

FCC Radio Test Report

FCC ID:KA2IR803B1

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

Project No. : 1408C111
Equipment : 1) Wireless AC750 Dual Band Router
2) Wireless AC750 Dual Band Easy Router
Model Name : 1) DIR-803
2) GO-RT-AC750
Applicant : D-Link Corporation
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114, Taiwan, R.O.C.

Date of Receipt : Aug. 13, 2014
Date of Test : Aug. 13, 2014 ~ Aug. 29, 2014
Issued Date : Sep. 01, 2014
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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REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FCCP-2-1408C111	Original Issue.	Sep. 01, 2014

1. CERTIFICATION

Equipment : 1) Wireless AC750 Dual Band Router
2) Wireless AC750 Dual Band Easy Router
Brand Name : D-Link
Model Name : 1) DIR-803
2) GO-RT-AC750
Applicant : D-Link Corporation
Date of Test : Aug. 13, 2014 ~ Aug. 29, 2014
Test Item : ENGINEERING SAMPLE
Standard(s) : FCC Part15, Subpart E(15.407) / ANSI63.10 2013
FCC KDB 789033 D02 General UNII Test Procedures New Rules v01.

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-2-1408C111) 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)	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) FCC KDB 789033 D02 General UNII Test Procedures New Rules v01.

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 $y \pm U$, 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	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	1) Wireless AC750 Dual Band Router 2) Wireless AC750 Dual Band Easy Router	
Brand Name	D-Link	
Model Name	1) DIR-803 2) GO-RT-AC750	
Mode Different	Only differ in model name.	
Product Description	Operation Frequency	5150MHz~5250MHz
	Modulation Type	802.11a/n/ac:OFDM
	Bit Rate of Transmitter	11a:6/9/12/18/24/36/48/54Mbps 11n:6.5 to 150Mbps 11ac(draft):6.5 to 433Mbps
	PEAK Output Power (Max.)	802.11a: 23.14dBm 802.11n (20M): 22.64dBm 802.11n (40M): 23.41dBm 802.11ac (20M): 22.67dBm 802.11ac (40M): 23.88dBm 802.11ac (80M): 22.36dBm
	More details of EUT technical specification, please refer to the User's Manual.	
Power Source	DC Voltage supplied from AC/DC adapter. #1 Brand/Model:D-Link/PSAC05A-050 #2 Brand/Model:D-Link/AMS20-0501000FU2	
Power Rating	#1 I/P: AC 100-240V~0.2A 50-60Hz 12-16VA O/P: DC 5V/1A #2 I/P: AC 100-240V~50/60Hz 0.2A/15VA O/P: DC 5V/1.0A	
Connecting I/O Port(s)	Please refer to the User's Manual	

Note:

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

2. Channel List:

802.11a / 802.11n 20MHz/802.11ac 20MHz		802.11n 40M/802.11ac 40MHz		802.11ac 80MHz	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	38	5190	42	5210
40	5200	46	5230		
44	5220				
48	5240				

3.

Antenna Specification:

Ant.	Manufacturer	Model Name	Antenna Type	Gain (dBi)
1	Nienyi Industrial Corp.	N/A	Dipole	4.1

3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested based on the consideration of following EUT operation mode or test configuration mode which possibly 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
Mode 2	TX N20 Mode / CH36, CH40, CH48
Mode 3	TX N40 Mode / CH38, CH46
Mode 4	TX AC N20 Mode / CH36, CH40, CH48
Mode 5	TX AC N40 Mode / CH38, CH46
Mode 6	TX AC N80 Mode / CH42
Mode 7	TX Mode

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

For Conducted Test	
Final Test Mode	Description
Mode 4	TX Mode

Note: For Conducted test, the Dipole antenna with external cable is found to be the worst case and recorded.

For Radiated Test	
Final Test Mode	Description
Mode 1	TX A Mode / CH36, CH40, CH48
Mode 2	TX N20 Mode / CH36, CH40, CH48
Mode 3	TX N40 Mode / CH38, CH46
Mode 4	TX AC N20 Mode / CH36, CH40, CH48
Mode 5	TX AC N40 Mode / CH38, CH46
Mode 6	TX AC N80 Mode / CH42

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

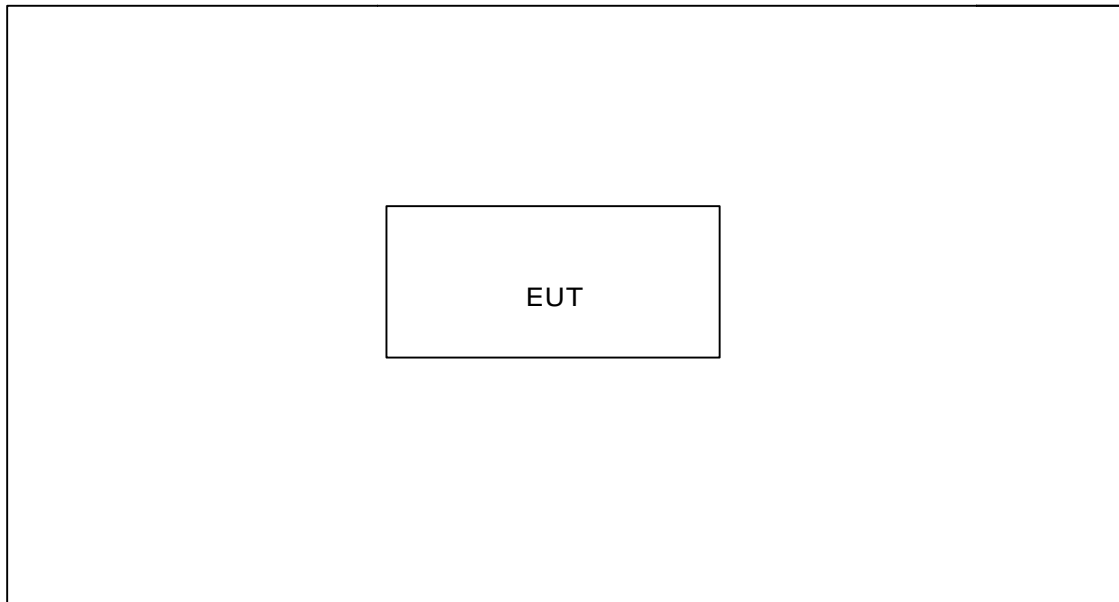
3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

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	MTOOL		
Frequency	5180 MHz	5200MHz	5240 MHz
A Mode	54	56	60
N20 Mode	56	56	57
AC 20 Mode	56	57	57

Test software version	MTOOL		
Frequency	5190 MHz	5230MHz	
N40 Mode	57	62	
AC 40 Mode	57	63	

Test software version	MTOOL		
Frequency	5210 MHz		
AC 80 Mode	53		

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.

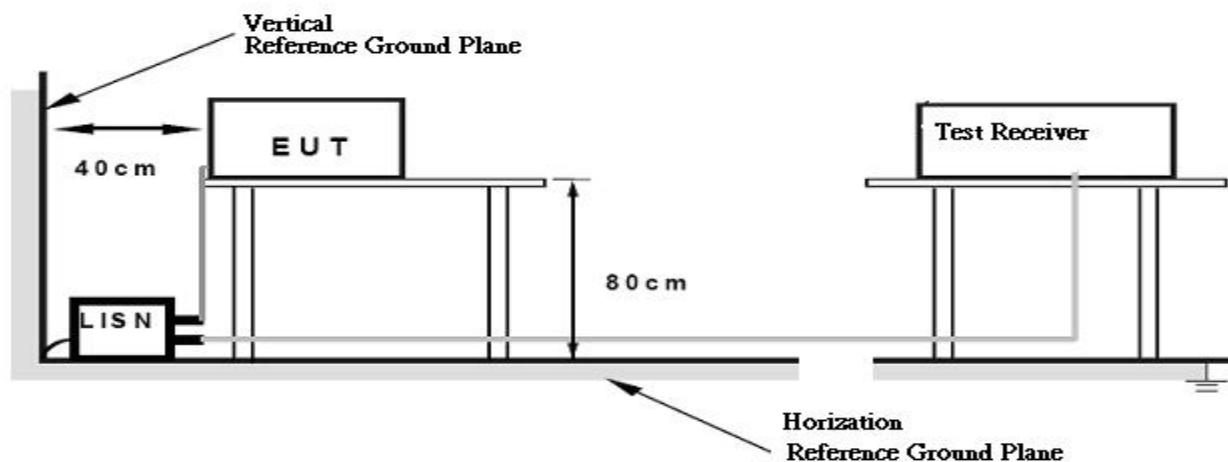
4.1.2 TEST PROCEDURE

- 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) and RSS-210 section 2.2&A8.5, then the 15.209(a) and RSS-Gen 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:

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

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

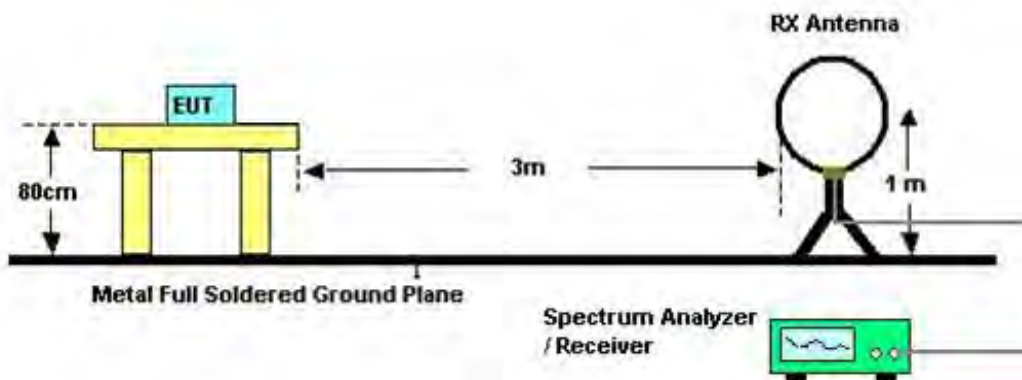
No deviation

4.2.4 TEST SETUP

Radiated Emission Test Set-Up Frequency 30 - 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	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	Indoor AP:1 Watt Mobile and portable:250mW Fixed P to P AP:1W Outdoor AP:1 Watt The maximum e.i.r.p. at anyelevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).	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	\geq 3 MHz.
Detector	RMS
Trace	Max Hold
Sweep Time	auto

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

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	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	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
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. FREQUENCY STABILITY MEASUREMENT

9.1 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

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
RB	10 kHz
VB	10 kHz
Sweep Time	Auto

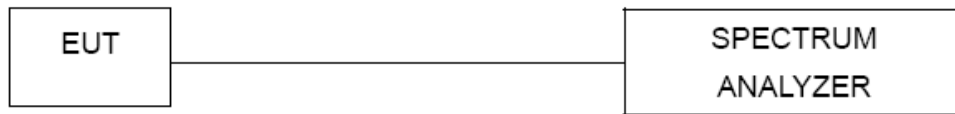
c. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value.

d. user manual temperature is 0°C~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 4.1.6 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 J.

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. 29, 2015
2	LISN	R&S	ENV216	100087	Mar. 29, 2015
3	Test Cable	N/A	C_17	N/A	Mar. 14, 2015
4	EMI TEST RECEIVER	R&S	ESCS30	826547/022	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	Test Receiver	R&S	ESCI	100382	Mar. 29, 2015
4	Test Cable	N/A	C-01_CB03	N/A	Jul. 01, 2015
5	Antenna	ETS	3115	00075789	Mar. 29, 2015
6	Amplifier	Agilent	8449B	3008A02274	Mar. 29, 2015
7	Spectrum	Agilent	E4408B	US39240143	Nov. 09, 2014
8	Test Cable	HUBER+SUHNER	C-45	N/A	Mar. 29, 2015
9	Controller	CT	SC100	N/A	N/A
10	Horn Antenna	EMCO	3115	9605-4803	Mar. 29, 2015
11	Active Loop Antenna	R&S	HFH2-Z2	830749/020	Mar. 29, 2015
12	Broad-Band Horn Antenna (40G)	Schwarzbeck	BBHA 9170	9170319	Feb. 22, 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

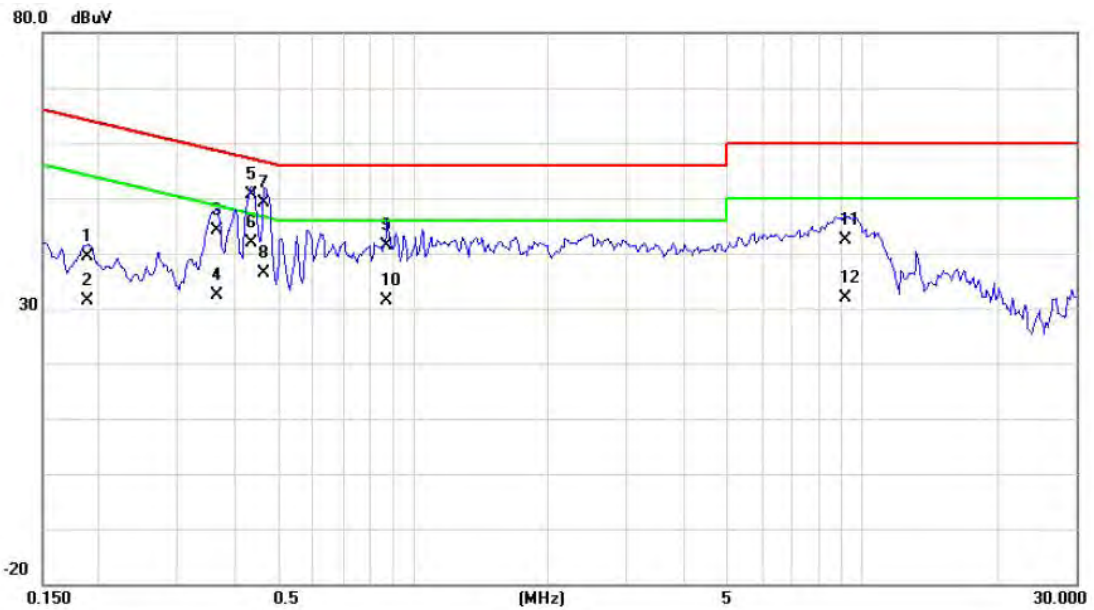
Frequency Stability Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 11, 2014
2	Precision Oven Tester	HOLINK	H-T-1F-D	BA03101701	May. 25, 2014

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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1891	29.80	9.54	39.34	64.08	-24.74	QP	
2		0.1891	21.90	9.54	31.44	54.08	-22.64	AVG	
3		0.3688	34.40	9.63	44.03	58.53	-14.50	QP	
4		0.3688	22.70	9.63	32.33	48.53	-16.20	AVG	
5		0.4391	41.00	9.66	50.66	57.08	-6.42	QP	
6	*	0.4391	32.10	9.66	41.76	47.08	-5.32	AVG	
7		0.4664	39.40	9.69	49.09	56.58	-7.49	QP	
8		0.4664	26.60	9.69	36.29	46.58	-10.29	AVG	
9		0.8766	31.80	9.67	41.47	56.00	-14.53	QP	
10		0.8766	21.60	9.67	31.27	46.00	-14.73	AVG	
11		9.1641	32.20	10.06	42.26	60.00	-17.74	QP	
12		9.1641	21.80	10.06	31.86	50.00	-18.14	AVG	

Note : The test result has included the cable loss.

Test Mode : TX MODE

Neutral



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV	Limit dBuV	Over dB	Detector	Comment
1	0.1890	29.40	0.07	29.47	64.08	-34.61	QP	
2	0.1890	24.00	0.07	24.07	54.08	-30.01	AVG	
3	0.3648	35.10	0.09	35.19	58.62	-23.43	QP	
4	0.3648	28.20	0.09	28.29	48.62	-20.33	AVG	
5	0.4430	38.10	0.09	38.19	57.01	-18.82	QP	
6 *	0.4430	28.70	0.09	28.79	47.01	-18.22	AVG	
7	0.5835	34.80	0.11	34.91	56.00	-21.09	QP	
8	0.5835	26.90	0.11	27.01	46.00	-18.99	AVG	
9	0.8804	30.90	0.13	31.03	56.00	-24.97	QP	
10	0.8804	21.80	0.13	21.93	46.00	-24.07	AVG	
11	9.2577	30.50	0.48	30.98	60.00	-29.02	QP	
12	9.2577	22.40	0.48	22.88	50.00	-27.12	AVG	

Note : The test result has included the cable loss.

Conducted Measurement Photos

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
0.0814	0°	-3.85	21.77	17.92	89.39	-71.47	AVG
0.0814	0°	2.51	21.77	24.28	109.39	-85.11	PEAK
0.1523	0°	-2.96	20.60	17.64	83.95	-66.31	AVG
0.1523	0°	1.97	20.60	22.57	103.95	-81.38	PEAK
0.1963	0°	-4.71	20.51	15.80	81.75	-65.95	AVG
0.1963	0°	1.12	20.51	21.63	101.75	-80.12	PEAK
0.2040	0°	-1.04	20.49	19.45	81.41	-61.96	AVG
0.2040	0°	2.96	20.49	23.45	101.41	-77.96	PEAK
3.6578	0°	8.24	18.97	27.21	69.54	-42.33	QP
18.8563	0°	5.37	17.56	22.93	69.54	-46.61	QP

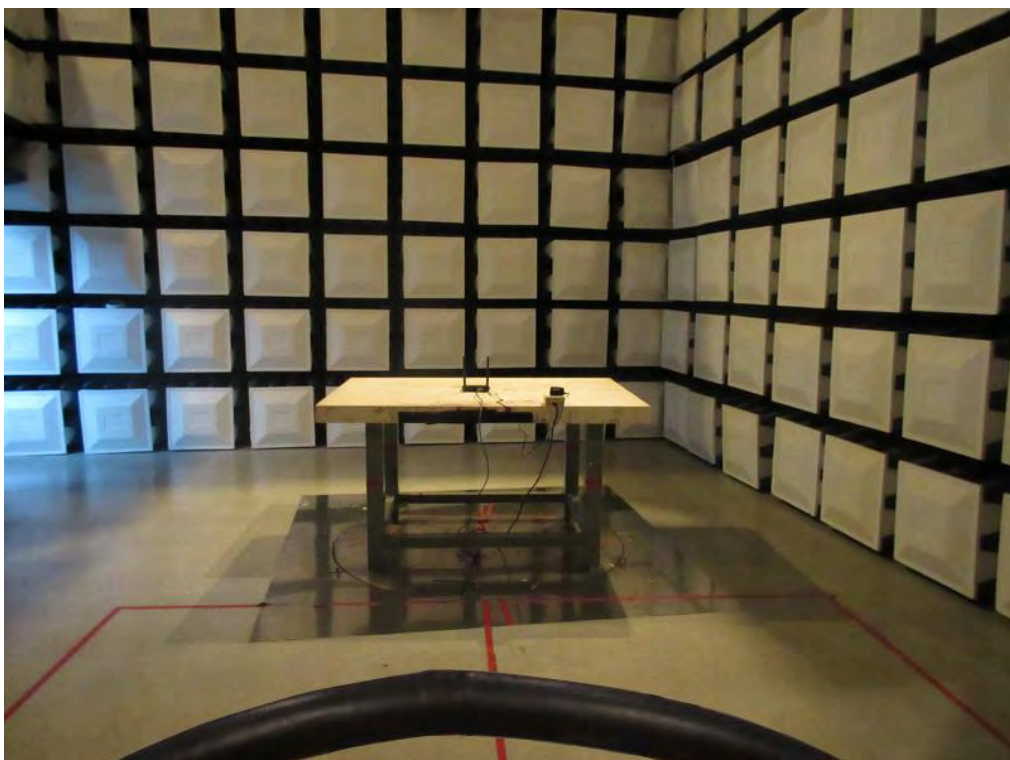
Freq. (MHz)	Ant. 0°/90°	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
0.0675	90°	-4.56	22.05	17.49	111.02	-93.53	AVG
0.0675	90°	0.89	22.05	22.94	131.02	-108.08	PEAK
0.1396	90°	-1.98	20.77	18.79	104.71	-85.92	AVG
0.1396	90°	0.25	20.77	21.02	124.71	-103.69	PEAK
0.1524	90°	-2.65	20.60	17.95	103.94	-86.00	AVG
0.1524	90°	0.04	20.60	20.64	123.94	-103.31	PEAK
0.1862	90°	-3.62	20.53	16.91	102.20	-85.30	AVG
0.1862	90°	-1.08	20.53	19.45	122.20	-102.76	PEAK
3.0047	90°	7.52	18.90	26.42	69.54	-43.12	QP
9.6475	90°	10.34	17.83	28.17	69.54	-41.37	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.

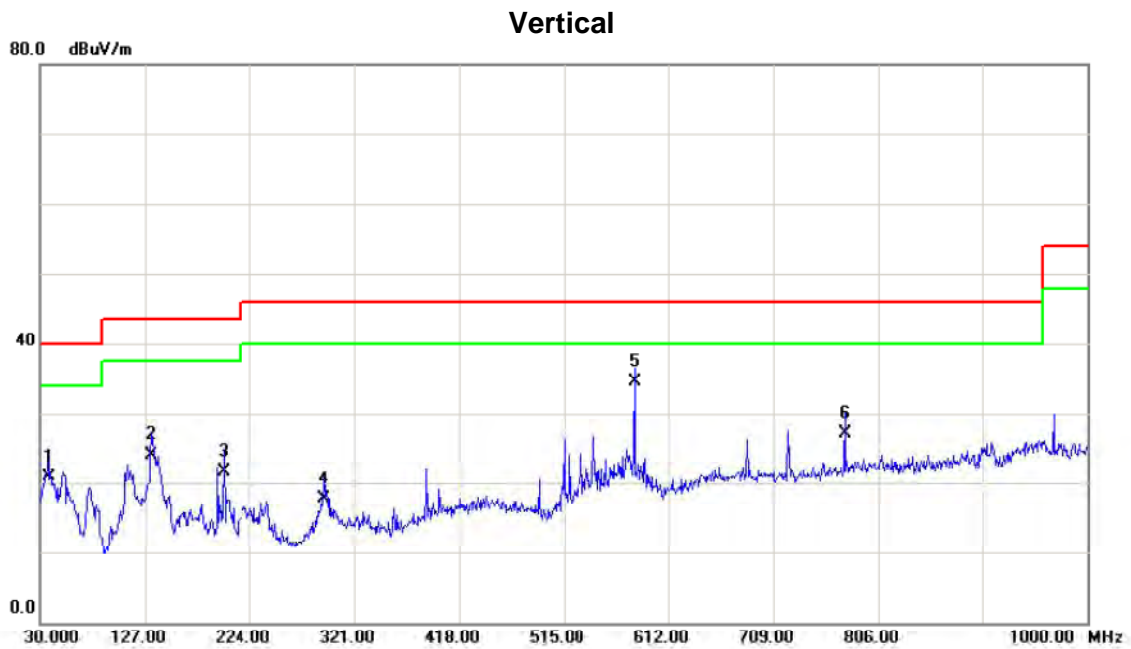
Radiated Measurement Photos

9KHz to 30MHz



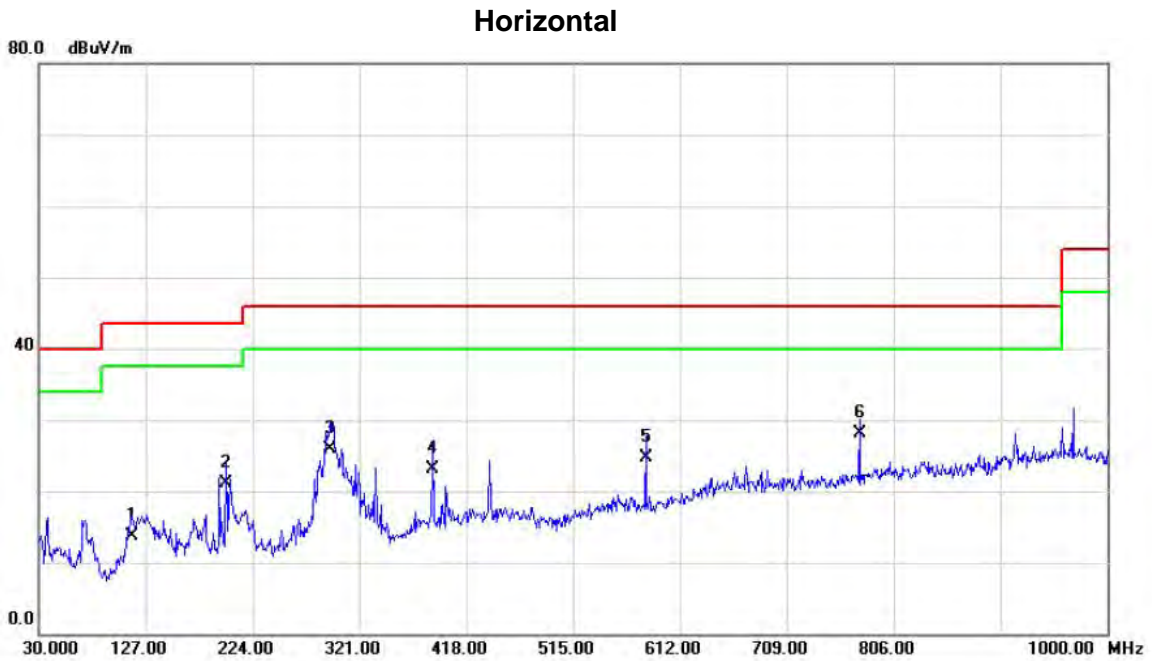
ATTACHMENT C - RADIATED EMISSION (30MHZ TO 1000MHZ)

Test Mode : TX A Mode 5180MHz



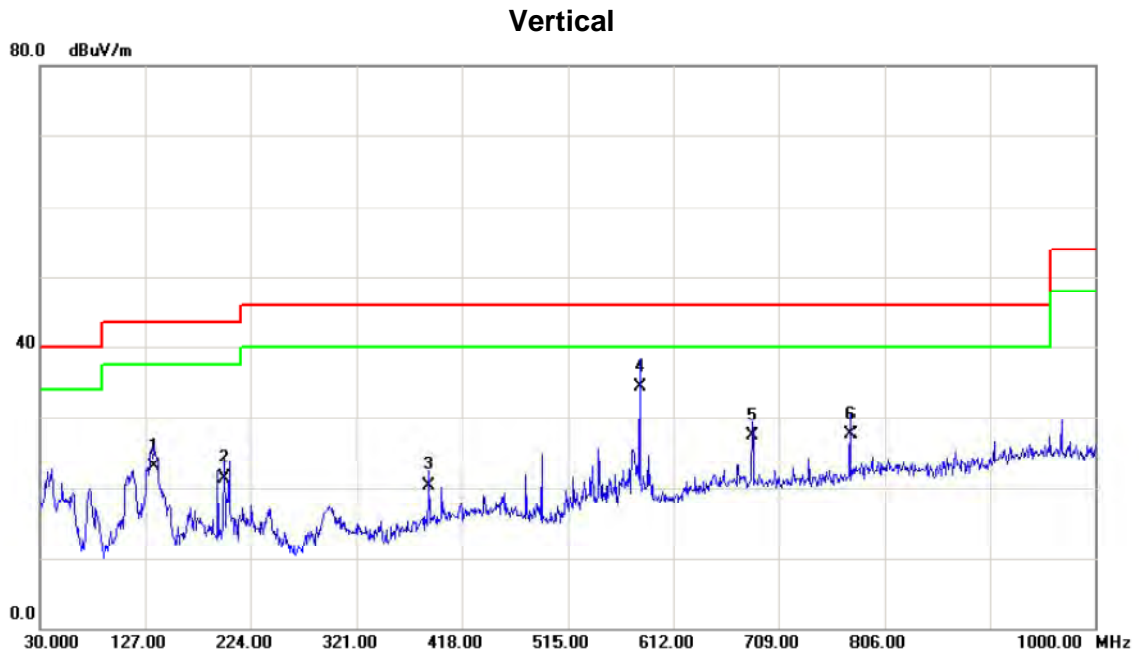
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		37.7600	35.34	-14.38	20.96	40.00	-19.04	QP	
2		132.8200	37.19	-13.09	24.10	43.50	-19.40	QP	
3		199.7500	36.68	-14.97	21.71	43.50	-21.79	QP	
4		292.8700	28.76	-11.12	17.64	46.00	-28.36	QP	
5	*	580.9600	42.48	-7.92	34.56	46.00	-11.44	QP	
6		774.9600	30.93	-3.76	27.17	46.00	-18.83	QP	

Test Mode : TX A Mode 5180MHz



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		114.3900	28.48	-14.81	13.67	43.50	-29.83	QP	
2		199.7500	36.07	-14.97	21.10	43.50	-22.40	QP	
3		294.8100	36.94	-11.09	25.85	46.00	-20.15	QP	
4		387.9300	33.17	-10.07	23.10	46.00	-22.90	QP	
5		580.9600	32.66	-7.92	24.74	46.00	-21.26	QP	
6	*	774.9600	31.86	-3.76	28.10	46.00	-17.90	QP	

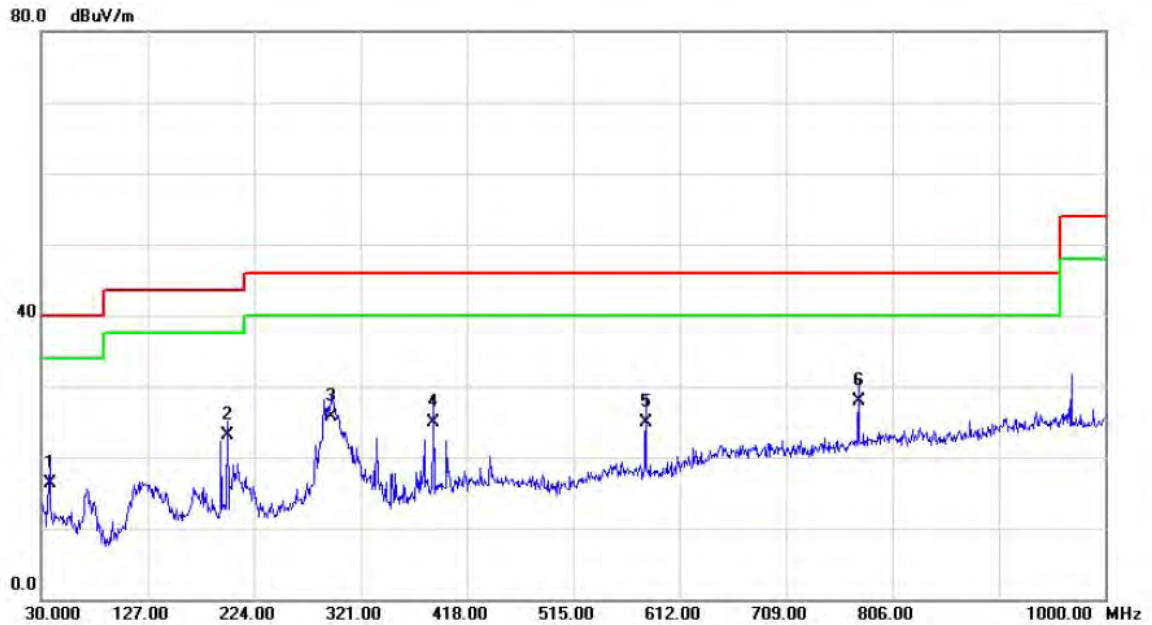
Test Mode : TX A Mode 5200MHz



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		135.7300	35.95	-13.12	22.83	43.50	-20.67	QP	
2		199.7500	36.35	-14.97	21.38	43.50	-22.12	QP	
3		387.9300	30.33	-10.07	20.26	46.00	-25.74	QP	
4	*	580.9600	42.17	-7.92	34.25	46.00	-11.75	QP	
5		684.7500	32.26	-5.00	27.26	46.00	-18.74	QP	
6		774.9600	31.28	-3.76	27.52	46.00	-18.48	QP	

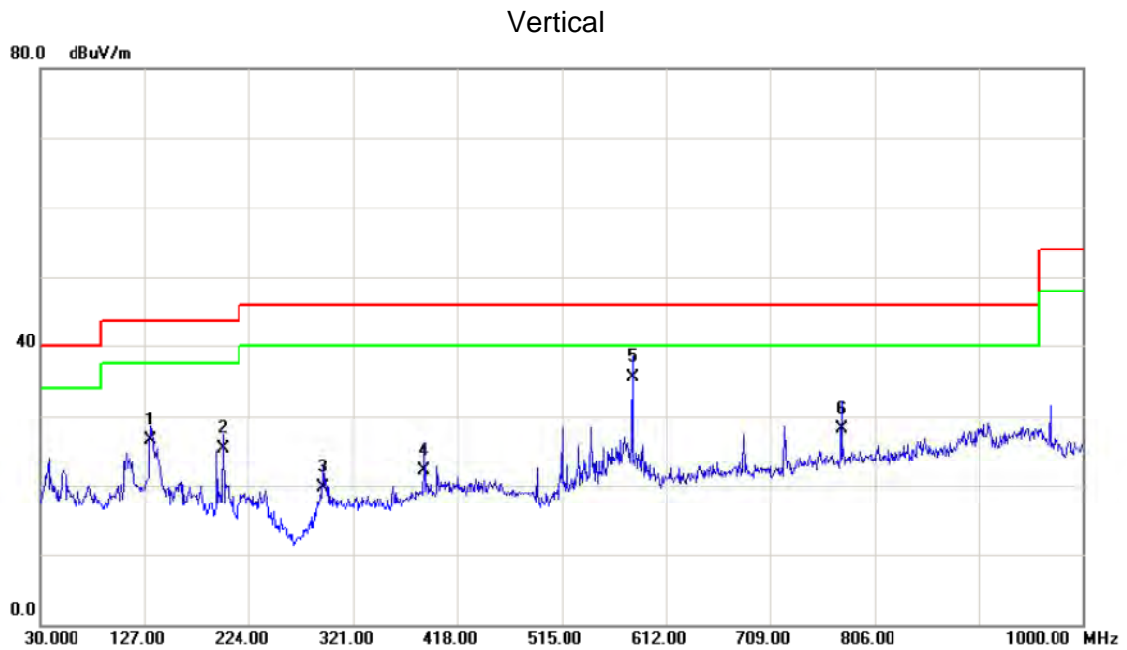
Test Mode : TX A Mode 5200MHz

Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		37.7600	30.74	-14.38	16.36	40.00	-23.64	QP	
2		199.7500	38.10	-14.97	23.13	43.50	-20.37	QP	
3		294.8100	36.85	-11.09	25.76	46.00	-20.24	QP	
4		387.9300	34.94	-10.07	24.87	46.00	-21.13	QP	
5		580.9600	32.74	-7.92	24.82	46.00	-21.18	QP	
6	*	774.9600	31.65	-3.76	27.89	46.00	-18.11	QP	

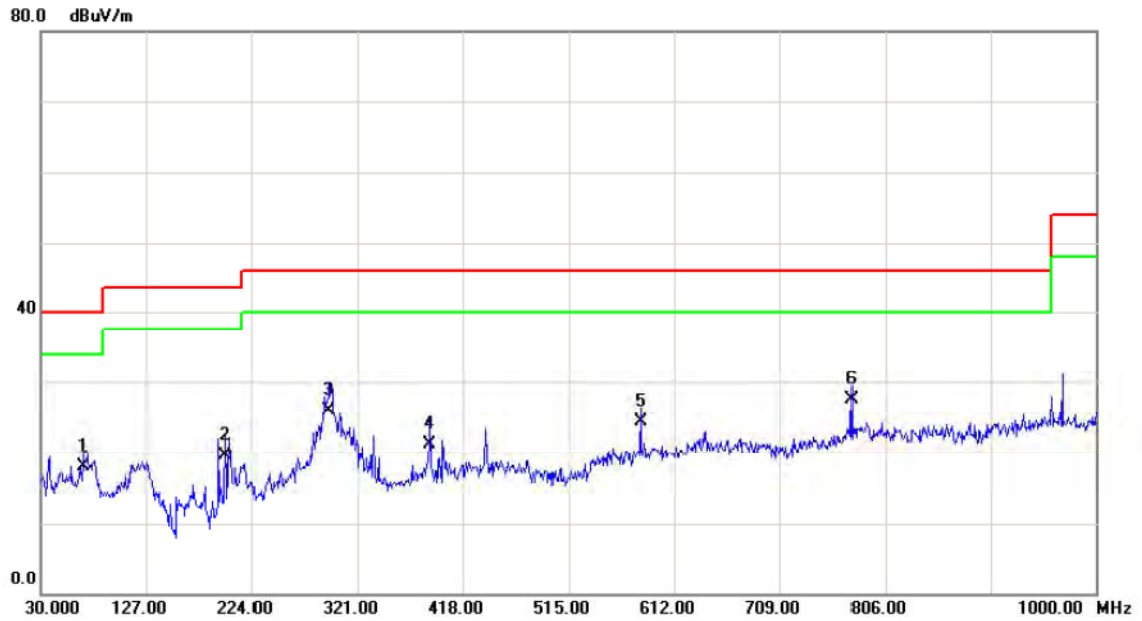
Test Mode : TX A Mode 5240MHz



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		132.8200	39.69	-13.09	26.60	43.50	-16.90	QP	
2		199.7500	40.18	-14.97	25.21	43.50	-18.29	QP	
3		292.8700	30.76	-11.12	19.64	46.00	-26.36	QP	
4		387.9300	32.22	-10.07	22.15	46.00	-23.85	QP	
5	*	580.9600	43.48	-7.92	35.56	46.00	-10.44	QP	
6		774.9600	31.93	-3.76	28.17	46.00	-17.83	QP	

Test Mode : TX A Mode 5240MHz

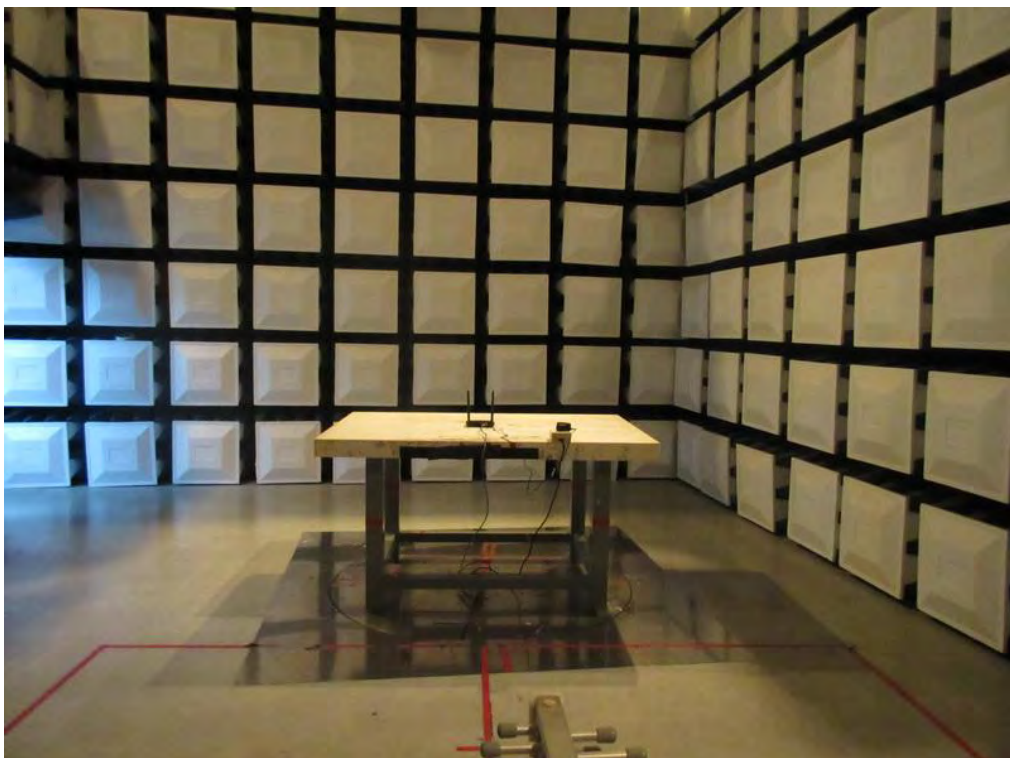
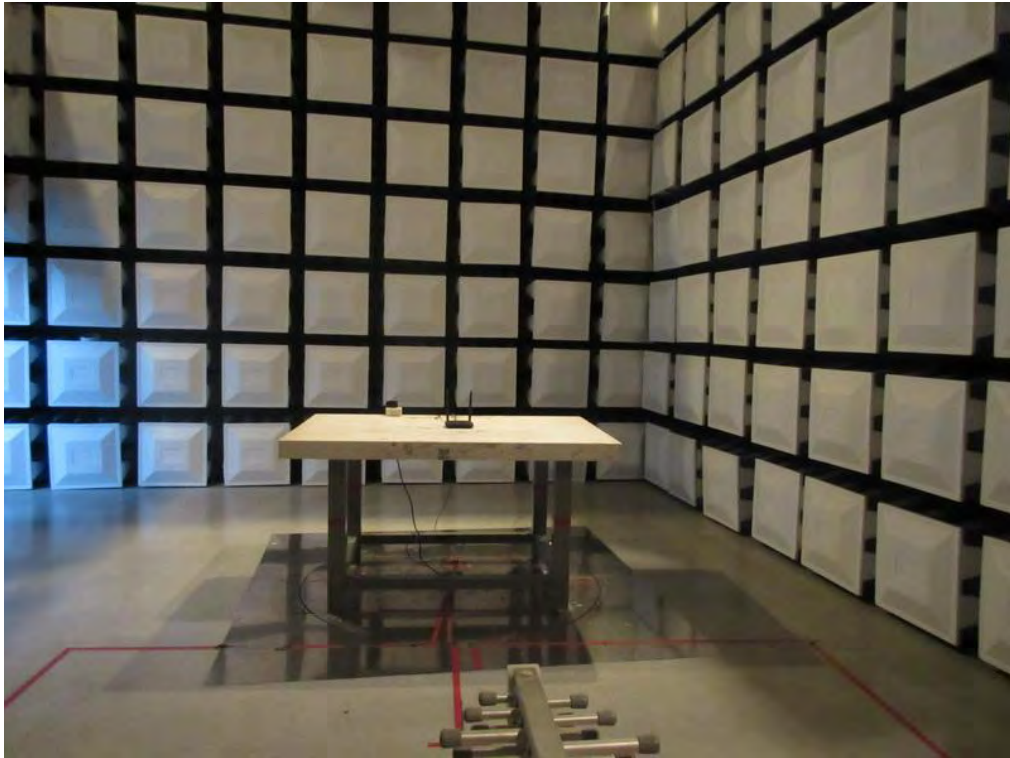
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		69.7700	34.12	-16.22	17.90	40.00	-22.10	QP	
2		199.7500	34.57	-14.97	19.60	43.50	-23.90	QP	
3		294.8100	36.94	-11.09	25.85	46.00	-20.15	QP	
4		387.9300	31.17	-10.07	21.10	46.00	-24.90	QP	
5		580.9600	32.16	-7.92	24.24	46.00	-21.76	QP	
6	*	774.9600	31.36	-3.76	27.60	46.00	-18.40	QP	

Radiated Measurement Photos

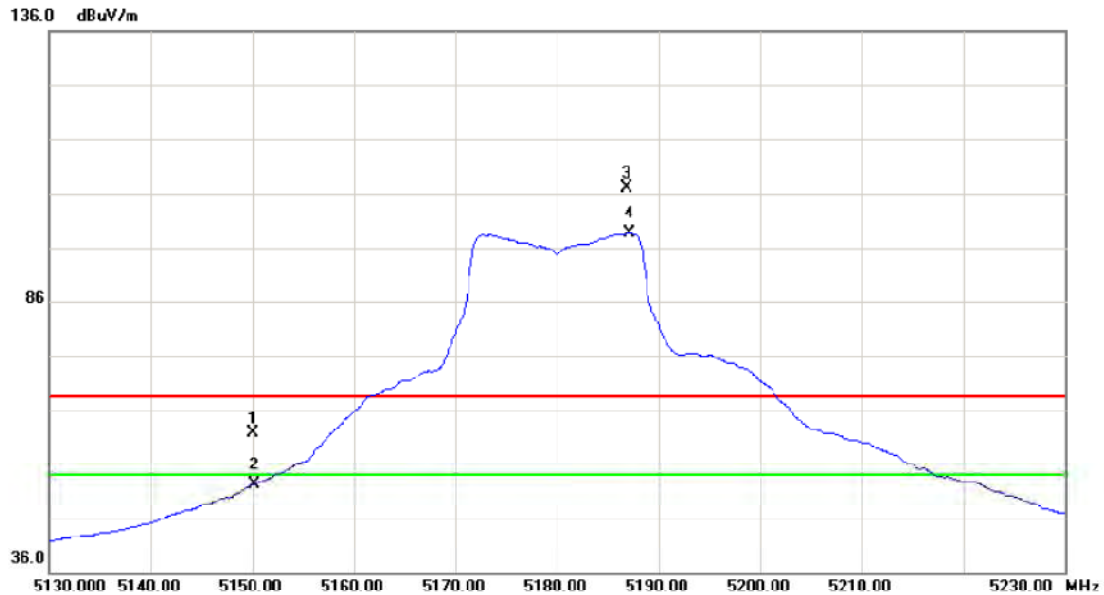
30MHz to 1000MHz



ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)

Orthogonal Axis :	X
Test Mode :	TX A Mode 5180MHz

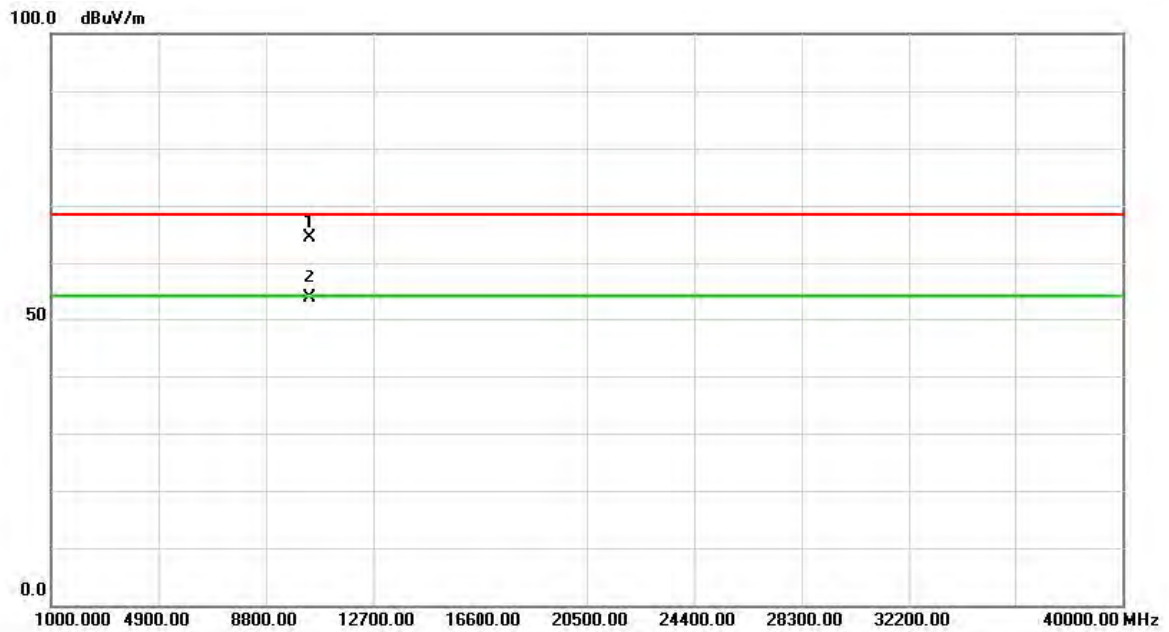
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		5150.000	19.66	41.99	61.65	68.30	-6.65	peak	
2		5150.000	10.22	41.99	52.21	54.00	-1.79	AVG	
3	X	5186.900	64.74	42.14	106.88	68.30	38.58	peak	Fundamental frequency, no limit
4	^	5187.100	56.44	42.14	98.58	54.00	44.58	AVG	Fundamental frequency, no limit

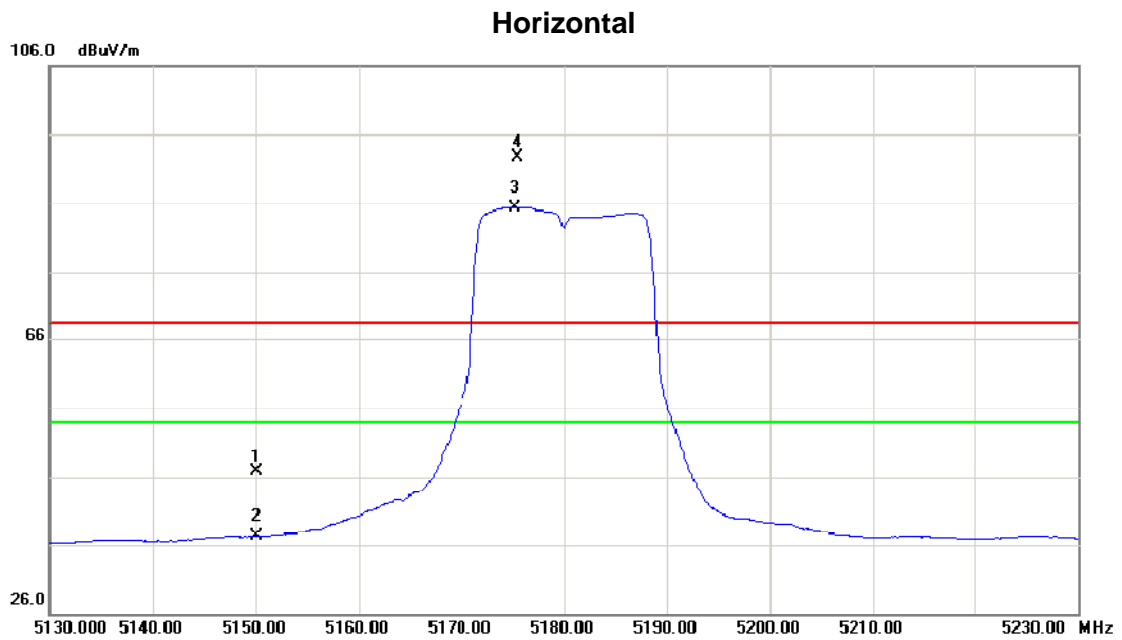
Orthogonal Axis :	X
Test Mode :	TX A Mode 5180MHz

Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		10360.00	48.72	15.70	64.42	68.30	-3.88	peak	
2	*	10360.00	37.84	15.70	53.54	54.00	-0.46	AVG	

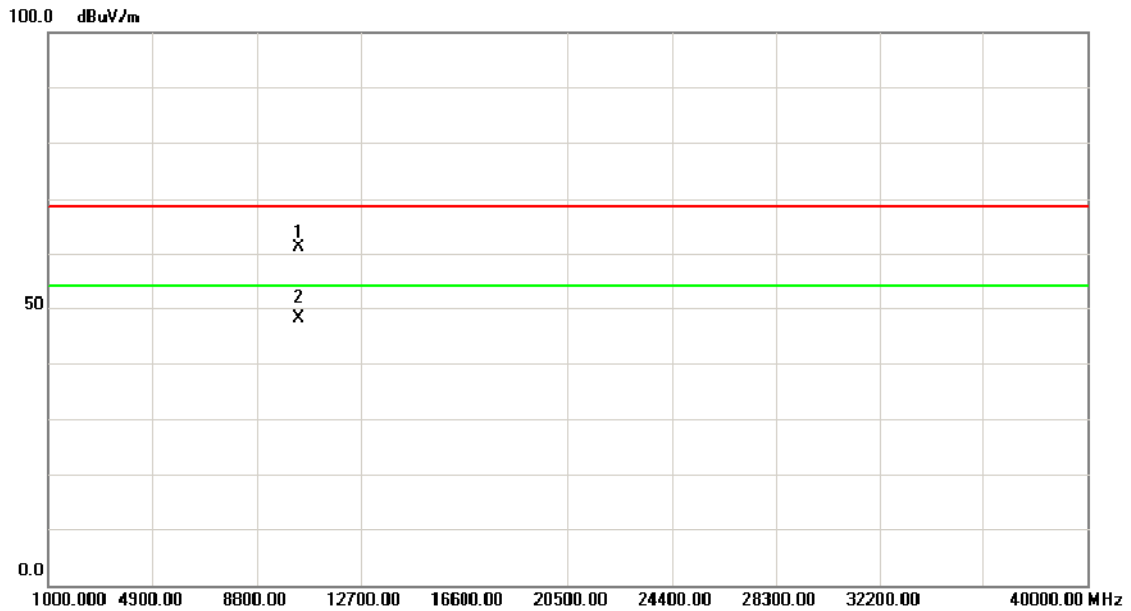
Orthogonal Axis :	X
Test Mode :	TX A Mode 5180MHz



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		5150.000	7.74	39.00	46.74	68.30	-21.56	peak	
2		5150.000	-1.78	39.00	37.22	54.00	-16.78	AVG	
3	*	5175.200	46.31	39.08	85.39	54.00	31.39	AVG	Fundamental frequency, no limit
4	X	5175.500	53.68	39.08	92.76	68.30	24.46	peak	Fundamental frequency, no limit

Orthogonal Axis :	X
Test Mode :	TX A Mode 5180MHz

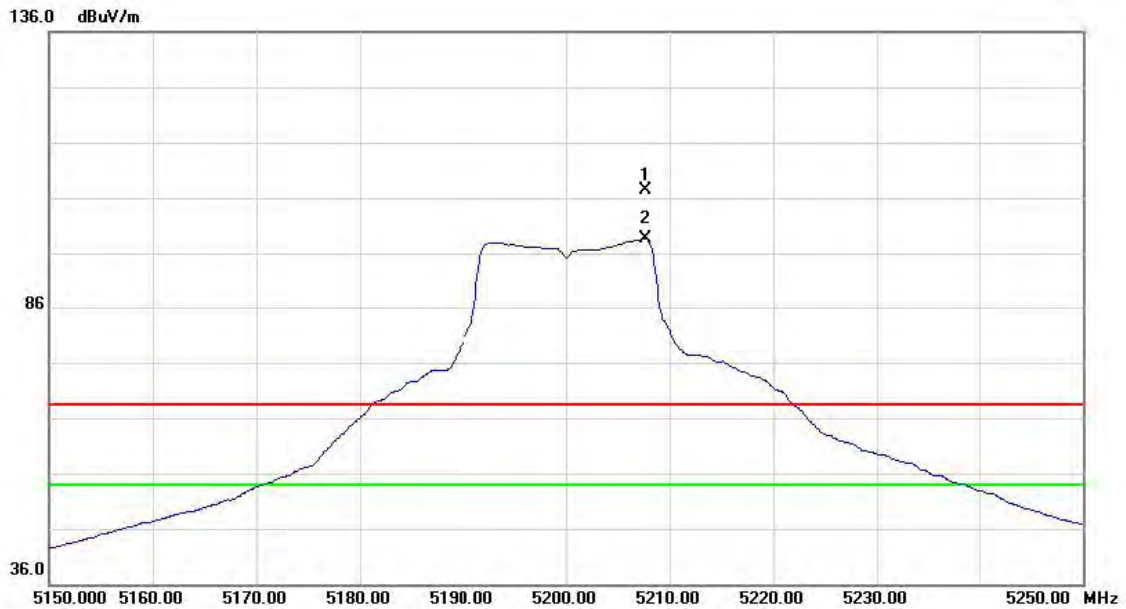
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		10360.00	45.39	15.70	61.09	68.30	-7.21	peak	
2	*	10360.00	32.31	15.70	48.01	54.00	-5.99	AVG	

Orthogonal Axis :	X
Test Mode :	TX A Mode 5200MHz

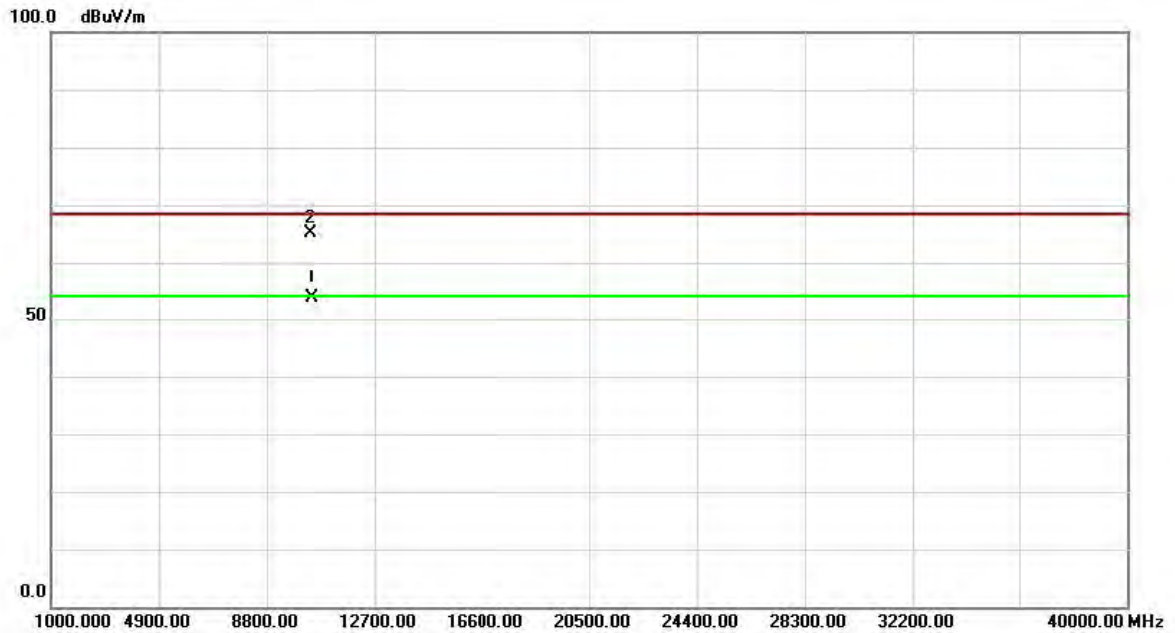
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	5207.600	65.13	42.23	107.36	68.30	39.06	peak	Fundamental frequency, no limit
2	*	5207.700	56.41	42.23	98.64	54.00	44.64	AVG	Fundamental frequency, no limit

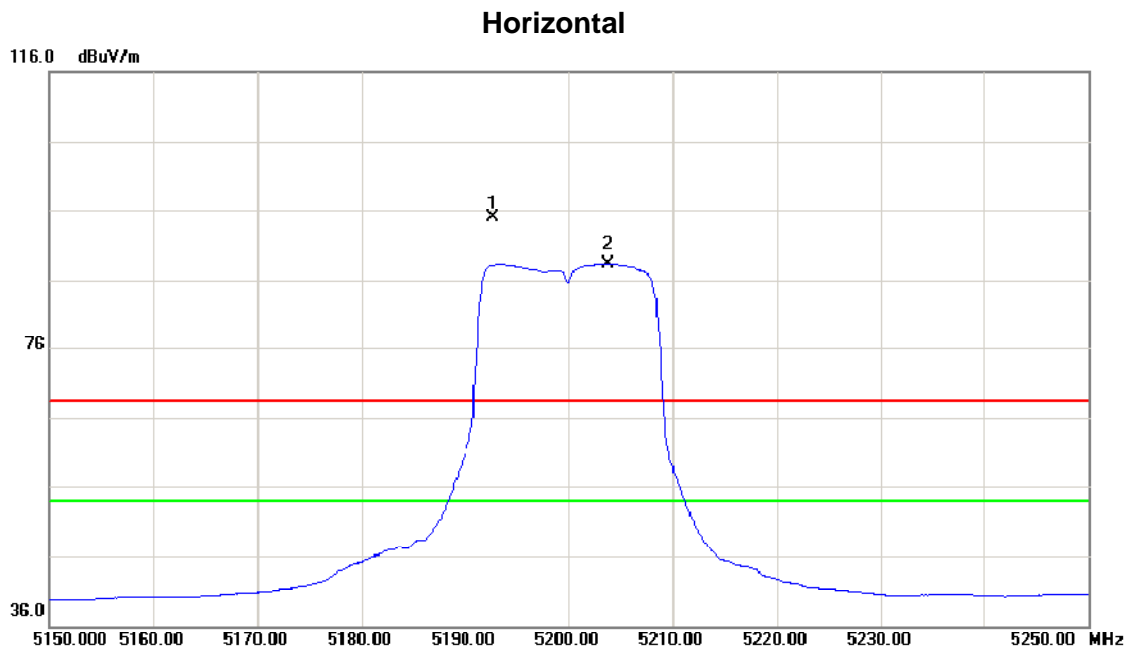
Orthogonal Axis :	X
Test Mode :	TX A Mode 5200MHz

Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	10400.00	37.92	15.64	53.56	54.00	-0.44	AVG	
2		10401.20	49.41	15.63	65.04	68.30	-3.26	peak	

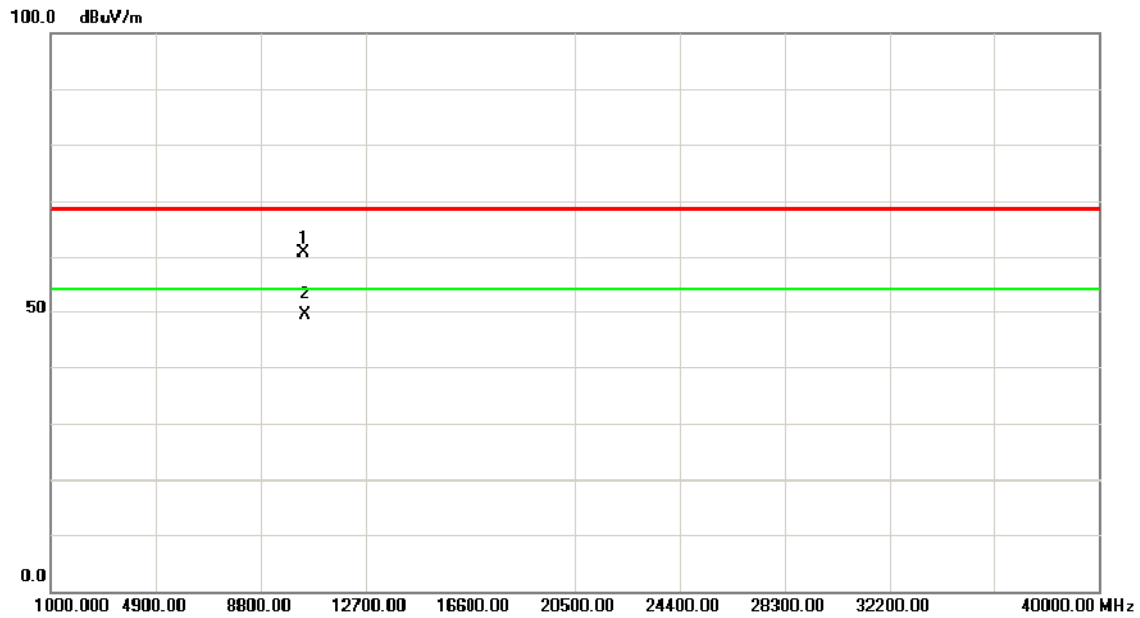
Orthogonal Axis :	X
Test Mode :	TX A Mode 5200MHz



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	5192.700	52.79	42.16	94.95	68.30	26.65	peak	Fundamental frequency, no limit
2	*	5203.800	46.12	42.21	88.33	54.00	34.33	AVG	Fundamental frequency, no limit

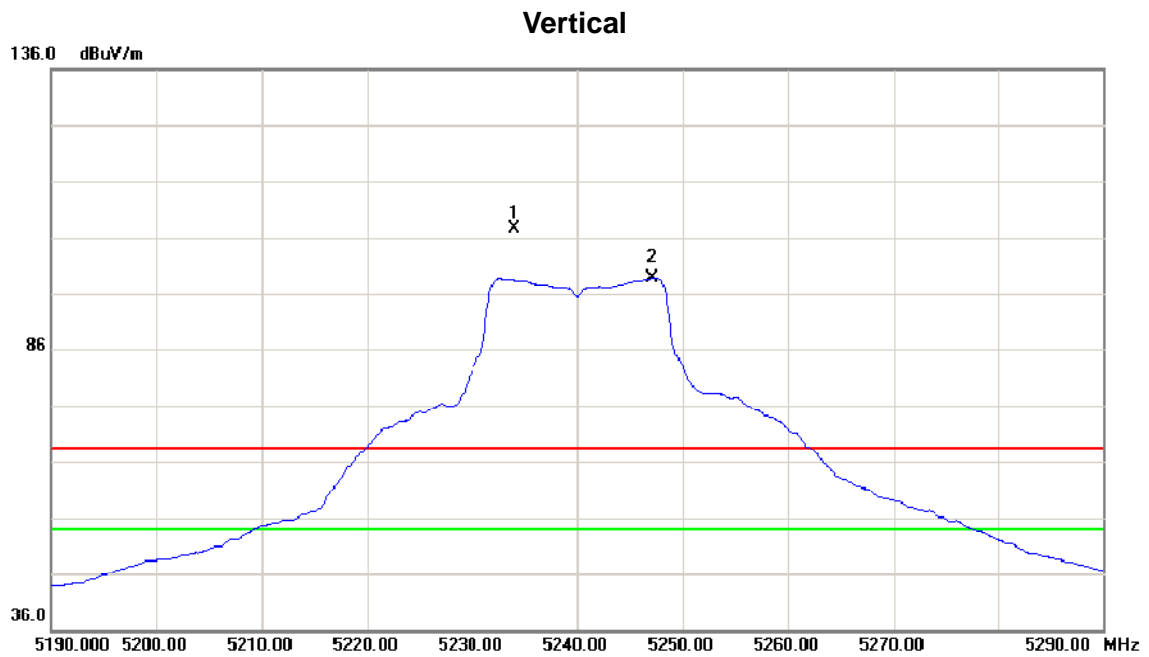
Orthogonal Axis :	X
Test Mode :	TX A Mode 5200MHz

Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		10400.10	44.93	15.64	60.57	68.30	-7.73	peak	
2	*	10400.10	33.85	15.64	49.49	54.00	-4.51	AVG	

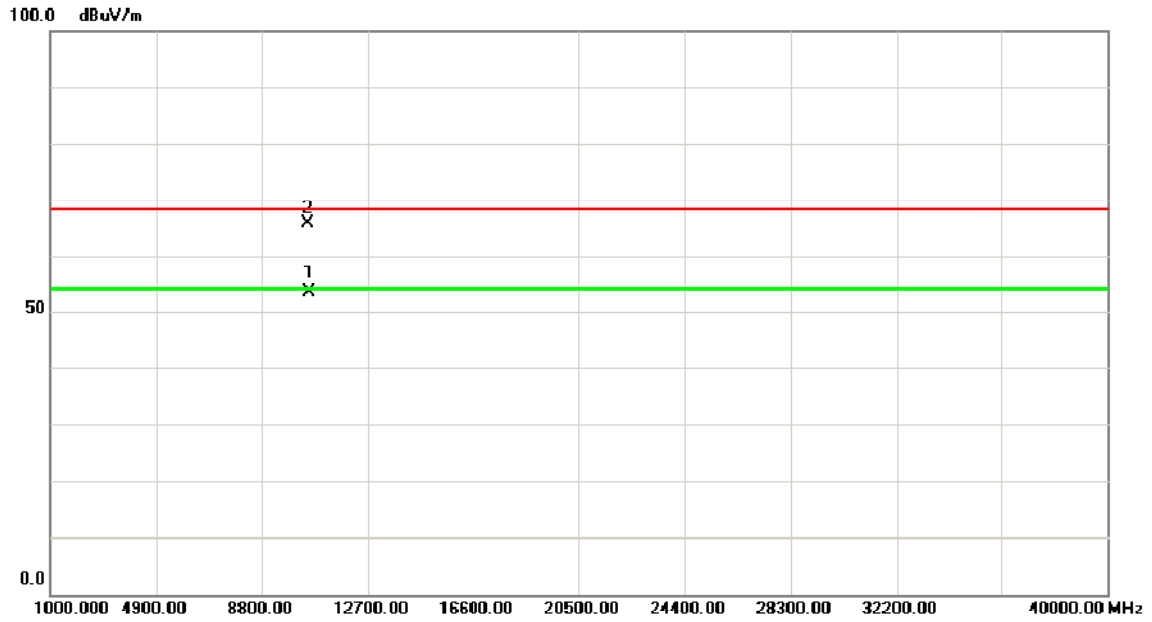
Orthogonal Axis :	X
Test Mode :	TX A Mode 5240MHz



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	5234.100	65.26	42.33	107.59	68.30	39.29	peak	Fundamental frequency, no limit
2	*	5247.100	56.44	42.39	98.83	54.00	44.83	AVG	Fundamental frequency, no limit

Orthogonal Axis :	X
Test Mode :	TX A Mode 5240MHz

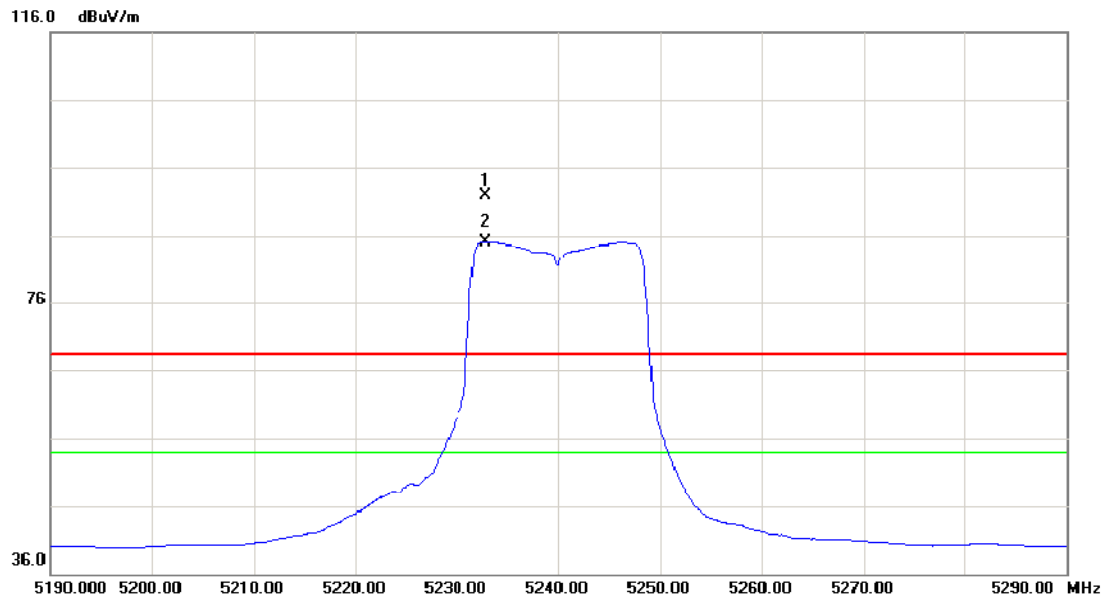
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	10480.40	37.79	15.51	53.30	54.00	-0.70	AVG	
2		10480.70	50.45	15.51	65.96	68.30	-2.34	peak	

Orthogonal Axis :	X
Test Mode :	TX A Mode 5240MHz

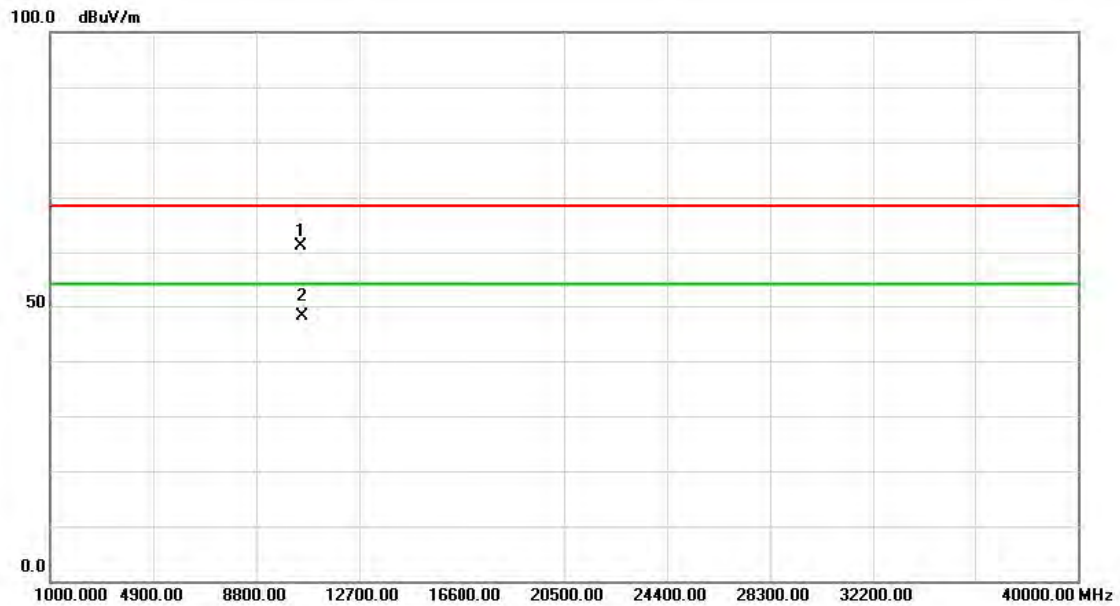
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	5232.800	49.65	42.33	91.98	68.30	23.68	peak	Fundamental frequency, no limit
2	*	5232.900	42.87	42.33	85.20	54.00	31.20	AVG	Fundamental frequency, no limit

Orthogonal Axis :	X
Test Mode :	TX A Mode 5240MHz

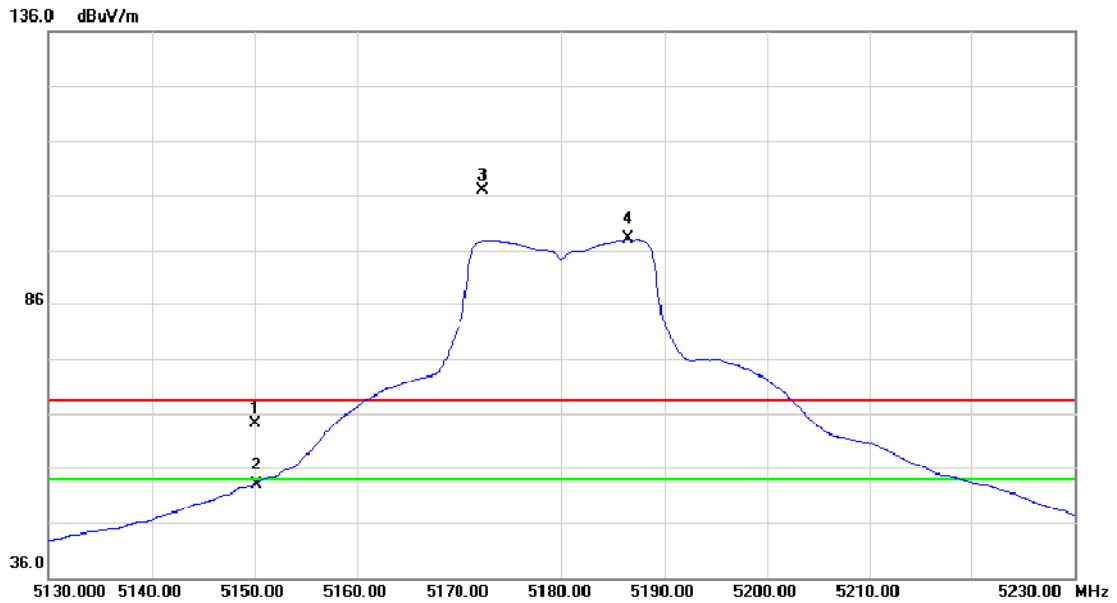
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		10480.70	45.72	15.51	61.23	68.30	-7.07	peak	
2	*	10480.70	32.63	15.51	48.14	54.00	-5.86	AVG	

Orthogonal Axis :	X
Test Mode :	TX N20 Mode 5180MHz

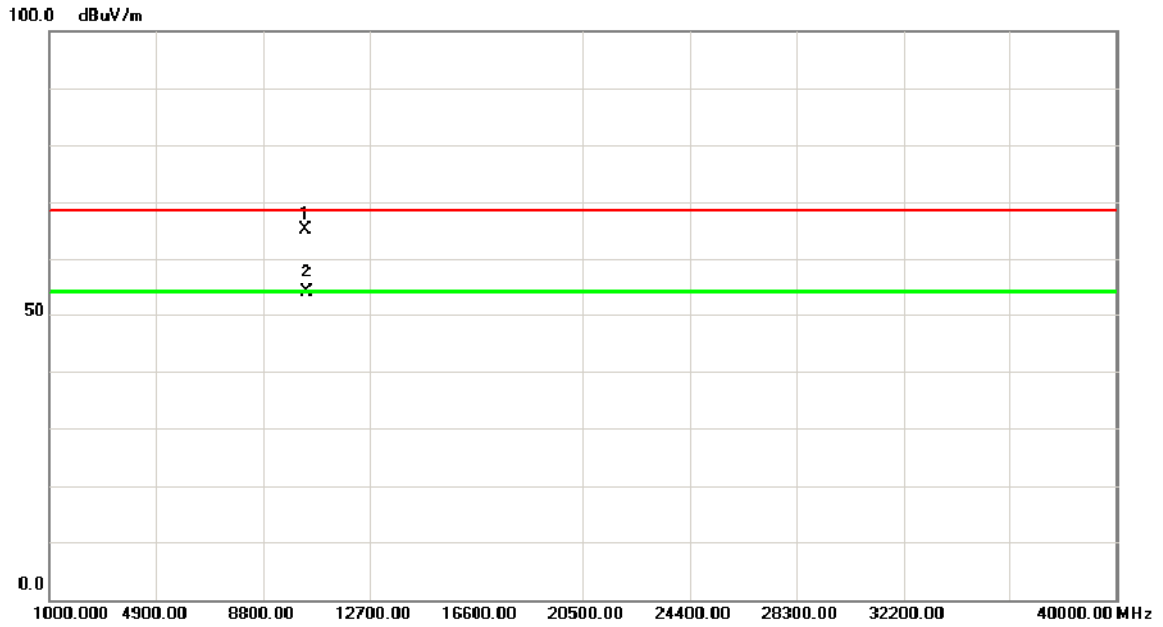
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		5150.000	22.18	41.99	64.17	68.30	-4.13	peak	
2		5150.000	10.94	41.99	52.93	54.00	-1.07	AVG	
3	X	5172.300	64.83	42.08	106.91	68.30	38.61	peak	Fundamental frequency, no limit
4	*	5186.400	55.95	42.14	98.09	54.00	44.09	AVG	Fundamental frequency, no limit

Orthogonal Axis :	X
Test Mode :	TX N20 Mode 5180MHz

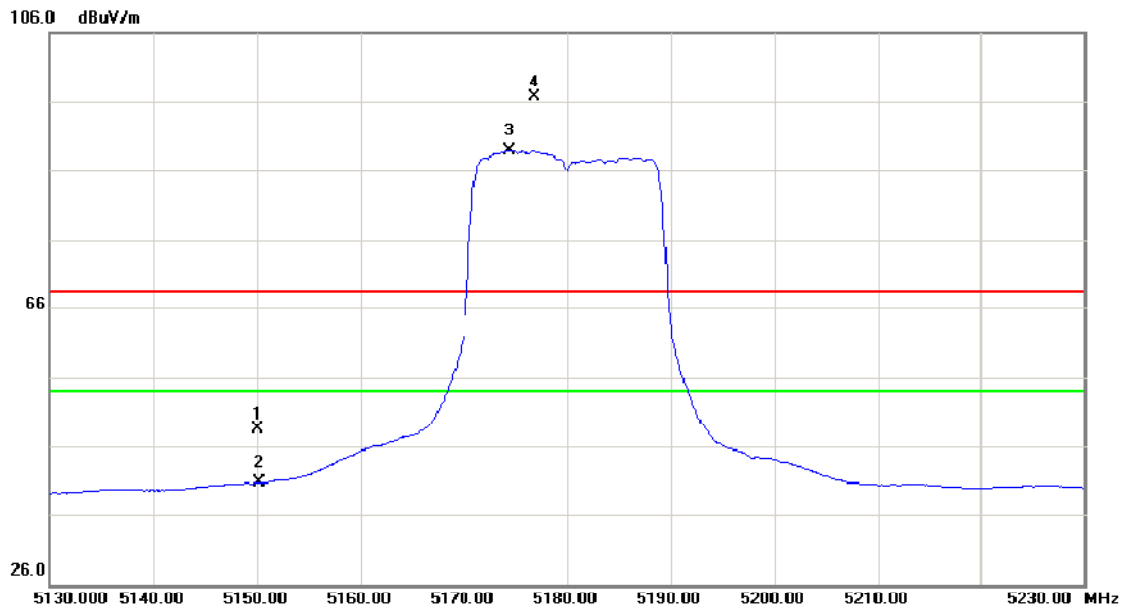
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		10358.70	49.54	15.70	65.24	68.30	-3.06	peak	
2	*	10360.00	38.07	15.70	53.77	54.00	-0.23	AVG	

Orthogonal Axis :	X
Test Mode :	TX N20 Mode 5180MHz

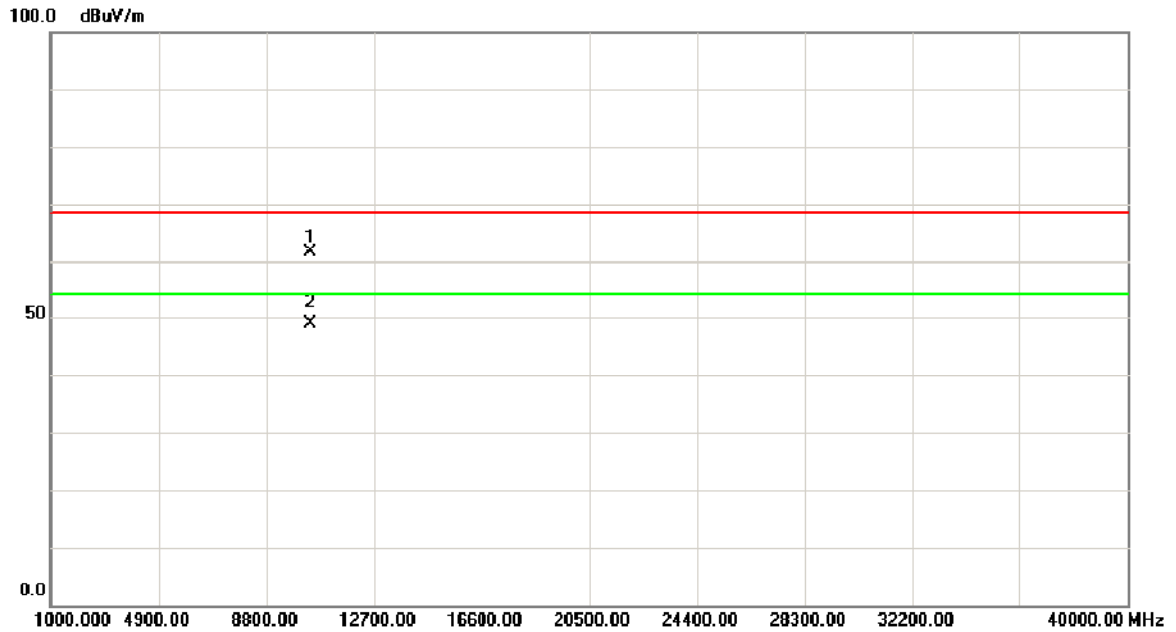
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		5150.000	6.47	41.99	48.46	68.30	-19.84	peak	
2		5150.000	-1.32	41.99	40.67	54.00	-13.33	AVG	
3	*	5174.500	46.86	42.09	88.95	54.00	34.95	AVG	Fundamental frequency, no limit
4	X	5176.900	54.56	42.10	96.66	68.30	28.36	peak	Fundamental frequency, no limit

Orthogonal Axis :	X
Test Mode :	TX N20 Mode 5180MHz

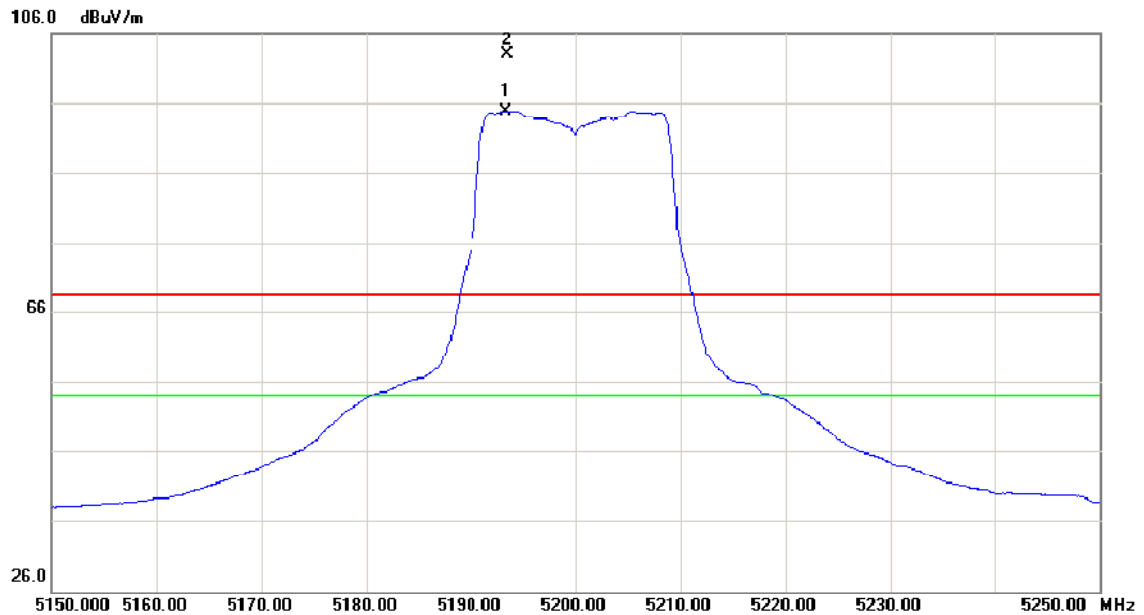
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		10360.60	45.87	15.70	61.57	68.30	-6.73	peak	
2	*	10360.60	33.29	15.70	48.99	54.00	-5.01	AVG	

Orthogonal Axis :	X
Test Mode :	TX N20 Mode 5200MHz

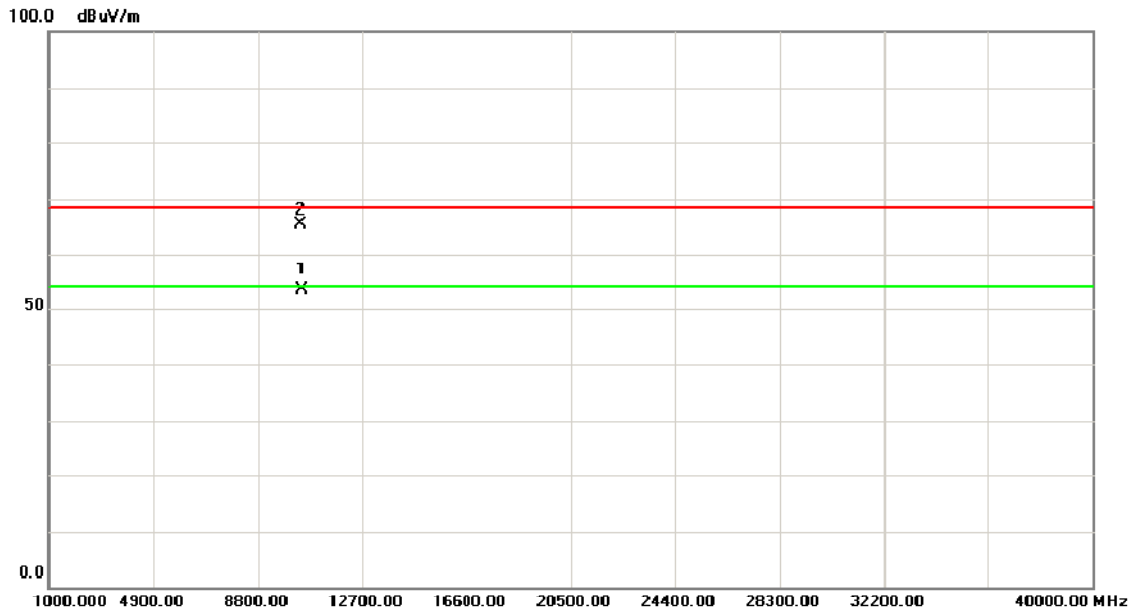
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	5193.400	55.54	39.15	94.69	54.00	40.69	AVG	Fundamental frequency, no limit
2	X	5193.500	63.70	39.15	102.85	68.30	34.55	peak	Fundamental frequency, no limit

Orthogonal Axis :	X
Test Mode :	TX N20 Mode 5200MHz

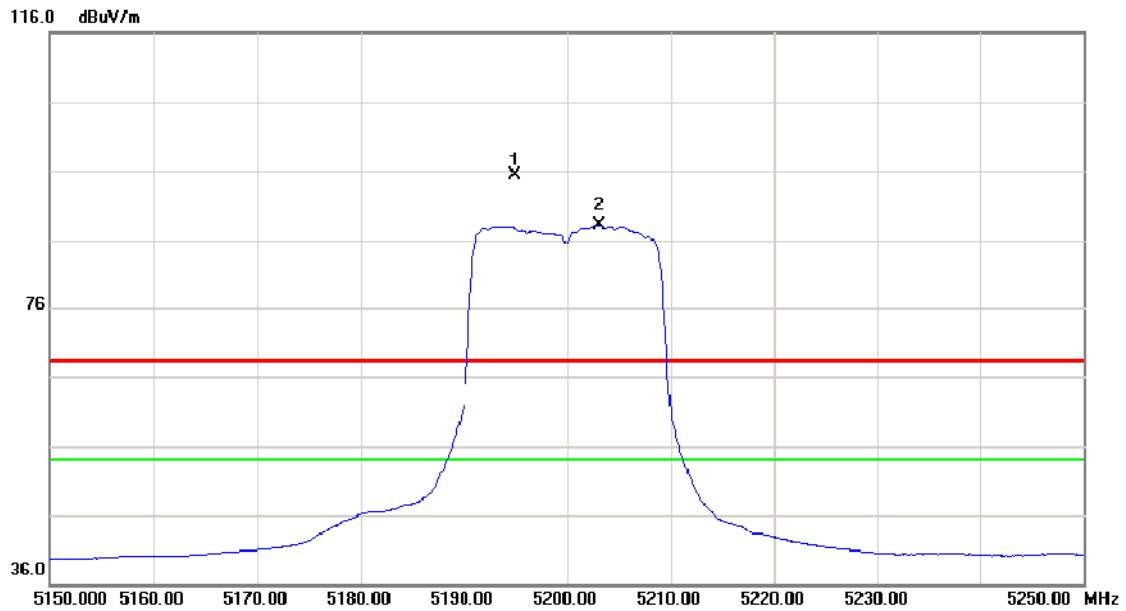
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	10400.30	37.75	15.64	53.39	54.00	-0.61	AVG	
2		10402.30	49.77	15.63	65.40	68.30	-2.90	peak	

Orthogonal Axis :	X
Test Mode :	TX N20 Mode 5200MHz

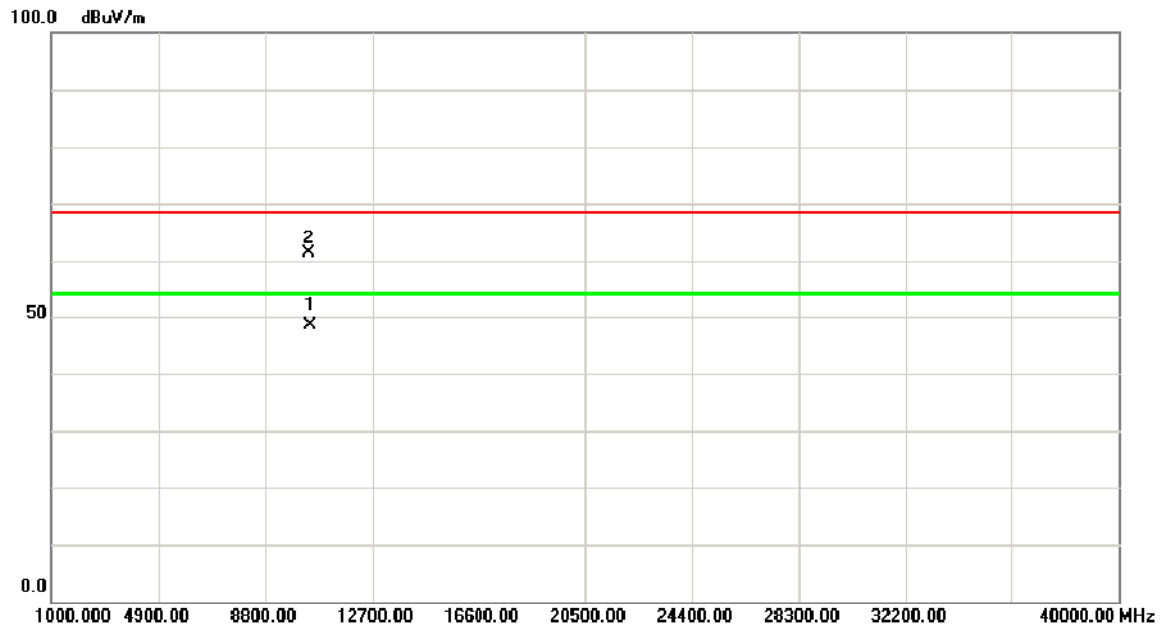
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	5195.000	53.08	42.17	95.25	68.30	26.95	peak	Fundamental frequency, no limit
2	*	5203.100	45.99	42.21	88.20	54.00	34.20	AVG	Fundamental frequency, no limit

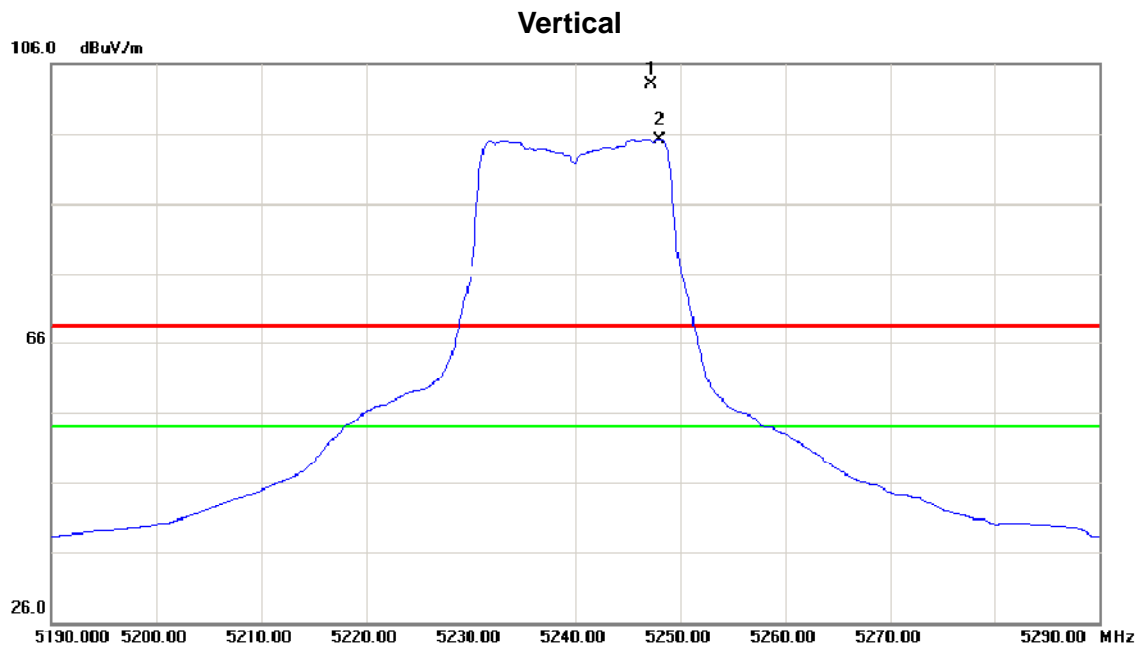
Orthogonal Axis :	X
Test Mode :	TX N20 Mode 5200MHz

Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	10400.10	32.63	15.64	48.27	54.00	-5.73	AVG	
2		10402.10	45.74	15.63	61.37	68.30	-6.93	peak	

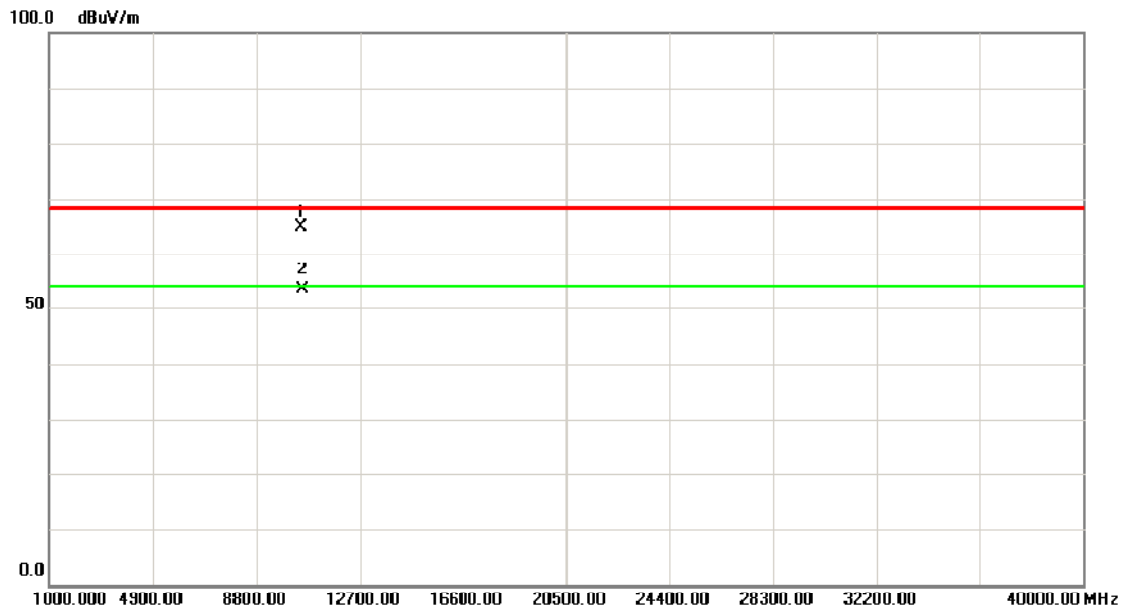
Orthogonal Axis :	X
Test Mode :	TX N20 Mode 5240MHz



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	5247.300	63.75	39.32	103.07	68.30	34.77	peak	Fundamental frequency, no limit
2	*	5248.000	55.86	39.32	95.18	54.00	41.18	AVG	Fundamental frequency, no limit

Orthogonal Axis :	X
Test Mode :	TX N20 Mode 5240MHz

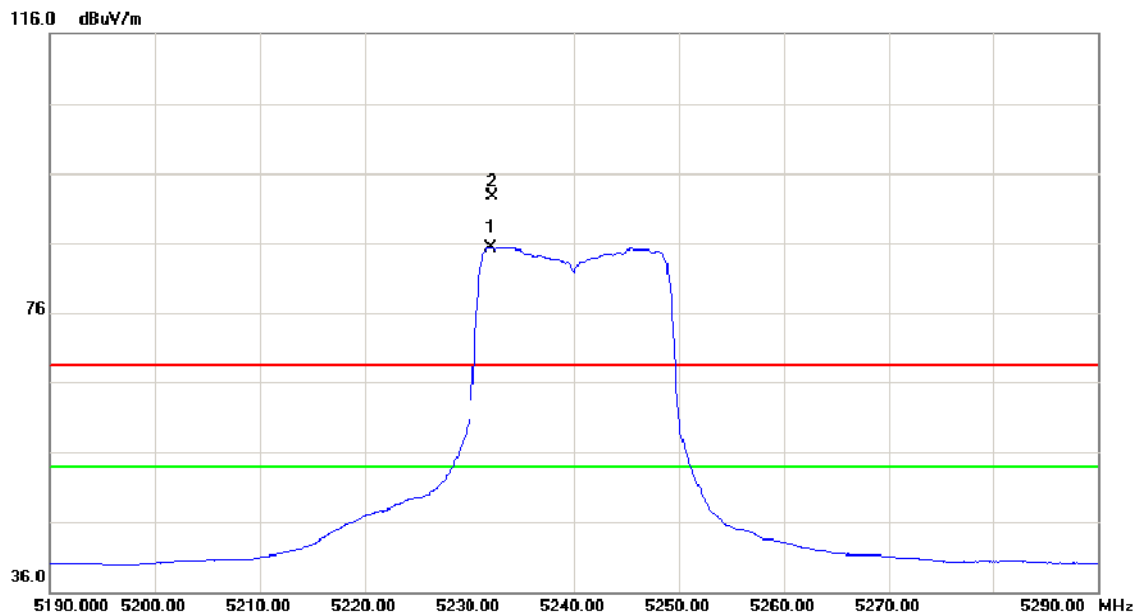
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		10479.00	49.43	15.52	64.95	68.30	-3.35	peak	
2	*	10480.50	37.76	15.51	53.27	54.00	-0.73	AVG	

Orthogonal Axis :	X
Test Mode :	TX N20 Mode 5240MHz

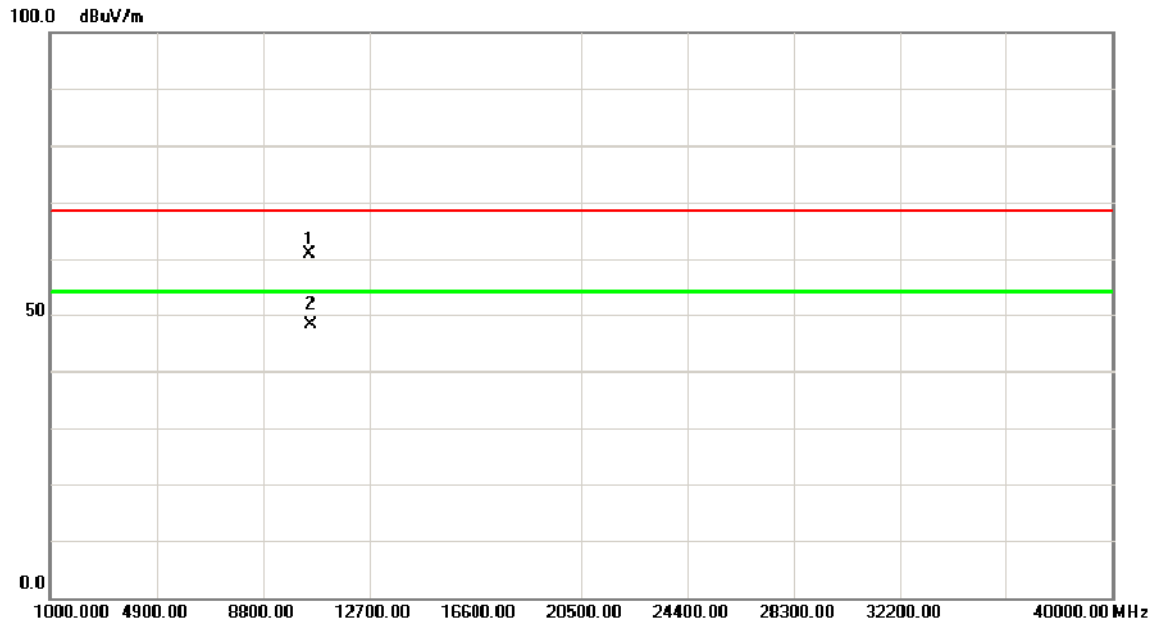
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	5232.000	43.06	42.33	85.39	54.00	31.39	AVG	Fundamental frequency, no limit
2	X	5232.200	50.38	42.33	92.71	68.30	24.41	peak	Fundamental frequency, no limit

Orthogonal Axis :	X
Test Mode :	TX N20 Mode 5240MHz

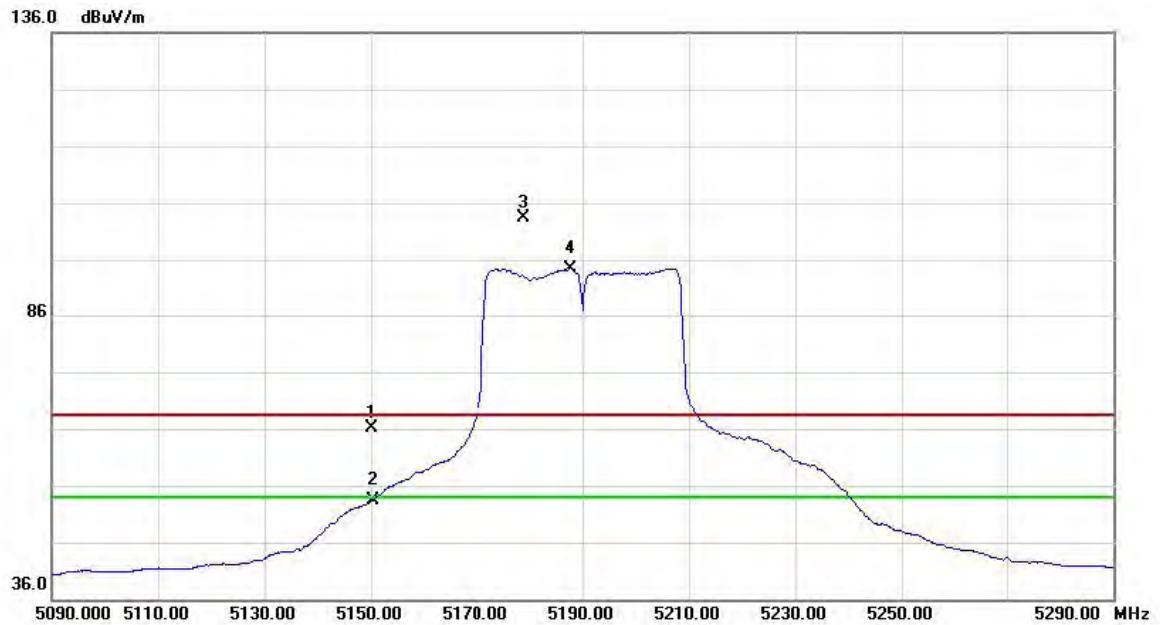
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		10480.00	45.34	15.52	60.86	68.30	-7.44	peak	
2	*	10480.00	32.69	15.52	48.21	54.00	-5.79	AVG	

Orthogonal Axis :	X
Test Mode :	TX N40 Mode 5190MHz

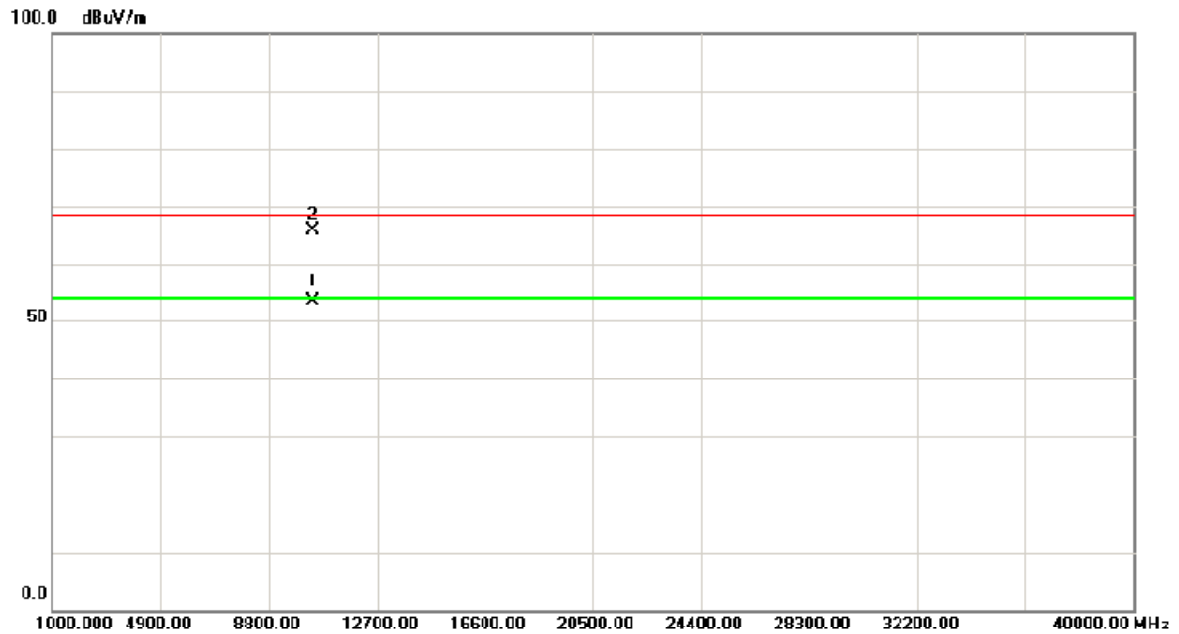
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		5150.000	24.20	41.99	66.19	68.30	-2.11	peak	
2		5150.000	11.28	41.99	53.27	54.00	-0.73	AVG	
3	X	5179.000	61.28	42.11	103.39	68.30	35.09	peak	Fundamental frequency, no limit
4	*	5187.800	52.17	42.15	94.32	54.00	40.32	AVG	Fundamental frequency, no limit

Orthogonal Axis :	X
Test Mode :	TX N40 Mode 5190MHz

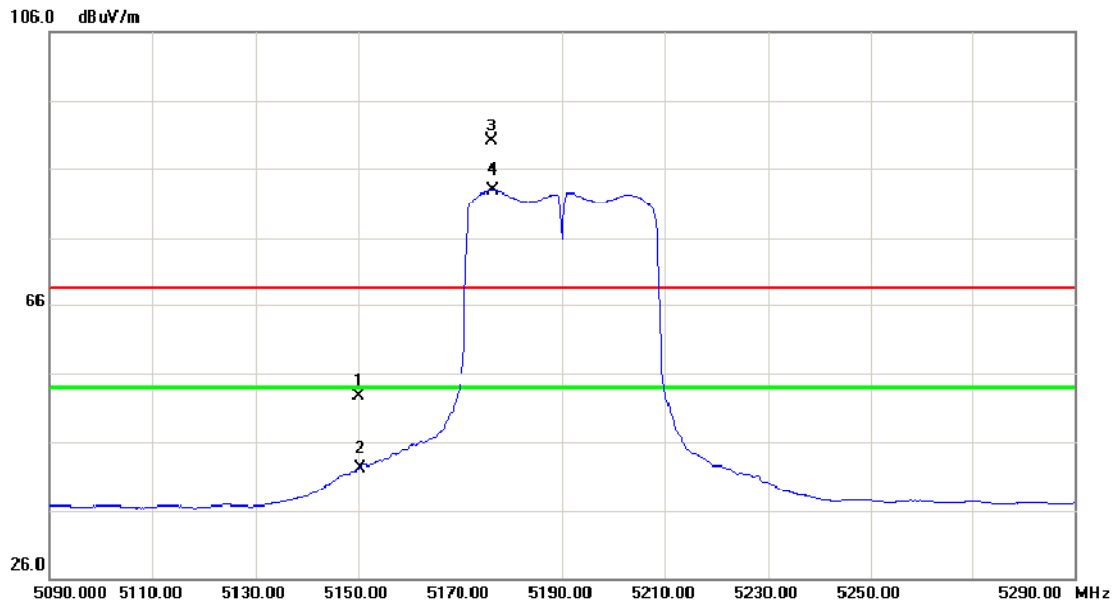
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	10377.50	37.01	15.60	53.49	54.00	-0.51	AVG	
2		10384.00	50.31	15.66	65.97	68.30	-2.33	peak	

Orthogonal Axis :	X
Test Mode :	TX N40 Mode 5190MHz

Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		5150.000	13.65	39.00	52.65	68.30	-15.65	peak	
2		5150.000	3.13	39.00	42.13	54.00	-11.87	AVG	
3	X	5176.200	51.10	39.08	90.18	68.30	21.88	peak	Fundamental frequency, no limit
4	*	5176.400	43.79	39.09	82.88	54.00	28.88	AVG	Fundamental frequency, no limit