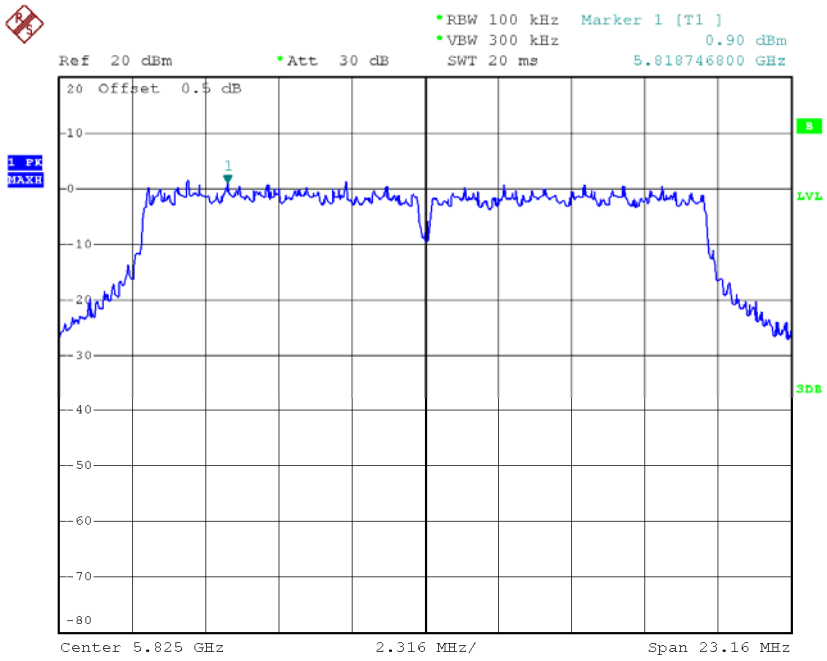


## TX CH157




Date: 10.OCT.2012 00:26:13

## TX CH165

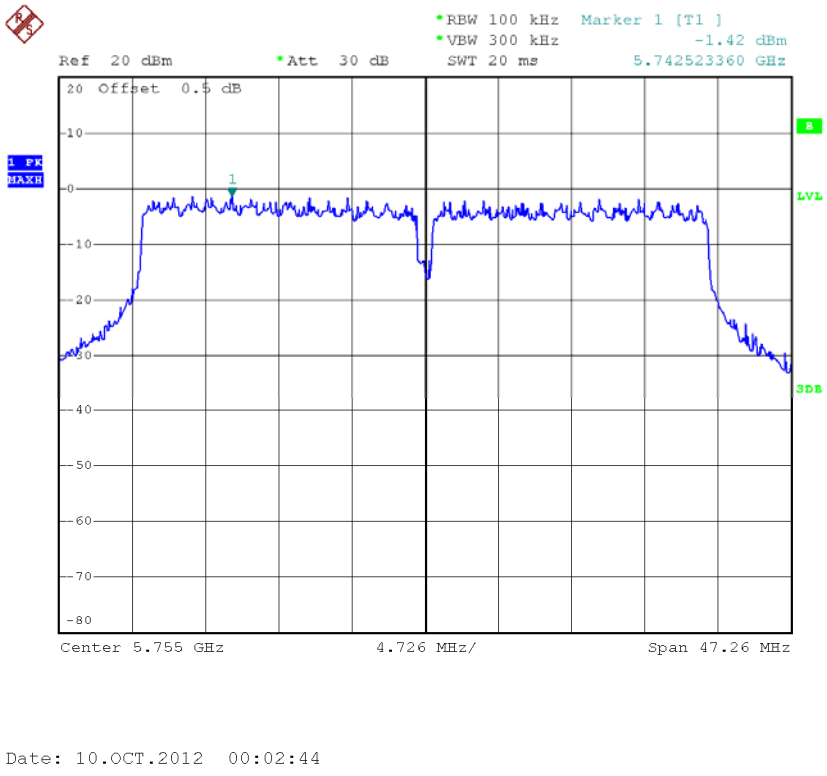



Date: 10.OCT.2012 00:31:57

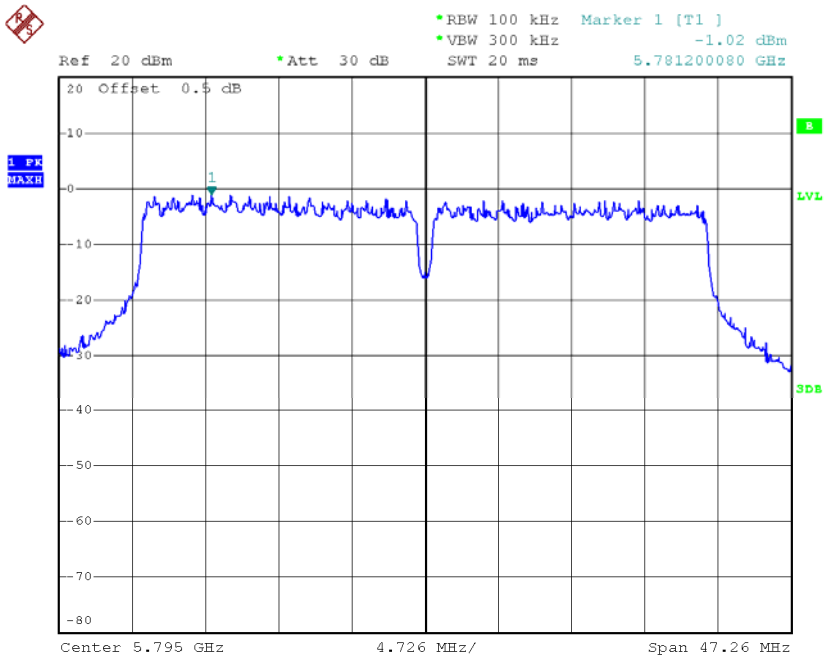
| | | | |
|---|---|---|---|
| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
| Temperature： | 23 ℃ | Relative Humidity： | 51 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N40 Mode /CH151, CH159 - For 1TX | | |

| ANT 2 | | | |
|---|---|---|---|
| Test Channel | Frequency (MHz) | Power Density (dBm) | LIMIT (dBm) |
| CH151 | 5755 MHz | -16.64 | 8 |
| CH159 | 5795 MHz | -16.24 | 8 |

**TX CH151**



## TX CH159




Date: 10.OCT.2012 00:08:55

| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
|---|---|---|---|
| Temperature： | 23 ℃ | Relative Humidity： | 51 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX A Mode /CH149, CH157, CH165 – For 2TX | | |

| ANT 1 | | | |
|---|---|---|---|
| Test Channel | Frequency (MHz) | Power Density (dBm) | LIMIT (dBm) |
| CH149 | 5745 MHz | -16.01 | 8 |
| CH157 | 5785 MHz | -15.59 | 8 |
| CH165 | 5825 MHz | -15.87 | 8 |

| ANT 2 | | | |
|---|---|---|---|
| Test Channel | Frequency (MHz) | Power Density (dBm) | LIMIT (dBm) |
| CH149 | 5745 MHz | -15.91 | 8 |
| CH157 | 5785 MHz | -15.24 | 8 |
| CH165 | 5825 MHz | -15.76 | 8 |

| Total | | | |
|---|---|---|---|
| Test Channel | Frequency (MHz) | Power Density (dBm) | LIMIT (dBm) |
| CH149 | 5745 MHz | -12.95 | 8 |
| CH157 | 5785 MHz | -12.40 | 8 |
| CH165 | 5825 MHz | -12.80 | 8 |

Note: DWCF (dB) = 10 log (3K/100K) = -15.22dB

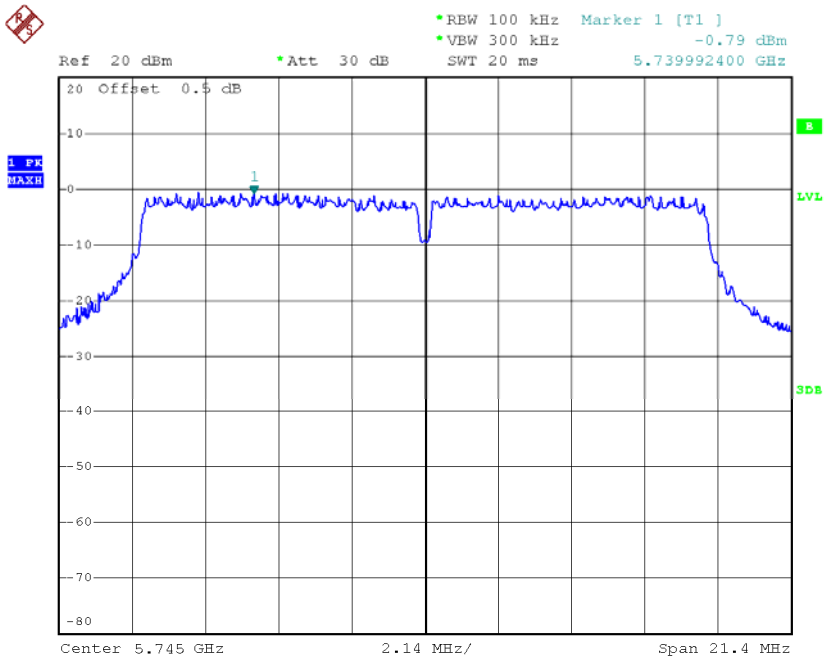
Remark：

(1) **The MIMO test requirement, RF conducted output power shall measure each transmitter chain by using channel power method.**
**And after obtain each individual transmitter chain power, then sum the output power by using the following formula:**
**((dBm/Chain 1)/10^Log) + ((dBm/Chain 2)/10^log) + ((dBm/ChainN)/10^log) = Combined peak output power in mW.**

(2) **Antenna Gain 1=5.74 dBi**

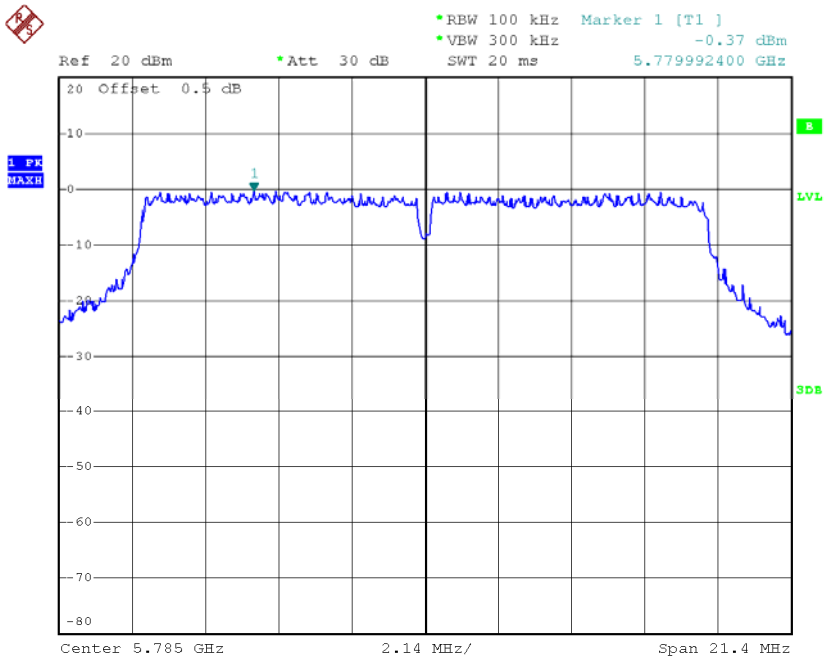
(3) **Note: This EUT supports MIMO, all transmit signals are completely uncorrelated, then, Direction gain = $G_{ANT}$, that is Directional gain=5.74.**

## TX CH149-ANT 1



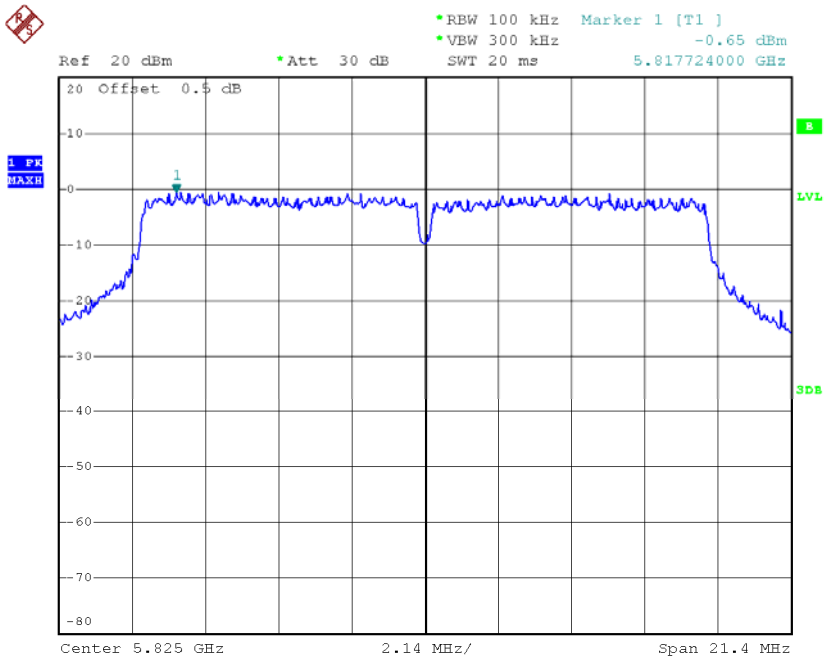

Date: 10.OCT.2012 00:49:08

## TX CH157-ANT 1



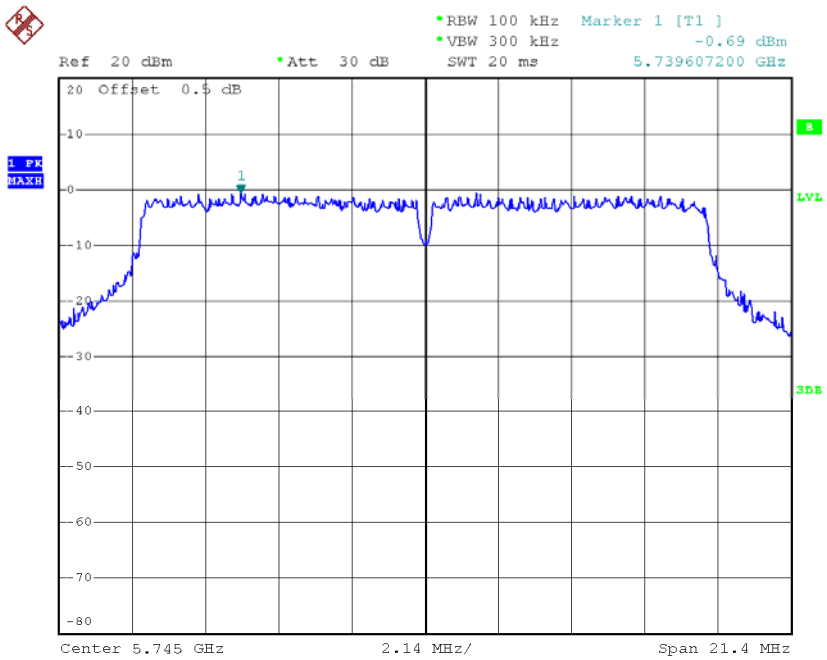

Date: 10.OCT.2012 00:45:37

## TX CH165-ANT 1



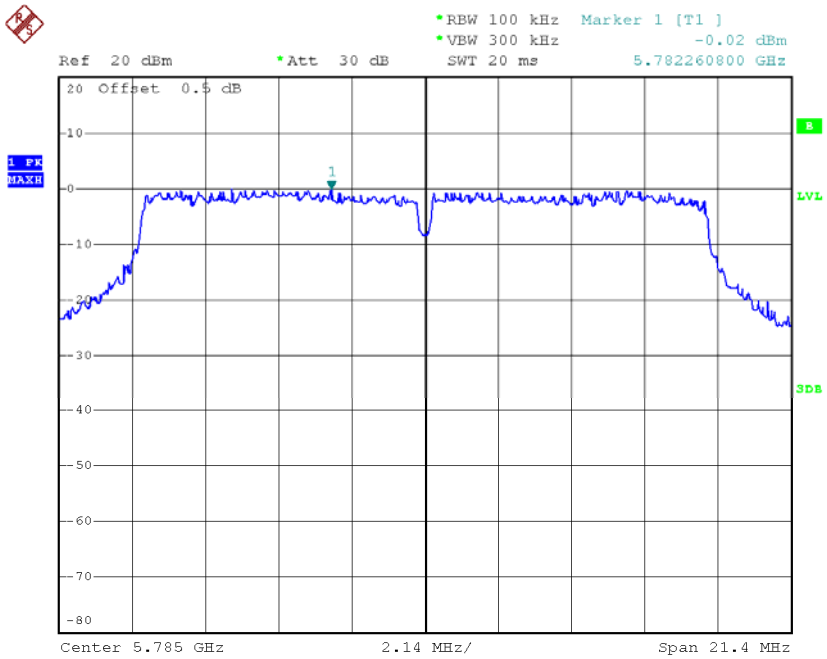

Date: 10.OCT.2012 00:38:36

## TX CH149-ANT 2



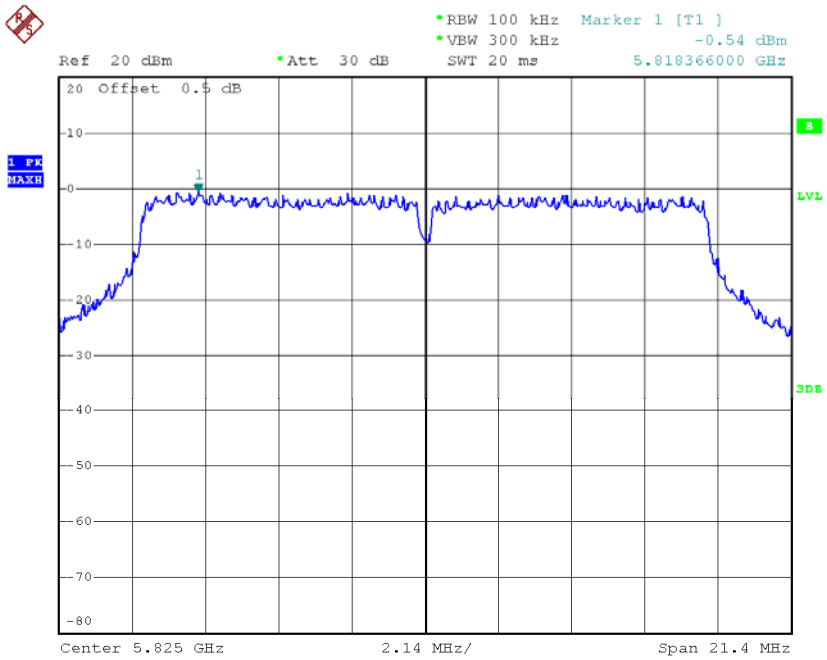

Date: 10.OCT.2012 00:49:04

## TX CH157-ANT 2




Date: 10.OCT.2012 00:45:32

## TX CH165-ANT 2




Date: 10.OCT.2012 00:38:41

| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
|---|---|---|---|
| Temperature： | 23 ℃ | Relative Humidity： | 51 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N20 Mode /CH149, CH157, CH165 – For 2TX | | |

| ANT 1 | | | |
|---|---|---|---|
| Test Channel | Frequency (MHz) | Power Density (dBm) | LIMIT (dBm) |
| CH149 | 5745 MHz | -13.86 | 8 |
| CH157 | 5785 MHz | -13.24 | 8 |
| CH165 | 5825 MHz | -14.82 | 8 |

| ANT 2 | | | |
|---|---|---|---|
| Test Channel | Frequency (MHz) | Power Density (dBm) | LIMIT (dBm) |
| CH149 | 5745 MHz | -14.87 | 8 |
| CH157 | 5785 MHz | -15.08 | 8 |
| CH165 | 5825 MHz | -16.24 | 8 |

| Total | | | |
|---|---|---|---|
| Test Channel | Frequency (MHz) | Power Density (dBm) | LIMIT (dBm) |
| CH149 | 5745 MHz | -12.95 | 8 |
| CH157 | 5785 MHz | -11.05 | 8 |
| CH165 | 5825 MHz | -12.46 | 8 |

Note: DWCF (dB) = 10 log (3K/100K) = -15.22dB

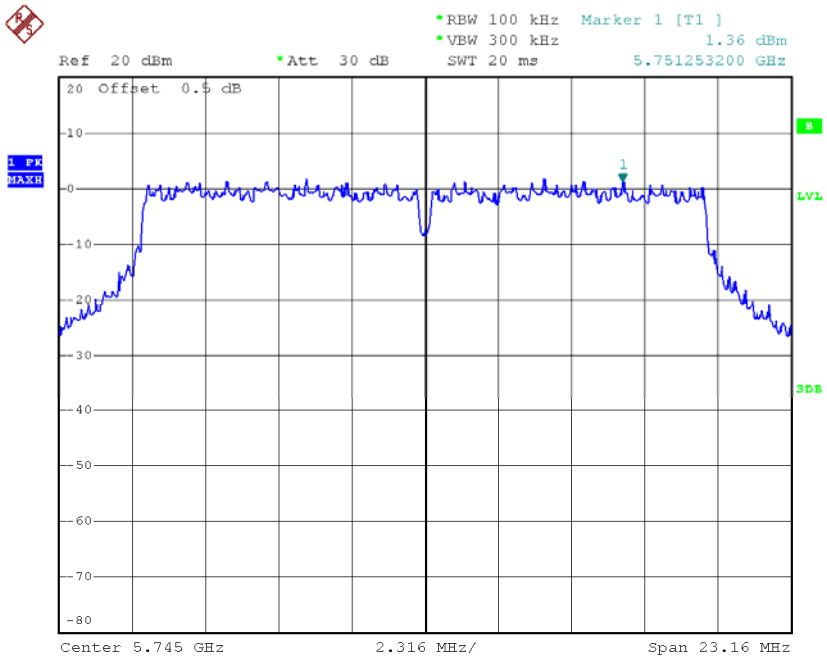
Remark：

(1) **The MIMO test requirement, RF conducted output power shall measure each transmitter chain by using channel power method.**
**And after obtain each individual transmitter chain power, then sum the output power by using the following formula:**
**((dBm/Chain 1)/10^Log) + ((dBm/Chain 2)/10^log) + ((dBm/ChainN)/10^log) = Combined peak output power in mW.**

(2) **Antenna Gain 1=5.74 dBi**

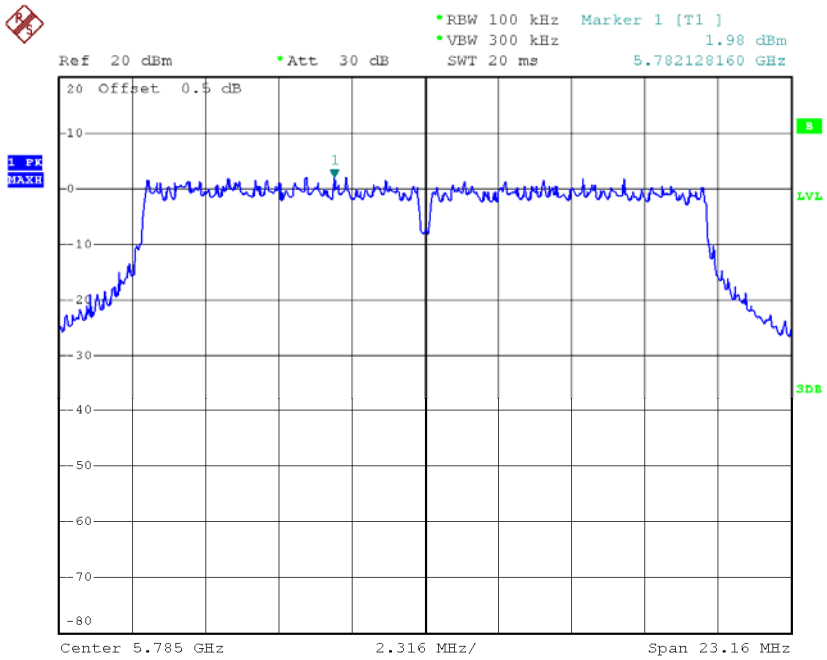
(3) **Note: This EUT supports MIMO, all transmit signals are completely uncorrelated, then, Direction gain = $G_{ANT}$, that is Directional gain=5.74.**

## TX CH149-ANT 1



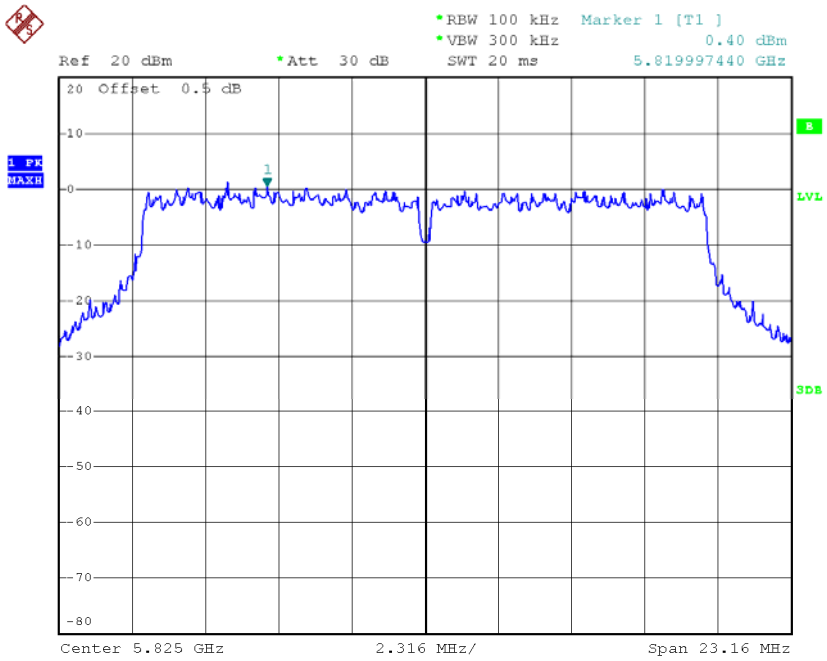

Date: 10.OCT.2012 00:19:38

## TX CH157-ANT 1



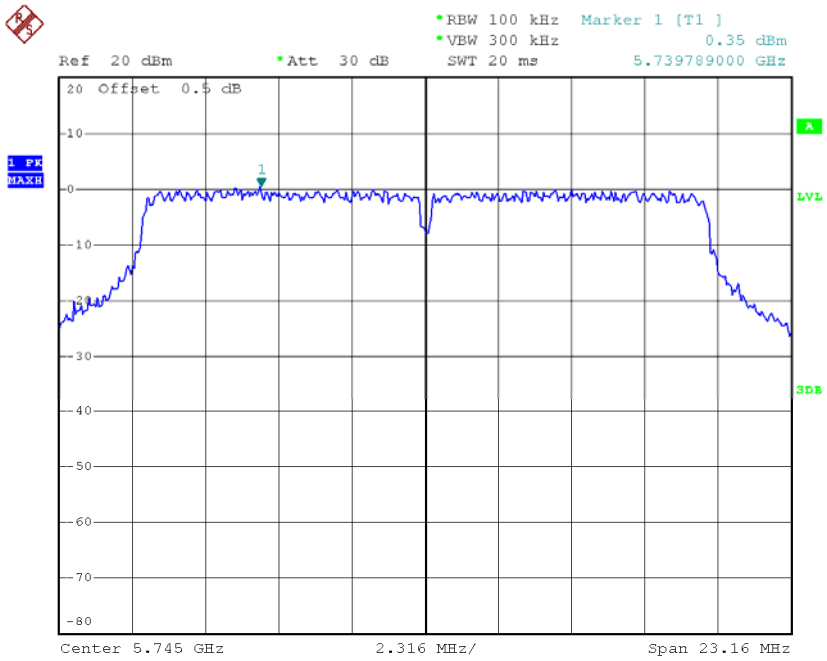

Date: 10.OCT.2012 00:26:09

## TX CH165-ANT 1



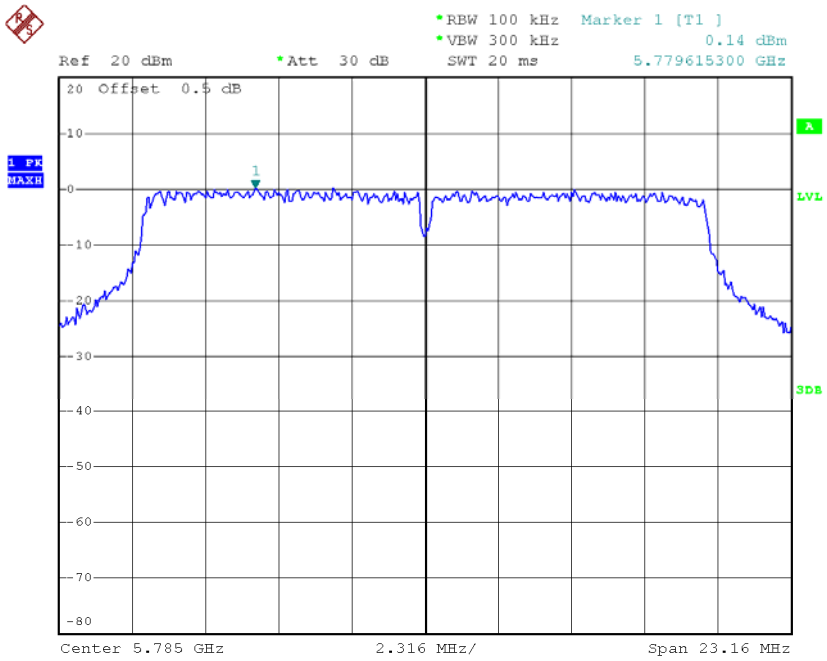

Date: 10.OCT.2012 00:32:02

## TX CH149-ANT 2



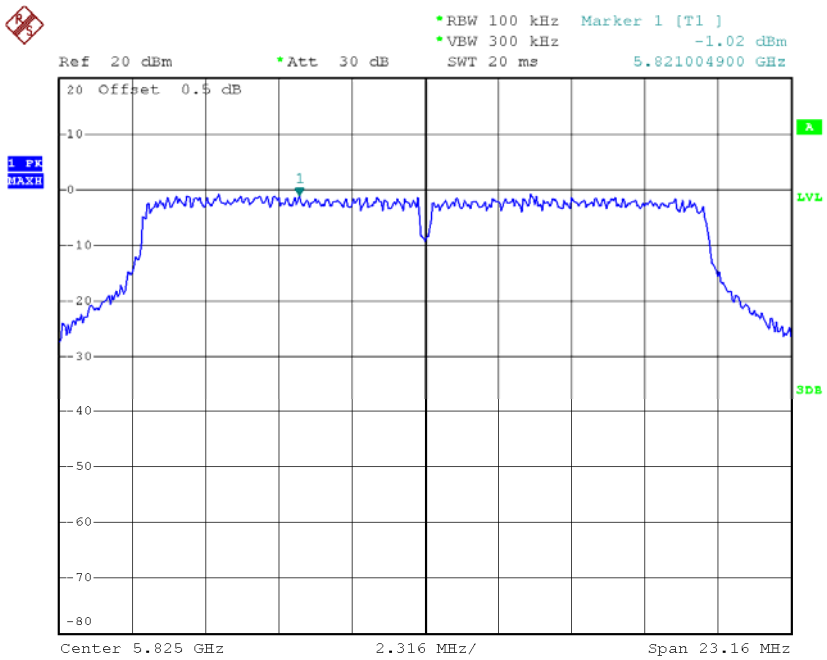

Date: 9.OCT.2012 23:34:47

## TX CH157-ANT 2




Date: 9.OCT.2012 23:44:12

## TX CH165-ANT 2




Date: 9.OCT.2012 23:30:29

| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
|---|---|---|---|
| Temperature： | 23 ℃ | Relative Humidity： | 51 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N40 Mode /CH151, CH159 – For 2TX | | |

| ANT 1 | | | |
|---|---|---|---|
| Test Channel | Frequency (MHz) | Power Density (dBm) | LIMIT (dBm) |
| CH151 | 5755 MHz | -18.00 | 8 |
| CH159 | 5795 MHz | -17.55 | 8 |

| ANT 2 | | | |
|---|---|---|---|
| Test Channel | Frequency (MHz) | Power Density (dBm) | LIMIT (dBm) |
| CH151 | 5755 MHz | -17.42 | 8 |
| CH159 | 5795 MHz | -18.34 | 8 |

| Total | | | |
|---|---|---|---|
| Test Channel | Frequency (MHz) | Power Density (dBm) | LIMIT (dBm) |
| CH151 | 5755 MHz | -14.69 | 8 |
| CH159 | 5795 MHz | -14.92 | 8 |

Note: DWCF (dB) = 10 log (3K/100K) = -15.22dB

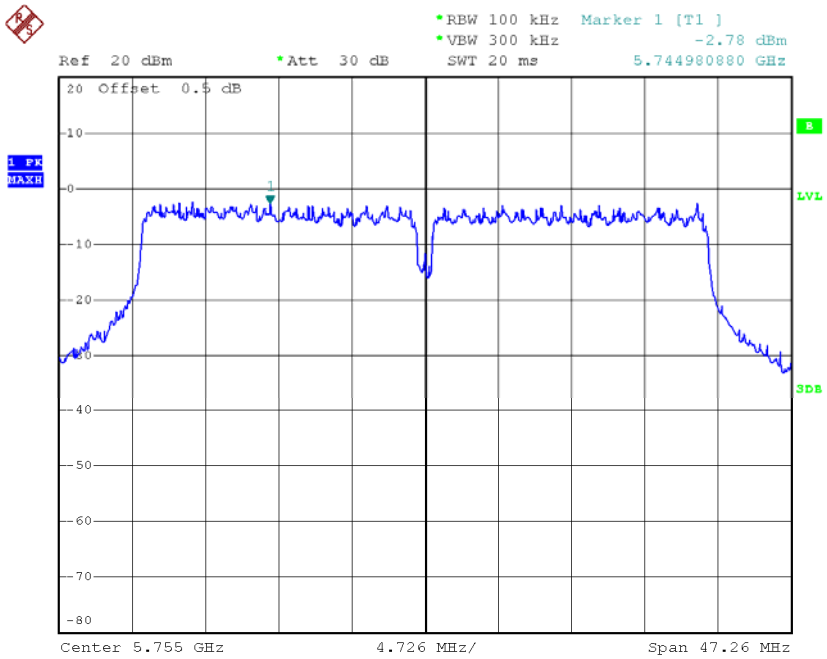
Remark：

(1) **The MIMO test requirement, RF conducted output power shall measure each transmitter chain by using channel power method.**
**And after obtain each individual transmitter chain power, then sum the output power by using the following formula:**
**((dBm/Chain 1)/10^Log) + ((dBm/Chain 2)/10^log) + ((dBm/ChainN)/10^log) = Combined peak output power in mW.**

(2) **Antenna Gain 1=5.74 dBi**

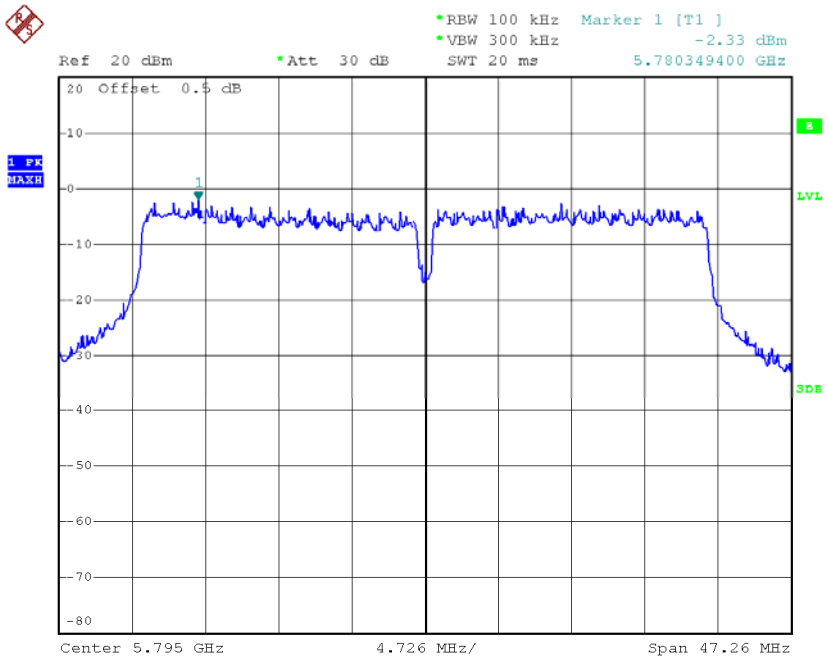
(3) **Note: This EUT supports MIMO, all transmit signals are completely uncorrelated, then, Direction gain = $G_{ANT}$, that is Directional gain=5.74.**

## TX CH151-ANT 1



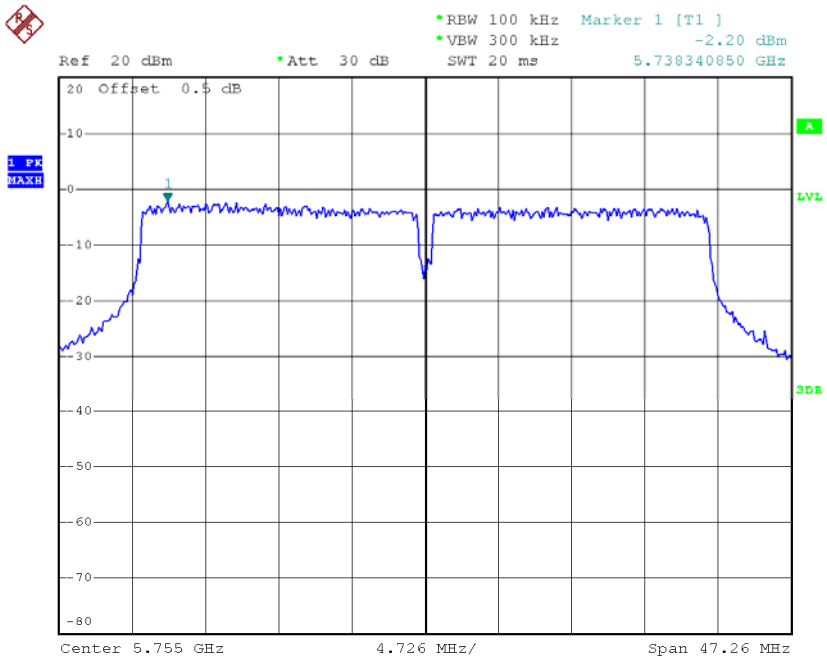

Date: 10.OCT.2012 00:02:51

## TX CH159-ANT 1



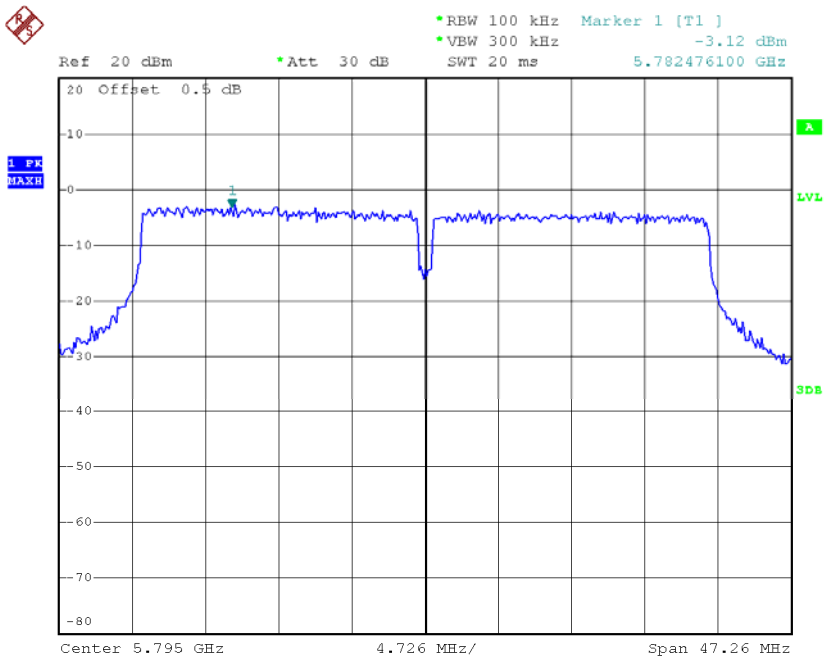

Date: 10.OCT.2012 00:09:02

## TX CH151-ANT 2




Date: 9.OCT.2012 23:49:06

## TX CH159-ANT 2




Date: 9.OCT.2012 23:58:04

| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
|---|---|---|---|
| Temperature： | 23 ℃ | Relative Humidity： | 51 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX A Mode /CH149, CH157, CH165 – For 3TX | | |

| ANT 1 | | | |
|---|---|---|---|
| Test Channel | Frequency (MHz) | Power Density (dBm) | LIMIT (dBm) |
| CH149 | 5745 MHz | -17.84 | 8 |
| CH157 | 5785 MHz | -16.94 | 8 |
| CH165 | 5825 MHz | -17.39 | 8 |

| ANT 2 | | | |
|---|---|---|---|
| Test Channel | Frequency (MHz) | Power Density (dBm) | LIMIT (dBm) |
| CH149 | 5745 MHz | -16.01 | 8 |
| CH157 | 5785 MHz | -15.14 | 8 |
| CH165 | 5825 MHz | -16.05 | 8 |

| ANT 3 | | | |
|---|---|---|---|
| Test Channel | Frequency (MHz) | Power Density (dBm) | LIMIT (dBm) |
| CH149 | 5745 MHz | -16.01 | 8 |
| CH157 | 5785 MHz | -15.14 | 8 |
| CH165 | 5825 MHz | -16.05 | 8 |

| Total | | | |
|---|---|---|---|
| Test Channel | Frequency (MHz) | Power Density (dBm) | LIMIT (dBm) |
| CH149 | 5745 MHz | -11.77 | 8 |
| CH157 | 5785 MHz | -10.89 | 8 |
| CH165 | 5825 MHz | -11.68 | 8 |

Note: DWCF (dB) = 10 log (3K/100K) = -15.22dB

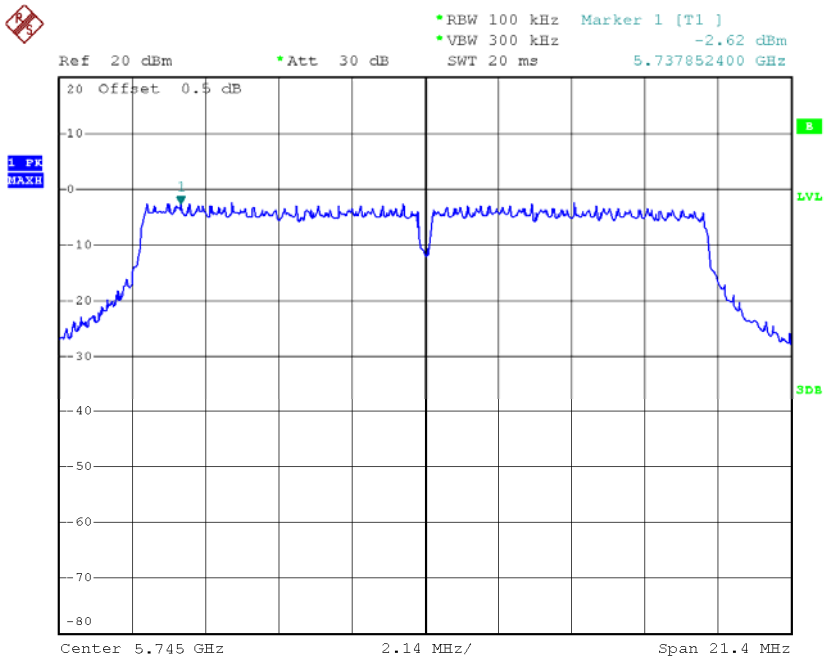
Remark：

(1) **The MIMO test requirement, RF conducted output power shall measure each transmitter chain by using channel power method.**
**And after obtain each individual transmitter chain power, then sum the output power by using the following formula:**
**((dBm/Chain 1)/10^Log) + ((dBm/Chain 2)/10^log) + ((dBm/ChainN)/10^log) = Combined peak output power in mW.**

(2) **Antenna Gain 1=5.74 dBi**

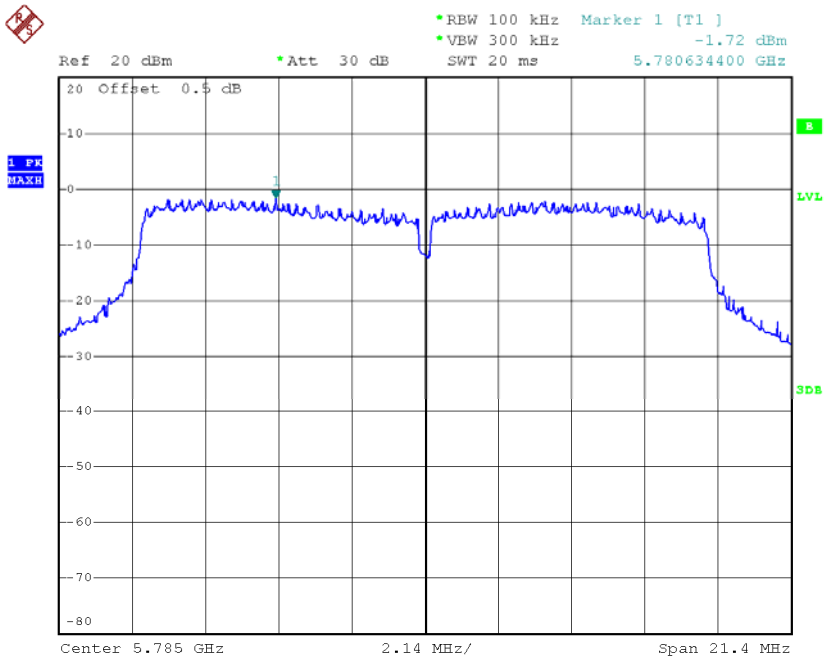
(3) **Note: This EUT supports MIMO, all transmit signals are completely uncorrelated, then, Direction gain = $G_{ANT}$, that is Directional gain=5.74.**

## TX CH149-ANT 1



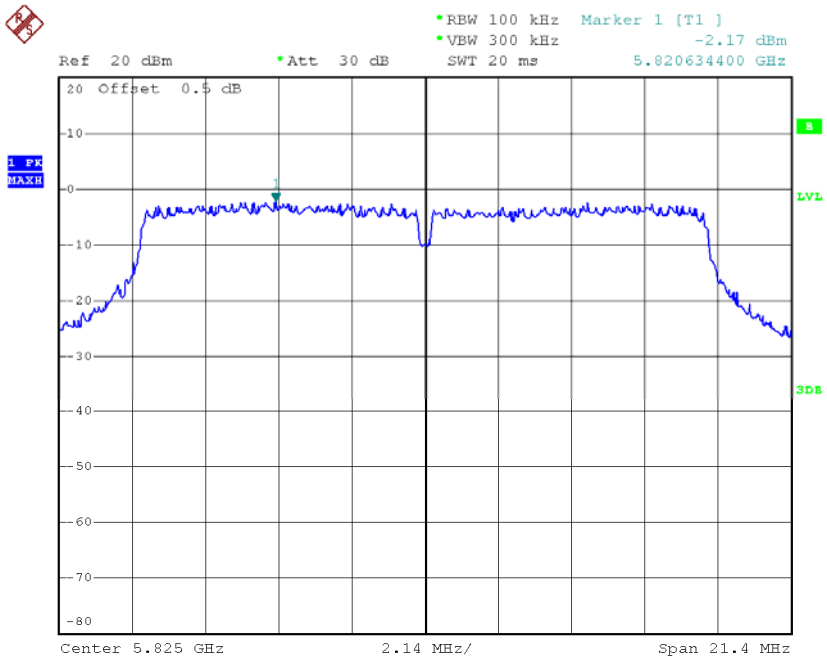

Date: 10.OCT.2012 01:10:17

## TX CH157-ANT 1



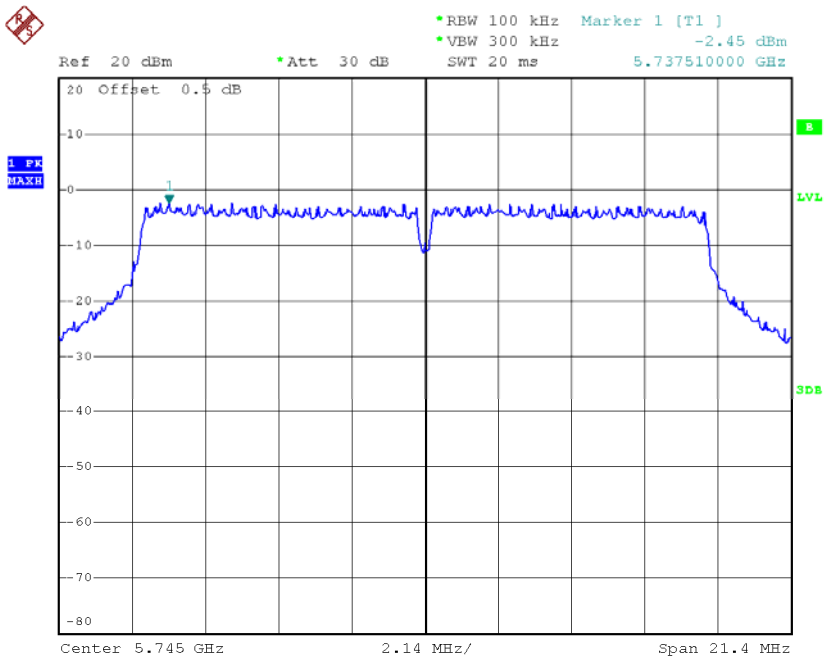

Date: 10.OCT.2012 01:04:14

## TX CH165-ANT 1



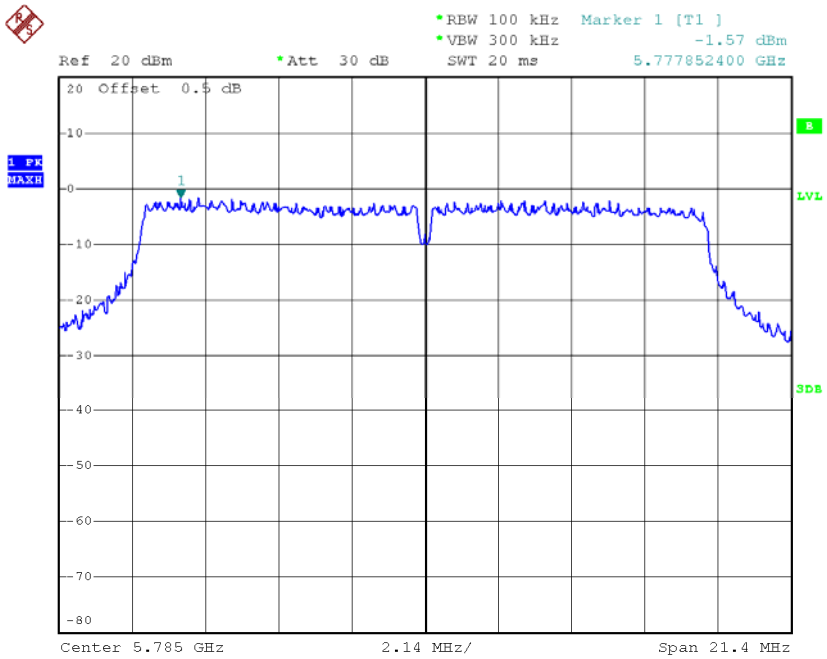

Date: 10.OCT.2012 00:56:31

## TX CH149-ANT 2



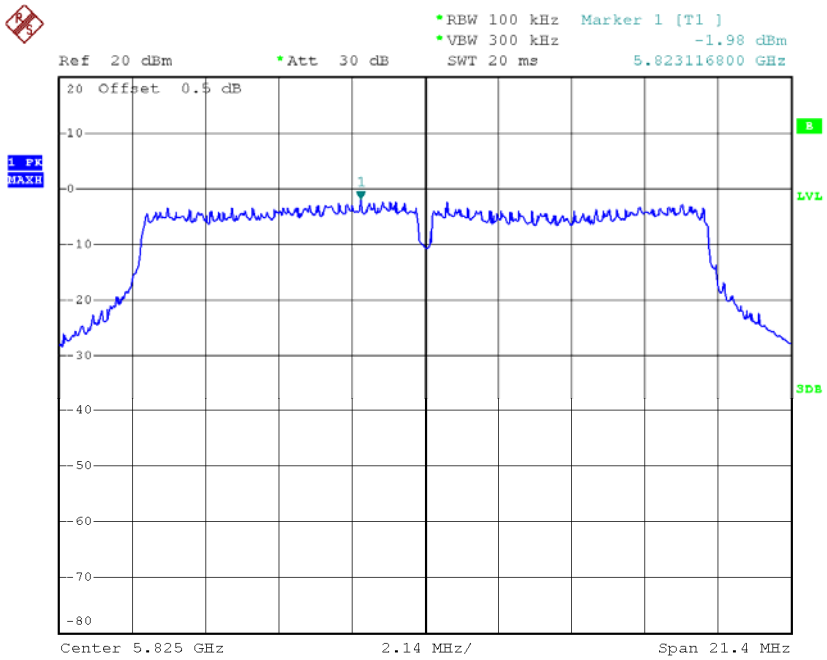

Date: 10.OCT.2012 01:10:10

## TX CH157-ANT 2



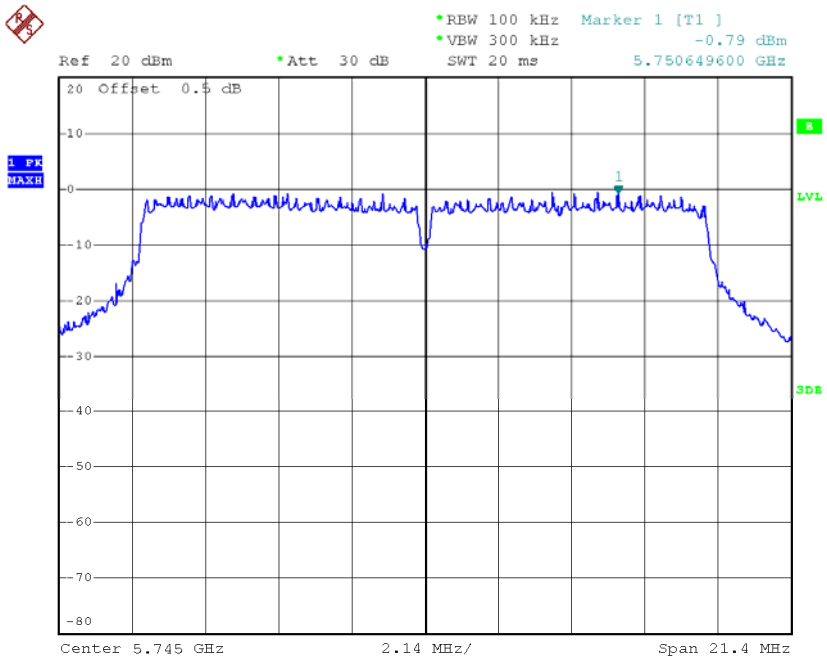

Date: 10.OCT.2012 01:04:26

## TX CH165-ANT 2



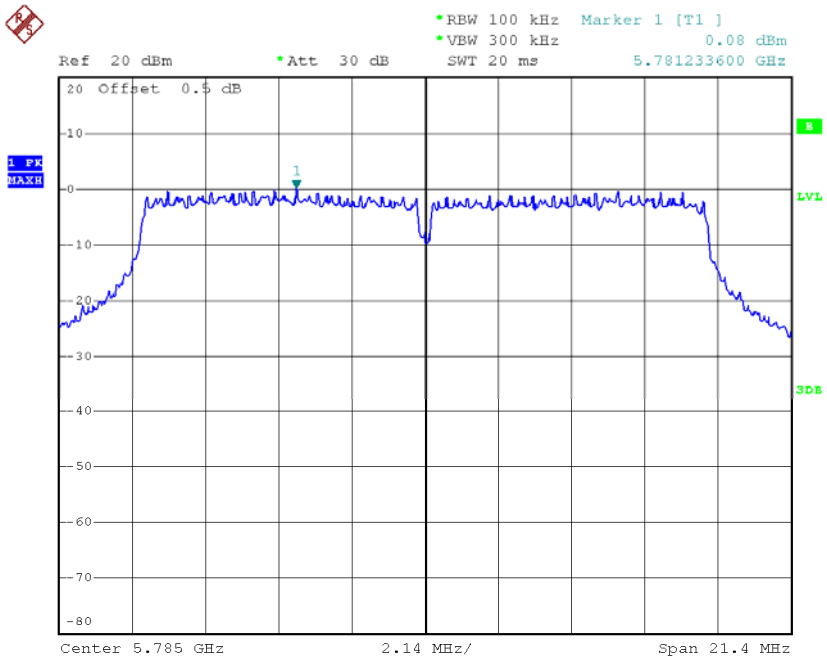

Date: 10.OCT.2012 00:56:44

## TX CH149-ANT 3



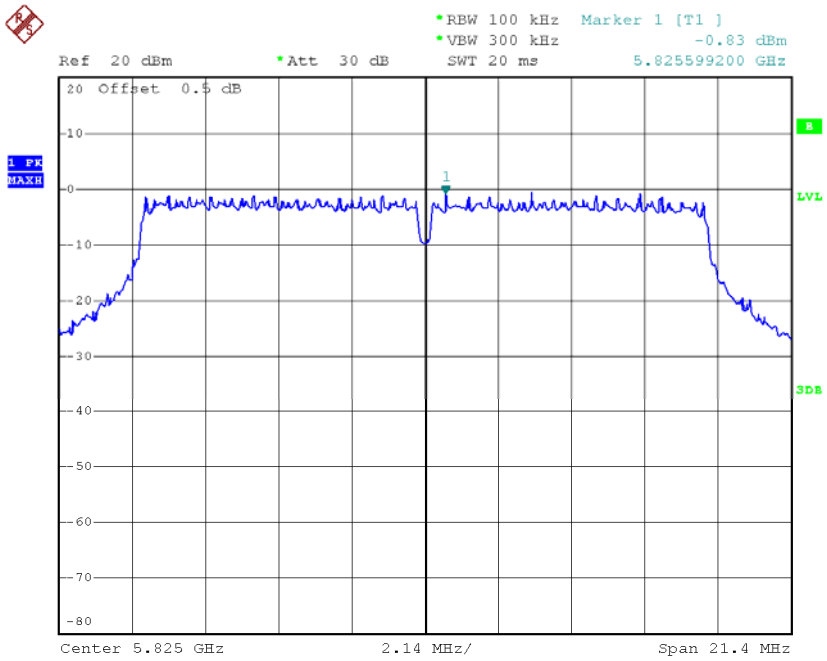

Date: 10.OCT.2012 01:10:28

## TX CH157-ANT 3




Date: 10.OCT.2012 01:04:38

## TX CH165-ANT 3




Date: 10.OCT.2012 00:56:54

| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
|---|---|---|---|
| Temperature： | 23 ℃ | Relative Humidity： | 51 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N20 Mode /CH149, CH157, CH165 – For 3TX | | |

| ANT 1 | | | |
|---|---|---|---|
| Test Channel | Frequency (MHz) | Power Density (dBm) | LIMIT (dBm) |
| CH149 | 5745 MHz | -16.87 | 8 |
| CH157 | 5785 MHz | -16.23 | 8 |
| CH165 | 5825 MHz | -16.96 | 8 |

| ANT 2 | | | |
|---|---|---|---|
| Test Channel | Frequency (MHz) | Power Density (dBm) | LIMIT (dBm) |
| CH149 | 5745 MHz | -16.43 | 8 |
| CH157 | 5785 MHz | -15.98 | 8 |
| CH165 | 5825 MHz | -16.15 | 8 |

| ANT 3 | | | |
|---|---|---|---|
| Test Channel | Frequency (MHz) | Power Density (dBm) | LIMIT (dBm) |
| CH149 | 5745 MHz | -16.10 | 8 |
| CH157 | 5785 MHz | -15.56 | 8 |
| CH165 | 5825 MHz | -15.56 | 8 |

| Total | | | |
|---|---|---|---|
| Test Channel | Frequency (MHz) | Power Density (dBm) | LIMIT (dBm) |
| CH149 | 5745 MHz | -11.68 | 8 |
| CH157 | 5785 MHz | -11.14 | 8 |
| CH165 | 5825 MHz | -11.41 | 8 |

Note: DWCF (dB) = 10 log (3K/100K) = -15.22dB

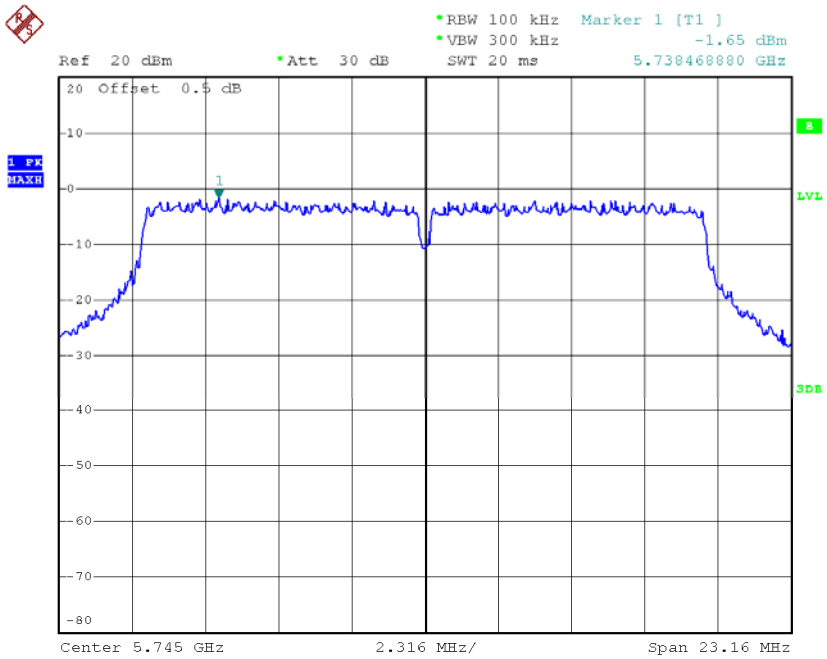
Remark：

(1) **The MIMO test requirement, RF conducted output power shall measure each transmitter chain by using channel power method.**
**And after obtain each individual transmitter chain power, then sum the output power by using the following formula:**
**((dBm/Chain 1)/10^Log) + ((dBm/Chain 2)/10^log) + ((dBm/ChainN)/10^log) = Combined peak output power in mW.**

(2) **Antenna Gain 1=5.74 dBi**

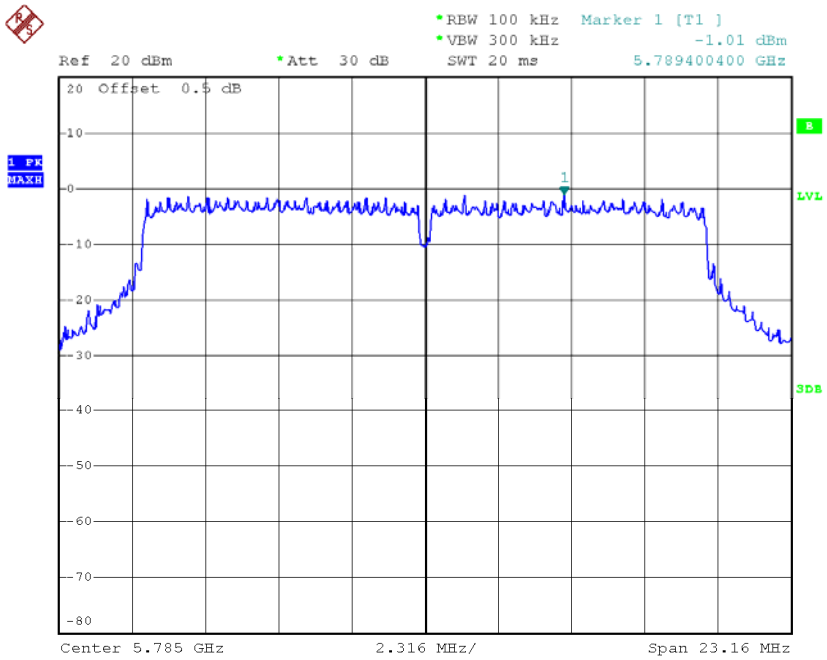
(3) **Note: This EUT supports MIMO, all transmit signals are completely uncorrelated, then, Direction gain = $G_{ANT}$, that is Directional gain=5.74.**

## TX CH149-ANT 1



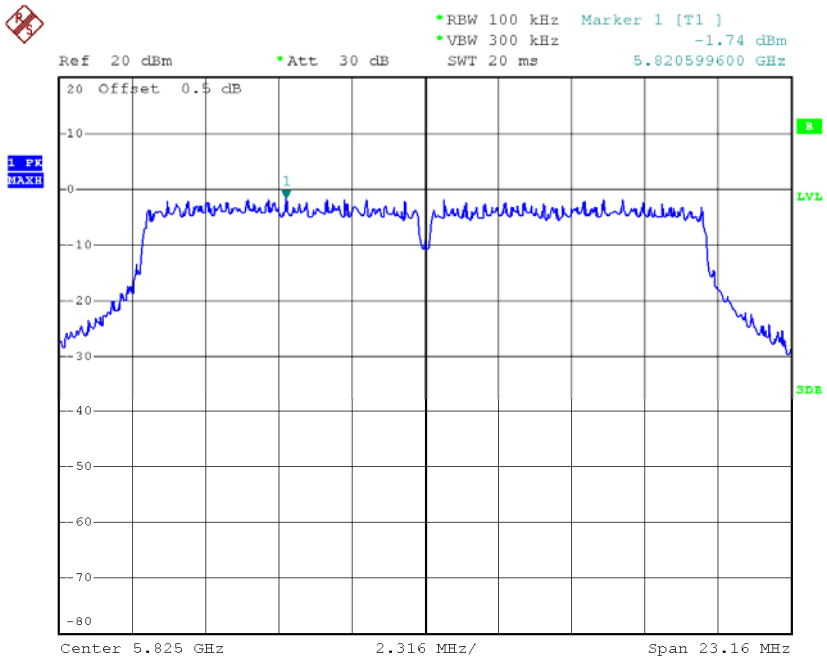

Date: 10.OCT.2012 01:34:32

## TX CH157-ANT 1



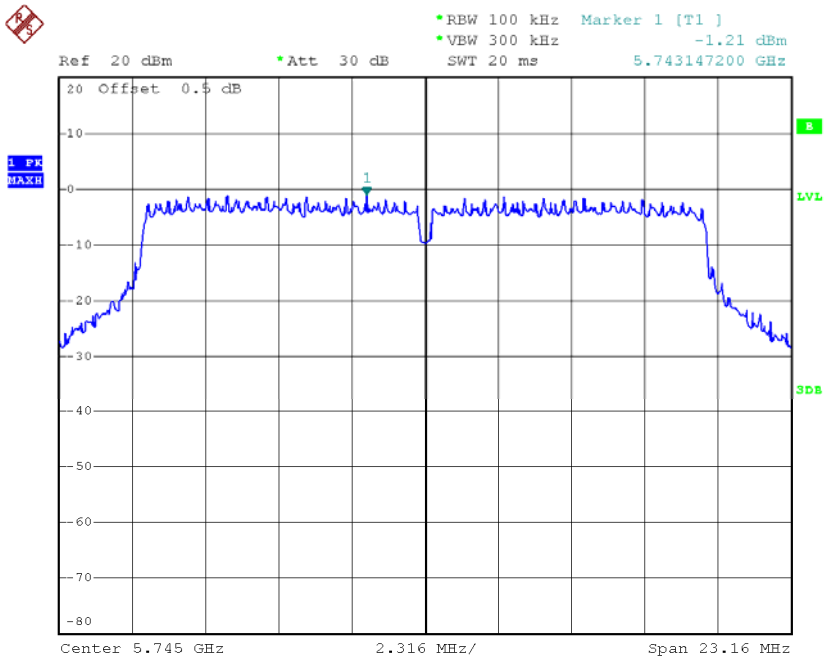

Date: 10.OCT.2012 01:28:44

## TX CH165-ANT 1



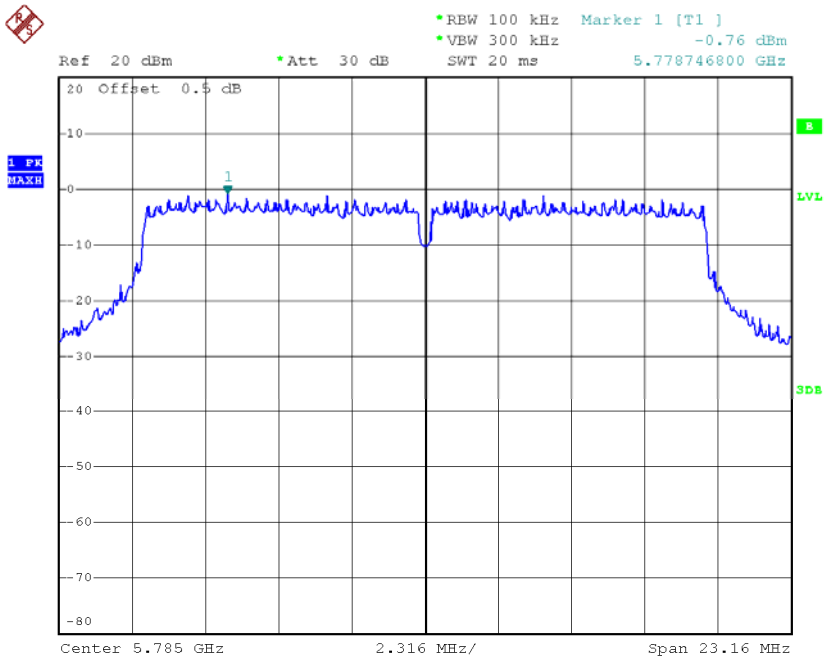

Date: 10.OCT.2012 01:20:09

## TX CH149-ANT 2



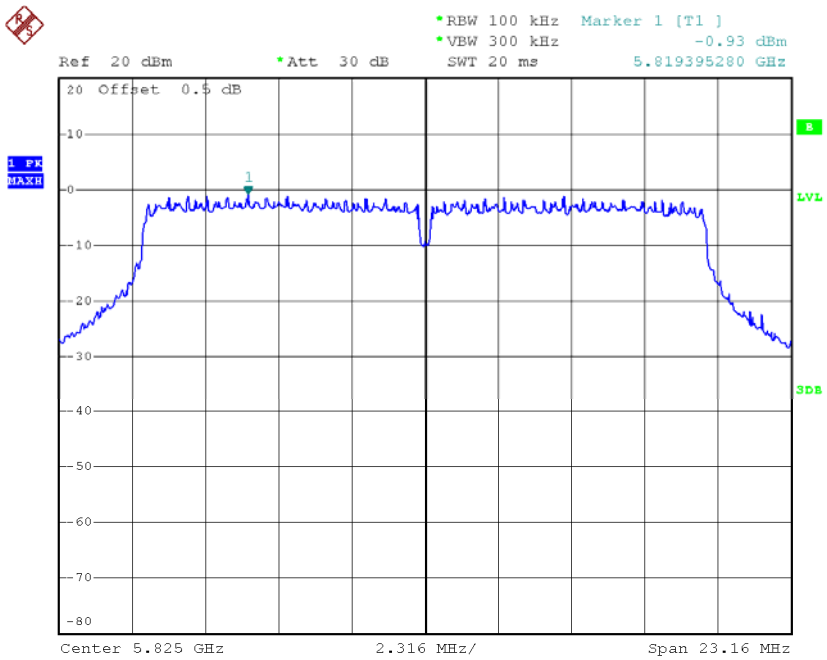

Date: 10.OCT.2012 01:34:15

## TX CH157-ANT 2



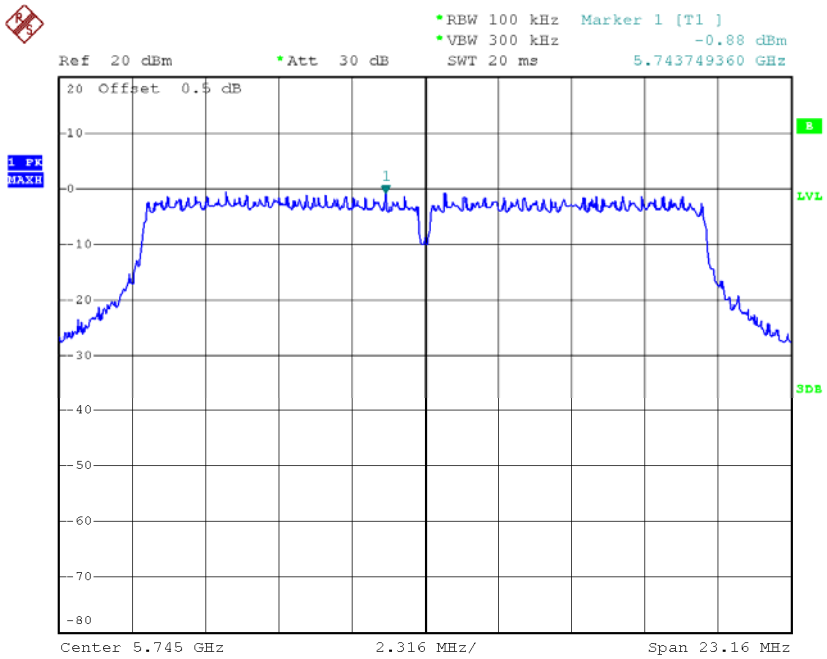

Date: 10.OCT.2012 01:28:38

## TX CH165-ANT 2



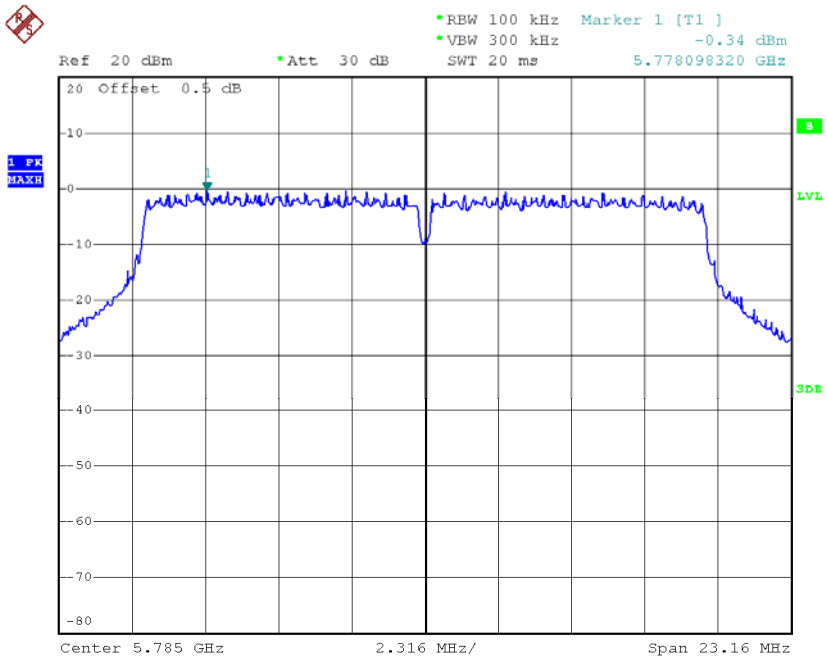

Date: 10.OCT.2012 01:19:48

## TX CH149-ANT 3



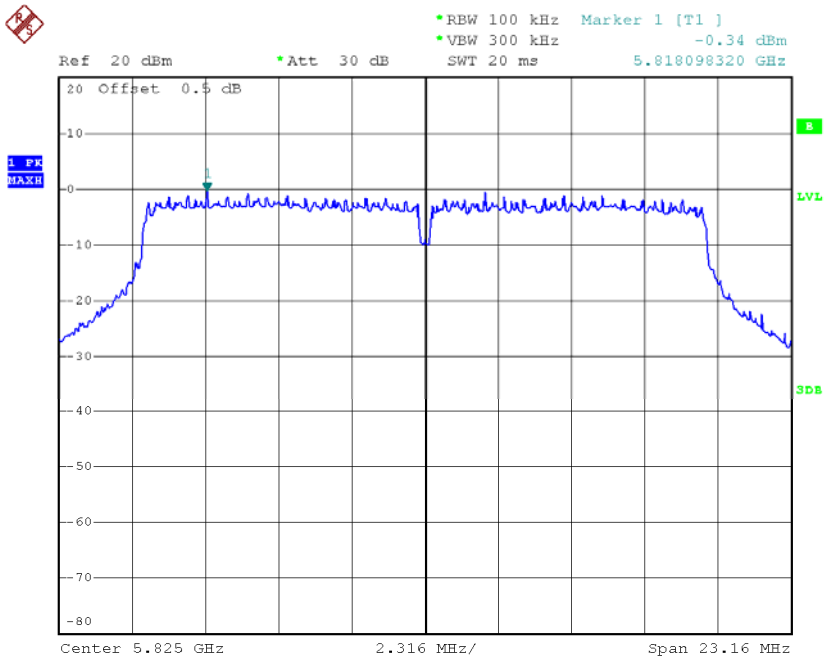

Date: 10.OCT.2012 01:33:50

## TX CH157-ANT 3




Date: 10.OCT.2012 01:28:25

## TX CH165-ANT 3




Date: 10.OCT.2012 01:19:54

| EUT： | Wireless LAN Access Point | Model Name ： | AP7110DN-AGN |
|---|---|---|---|
| Temperature： | 23 ℃ | Relative Humidity： | 51 % |
| Pressure： | 1010 hPa | Test Voltage ： | AC 120V/60Hz |
| Test Mode ： | TX N40 Mode /CH151, CH159 – For 3TX | | |

| ANT 1 | | | |
|---|---|---|---|
| Test Channel | Frequency (MHz) | Power Density (dBm) | LIMIT (dBm) |
| CH151 | 5755 MHz | -20.32 | 8 |
| CH159 | 5795 MHz | -20.65 | 8 |

| ANT 2 | | | |
|---|---|---|---|
| Test Channel | Frequency (MHz) | Power Density (dBm) | LIMIT (dBm) |
| CH151 | 5755 MHz | -19.82 | 8 |
| CH159 | 5795 MHz | -19.72 | 8 |

| ANT 3 | | | |
|---|---|---|---|
| Test Channel | Frequency (MHz) | Power Density (dBm) | LIMIT (dBm) |
| CH151 | 5755 MHz | -19.24 | 8 |
| CH159 | 5795 MHz | -18.22 | 8 |

| Total | | | |
|---|---|---|---|
| Test Channel | Frequency (MHz) | Power Density (dBm) | LIMIT (dBm) |
| CH151 | 5755 MHz | -15.00 | 8 |
| CH159 | 5795 MHz | -14.64 | 8 |

Note: DWCF (dB) = 10 log (3K/100K) = -15.22dB

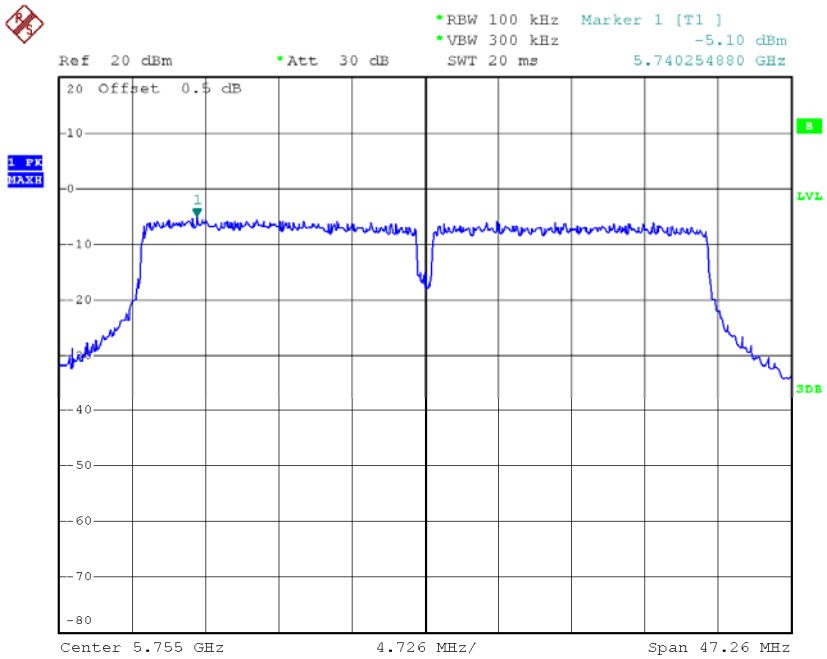
Remark：

(1) **The MIMO test requirement, RF conducted output power shall measure each transmitter chain by using channel power method.**
**And after obtain each individual transmitter chain power, then sum the output power by using the following formula:**
**((dBm/Chain 1)/10^Log) + ((dBm/Chain 2)/10^log) + ((dBm/ChainN)/10^log) = Combined peak output power in mW.**

(2) **Antenna Gain 1=5.74 dBi**

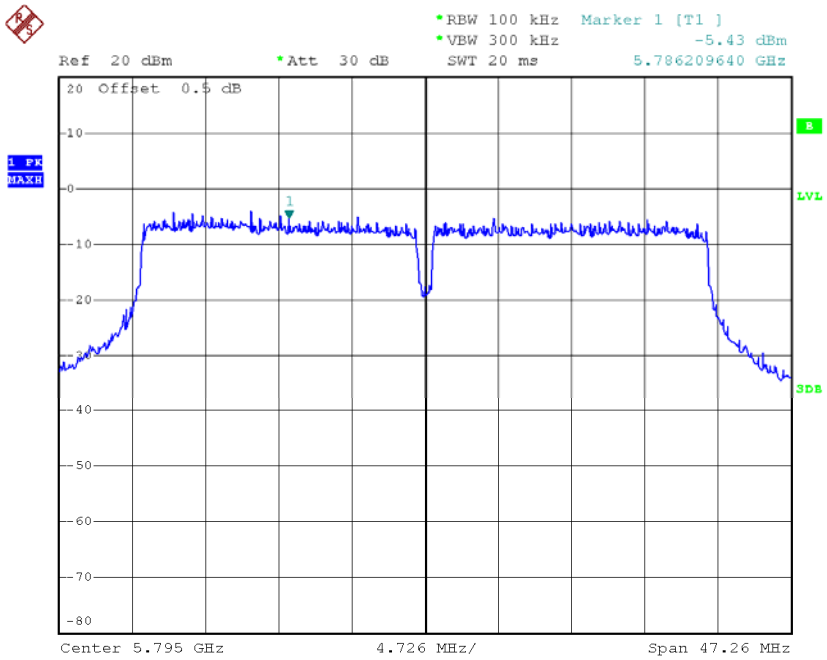
(3) **Note: This EUT supports MIMO, all transmit signals are completely uncorrelated, then, Direction gain = $G_{ANT}$, that is Directional gain=5.74.**

## TX CH151-ANT 1



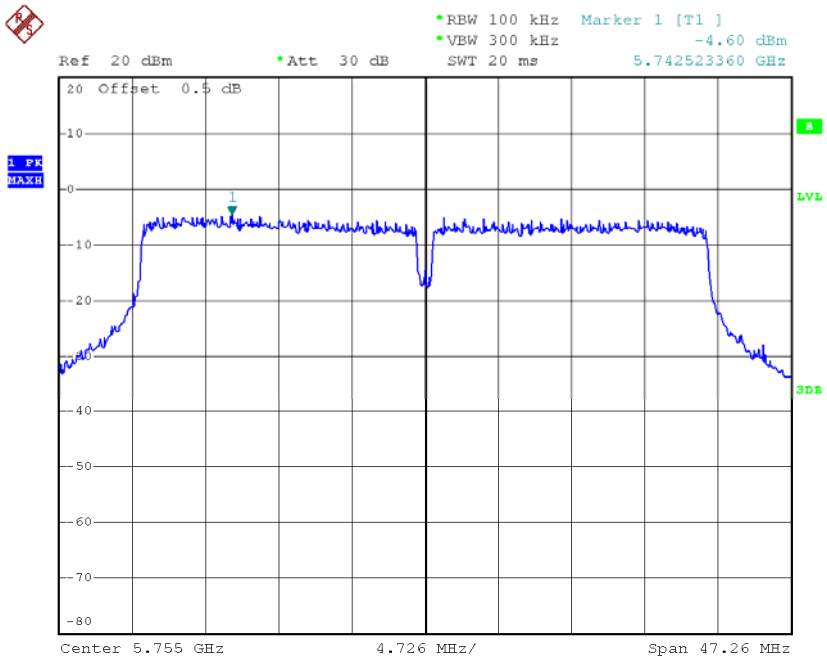

Date: 10.OCT.2012 01:43:38

## TX CH159-ANT 1



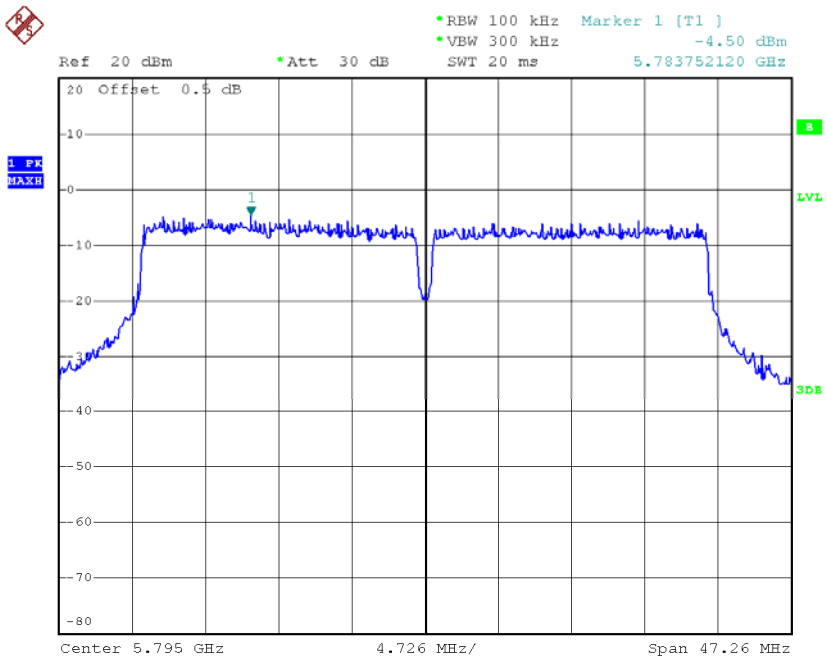

Date: 10.OCT.2012 01:53:42

## TX CH151-ANT 2



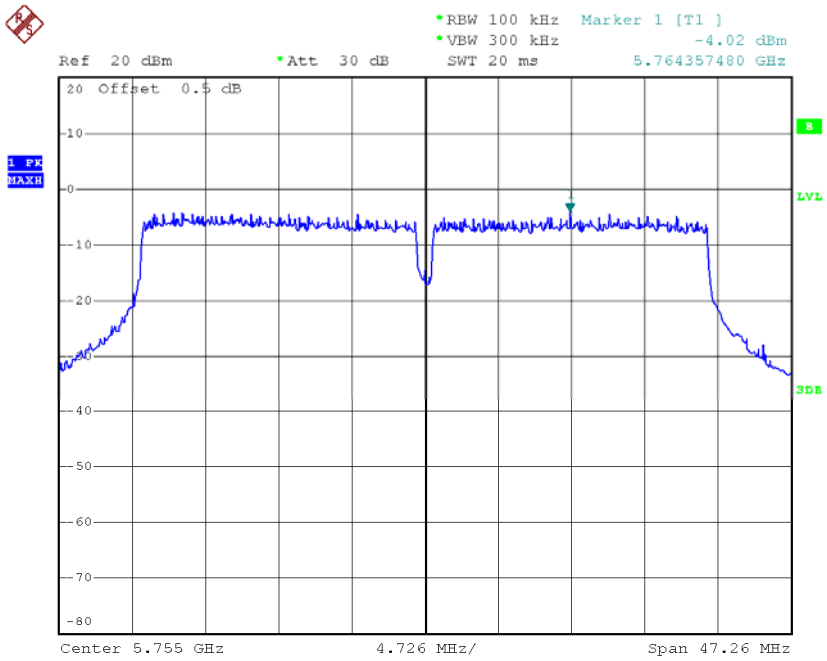

Date: 10.OCT.2012 01:43:57

## TX CH159-ANT 2



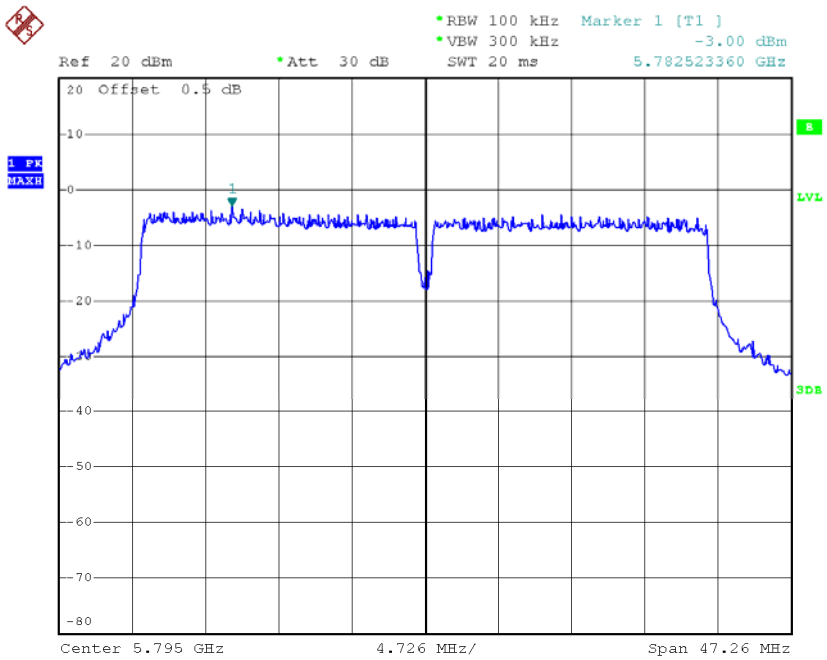

Date: 10.OCT.2012 01:53:33

## TX CH151-ANT 3




Date: 10.OCT.2012 01:44:07

## TX CH159-ANT 3

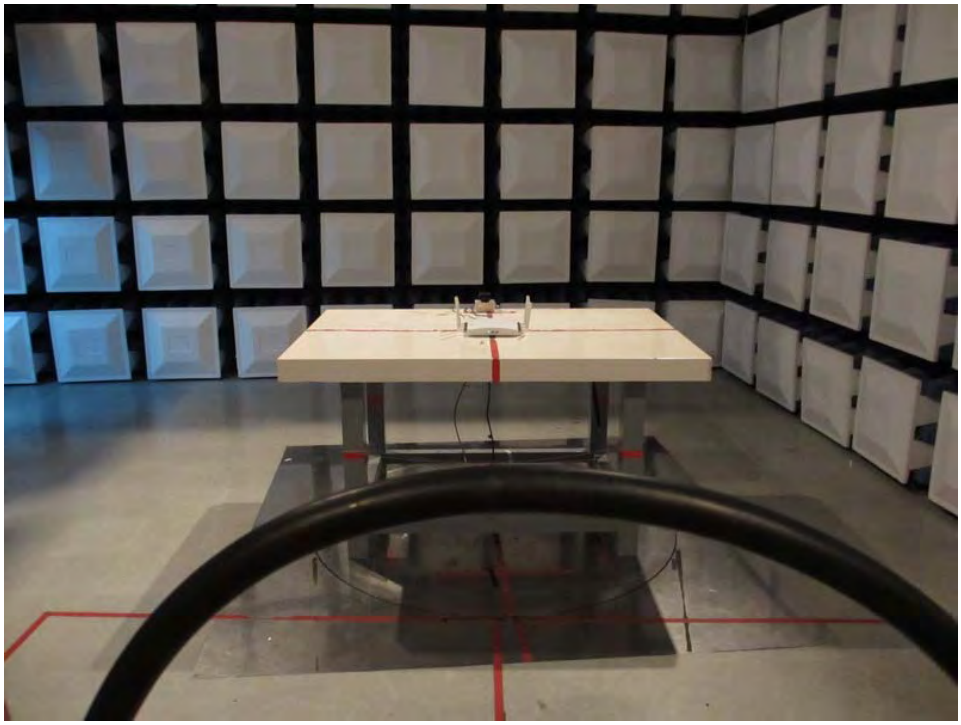



Date: 10.OCT.2012 01:53:17

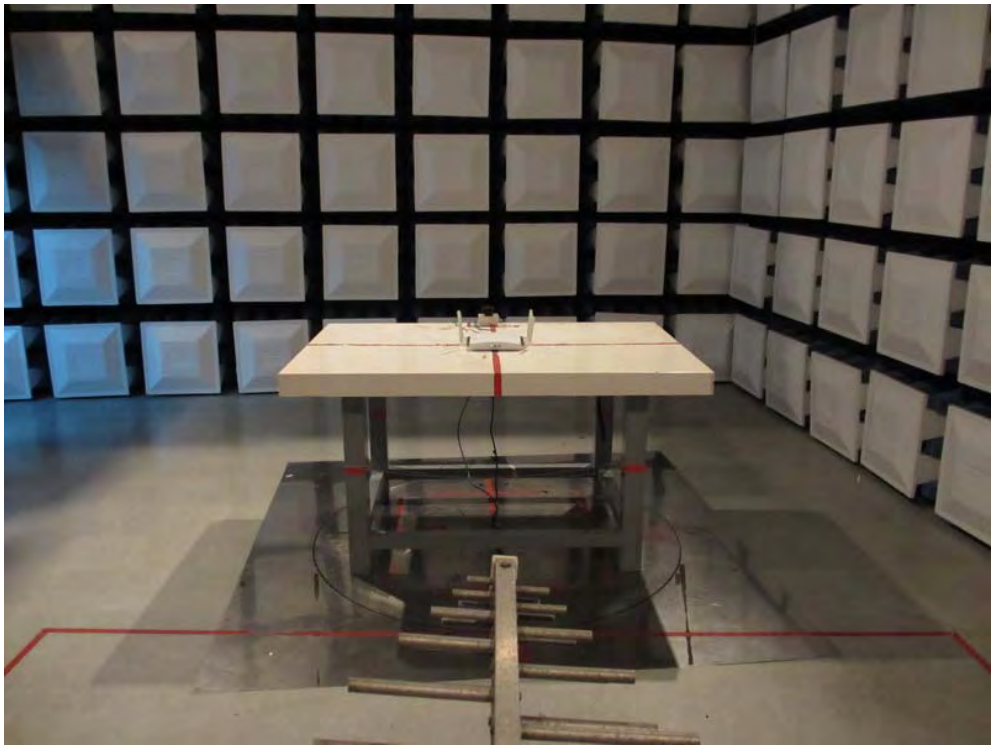
## 9. EUT TEST PHOTO

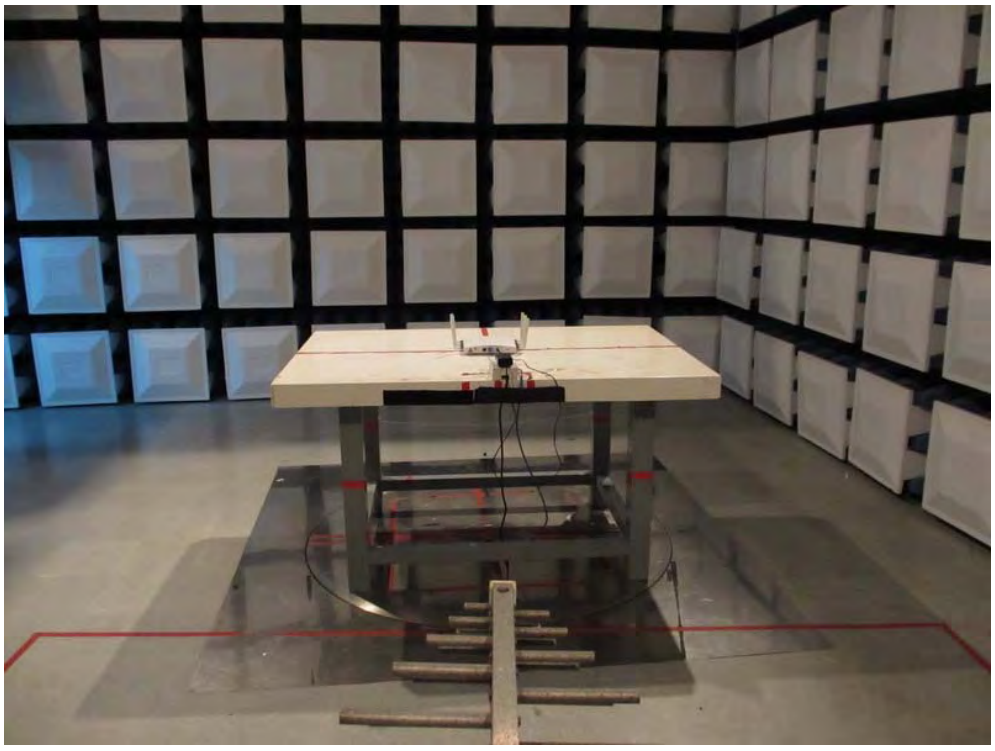
### Conducted Measurement Photos

**Radiated Measurement Photos**
**9K-30MHz**



**Radiated Measurement Photos**
**30MHz-1GHz**





**Radiated Measurement Photos**
**Above 1GHz**