

FCC Radio Test Report

FCC ID: 2AFPL-PE3020-W5

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

Project No. : 1508C167
Equipment : IP Camera
Model Name : PE3020-W5, PE3010-W5, PE3013-W5,
PE2010L-W5, PE2013L-W5, PE2020L-W5,
PA3010-SW5, PA3013-SW5, PA3020-SW5,
PD1510L-W5, PD1513L-W5, PD1520L-W5,
PJ2010-W5, PJ2013-W5, PJ2020-W5, PJ4010-W5,
PJ4013-W5, PJ4020-W5, PE3010W5, PE3013W5,
PE3020W5, TC-WNK-0420-CAMERA,
TC-WNK-0820-CAMERA
Applicant : Guangzhou Juan Optical & Electronical Tech Joint
Stock Co.,LTD
Address : NO.9, street 3, HengLing industrial zone, Tangdong,
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Date of Receipt : Apr. 19, 2015
Date of Test : Apr. 19, 2015 ~ Sep. 10, 2015
Issued Date : Sep. 11, 2015
Tested by : BTL Inc.

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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.**

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

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REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FCCP-1-1508C167	Original Issue.	Sep. 11, 2015

1. CERTIFICATION

Equipment : IP Camera
Brand Name : JUAN
Model Name : PE3020-W5, PE3010-W5, PE3013-W5, PE2010L-W5, PE2013L-W5,
PE2020L-W5, PA3010-SW5, PA3013-SW5, PA3020-SW5, PD1510L-W5,
PD1513L-W5, PD1520L-W5, PJ2010-W5, PJ2013-W5, PJ2020-W5,
PJ4010-W5, PJ4013-W5, PJ4020-W5, PE3010W5, PE3013W5, PE3020W5,
TC-WNK-0420-CAMERA, TC-WNK-0820-CAMERA
Applicant : Guangzhou Juan Optical & Electronical Tech Joint Stock Co.,LTD
Manufacturer : Guangzhou Juan Optical & Electronical Tech Joint Stock Co.,LTD
Address : NO.9, street 3, HengLing industrial zone, Tangdong, tianhe district,
Guangzhou, China
Date of Test : Apr. 19, 2015 ~ Sep. 10, 2015
Test Sample : ENGINEERING SAMPLE
Standard(s) : FCC Part15, Subpart E(15.407) / ANSI C63.10-2013

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCCP-1-1508C167) 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).

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC Part15, Subpart E			
Standard(s) Section	Test Item	Judgment	Remark
FCC			
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)	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) Test was performed in accordance with method of KDB 789033 D02 v01.

2.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No.3,Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.

BTL's test firm number for FCC: 319330

2.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2 .The BTL measurement uncertainty is less than the CISPR 16-4-2 $U_{\text{cisp}}^{\text{r}}$ requirement.

The reported uncertainty of measurement $y \pm U$, where expanded 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	2.32	

B. Radiated Measurement:

Test Site	Method	Measurement Frequency Range	Ant.	U,(dB)	Note
DG-CB03 (3m)	CISPR	9kHz ~ 30MHz	V	3.79	
		9kHz ~ 30MHz	H	3.57	
		30MHz ~ 200MHz	V	3.82	
		30MHz ~ 200MHz	H	3.78	
		200MHz ~ 1,000MHz	V	4.10	
		200MHz ~ 1,000MHz	H	4.06	

Test Site	Method	Measurement Frequency Range	Ant.	U,(dB)	Note
DG-CB03 (3m)	CISPR	1GHz ~ 18GHz	V	3.12	
		1GHz ~ 18GHz	H	3.68	
		18GHz ~ 40GHz	V	4.15	
		18GHz ~ 40GHz	H	4.14	

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	IP Camera	
Brand Name	JUAN	
Model Name	PE3020-W5, PE3010-W5, PE3013-W5, PE2010L-W5, PE2013L-W5, PE2020L-W5, PA3010-SW5, PA3013-SW5, PA3020-SW5, PD1510L-W5, PD1513L-W5, PD1520L-W5, PJ2010-W5, PJ2013-W5, PJ2020-W5, PJ4010-W5, PJ4013-W5, PJ4020-W5, PE3010W5, PE3013W5, PE3020W5, TC-WNK-0420-CAMERA, TC-WNK-0820-CAMERA	
Mode Different	All of products have the same circuit schematic, construction and critical components except, products number due to marketing purpose. Only one of the product PE3020-W5 was test in this report.	
Product Description	Operation Frequency	UNII-1: 5150-5250MHz
	Modulation Type	OFDM
	Bit Rate of Transmitter	150Mbps
	Output Power (Max.)for UNII-1	802.11a: 5.25 dBm 802.11n (20M): 5.11 dBm
Power Source	DC voltage supplied from AC Adapter. (Support Units)	
Power Rating	DC 12V 1A	

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 20MHz			
Band 1			
Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	44	5220
40	5200	48	5240

3. Table for Filed Antenna:

Ant.	Manufacturer	Model Name	Antenna Type	Connector	Gain (dBi)	Note
1	Dongguan RF electronic technology Co.,LTD	RF21S00049A	Dipole	SMA	2.77	5G

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 A Mode / CH36, CH40, CH48 (UNII-1)
Mode 2	TX N20 Mode / CH36, CH40, CH48 (UNII-1)
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 A Mode / CH36, CH40, CH48 (UNII-1)
Mode 2	TX N20 Mode / CH36, CH40, CH48 (UNII-1)

Note:

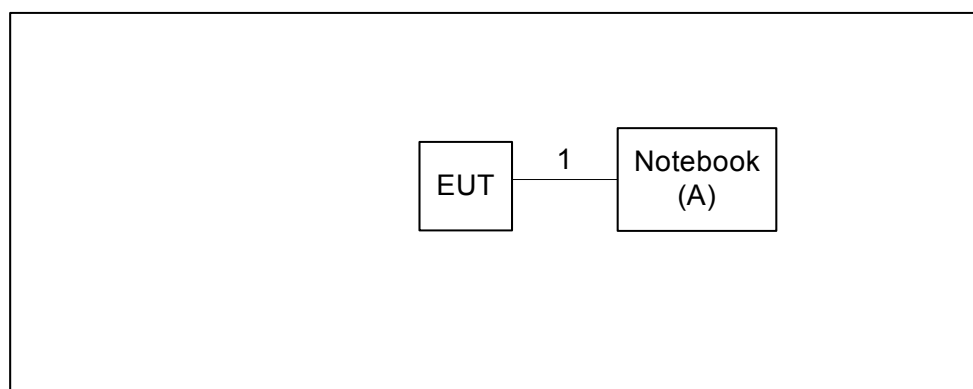
- (1) For radiated below 1GHz test, the 802.11a mode is found to be the worst case and recorded.
- (2) The EUT was programmed to be in countinously transmitting mode and the transmit duty cycle is not less than 98 %.

3.3 TABLE OF PARAMETERS OF TEST 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	REALTEK		
Frequency (MHz)	5180	5200	5240
A Mode	31	31	28
N20 Mode	31	31	28

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
A	NoteBook	DELL	INSPIRON 1420	DOC	JX193A01SDC2	-

Item	Shielded Type	Ferrite Core	Length	Note
1	N/A	N/A	0.5m	Test cable

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.
- (3) The test result calculated as following:
 Measurement Value = Reading Level + Correct Factor
 Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use)
 Margin Level = Measurement Value - Limit Value

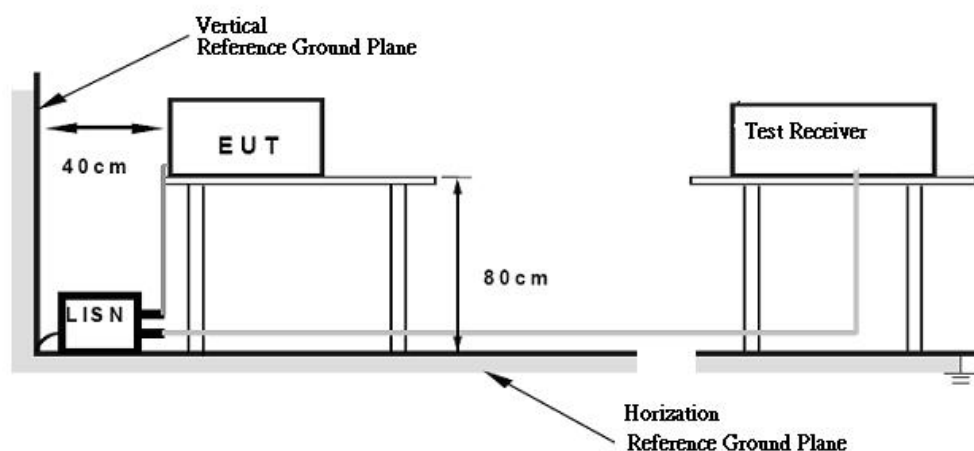
4.1.2 TEST PROCEDURE

- 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: 60% 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

In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

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

Note:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) The test result calculated as following:
 Measurement Value = Reading Level + Correct Factor
 Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use)
 Margin Level = Measurement Value - Limit Value

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
5725-5850	-27 (beyond 10MHz of the band edge)	68.3
	-17 (within 10 MHz of band edge)	78.3

Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength: $E = \frac{1000000 \sqrt{30P}}{3} \mu\text{V/m}$, where P is the eirp (Watts)

4.2.2 TEST PROCEDURE

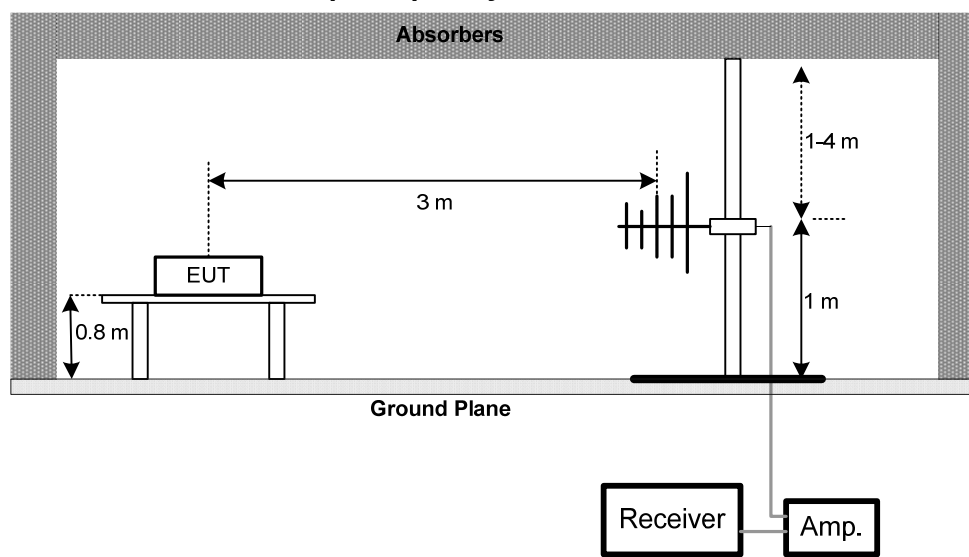
- The measuring distance of at 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- The measuring distance of at 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- The height of the equipment or of the substitution antenna shall be 0.8 m or 1.5m, 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.
- The initial step in collecting conducted emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- 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. (below 1GHz)
- All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1GHz)
- For the actual test configuration, please refer to the related Item - Block Diagram of system tested (please refer to 3.3).

4.2.3 DEVIATION FROM TEST STANDARD

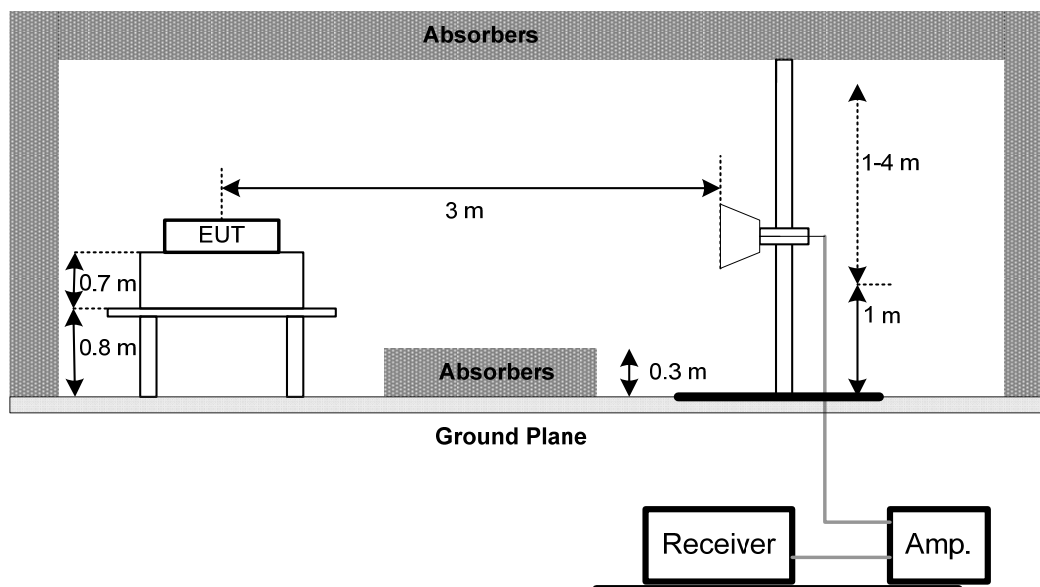
No deviation

4.2.4 TEST SETUP

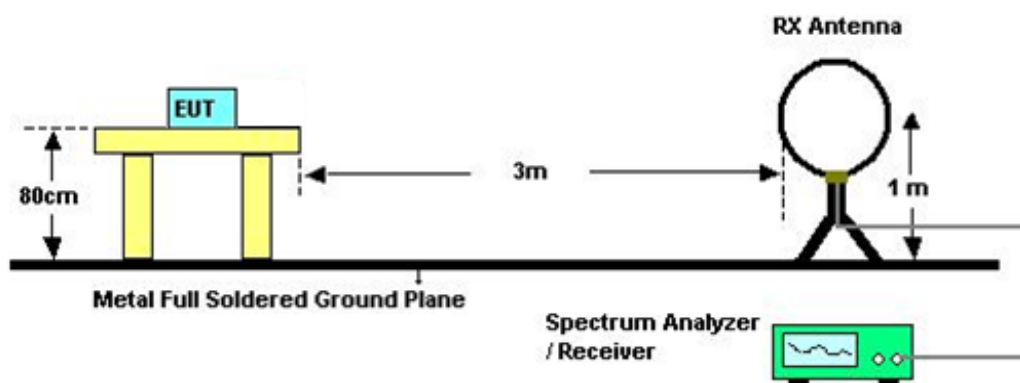
(A) Radiated Emission Test Set-Up Frequency Below 1GHz



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



(C) Radiated emissions below 30MHz



4.2.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 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: 52% Test Voltage: AC 120V/60Hz

4.2.7 TEST RESULTS (9K TO 30MHz)

Please refer to the Attachment B

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 = $40 \log (\text{specific distance} / \text{test distance})$ (dB);
- (3) Limit line = specific limits (dBuV) + distance extrapolation factor.

4.2.8 TEST RESULTS (BETWEEN 30 TO 1000 MHz)

Please refer to the Attachment C.

Remark:

- (1) All readings are Peak unless otherwise stated QP in column of 『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.
- (2) Measuring frequency range from 30MHz to 1000MHz.
- (3) If the peak scan value lower limit more than 20dB, then this signal data does not show in table.

4.2.9 TEST RESULTS (ABOVE 1000 MHz)

Please refer to the Attachment D.

Remark:

- (1) All readings are Peak unless otherwise stated AV in column of 『Note』. Peak denotes that the Peak reading compliance with the AV Limits and then AV Mode measurement didn't perform.
- (2) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission.
- (3) Data of measurement within this frequency range shown “*” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (5) EUT Orthogonal Axes:
“X” - denotes Laid on Table ; “Y” - denotes Vertical Stand ; “Z” - denotes Side Stand
- (6) 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.
- (7) No limit: This is fundamental signal, the judgment is not applicable.
For fundamental signal judgment was referred to Peak output test.

5. 26dB SPECTRUM BANDWIDTH

5.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart E			
Test Item	Limit	Frequency Range (MHz)	Result
Bandwidth	26 dB Bandwidth	5150-5250	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
RBW	300 kHz
VBW	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 4.1.5 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: 52% 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	Limit	Frequency Range (MHz)	Result
Conducted Output Power	Fixed:1 Watt (30dBm) Mobile and portable: 250mW (24dBm)	5150-5250	PASS
Note: The maximum e.i.r.p at anyelevation angle above 30 degrees as measured from the horizon must not exceed 125mW(21dBm)			

6.1.1 TEST PROCEDURE

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

b.

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

- c. Test was performed in accordance with method of KDB 789033 D02 v01.

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 4.1.5 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: 52% 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	-27dBm/MHz	5150-5250	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
RBW	1000kHz
VBW	1000kHz
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 4.1.5 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: 52% 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	Other then Mobile and portable:17dBm/MHz Mobile and portable:11dBm/MHz	5150-5250	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
RBW	= 1MHz.
VBW	≥ 3MHz.
Detector	RMS
Trace	Max Hold
Sweep Time	Auto

8.1.1 DEVIATION FROM STANDARD

No deviation.

8.1.2 TEST SETUP



8.1.3 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 Unless otherwise a special operating condition is specified in the follows during the testing.

8.1.4 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 52% Test Voltage: AC 120V/60Hz

8.1.5 TEST RESULTS

Please refer to the Attachment H.

9. FREQUENCY STABILITY MEASUREMENT

9.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart E			
Test Item	Limit	Frequency Range (MHz)	Result
Frequency Stability	Specified in the user's manual	5150-5250	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.

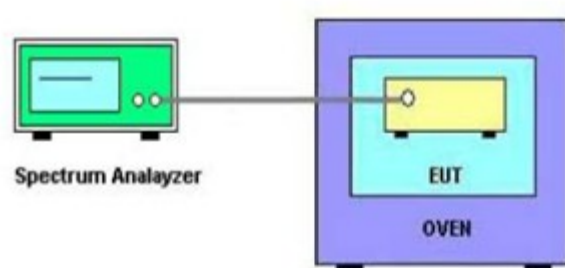
Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Entire absence of modulation emissions bandwidth
RBW	10 kHz
VBW	10 kHz
Sweep Time	Auto

- 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~40°C.

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 4.1.5 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. MEASUREMENT INSTRUMENTS LIST

Conducted Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	LISN	EMCO	3816/2	00052765	Mar. 28, 2016
2	LISN	R&S	ENV216	101447	Mar. 28, 2016
3	Test Cable	emci	RG223(9KHz-30 MHz)	C_17	Mar. 13, 2016
4	EMI Test Receiver	R&S	ESCS30	826547/022	Mar. 28, 2016
5	50Ω Terminator	SHX	TF2-3G-A	08122902	Mar. 28, 2016
6	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

Radiated Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarbeck	VULB9160	9160-3232	Mar. 28, 2016
2	Amplifier	HP	8447D	2944A09673	Nov. 17, 2015
3	Receiver	AGILENT	N9038A	MY52130039	Sep. 30, 2015
4	Test Cable	emci	LMR-400(30MHz-1GHz)	C-01	Jun. 28, 2016
5	Antenna	ETS	3115	00075789	Mar. 28, 2016
6	Amplifier	Agilent	8449B	3008A02274	Nov. 02, 2015
7	Receiver	AGILENT	N9038A	MY52130039	Sep. 30, 2015
8	Test Cable	emci	EMC104-SM-S M-10000(1GHz-26.5GHz)	C-68	Jun. 28, 2016
9	Controller	CT	SC100	N/A	N/A
10	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Mar. 28, 2016
11	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 28, 2016
12	Active Loop Antenna	R&S	HFH2-Z2	830749/020	Aug. 29, 2016
13	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

6dB Bandwidth Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 02, 2015

Peak Output Power Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	P-series Power meter	Agilent	N1911A	MY45100473	Mar. 28, 2016
2	Wireband Power sensor	Agilent	N1921A	MY51100041	Mar. 28, 2016

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. 02, 2015

Power Spectral Density Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 02, 2015

Frequency Stability Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 02, 2015
2	Const Temp. & Humidity Chamber	Giant Force	ITH-225-20-S	IAB0309-001	Dec.12, 2015

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

11. EUT TEST PHOTOS

Conducted Measurement Photos



Radiated Measurement Photos

9KHz to 30MHz



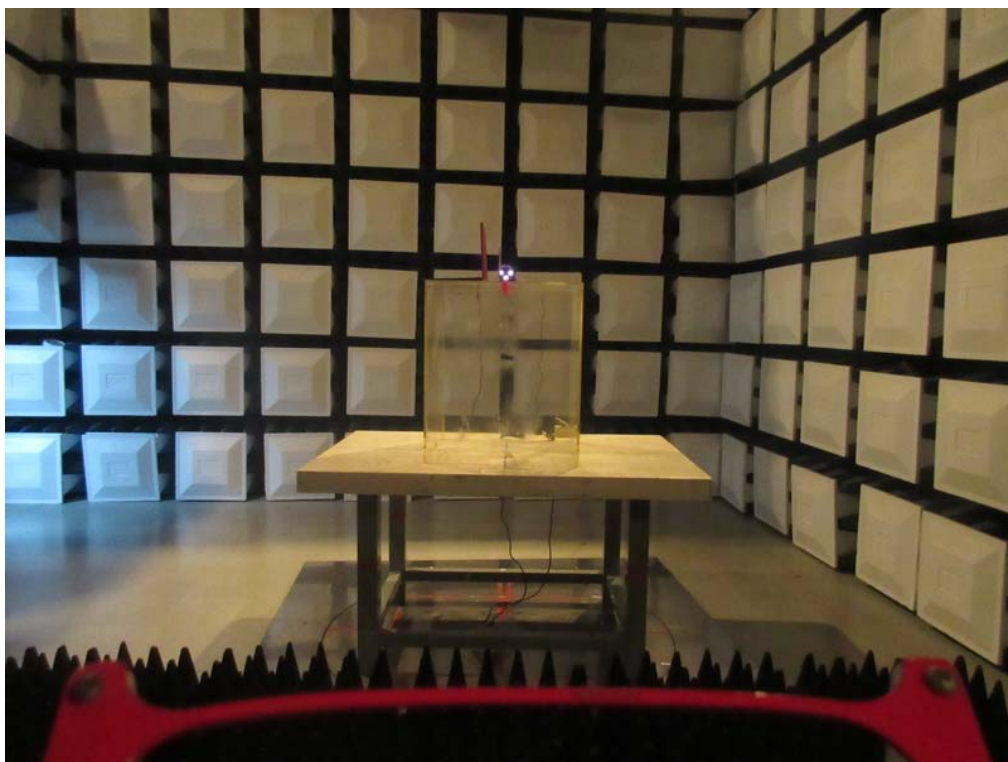
Radiated Measurement Photos

30MHz to 1000MHz



Radiated Measurement Photos

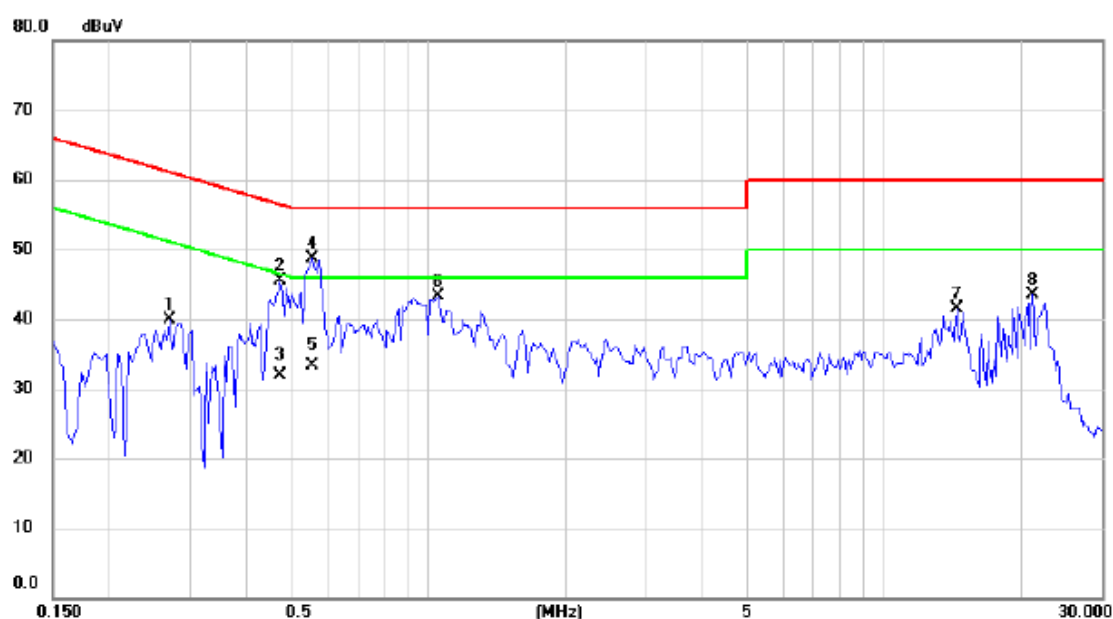
Above 1000MHz



ATTACHMENT A - CONDUCTED EMISSION

Test Mode: TX MODE

Line

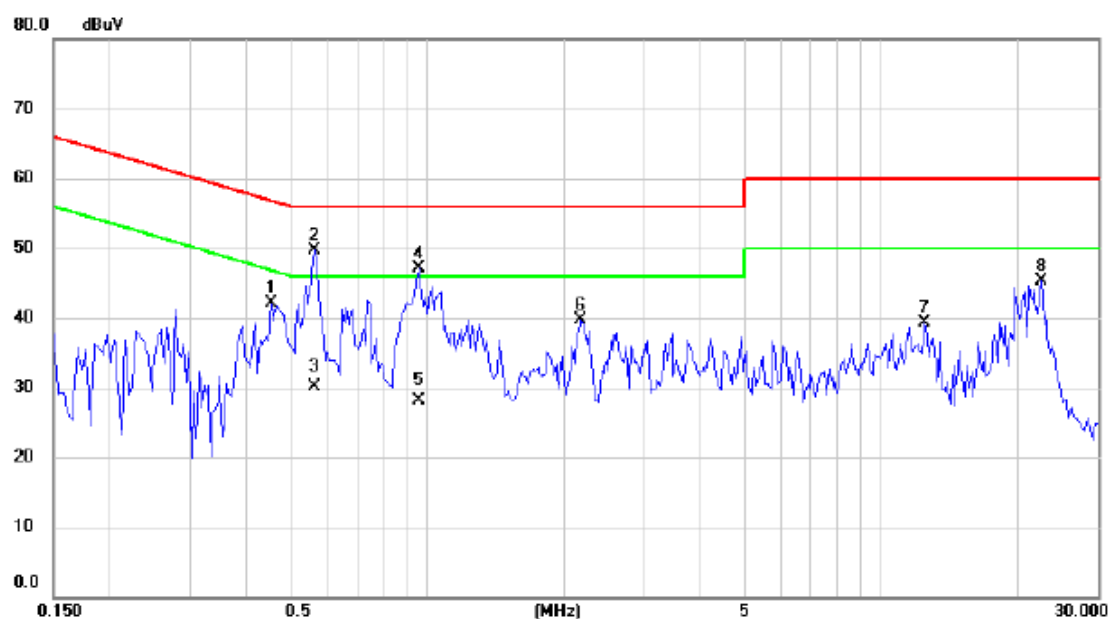


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.2711	30.22	9.62	39.84	61.08	-21.24	peak	
2		0.4742	35.87	9.68	45.55	56.44	-10.89	peak	
3		0.4742	22.20	9.68	31.88	46.44	-14.56	AVG	
4	*	0.5563	38.94	9.70	48.64	56.00	-7.36	peak	
5		0.5563	23.60	9.70	33.30	46.00	-12.70	AVG	
6		1.0484	33.51	9.80	43.31	56.00	-12.69	peak	
7		14.4102	31.59	9.82	41.41	60.00	-18.59	peak	
8		21.1328	33.56	9.88	43.44	60.00	-16.56	peak	

Note : The test result has included the cable loss.

Test Mode: TX MODE

Neutral



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	0.4547	32.49	9.55	42.04	56.79	-14.75	peak	
2 *	0.5641	40.07	9.56	49.63	56.00	-6.37	peak	
3	0.5641	20.50	9.56	30.06	46.00	-15.94	AVG	
4	0.9586	37.61	9.58	47.19	56.00	-8.81	peak	
5	0.9586	18.60	9.58	28.18	46.00	-17.82	AVG	
6	2.1812	29.94	9.73	39.67	56.00	-16.33	peak	
7	12.4922	29.36	9.88	39.24	60.00	-20.76	peak	
8	22.5820	35.41	9.99	45.40	60.00	-14.60	peak	

Note : The test result has included the cable loss.

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

Test Mode:	TX MODE
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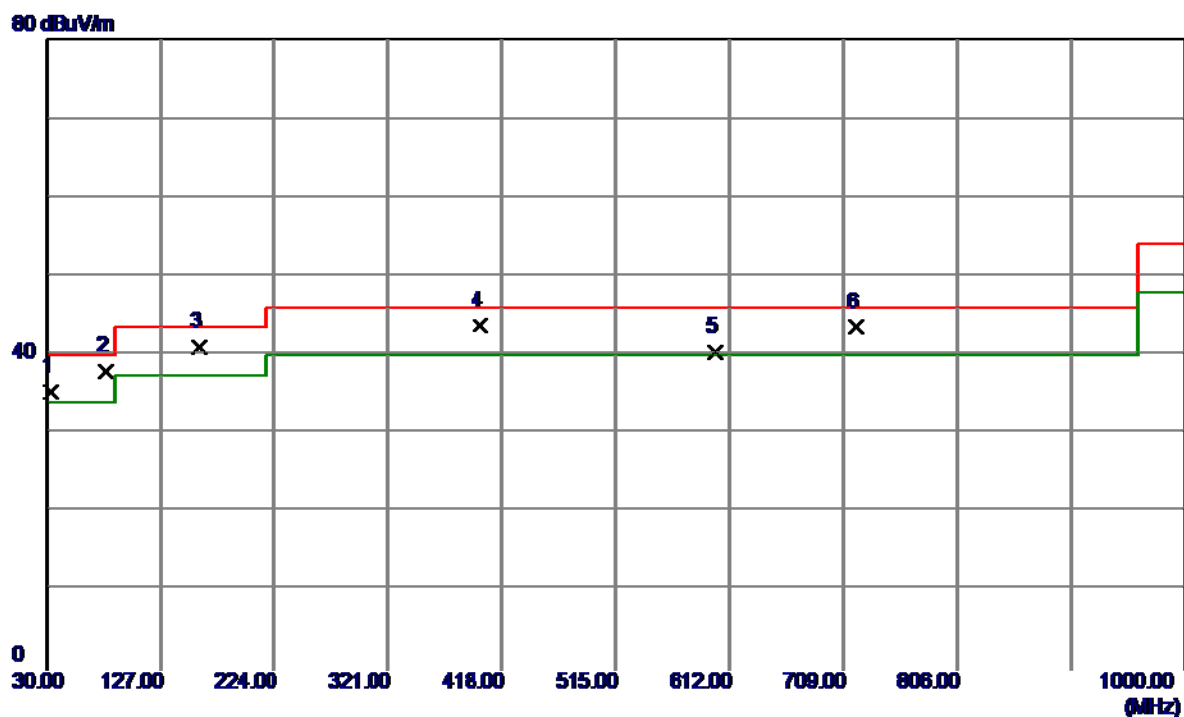
Frequency (MHz)	Ant 0°/90°	Read level dBuV/m	Factor (dB)	Measured(FS) (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Note
0.0135	0°	13.64	24.71	38.35	125.00	-86.65	AVG
0.0135	0°	14.89	24.71	39.60	145.00	-105.40	PEAK
0.0246	0°	6.35	24.01	30.36	119.79	-89.43	AVG
0.0246	0°	8.09	24.01	32.10	139.79	-107.69	PEAK
0.0408	0°	3.46	22.98	26.44	115.39	-88.95	AVG
0.0408	0°	5.79	22.98	28.77	135.39	-106.62	PEAK
0.0663	0°	1.98	22.07	24.05	111.17	-87.12	AVG
0.0663	0°	2.83	22.07	24.90	131.17	-106.27	PEAK
0.7310	0°	19.22	20.54	39.76	70.33	-30.57	QP
1.8640	0°	23.47	19.51	42.98	69.54	-26.56	QP

Frequency (MHz)	Ant 0°/90°	Read level dBuV/m	Factor (dB)	Measured(FS) (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Note
0.0147	90°	13.25	24.30	37.55	124.26	-86.71	AVG
0.0147	90°	14.97	24.30	39.27	144.26	-104.99	PEAK
0.0296	90°	7.49	23.69	31.18	118.18	-87.00	AVG
0.0296	90°	9.05	23.69	32.74	138.18	-105.44	PEAK
0.0483	90°	5.70	22.51	28.21	113.93	-85.72	AVG
0.0483	90°	6.39	22.51	28.90	133.93	-105.03	PEAK
0.0633	90°	1.63	22.13	23.76	111.58	-87.81	AVG
0.0633	90°	2.95	22.13	25.08	131.58	-106.49	PEAK
0.7455	90°	22.46	20.59	43.05	70.16	-27.11	QP
2.0322	90°	24.58	19.48	44.06	69.54	-25.48	QP

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

Test Mode: UNII-1/TX A Mode 5180MHz

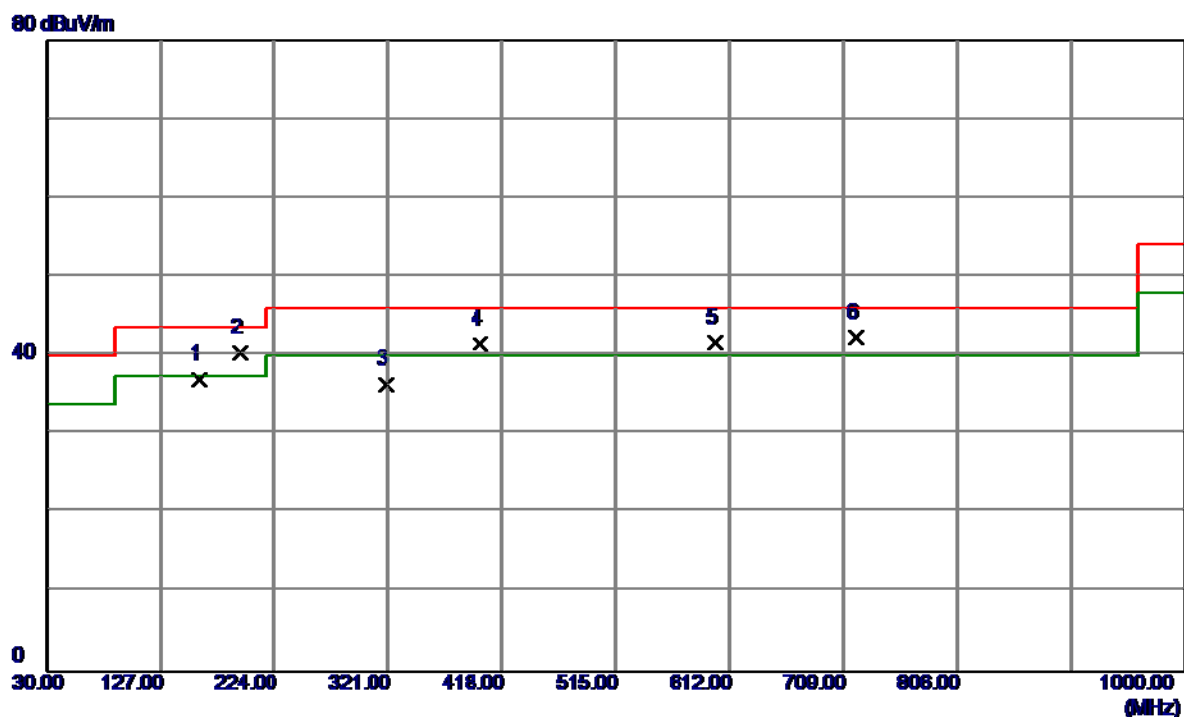
Vertical



No.	Freq.	Reading	Correct	Measure	Limit	Over		
	MHz	Level	Factor	ment			Detector	Comment
		dBuV/m	dB	dBuV/m	dBuV/m	dB		
1	32.9100	48.95	-13.61	35.34	40.00	-4.66	Peak	
2	80.4400	53.71	-15.72	37.99	40.00	-2.01	Peak	
3	159.9800	53.20	-12.26	40.94	43.50	-2.56	Peak	
4	399.5700	51.00	-7.29	43.71	46.00	-2.29	Peak	
5	600.3600	44.95	-4.62	40.33	46.00	-5.67	Peak	
6	719.6700	44.92	-1.45	43.47	46.00	-2.53	Peak	

Test Mode: UNII-1/TX A Mode 5180MHz

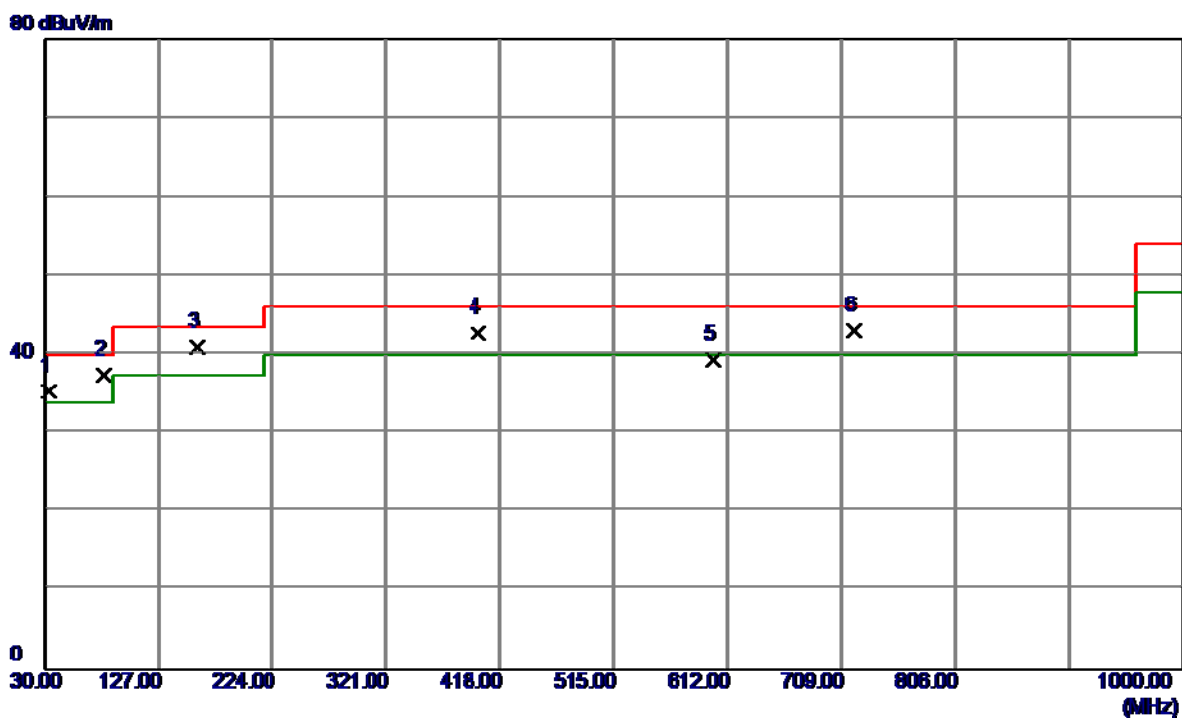
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	159.9800	49.15	-12.26	36.89	43.50	-6.61	Peak	
2	194.9000	53.60	-13.27	40.33	43.50	-3.17	Peak	
3	320.0300	46.07	-9.72	36.35	46.00	-9.65	Peak	
4	399.5700	48.77	-7.29	41.48	46.00	-4.52	Peak	
5	600.3600	46.19	-4.62	41.57	46.00	-4.43	Peak	
6	719.6700	43.73	-1.45	42.28	46.00	-3.72	Peak	

Test Mode: UNII-1/TX A Mode 5200MHz

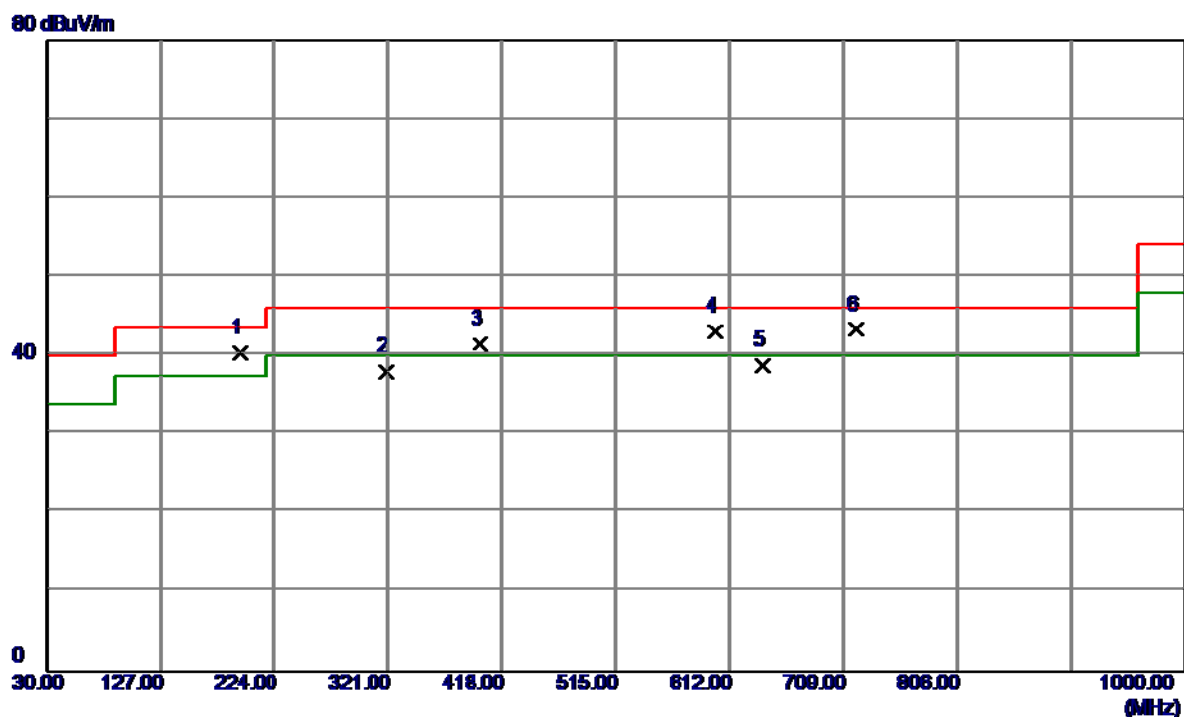
Vertical



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	32.9100	48.95	-13.61	35.34	40.00	-4.66	Peak	
2	80.4400	53.21	-15.72	37.49	40.00	-2.51	Peak	
3	159.9800	53.20	-12.26	40.94	43.50	-2.56	Peak	
4	399.5700	50.00	-7.29	42.71	46.00	-3.29	Peak	
5	600.3600	43.95	-4.62	39.33	46.00	-6.67	Peak	
6	719.6700	44.42	-1.45	42.97	46.00	-3.03	Peak	

Test Mode: UNII-1/TX A Mode 5200MHz

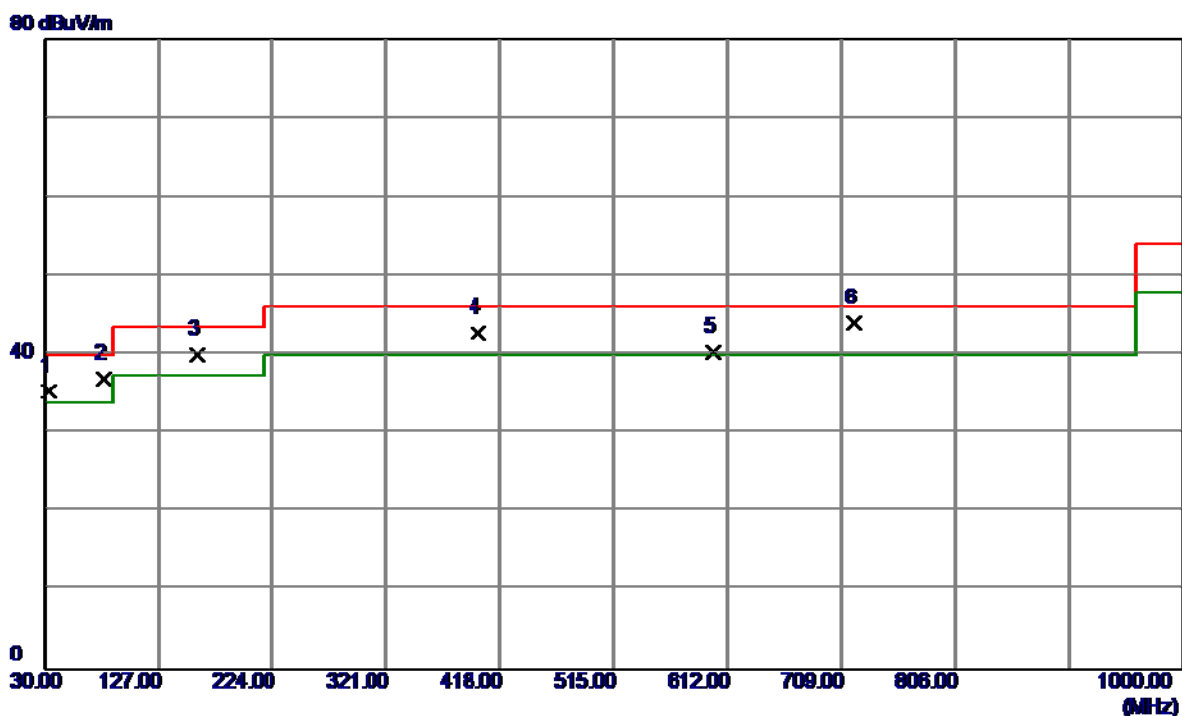
Horizontal



No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	194.9000	53.60	-13.27	40.33	43.50	-3.17	Peak	
2	320.0300	47.57	-9.72	37.85	46.00	-8.15	Peak	
3	399.5700	48.77	-7.29	41.48	46.00	-4.52	Peak	
4	600.3600	47.69	-4.62	43.07	46.00	-2.93	Peak	
5	640.1300	40.99	-2.23	38.76	46.00	-7.24	Peak	
6	719.6700	44.73	-1.45	43.28	46.00	-2.72	Peak	

Test Mode: UNII-1/TX A Mode 5240MHz

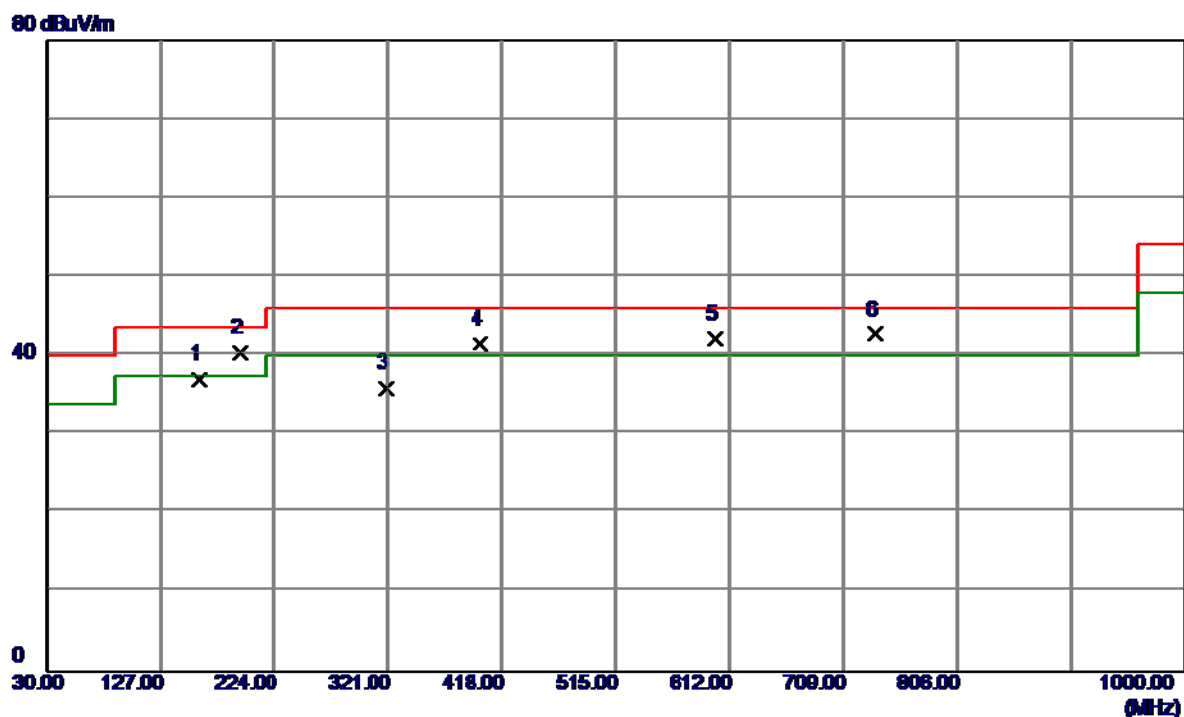
Vertical



No.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	32.9100	48.95	-13.61	35.34	40.00	-4.66	Peak	
2	80.4400	52.71	-15.72	36.99	40.00	-3.01	Peak	
3	159.9800	52.20	-12.26	39.94	43.50	-3.56	Peak	
4	399.5700	50.00	-7.29	42.71	46.00	-3.29	Peak	
5	600.3600	44.95	-4.62	40.33	46.00	-5.67	Peak	
6	719.6700	45.42	-1.45	43.97	46.00	-2.03	Peak	

Test Mode: UNII-1/TX A Mode 5240MHz

Horizontal

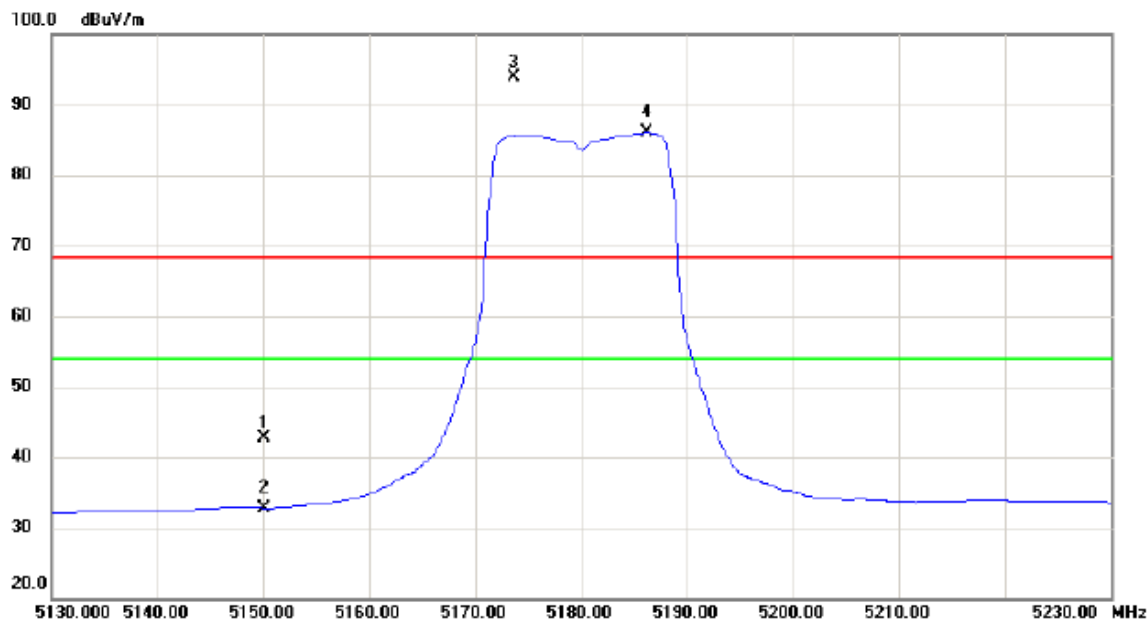


No.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	159.9800	49.15	-12.26	36.89	43.50	-6.61	Peak	
2	194.9000	53.60	-13.27	40.33	43.50	-3.17	Peak	
3	320.0300	45.57	-9.72	35.85	46.00	-10.15	Peak	
4	399.5700	48.77	-7.29	41.48	46.00	-4.52	Peak	
5	600.3600	46.69	-4.62	42.07	46.00	-3.93	Peak	
6	736.1599	44.07	-1.43	42.64	46.00	-3.36	Peak	

ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX A Mode 5180MHz

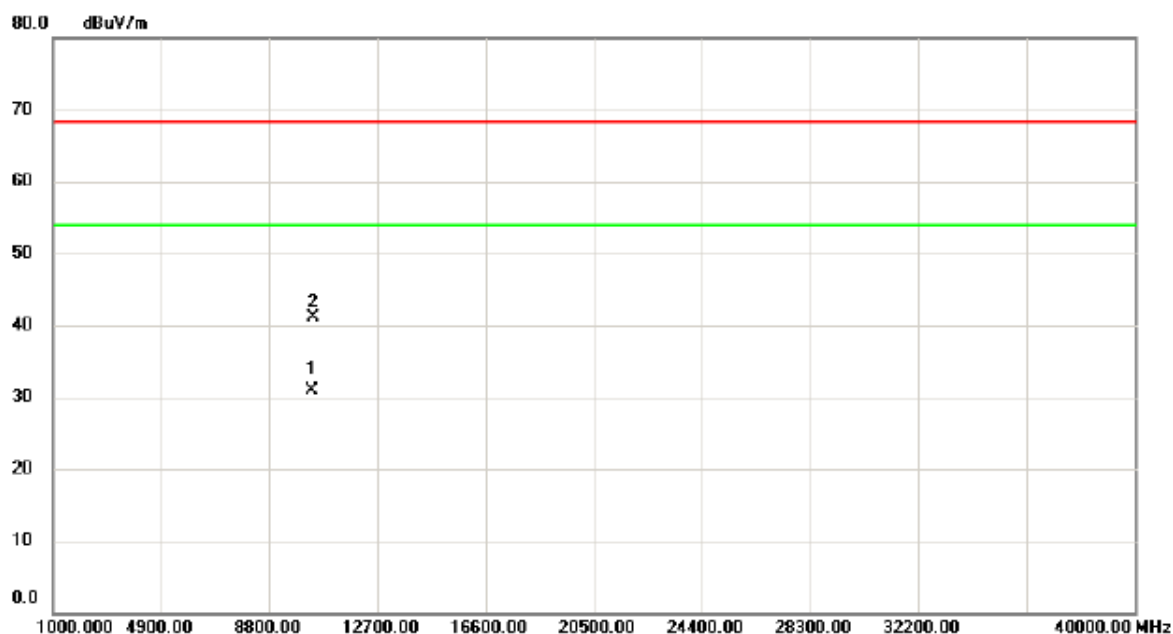
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		5150.000	4.86	37.89	42.75	68.30	-25.55	peak	
2		5150.000	-5.09	37.89	32.80	54.00	-21.20	AVG	
3	X	5173.600	55.90	38.00	93.90	68.30	25.60	peak	NO LIMIT
4	*	5186.200	47.97	38.06	86.03	54.00	32.03	AVG	NO LIMIT

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX A Mode 5180MHz

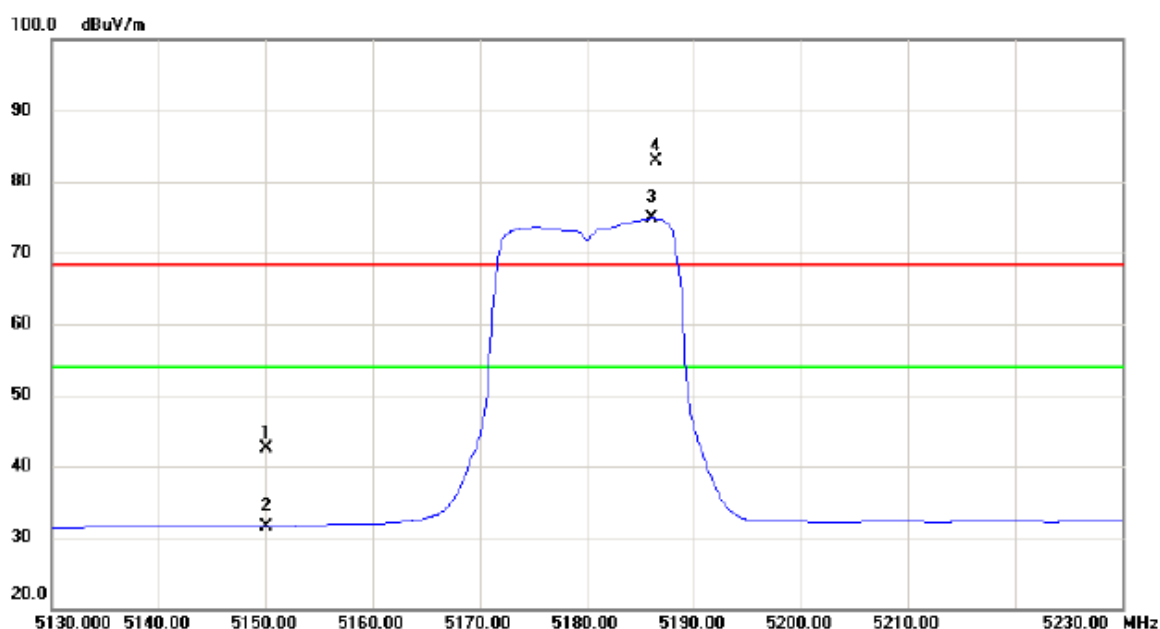
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	10359.80	16.50	14.33	30.83	54.00	-23.17	AVG	
2		10361.00	26.78	14.33	41.11	68.30	-27.19	peak	

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX A Mode 5180MHz

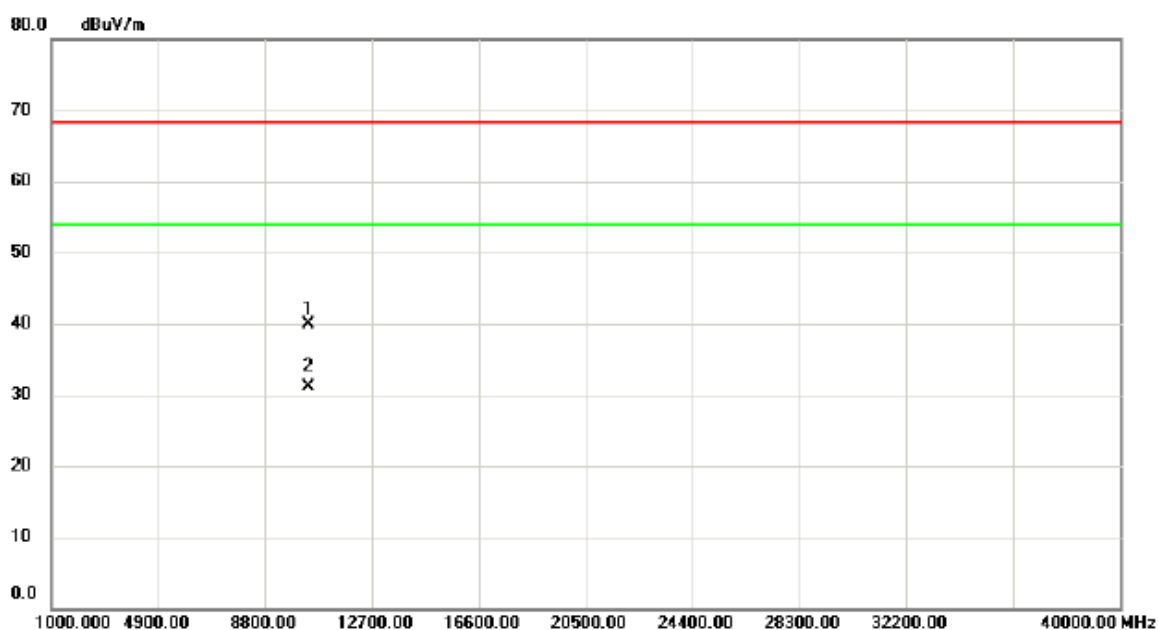
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5150.000	4.55	37.89	42.44	68.30	-25.86	peak	
2		5150.000	-6.31	37.89	31.58	54.00	-22.42	AVG	
3	*	5186.100	36.76	38.06	74.82	54.00	20.82	AVG	NO LIMIT
4	X	5186.500	44.84	38.06	82.90	68.30	14.60	peak	NO LIMIT

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX A Mode 5180MHz

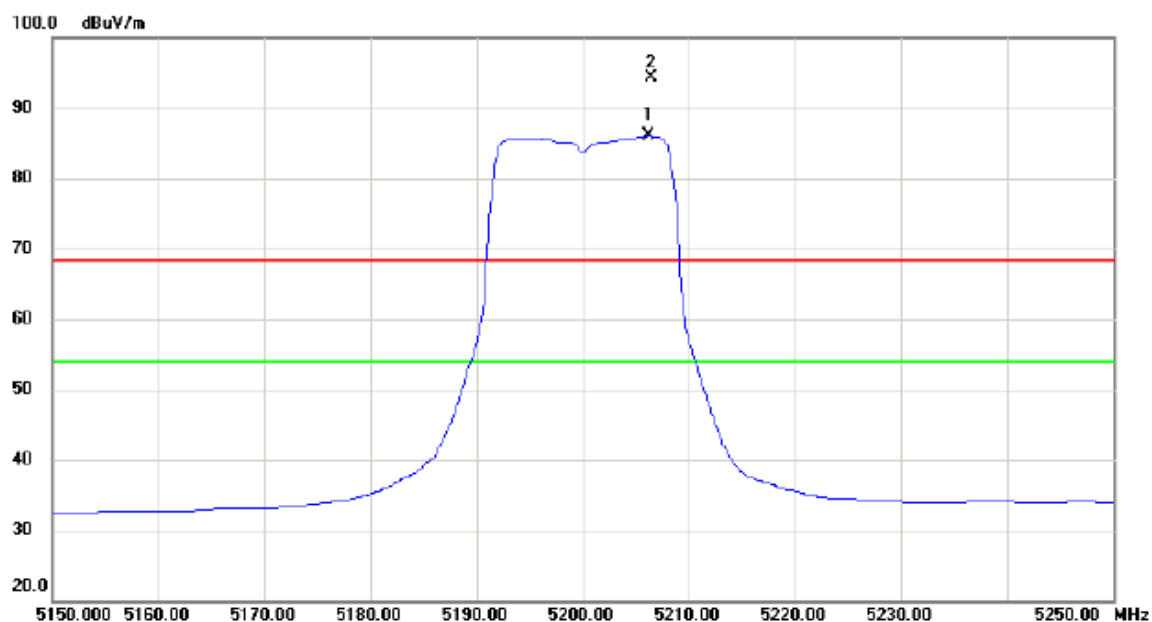
Horizontal



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin		
		MHz	dBuV	Factor	ment			Detector	Comment
1		10360.40	25.55	14.33	39.88	68.30	-28.42	peak	
2	*	10360.40	16.84	14.33	31.17	54.00	-22.83	AVG	

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX A Mode 5200MHz

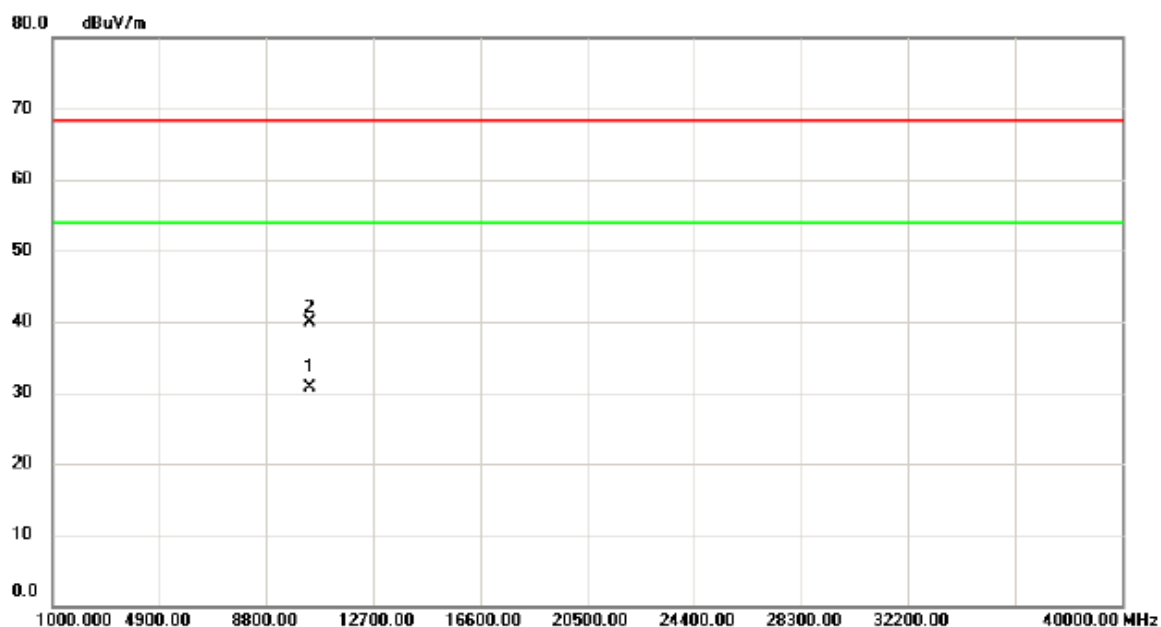
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5206.200	47.87	38.14	86.01	54.00	32.01	AVG	NO LIMIT
2	X	5206.500	56.11	38.14	94.25	68.30	25.95	peak	NO LIMIT

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX A Mode 5200MHz

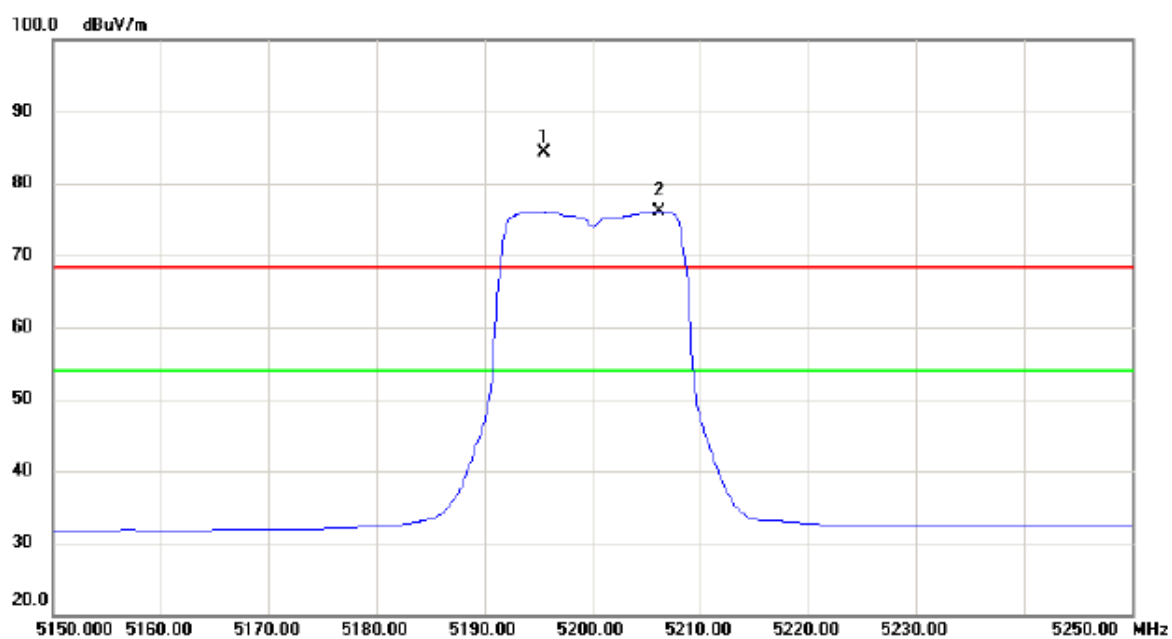
Vertical



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin		
		MHz	Level	Factor	ment			Detector	Comment
			dBuV	dB	dBuV/m	dBuV/m	dB		
1	*	10400.60	16.38	14.40	30.78	54.00	-23.22	AVG	
2		10398.80	25.43	14.40	39.83	68.30	-28.47	peak	

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX A Mode 5200MHz

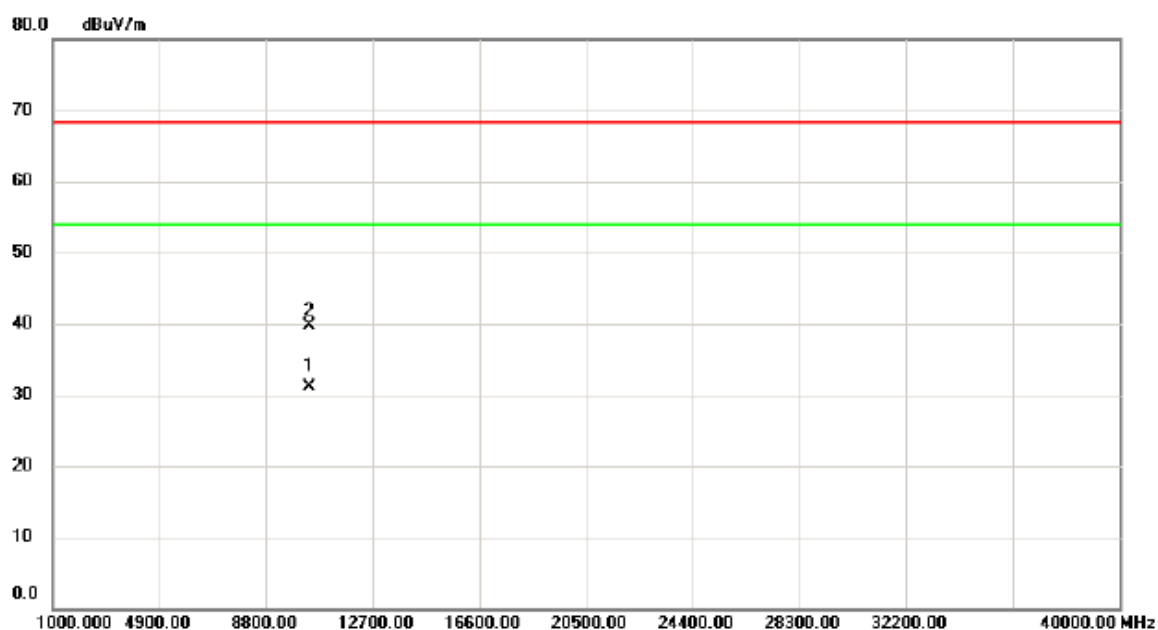
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	5195.500	46.17	38.09	84.26	68.30	15.96	peak	NO LIMIT
2	*	5206.200	38.00	38.14	76.14	54.00	22.14	AVG	NO LIMIT

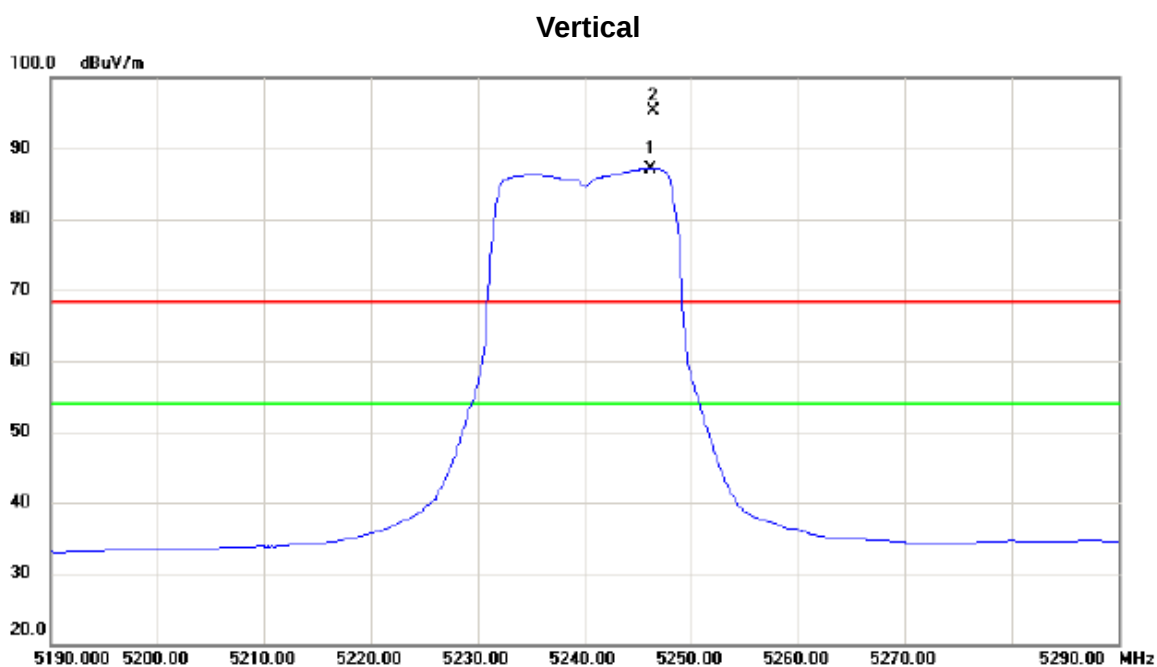
Orthogonal Axis:	X
Test Mode:	UNII-1/ TX A Mode 5200MHz

Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	10400.40	16.71	14.40	31.11	54.00	-22.89	AVG	
2		10401.20	25.33	14.41	39.74	68.30	-28.56	peak	

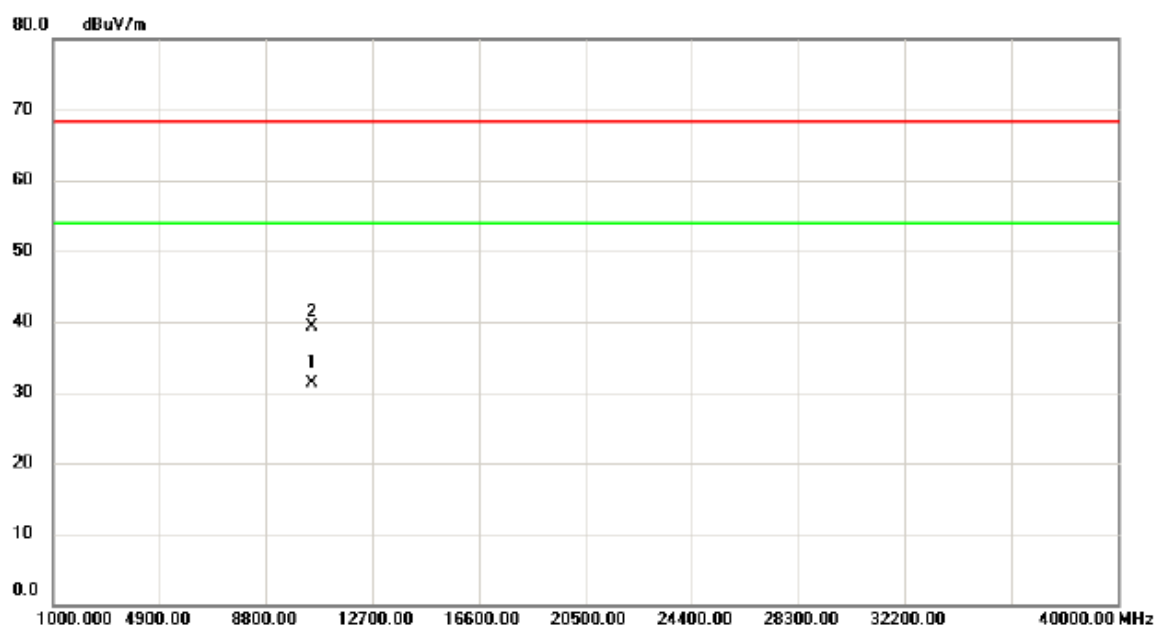
Orthogonal Axis:	X
Test Mode:	UNII-1/ TX A Mode 5240MHz



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	5246.200	48.86	38.32	87.18	54.00	33.18	AVG	NO LIMIT
2	X	5246.500	57.04	38.32	95.36	68.30	27.06	peak	NO LIMIT

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX A Mode 5240MHz

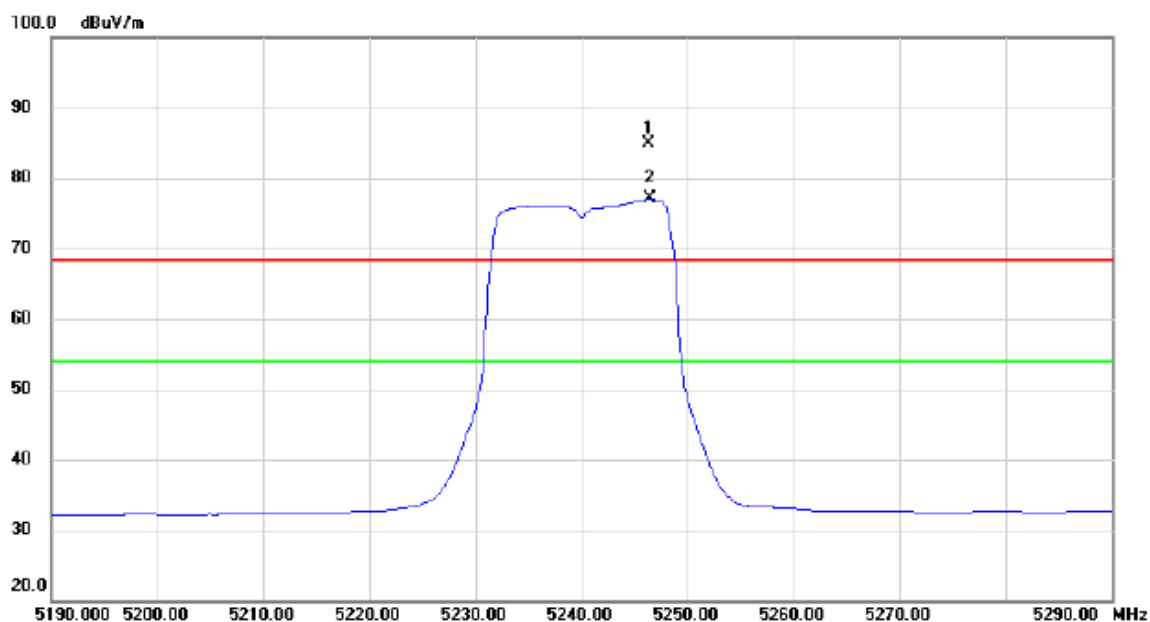
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	10480.60	16.66	14.56	31.22	54.00	-22.78	AVG	
2		10480.20	24.82	14.56	39.38	68.30	-28.92	peak	

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX A Mode 5240MHz

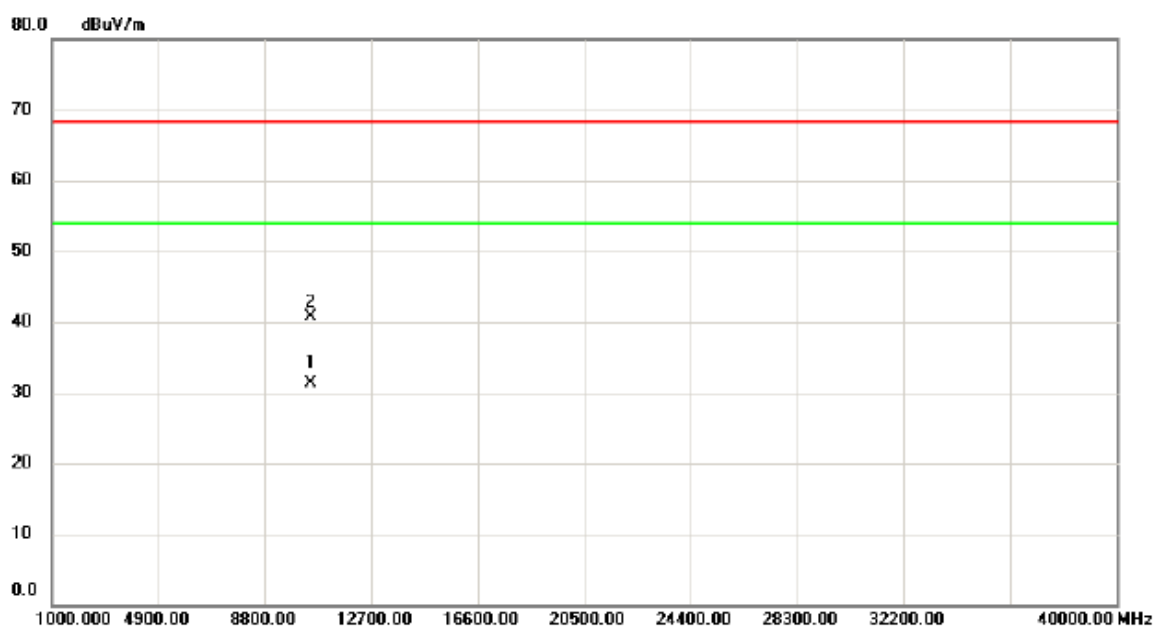
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5246.300	46.63	38.32	84.95	68.30	16.65	peak	NO LIMIT
2	*	5246.500	38.71	38.32	77.03	54.00	23.03	AVG	NO LIMIT

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX A Mode 5240MHz

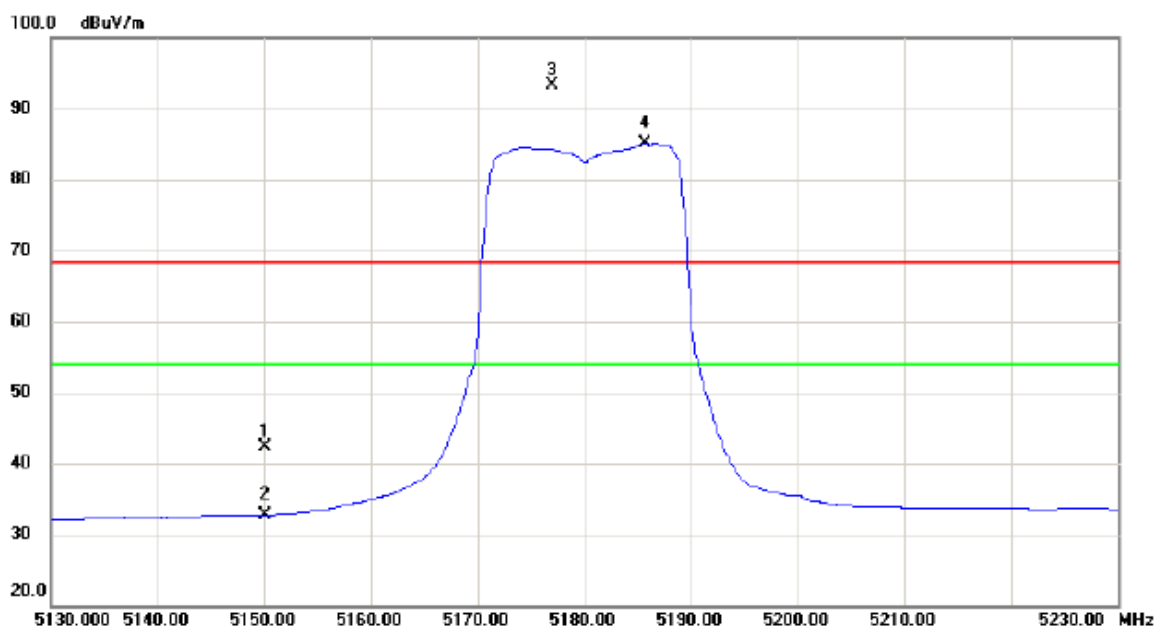
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	10479.80	16.82	14.56	31.38	54.00	-22.62	AVG	
2		10480.40	26.10	14.56	40.66	68.30	-27.64	peak	

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N20 Mode 5180MHz

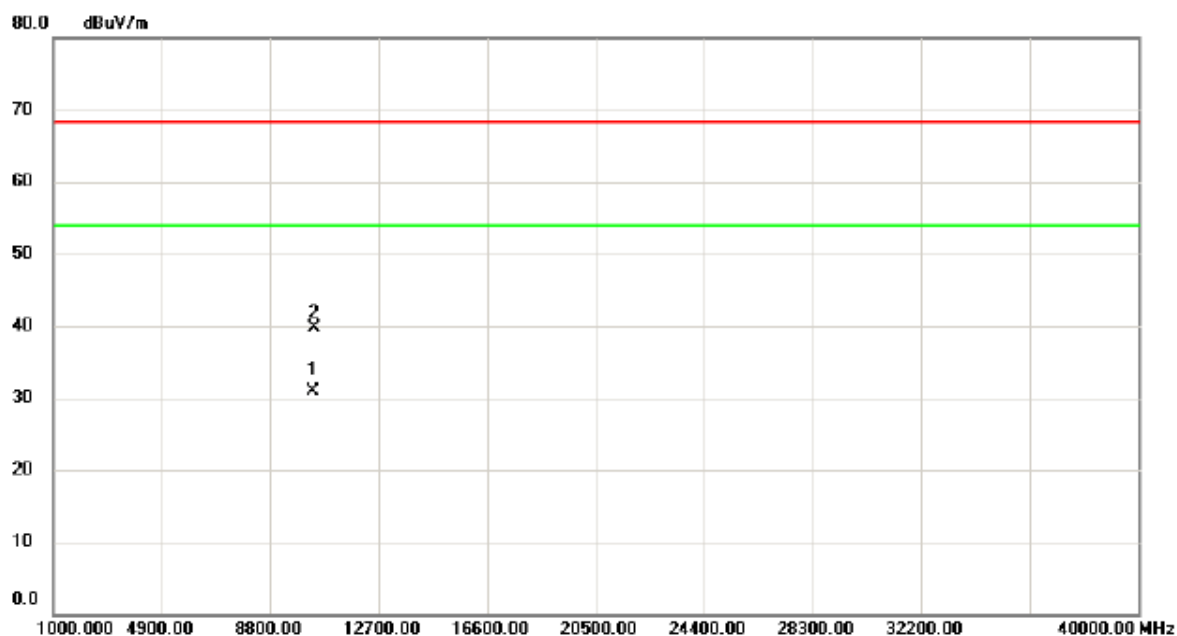
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		5150.000	4.39	37.89	42.28	68.30	-26.02	peak	
2		5150.000	-5.16	37.89	32.73	54.00	-21.27	AVG	
3	X	5177.000	55.38	38.01	93.39	68.30	25.09	peak	NO LIMIT
4	*	5185.600	47.00	38.06	85.06	54.00	31.06	AVG	NO LIMIT

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N20 Mode 5180MHz

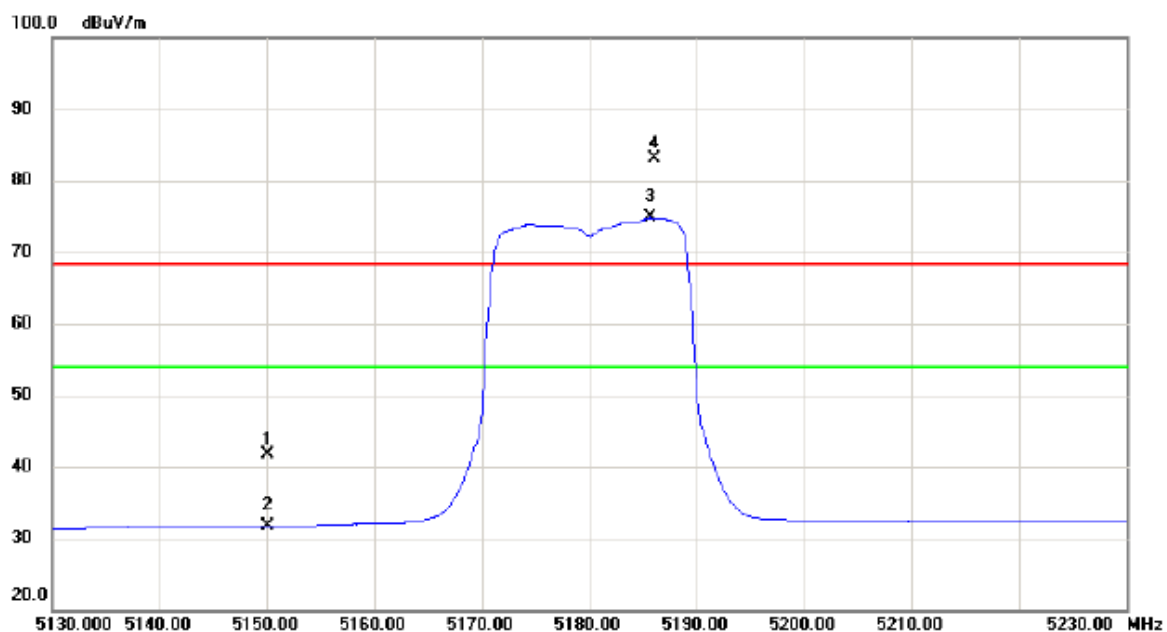
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	10359.80	16.51	14.33	30.84	54.00	-23.16	AVG	
2		10360.60	25.37	14.33	39.70	68.30	-28.60	peak	

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N20 Mode 5180MHz

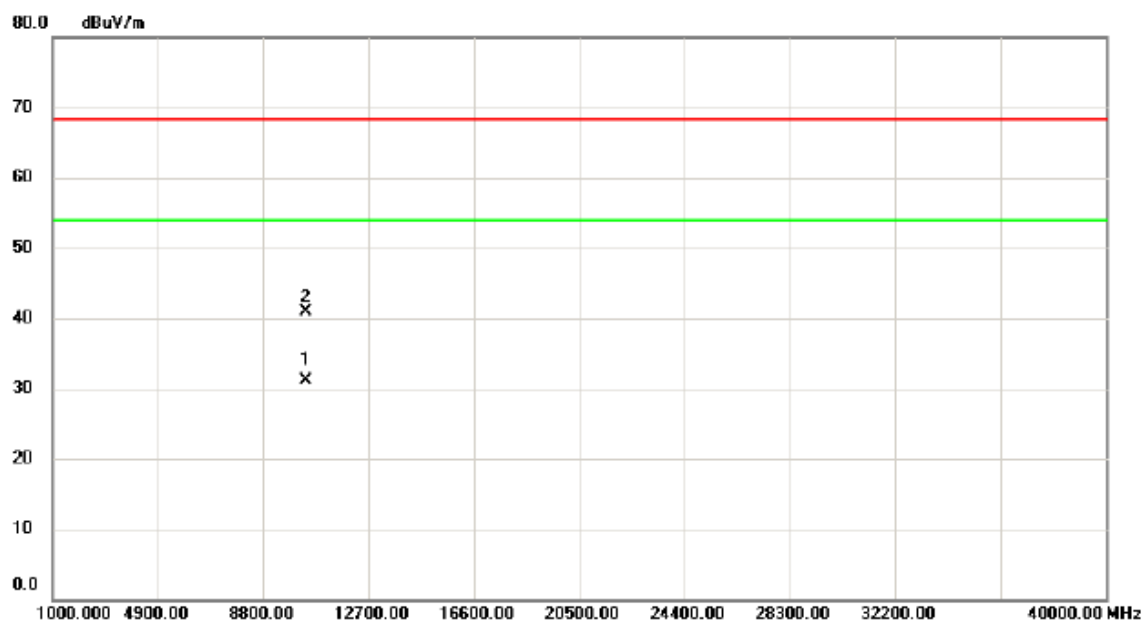
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		5150.000	3.76	37.89	41.65	68.30	-26.65	peak	
2		5150.000	-6.23	37.89	31.66	54.00	-22.34	AVG	
3	*	5185.600	36.75	38.06	74.81	54.00	20.81	AVG	NO LIMIT
4	X	5186.000	45.05	38.06	83.11	68.30	14.81	peak	NO LIMIT

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N20 Mode 5180MHz

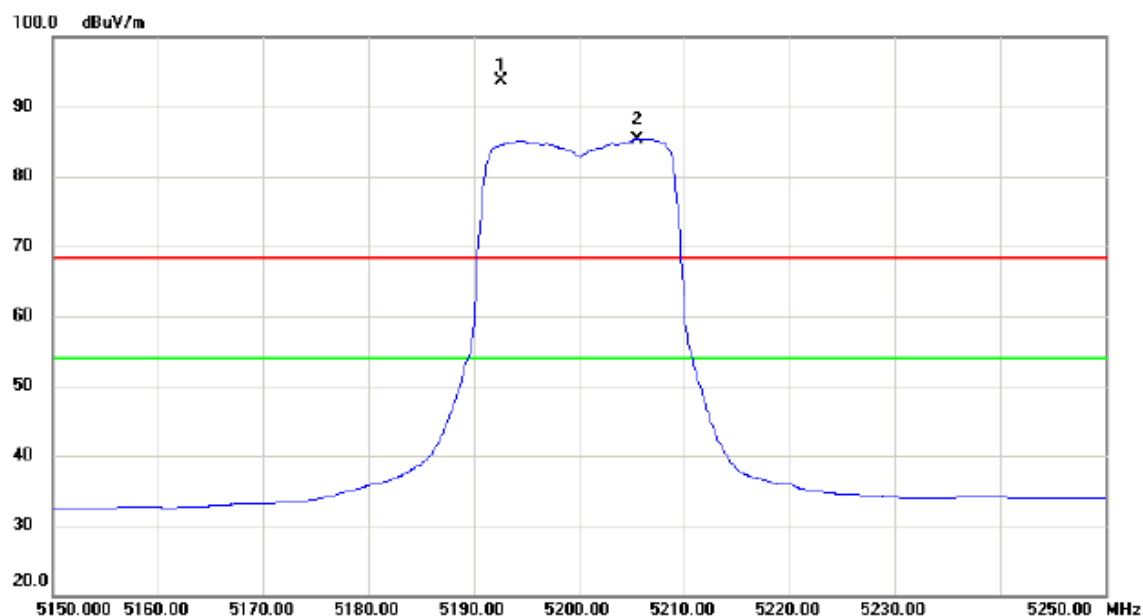
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	10360.20	16.85	14.33	31.18	54.00	-22.82	AVG	
2		10360.40	26.52	14.33	40.85	68.30	-27.45	peak	

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N20 Mode 5200MHz

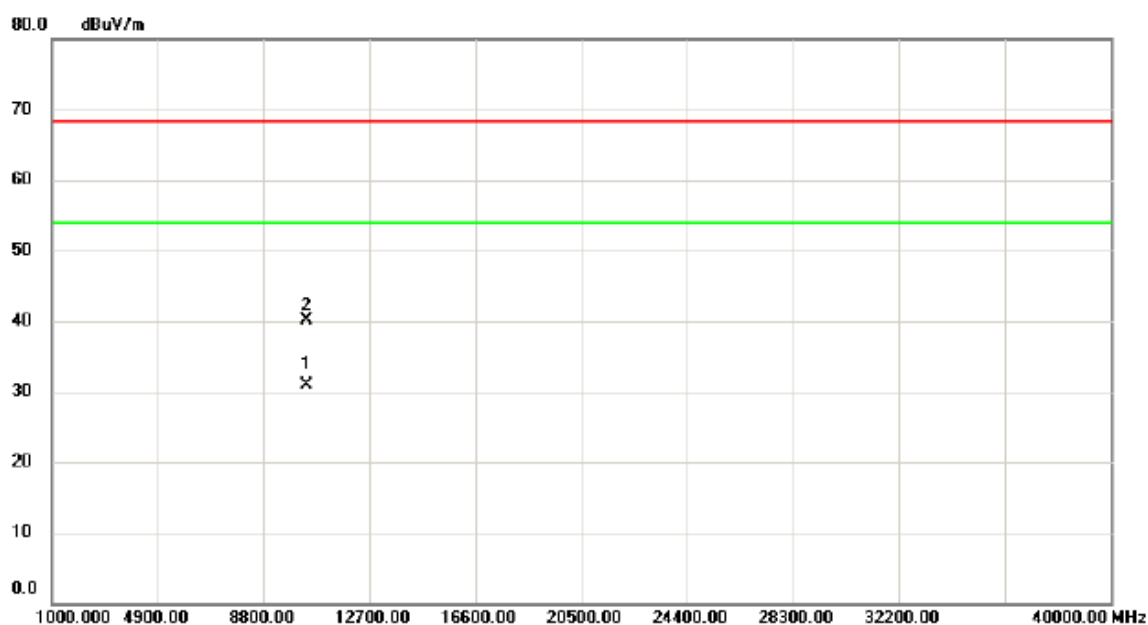
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5192.600	55.59	38.08	93.67	68.30	25.37	peak	NO LIMIT
2	*	5205.500	47.21	38.14	85.35	54.00	31.35	AVG	NO LIMIT

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N20 Mode 5200MHz

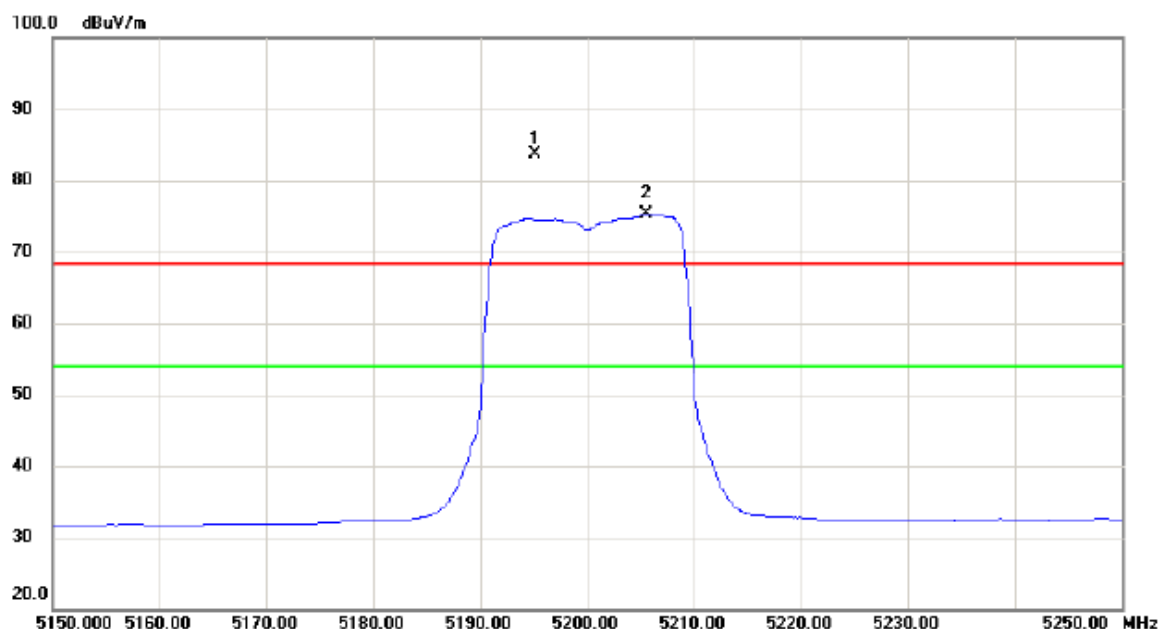
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	10399.80	16.51	14.40	30.91	54.00	-23.09	AVG	
2		10400.20	25.68	14.40	40.08	68.30	-28.22	peak	

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N20 Mode 5200MHz

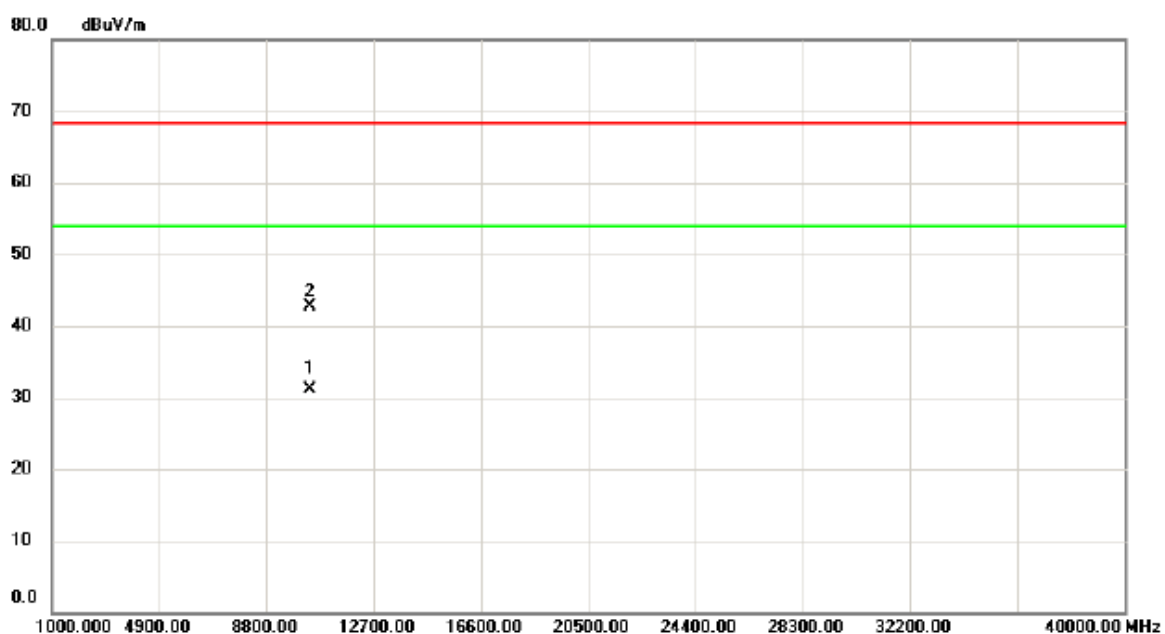
Horizontal



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin		
		MHz	Level	Factor	ment			Detector	Comment
			dBuV	dB	dBuV/m	dBuV/m	dB		
1	X	5195.200	45.60	38.09	83.69	68.30	15.39	peak	NO LIMIT
2	*	5205.500	37.14	38.14	75.28	54.00	21.28	AVG	NO LIMIT

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N20 Mode 5200MHz

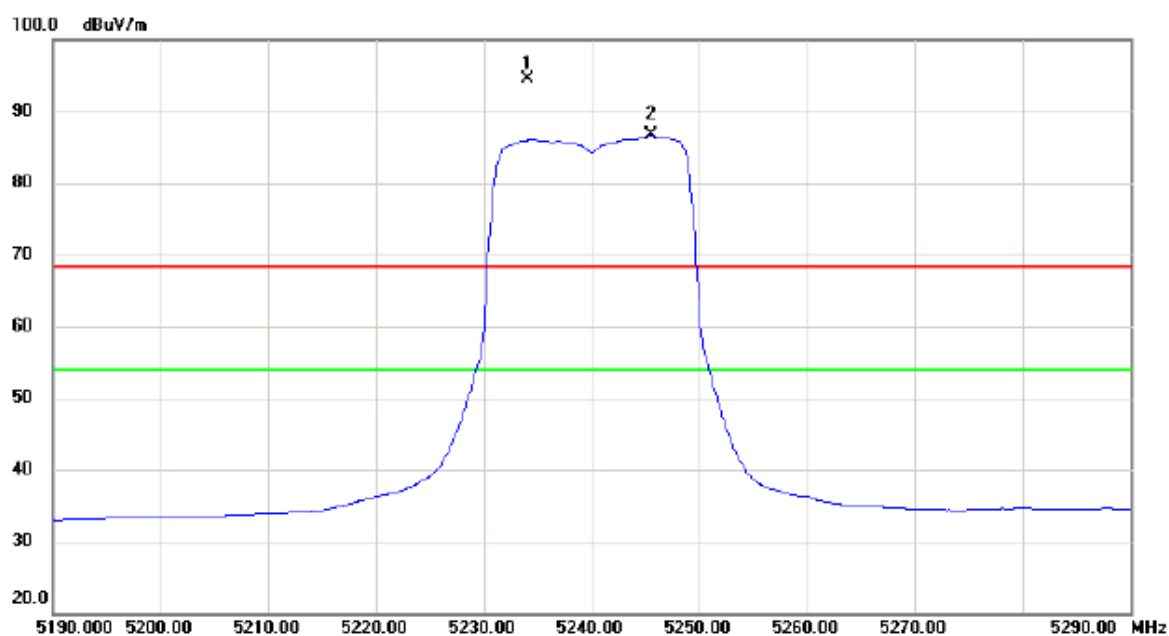
Horizontal



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin		
		MHz	Level	Factor	ment			Detector	Comment
			dBuV	dB	dBuV/m	dBuV/m	dB		
1	*	10400.00	16.79	14.40	31.19	54.00	-22.81	AVG	
2		10401.00	28.40	14.40	42.80	68.30	-25.50	peak	

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N20 Mode 5240MHz

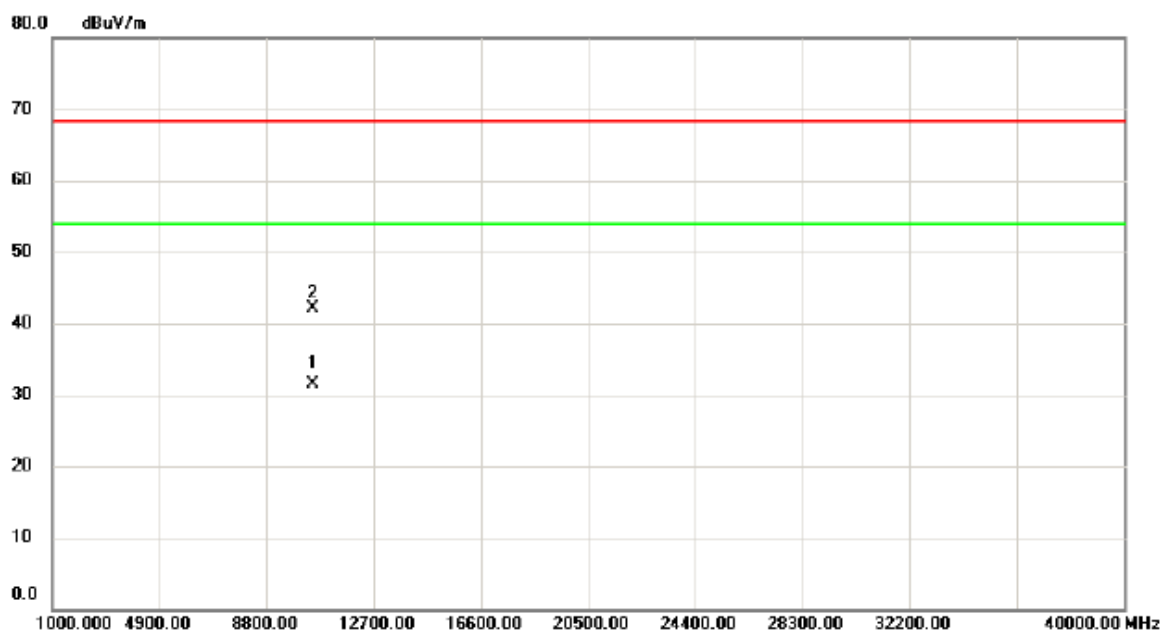
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	5234.100	56.16	38.27	94.43	68.30	26.13	peak	NO LIMIT
2	*	5245.500	48.38	38.31	86.69	54.00	32.69	AVG	NO LIMIT

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N20 Mode 5240MHz

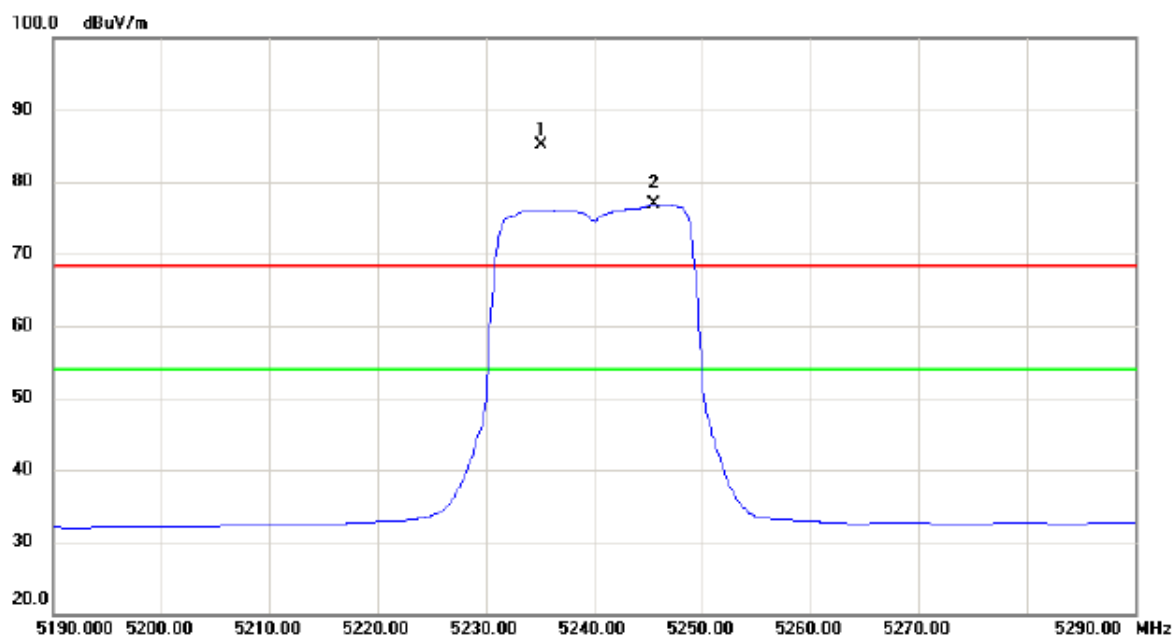
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	10479.80	16.91	14.56	31.47	54.00	-22.53	AVG	
2		10481.30	27.55	14.56	42.11	68.30	-26.19	peak	

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N20 Mode 5240MHz

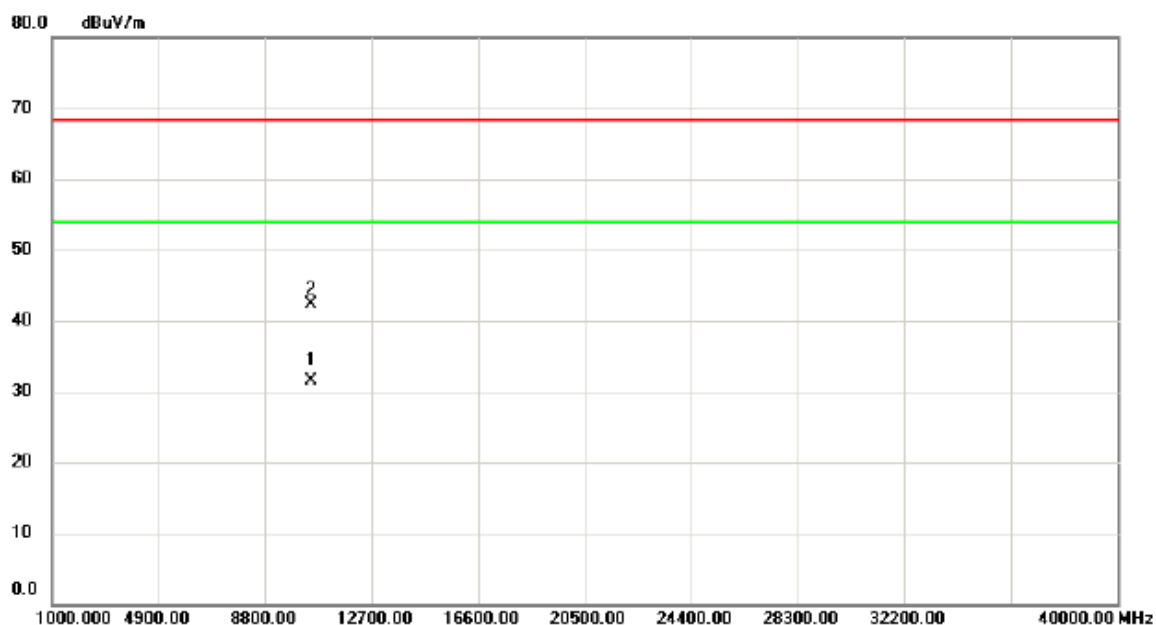
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	5235.200	46.88	38.27	85.15	68.30	16.85	peak	NO LIMIT
2	*	5245.500	38.67	38.31	76.98	54.00	22.98	AVG	NO LIMIT

Orthogonal Axis:	X
Test Mode:	UNII-1/ TX N20 Mode 5240MHz

Horizontal



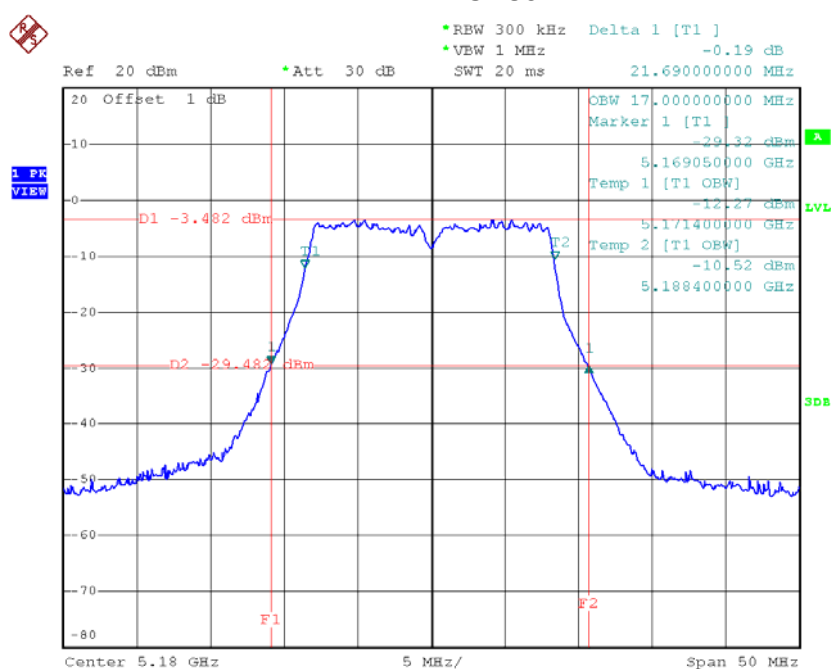
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	10480.10	16.88	14.56	31.44	54.00	-22.56	AVG	
2		10480.40	27.81	14.56	42.37	68.30	-25.93	peak	

ATTACHMENT E - BANDWIDTH

Test Mode: UNII-1/TX A Mode_CH36/CH40/CH48

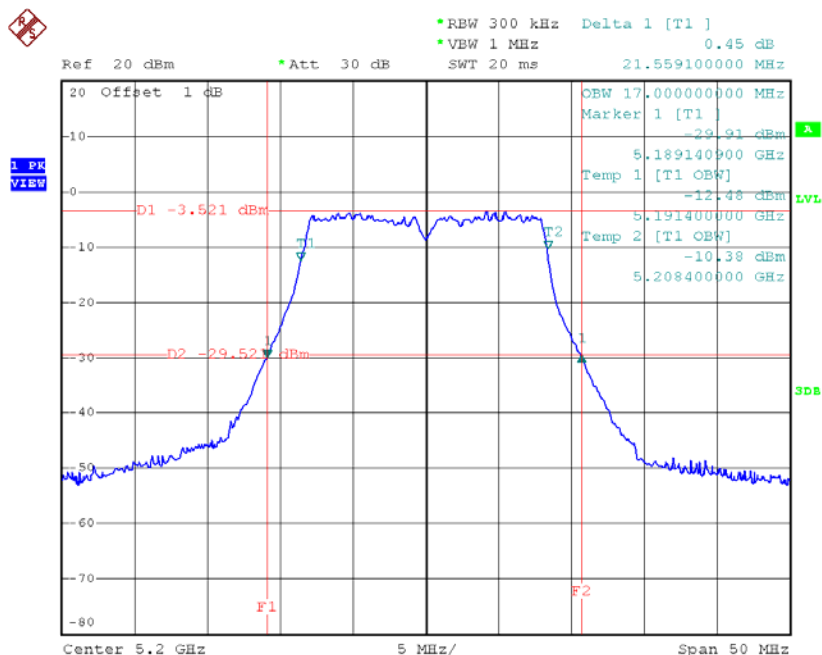
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
CH36	5180	21.69	17.00
CH40	5200	21.56	17.00
CH48	5240	21.69	17.00

TX CH36



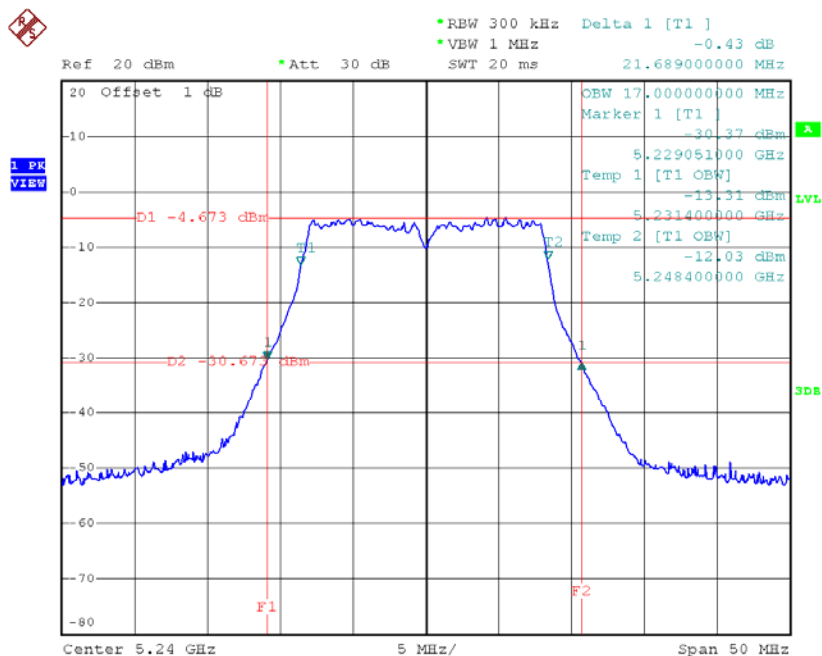
Date: 31.AUG.2015 16:18:38

TX CH40



Date: 31.AUG.2015 16:21:04

TX CH48

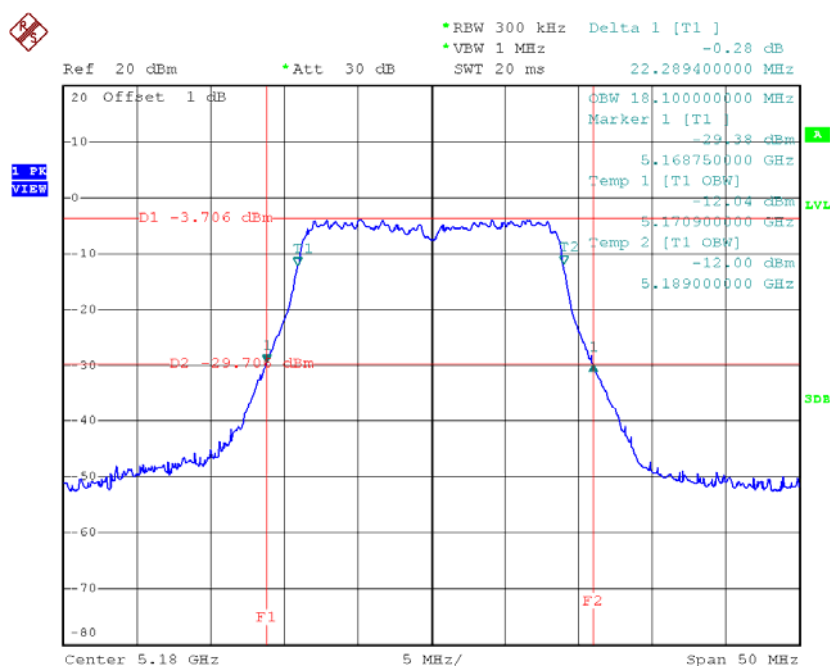


Date: 31.AUG.2015 16:22:34

Test Mode: UNII-1/TX N20 Mode_CH36/CH40/CH48

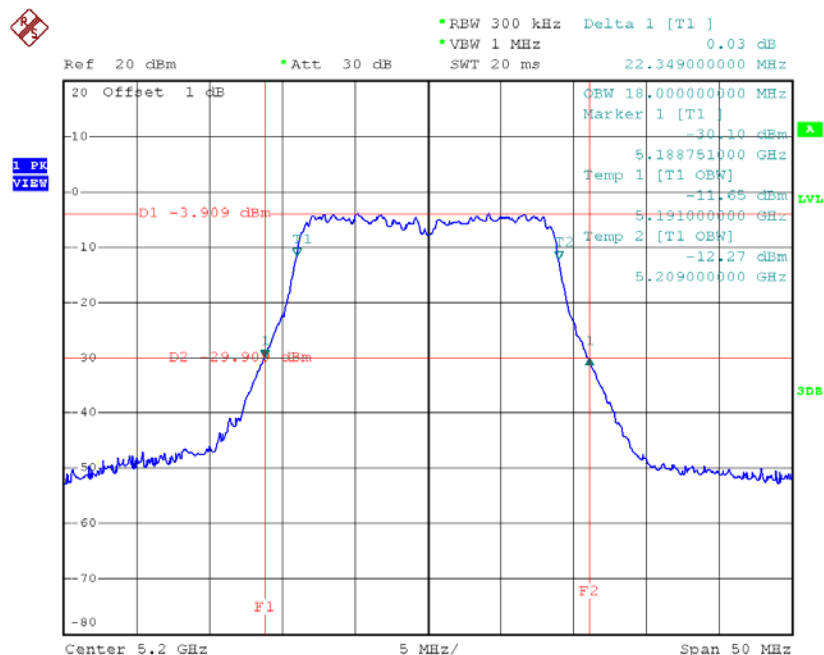
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
CH36	5180	22.29	18.10
CH40	5200	22.35	18.00
CH48	5240	22.29	18.10

TX CH36



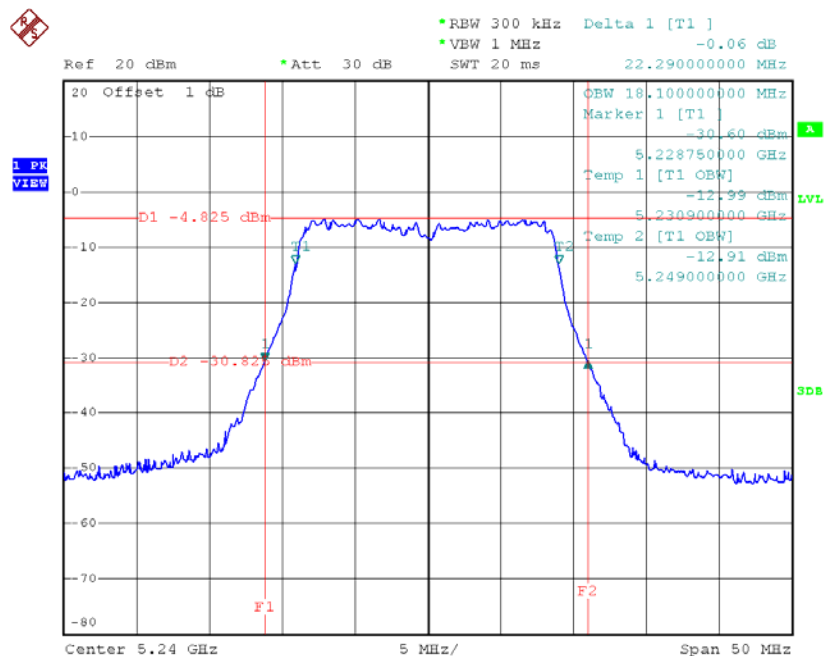
Date: 31.AUG.2015 16:24:35

TX CH40



Date: 31.AUG.2015 16:26:16

TX CH48



Date: 31.AUG.2015 16:27:18

ATTACHMENT F - MAXIMUM OUTPUT POWER

Test Mode: UNII-1/TX A Mode

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Limit (Watt)
CH36	5180	4.91	30.00	1.00
CH40	5200	5.25	30.00	1.00
CH48	5240	5.09	30.00	1.00

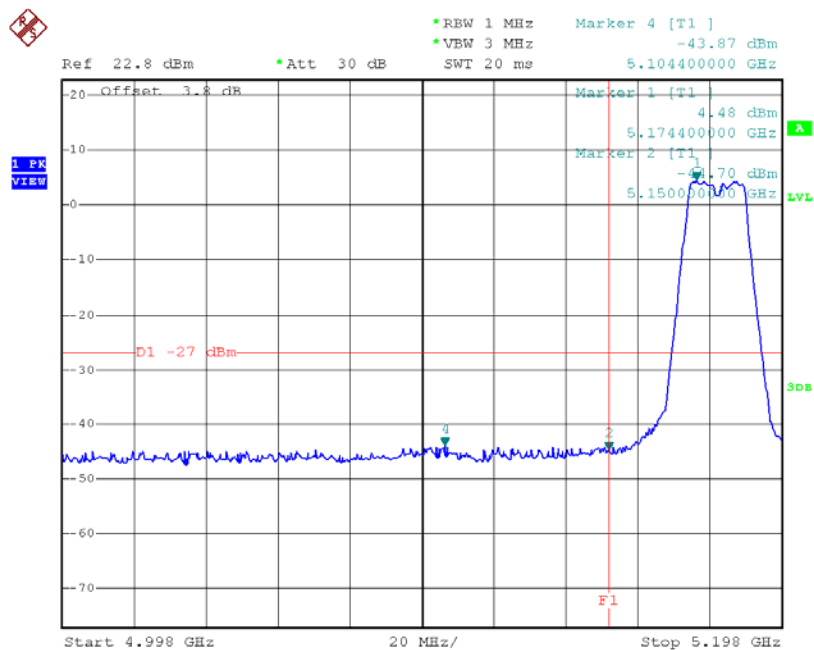
Test Mode: UNII-1/TX N20 Mode

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Limit (Watt)
CH36	5180	5.02	30.00	1.00
CH40	5200	5.11	30.00	1.00
CH48	5240	4.98	30.00	1.00

ATTACHMENT G - ANTENNA CONDUCTED SPURIOUS EMISSION

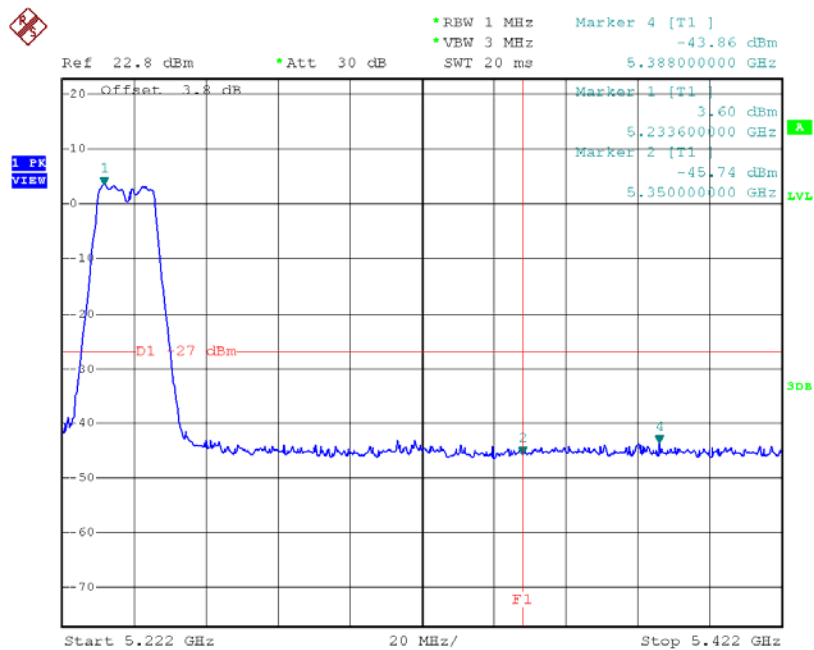
Test Mode: UNII-1/TX A Mode

TX mode CH36



Date: 31.AUG.2015 16:18:57

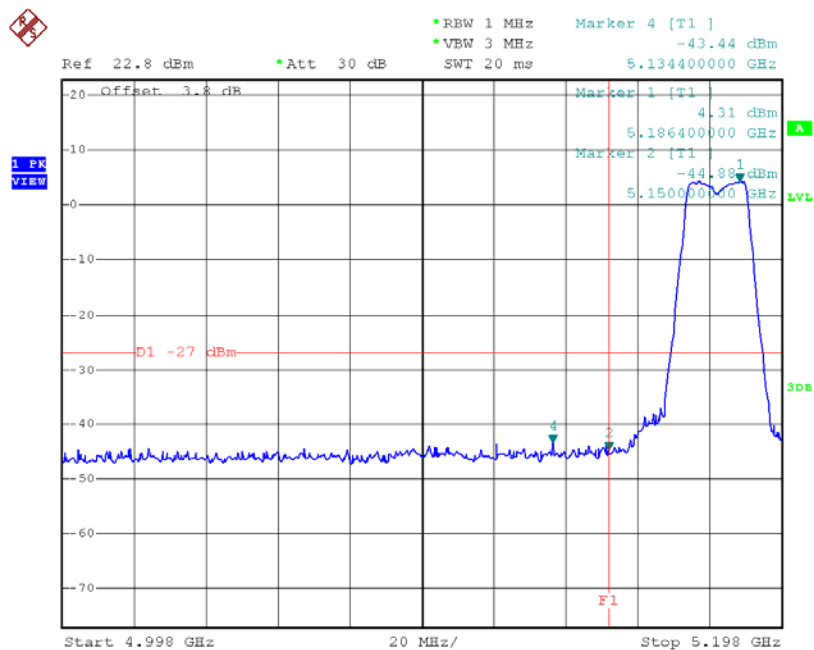
TX mode CH48



Date: 31.AUG.2015 16:22:52

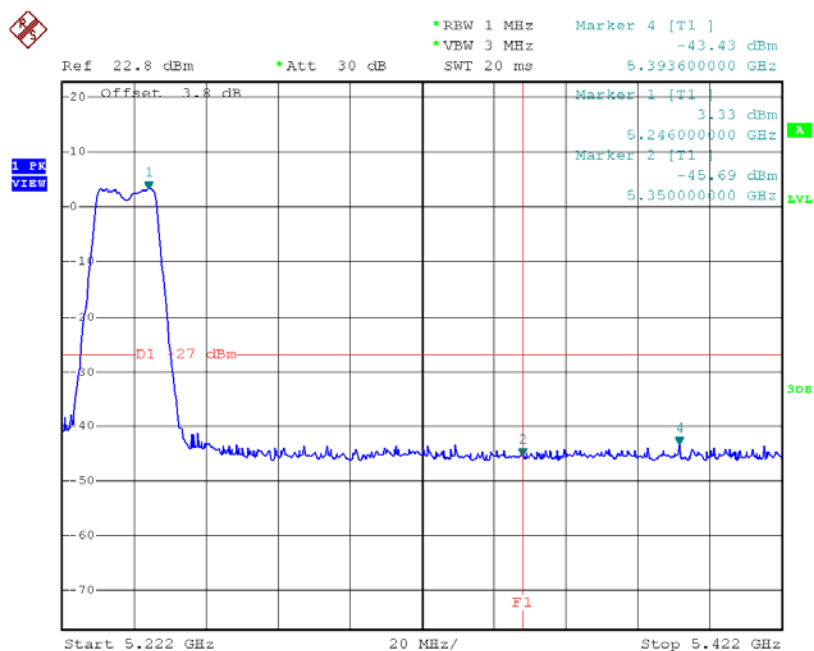
Test Mode: UNII-1/TX N20 Mode

TX mode CH36



Date: 31.AUG.2015 16:24:53

TX mode CH48

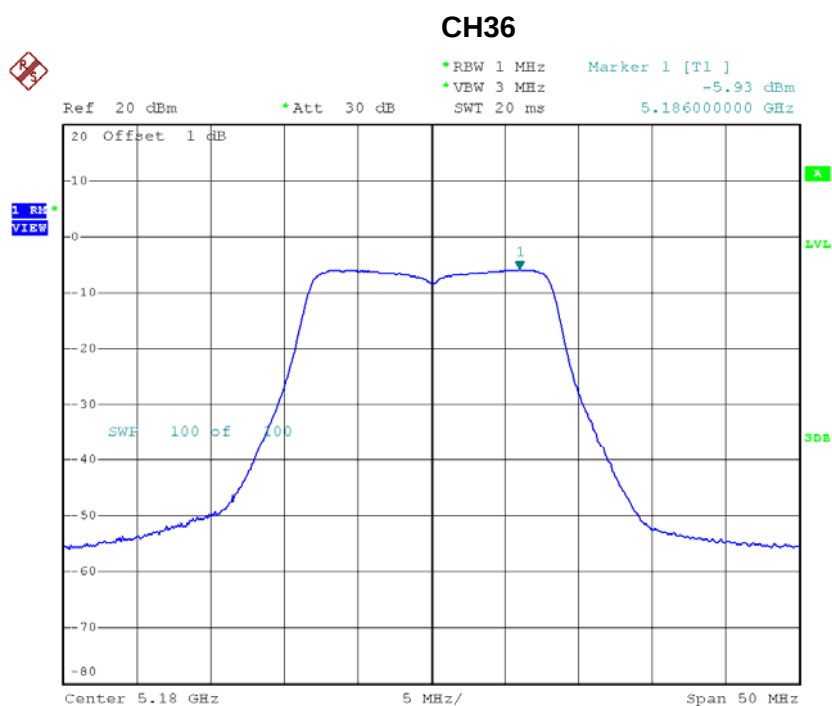


Date: 31.AUG.2015 16:27:37

ATTACHMENT H - POWER SPECTRAL DENSITY

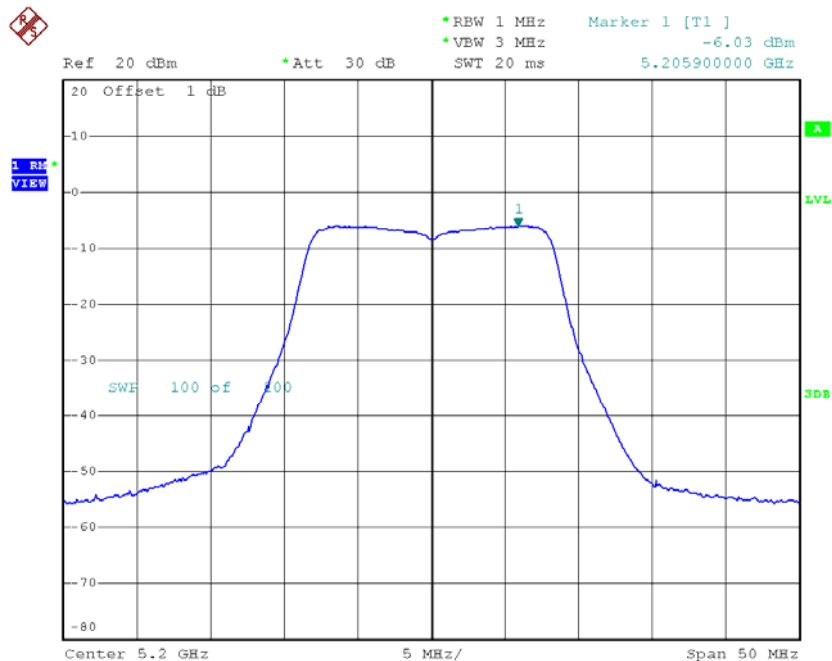
Test Mode: UNII-1/ TX A Mode_CH36/CH40/CH48

Channel	Frequency (MHz)	Power Density (dBm/MHz)	Limit (dBm/MHz)
CH36	5180	-5.93	17.00
CH40	5200	-6.03	17.00
CH48	5240	-7.07	17.00



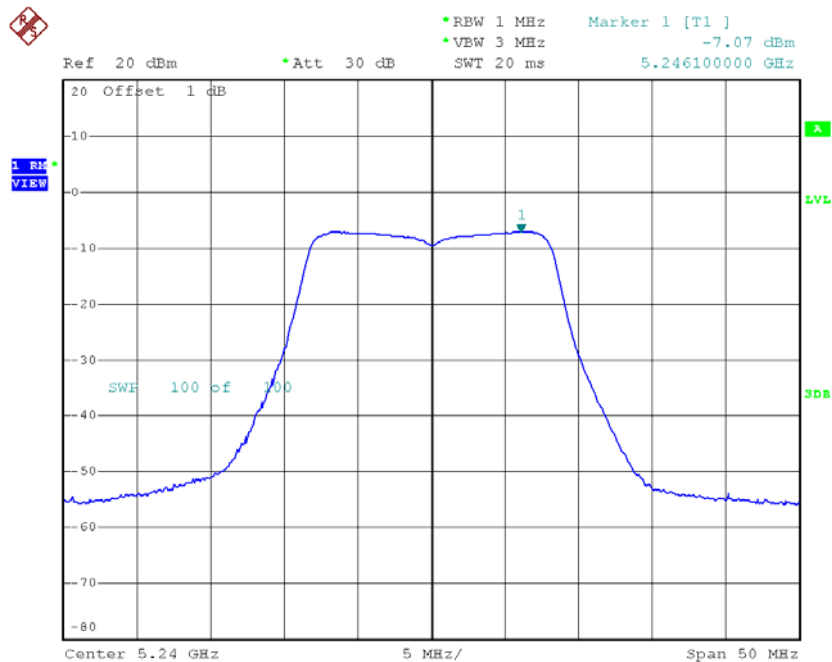
Date: 31.AUG.2015 16:18:49

CH40



Date: 31.AUG.2015 16:21:14

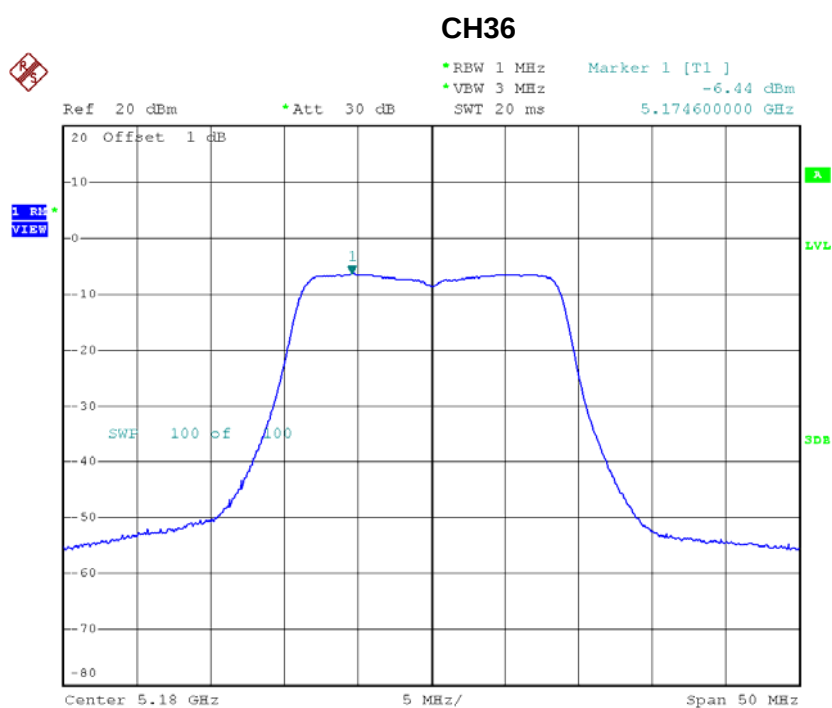
CH48



Date: 31.AUG.2015 16:22:44

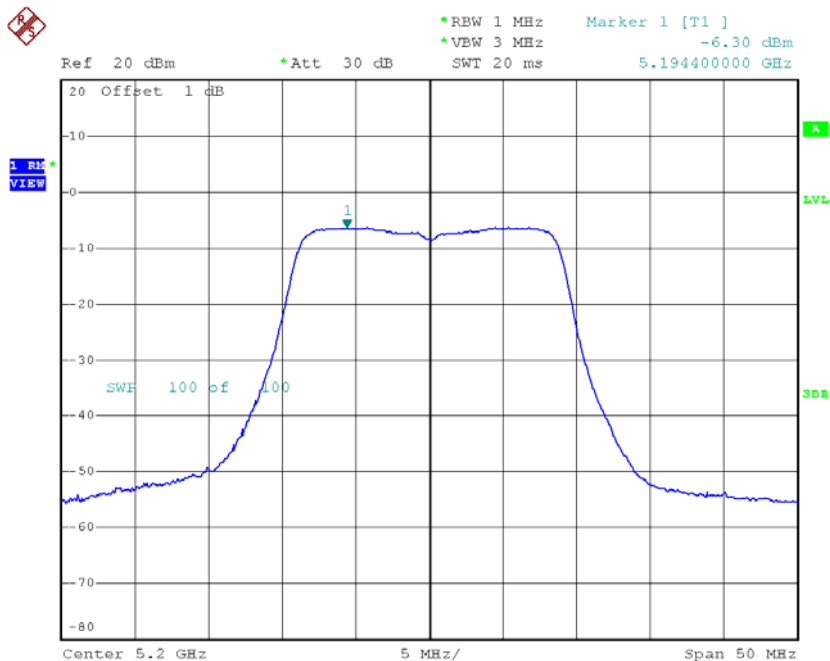
Test Mode: UNII-1/TX N20 Mode_CH36/CH40/CH48

Channel	Frequency (MHz)	Power Density (dBm/MHz)	Limit (dBm/MHz)
CH36	5180	-6.44	17.00
CH40	5200	-6.30	17.00
CH48	5240	-7.40	17.00



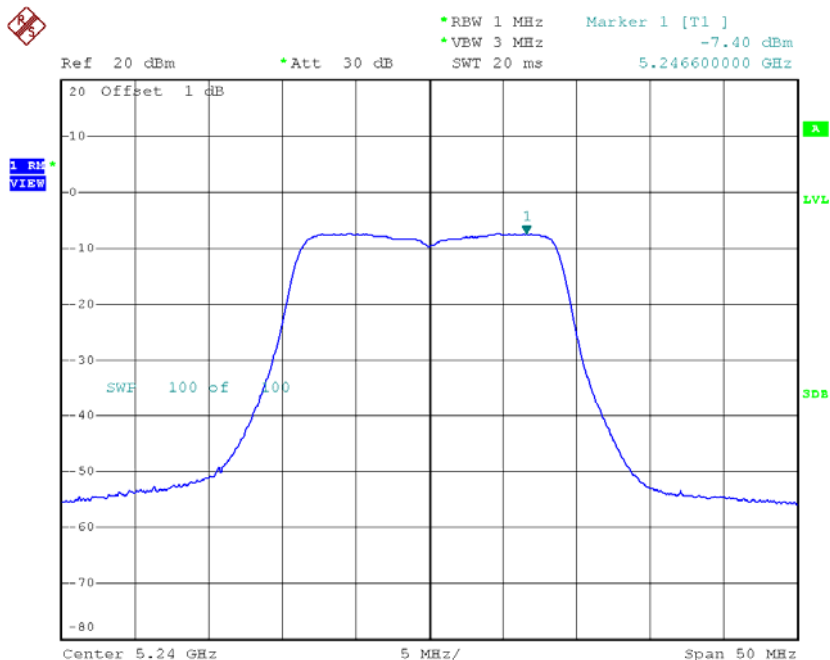
Date: 31.AUG.2015 16:24:45

CH40



Date: 31.AUG.2015 16:26:26

CH48



Date: 31.AUG.2015 16:27:29

ATTACHMENT I - FREQUENCY STABILITY

Test Mode:	UNII-1
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Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	5180.0000
132	5180.040000
120	5180.050000
108	5180.000000
Max. Deviation (MHz)	0.050000
Max. Deviation (ppm)	9.65

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(°C)	5180.0000
-10	5180.060000
5	5180.060000
15	5180.040000
25	5180.000000
35	5180.020000
45	5180.070000
50	5180.020000
Max. Deviation (MHz)	0.070000
Max. Deviation (ppm)	13.513514