FCC&IC Radio Test Report

FCC ID: QISAP505130DN
IC: 6369A-AP505130DN

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

Project No.	:	1403C080A
Equipment	:	Wireless LAN Access Point
Model Name	:	AP5130DN
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: Mar. 13, 2014
Date of Test: Mar. 13, 2014 ~ May. 14, 2014
Issued Date: May. 15, 2014

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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 **R.O.C**, or National Institute of Standards and Technology (**NIST**) of **U.S.A.**

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Limitation

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

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REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
NEI-FICP-2-1403C080A	Original Issue.	May. 15, 2014

1. CERTIFICATION

Equipment	:	Wireless LAN Access Point
Brand Name	:	HUAWEI
Model Name	:	AP5130DN
Applicant		Huawei Technologies Co.,Ltd.
Manufacturer	:	Huawei Technologies Co.,Ltd.
Address	:	Administration Building, Huawei Base, Bantian, Longgang District ,Shenzhen 518129, P.R.China
Factory	:	Huawei Technologies Co.,Ltd.
Address	:	Huawei Base, Bantian, Longgang District, Shenzhen 518129, P.R.China
Date of Test	:	Mar. 13, 2014 ~ May. 14, 2014
Test Item	:	ENGINEERING SAMPLE
Standard(s)	:	FCC Part15, Subpart C(15.247) / ANSI C63.4-2009 Canada RSS-210:2010 RSS-GEN Issue 3, Dec 2010

The above equipment has been tested and found compliance with the requirement of the relative standards by Neutron Engineering Inc. EMC Laboratory.
The test data, data evaluation, and equipment configuration contained in our test report (Ref No. NEI-FICP-2-1403C080A) 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 Mode 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 Range	U，(dB)	NOTE
DG-C02	CISPR	150 KHz ~ 30MHz	1.94	

B. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	Ant. H / V	U，(dB)	NOTE
DG-CB03	CISPR	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

Equipment	Wireless LAN Access Point	
Brand Name	HUAWEI	
Model Name	AP5130DN	
Model Difference	N/A	
Product Description	Operation Frequency	5745~5825 MHz
	Modulation Technology	802.11a/n:OFDM
	Bit Rate of Transmitter	11a:6/ 9/12/18/24/36/48/54Mbps 11n:up to 450Mbps 11ac up to 1300Mbps
	Output Power (Max.) for 1TX	802.11a: 23.48 dBm 802.11n(20 MHz): 22.13 dBm 802.11n(40 MHz): 19.62 dBm 802.11ac(20 MHz): 22.16 dBm 802.11ac(40 MHz): 22.05 dBm 802.11ac(80 MHz): 17.64 dBm
	Output Power (Max.) for 2TX	802.11a: 23.49 dBm 802.11n(20 MHz): 22.29 dBm 802.11n(40 MHz): 20.06 dBm 802.11ac(20 MHz): 22.58 dBm 802.11ac(40 MHz): 22.19 dBm 802.11ac(80 MHz): 17.71 dBm
	Output Power (Max.) for 3TX	802.11a: 24.04 dBm 802.11n(20 MHz): 23.01 dBm 802.11n(40 MHz): 21.37 dBm 802.11ac(20 MHz): 23.00 dBm 802.11ac(40 MHz): 22.65 dBm 802.11ac(80 MHz): 18.26 dBm
Power Source	Dc voltage supplied from adapter or PoE. #1 Brand/ Model: HUAWEI / HW-120200U1W	
Power Rating	I/P:AC 100-240V 50/60Hz 0.8A DC 12.0V 2.0A	
Connecting I/O Port(s)	Please refer to the User's Manual	

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(20 MHz) / 802.11ac(20 MHz)					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	**5745**	153	5765	**157**	**5785**
161	5805	**165**	**5825**		

802.11n(40 MHz) / 802.11ac(40 MHz)			
Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	**5755**	**159**	**5795**

802.11ac(80 MHz)			
Channel	Frequency (MHz)	Channel	Frequency (MHz)
155	**5775**		

3. Table for Filed Antenna

Group 1

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
A	TONGYU COMMUNICATION	TT-245804-6W1	External Antenna	R-SMA	4.82	TX/RX
B	TONGYU COMMUNICATION	TT-245804-6W1	External Antenna	R-SMA	4.82	TX/RX
C	TONGYU COMMUNICATION	TT-245804-6W1	External Antenna	R-SMA	4.82	TX/RX

Group 2

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
A	Shenglu	SL10301A	External Antenna	R-SMA	5.7	TX/RX
B	Shenglu	SL10301A	External Antenna	R-SMA	5.7	TX/RX
C	Shenglu	SL10301A	External Antenna	R-SMA	5.7	TX/RX

Note:
1. The EUT incorporates a MIMO function. Physically, the EUT provides three completed three transmitters and three receivers (3T3R).
2. ANT B for 1TX was found to be the worst case and recorded.
3. Two groups of antenna used with the same type, only differ in manufacturer and model name, group 2 is tested and recorded as the worst case in this report.

4.

Operating Mode / TX Mode	1TX	2TX	3TX
802.11a	V (ANT A)	V (ANT A + ANT B)	V (ANT A + ANT B + ANT C)
802.11n(20MHz)	V (ANT A)	V (ANT A + ANT B)	V (ANT A + ANT B + ANT C)
802.11n(40MHz)	V (ANT A)	V (ANT A + ANT B)	V (ANT A + ANT B + ANT C)
802.11ac(20MHz)	V (ANT A)	V (ANT A + ANT B)	V (ANT A + ANT B + ANT C)
802.11ac(40MHz)	V (ANT A)	V (ANT A + ANT B)	V (ANT A + ANT B + ANT C)
802.11ac(80MHz)	V (ANT A)	V (ANT A + ANT B)	V (ANT A + ANT B + ANT C)

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 802.11a Mode Channel 149/157/165
Mode 2	TX 802.11n(20 MHz) Mode Channel 149/157/165
Mode 3	TX 802.11n(40 MHz) Mode Channel 151/159
Mode 4	TX 802.11ac(20 MHz) Mode Channel 149/157/165
Mode 5	TX 802.11ac(40 MHz) Mode Channel 149/157/165
Mode 6	TX 802.11ac(80 MHz) Mode Channel 155
Mode 7	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 7	TX MODE

For Radiated Test	
Final Test Mode	Description
Mode 1	TX 802.11a Mode Channel 149/157/165
Mode 2	TX 802.11n(20 MHz) Mode Channel 149/157/165
Mode 3	TX 802.11n(40 MHz) Mode Channel 151/159
Mode 4	TX 802.11ac(20 MHz) Mode Channel 149/157/165
Mode 5	TX 802.11ac(40 MHz) Mode Channel 149/157/165
Mode 6	TX 802.11ac(80 MHz) Mode Channel 155

Note:

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

3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

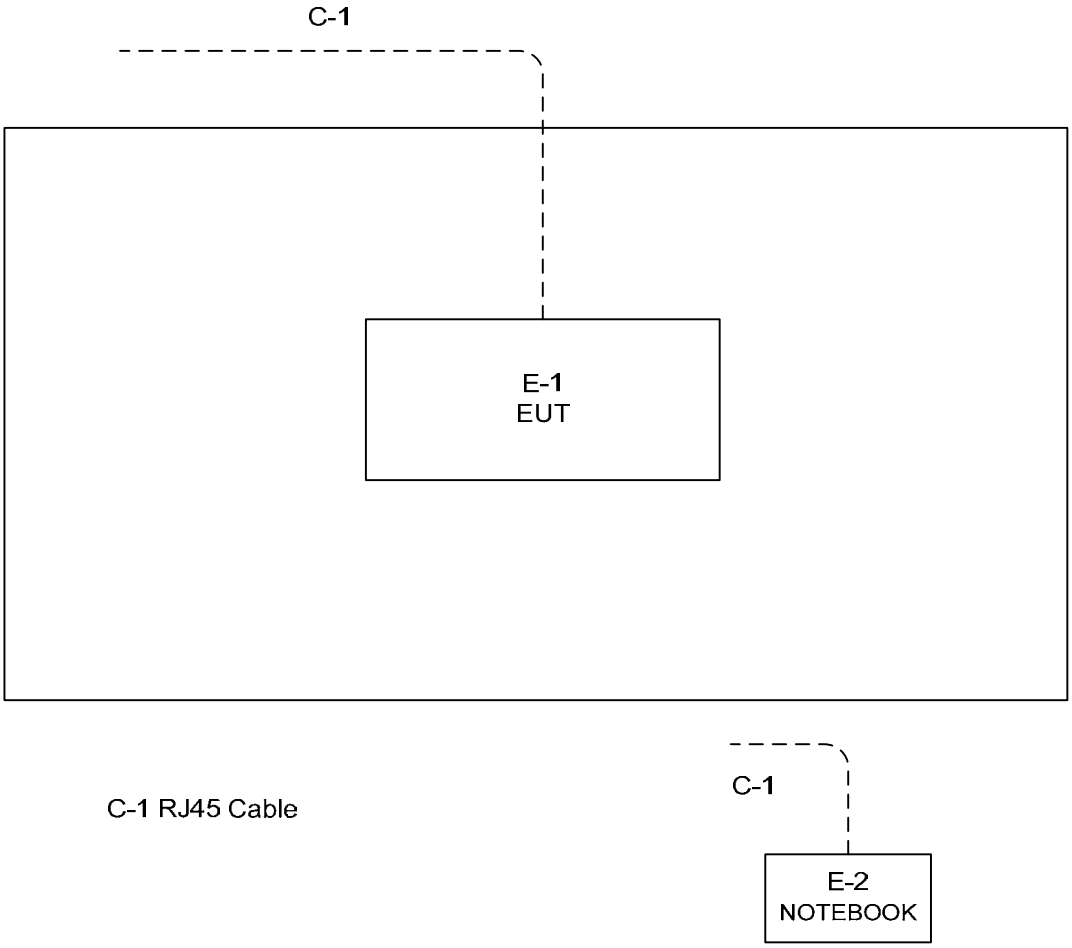
During testing, channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final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

1TX			
Test software version	Cart		
Frequency	**5745 MHz**	**5785 MHz**	**5825 MHz**
802.11a	17	17	17
802.11n(20 MHz)	15	15	15
802.11ac(20 MHz)	15	15	15
Frequency	**5755 MHz**	**5795 MHz**	
802.11n(40 MHz)	15	15	
802.11ac(40 MHz)	15	15	
Frequency	**5775 MHz**		
802.11ac(80 MHz)	11		

2TX			
Test software version	Cart		
Frequency	**5745 MHz**	**5785 MHz**	**5825 MHz**
802.11a	14	14	14
802.11n(20 MHz)	12	12	12
802.11ac(20 MHz)	12	12	12
Frequency	**5755 MHz**	**5795 MHz**	
802.11n(40 MHz)	12	12	
802.11ac(40 MHz)	12	12	
Frequency	**5775 MHz**		
802.11ac(80 MHz)	8		

3TX			
Test software version	Cart		
Frequency	**5745 MHz**	**5785 MHz**	**5825 MHz**
802.11a	12	12	12
802.11n(20 MHz)	10	10	10
802.11ac(20 MHz)	10	10	10
Frequency	**5755 MHz**	**5795 MHz**	
802.11n(40 MHz)	10	10	
802.11ac(40 MHz)	10	10	
Frequency	**5775 MHz**		
802.11ac(80 MHz)	6		

3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



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	Series No.	Note
E-2	NOTEBOOK	HP	HP NB 331	DOC	N/A	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	10m	

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

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

Frequency (MHz)	Class A (dBuV)		Class B (dBuV)		Standard
	Quasi-peak	Average	Quasi-peak	Average	
0.15 -0.5	79.00	66.00	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.

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

4.1.2 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.

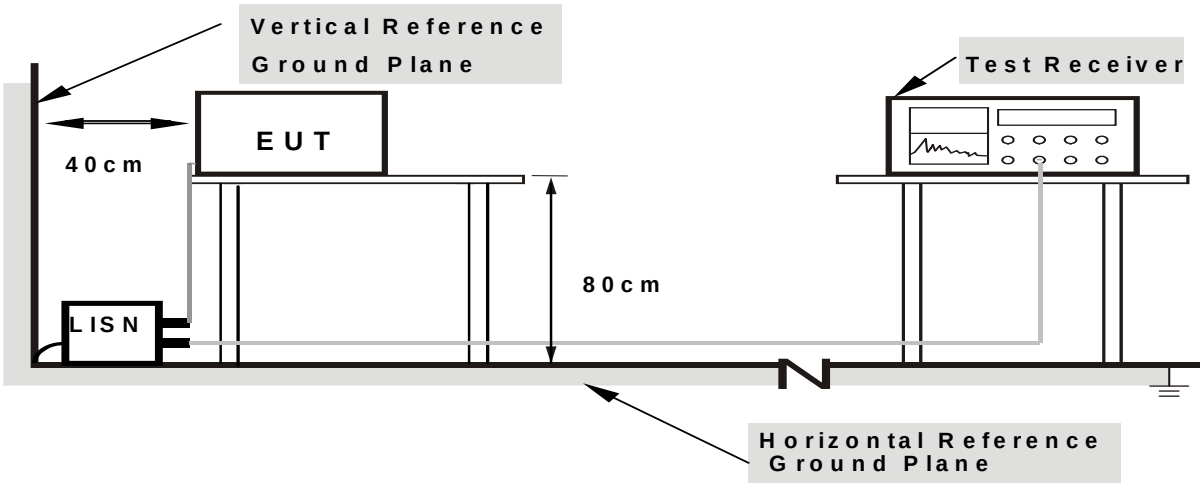
d. LISN at least 80 cm from nearest part of EUT chassis.

e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.3 DEVIATION FROM TEST STANDARD

No deviation

4.1.4 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

4.1.5 EUT OPERATING CONDITIONS

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

4.1.6 EUT TEST CONDITIONS

Temperature: 25°C
Relative Humidity: 55%
Test Voltage: AC 120V/60Hz

4.1.7 TEST RESULTS

Please refer to the Attachment A.

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。

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) & RSS-210 section 2.2& Annex 8 (A8.5), then the 15.209(a)& RSS-Gen 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
RBW / VBW (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 TEST PROCEDURE

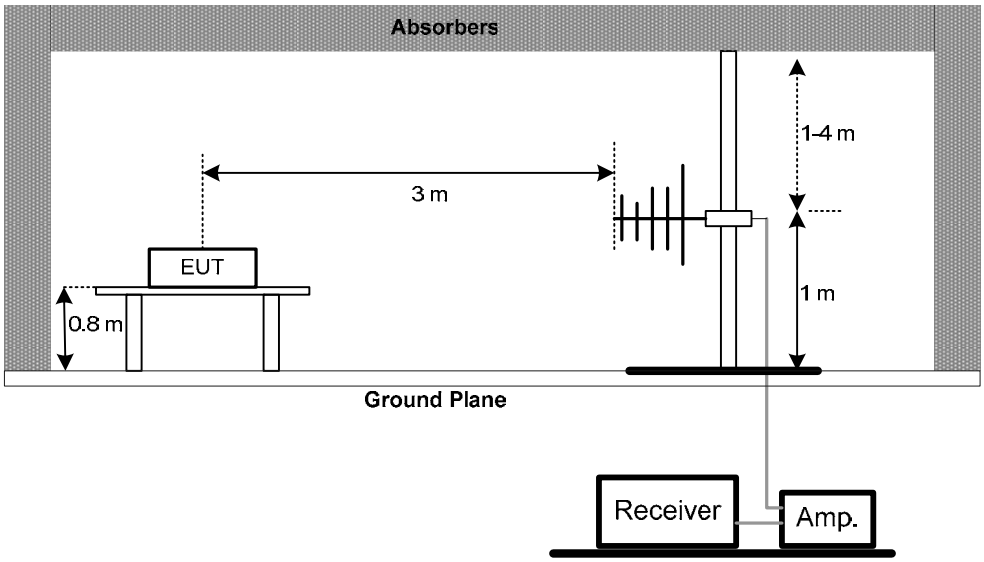
a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
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.

4.2.3 DEVIATION FROM TEST STANDARD

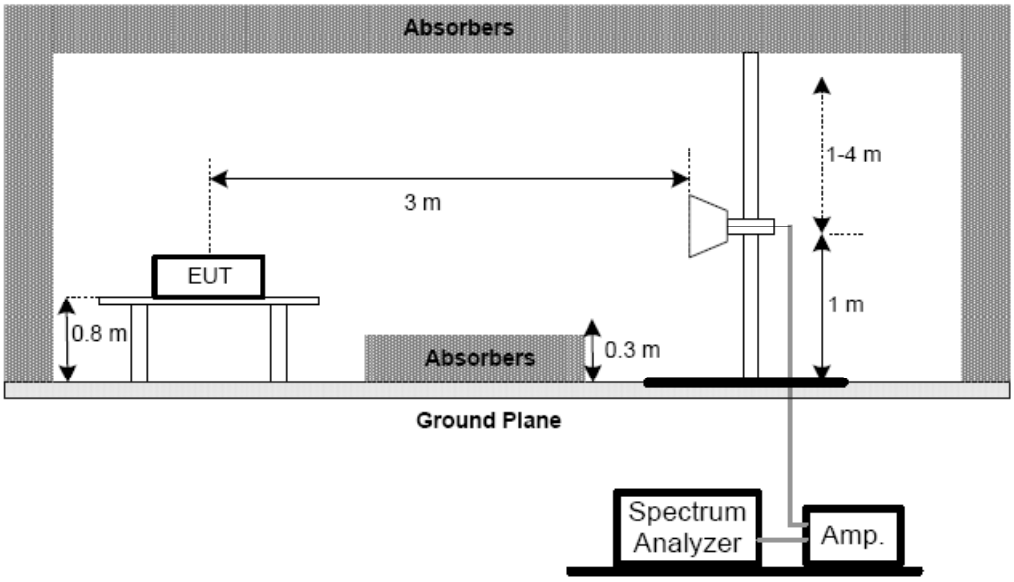
No deviation

4.2.4 TEST SETUP

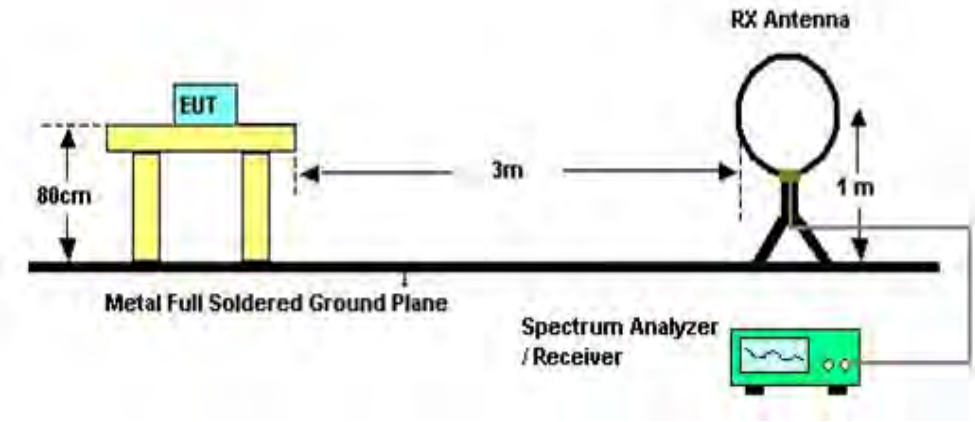
(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



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



(C) For radiated emissions below 30MHz



4.2.5 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.

4.2.6 EUT TEST CONDITIONS

Temperature: 25°C
Relative Humidity: 55%
Test Voltage: AC 120V/60Hz

4.2.7 TEST RESULTS (9K TO 30MHZ)

Please refer to the Attachment B

4.2.8 TEST RESULTS (BETWEEN 30 TO 1000 MHZ)

Please refer to the Attachment C

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.

4.2.9 TEST RESULTS (ABOVE 1000 MHZ)

Please refer to the Attachment D.

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) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission.
(3) 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.
(4) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
(5) EUT Orthogonal Axis:
"X" - denotes Laid on Table; "Y" - denotes Vertical Stand; "Z" - denotes Side Stand
(6) 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

5. BANDWIDTH TEST

5.1 Applied procedures

FCC Part15 (15.247) , Subpart C/ RSS-GEN and RSS-210			
Section	Test Item	Frequency Range (MHz)	Result
15.247(a)(2) RSS-GEN section 4.6.1 RSS-210 Annex 8 (A8.2(a))	Bandwidth	5725 - 5825	PASS

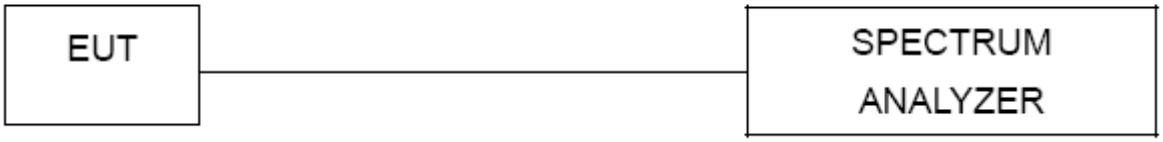
5.1.1 TEST PROCEDURE

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 = Auto.

5.1.2 DEVIATION FROM STANDARD

No deviation.

5.1.3 TEST SETUP



5.1.4 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.

5.1.5 EUT TEST CONDITIONS

Temperature: 25°C
Relative Humidity: 55%
Test Voltage: AC 120V/60Hz

5.1.6 TEST RESULTS

Please refer to the Attachment E.

6. MAXIMUM OUTPUT POWER TEST

6.1 Applied procedures / limit

FCC Part15 (15.247) , Subpart C/ RSS-210				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3) RSS-210 Annex 8.4(4)	Maximum Output Power	1 Watt or 30dBm	5725 - 5825	PASS

6.1.1 TEST PROCEDURE

a. The EUT was directly connected to the power meter and antenna output port as show in the block diagram below,
b. The maximum peak conducted output power was performed in accordance with method 9.1.3 of FCC KDB 558074 D01 DTS Meas Guidance v03r01.

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP

6.1.4 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.
Transmit output power was measured while the host equipment supply voltage was varied from 85 % to 115 % of the nominal rated supply voltage. No change in transmit output power was observed.

6.1.5 EUT TEST CONDITIONS

Temperature: 25°C
Relative Humidity: 55%
Test Voltage: AC 120V/60Hz

6.1.6 TEST RESULTS

Please refer to the Attachment F.

7. ANTENNA CONDUCTED SPURIOUS EMISSION

7.1 Applied procedures / limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

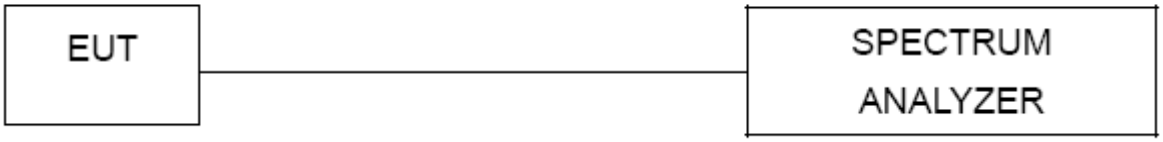
7.1.1 TEST PROCEDURE

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 = Auto.

7.1.2 DEVIATION FROM STANDARD

No deviation.

7.1.3 TEST SETUP



7.1.4 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.

7.1.5 EUT TEST CONDITIONS

Temperature: 25°C
Relative Humidity: 55%
Test Voltage: AC 120V/60Hz

7.1.6 TEST RESULTS

Please refer to the Attachment G.

8. POWER SPECTRAL DENSITY TEST

8.1 Applied procedures / limit

FCC Part15 (15.247) , Subpart C / RSS-210				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(e) RSS-210 Annex 8(A8.2(b))	Power Spectral Density	8 dBm (in any 3KHz)	5745 - 5825	PASS

8.1.1 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=3KHz, VBW=10KHz, Sweep time = Auto.

8.1.2 DEVIATION FROM STANDARD

No deviation.

8.1.3 TEST SETUP

8.1.4 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.

8.1.5 EUT TEST CONDITIONS

Temperature: 25°C
Relative Humidity: 55%
Test Voltage: AC 120V/60Hz

8.1.6 TEST RESULTS

Please refer to the Attachment H.

9. MEASUREMENT INSTRUMENTS LIST

Conducted Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	LISN	EMCO	3816/2	00052765	Mar. 29, 2015
2	LISN	R&S	ENV216	101447	Mar. 29, 2015
3	Test Cable	N/A	C_17	N/A	Mar. 14, 2015
4	EMI TEST RECEIVER	R&S	ESCS30	833364/017	Mar. 29, 2015
5	50Ω Terminator	SHX	TF2-3G-A	08122902	Mar. 29, 2015

Radiated Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarbeck	VULB9160	9160-3232	Mar. 29, 2015
2	Amplifier	HP	8447D	2944A09673	Mar. 29, 2015
3	Receiver	AGILENT	N9038A	MY52130039	Aug. 24, 2014
4	Test Cable	N/A	C-01_CB03	N/A	Jul. 02, 2014
5	Antenna	ETS	3115	00075789	Mar. 29, 2015
6	Amplifier	Agilent	8449B	3008A02274	Mar. 29, 2015
7	Receiver	AGILENT	N9038A	MY52130039	Aug. 24, 2014
8	Test Cable	HUBER+SUHNER	C-48	N/A	Apr. 30, 2015
9	Controller	CT	SC100	N/A	N/A
10	Horn Antenna	EMCO	3115	9605-4803	Mar. 29, 2015
11	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Feb. 22, 2015
12	Active Loop Antenna	R&S	HFH2-Z2	830749/020	Mar. 29, 2015

6dB Bandwidth Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 11, 2014

Peak Output Power Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	P-series Power meter	Agilent	N1911A	MY45100473	Apr. 25, 2014
2	Wireband Power sensor	Agilent	N1921A	MY51100041	Apr. 25, 2014

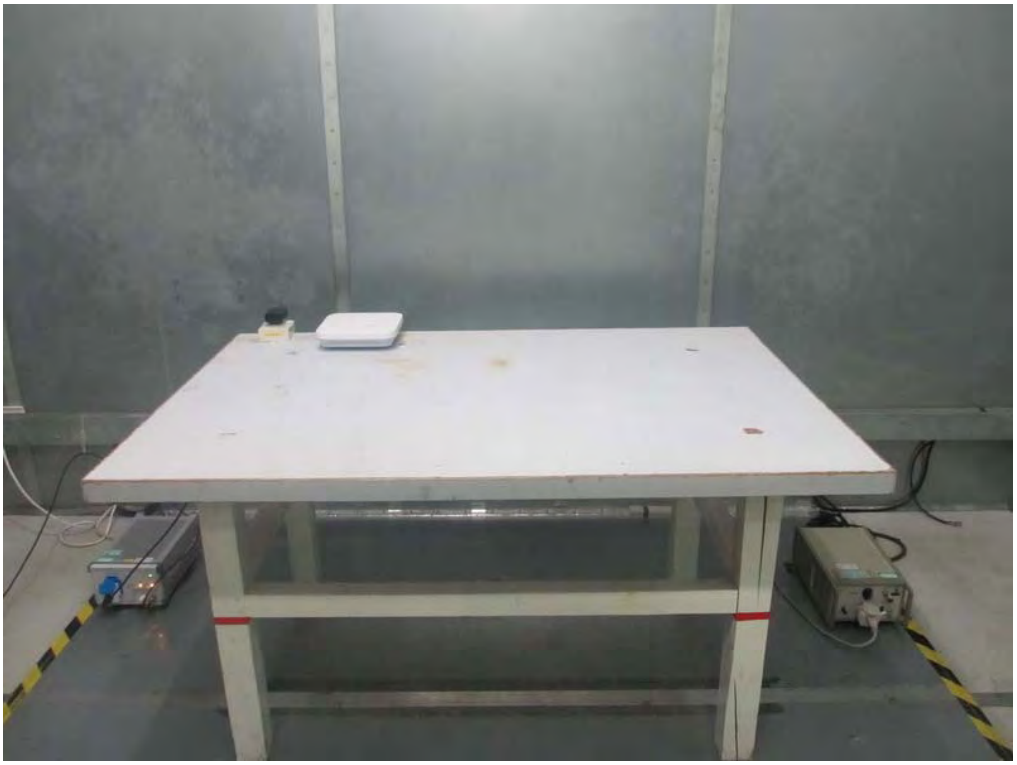
Antenna Conducted Spurious Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 11, 2014

Power Spectral Density Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 11, 2014

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

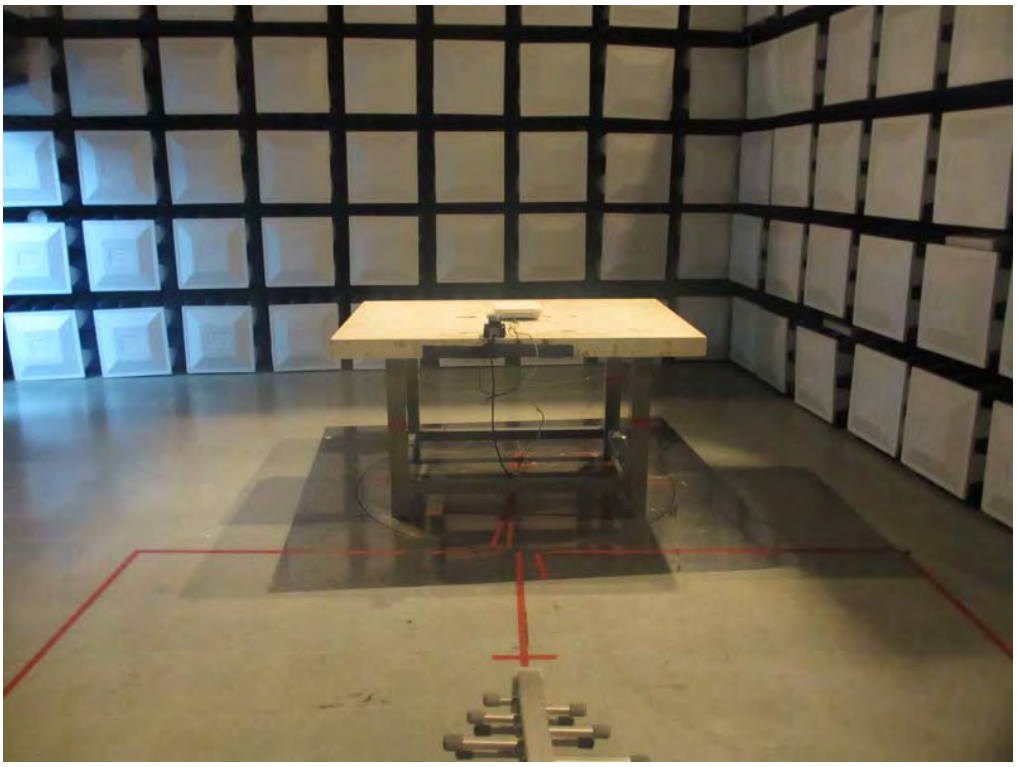
10. EUT TEST PHOTO

Conducted Measurement Photos



Radiated Measurement Photos
9KHz~30MHz

Radiated Measurement Photos
30~1000MHz

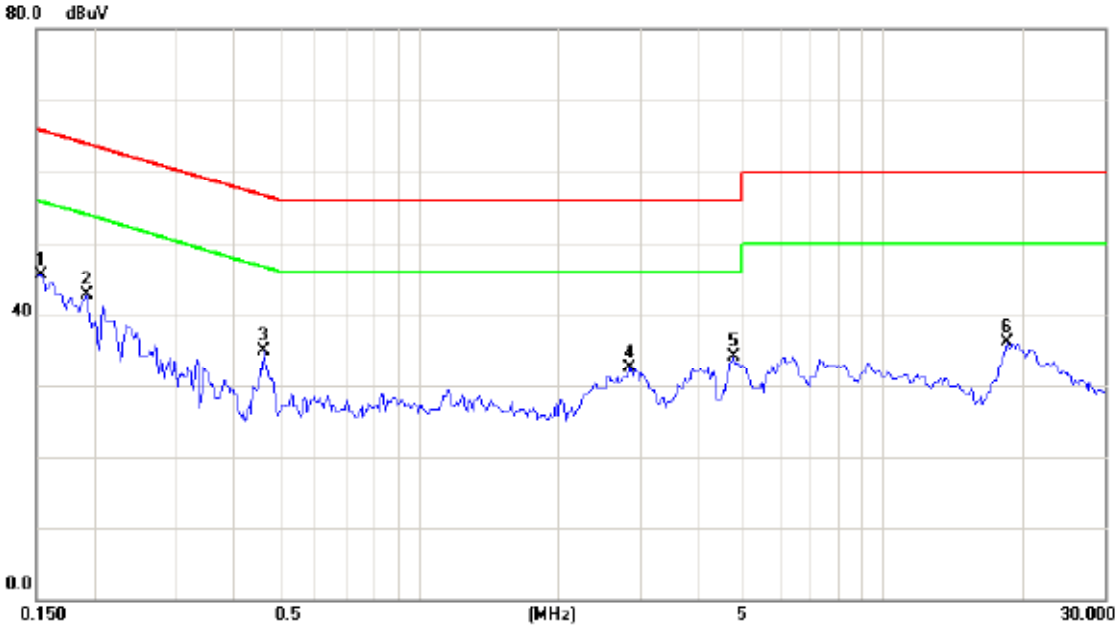


Radiated Measurement Photos
Above 1000MHz

ATTACHMENT A - CONDUCTED EMISSION

Test Mode :	TX Mode

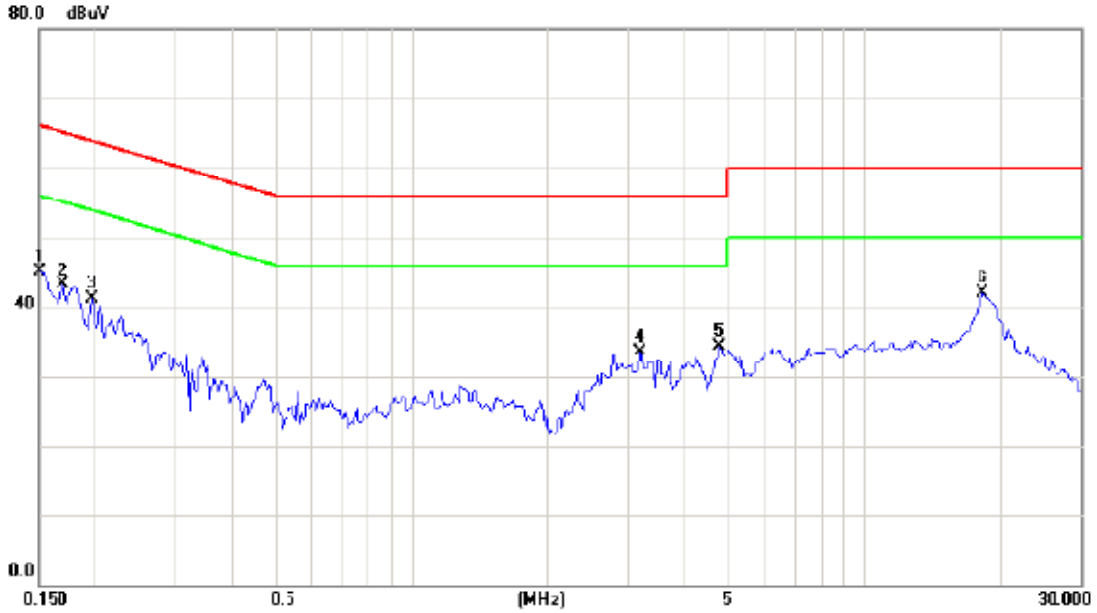
Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1540	35.94	9.63	45.57	65.78	-20.21	peak	
2		0.1930	33.00	9.65	42.65	63.91	-21.26	peak	
3		0.4625	25.15	9.70	34.85	56.65	-21.80	peak	
4		2.8413	22.63	9.86	32.49	56.00	-23.51	peak	
5		4.7500	24.11	9.92	34.03	56.00	-21.97	peak	
6		18.5117	25.82	10.27	36.09	60.00	-23.91	peak	

Test Mode :	TX Mode

Neutral



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1500	35.50	9.70	45.20	66.00	-20.80	peak	
2		0.1695	33.44	9.70	43.14	64.98	-21.84	peak	
3		0.1970	31.33	9.71	41.04	63.74	-22.70	peak	
4		3.1953	23.71	9.90	33.61	56.00	-22.39	peak	
5		4.7852	24.49	9.95	34.44	56.00	-21.56	peak	
6	*	18.2930	31.39	10.44	41.83	60.00	-18.17	peak	

ATTACHMENT B - RADIATED EMISSION (9KHZ TO 30MHZ)

Test Mode :	TX Mode 5745MHz

Freq. (MHz)	Ant. 0°/90°	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
0.0094	0°	17.35	24.30	41.65	128.19	-86.54	AV
0.0094	0°	19.86	24.30	44.16	148.19	-104.03	PK
0.0125	0°	18.05	24.30	42.35	125.70	-83.35	AV
0.0125	0°	20.74	24.30	45.04	145.70	-100.66	PK
0.0268	0°	17.72	23.87	41.59	119.06	-77.47	AV
0.0268	0°	20.44	23.87	44.31	139.06	-94.75	PK
0.0348	0°	18.14	23.36	41.50	116.77	-75.27	AV
0.0348	0°	20.67	23.36	44.03	136.77	-92.74	PK
0.4264	0°	18.32	19.98	38.30	95.01	-56.71	AVG
0.4264	0°	20.78	19.98	40.76	115.01	-74.25	PK
1.2745	0°	19.56	19.57	39.13	65.50	-26.36	QP

Freq. (MHz)	Ant. 0°/90°	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
0.0095	90°	18.26	24.30	42.56	128.01	-85.45	AVG
0.0095	90°	20.59	24.30	44.89	148.01	-103.12	PK
0.0257	90°	17.62	23.94	41.56	119.41	-77.85	AVG
0.0257	90°	20.09	23.94	44.03	139.41	-95.38	PK
0.0372	90°	19.11	23.21	42.32	116.19	-73.87	AVG
0.0372	90°	20.54	23.21	43.75	136.19	-92.44	PK
0.0469	90°	18.16	22.60	40.76	114.18	-73.42	AVG
0.0469	90°	20.95	22.60	43.55	134.18	-90.63	PK
0.2765	90°	17.35	20.34	37.69	98.77	-61.08	AVG
0.2765	90°	20.67	20.34	41.01	118.77	-77.76	PK
1.3850	90°	18.52	19.56	38.08	64.78	-26.69	QP

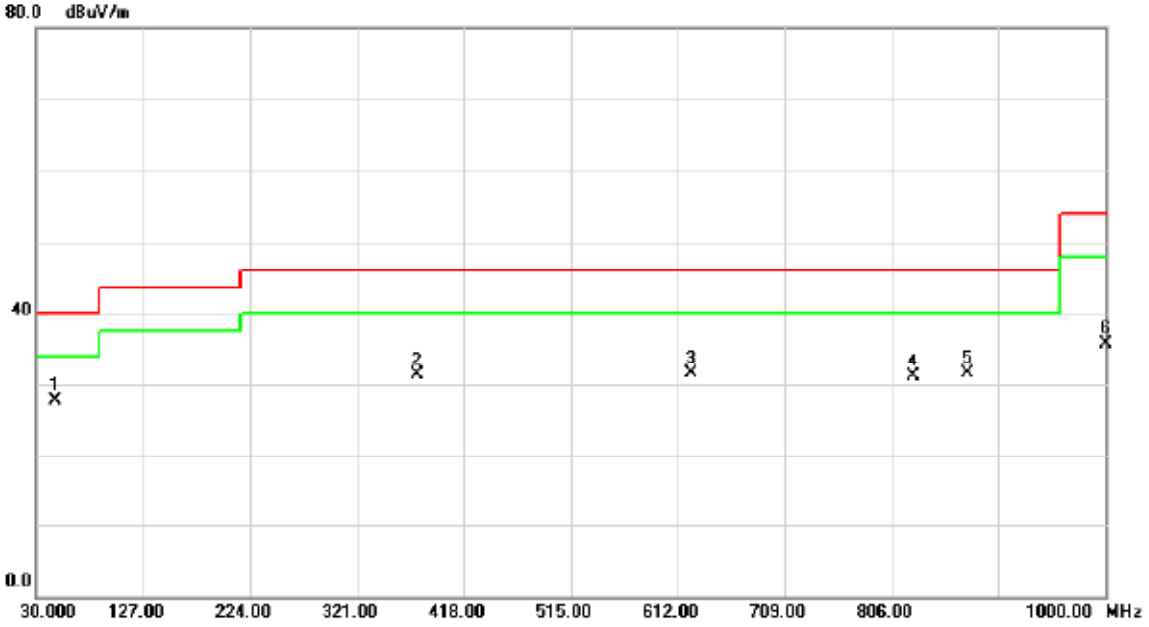
Remark:

(1) The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
(2) Distance extrapolation factor = 40 log (specific distance / test distance) (dB);
(3) Limit line = specific limits (dBuV) + distance extrapolation factor.

ATTACHMENT C - RADIATED EMISSION (30MHZ TO 1000MHZ)

Test Mode:	TX 802.11a Mode 5745MHz

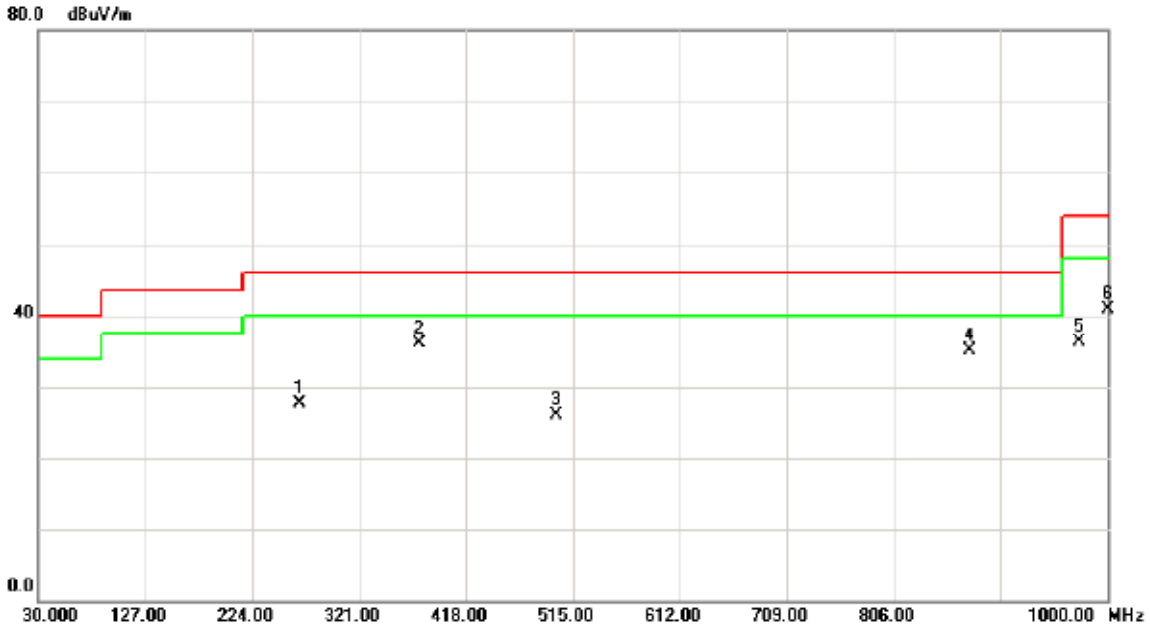
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	47.4600	42.16	-14.40	27.76	40.00	-12.24	peak	
2		375.3200	41.87	-10.66	31.21	46.00	-14.79	peak	
3		624.6100	38.46	-6.86	31.60	46.00	-14.40	peak	
4		826.3700	34.58	-3.40	31.18	46.00	-14.82	peak	
5		874.8700	33.98	-2.48	31.50	46.00	-14.50	peak	
6		1000.000	35.49	0.26	35.75	54.00	-18.25	peak	

Test Mode:	TX 802.11a Mode 5745MHz

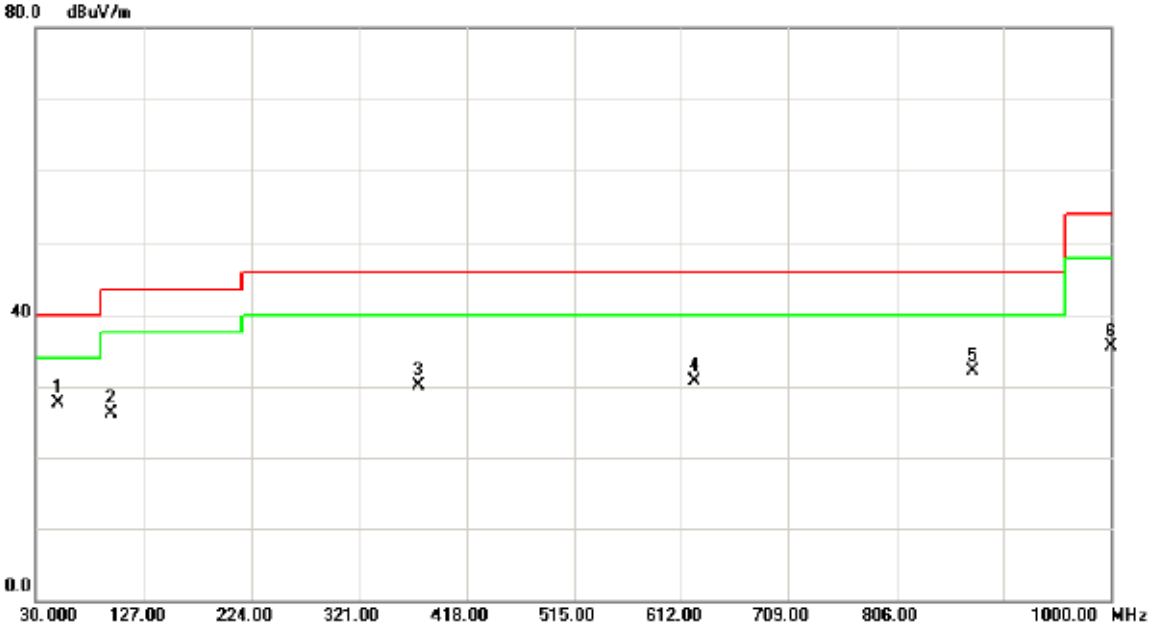
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		266.6800	41.82	-14.18	27.64	46.00	-18.36	peak	
2	*	375.3200	46.77	-10.66	36.11	46.00	-9.89	peak	
3		500.4500	36.46	-10.31	26.15	46.00	-19.85	peak	
4		874.8700	37.56	-2.48	35.08	46.00	-10.92	peak	
5		974.7800	36.53	-0.13	36.40	54.00	-17.60	peak	
6		1000.000	40.74	0.26	41.00	54.00	-13.00	peak	

Test Mode:	TX 802.11a Mode 5785MHz

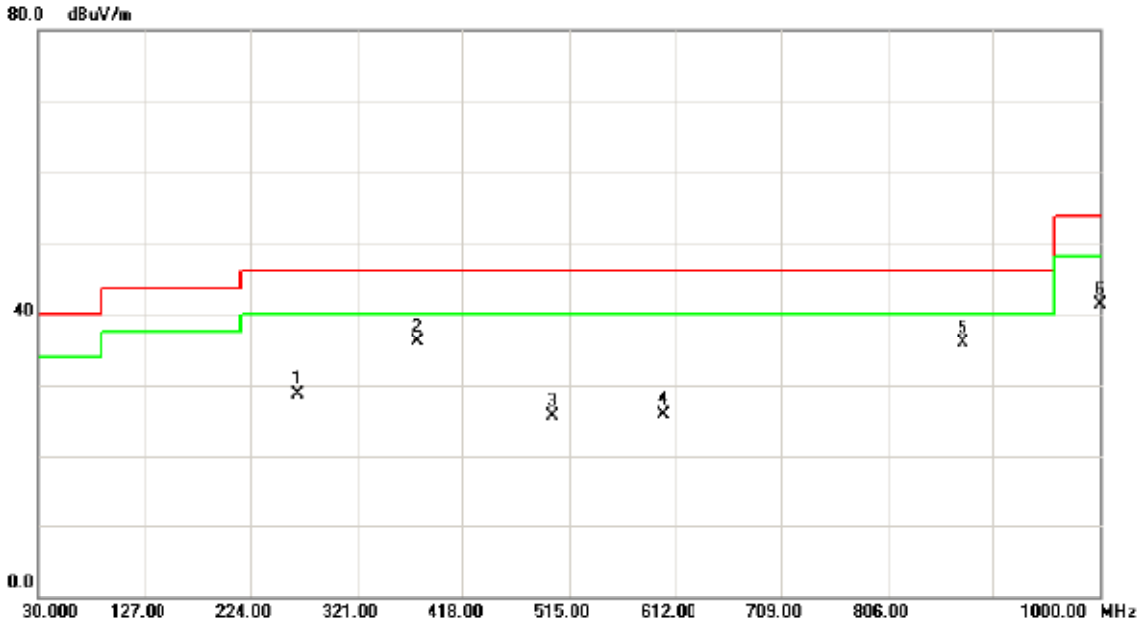
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	48.4300	42.21	-14.57	27.64	40.00	-12.36	peak	
2		95.9600	43.35	-17.07	26.28	43.50	-17.22	peak	
3		375.3200	40.75	-10.66	30.09	46.00	-15.91	peak	
4		624.6100	37.64	-6.86	30.78	46.00	-15.22	peak	
5		874.8700	34.65	-2.48	32.17	46.00	-13.83	peak	
6		1000.000	35.15	0.26	35.41	54.00	-18.59	peak	

Test Mode:	TX 802.11a Mode 5785MHz

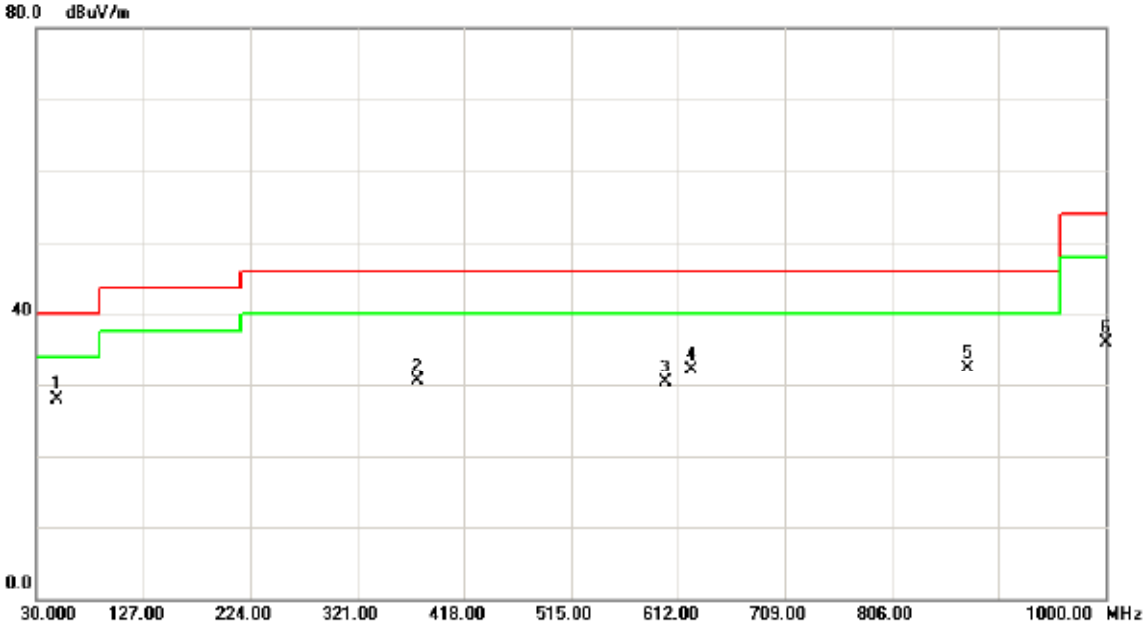
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		266.6800	42.95	-14.18	28.77	46.00	-17.23	peak	
2	*	375.3200	46.76	-10.66	36.10	46.00	-9.90	peak	
3		500.4500	36.03	-10.31	25.72	46.00	-20.28	peak	
4		600.3600	34.07	-8.08	25.99	46.00	-20.01	peak	
5		874.8700	38.39	-2.48	35.91	46.00	-10.09	peak	
6		1000.000	41.14	0.26	41.40	54.00	-12.60	peak	

Test Mode:	TX 802.11a Mode 5825MHz

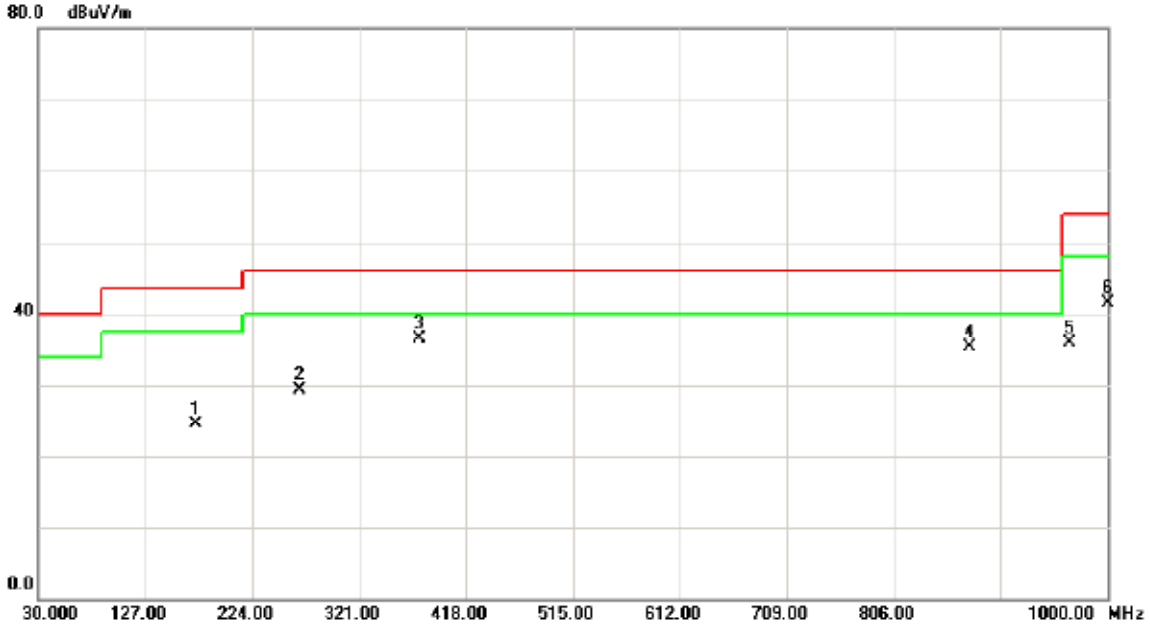
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	48.4300	42.51	-14.57	27.94	40.00	-12.06	peak	
2		375.3200	41.15	-10.66	30.49	46.00	-15.51	peak	
3		600.3600	38.43	-8.08	30.35	46.00	-15.65	peak	
4		624.6100	38.99	-6.86	32.13	46.00	-13.87	peak	
5		874.8700	34.81	-2.48	32.33	46.00	-13.67	peak	
6		1000.000	35.59	0.26	35.85	54.00	-18.15	peak	

Test Mode:	TX 802.11a Mode 5825MHz

Horizontal

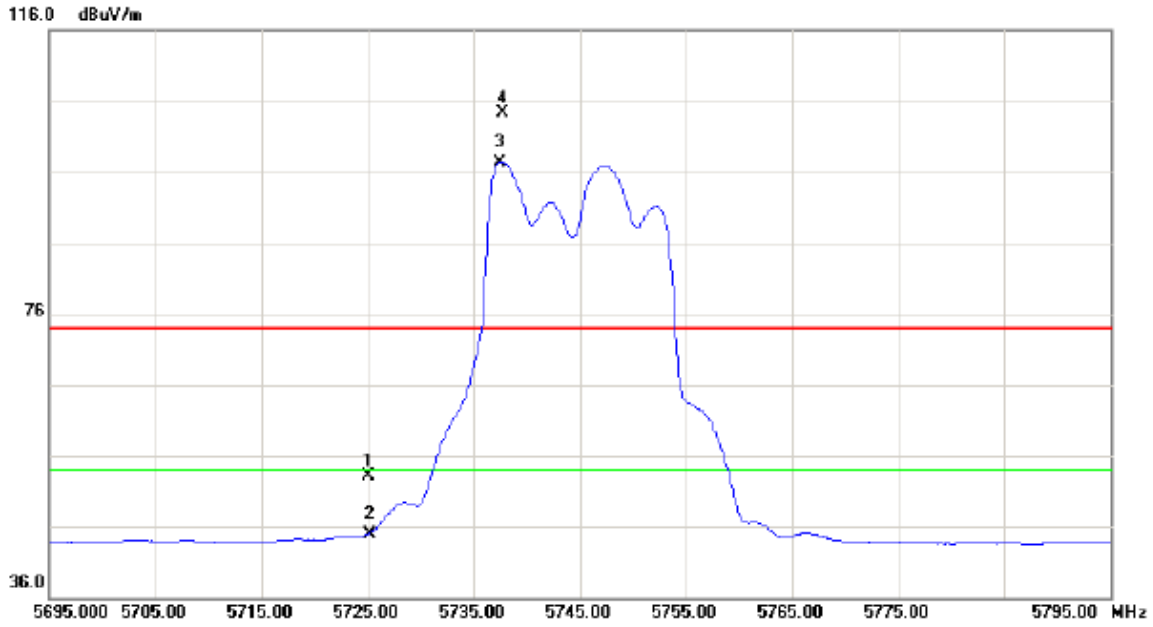


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		172.5900	37.17	-12.75	24.42	43.50	-19.08	peak	
2		266.6800	43.51	-14.18	29.33	46.00	-16.67	peak	
3	*	375.3200	47.22	-10.66	36.56	46.00	-9.44	peak	
4		874.8700	37.69	-2.48	35.21	46.00	-10.79	peak	
5		966.0500	36.11	-0.27	35.84	54.00	-18.16	peak	
6		1000.000	41.25	0.26	41.51	54.00	-12.49	peak	

ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)

Orthogonal Axis :	X
Test Mode :	TX 802.11a Mode 5745MHz

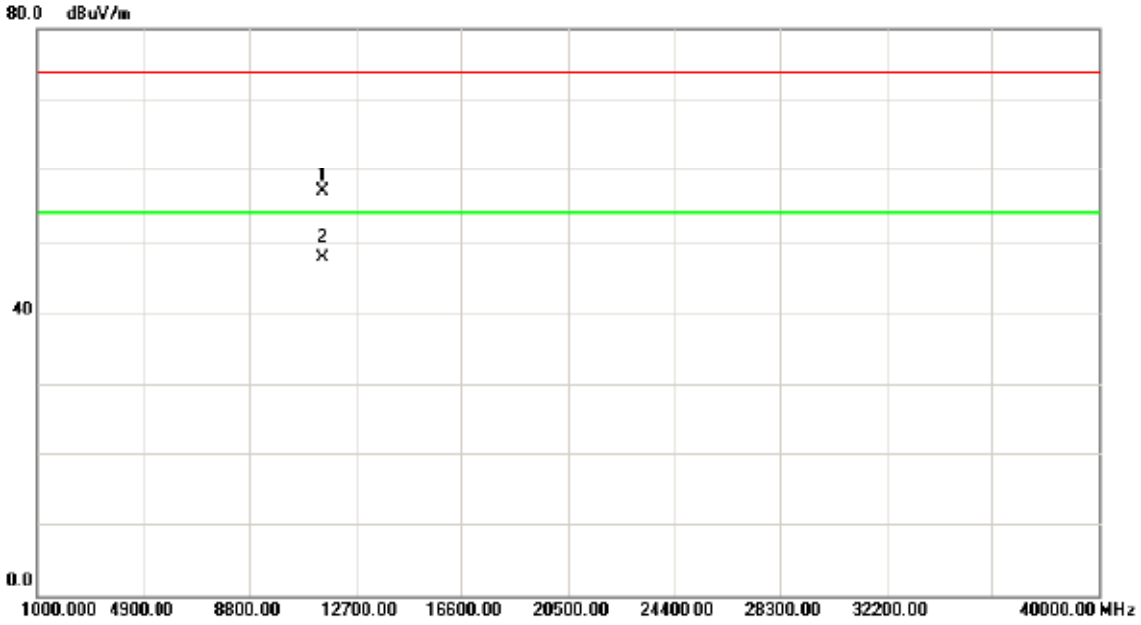
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5725.000	8.79	44.34	53.13	74.00	-20.87	peak	
2		5725.000	0.59	44.34	44.93	54.00	-9.07	AVG	
3	*	5737.500	52.97	44.39	97.36	54.00	43.36	AVG	
4	X	5737.700	59.96	44.39	104.35	74.00	30.35	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11a Mode 5745MHz

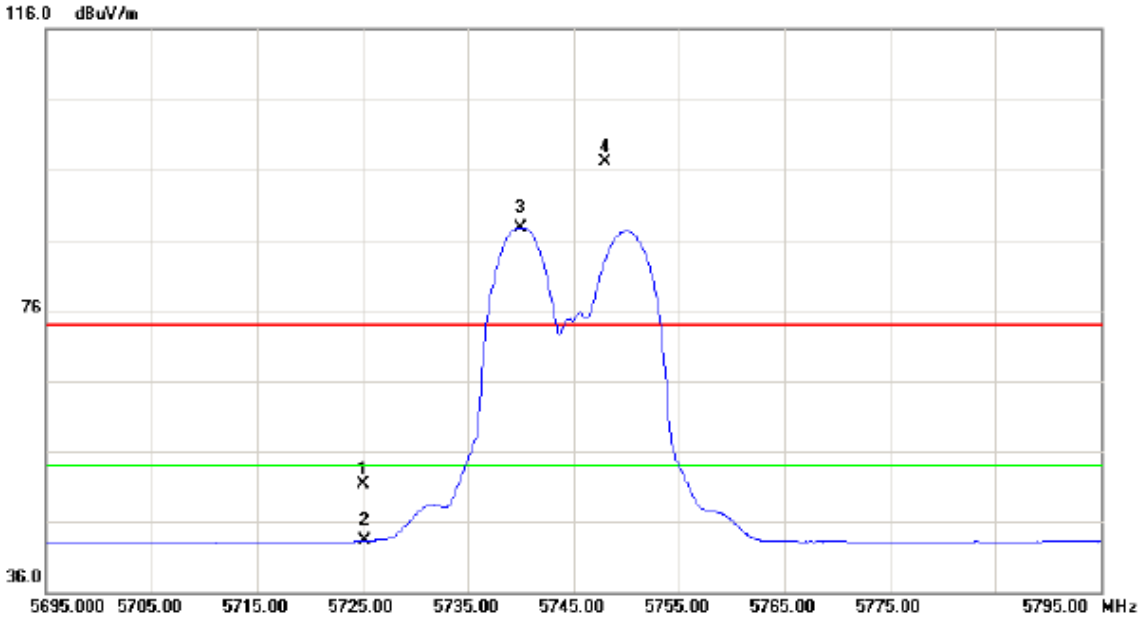
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		11482.900	38.54	18.44	56.98	74.00	-17.02	peak	
2	*	11482.900	29.24	18.44	47.68	54.00	-6.32	AVG	

Orthogonal Axis :	X
Test Mode :	TX 802.11a Mode 5745MHz

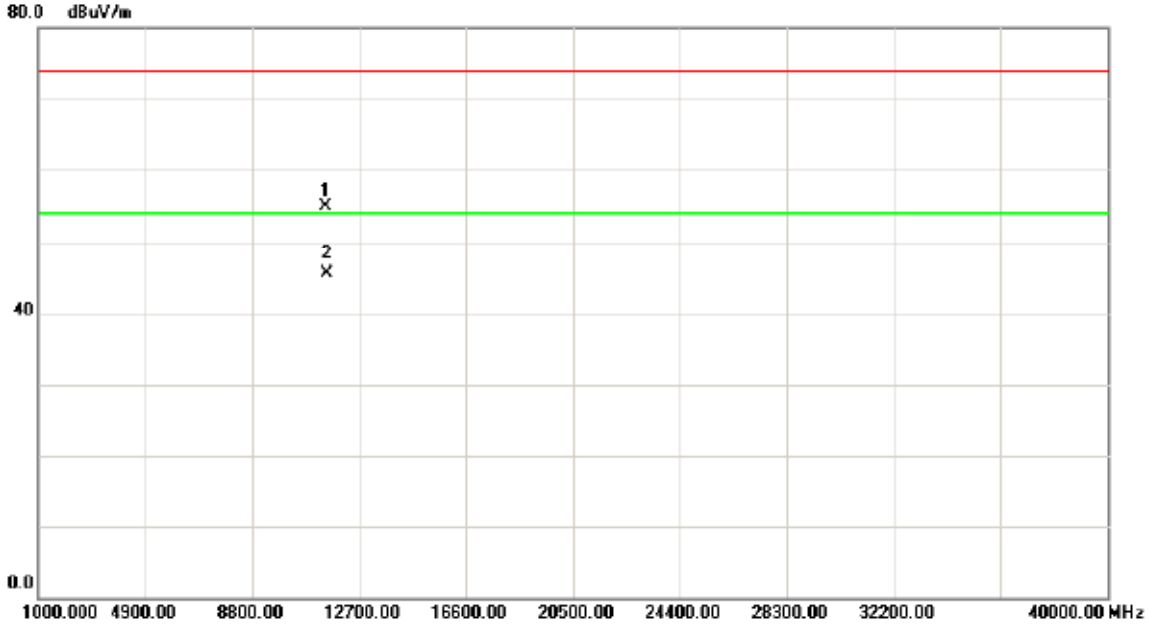
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5725.000	6.90	44.34	51.24	74.00	-22.76	peak	
2		5725.000	-1.05	44.34	43.29	54.00	-10.71	AVG	
3	*	5740.000	43.40	44.40	87.80	54.00	33.80	AVG	
4	X	5748.000	52.60	44.42	97.02	74.00	23.02	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11a Mode 5745MHz

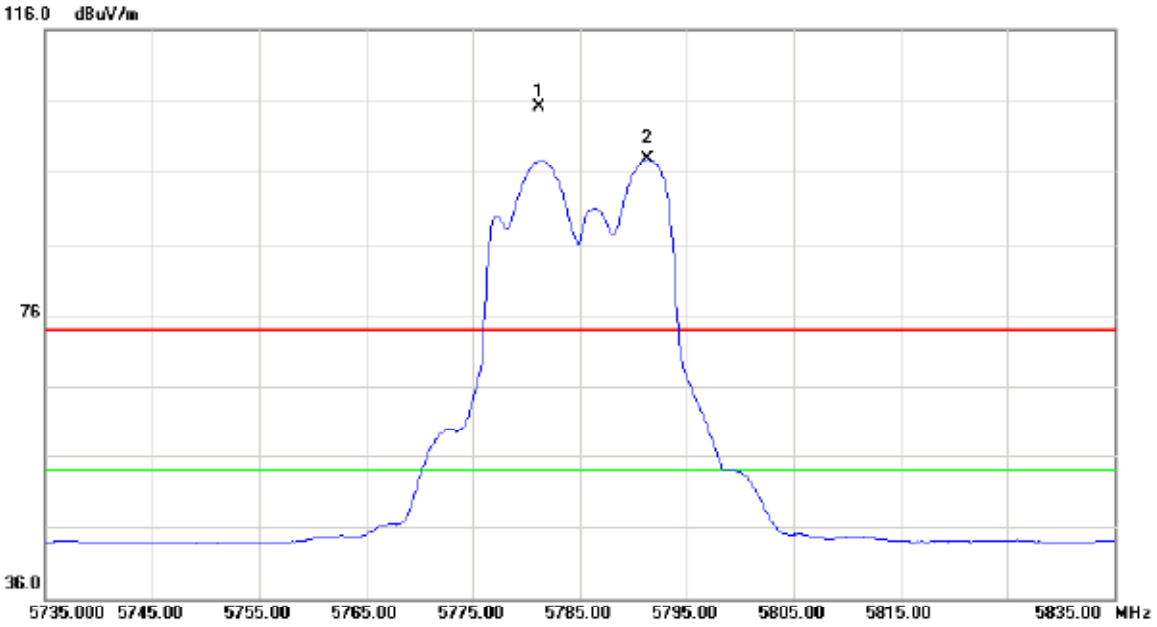
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		11492.60	36.42	18.47	54.89	74.00	-19.11	peak	
2	*	11492.60	27.08	18.47	45.55	54.00	-8.45	AVG	

Orthogonal Axis :	X
Test Mode :	TX 802.11a Mode 5785MHz

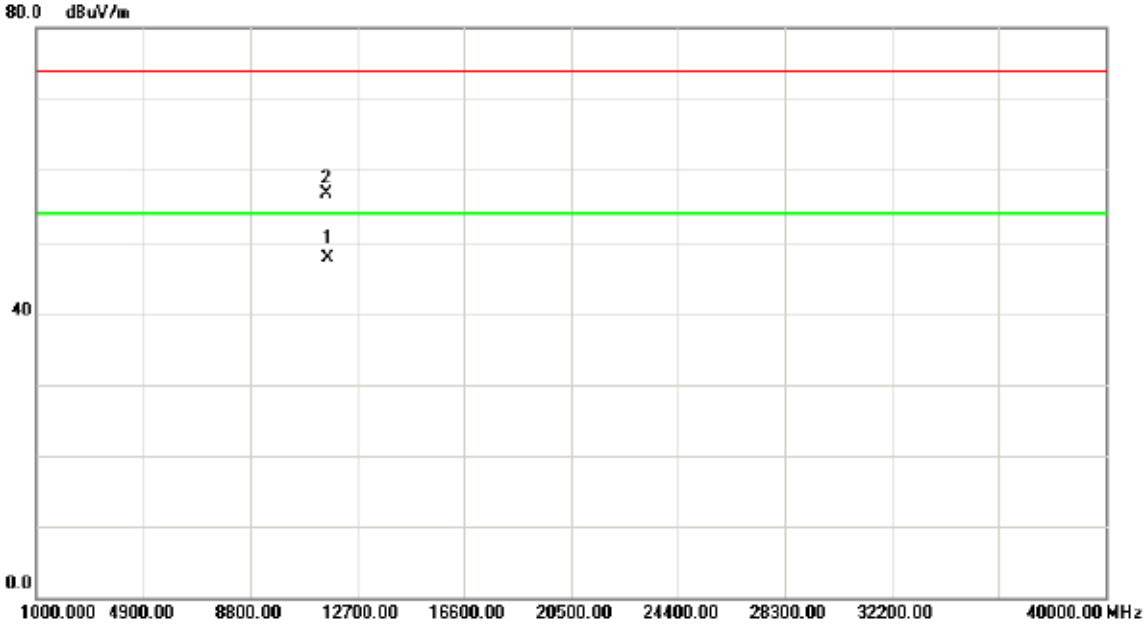
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5781.200	60.66	44.54	105.20	74.00	31.20	peak	
2	*	5791.300	53.25	44.57	97.82	54.00	43.82	AVG	

Orthogonal Axis :	X
Test Mode :	TX 802.11a Mode 5785MHz

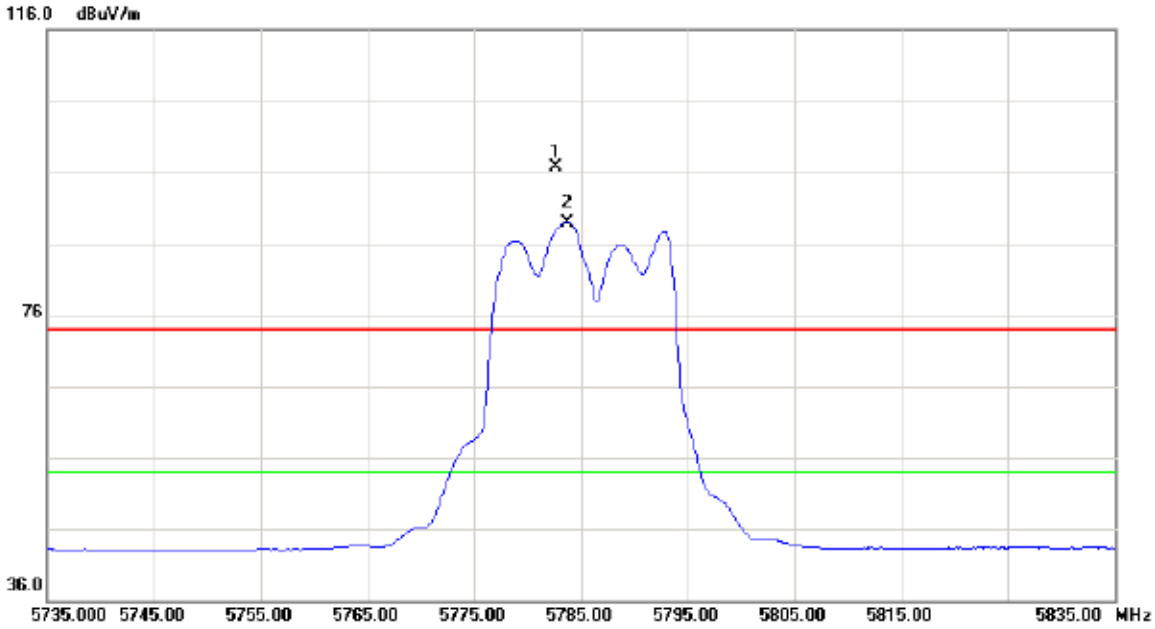
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11574.30	28.94	18.67	47.61	54.00	-6.39	AVG	
2		11576.90	37.96	18.68	56.64	74.00	-17.36	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11a Mode 5785MHz

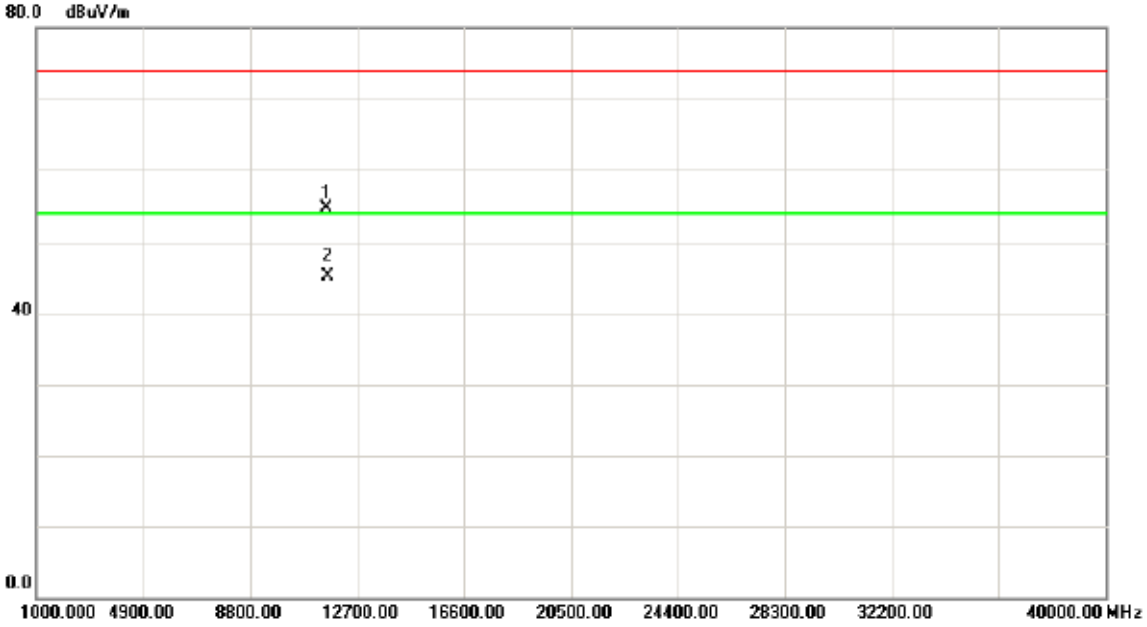
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5782.700	52.06	44.55	96.61	74.00	22.61	peak	
2	*	5783.700	44.41	44.55	88.96	54.00	34.96	AVG	

Orthogonal Axis :	X
Test Mode :	TX 802.11a Mode 5785MHz

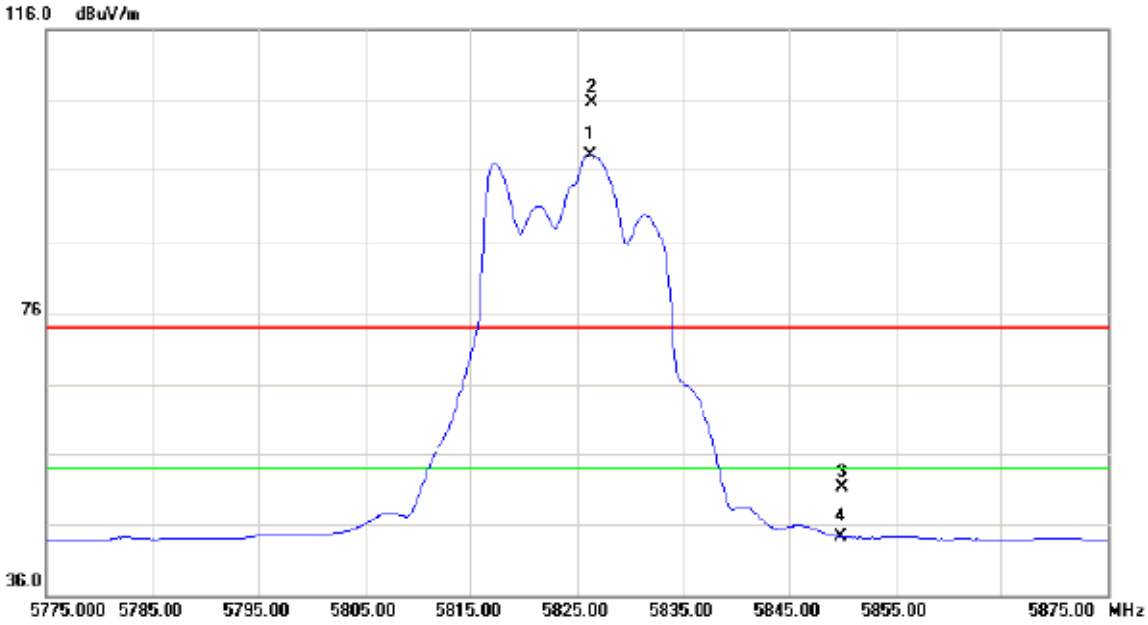
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		11572.60	35.96	18.67	54.63	74.00	-19.37	peak	
2	*	11576.80	26.51	18.68	45.19	54.00	-8.81	AVG	

Orthogonal Axis :	X
Test Mode :	TX 802.11a Mode 5825MHz

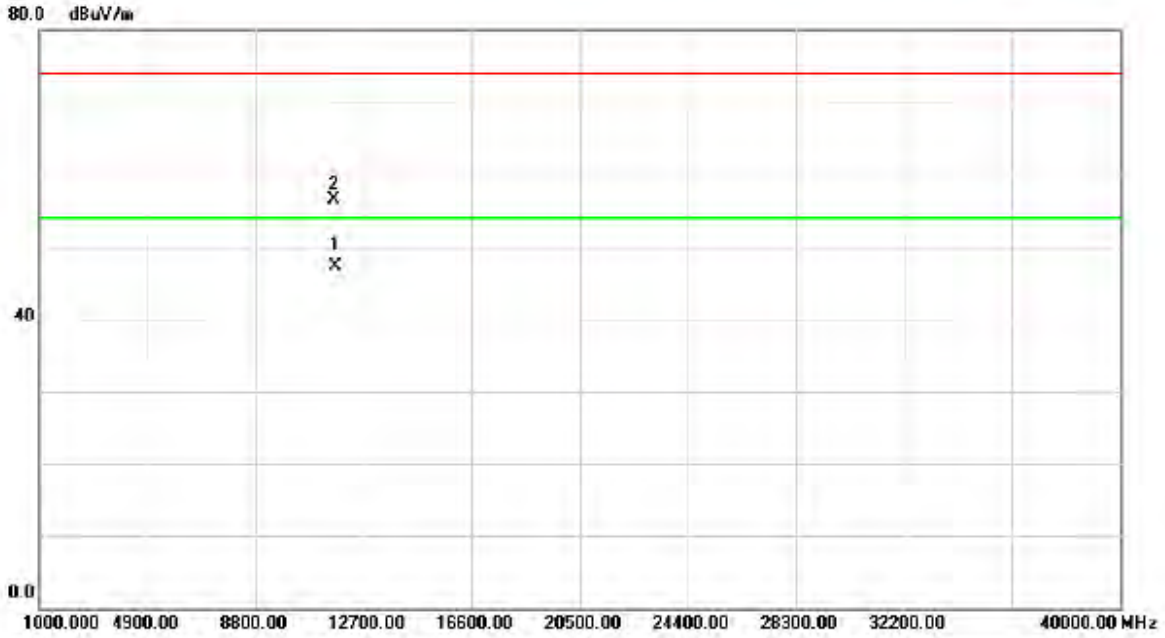
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5826.200	53.34	44.70	98.04	54.00	44.04	AVG	
2	X	5826.400	60.98	44.70	105.68	74.00	31.68	peak	
3		5850.000	6.61	44.78	51.39	74.00	-22.61	peak	
4		5850.000	-0.50	44.78	44.28	54.00	-9.72	AVG	

Orthogonal Axis :	X
Test Mode :	TX 802.11a Mode 5825MHz

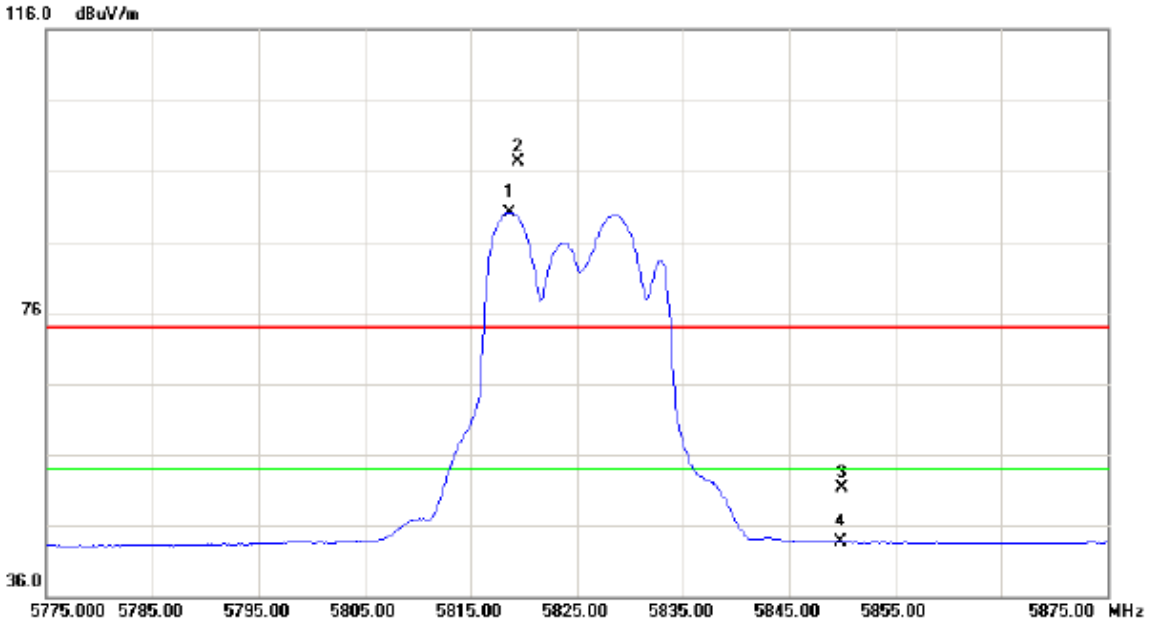
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11653.50	28.53	18.87	47.40	54.00	-6.60	AVG	
2		11654.90	37.62	18.88	56.50	74.00	-17.50	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11a Mode 5825MHz

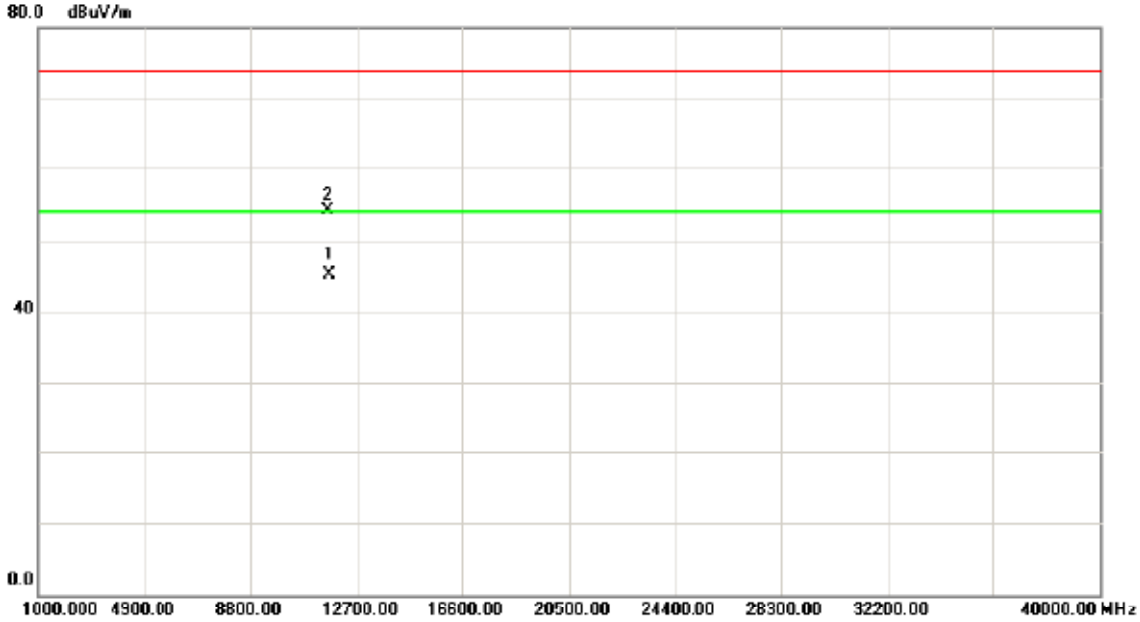
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5818.700	45.44	44.67	90.11	54.00	36.11	AVG	
2	X	5819.400	52.62	44.67	97.29	74.00	23.29	peak	
3		5850.000	6.56	44.78	51.34	74.00	-22.66	peak	
4		5850.000	-1.08	44.78	43.70	54.00	-10.30	AVG	

Orthogonal Axis :	X
Test Mode :	TX 802.11a Mode 5825MHz

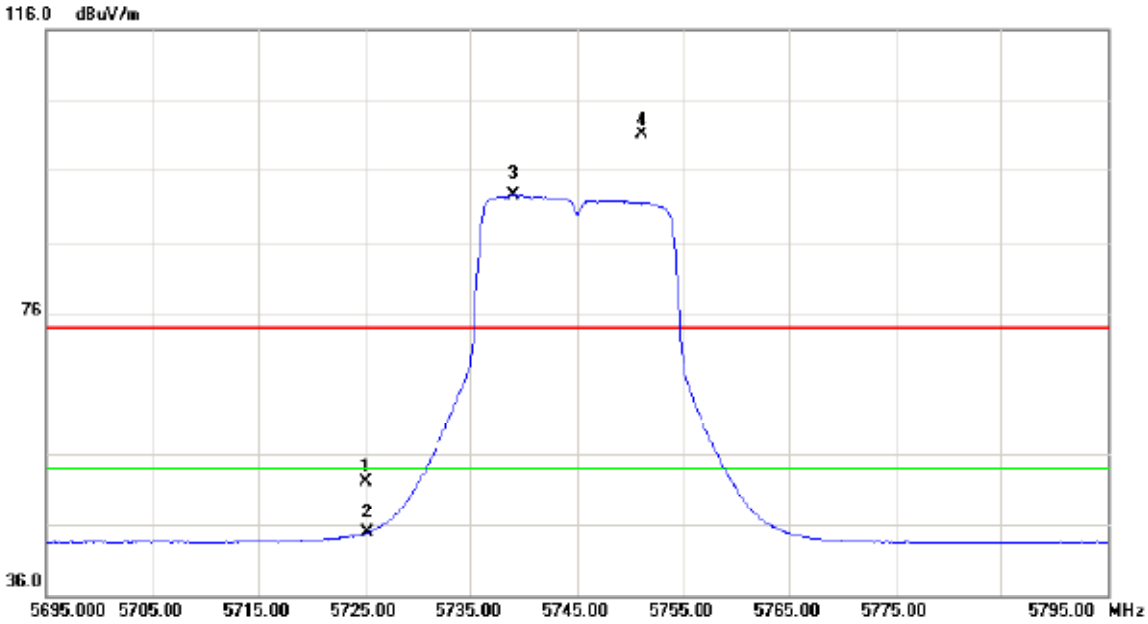
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11653.50	26.33	18.87	45.20	54.00	-8.80	AVG	
2		11654.80	35.26	18.88	54.14	74.00	-19.86	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11n(20 MHz) Mode 5745MHz

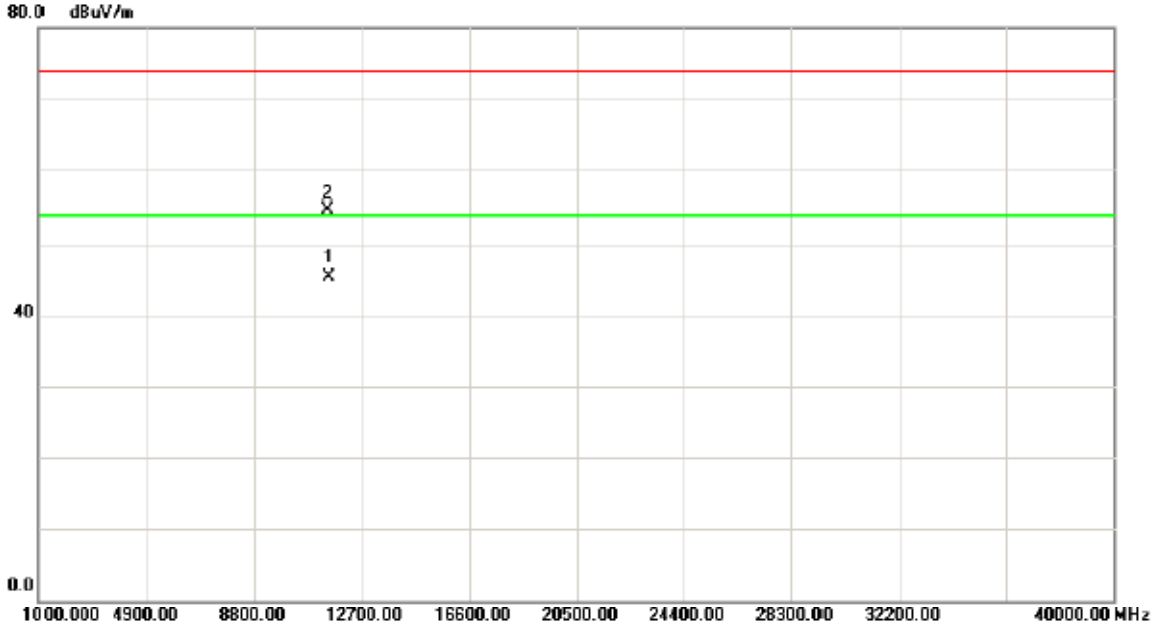
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5725.000	7.83	44.34	52.17	74.00	-21.83	peak	
2		5725.000	0.49	44.34	44.83	54.00	-9.17	AVG	
3	*	5739.100	48.11	44.40	92.51	54.00	38.51	AVG	
4	X	5751.100	56.76	44.44	101.20	74.00	27.20	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11n(20 MHz) Mode 5745MHz

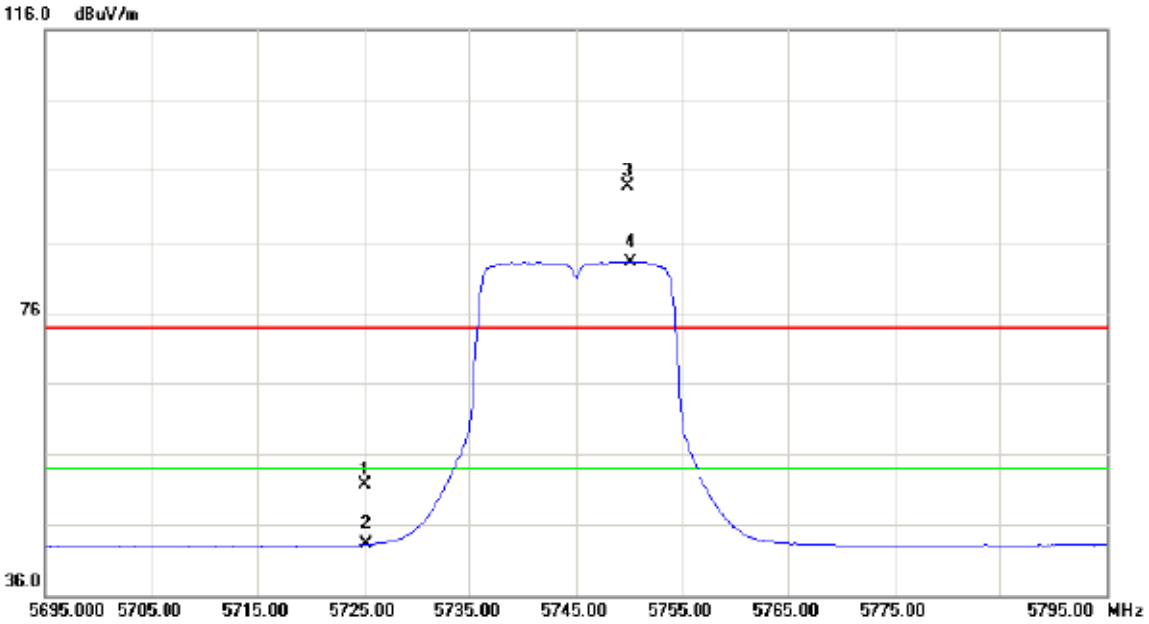
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11495.20	26.85	18.48	45.33	54.00	-8.67	AVG	
2		11496.30	36.26	18.49	54.75	74.00	-19.25	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11n(20 MHz) Mode 5745MHz

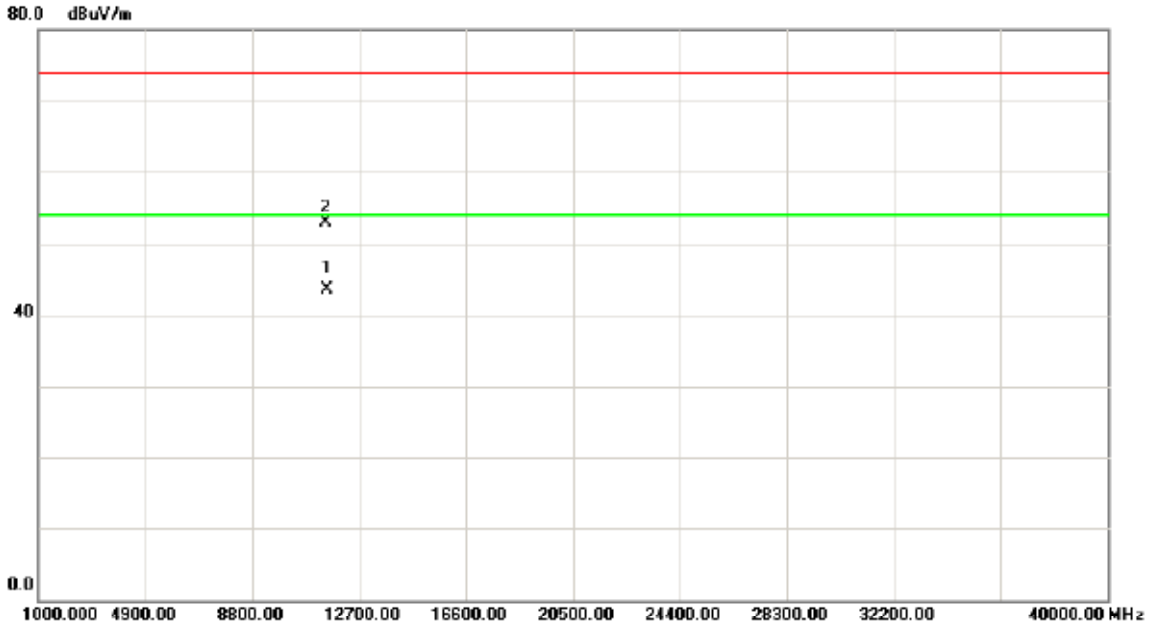
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5725.000	7.44	44.34	51.78	74.00	-22.22	peak	
2		5725.000	-1.11	44.34	43.23	54.00	-10.77	AVG	
3	X	5749.800	49.35	44.43	93.78	74.00	19.78	peak	
4	*	5750.100	38.72	44.44	83.16	54.00	29.16	AVG	

Orthogonal Axis :	X
Test Mode :	TX 802.11n(20 MHz) Mode 5745MHz

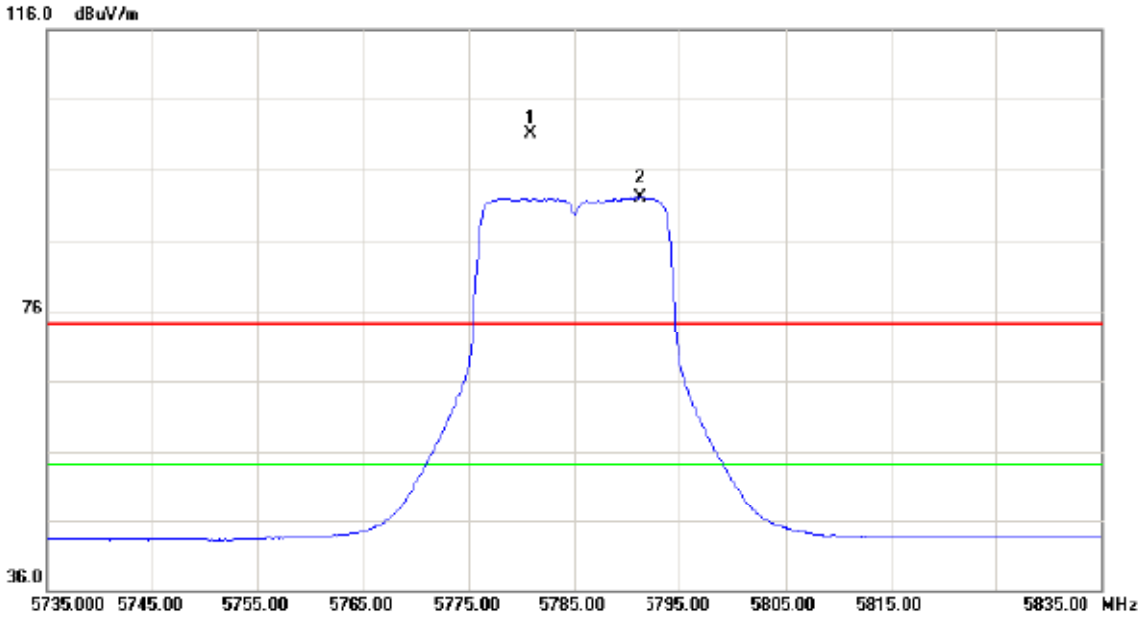
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11493.50	25.11	18.47	43.58	54.00	-10.42	AVG	
2		11496.50	34.36	18.49	52.85	74.00	-21.15	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11n(20 MHz) Mode 5785MHz

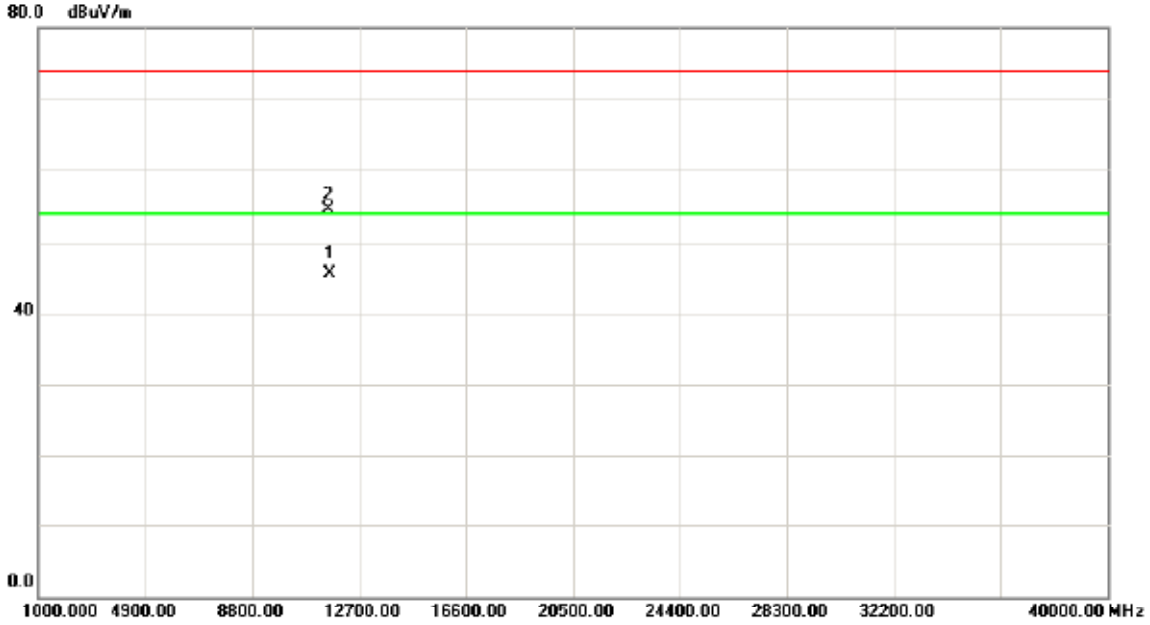
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5780.900	56.56	44.54	101.10	74.00	27.10	peak	
2	*	5791.200	47.34	44.57	91.91	54.00	37.91	AVG	

Orthogonal Axis :	X
Test Mode :	TX 802.11n(20 MHz) Mode 5785MHz

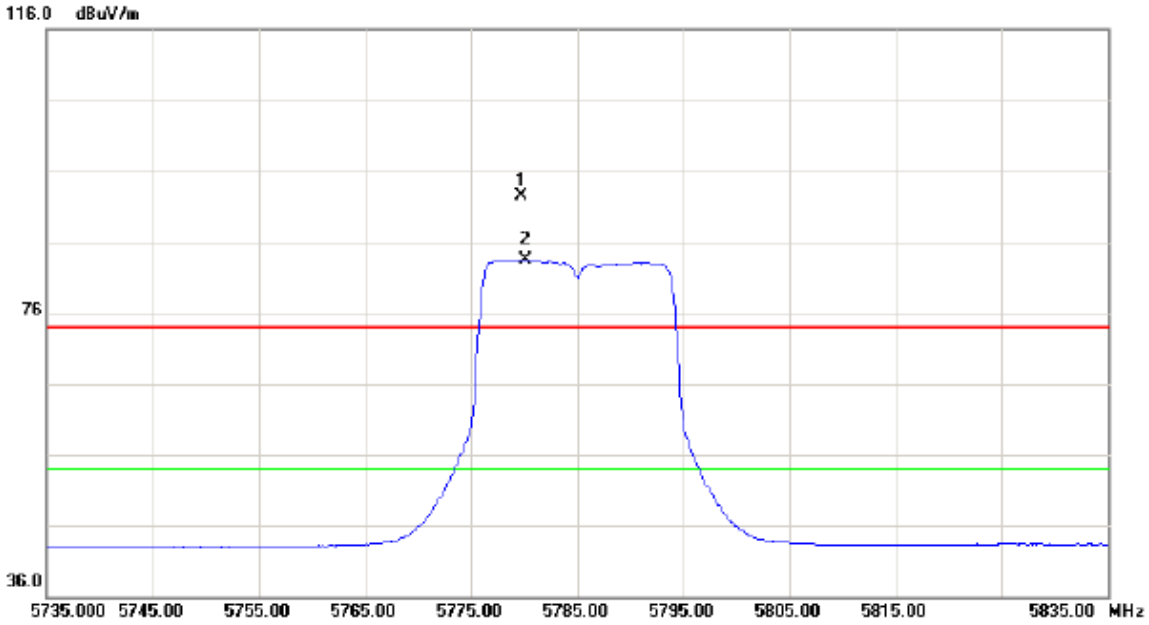
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11572.90	26.84	18.67	45.51	54.00	-8.49	AVG	
2		11574.20	35.77	18.67	54.44	74.00	-19.56	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11n(20 MHz) Mode 5785MHz

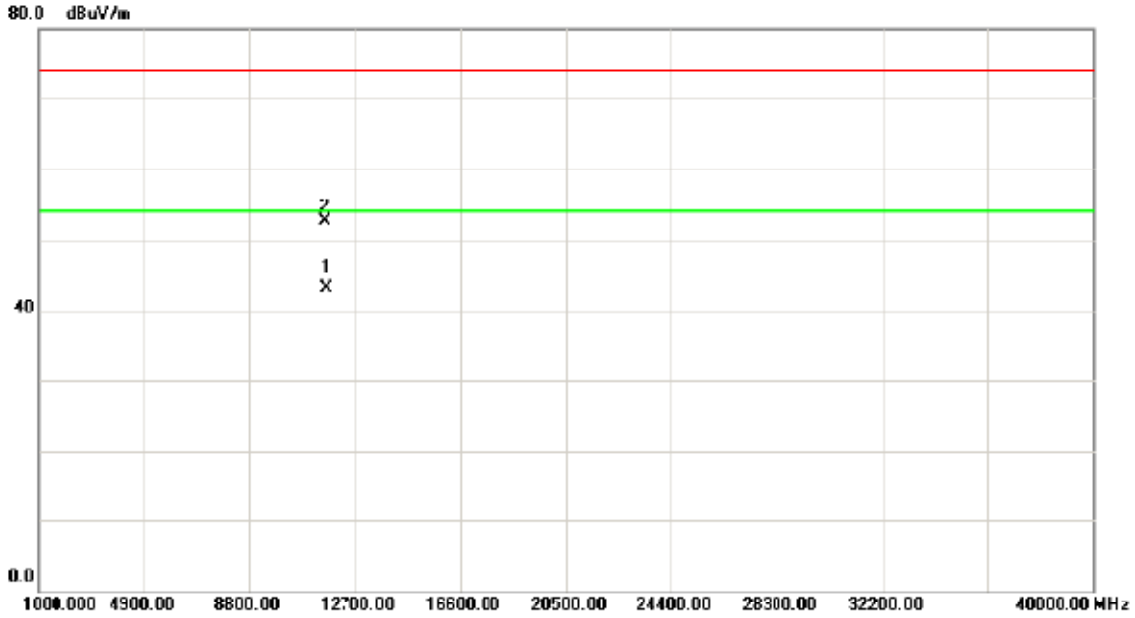
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5779.700	47.93	44.54	92.47	74.00	18.47	peak	
2	*	5780.100	39.05	44.54	83.59	54.00	29.59	AVG	

Orthogonal Axis :	X
Test Mode :	TX 802.11n(20 MHz) Mode 5785MHz

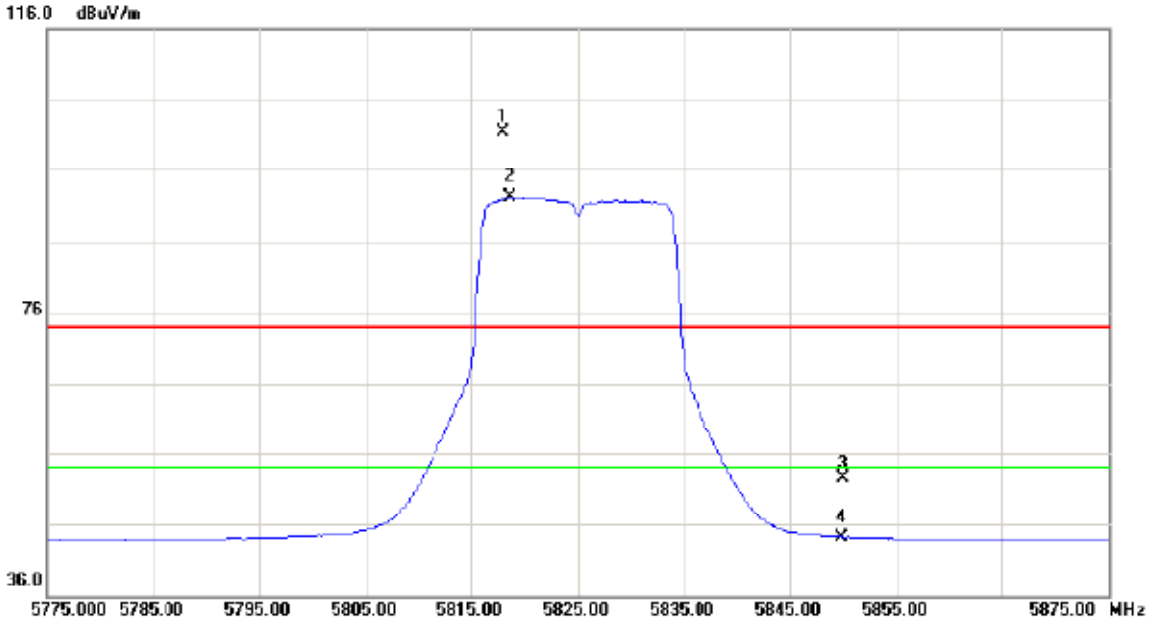
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11574.20	24.46	18.67	43.13	54.00	-10.87	AVG	
2		11578.30	33.85	18.69	52.54	74.00	-21.46	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11n(20 MHz) Mode 5825MHz

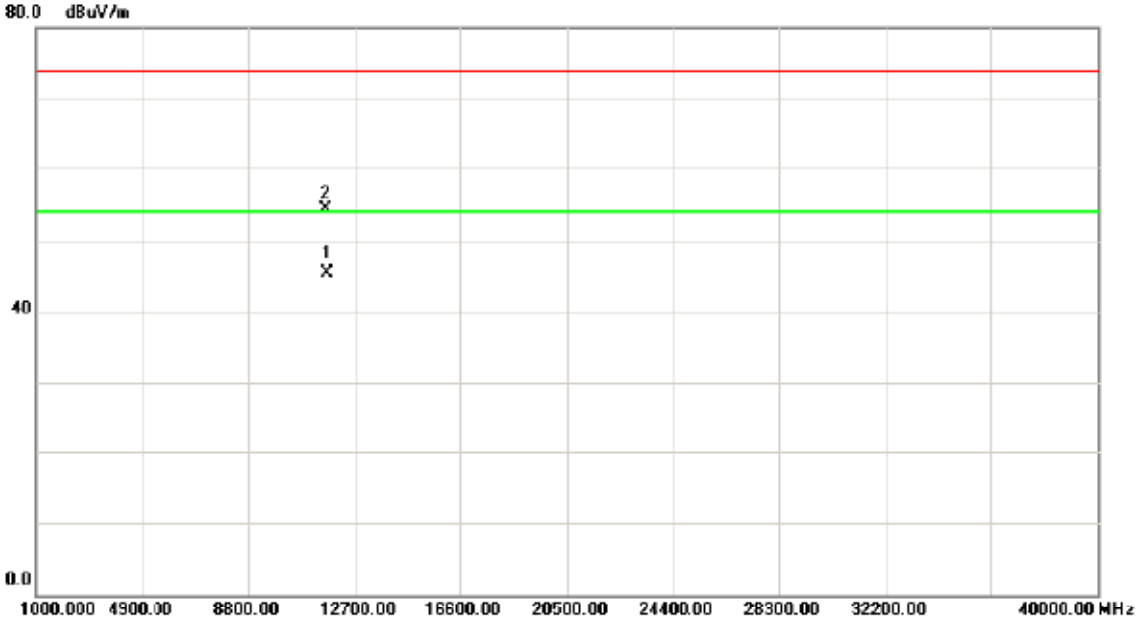
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5818.000	56.79	44.66	101.45	74.00	27.45	peak	
2	*	5818.600	47.41	44.67	92.08	54.00	38.08	AVG	
3		5850.000	7.73	44.78	52.51	74.00	-21.49	peak	
4		5850.000	-0.58	44.78	44.20	54.00	-9.80	AVG	

Orthogonal Axis :	X
Test Mode :	TX 802.11n(20 MHz) Mode 5825MHz

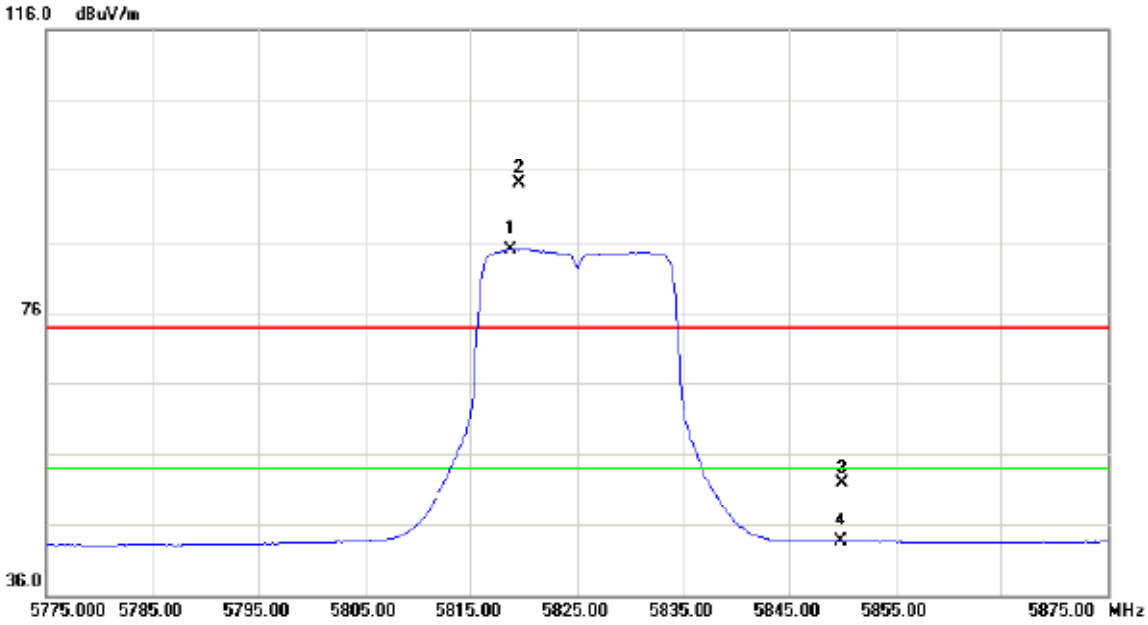
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11652.90	26.41	18.87	45.28	54.00	-8.72	AVG	
2		11653.10	35.52	18.87	54.39	74.00	-19.61	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11n(20 MHz) Mode 5825MHz

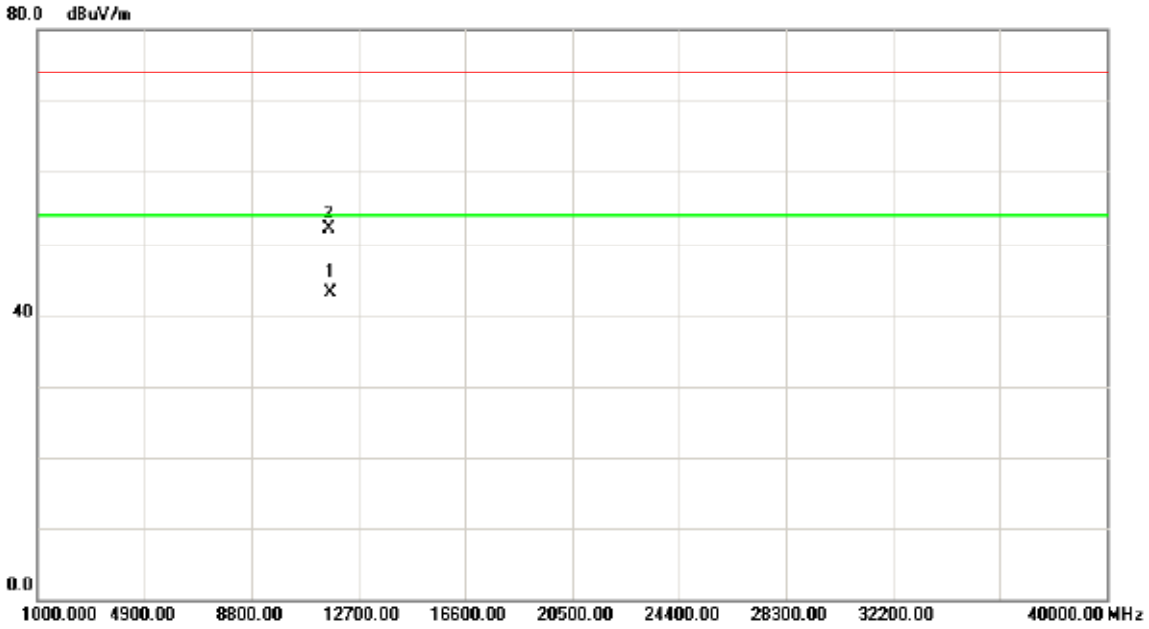
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5818.800	40.25	44.67	84.92	54.00	30.92	AVG	
2	X	5819.600	49.41	44.67	94.08	74.00	20.08	peak	
3		5850.000	7.13	44.78	51.91	74.00	-22.09	peak	
4		5850.000	-1.08	44.78	43.70	54.00	-10.30	AVG	

Orthogonal Axis :	X
Test Mode :	TX 802.11n(20 MHz) Mode 5825MHz

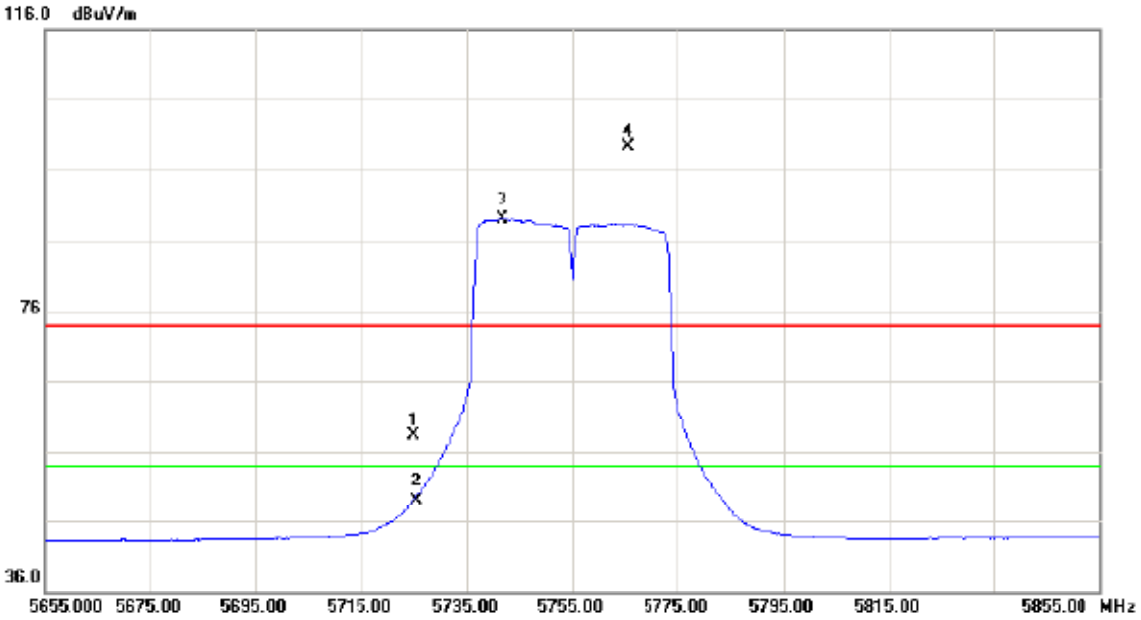
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11652.60	24.23	18.87	43.10	54.00	-10.90	AVG	
2		11653.80	33.16	18.87	52.03	74.00	-21.97	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11n(40 MHz) Mode 5755MHz

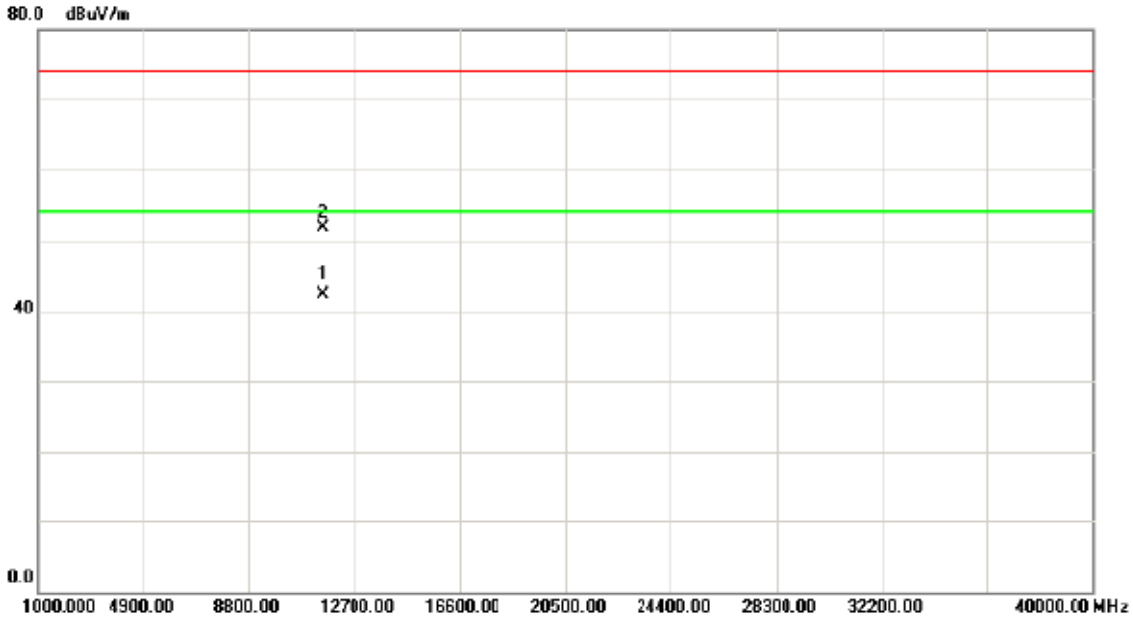
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5725.000	14.01	44.34	58.35	74.00	-15.65	peak	
2		5725.000	4.66	44.34	49.00	54.00	-5.00	AVG	
3	*	5741.800	44.56	44.41	88.97	54.00	34.97	AVG	
4	X	5765.600	54.76	44.49	99.25	74.00	25.25	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11n(40 MHz) Mode 5755MHz

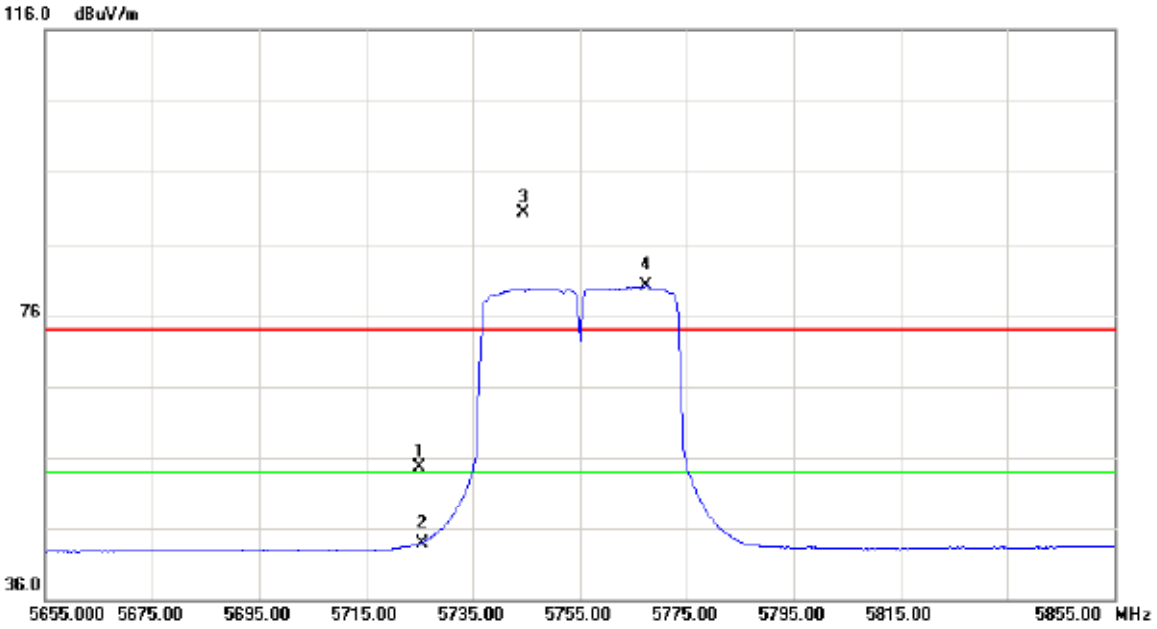
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	cBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11512.30	23.74	18.52	42.26	54.00	-11.74	AVG	
2		11514.20	33.13	18.53	51.66	74.00	-22.34	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11n(40 MHz) Mode 5755MHz

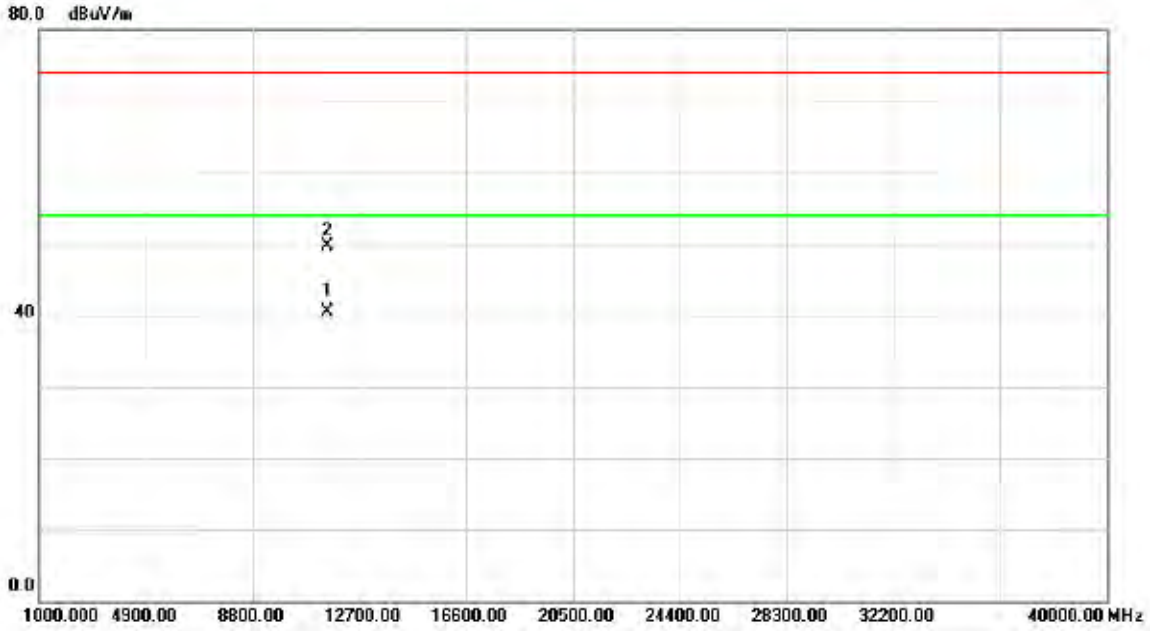
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5725.000	10.36	44.34	54.70	74.00	-19.30	peak	
2		5725.000	-0.39	44.34	43.95	54.00	-10.05	AVG	
3	X	5744.400	45.81	44.41	90.22	74.00	16.22	peak	
4	*	5767.400	35.53	44.49	80.02	54.00	26.02	AVG	

Orthogonal Axis :	X
Test Mode :	TX 802.11n(40 MHz) Mode 5755MHz

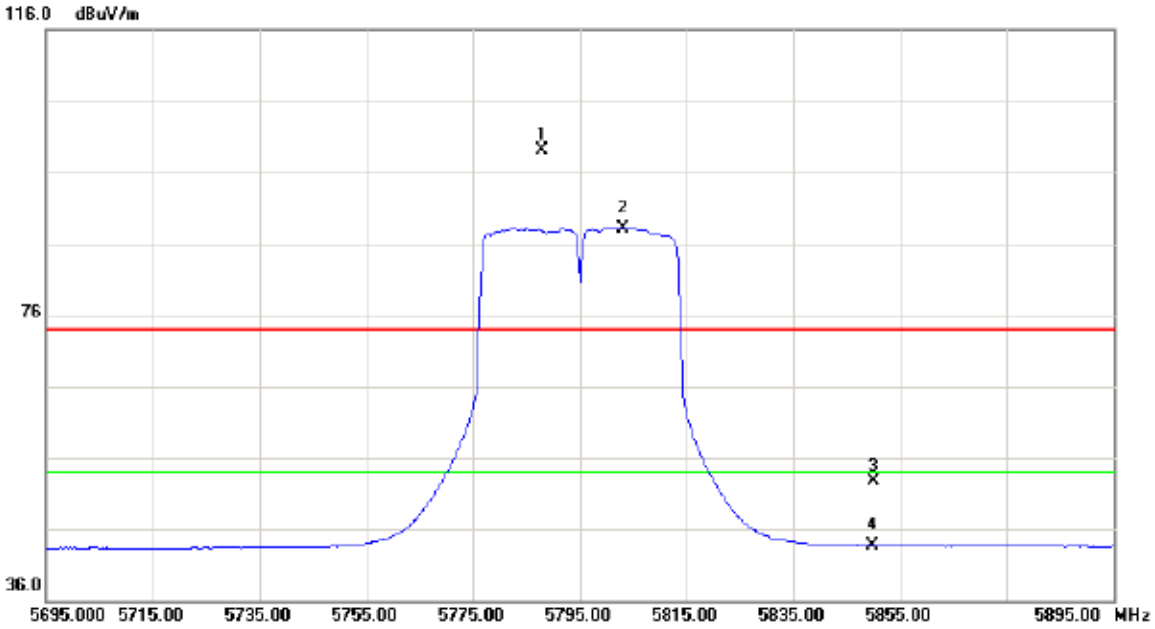
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11512.60	21.95	18.52	40.47	54.00	-13.53	AVG	
2		11516.50	31.24	18.54	49.78	74.00	-24.22	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11n(40 MHz) Mode 5795MHz

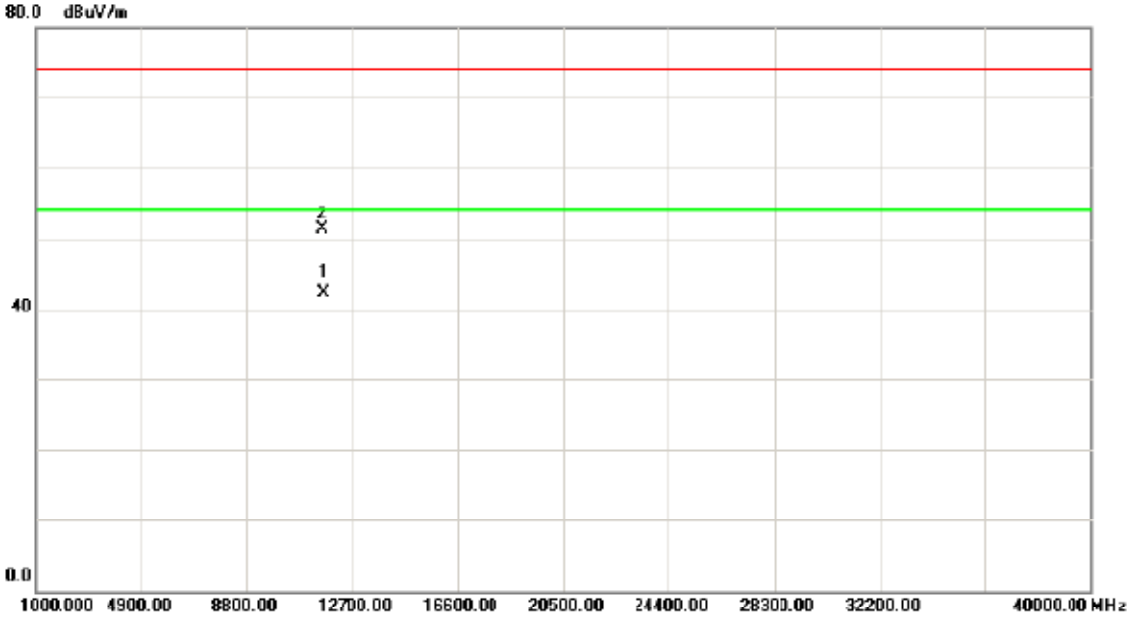
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5787.800	54.60	44.56	99.16	74.00	25.16	peak	
2	*	5803.200	43.54	44.62	88.16	54.00	34.16	AVG	
3		5850.000	8.02	44.78	52.80	74.00	-21.20	peak	
4		5850.000	-0.99	44.78	43.79	54.00	-10.21	AVG	

Orthogonal Axis :	X
Test Mode :	TX 802.11n(40 MHz) Mode 5795MHz

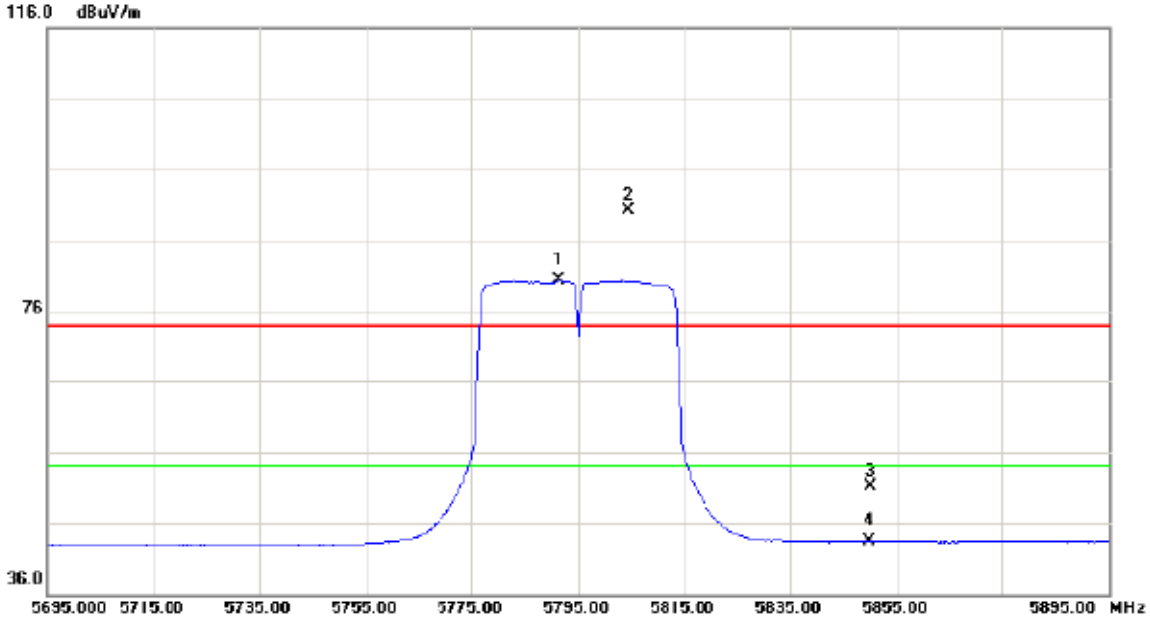
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11592.50	23.58	18.72	42.30	54.00	-11.70	AVG	
2		11593.60	32.51	18.72	51.23	74.00	-22.77	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11n(40 MHz) Mode 5795MHz

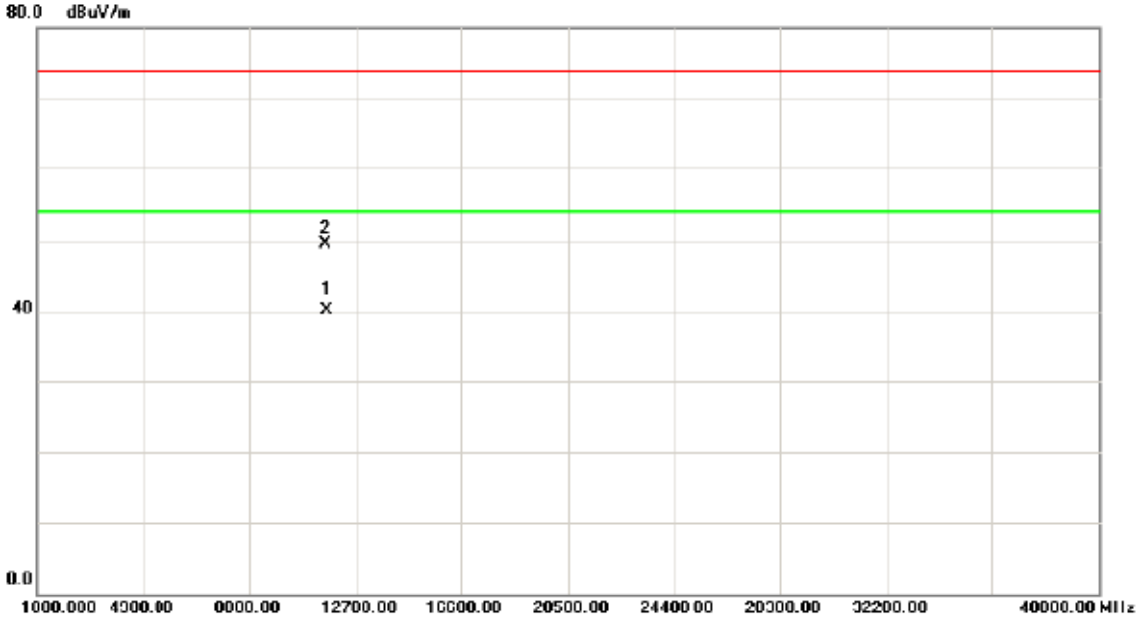
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5791.400	35.65	44.57	80.22	54.00	26.22	AVG	
2	X	5804.400	45.42	44.62	90.04	74.00	16.04	peak	
3		5850.000	6.38	44.78	51.16	74.00	-22.84	peak	
4		5850.000	-1.25	44.78	43.53	54.00	-10.47	AVG	

Orthogonal Axis :	X
Test Mode :	TX 802.11n(40 MHz) Mode 5795MHz

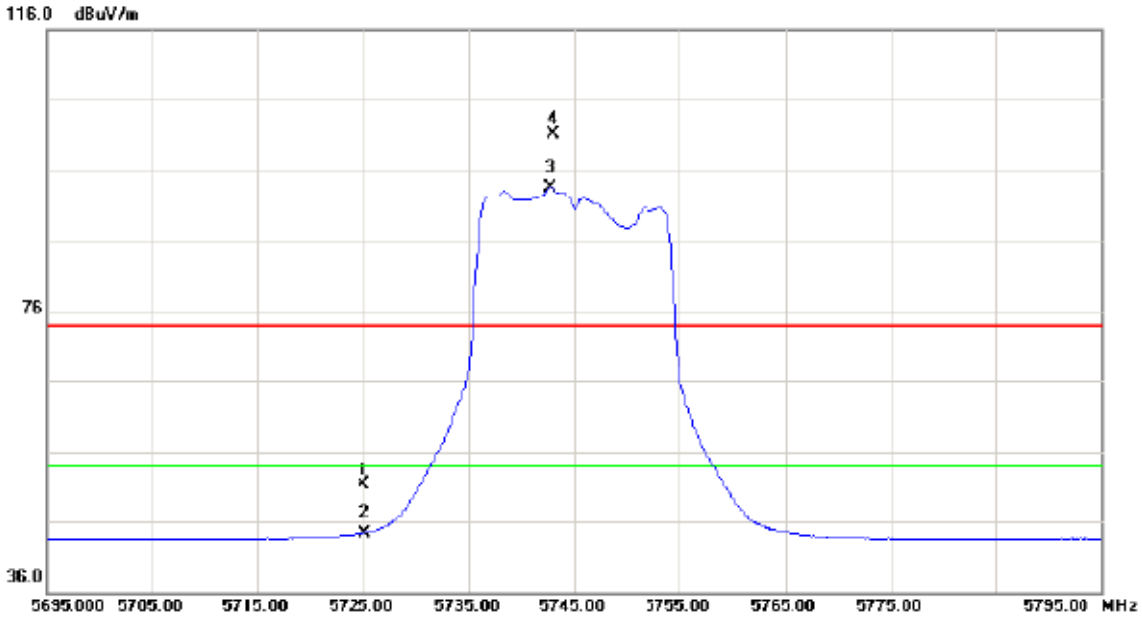
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11594.80	21.38	18.72	40.10	54.00	-13.90	AVG	
2		11596.30	30.69	18.74	49.43	74.00	-24.57	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11ac(20 MHz) Mode 5745MHz

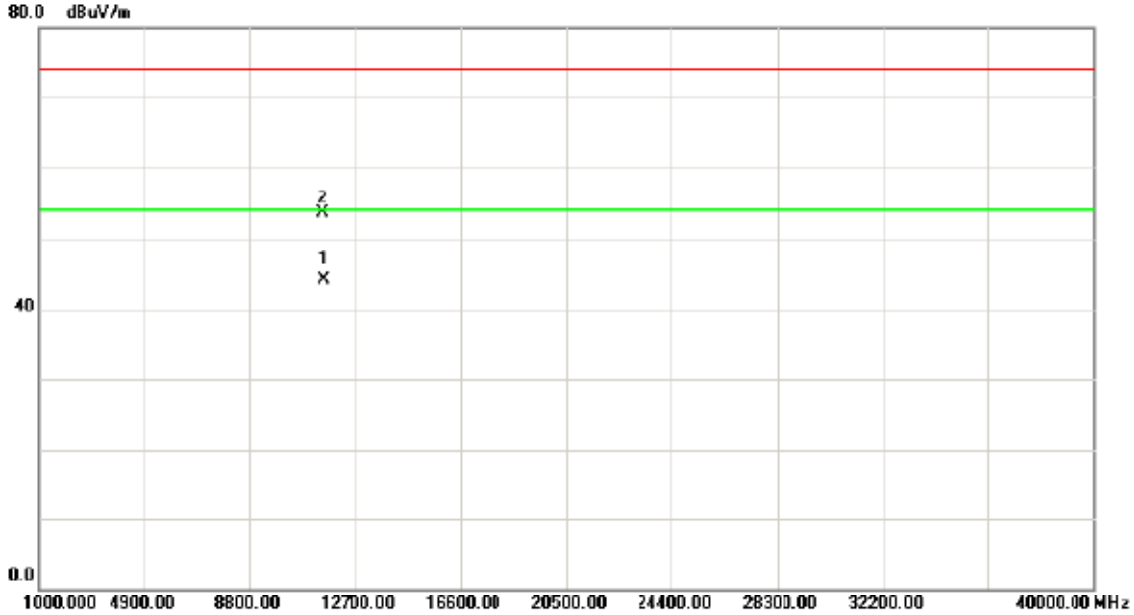
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5725.000	6.74	44.34	51.08	74.00	-22.92	peak	
2		5725.000	-0.05	44.34	44.29	54.00	-9.71	AVG	
3	*	5742.800	49.19	44.41	93.60	54.00	39.60	AVG	
4	X	5743.100	56.64	44.41	101.05	74.00	27.05	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11ac(20 MHz) Mode 5745MHz

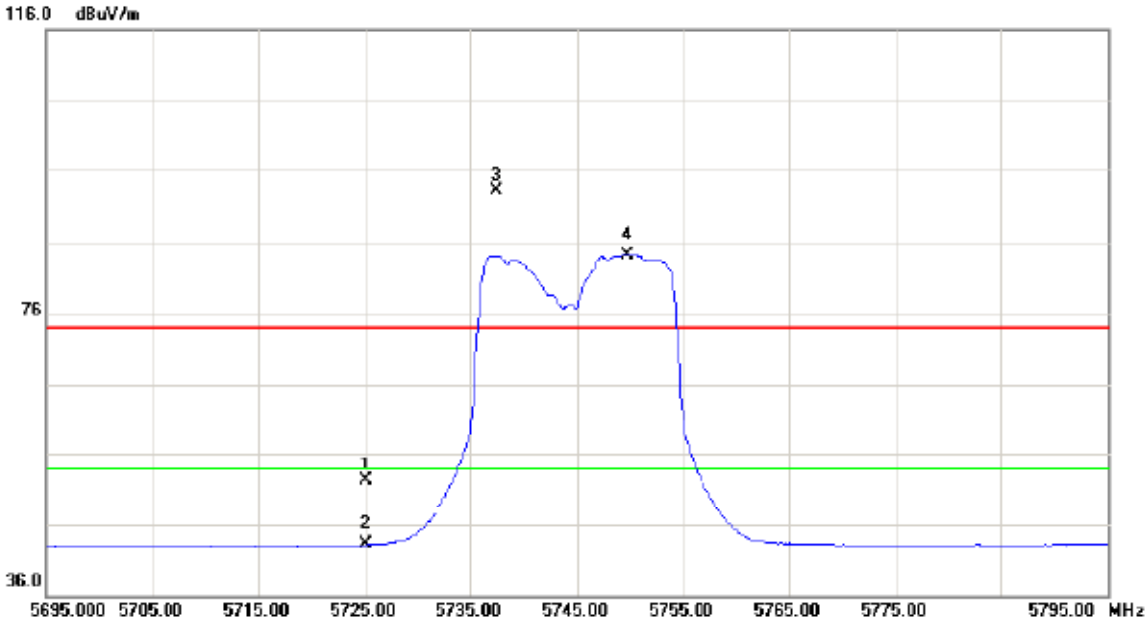
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11492.80	25.63	18.47	44.10	54.00	-9.90	AVG	
2		11493.50	35.02	18.47	53.49	74.00	-20.51	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11ac(20 MHz) Mode 5745MHz

Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5725.000	7.97	44.34	52.31	74.00	-21.69	peak	
2		5725.000	-1.13	44.34	43.21	54.00	-10.79	AVG	
3	X	5737.500	48.81	44.39	93.20	74.00	19.20	peak	
4	*	5749.700	39.70	44.43	84.13	54.00	30.13	AVG	

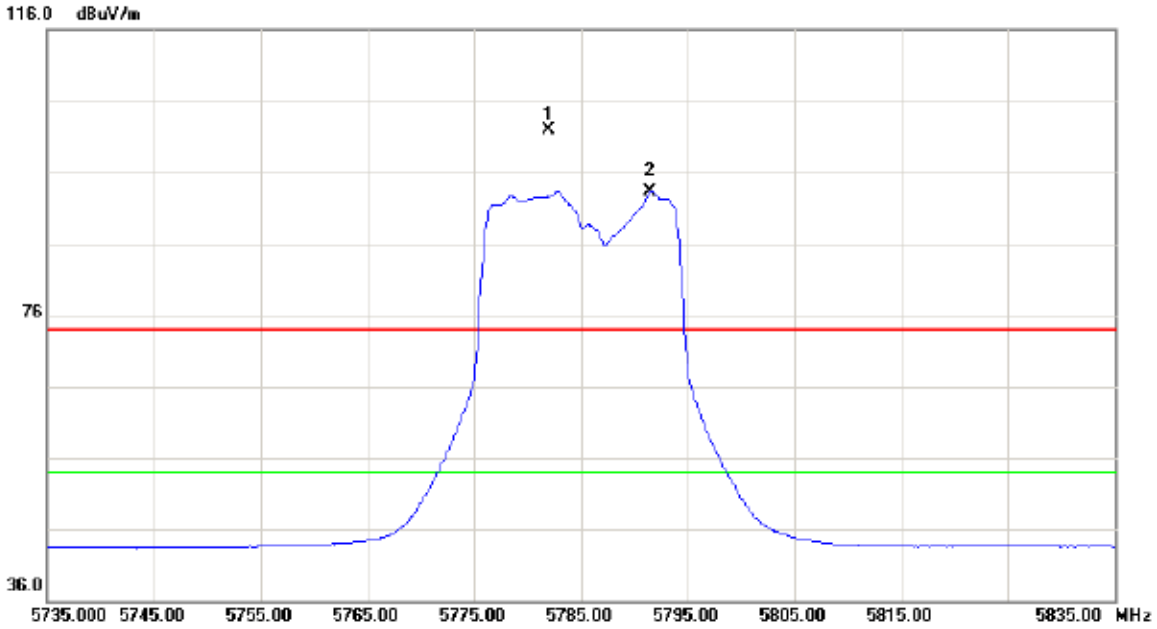
Orthogonal Axis :	X
Test Mode :	TX 802.11ac(20 MHz) Mode 5745MHz

Horizontal

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11493.20	23.86	18.47	42.33	54.00	-11.67	AVG	
2		11496.80	33.12	18.49	51.61	74.00	-22.39	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11ac(20 MHz) Mode 5785MHz

Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5782.000	57.26	44.55	101.81	74.00	27.81	peak	
2	*	5791.500	48.72	44.57	93.29	54.00	39.29	AVG	

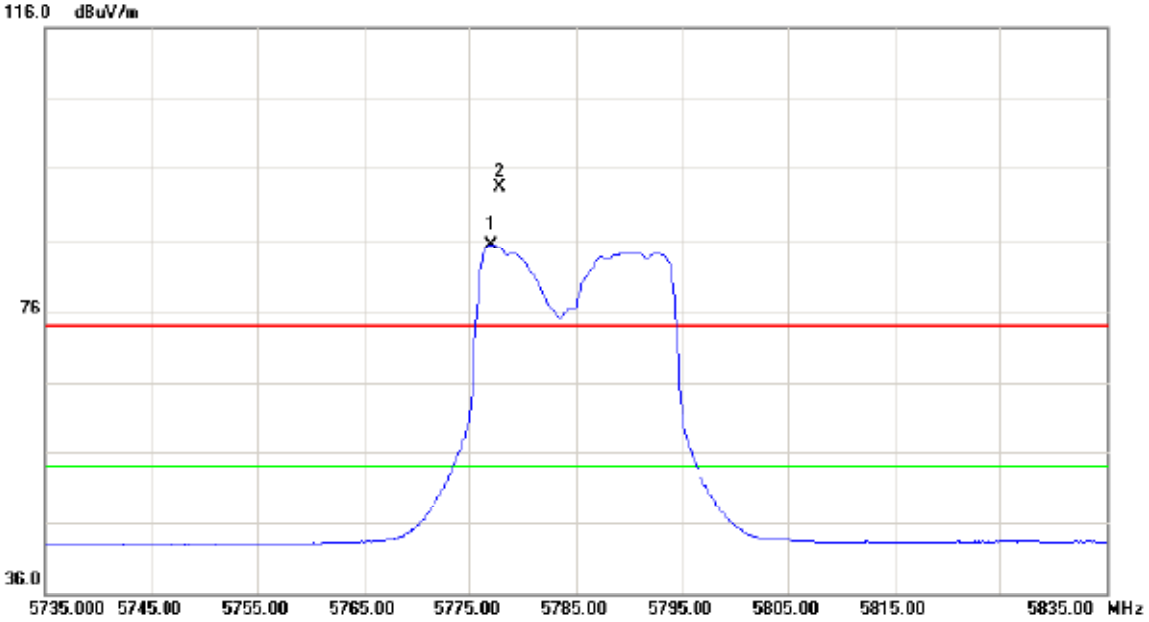
Orthogonal Axis :	X
Test Mode :	TX 802.11ac(20 MHz) Mode 5785MHz

Vertical

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11572.80	25.74	18.67	44.41	54.00	-9.59	AVG	
2		11574.30	34.62	18.67	53.29	74.00	-20.71	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11ac(20 MHz) Mode 5785MHz

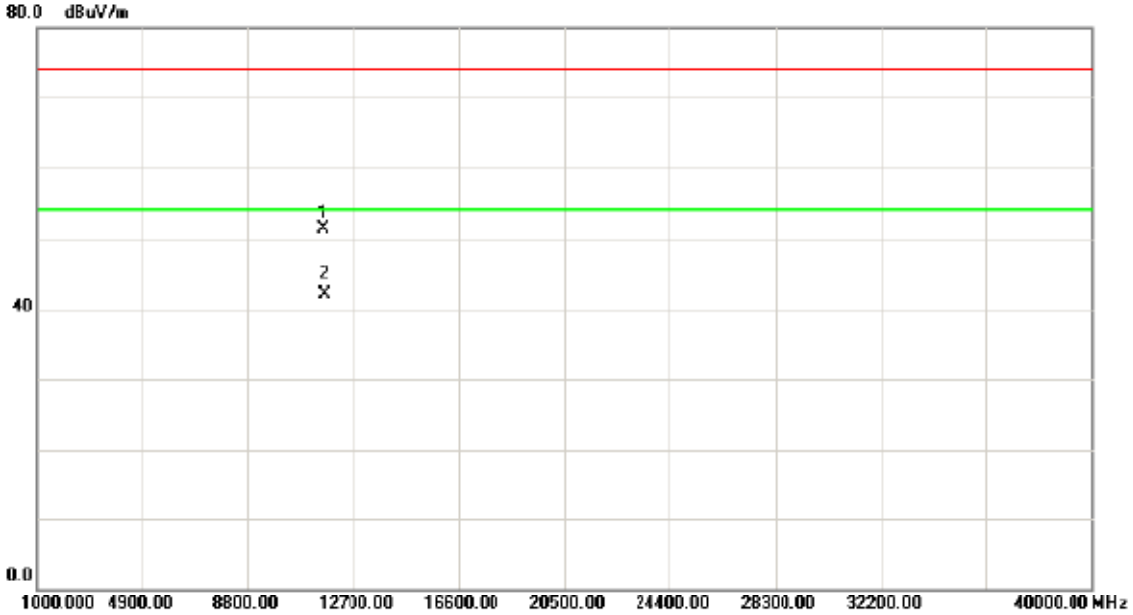
Horizontal



No	Mk	Freq	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5777.000	40.82	44.53	85.35	54.00	31.35	AVG	
2	X	5777.800	48.82	44.53	93.35	74.00	19.35	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11ac(20 MHz) Mode 5785MHz

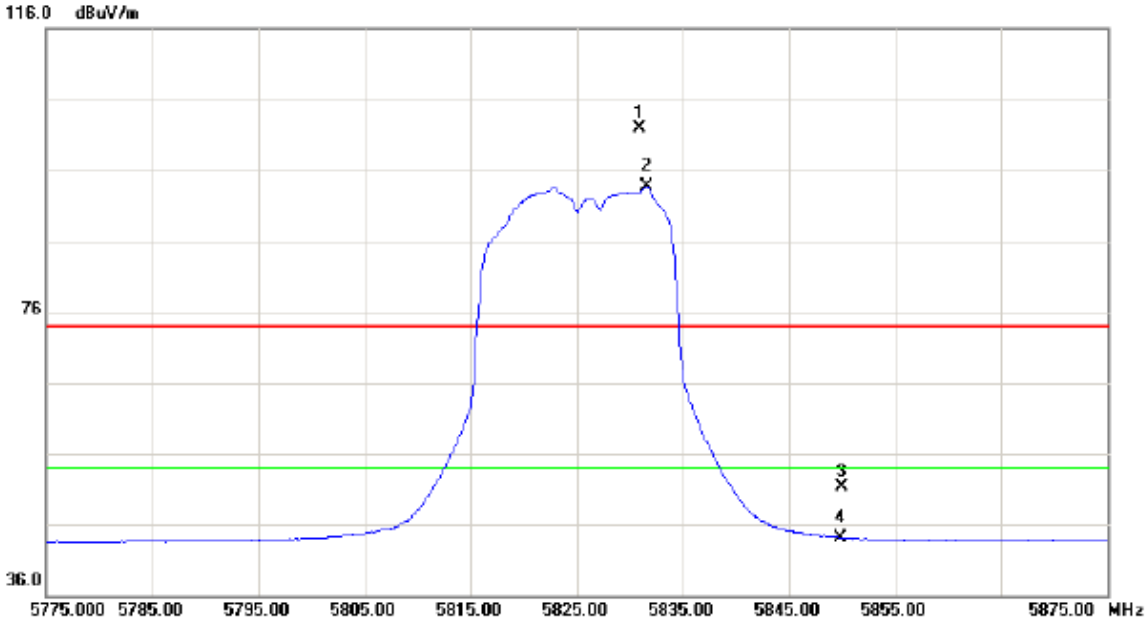
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		11573.60	32.71	18.67	51.38	74.00	-22.62	peak	
2	*	11574.80	23.35	18.67	42.02	54.00	-11.98	AVG	

Orthogonal Axis :	X
Test Mode :	TX 802.11ac(20 MHz) Mode 5825MHz

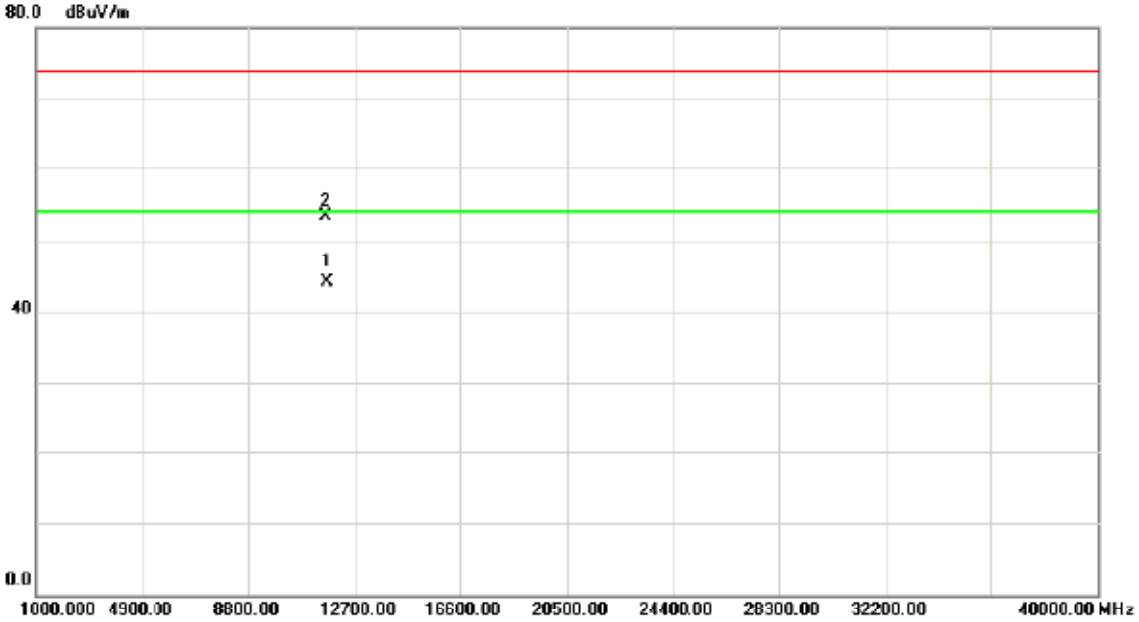
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5830.900	57.29	44.71	102.00	74.00	28.00	peak	
2	*	5831.600	48.97	44.71	93.68	54.00	39.68	AVG	
3		5850.000	6.53	44.78	51.31	74.00	-22.69	peak	
4		5850.000	-0.66	44.78	44.12	54.00	-9.88	AVG	

Orthogonal Axis :	X
Test Mode :	TX 802.11ac(20 MHz) Mode 5825MHz

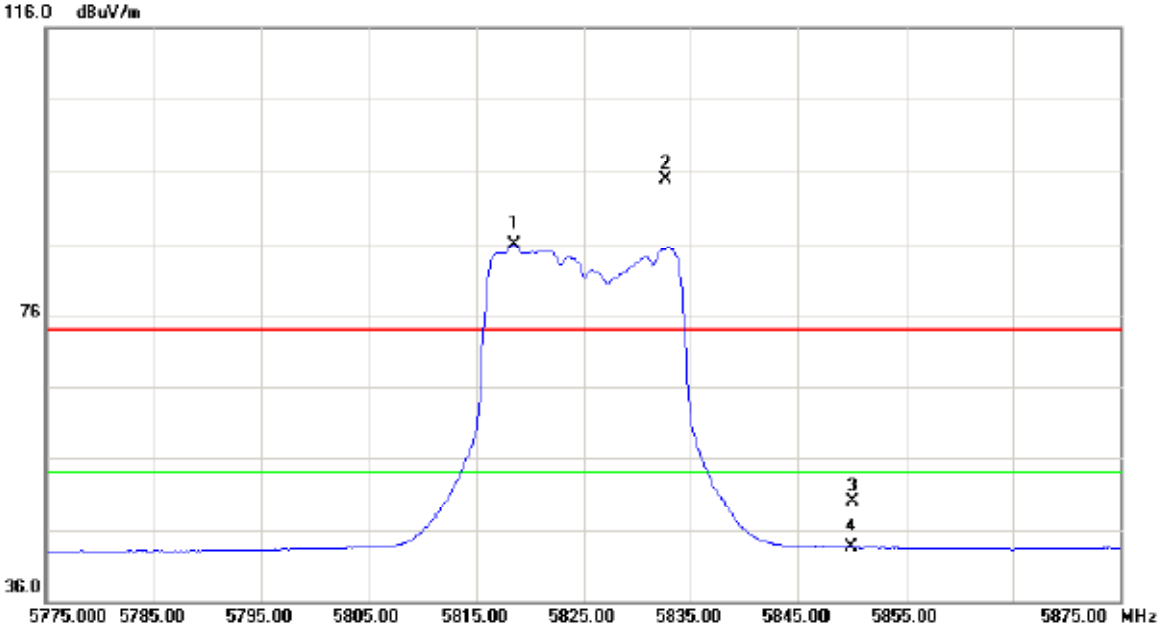
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11652.80	25.32	18.87	44.19	54.00	-9.81	AVG	
2		11656.20	34.39	18.89	53.28	74.00	-20.72	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11ac(20 MHz) Mode 5825MHz

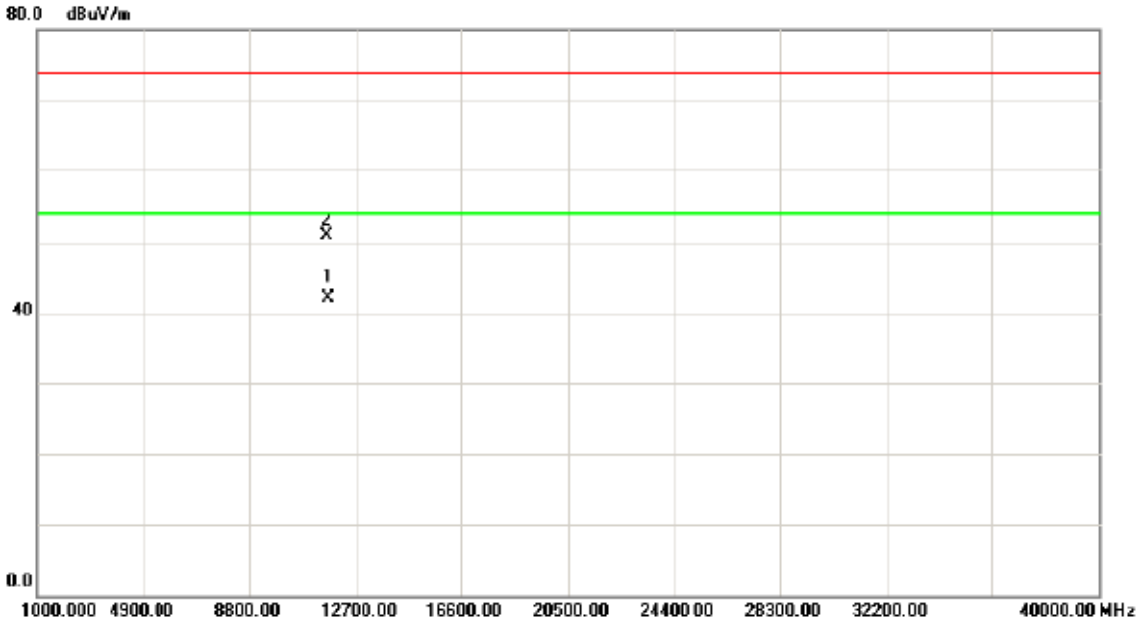
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5818.500	41.27	44.67	85.94	54.00	31.94	AVG	
2	X	5832.700	50.20	44.72	94.92	74.00	20.92	peak	
3		5850.000	5.20	44.78	49.98	74.00	-24.02	peak	
4		5850.000	-1.15	44.78	43.63	54.00	-10.37	AVG	

Orthogonal Axis :	X
Test Mode :	TX 802.11ac(20 MHz) Mode 5825MHz

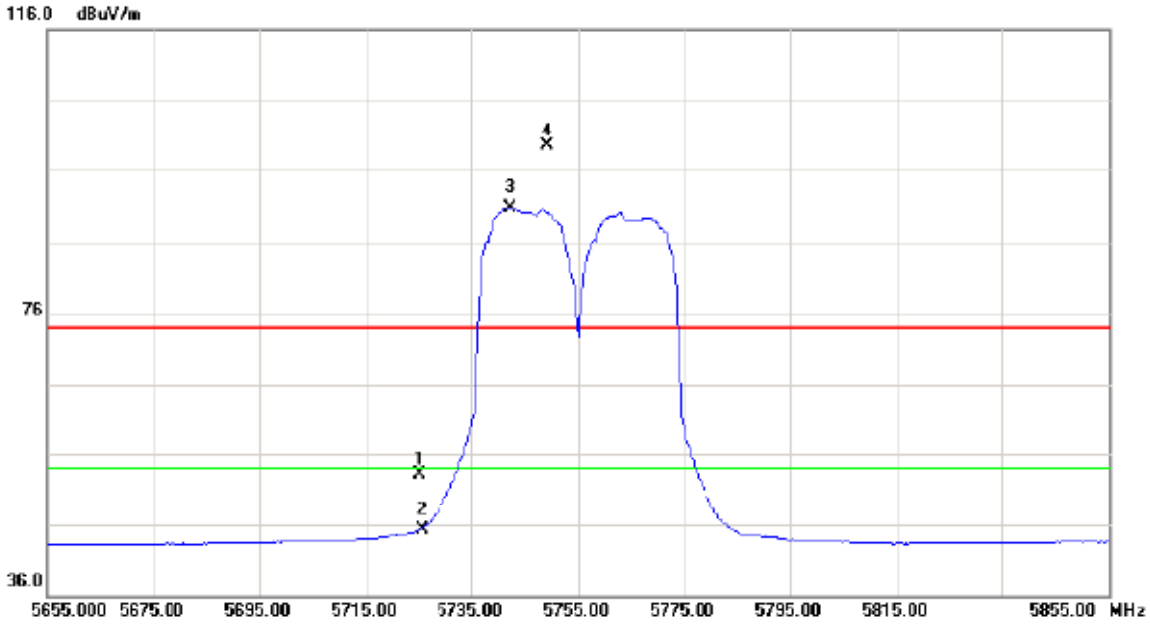
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11653.20	23.16	18.87	42.03	54.00	-11.97	AVG	
2		11654.20	32.03	18.87	50.90	74.00	-23.10	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11ac(40 MHz) Mode 5755MHz

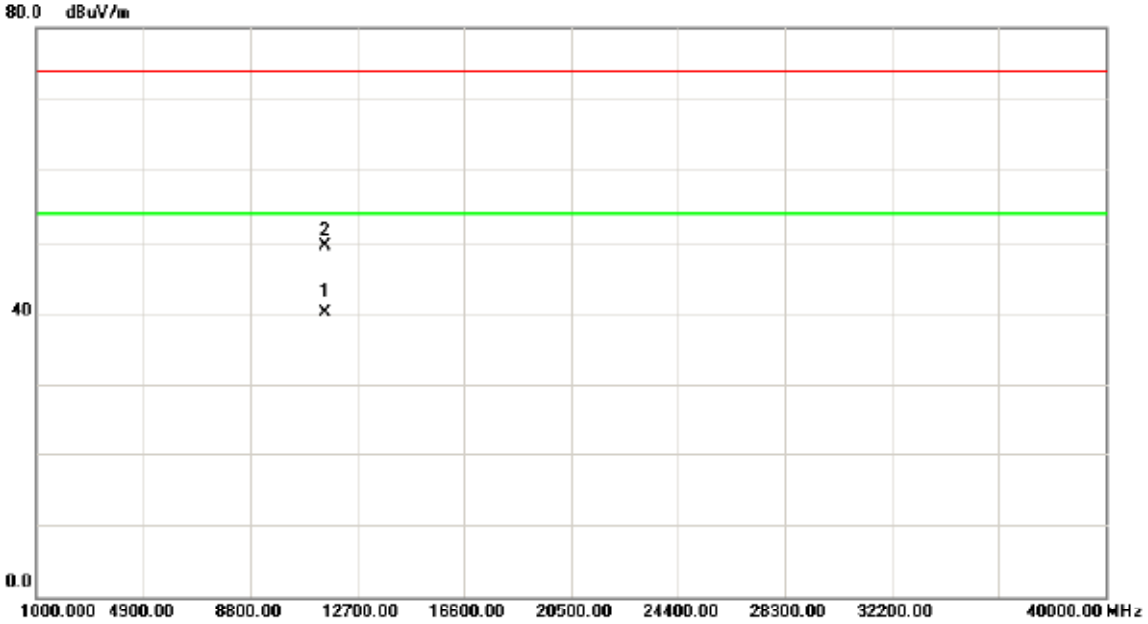
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5725.000	8.85	44.34	53.19	74.00	-20.81	peak	
2		5725.000	1.05	44.34	45.39	54.00	-8.61	AVG	
3	*	5742.200	46.29	44.41	90.70	54.00	36.70	AVG	
4	X	5749.200	55.08	44.43	99.51	74.00	25.51	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11ac(40 MHz) Mode 5755MHz

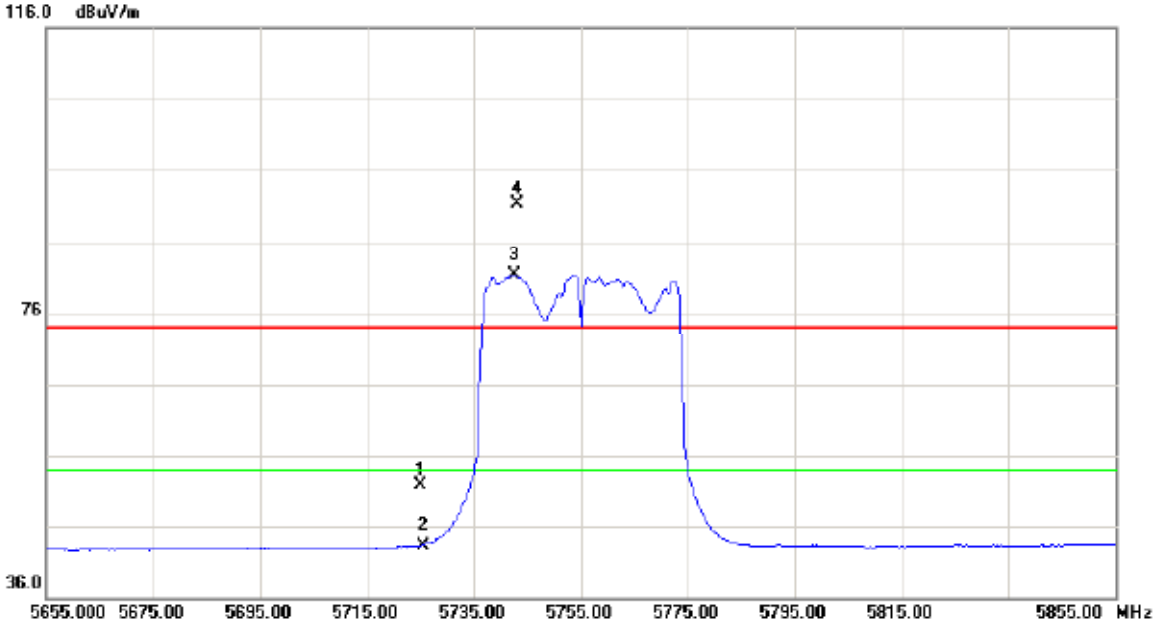
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11512.80	21.63	18.52	40.15	54.00	-13.85	AVG	
2		11513.60	31.03	18.52	49.55	74.00	-24.45	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11ac(40 MHz) Mode 5755MHz

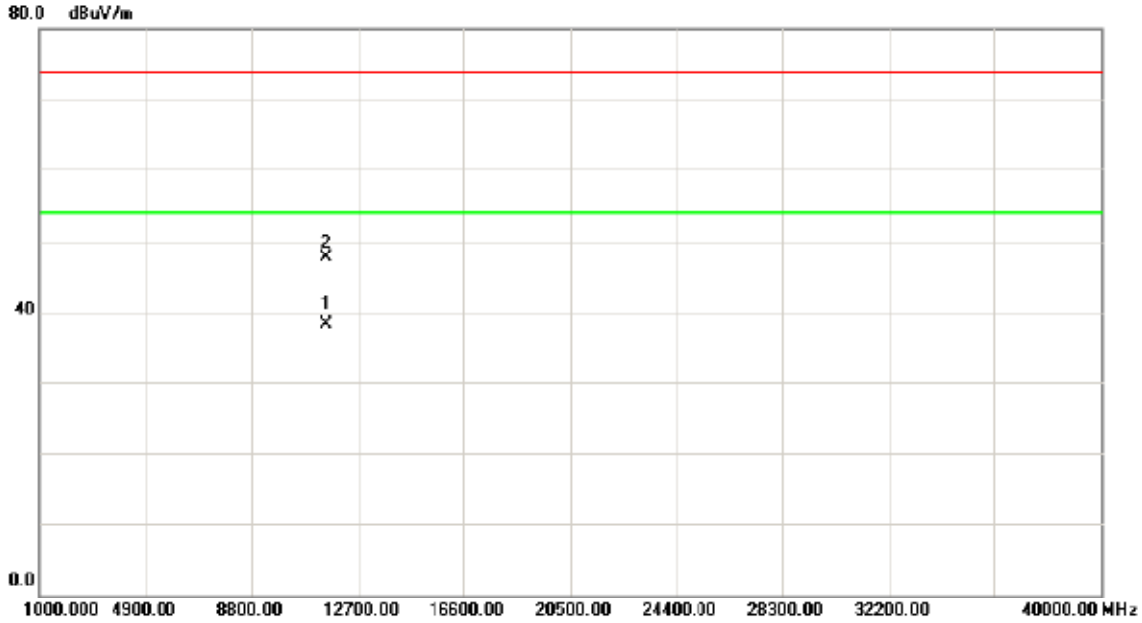
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5725.000	7.51	44.34	51.85	74.00	-22.15	peak	
2		5725.000	-0.95	44.34	43.39	54.00	-10.61	AVG	
3	*	5742.600	36.84	44.41	81.25	54.00	27.25	AVG	
4	X	5743.200	46.90	44.41	91.31	74.00	17.31	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11ac(40 MHz) Mode 5755MHz

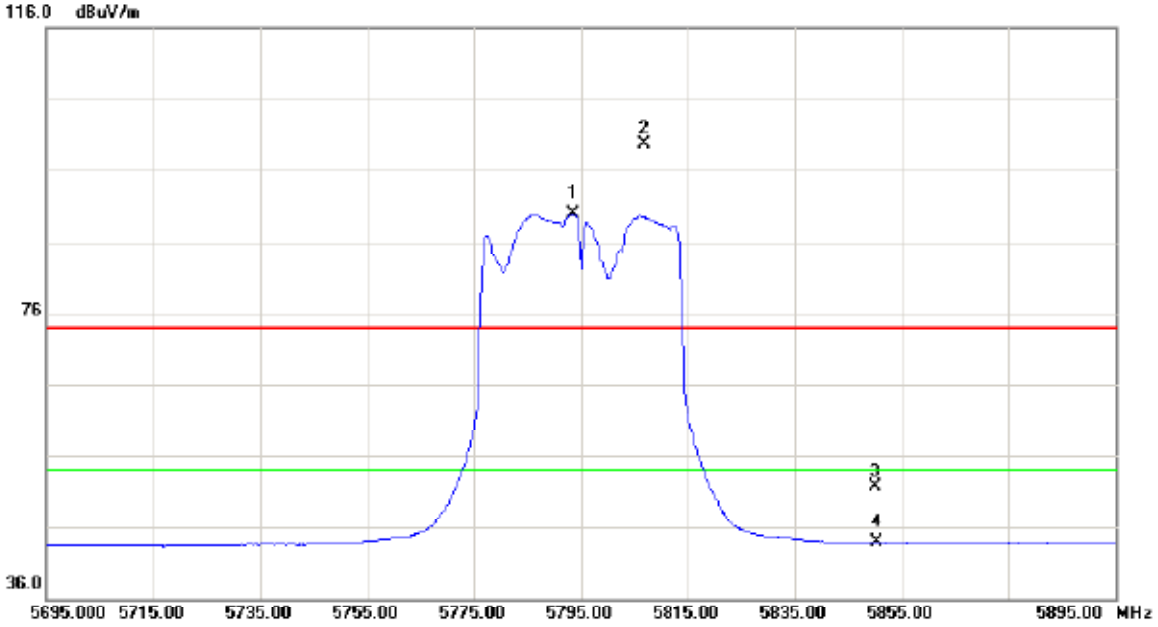
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11514.50	19.85	18.53	38.38	54.00	-15.62	AVG	
2		11516.50	29.13	18.54	47.67	74.00	-26.33	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11ac(40 MHz) Mode 5795MHz

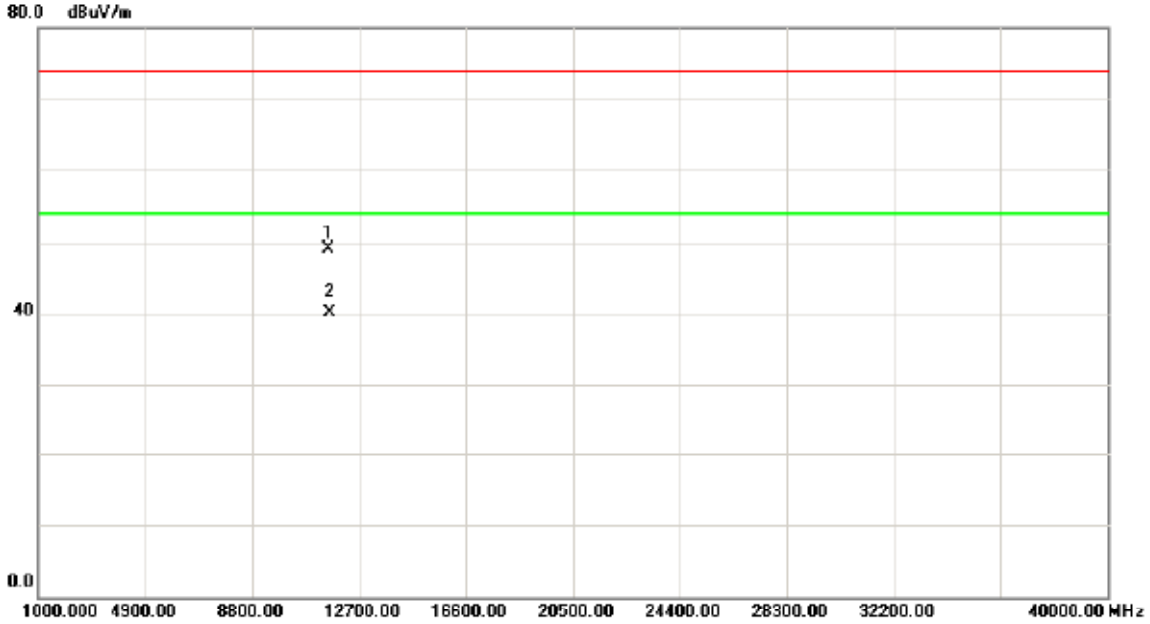
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5793.600	45.23	44.58	89.81	54.00	35.81	AVG	
2	X	5806.800	55.07	44.63	99.70	74.00	25.70	peak	
3		5850.000	6.94	44.78	51.72	74.00	-22.28	peak	
4		5850.000	-0.93	44.78	43.85	54.00	-10.15	AVG	

Orthogonal Axis :	X
Test Mode :	TX 802.11ac(40 MHz) Mode 5795MHz

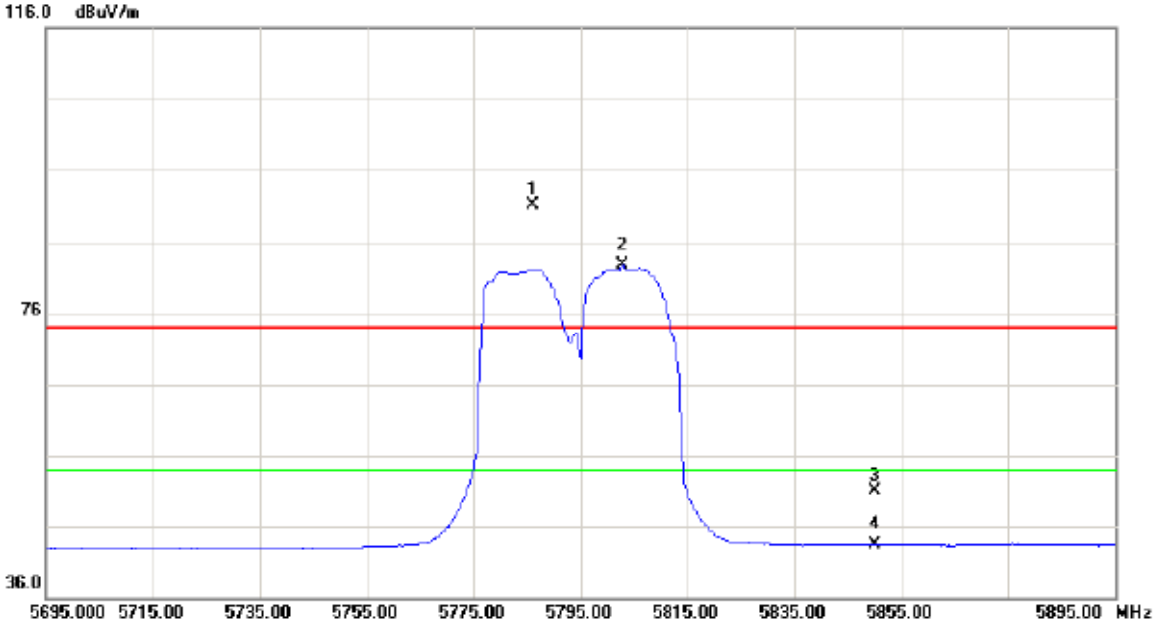
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		11593.40	30.39	18.72	49.11	74.00	-24.89	peak	
2	*	11594.90	21.43	18.72	40.15	54.00	-13.85	AVG	

Orthogonal Axis :	X
Test Mode :	TX 802.11ac(40 MHz) Mode 5795MHz

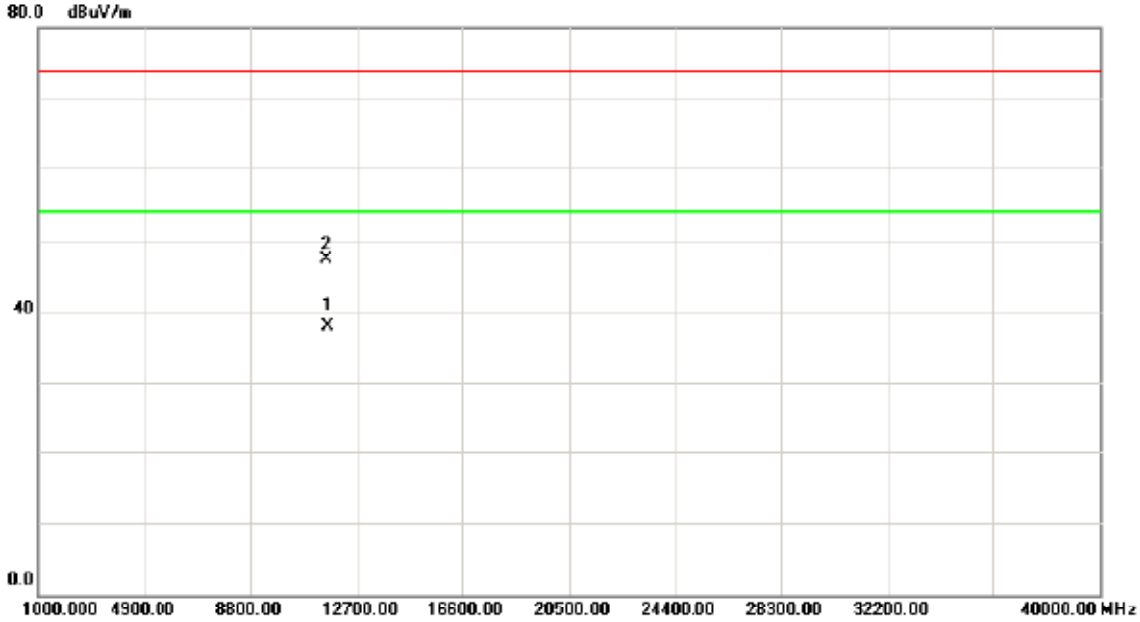
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5786.000	46.64	44.56	91.20	74.00	17.20	peak	
2	*	5802.800	38.08	44.62	82.70	54.00	28.70	AVG	
3		5850.000	6.30	44.78	51.08	74.00	-22.92	peak	
4		5850.000	-1.26	44.78	43.52	54.00	-10.48	AVG	

Orthogonal Axis :	X
Test Mode :	TX 802.11ac(40 MHz) Mode 5795MHz

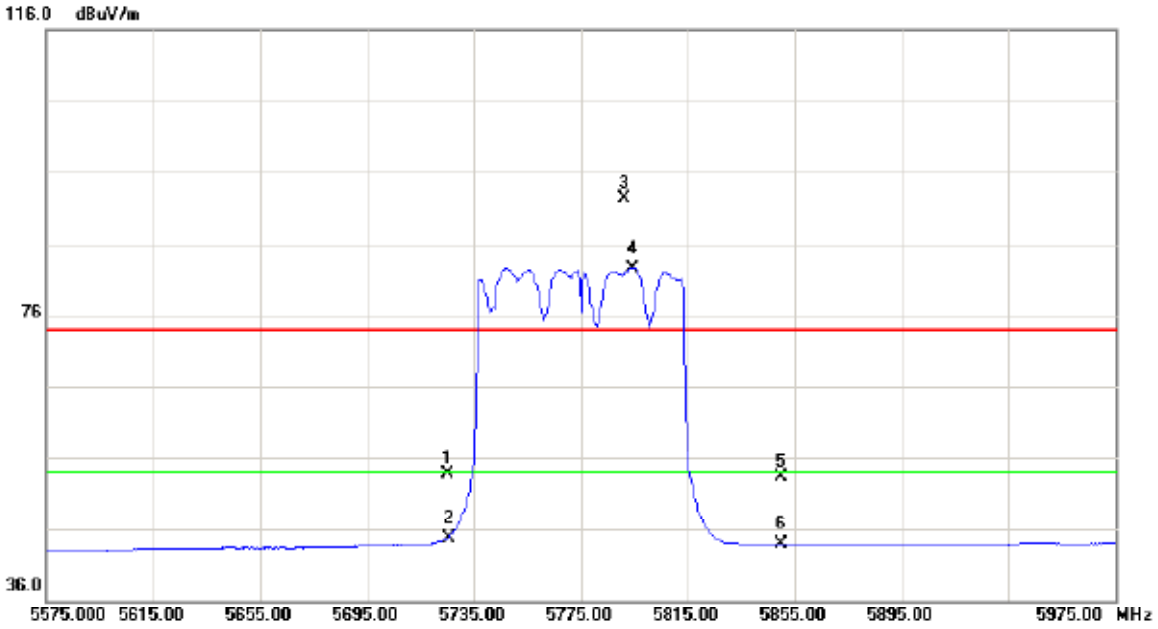
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11595.20	19.26	18.73	37.99	54.00	-16.01	AVG	
2		11596.20	28.57	18.74	47.31	74.00	-26.69	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11ac(80 MHz) Mode 5775MHz

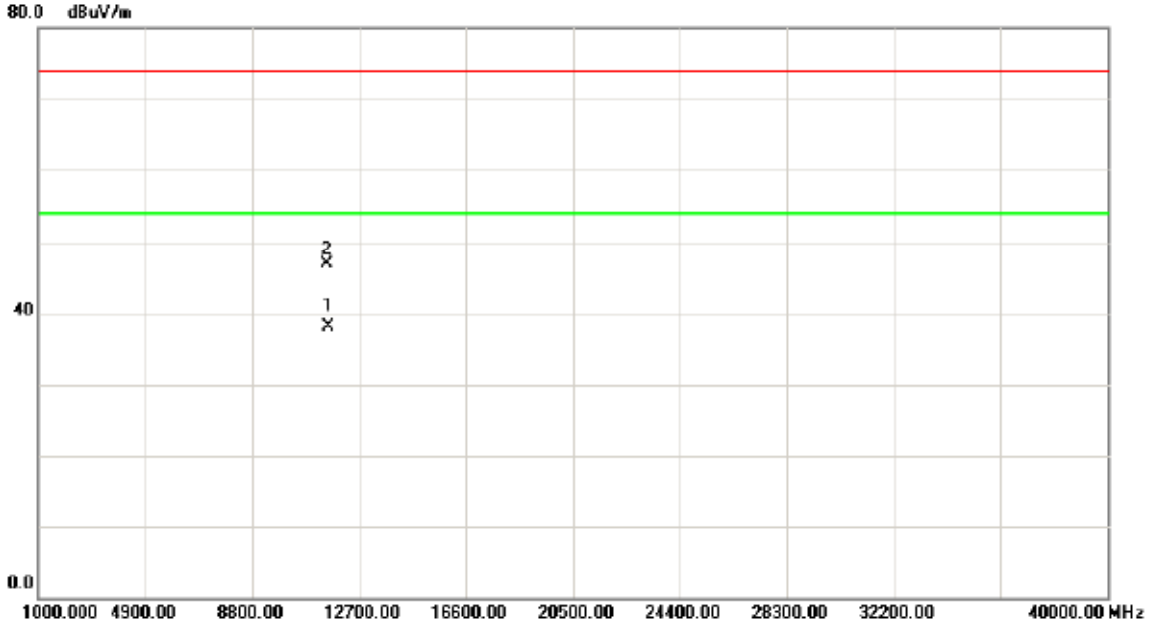
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5725.000	9.29	44.34	53.63	74.00	-20.37	peak	
2		5725.000	0.40	44.34	44.74	54.00	-9.26	AVG	
3	X	5791.400	47.74	44.57	92.31	74.00	18.31	peak	
4	*	5794.200	38.00	44.58	82.58	54.00	28.58	AVG	
5		5850.000	8.55	44.78	53.33	74.00	-20.67	peak	
6		5850.000	-0.95	44.78	43.83	54.00	-10.17	AVG	

Orthogonal Axis :	X
Test Mode :	TX 802.11ac(80 MHz) Mode 5775MHz

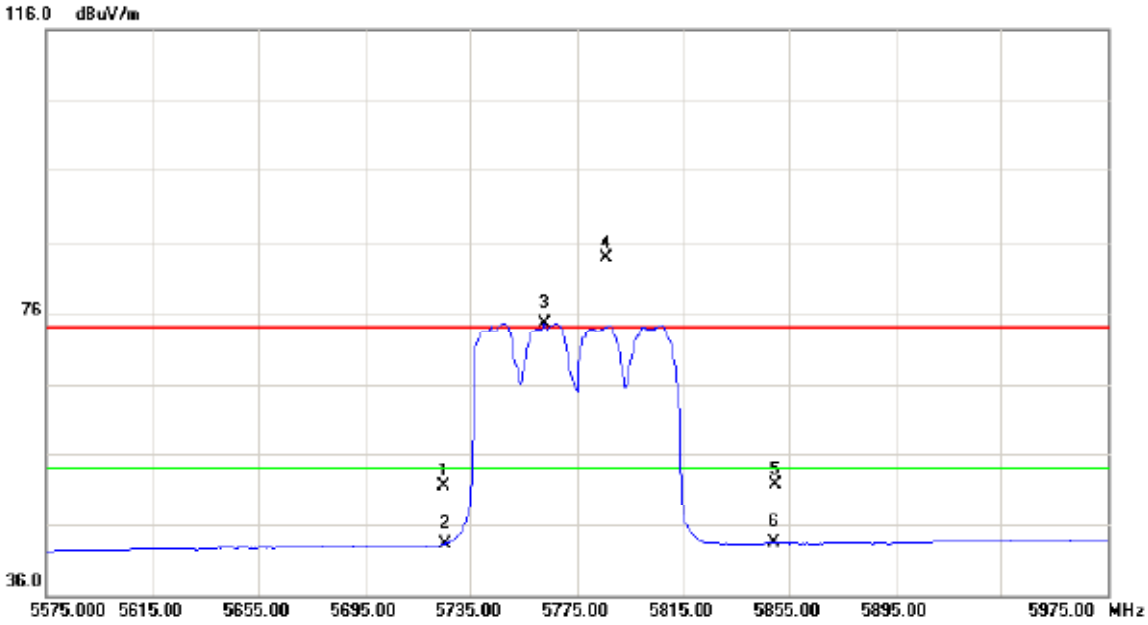
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11552.90	19.43	18.62	38.05	54.00	-15.95	AVG	
2		11553.60	28.35	18.62	46.97	74.00	-27.03	peak	

Orthogonal Axis :	X
Test Mode :	TX 802.11ac(80 MHz) Mode 5775MHz

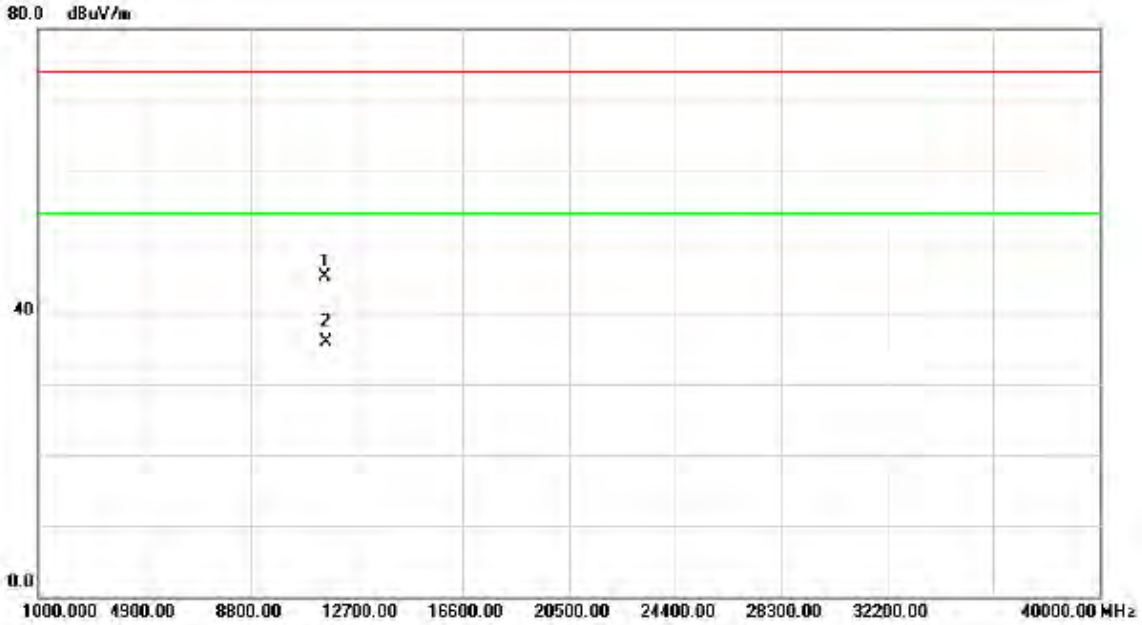
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5725.000	7.10	44.34	51.44	74.00	-22.56	peak	
2		5725.000	-1.04	44.34	43.30	54.00	-10.70	AVG	
3	*	5763.000	30.11	44.48	74.59	54.00	20.59	AVG	
4	X	5785.800	39.07	44.56	83.63	74.00	9.63	peak	
5		5850.000	6.94	44.78	51.72	74.00	-22.28	peak	
6		5850.000	-1.35	44.78	43.43	54.00	-10.57	AVG	

Orthogonal Axis :	X
Test Mode :	TX 802.11ac(80 MHz) Mode 5775MHz

Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		11553.60	26.58	18.62	45.20	74.00	-28.80	peak	
2	*	11554.20	17.29	18.62	35.91	54.00	-18.09	AVG	

ATTACHMENT E - BANDWIDTH