

FCC Radio Test Report

FCC ID: 2AGB6-SWSERIES

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

Project No. : 1707C304
Equipment : Shockwafe Sound Bar with Wireless Subwoofer
Test Model : PRO 7.1
Series Model : ULTRA 9.2, ELITE 7.2, PLUS 5.2, PRO 5.1
Applicant : WOW Technologies (Singapore) Pte Ltd
Address : 62 Burn Road #06-01 TSH Centre Singapore

Date of Receipt : Jul. 27, 2017
Date of Test : Jul. 27, 2017 ~ Aug. 18, 2017
Issued Date : Sep. 07, 2017
Tested by : BTL Inc.

Testing Engineer : Shawn Xiao
(Shawn Xiao)

Technical Manager : David Mao
(David Mao)

Authorized Signatory : Steven Lu
(Steven Lu)

B T L I N C .

No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan,
Guangdong, China.

TEL: +86-769-8318-3000 FAX: +86-769-8319-6000



Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

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

BTL's report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

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

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

Limitation

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

Table of Contents	Page
1 . CERTIFICATION	6
2 . SUMMARY OF TEST RESULTS	7
2.1 TEST FACILITY	8
2.2 MEASUREMENT UNCERTAINTY	8
3 . GENERAL INFORMATION	9
3.1 GENERAL DESCRIPTION OF EUT	9
3.2 DESCRIPTION OF TEST MODES	11
3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING	13
3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	14
3.5 DESCRIPTION OF SUPPORT UNITS	14
4 . EMC EMISSION TEST	15
4.1 CONDUCTED EMISSION MEASUREMENT	15
4.1.1 POWER LINE CONDUCTED EMISSION LIMITS	15
4.1.2 TEST PROCEDURE	15
4.1.3 DEVIATION FROM TEST STANDARD	15
4.1.4 TEST SETUP	16
4.1.5 EUT OPERATING CONDITIONS	16
4.1.6 EUT TEST CONDITIONS	16
4.1.7 TEST RESULTS	16
4.2 RADIATED EMISSION MEASUREMENT	17
4.2.1 RADIATED EMISSION LIMITS	17
4.2.2 TEST PROCEDURE	18
4.2.3 DEVIATION FROM TEST STANDARD	18
4.2.4 TEST SETUP	19
4.2.5 EUT OPERATING CONDITIONS	20
4.2.6 EUT TEST CONDITIONS	20
4.2.7 TEST RESULTS (9KHZ TO 30MHZ)	20
4.2.8 TEST RESULTS (30MHZ TO 1000 MHZ)	20
4.2.9 TEST RESULTS (ABOVE 1000 MHZ)	20
5 . BANDWIDTH TEST	21
5.1 APPLIED PROCEDURES	21
5.1.1 TEST PROCEDURE	21
5.1.2 DEVIATION FROM STANDARD	21
5.1.3 TEST SETUP	21
5.1.4 EUT OPERATION CONDITIONS	21
5.1.5 EUT TEST CONDITIONS	21
5.1.6 TEST RESULTS	21
6 . CONDUCTED OUTPUT POWER TEST	22

Table of Contents	Page
6.1 APPLIED PROCEDURES / LIMIT	22
6.1.1 TEST PROCEDURE	22
6.1.2 DEVIATION FROM STANDARD	22
6.1.3 TEST SETUP	22
6.1.4 EUT OPERATION CONDITIONS	22
6.1.5 EUT TEST CONDITIONS	22
6.1.6 TEST RESULTS	22
7 . ANTENNA CONDUCTED SPURIOUS EMISSION	23
7.1 APPLIED PROCEDURES / LIMIT	23
7.1.1 TEST PROCEDURE	23
7.1.2 DEVIATION FROM STANDARD	23
7.1.3 TEST SETUP	23
7.1.4 EUT OPERATION CONDITIONS	23
7.1.5 EUT TEST CONDITIONS	23
7.1.6 TEST RESULTS	23
8 . POWER SPECTRAL DENSITY TEST	24
8.1 APPLIED PROCEDURES / LIMIT	24
8.1.1 TEST PROCEDURE	24
8.1.2 DEVIATION FROM STANDARD	24
8.1.3 TEST SETUP	24
8.1.4 EUT OPERATION CONDITIONS	24
8.1.5 EUT TEST CONDITIONS	24
8.1.6 TEST RESULTS	24
9 . MEASUREMENT INSTRUMENTS LIST	25
10 . EUT TEST PHOTO	27
APPENDIX A - CONDUCTED EMISSION	31
APPENDIX B - RADIATED EMISSION (9KHZ TO 30MHZ)	34
APPENDIX C - RADIATED EMISSION (30MHZ TO 1000MHZ)	39
APPENDIX D - RADIATED EMISSION (ABOVE 1000MHZ)	52
APPENDIX E - BANDWIDTH	77
APPENDIX F – CONDUCTED OUTPUT POWER	82
APPENDIX G - ANTENNA CONDUCTED SPURIOUS EMISSION	84
APPENDIX H - POWER SPECTRAL DENSITY	91

REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FCCP-2-1707C304	Original Issue.	Aug. 21, 2017
MDG1709008	Updated the applicant and manufacturer information.	Sep. 07, 2017

1. CERTIFICATION

Equipment : Shockwafe Sound Bar with Wireless Subwoofer
Brand Name : Nakamichi
Test Model : PRO 7.1
Series Model : ULTRA 9.2, ELITE 7.2, PLUS 5.2, PRO 5.1
Applicant : WOW Technologies (Singapore) Pte Ltd
Manufacturer : WOW Technologies (Singapore) Pte Ltd
Address : 62 Burn Road #06-01 TSH Centre Singapore
Factory : Eastech Electronics(Hui Yang)Co.,Ltd
Address : Dong Feng District,Xinxu,HuiYang,Huizhou,Guangdong,China
Date of Test : Jul. 27, 2017 ~ Aug. 18, 2017
Test Sample : Engineering Sample
Standard(s) : FCC Part15, Subpart C:(15.247) / 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-2-1707C304) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of NVLAP 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):

Applied Standard(s): FCC Part15 (15.247) , Subpart C			
Standard(s) Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.247(d)	Antenna conducted Spurious Emission	PASS	
15.247(a)(2)	6dB Bandwidth	PASS	
15.247(b)(3)	Conducted Output Power	PASS	
15.247(e)	Power Spectral Density	PASS	
15.203	Antenna Requirement	PASS	
15.209/15.205	Transmitter Radiated Emissions	PASS	

Note:

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

2.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No.3,Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.
 BTL's test firm number for FCC: 854385

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_{cispr} 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)
DG-C02	CISPR	150 KHz ~ 30MHz	2.32

B. Radiated Measurement:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
DG-CB03	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
		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	Shockwafe Sound Bar with Wireless Subwoofer	
Brand Name	Nakamichi	
Test Model	PRO 7.1	
Series Model	ULTRA 9.2, ELITE 7.2, PLUS 5.2, PRO 5.1	
Model Difference	Please refer to note 2	
Product Description	Operation Frequency	5736~5814 MHz
	Modulation Technology	QPSK
	Output Power (Max.) ANT A	7.82dBm
	Output Power (Max.) ANT B	7.60dBm
Power Source	#1 Subwoofer: AC Mains #2 Soundbar: DC voltage supplied from AC/DC adapter. Brand/Model: DYS / DYS602-190342W	
Power Rating	#1 Subwoofer: AC 110-240V 50/60Hz or 120V 60Hz #2 Soundbar: I/P: AC 100-240V 50/60Hz 1.5A MAX O/P: DC 19.0V 3.42A	

Note:

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

2.	Model name	9.2 ch Sound bar with Wireless Subwoofer	7.2 ch Sound bar with Wireless Subwoofer	7.1 ch Sound bar with Wireless Subwoofer	5.2 ch Sound bar with Wireless Subwoofer
	Model No.	1) SHOCKWAFE ULTRA 9.2 DTS:X 2) ULTRA 9.2 Ch	1) SHOCKWAFE ELITE 7.2 DTS:X 2) ELITE 7.2 Ch	1) SHOCKWAFE PRO 7.1 DTS:X 2) PRO 7.1 Ch	1) SHOCKWAFE PLUS 5.2 Ch 2) PLUS 5.2 Ch
	Subwoofer size	34.5 * 30 * 51.5 cm	30 * 24 * 51.5 cm	30 * 24 * 51.5 cm	30 * 24 * 51.5 cm
	Subwoofer quantity	2 Pcs	2 Pcs	1 Pcs	2 Pcs
	subwoofer speaker	4 Pcs	2Pcs	2 Pcs	N/A

Subwoofer Picture



3. Channel List:

Channel	Frequency (MHz)
01	5736
02	5762
03	5814

4. Table for Filed Antenna

Ant.	Manufacturer	Model Name	Antenna Type	Connector	Gain (dBi)	Note
1	N/A	N/A	Internal	N/A	1.44	TX
2	N/A	N/A	Internal	N/A	1.44	TX

Note: Equipment with 2 diversity antennas operating in switched diversity mode by which at any moment in time only 1 antenna is used.

3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	TX Mode / CH01, CH02, CH03
Mode 2	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 2	TX Mode

For Radiated Test	
Final Test Mode	Description
Mode 1	TX Mode / CH01, CH02, CH03

For Band Edge Test	
Final Test Mode	Description
Mode 1	TX Mode / CH01, CH02, CH03

6dB Spectrum Bandwidth	
Final Test Mode	Description
Mode 1	TX Mode / CH01, CH02, CH03

Maximum AVG Output Power	
Final Test Mode	Description
Mode 1	TX Mode / CH01, CH02, CH03

Power Spectral Density	
Final Test Mode	Description
Mode 1	TX Mode / CH01, CH02, CH03

Note:

- (1) The measurements are performed at the high, middle, low available channels.
- (2) The EUT was programmed to be in continuously transmitting mode and the transmit duty cycle is not less than 98%.

3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

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

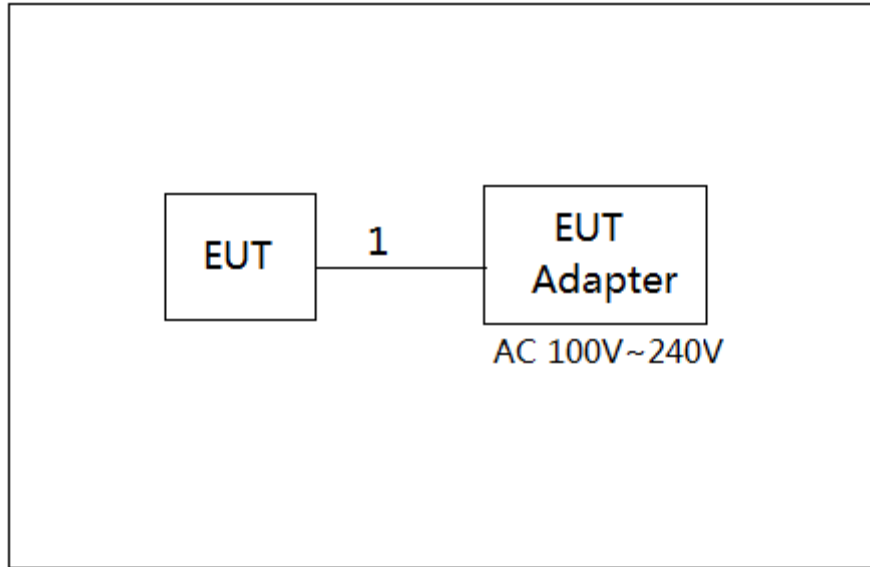
For ANT A

Test software version	N/A		
Frequency (MHz)	5736	5762	5814
-	N/A	N/A	N/A

For ANT B

Test software version	N/A		
Frequency (MHz)	5736	5762	5814
-	N/A	N/A	N/A

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.
-	-	-	-	-	-

Item	Shielded Type	Ferrite Core	Length	Note
1	NO	NO	1.8m	AC Cable

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

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

Frequency of Emission (MHz)	Conducted Limit (dBµV)	
	Quasi-peak	Average
0.15 -0.50	66 to 56*	56 to 46*
0.50 -5.0	56	46
5.0 -30.0	60	50

Note:

- (1) The limit of " * " decreases with the logarithm of the frequency
- (2) 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

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 KHz

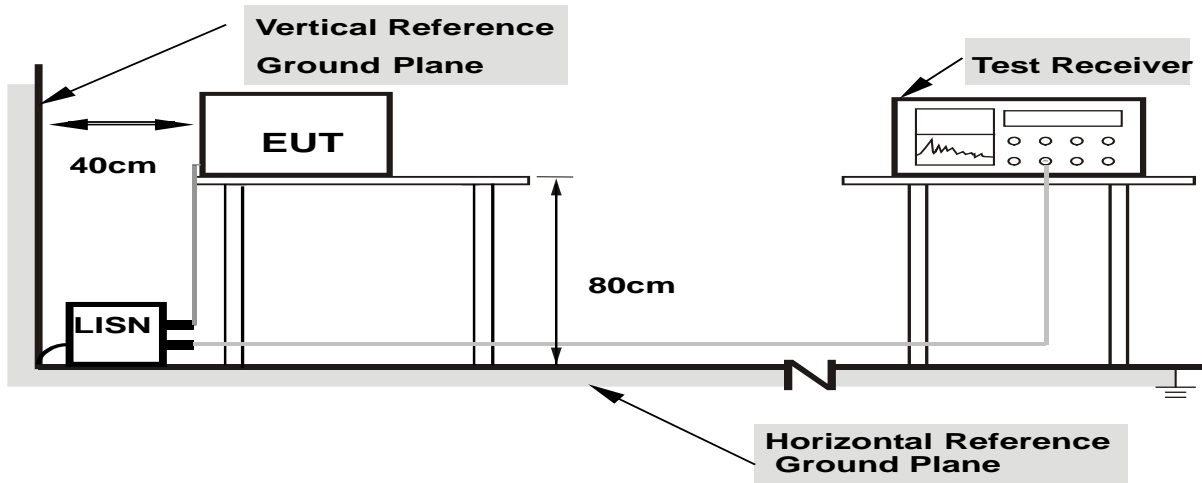
4.1.2 TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.3 DEVIATION FROM TEST STANDARD

No deviation

4.1.4 TEST SETUP



- Note:**
1. Support units were connected to second LISN.
 2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

4.1.5 EUT OPERATING CONDITIONS

The EUT was placed on the test table and programmed in normal function.

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 Appendix A.

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.

LIMITS OF RADIATED EMISSION MEASUREMENT (9KHz-1000MHz)

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

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

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

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).
- (4) 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

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW (Emission in restricted band)	1MHz / 3MHz for Peak, 1MHz / 1/T for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9KHz~90KHz for PK/AVG detector
Start ~ Stop Frequency	90KHz~110KHz for QP detector
Start ~ Stop Frequency	110KHz~490KHz for PK/AVG detector
Start ~ Stop Frequency	490KHz~30MHz for QP detector
Start ~ Stop Frequency	30MHz~1000MHz for QP detector

4.2.2 TEST PROCEDURE

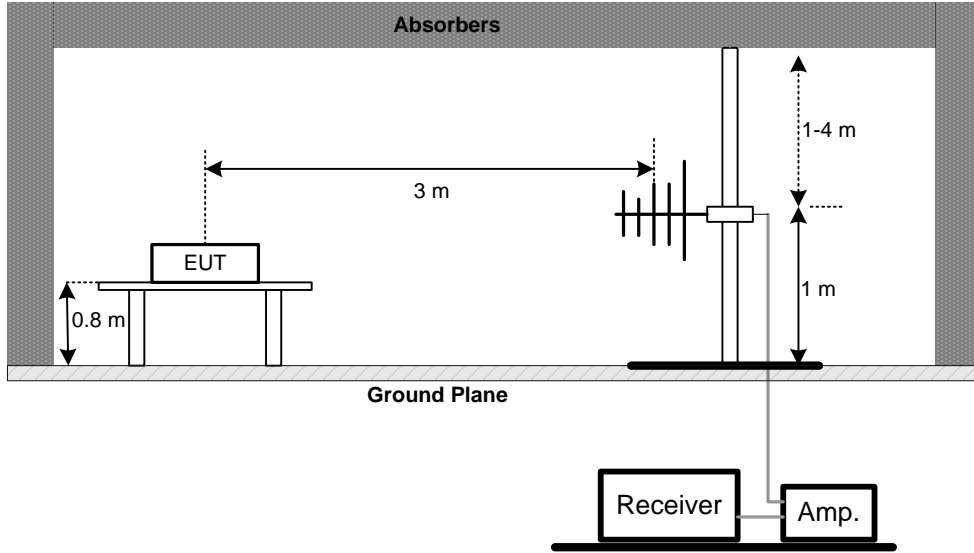
- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The measuring distance of 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)
- c. The height of the equipment or of the substitution antenna shall be 0.8m 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.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1GHz.
- f. The initial step in collecting radiated 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.
- g. 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)
- h. 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)
- i. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.2.3 DEVIATION FROM TEST STANDARD

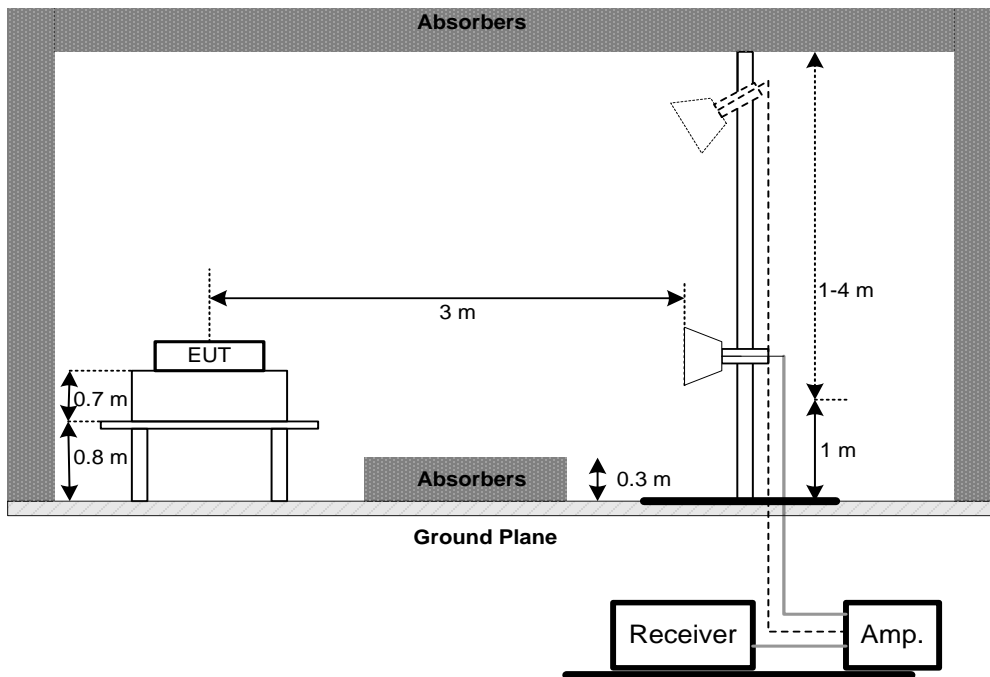
No deviation

4.2.4 TEST SETUP

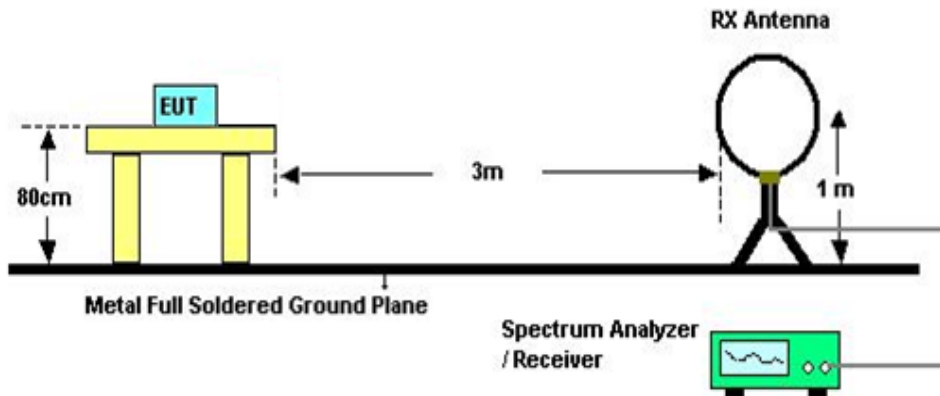
(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



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



(C) For Radiated Emissions Below 30MHz



4.2.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.2.6 EUT TEST CONDITIONS

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

4.2.7 TEST RESULTS (9KHZ TO 30MHZ)

Please refer to the Appendix 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 (30MHZ TO 1000 MHZ)

Please refer to the Appendix C.

4.2.9 TEST RESULTS (ABOVE 1000 MHZ)

Please refer to the Appendix D.

Remark:

- (1) No limit: This is fundamental signal, the judgment is not applicable. For fundamental signal judgment was referred to Peak output test.

5. BANDWIDTH TEST

5.1 APPLIED PROCEDURES

FCC Part15 (15.247) , Subpart C			
Section	Test Item	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	5736~5814	PASS

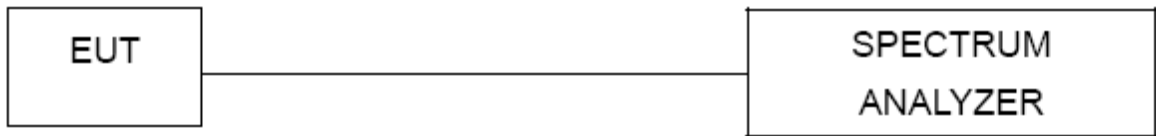
5.1.1 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting: RBW= 100KHz, VBW=300KHz, Sweep time = 2.5 ms.

5.1.2 DEVIATION FROM STANDARD

No deviation.

5.1.3 TEST SETUP



5.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

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 Appendix E.

6. CONDUCTED OUTPUT POWER TEST

6.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3)	Maximum Output Power	1 Watt or 30dBm	5736~5814	PASS

6.1.1 TEST PROCEDURE

- a. The EUT was directly connected to the power meter and antenna output port as show in the block diagram below,
- b. The maximum peak conducted output power was performed in accordance with method 9.1.2 of FCC KDB 558074 D01 DTS Meas Guidance.

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP



6.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

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 Appendix F.

7. ANTENNA CONDUCTED SPURIOUS EMISSION

7.1 APPLIED PROCEDURES / LIMIT

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

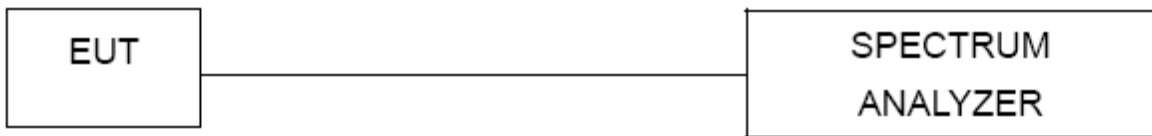
7.1.1 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting: RBW= 100KHz, VBW=300KHz, Sweep time = Auto.
- c. Offset=antenna gain+cable loss

7.1.2 DEVIATION FROM STANDARD

No deviation.

7.1.3 TEST SETUP



7.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

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 Appendix G.

8. POWER SPECTRAL DENSITY TEST

8.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(e)	Power Spectral Density	8 dBm (in any 3KHz)	5736~5814	PASS

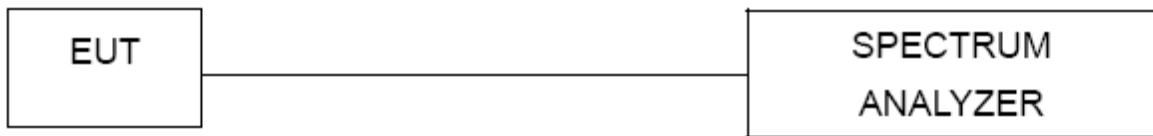
8.1.1 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting: RBW=3KHz, VBW=10KHz, Sweep time = Auto.

8.1.2 DEVIATION FROM STANDARD

No deviation.

8.1.3 TEST SETUP



8.1.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

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 Appendix H.

9. MEASUREMENT INSTRUMENTS LIST

Conducted Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EMI Test Receiver	R&S	ESCI	100382	Mar. 26, 2018
2	LISN	EMCO	3816/2	52765	Mar. 26, 2018
3	50Ω Terminator	SHX	TF2-3G-A	8122901	Mar. 26, 2018
4	TWO-LINE V-NETWORK	R&S	ENV216	101447	Mar. 26, 2018
5	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
6	Cable	N/A	RG223	12m	Oct. 20, 2017

Radiated Emission Measurement - Below 1GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarzbeck	VULB9160	9160-3232	Mar. 26, 2018
2	Amplifier	HP	8447D	2944A09673	Oct. 20, 2017
3	Receiver	Agilent	N9038A	MY52130039	Sep. 04, 2017
4	Cable	emci	LMR-400(30MHz-1 GHz)(8m+5m)	N/A	Jun. 26, 2018
5	Controller	CT	SC100	N/A	N/A
6	Controller	MF	MF-7802	MF780208416	N/A
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

Radiated Emission Measurement - Above 1GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Double Ridged Guide Antenna	ETS	3115	75789	Mar. 26, 2018
2	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Jun. 08, 2018
3	Amplifier	Agilent	8449B	3008A02274	May. 16, 2018
4	Microwave Pre-amplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 26, 2018
5	Receiver	Agilent	N9038A	MY52130039	Sep. 04, 2017
6	Antenna	EM	EM-6876-1	230	Jul. 07, 2018
7	Controller	CT	SC100	N/A	N/A
8	Controller	MF	MF-7802	MF780208416	N/A
9	Cable	emci	EMC104-SM-SM-1 2000(12m)	N/A	Jun. 26, 2018
10	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	FSP40	100185	Sep. 04, 2017

Peak Output Power Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Power Meter	ANRITSU	ML2495A	1128009	Mar. 26, 2018
2	Pulse Power Sensor	ANRITSU	MA 2411B	1027500	Mar. 26, 2018

Antenna Conducted Spurious Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP40	100185	Sep. 04, 2017

Power Spectral Density Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP40	100185	Sep. 04, 2017

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

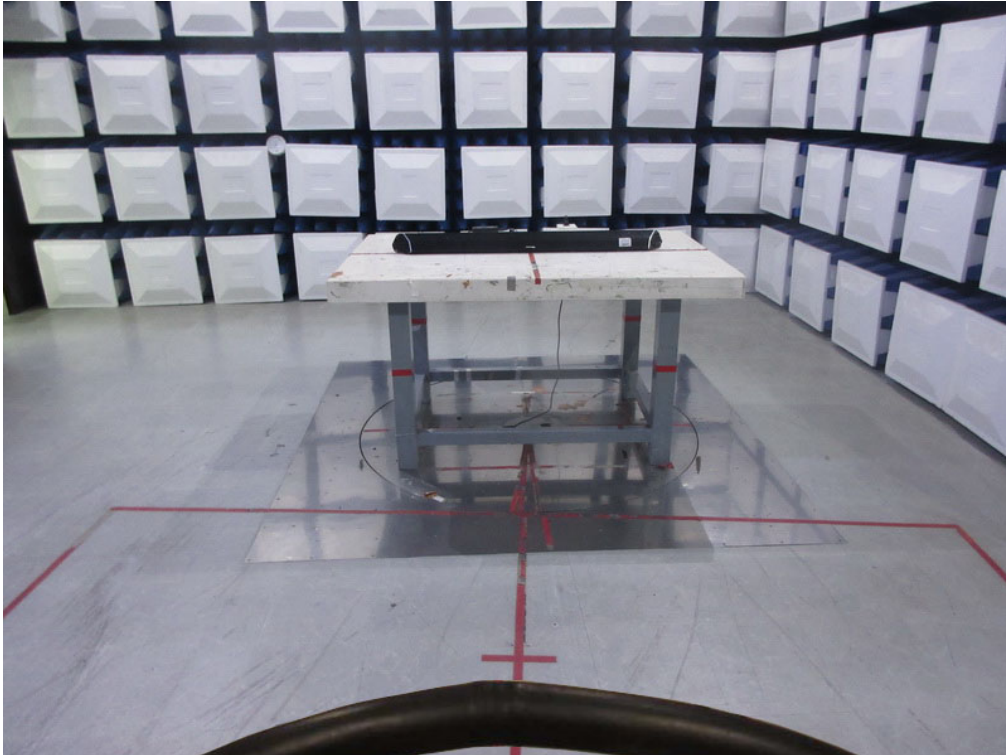
10. EUT TEST PHOTO

Conducted Measurement Photos



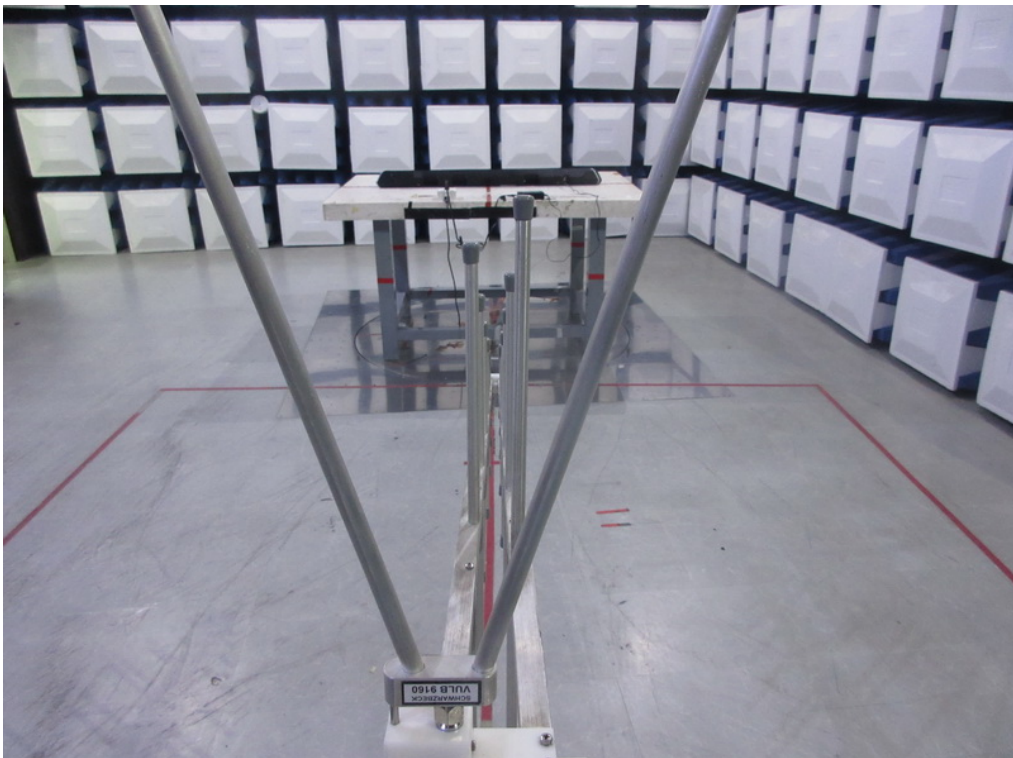
Radiated Measurement Photos

9KHz to 30MHz



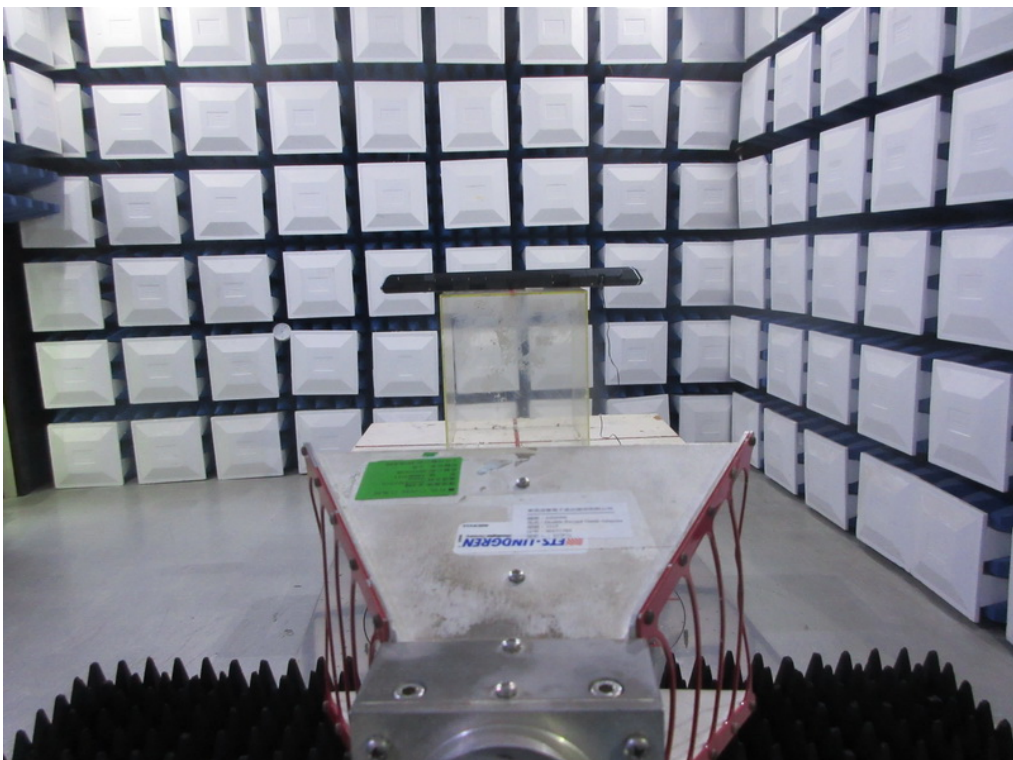
Radiated Measurement Photos

30MHz to 1000MHz



Radiated Measurement Photos

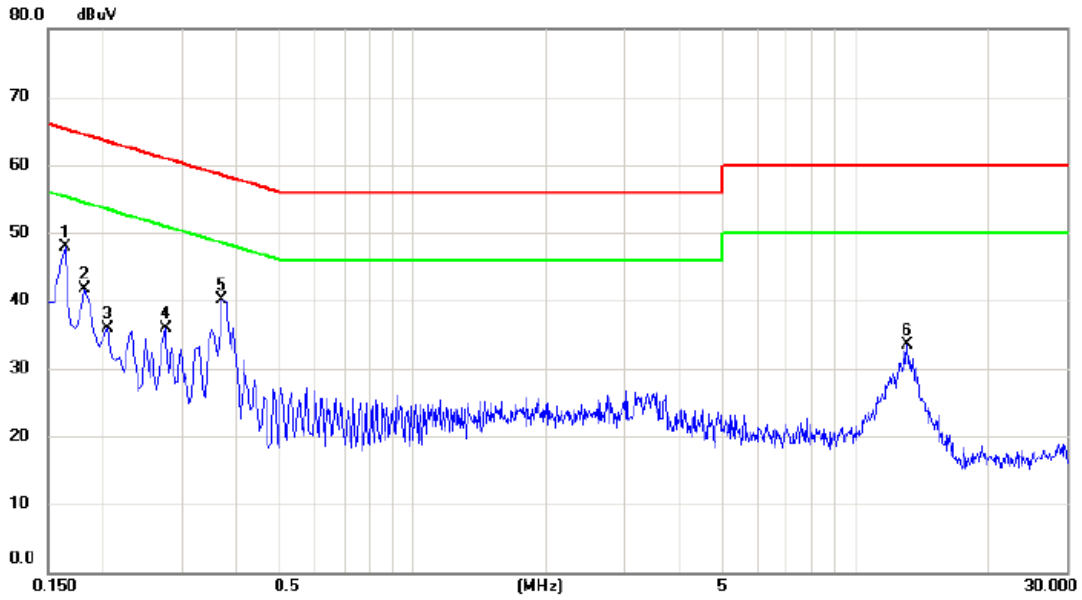
Above 1000MHz



APPENDIX A - CONDUCTED EMISSION

Test Mode : TX Mode

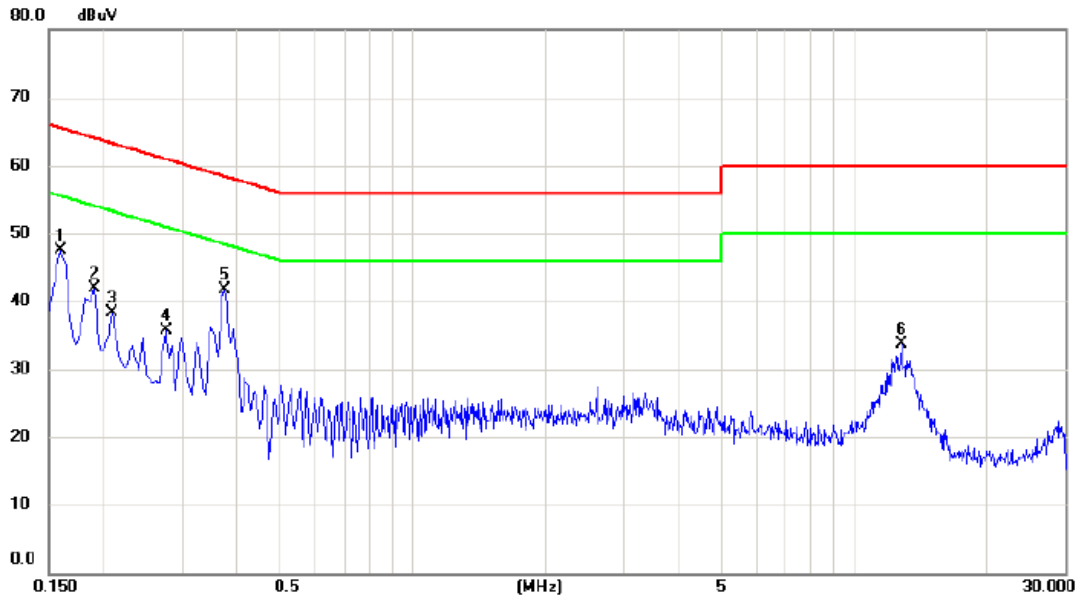
Line



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	*	0.1635	38.07	9.78	47.85	65.28	-17.43	peak	
2		0.1815	31.87	9.77	41.64	64.42	-22.78	peak	
3		0.2040	26.15	9.76	35.91	63.45	-27.54	peak	
4		0.2760	26.24	9.76	36.00	60.94	-24.94	peak	
5		0.3704	30.35	9.79	40.14	58.49	-18.35	peak	
6		13.0920	22.95	10.50	33.45	60.00	-26.55	peak	

Test Mode : TX Mode

Neutral

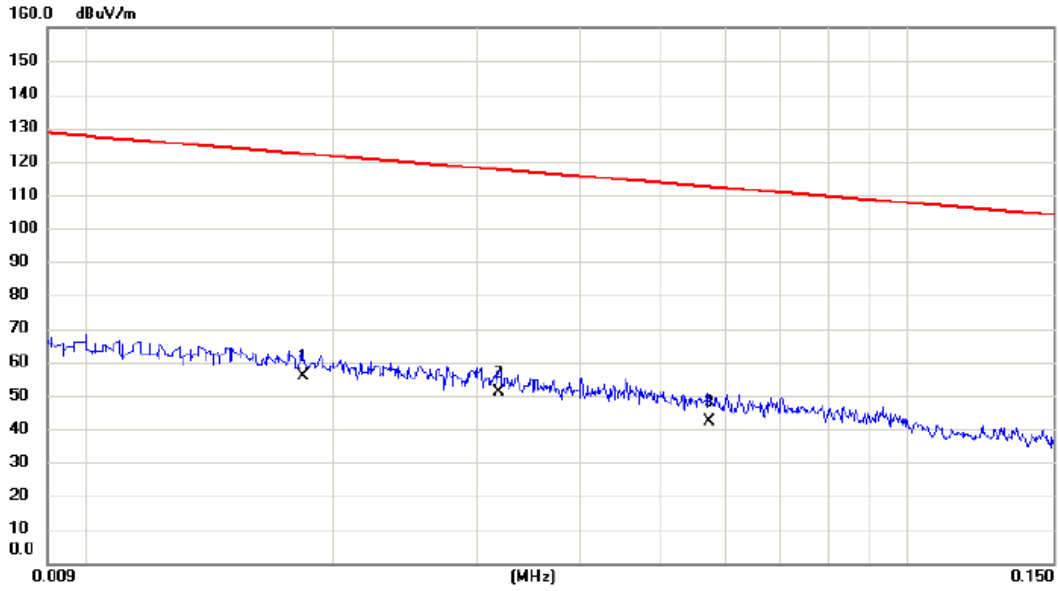


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1590	37.80	9.68	47.48	65.52	-18.04	peak	
2		0.1905	32.26	9.69	41.95	64.01	-22.06	peak	
3		0.2085	28.54	9.69	38.23	63.26	-25.03	peak	
4		0.2760	25.96	9.68	35.64	60.94	-25.30	peak	
5	*	0.3750	32.08	9.69	41.77	58.39	-16.62	peak	
6		12.7905	23.31	10.47	33.78	60.00	-26.22	peak	

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

Test Mode: TX MODE

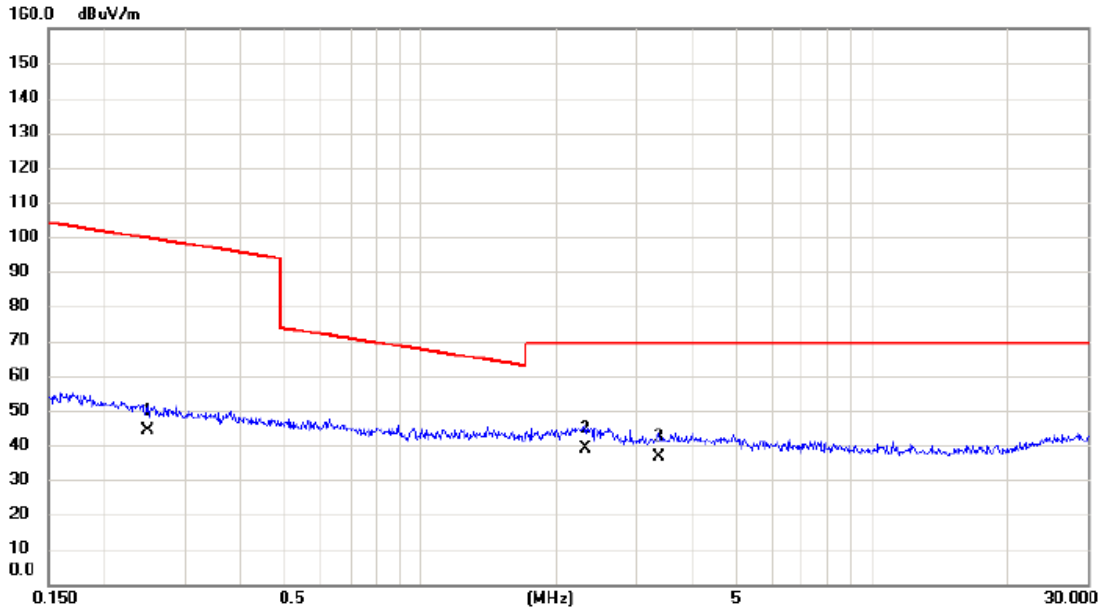
Ant 0°



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	0.0184	35.87	19.83	55.70	122.31	-66.61	AVG	
2		0.0318	31.57	19.27	50.84	117.56	-66.72	AVG	
3		0.0573	23.49	18.58	42.07	112.44	-70.37	AVG	

Test Mode: TX MODE

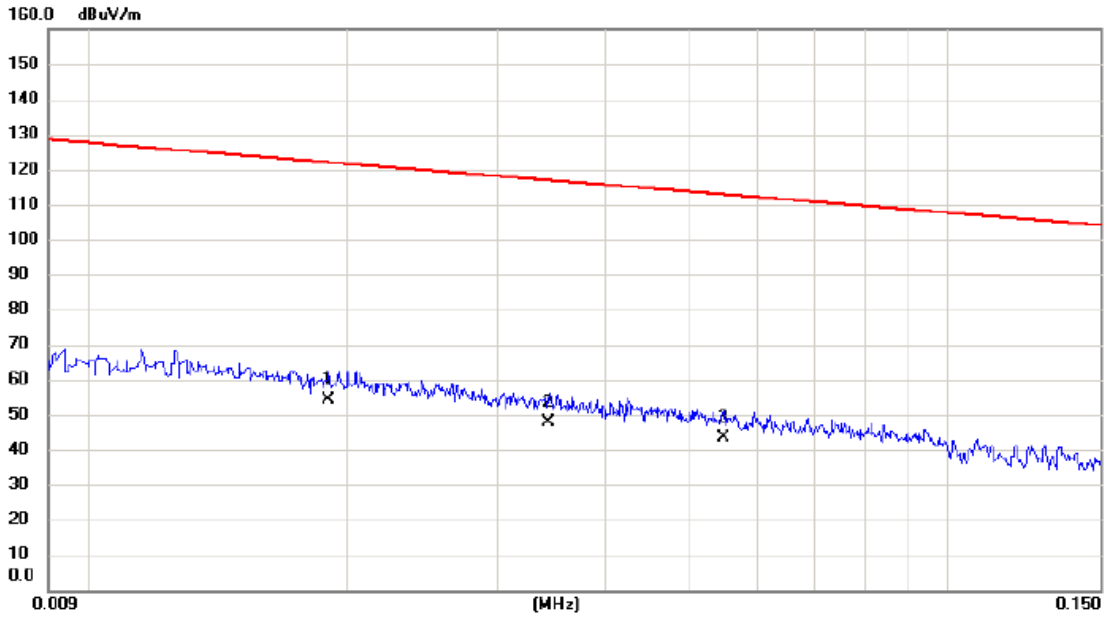
Ant 0°



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.2481	27.48	16.67	44.15	99.71	-55.56	AVG	
2	*	2.3213	23.59	15.42	39.01	69.54	-30.53	QP	
3		3.3635	21.57	15.13	36.70	69.54	-32.84	QP	

Test Mode: TX MODE

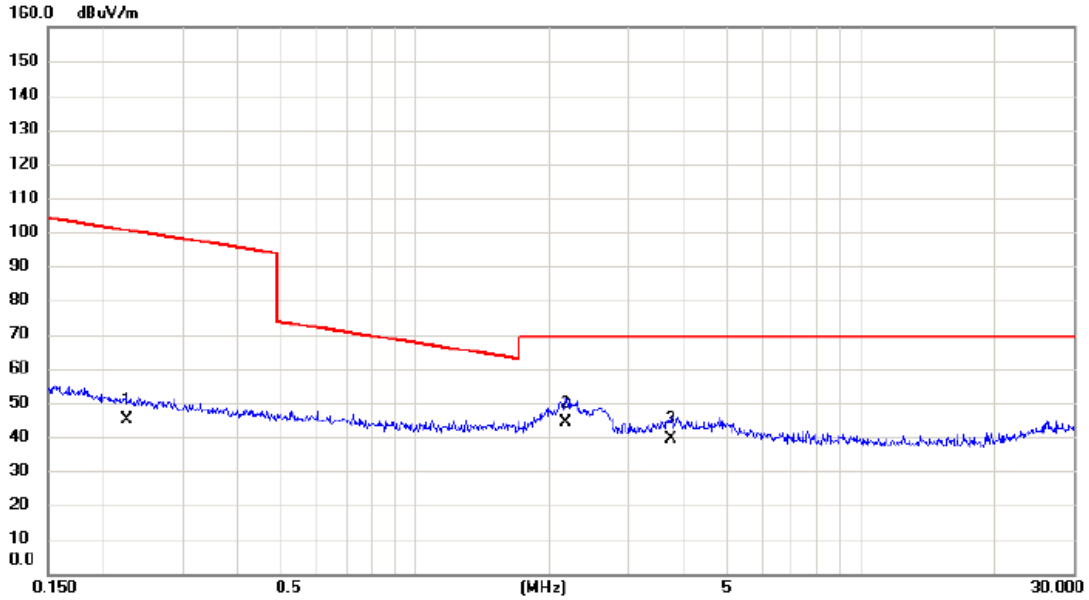
Ant 90°



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	0.0190	34.58	19.75	54.33	122.03	-67.70	AVG	
2		0.0343	28.67	19.19	47.86	116.90	-69.04	AVG	
3		0.0548	24.69	18.63	43.32	112.83	-69.51	AVG	

Test Mode: TX MODE

Ant 90°

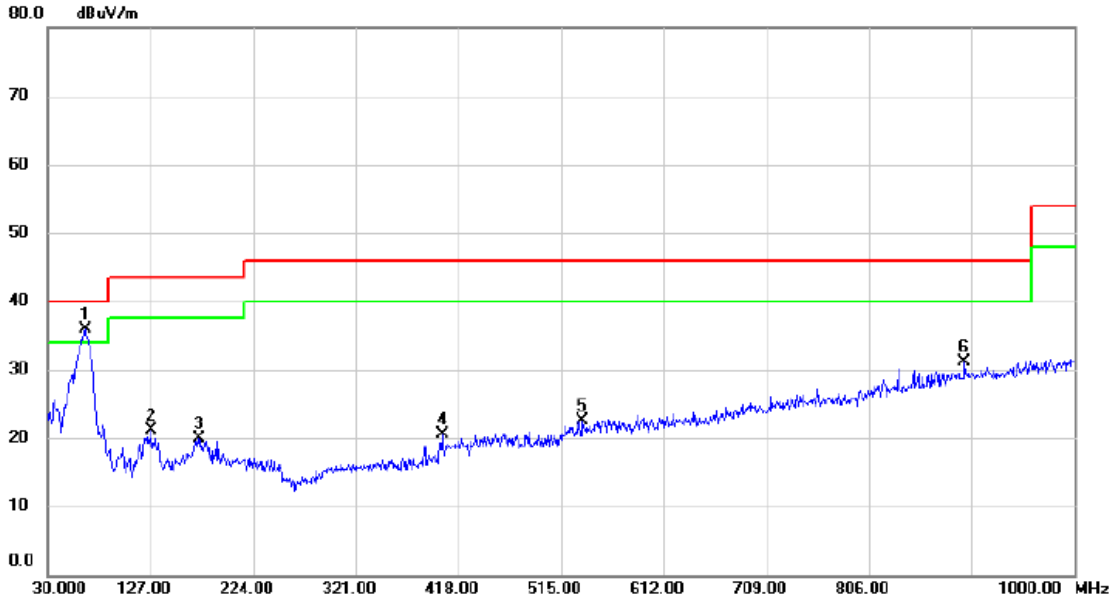


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		0.2244	28.47	16.73	45.20	100.59	-55.39	AVG	
2	*	2.1783	28.69	15.46	44.15	69.54	-25.39	QP	
3		3.7395	24.53	15.02	39.55	69.54	-29.99	QP	

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

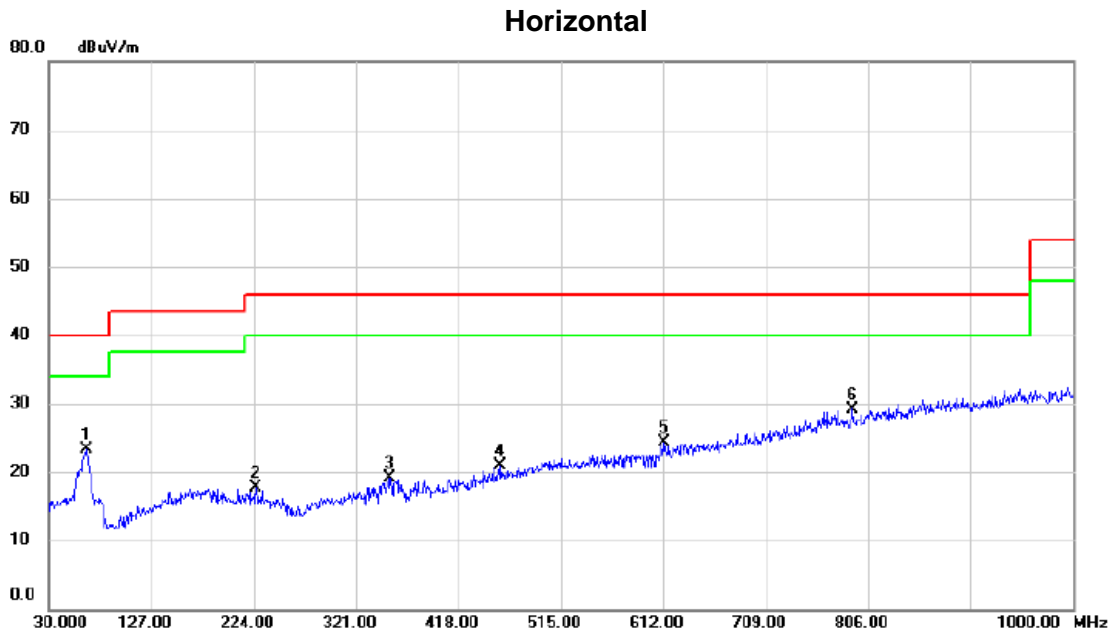
Test Mode: TX 5736MHz_ANT A

Vertical



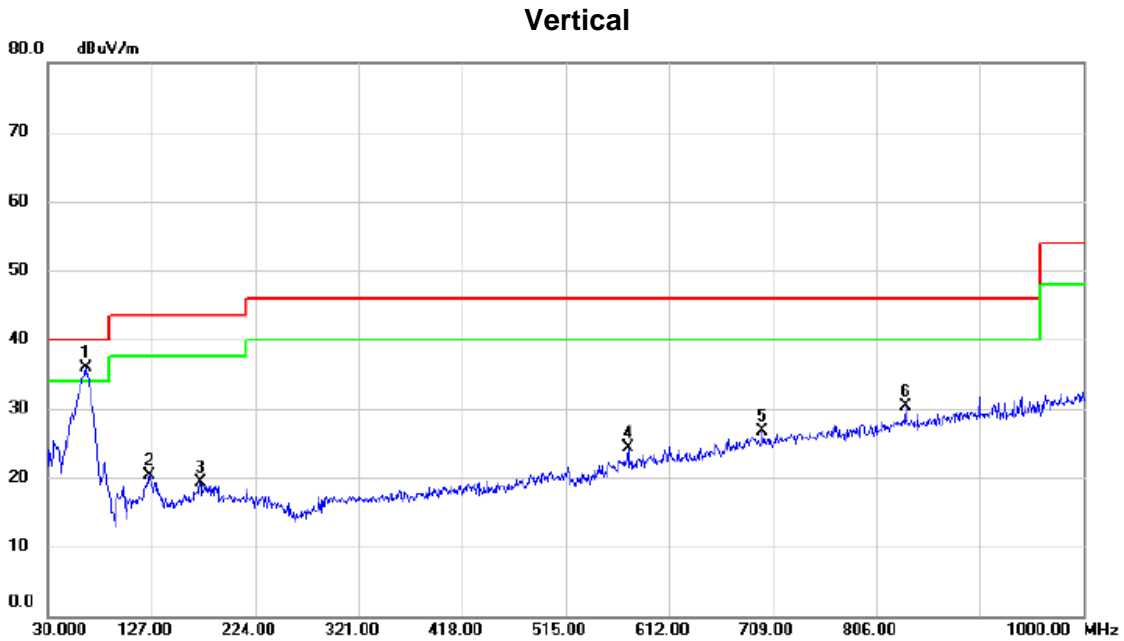
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	64.920	51.00	-15.15	35.85	40.00	-4.15	peak	
2		127.000	36.02	-14.91	21.11	43.50	-22.39	peak	
3		172.590	32.12	-12.26	19.86	43.50	-23.64	peak	
4		402.480	31.78	-11.30	20.48	46.00	-25.52	peak	
5		535.370	30.54	-8.00	22.54	46.00	-23.46	peak	
6		896.210	30.19	0.95	31.14	46.00	-14.86	peak	

Test Mode: TX 5736MHz_ANT A



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	65.890	38.71	-15.40	23.31	40.00	-16.69	peak	
2		225.940	31.66	-14.04	17.62	46.00	-28.38	peak	
3		352.040	31.13	-11.93	19.20	46.00	-26.80	peak	
4		457.770	30.73	-9.75	20.98	46.00	-25.02	peak	
5		612.000	30.50	-6.19	24.31	46.00	-21.69	peak	
6		791.450	30.75	-1.55	29.20	46.00	-16.80	peak	

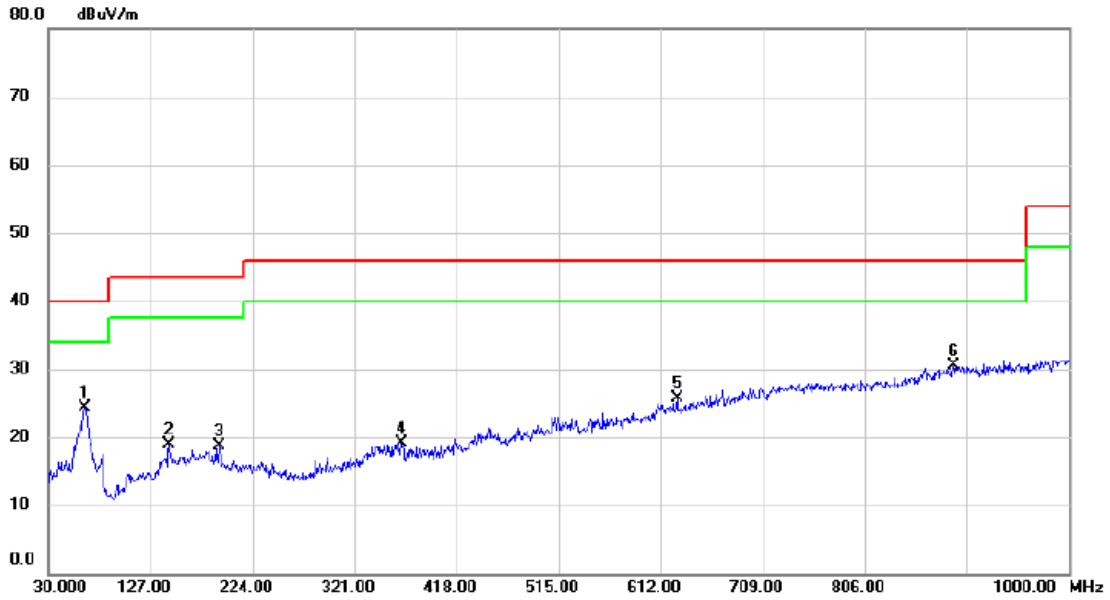
Test Mode: TX 5762MHz_ANT A



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	64.920	51.02	-15.15	35.87	40.00	-4.13	peak	
2		125.060	35.27	-15.05	20.22	43.50	-23.28	peak	
3		172.590	31.66	-12.26	19.40	43.50	-24.10	peak	
4		573.200	31.34	-7.11	24.23	46.00	-21.77	peak	
5		699.300	30.63	-3.96	26.67	46.00	-19.33	peak	
6		833.160	30.69	-0.46	30.23	46.00	-15.77	peak	

Test Mode: TX 5762MHz_ANT A

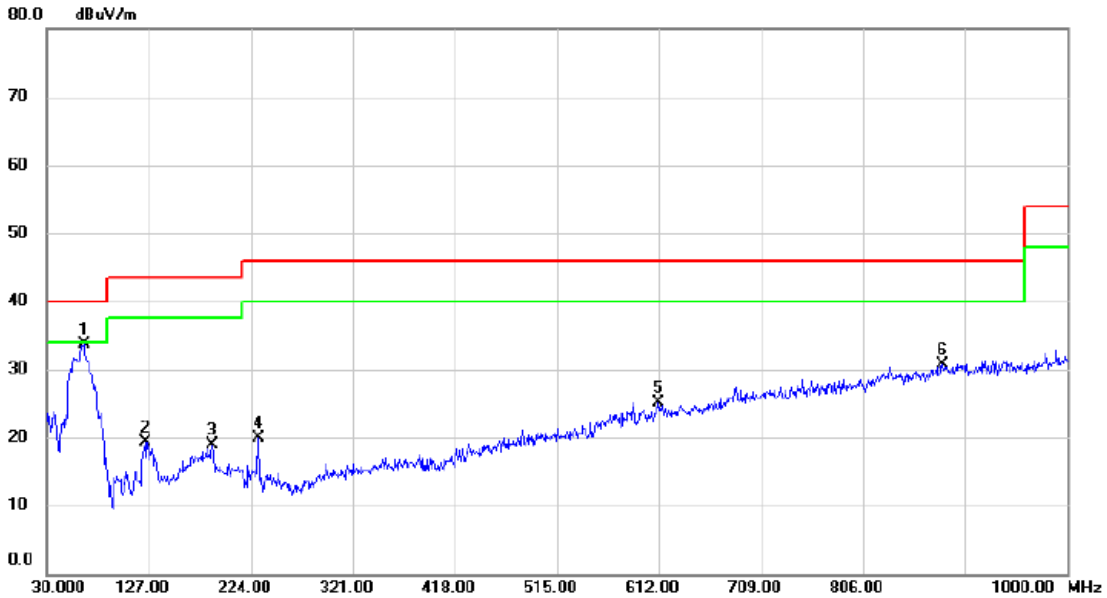
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		63.950	39.39	-14.99	24.40	40.00	-15.60	peak	
2		144.460	32.75	-13.91	18.84	43.50	-24.66	peak	
3		191.990	31.68	-13.02	18.66	43.50	-24.84	peak	
4		365.620	30.84	-11.77	19.07	46.00	-26.93	peak	
5		627.520	31.54	-5.89	25.65	46.00	-20.35	peak	
6 *		890.390	29.62	0.84	30.46	46.00	-15.54	peak	

Test Mode: TX 5814MHz_ANT A

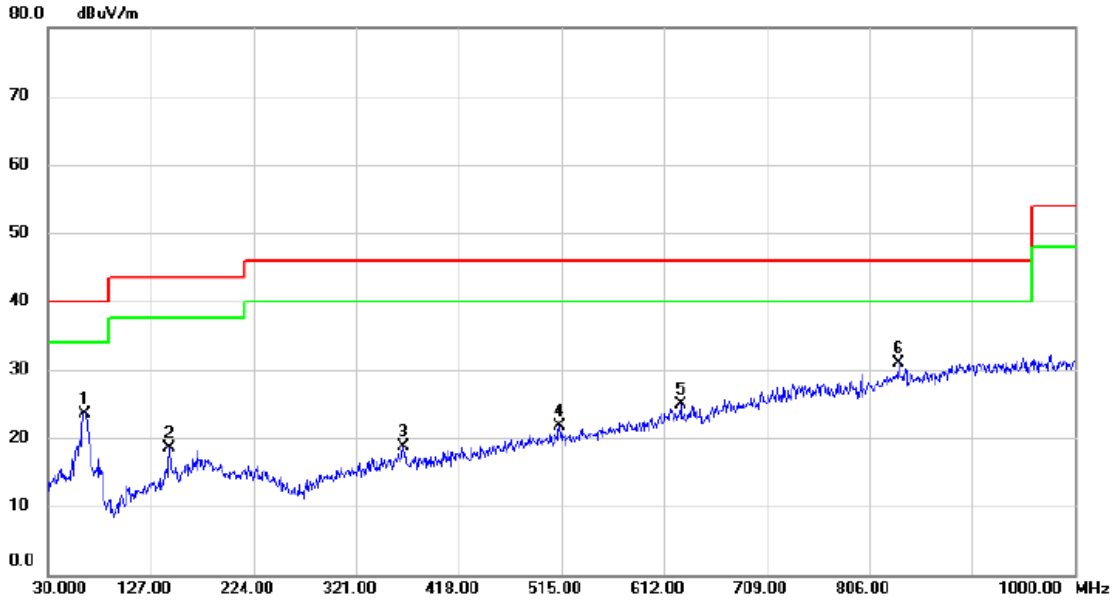
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	64.920	48.95	-15.15	33.80	40.00	-6.20	peak	
2		123.120	34.58	-15.18	19.40	43.50	-24.10	peak	
3		187.140	31.43	-12.61	18.82	43.50	-24.68	peak	
4		230.790	34.05	-14.14	19.91	46.00	-26.09	peak	
5		611.030	31.28	-6.22	25.06	46.00	-20.94	peak	
6		881.660	30.05	0.65	30.70	46.00	-15.30	peak	

Test Mode: TX 5814MHz_ANT A

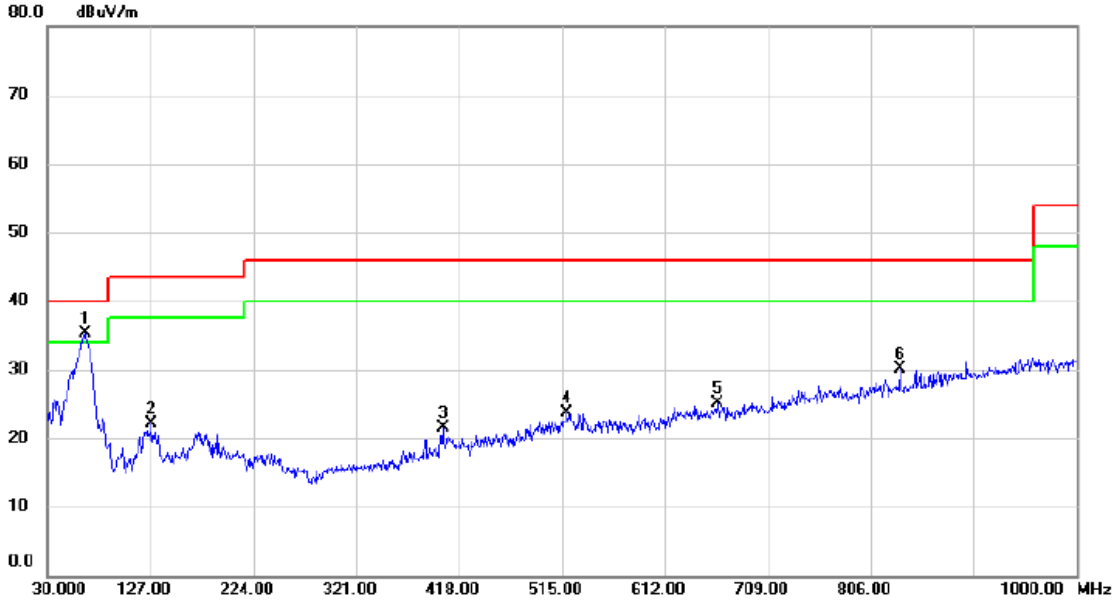
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		63.950	38.59	-14.99	23.60	40.00	-16.40	peak	
2		144.460	32.40	-13.91	18.49	43.50	-25.01	peak	
3		365.620	30.49	-11.77	18.72	46.00	-27.28	peak	
4		513.060	30.15	-8.45	21.70	46.00	-24.30	peak	
5		627.520	30.75	-5.89	24.86	46.00	-21.14	peak	
6 *		833.160	31.42	-0.46	30.96	46.00	-15.04	peak	

Test Mode: TX 5736MHz_ANT B

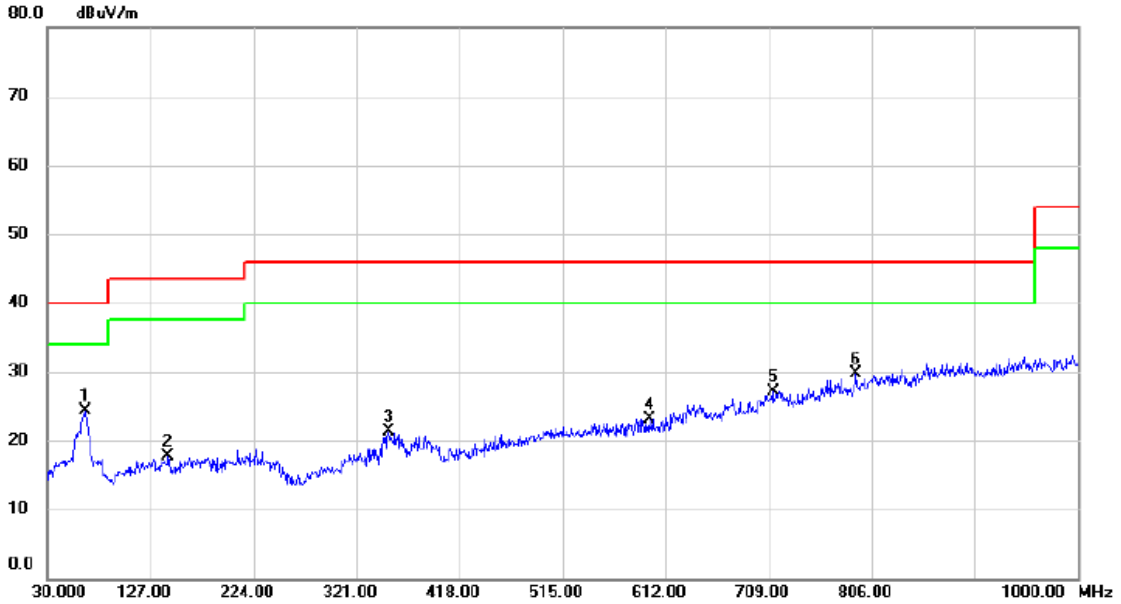
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	64.920	50.50	-15.15	35.35	40.00	-4.65	peak	
2		127.000	37.02	-14.91	22.11	43.50	-21.39	peak	
3		402.480	32.78	-11.30	21.48	46.00	-24.52	peak	
4		519.850	32.09	-8.32	23.77	46.00	-22.23	peak	
5		661.470	30.23	-5.12	25.11	46.00	-20.89	peak	
6		833.160	30.53	-0.46	30.07	46.00	-15.93	peak	

Test Mode: TX 5736MHz_ANT B

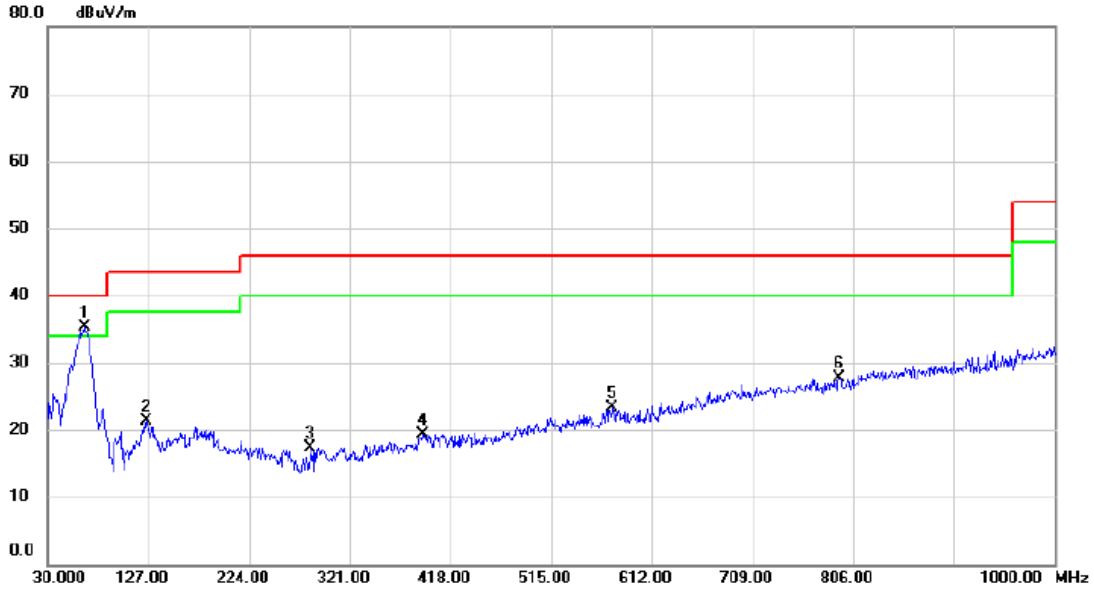
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	65.890	39.71	-15.40	24.31	40.00	-15.69	peak	
2		143.490	31.74	-13.97	17.77	43.50	-25.73	peak	
3		351.070	33.33	-11.94	21.39	46.00	-24.61	peak	
4		596.480	29.61	-6.50	23.11	46.00	-22.89	peak	
5		712.880	30.69	-3.55	27.14	46.00	-18.86	peak	
6		791.450	31.25	-1.55	29.70	46.00	-16.30	peak	

Test Mode: TX 5762MHz_ANT B

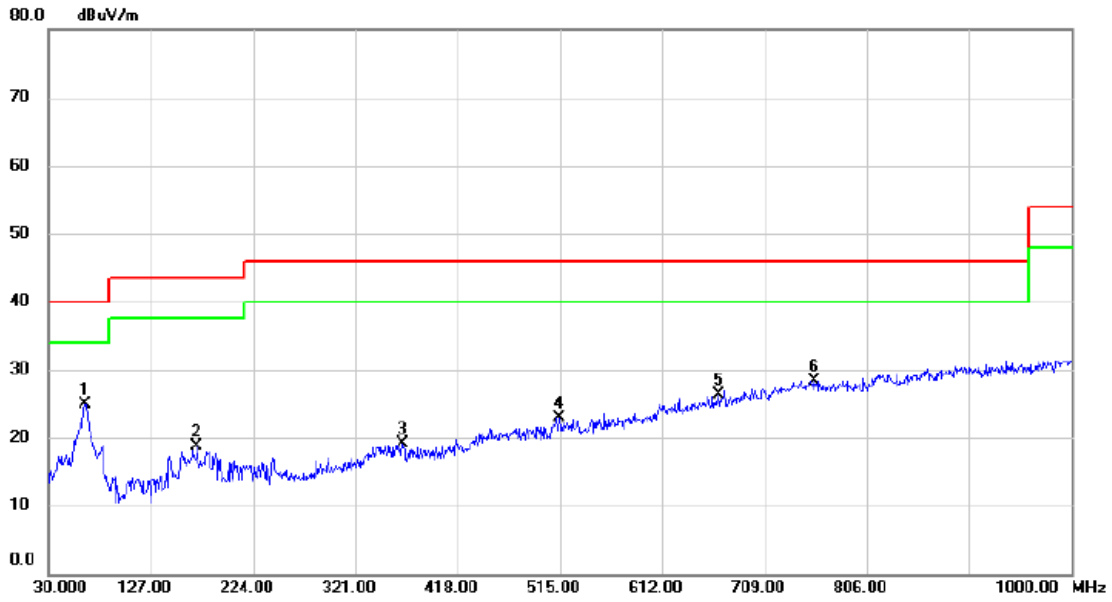
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	64.920	50.52	-15.15	35.37	40.00	-4.63	peak	
2		125.060	36.27	-15.05	21.22	43.50	-22.28	peak	
3		283.170	31.89	-14.59	17.30	46.00	-28.70	peak	
4		390.840	30.86	-11.47	19.39	46.00	-26.61	peak	
5		573.200	30.34	-7.11	23.23	46.00	-22.77	peak	
6		792.420	29.17	-1.52	27.65	46.00	-18.35	peak	

Test Mode: TX 5762MHz_ANT B

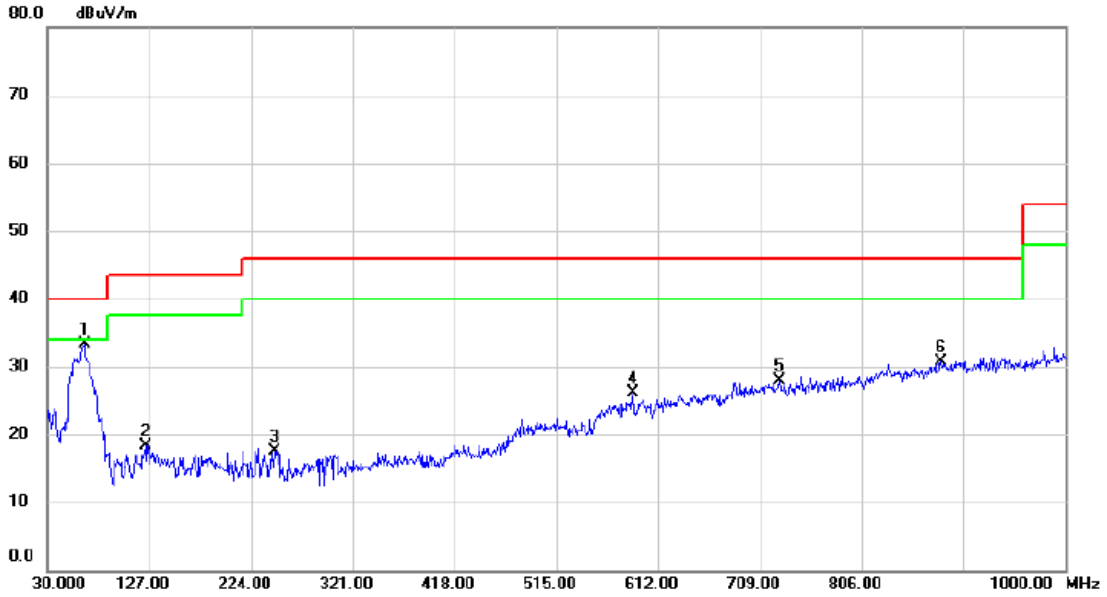
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	63.950	39.89	-14.99	24.90	40.00	-15.10	peak	
2		170.650	30.95	-12.31	18.64	43.50	-24.86	peak	
3		365.620	30.84	-11.77	19.07	46.00	-26.93	peak	
4		514.030	31.38	-8.44	22.94	46.00	-23.06	peak	
5		665.350	31.21	-5.00	26.21	46.00	-19.79	peak	
6		755.560	30.71	-2.33	28.38	46.00	-17.62	peak	

Test Mode: TX 5814MHz_ANT B

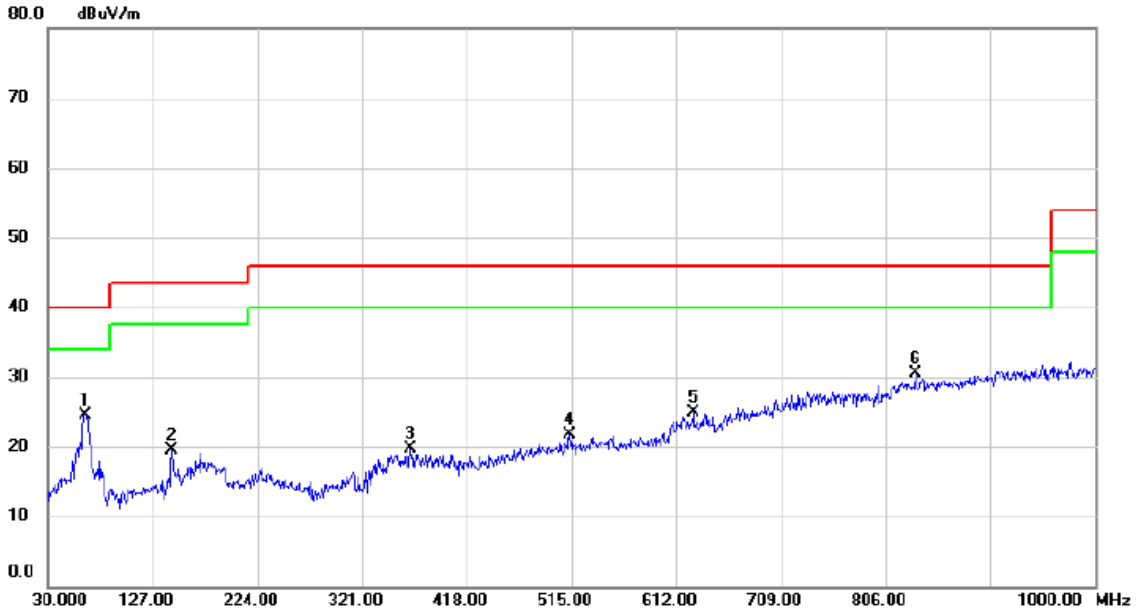
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	64.920	48.45	-15.15	33.30	40.00	-6.70	peak	
2		123.120	33.58	-15.18	18.40	43.50	-25.10	peak	
3		246.310	32.26	-14.69	17.57	46.00	-28.43	peak	
4		587.750	32.75	-6.73	26.02	46.00	-19.98	peak	
5		727.430	30.95	-3.11	27.84	46.00	-18.16	peak	
6		881.660	30.05	0.65	30.70	46.00	-15.30	peak	

Test Mode: TX 5814MHz_ANT B

Horizontal

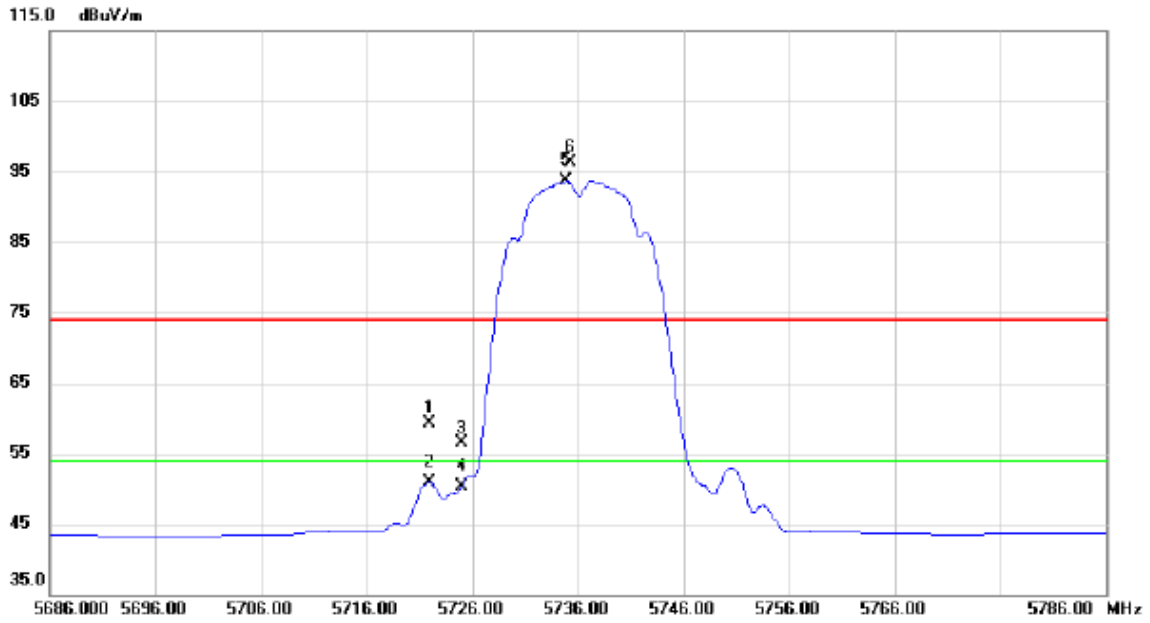


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	63.950	39.59	-14.99	24.60	40.00	-15.40	peak	
2		144.460	33.40	-13.91	19.49	43.50	-24.01	peak	
3		365.620	31.49	-11.77	19.72	46.00	-26.28	peak	
4		513.060	30.15	-8.45	21.70	46.00	-24.30	peak	
5		627.520	30.75	-5.89	24.86	46.00	-21.14	peak	
6		833.160	30.92	-0.46	30.46	46.00	-15.54	peak	

APPENDIX D - RADIATED EMISSION (ABOVE 1000MHZ)

Orthogonal Axis:	X
Test Mode:	TX 5736MHz_ANT A

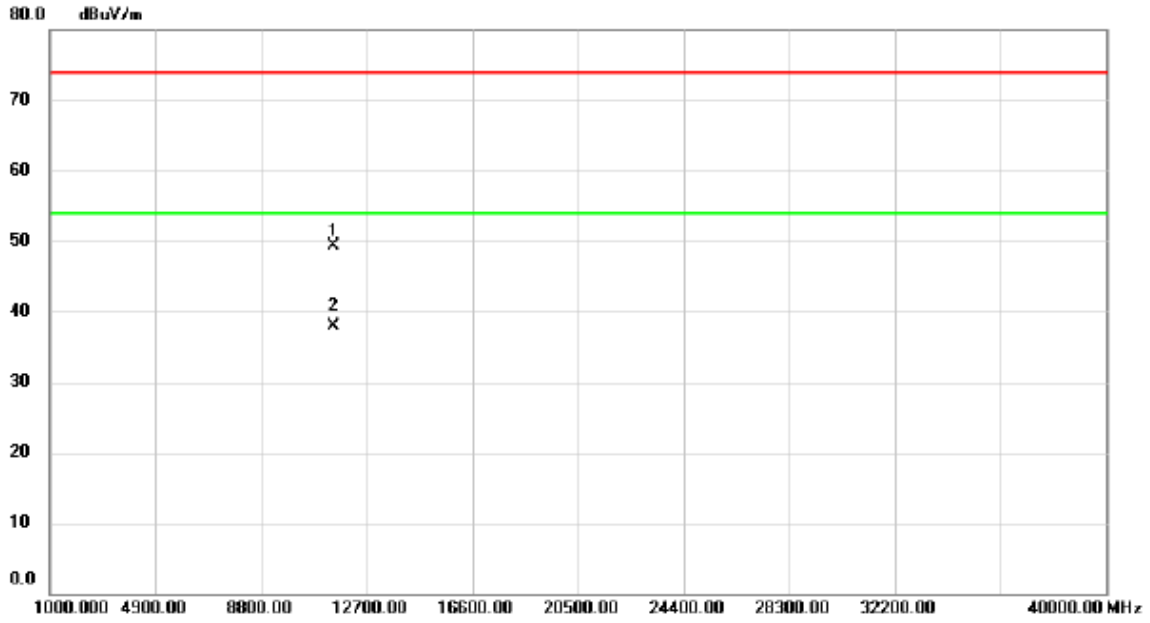
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		5721.900	15.66	43.55	59.21	74.00	-14.79	peak	
2		5721.900	7.34	43.55	50.89	54.00	-3.11	AVG	
3		5725.000	12.90	43.55	56.45	74.00	-17.55	peak	
4		5725.000	6.80	43.55	50.35	54.00	-3.65	AVG	
5	*	5734.900	50.08	43.59	93.67	54.00	39.67	AVG	No Limit
6	X	5735.300	52.67	43.59	96.26	74.00	22.26	peak	No Limit

Orthogonal Axis:	X
Test Mode:	TX 5736MHz _ANT A

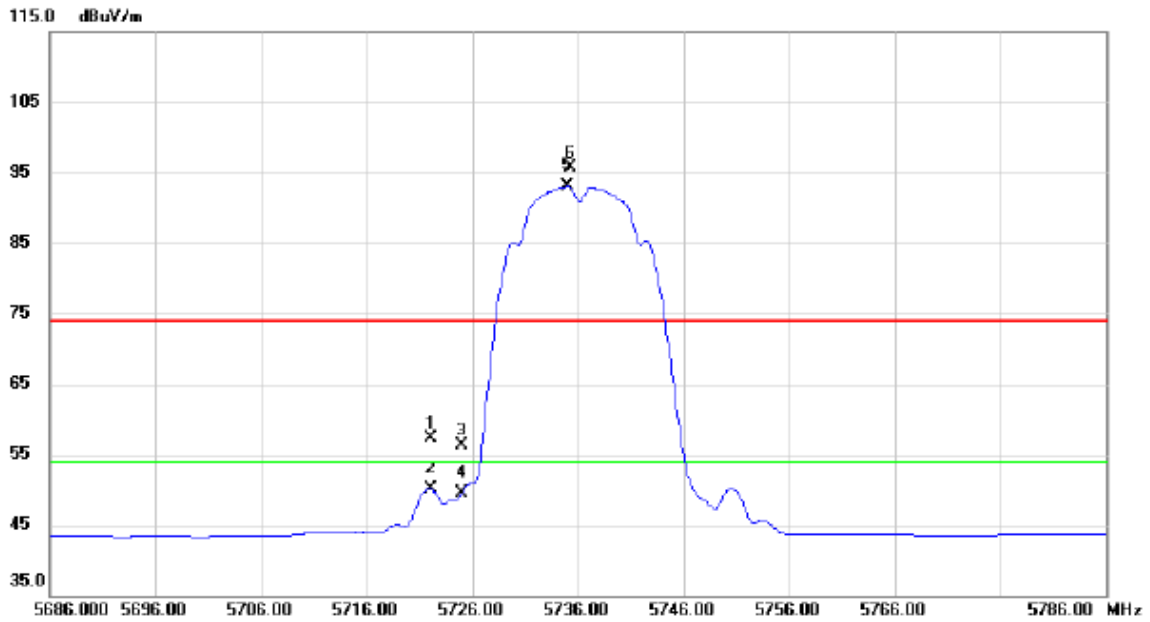
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		11471.340	31.15	18.15	49.30	74.00	-24.70	peak	
2	*	11473.880	19.66	18.15	37.81	54.00	-16.19	AVG	

Orthogonal Axis:	X
Test Mode:	TX 5736MHz _ANT A

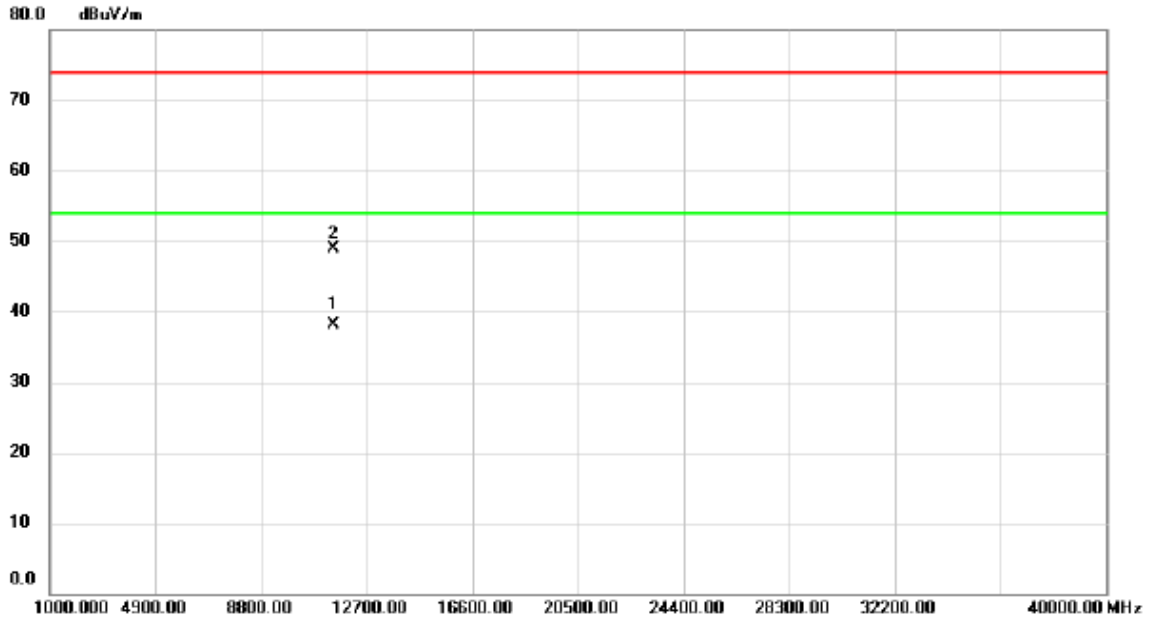
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		5722.000	13.72	43.55	57.27	74.00	-16.73	peak	
2		5722.000	6.63	43.55	50.18	54.00	-3.82	AVG	
3		5725.000	12.67	43.55	56.22	74.00	-17.78	peak	
4		5725.000	5.87	43.55	49.42	54.00	-4.58	AVG	
5	*	5735.000	49.52	43.59	93.11	54.00	39.11	AVG	No Limit
6	X	5735.300	52.20	43.59	95.79	74.00	21.79	peak	No Limit

Orthogonal Axis:	X
Test Mode:	TX 5736MHz _ANT A

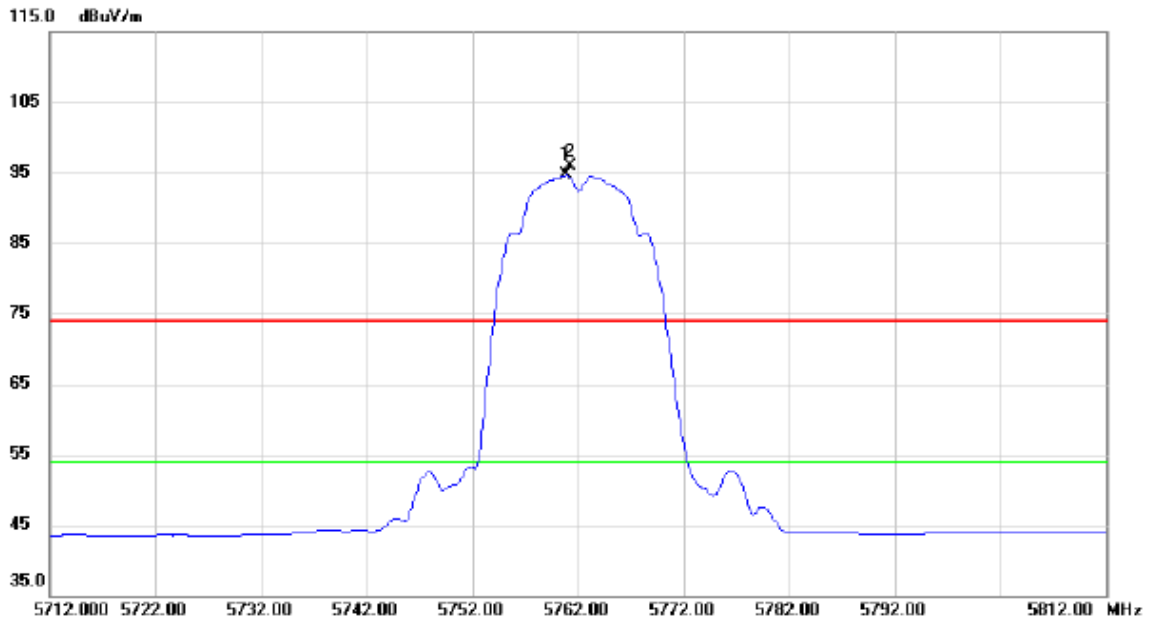
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	11470.415	19.87	18.14	38.01	54.00	-15.99	AVG	
2		11471.530	30.80	18.15	48.95	74.00	-25.05	peak	

Orthogonal Axis:	X
Test Mode:	TX 5762MHz _ANT A

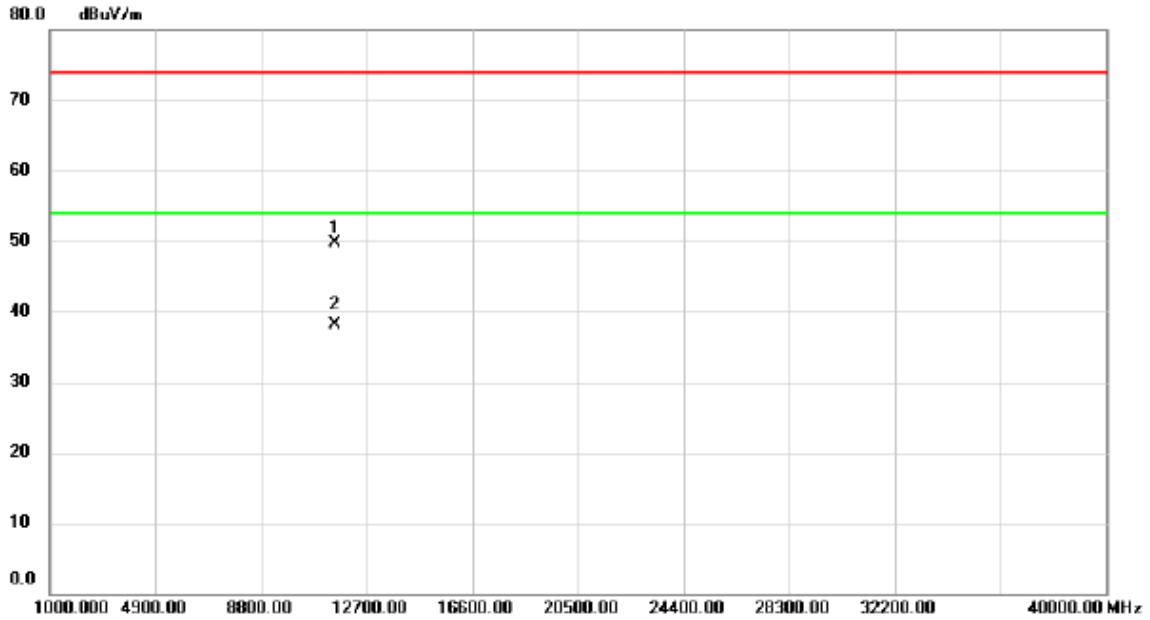
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1	*	5760.900	50.96	43.66	94.62	54.00	40.62	AVG	No Limit
2	X	5761.300	52.20	43.66	95.86	74.00	21.86	peak	No Limit

Orthogonal Axis:	X
Test Mode:	TX 5762MHz _ANT A

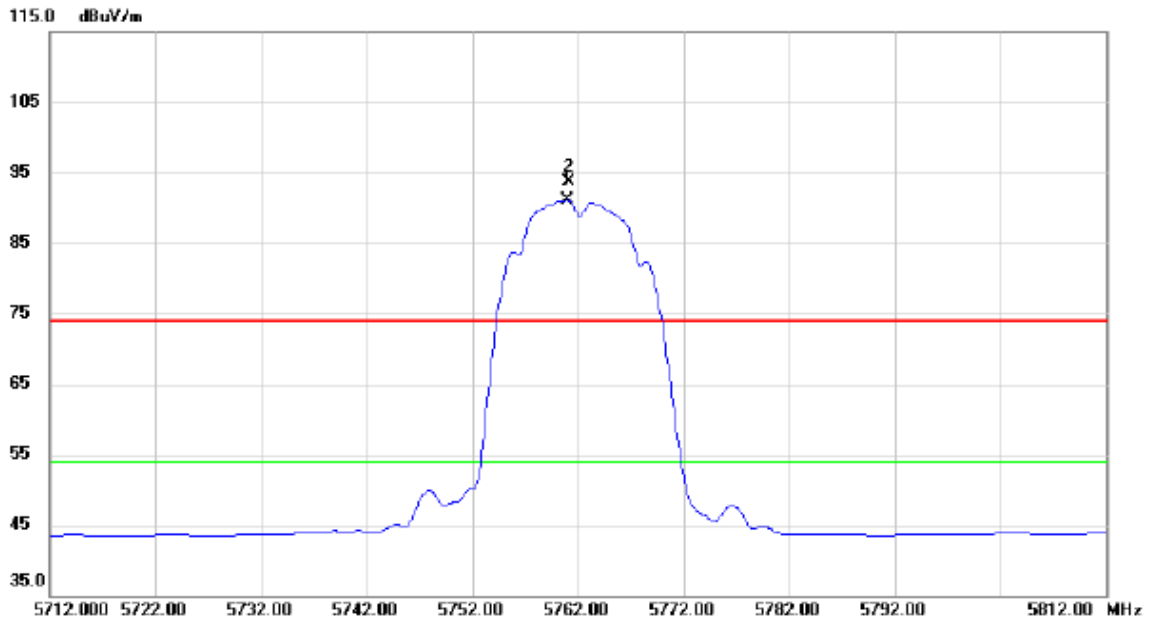
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		11524.415	31.47	18.21	49.68	74.00	-24.32	peak	
2	*	11526.445	19.91	18.22	38.13	54.00	-15.87	AVG	

Orthogonal Axis:	X
Test Mode:	TX 5762MHz _ANT A

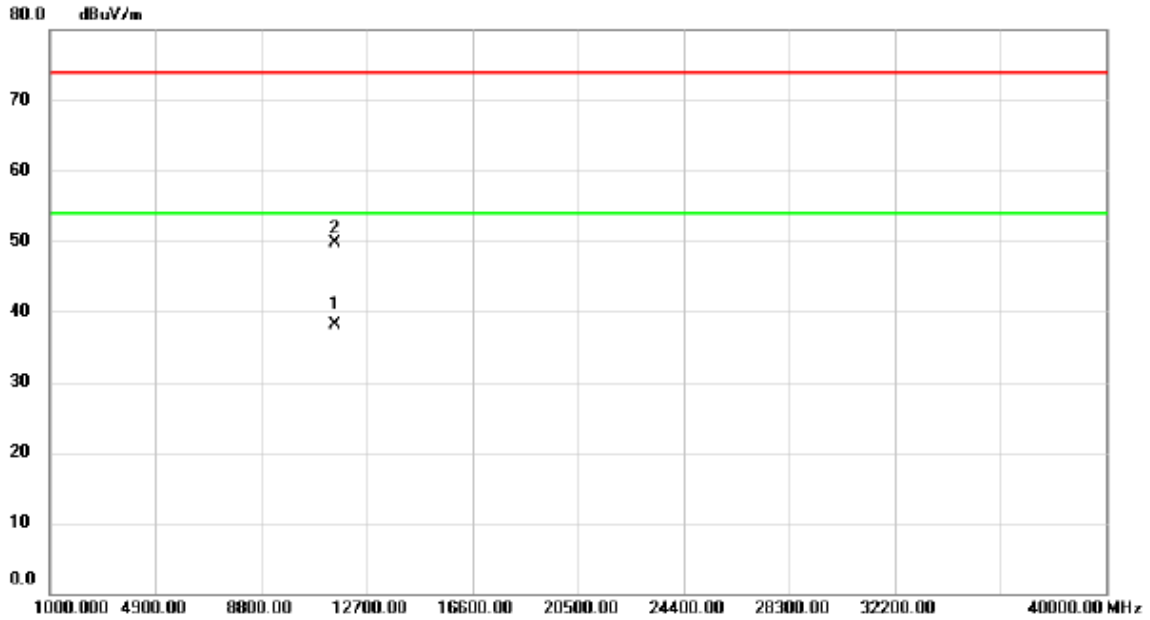
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1	*	5761.000	47.41	43.66	91.07	54.00	37.07	AVG	No Limit
2	X	5761.200	50.14	43.66	93.80	74.00	19.80	peak	No Limit

Orthogonal Axis:	X
Test Mode:	TX 5762MHz _ANT A

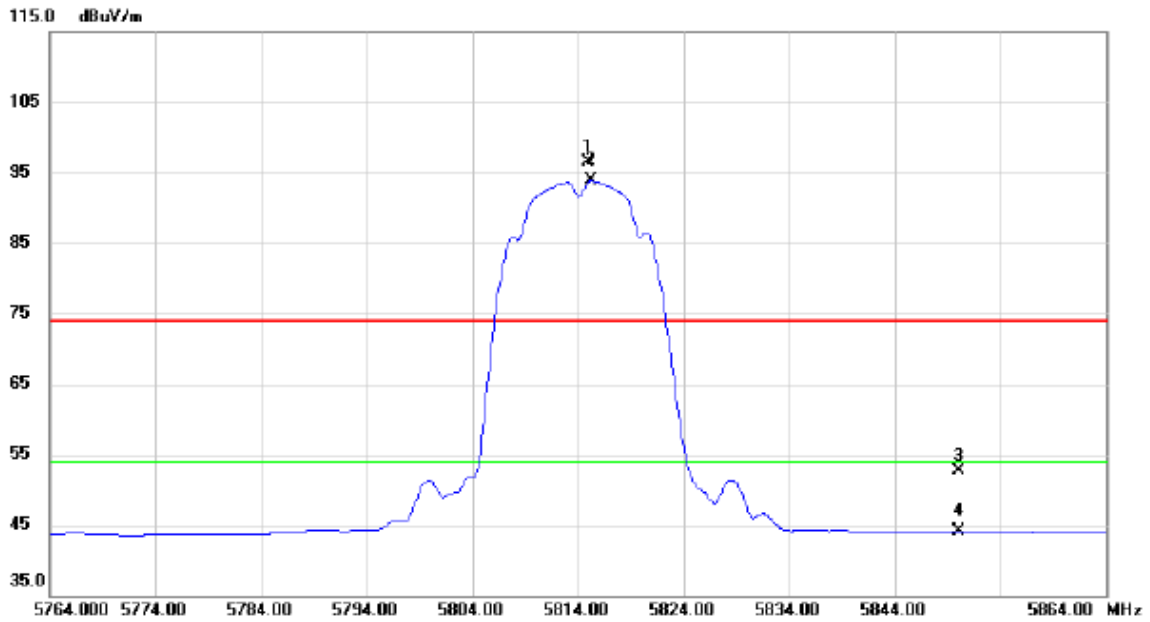
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	11524.580	19.93	18.21	38.14	54.00	-15.86	AVG	
2		11525.130	31.53	18.22	49.75	74.00	-24.25	peak	

Orthogonal Axis:	X
Test Mode:	TX 5814MHz _ANT A

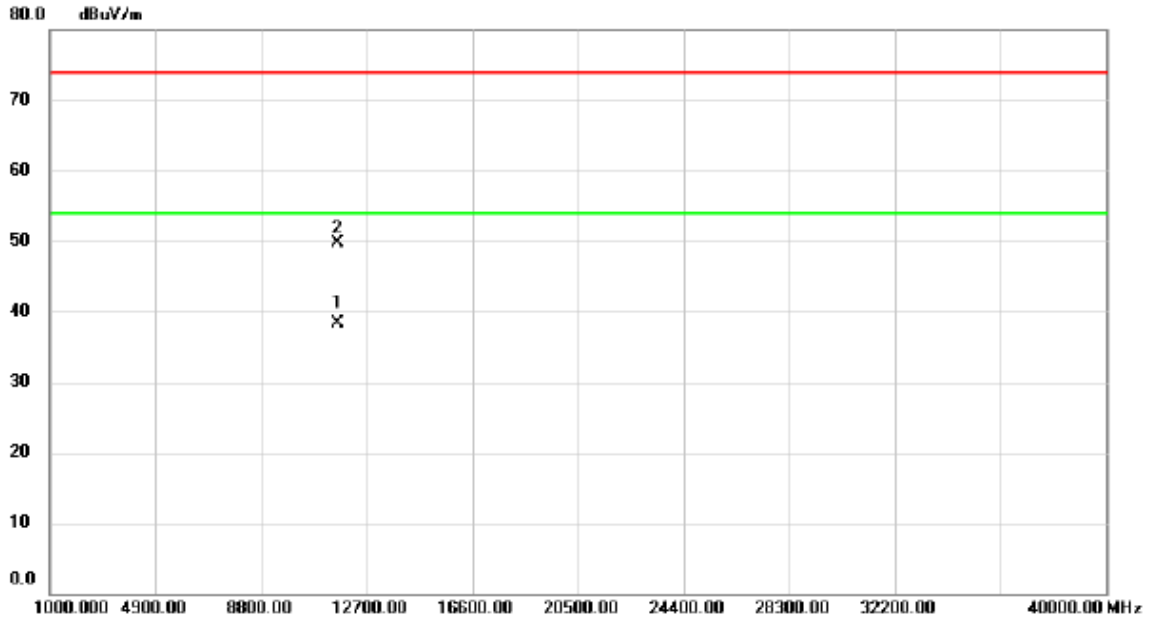
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	5815.000	52.72	43.83	96.55	74.00	22.55	peak	No Limit
2	*	5815.300	50.00	43.83	93.83	54.00	39.83	AVG	No Limit
3		5850.000	8.79	43.94	52.73	74.00	-21.27	peak	
4		5850.000	0.08	43.94	44.02	54.00	-9.98	AVG	

Orthogonal Axis:	X
Test Mode:	TX 5814MHz _ANT A

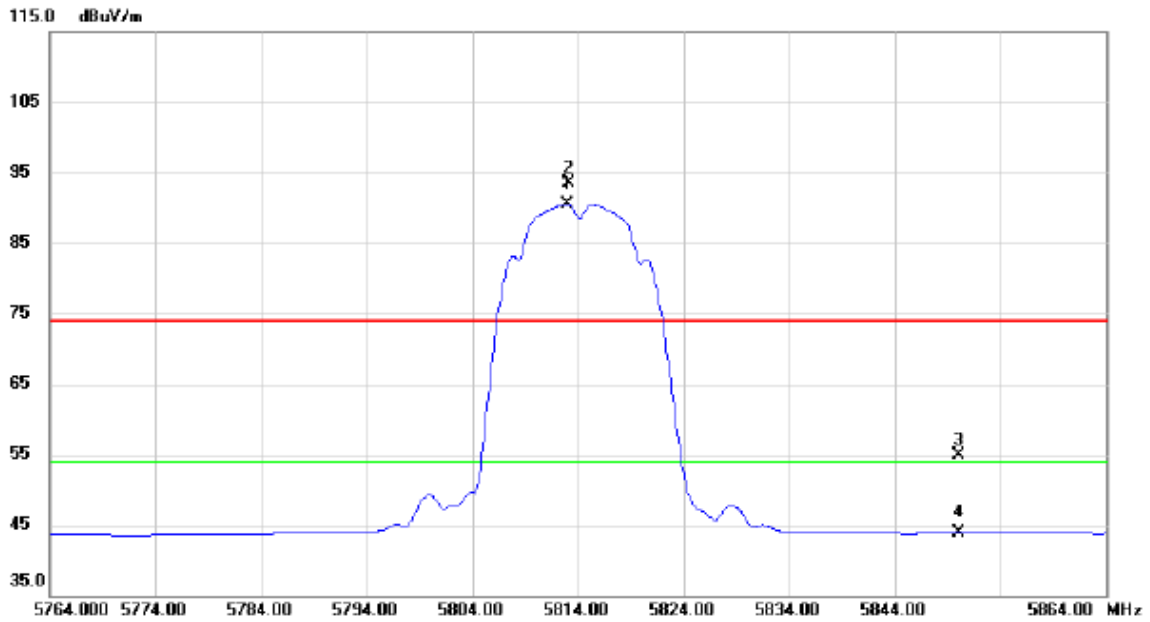
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	11629.805	20.16	18.18	38.34	54.00	-15.66	AVG	
2		11628.490	31.43	18.19	49.62	74.00	-24.38	peak	

Orthogonal Axis:	X
Test Mode:	TX 5814MHz _ANT A

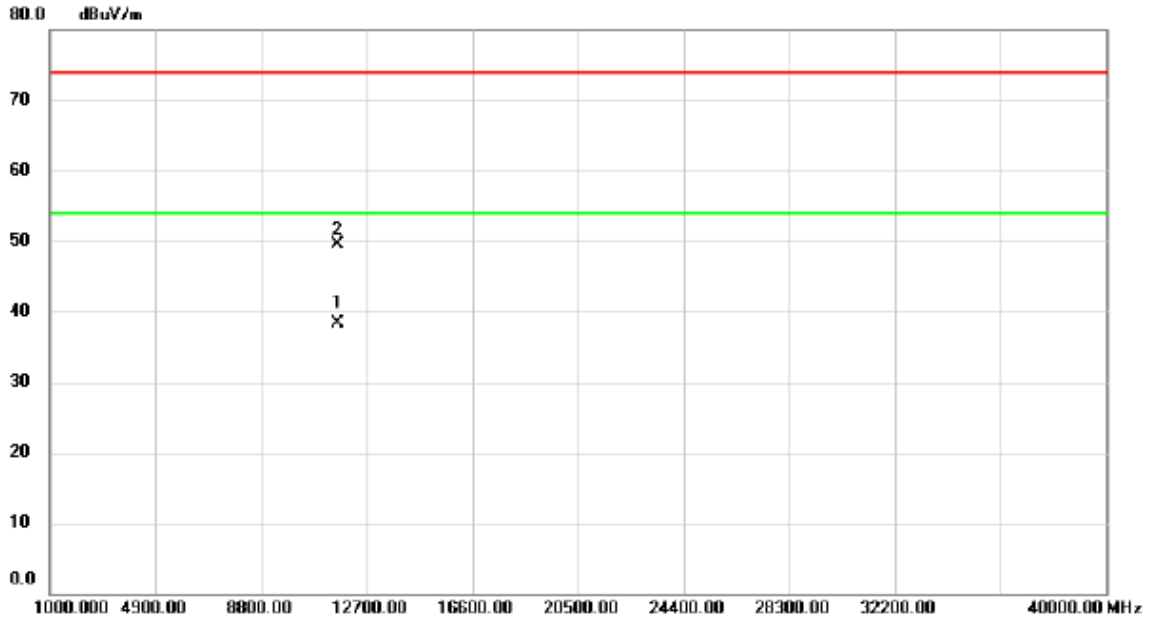
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	5813.000	46.73	43.83	90.56	54.00	36.56	AVG	No Limit
2	X	5813.200	49.61	43.83	93.44	74.00	19.44	peak	No Limit
3		5850.000	10.96	43.94	54.90	74.00	-19.10	peak	
4		5850.000	-0.02	43.94	43.92	54.00	-10.08	AVG	

Orthogonal Axis:	X
Test Mode:	TX 5814MHz _ANT A

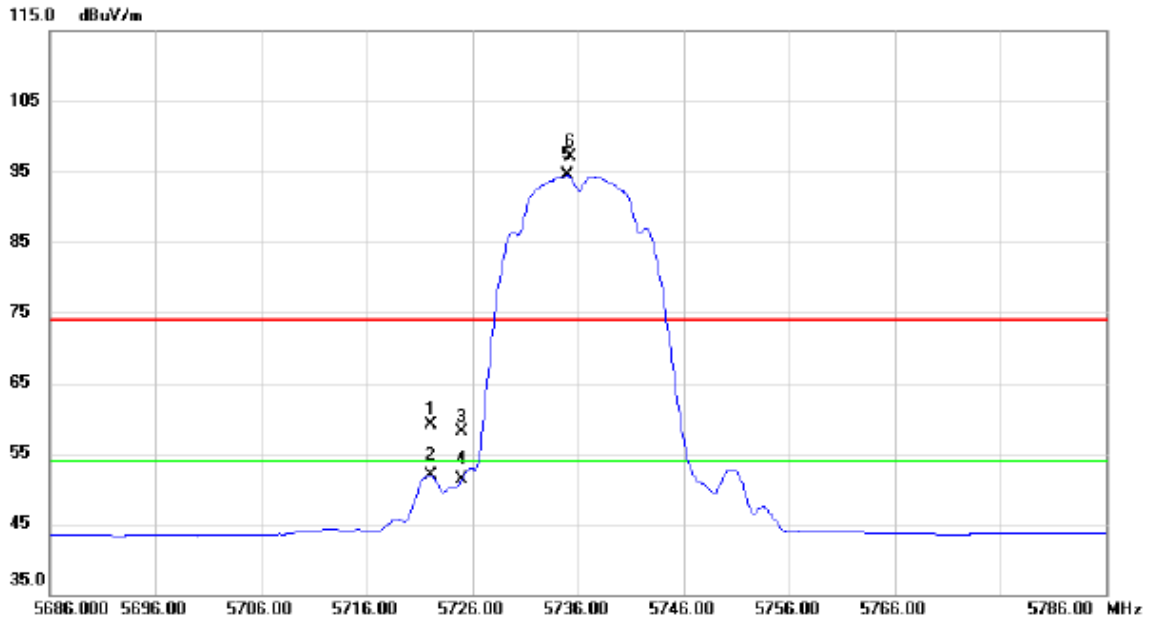
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	11626.765	20.03	18.19	38.22	54.00	-15.78	AVG	
2		11627.785	31.34	18.19	49.53	74.00	-24.47	peak	

Orthogonal Axis:	X
Test Mode:	TX 5736MHz_ANT B

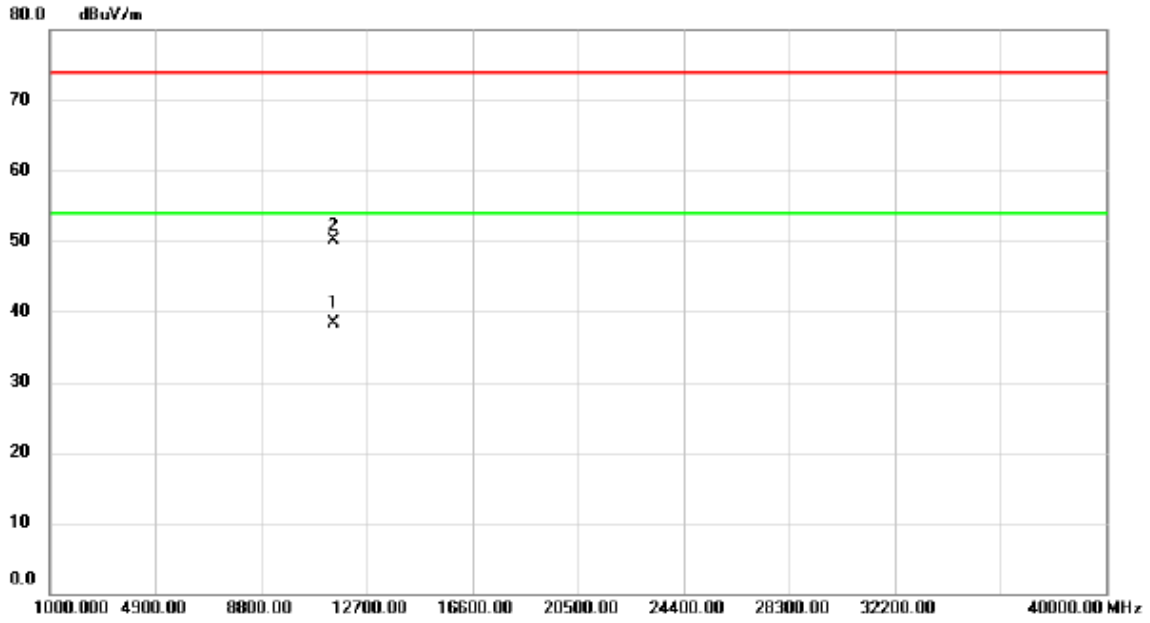
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		5722.000	15.50	43.55	59.05	74.00	-14.95	peak	
2		5722.000	8.41	43.55	51.96	54.00	-2.04	AVG	
3		5725.000	14.46	43.55	58.01	74.00	-15.99	peak	
4		5725.000	7.71	43.55	51.26	54.00	-2.74	AVG	
5	*	5735.000	50.86	43.59	94.45	54.00	40.45	AVG	No Limit
6	X	5735.300	53.42	43.59	97.01	74.00	23.01	peak	No Limit

Orthogonal Axis:	X
Test Mode:	TX 5736MHz _ANT B

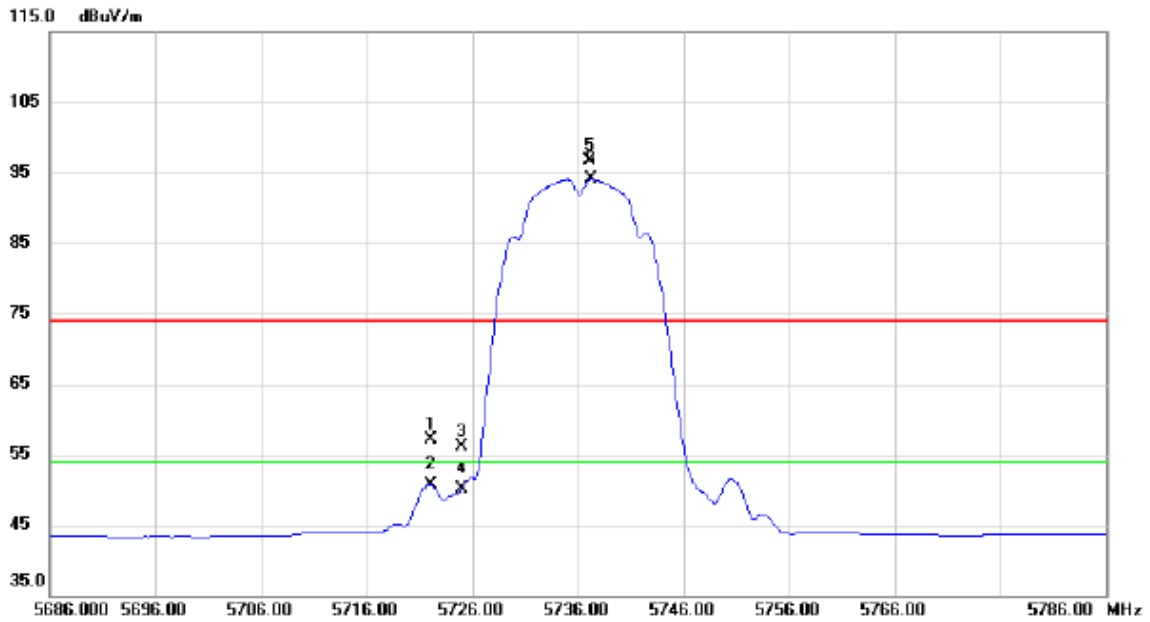
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	11474.035	20.24	18.15	38.39	54.00	-15.61	AVG	
2		11474.500	31.86	18.15	50.01	74.00	-23.99	peak	

Orthogonal Axis:	X
Test Mode:	TX 5736MHz _ANT B

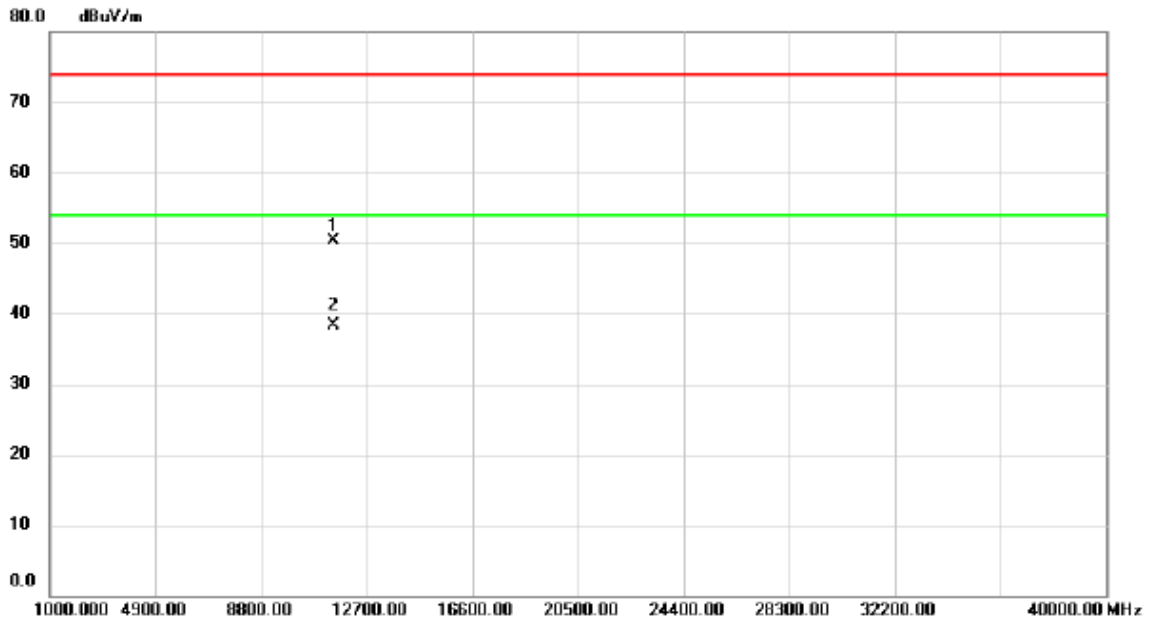
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		5722.000	13.52	43.55	57.07	74.00	-16.93	peak	
2		5722.000	7.22	43.55	50.77	54.00	-3.23	AVG	
3		5725.000	12.48	43.55	56.03	74.00	-17.97	peak	
4		5725.000	6.53	43.55	50.08	54.00	-3.92	AVG	
5	X	5737.100	53.15	43.59	96.74	74.00	22.74	peak	No Limit
6	*	5737.300	50.46	43.59	94.05	54.00	40.05	AVG	No Limit

Orthogonal Axis:	X
Test Mode:	TX 5736MHz _ANT B

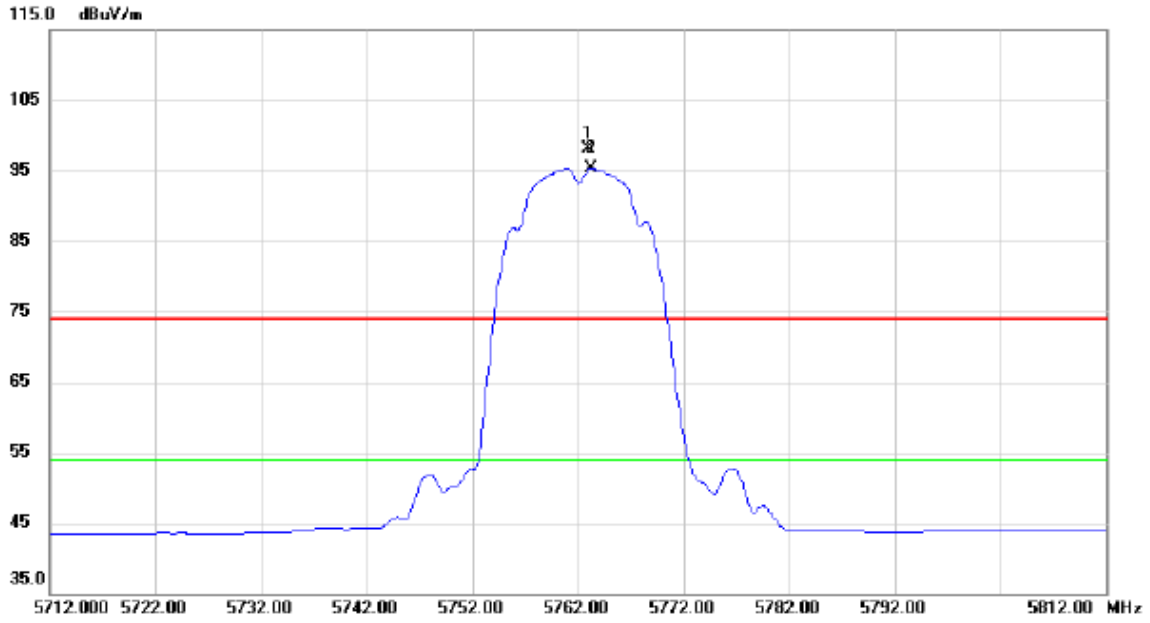
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		11471.025	32.13	18.14	50.27	74.00	-23.73	peak	
2	*	11472.230	20.19	18.15	38.34	54.00	-15.66	AVG	

Orthogonal Axis:	X
Test Mode:	TX 5762MHz _ANT B

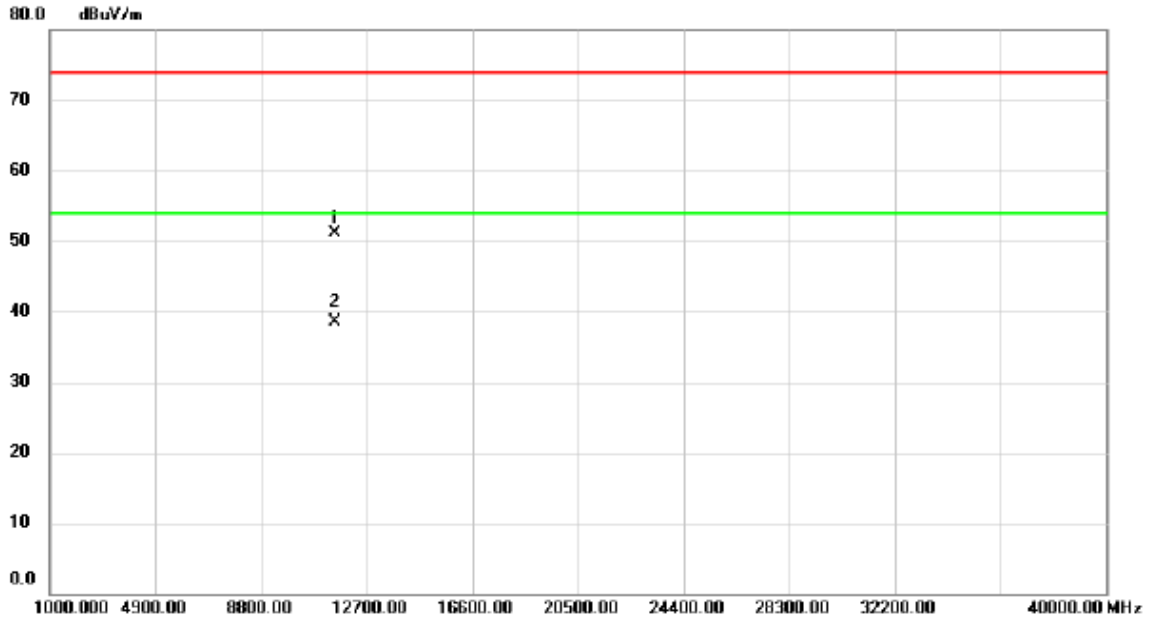
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1	X	5763.000	54.48	43.68	98.16	74.00	24.16	peak	No Limit
2	*	5763.300	51.69	43.68	95.37	54.00	41.37	AVG	No Limit

Orthogonal Axis:	X
Test Mode:	TX 5762MHz _ANT B

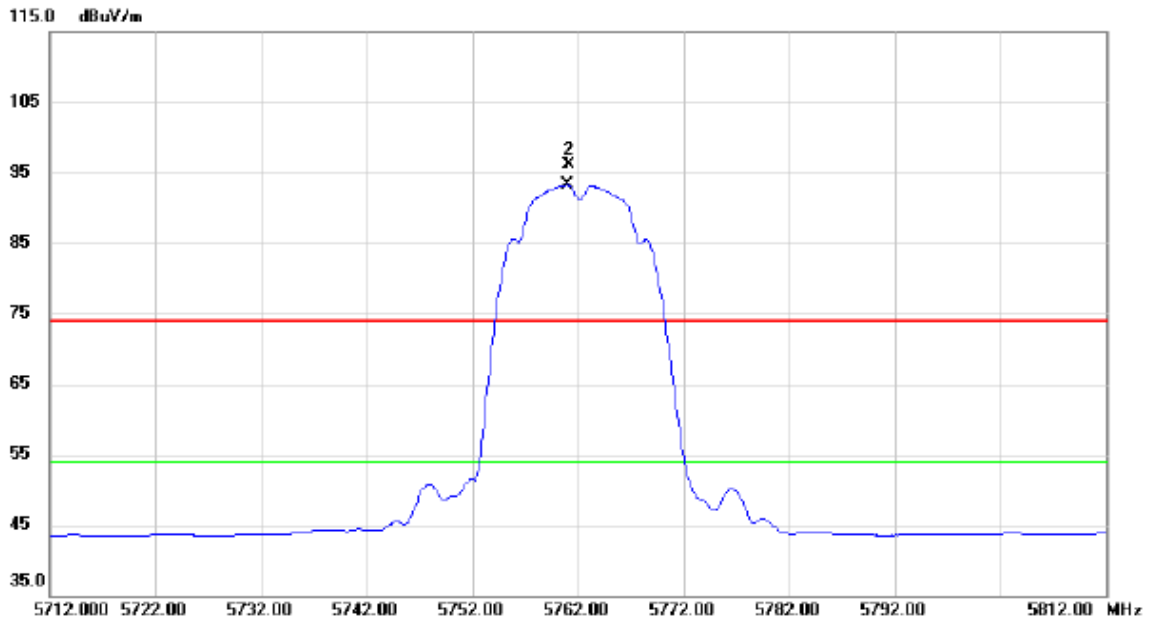
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		11524.295	32.95	18.21	51.16	74.00	-22.84	peak	
2	*	11525.655	20.32	18.22	38.54	54.00	-15.46	AVG	

Orthogonal Axis:	X
Test Mode:	TX 5762MHz _ANT B

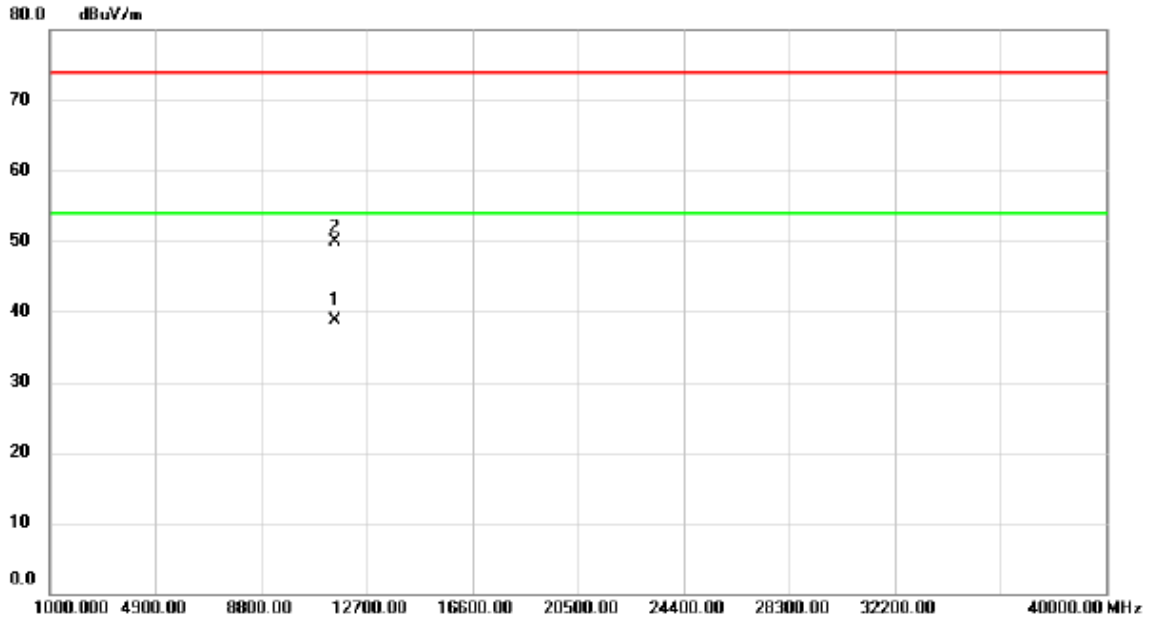
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1	*	5761.000	49.61	43.66	93.27	54.00	39.27	AVG	No Limit
2	X	5761.200	52.41	43.66	96.07	74.00	22.07	peak	No Limit

Orthogonal Axis:	X
Test Mode:	TX 5762MHz _ANT B

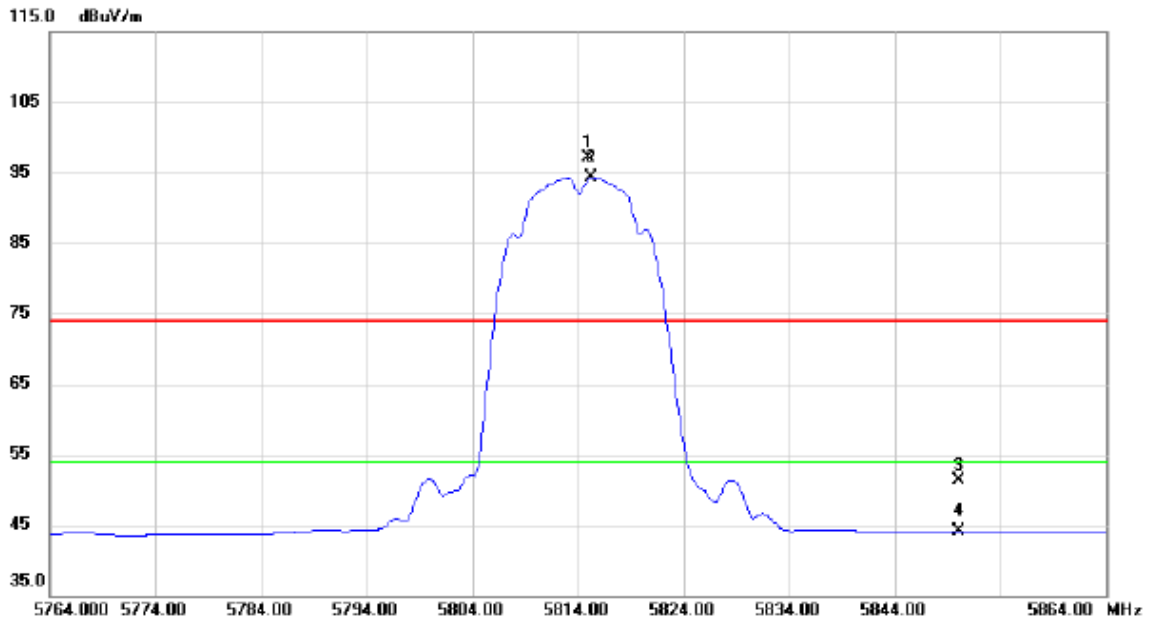
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	11521.735	20.56	18.21	38.77	54.00	-15.23	AVG	
2		11523.150	31.75	18.21	49.96	74.00	-24.04	peak	

Orthogonal Axis:	X
Test Mode:	TX 5814MHz _ANT B

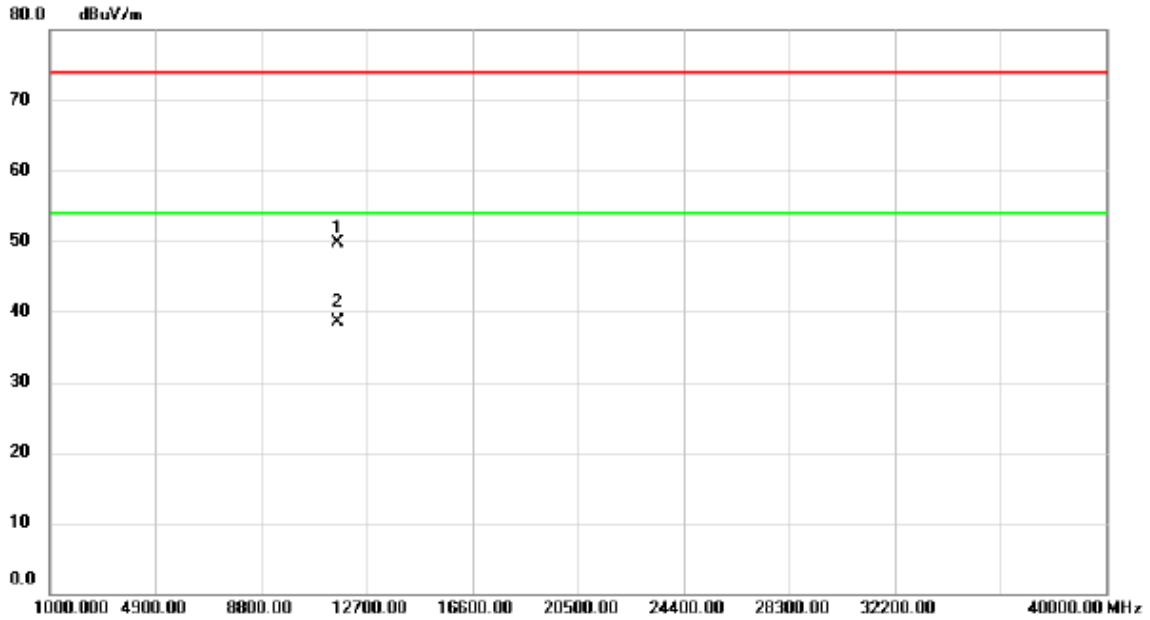
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	5815.000	53.37	43.83	97.20	74.00	23.20	peak	No Limit
2	*	5815.300	50.50	43.83	94.33	54.00	40.33	AVG	No Limit
3		5850.000	7.40	43.94	51.34	74.00	-22.66	peak	
4		5850.000	0.07	43.94	44.01	54.00	-9.99	AVG	

Orthogonal Axis:	X
Test Mode:	TX 5814MHz _ANT B

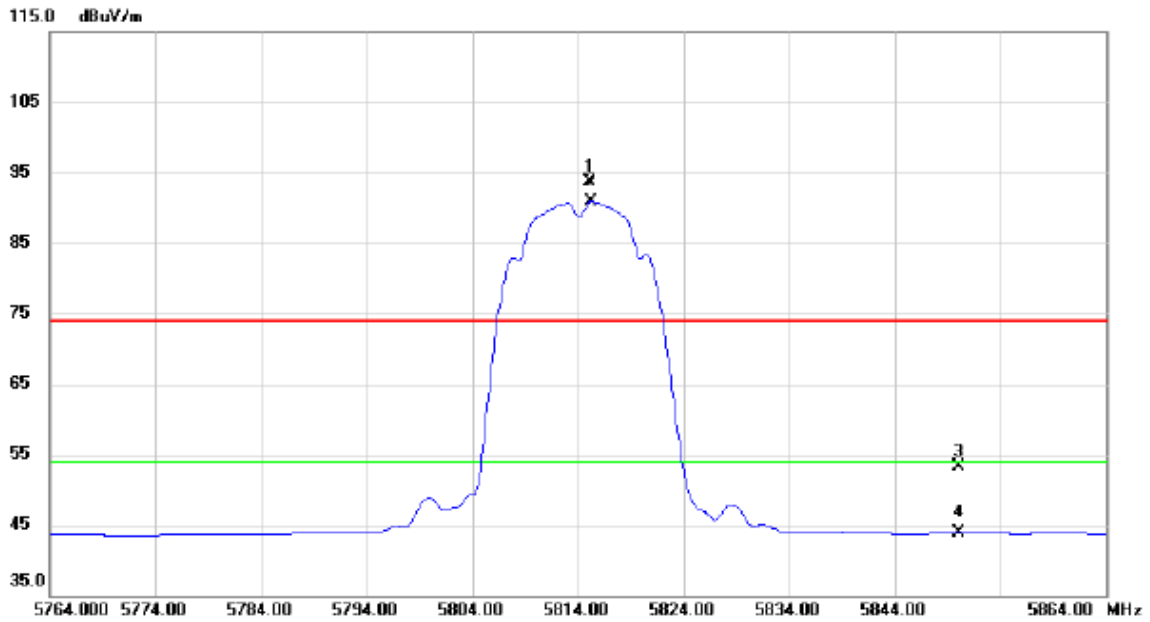
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		11626.390	31.47	18.19	49.66	74.00	-24.34	peak	
2	*	11629.290	20.40	18.18	38.58	54.00	-15.42	AVG	

Orthogonal Axis:	X
Test Mode:	TX 5814MHz _ANT B

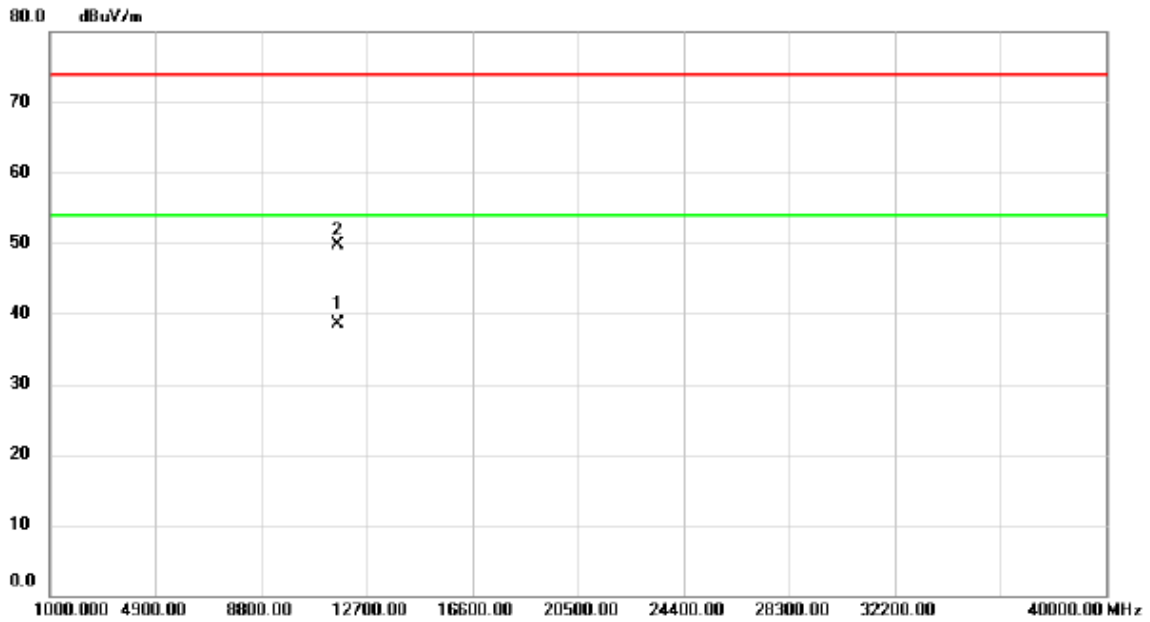
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	5815.100	49.89	43.83	93.72	74.00	19.72	peak	No Limit
2	*	5815.300	47.03	43.83	90.86	54.00	36.86	AVG	No Limit
3		5850.000	9.39	43.94	53.33	74.00	-20.67	peak	
4		5850.000	-0.06	43.94	43.88	54.00	-10.12	AVG	

Orthogonal Axis:	X
Test Mode:	TX 5814MHz _ANT B

Horizontal

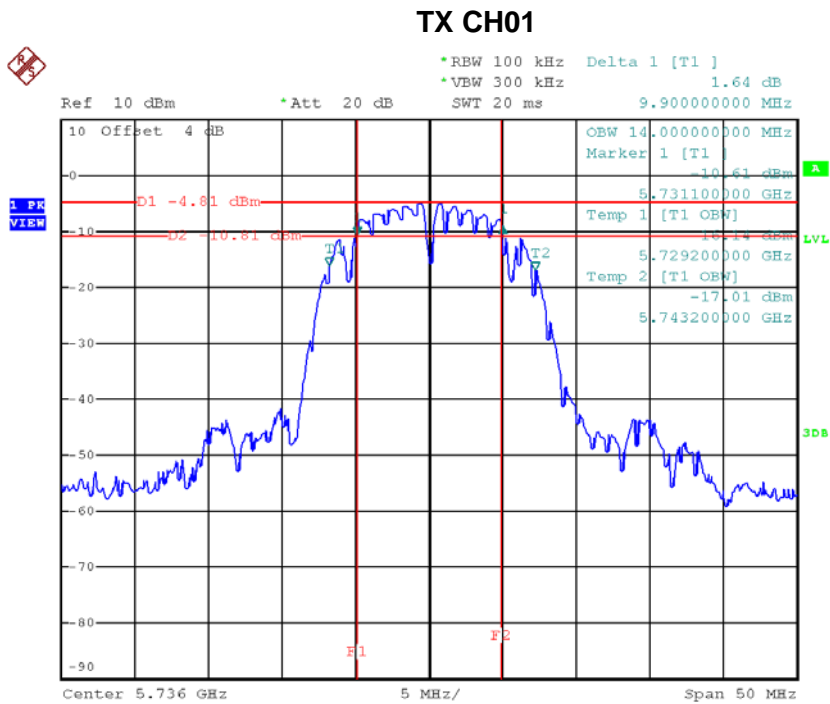


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	11628.400	20.30	18.19	38.49	54.00	-15.51	AVG	
2		11630.470	31.61	18.18	49.79	74.00	-24.21	peak	

APPENDIX E - BANDWIDTH

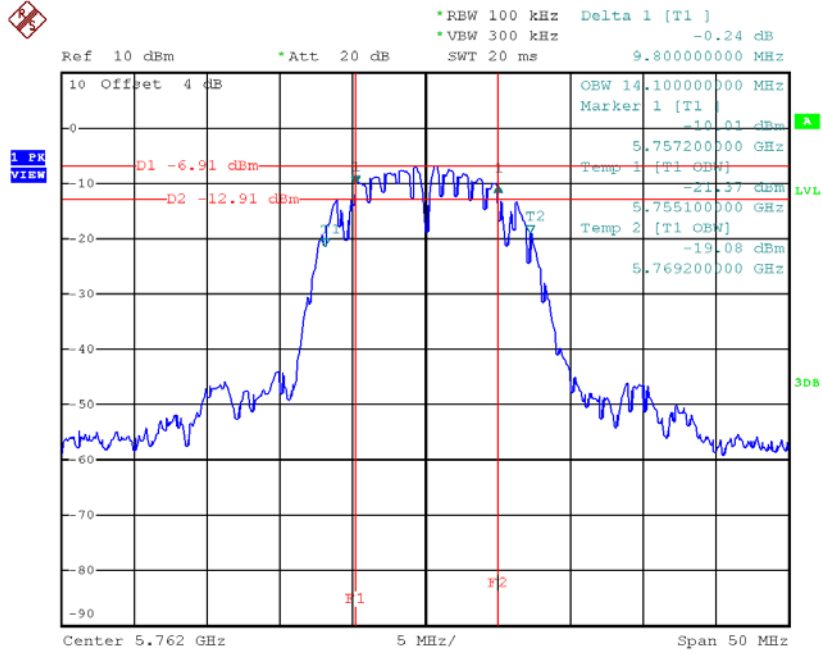
Test Mode: TX Mode / CH01, CH02, CH03_ANT A

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
5736	9.90	14.00	500	Complies
5762	9.80	14.10	500	Complies
5814	9.90	14.10	500	Complies



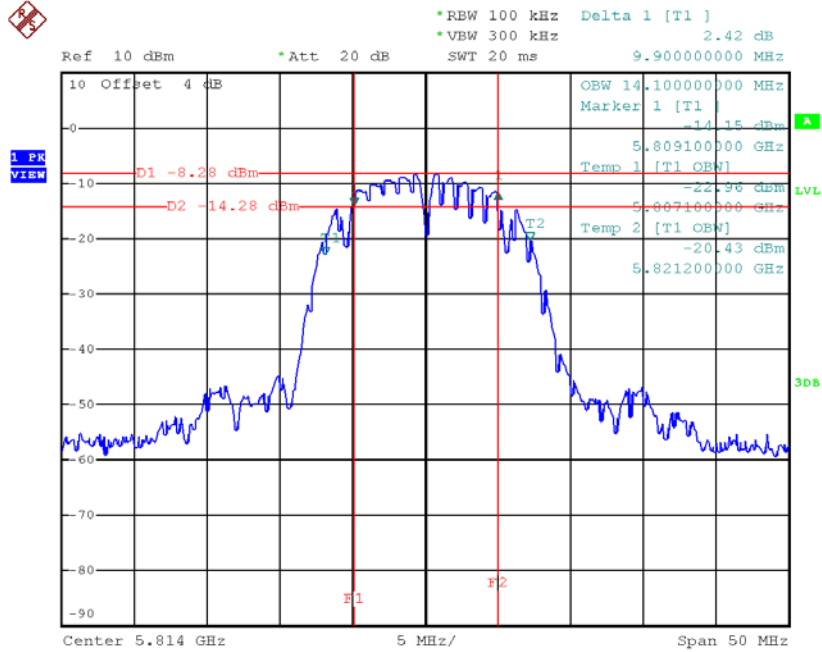
Date: 17.AUG.2017 19:01:06

TX CH02



Date: 17.AUG.2017 19:22:14

TX CH03

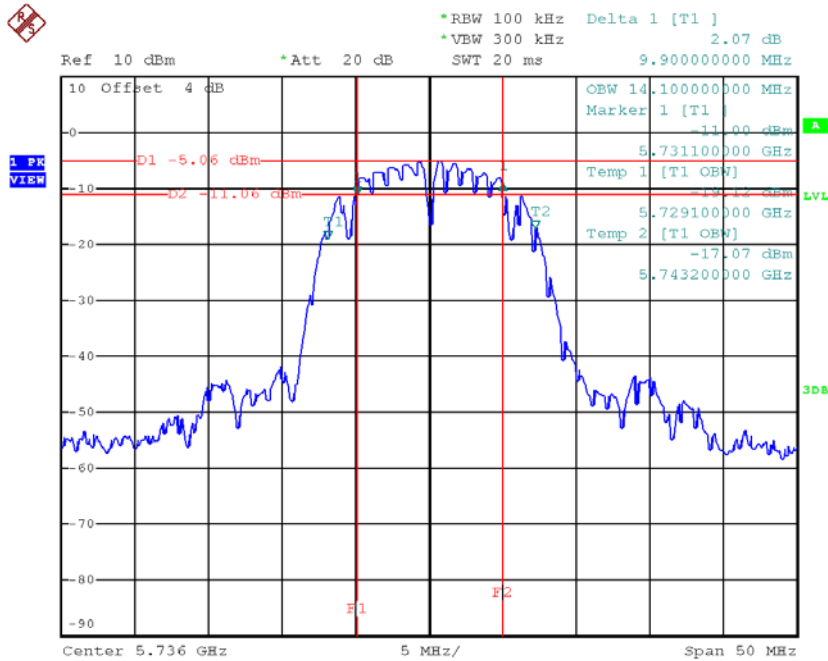


Date: 17.AUG.2017 19:27:49

Test Mode: TX Mode / CH01, CH02, CH03_ANT B

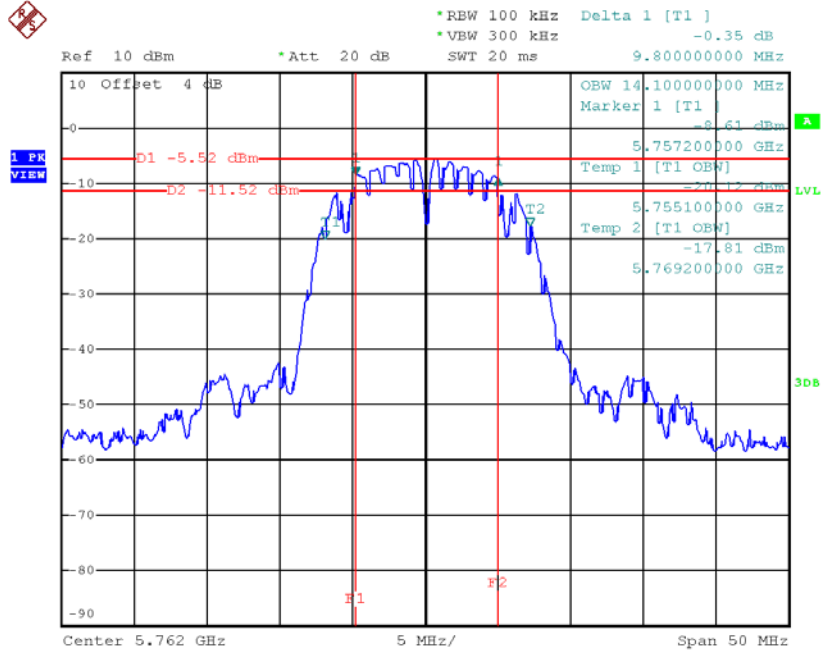
Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
5736	9.90	14.10	500	Complies
5762	9.80	14.10	500	Complies
5814	9.80	14.10	500	Complies

TX CH01



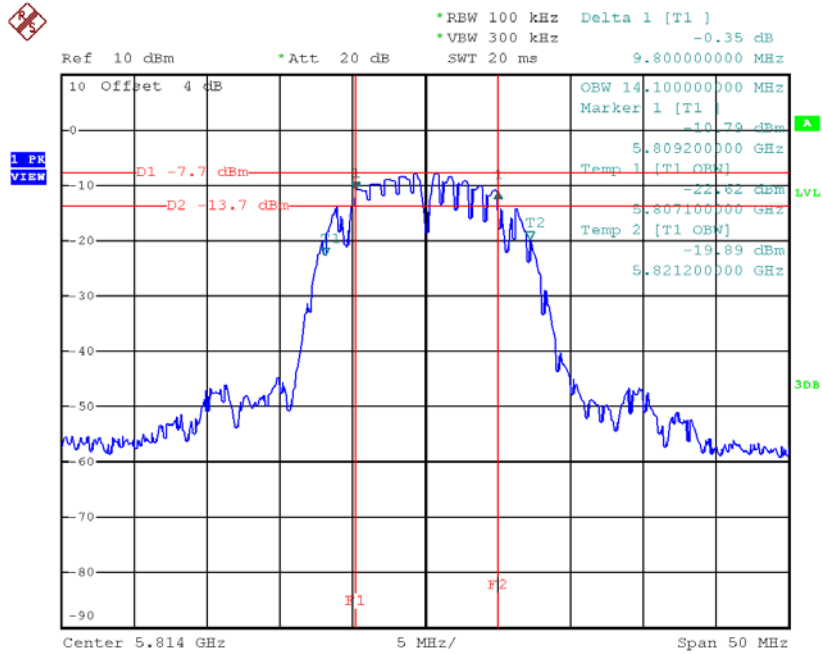
Date: 17.AUG.2017 19:16:42

TX CH02



Date: 17.AUG.2017 19:24:10

TX CH03



Date: 17.AUG.2017 19:31:27

APPENDIX F – CONDUCTED OUTPUT POWER

TX Mode / CH01, CH02, CH03_ ANT A

Channel	Frequency(MHz)	Output Power (dBm)	Limit(dBm)	Limit(Watt)
CH01	5736	7.82	30.00	1.00
CH02	5762	6.50	30.00	1.00
CH03	5814	4.21	30.00	1.00

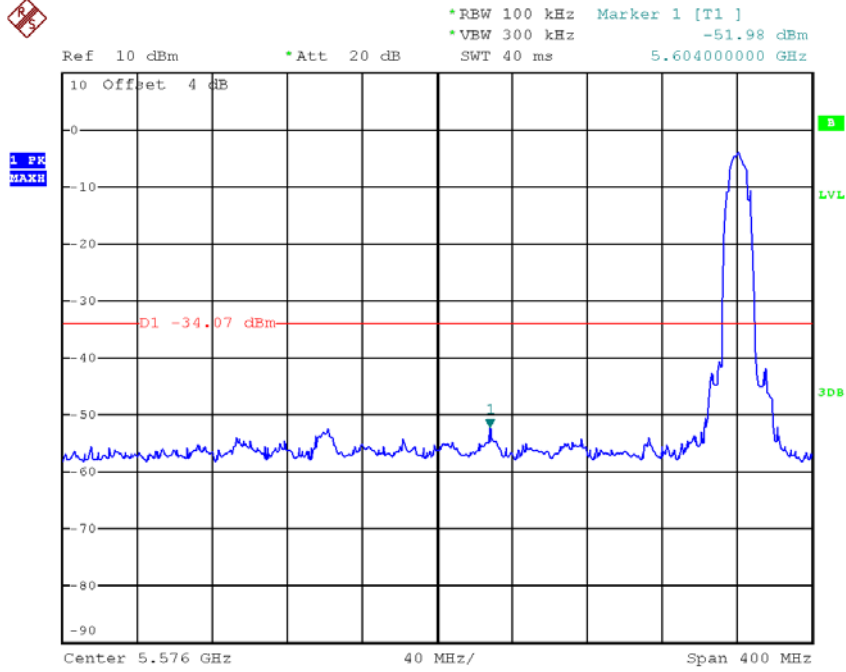
TX Mode / CH01, CH02, CH03_ ANT B

Channel	Frequency(MHz)	Output Power (dBm)	Limit(dBm)	Limit(Watt)
CH01	5736	7.60	30.00	1.00
CH02	5762	5.94	30.00	1.00
CH03	5814	4.26	30.00	1.00

APPENDIX G - ANTENNA CONDUCTED SPURIOUS EMISSION

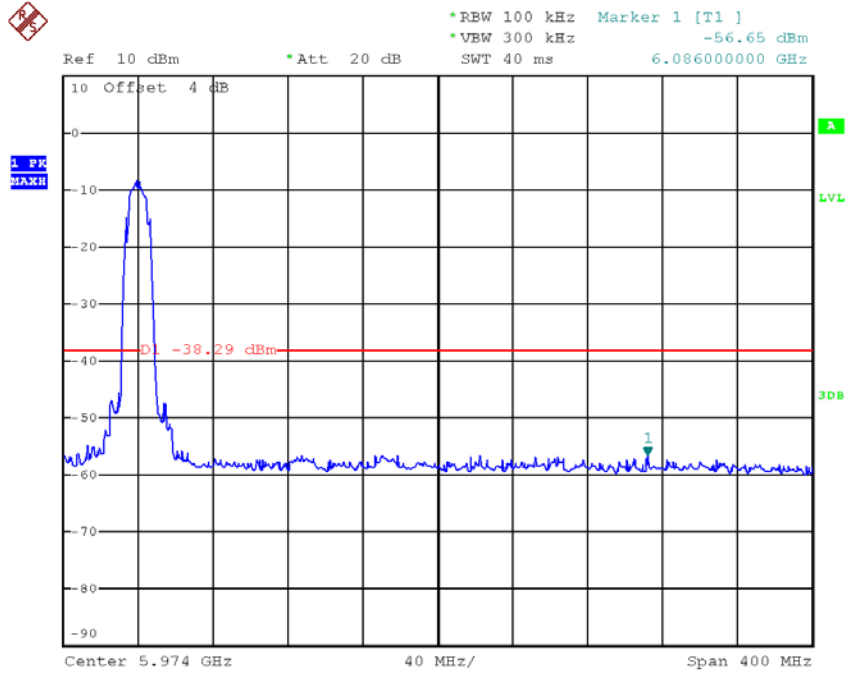
Test Mode : TX Mode_ANT A

TX mode CH01



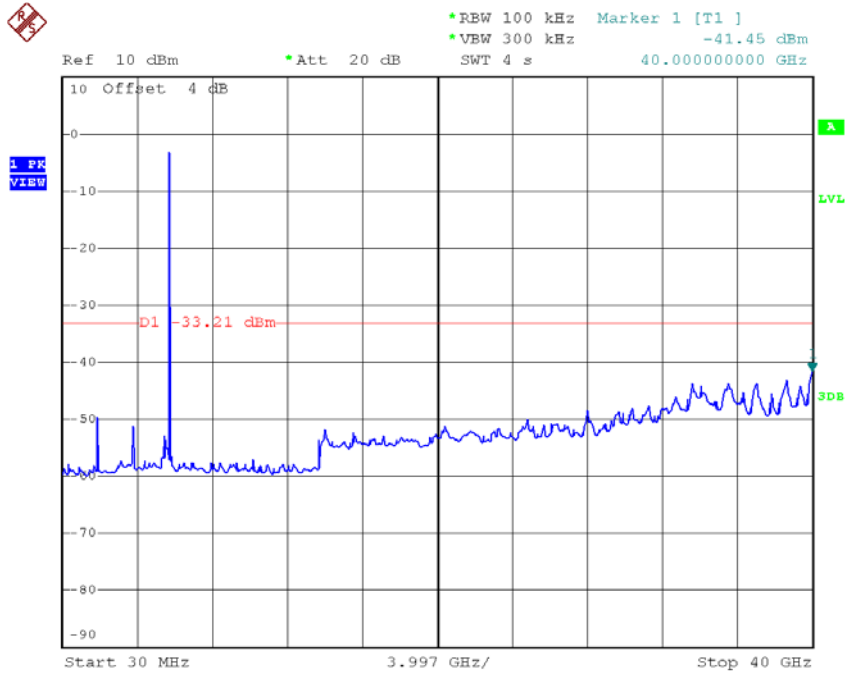
Date: 17.AUG.2017 19:44:13

TX mode CH03



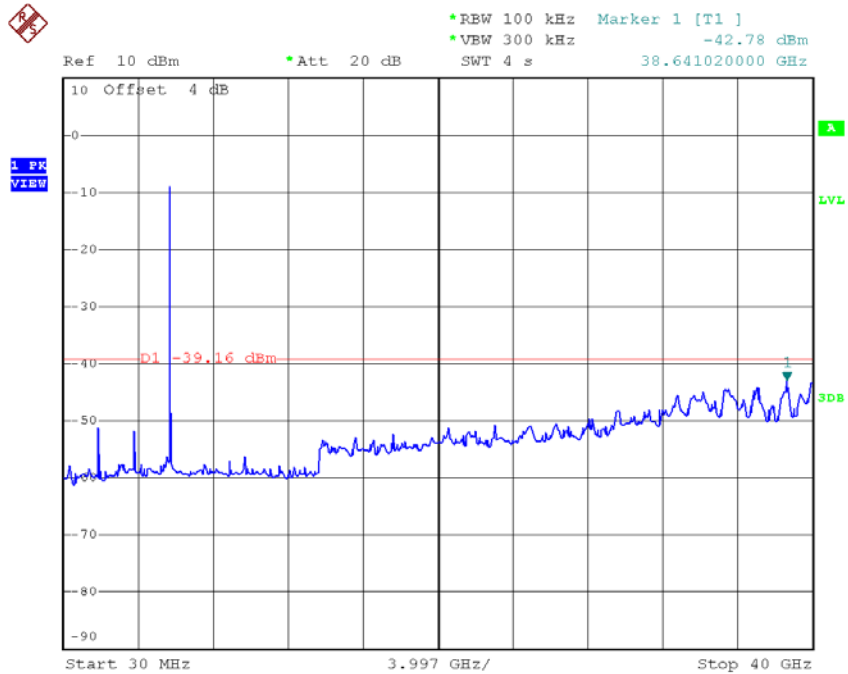
Date: 17.AUG.2017 19:49:56

TX mode CH01 (10 Harmonic of the frequency)



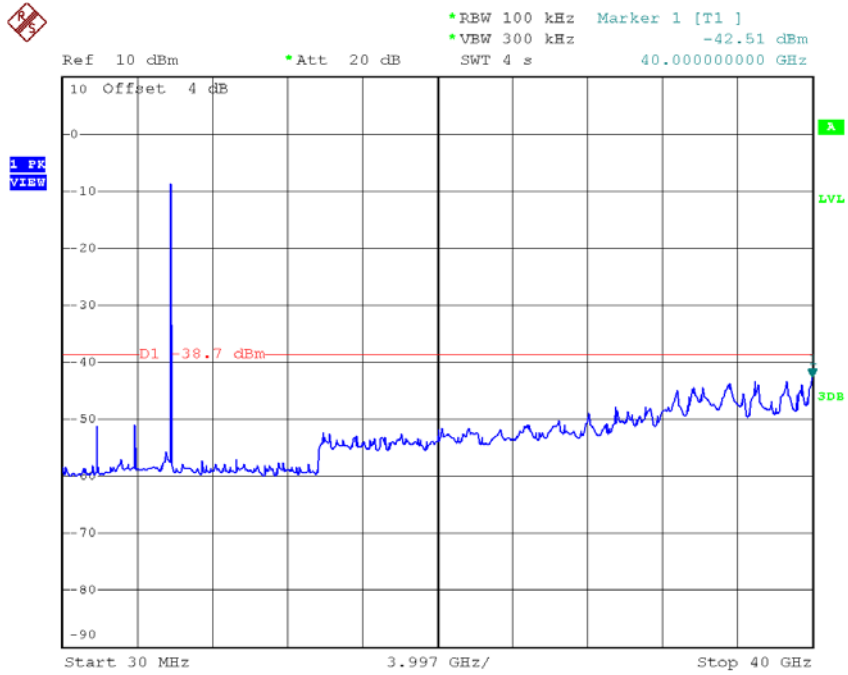
Date: 18.AUG.2017 15:48:35

TX mode CH02 (10 Harmonic of the frequency)



Date: 18.AUG.2017 15:53:07

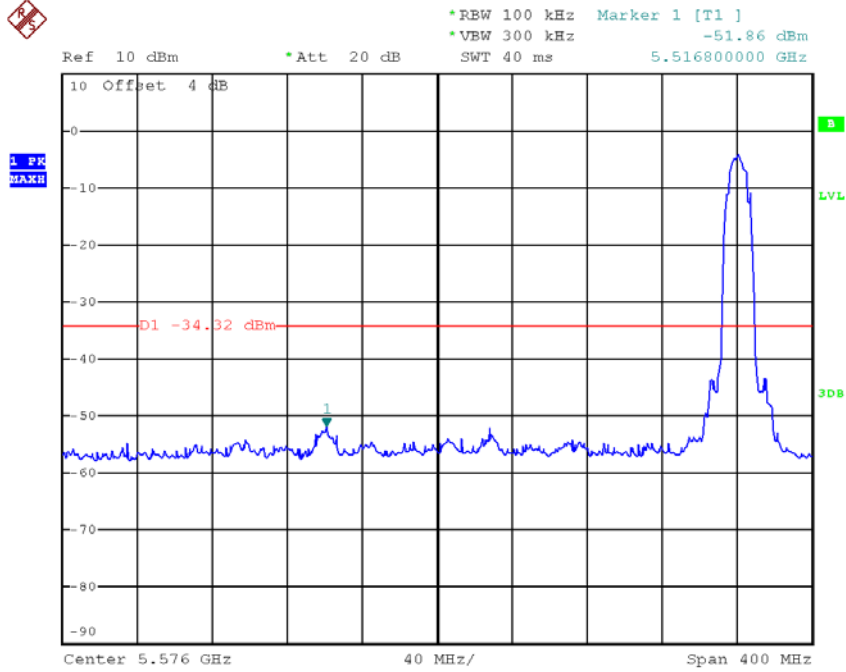
TX mode CH03 (10 Harmonic of the frequency)



Date: 18.AUG.2017 16:02:49

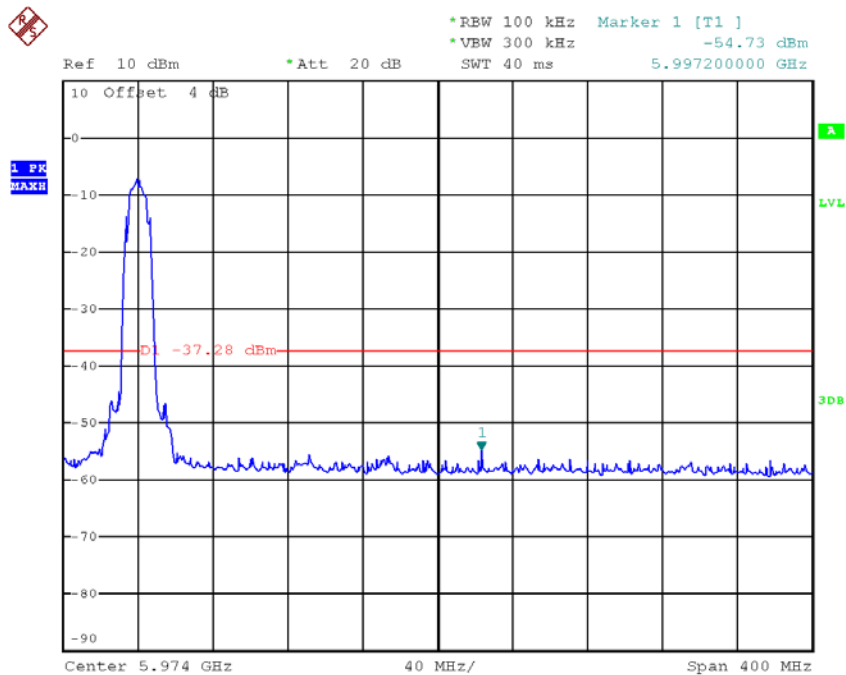
Test Mode : TX Mode_ANT B

TX mode CH01



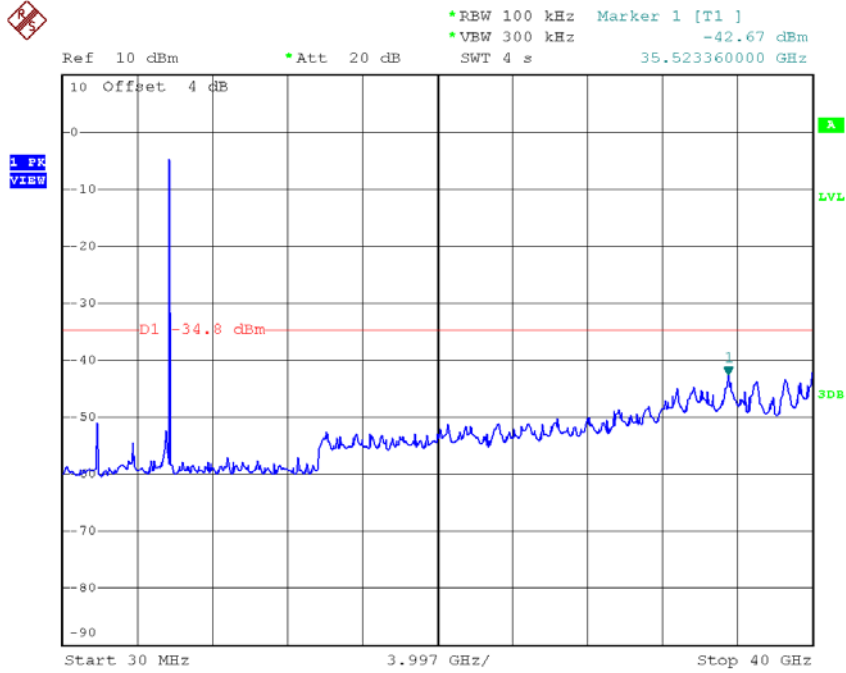
Date: 17.AUG.2017 19:47:44

TX mode CH03



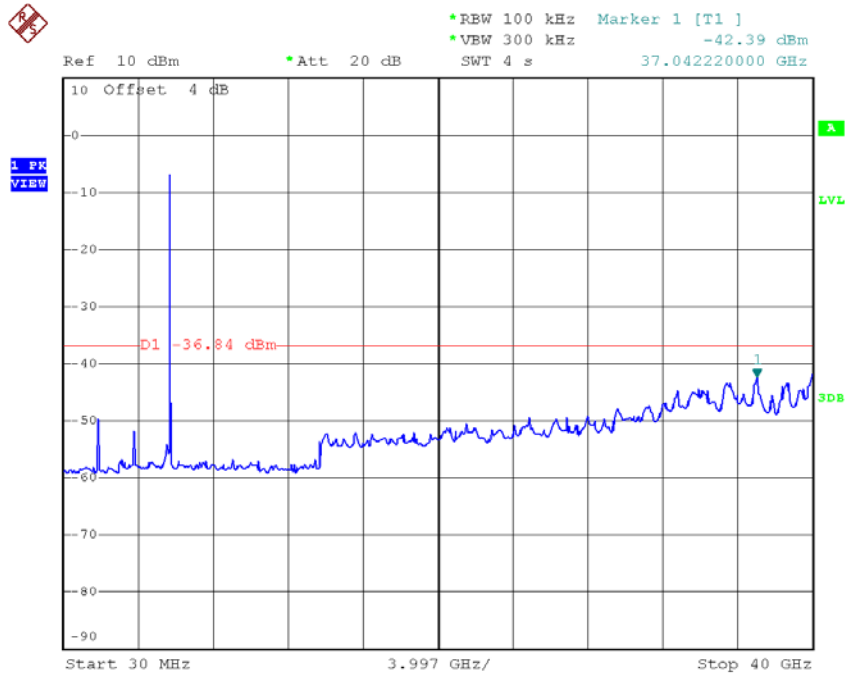
Date: 17.AUG.2017 19:41:02

TX mode CH01 (10 Harmonic of the frequency)



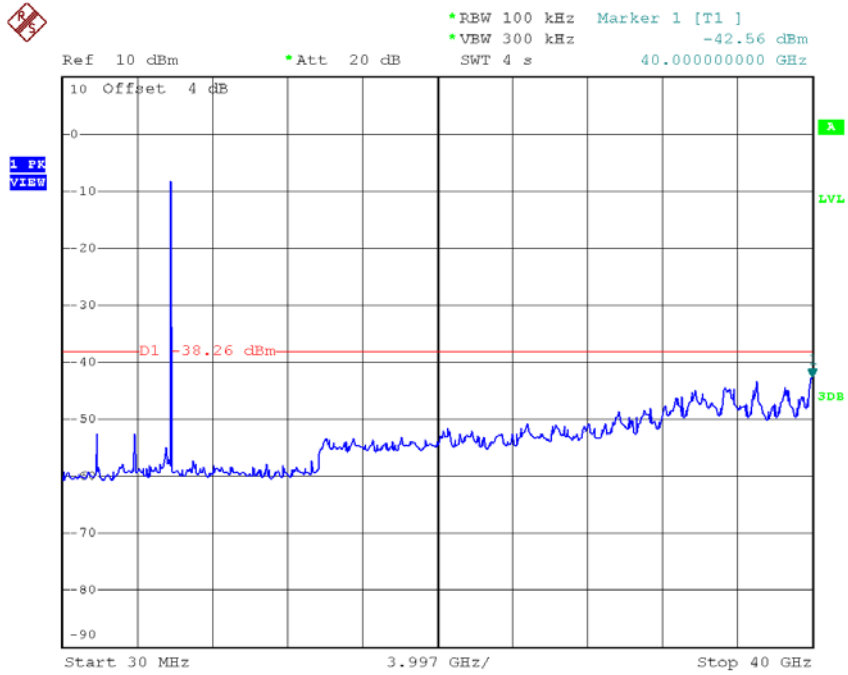
Date: 18.AUG.2017 15:50:32

TX mode CH02 (10 Harmonic of the frequency)



Date: 18.AUG.2017 15:58:52

TX mode CH03 (10 Harmonic of the frequency)



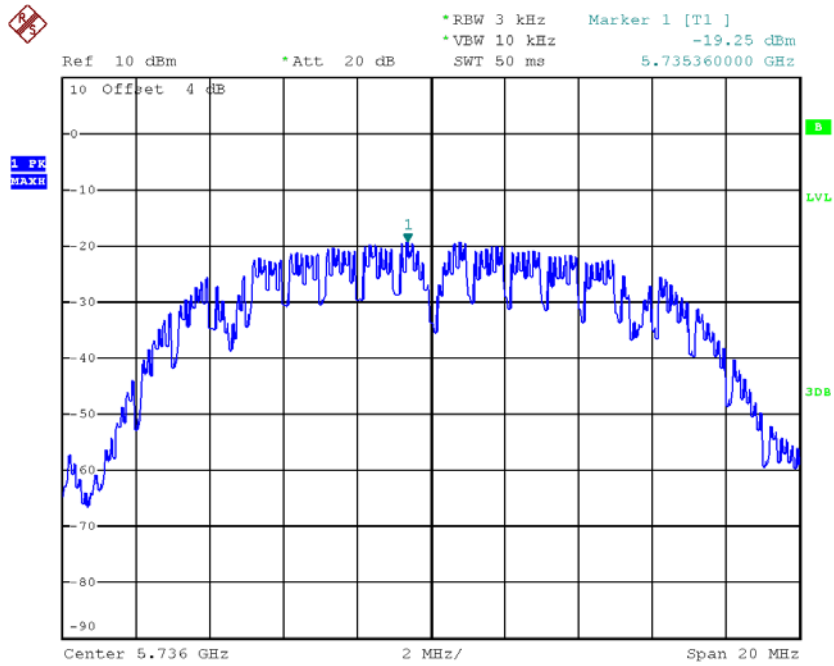
Date: 18.AUG.2017 16:04:51

APPENDIX H - POWER SPECTRAL DENSITY

Test Mode :TX Mode_ CH01, CH02, CH03_ANT A

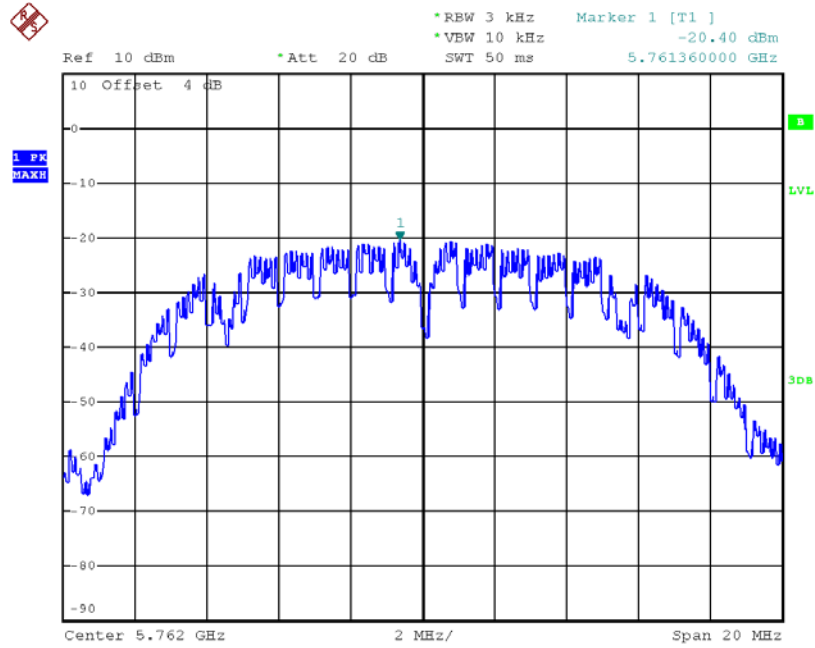
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
5736	-19.25	0.012	8.00	Complies
5762	-20.40	0.009	8.00	Complies
5814	-22.38	0.006	8.00	Complies

TX CH01



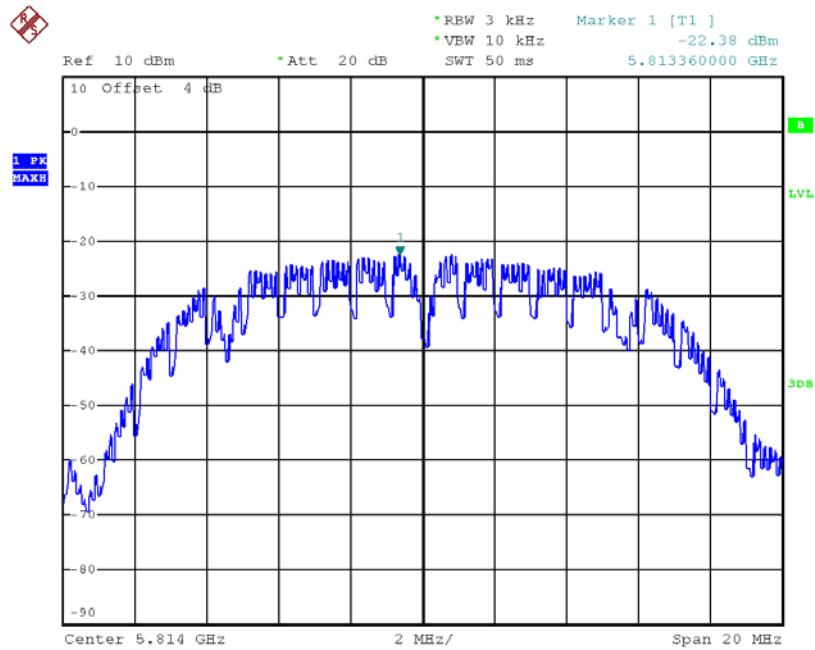
Date: 17.AUG.2017 19:12:18

TX CH02



Date: 17.AUG.2017 19:19:34

TX CH03

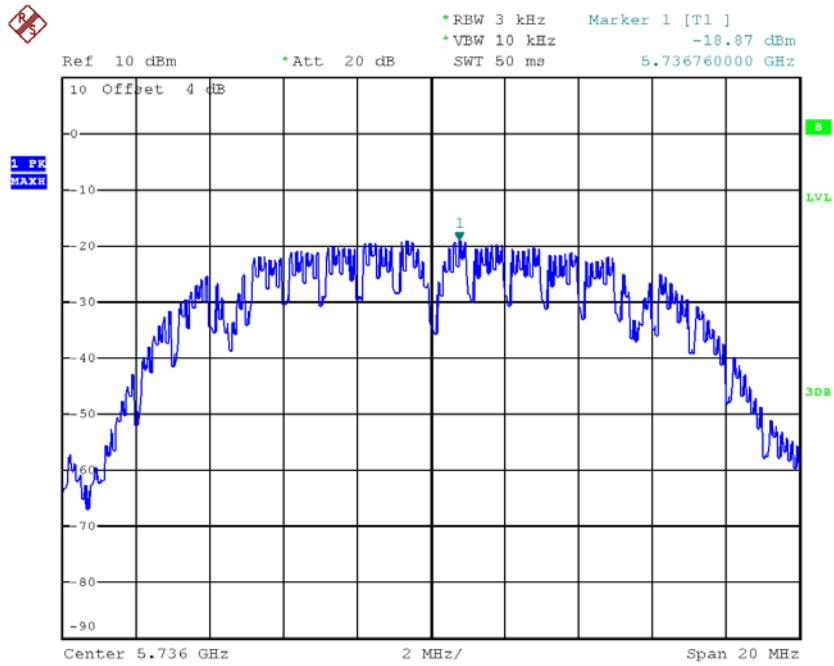


Date: 17.AUG.2017 19:25:41

Test Mode :TX Mode_ CH01, CH02, CH03_ ANT B

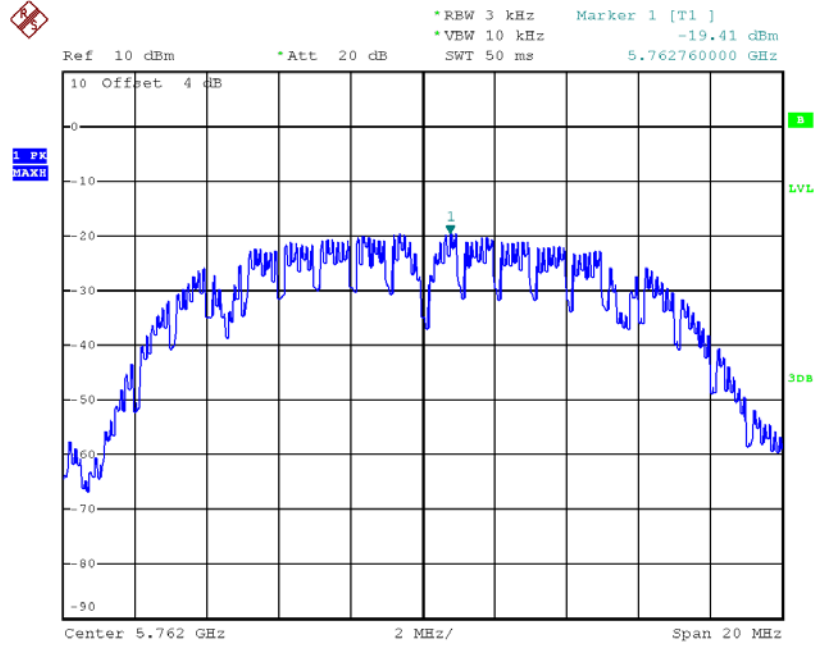
Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	Max. Limit (dBm/3kHz)	Result
5736	-18.87	0.013	8.00	Complies
5762	-19.41	0.011	8.00	Complies
5814	-21.71	0.007	8.00	Complies

TX CH01



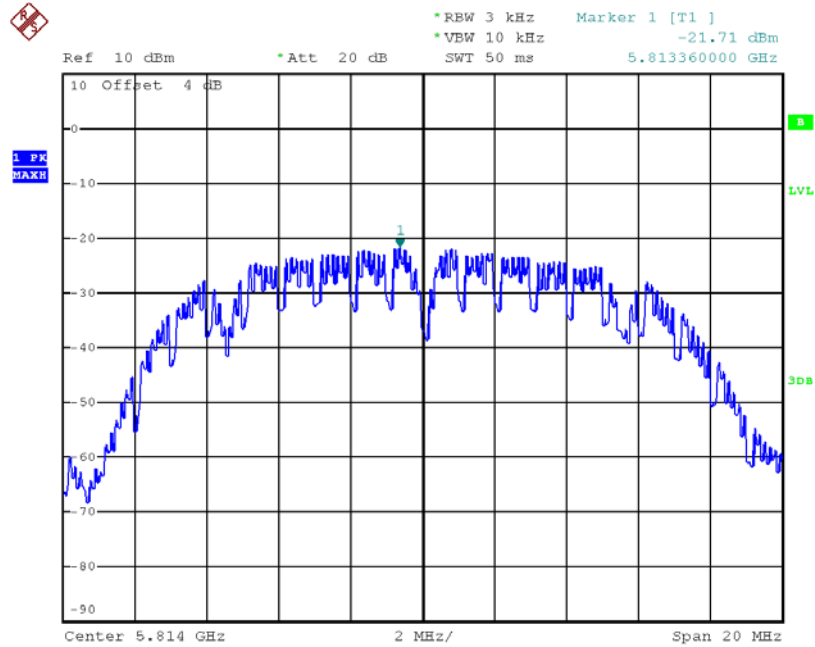
Date: 17.AUG.2017 19:18:05

TX CH02



Date: 17.AUG.2017 19:24:33

TX CH03



Date: 17.AUG.2017 19:29:27