FCC&IC Radio Test Report

FCC ID: QISAP6510DN-AGN
IC: 6369A-AP6510DN

This report concerns (check one): ☐ **Original Grant** ■ **Class II Change**

Issued Date	:	Nov. 25, 2013
Project No.	:	1204C047F
Equipment	:	Outdoor Wireless LAN Access Point
Model Name	:	AP6510DN-AGN-US
Applicant	:	Huawei Technologies Co.,Ltd.
Address for FCC	:	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen China
Address for IC	:	Administration Building, Headquarters of Huawei Technologies Co., Ltd.,Bantian, Longgang District,Shenzhen 518129 China

Tested by: Neutron Engineering Inc. EMC Laboratory
Date of Receipt: Apr. 17, 2012, Oct. 29, 2013
Date of Test: Apr. 17, 2012 ~ Jul. 17, 2012,
Oct. 29, 2013 ~ Nov. 22, 2013

Testing Engineer : (David Mao)

Technical Manager : (Leo Hung)

Authorized Signatory : (Steven Lu)

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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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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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REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
NEI-FICP-2-1204C047B	Original Report.	Jul. 18, 2012
NEI-FICP-2-1204C047F	Compared with the previous report (NEI-FICP-2-1204C047B), differences as follow: Add a new antenna application, which has a reduced gain. The conducted power specifications are not changed. So, only the Radiated Emissions are performed additionally, other test results are remained and directly quoted into this report.See relevant test results for detailed.	Nov. 25, 2013

1. CERTIFICATION

Equipment	:	Outdoor Wireless LAN Access Point
Brand Name	:	HUAWEI
Model Name	:	AP6510DN-AGN-US
Applicant	:	Huawei Technologies Co.,Ltd.
Manufacture	:	Huawei Technologies Co.,Ltd.
Address	:	Administration Building, Huawei Base, Bantian, Longgang District ,Shenzhen 518129, P.R.China
Factory Address	:	Huawei Technologies Co.,Ltd. Huawei Base, Bantian, Longgang District, Shenzhen 518129, P.R.China
Date of Test	:	Apr. 17, 2012 ~ Jul. 17, 2012, Oct. 29, 2013 ~ Nov. 22, 2013
Test Item	:	ENGINEERING SAMPLE
Standard(s)	:	FCC Part15, Subpart C(15.247) / ANSI C63.4-2009

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-2-1204C047F) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).

Test result included in this report is only for the 5745~5825MHz part of the product.

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

Applied Standard(s): FCC Part15 (15.247) , Subpart C Canada RSS-210:2010; RSS-GEN Issue 3, Dec 2010				
Standard(s) Section		Test Item	Judgment	Remark
FCC	**IC**			
15.207	RSS-GEN 7.2.2	Conducted Emission	PASS	
15.247(d)	RSS-210 Annex 8 (A8.5)	Antenna conducted Spurious Emission	PASS	
15.247(a)(2)	RSS-210 Annex 8 (A8.2(a))	6dB Bandwidth	PASS	
15.247(b)(3)	RSS-210 Annex 8 (A8.4(4))	Peak Output Power	PASS	
15.247(e)	RSS-210 Annex 8 (A8.2(b))	Power Spectral Density	PASS	
15.203	-	Antenna Requirement	PASS	
15.209/15.205	RSS-210 Annex 8 (A8.5)	Transmitter Radiated Emissions	PASS	

NOTE:

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

(2) The test follows FCC KDB Publication No. 558074 D01 DTS Meas Guidance v03r01 (Measurement Guidelines of DTS)

2.1 TEST FACILITY

The test facilities used to collect the test data in this report is **DG-C02/DG-CB03** 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 ange	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	9KHz~30MHz	V	3.79	
		9KHz~30MHz	H	3.57	
		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	3.12	
		1GHz~18GHz	H	3.68	
		18GHz~40GHz	V	4.15	
		18GHz~40GHz	H	4.14	

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

<table>
<tr><td>Equipment</td><td>Outdoor Wireless LAN Access Point</td></tr>
<tr><td>Brand Name</td><td>HUAWEI</td></tr>
<tr><td>Model Name</td><td>AP6510DN-AGN-US</td></tr>
<tr><td>Model Different</td><td>N/A</td></tr>
<tr><td>Product Description</td><td>
<table>
<tr><td>Operation Frequency</td><td>5745~5825 MHz</td></tr>
<tr><td>Modulation Technology</td><td>802.11a/n:OFDM</td></tr>
<tr><td>Bit Rate of Transmitter</td><td>300Mbps</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>802.11a: 28.70 dBm
802.11n 20M: 24.02 dBm (ANT 1)
802.11n 20M: 23.43 dBm (ANT 2)
802.11n 20M: 26.56 dBm
(ANT 1+ANT 2)
802.11n 40M: 23.70 dBm (ANT 1)
802.11n 40M: 23.48 dBm (ANT 2)
802.11n 40M: 26.58 dBm
(ANT 1+ANT 2)</td></tr>
</table>
More details of EUT technical specification, please refer to the User's Manual.
</td></tr>
<tr><td>Power Source</td><td>Supplied from PoE.
PoE model: PR60A-TOE-L-01</td></tr>
<tr><td>Power Rating</td><td>I/P: AC 100-240V 1.5A 47-63Hz O/P: DC 48V 1.2A</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. Table for Filed Antenna:

Original Antenna

Ant.	Brand	Model Name	Antenna Type / Connector	function	Gain (dBi)
					5.2GHz
1	LARSEN ANTENNAS	W5030	N Male	TX/RX	6.4
2	LARSEN ANTENNAS	W5030	N Male	TX/RX	6.4

New Antenna

Ant.	Manufacturer	Model Name	Antenna Type / Connector	Gain (dBi)	Note
1	Guangdong Shenglu Telecommunication Tech. Co., LTD.	SL10671A	Isotropic Antenna / N Male	5.9	TX/RX
2	Guangdong Shenglu Telecommunication Tech. Co., LTD.	SL10671A	Isotropic Antenna / N Male	5.9	TX/RX

4.

Operating Mode / TX Mode	1TX	2TX
802.11a	V (ANT 1 or ANT 2)	V (ANT 1 + ANT 2)
802.11n(20MHz)	V (ANT 1 or ANT 2)	V (ANT 1 + ANT 2)
802.11n(40MHz)	V (ANT 1 or ANT 2)	V (ANT 1 + ANT 2)

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	TX Mode

The EUT system operated these modes were found to be the worst case during the pre-scanning test as following:

For Conducted Test	
Final Test Mode	Description
Mode 4	TX Mode

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: For radiated below 1G test, the 802.11a mode is found to be the worst case and recorded.

3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

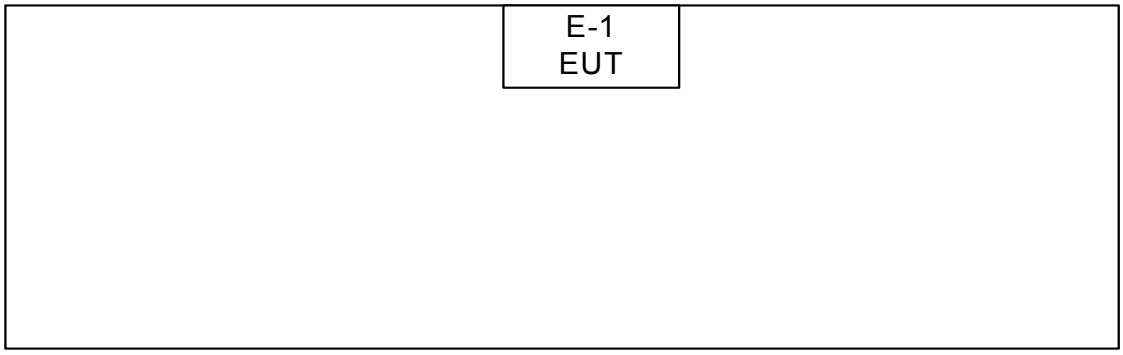
During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final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

Test software version	MPTool		
Frequency	5745 MHz	5785 MHz	5825MHz
TX A Mode	50	51	52
TX N20 Mode	45	45	45

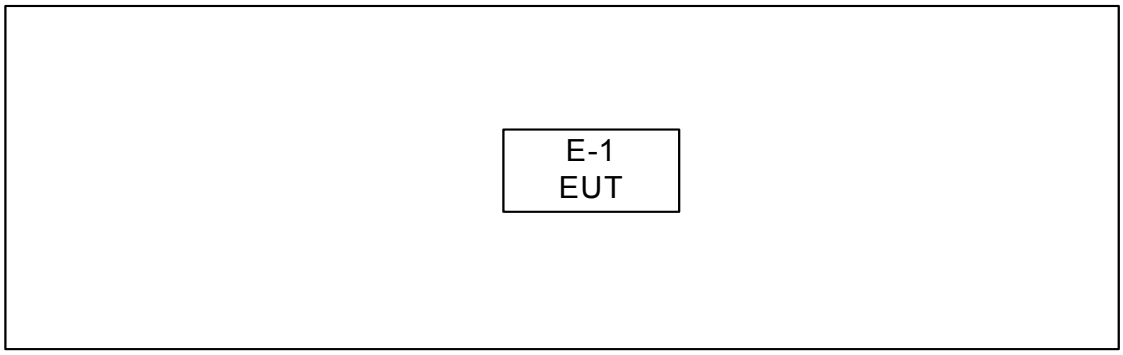
Test software version	MPTool	
Frequency	5745 MHz	5825MHz
TX N40 Mode	44	44

3.4 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Conducted TX Mode:



Radiated TX Mode:



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 ID/IC	Series No.	Note
E-1	Outdoor Wireless LAN Access Point	HUAWEI	AP6510DN-AGN-US	FCC ID:QISAP6510DN-AGN IC: 6369A-AP6510DN	N/A	EUT

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	79.0	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.	Calibrated until
1	LISN	EMCO	3816/2	00052765	Apr. 25, 2014
2	LISN	R&S	ENV216	100087	Nov. 09, 2014
3	Test Cable	N/A	C_17	N/A	Mar.15, 2014
4	EMI TEST RECEIVER	R&S	ESCS30	826547/022	Apr. 25, 2014
5	50Ω Terminator	SHX	TF2-3G-A	08122902	Apr. 25, 2014

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

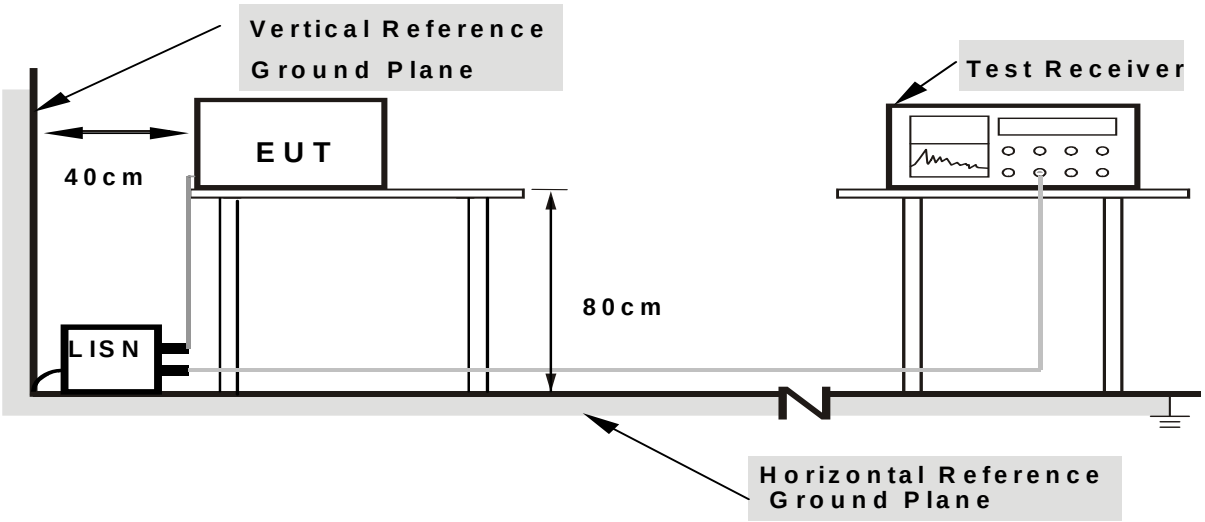
4.1.3 TEST PROCEDURE

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 was programmed to be in continuously transmitting/TX mode.

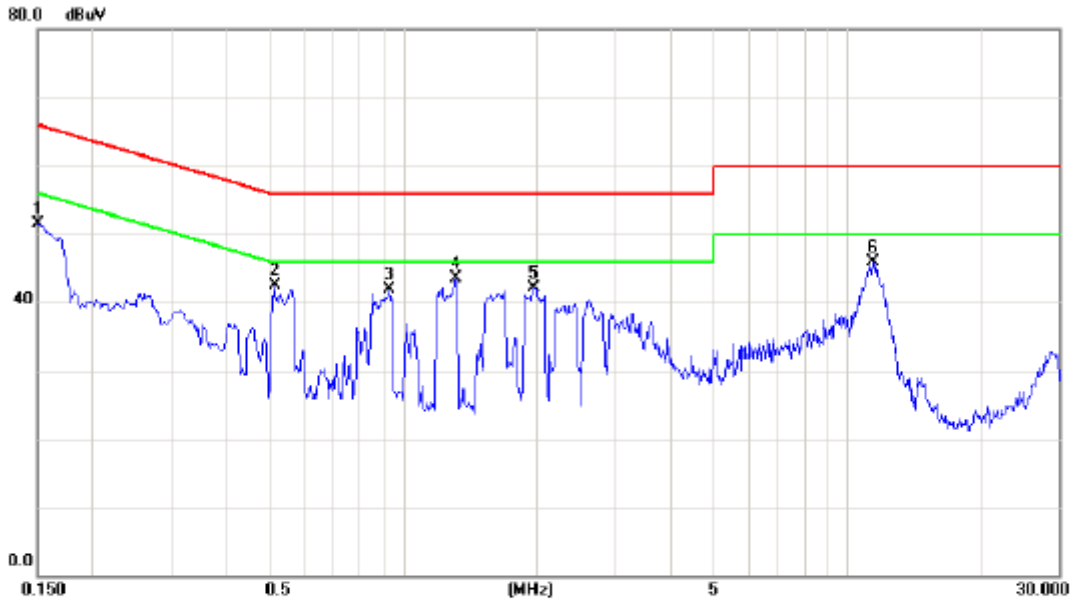
4.1.7 TEST RESULTS

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。

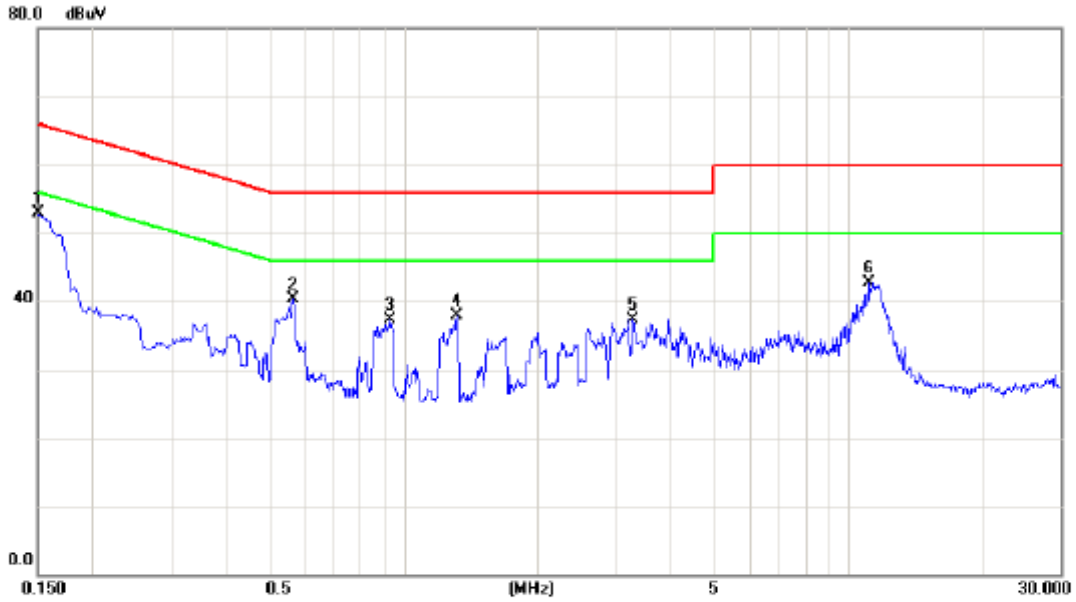
(2) Measuring frequency range from 150KHz to 30MHz。

EUT:	Outdoor Wireless LAN Access Point	Model Name:	AP6510DN-AGN-US
Temperature:	24 ℃	Relative Humidity:	55 %
Test Power:	AC 120V/60Hz	Phase:	Line
Test Mode :	TX Mode		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1500	41.61	9.98	51.59	66.00	-14.41	peak	
2		0.5140	32.43	10.01	42.44	56.00	-13.56	peak	
3		0.9380	31.74	10.10	41.84	56.00	-14.16	peak	
4	*	1.3220	33.43	10.09	43.52	56.00	-12.48	peak	
5		1.9780	32.14	10.03	42.17	56.00	-13.83	peak	
6		11.4740	35.58	10.39	45.97	60.00	-14.03	peak	

EUT:	Outdoor Wireless LAN Access Point	Model Name:	AP6510DN-AGN-US
Temperature:	24 ℃	Relative Humidity:	55 %
Test Power:	AC 120V/60Hz	Phase:	Neutral
Test Mode :	TX Mode		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1500	43.02	9.83	52.85	66.00	-13.15	peak	
2		0.5660	30.35	9.92	40.27	56.00	-15.73	peak	
3		0.9340	27.35	9.99	37.34	56.00	-18.66	peak	
4		1.3180	27.89	10.03	37.92	56.00	-18.08	peak	
5		3.2780	27.25	10.15	37.40	56.00	-18.60	peak	
6		11.1420	32.25	10.48	42.73	60.00	-17.27	peak	

4.2 RADIATED EMISSION MEASUREMENT

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

20dB 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.

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
960~1000	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

Frequency (MHz)	(dBuV/m) (at 3 meters)	
	PEAK	AVERAGE
Above 1000	74	54

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).

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

4.2.2 MEASUREMENT INSTRUMENTS LIST ANS SETTING

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarbeck	VULB9160	9160-3232	Apr. 25, 2014
2	Amplifier	HP	8447D	2944A09673	Apr. 25, 2014
3	Test Receiver	R&S	ESCI	100382	Apr. 25, 2014
4	Test Cable	N/A	C-01_CB03	N/A	Jul. 02, 2014
5	Antenna	ETS	3115	00075789	Apr. 25, 2014
6	Amplifier	Agilent	8449B	3008A02274	Apr. 25, 2014
7	Spectrum	Agilent	E4408B	US39240143	Nov. 09, 2014
8	Test Cable	HUBER+SUHNER	C-45	N/A	Apr. 30, 2014
9	Controller	CT	SC100	N/A	N/A
10	Horn Antenna	EMCO	3115	9605-4803	Apr. 25, 2014
11	Active Loop Antenna	R&S	HFH2-Z2	830749/020	Apr. 25, 2014
12	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Oct. 22, 2014

Remark: “N/A” denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

4.2.3 TEST PROCEDURE

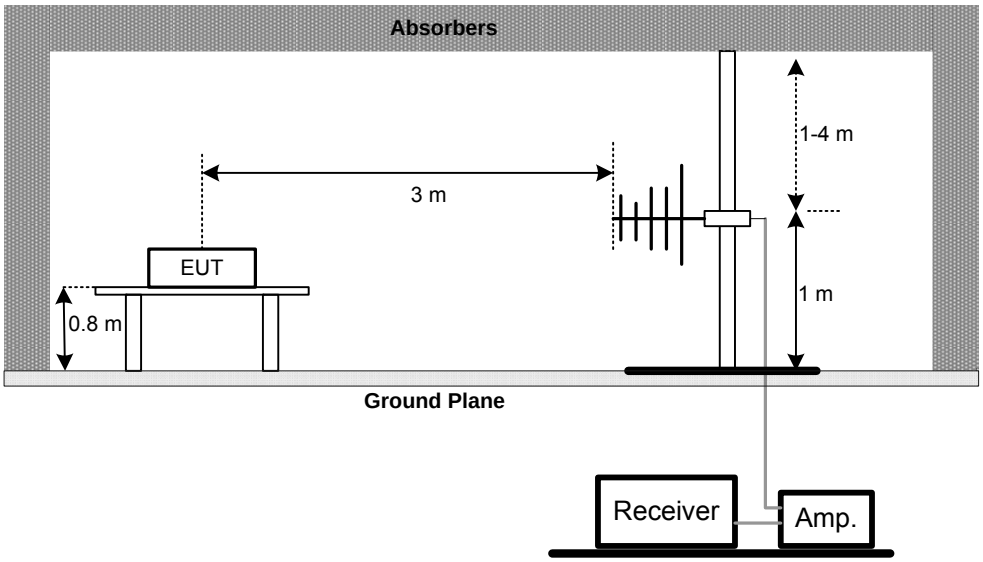
a. The measuring distance of at 1.5 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 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

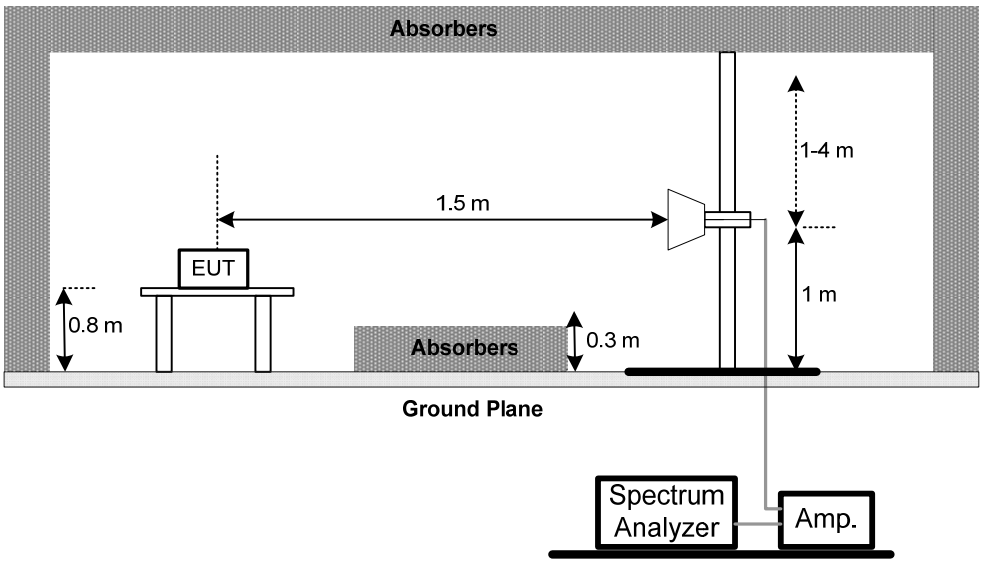
No deviation

4.2.5 TEST SETUP

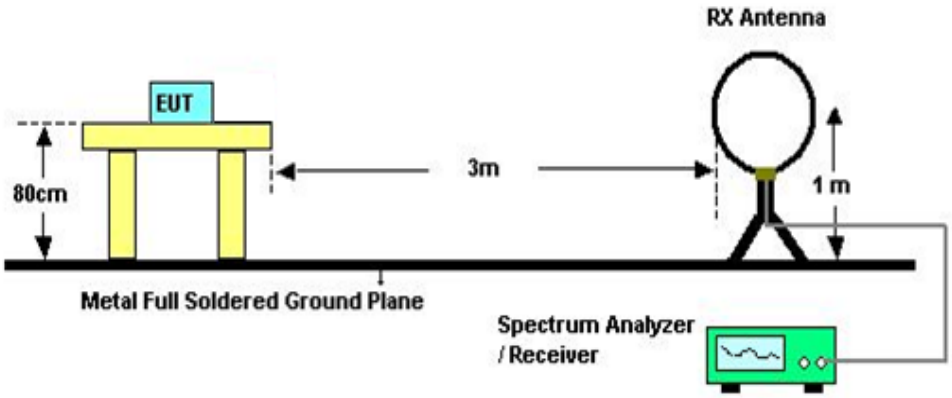
(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



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



(C) For radiated emissions below 30MHz



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:	Outdoor Wireless LAN Access Point	Model Name:	AP6510DN-AGN-US
Temperature:	24 ℃	Relative Humidity:	55 %
Test Voltage:	AC 120V/60Hz		
Test Mode:	TX B MODE CHANNEL 01		

Freq. (MHz)	Ant. 0°/90°	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
0.0093	0°	17.35	24.30	41.65	128.27	-78.00	AVG
0.0093	0°	19.86	24.30	44.16	148.27	-94.13	PK
0.0128	0°	18.05	24.30	42.35	125.49	-72.64	AVG
0.0128	0°	20.74	24.30	45.04	145.49	-90.12	PK
0.0263	0°	17.72	23.90	41.62	119.19	-71.89	AVG
0.0263	0°	20.44	23.90	44.34	139.19	-89.16	PK
0.0385	0°	18.14	23.13	41.27	115.90	-69.40	AVG
0.0385	0°	20.67	23.13	43.80	135.90	-84.95	PK
0.4219	0°	18.32	19.99	38.31	95.10	-58.43	AVG
0.4219	0°	20.78	19.99	40.77	115.10	-75.09	PK
1.2635	0°	19.56	19.57	39.13	65.57	-16.93	QP

Freq. (MHz)	Ant. 0°/90°	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
0.0098	90°	18.26	24.30	42.56	127.82	-84.81	AVG
0.0098	90°	20.59	24.30	44.89	147.82	-102.03	PK
0.0252	90°	17.62	23.97	41.59	119.58	-82.07	AVG
0.0252	90°	20.09	23.97	44.06	139.58	-99.76	PK
0.0316	90°	19.11	23.57	42.68	117.61	-71.94	AVG
0.0316	90°	20.54	23.57	44.11	137.61	-89.27	PK
0.0434	90°	18.16	22.82	40.98	114.85	-67.37	AVG
0.0434	90°	20.95	22.82	43.77	134.85	-84.45	PK
0.2775	90°	17.35	20.33	37.68	98.74	-55.72	AVG
0.2775	90°	20.67	20.33	41.00	118.74	-72.26	PK
1.6820	90°	18.52	19.53	38.05	63.09	-18.69	QP

Remark：

(1) The amplitude of spurious emissions which are attenuated by more than 20 dB belc 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:

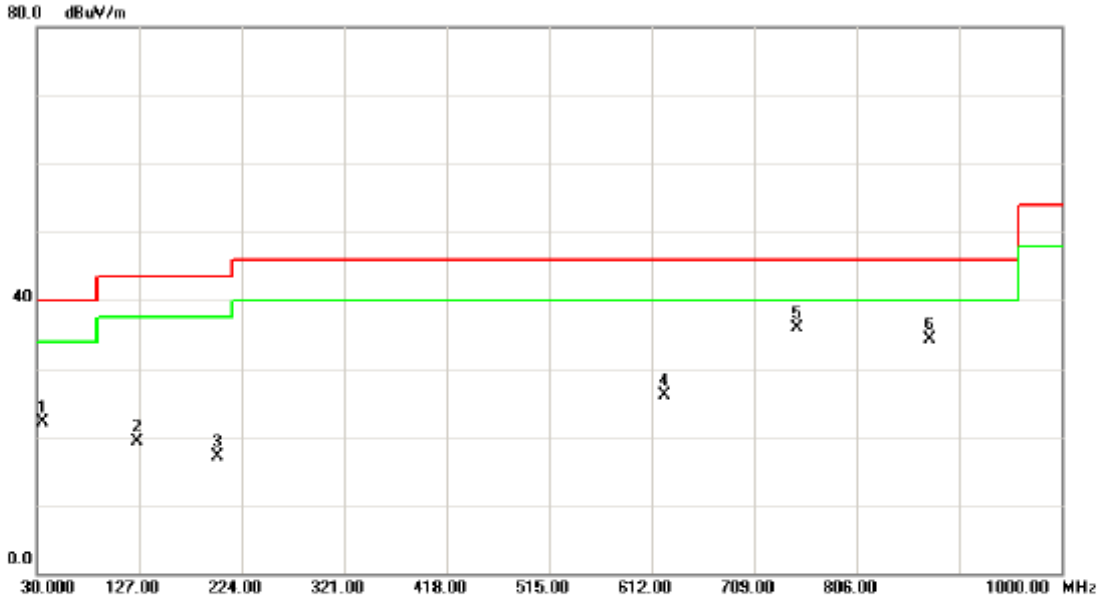
(1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz；SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time = 0.3 sec./MHz。

(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。

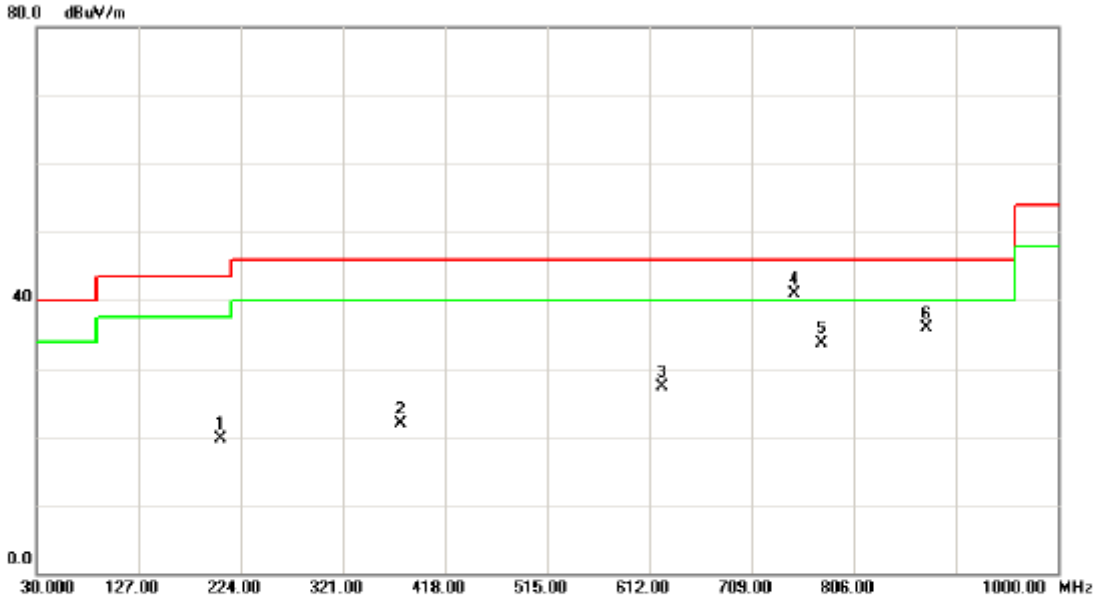
(4) If the peak scan value lower limit more than 20dB, then this signal data does not show in table。

EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25℃	Relative Humidity:	58 %
Test Voltage :	AC 120V/60Hz	Phase:	Vertical
Test Mode :	TX A Mode 5745MHz		



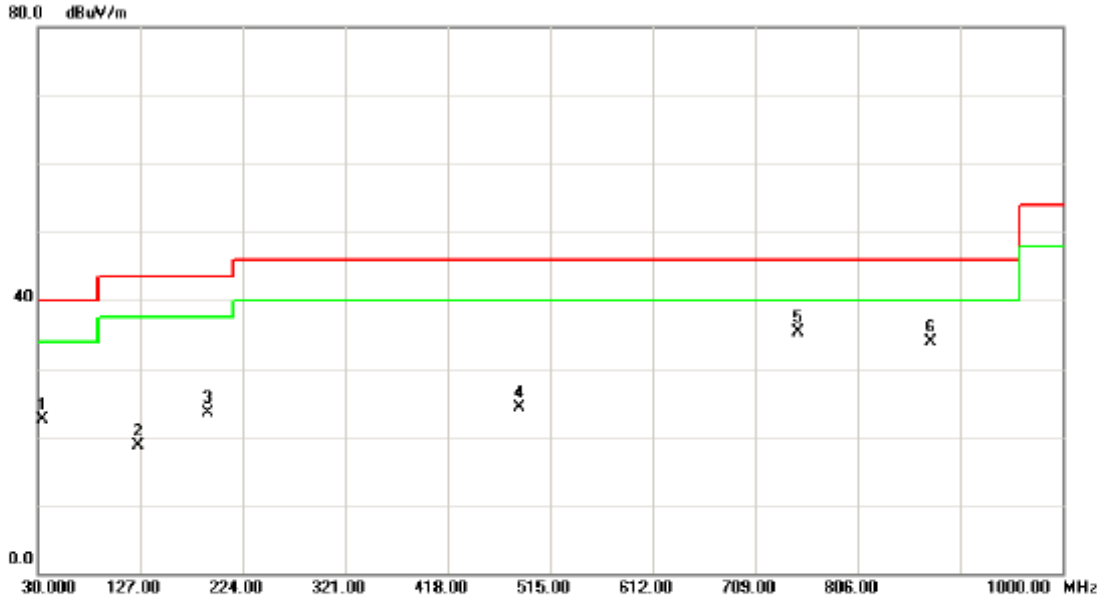
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		35.8200	37.26	-15.13	22.13	40.00	-17.87	peak	
2		125.0600	32.84	-13.61	19.23	43.50	-24.27	peak	
3		201.6900	32.24	-15.21	17.03	43.50	-26.47	peak	
4		624.6100	32.92	-6.86	26.06	46.00	-19.94	peak	
5	*	749.7400	40.83	-4.91	35.92	46.00	-10.08	peak	
6		874.8700	36.70	-2.48	34.22	46.00	-11.78	peak	

EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25℃	Relative Humidity:	58 %
Test Voltage :	AC 120V/60Hz	Phase:	Horizontal
Test Mode :	TX A Mode 5745MHz		



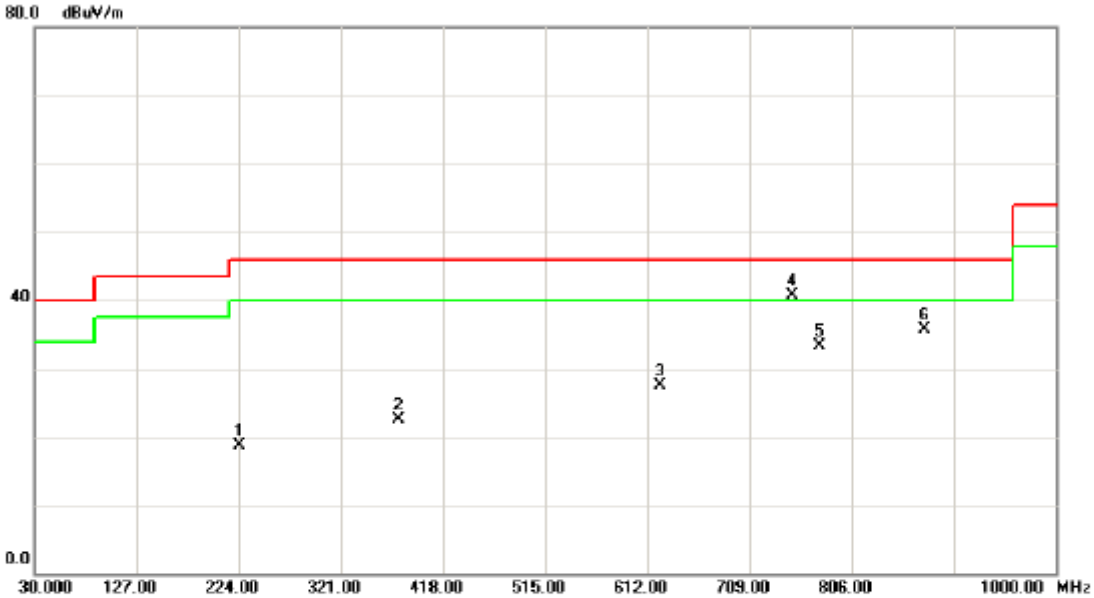
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		205.5700	34.92	-15.23	19.69	43.50	-23.81	peak	
2		375.3200	32.50	-10.66	21.84	46.00	-24.16	peak	
3		624.6100	34.26	-6.86	27.40	46.00	-18.60	peak	
4	*	749.7400	45.74	-4.91	40.83	46.00	-5.17	peak	
5		774.9600	37.78	-4.01	33.77	46.00	-12.23	peak	
6		874.8700	38.45	-2.48	35.97	46.00	-10.03	peak	

EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25℃	Relative Humidity:	58 %
Test Voltage :	AC 120V/60Hz	Phase:	Vertical
Test Mode :	TX A Mode 5785MHz		



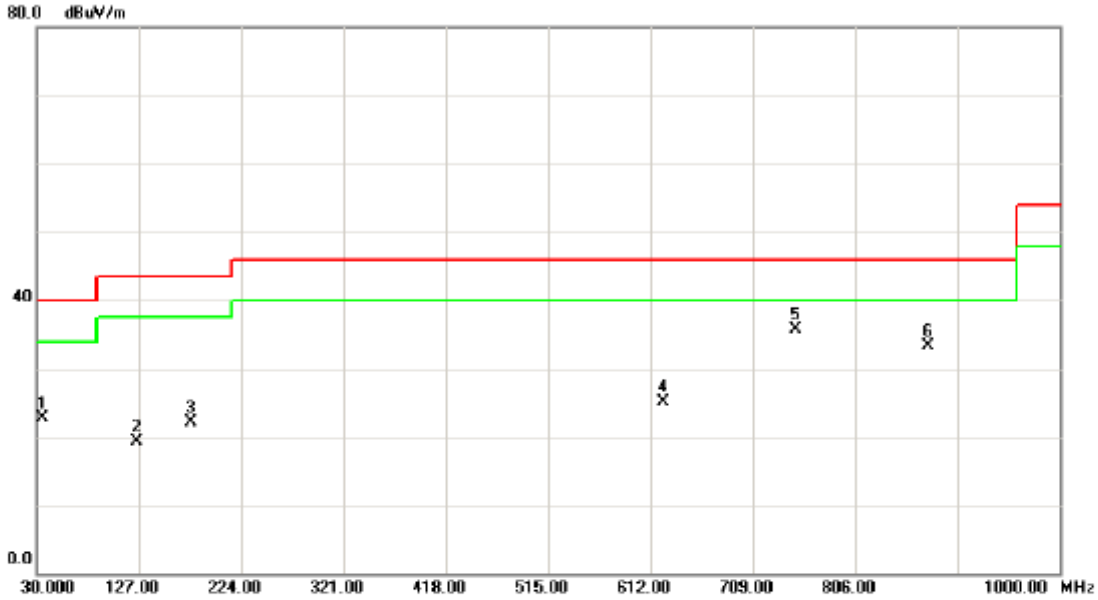
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		34.8500	37.79	-15.33	22.46	40.00	-17.54	peak	
2		125.0600	32.28	-13.61	18.67	43.50	-24.83	peak	
3		191.0200	37.82	-14.40	23.42	43.50	-20.08	peak	
4		485.9000	34.19	-9.93	24.26	46.00	-21.74	peak	
5	*	749.7400	40.31	-4.91	35.40	46.00	-10.60	peak	
6		874.8700	36.48	-2.48	34.00	46.00	-12.00	peak	

EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25℃	Relative Humidity:	58 %
Test Voltage :	AC 120V/60Hz	Phase:	Horizontal
Test Mode :	TX A Mode 5785MHz		



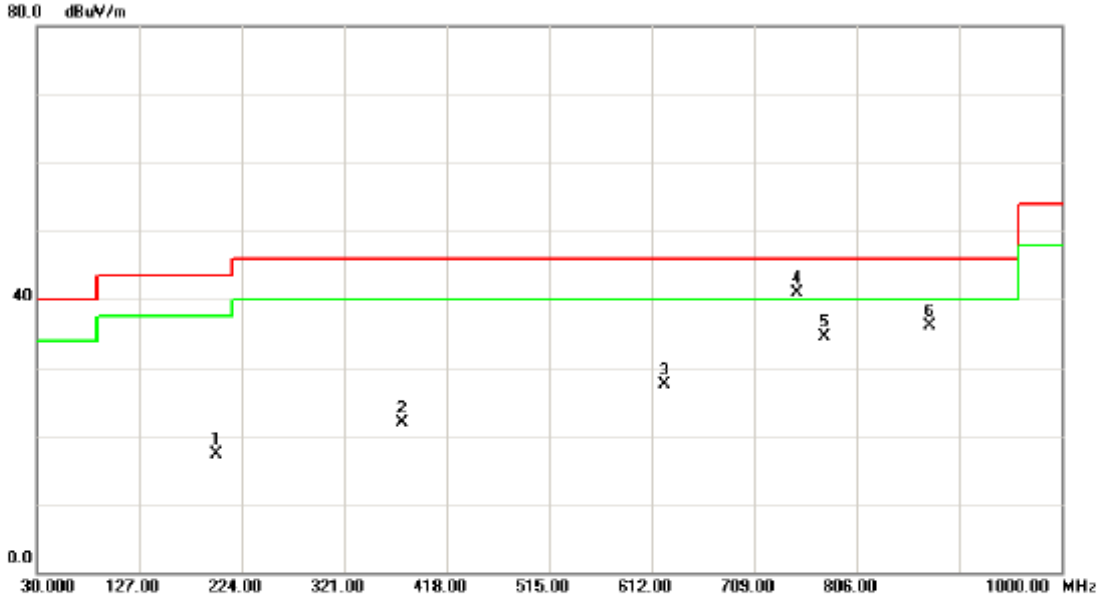
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		224.9700	33.41	-14.75	18.66	46.00	-27.34	peak	
2		375.3200	33.17	-10.66	22.51	46.00	-23.49	peak	
3		624.6100	34.34	-6.86	27.48	46.00	-18.52	peak	
4	*	749.7400	45.54	-4.91	40.63	46.00	-5.37	peak	
5		774.9600	37.31	-4.01	33.30	46.00	-12.70	peak	
6		874.8700	38.22	-2.48	35.74	46.00	-10.26	peak	

EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25℃	Relative Humidity:	58 %
Test Voltage :	AC 120V/60Hz	Phase:	Vertical
Test Mode :	TX A Mode 5825MHz		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		35.8200	37.82	-15.13	22.69	40.00	-17.31	peak	
2		125.0600	32.88	-13.61	19.27	43.50	-24.23	peak	
3		176.4700	34.94	-12.80	22.14	43.50	-21.36	peak	
4		624.6100	32.05	-6.86	25.19	46.00	-20.81	peak	
5	*	749.7400	40.54	-4.91	35.63	46.00	-10.37	peak	
6		874.8700	35.84	-2.48	33.36	46.00	-12.64	peak	

EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25℃	Relative Humidity:	58 %
Test Voltage :	AC 120V/60Hz	Phase:	Horizontal
Test Mode :	TX A Mode 5825MHz		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		199.7500	32.52	-15.18	17.34	43.50	-26.16	peak	
2		375.3200	32.54	-10.66	21.88	46.00	-24.12	peak	
3		624.6100	34.40	-6.86	27.54	46.00	-18.46	peak	
4	*	749.7400	45.77	-4.91	40.86	46.00	-5.14	peak	
5		774.9600	38.42	-4.01	34.41	46.00	-11.59	peak	
6		874.8700	38.55	-2.48	36.07	46.00	-9.93	peak	

4.2.9 TEST RESULTS (ABOVE 1000 MHZ)

EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX A Mode 5745MHz		

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	16.08	6.15	44.34	60.42	50.49	84.72	77.80	X/E
5750.60	**V**	**60.28**	**53.36**	**44.44**	**104.72**	**97.80**			**X/F**
11495.80	V	33.85	23.56	18.49	52.34	42.05	74.00	54.00	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.

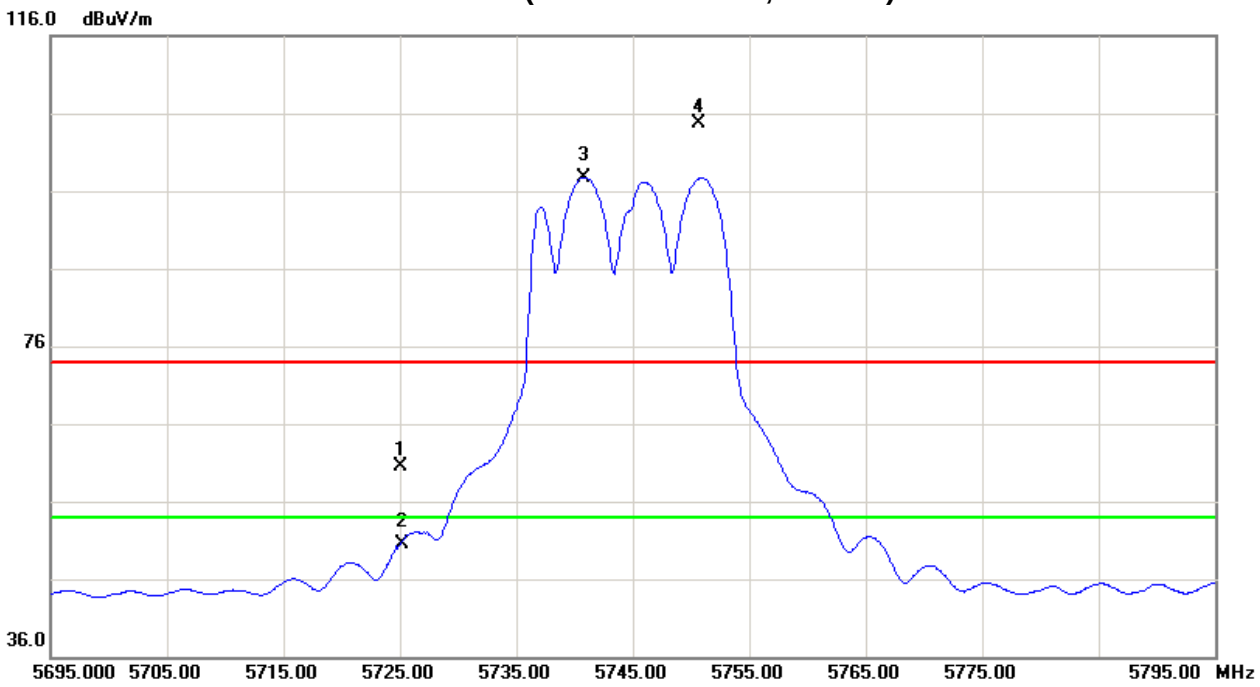
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

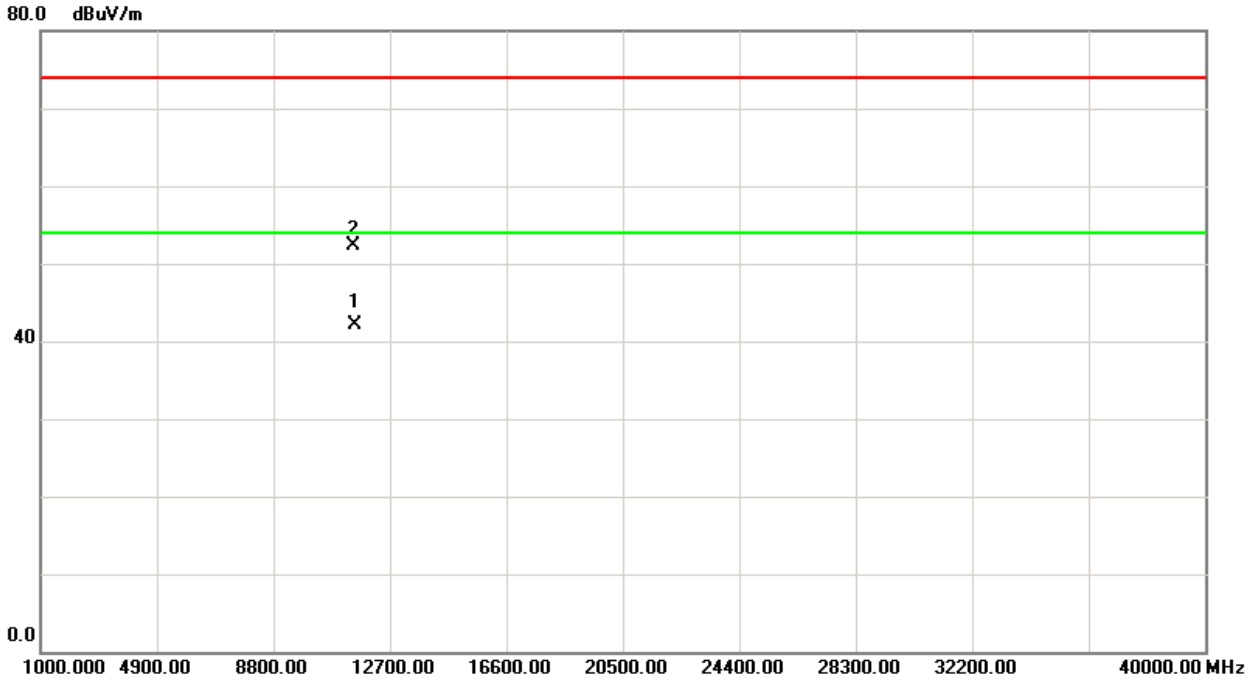
(6) EUT Orthogonal Axis:
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(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 radiated frequency is out of the restricted band. Limit line= fundamental - 20dB

TX CH149 (Above 1000 MHz, Vertical)





EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX A Mode 5745MHz		

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	14.02	4.36	44.34	58.36	48.70	84.26	77.15	X/E
5741.70	**H**	**59.85**	**52.74**	**44.41**	**104.26**	**97.15**			**X/F**
11493.40	H	32.10	21.43	18.47	50.57	39.90	74.00	54.00	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.

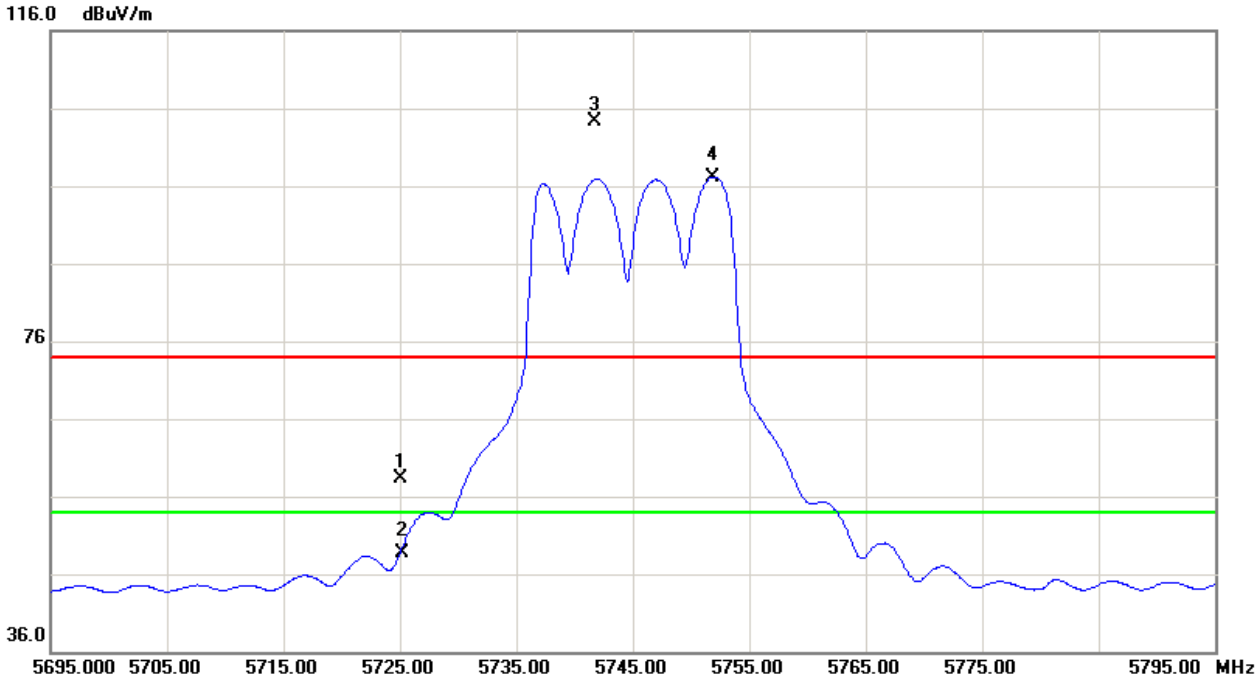
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

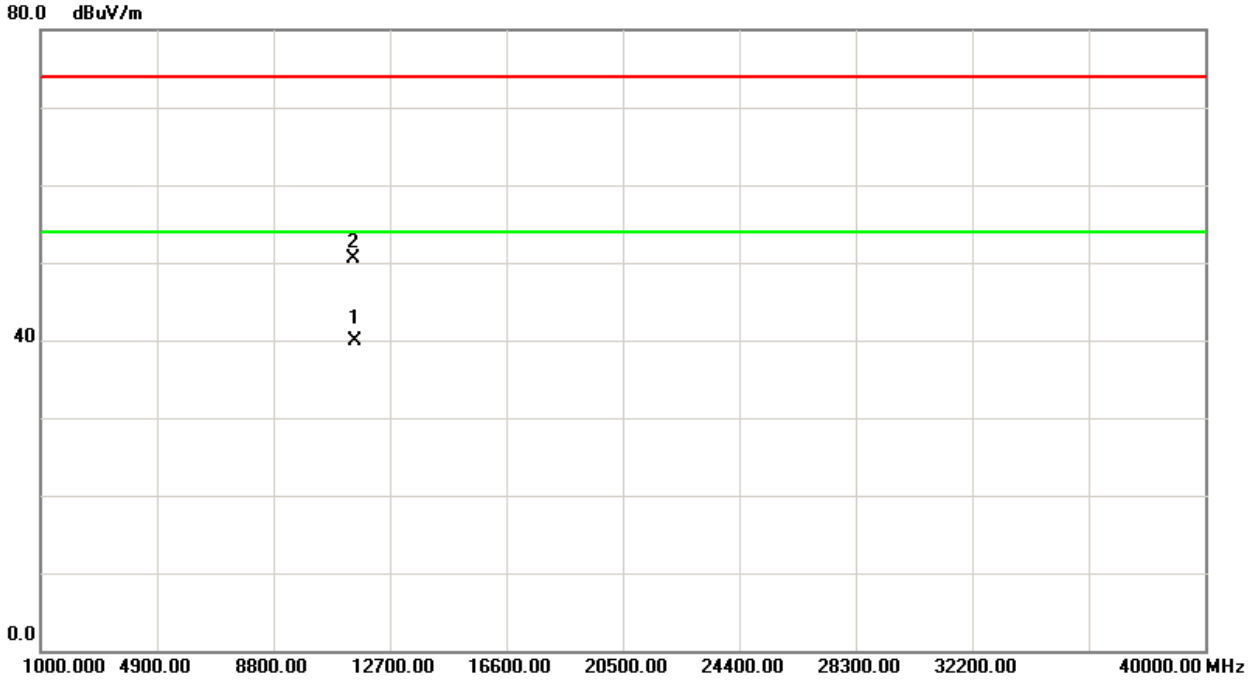
(6) EUT Orthogonal Axis:
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(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 radiated frequency is out of the restricted band. Limit line= fundamental - 20dB

TX CH149 (Above 1000 MHz, Horizontal)





EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX A Mode 5785MHz		

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)	
5791.60	**V**	**60.27**	**53.79**	**44.57**	**104.84**	**98.36**			**X/F**
11576.50	V	33.74	23.65	18.68	52.42	42.33	74.00	54.00	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 。

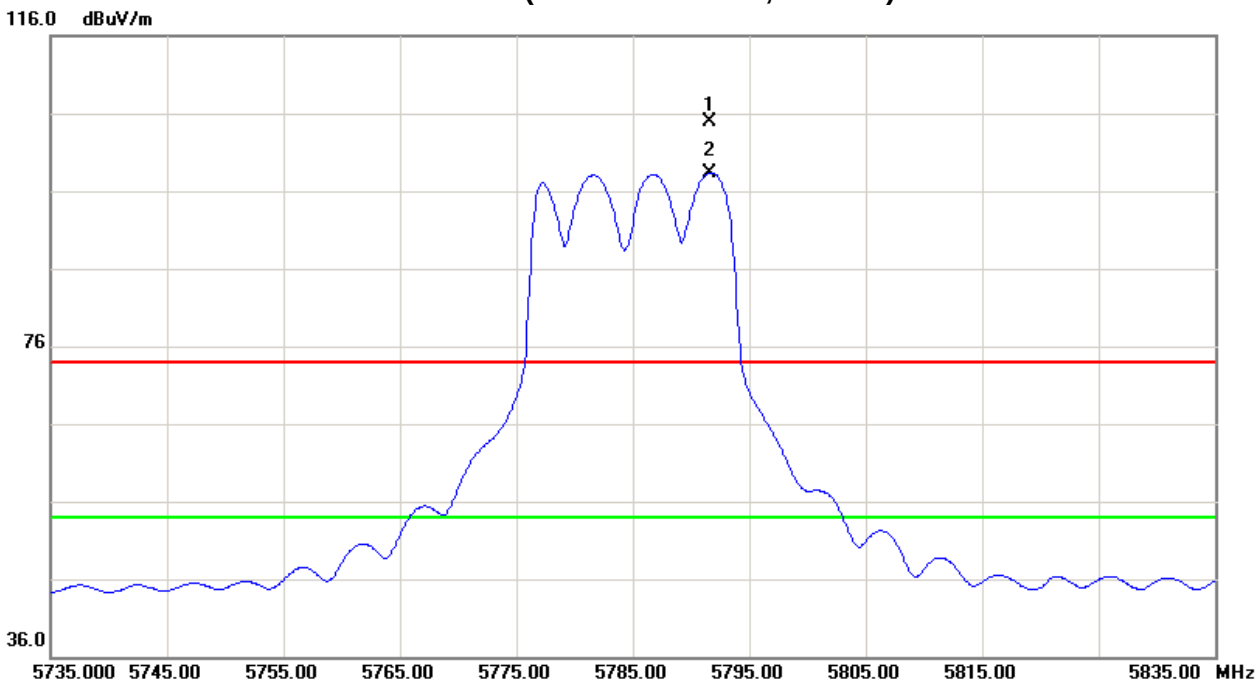
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

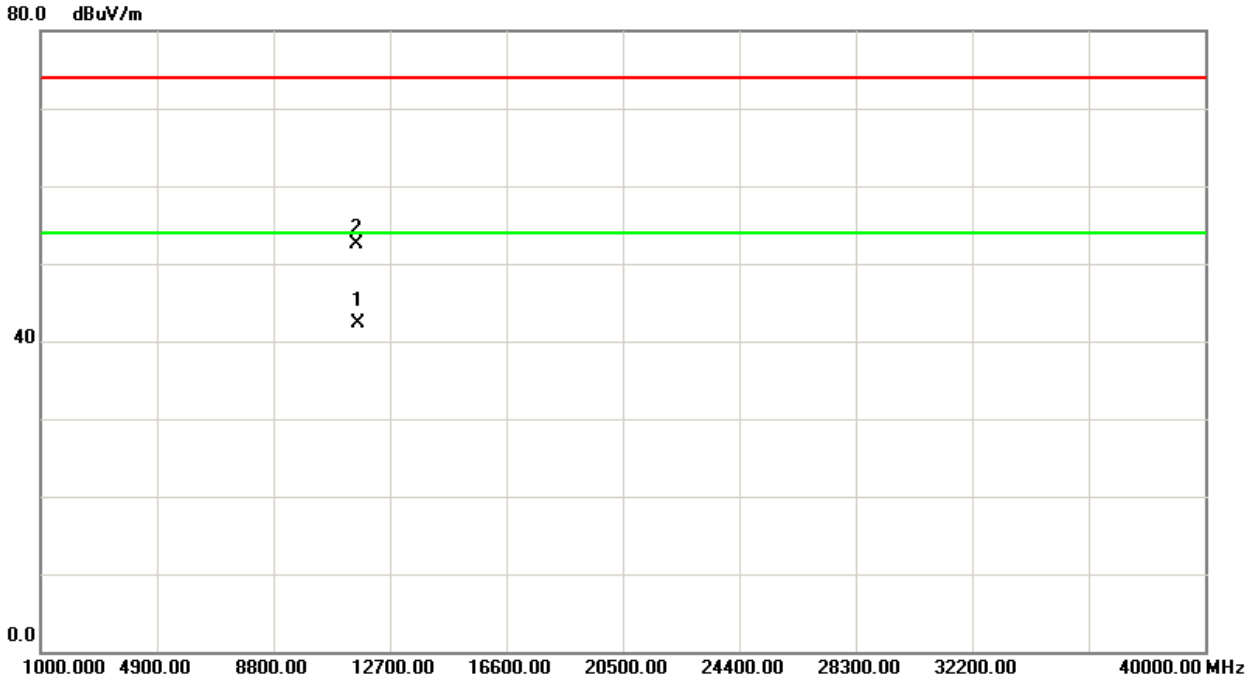
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(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

TX CH157 (Above 1000 MHz, Vertical)





EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX A Mode 5785MHz		

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)	
5791.70	**H**	**59.72**	**53.08**	**44.58**	**104.30**	**97.66**			**X/F**
11574.20	H	31.84	21.43	18.67	50.51	40.10	74.00	54.00	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 。

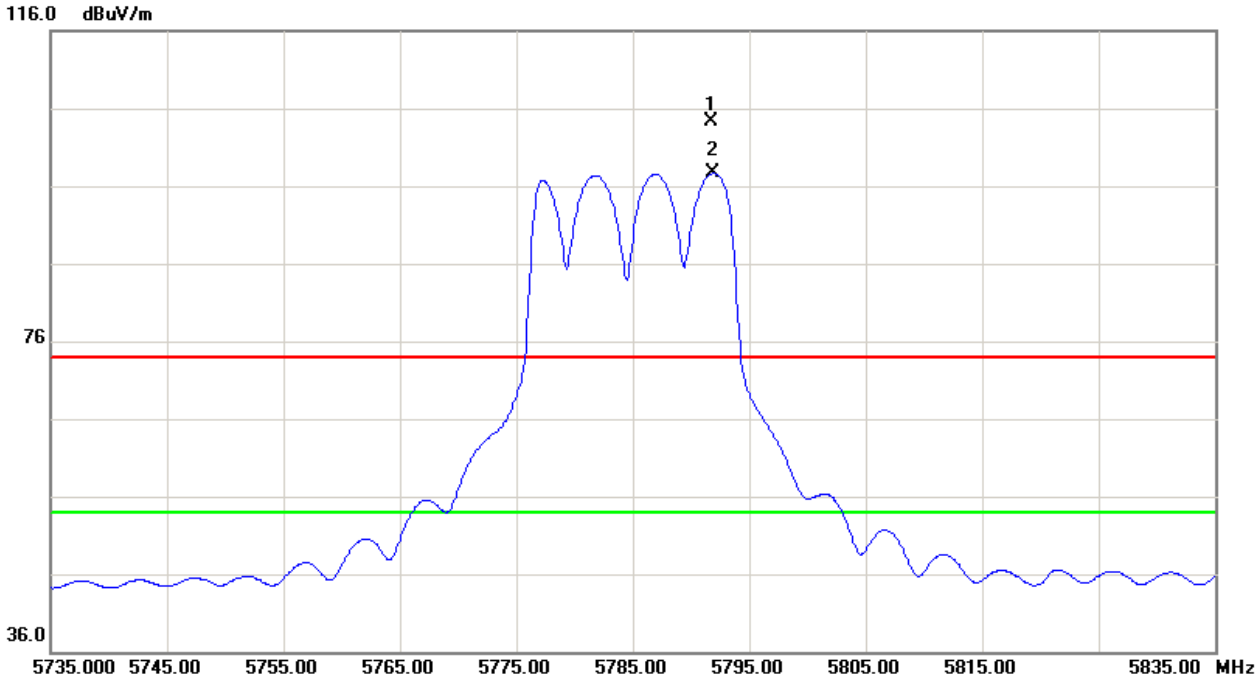
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

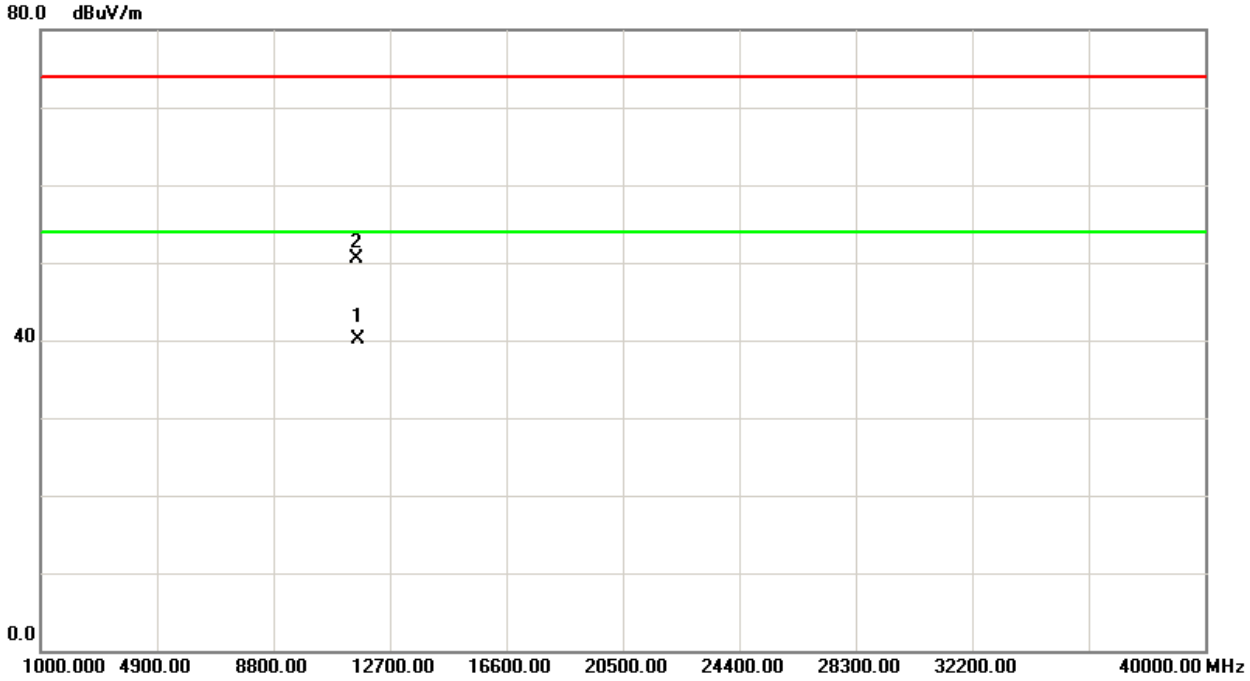
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(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

TX CH157 (Above 1000 MHz, Horizontal)





EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX A Mode 5825MHz		

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)	
5830.10	**V**	**60.72**	**54.15**	**44.71**	**105.43**	**98.86**			**X/F**
#5850.00	V	16.05	3.86	44.78	60.83	48.64	85.43	78.86	X/E
11653.70	V	33.87	23.59	18.87	52.74	42.46	74.00	54.00	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.

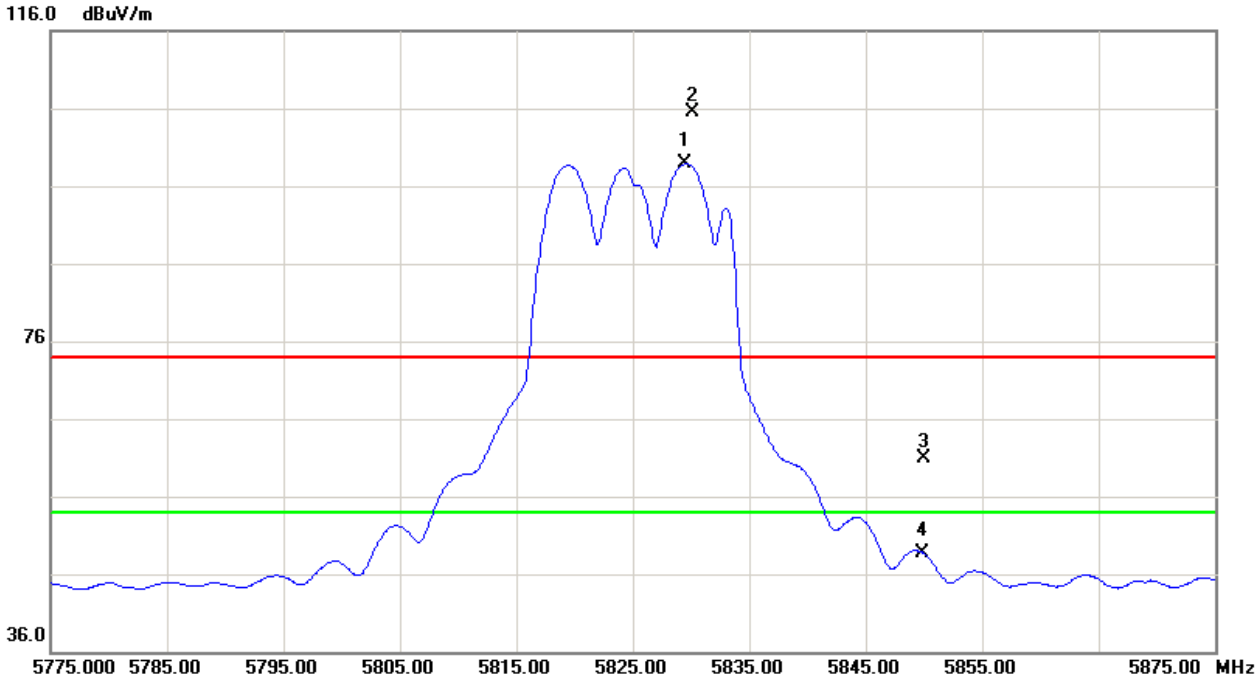
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

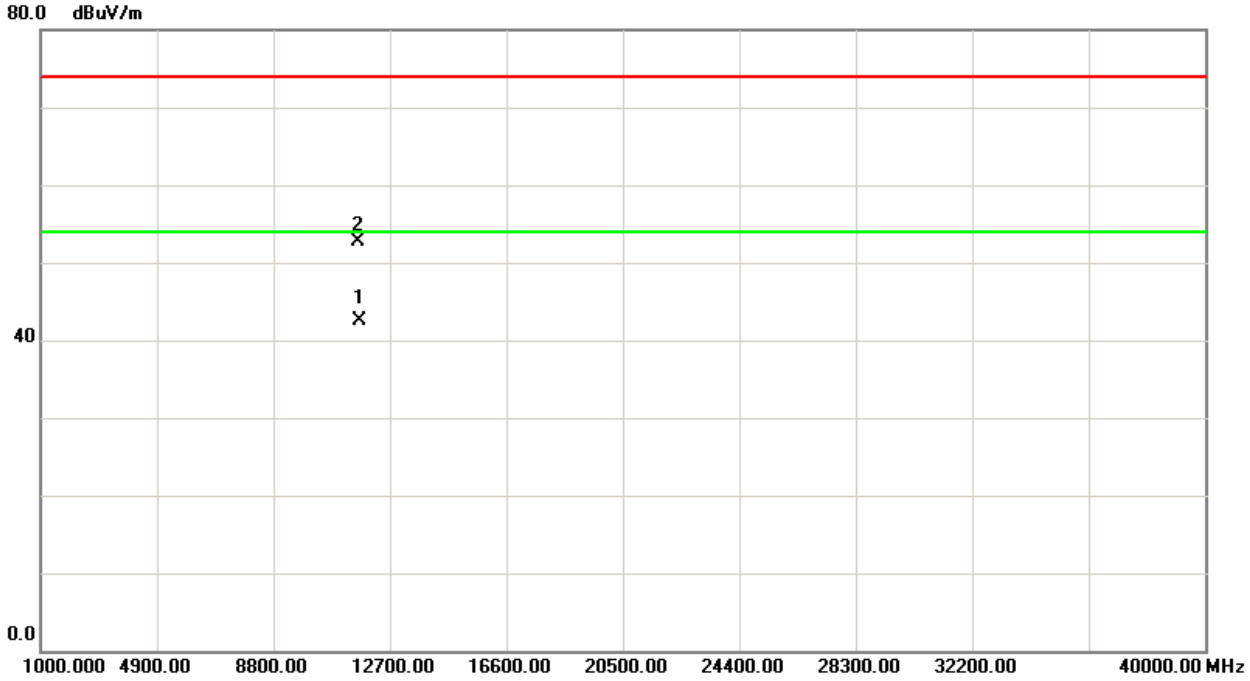
(6) EUT Orthogonal Axis:
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(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 radiated frequency is out of the restricted band. Limit line= fundamental - 20dB

TX CH165 (Above 1000 MHz, Vertical)





EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX A Mode 5825MHz		

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)	
5828.10	**H**	**61.07**	**53.75**	**44.70**	**105.77**	**98.45**			**X/F**
#5850.00	H	10.98	1.94	44.78	55.76	46.72	85.77	78.45	X/E
11652.90	H	31.80	21.52	18.87	50.67	40.39	74.00	54.00	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.

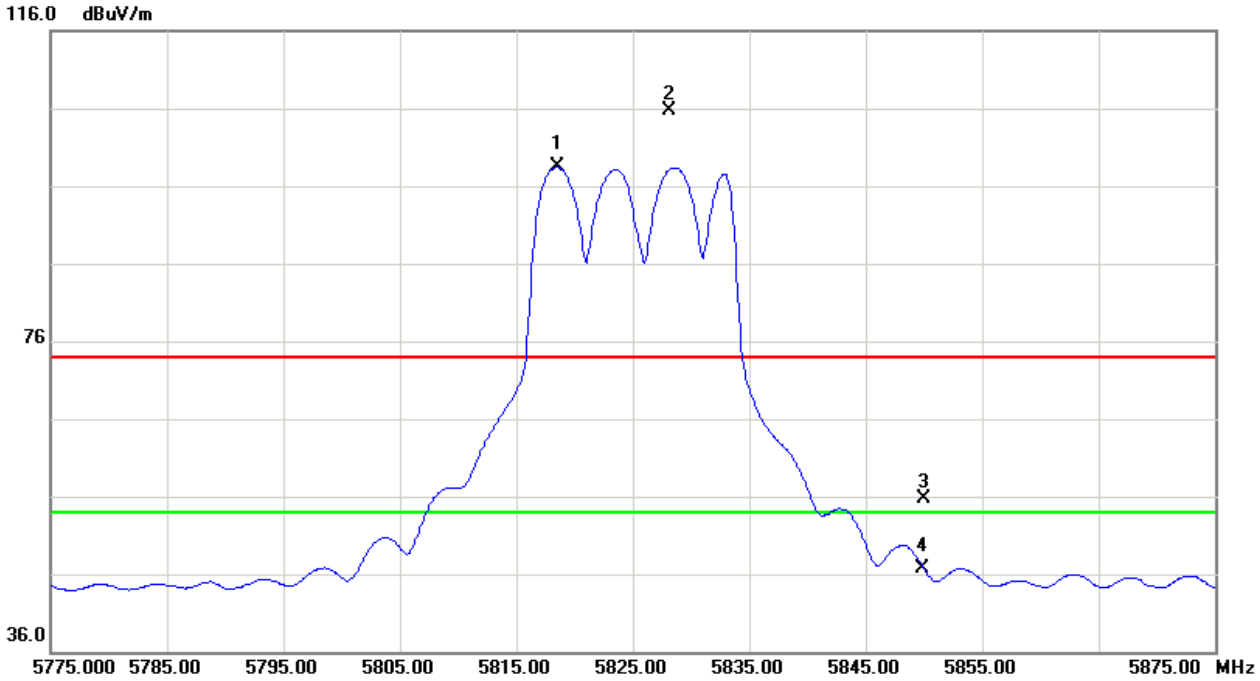
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

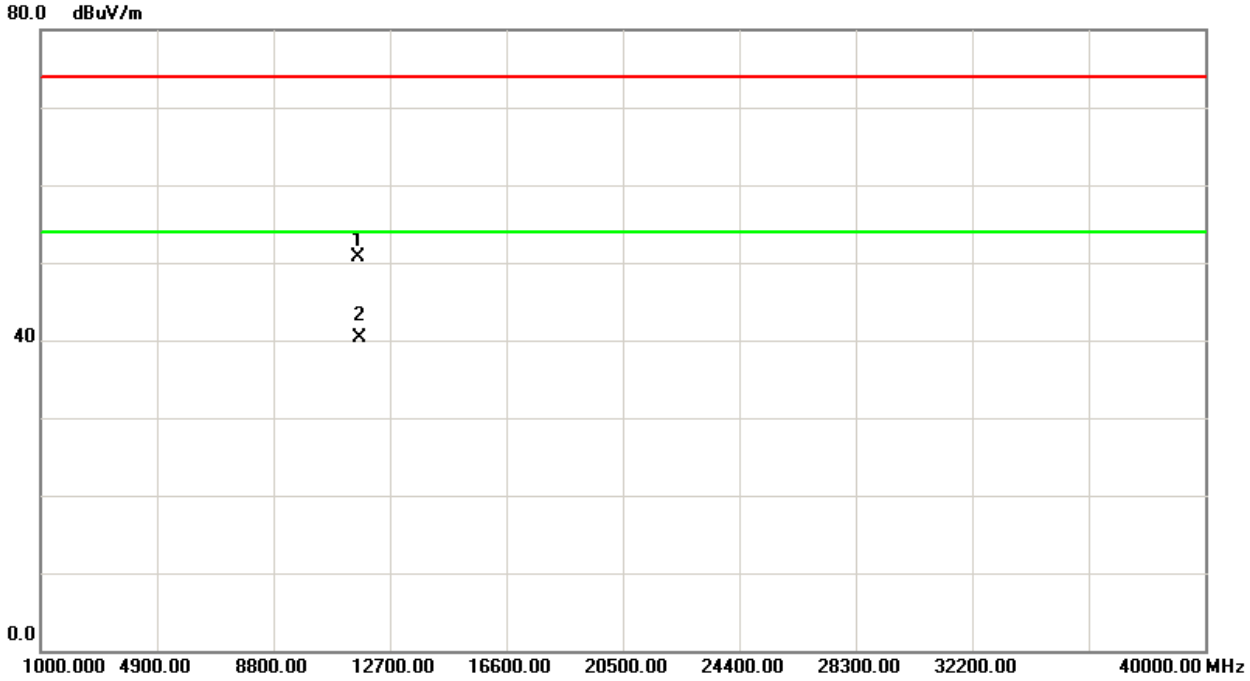
(6) EUT Orthogonal Axis:
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(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 radiated frequency is out of the restricted band. Limit line= fundamental - 20dB

TX CH165 (Above 1000 MHz, Horizontal)





EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N20 Mode 5745MHz		

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	13.37	5.53	44.34	57.71	49.87	83.04	73.69	X/E
5749.90	**V**	**58.61**	**49.26**	**44.43**	**103.04**	**93.69**			**X/F**
11496.80	V	32.93	22.62	18.49	51.42	41.11	74.00	54.00	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.

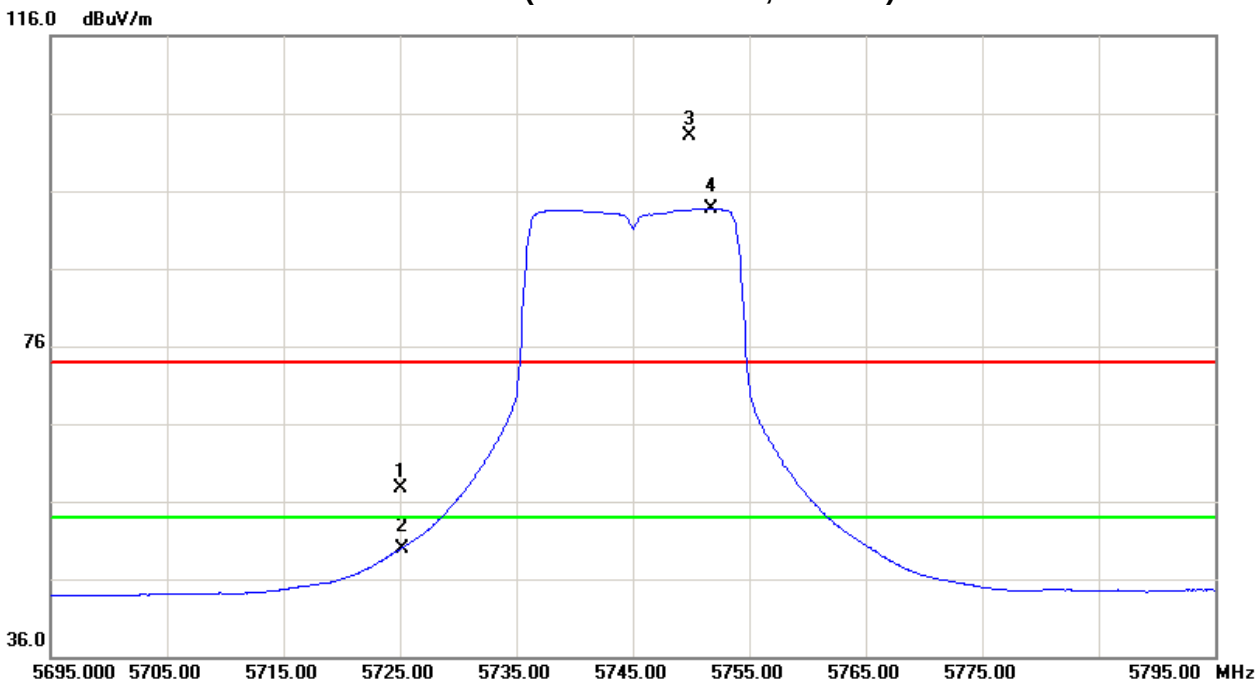
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

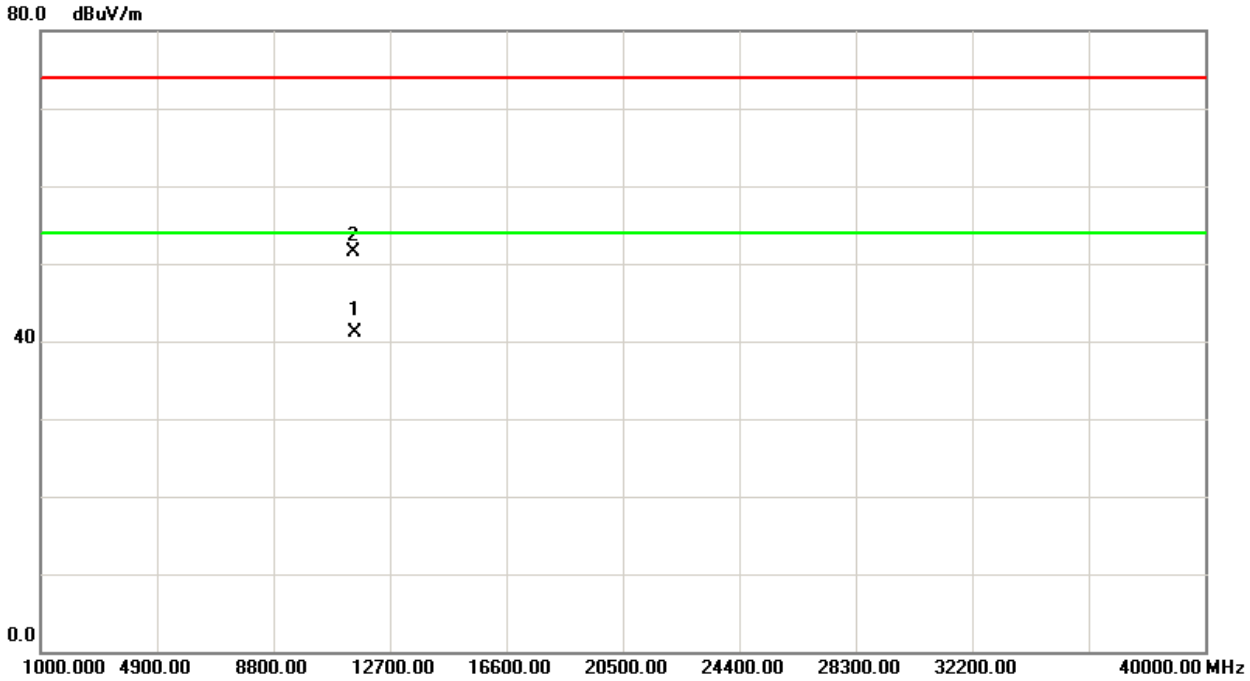
(6) EUT Orthogonal Axis:
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(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 radiated frequency is out of the restricted band. Limit line= fundamental - 20dB

TX CH149 (Above 1000 MHz, Vertical)





EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N20 Mode 5745MHz		

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	14.13	5.93	44.34	58.47	50.27	82.10	73.88	X/E
5749.30	**H**	**57.67**	**49.45**	**44.43**	**102.10**	**93.88**			**X/F**
11495.60	H	31.68	20.59	18.49	50.17	39.08	74.00	54.00	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.

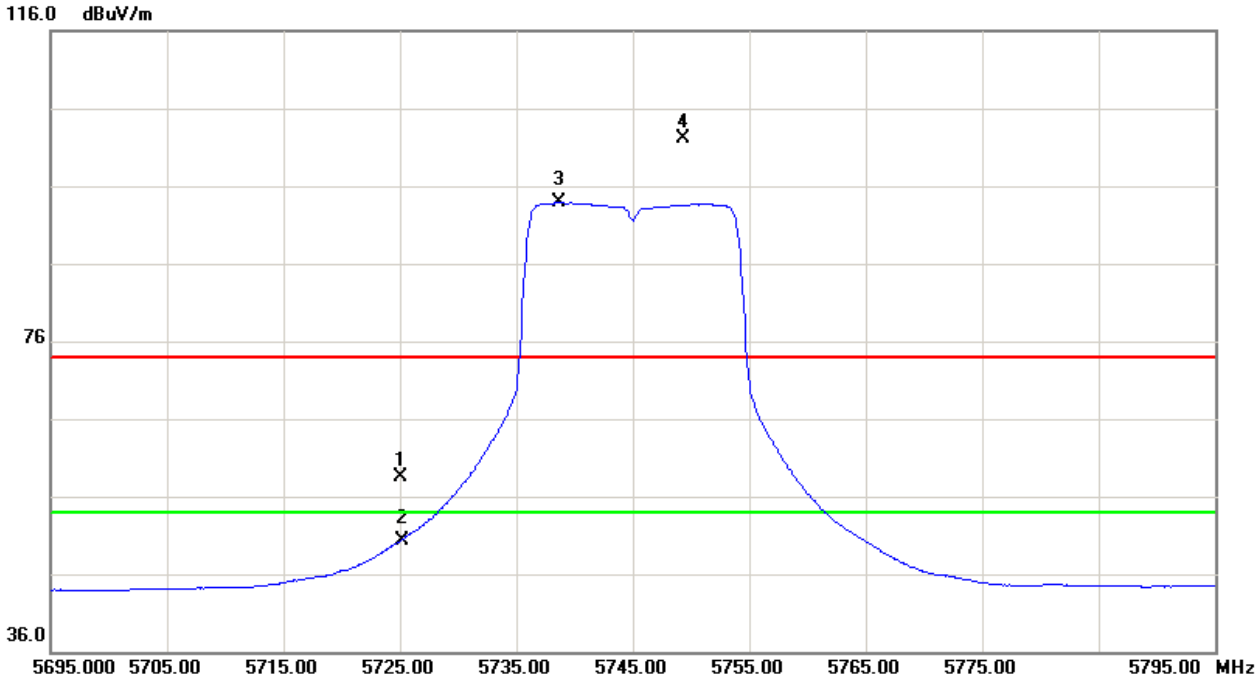
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

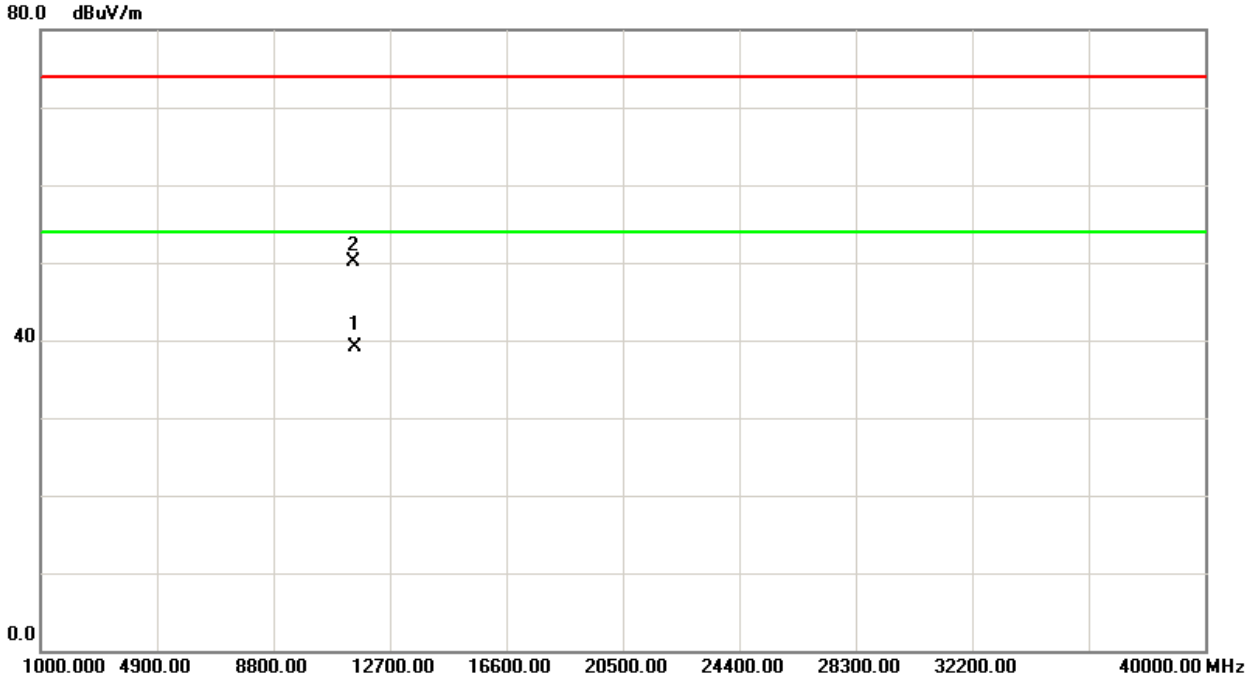
(6) EUT Orthogonal Axis:
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(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 radiated frequency is out of the restricted band. Limit line= fundamental - 20dB

TX CH149 (Above 1000 MHz, Horizontal)





EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N20 Mode 5785MHz		

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)	
5788.30	**V**	**58.86**	**49.66**	**44.56**	**103.42**	**94.22**			**X/F**
11573.80	V	32.81	22.63	18.67	51.48	41.30	74.00	54.00	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 。

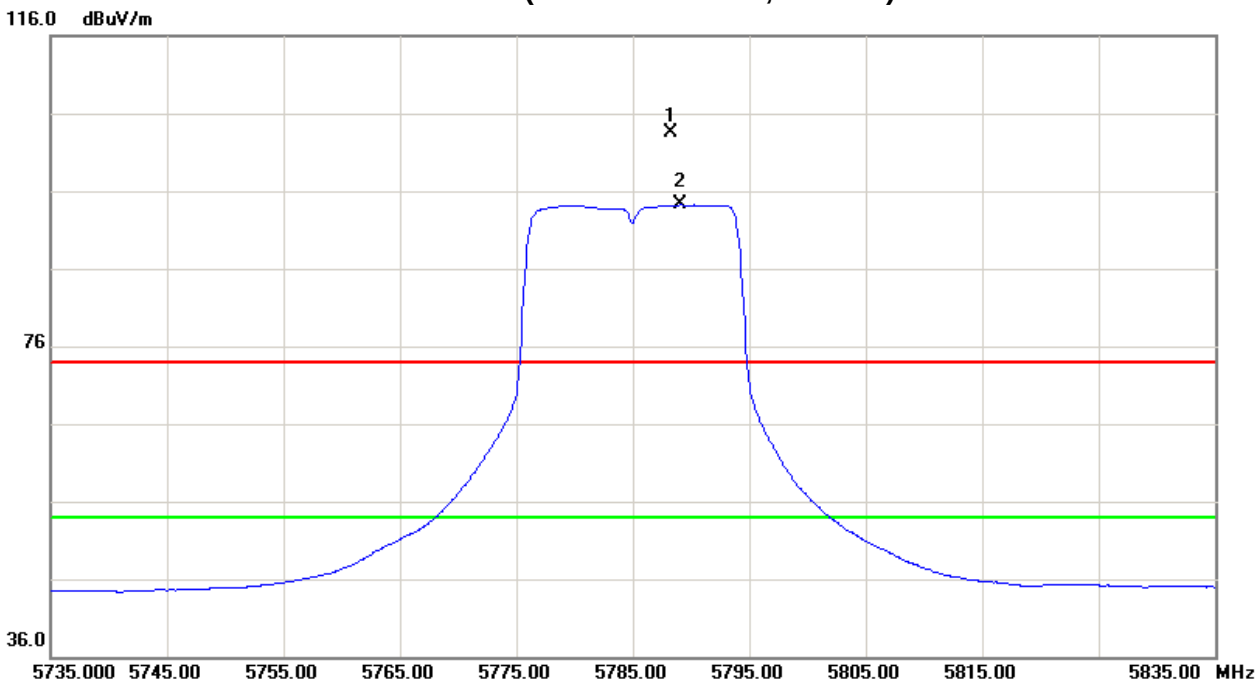
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

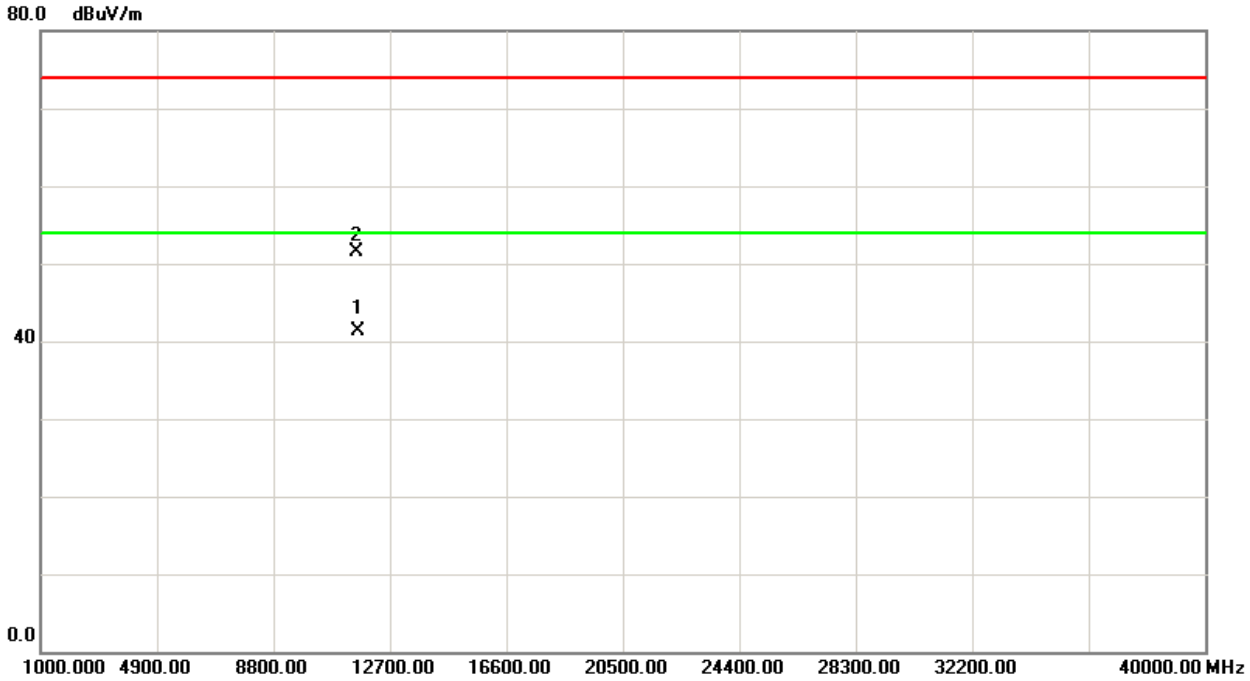
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(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

TX CH157 (Above 1000 MHz, Vertical)





EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N20 Mode 5785MHz		

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)	
5781.30	**H**	**57.45**	**48.81**	**44.54**	**101.99**	**93.35**			**X/F**
11574.20	H	30.86	20.39	18.67	49.53	39.06	74.00	54.00	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 。

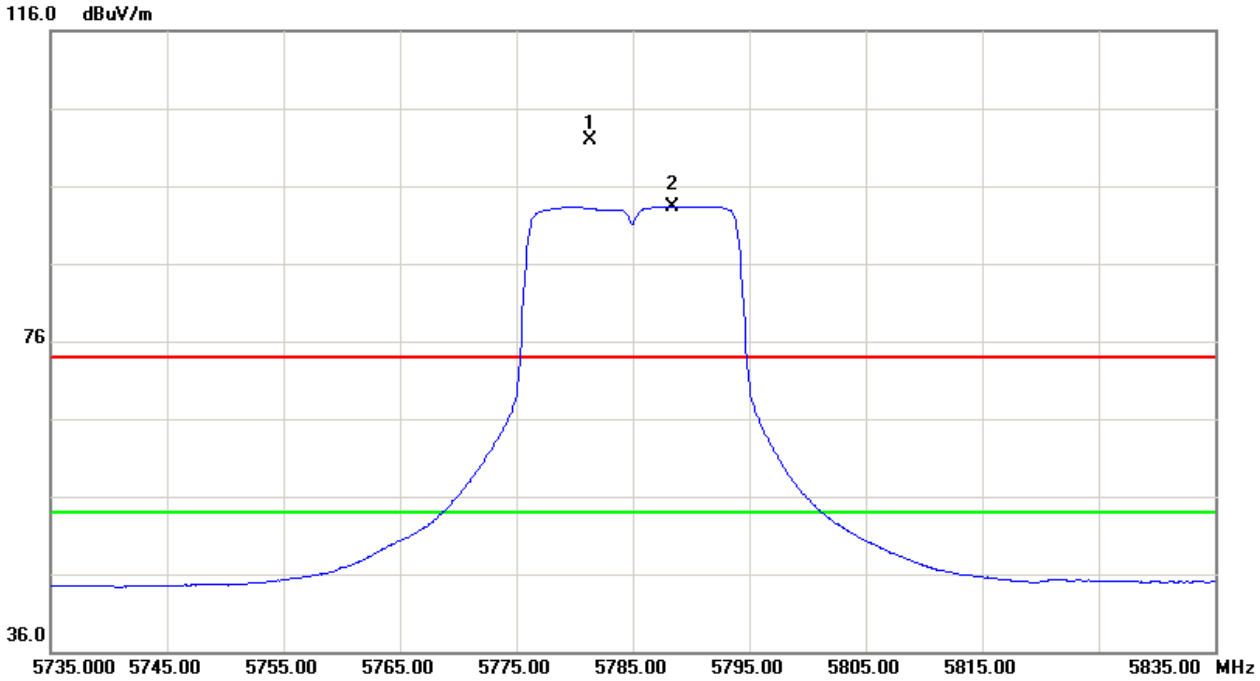
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

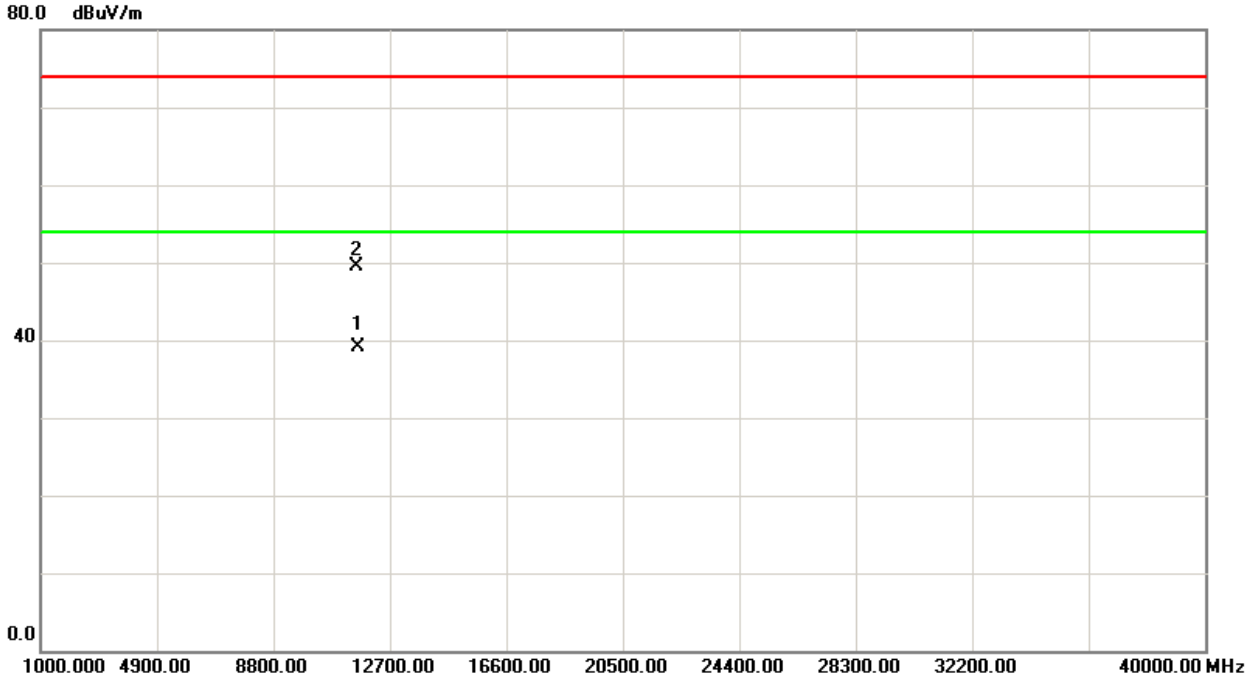
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(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

TX CH157 (Above 1000 MHz, Horizontal)





EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N20 Mode 5825MHz		

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)	
5830.70	**V**	**61.14**	**50.27**	**44.71**	**105.85**	**94.98**			**X/F**
#5850.00	V	11.50	2.20	44.78	56.28	46.98	85.85	74.98	X/E
11653.40	V	32.73	22.62	18.87	51.60	41.49	74.00	54.00	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.

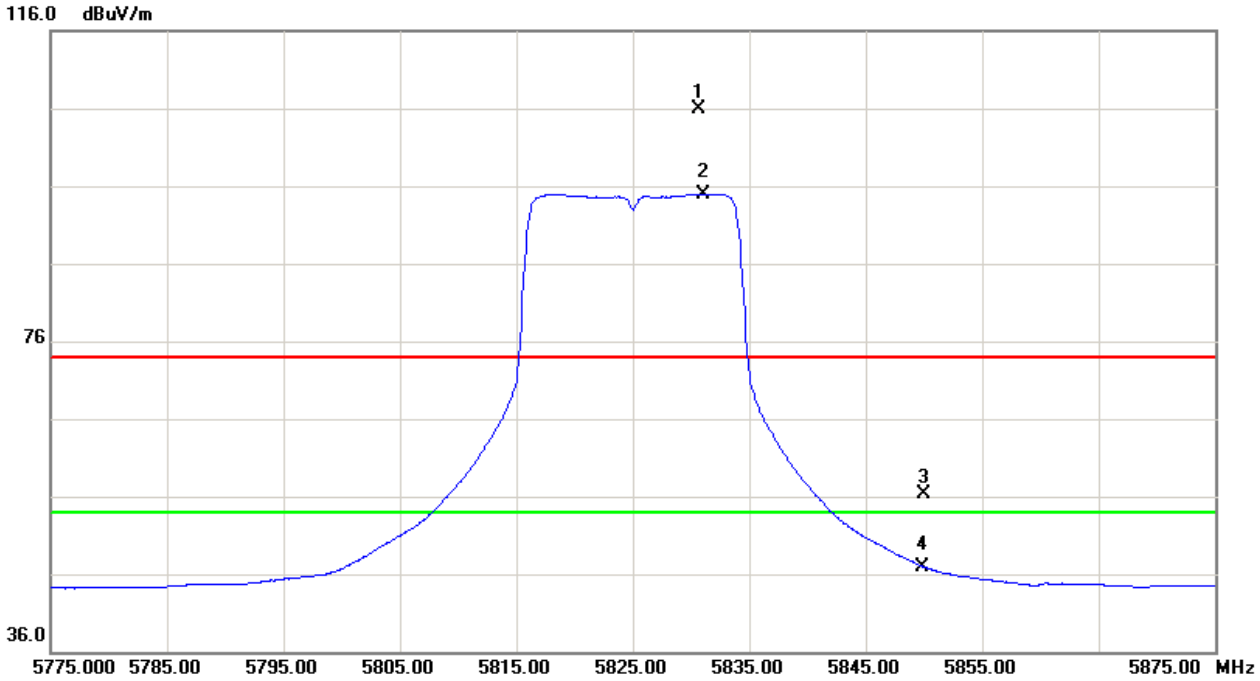
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

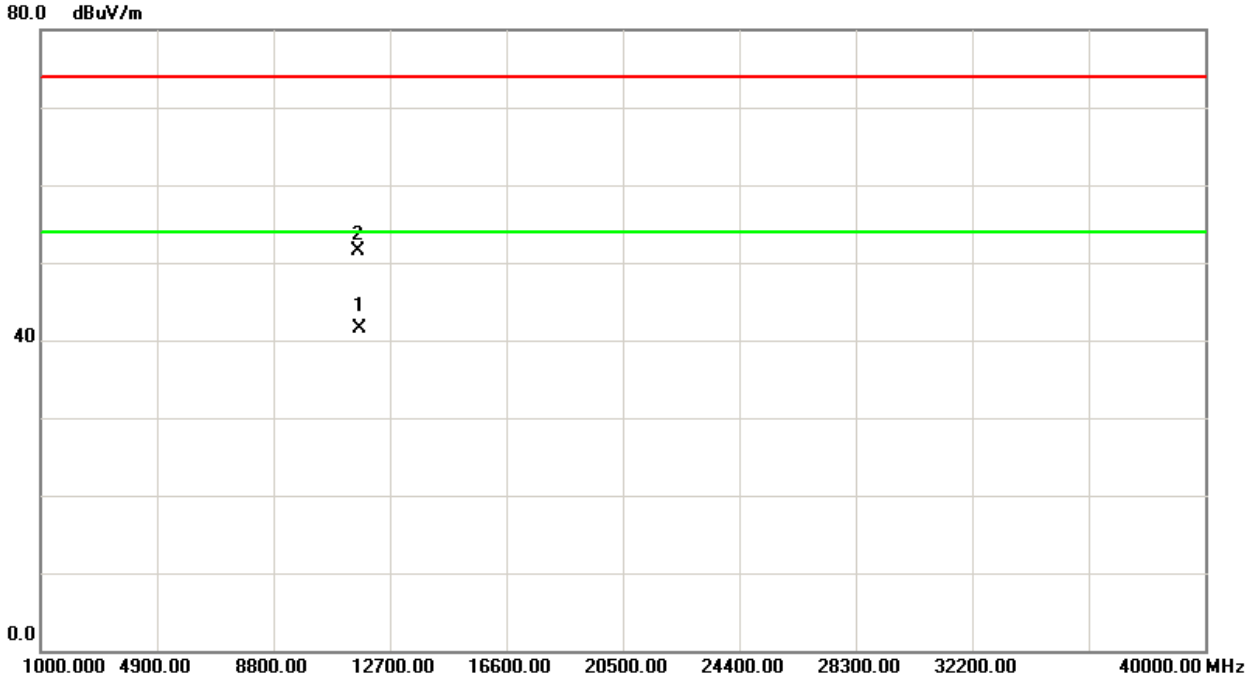
(6) EUT Orthogonal Axis:
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(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 radiated frequency is out of the restricted band. Limit line= fundamental - 20dB

TX CH165 (Above 1000 MHz, Vertical)





EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N20 Mode 5825MHz		

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)	
5832.00	**H**	**60.08**	**50.58**	**44.72**	**104.80**	**95.30**			**X/F**
#5850.00	H	11.61	2.33	44.78	56.39	47.11	84.80	75.30	X/E
11653.10	H	30.74	20.52	18.87	49.61	39.39	74.00	54.00	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.

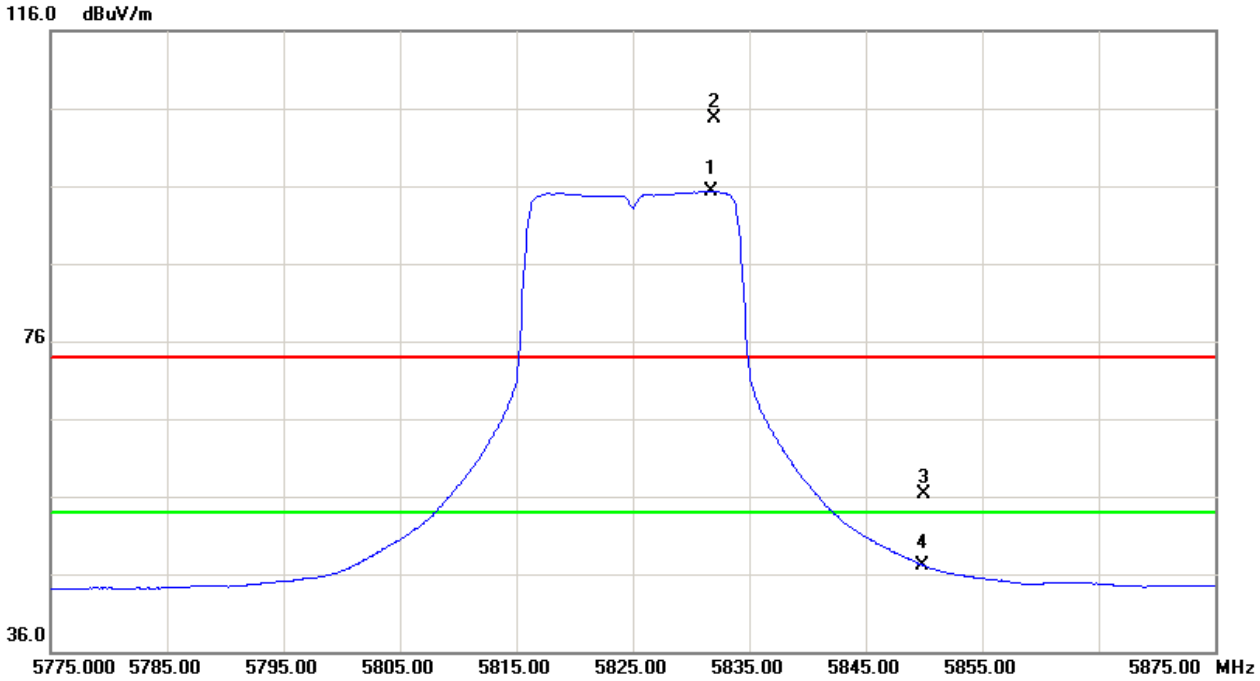
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

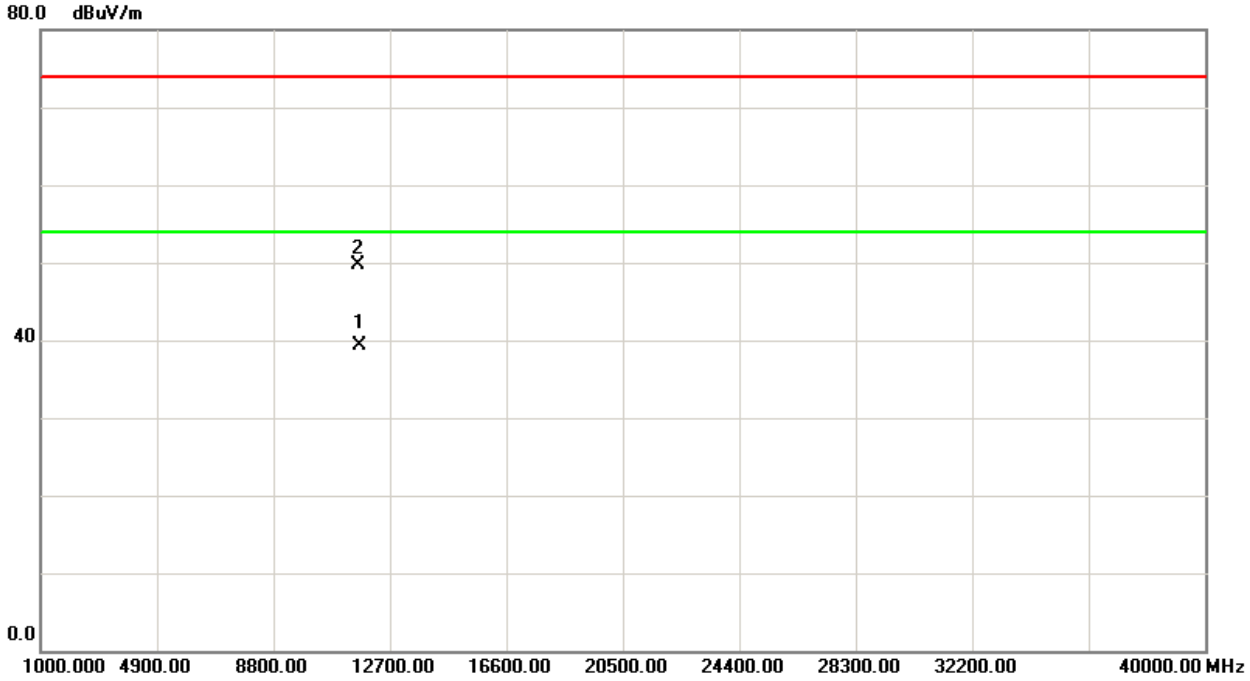
(6) EUT Orthogonal Axis:
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(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 radiated frequency is out of the restricted band. Limit line= fundamental - 20dB

TX CH165 (Above 1000 MHz, Horizontal)





EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N40 Mode 5755MHz		

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	19.82	6.38	44.34	64.16	50.72	78.85	68.49	X/E
5772.00	**V**	**54.34**	**43.98**	**44.51**	**98.85**	**88.49**			**X/F**
11514.20	V	31.58	21.46	18.53	50.11	39.99	74.00	54.00	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.

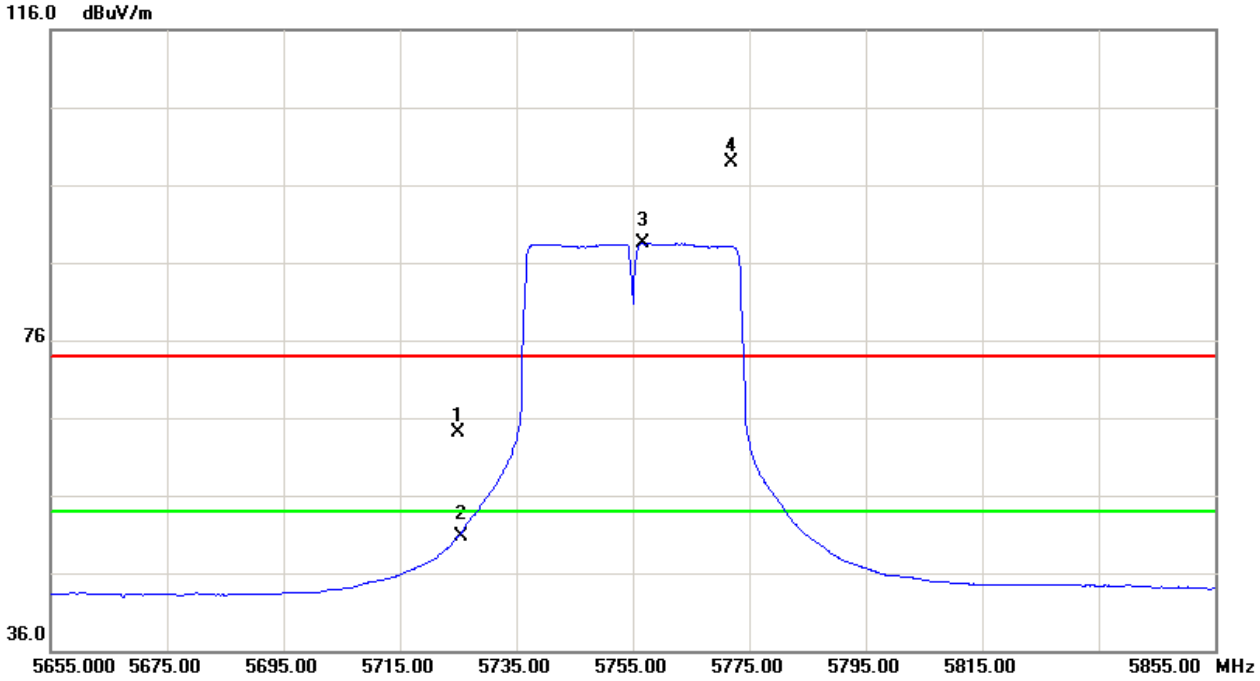
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

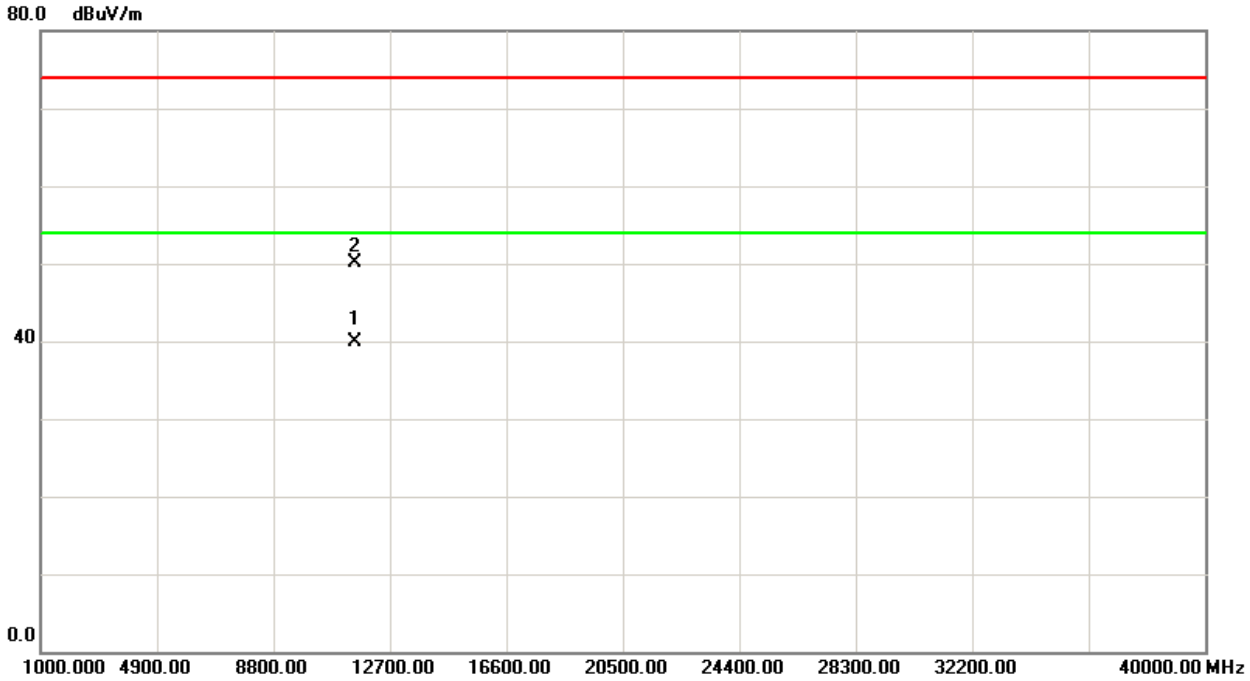
(6) EUT Orthogonal Axis:
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(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 radiated frequency is out of the restricted band. Limit line= fundamental - 20dB

TX CH151 (Above 1000 MHz, Vertical)





EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N40 Mode 5755MHz		

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	19.90	6.32	44.34	64.24	50.66	79.16	69.76	X/E
5745.20	**H**	**54.74**	**45.34**	**44.42**	**99.16**	**89.76**			**X/F**
11512.80	H	30.49	19.84	18.52	49.01	38.36	74.00	54.00	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.

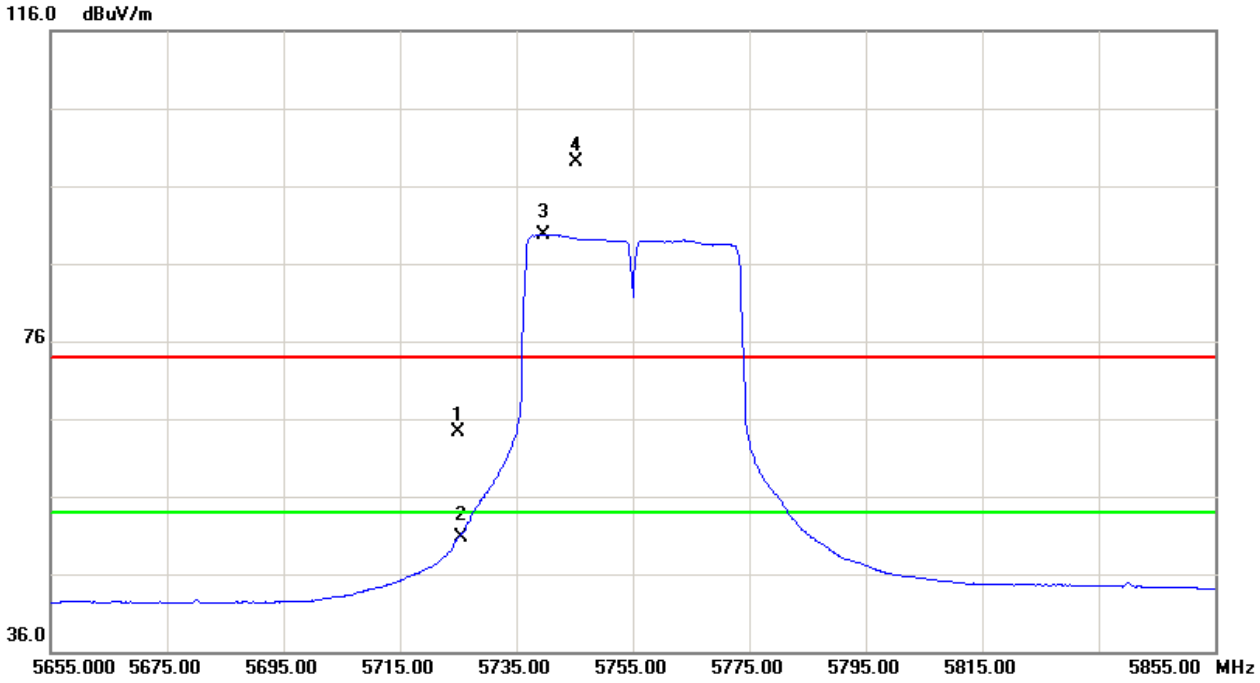
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

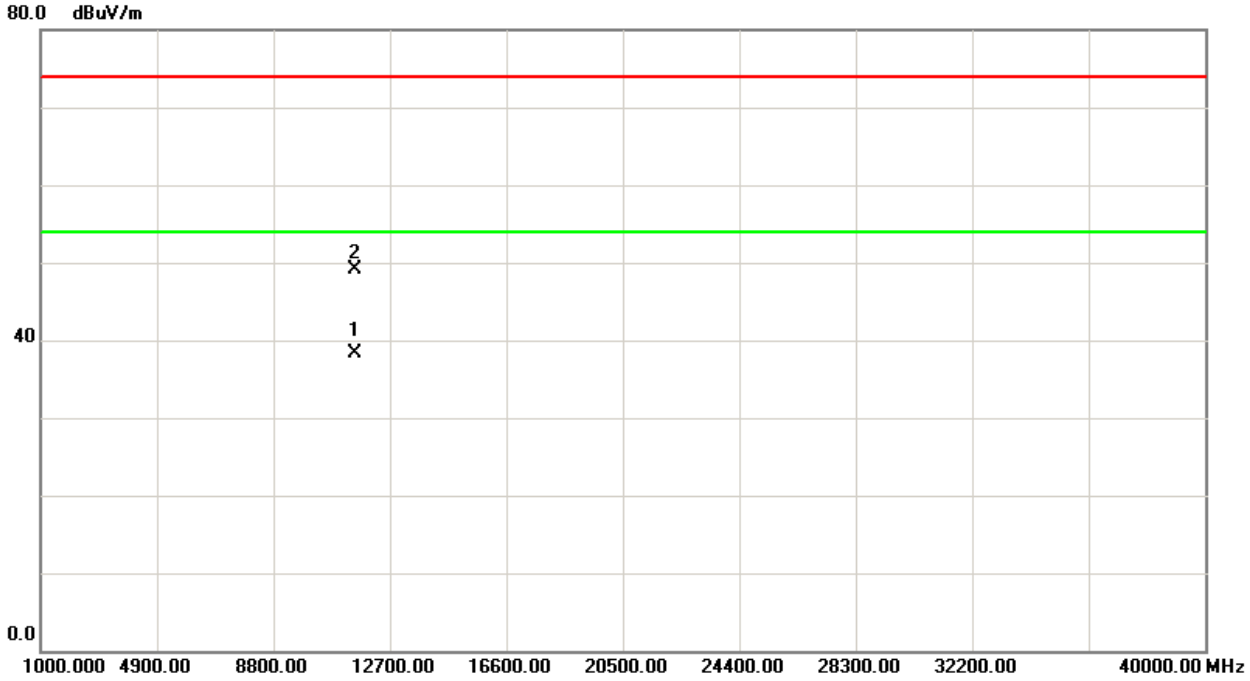
(6) EUT Orthogonal Axis:
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(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 radiated frequency is out of the restricted band. Limit line= fundamental - 20dB

TX CH151 (Above 1000 MHz, Horizontal)





EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N40 Mode 5795MHz		

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)	
5787.60	**V**	**54.74**	**45.11**	**44.56**	**99.30**	**89.67**			**X/F**
#5850.00	V	6.77	0.04	44.78	44.78	44.82	79.30	69.67	X/E
11598.30	V	31.29	21.43	18.74	50.03	40.17	74.00	54.00	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.

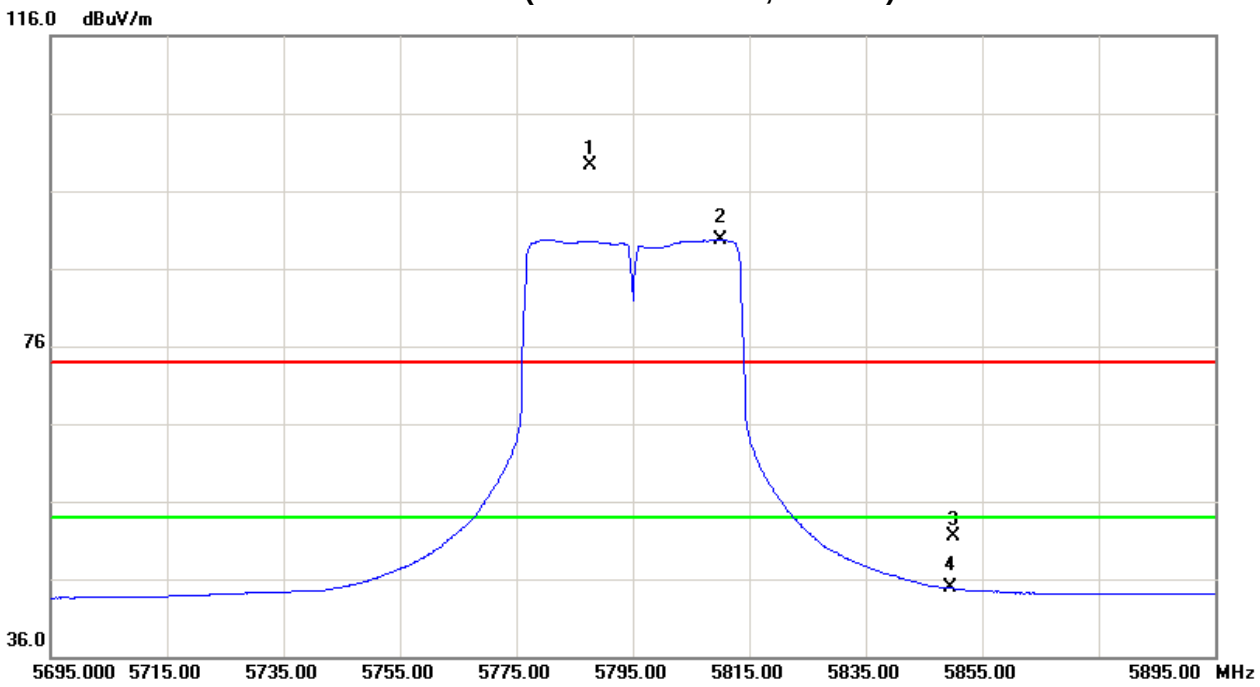
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

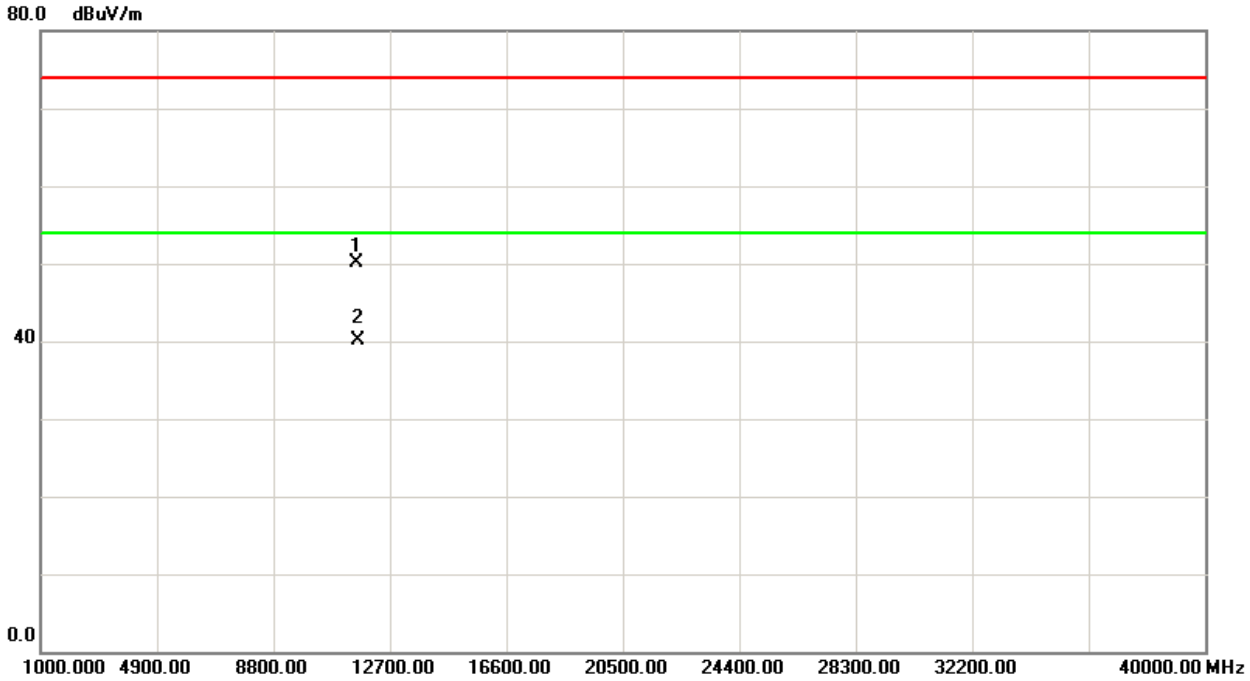
(6) EUT Orthogonal Axis:
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(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 radiated frequency is out of the restricted band. Limit line= fundamental - 20dB

TX CH159 (Above 1000 MHz, Vertical)





EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N40 Mode 5795MHz		

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)	
5810.80	**H**	**54.14**	**45.30**	**44.64**	**98.78**	**89.94**			**X/F**
#5850.00	H	7.46	0.08	44.78	52.24	44.86	78.78	69.94	X/E
11593.80	H	29.43	19.56	18.72	48.15	38.28	74.00	54.00	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.

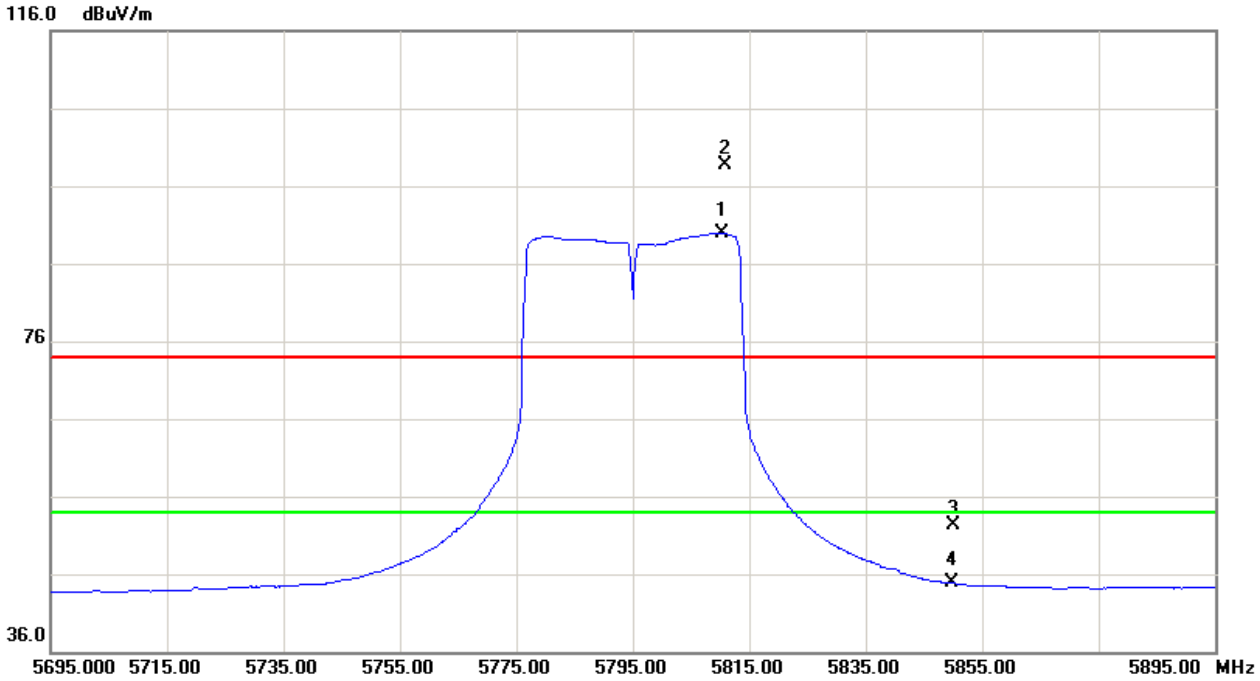
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

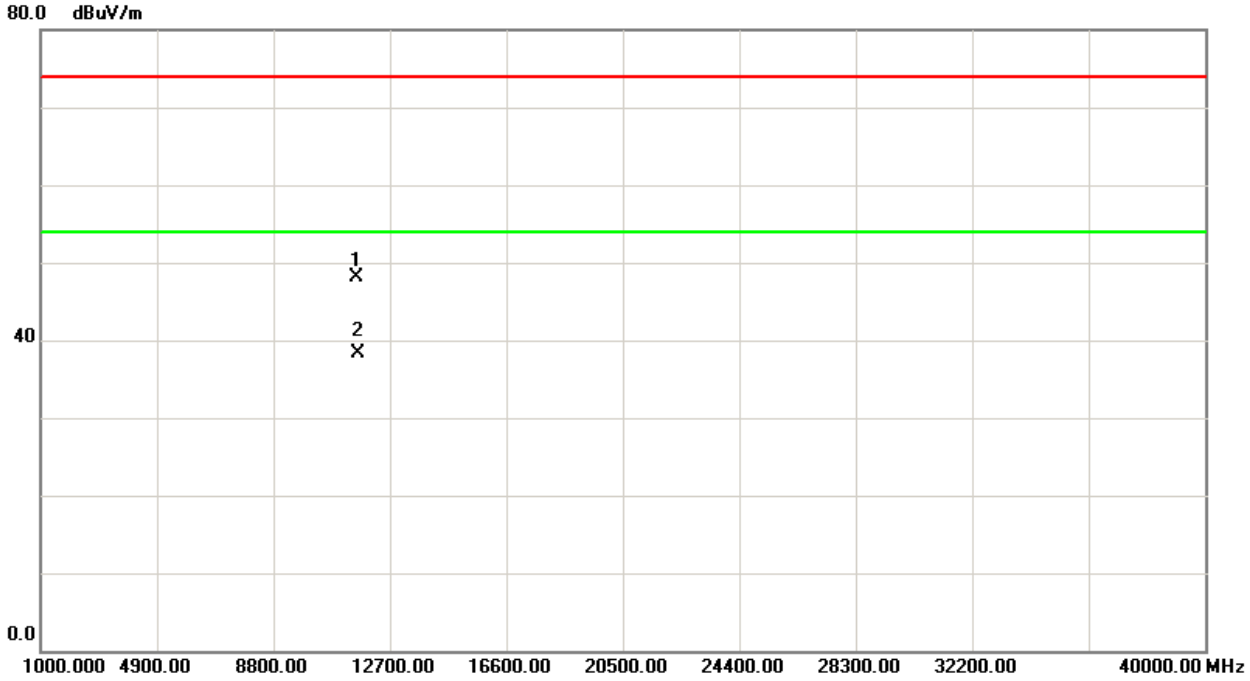
(6) EUT Orthogonal Axis:
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(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 radiated frequency is out of the restricted band. Limit line= fundamental - 20dB

TX CH159 (Above 1000 MHz, Horizontal)





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.

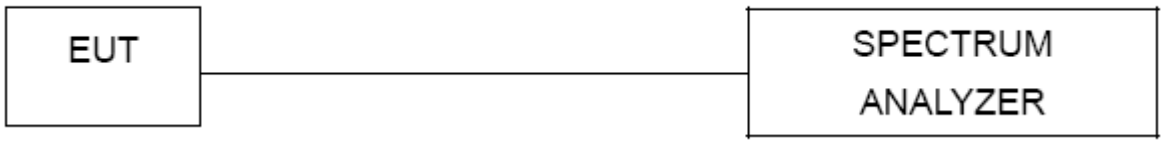
5.1.2 TEST PROCEDURE

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

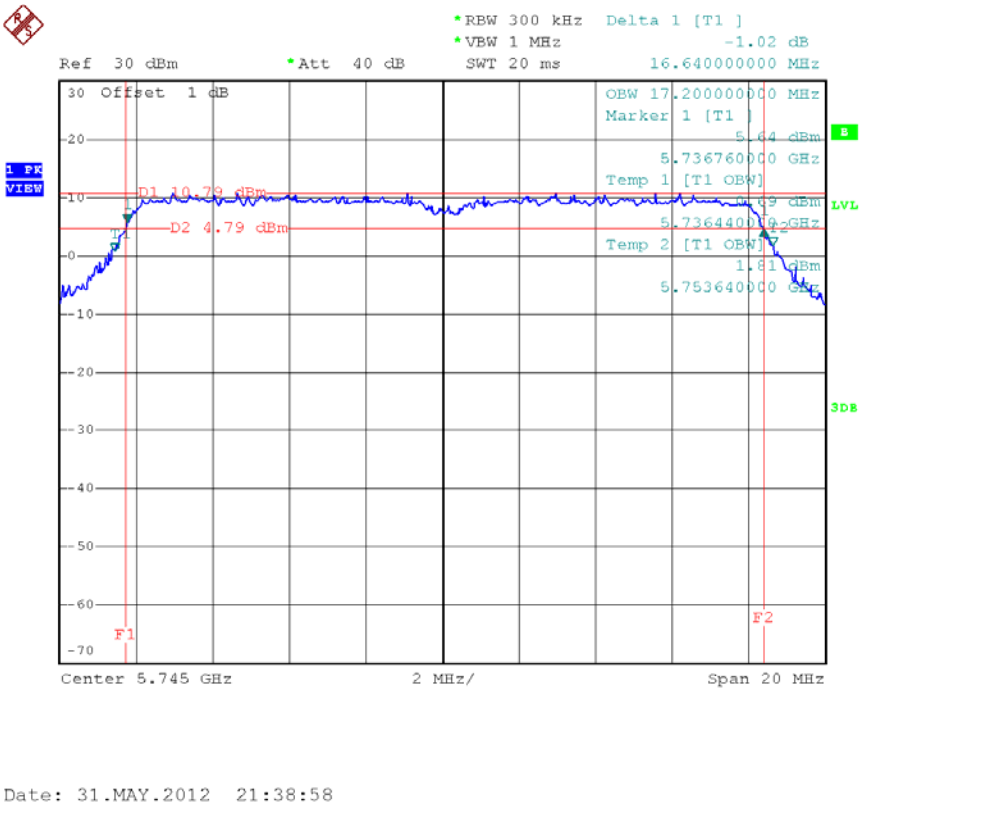
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

5.1.6 TEST RESULTS

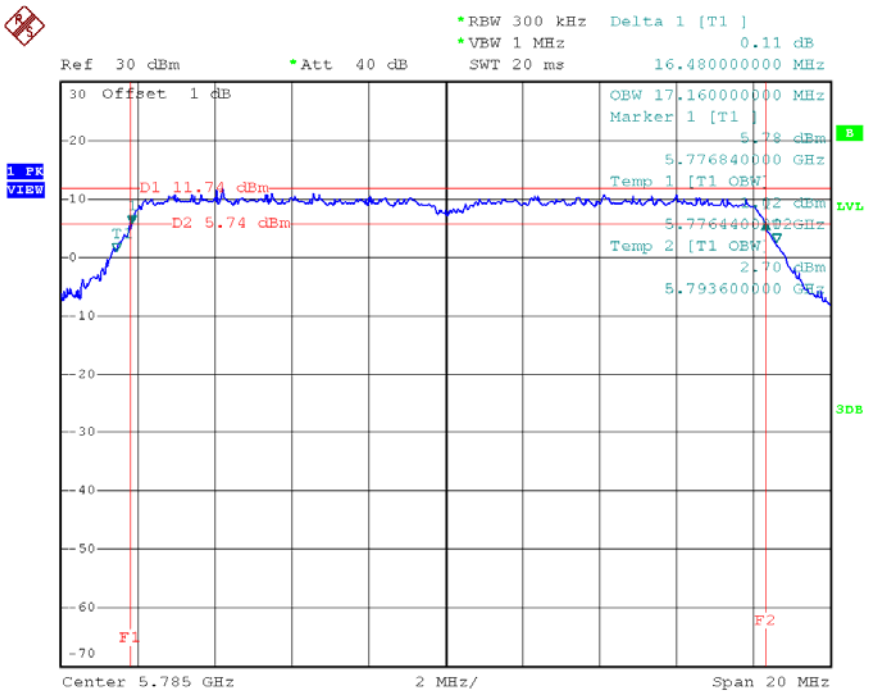
EUT：	Outdoor Wireless LAN Access Point	Model Name. ：	AP6510DN-AGN-US
Temperature：	25 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX A Mode /CH149, CH157, CH165		

Test Channel	Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	LIMIT (MHz)
CH149	5745	16.64	17.20	>=500KHz
CH157	5785	16.40	17.16	>=500KHz
CH165	5825	16.56	17.12	>=500KHz

TX CH149

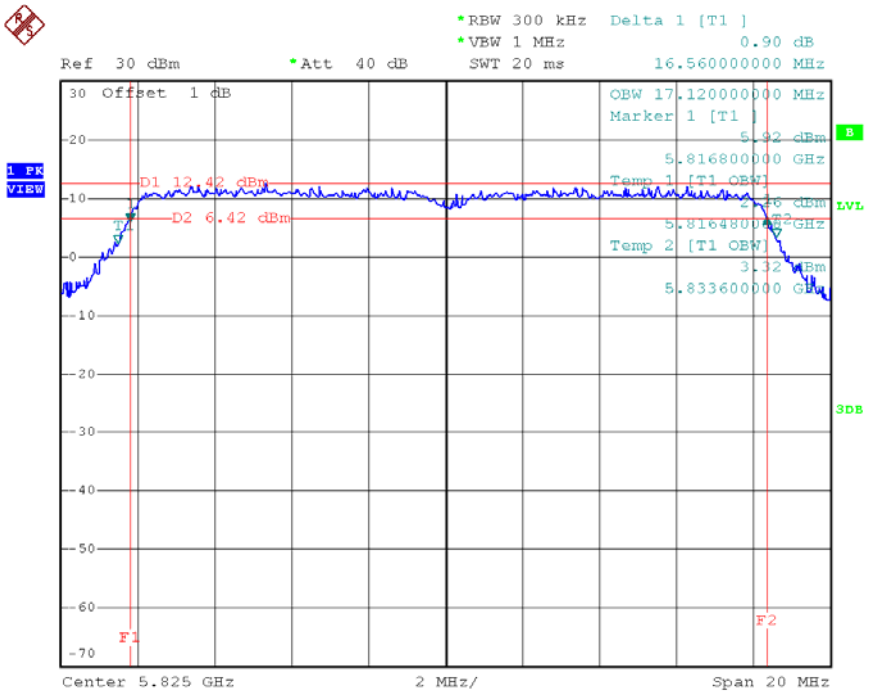


TX CH157



Date: 31.MAY.2012 21:43:07

TX CH165

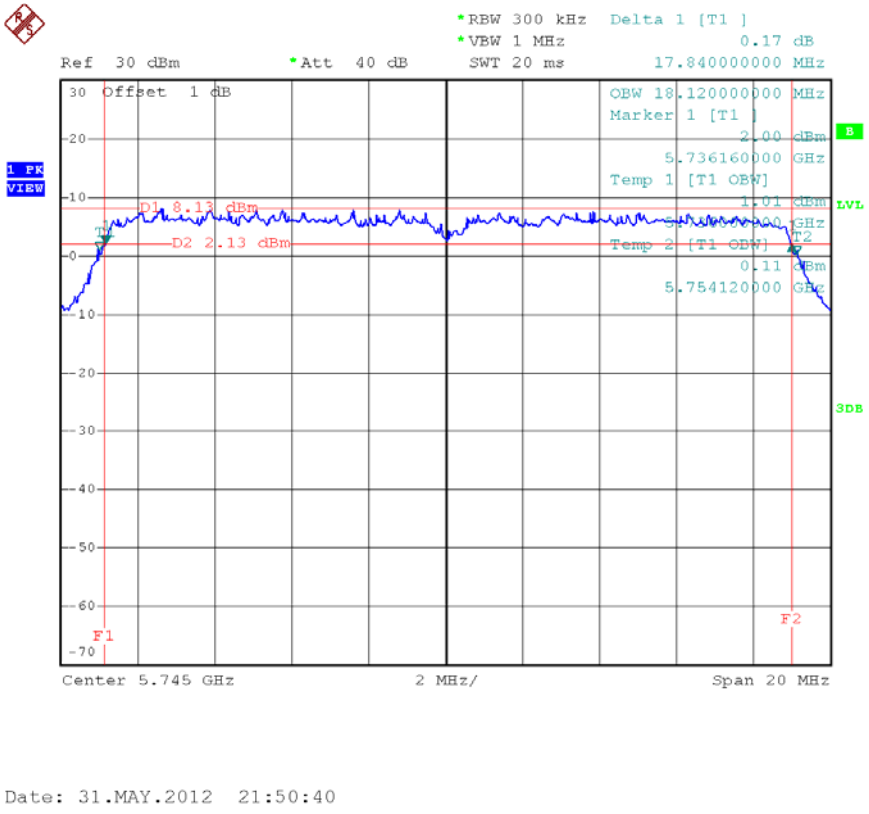


Date: 31.MAY.2012 21:44:15

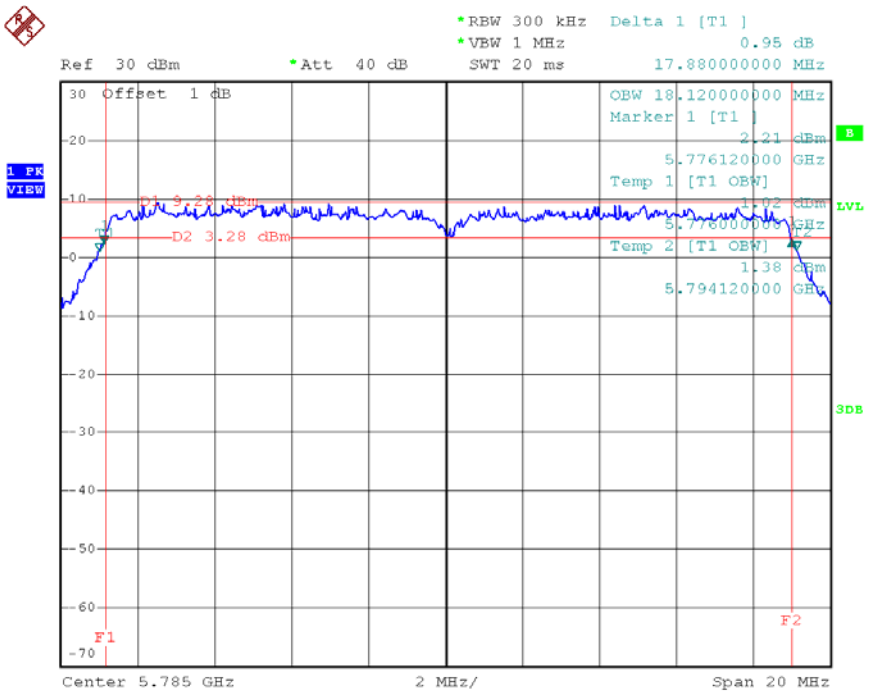
EUT：	Outdoor Wireless LAN Access Point	Model Name. ：	AP6510DN-AGN-US
Temperature：	25 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX N20 Mode /CH149, CH157, CH165 (Antenna 1)		

Test Channel	Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	LIMIT (MHz)
CH149	5745	17.84	18.12	>=500KHz
CH157	5785	17.88	18.12	>=500KHz
CH165	5825	17.88	18.12	>=500KHz

TX CH149

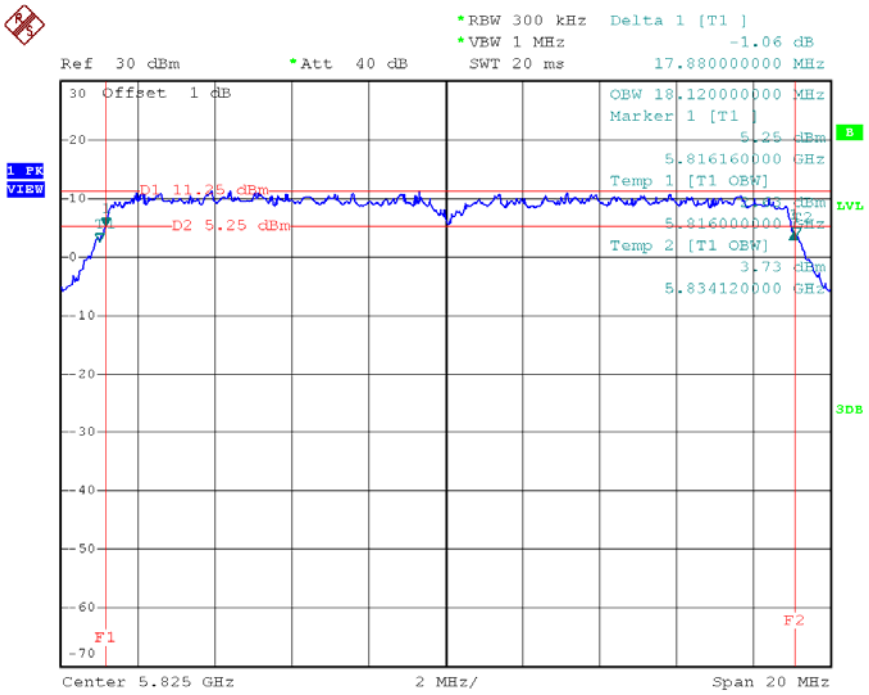


TX CH157



Date: 31.MAY.2012 21:49:32

TX CH165

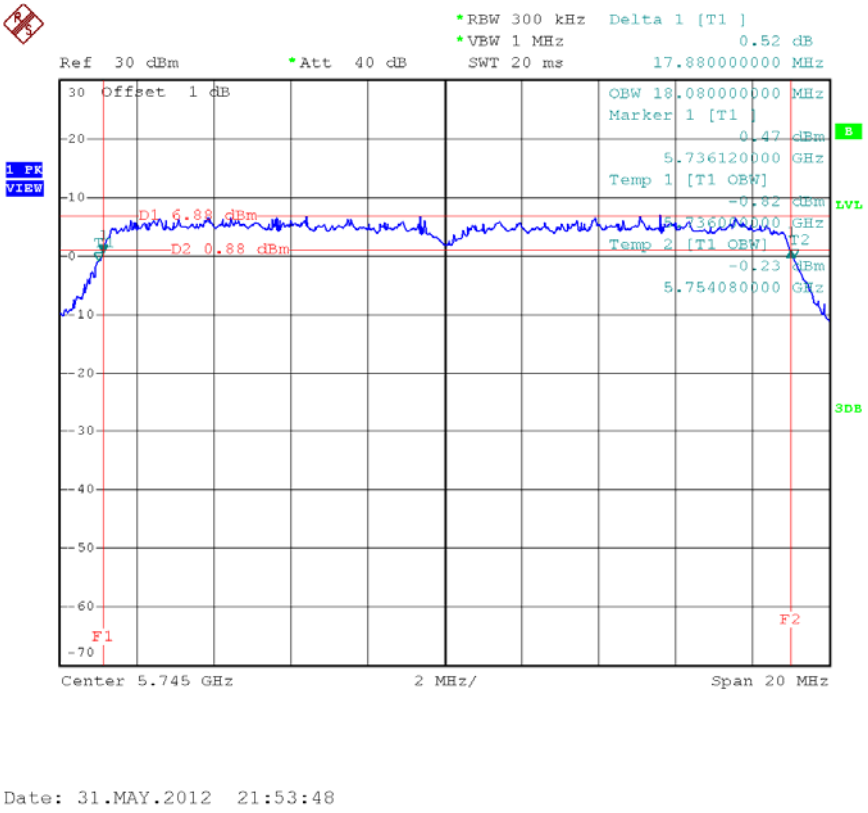


Date: 31.MAY.2012 21:47:55

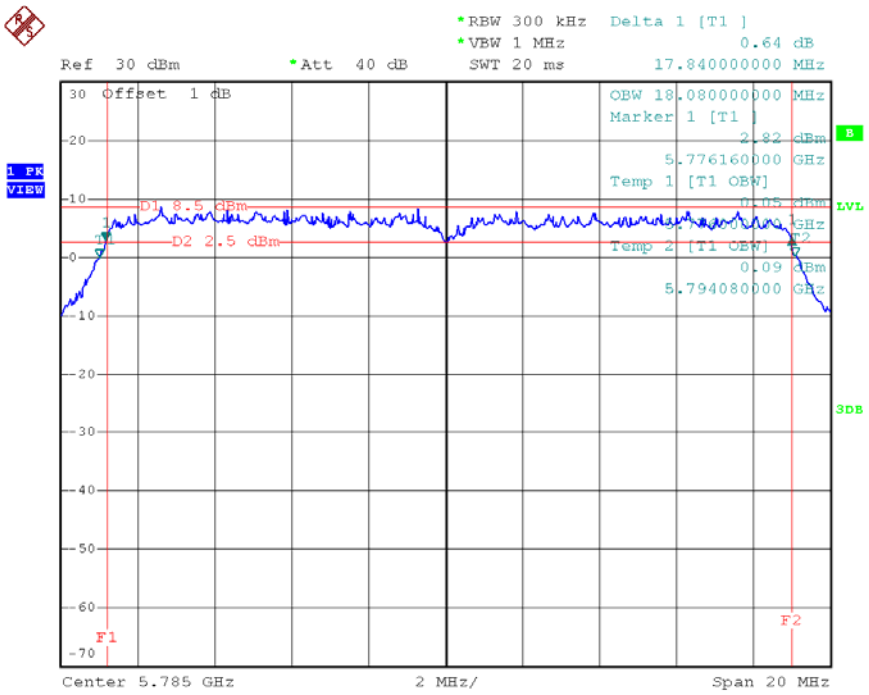
EUT：	Outdoor Wireless LAN Access Point	Model Name. ：	AP6510DN-AGN-US
Temperature：	25 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX N20 Mode /CH149, CH157, CH165 (Antenna 2)		

Test Channel	Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	LIMIT (MHz)
CH149	5745	17.88	18.08	>=500KHz
CH157	5785	17.84	18.08	>=500KHz
CH165	5825	17.84	18.12	>=500KHz

TX CH149

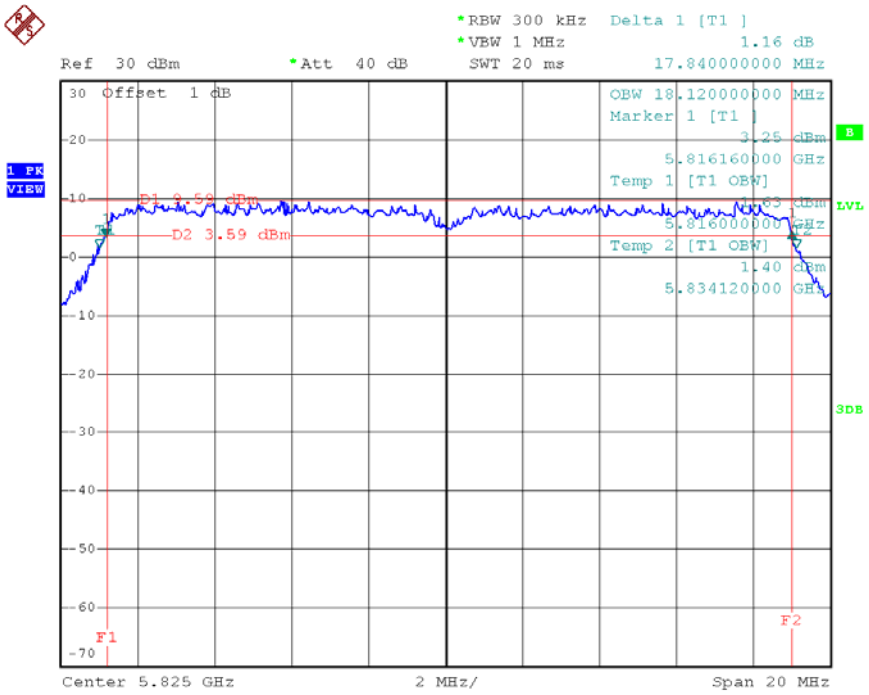


TX CH157



Date: 31.MAY.2012 21:54:44

TX CH165

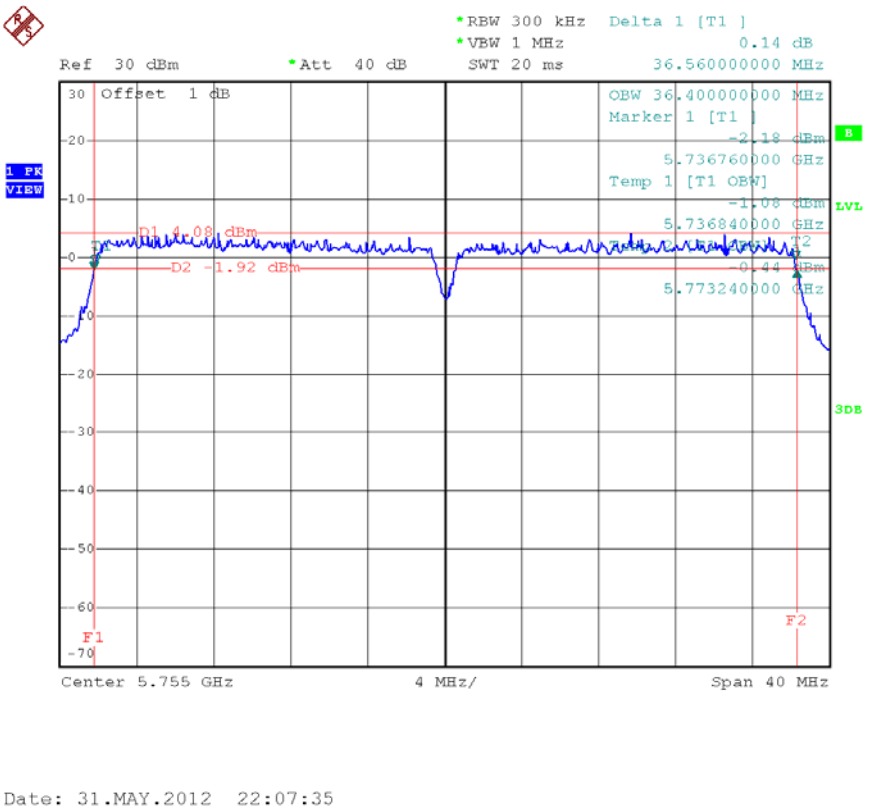


Date: 31.MAY.2012 21:58:24

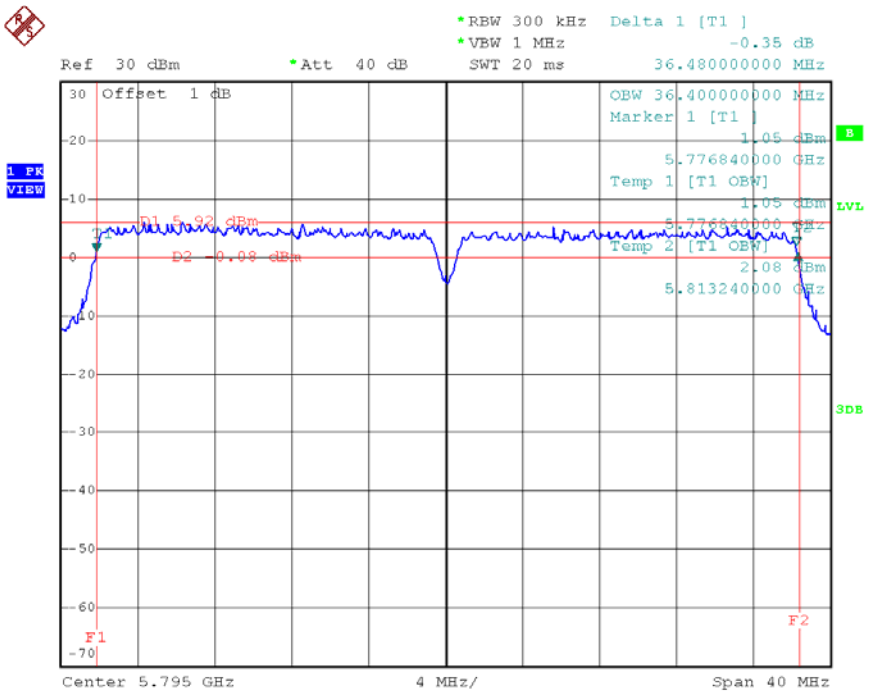
EUT：	Outdoor Wireless LAN Access Point	Model Name. ：	AP6510DN-AGN-US
Temperature：	25 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX N40 Mode /CH151, CH159 (Antenna 1)		

Test Channel	Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	LIMIT (MHz)
CH151	5755	36.56	36.40	>=500KHz
CH159	5795	36.48	36.40	>=500KHz

TX 5755MHz



TX 5795MHz

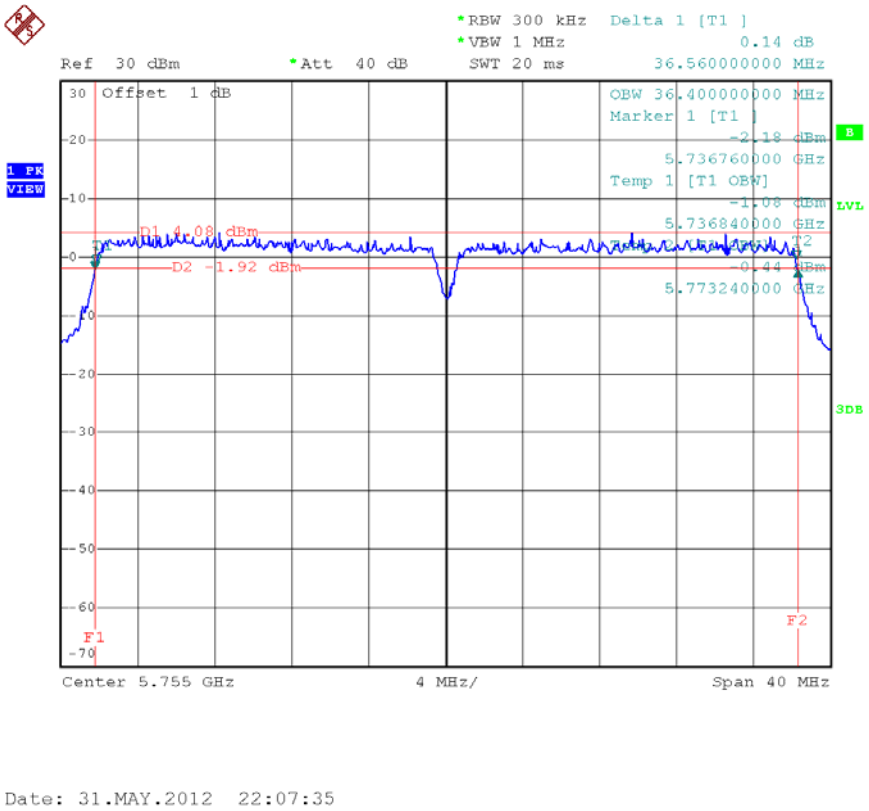


Date: 31.MAY.2012 22:05:25

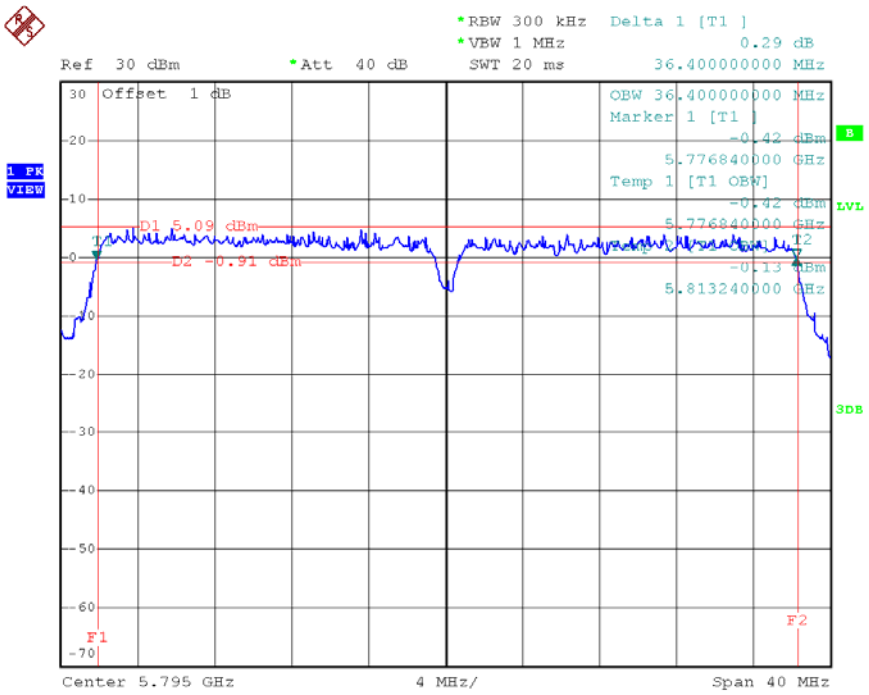
EUT：	Outdoor Wireless LAN Access Point	Model Name. ：	AP6510DN-AGN-US
Temperature：	25 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX N40 Mode / CH151, CH159 (Antenna 2)		

Test Channel	Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	LIMIT (MHz)
CH151	5755	36.56	36.40	>=500KHz
CH159	5795	36.40	36.40	>=500KHz

TX 5755MHz



TX 5795MHz



Date: 31.MAY.2012 22:08:40

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.01.2011	Nov.01.2012
2	Pluse Power Sensor	Anritsu	MA2411B	1128009	Nov.01.2011	Nov.01.2012

Remark: “N/A” denotes no model name, serial no. or calibration specified.

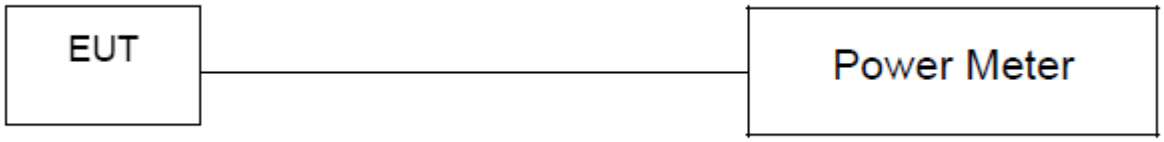
6.1.2 TEST PROCEDURE

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：	Outdoor Wireless LAN Access Point	Model Name ：	AP6510DN-AGN-US
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)	Maximum Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH149	5745 MHz	28.60	29.6	0.912
CH157	5785 MHz	28.70	29.6	0.912
CH165	5825 MHz	28.60	29.6	0.912

EUT：	Outdoor Wireless LAN Access Point	Model Name ：	AP6510DN-AGN-US
Temperature：	25 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX N20 Mode /CH149, CH157, CH165		

ANT 1				
Test Channel	Frequency (MHz)	Maximum Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH149	5745 MHz	24.02	29.6	0.912
CH157	5785 MHz	23.64	29.6	0.912
CH165	5825 MHz	23.40	29.6	0.912

EUT：	Outdoor Wireless LAN Access Point	Model Name ：	AP6510DN-AGN-US
Temperature：	25 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX N20 Mode /CH149, CH157, CH165		

ANT 2				
Test Channel	Frequency (MHz)	Maximum Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH149	5745 MHz	23.03	29.6	0.912
CH157	5785 MHz	23.12	29.6	0.912
CH165	5825 MHz	23.43	29.6	0.912

EUT：	Outdoor Wireless LAN Access Point	Model Name ：	AP6510DN-AGN-US
Temperature：	25 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX N40 Mode /CH151, CH159		

ANT 1				
Test Channel	Frequency (MHz)	Maximum Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH151	5755 MHz	23.50	29.6	0.912
CH159	5795 MHz	23.70	29.6	0.912

EUT：	Outdoor Wireless LAN Access Point	Model Name ：	AP6510DN-AGN-US
Temperature：	25 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX N40 Mode /CH151, CH159		

ANT 2				
Test Channel	Frequency (MHz)	Maximum Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH151	5755 MHz	23.48	29.6	0.912
CH159	5795 MHz	23.44	29.6	0.912

EUT：	Outdoor Wireless LAN Access Point	Model Name ：	AP6510DN-AGN-US
Temperature：	25 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX N20 Mode /CH149, CH157, CH165		

ANT 1+ANT 2				
Test Channel	Frequency (MHz)	Maximum Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH149	5745 MHz	26.56	29.6	0.912
CH157	5785 MHz	26.40	29.6	0.912
CH165	5825MHz	26.43	29.6	0.912

EUT：	Outdoor Wireless LAN Access Point	Model Name ：	AP6510DN-AGN-US
Temperature：	25 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX N40 Mode /CH151, CH159		

ANT1+ANT2				
Test Channel	Frequency (MHz)	Maximum Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH151	5755 MHz	26.50	29.6	0.912
CH159	5795 MHz	26.58	29.6	0.912

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=6.4 dBi**

(3) **This EUT supports MIMO 2T2R, all transmit signals are completely uncorrelated, then, Direction gain = G_{ANT}, that is Directional gain=6.4; So,the out power limit is 30-6.4+6=29.6; and power density limit is 8-6.4+6=7.6**

7. ANTENNA CONDUCTED SPURIOUS EMISSION

7.1 Applied procedures / limit

20dB 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.

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
960~1000	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

Frequency (MHz)	(dBuV/m) (at 3 meters)	
	Peak	Average
Above 1000	74	54

7.1.1 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 09, 2014

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

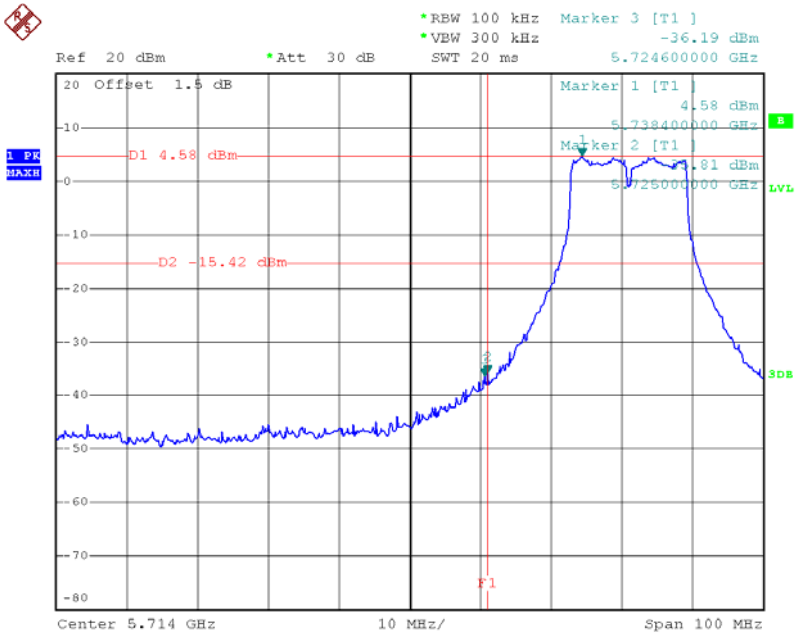
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

7.1.6 TEST RESULTS

EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX A Mode /CH149, CH157, CH165 / ANT 1		

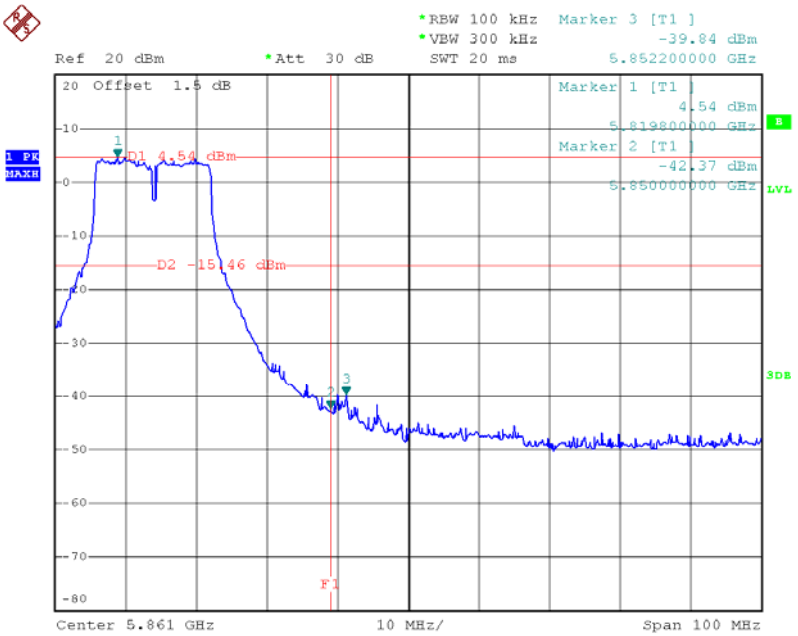
Channel of Worst Data: CH149			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
5725.00	-35.81	5852.20	-39.84
Result			
In any 100kHz 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



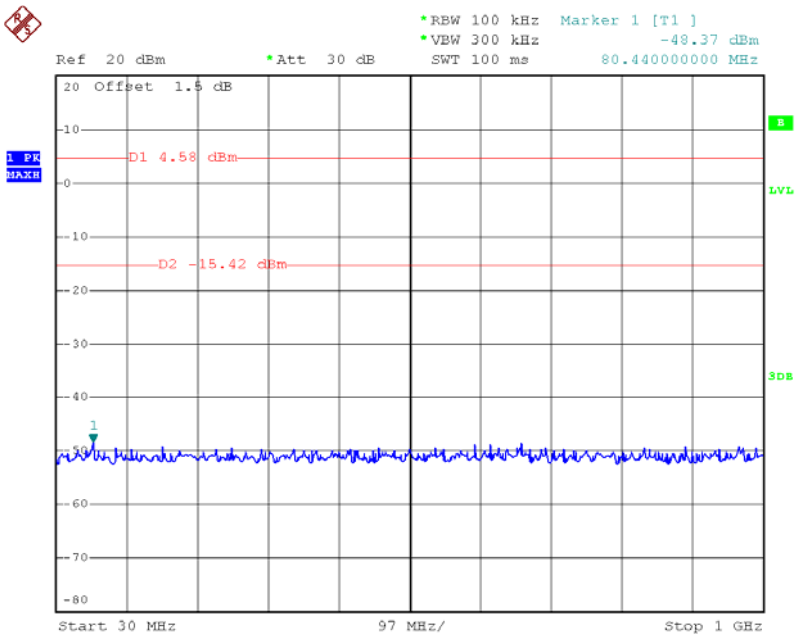
Date: 20.NOV.2013 01:51:19

TX mode CH165



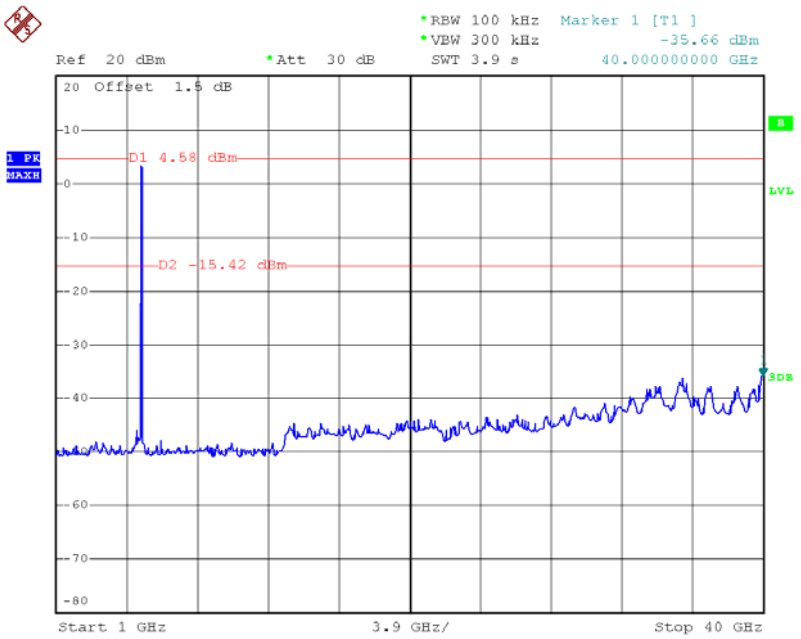
Date: 20.NOV.2013 01:56:46

TX mode CH149 (30M~1000MHz)



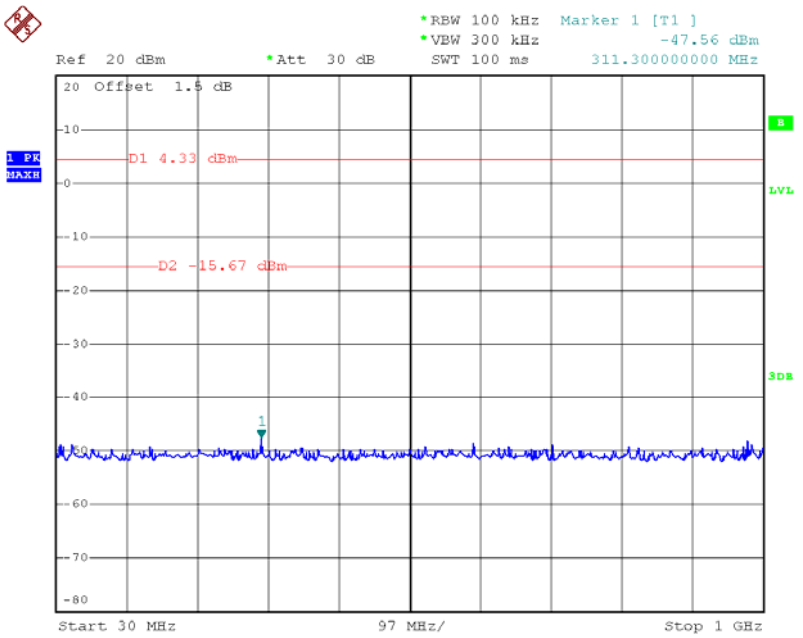
Date: 20.NOV.2013 01:51:35

TX mode CH149 (1000MHz~10th Harmonic)



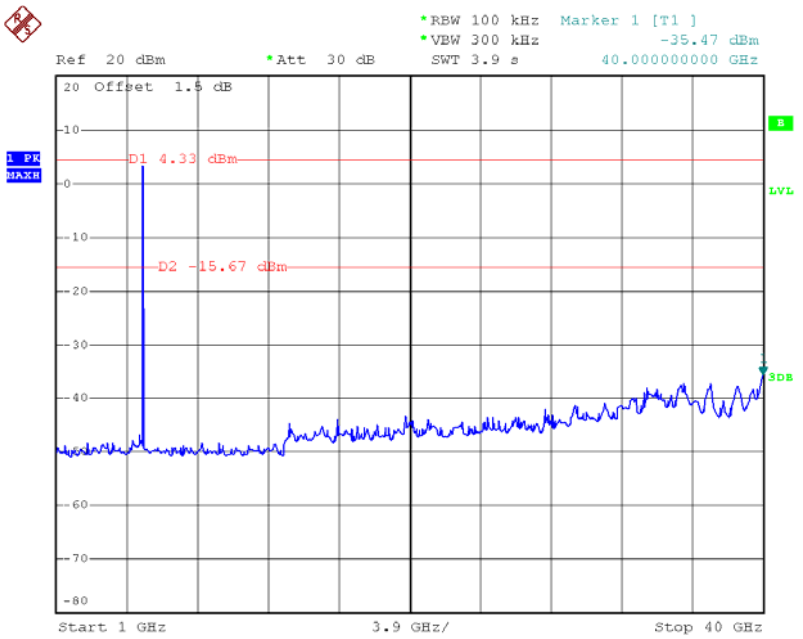
Date: 20.NOV.2013 01:51:50

TX mode CH157 (30M~1000MHz)



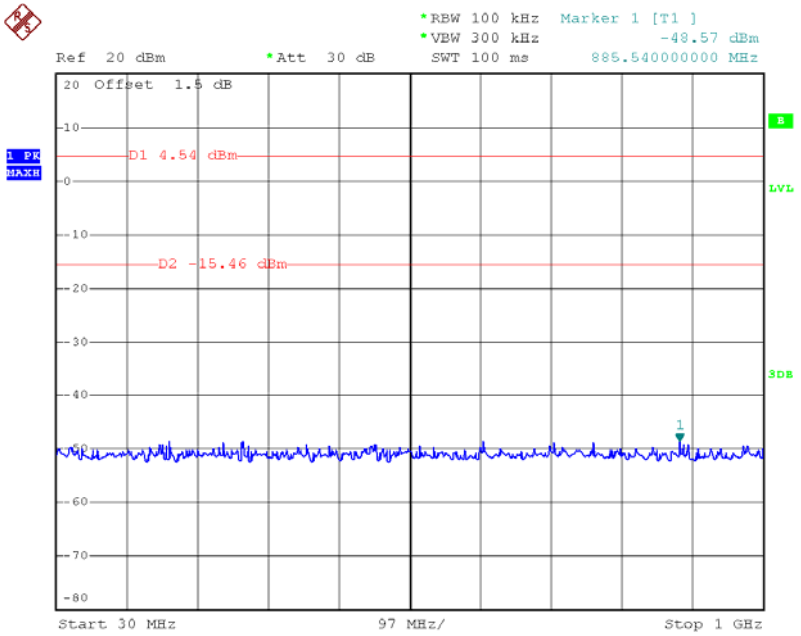
Date: 20.NOV.2013 01:54:04

TX mode CH157 (1000MHz~10th Harmonic)



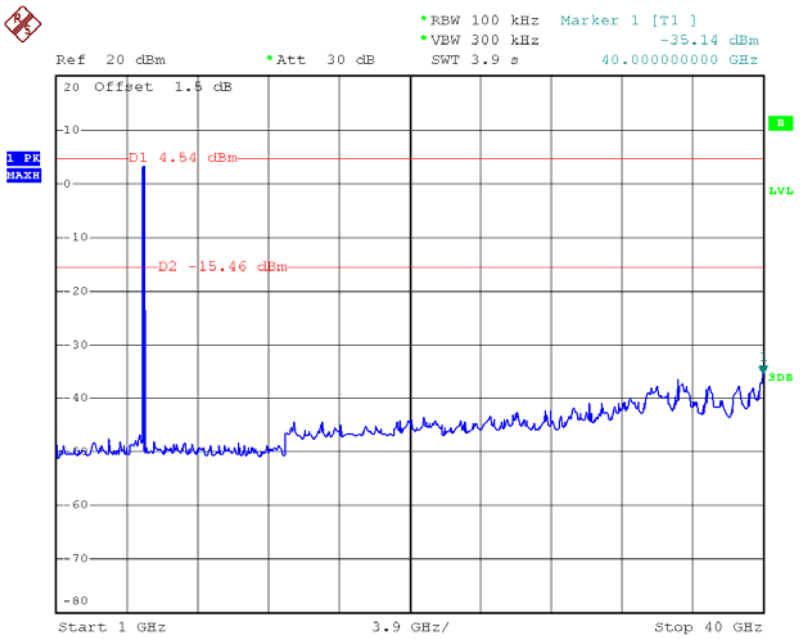
Date: 20.NOV.2013 01:54:18

TX mode CH165 (30M~1000MHz)



Date: 20.NOV.2013 01:57:03

TX mode CH165 (1000MHz~10th Harmonic)

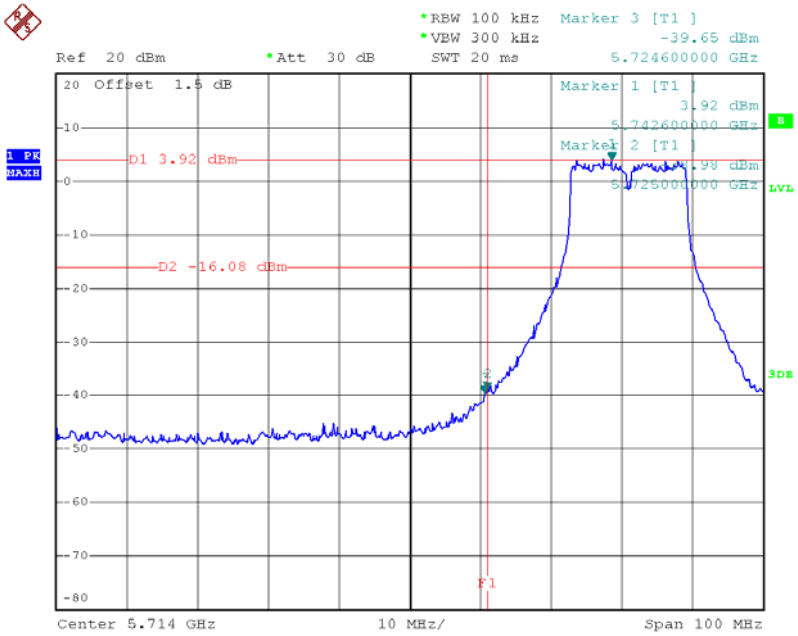


Date: 20.NOV.2013 01:57:19

EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX A Mode /CH149, CH157, CH165 / ANT 2		

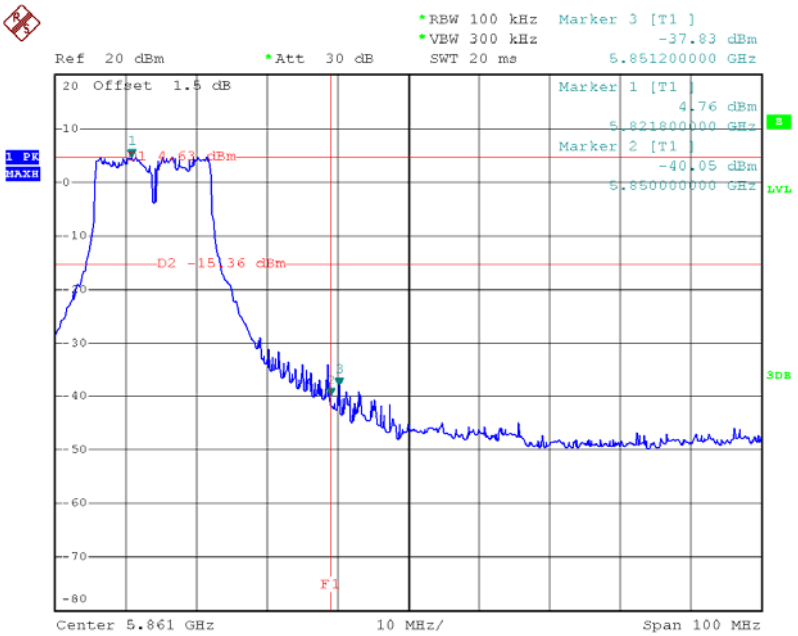
Channel of Worst Data: CH165			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
5725.00	-38.98	5851.20	-37.83
Result			
In any 100kHz 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



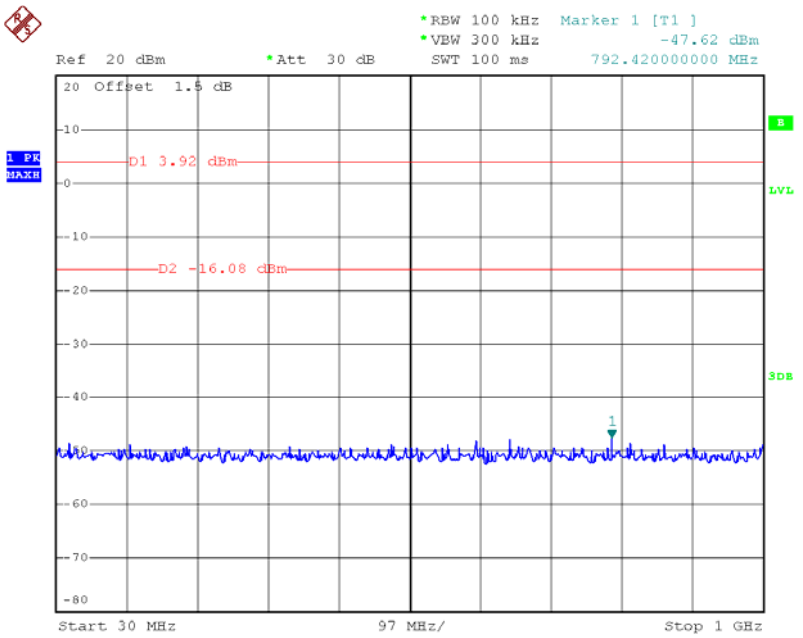
Date: 20.NOV.2013 02:06:35

TX mode CH165



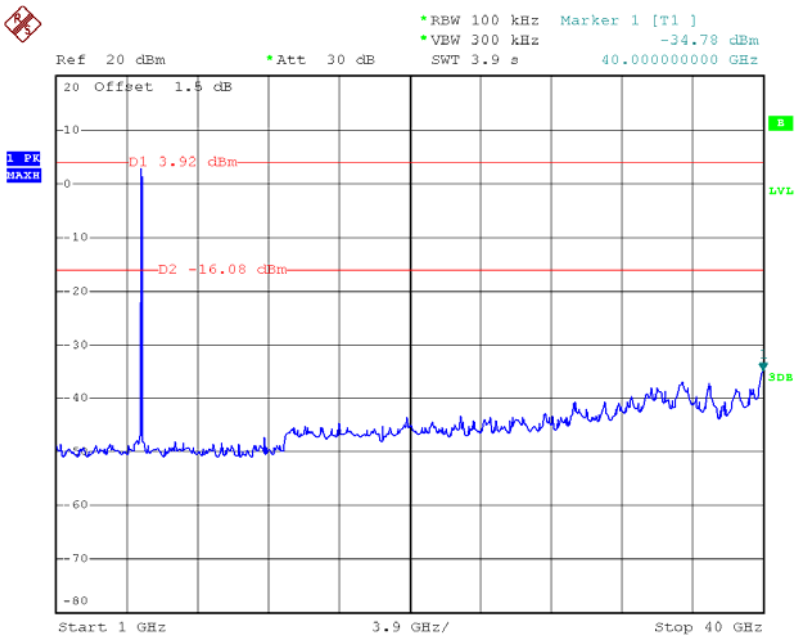
Date: 20.NOV.2013 02:00:48

TX mode CH149 (30M~1000MHz)



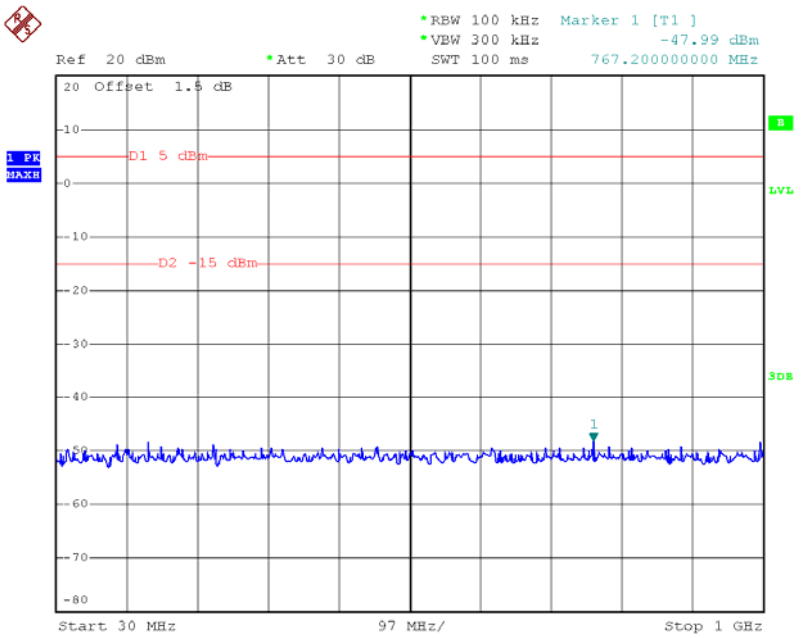
Date: 20.NOV.2013 02:06:48

TX mode CH149 (1000MHz~10th Harmonic)



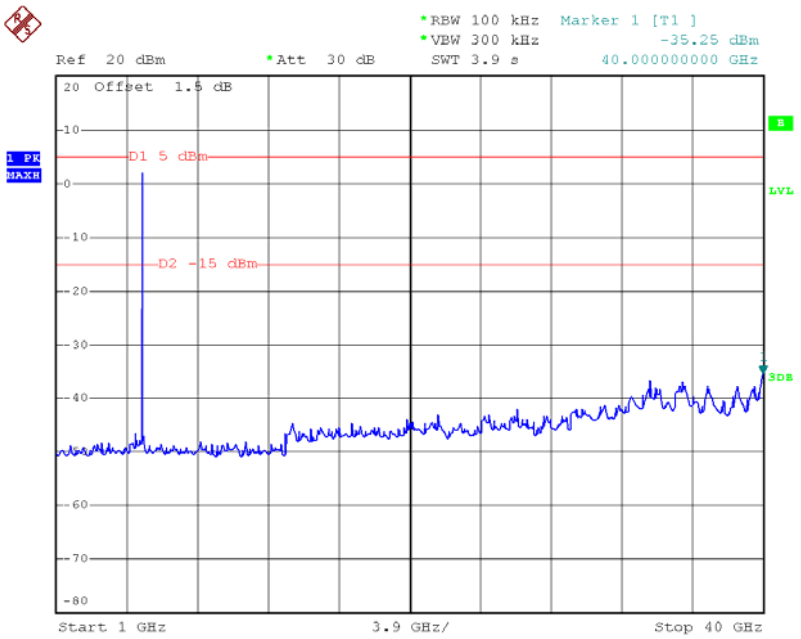
Date: 20.NOV.2013 02:07:02

TX mode CH157 (30M~1000MHz)



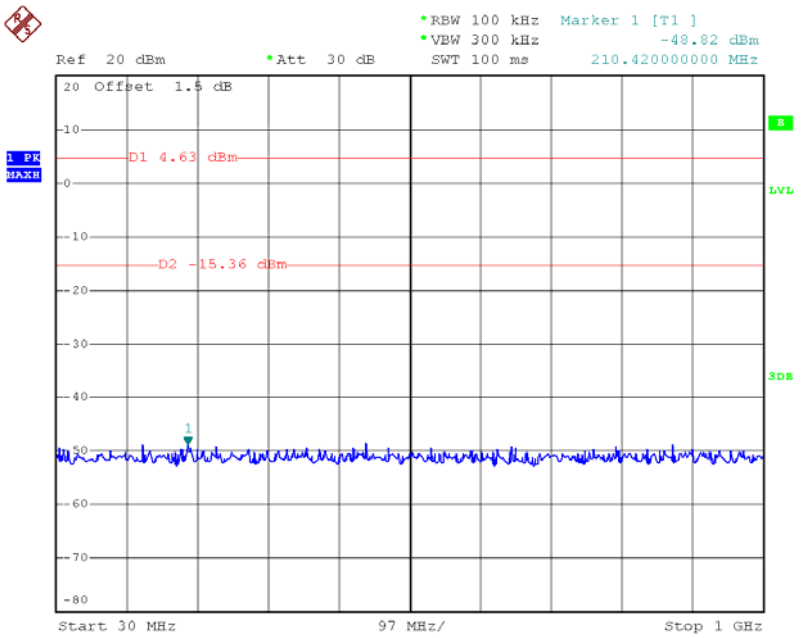
Date: 20.NOV.2013 02:03:17

TX mode CH157 (1000MHz~10th Harmonic)



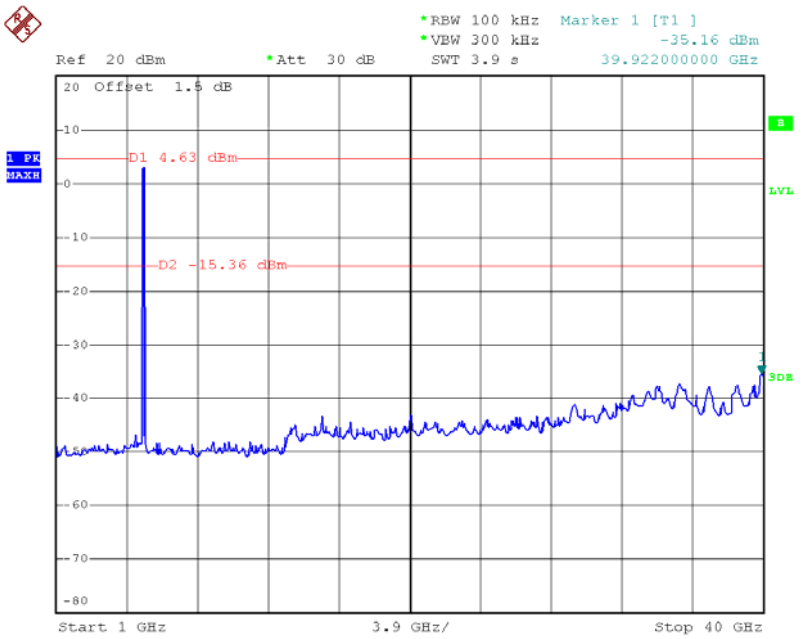
Date: 20.NOV.2013 02:03:31

TX mode CH165 (30M~1000MHz)



Date: 20.NOV.2013 02:01:03

TX mode CH165 (1000MHz~10th Harmonic)

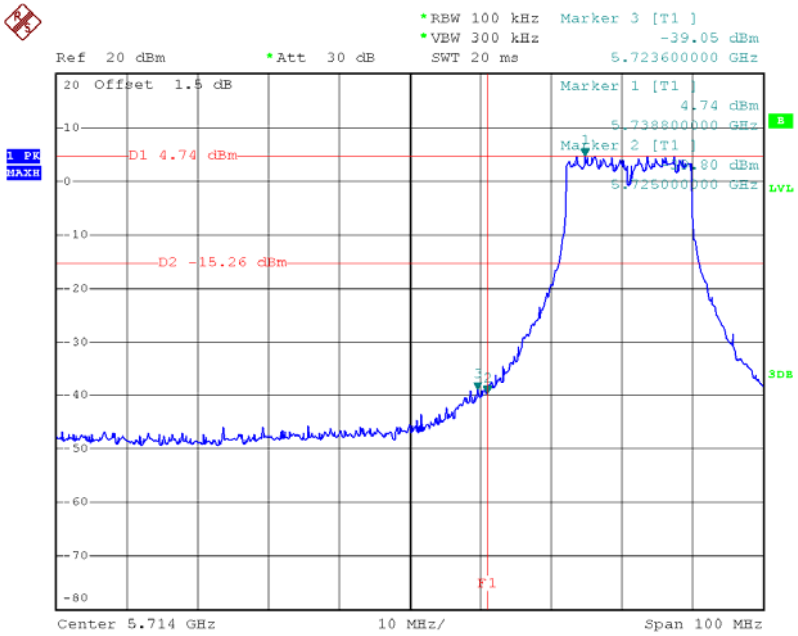


Date: 20.NOV.2013 02:01:18

EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N20Mode /CH149, CH157, CH165 / ANT 1		

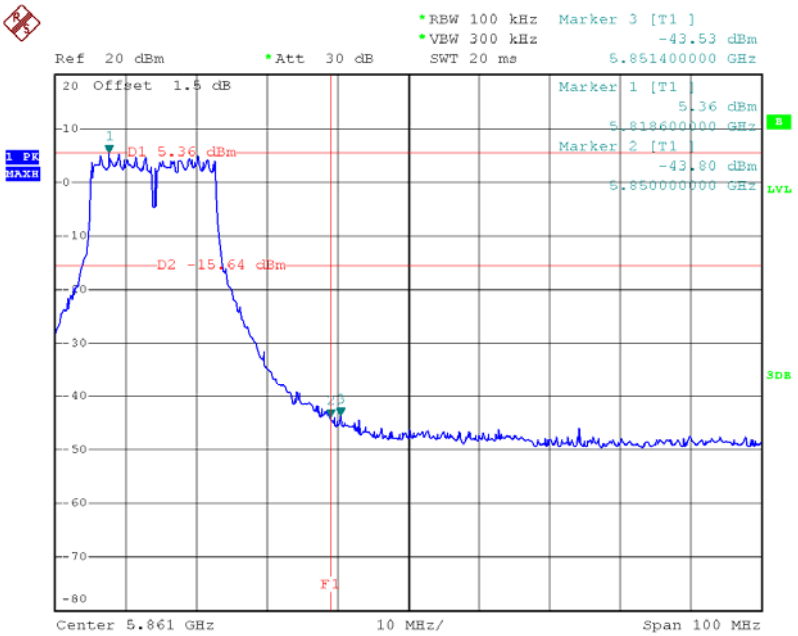
Channel of Worst Data: CH149			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
5723.60	-39.05	5851.40	-43.53
Result			
In any 100kHz 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



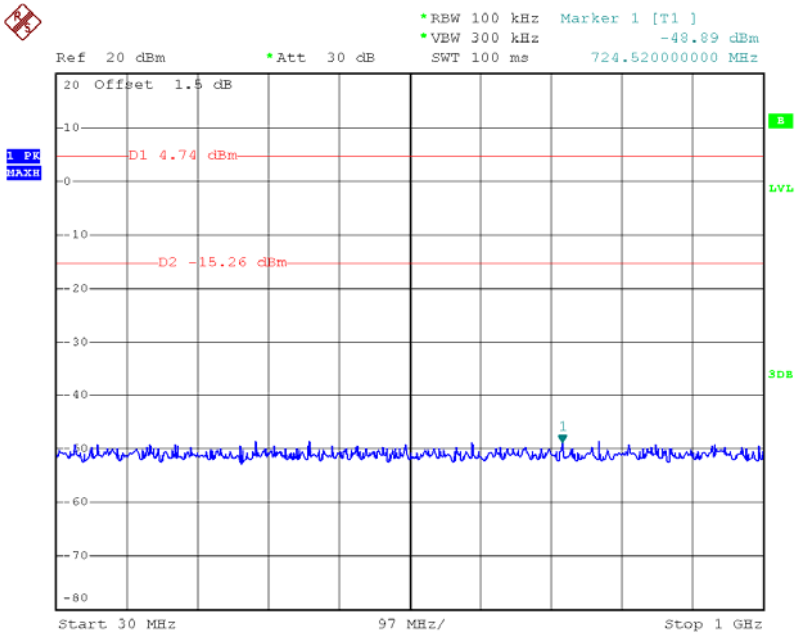
Date: 20.NOV.2013 02:25:10

TX mode CH165



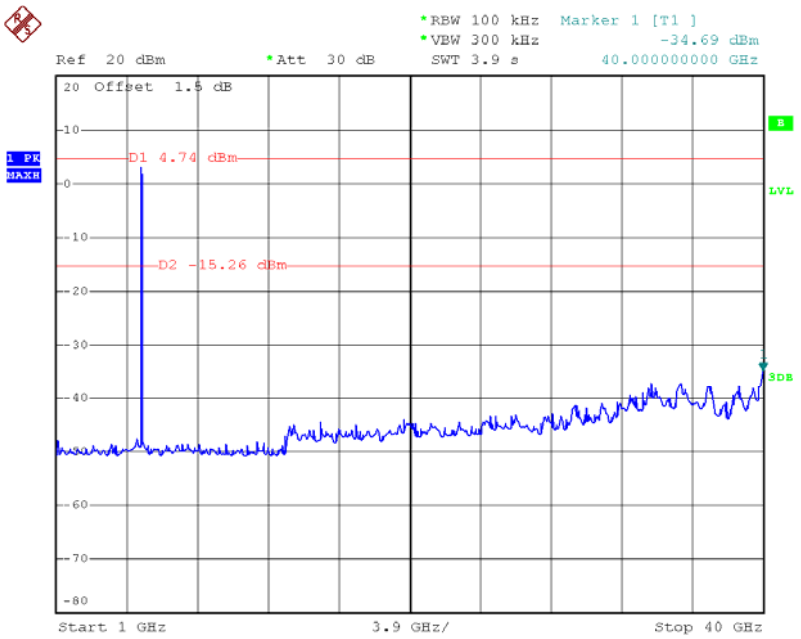
Date: 20.NOV.2013 02:19:37

TX mode CH149 (30M~1000MHz)



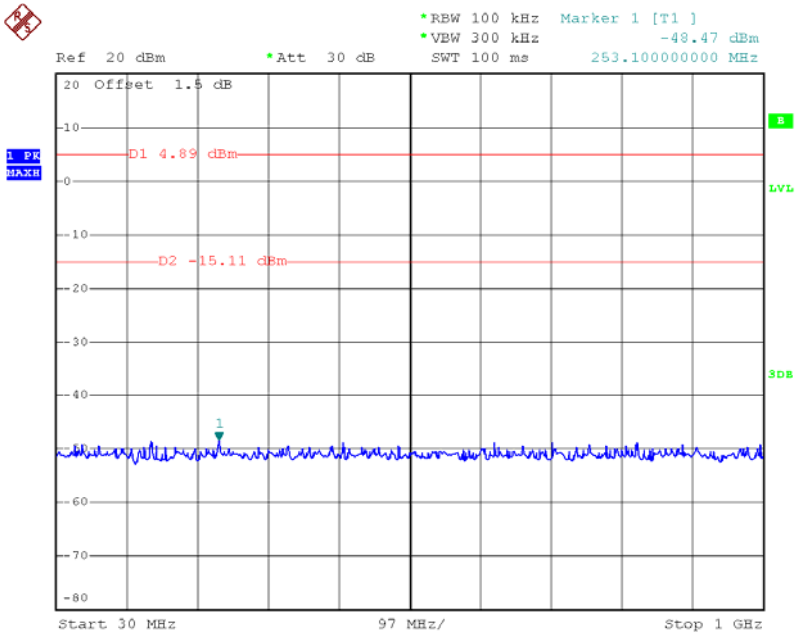
Date: 20.NOV.2013 02:25:23

TX mode CH149 (1000MHz~10th Harmonic)



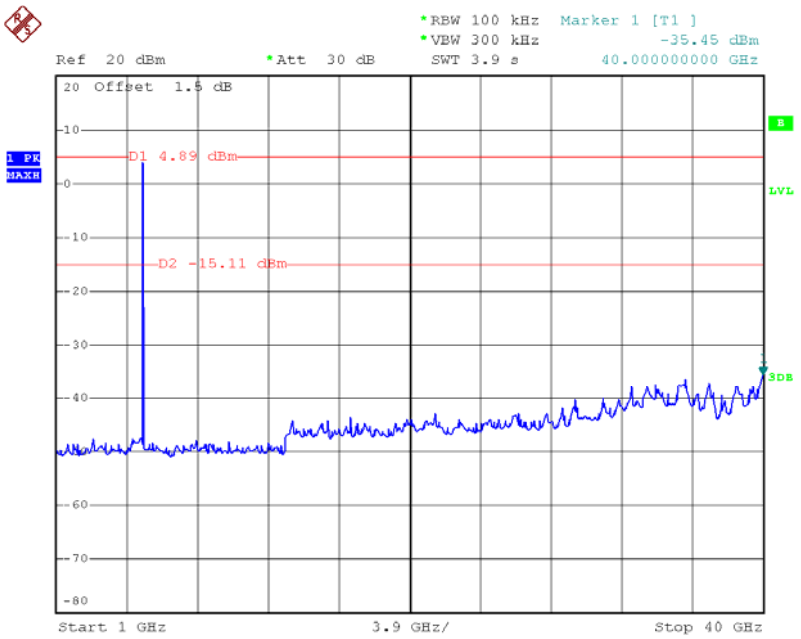
Date: 20.NOV.2013 02:25:36

TX mode CH157 (30M~1000MHz)



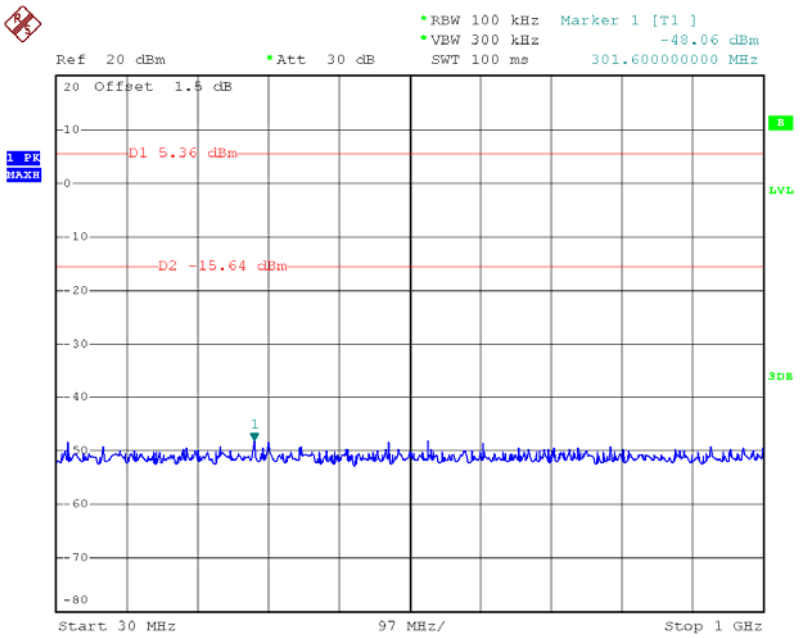
Date: 20.NOV.2013 02:22:44

TX mode CH157 (1000MHz~10th Harmonic)



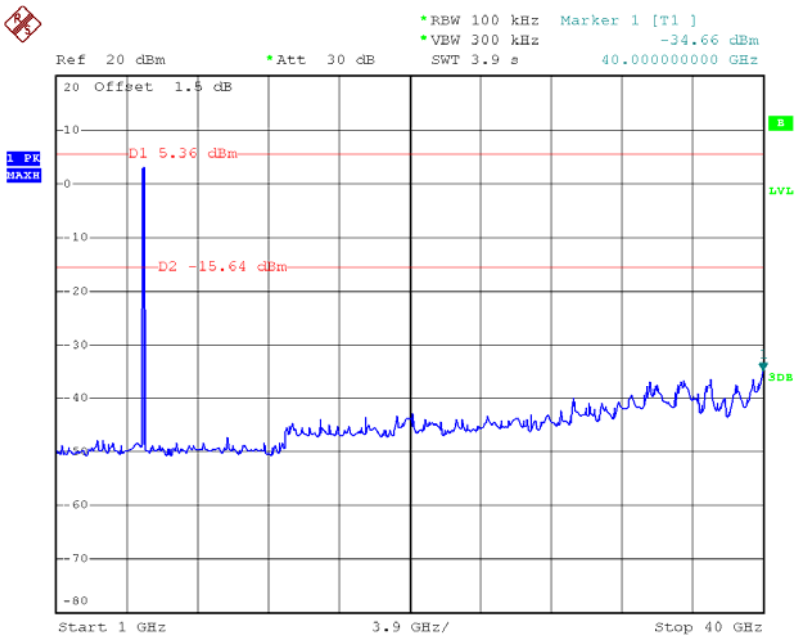
Date: 20.NOV.2013 02:23:04

TX mode CH165 (30M~1000MHz)



Date: 20.NOV.2013 02:19:50

TX mode CH165 (1000MHz~10th Harmonic)

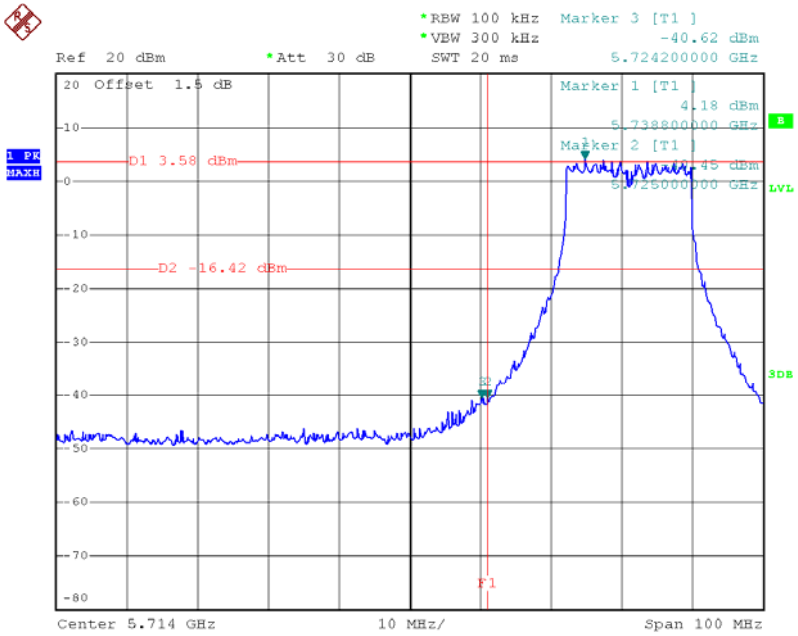


Date: 20.NOV.2013 02:20:09

EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N20 Mode /CH149, CH157, CH165 / ANT 2		

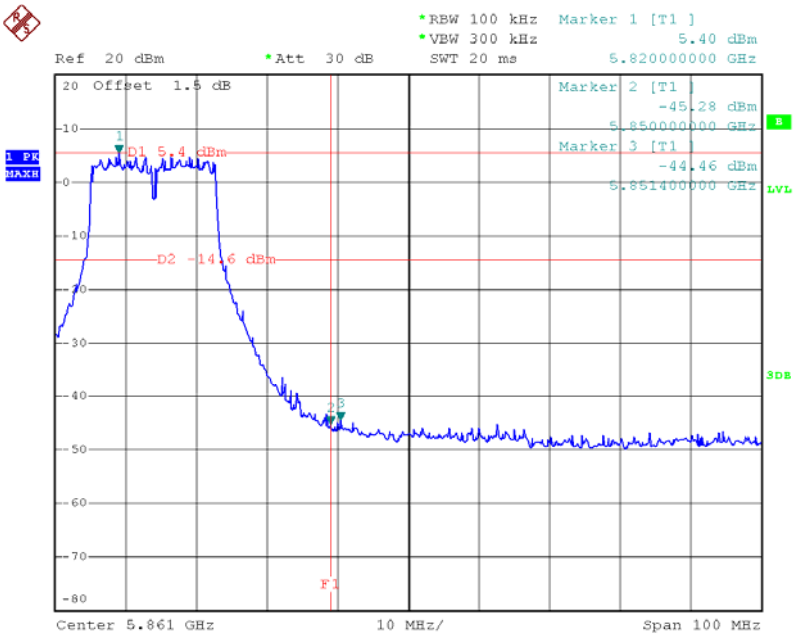
Channel of Worst Data: CH149			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
5725.00	-40.45	5851.40	-44.46
Result			
In any 100kHz 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



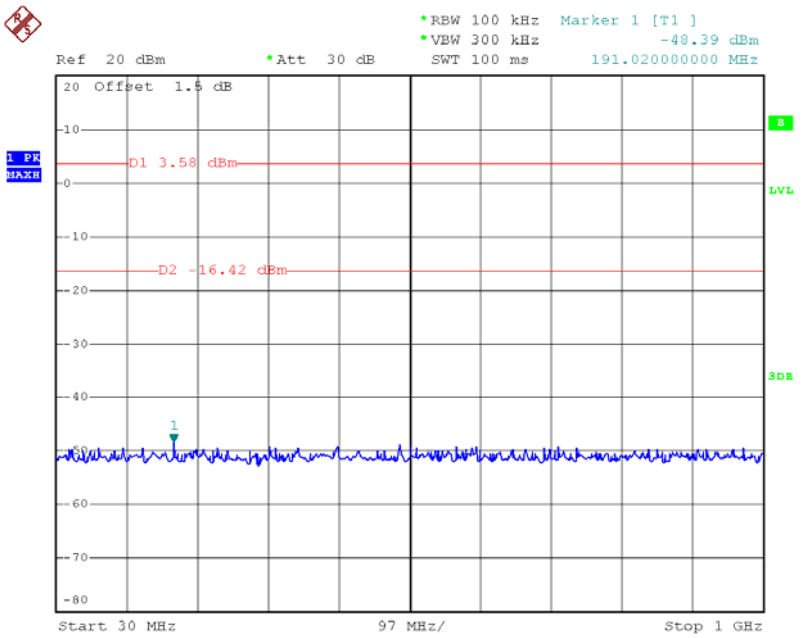
Date: 20.NOV.2013 02:10:12

TX mode CH165



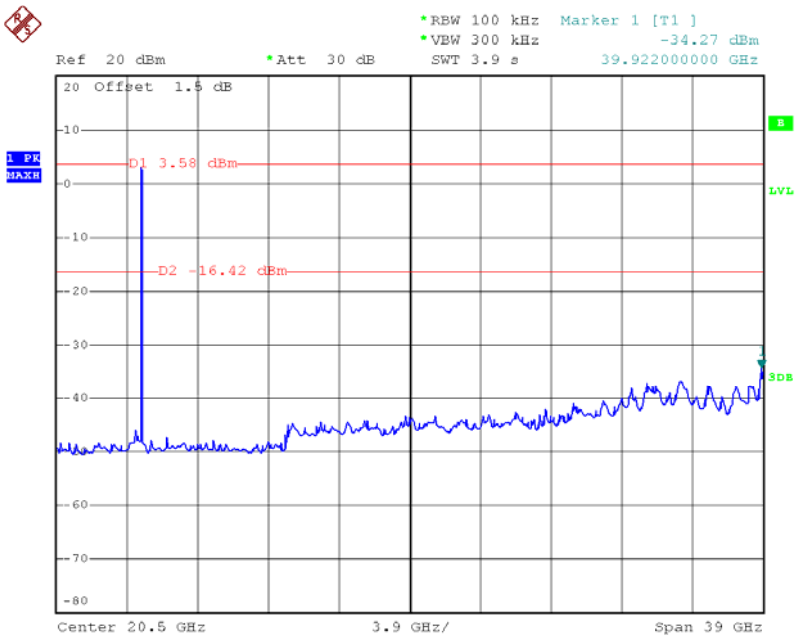
Date: 20.NOV.2013 02:15:44

TX mode CH149 (30M~1000MHz)



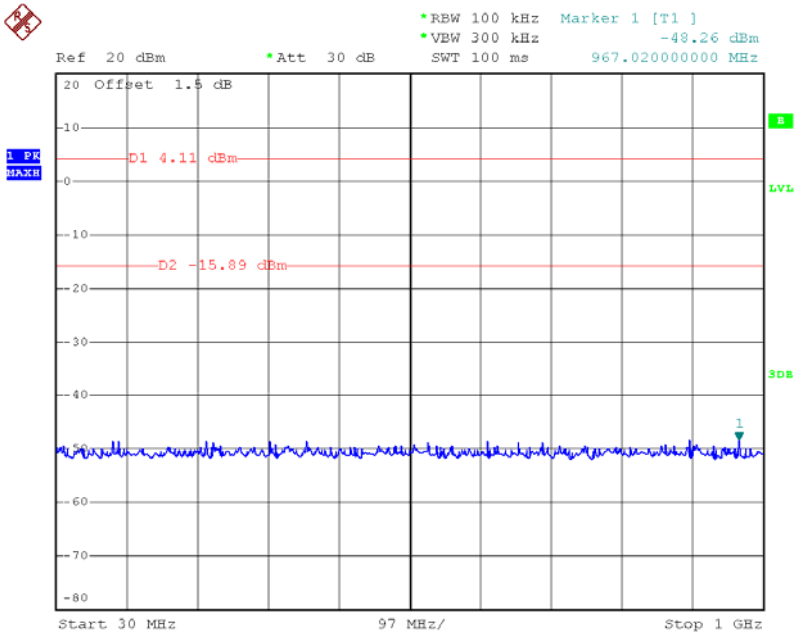
Date: 20.NOV.2013 02:11:10

TX mode CH149 (1000MHz~10th Harmonic)



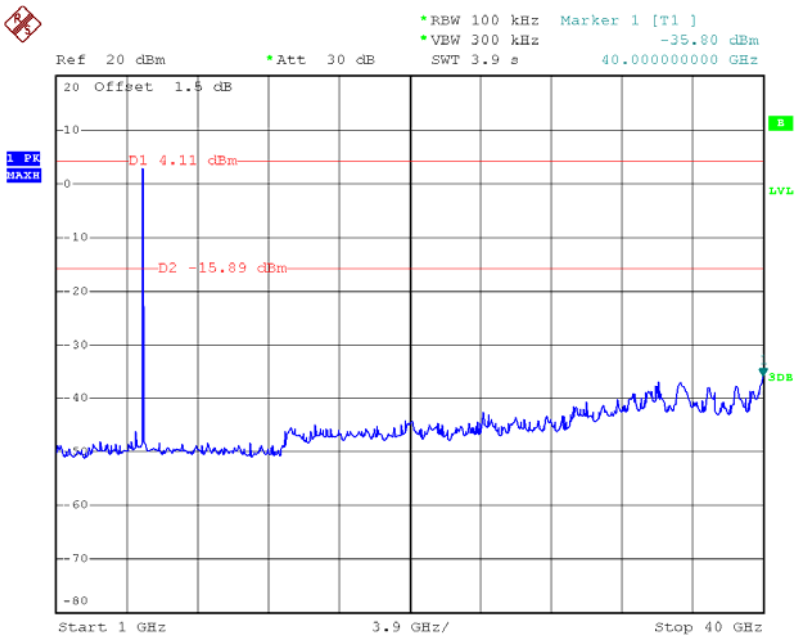
Date: 20.NOV.2013 02:11:01

TX mode CH157 (30M~1000MHz)



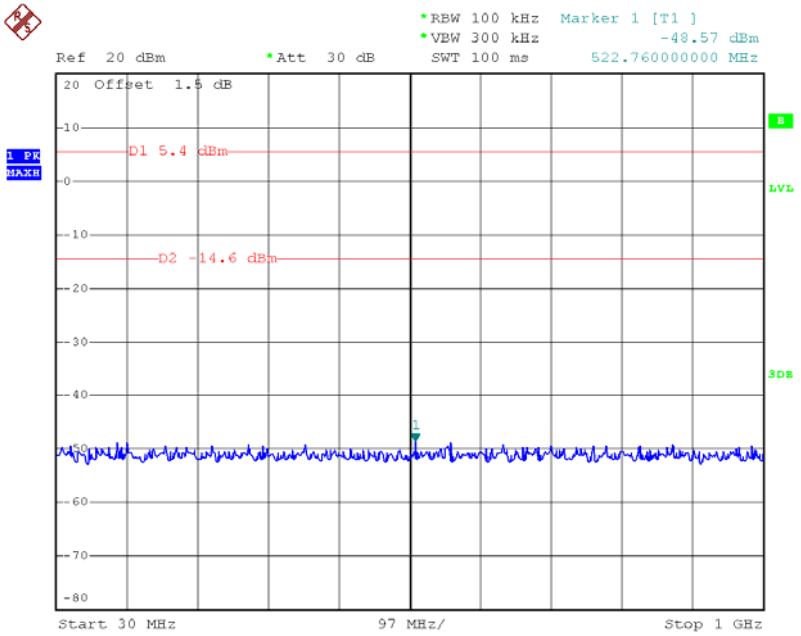
Date: 20.NOV.2013 02:13:09

TX mode CH157 (1000MHz~10th Harmonic)



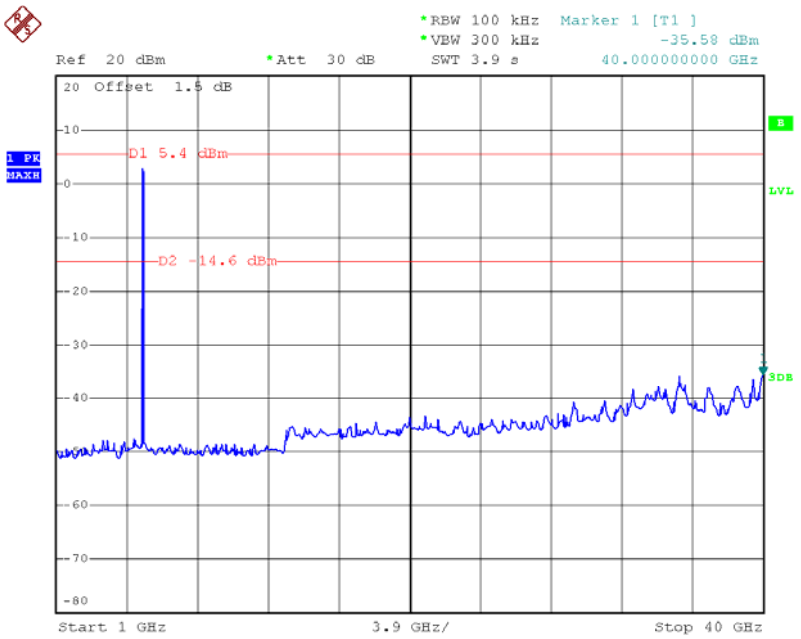
Date: 20.NOV.2013 02:13:22

TX mode CH165 (30M~1000MHz)



Date: 20.NOV.2013 02:15:56

TX mode CH165 (1000MHz~10th Harmonic)

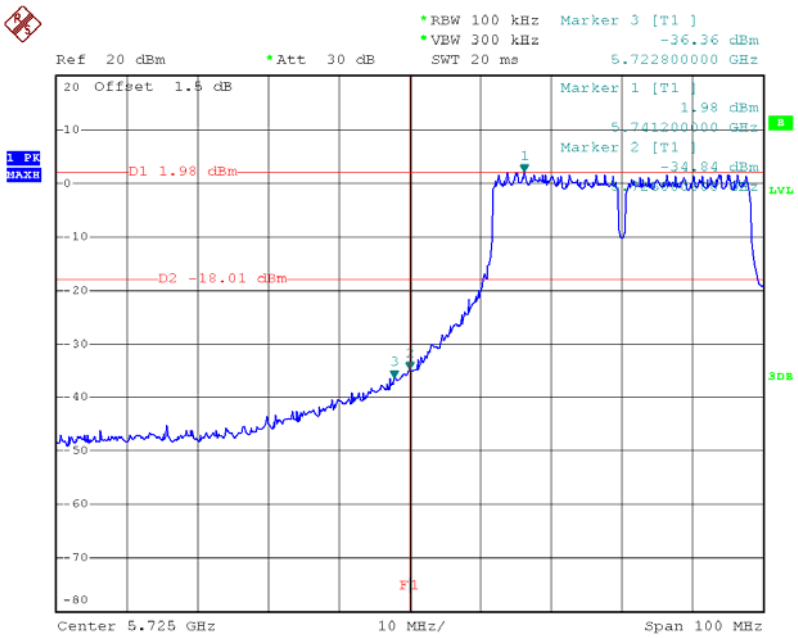


Date: 20.NOV.2013 02:16:10

EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N40 Mode /CH151, CH159 / ANT 1		

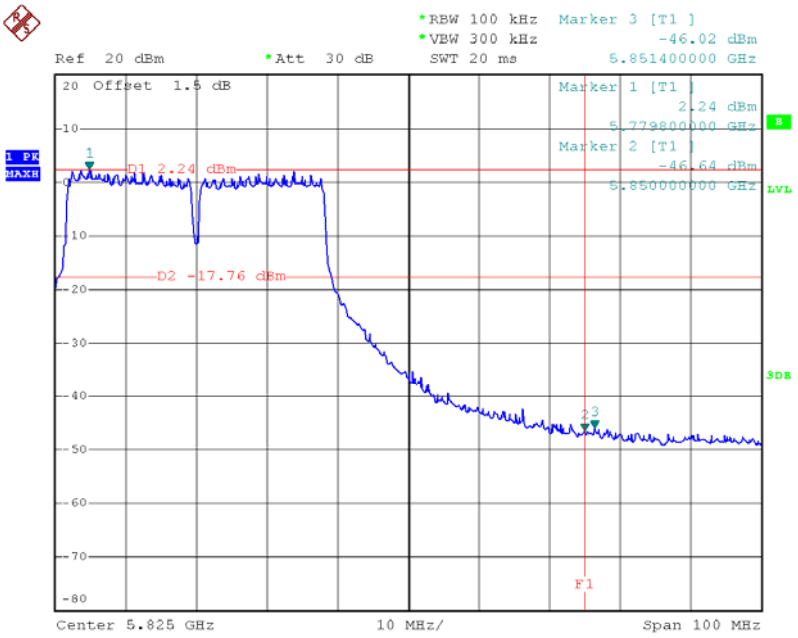
Channel of Worst Data: CH151			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
5725.00	-34.84	5851.40	-46.02
Result			
In any 100kHz 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



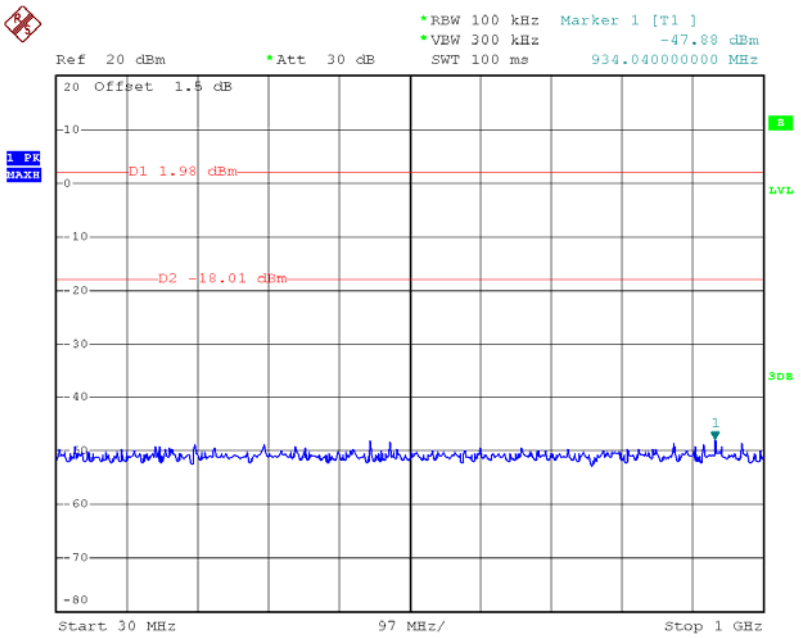
Date: 20.NOV.2013 02:30:15

TX mode CH159



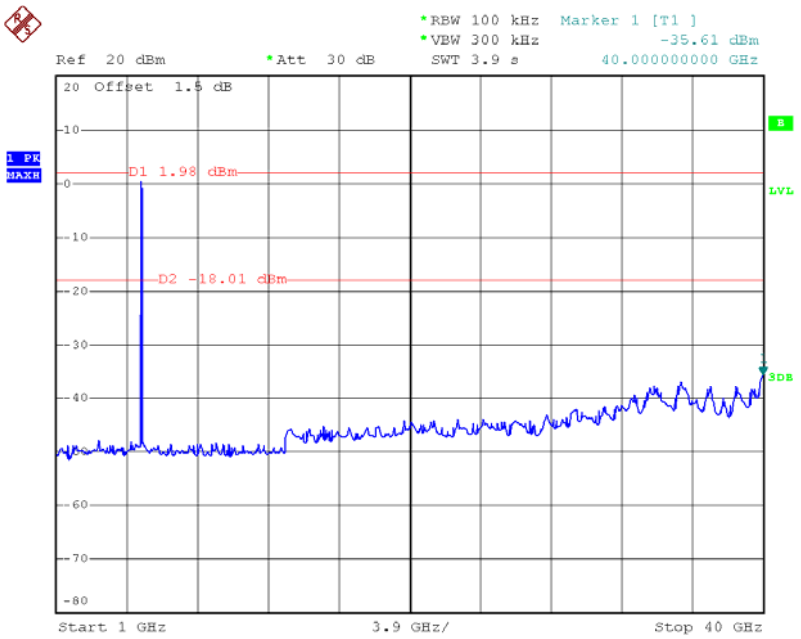
Date: 20.NOV.2013 02:33:43

TX mode CH151(30M~1000MHz)



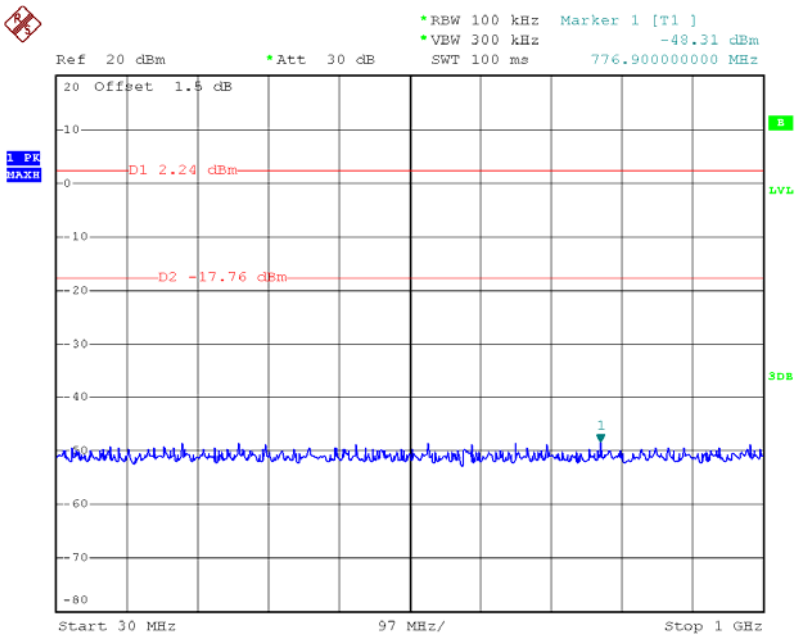
Date: 20.NOV.2013 02:30:29

TX mode CH151 (1000MHz~10th Harmonic)



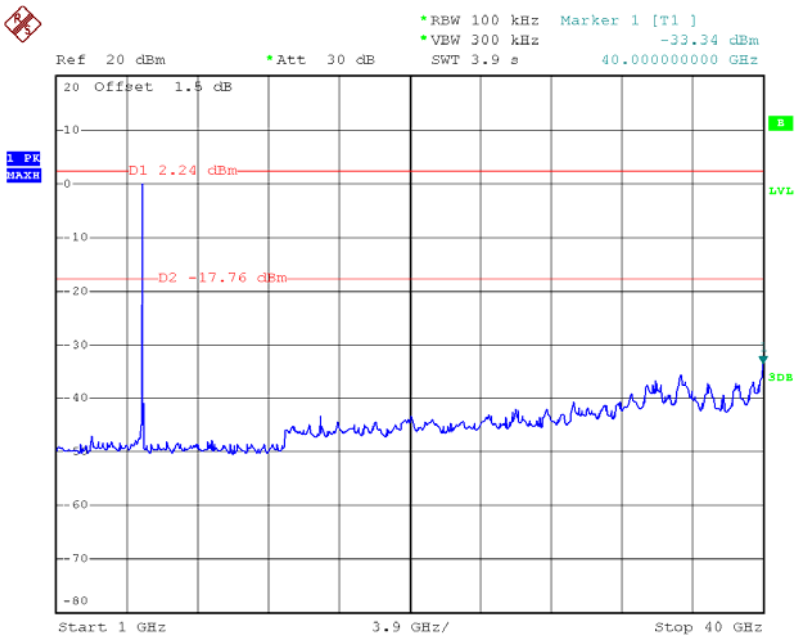
Date: 20.NOV.2013 02:30:44

TX mode CH159 (30M~1000MHz)



Date: 20.NOV.2013 02:34:21

TX mode CH159 (1000MHz~10th Harmonic)

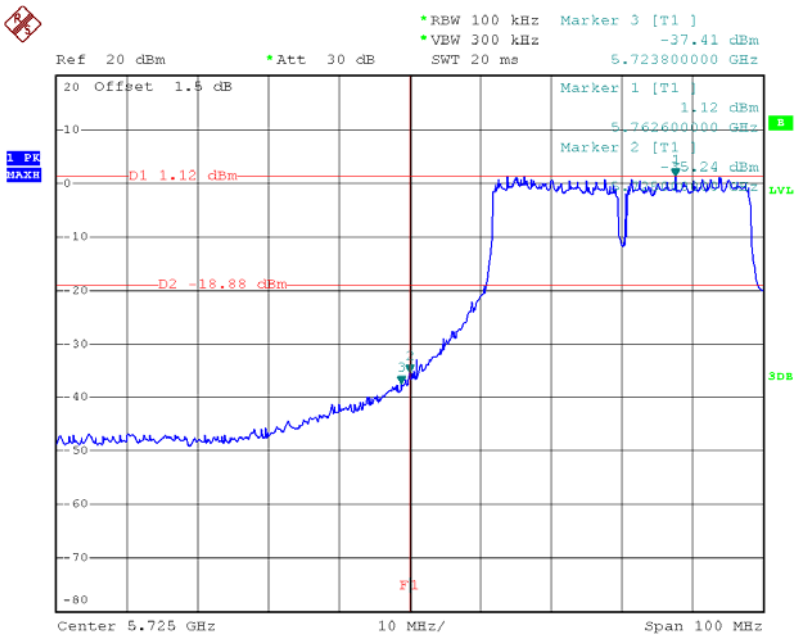


Date: 20.NOV.2013 02:34:52

EUT:	Outdoor Wireless LAN Access Point	Model Name :	AP6510DN-AGN-US
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N40 Mode /CH151, CH159 / ANT 2		

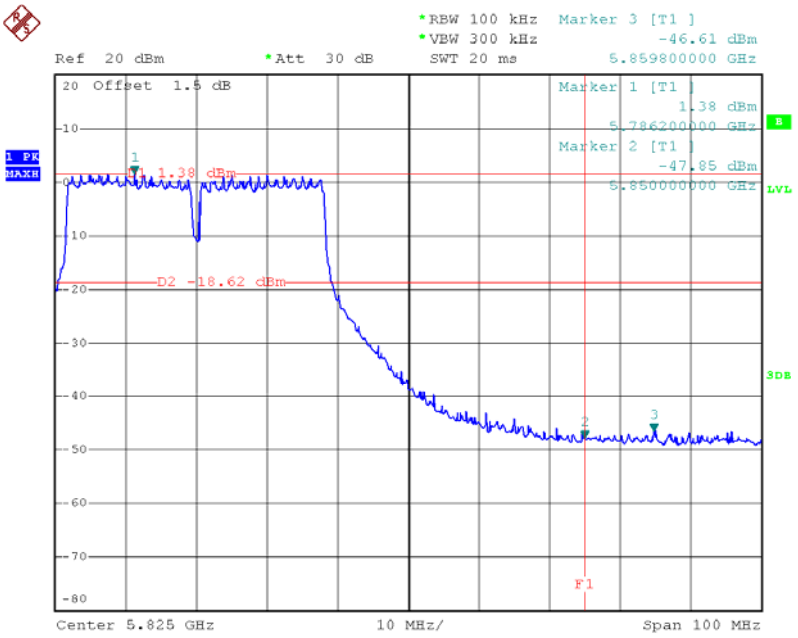
Channel of Worst Data: CH151			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
5725.00	-35.24	5859.80	-46.61
Result			
In any 100kHz 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



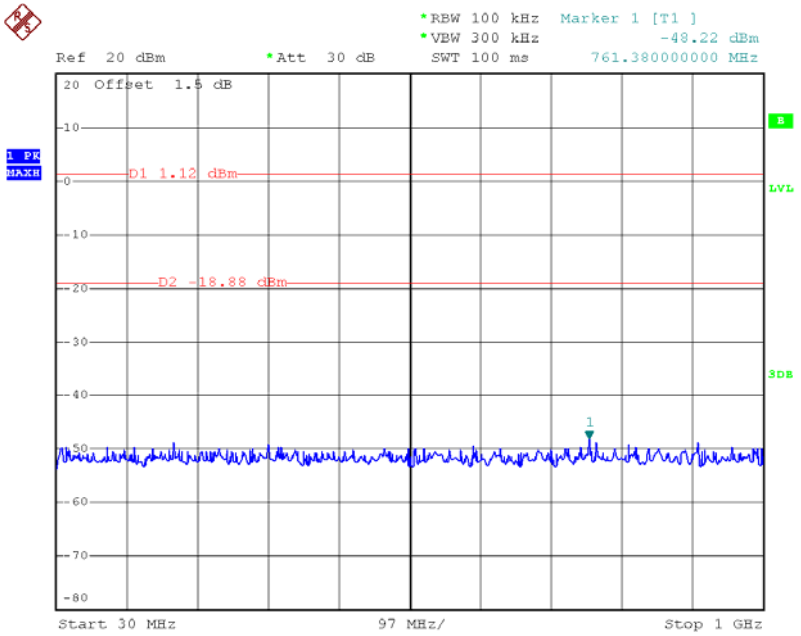
Date: 20.NOV.2013 02:41:37

TX mode CH159



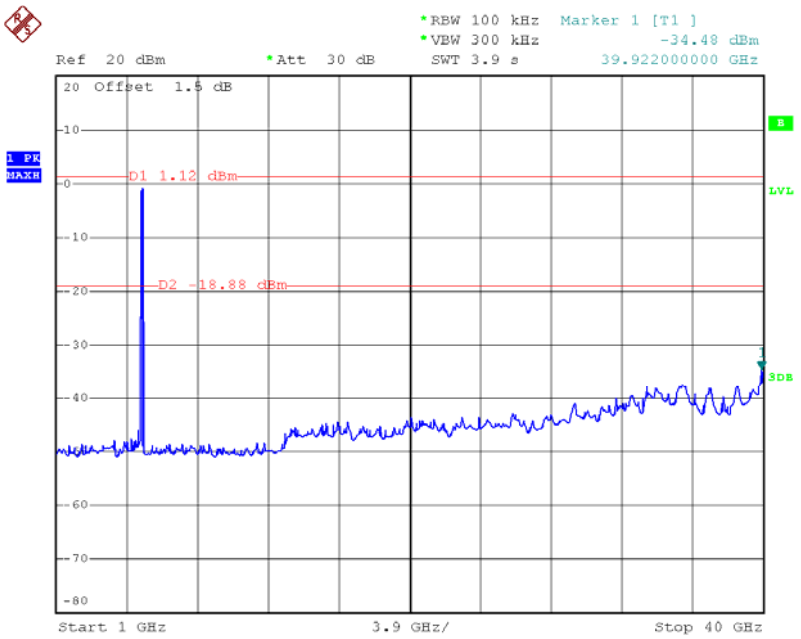
Date: 20.NOV.2013 02:39:00

TX mode CH151(30M~1000MHz)



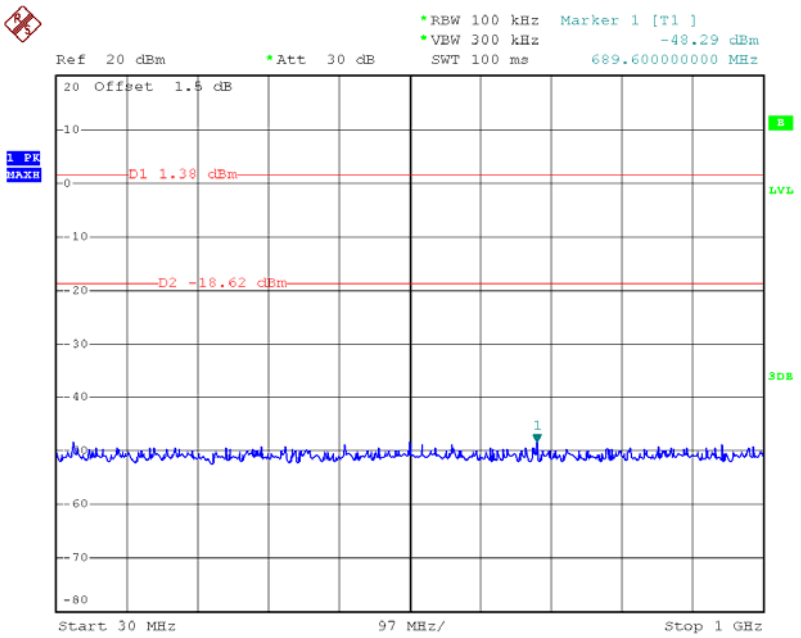
Date: 20.NOV.2013 02:41:52

TX mode CH151 (1000MHz~10th Harmonic)



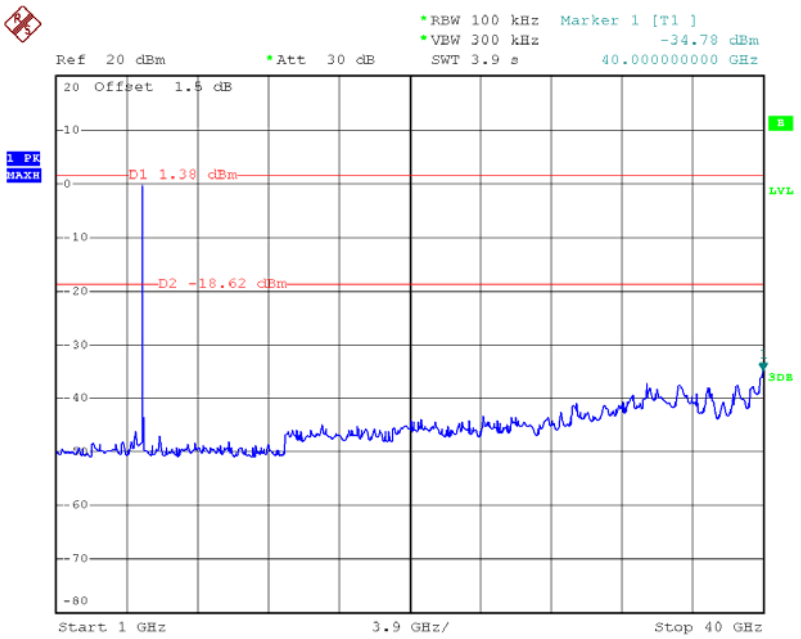
Date: 20.NOV.2013 02:42:13

TX mode CH159 (30M~1000MHz)



Date: 20.NOV.2013 02:39:17

TX mode CH159 (1000MHz~10th Harmonic)



Date: 20.NOV.2013 02:39:31

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.

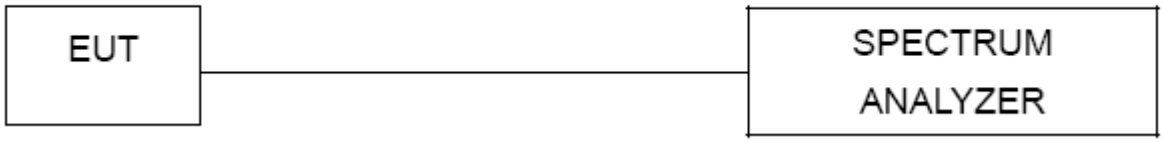
8.1.2 TEST PROCEDURE

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.

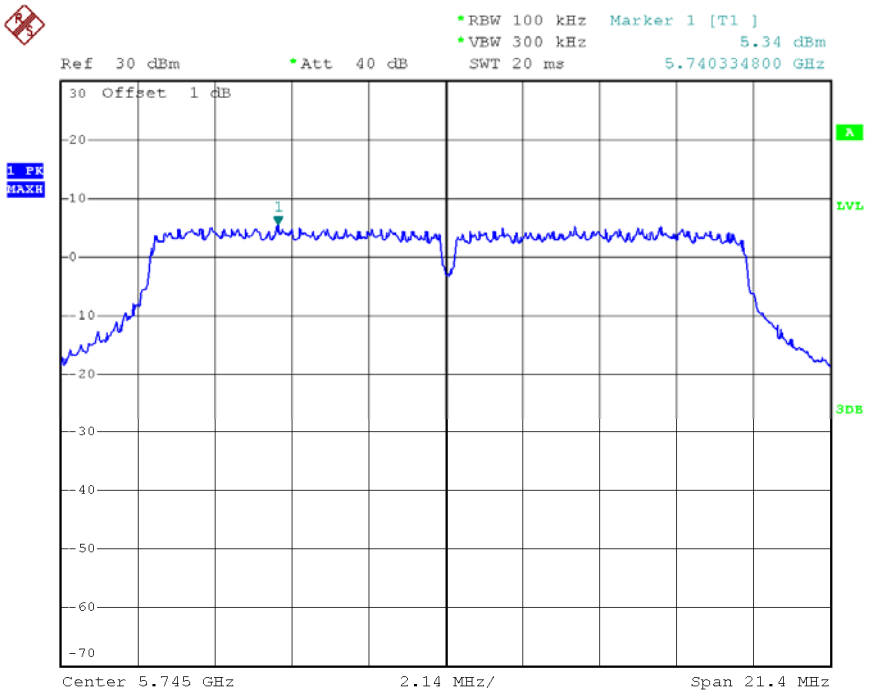
8.1.6 TEST RESULTS

EUT：	Outdoor Wireless LAN Access Point	Model Name ：	AP6510DN-AGN-US
Temperature：	23 ℃	Relative Humidity：	51 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX A Mode /CH149, CH157, CH165		

Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH149	5745 MHz	-9.86	8
CH157	5785 MHz	-9.57	8
CH165	5825 MHz	-8.31	8

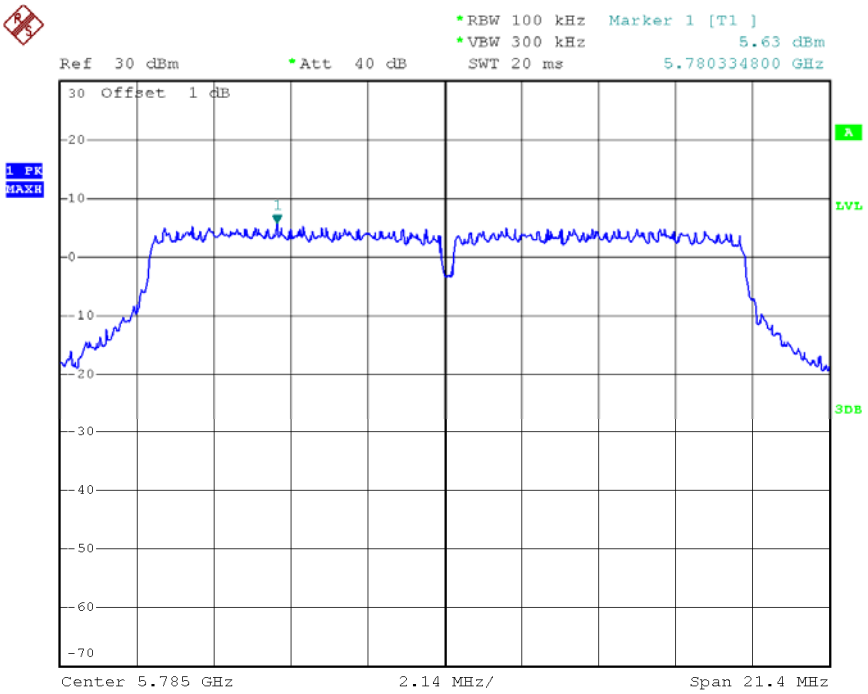
Note: DWCF (dB) = 10 log (3K/100K) = -15.2dB

TX CH149



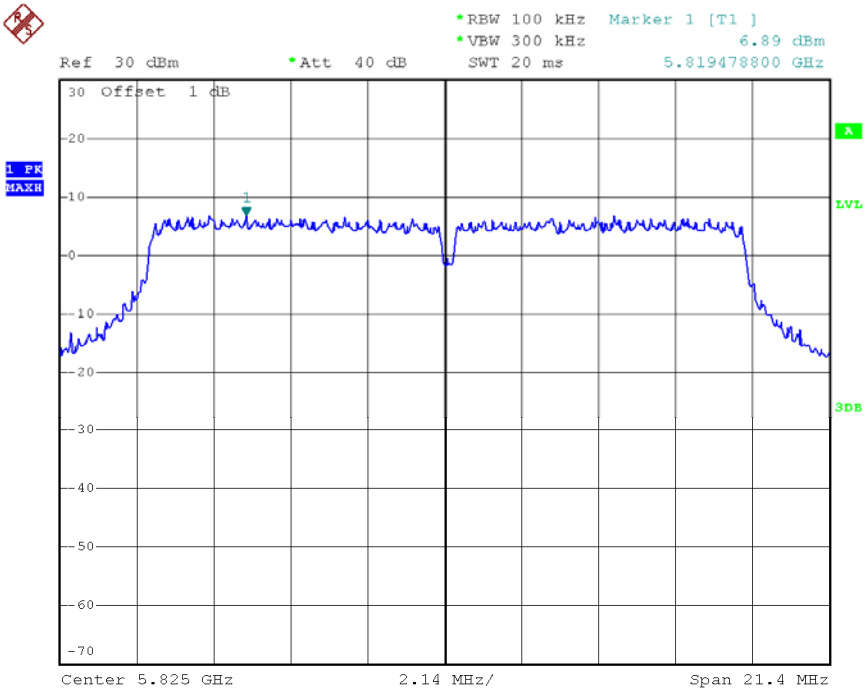
Date: 31.MAY.2012 21:41:15

TX CH157



Date: 31.MAY.2012 21:42:06

TX CH165



Date: 31.MAY.2012 21:44:41

EUT：	Outdoor Wireless LAN Access Point	Model Name ：	AP6510DN-AGN-US
Temperature：	23 ℃	Relative Humidity：	51 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX N20 Mode /CH149, CH157, CH165		

ANT 1			
Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH149	5745 MHz	-12.59	8
CH157	5785 MHz	-11.71	8
CH165	5825 MHz	-9.53	8

ANT 2			
Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH149	5745 MHz	-14.12	8
CH157	5785 MHz	-12.82	8
CH165	5825 MHz	-10.31	8

Antenna Amphenol-SAA (ANT 1+ANT 2)			
Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH149	5745 MHz	-10.28	7.6
CH157	5785 MHz	-9.22	7.6
CH165	5825 MHz	-6.89	7.6

Note: DWCF (dB) = 10 log (3K/100K) = -15.2dB

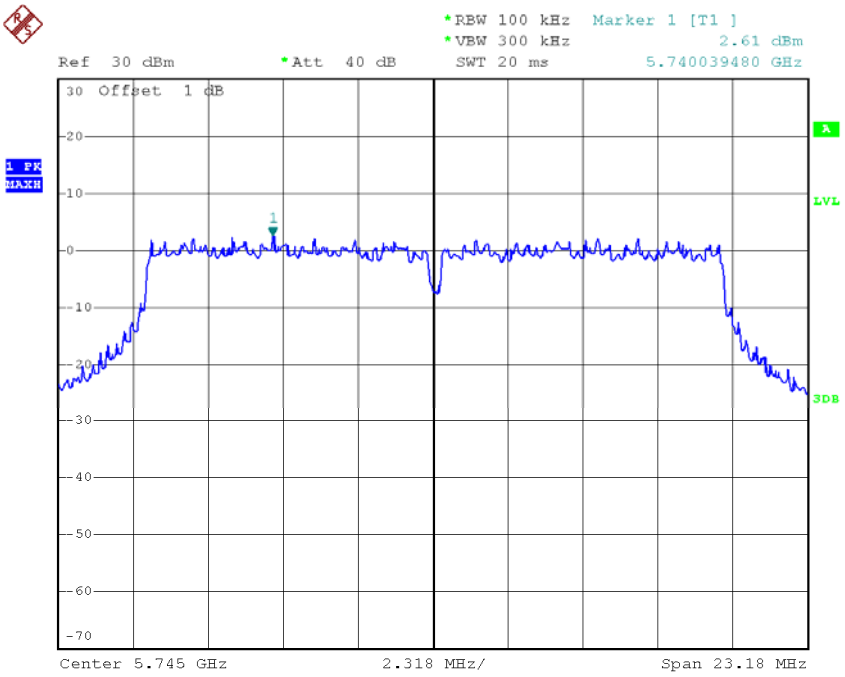
Remark：

(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=6.4 dBi**

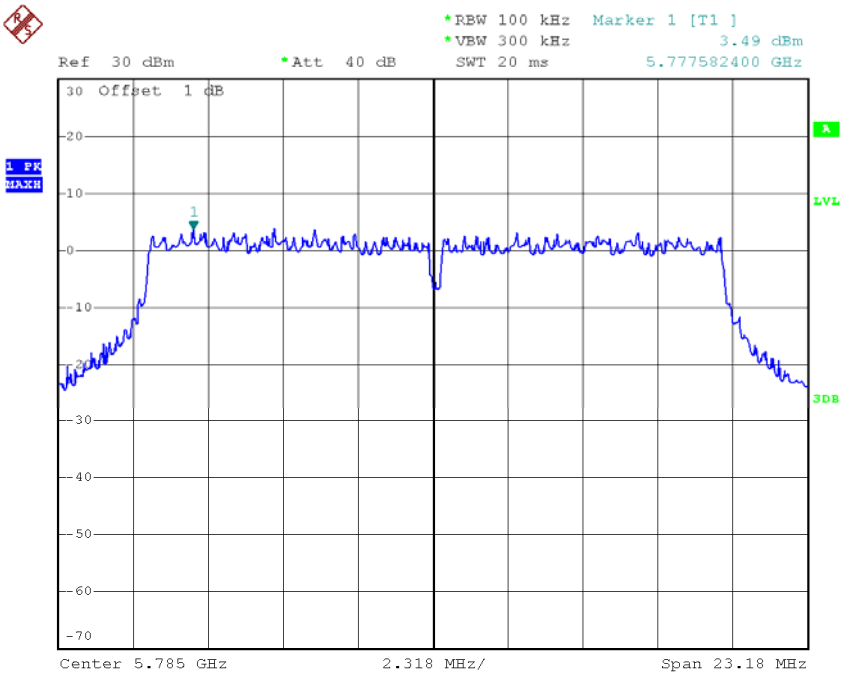
(3) **This EUT supports MIMO 2T2R, all transmit signals are completely uncorrelated, then, Direction gain = G_{ANT}, that is Directional gain=6.4; So,the out power limit is 30-6.4+6=29.6; and power density limit is 8-6.4+6=7.6**

TX CH149-ANT 1



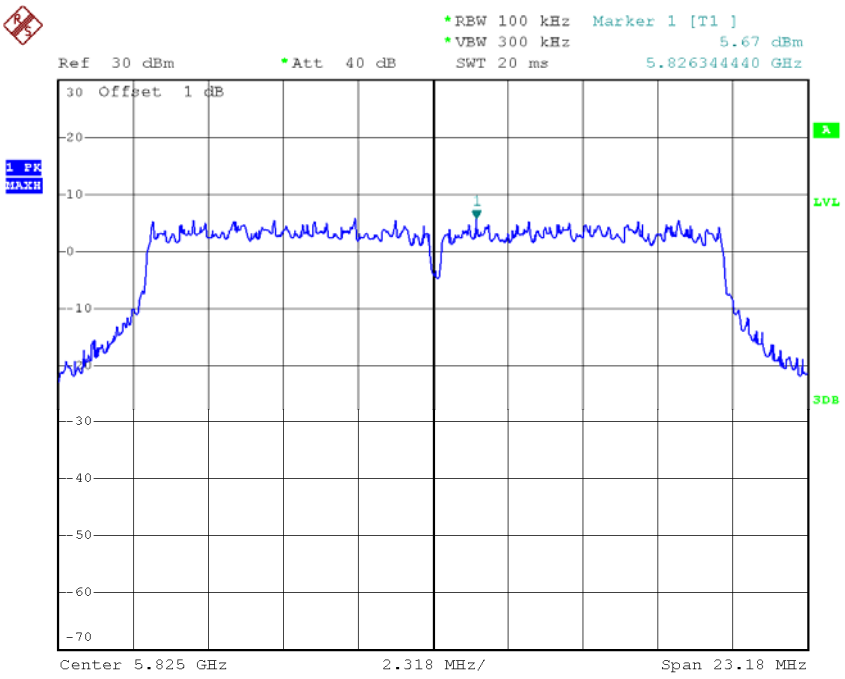
Date: 31.MAY.2012 22:00:17

TX CH157-ANT 1



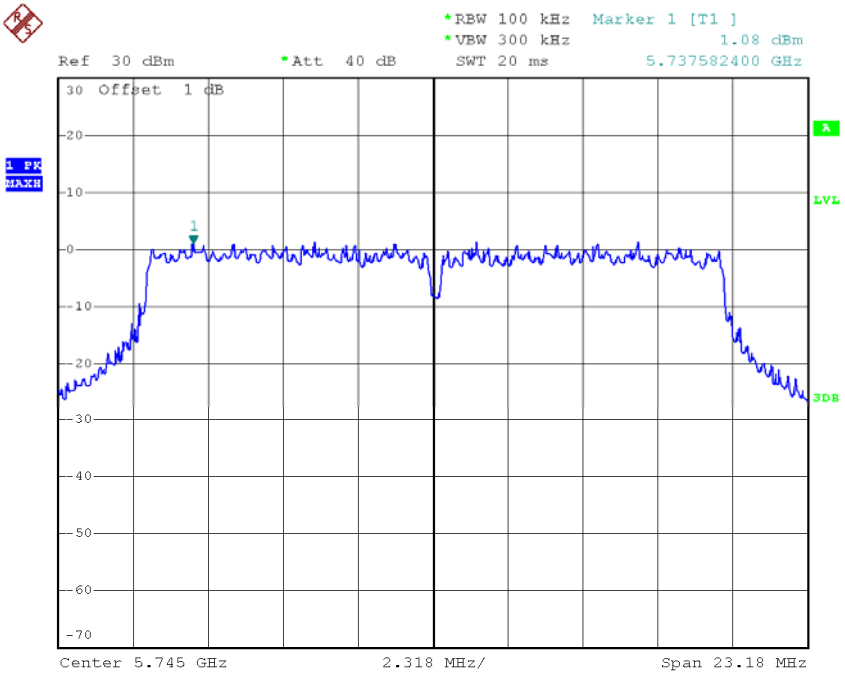
Date: 31.MAY.2012 22:00:32

TX CH165-ANT 1



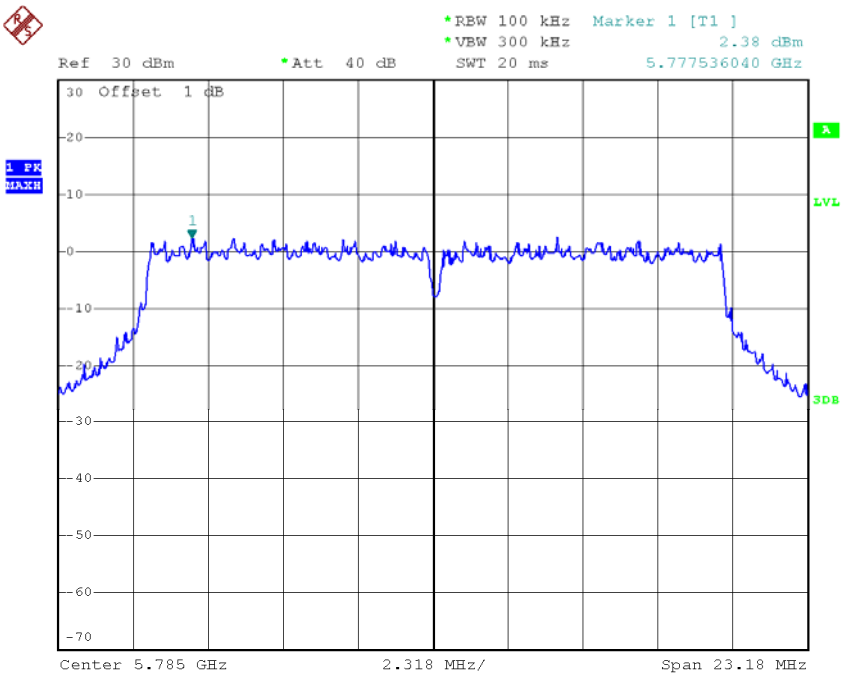
Date: 31.MAY.2012 22:00:56

TX CH149-ANT 2



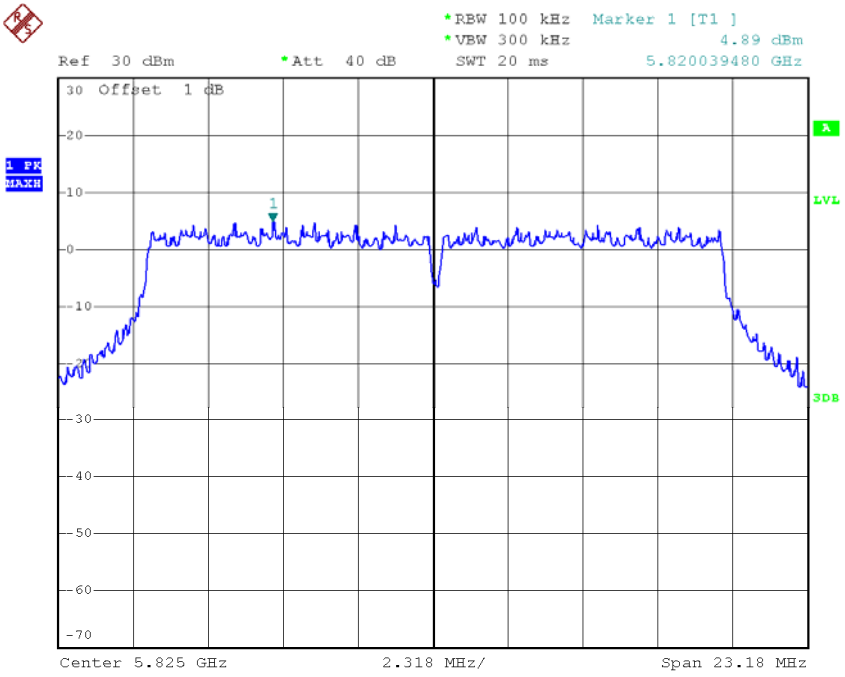
Date: 31.MAY.2012 21:59:11

TX CH157-ANT 2



Date: 31.MAY.2012 21:57:03

TX CH165-ANT 2



Date: 31.MAY.2012 21:57:32

EUT：	Outdoor Wireless LAN Access Point	Model Name ：	AP6510DN-AGN-US
Temperature：	23 ℃	Relative Humidity：	51 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX N40 Mode /CH151, CH159		

ANT 1			
Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH151	5755 MHz	-15.87	8
CH159	5795 MHz	-14.11	8

ANT 2			
Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH151	5755 MHz	-16.74	8
CH159	5795 MHz	-15.42	8

Antenna Amphenol-SAA (ANT 1+ ANT 2)			
Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH151	5755 MHz	-13.27	7.6
CH159	5795 MHz	-11.71	7.6

Note: DWCF (dB) = 10 log (3K/100K) = -15.2dB

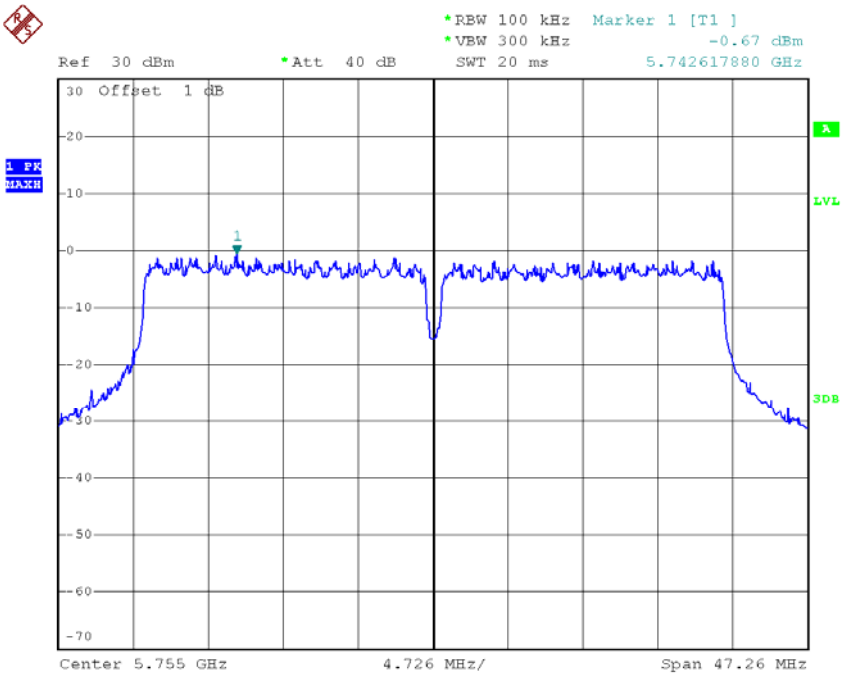
Remark：

(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=6.4 dBi**

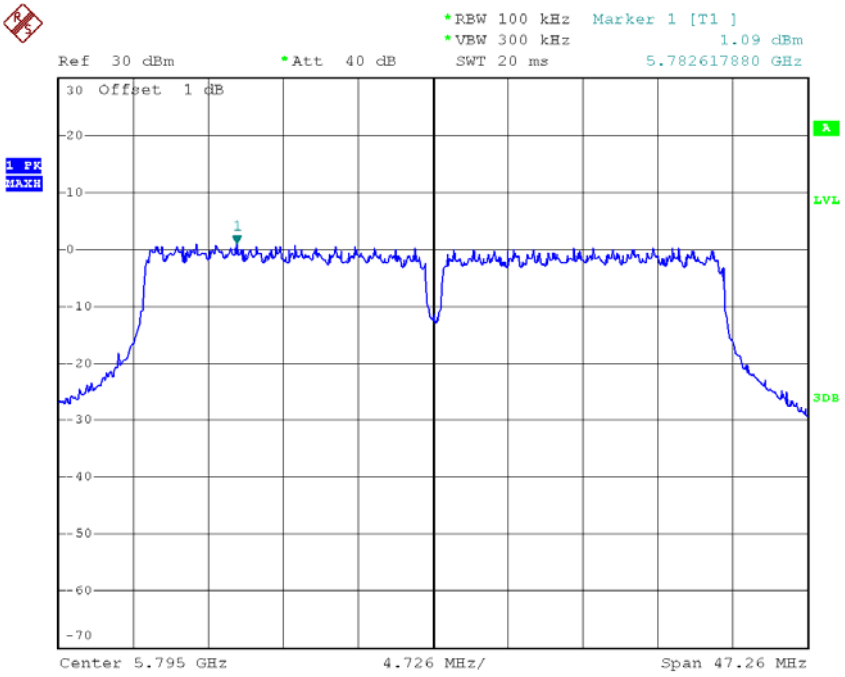
(3) **This EUT supports MIMO 2T2R, all transmit signals are completely uncorrelated, then, Direction gain = G_{ANT}, that is Directional gain=6.4; So,the out power limit is 30-6.4+6=29.6; and power density limit is 8-6.4+6=7.6**

TX CH151-ANT 1



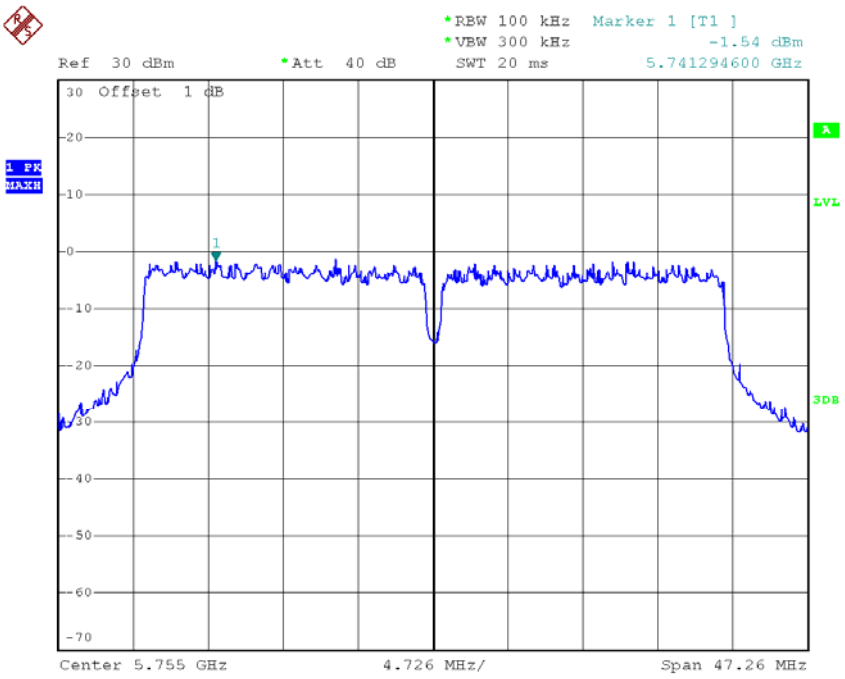
Date: 31.MAY.2012 22:06:35

TX CH159-ANT 1



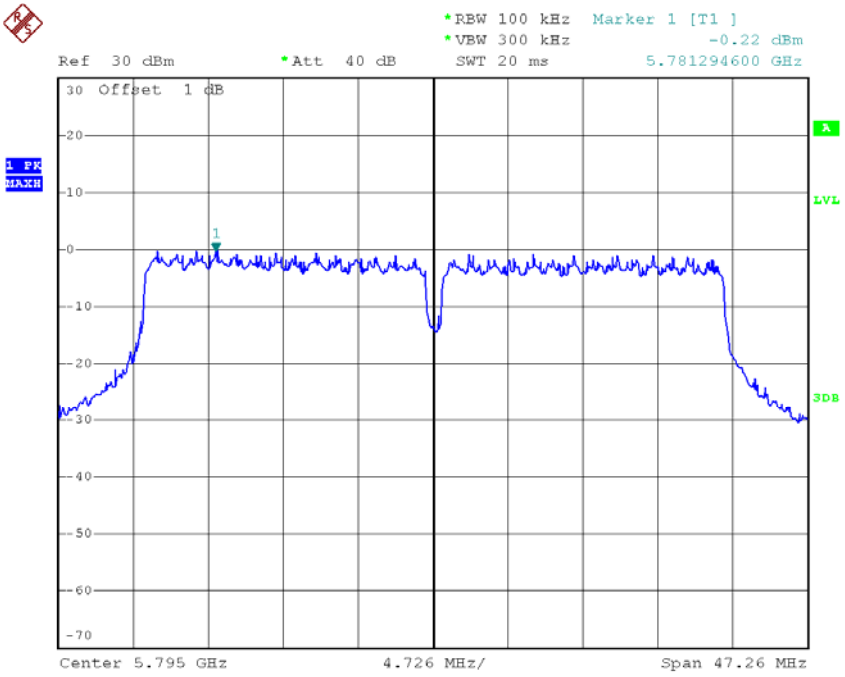
Date: 31.MAY.2012 22:03:25

TX CH151-ANT 2



Date: 31.MAY.2012 22:06:59

TX CH159-ANT 2

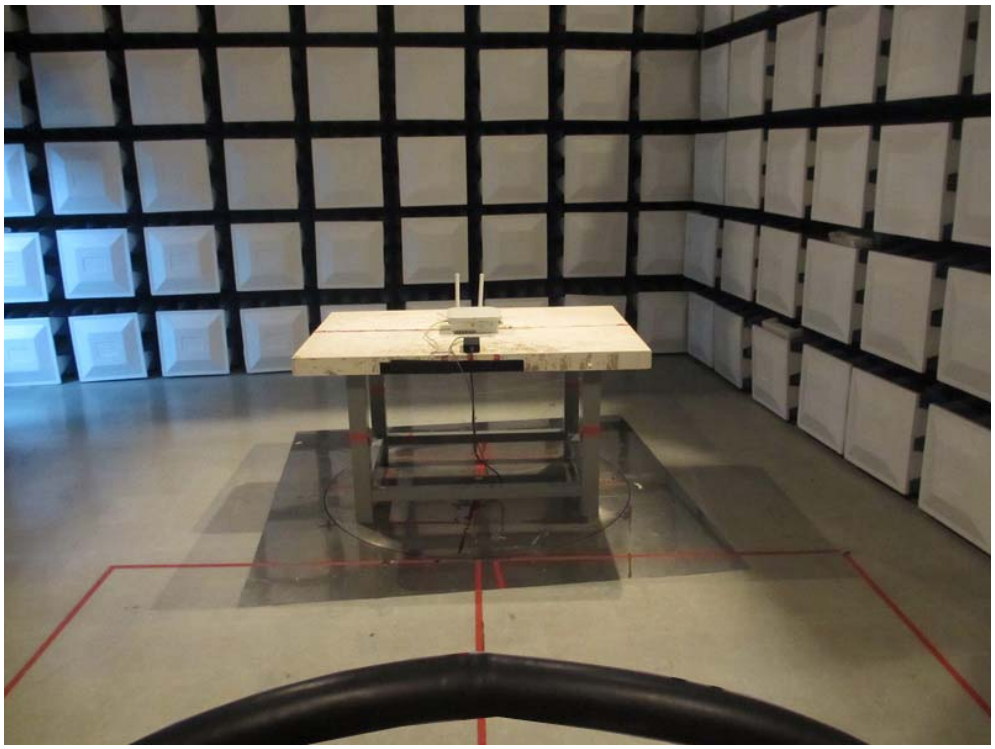


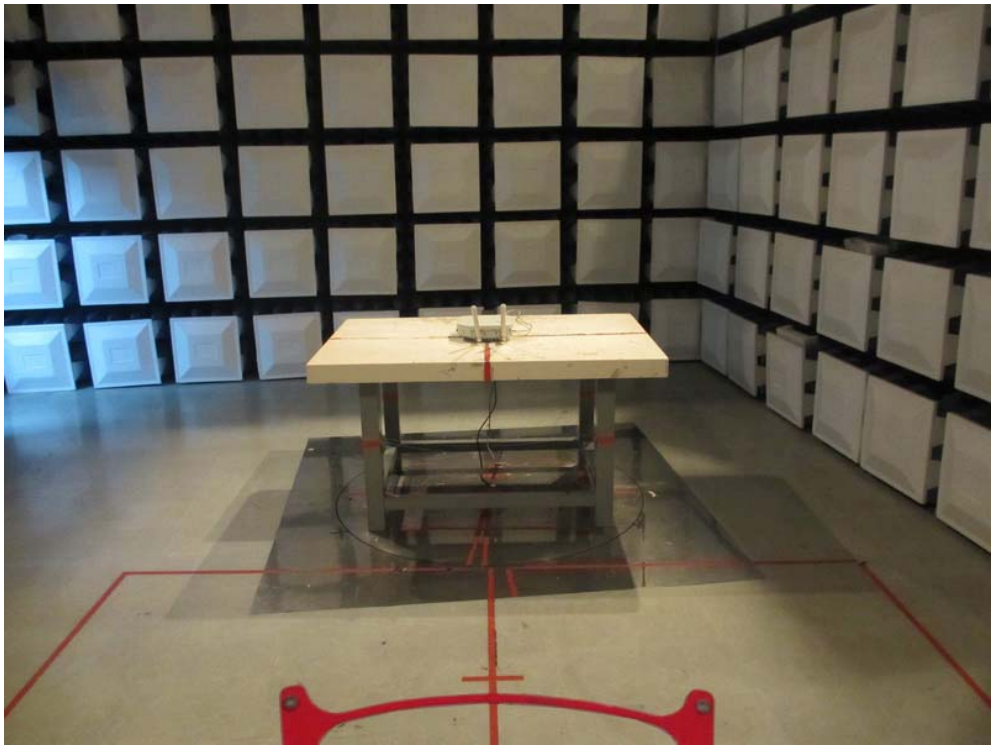
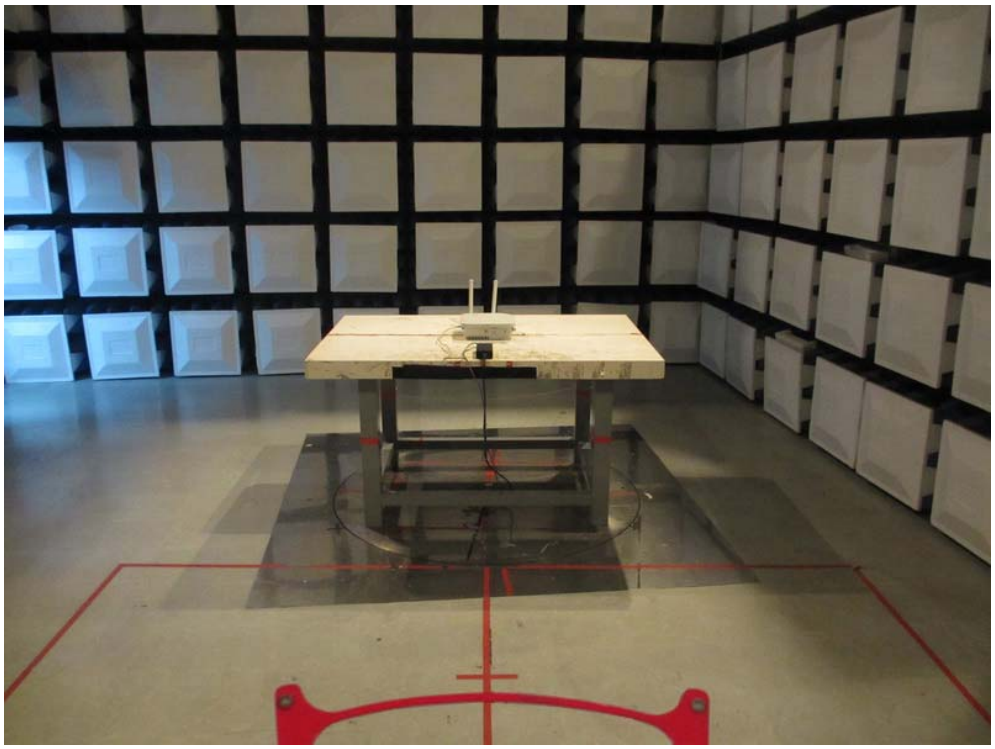
Date: 31.MAY.2012 22:10:26

9. EUT TEST PHOTO

Conducted Measurement Photos

Radiated Measurement Photos
9KHz~300MHz



Radiated Measurement Photos
30~1000MHz

Radiated Measurement Photos
Above 1000MHz