FCC Radio Test Report

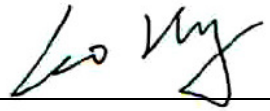
FCC ID: QISS8-302L

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

Project No.	:	1406C083
Equipment	:	HUAWEI MediaPad M1 8.0
Model Name	:	S8-302L
Applicant	:	Huawei Technologies Co.,Ltd.
Address	:	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District Shenzhen China

Tested by: BTL Inc. EMC Laboratory
Date of Receipt: Jun. 12, 2014
Date of Test: Jun. 12, 2014 ~ Jun. 18, 2014
Issued Date: Jun. 19, 2014

Testing Engineer : 
(David Mao)

Technical Manager : 
(Leo Hung)

Authorized Signatory : 
(Steven Lu)

BTL INC.

No.3, Jinshagang 1st Road, Shixia,
Dalang Town, Dongguan, China.
TEL: 0769-8318-3000 FAX: 0769-8319-6000

Declaration

BTL 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.**

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

BTL's reports must not be used by the client to claim product endorsement by the authorities or any agency of the Government.

This report is the confidential property of the client. As a mutual protection to the clients, the public and **BTL-self**, extracts from the test report shall not be reproduced except in full with **BTL**'s authorized written approval.

BTL's laboratory quality assurance procedures are in compliance with the **ISO Guide 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

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.

Table of Contents Page

Table of Contents Page

REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
NEI-FCCP-1-1406C083	Original Issue.	Jun. 19, 2014

1. CERTIFICATION

Equipment	:	HUAWEI MediaPad M1 8.0
Brand Name	:	HUAWEI
Model Name	:	S8-302L
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	:	Jun. 12, 2014 ~ Jun. 18, 2014
Test Item	:	ENGINEERING SAMPLE
Standard(s)	:	FCC Part15, Subpart E(15.407) / ANSI C63.4 : 2009; FCC KDB 789033 D01 General UNII Test Procedures v01r03 .

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc. EMC Laboratory.
The test data, data evaluation, and equipment configuration contained in our test report (Ref No. NEI-FCCP-1-1406C083) 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 5150MHz~5250MHz;5250MHz~5350MHz; 5470~5725MHz Mode part of the product.

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC Part15, Subpart E			
Standard(s) Section FCC	Test Item	Judgment	Remark
15.207	AC Power Line Conducted Emissions	PASS	
15.407(a)	26dB Spectrum Bandwidth	PASS	
15.407(a)	Maximum Conducted Output Power	PASS	
15.407(a)	Power Spectral Density	PASS	
15.407(a)	Peak Excursion	PASS	
15.407(a)	Radiated Emissions	PASS	
15.407(b)	Band Edge Emissions	PASS	
15.407(g)	Frequency Stability	PASS	
15.203	Antenna Requirements	PASS	

NOTE:

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

2.1 TEST FACILITY

The test facilities used to collect the test data in this report is **DG-C02/DG-CB03** at the location of No.3,Jinshagang 1st Road, ShiXia, Dalang Town, Dong Guan, China.523792
BTL's test firm number for FCC: 319330

2.2 MEASUREMENT UNCERTAINTY

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	HUAWEI MediaPad M1 8.0	
Brand Name	HUAWEI	
Model Name	S8-302L	
Mode Different	N/A	
Product Description	Operation Frequency	Band 1:5150MHz~5250MHz Band 2:5250MHz~5350MHz Band 3:5470MHz~5725MHz
	Modulation Type	OFDM
	Bit Rate of Transmitter	11a:6/ 9/12/18/24/36/48/54Mbps 11n:up to 150Mbps
	Output Power (Max.)- Band 1	802.11a: 12.89 dBm 802.11n(20 MHz): 12.69 dBm
	Output Power (Max.)- Band 2	802.11a: 12.97 dBm 802.11n(20 MHz): 12.74 dBm
	Output Power (Max.)- Band 3	802.11a: 12.98 dBm 802.11n(20 MHz): 12.85 dBm
	More details of EUT technical specification, please refer to the User's Manual.	
Power Source	# 1 DC voltage supplied from adapter. Brand/ Model: HUAWEI / HW-050200E3W #2 Supplied from USB Port. #3 Supplied from Li-Polymer Battery. Brand/Model:HUAWEI/ HB3080G1EBC	
Power Rating	#1 I/P:AC 100-240VAC 50/60Hz 0.5A MAX DC 5V 2A #2 DC 5V #3 DC 3.8V 4650mAh/17.7Wh	
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. Channel List:

802.11a / 802.11n(20 MHz)							
Band 1		Band 2		Band 3			
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	52	5260	100	5500	116	5580
40	5200	56	5280	104	5520	132	5660
44	5220	60	5300	108	5540	136	5680
48	5240	64	5320	112	5560	140	5700

3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
1	SkyCross.inc, Shanghai. Branch	N/A	Monopole Antenna	N/A	2.55	TX/RX

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 Test Mode	Description
Mode 1	TX 802.11a Mode / CH36, CH40, CH48(Band 1) TX 802.11a Mode / CH52, CH56, CH64(Band 2) TX 802.11a Mode / CH100, CH116, CH140(Band 3)
Mode 2	TX 802.11n(20 MHz) Mode / CH36, CH40, CH48(Band 1) TX 802.11n(20 MHz) Mode / CH52, CH56, CH64(Band 2) TX 802.11n(20 MHz) Mode / CH100, CH116, CH140(Band 3)
Mode 3	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 3	TX Mode

For Radiated Test	
Final Test Mode	Description
Mode 1	TX 802.11a Mode / CH36, CH40, CH48(Band 1) TX 802.11a Mode / CH52, CH56, CH64(Band 2) TX 802.11a Mode / CH100, CH116, CH140(Band 3)
Mode 2	TX 802.11n(20 MHz) Mode / CH36, CH40, CH48(Band 1) TX 802.11n(20 MHz) Mode / CH52, CH56, CH64(Band 2) TX 802.11n(20 MHz) Mode / CH100, CH116, CH140(Band 3)

Note: For Radiated Below 1G test, the 802.11a mode is found to be the worst case and recorded.

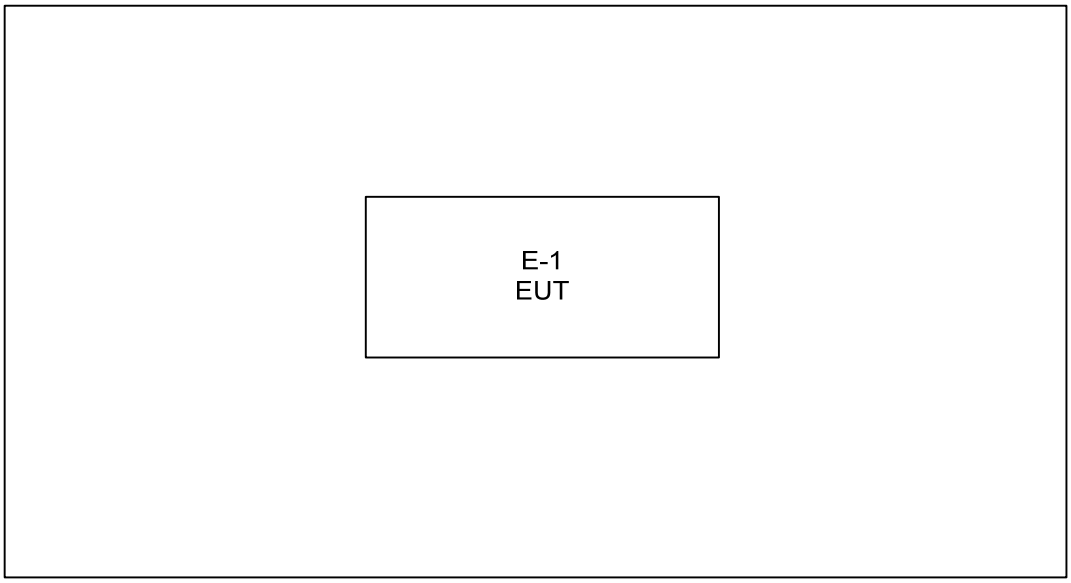
3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

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	WIFI_Test_tool		
Frequency (MHz)	5180	5200	5240
802.11a	13	13	13
Frequency (MHz)	5260	5280	5320
802.11a	13	13	13
Frequency (MHz)	5500	5580	5700
802.11a	13	13	13

Test software version	WIFI_Test_tool		
Frequency (MHz)	5180	5200	5240
802.11n(20 MHz)	13	13	13
Frequency (MHz)	5260	5280	5320
802.11n(20 MHz)	13	13	13
Frequency (MHz)	5500	5580	5700
802.11n(20 MHz)	13	13	13

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
-	-	-	-	-	-	

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

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

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

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *
0.50 -5.0	73.00	60.00	56.00	46.00
5.0 -30.0	73.00	60.00	60.00	50.00

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 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.

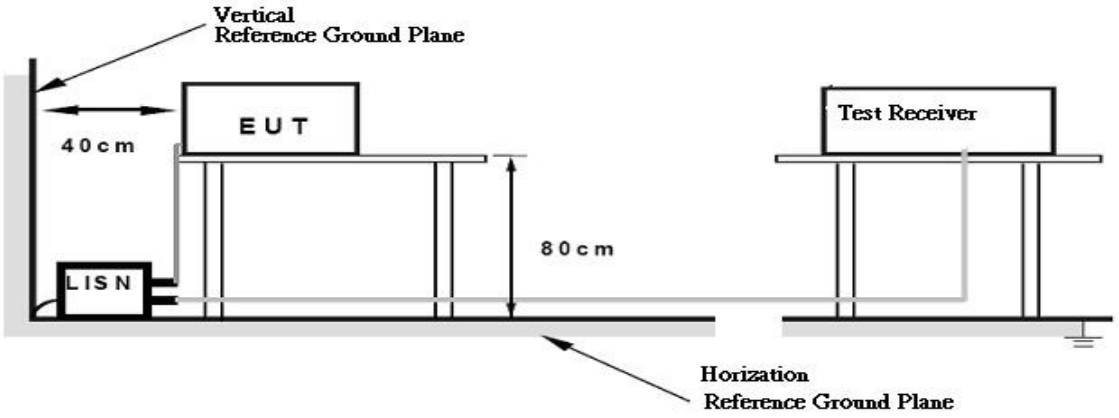
d. LISN at least 80 cm from nearest part of EUT chassis.

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



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.
The EUT was programmed to be in continuously transmitting/TX Mode mode.

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)

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

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

Notes:

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

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

LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

Frequencies (MHz)	EIRP Limit (dBm)	Equivalent Field Strength at 3m (dBμV/m)
5150~5250	-27	68.3
5250~5350	-27	68.3
5470~5725	-27	68.3
5725~5825	-27	68.3
	-17	78.3

NOTE: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$E=\frac{1000000\sqrt{30P}}{3}$ μV/m, where P is the eirp (Watts)

4.2.2 TEST PROCEDURE

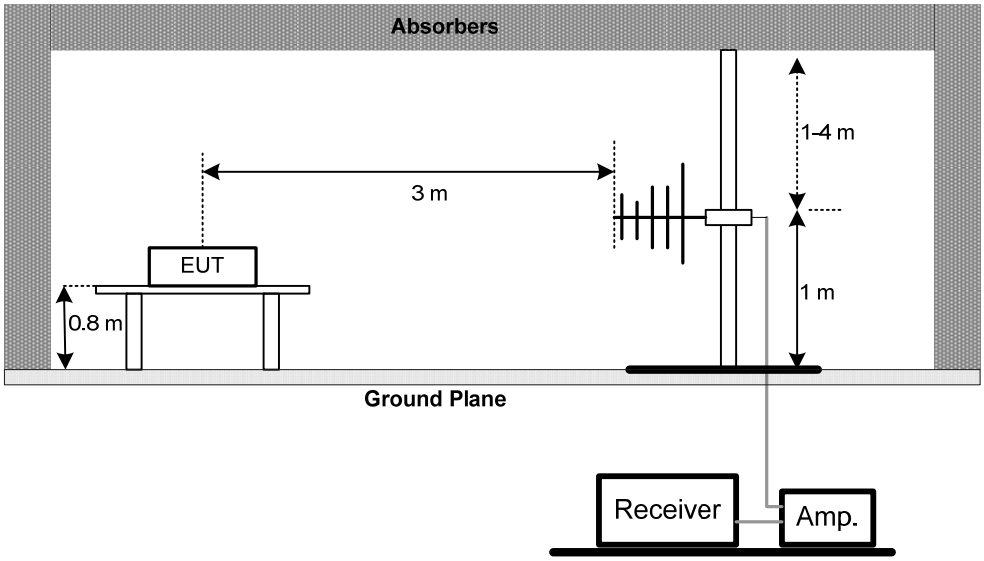
a. The measuring distance of at 1.5m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated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

4.2.3 DEVIATION FROM TEST STANDARD

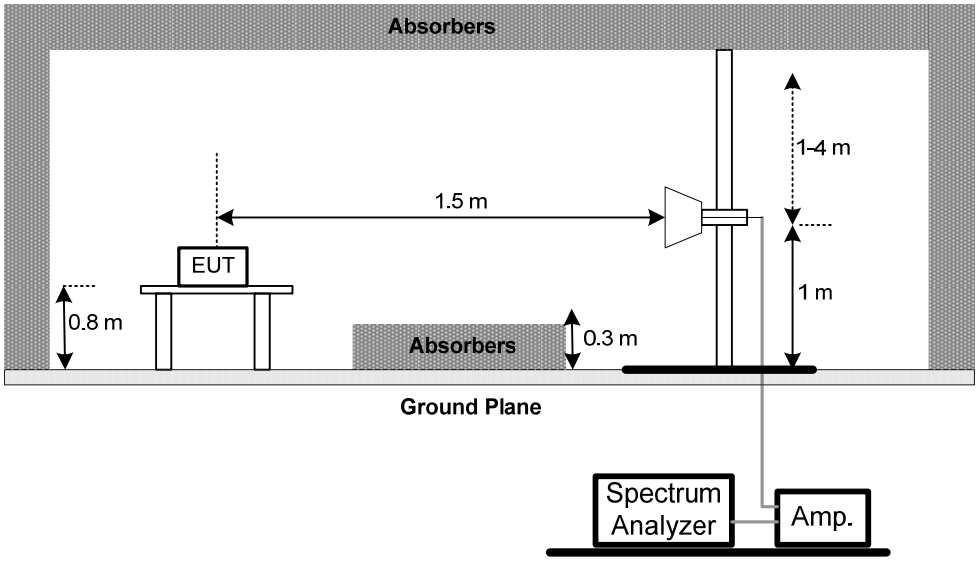
No deviation

4.2.4 TEST SETUP

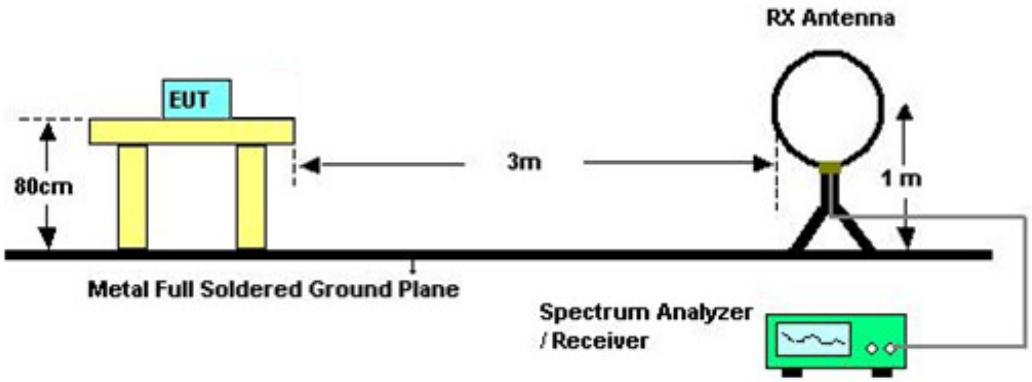
Radiated Emission Test Set-Up Frequency30 - 1000MHz



Radiated Emission Test Set-Up Frequency Above 1 GHz



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) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
(2) All readings are Peak unless otherwise stated AV in column of『Note』. Peak denotes that the Peak reading compliance with the AV Limits and then AV Mode measurement didn't perform.
(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 Axes:
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand
(7) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.

5. 26dB SPECTRUM BANDWIDTH

5.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart E			
Test Item	Limit	Frequency Range (MHz)	Result
26 dB Bandwidth	------	5150MHz~5250 5250MHz~5350 5470MHz~5725	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 Parameters	Setting
Attenuation	Auto
Span Frequency	> 26dB Bandwidth
RB	300 kHz
VB	1000 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

c. Measured the spectrum width with power higher than 26dB below carrier

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 CONDUCTED OUTPUT POWER

6.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart E			
Test Item	Frequency Range (MHz)	Limit	Result
Conducted Output Power	5150 - 5250	not exceed the lesser of 50 mW (17dBm) or 4 dBm + 10log B	PASS
	5250 - 5350	not exceed the lesser of 250 mW (24dBm) or 11 dBm + 10log B	PASS
	5470 - 5725	not exceed the lesser of 250 mW (24dBm) or 11 dBm + 10log B	PASS

Note: where "B" is the 26 dB emissions bandwidth in MHz.

6.1.1 TEST PROCEDURE

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

b.

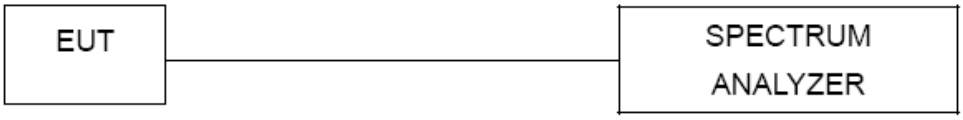
Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RBW	= 1 MHz.
VBW	≥ 3 MHz.
Detector	RMS
Trace	Max Hold
Sweep Time	auto

b. Test was performed in accordance with method of KDB 789033 D01.

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.

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

FCC Part15, Subpart E			
Test Item	Limit	Frequency Range (MHz)	Result
Antenna conducted Spurious Emission	-27 dBm/1MHz	5150 – 5250 5250 – 5350 5470 – 5725	PASS

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,

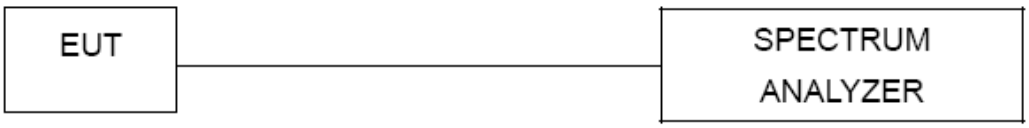
b.

Spectrum Parameter	Setting
Attenuation	Auto
RB	1000 kHz
VB	1000 kHz
Trace	Max Hold
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, Subpart E			
Test Item	Limit	Frequency Range (MHz)	Result
Power Spectral Density	4 dBm	5150 - 5250	PASS
	11 dBm	5250 - 5350	PASS
	11 dBm	5470 - 5725	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,

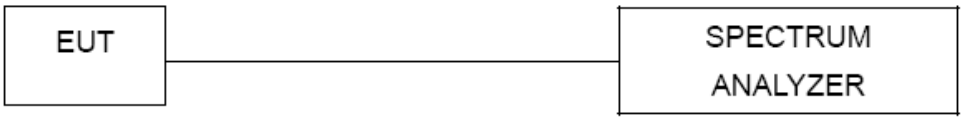
b.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RB	= 1 MHz.
VB	≥ 3 MHz.
Detector	RMS
Trace	Max Hold
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. PEAK EXCURSION MEASUREMENT

9.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart E			
Test Item	Limit	Frequency Range (MHz)	Result
Peak Excursion Measurement	13 dB	5150 - 5250	PASS
		5250 - 5350	PASS
		5470 - 5725	PASS

9.1.1 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 Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RB	1000 kHz (Peak Trace) / 1000 kHz (Average Trace)
VB	3000 kHz (Peak Trace) / 3000 kHz (Average Trace)
Detector	Peak (Peak Trace) / RMS (Average Trace)
Trace	Max Hold
Sweep Time	60s

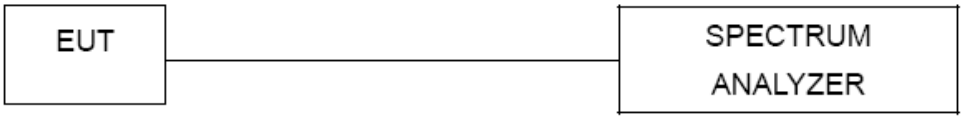
c. Peak Trace: Set RBW = 1 MHz, VBW ≥ 3 MHz with peak detector and maxhold settings.

d. Average Trace: set RBW = 1 MHz, VBW = 3 MHz with RMS detector and trace average across 100 traces in power averaging mode.

9.1.2 DEVIATION FROM STANDARD

No deviation.

9.1.3 TEST SETUP



9.1.4 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.

9.1.5 EUT TEST CONDITIONS

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

9.1.6 TEST RESULTS

Please refer to the Attachment I.

10. FREQUENCY STABILITY MEASUREMENT

10.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart E 15.407(g)			
Test Item	Limit	Frequency Range (MHz)	Result
Frequency Stability	specified in the user's manual	5150 – 5250	PASS
		5250 – 5350	PASS
		5470 – 5725	PASS

10.1.1 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 Parameter	Setting
Attenuation	Auto
Span Frequency	Entire absence of modulation emissions bandwidth
RB	10 kHz
VB	10 kHz
Sweep Time	Auto

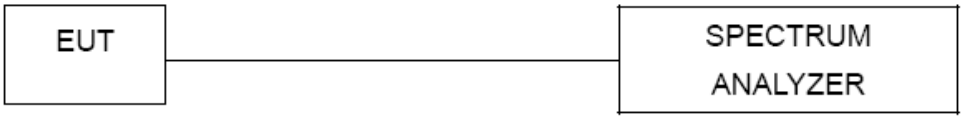
c. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value.

d. user manual temperature is 0°C~50°C.

10.1.2 DEVIATION FROM STANDARD

No deviation.

10.1.3 TEST SETUP



10.1.4 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.

10.1.5 EUT TEST CONDITIONS

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

10.1.6 TEST RESULTS

Please refer to the Attachment J.

11. 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

26dB Spectrum Bandwidth Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 11, 2014

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

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

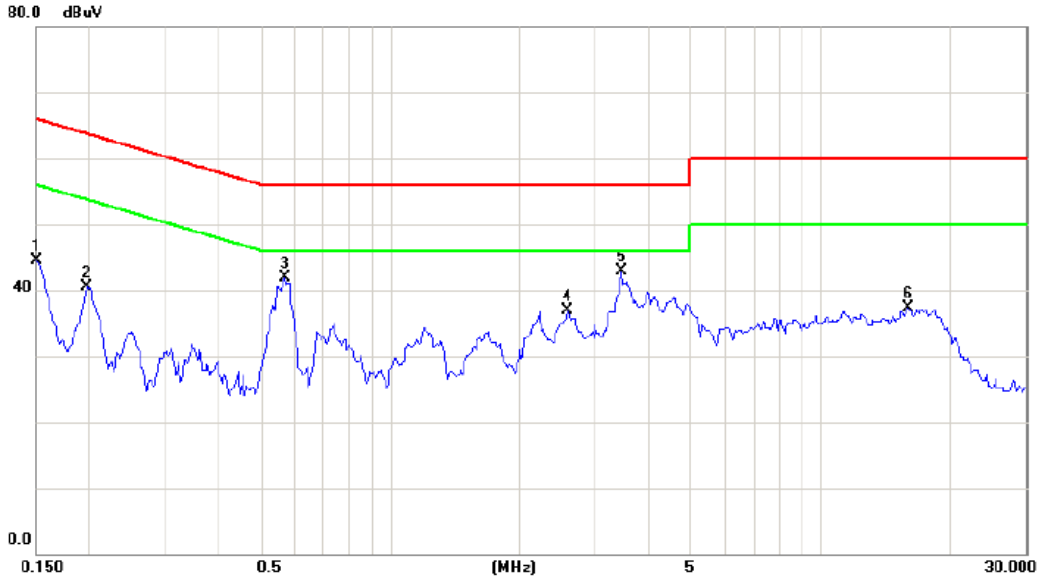
Frequency Stability Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 11, 2014
2	Precision Oven Tester	HOLINK	H-T-1F-D	BA03101701	May. 25, 2014

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

ATTACHMENT A - CONDUCTED EMISSION

Test Mode :	TX Mode

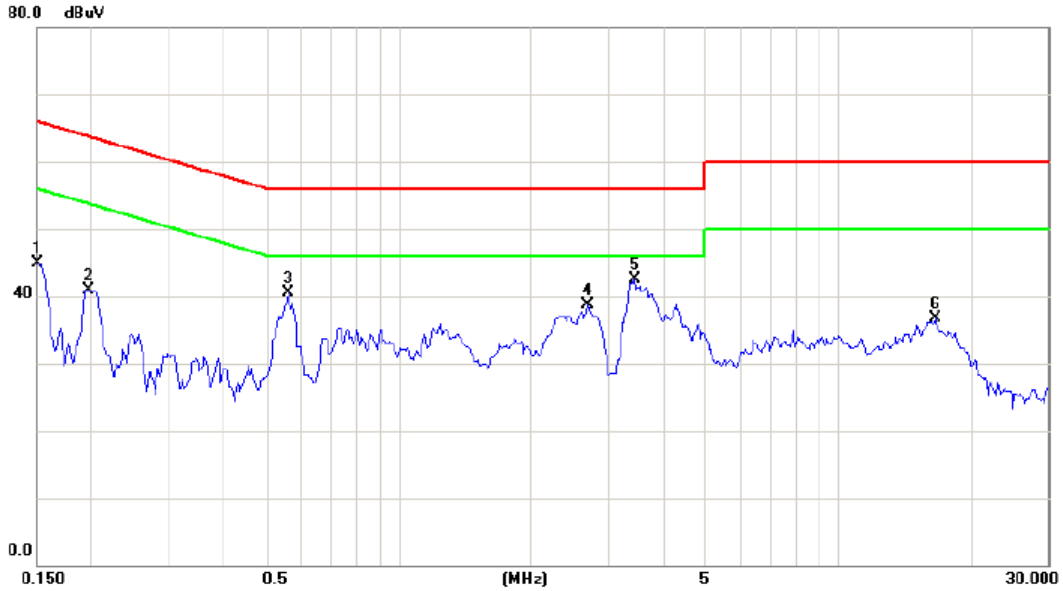
Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1500	35.08	9.52	44.60	66.00	-21.40	peak	
2		0.1970	30.93	9.54	40.47	63.74	-23.27	peak	
3		0.5680	32.26	9.68	41.94	56.00	-14.06	peak	
4		2.5797	27.12	9.74	36.86	56.00	-19.14	peak	
5	*	3.4453	33.04	9.79	42.83	56.00	-13.17	peak	
6		15.9610	27.05	10.27	37.32	60.00	-22.68	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	35.20	9.63	44.83	66.00	-21.17	peak	
2		0.1970	31.34	9.61	40.95	63.74	-22.79	peak	
3		0.5602	30.83	9.65	40.48	56.00	-15.52	peak	
4		2.6930	28.87	9.77	38.64	56.00	-17.36	peak	
5	*	3.4492	32.64	9.81	42.45	56.00	-13.55	peak	
6		16.6290	26.34	10.33	36.67	60.00	-23.33	peak	

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

Test Mode:	TX Mode

Freq. (MHz)	Ant. 0°/90°	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
0.0213	0°	16.52	24.22	40.74	121.04	-80.30	AV
0.0213	0°	18.19	24.22	42.41	141.04	-98.63	PK
0.0279	0°	17.15	23.80	40.95	118.69	-77.74	AV
0.0279	0°	19.03	23.80	42.83	138.69	-95.86	PK
0.0331	0°	17.16	23.47	40.63	117.21	-76.58	AV
0.0331	0°	20.08	23.47	43.55	137.21	-93.66	PK
0.0528	0°	18.47	22.34	40.81	113.15	-72.34	AV
0.0528	0°	21.55	22.34	43.89	133.15	-89.26	PK
0.3170	0°	18.36	20.24	38.60	97.58	-58.98	AV
0.3170	0°	21.05	20.24	41.29	117.58	-76.29	PK
1.5250	0°	18.73	19.55	38.28	63.94	-25.66	QP

Freq. (MHz)	Ant. 0°/90°	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
0.0175	90°	17.51	24.30	41.81	122.74	-80.93	AVG
0.0175	90°	19.23	24.30	43.53	142.74	-99.21	PK
0.0269	90°	16.95	23.86	40.81	119.01	-78.20	AVG
0.0269	90°	18.33	23.86	42.19	139.01	-96.82	PK
0.0378	90°	20.03	23.17	43.20	116.05	-72.85	AVG
0.0378	90°	21.68	23.17	44.85	136.05	-91.20	PK
0.0519	90°	20.25	22.36	42.61	113.30	-70.69	AVG
0.0519	90°	23.39	22.36	45.75	133.30	-87.55	PK
0.3270	90°	18.45	20.22	38.67	97.31	-58.65	AVG
0.3270	90°	20.72	20.22	40.94	117.31	-76.38	PK
1.6750	90°	18.63	19.53	38.16	63.12	-24.96	QP

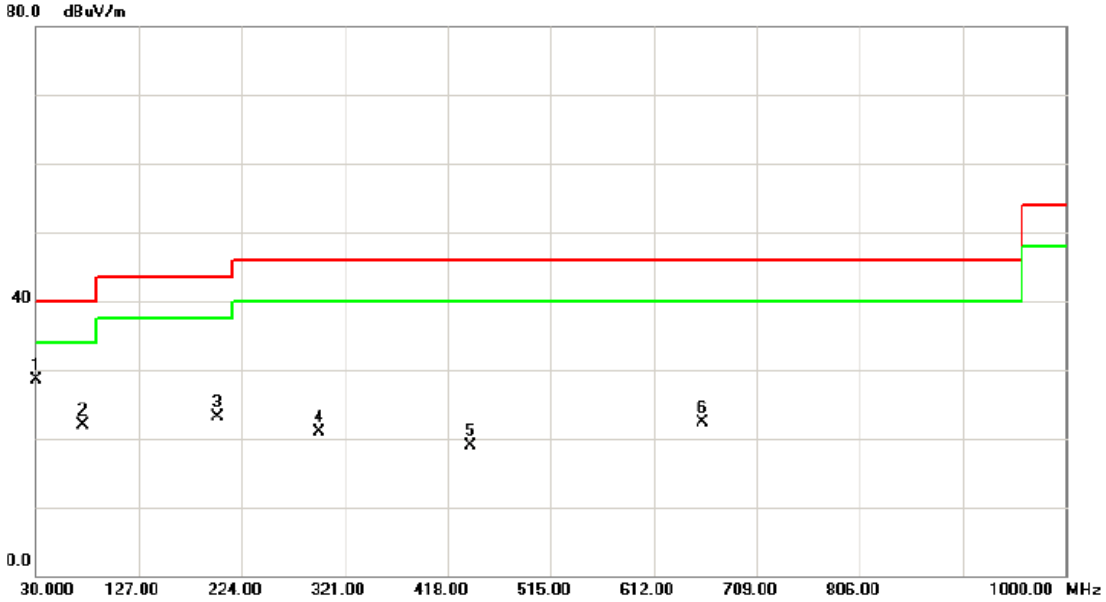
Remark:

(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 :	Band 1/TX 802.11a Mode 5180MHz

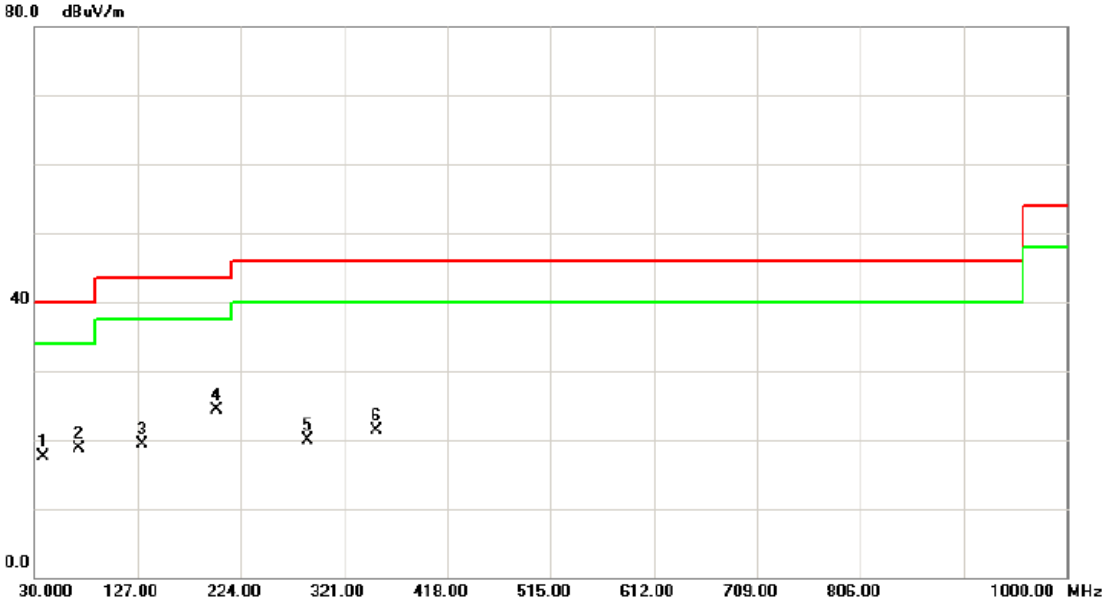
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	30.0000	44.20	-15.79	28.41	40.00	-11.59	peak	
2		74.6200	38.66	-16.74	21.92	40.00	-18.08	peak	
3		200.7200	38.37	-15.17	23.20	43.50	-20.30	peak	
4		296.7500	31.99	-11.11	20.88	46.00	-25.12	peak	
5		439.3400	27.85	-8.89	18.96	46.00	-27.04	peak	
6		657.5900	27.41	-5.15	22.26	46.00	-23.74	peak	

Test Mode :	Band 1/TX 802.11a Mode 5180MHz

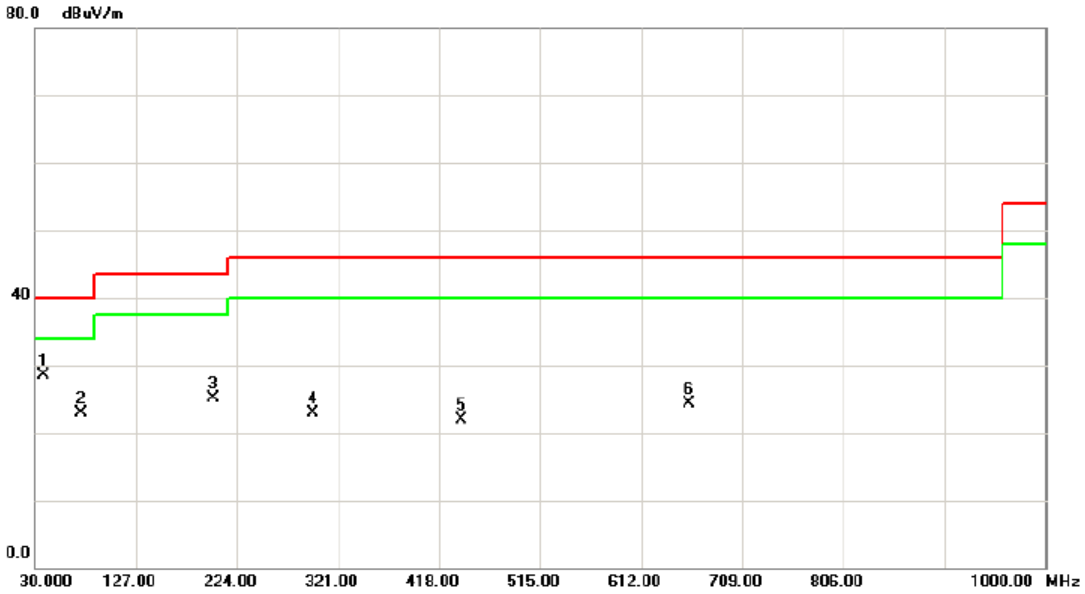
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		37.7600	32.06	-14.53	17.53	40.00	-22.47	peak	
2		71.7100	35.28	-16.53	18.75	40.00	-21.25	peak	
3		131.8500	32.48	-13.24	19.24	43.50	-24.26	peak	
4	*	200.7200	39.38	-15.17	24.21	43.50	-19.29	peak	
5		287.0500	31.57	-11.58	19.99	46.00	-26.01	peak	
6		351.0700	32.99	-11.77	21.22	46.00	-24.78	peak	

Test Mode :	Band 1/TX 802.11a Mode 5200MHz

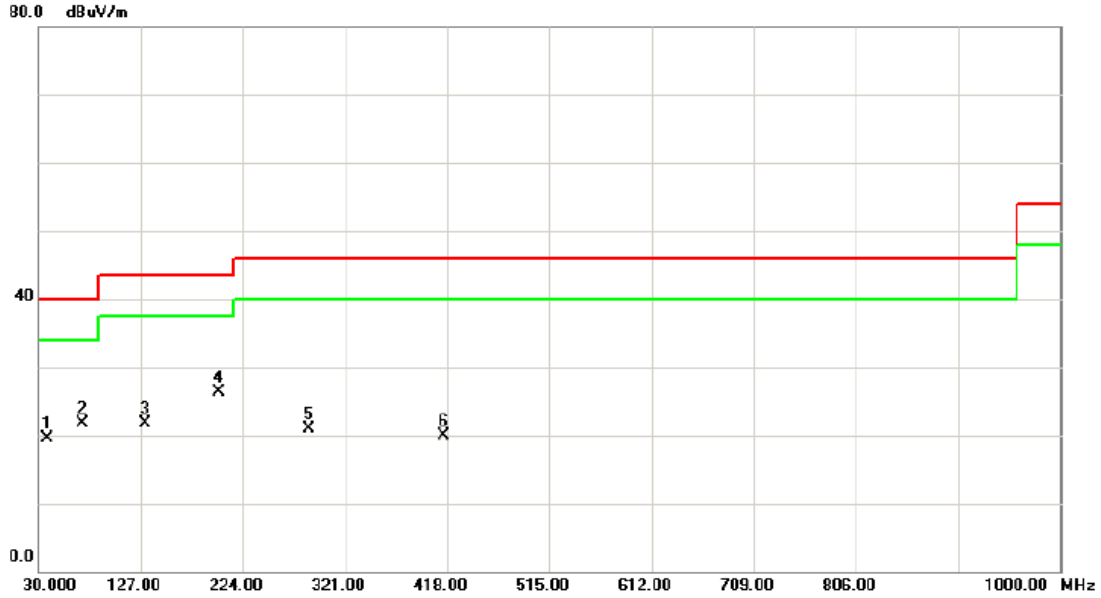
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	37.7600	43.05	-14.53	28.52	40.00	-11.48	peak	
2		74.6200	39.66	-16.74	22.92	40.00	-17.08	peak	
3		200.7200	40.37	-15.17	25.20	43.50	-18.30	peak	
4		296.7500	33.99	-11.11	22.88	46.00	-23.12	peak	
5		439.3400	30.85	-8.89	21.96	46.00	-24.04	peak	
6		657.5900	29.41	-5.15	24.26	46.00	-21.74	peak	

Test Mode :	Band 1/TX 802.11a Mode 5200MHz

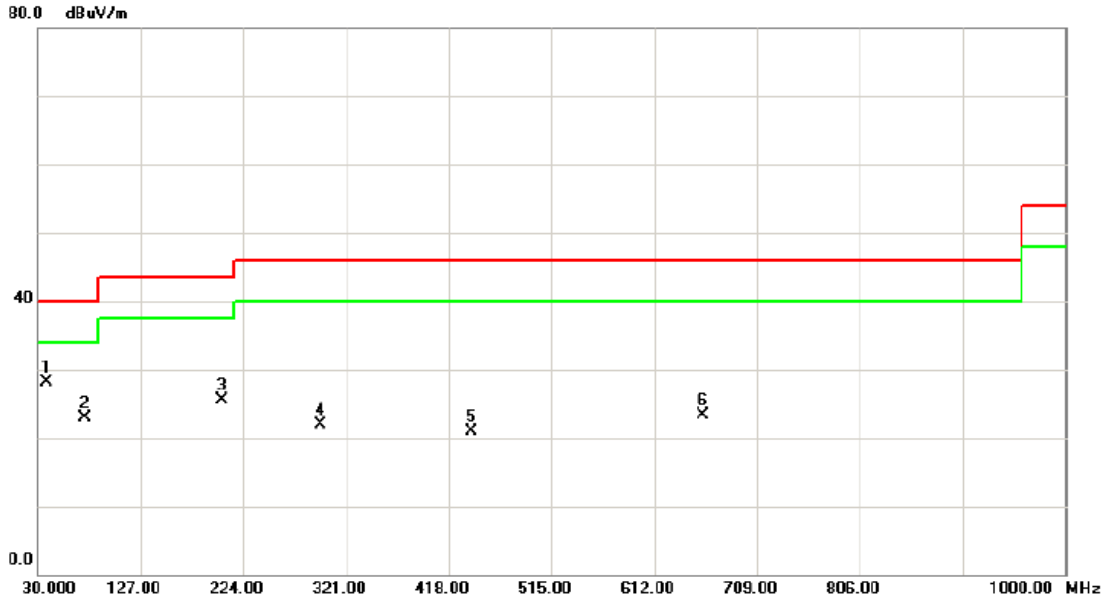
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		37.7600	34.06	-14.53	19.53	40.00	-20.47	peak	
2		71.7100	38.28	-16.53	21.75	40.00	-18.25	peak	
3		131.8500	34.98	-13.24	21.74	43.50	-21.76	peak	
4	*	200.7200	41.38	-15.17	26.21	43.50	-17.29	peak	
5		287.0500	32.57	-11.58	20.99	46.00	-25.01	peak	
6		415.0900	29.37	-9.37	20.00	46.00	-26.00	peak	

Test Mode :	Band 1/TX 802.11a Mode 5240MHz

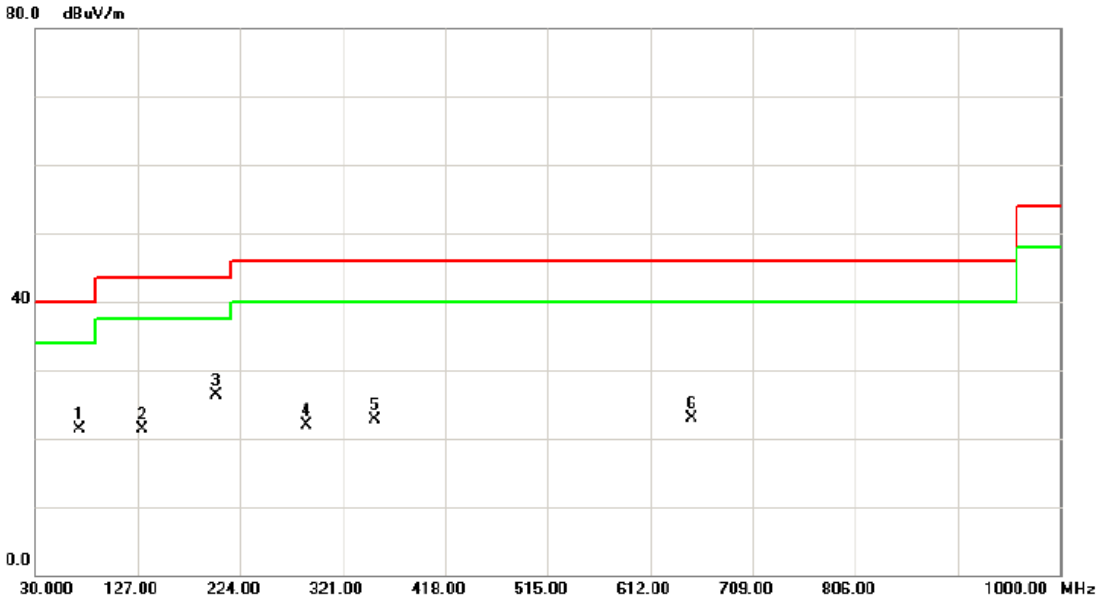
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	37.7600	42.55	-14.53	28.02	40.00	-11.98	peak	
2		74.6200	39.66	-16.74	22.92	40.00	-17.08	peak	
3		203.6300	40.81	-15.24	25.57	43.50	-17.93	peak	
4		296.7500	32.99	-11.11	21.88	46.00	-24.12	peak	
5		439.3400	29.85	-8.89	20.96	46.00	-25.04	peak	
6		657.5900	28.41	-5.15	23.26	46.00	-22.74	peak	

Test Mode :	Band 1/TX 802.11a Mode 5240MHz

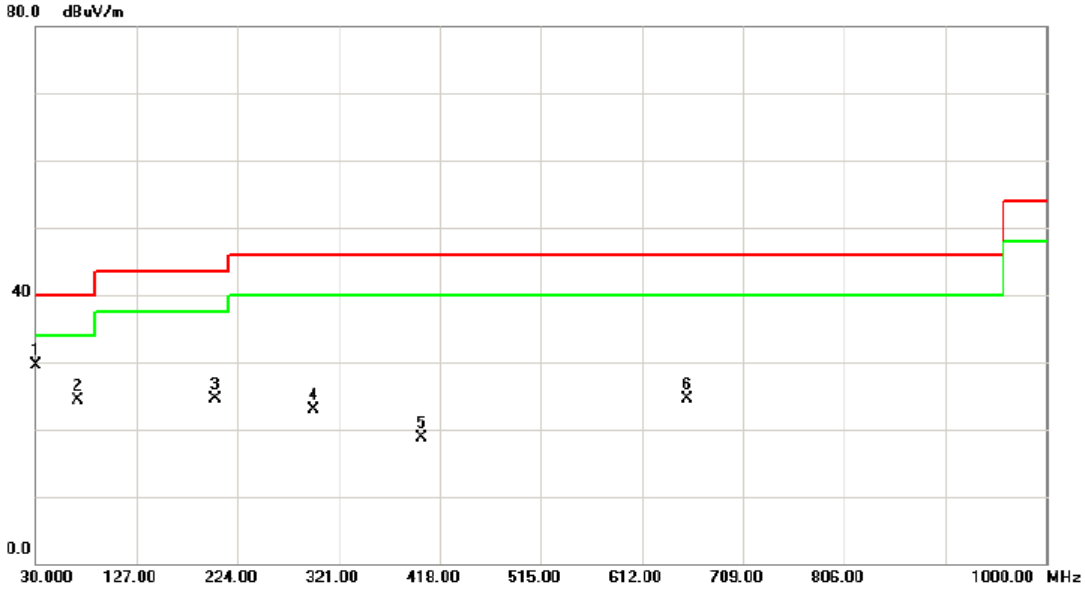
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		71.7100	37.78	-16.53	21.25	40.00	-18.75	peak	
2		131.8500	34.48	-13.24	21.24	43.50	-22.26	peak	
3	*	200.7200	41.38	-15.17	26.21	43.50	-17.29	peak	
4		287.0500	33.57	-11.58	21.99	46.00	-24.01	peak	
5		351.0700	34.49	-11.77	22.72	46.00	-23.28	peak	
6		650.8000	28.09	-5.19	22.90	46.00	-23.10	peak	

Test Mode :	Band 2/TX 802.11a Mode 5260MHz

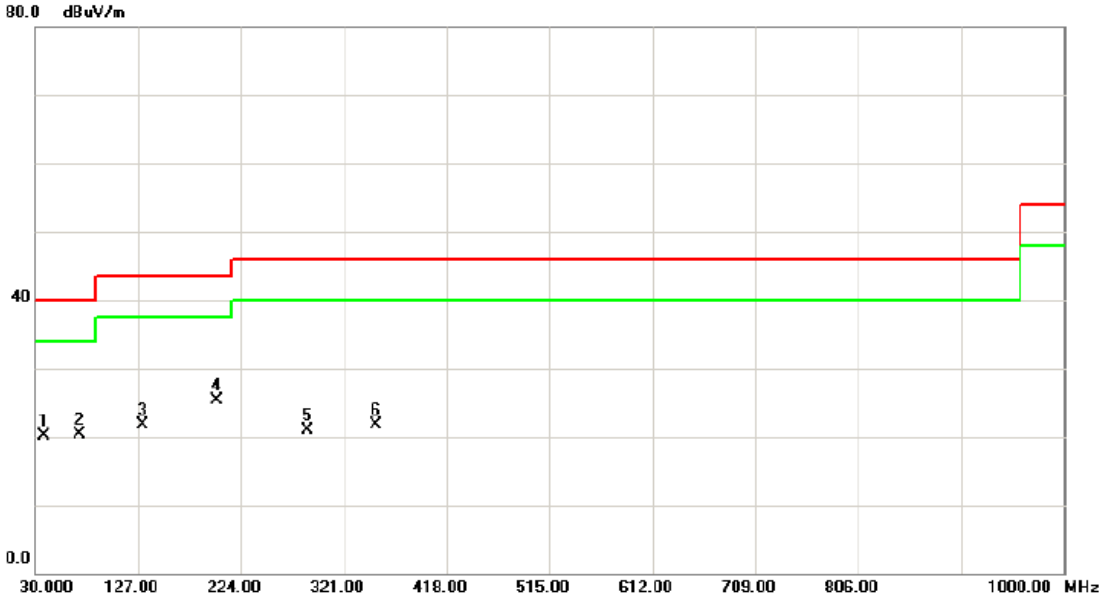
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	30.0000	45.20	-15.79	29.41	40.00	-10.59	peak	
2		70.7400	40.81	-16.46	24.35	40.00	-15.65	peak	
3		202.6600	39.81	-15.21	24.60	43.50	-18.90	peak	
4		296.7500	33.99	-11.11	22.88	46.00	-23.12	peak	
5		400.5400	28.40	-9.67	18.73	46.00	-27.27	peak	
6		654.6800	29.72	-5.17	24.55	46.00	-21.45	peak	

Test Mode :	Band 2/TX 802.11a Mode 5260MHz

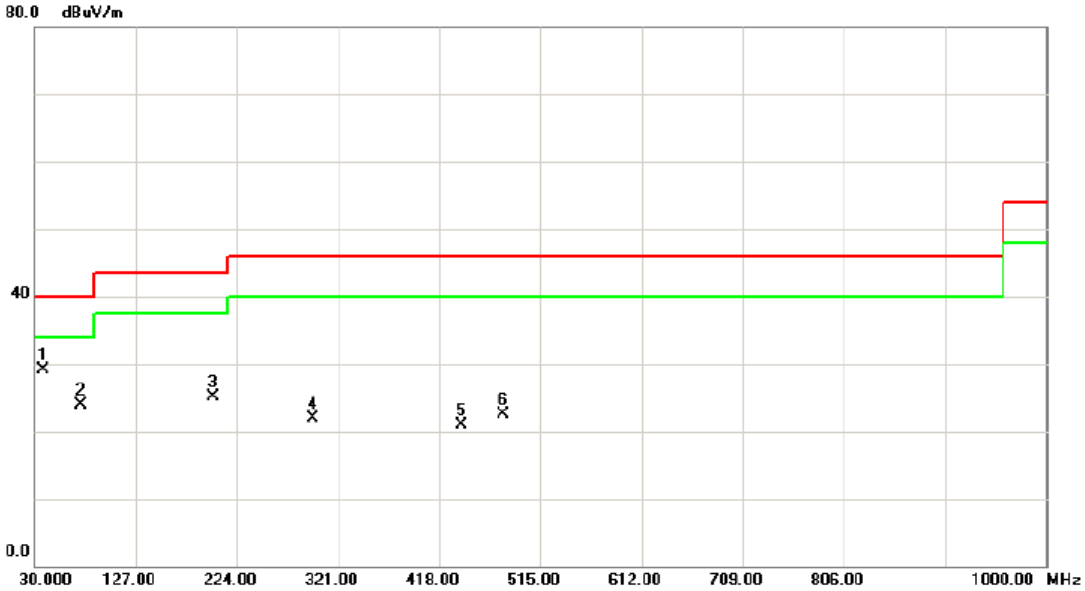
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		37.7600	34.56	-14.53	20.03	40.00	-19.97	peak	
2		71.7100	36.78	-16.53	20.25	40.00	-19.75	peak	
3		131.8500	34.98	-13.24	21.74	43.50	-21.76	peak	
4	*	200.7200	40.38	-15.17	25.21	43.50	-18.29	peak	
5		287.0500	32.57	-11.58	20.99	46.00	-25.01	peak	
6		351.0700	33.49	-11.77	21.72	46.00	-24.28	peak	

Test Mode :	Band 2/TX 802.11a Mode 5280MHz

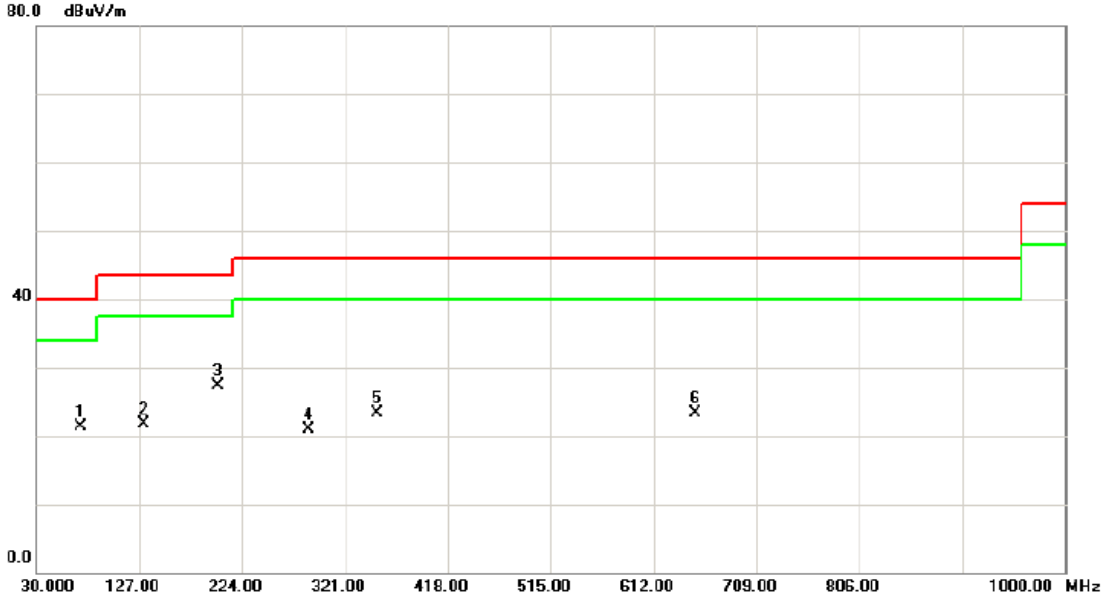
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	37.7600	43.55	-14.53	29.02	40.00	-10.98	peak	
2		74.6200	40.66	-16.74	23.92	40.00	-16.08	peak	
3		200.7200	40.37	-15.17	25.20	43.50	-18.30	peak	
4		296.7500	32.99	-11.11	21.88	46.00	-24.12	peak	
5		439.3400	29.85	-8.89	20.96	46.00	-25.04	peak	
6		479.1100	32.26	-9.75	22.51	46.00	-23.49	peak	

Test Mode :	Band 2/TX 802.11a Mode 5280MHz

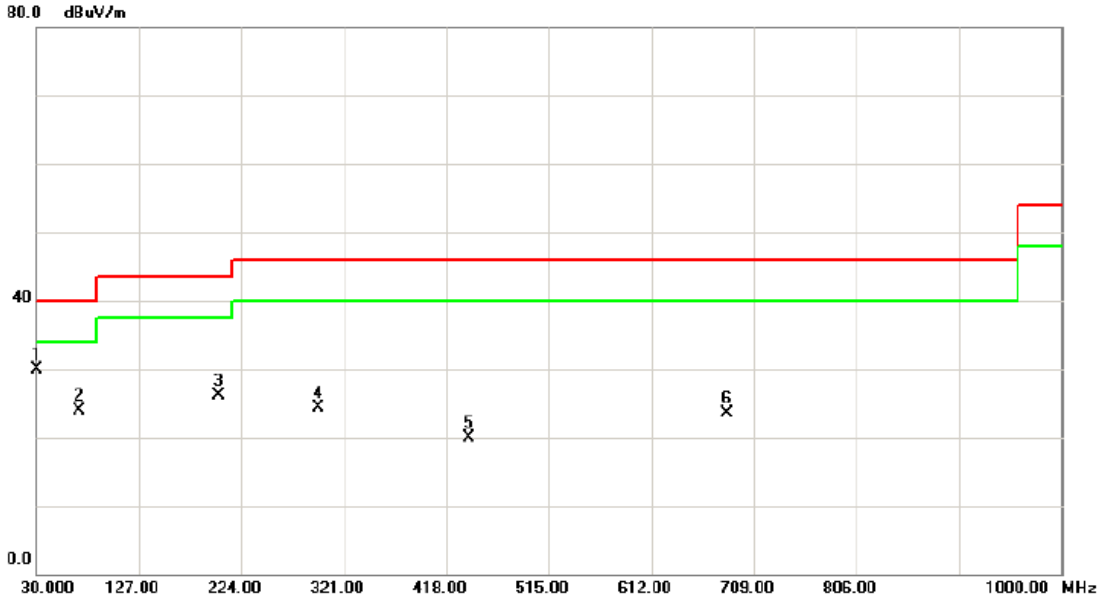
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		71.7100	37.78	-16.53	21.25	40.00	-18.75	peak	
2		131.8500	34.98	-13.24	21.74	43.50	-21.76	peak	
3	*	200.7200	42.38	-15.17	27.21	43.50	-16.29	peak	
4		287.0500	32.57	-11.58	20.99	46.00	-25.01	peak	
5		351.0700	34.99	-11.77	23.22	46.00	-22.78	peak	
6		650.8000	28.59	-5.19	23.40	46.00	-22.60	peak	

Test Mode :	Band 2/TX 802.11a Mode 5320MHz

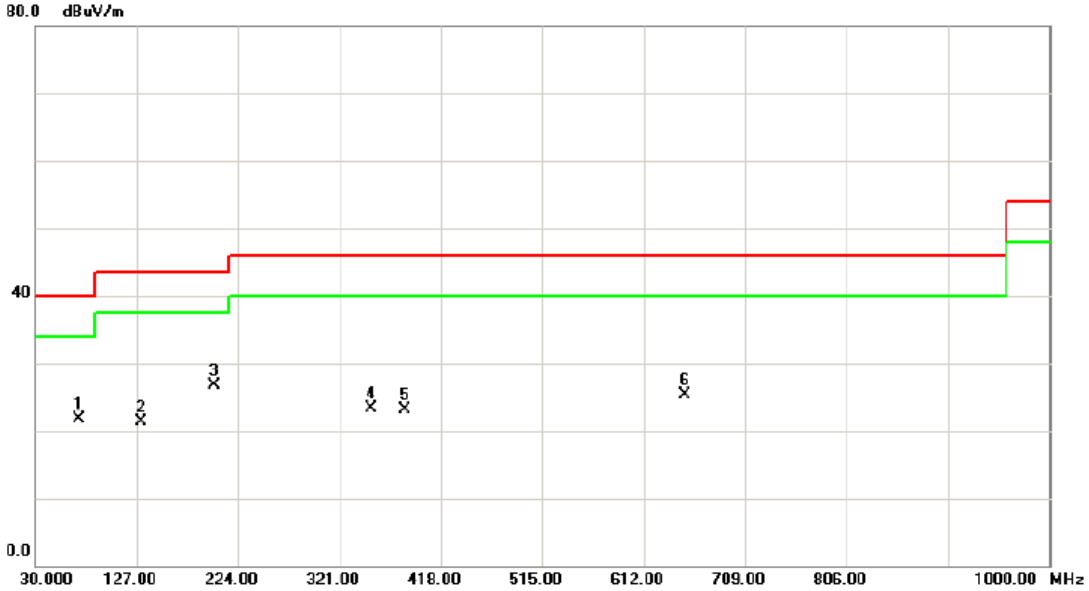
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	30.0000	45.70	-15.79	29.91	40.00	-10.09	peak	
2		70.7400	40.31	-16.46	23.85	40.00	-16.15	peak	
3		202.6600	41.31	-15.21	26.10	43.50	-17.40	peak	
4		296.7500	35.49	-11.11	24.38	46.00	-21.62	peak	
5		439.3400	28.85	-8.89	19.96	46.00	-26.04	peak	
6		683.7800	28.62	-5.03	23.59	46.00	-22.41	peak	

Test Mode :	Band 2/TX 802.11a Mode 5320MHz

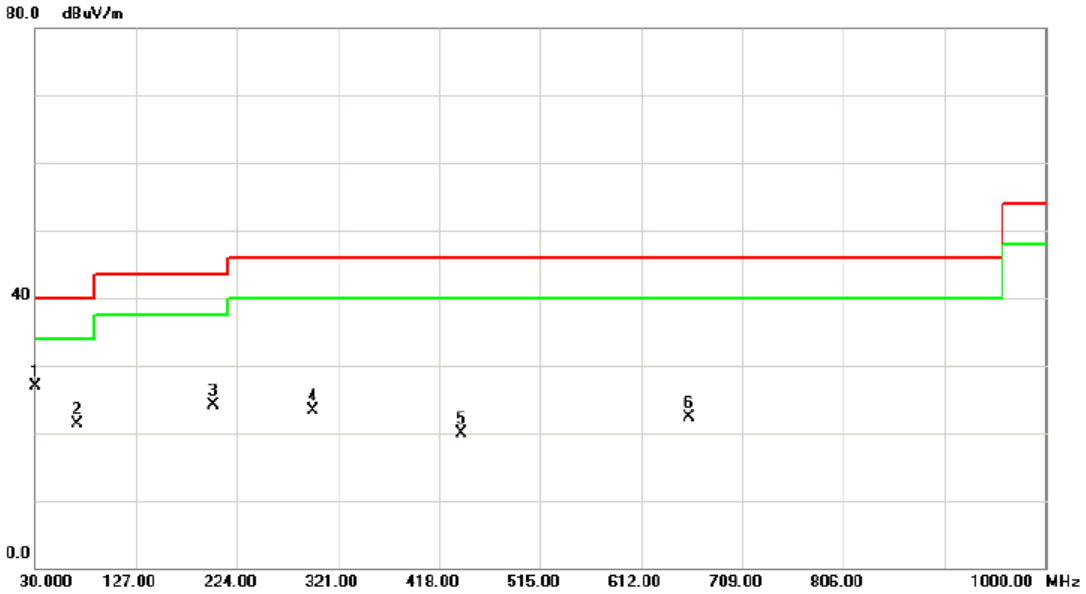
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		71.7100	38.28	-16.53	21.75	40.00	-18.25	peak	
2		131.8500	34.48	-13.24	21.24	43.50	-22.26	peak	
3	*	200.7200	41.88	-15.17	26.71	43.50	-16.79	peak	
4		351.0700	34.99	-11.77	23.22	46.00	-22.78	peak	
5		383.0800	33.43	-10.39	23.04	46.00	-22.96	peak	
6		650.8000	30.59	-5.19	25.40	46.00	-20.60	peak	

Test Mode :	Band 3/TX 802.11a Mode 5500MHz

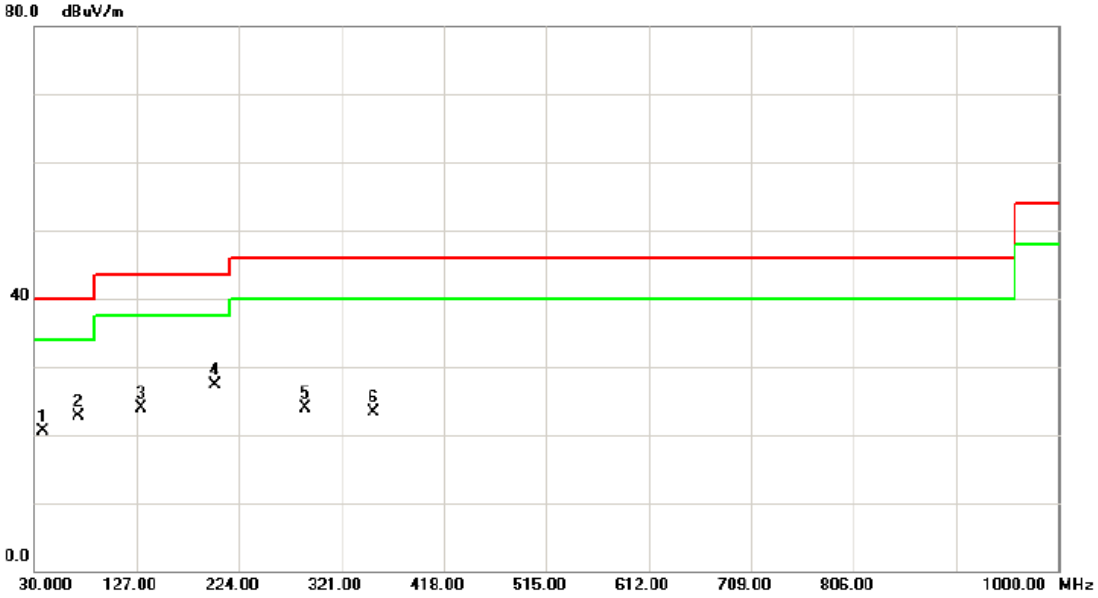
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	30.0000	42.70	-15.79	26.91	40.00	-13.09	peak	
2		70.7400	37.81	-16.46	21.35	40.00	-18.65	peak	
3		200.7200	39.37	-15.17	24.20	43.50	-19.30	peak	
4		296.7500	34.49	-11.11	23.38	46.00	-22.62	peak	
5		439.3400	28.85	-8.89	19.96	46.00	-26.04	peak	
6		657.5900	27.41	-5.15	22.26	46.00	-23.74	peak	

Test Mode :	Band 3/TX 802.11a Mode 5500MHz

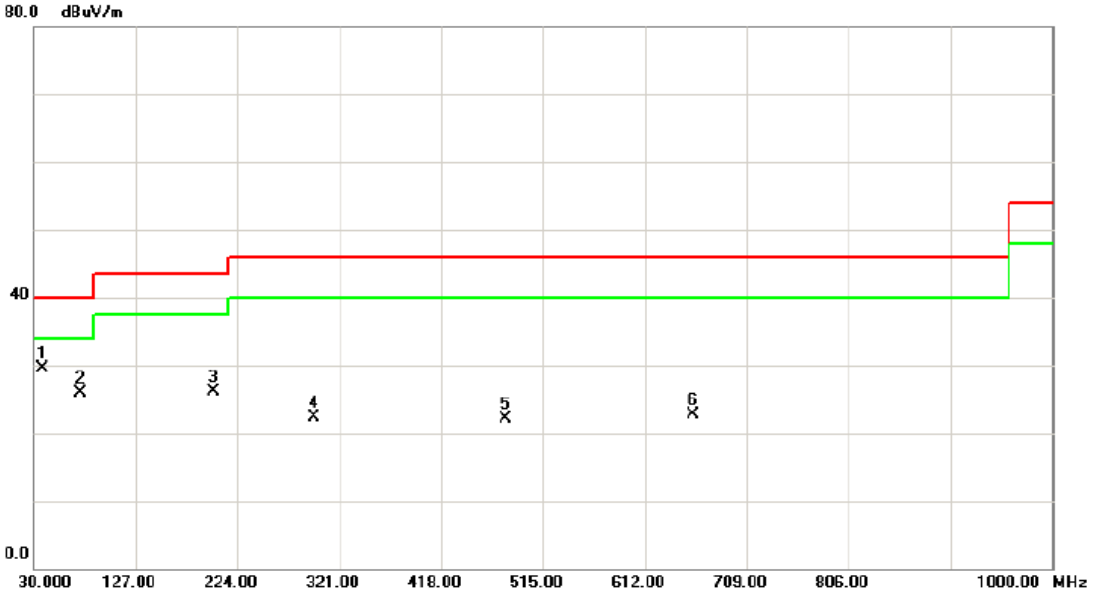
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		37.7600	35.06	-14.53	20.53	40.00	-19.47	peak	
2		71.7100	39.28	-16.53	22.75	40.00	-17.25	peak	
3		130.8800	37.16	-13.26	23.90	43.50	-19.60	peak	
4	*	200.7200	42.38	-15.17	27.21	43.50	-16.29	peak	
5		287.0500	35.57	-11.58	23.99	46.00	-22.01	peak	
6		351.0700	34.99	-11.77	23.22	46.00	-22.78	peak	

Test Mode :	Band 3/TX 802.11a Mode 5580MHz

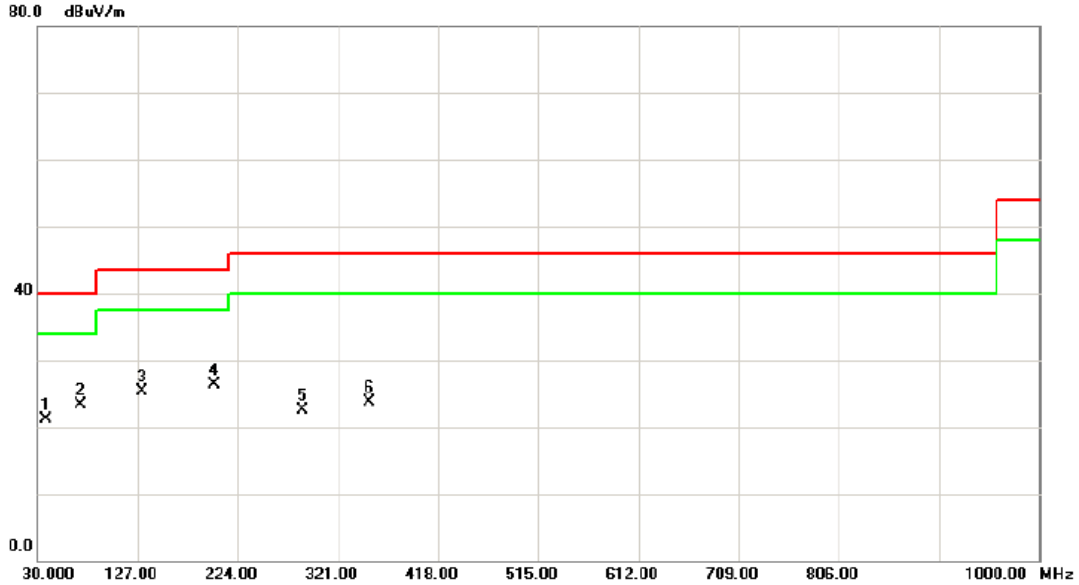
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	37.7600	44.05	-14.53	29.52	40.00	-10.48	peak	
2		74.6200	42.66	-16.74	25.92	40.00	-14.08	peak	
3		200.7200	41.37	-15.17	26.20	43.50	-17.30	peak	
4		296.7500	33.49	-11.11	22.38	46.00	-23.62	peak	
5		479.1100	31.76	-9.75	22.01	46.00	-23.99	peak	
6		657.5900	27.91	-5.15	22.76	46.00	-23.24	peak	

Test Mode :	Band 3/TX 802.11a Mode 5580MHz

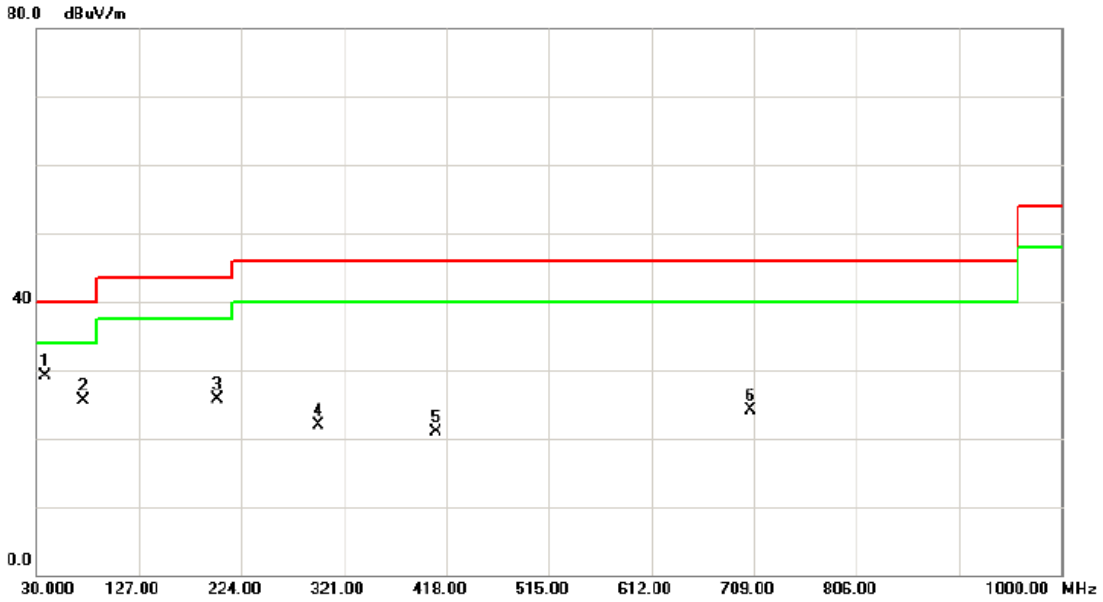
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		37.7600	35.56	-14.53	21.03	40.00	-18.97	peak	
2	*	71.7100	39.78	-16.53	23.25	40.00	-16.75	peak	
3		131.8500	38.48	-13.24	25.24	43.50	-18.26	peak	
4		200.7200	41.38	-15.17	26.21	43.50	-17.29	peak	
5		287.0500	34.07	-11.58	22.49	46.00	-23.51	peak	
6		351.0700	35.49	-11.77	23.72	46.00	-22.28	peak	

Test Mode :	Band 3/TX 802.11a Mode 5700MHz

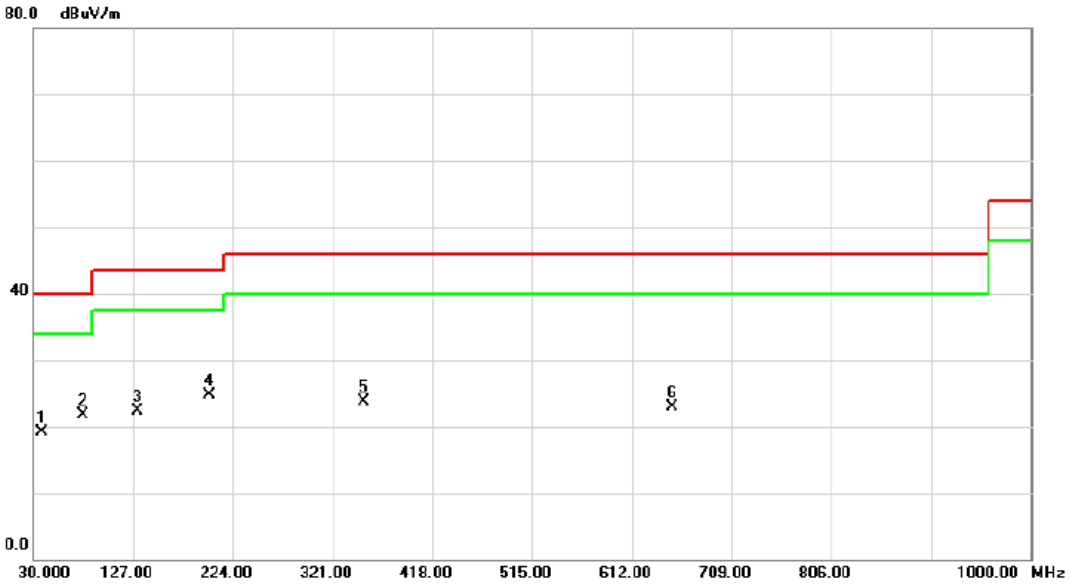
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	37.7600	43.55	-14.53	29.02	40.00	-10.98	peak	
2		74.6200	42.16	-16.74	25.42	40.00	-14.58	peak	
3		200.7200	40.87	-15.17	25.70	43.50	-17.80	peak	
4		296.7500	32.99	-11.11	21.88	46.00	-24.12	peak	
5		408.3000	30.46	-9.51	20.95	46.00	-25.05	peak	
6		706.0900	28.99	-4.93	24.06	46.00	-21.94	peak	

Test Mode :	Band 3/TX 802.11a Mode 5700MHz

Horizontal

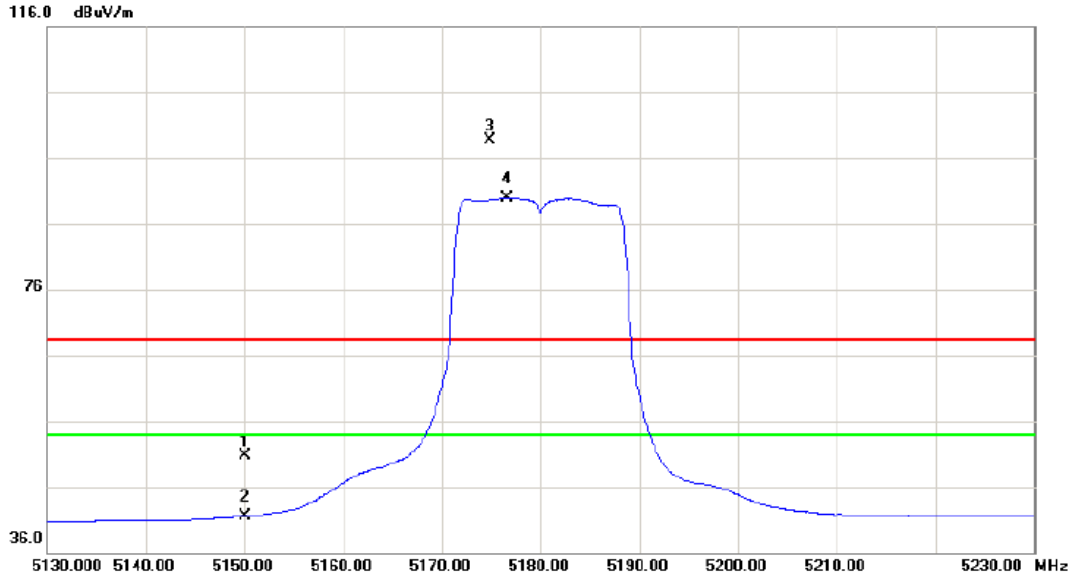


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		37.7600	33.56	-14.53	19.03	40.00	-20.97	peak	
2	*	78.5000	38.96	-17.17	21.79	40.00	-18.21	peak	
3		131.8500	35.48	-13.24	22.24	43.50	-21.26	peak	
4		200.7200	39.88	-15.17	24.71	43.50	-18.79	peak	
5		351.0700	35.49	-11.77	23.72	46.00	-22.28	peak	
6		650.8000	28.09	-5.19	22.90	46.00	-23.10	peak	

ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)

Orthogonal Axis :	X
Test Mode :	Band 1/ TX 802.11a Mode 5180MHz

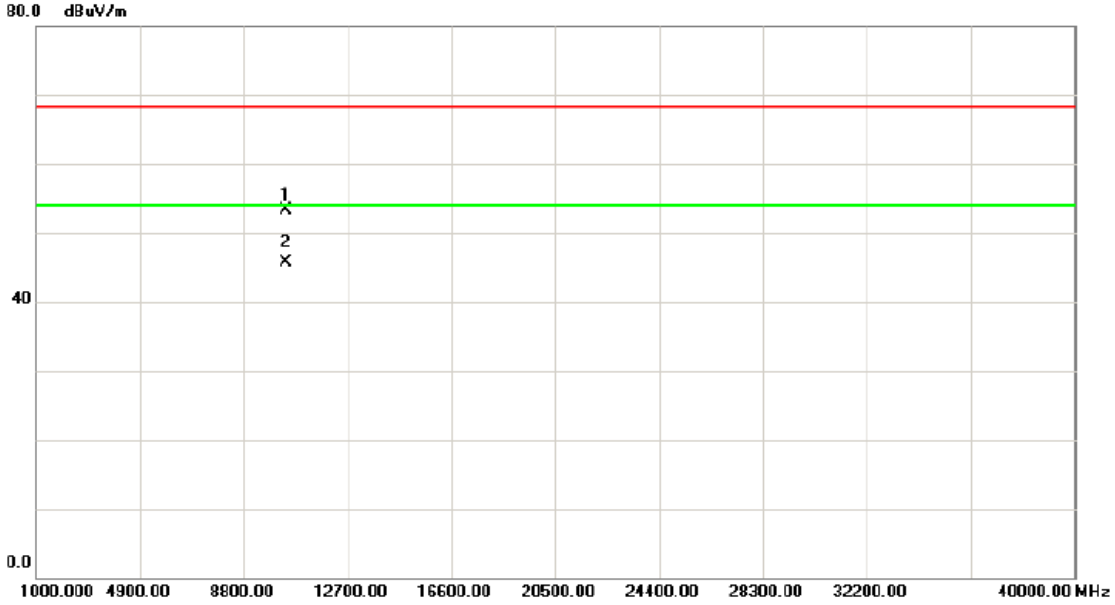
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5150.000	8.77	41.99	50.76	68.30	-17.54	peak	
2		5150.000	-0.44	41.99	41.55	54.00	-12.45	AVG	
3	X	5174.800	56.64	42.09	98.73	68.30	30.43	peak	
4	*	5176.600	47.83	42.10	89.93	54.00	35.93	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX 802.11a Mode 5180MHz

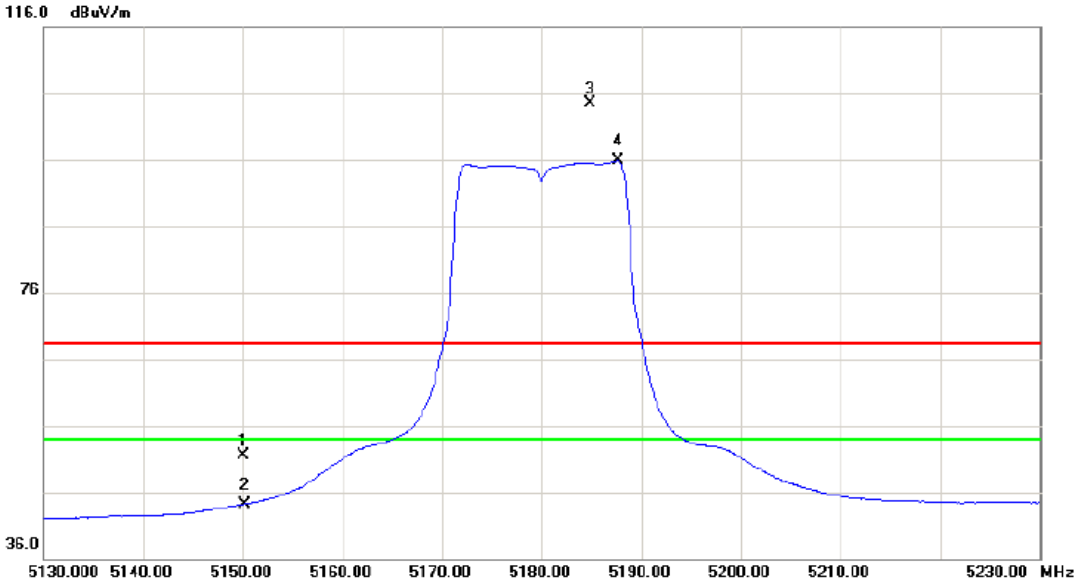
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10360.12	37.25	16.03	53.28	68.30	-15.02	peak	
2	*	10360.16	29.64	16.03	45.67	54.00	-8.33	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX 802.11a Mode 5180MHz

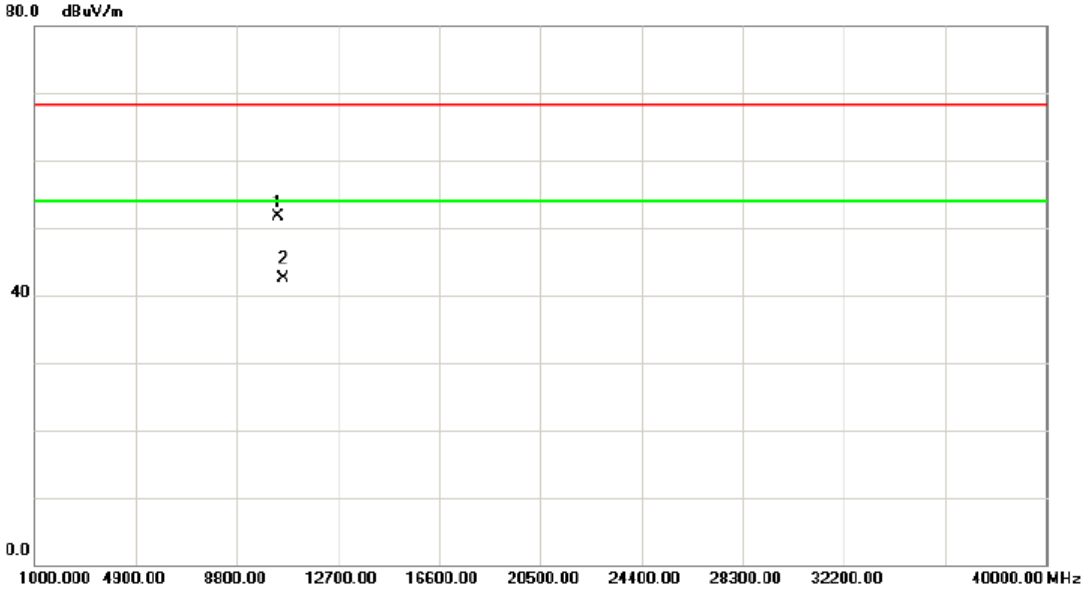
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5150.000	9.54	41.99	51.53	68.30	-16.77	peak	
2		5150.000	2.18	41.99	44.17	54.00	-9.83	AVG	
3	X	5184.900	62.29	42.14	104.43	68.30	36.13	peak	
4	*	5187.600	53.67	42.15	95.82	54.00	41.82	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX 802.11a Mode 5180MHz

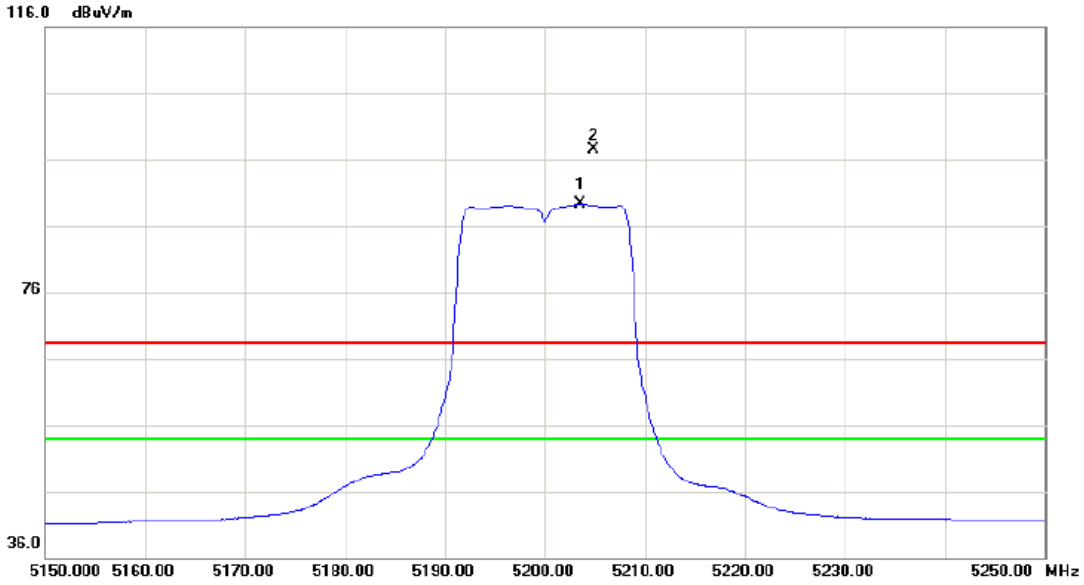
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10360.23	35.58	16.03	51.61	68.30	-16.69	peak	
2	*	10560.45	26.47	16.00	42.47	54.00	-11.53	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX 802.11a Mode 5200MHz

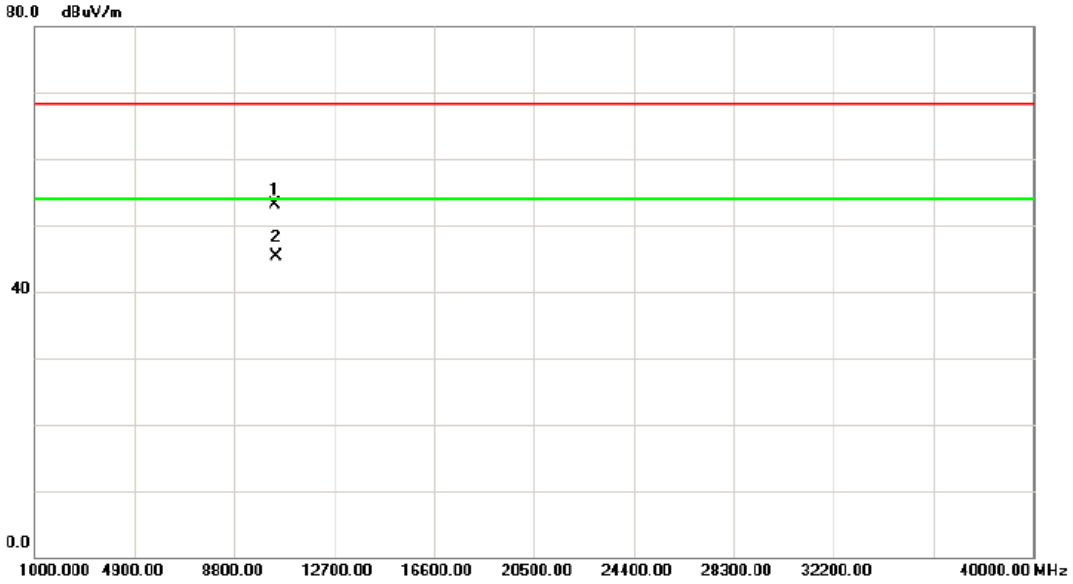
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5203.500	47.06	42.21	89.27	54.00	35.27	AVG	
2	X	5204.800	55.29	42.22	97.51	68.30	29.21	peak	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX 802.11a Mode 5200MHz

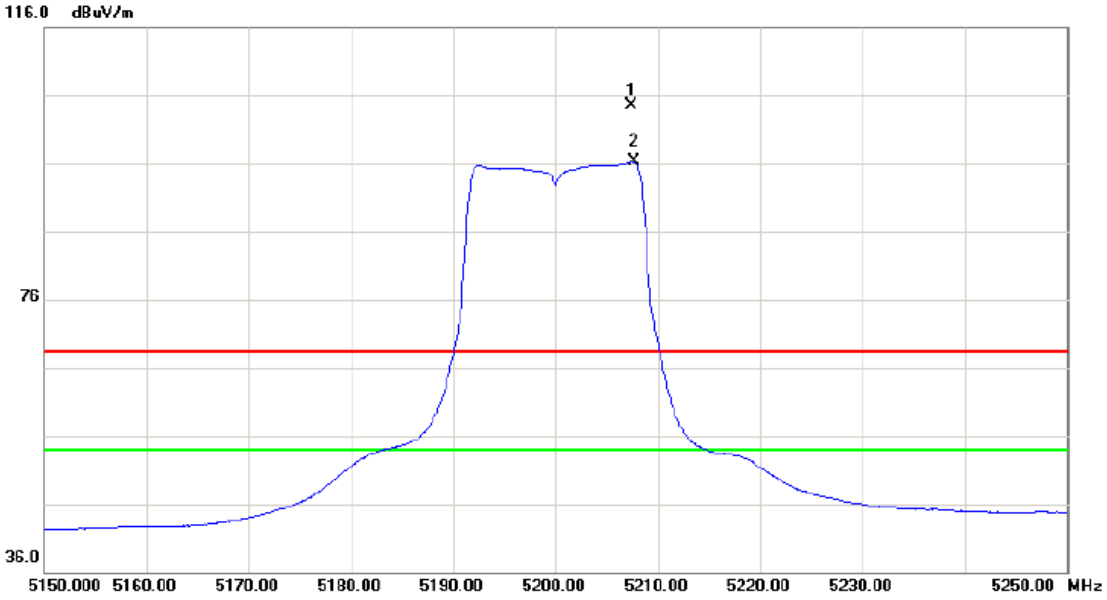
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10400.08	37.23	15.97	53.20	68.30	-15.10	peak	
2	*	10400.08	29.26	15.97	45.23	54.00	-8.77	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX 802.11a Mode 5200MHz

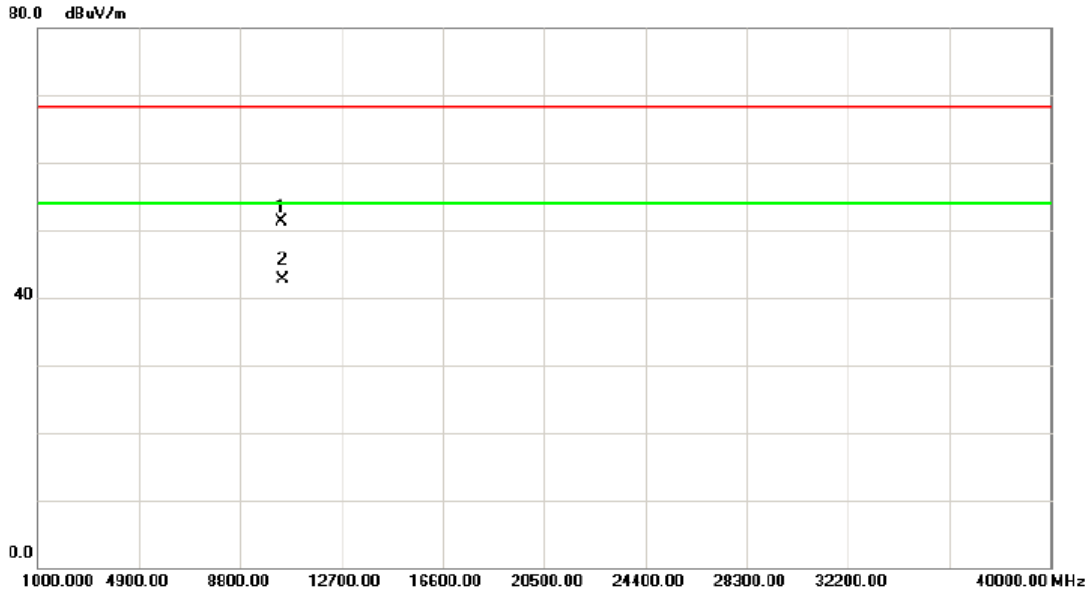
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5207.400	62.36	42.23	104.59	68.30	36.29	peak	
2	*	5207.600	53.98	42.23	96.21	54.00	42.21	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX 802.11a Mode 5200MHz

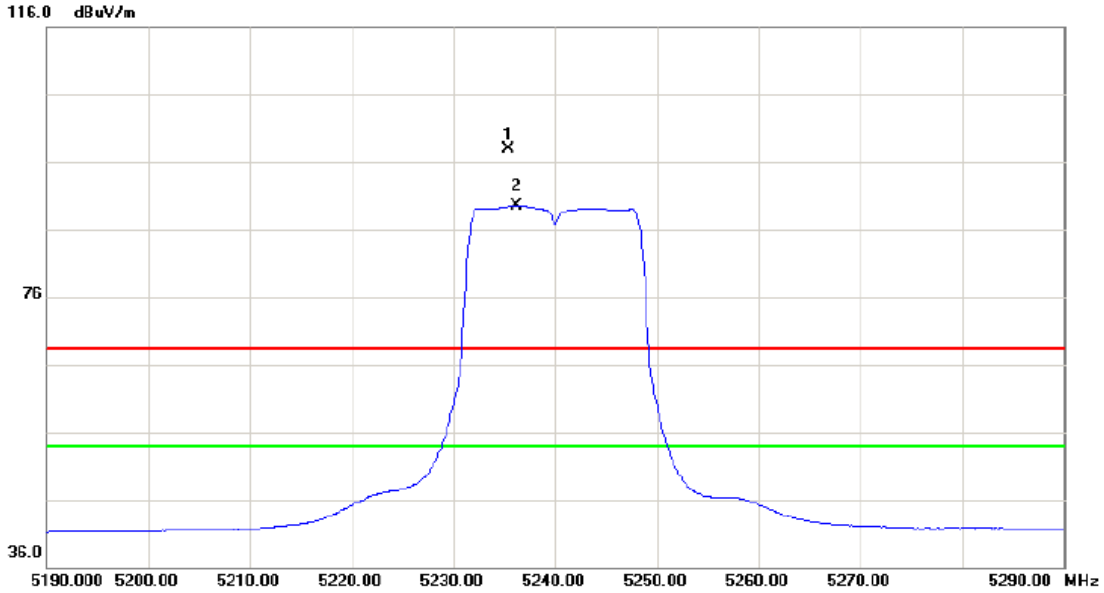
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10399.85	35.24	15.97	51.21	68.30	-17.09	peak	
2	*	10399.97	26.71	15.97	42.68	54.00	-11.32	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX 802.11a Mode 5240MHz

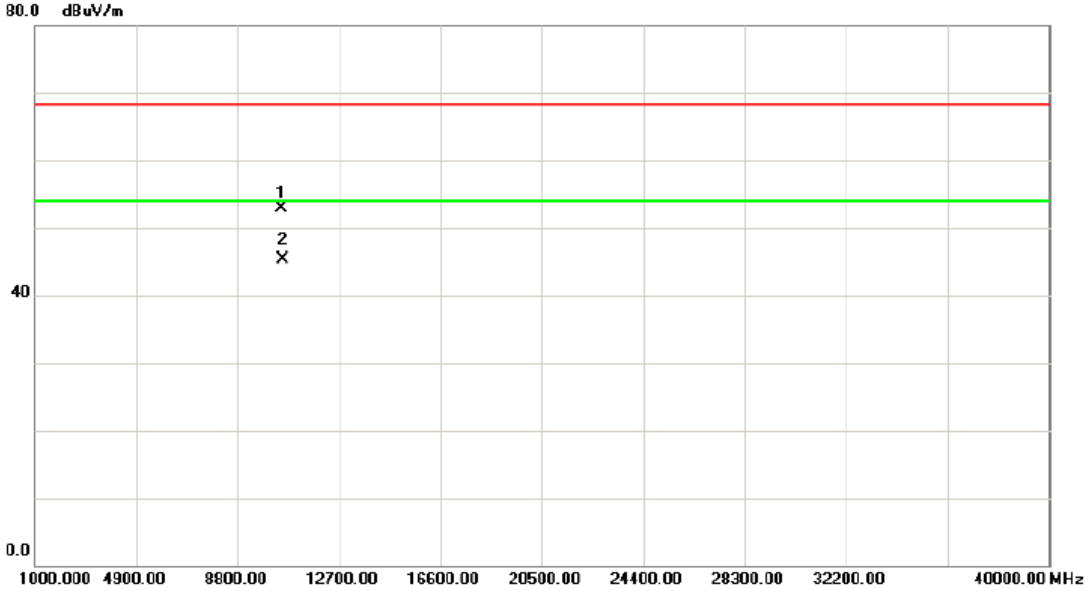
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5235.400	55.51	42.34	97.85	68.30	29.55	peak	
2	*	5236.200	47.19	42.34	89.53	54.00	35.53	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX 802.11a Mode 5240MHz

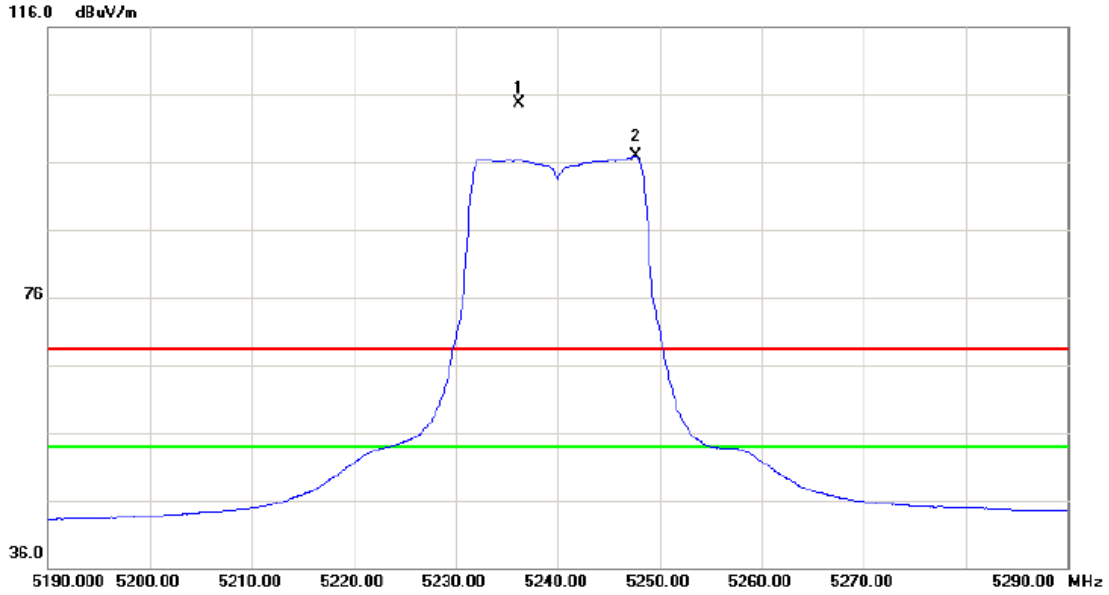
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10480.32	37.12	15.85	52.97	68.30	-15.33	peak	
2	*	10480.32	29.36	15.85	45.21	54.00	-8.79	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX 802.11a Mode 5240MHz

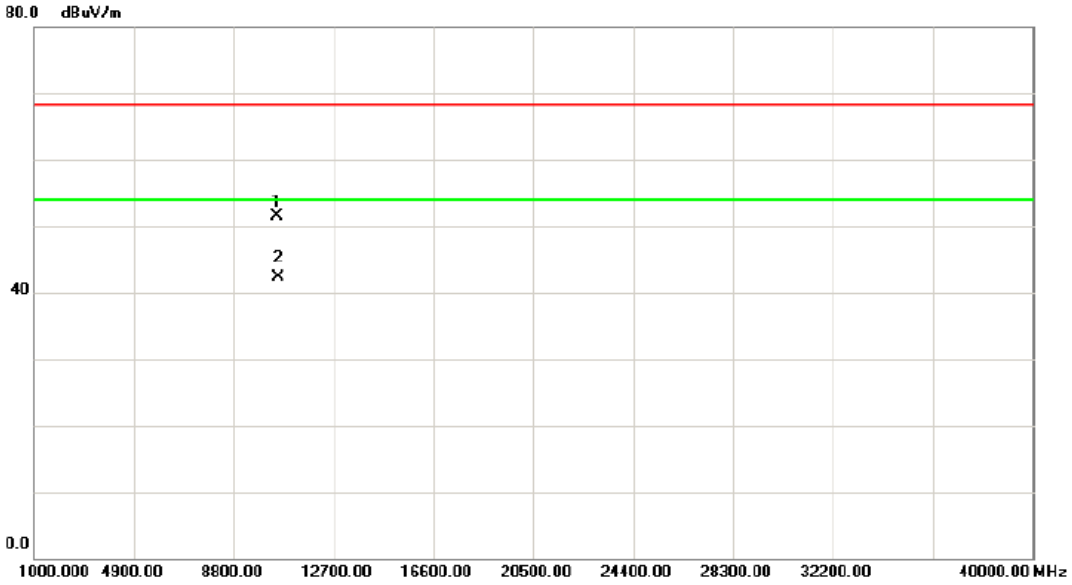
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5236.200	62.33	42.34	104.67	68.30	36.37	peak	
2	*	5247.600	54.51	42.39	96.90	54.00	42.90	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX 802.11a Mode 5240MHz

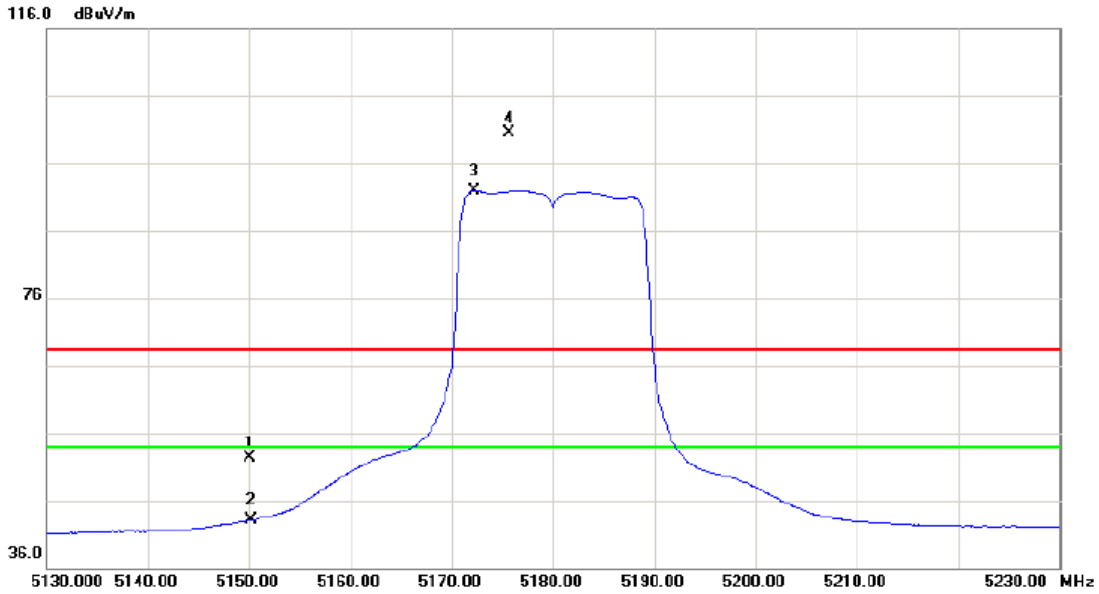
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10479.95	35.73	15.86	51.59	68.30	-16.71	peak	
2	*	10479.95	26.47	15.86	42.33	54.00	-11.67	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX 802.11n(20 MHz) Mode 5180MHz

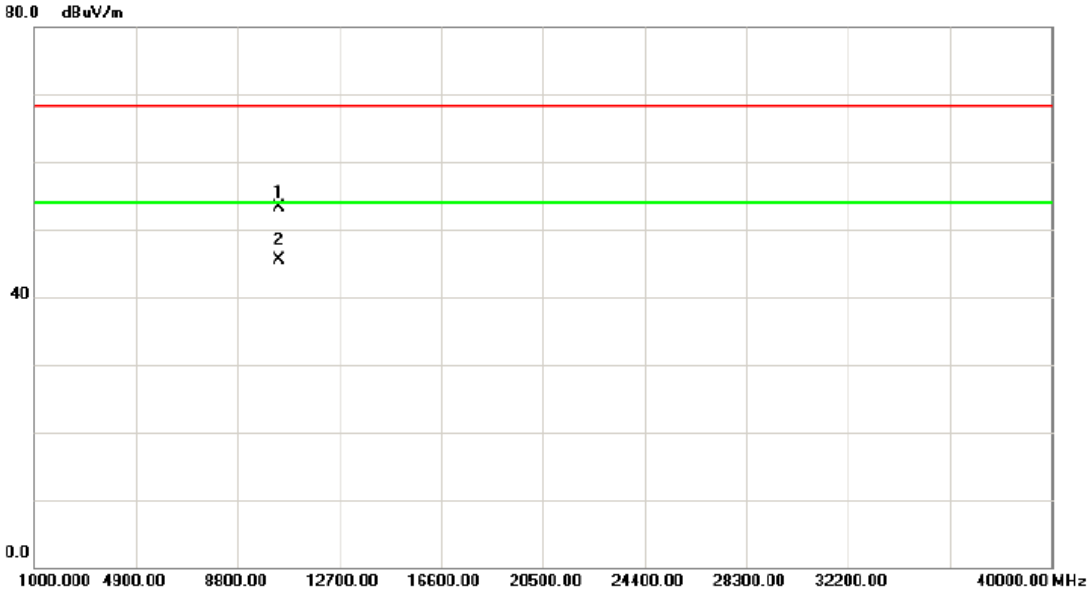
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5150.000	10.24	41.99	52.23	68.30	-16.07	peak	
2		5150.000	1.10	41.99	43.09	54.00	-10.91	AVG	
3	*	5172.200	49.90	42.08	91.98	54.00	37.98	AVG	
4	X	5175.700	58.50	42.09	100.59	68.30	32.29	peak	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX 802.11n(20 MHz) Mode 5180MHz

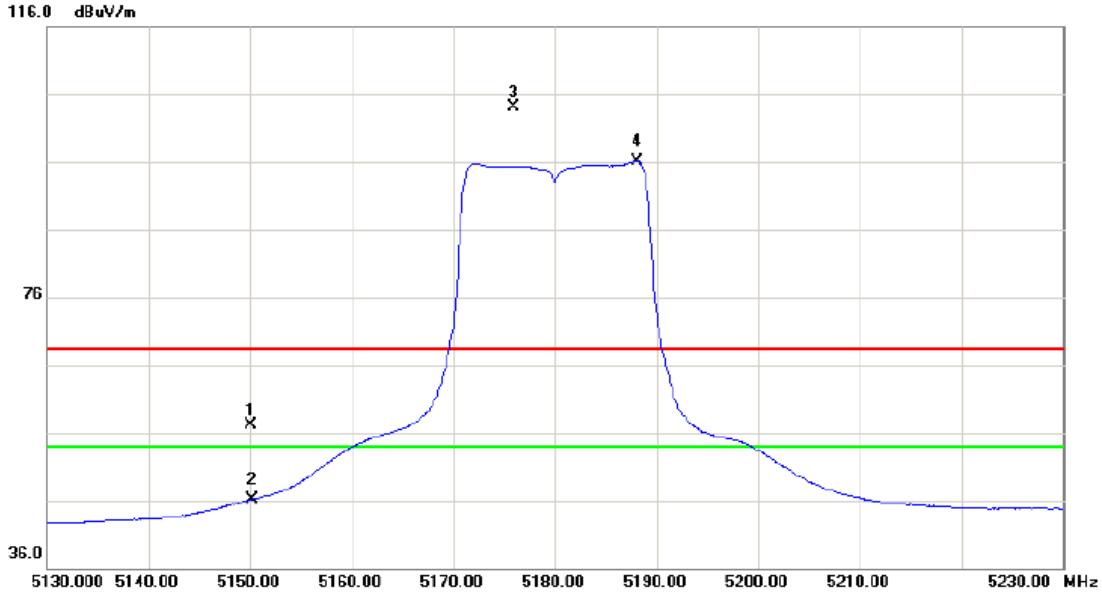
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10360.17	37.25	16.03	53.28	68.30	-15.02	peak	
2	*	10360.17	29.41	16.03	45.44	54.00	-8.56	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX 802.11n(20 MHz) Mode 5180MHz

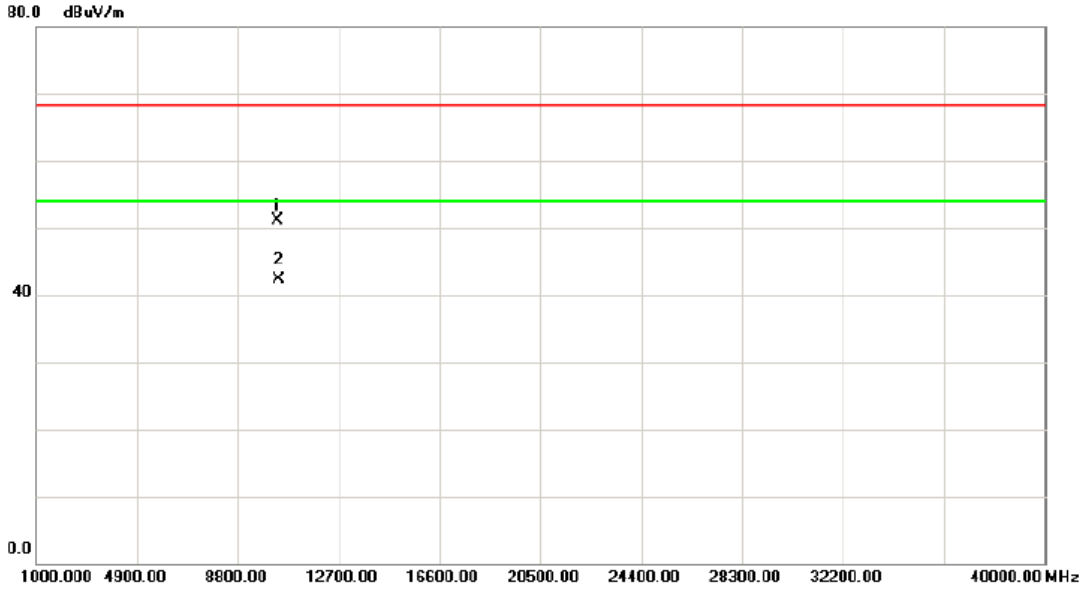
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5150.000	15.16	41.99	57.15	68.30	-11.15	peak	
2		5150.000	4.04	41.99	46.03	54.00	-7.97	AVG	
3	X	5175.900	62.02	42.09	104.11	68.30	35.81	peak	
4	*	5188.000	53.95	42.15	96.10	54.00	42.10	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX 802.11n(20 MHz) Mode 5180MHz

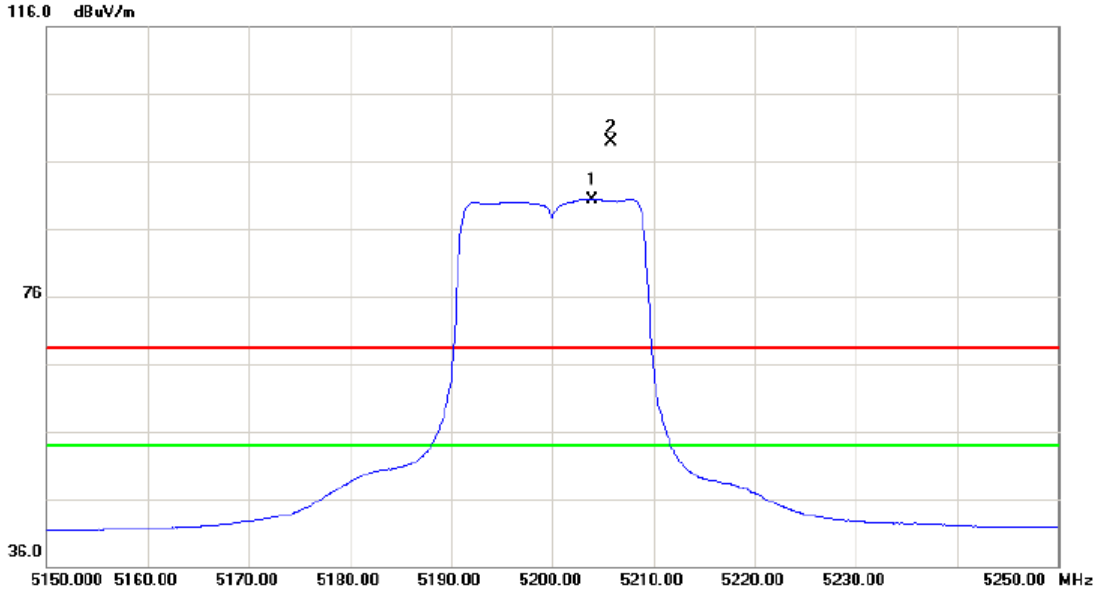
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10359.47	35.12	16.03	51.15	68.30	-17.15	peak	
2	*	10359.47	26.19	16.03	42.22	54.00	-11.78	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX 802.11n(20 MHz) Mode 5200MHz

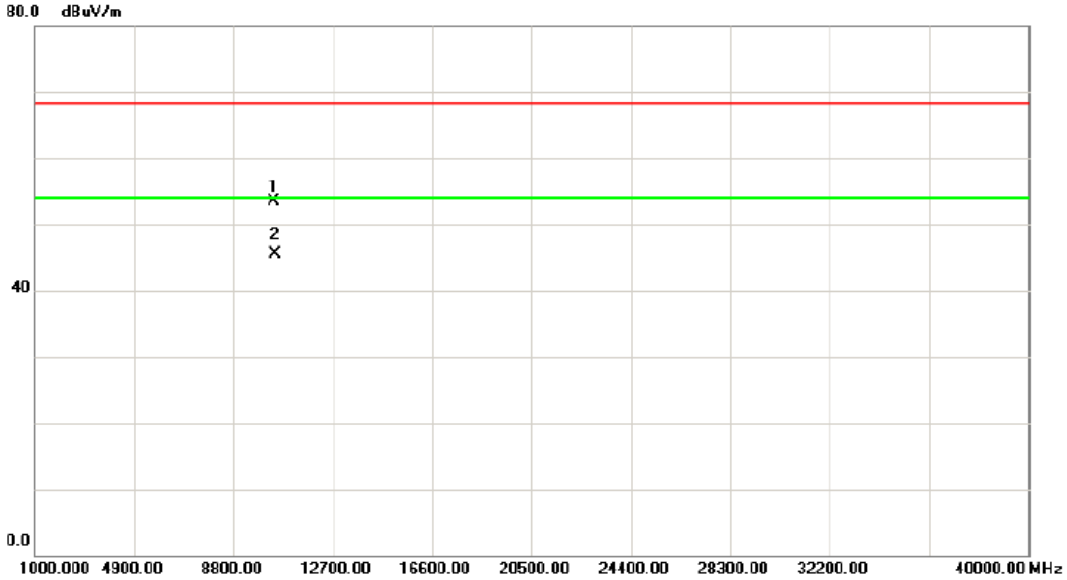
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5203.900	48.12	42.21	90.33	54.00	36.33	AVG	
2	X	5205.800	56.61	42.22	98.83	68.30	30.53	peak	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX 802.11n(20 MHz) Mode 5200MHz

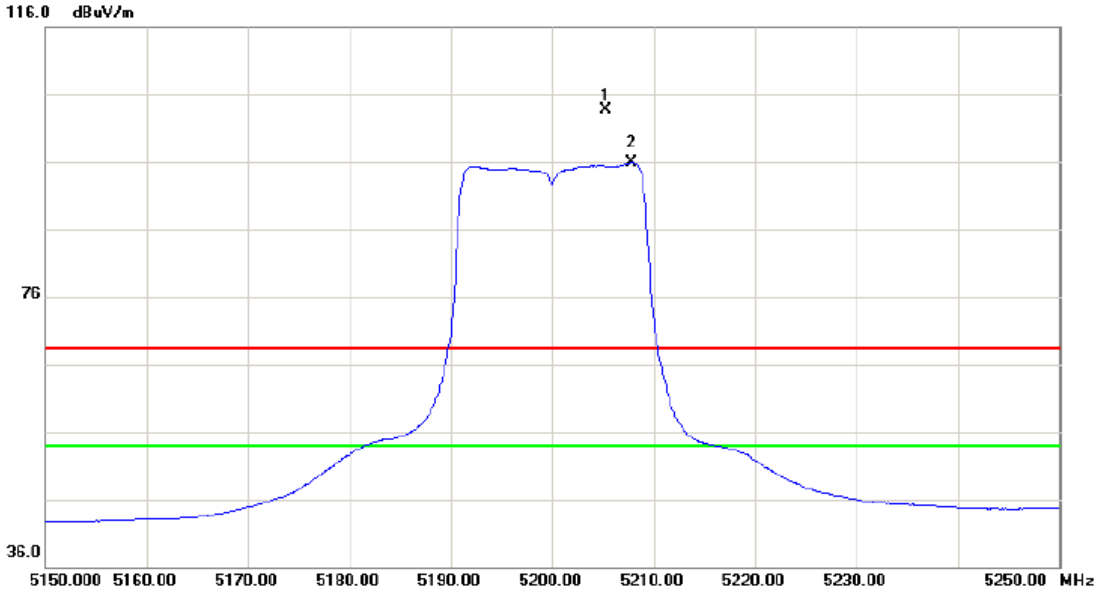
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10400.78	37.63	15.96	53.59	68.30	-14.71	peak	
2	*	10400.78	29.52	15.96	45.48	54.00	-8.52	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX 802.11n(20 MHz) Mode 5200MHz

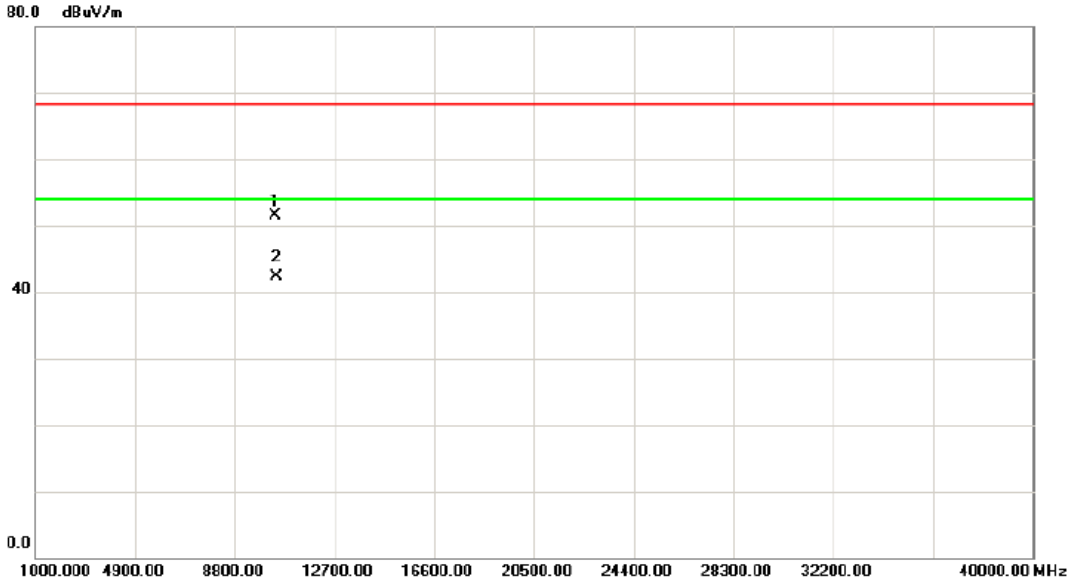
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5205.300	61.40	42.22	103.62	68.30	35.32	peak	
2	*	5207.800	53.64	42.23	95.87	54.00	41.87	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX 802.11n(20 MHz) Mode 5200MHz

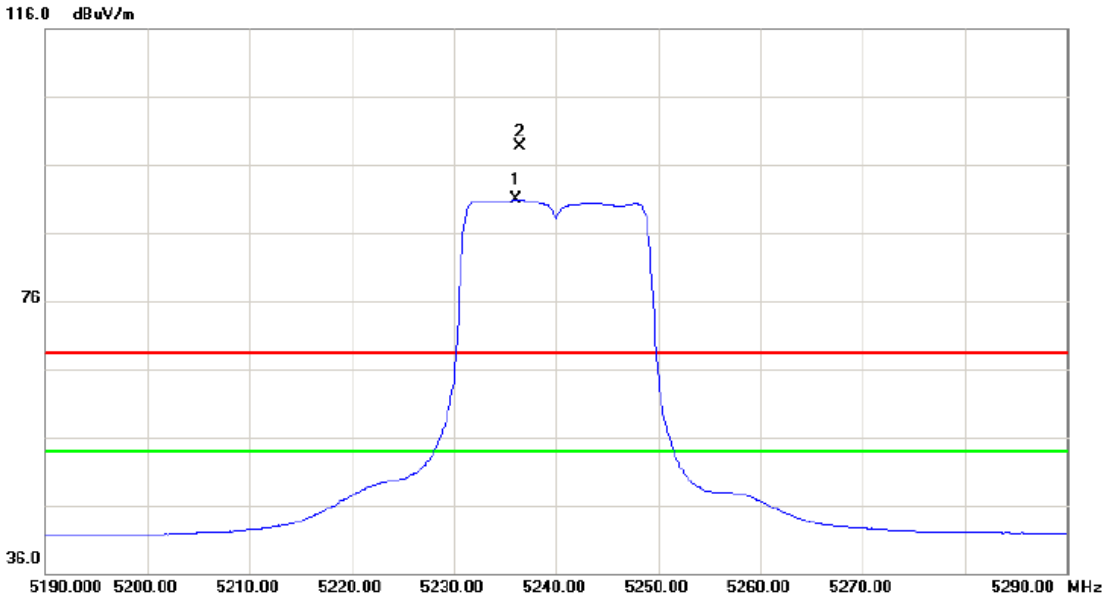
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10399.89	35.47	15.97	51.44	68.30	-16.86	peak	
2	*	10399.89	26.24	15.97	42.21	54.00	-11.79	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX 802.11n(20 MHz) Mode 5240MHz

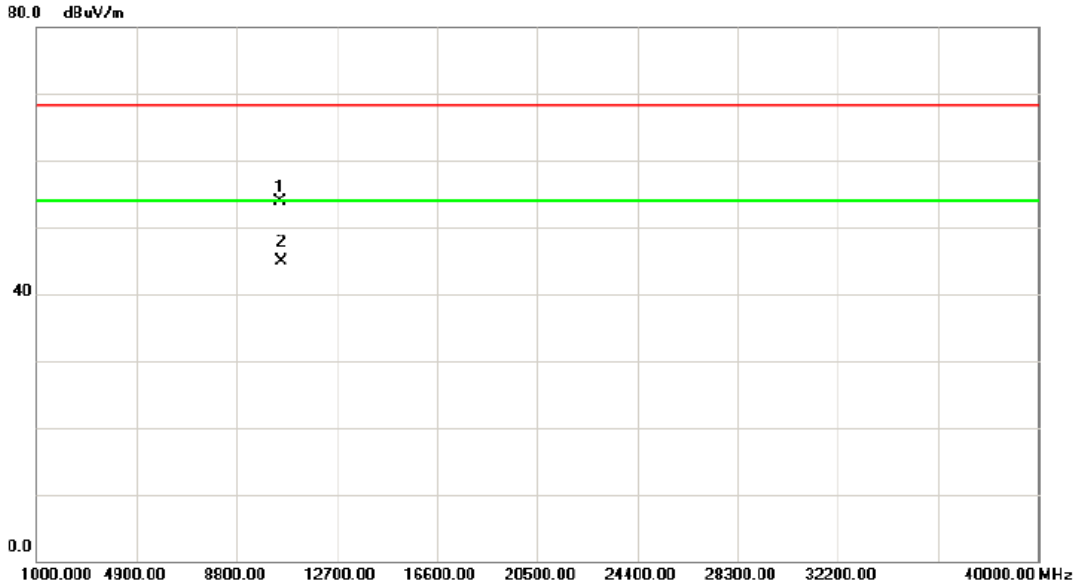
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5236.100	48.52	42.34	90.86	54.00	36.86	AVG	
2	X	5236.400	56.30	42.34	98.64	68.30	30.34	peak	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX 802.11n(20 MHz) Mode 5240MHz

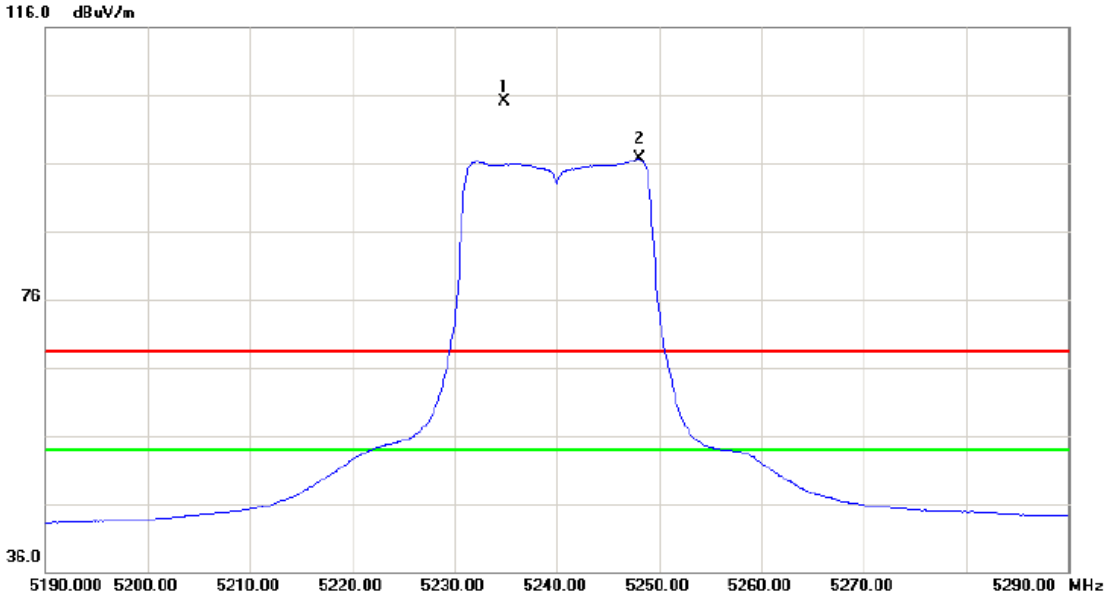
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10480.47	38.04	15.85	53.89	68.30	-14.41	peak	
2	*	10480.47	29.14	15.85	44.99	54.00	-9.01	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX 802.11n(20 MHz) Mode 5240MHz

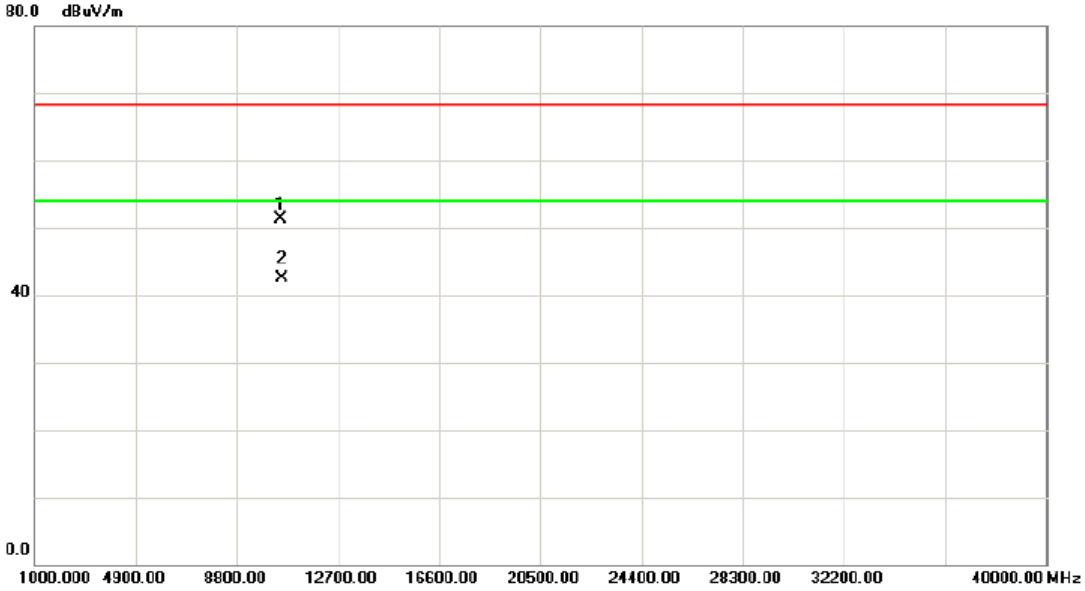
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5234.800	62.67	42.34	105.01	68.30	36.71	peak	
2	*	5248.000	54.24	42.39	96.63	54.00	42.63	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX 802.11n(20 MHz) Mode 5240MHz

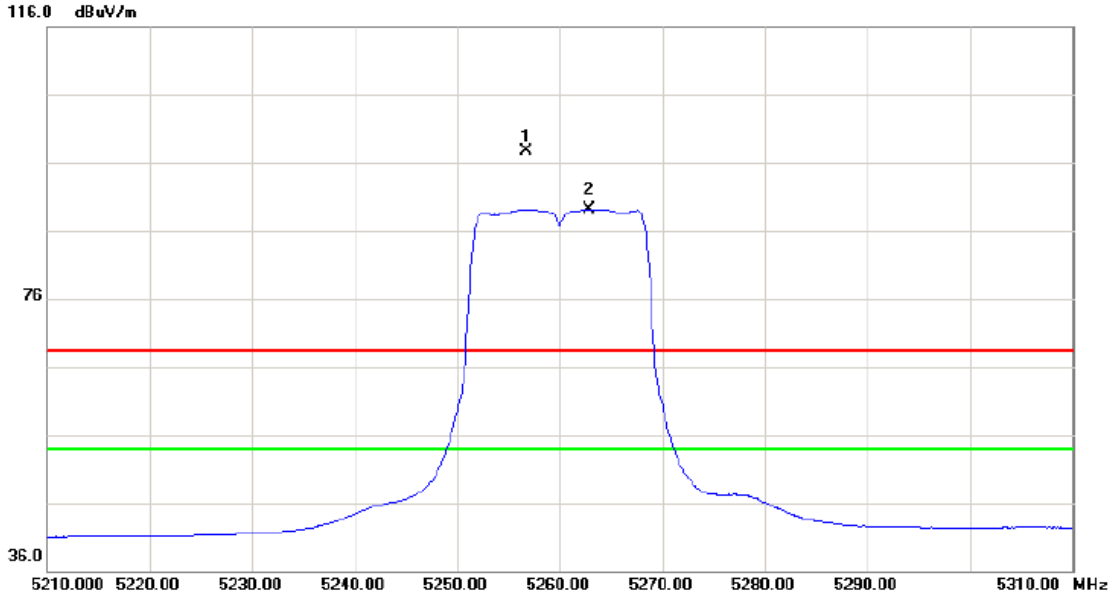
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10479.68	35.52	15.86	51.38	68.30	-16.92	peak	
2	*	10479.68	26.74	15.86	42.60	54.00	-11.40	AVG	

Orthogonal Axis :	X
Test Mode :	Band 2/ TX 802.11a Mode 5260MHz

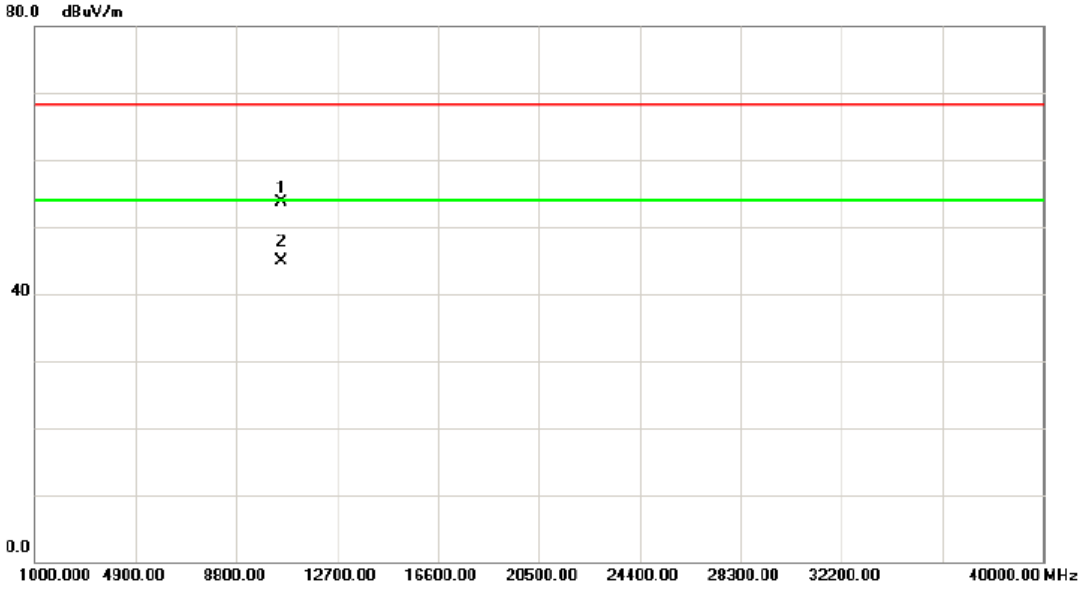
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5256.700	55.27	42.42	97.69	68.30	29.39	peak	
2	*	5262.900	46.73	42.46	89.19	54.00	35.19	AVG	

Orthogonal Axis :	X
Test Mode :	Band 2/ TX 802.11a Mode 5260MHz

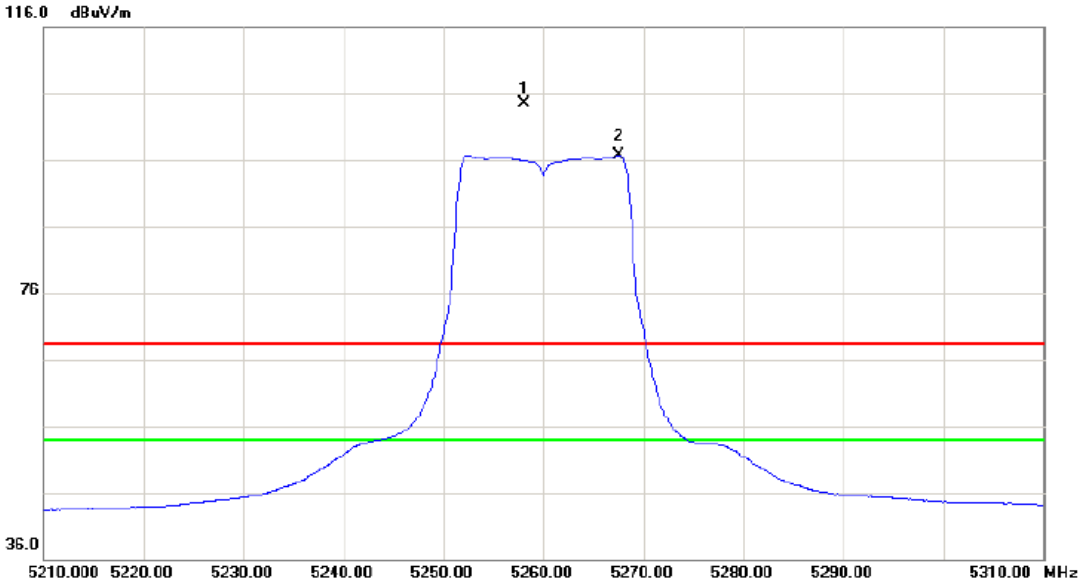
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10520.39	37.87	15.88	53.75	68.30	-14.55	peak	
2	*	10520.39	28.99	15.88	44.87	54.00	-9.13	AVG	

Orthogonal Axis :	X
Test Mode :	Band 2/ TX 802.11a Mode 5260MHz

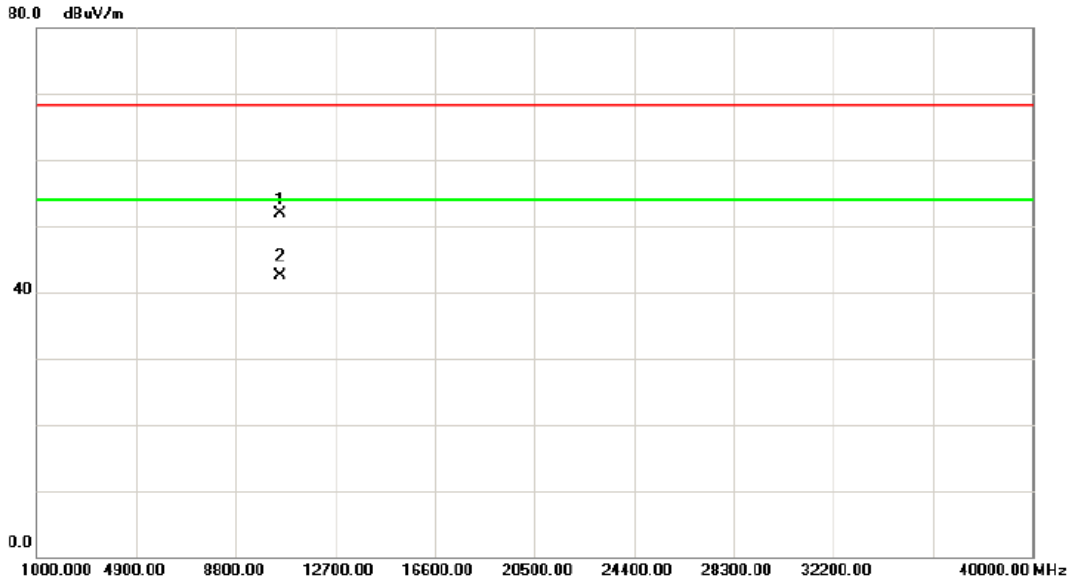
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5258.000	62.09	42.43	104.52	68.30	36.22	peak	
2	*	5267.500	54.25	42.47	96.72	54.00	42.72	AVG	

Orthogonal Axis :	X
Test Mode :	Band 2/ TX 802.11a Mode 5260MHz

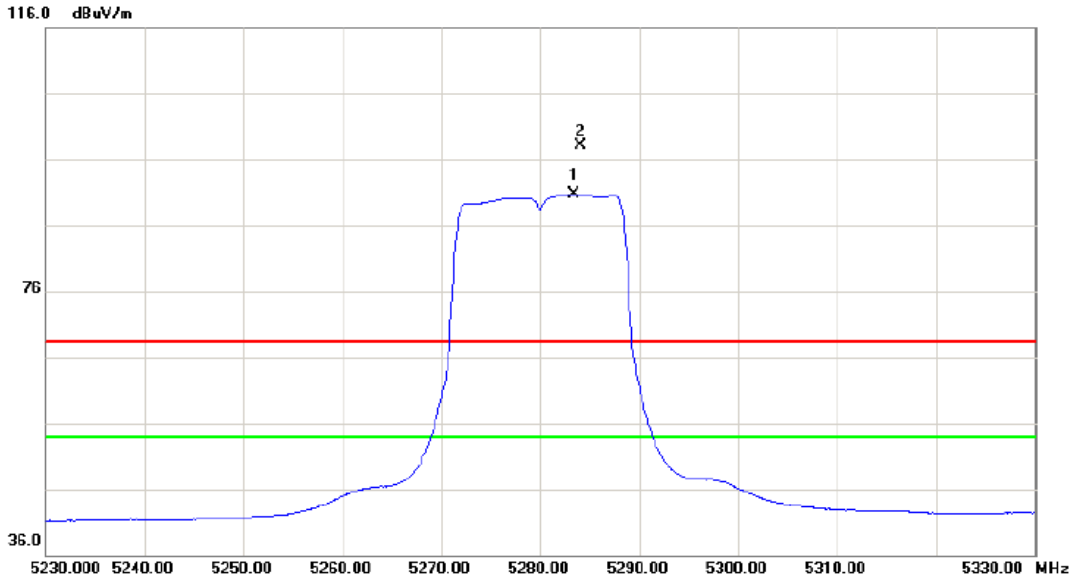
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10519.87	36.02	15.88	51.90	68.30	-16.40	peak	
2	*	10519.87	26.56	15.88	42.44	54.00	-11.56	AVG	

Orthogonal Axis :	X
Test Mode :	Band 2/ TX 802.11a Mode 5280MHz

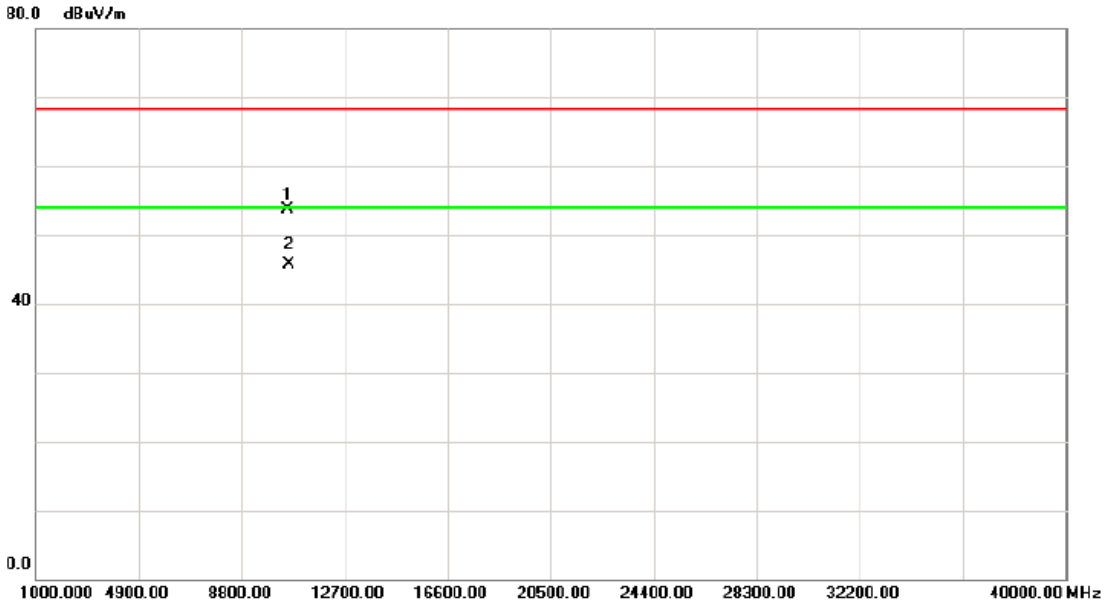
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5283.400	48.23	42.54	90.77	54.00	36.77	AVG	
2	X	5284.100	55.53	42.54	98.07	68.30	29.77	peak	

Orthogonal Axis :	X
Test Mode :	Band 2/ TX 802.11a Mode 5280MHz

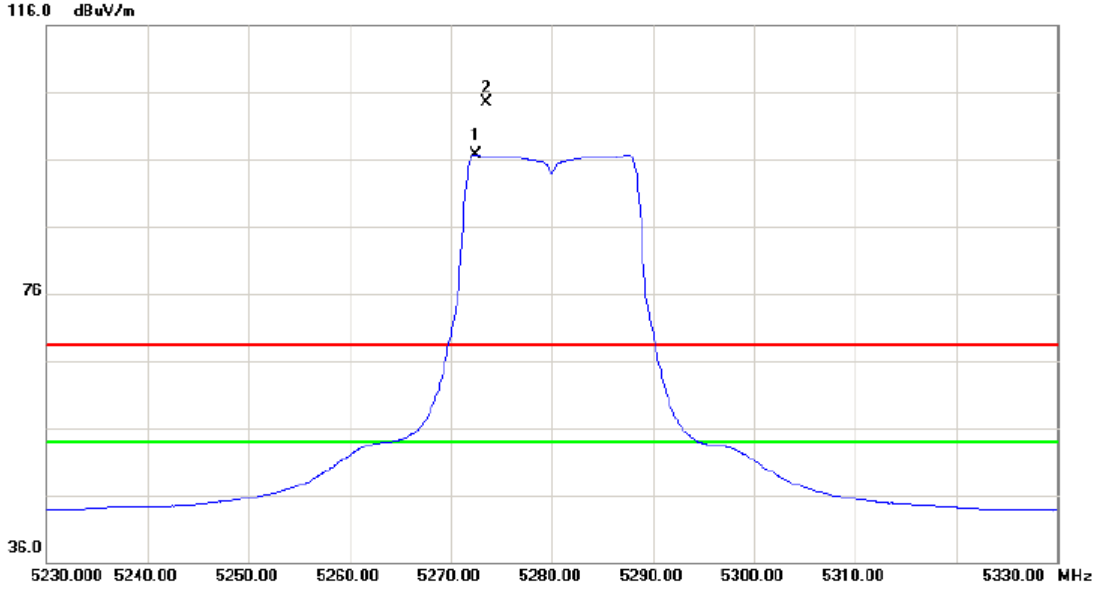
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10560.23	37.72	15.99	53.71	68.30	-14.59	peak	
2	*	10560.23	29.63	15.99	45.62	54.00	-8.38	AVG	

Orthogonal Axis :	X
Test Mode :	Band 2/ TX 802.11a Mode 5280MHz

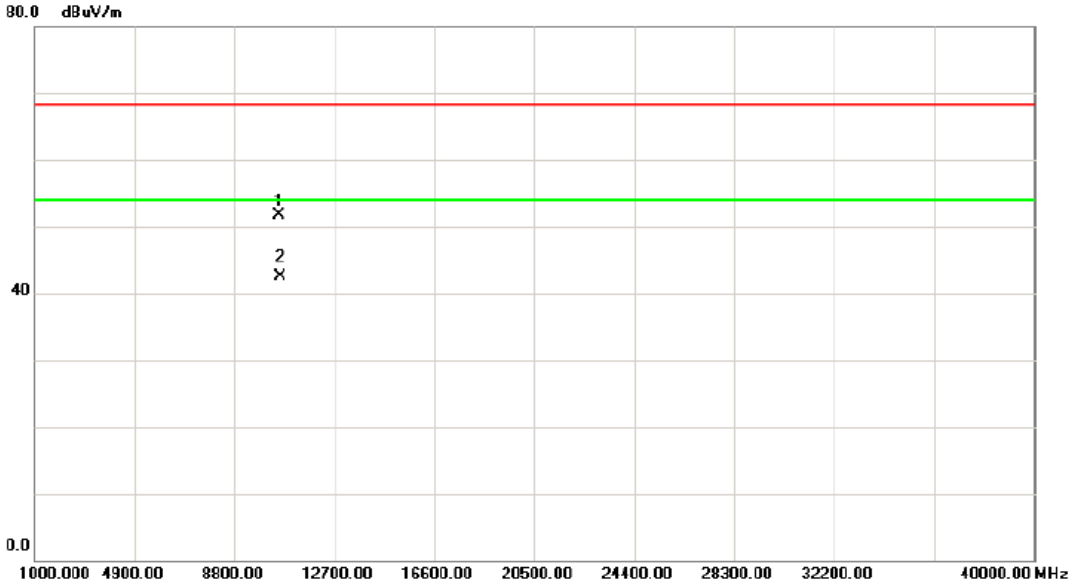
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5272.400	54.28	42.49	96.77	54.00	42.77	AVG	
2	X	5273.500	61.93	42.49	104.42	68.30	36.12	peak	

Orthogonal Axis :	X
Test Mode :	Band 2/ TX 802.11a Mode 5280MHz

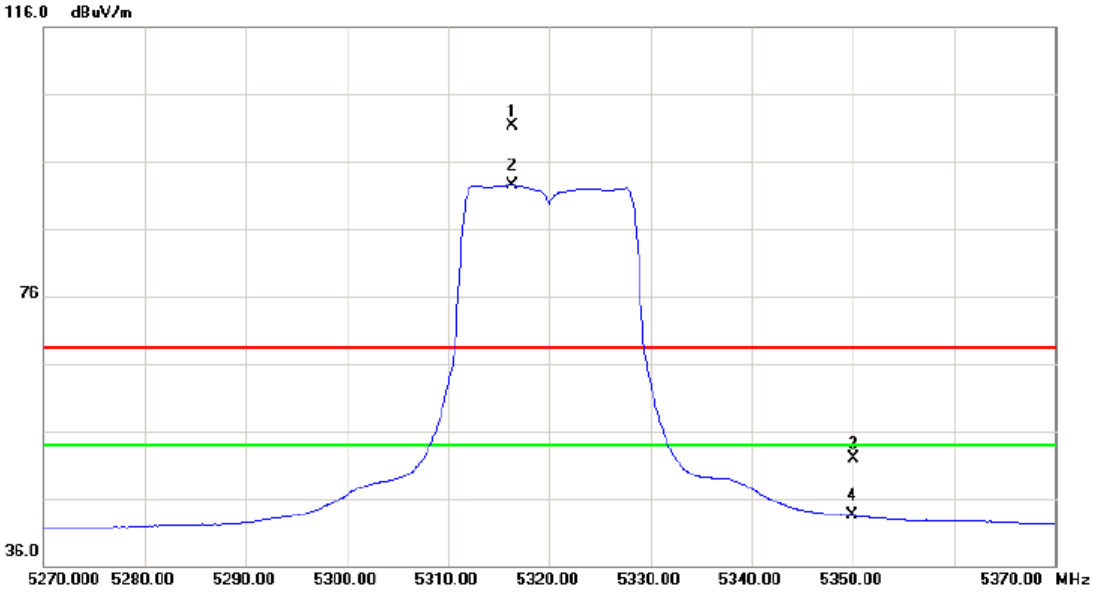
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10560.11	35.69	15.99	51.68	68.30	-16.62	peak	
2	*	10560.11	26.53	15.99	42.52	54.00	-11.48	AVG	

Orthogonal Axis :	X
Test Mode :	Band 2/ TX 802.11a Mode 5320MHz

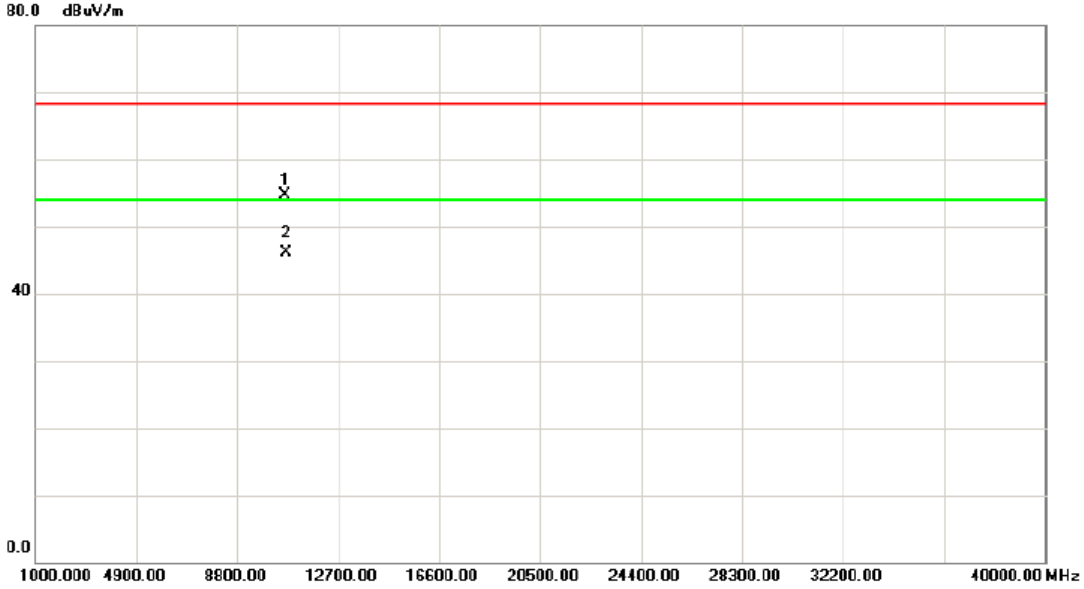
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5316.300	58.57	42.67	101.24	68.30	32.94	peak	
2	*	5316.300	49.77	42.67	92.44	54.00	38.44	AVG	
3		5350.000	9.19	42.81	52.00	68.30	-16.30	peak	
4		5350.000	0.64	42.81	43.45	54.00	-10.55	AVG	

Orthogonal Axis :	X
Test Mode :	Band 2/ TX 802.11a Mode 5320MHz

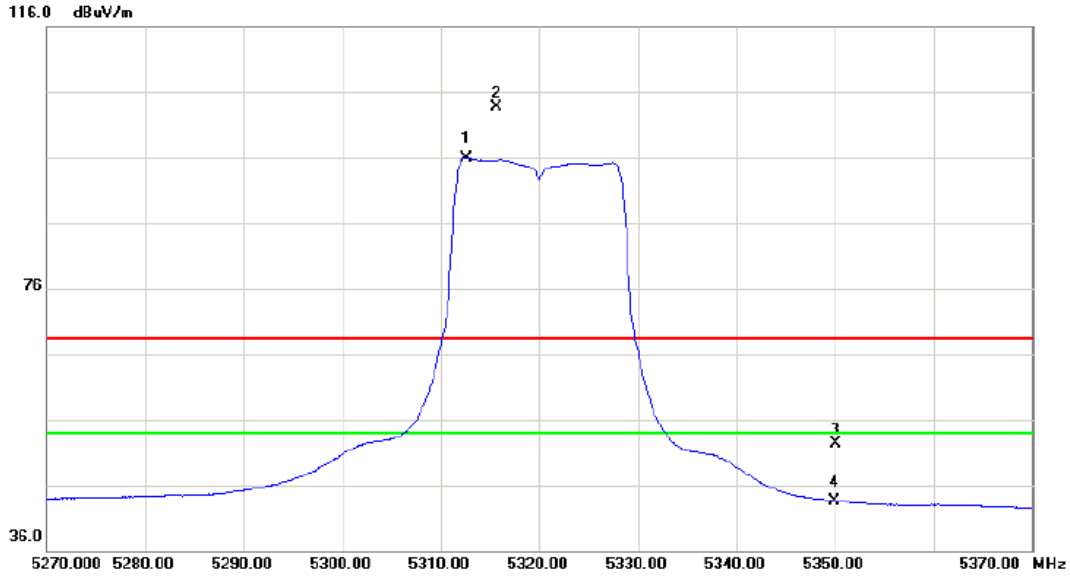
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10640.25	38.50	16.22	54.72	68.30	-13.58	peak	
2	*	10640.25	29.85	16.22	46.07	54.00	-7.93	AVG	

Orthogonal Axis :	X
Test Mode :	Band 2/ TX 802.11a Mode 5320MHz

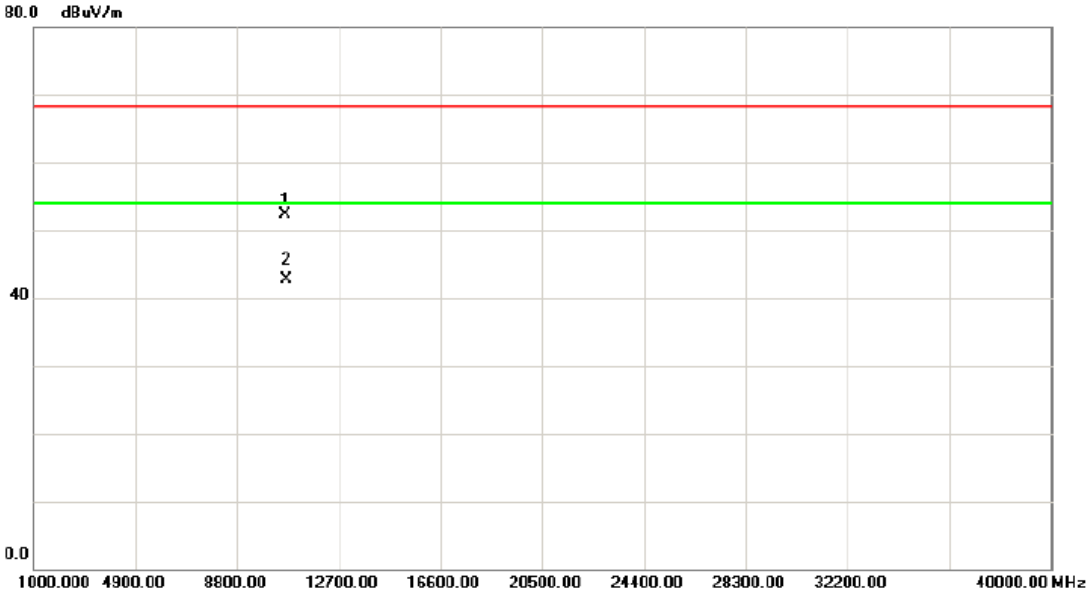
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5312.600	53.30	42.66	95.96	54.00	41.96	AVG	
2	X	5315.600	60.94	42.67	103.61	68.30	35.31	peak	
3		5350.000	9.44	42.81	52.25	68.30	-16.05	peak	
4		5350.000	0.79	42.81	43.60	54.00	-10.40	AVG	

Orthogonal Axis :	X
Test Mode :	Band 2/ TX 802.11a Mode 5320MHz

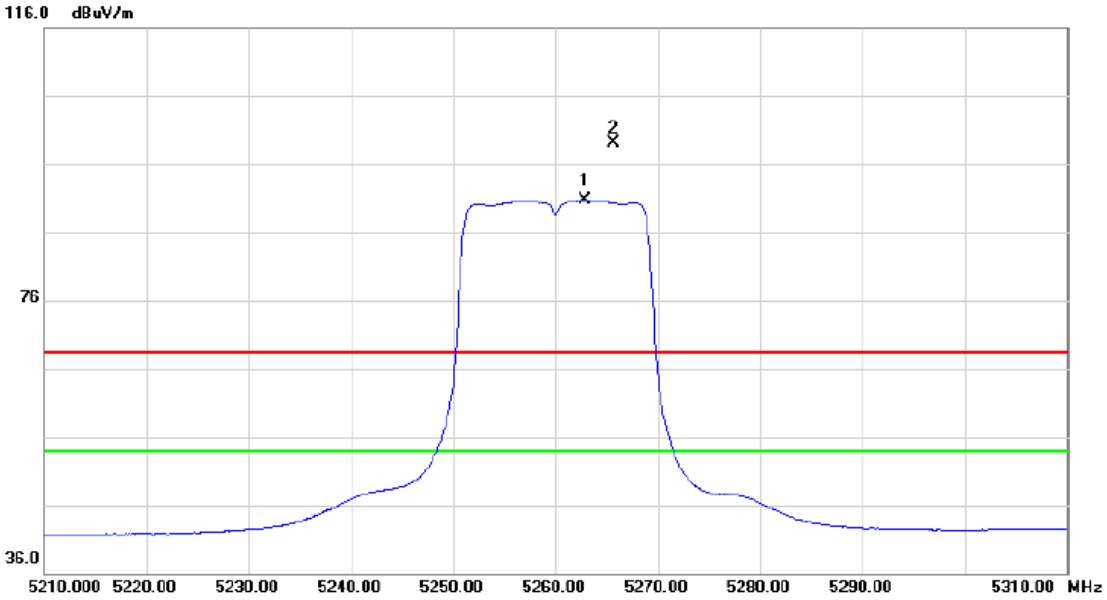
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10639.56	36.12	16.21	52.33	68.30	-15.97	peak	
2	*	10639.56	26.45	16.21	42.66	54.00	-11.34	AVG	

Orthogonal Axis :	X
Test Mode :	Band 2/ TX 802.11n(20 MHz) Mode 5260MHz

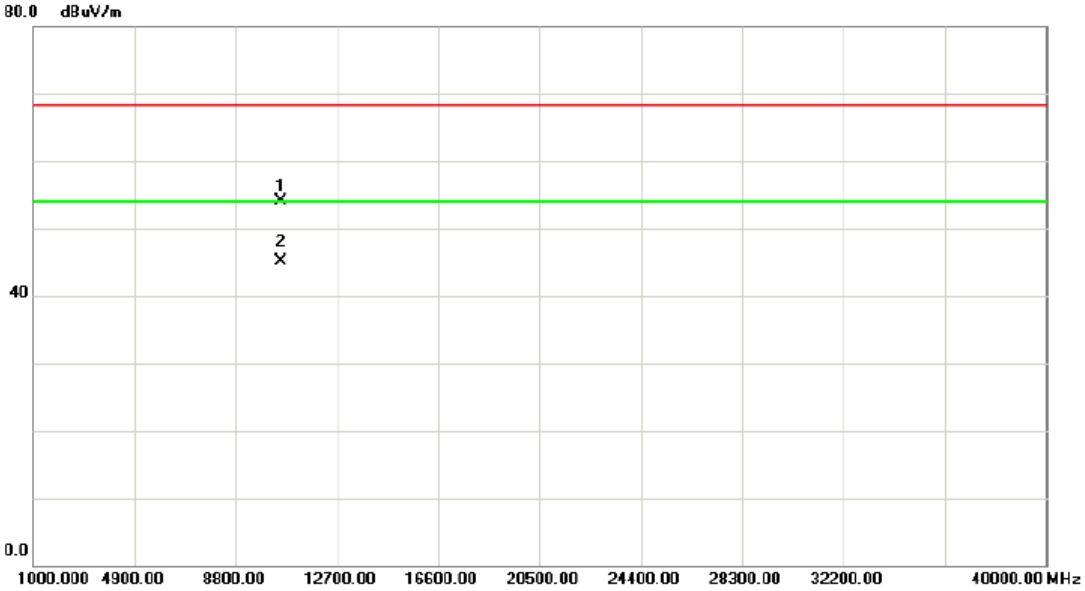
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5262.800	48.33	42.46	90.79	54.00	36.79	AVG	
2	X	5265.700	56.61	42.47	99.08	68.30	30.78	peak	

Orthogonal Axis :	X
Test Mode :	Band 2/ TX 802.11n(20 MHz) Mode 5260MHz

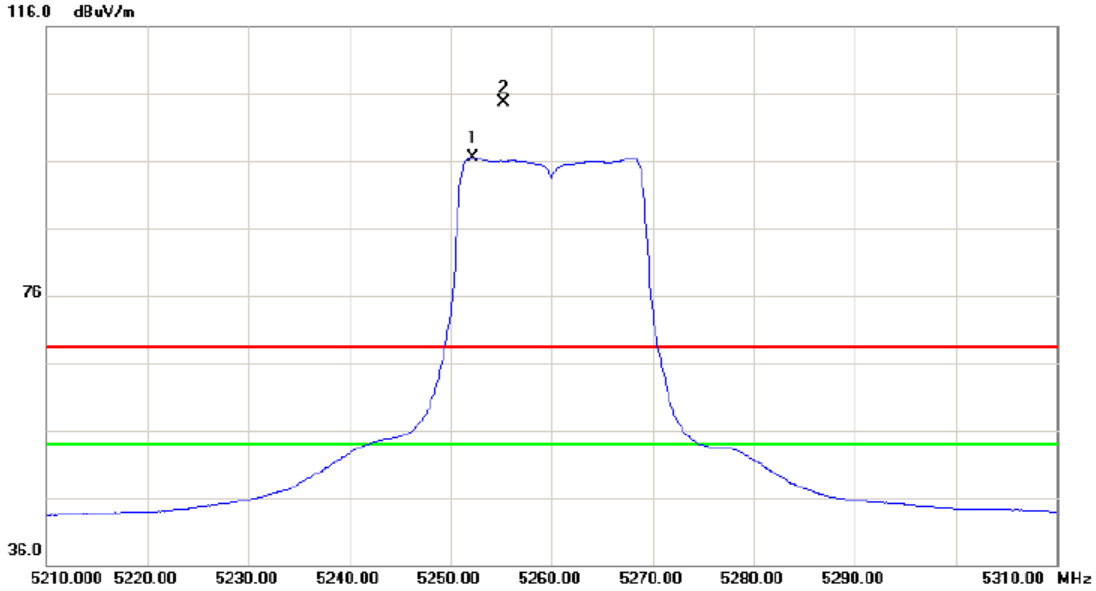
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10520.24	38.27	15.88	54.15	68.30	-14.15	peak	
2	*	10520.24	29.19	15.88	45.07	54.00	-8.93	AVG	

Orthogonal Axis :	X
Test Mode :	Band 2/ TX 802.11n(20 MHz) Mode 5260MHz

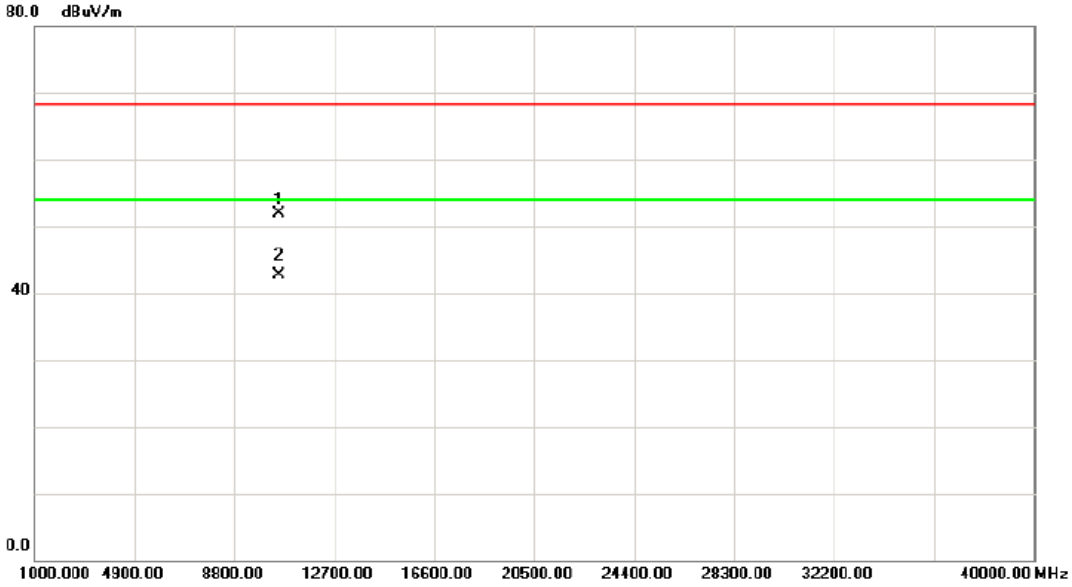
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5252.200	54.14	42.41	96.55	54.00	42.55	AVG	
2	X	5255.200	62.19	42.42	104.61	68.30	36.31	peak	

Orthogonal Axis :	X
Test Mode :	Band 2/ TX 802.11n(20 MHz) Mode 5260MHz

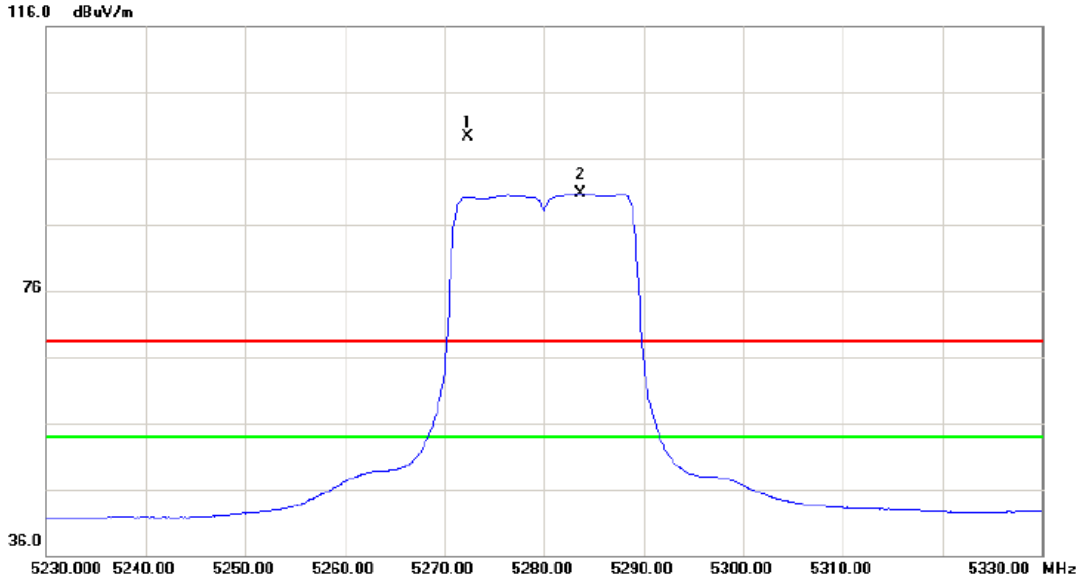
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10519.63	36.12	15.88	52.00	68.30	-16.30	peak	
2	*	10519.63	26.85	15.88	42.73	54.00	-11.27	AVG	

Orthogonal Axis :	X
Test Mode :	Band 2/ TX 802.11n(20 MHz) Mode 5280MHz

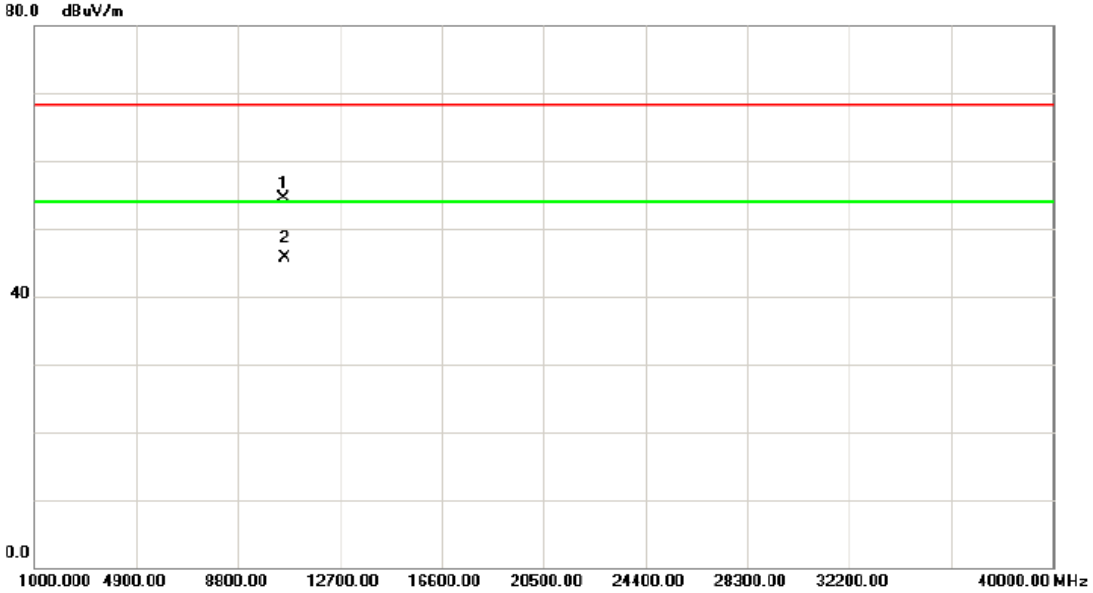
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5272.300	56.79	42.49	99.28	68.30	30.98	peak	
2	*	5283.700	48.12	42.54	90.66	54.00	36.66	AVG	

Orthogonal Axis :	X
Test Mode :	Band 2/ TX 802.11n(20 MHz) Mode 5280MHz

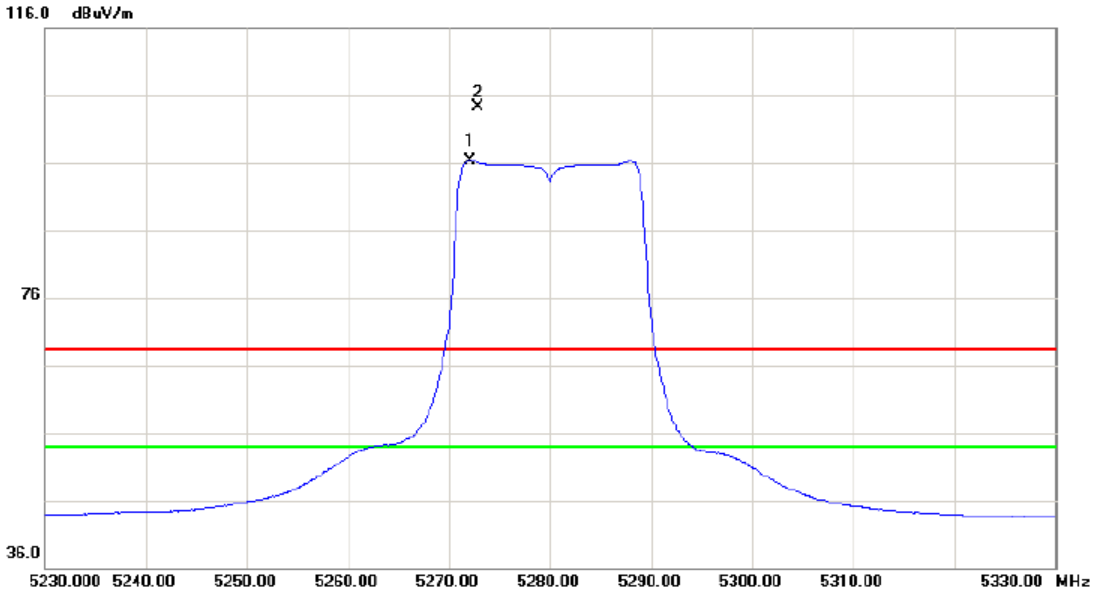
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10560.12	38.56	15.99	54.55	68.30	-13.75	peak	
2	*	10560.12	29.74	15.99	45.73	54.00	-8.27	AVG	

Orthogonal Axis :	X
Test Mode :	Band 2/ TX 802.11n(20 MHz) Mode 5280MHz

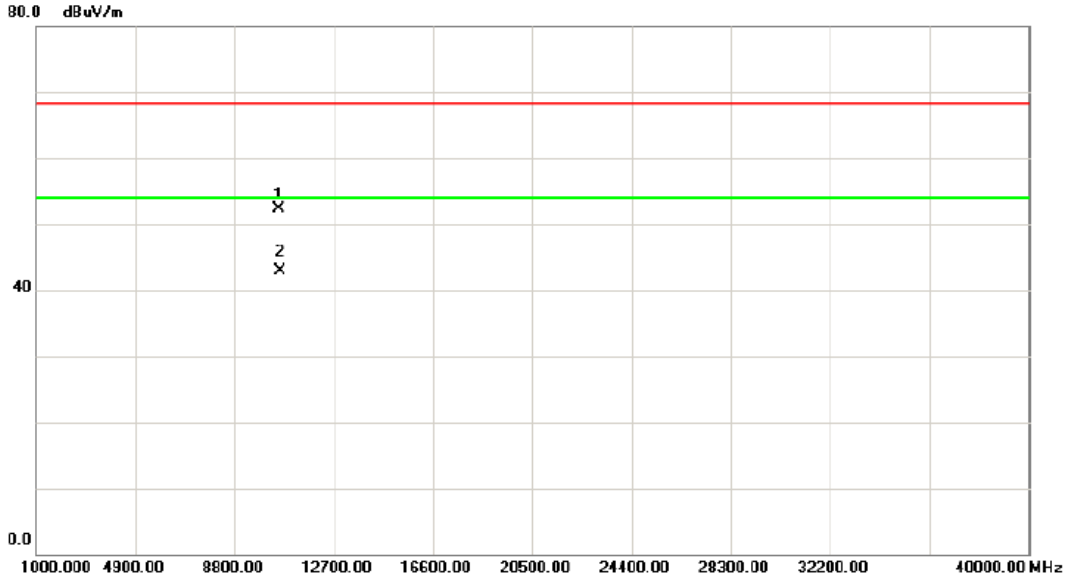
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5272.100	53.87	42.49	96.36	54.00	42.36	AVG	
2	X	5272.800	61.72	42.49	104.21	68.30	35.91	peak	

Orthogonal Axis :	X
Test Mode :	Band 2/ TX 802.11n(20 MHz) Mode 5280MHz

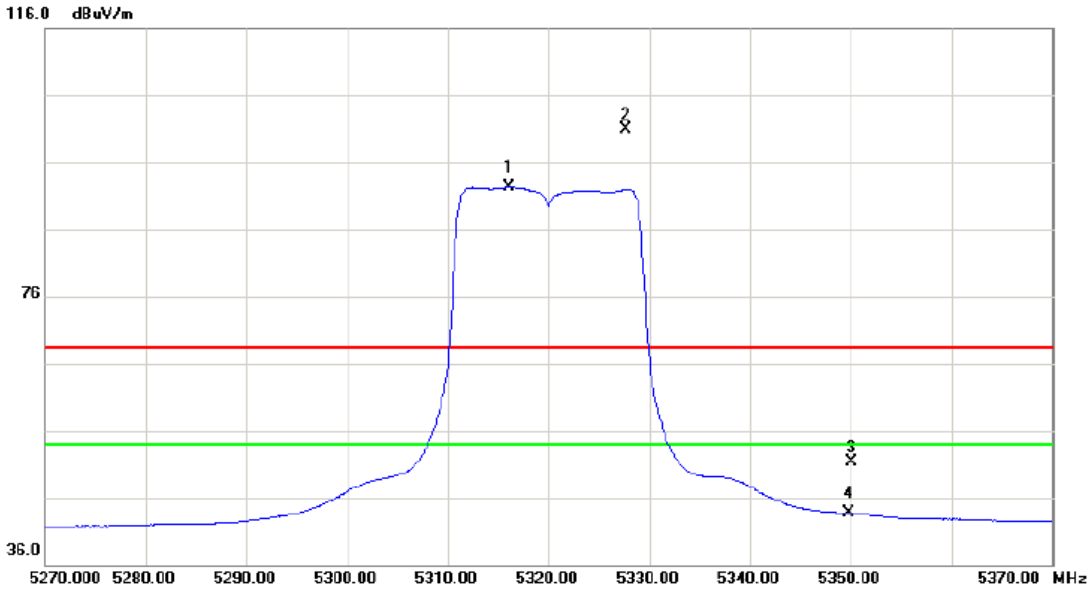
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10559.63	36.28	15.99	52.27	68.30	-16.03	peak	
2	*	10559.63	26.86	15.99	42.85	54.00	-11.15	AVG	

Orthogonal Axis :	X
Test Mode :	Band 2/ TX 802.11n(20 MHz) Mode 5320MHz

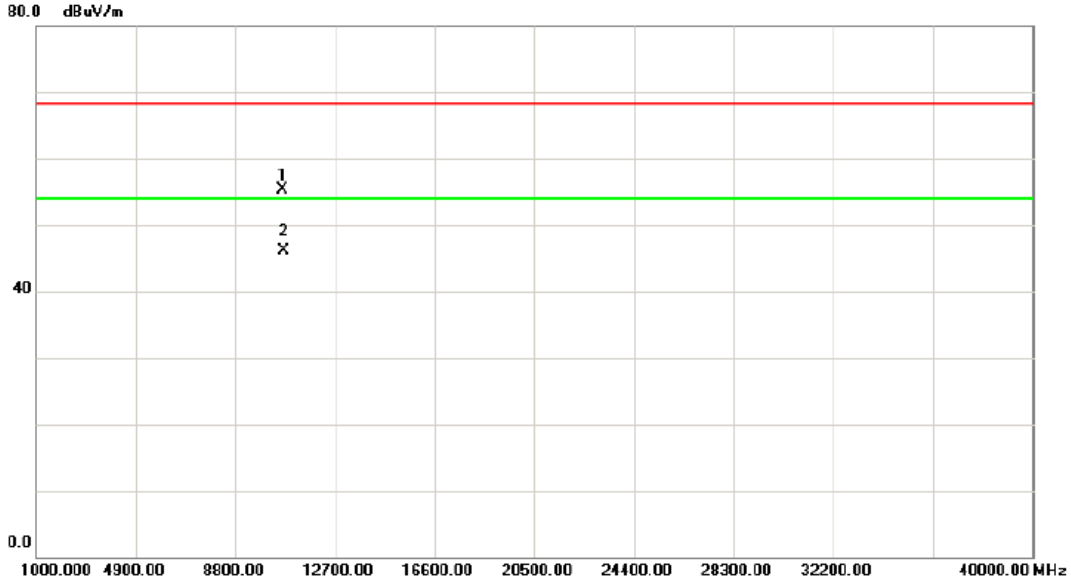
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5316.100	49.60	42.67	92.27	54.00	38.27	AVG	
2	X	5327.700	58.13	42.72	100.85	68.30	32.55	peak	
3		5350.000	8.48	42.81	51.29	68.30	-17.01	peak	
4		5350.000	0.81	42.81	43.62	54.00	-10.38	AVG	

Orthogonal Axis :	X
Test Mode :	Band 2/ TX 802.11n(20 MHz) Mode 5320MHz

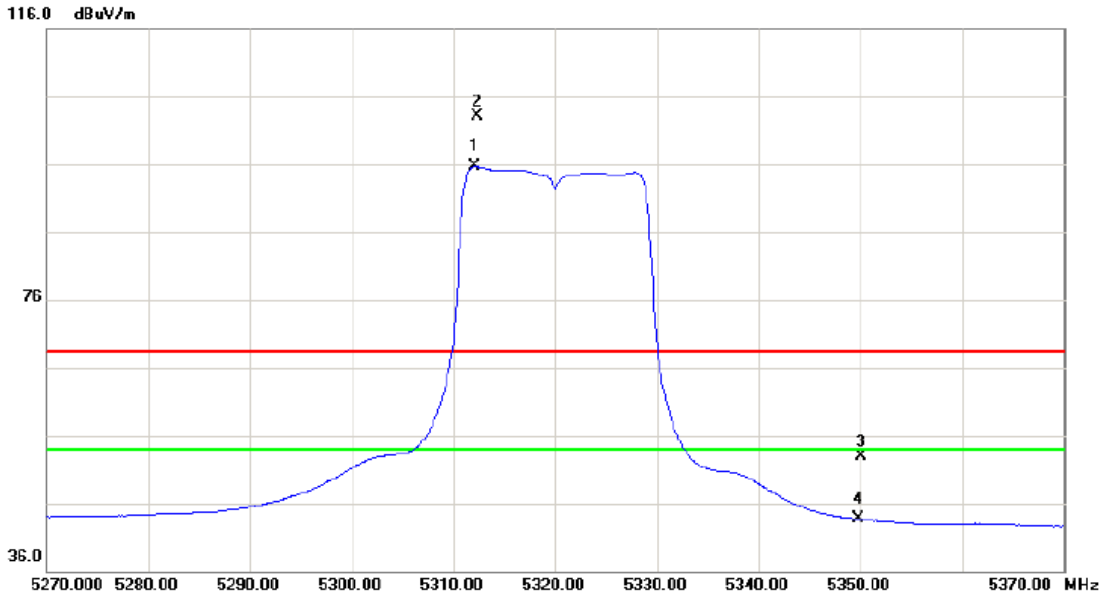
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10639.65	39.14	16.22	55.36	68.30	-12.94	peak	
2	*	10639.65	29.95	16.22	46.17	54.00	-7.83	AVG	

Orthogonal Axis :	X
Test Mode :	Band 2/ TX 802.11n(20 MHz) Mode 5320MHz

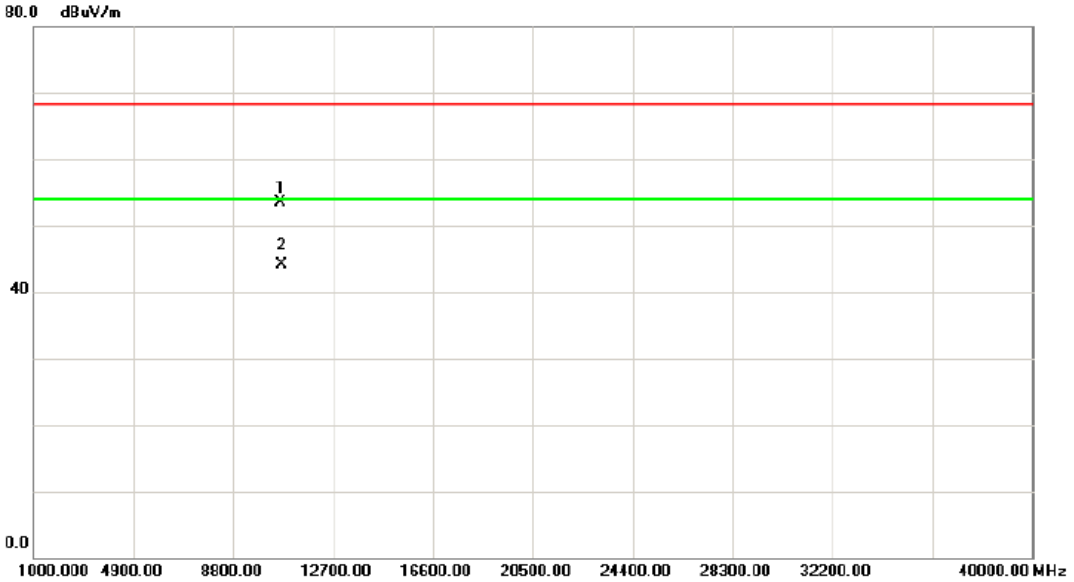
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5312.000	53.02	42.65	95.67	54.00	41.67	AVG	
2	X	5312.300	60.55	42.65	103.20	68.30	34.90	peak	
3		5350.000	10.02	42.81	52.83	68.30	-15.47	peak	
4		5350.000	0.87	42.81	43.68	54.00	-10.32	AVG	

Orthogonal Axis :	X
Test Mode :	Band 2/ TX 802.11n(20 MHz) Mode 5320MHz

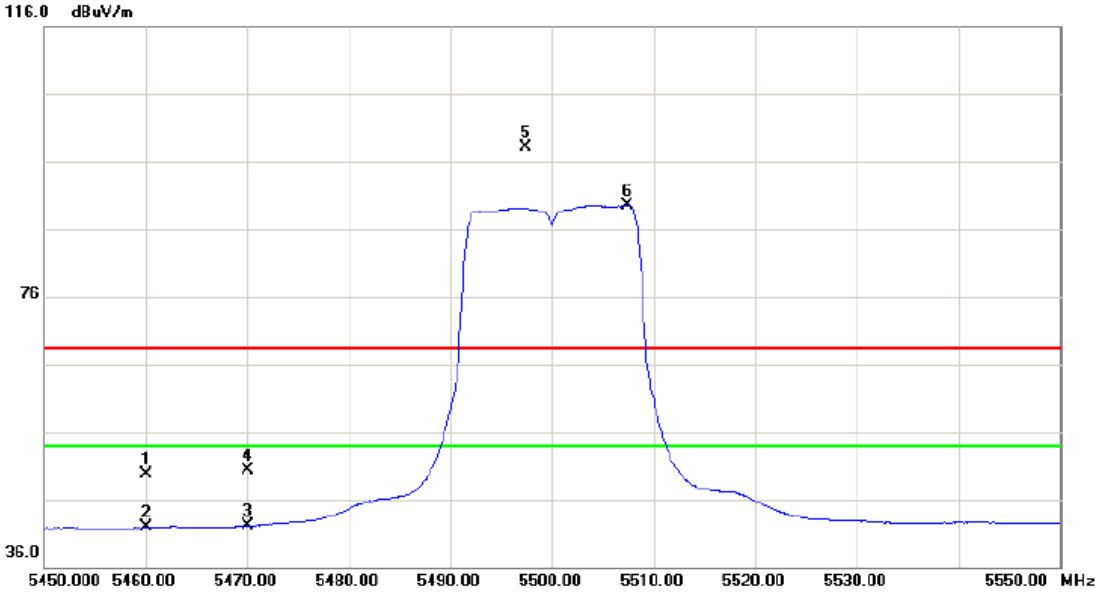
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10640.23	37.23	16.22	53.45	68.30	-14.85	peak	
2	*	10640.23	27.96	16.22	44.18	54.00	-9.82	AVG	

Orthogonal Axis :	X
Test Mode :	Band 3/ TX 802.11a Mode 5500MHz

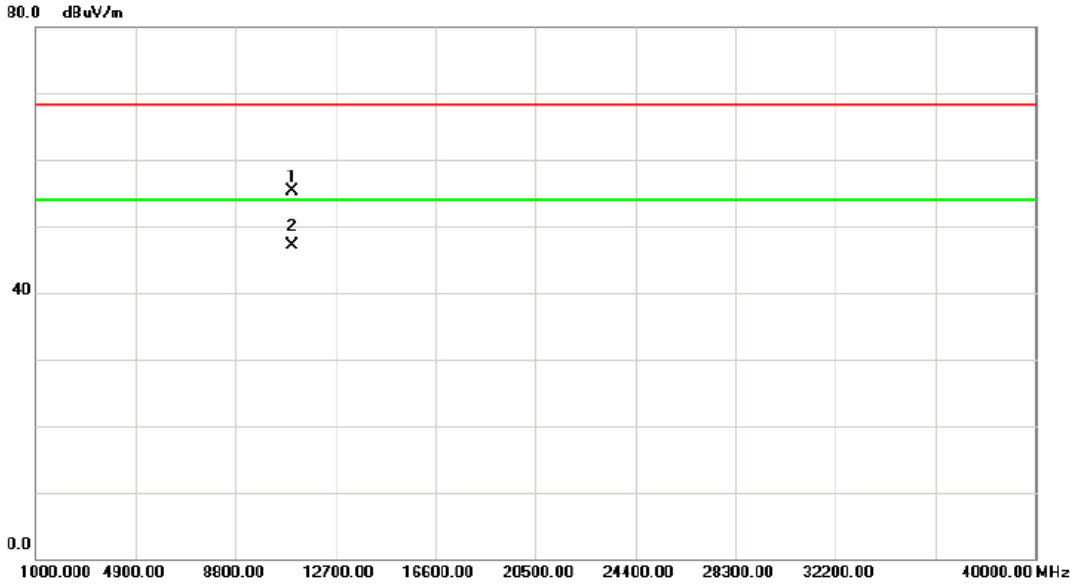
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5460.000	6.40	43.26	49.66	68.30	-18.64	peak	
2		5460.000	-1.44	43.26	41.82	68.30	-26.48	peak	
3		5470.000	-1.19	43.30	42.11	68.30	-26.19	peak	
4		5470.000	7.03	43.30	50.33	68.30	-17.97	peak	
5	*	5497.400	54.70	43.41	98.11	68.30	29.81	peak	
6	X	5507.400	46.12	43.46	89.58	68.30	21.28	peak	

Orthogonal Axis :	X
Test Mode :	Band 3/ TX 802.11a Mode 5500MHz

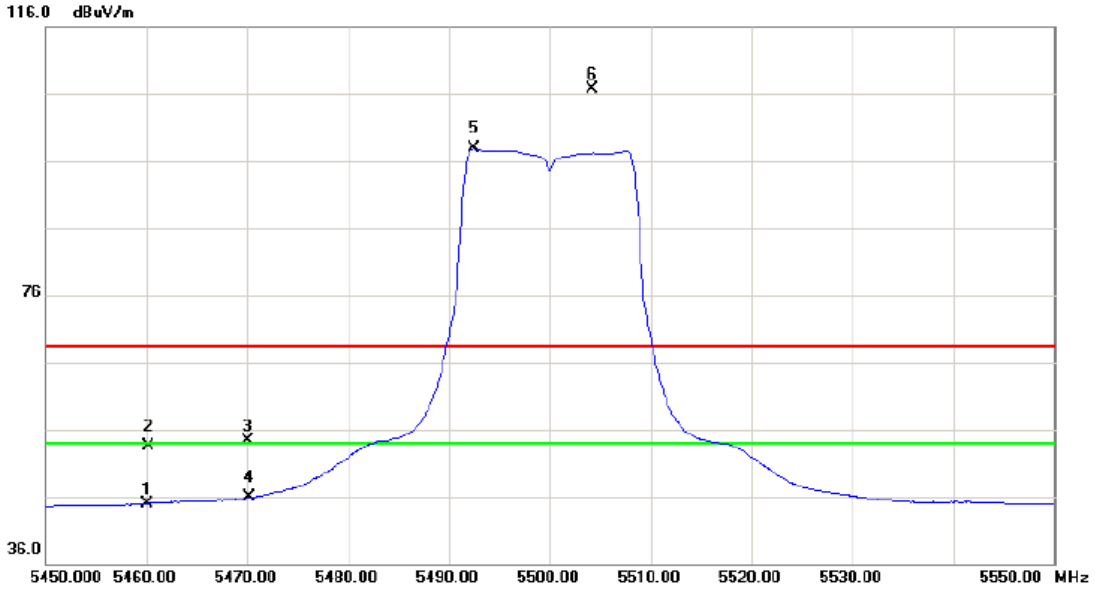
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		11000.480	38.02	17.26	55.28	68.30	-13.02	peak	
2	*	11000.480	29.89	17.26	47.15	54.00	-6.85	AVG	

Orthogonal Axis :	X
Test Mode :	Band 3/ TX 802.11a Mode 5500MHz

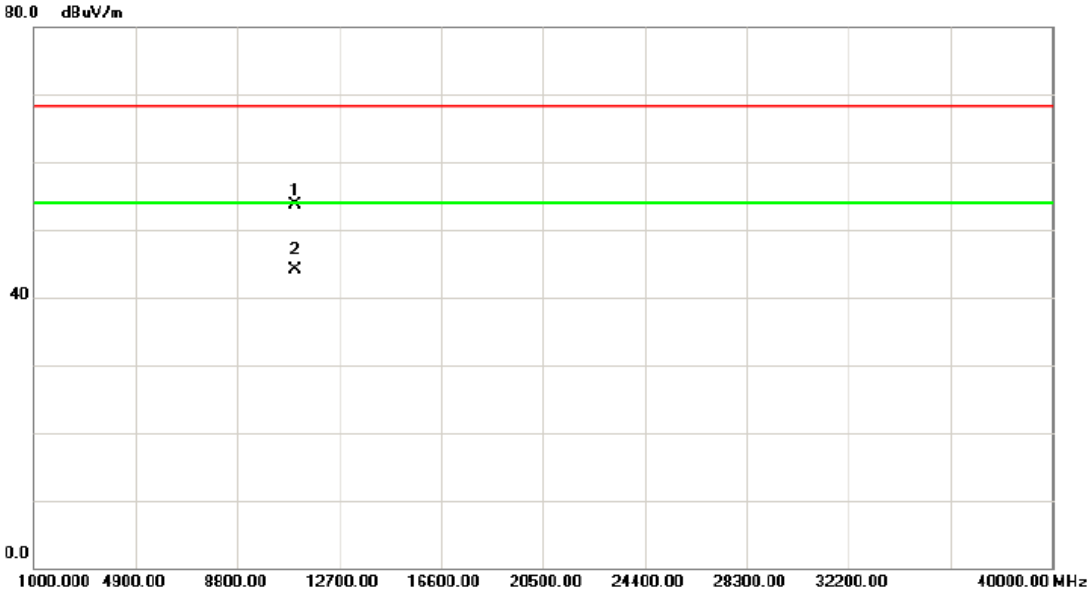
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5460.000	1.71	43.26	44.97	68.30	-23.33	peak	
2		5460.000	10.19	43.26	53.45	54.00	-0.55	AVG	
3		5470.000	10.93	43.30	54.23	68.30	-14.07	peak	
4		5470.000	2.51	43.30	45.81	54.00	-8.19	AVG	
5	*	5492.400	54.43	43.39	97.82	54.00	43.82	AVG	
6	X	5504.200	63.23	43.44	106.67	68.30	38.37	peak	

Orthogonal Axis :	X
Test Mode :	Band 3/ TX 802.11a Mode 5500MHz

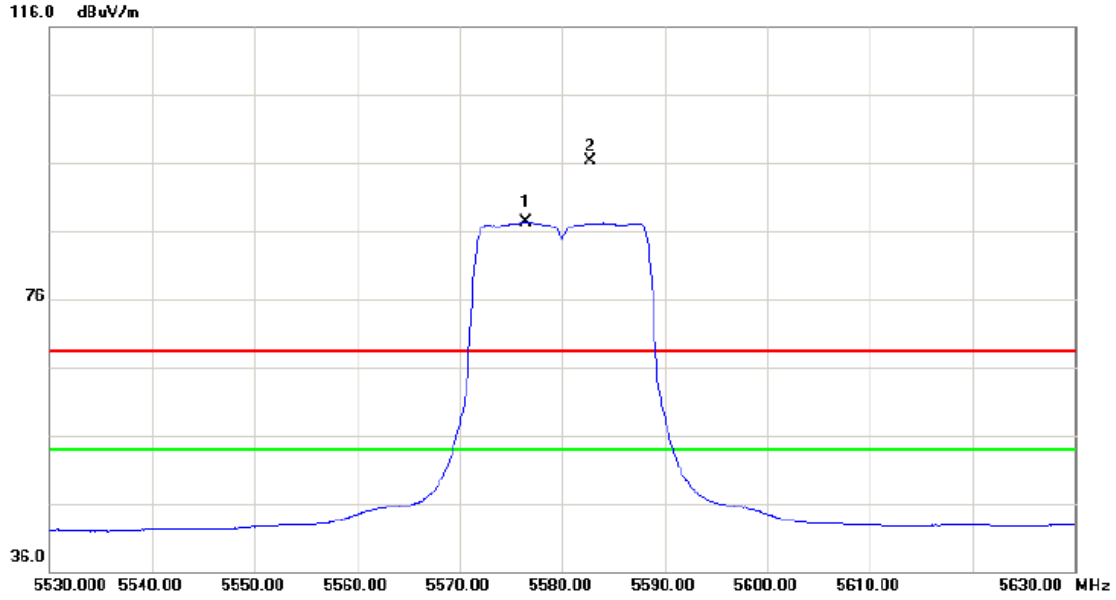
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		11000.14	36.52	17.26	53.78	68.30	-14.52	peak	
2	*	11000.14	26.75	17.26	44.01	54.00	-9.99	AVG	

Orthogonal Axis :	X
Test Mode :	Band 3/ TX 802.11a Mode 5580MHz

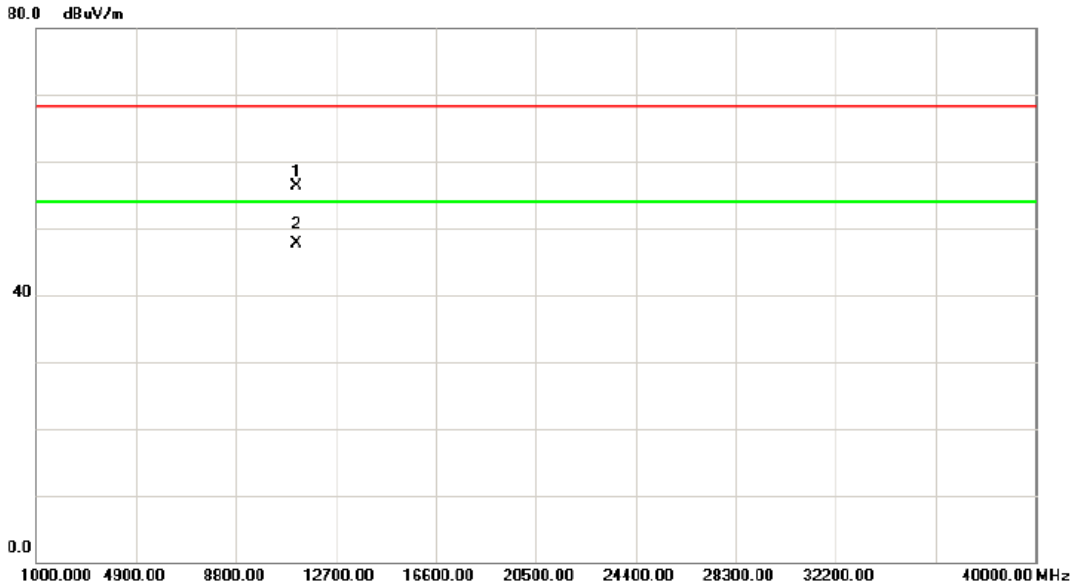
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5576.400	43.44	43.82	87.26	54.00	33.26	AVG	
2	X	5582.700	52.46	43.84	96.30	68.30	28.00	peak	

Orthogonal Axis :	X
Test Mode :	Band 3/ TX 802.11a Mode 5580MHz

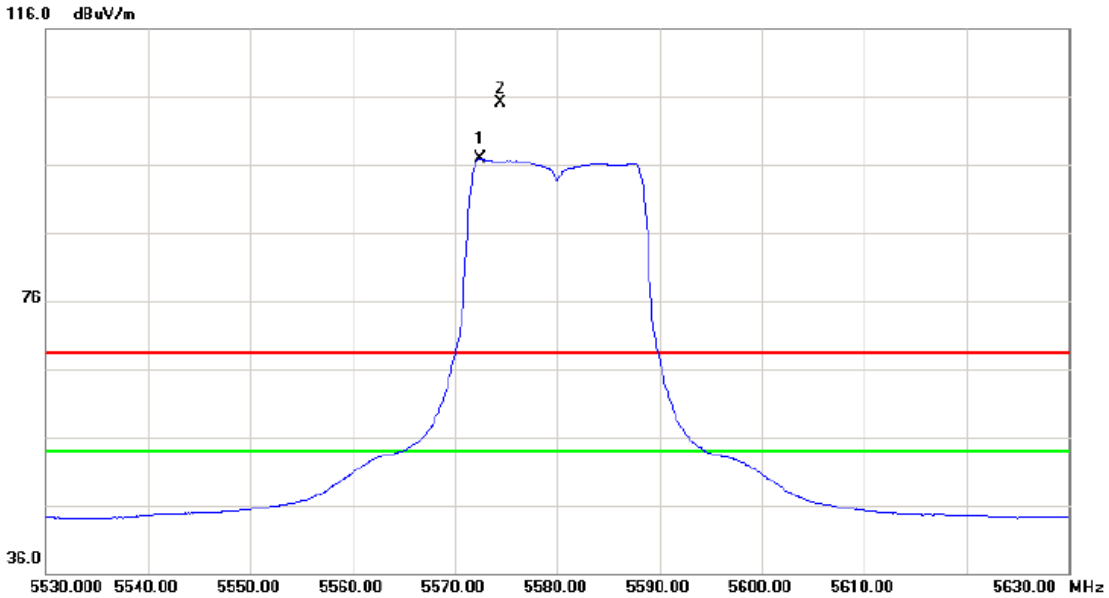
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		11160.12	38.74	17.65	56.39	68.30	-11.91	peak	
2	*	11160.12	29.97	17.65	47.62	54.00	-6.38	AVG	

Orthogonal Axis :	X
Test Mode :	Band 3/ TX 802.11a Mode 5580MHz

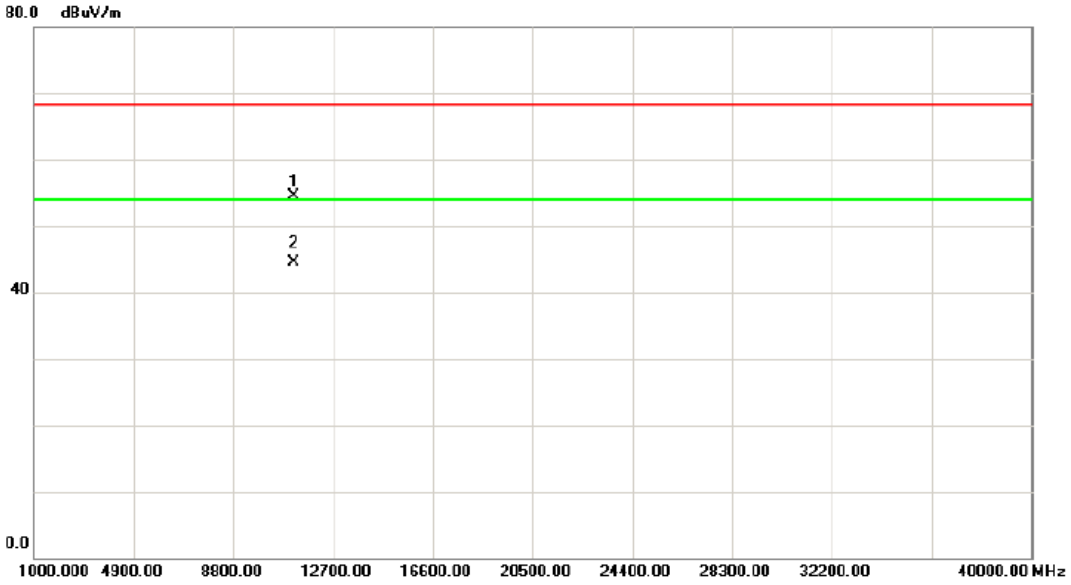
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5572.500	53.15	43.80	96.95	54.00	42.95	AVG	
2	X	5574.500	61.35	43.81	105.16	68.30	36.86	peak	

Orthogonal Axis :	X
Test Mode :	Band 3/ TX 802.11a Mode 5580MHz

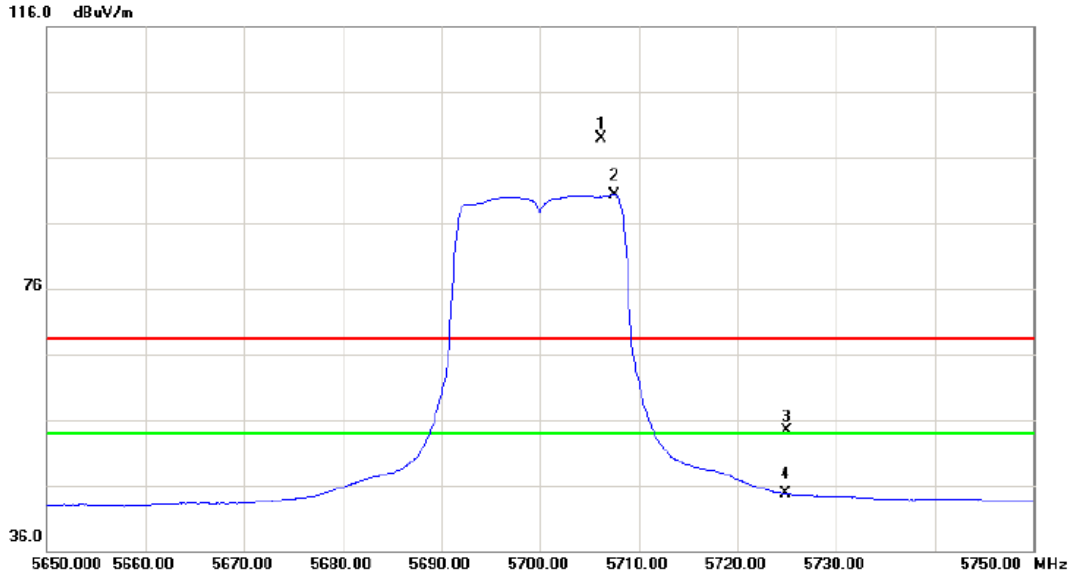
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		11159.68	36.86	17.65	54.51	68.30	-13.79	peak	
2	*	11159.68	26.92	17.65	44.57	54.00	-9.43	AVG	

Orthogonal Axis :	X
Test Mode :	Band 3/ TX 802.11a Mode 5700MHz

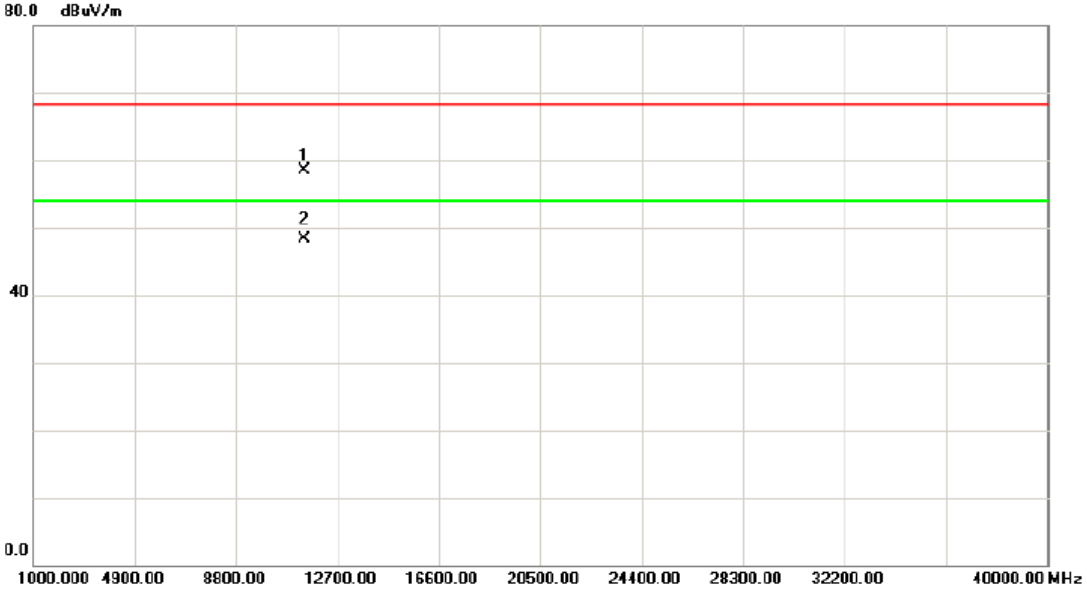
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5706.200	54.34	44.49	98.83	68.30	30.53	peak	
2	*	5707.500	45.78	44.49	90.27	54.00	36.27	AVG	
3		5725.000	9.79	44.58	54.37	68.30	-13.93	peak	
4		5725.000	0.08	44.58	44.66	54.00	-9.34	AVG	

Orthogonal Axis :	X
Test Mode :	Band 3/ TX 802.11a Mode 5700MHz

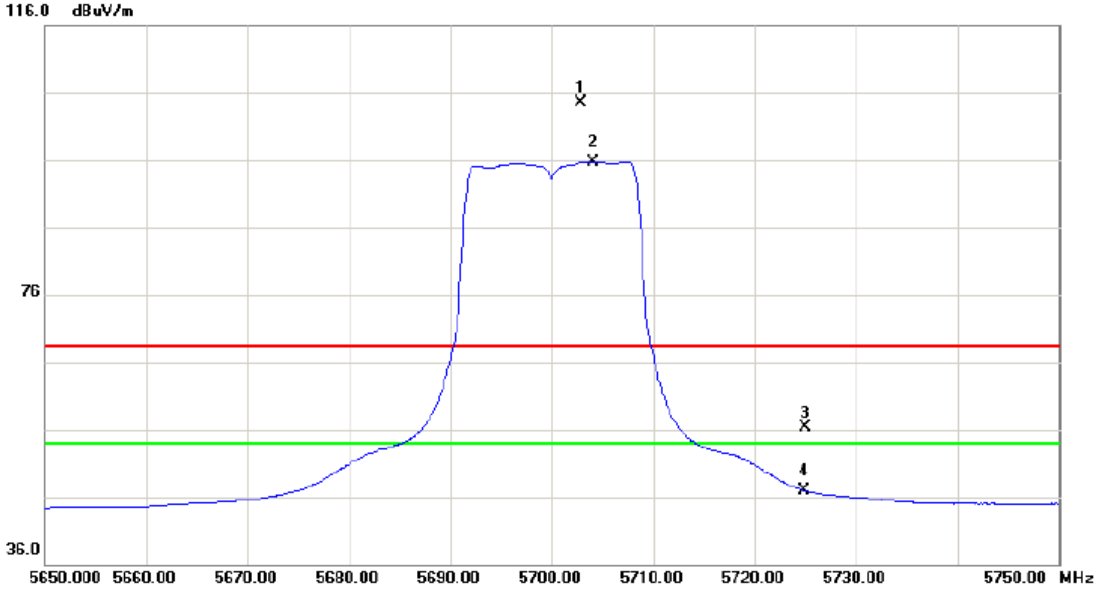
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		11400.00	40.23	18.24	58.47	68.30	-9.83	peak	
2	*	11400.00	30.04	18.24	48.28	54.00	-5.72	AVG	

Orthogonal Axis :	X
Test Mode :	Band 3/ TX 802.11a Mode 5700MHz

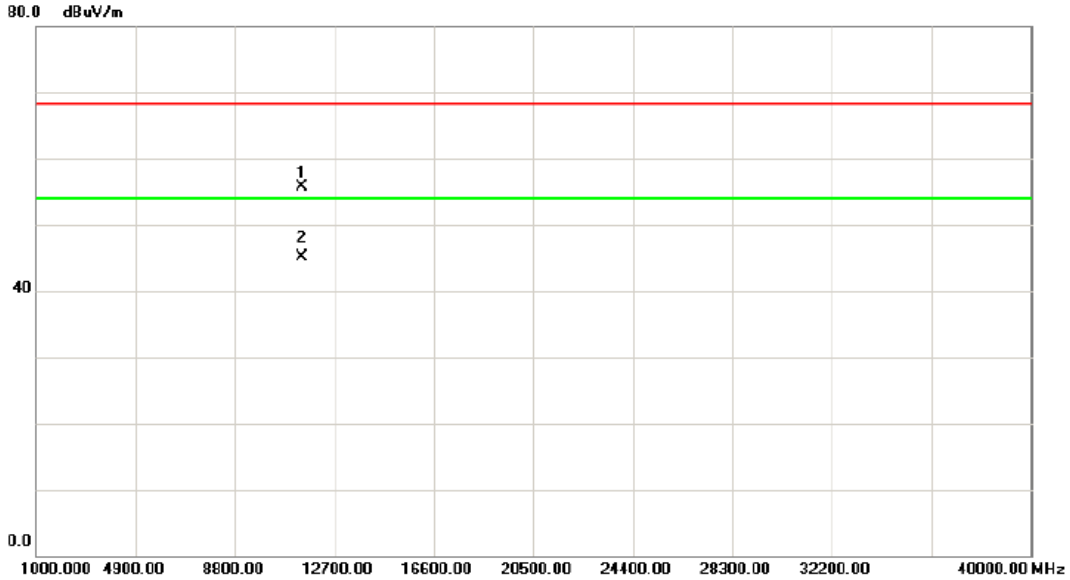
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5702.900	59.95	44.46	104.41	68.30	36.11	peak	
2	*	5704.000	51.29	44.48	95.77	54.00	41.77	AVG	
3		5725.000	11.68	44.58	56.26	68.30	-12.04	peak	
4		5725.000	2.30	44.58	46.88	54.00	-7.12	AVG	

Orthogonal Axis :	X
Test Mode :	Band 3/ TX 802.11a Mode 5700MHz

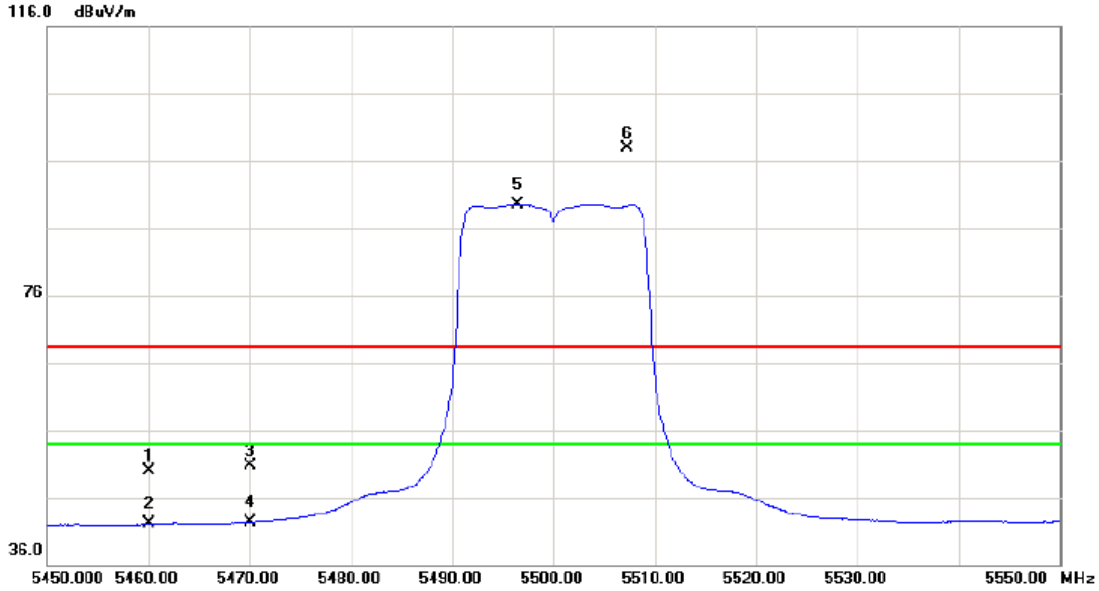
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		11400.14	37.45	18.24	55.69	68.30	-12.61	peak	
2	*	11400.14	26.85	18.24	45.09	54.00	-8.91	AVG	

Orthogonal Axis :	X
Test Mode :	Band 3/ TX 802.11n(20 MHz) Mode 5500MHz

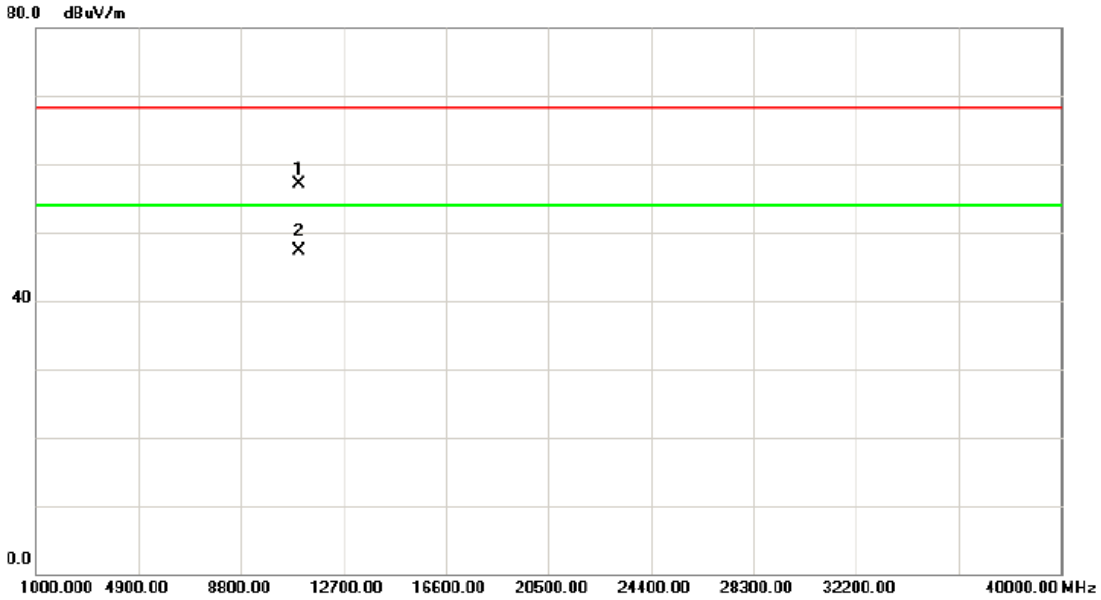
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5460.000	6.68	43.26	49.94	68.30	-18.36	peak	
2		5460.000	-1.20	43.26	42.06	54.00	-11.94	AVG	
3		5470.000	7.43	43.30	50.73	68.30	-17.57	peak	
4		5470.000	-0.95	43.30	42.35	54.00	-11.65	AVG	
5	*	5496.400	46.19	43.41	89.60	54.00	35.60	AVG	
6	X	5507.300	54.52	43.46	97.98	68.30	29.68	peak	

Orthogonal Axis :	X
Test Mode :	Band 3/ TX 802.11n(20 MHz) Mode 5500MHz

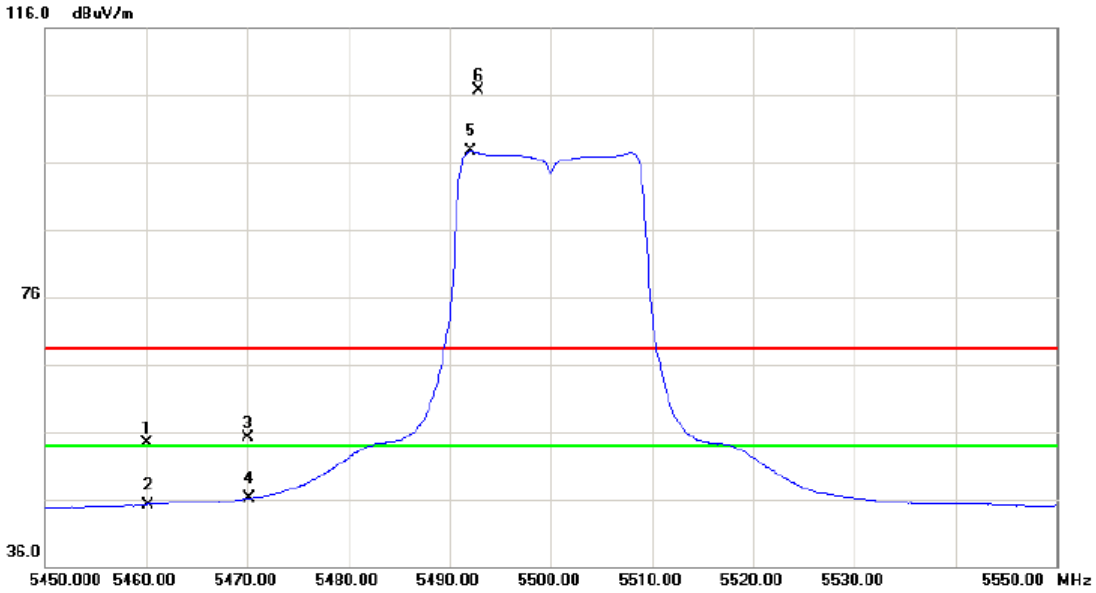
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		11000.25	39.76	17.26	57.02	68.30	-11.28	peak	
2	*	11000.25	30.05	17.26	47.31	54.00	-6.69	AVG	

Orthogonal Axis :	X
Test Mode :	Band 3/ TX 802.11n(20 MHz) Mode 5500MHz

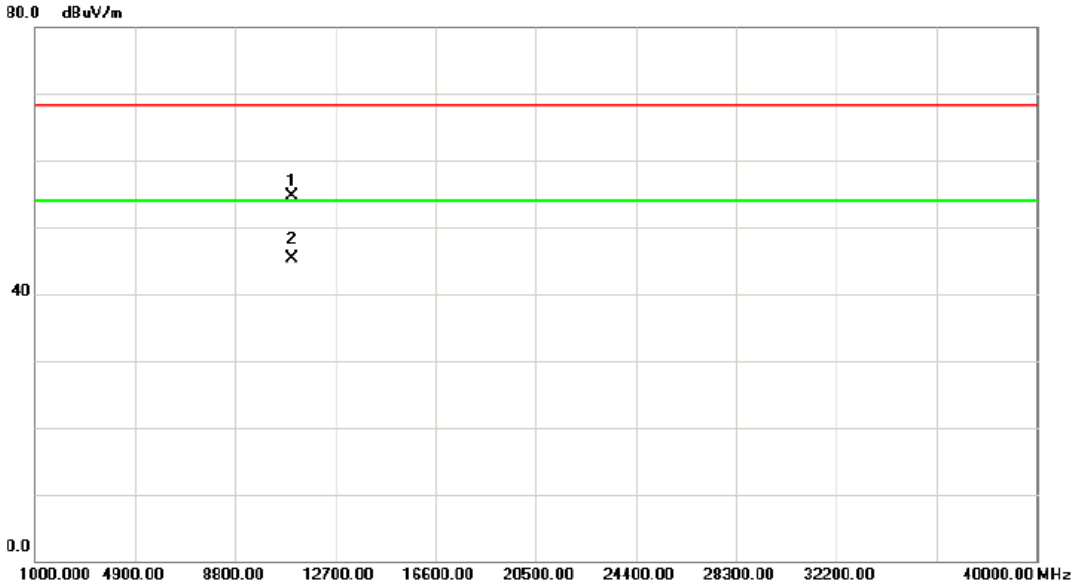
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5460.000	11.13	43.26	54.39	68.30	-13.91	peak	
2		5460.000	1.92	43.26	45.18	54.00	-8.82	AVG	
3		5470.000	11.74	43.30	55.04	68.30	-13.26	peak	
4		5470.000	2.78	43.30	46.08	54.00	-7.92	AVG	
5	*	5492.000	54.26	43.39	97.65	54.00	43.65	AVG	
6	X	5492.900	63.29	43.39	106.68	68.30	38.38	peak	

Orthogonal Axis :	X
Test Mode :	Band 3/ TX 802.11n(20 MHz) Mode 5500MHz

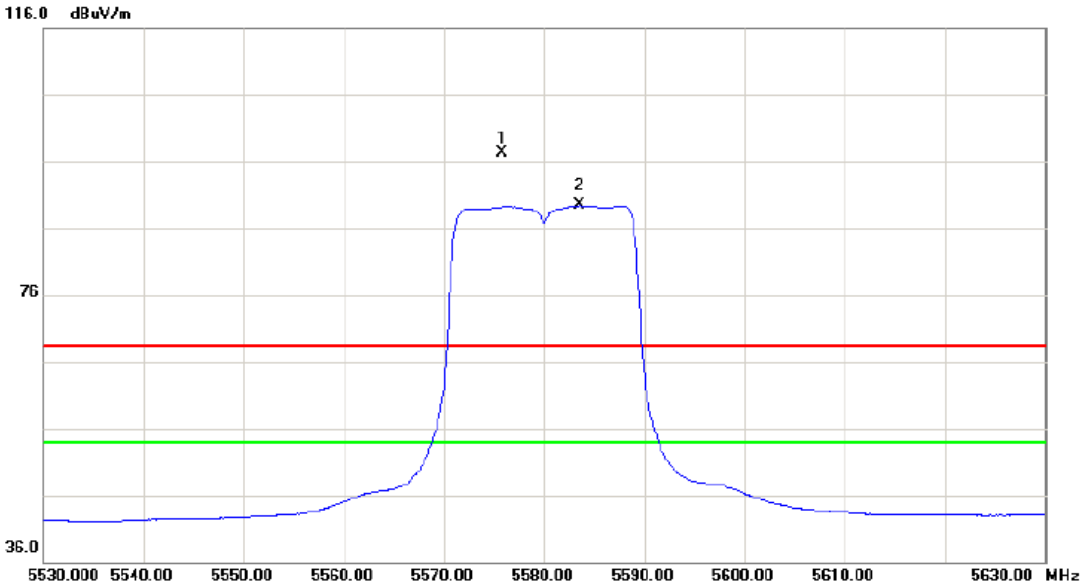
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		11000.02	37.48	17.26	54.74	68.30	-13.56	peak	
2	*	11000.02	27.97	17.26	45.23	54.00	-8.77	AVG	

Orthogonal Axis :	X
Test Mode :	Band 3/ TX 802.11n(20 MHz) Mode 5580MHz

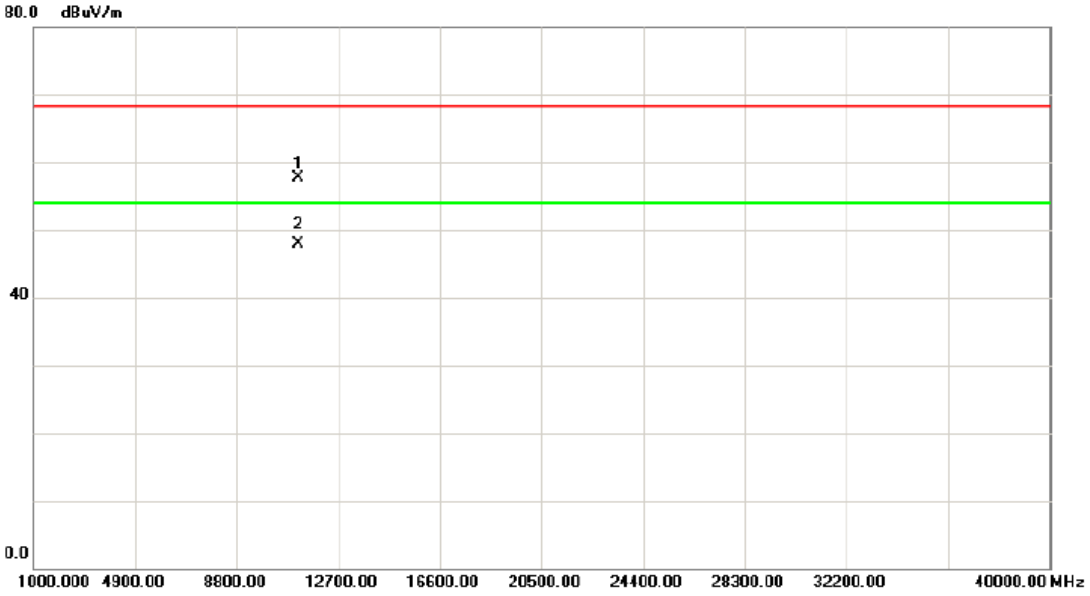
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5575.800	53.52	43.81	97.33	68.30	29.03	peak	
2	*	5583.500	45.56	43.85	89.41	54.00	35.41	AVG	

Orthogonal Axis :	X
Test Mode :	Band 3/ TX 802.11n(20 MHz) Mode 5580MHz

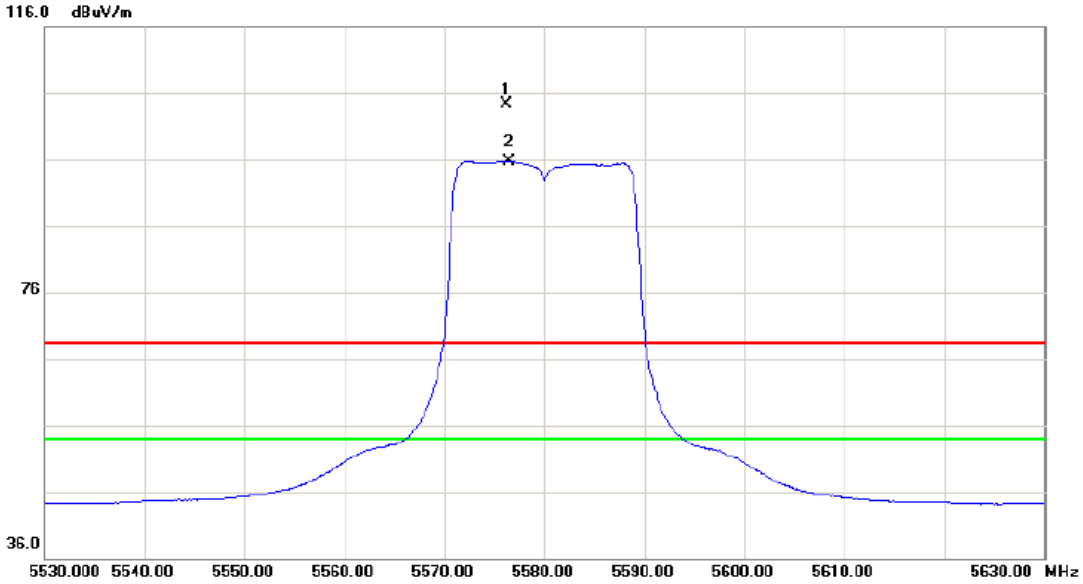
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		11160.08	40.07	17.65	57.72	68.30	-10.58	peak	
2	*	11160.08	30.34	17.65	47.99	54.00	-6.01	AVG	

Orthogonal Axis :	X
Test Mode :	Band 3/ TX 802.11n(20 MHz) Mode 5580MHz

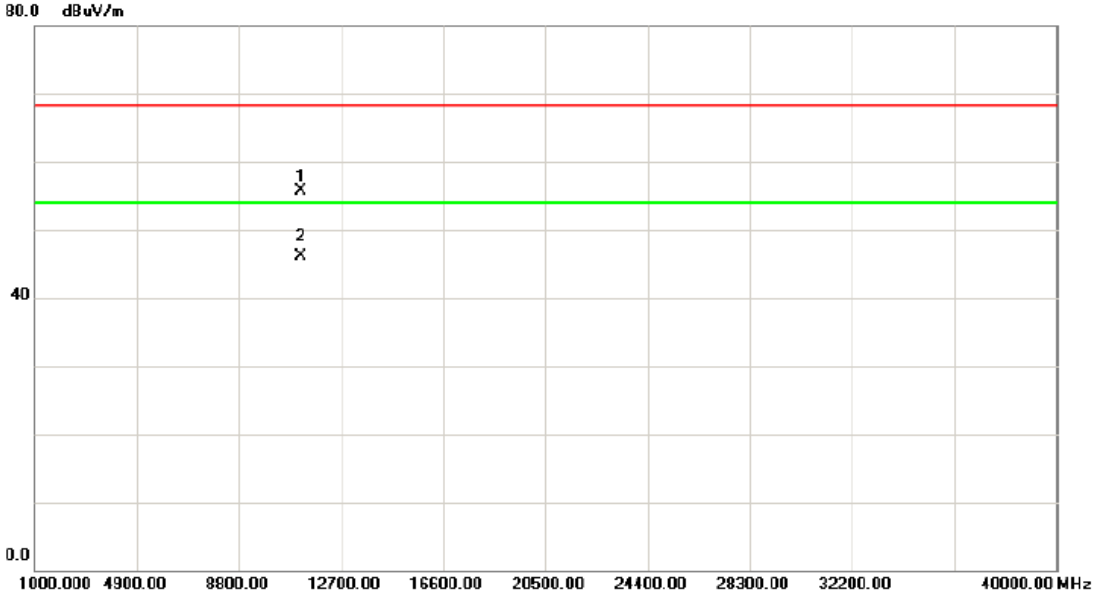
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5576.200	60.43	43.82	104.25	68.30	35.95	peak	
2	*	5576.400	51.92	43.82	95.74	54.00	41.74	AVG	

Orthogonal Axis :	X
Test Mode :	Band 3/ TX 802.11n(20 MHz) Mode 5580MHz

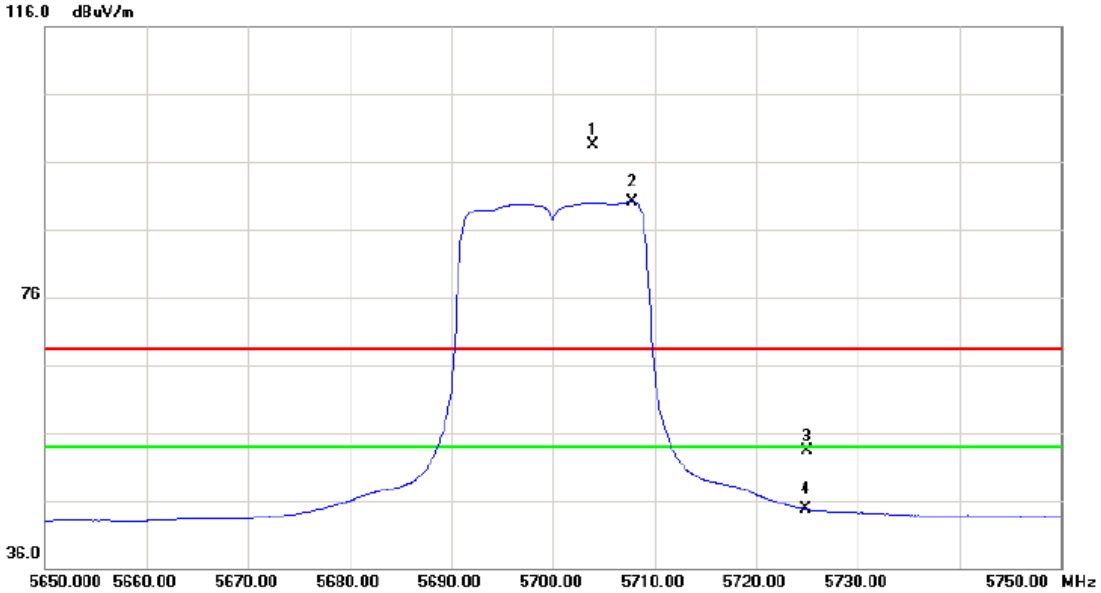
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		11160.37	38.06	17.65	55.71	68.30	-12.59	peak	
2	*	11160.37	28.45	17.65	46.10	54.00	-7.90	AVG	

Orthogonal Axis :	X
Test Mode :	Band 3/ TX 802.11n(20 MHz) Mode 5700MHz

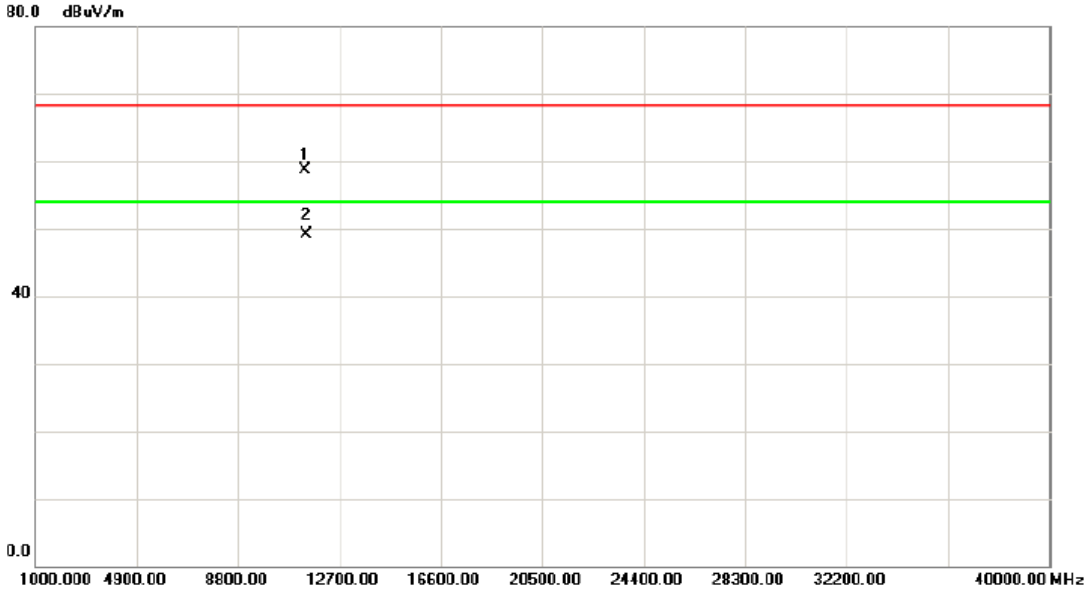
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5703.900	54.05	44.47	98.52	68.30	30.22	peak	
2	*	5707.800	45.61	44.49	90.10	54.00	36.10	AVG	
3		5725.000	8.77	44.58	53.35	68.30	-14.95	peak	
4		5725.000	0.07	44.58	44.65	54.00	-9.35	AVG	

Orthogonal Axis :	X
Test Mode :	Band 3/ TX 802.11n(20 MHz) Mode 5700MHz

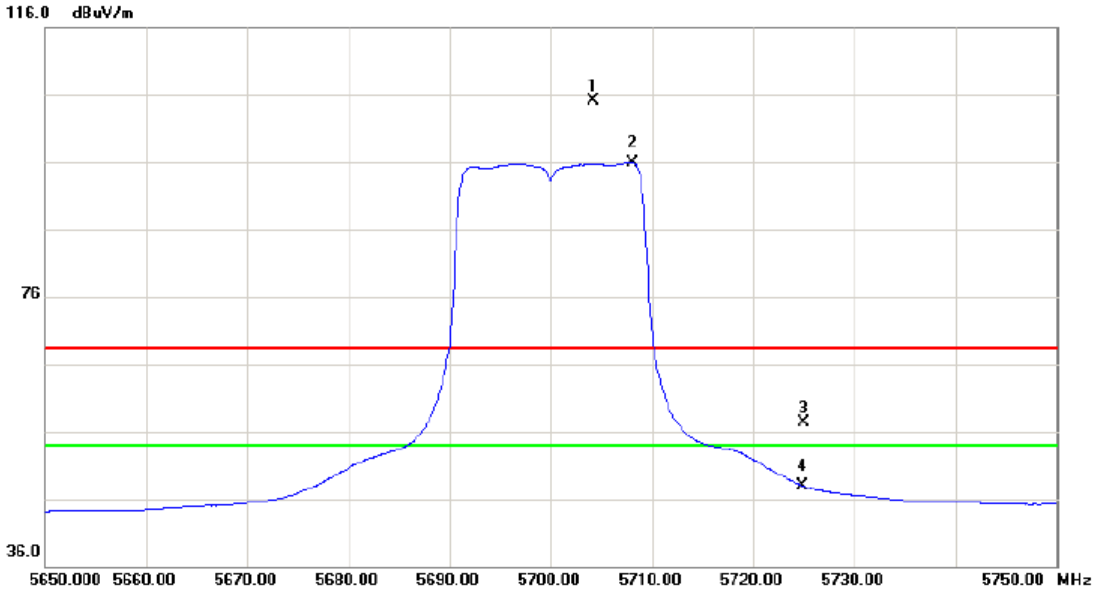
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		11399.97	40.52	18.24	58.76	68.30	-9.54	peak	
2	*	11399.97	30.85	18.24	49.09	54.00	-4.91	AVG	

Orthogonal Axis :	X
Test Mode :	Band 3/ TX 802.11n(20 MHz) Mode 5700MHz

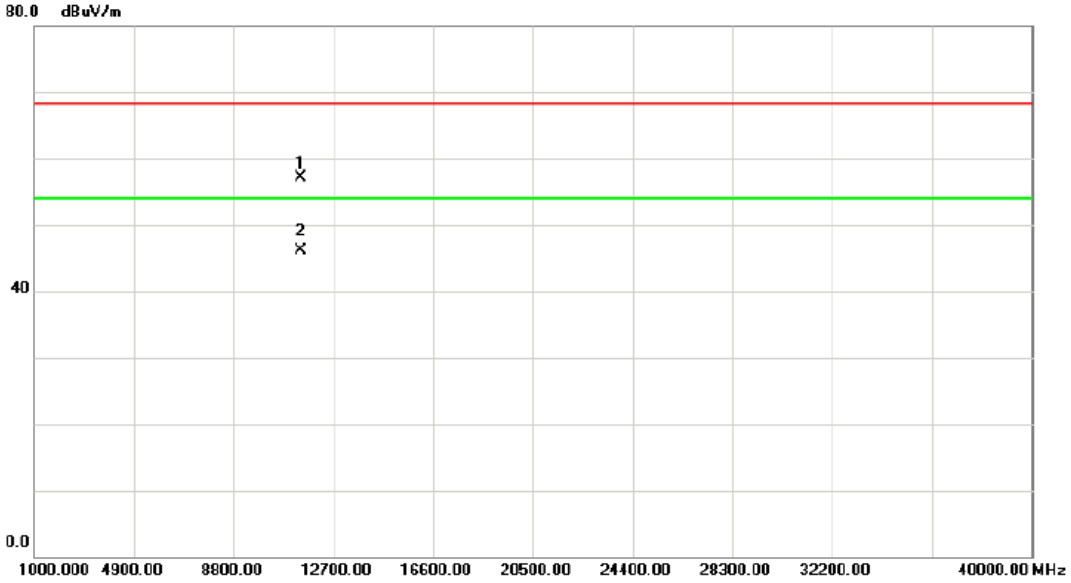
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5704.200	60.67	44.48	105.15	68.30	36.85	peak	
2	*	5708.000	51.46	44.50	95.96	54.00	41.96	AVG	
3		5725.000	12.78	44.58	57.36	68.30	-10.94	peak	
4		5725.000	3.30	44.58	47.88	54.00	-6.12	AVG	

Orthogonal Axis :	X
Test Mode :	Band 3/ TX 802.11n(20 MHz) Mode 5700MHz

Horizontal

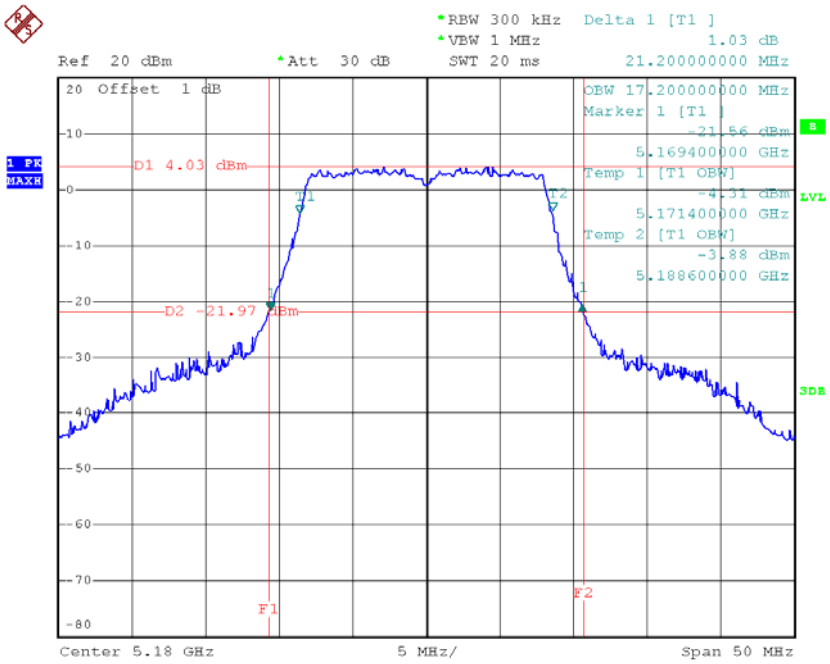


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		11400.27	38.96	18.24	57.20	68.30	-11.10	peak	
2	*	11400.27	27.89	18.24	46.13	54.00	-7.87	AVG	

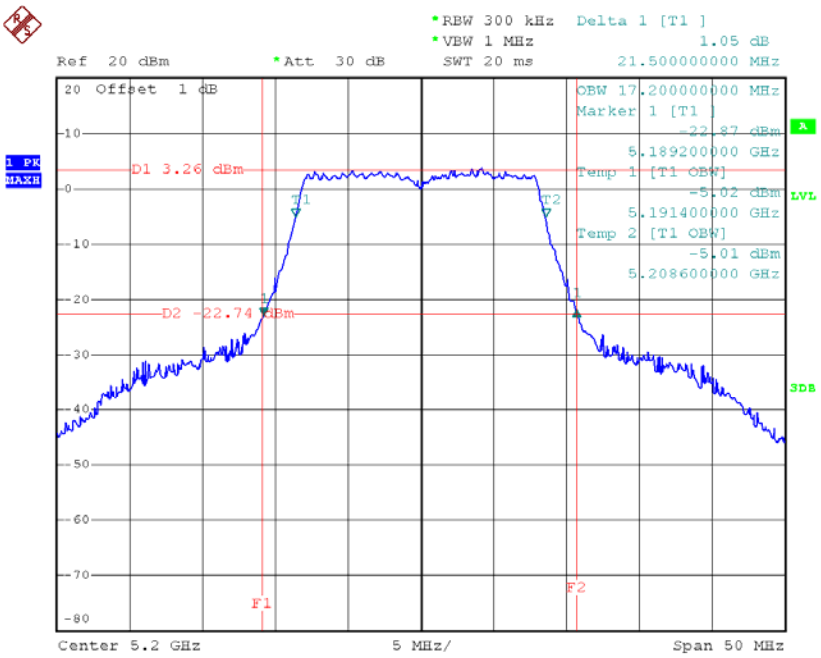
ATTACHMENT E – 26DB BANDWIDTH

Test Mode : Band 1/TX 802.11a Mode_CH36/CH40/CH48

TX CH36

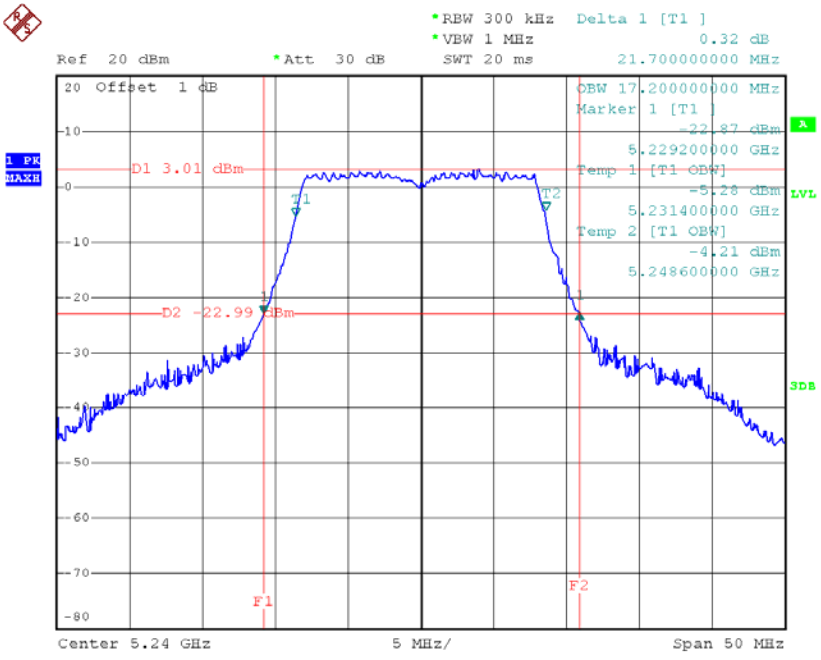


TX CH40



Date: 14.JUN.2014 05:24:29

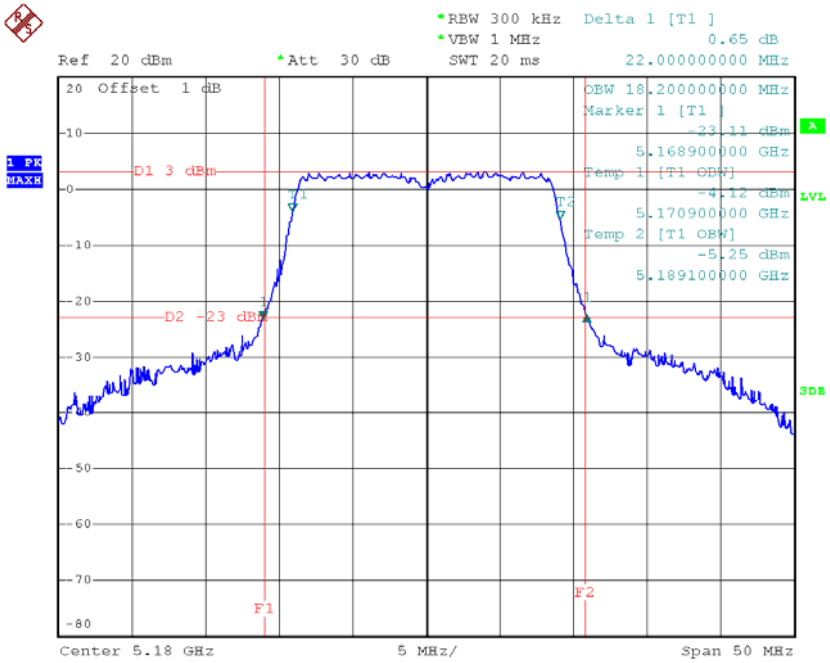
TX CH48



Date: 14.JUN.2014 05:26:17

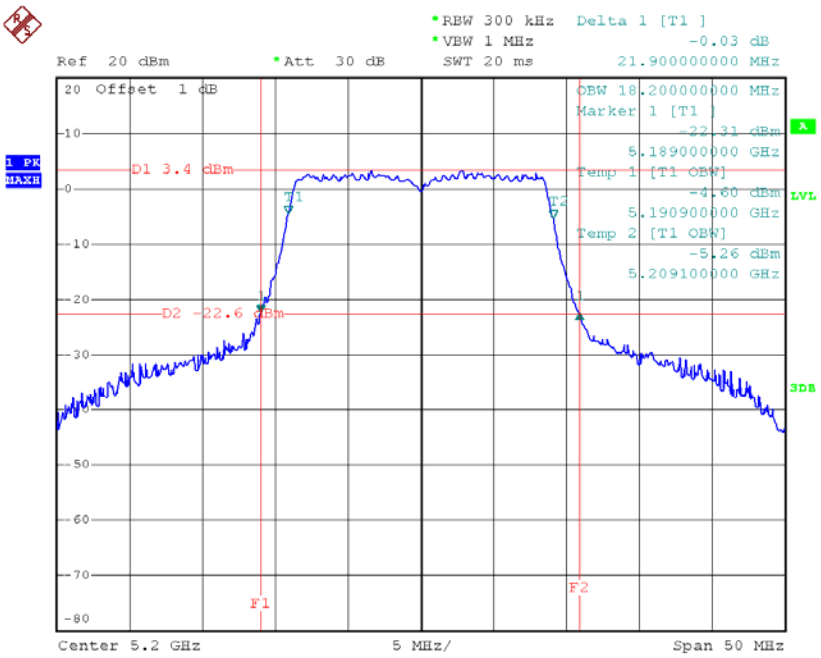
Test Mode : Band 1/TX 802.11n(20 MHz) Mode_CH36/CH40/CH48

TX CH36



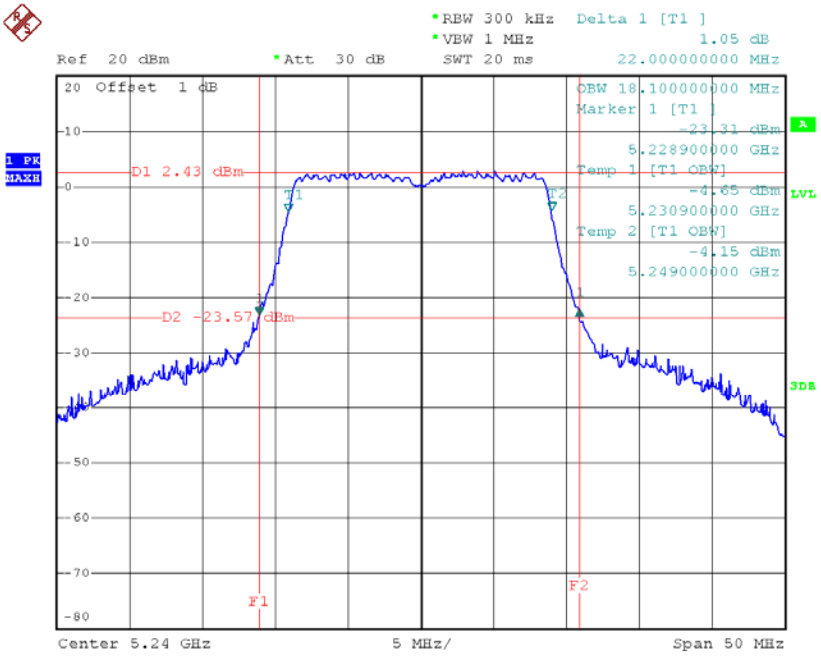
Date: 14.JUN.2014 05:52:11

TX CH40



Date: 14.JUN.2014 05:53:49

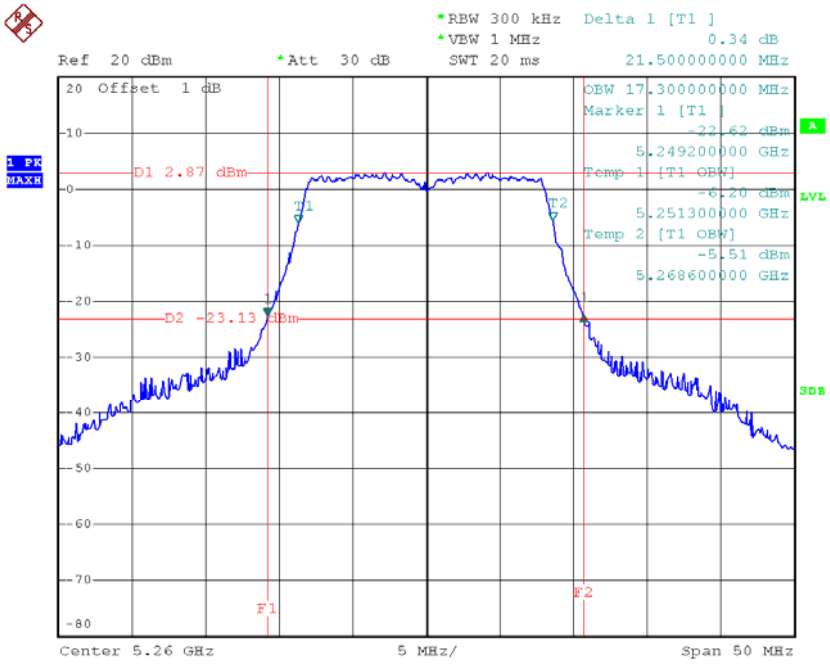
TX CH48



Date: 14.JUN.2014 05:55:49

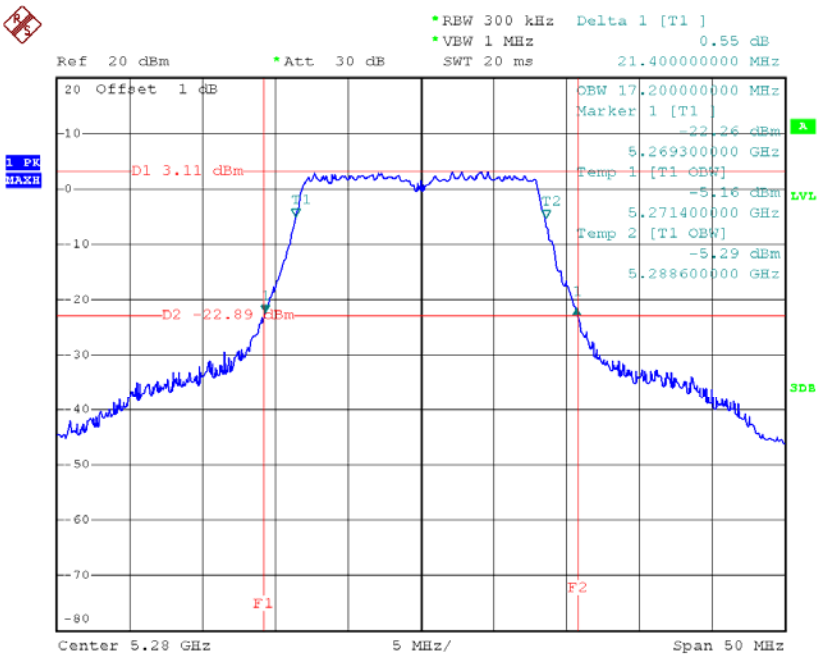
Test Mode : Band 2/TX 802.11a Mode_CH52/CH56/CH65

TX CH52



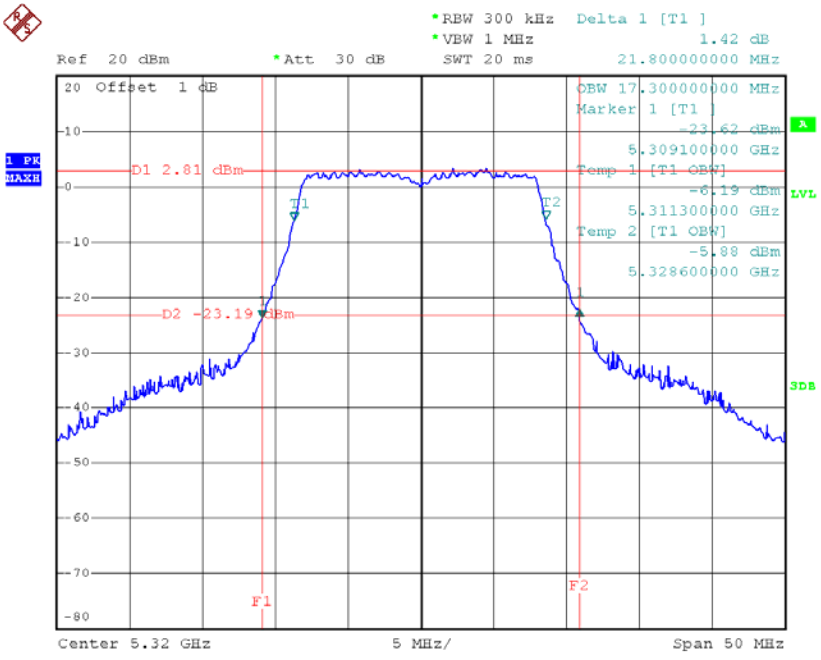
Date: 14.JUN.2014 05:32:02

TX CH56



Date: 14.JUN.2014 05:35:04

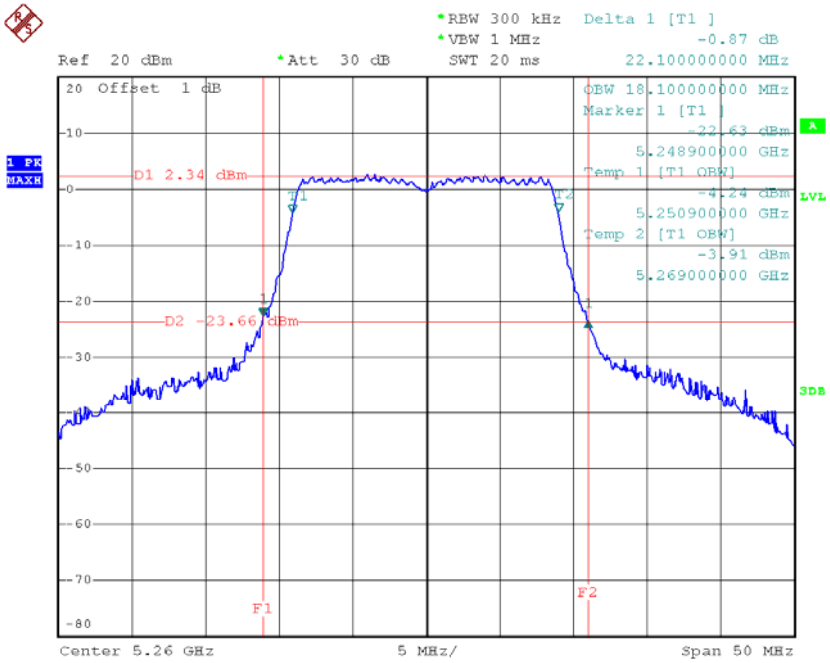
TX CH64



Date: 14.JUN.2014 05:37:30

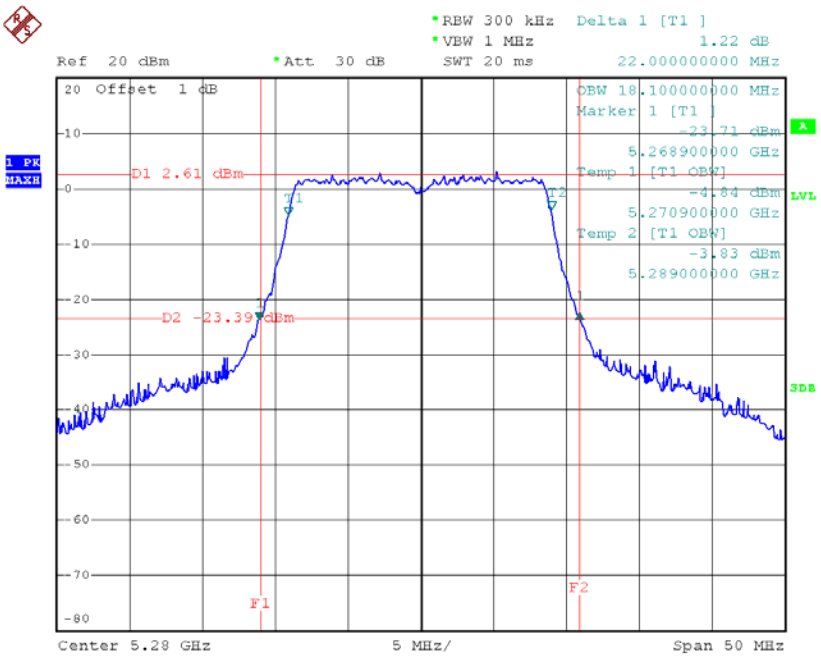
Test Mode : Band 2/TX 802.11n(20 MHz) Mode_CH52/CH56/CH64

TX CH52



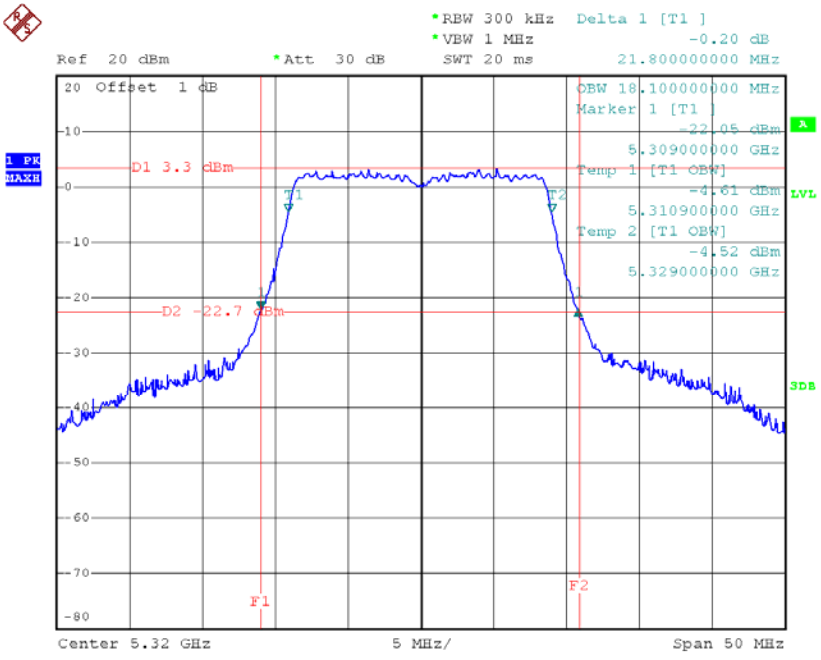
Date: 14.JUN.2014 06:01:05

TX CH56



Date: 14.JUN.2014 06:02:46

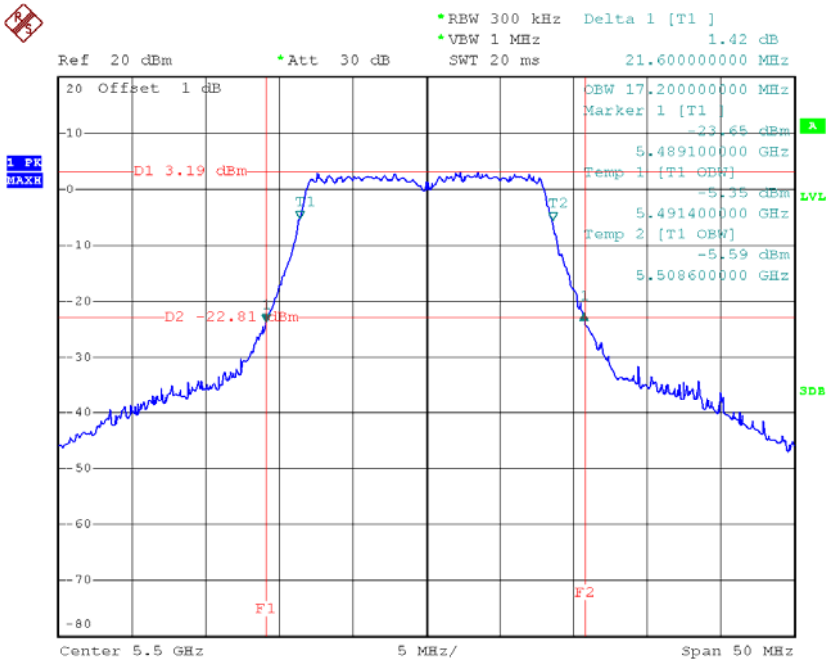
TX CH64



Date: 14.JUN.2014 06:04:43

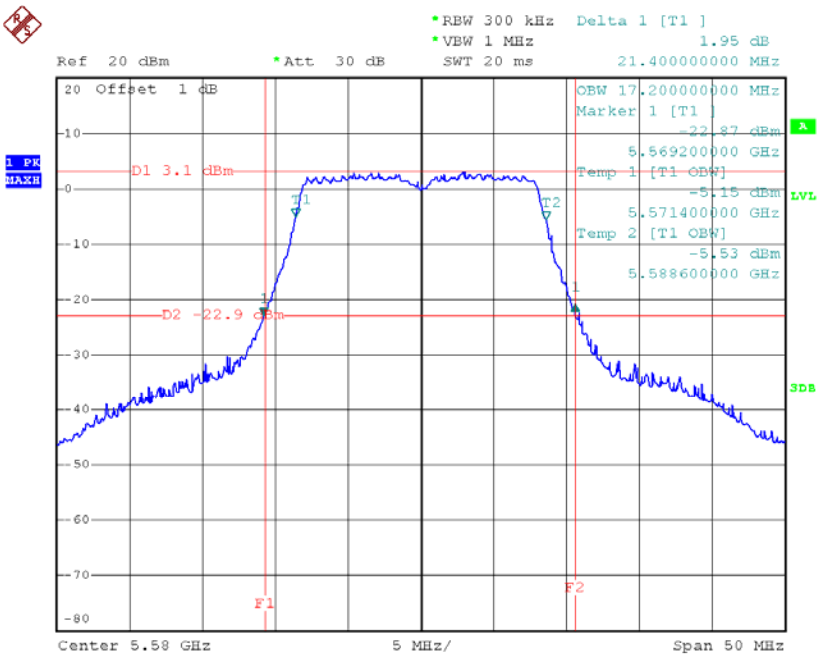
Test Mode : Band 3/TX 802.11a Mode_CH100/CH116/CH140

TX CH100



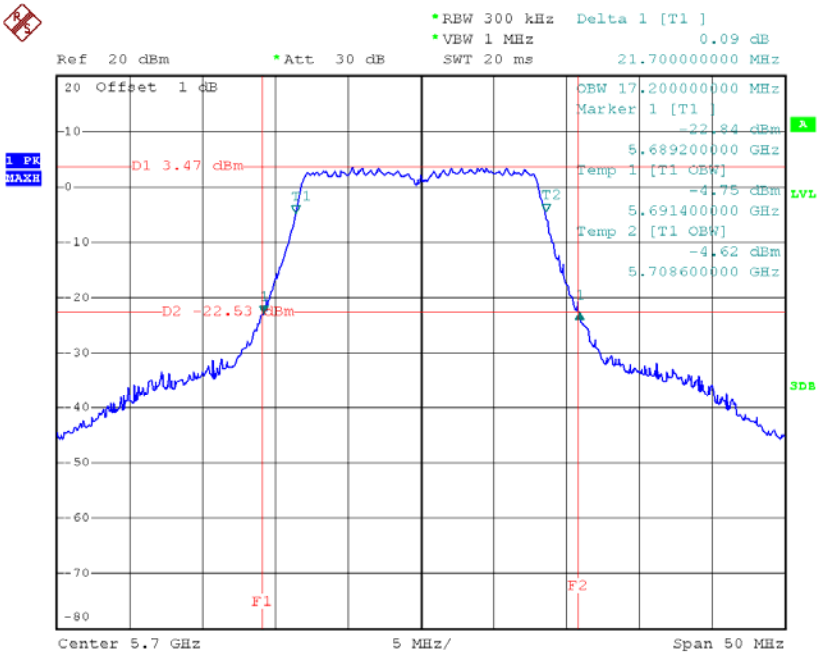
Date: 14.JUN.2014 05:42:19

TX CH116



Date: 14.JUN.2014 05:45:32

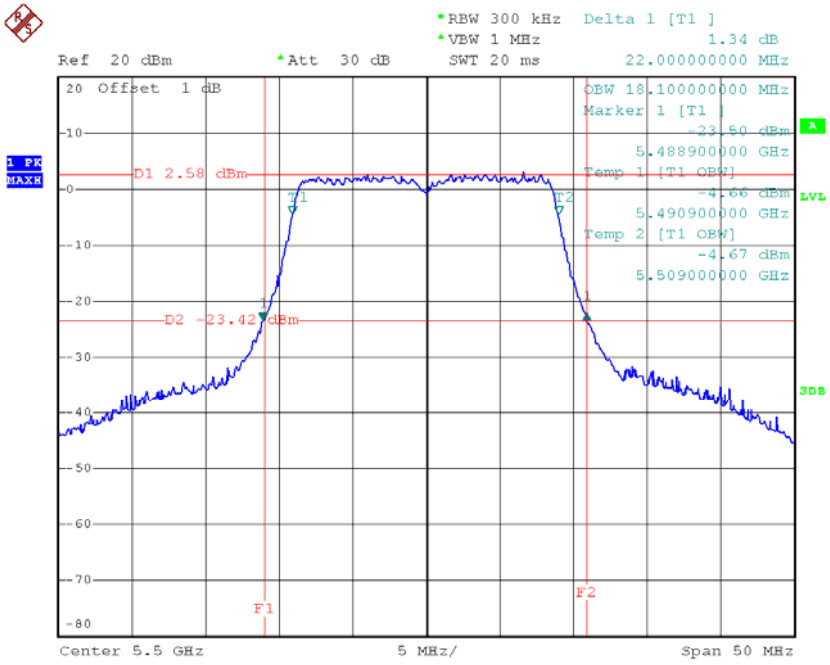
TX CH140



Date: 14.JUN.2014 05:47:10

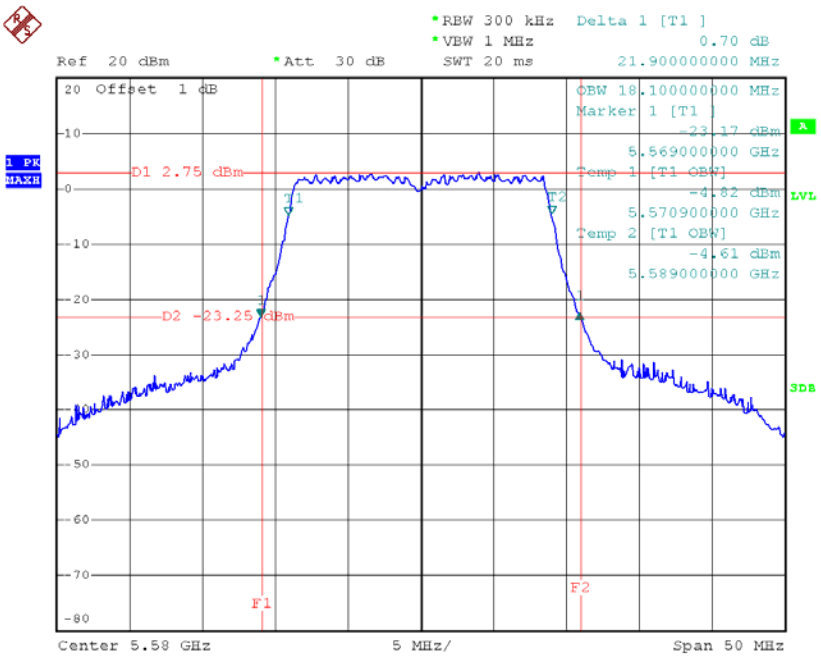
Test Mode : Band 3/TX 802.11n(20 MHz) Mode_CH100/CH116/CH140

TX CH100



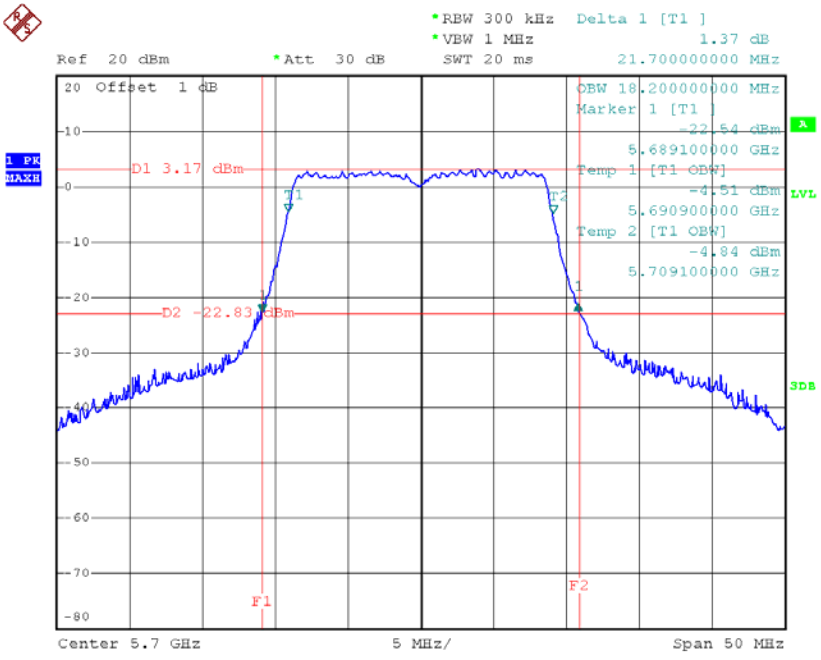
Date: 14.JUN.2014 06:10:30

TX CH116



Date: 14.JUN.2014 06:12:45

TX CH140



Date: 14.JUN.2014 06:16:56

ATTACHMENT F - MAXIMUM OUTPUT POWER

Test Mode :Band 1/TX 802.11a Mode				
Test Channel	Frequency (MHz)	Conducted Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH36	5180	12.87	17.00	0.0501
CH40	5200	12.84	17.00	0.0501
CH48	5240	12.89	17.00	0.0501

Test Mode :Band 1/TX 802.11n(20 MHz) Mode				
Test Channel	Frequency (MHz)	Conducted Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH36	5180	12.67	17.00	0.0501
CH40	5200	12.65	17.00	0.0501
CH48	5240	12.69	17.00	0.0501

Test Mode :Band 2/TX 802.11a Mode				
Test Channel	Frequency (MHz)	Conducted Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH52	5260	12.88	24	0.251
CH56	5280	12.93	24	0.251
CH64	5320	12.97	24	0.251

Test Mode :Band 2/TX 802.11n(20 MHz) Mode				
Test Channel	Frequency (MHz)	Conducted Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH52	5260	12.74	24	0.251
CH56	5280	12.71	24	0.251
CH64	5320	12.72	24	0.251

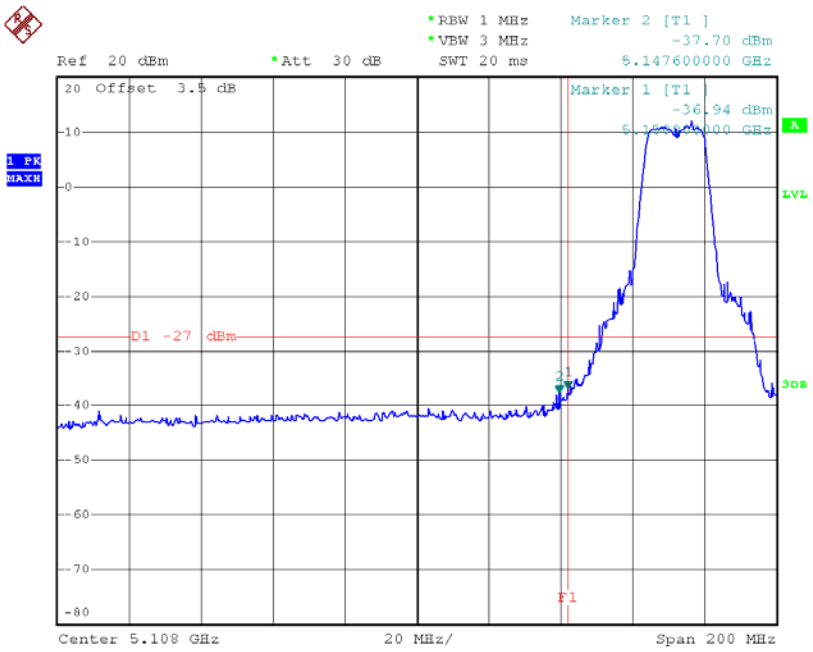
Test Mode :Band 3/TX 802.11a Mode				
Test Channel	Frequency (MHz)	Conducted Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH100	5500	12.95	24	0.251
CH116	5580	12.94	24	0.251
CH140	5700	12.98	24	0.251

Test Mode :Band 3/TX 802.11n(20 MHz) Mode				
Test Channel	Frequency (MHz)	Conducted Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH100	5500	12.78	24	0.251
CH116	5580	12.76	24	0.251
CH140	5700	12.85	24	0.251

ATTACHMENT G - ANTENNA CONDUCTED SPURIOUS EMISSION

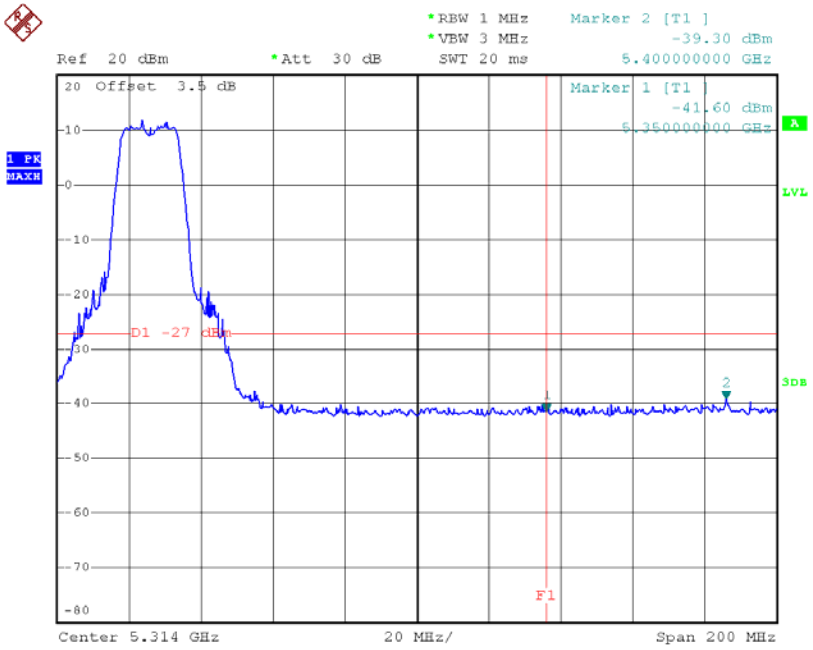
Test Mode :	Band 1/TX 802.11a Mode

TX mode CH36



Date: 14.JUN.2014 05:16:18

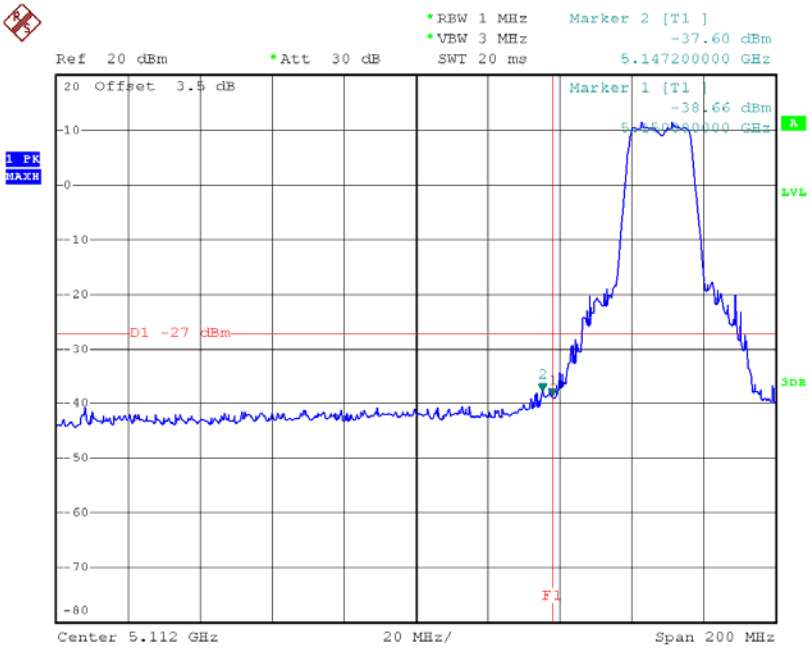
TX mode CH48



Date: 14.JUN.2014 05:27:56

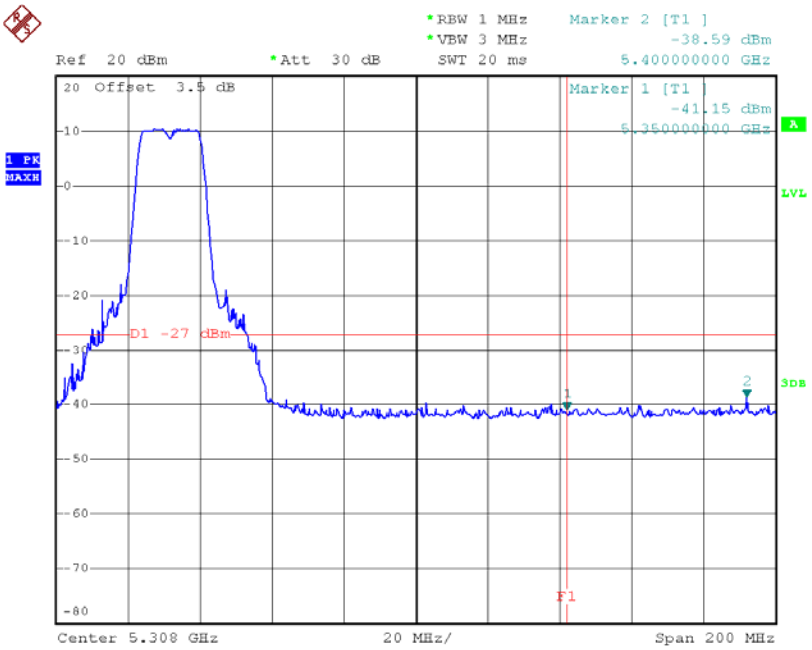
Test Mode :	Band 1/TX 802.11n(20 MHz) Mode

TX mode CH36



Date: 14.JUN.2014 05:50:53

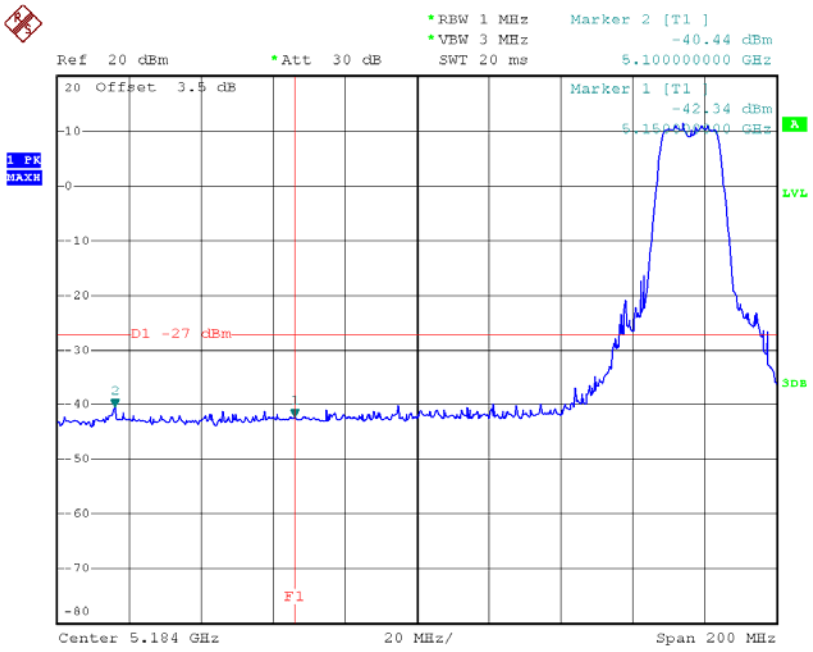
TX mode CH48



Date: 14.JUN.2014 05:56:44

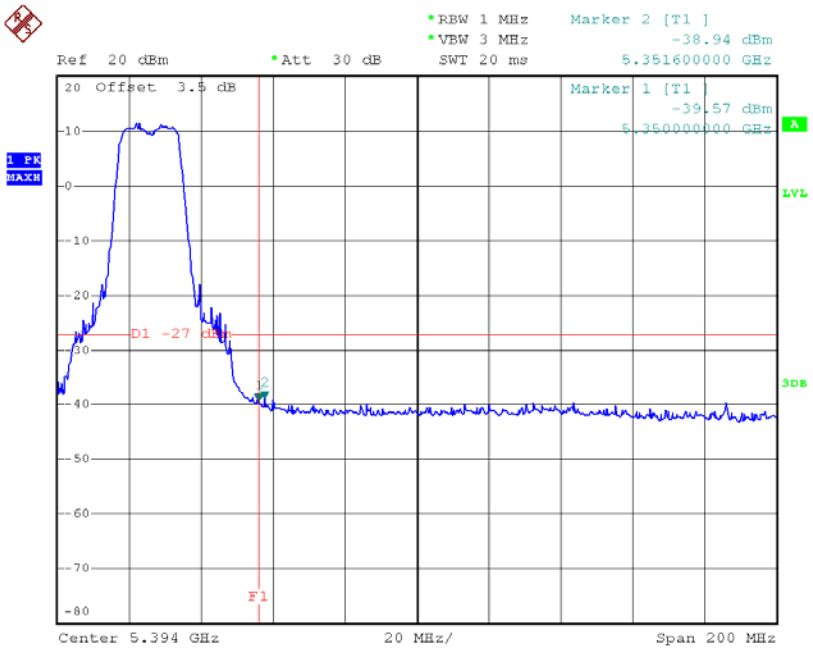
Test Mode :	Band 2/TX 802.11a Mode

TX mode CH52



Date: 14.JUN.2014 05:30:41

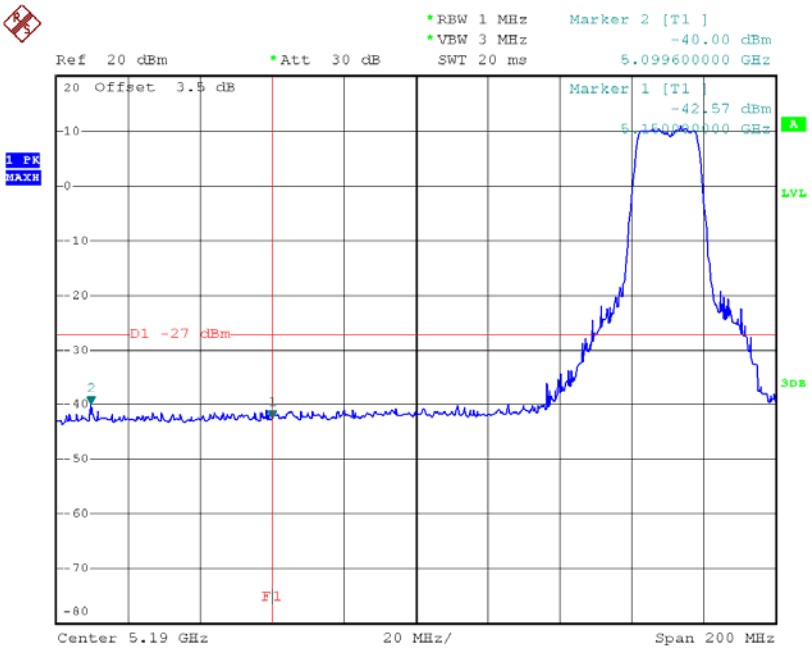
TX mode CH64



Date: 14.JUN.2014 05:38:40

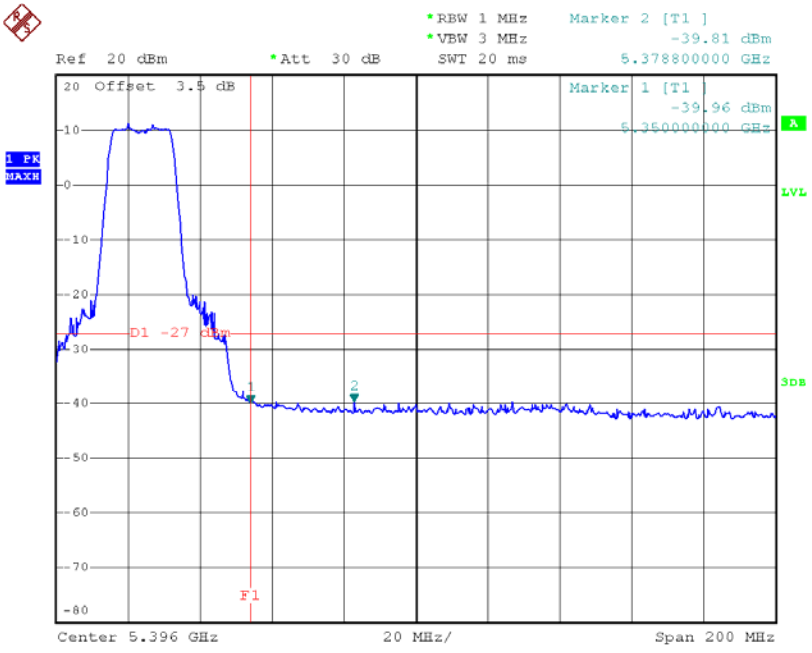
Test Mode :	Band 2/TX 802.11n(20 MHz) Mode

TX mode CH52



Date: 14.JUN.2014 05:59:05

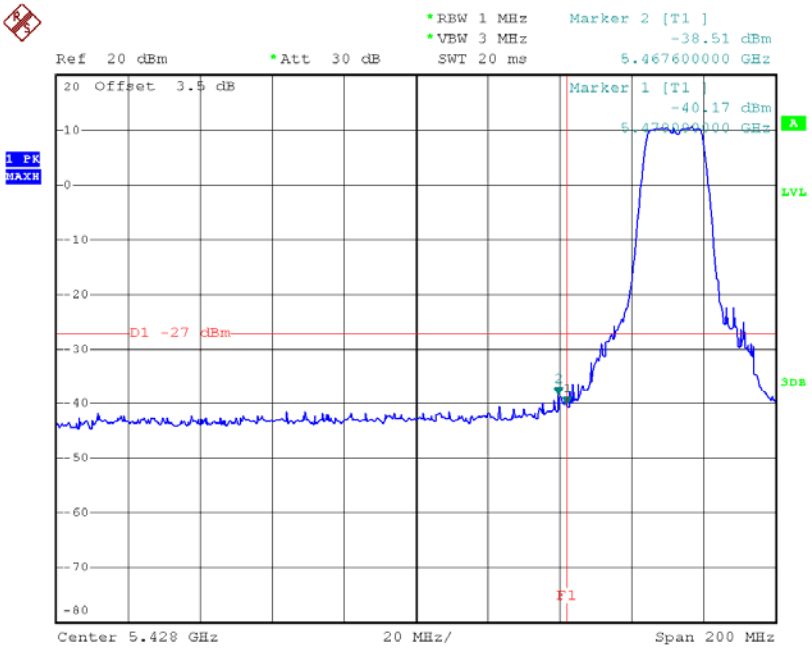
TX mode CH64



Date: 14.JUN.2014 06:07:20

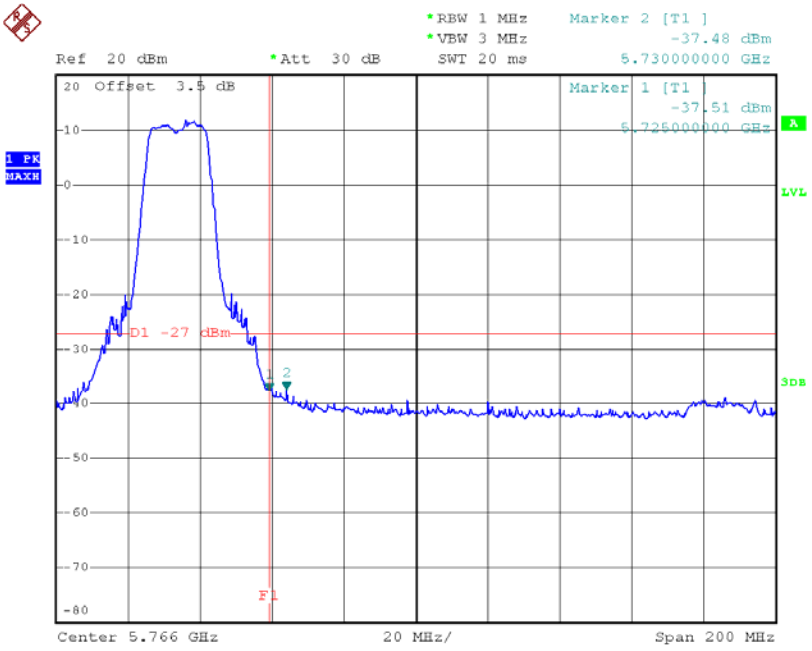
Test Mode :	Band 3/TX 802.11a Mode

TX mode CH100



Date: 14.JUN.2014 05:40:56

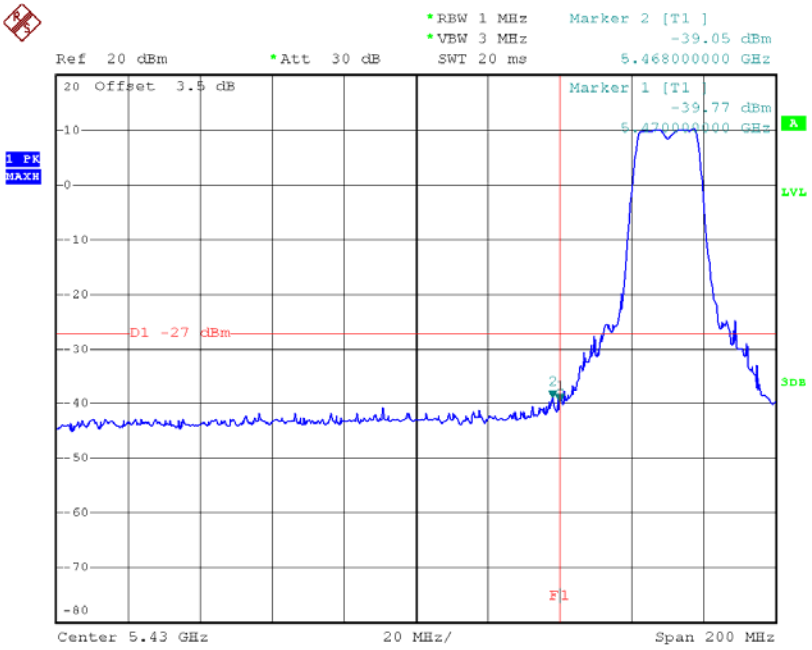
TX mode CH140



Date: 14.JUN.2014 05:48:22

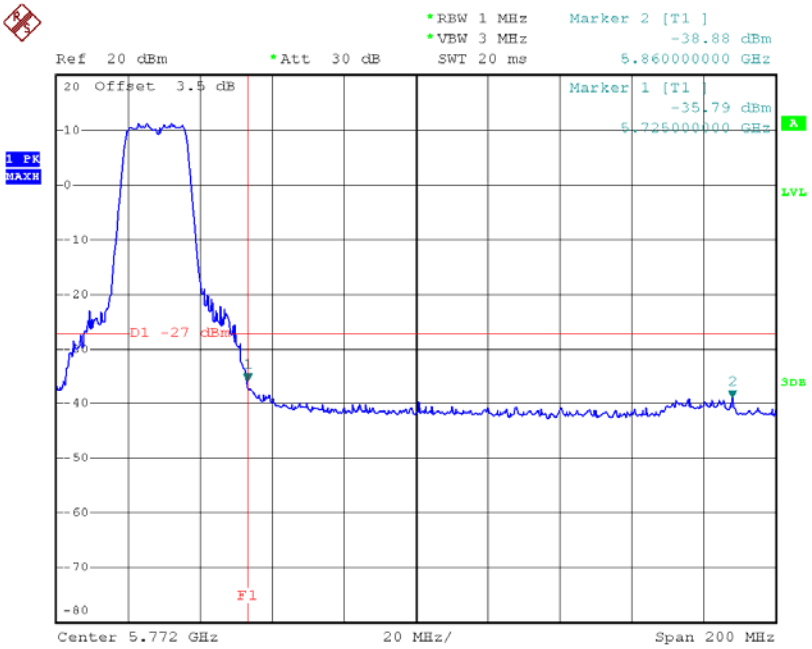
Test Mode :	Band 3/TX 802.11n(20 MHz) Mode

TX mode CH100



Date: 14.JUN.2014 06:09:05

TX mode CH140

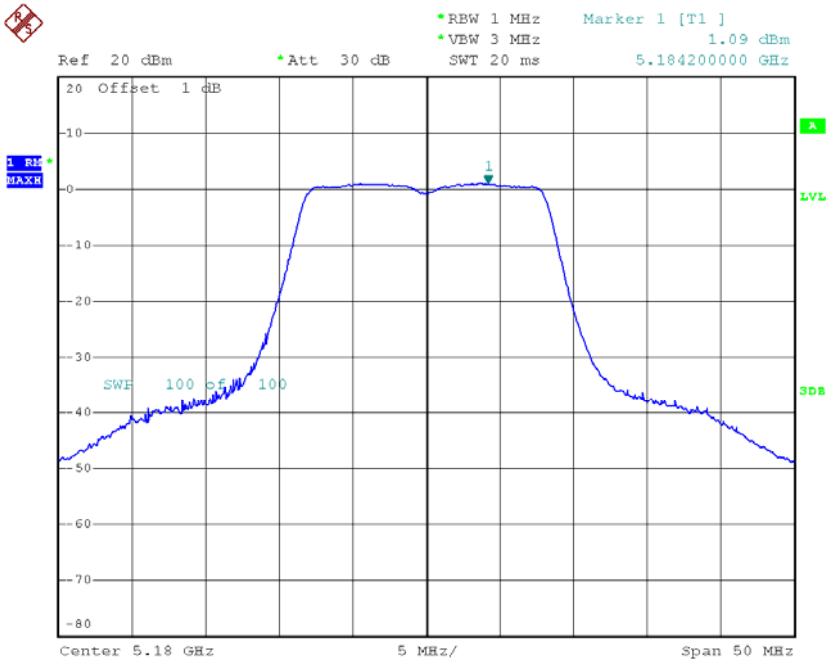


Date: 14.JUN.2014 06:18:03

ATTACHMENT H - POWER SPECTRAL DENSITY

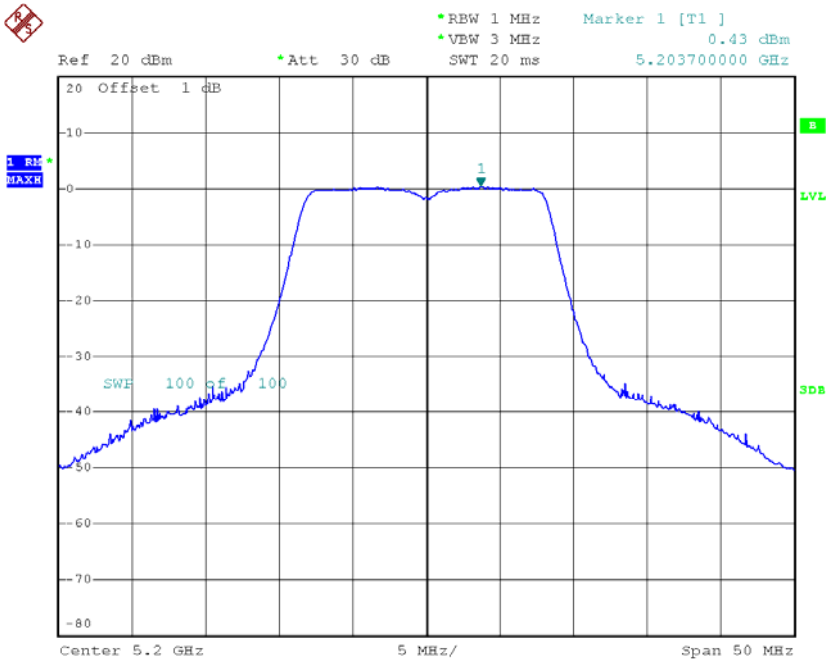
Test Mode : Band 1/TX 802.11a Mode_CH36/40/48

CH36



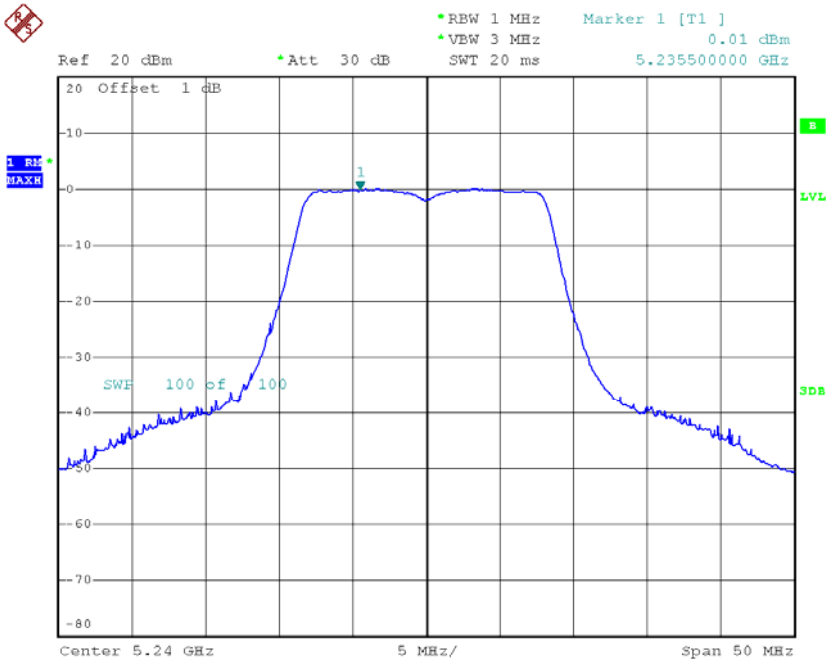
Date: 13.JUN.2014 22:20:16

CH40



Date: 14.JUN.2014 05:22:27

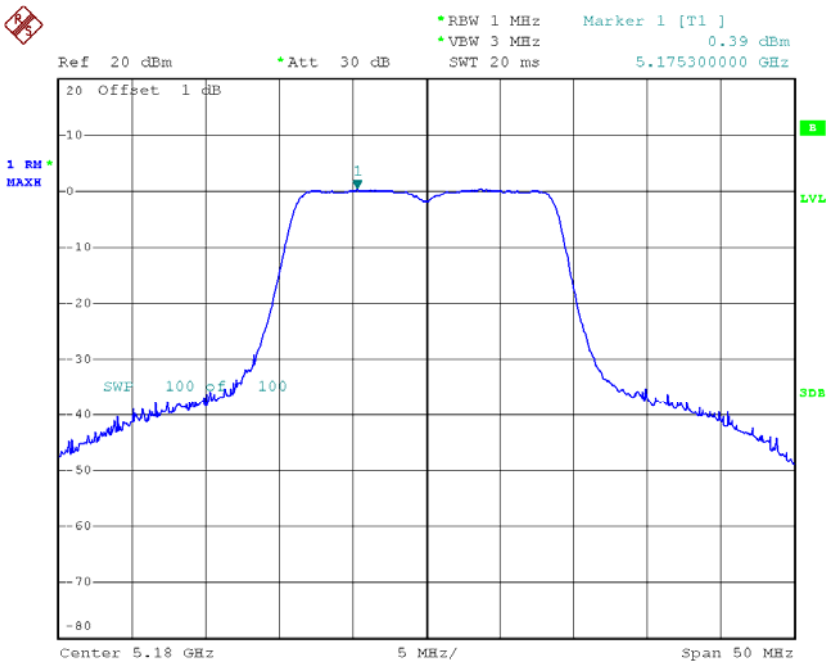
CH48



Date: 14.JUN.2014 05:25:33

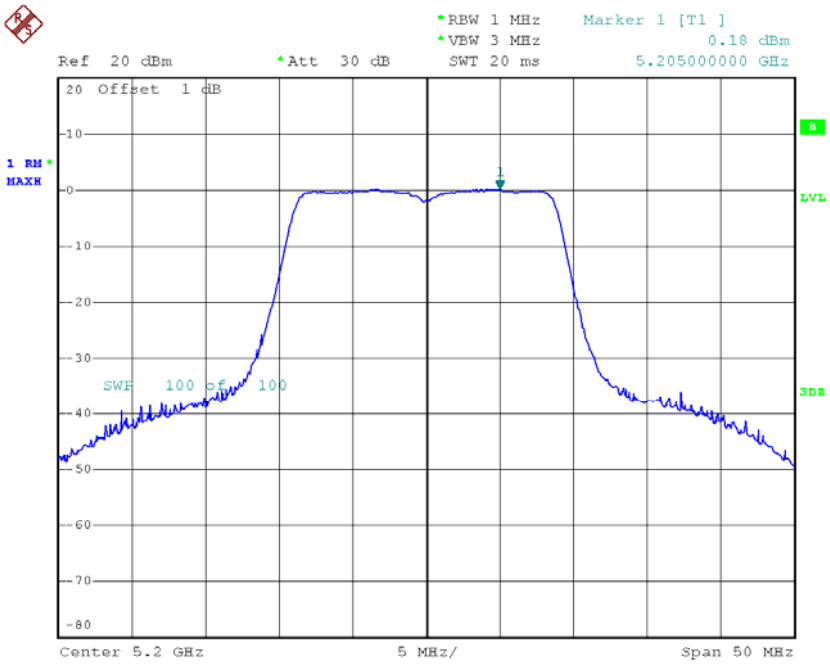
Test Mode : Band 1/TX 802.11n(20 MHz) Mode_CH13/40/48

CH36



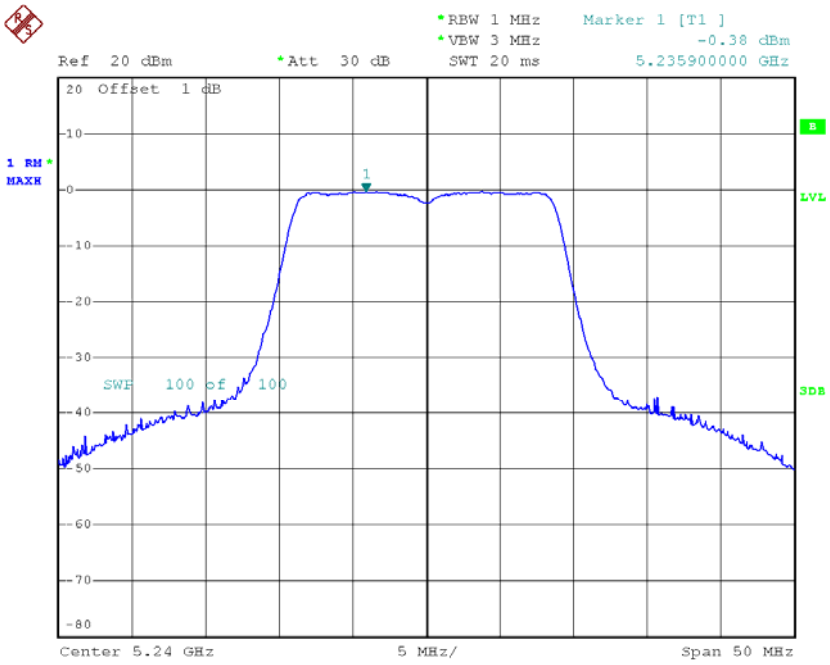
Date: 14.JUN.2014 05:49:57

CH40



Date: 14.JUN.2014 05:52:57

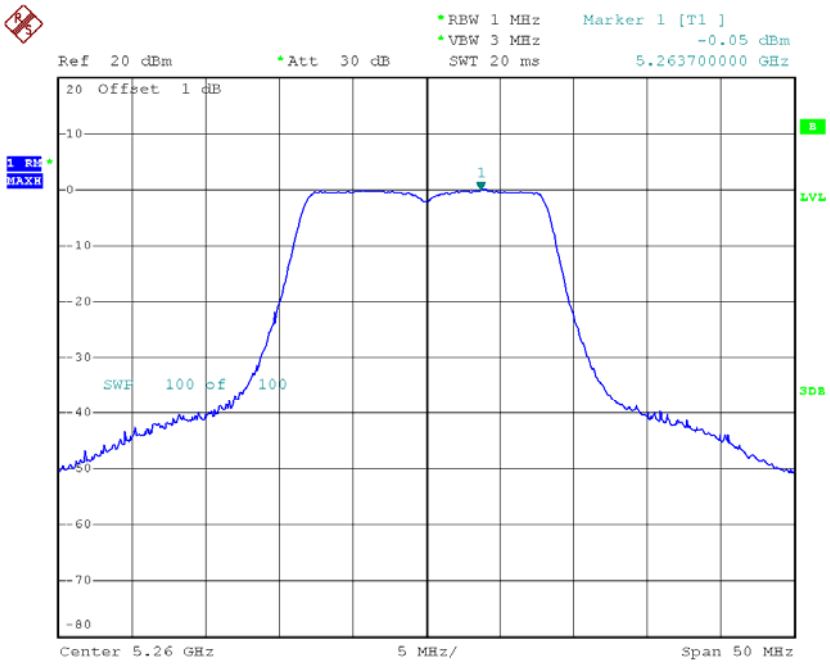
CH48



Date: 14.JUN.2014 05:54:28

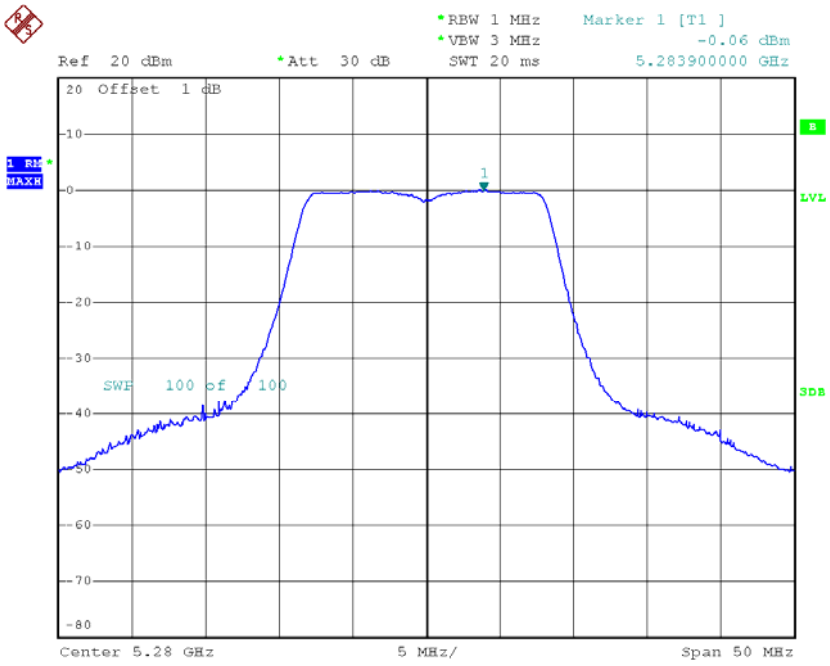
Test Mode : Band 2/TX 802.11a Mode_CH52/56/64

CH52



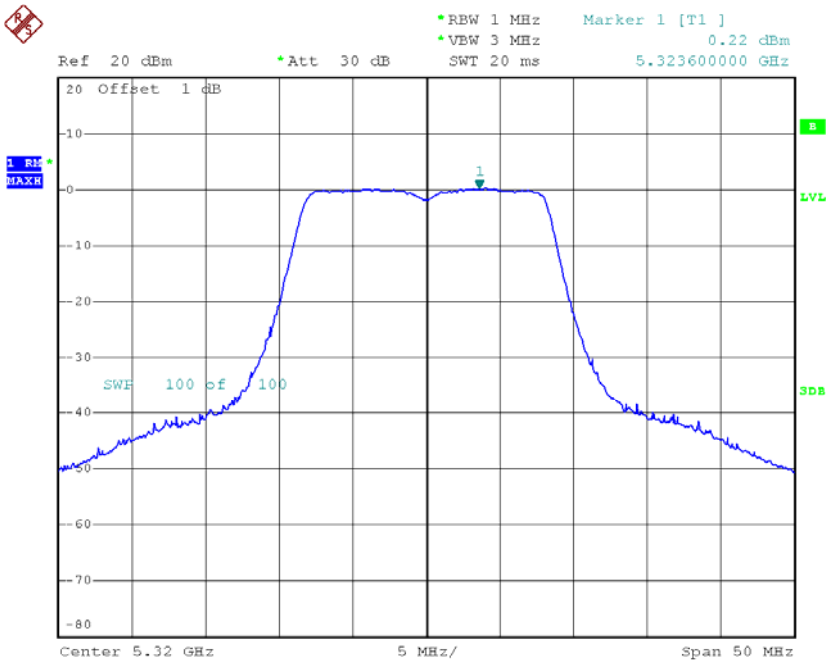
Date: 14.JUN.2014 05:29:31

CH56



Date: 14.JUN.2014 05:34:03

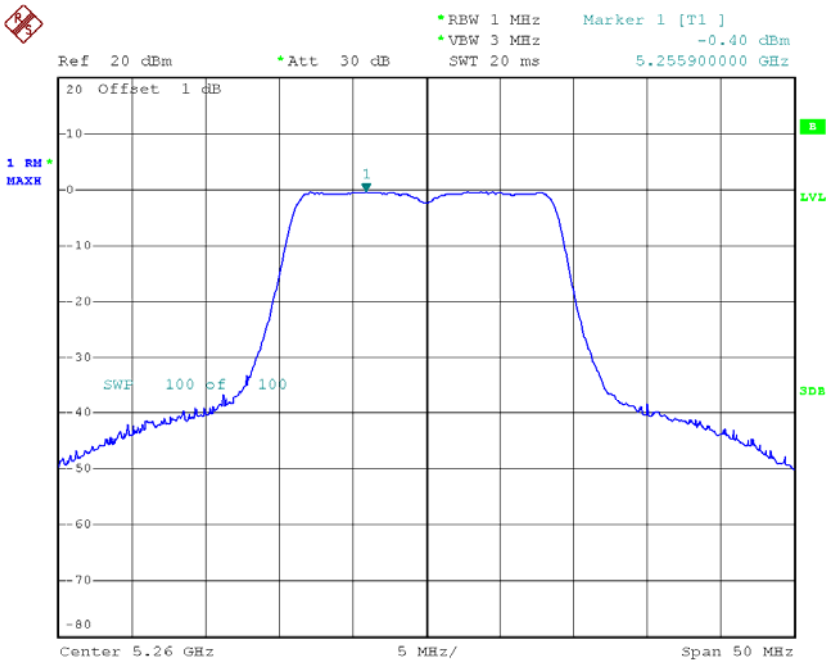
CH64



Date: 14.JUN.2014 05:35:50

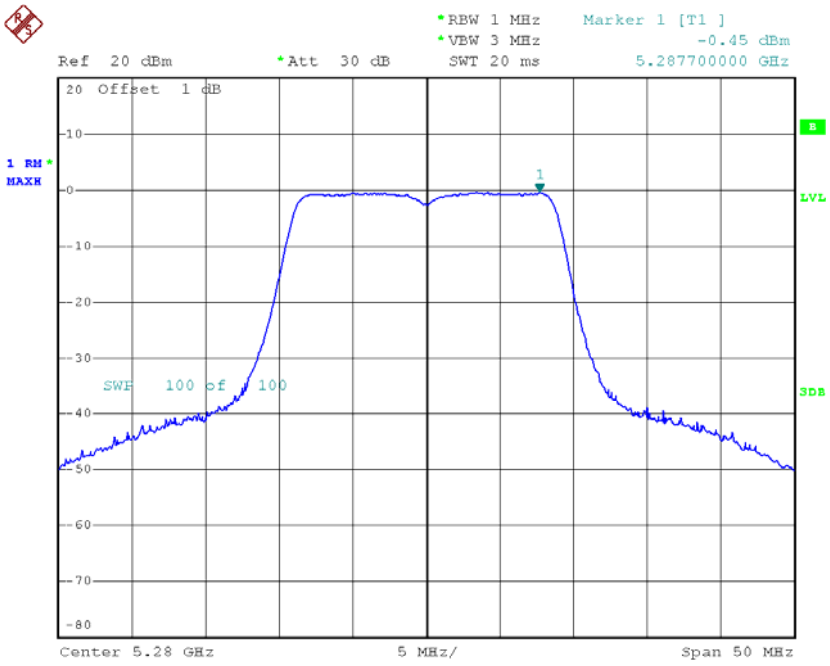
Test Mode : Band 2/TX 802.11n(20 MHz) Mode_CH52/56/64

CH52



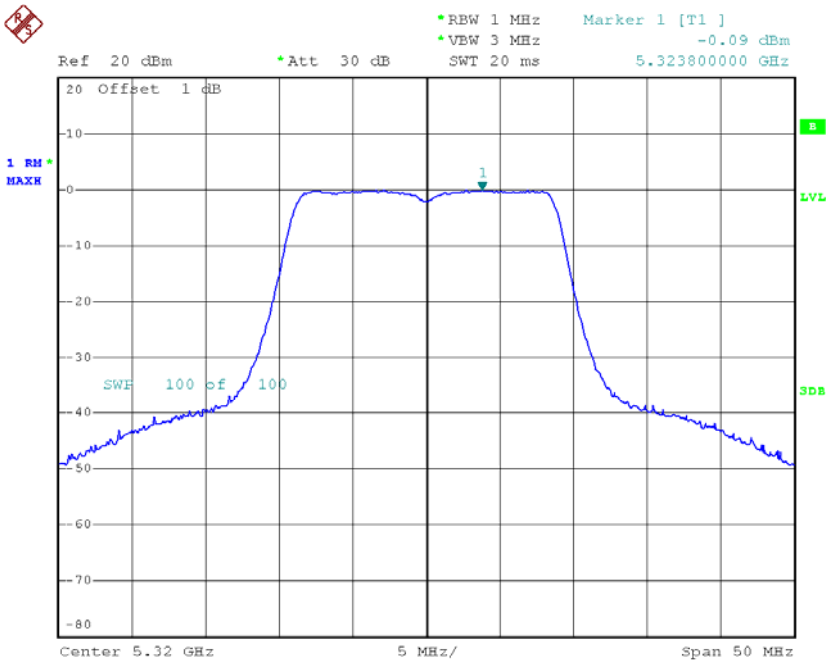
Date: 14.JUN.2014 05:58:01

CH56



Date: 14.JUN.2014 06:01:40

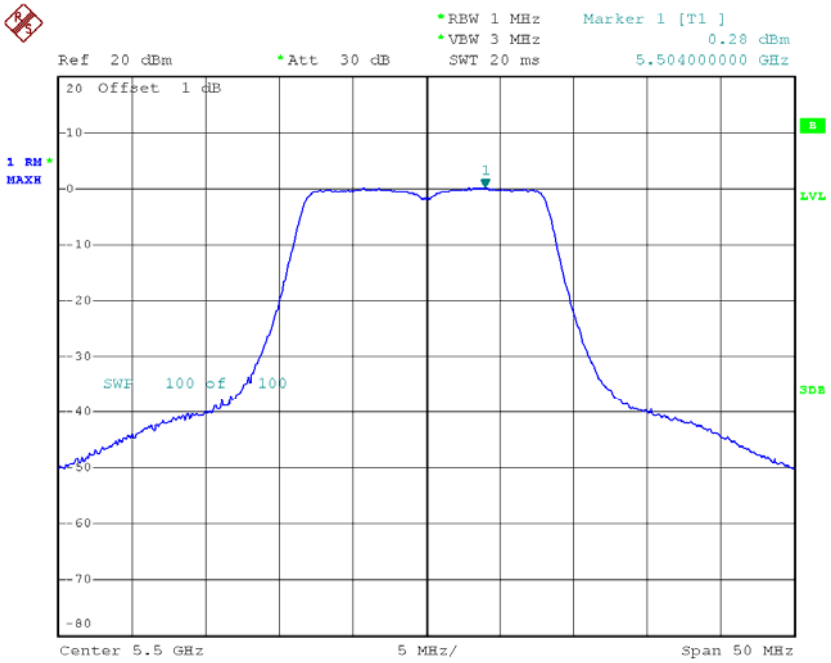
CH64



Date: 14.JUN.2014 06:03:41

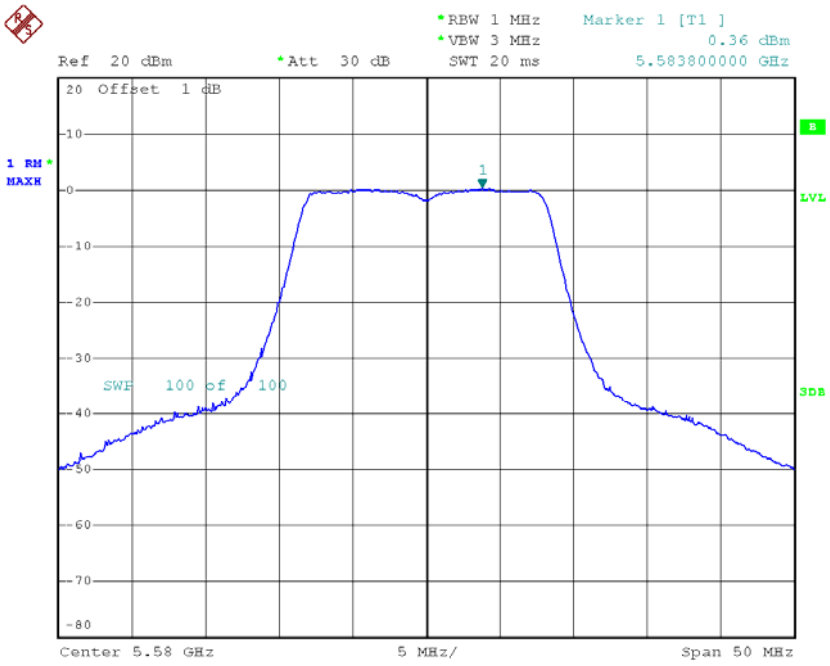
Test Mode : Band 3/TX 802.11a Mode_CH100/116/140

CH100



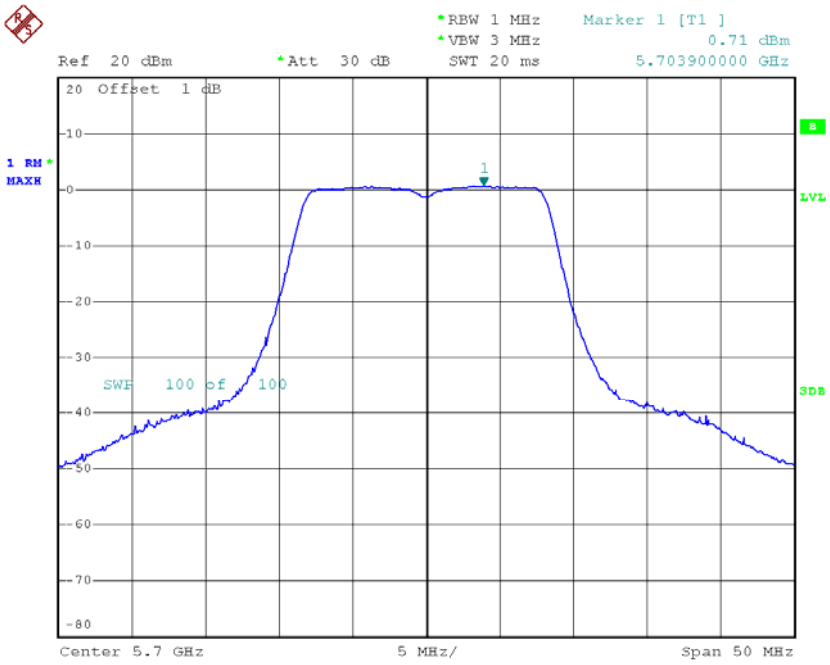
Date: 14.JUN.2014 05:40:09

CH116



Date: 14.JUN.2014 05:44:15

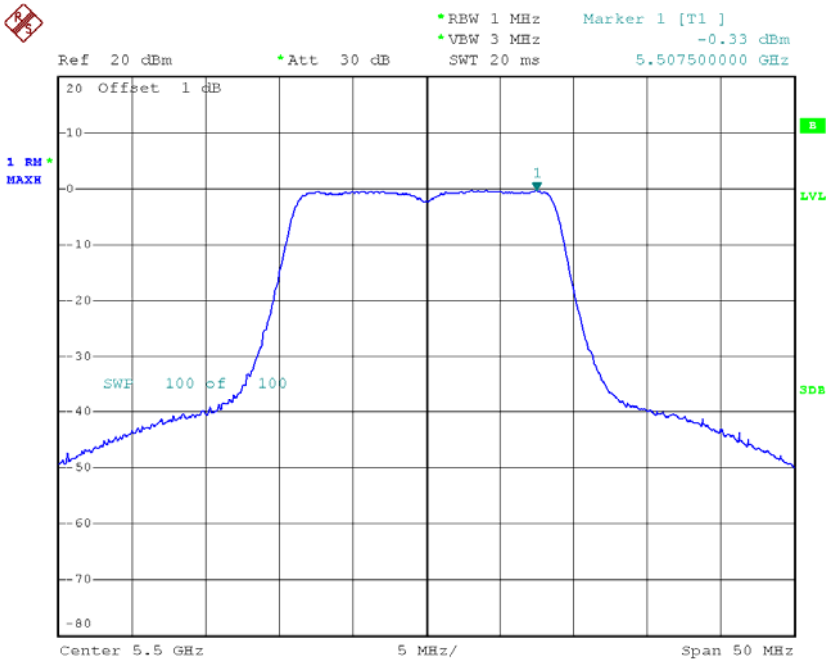
CH140



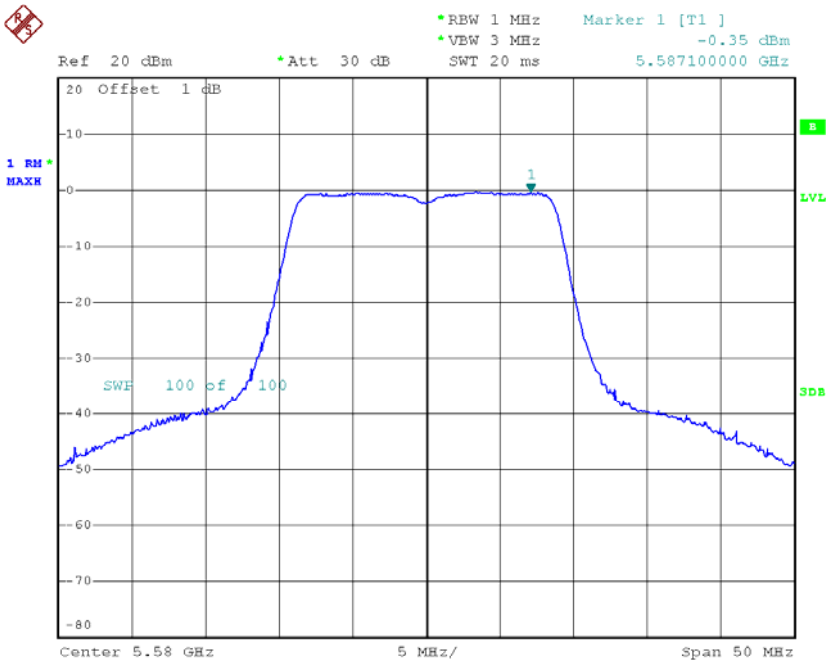
Date: 14.JUN.2014 05:46:13

Test Mode : Band 3/TX 802.11n(20 MHz) Mode_CH100/116/140

CH100

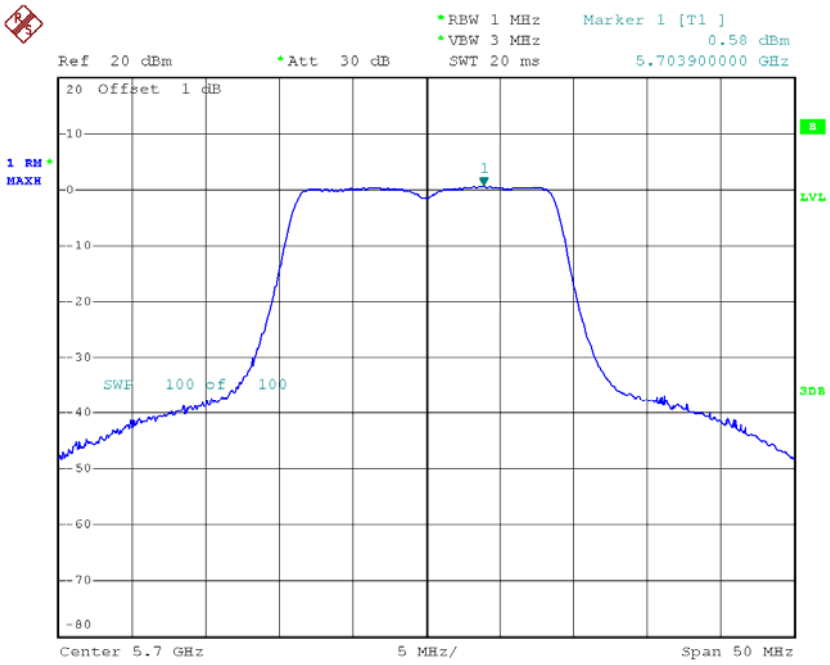


CH116



Date: 14.JUN.2014 06:11:17

CH140

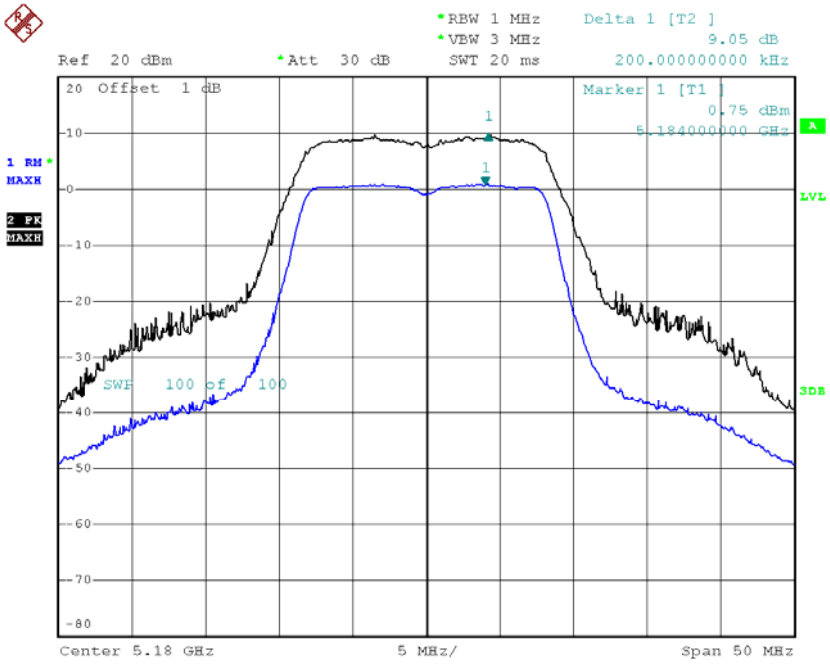


Date: 14.JUN.2014 06:15:47

ATTACHMENT I – PEAK EXCURSION

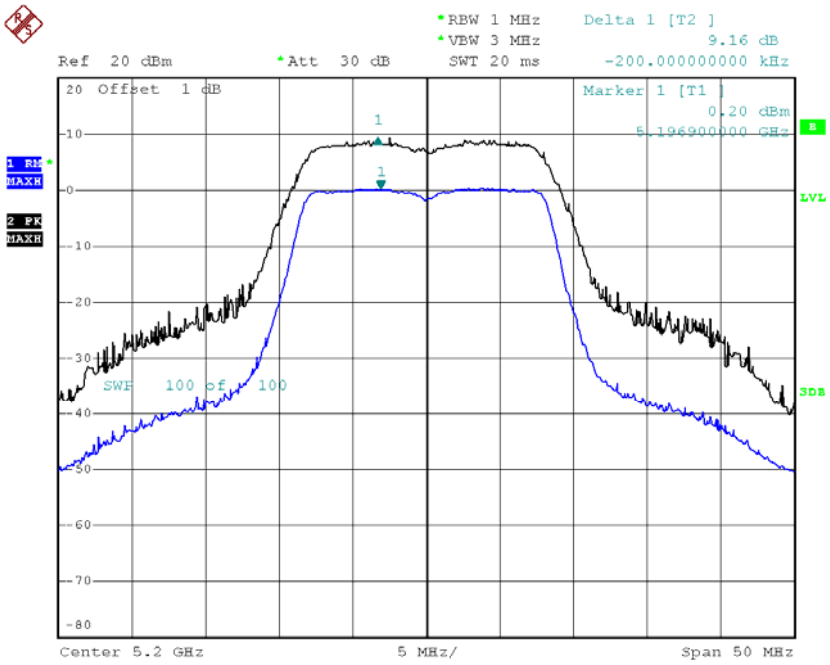
Test Mode : Band 1/TX 802.11a Mode_CH36/40/48

CH36



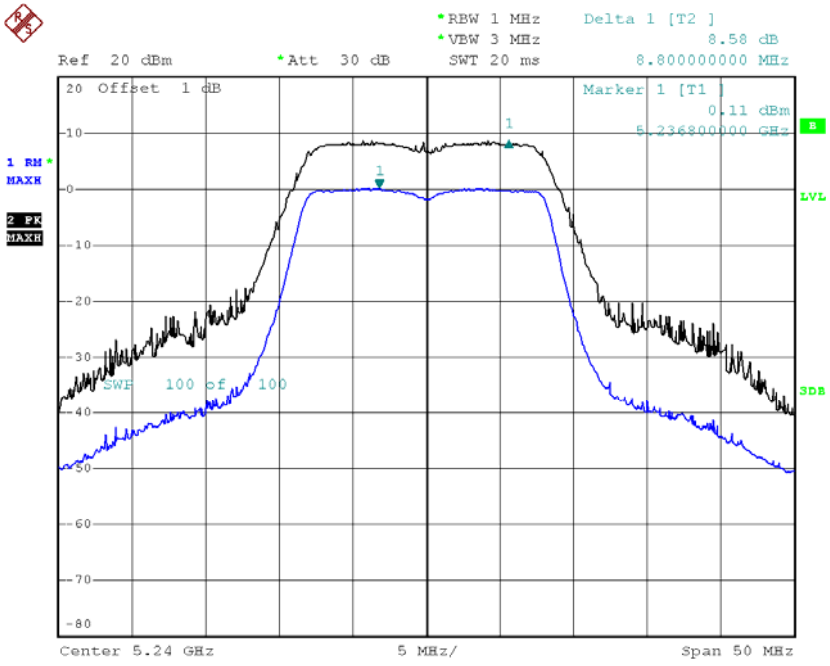
Date: 13.JUN.2014 22:21:22

CH40



Date: 14.JUN.2014 05:23:09

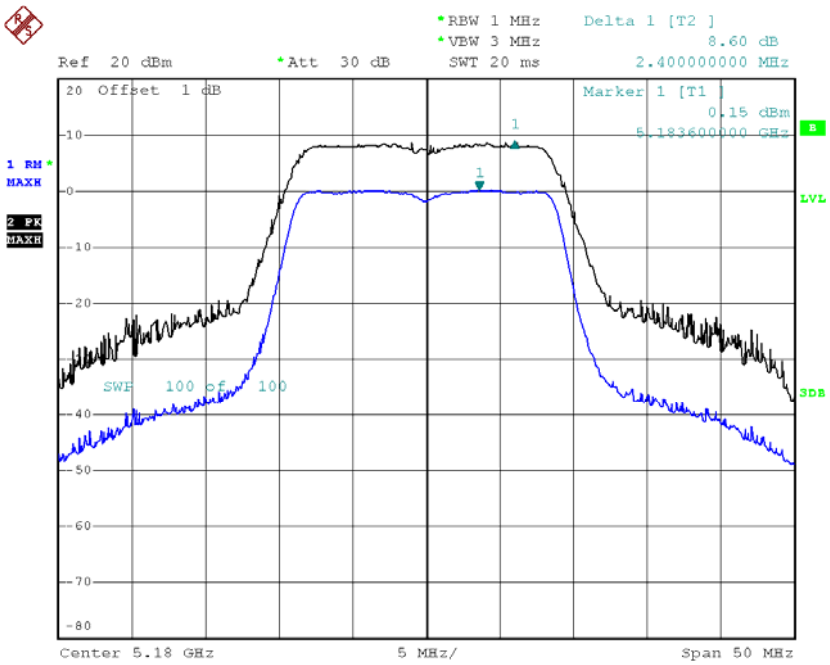
CH48



Date: 14.JUN.2014 05:25:15

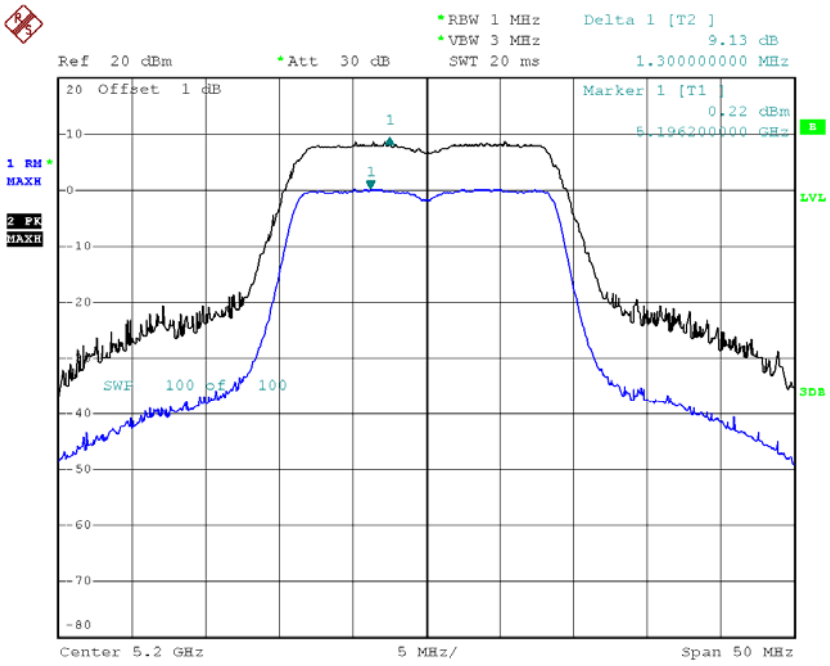
Test Mode : Band 1/TX 802.11n(20 MHz) Mode_CH13/40/48

CH36



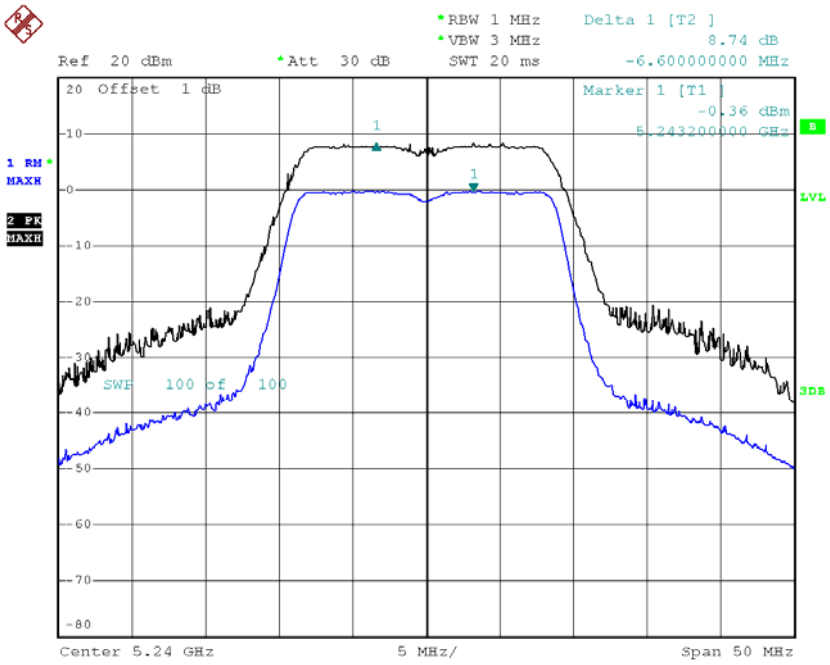
Date: 14.JUN.2014 05:50:17

CH40



Date: 14.JUN.2014 05:52:39

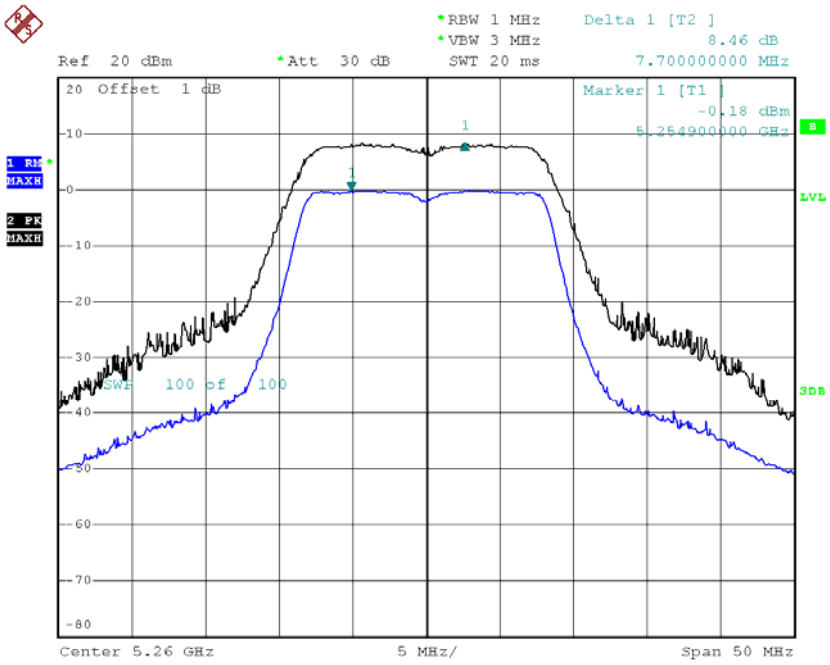
CH48



Date: 14.JUN.2014 05:54:56

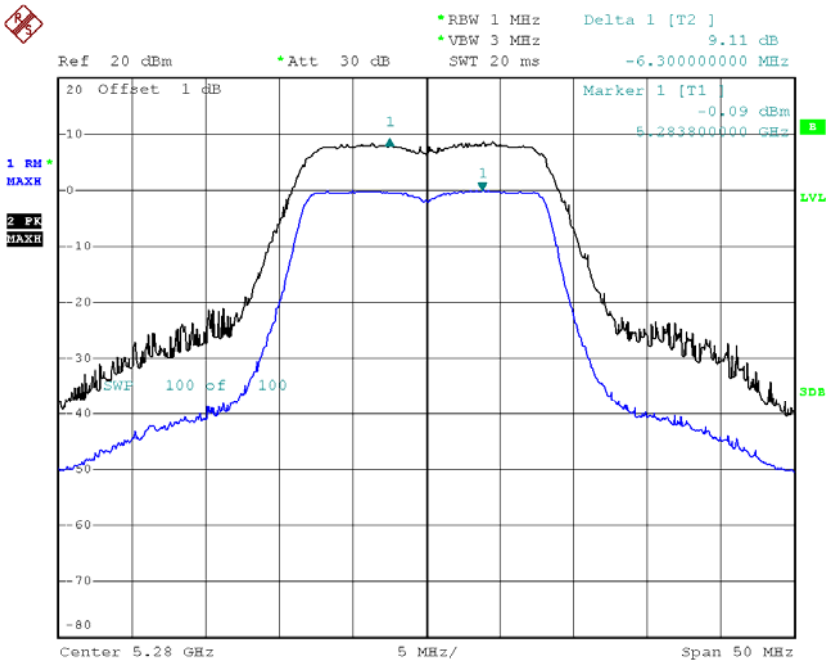
Test Mode : Band 2/TX 802.11a Mode_CH52/56/64

CH52



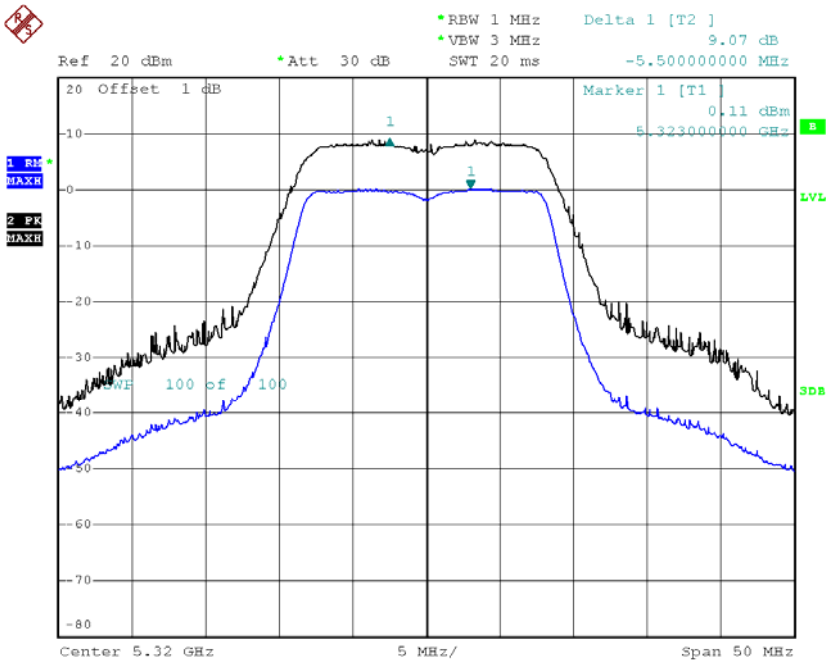
Date: 14.JUN.2014 05:29:52

CH56



Date: 14.JUN.2014 05:33:37

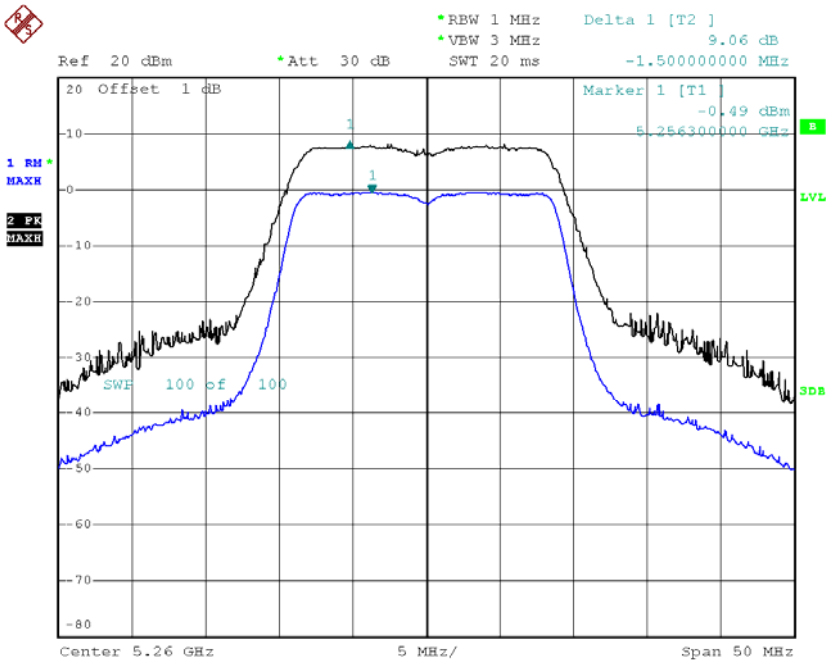
CH64



Date: 14.JUN.2014 05:36:18

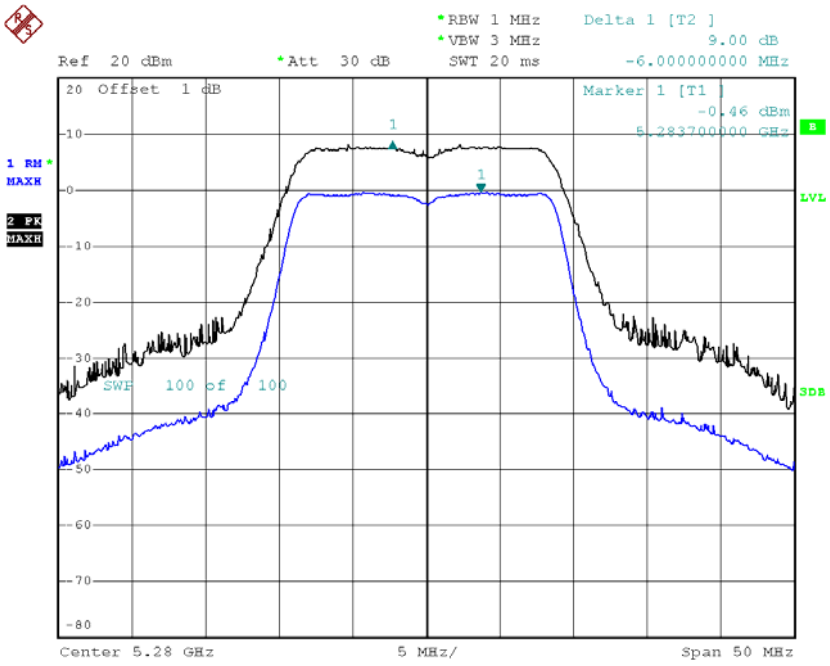
Test Mode : Band 2/TX 802.11n(20 MHz) Mode_CH52/56/64

CH52



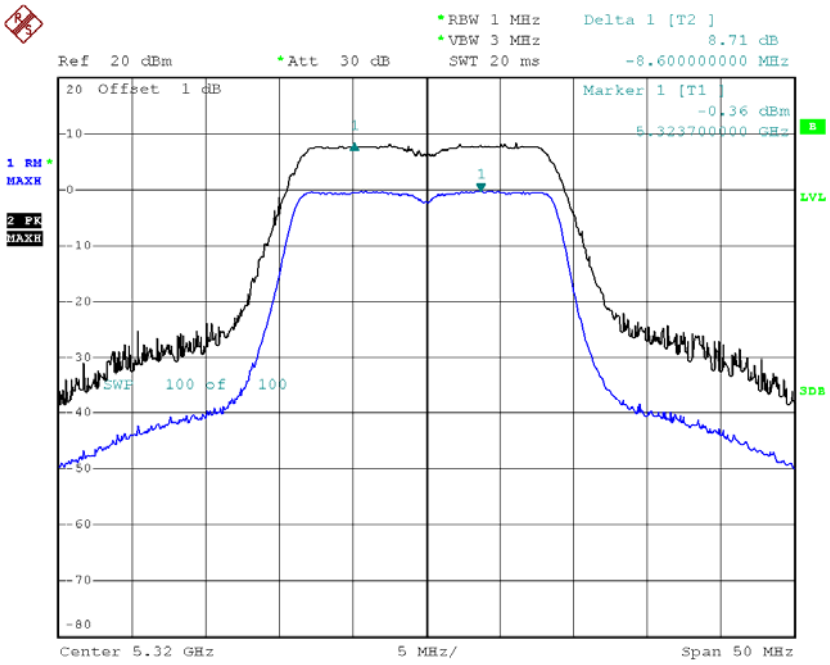
Date: 14.JUN.2014 05:57:43

CH56



Date: 14.JUN.2014 06:02:03

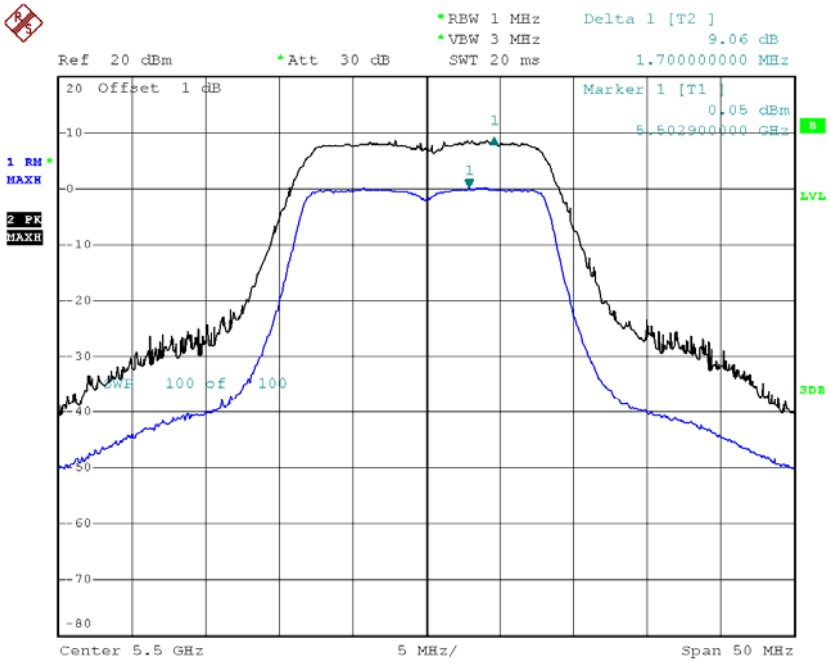
CH64



Date: 14.JUN.2014 06:03:19

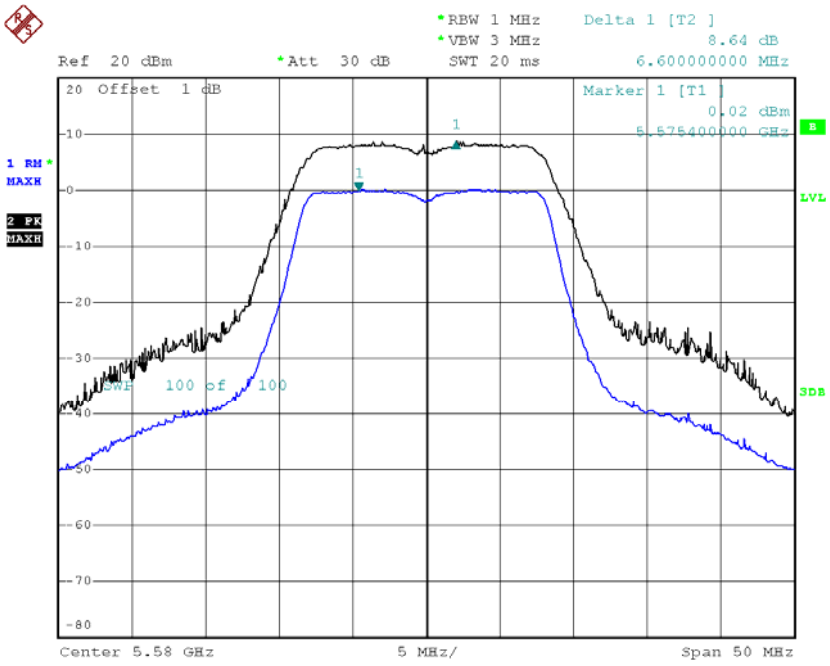
Test Mode : Band 3/TX 802.11a Mode_CH100/116/140

CH100



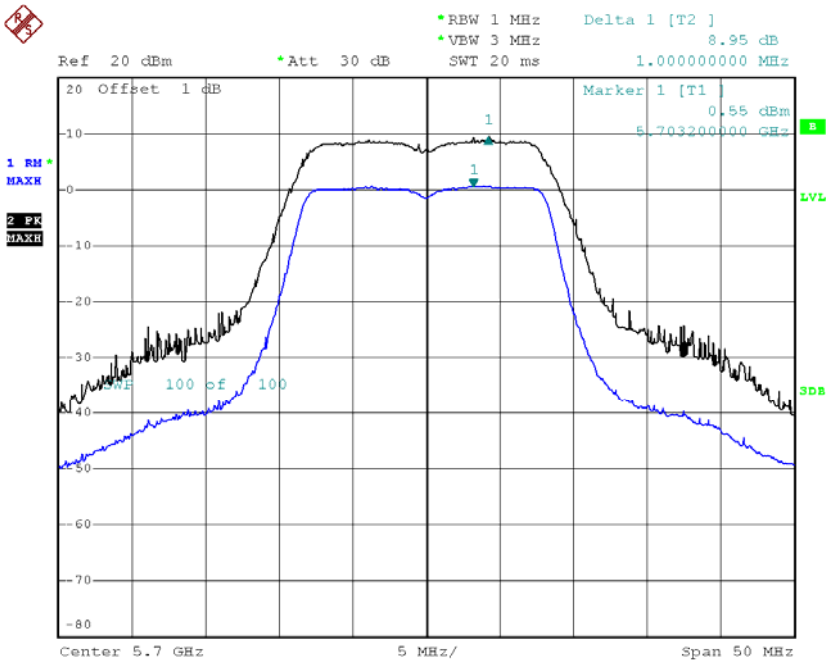
Date: 14.JUN.2014 05:40:00

CH116



Date: 14.JUN.2014 05:44:42

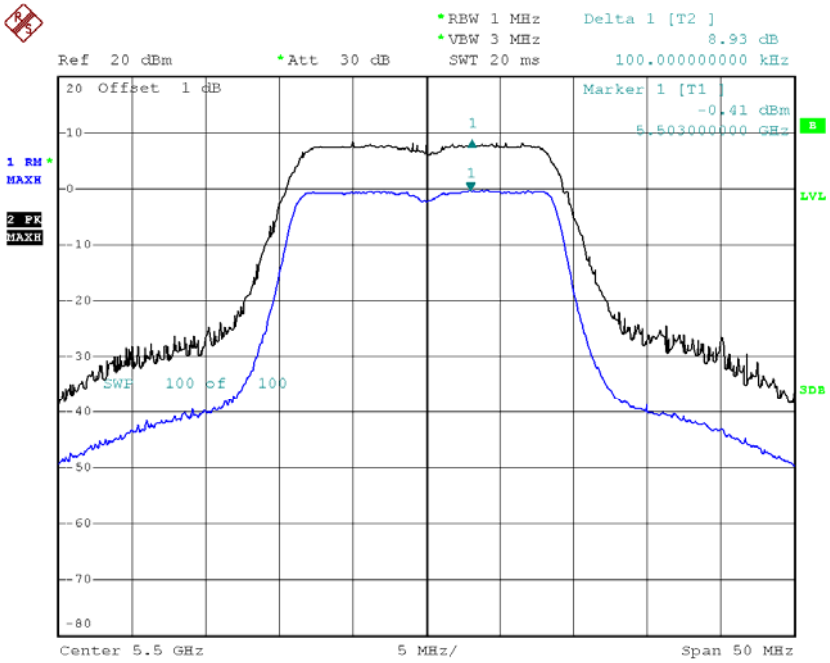
CH140



Date: 14.JUN.2014 05:46:03

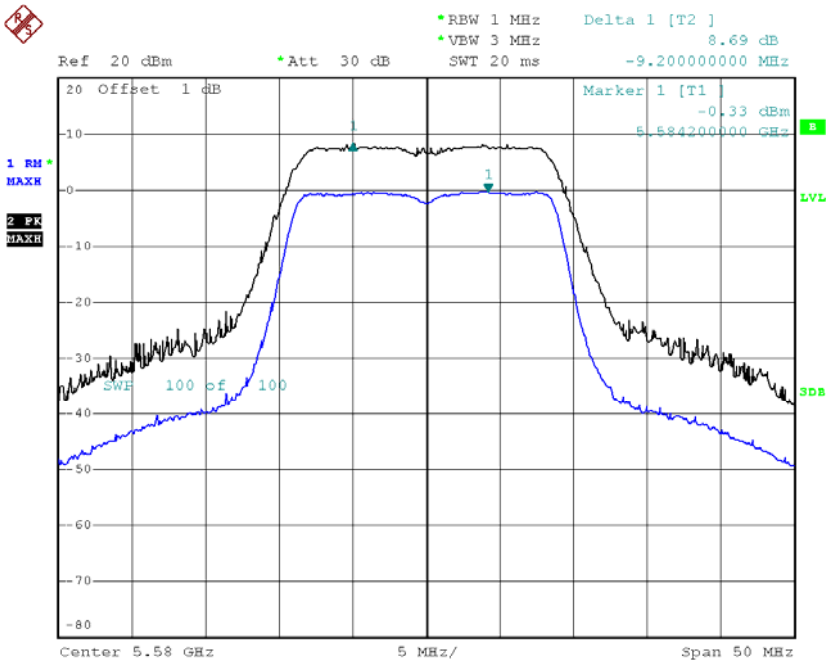
Test Mode : Band 3/TX 802.11n(20 MHz) Mode_CH100/116/140

CH100



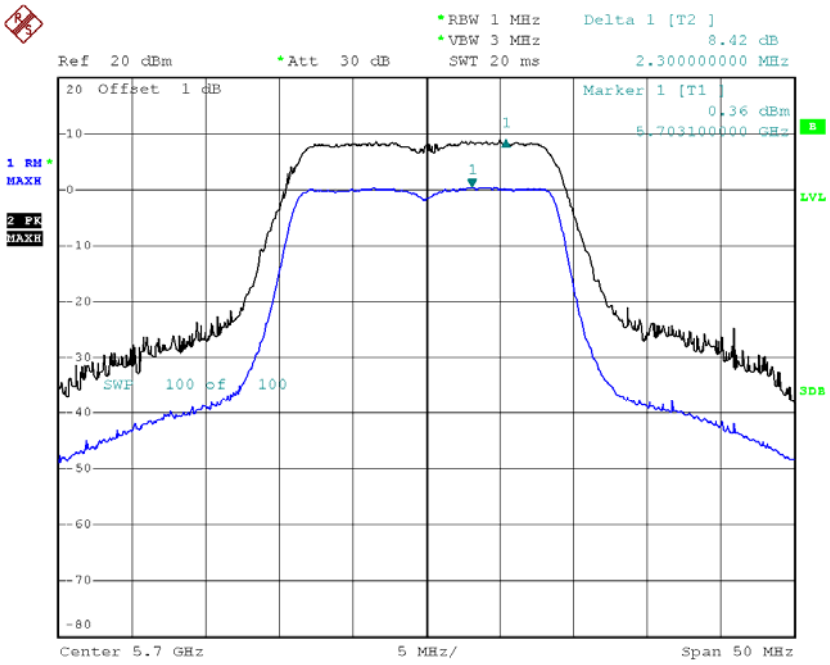
Date: 14.JUN.2014 06:08:34

CH116



Date: 14.JUN.2014 06:11:07

CH140



Date: 14.JUN.2014 06:16:02

ATTACHMENT J – FREQUENCY STABILITY

Test Mode :	Band 1

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	5180
132	5180.000000
120	5179.985000
118	5179.984000
Max. Deviation (MHz)	0.016000
Max. Deviation (ppm)	3.09

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(℃)	5180
0	5179.984000
10	5179.989000
20	5179.986000
30	5179.983000
40	5179.986000
50	5179.982000
55	5179.986000
Max. Deviation (MHz)	0.018000
Max. Deviation (ppm)	3.47

Test Mode :	Band 2

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	5320
132	5319.986000
120	5319.983000
118	5319.987000
Max. Deviation (MHz)	0.017000
Max. Deviation (ppm)	3.20

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(℃)	5320
-10	5319.988000
0	5319.986000
10	5319.982000
20	5319.987000
30	5319.988000
40	5319.984000
50	5319.985000
55	5319.984000
Max. Deviation (MHz)	0.018000
Max. Deviation (ppm)	3.3835

Test Mode :	Band 3

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	5700
132	5699.989000
120	5699.982000
118	5699.984000
Max. Deviation (MHz)	0.018000
Max. Deviation (ppm)	3.16

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(℃)	5700
-10	5699.986000
0	5699.984000
10	5699.987000
20	5699.988000
30	5699.987000
40	5699.983000
50	5699.981000
55	5699.980000
Max. Deviation (MHz)	0.020000
Max. Deviation (ppm)	3.5088