SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

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TEST REPORT

Application No.:	SZEM1805004179CR
Applicant:	SZ DJI TECHNOLOGY CO., LTD
Address of Applicant:	14th floor, West Wing, Skyworth Semiconductor Design Building NO.18 Gaoxin South 4th Ave, Nanshan, Shenzhen, China
Manufacturer:	SZ DJI TECHNOLOGY CO., LTD
Address of Manufacturer:	4th floor, West Wing, Skyworth Semiconductor Design Building NO.18 Gaoxin South 4th Ave, Nanshan District, Shenzhen, China
Factory:	SZ DJI TECHNOLOGY CO., LTD
Address of Factory:	4th floor, West Wing, Skyworth Semiconductor Design Building NO.18 Gaoxin South 4th Ave, Nanshan District, Shenzhen, China
Equipment Under Test (EUT):	
EUT Name:	Mavic 2 Pro
Model No.:	L1P
Trade mark:	DJI
FCC ID:	SS3-L1P1805
IC:	11805A-L1P1805
Standard(s) :	47 CFR Part 15, Subpart E 15.407 RSS-Gen Issue 5, April 2018 RSS-247 Issue 2, February 2017
Date of Receipt:	2018-05-18
Date of Test:	2018-05-25 to 2018-05-30
Date of Issue:	2018-06-15
Test Result:	**Pass***

* In the configuration tested, the EUT complied with the standards specified above.

Keny Xu
EMC Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
01		2018-06-15		Original

Authorized for issue by:				
				
		Hank Yan /Project Engineer		
				
		Eric Fu /Reviewer		

2 Test Summary

Radio Spectrum Technical Requirement				
Item	**Standard**	**Method**	**Requirement**	**Result**
Antenna Requirement	47 CFR Part 15, Subpart E 15.407; RSS-Gen	N/A	47 CFR Part 15, Subpart C 15.203; RSS-Gen Section 6.8	Pass
Transmission in the Absence of Data	47 CFR Part 15, Subpart E 15.407; RSS-247	N/A	47 CFR Part 15, Subpart E 15.407 (c); RSS-247 Section 6.4(a)	Pass

N/A: Not applicable

Radio Spectrum Matter Part				
Item	**Standard**	**Method**	**Requirement**	**Result**
99% Bandwidth	47 CFR Part 15, Subpart E 15.407; RSS-Gen	ANSI C63.10 Section 6.9.3	RSS-Gen Section 6.7	Pass
Minimum 6 dB bandwidth (5.725-5.85 GHz band)	47 CFR Part 15, Subpart E 15.407; RSS-247	KDB 789033 D02 Section C.2	47 CFR Part 15, Subpart E 15.407 (e); RSS-247 Section 6.2.4	Pass
Maximum Conducted output power	47 CFR Part 15, Subpart E 15.407; RSS-247	ANSI C63.10 Section 12.3	47 CFR Part 15, Subpart E 15.407 (a); RSS-247 Section 6.2	Pass
Peak Power spectrum density	47 CFR Part 15, Subpart E 15.407; RSS-247	ANSI C63.10 Section 12.5	47 CFR Part 15, Subpart E 15.407 (a); RSS-247 Section 6.2	Pass
Radiated Emissions	47 CFR Part 15, Subpart E 15.407; RSS-247	ANSI C63.10 Section 12.7.3	47 CFR Part 15, Subpart E 15.209 & 15.407(b) ; RSS-247 Section 3.3 & 6.2 & RSS-Gen Section 8.9	Pass
Radiated Emissions which fall in the restricted bands	47 CFR Part 15, Subpart E 15.407; RSS-247	ANSI C63.10 Section 12.7.2	47 CFR Part 15, Subpart E 15.209 & 15.407(b); RSS-247 Section 3.3 & RSS-Gen Section 8.9	Pass
Frequency Stability	47 CFR Part 15, Subpart E 15.407	ANSI C63.10 (2013) Section 6.8	47 CFR Part 15, Subpart C 15.407 (g)	Pass

N/A: Not applicable

3 Contents

4 General Information

4.1 Details of E.U.T.

Power supply:	DC 15.4V, 3850mAh Li-Po Battery
Operation Frequency:	1.4M BW: 5728.5MHz ~ 5846.5MHz; 10M BW: 5730.5MHz ~ 5844.5MHz; 20M BW: 5735.5MHz ~ 5839.5MHz
Number of Channels:	1.4M BW: 60; 10M BW: 115; 20M BW: 105
Modulation Type:	OFDM
Channel Spacing:	1.4M BW: 2MHz; 10M BW: 1MHz; 20M BW: 1MHz
Antenna Type:	PCB Antenna
Antenna Gain:	4dBi

Channel List for 1.4MHz BW

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	5728.5	16	5758.5	31	5788.5	46	5818.5
2	5730.5	17	5760.5	32	5790.5	47	5820.5
3	5732.5	18	5762.5	33	5792.5	48	5822.5
4	5734.5	19	5764.5	34	5794.5	49	5824.5
5	5736.5	20	5766.5	35	5796.5	50	5826.5
6	5738.5	21	5768.5	36	5798.5	51	5828.5
7	5740.5	22	5770.5	37	5800.5	52	5830.5
8	5742.5	23	5772.5	38	5802.5	53	5832.5
9	5744.5	24	5774.5	39	5804.5	54	5834.5
10	5746.5	25	5776.5	40	5806.5	55	5836.5
11	5748.5	26	5778.5	41	5808.5	56	5838.5
12	5750.5	27	5780.5	42	5810.5	57	5840.5
13	5752.5	28	5782.5	43	5812.5	58	5842.5
14	5754.5	29	5784.5	44	5814.5	59	5844.5
15	5756.5	30	5786.5	45	5816.5	60	5846.5

Note: The highlight frequencies are chosen to do all of the test.

Channel List for 10MHz BW							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	5730.5	30	5759.5	59	5788.5	88	5817.5
2	5731.5	31	5760.5	60	5789.5	89	5818.5
3	5732.5	32	5761.5	61	5790.5	90	5819.5
4	5733.5	33	5762.5	62	5791.5	91	5820.5
5	5734.5	34	5763.5	63	5792.5	92	5821.5
6	5735.5	35	5764.5	64	5793.5	93	5822.5
7	5736.5	36	5765.5	65	5794.5	94	5823.5
8	5737.5	37	5766.5	66	5795.5	95	5824.5
9	5738.5	38	5767.5	67	5796.5	96	5825.5
10	5739.5	39	5768.5	68	5797.5	97	5826.5
11	5740.5	40	5769.5	69	5798.5	98	5827.5
12	5741.5	41	5770.5	70	5799.5	99	5828.5
13	5742.5	42	5771.5	71	5800.5	100	5829.5
14	5743.5	43	5772.5	72	5801.5	101	5830.5
15	5744.5	44	5773.5	73	5802.5	102	5831.5
16	5745.5	45	5774.5	74	5803.5	103	5832.5
17	5746.5	46	5775.5	75	5804.5	104	5833.5
18	5747.5	47	5776.5	76	5805.5	105	5834.5
19	5748.5	48	5777.5	77	5806.5	106	5835.5
20	5749.5	49	5778.5	78	5807.5	107	5836.5
21	5750.5	50	5779.5	79	5808.5	108	5837.5
22	5751.5	51	5780.5	80	5809.5	109	5838.5
23	5752.5	52	5781.5	81	5810.5	110	5839.5
24	5753.5	53	5782.5	82	5811.5	111	5840.5
25	5754.5	54	5783.5	83	5812.5	112	5841.5
26	5755.5	55	5784.5	84	5813.5	113	5842.5
27	5756.5	56	5785.5	85	5814.5	114	5843.5
28	5757.5	57	5786.5	86	5815.5	115	5844.5
29	5758.5	58	5787.5	87	5816.5		
Note: The highlight frequencies are chosen to do all of the test.							

Channel List for 20MHz BW							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	5735.5	28	5762.5	55	5789.5	82	5816.5
2	5736.5	29	5763.5	56	5790.5	83	5817.5
3	5737.5	30	5764.5	57	5791.5	84	5818.5
4	5738.5	31	5765.5	58	5792.5	85	5819.5
5	5739.5	32	5766.5	59	5793.5	86	5820.5
6	5740.5	33	5767.5	60	5794.5	87	5821.5
7	5741.5	34	5768.5	61	5795.5	88	5822.5
8	5742.5	35	5769.5	62	5796.5	89	5823.5
9	5743.5	36	5770.5	63	5797.5	90	5824.5
10	5744.5	37	5771.5	64	5798.5	91	5825.5
11	5745.5	38	5772.5	65	5799.5	92	5826.5
12	5746.5	39	5773.5	66	5800.5	93	5827.5
13	5747.5	40	5774.5	67	5801.5	94	5828.5
14	5748.5	41	5775.5	68	5802.5	95	5829.5
15	5749.5	42	5776.5	69	5803.5	96	5830.5
16	5750.5	43	5777.5	70	5804.5	97	5831.5
17	5751.5	44	5778.5	71	5805.5	98	5832.5
18	5752.5	45	5779.5	72	5806.5	99	5833.5
19	5753.5	46	5780.5	73	5807.5	100	5834.5
20	5754.5	47	5781.5	74	5808.5	101	5835.5
21	5755.5	48	5782.5	75	5809.5	102	5836.5
22	5756.5	49	5783.5	76	5810.5	103	5837.5
23	5757.5	50	5784.5	77	5811.5	104	5838.5
24	5758.5	51	5785.5	78	5812.5	105	5839.5
25	5759.5	52	5786.5	79	5813.5		
26	5760.5	53	5787.5	80	5814.5		
27	5761.5	54	5788.5	81	5815.5		
Note: The highlight frequencies are chosen to do all of the test.							

4.2 Description of Support Units

The EUT has been tested as an independent unit.

4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	± 7.25 x 10^{-8}
2	Duty cycle	± 0.37%
3	Occupied Bandwidth	± 3%
4	RF conducted power	± 0.75dB
5	RF power density	± 2.84dB
6	Conducted Spurious emissions	± 0.75dB
7	RF Radiated power	± 4.5dB (below 1GHz)
		± 4.8dB (above 1GHz)
8	Radiated Spurious emission test	± 4.5dB (Below 1GHz)
		± 4.8dB (Above 1GHz)
9	Temperature test	± 1℃
10	Humidity test	± 3%
11	Supply voltages	± 1.5%
12	Time	± 3%

4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• CNAS (No. CNAS L2929)

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC

Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

• A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

• VCCI

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

• FCC –Designation Number: CN1178

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

• Industry Canada (IC)

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1, 4620C-2, 4620C-3.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None

5 Equipment List

99% Bandwidth					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
DC Power Supply	ZhaoXin	RXN-305D	SEM011-02	2017-09-27	2018-09-26
Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2017-09-27	2018-09-26
Measurement Software	JS Tonscend	JS1120-2 BT/WIFI V2.	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2017-07-13	2018-07-12
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2017-09-27	2018-09-26
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2017-09-27	2018-09-26

26dB Emission bandwidth					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
DC Power Supply	ZhaoXin	RXN-305D	SEM011-02	2017-09-27	2018-09-26
Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2017-09-27	2018-09-26
Measurement Software	JS Tonscend	JS1120-2 BT/WIFI V2.	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2017-07-13	2018-07-12
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2017-09-27	2018-09-26
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2017-09-27	2018-09-26

Minimum 6 dB bandwidth (5.725-5.85 GHz band)					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
DC Power Supply	ZhaoXin	RXN-305D	SEM011-02	2017-09-27	2018-09-26
Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2017-09-27	2018-09-26
Measurement Software	JS Tonscend	JS1120-2 BT/WIFI V2.	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2017-07-13	2018-07-12
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2017-09-27	2018-09-26
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2017-09-27	2018-09-26

Maximum Conducted output power					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
DC Power Supply	ZhaoXin	RXN-305D	SEM011-02	2017-09-27	2018-09-26
Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2017-09-27	2018-09-26
Measurement Software	JS Tonscend	JS1120-2 BT/WIFI V2.	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2017-07-13	2018-07-12
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2017-09-27	2018-09-26

Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2017-09-27	2018-09-26

Peak Power spectrum density					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
DC Power Supply	ZhaoXin	RXN-305D	SEM011-02	2017-09-27	2018-09-26
Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2017-09-27	2018-09-26
Measurement Software	JS Tonscend	JS1120-2 BT/WIFI V2.	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2017-07-13	2018-07-12
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2017-09-27	2018-09-26
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2017-09-27	2018-09-26

Radiated Emissions which fall in the restricted bands					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018-03-13	2021-03-12
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2017-07-13	2018-07-12
Spectrum Analyzer	Rohde & Schwarz	FSU43	SEM004-08	2018-04-02	2019-04-01
BiConiLog Antenna (26-3000MHz)	ETS-Lindgren	3142C	SEM003-01	2017-06-27	2020-06-26
Horn Antenna (1-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2018-04-13	2021-04-12
Horn Antenna(15GHz-40GHz)	Schwarzbeck	BBHA 9170	SEM003-15	2017-10-17	2020-10-16
Pre-amplifier (0.1-1300MHz)	HP	8447D	SEM005-02	2017-09-27	2018-09-26
Low Noise Amplifier(100MHz-18GHz)	Black Diamond Series	BDLNA-0118-352810	SEM005-05	2017-09-27	2018-09-27
Pre-amplifier(18-26GHz)	Rohde & Schwarz	CH14-H052	SEM005-17	2018-04-02	2019-04-01
Pre-amplifier(26GHz-40GHz)	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2018-04-02	2019-04-01
DC Power Supply	Zhao Xin	RXN-305D	SEM011-02	2017-09-27	2018-09-26
Active Loop Antenna	ETS-Lindgren	6502	SEM003-08	2017-08-22	2020-08-21
Band filter	N/A	N/A	SEM023-01	N/A	N/A

Frequency Stability					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
DC Power Supply	ZhaoXin	RXN-305D	SEM011-02	2017-09-27	2018-09-26
Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2017-09-27	2018-09-26
Measurement Software	JS Tonscend	JS1120-2 BT/WIFI V2.	N/A	N/A	N/A

Coaxial Cable	SGS	N/A	SEM031-02	2017-07-13	2018-07-12
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2017-09-27	2018-09-26
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2017-09-27	2018-09-26

General used equipment					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-03	2017-09-29	2018-09-28
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-04	2017-09-29	2018-09-28
Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2017-09-29	2018-09-28
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2018-04-08	2019-04-07

6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203; RSS-Gen Section 6.8

6.1.2 Conclusion

Standard Requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of a so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

Refer to the EUT photos.

The antenna is integrated on the main PCB and no consideration of replacement. The best-case gain of the antenna is 4dBi. The product has two antennas, but only one antenna is used to transmit signal at any time. Pre-test was used to find out the worst case, and only the data of worst case is recorded in the report.

6.2 Transmission in the Absence of Data

6.2.1 Test Requirement:

47 CFR Part 15, Subpart E 15.407 (c); RSS-247 Section 6.4(a)

6.2.2 Conclusion

Standard Requirement:

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signalling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals.

Applicants shall include in their application for equipment authorization a description of how this requirement is met.

EUT Details:

RF chip (ACPD4GD31D3) support automatically discontinue transmission in case of either absence of information to transmit or operational failure, if the chip detect absence of information to transmit or operational failure, it will be automatically shut off.

7 Radio Spectrum Matter Test Results

7.1 99% Bandwidth

Test Requirement RSS-Gen Section 6.7

Test Method: ANSI C63.10 Section 6.9.3

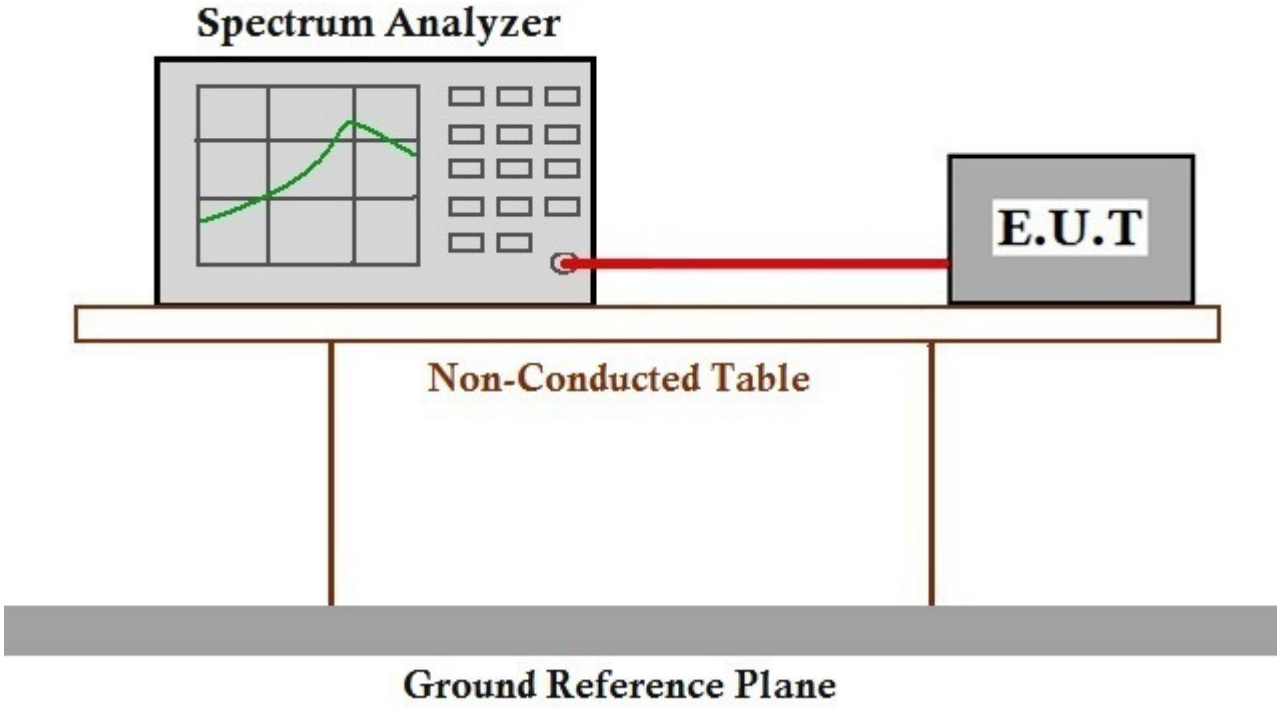
7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 25.2 °C Humidity: 51.3 % RH Atmospheric Pressure: 1010 mbar

Test mode b:TX mode_Keep the EUT in continuously transmitting mode with modulation.

7.1.2 Test Setup Diagram



7.1.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.407

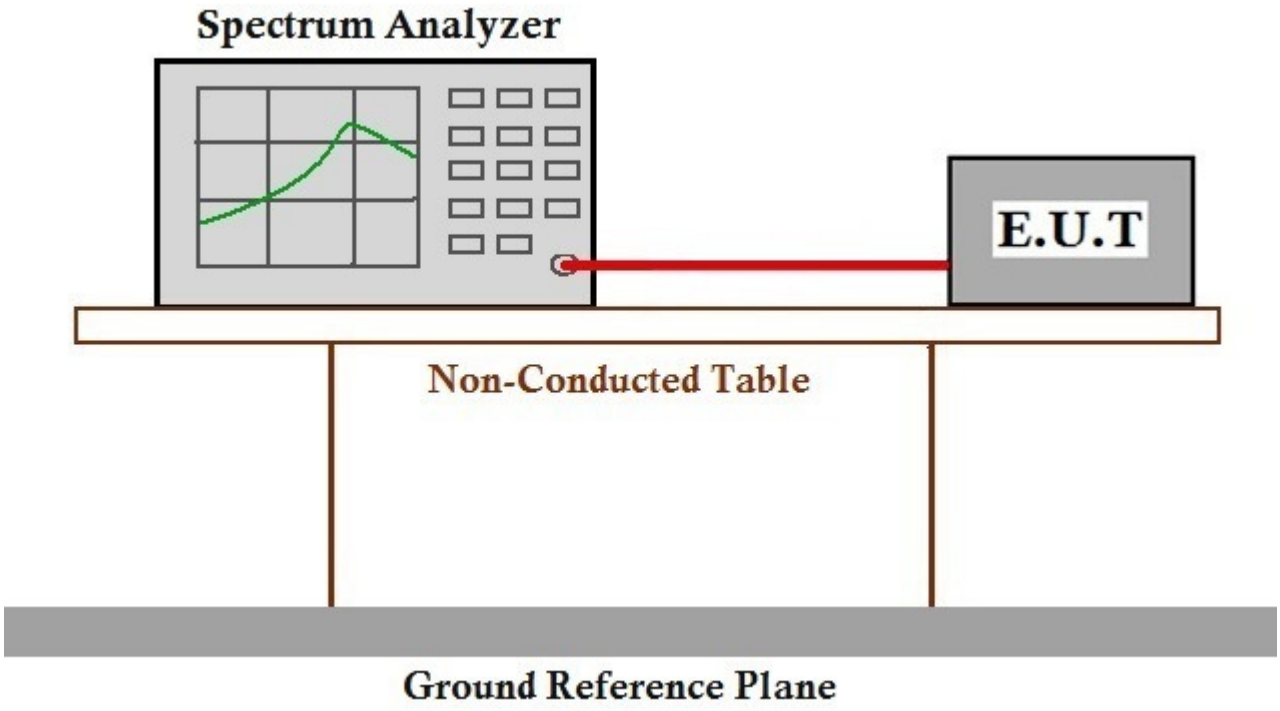
7.2 Minimum 6 dB bandwidth (5.725-5.85 GHz band)

Test Requirement 47 CFR Part 15, Subpart E 15.407 (e); RSS-247 Section 6.2.4
Test Method: KDB 789033 D02 II C 2
Limit: ≥500 kHz

7.2.1 E.U.T. Operation

Operating Environment:
Temperature: 25.2 °C Humidity: 51.5 % RH Atmospheric Pressure: 1010 mbar
Test mode b:TX mode_Keep the EUT in continuously transmitting mode with modulation.

7.2.2 Test Setup Diagram



7.2.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.407

7.3 Maximum Conducted output power

Test Requirement	47 CFR Part 15, Subpart E 15.407 (a); RSS-247 Section 6.2
Test Method:	ANSI C63.10 Section 12.3
Limit:	
Frequency band(MHz)	Limit (FCC)
5150-5250	Conducted power ≤ 1W(30dBm) for master device
	Conducted power ≤ 250mW(24dBm) for client device
5250-5350	Conducted power ≤ 250mW(24dBm) or 11dBm+10logB*
5470-5725	Conducted power ≤ 250mW(24dBm) or 11dBm+10logB*
5725-5850	Conducted power ≤ 1W(30dBm)
Remark:	* Where B is the 26dB emission bandwidth in MHz.

Frequency band(MHz)	Limit (Canada IC)
5150-5250	e.i.r.p. ≤ 200mW(23dBm) or 10 + 10logB*
5250-5350	Conducted power ≤ 250mW(24dBm) or 11dBm+10logB*
	e.i.r.p. ≤ 1W(30dBm) or 17 + 10logB*
5470-5725	Conducted power ≤ 250mW(24dBm) or 11dBm+10logB*
	e.i.r.p. ≤ 1W(30dBm) or 17 + 10logB*
5725-5850	Conducted power ≤ 1W(30dBm)
Remark:	* Where B is the 99% emission bandwidth in MHz.

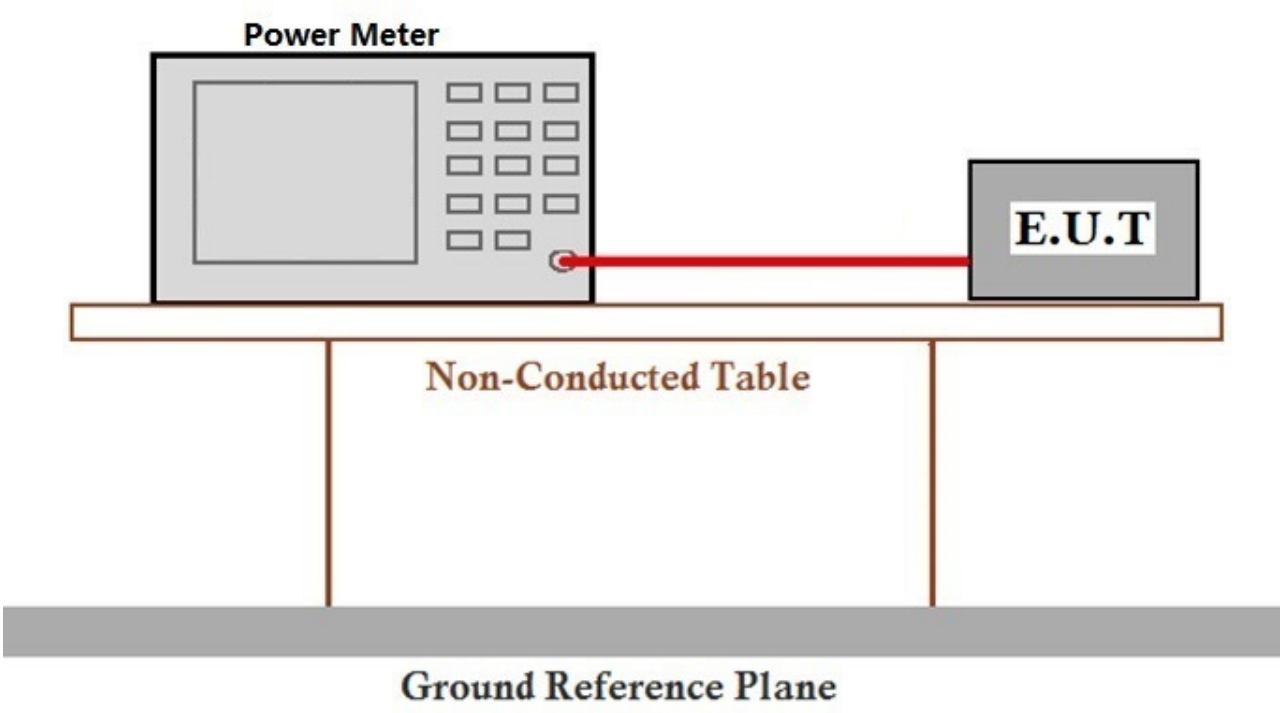
7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 25.2 °C Humidity: 51.5 % RH Atmospheric Pressure: 1010 mbar

Test mode b:TX mode_Keep the EUT in continuously transmitting mode with modulation.

7.3.2 Test Setup Diagram



7.3.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.407

7.4 Peak Power spectrum density

Test Requirement	47 CFR Part 15, Subpart C 15.407 (a)
Test Method:	KDB 789033 D02 II F
Limit:	
Frequency band(MHz)	Limit
5150-5250	≤ 17dBm/MHz for master device (FCC)
	≤ 11dBm/MHz for client device (FCC)
	e.i.r.p. spectral density ≤ 10dBm/MHz (IC)
5250-5350	≤ 11dBm/MHz
5470-5725	≤ 11dBm/MHz
5725-5850	≤ 30dBm/500kHz

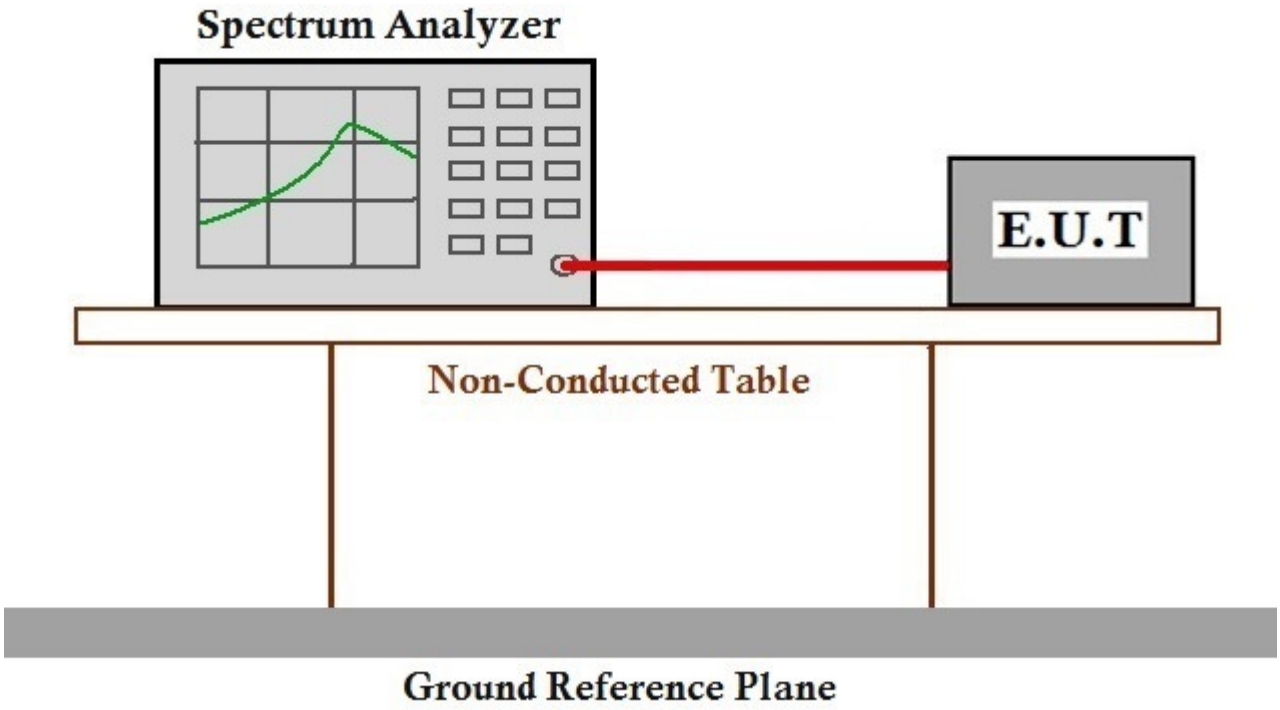
7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 25.2 °C Humidity: 51.5 % RH Atmospheric Pressure: 1010 mbar

Test mode b:TX mode_Keep the EUT in continuously transmitting mode with modulation.

7.4.2 Test Setup Diagram



7.4.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.407

7.5 Radiated Emissions

Test Requirement	47 CFR Part 15, Subpart C 15.209 & 15.407(b)
Test Method:	KDB 789033 D02 II G
Measurement Distance:	3m
Limit:	
For transmitters operating in the 5.15-5.25 GHz band:	All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz.
For transmitters operating in the 5.25-5.35 GHz band:	All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz.
For transmitters operating in the 5.47-5.725 GHz band:	All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz.
For transmitters operating in the 5.725-5.85 GHz band:	(i) All emissions shall be limited to a level of –27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

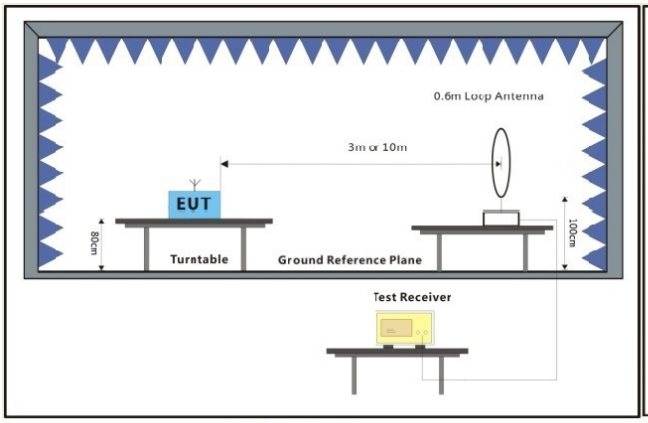
7.5.1 E.U.T. Operation

Operating Environment:

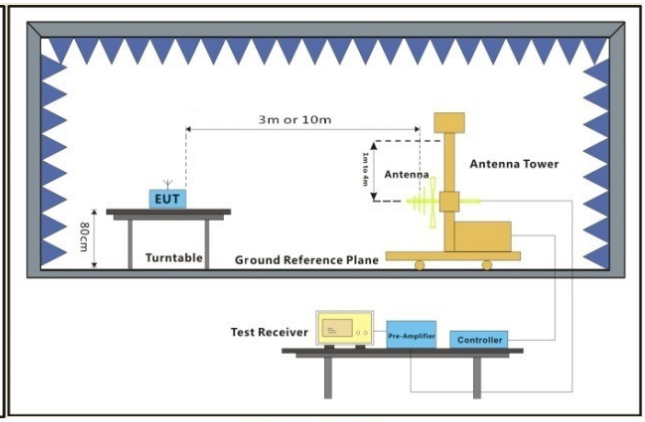
Temperature: 26.2 °C Humidity: 53.9 % RH Atmospheric Pressure: 1015 mbar

Test mode b:TX mode_Keep the EUT in continuously transmitting mode with modulation.

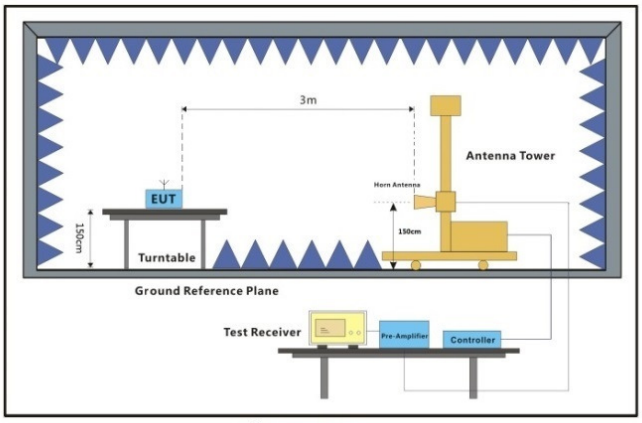
7.5.2 Test Setup Diagram



Below 30MHz



30MHz-1GHz



Above 1GHz

7.5.3 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

h. Test the EUT in the lowest channel, the middle channel, the Highest channel.

i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

j. Repeat above procedures until all frequencies measured was complete.

Remark:

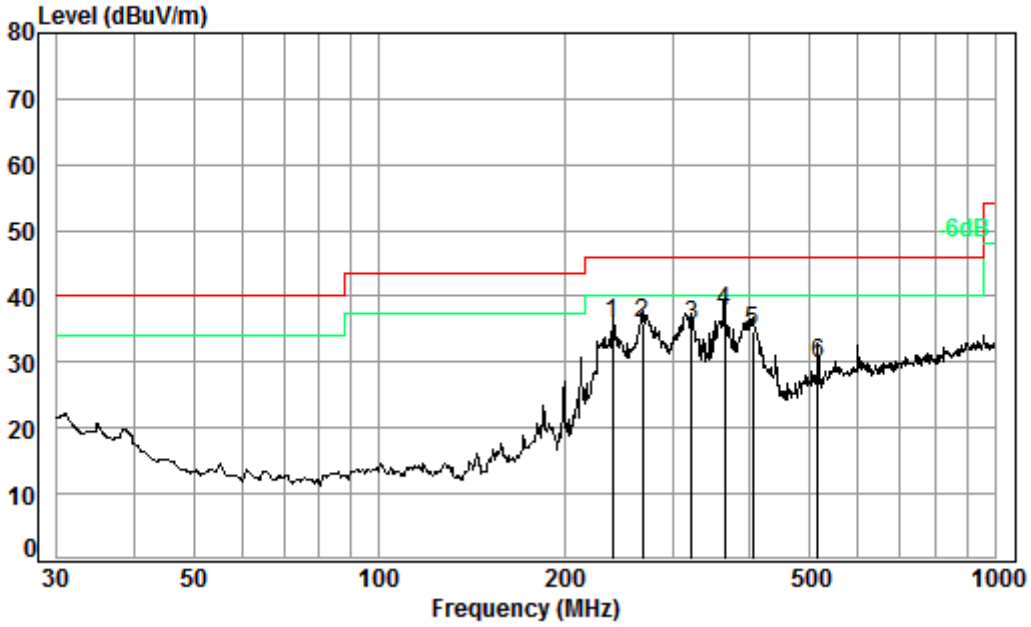
1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

2. For emission below 1GHz, pre-test was performed on each mode at the lowest, middle and highest channel, and found 1.4MHz BW mode at the middle channel is the worst case. So, only the data of that case is recorded in the report.

3. Scan from 9kHz to 40GHz, the disturbance above 18GHz and below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

4. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

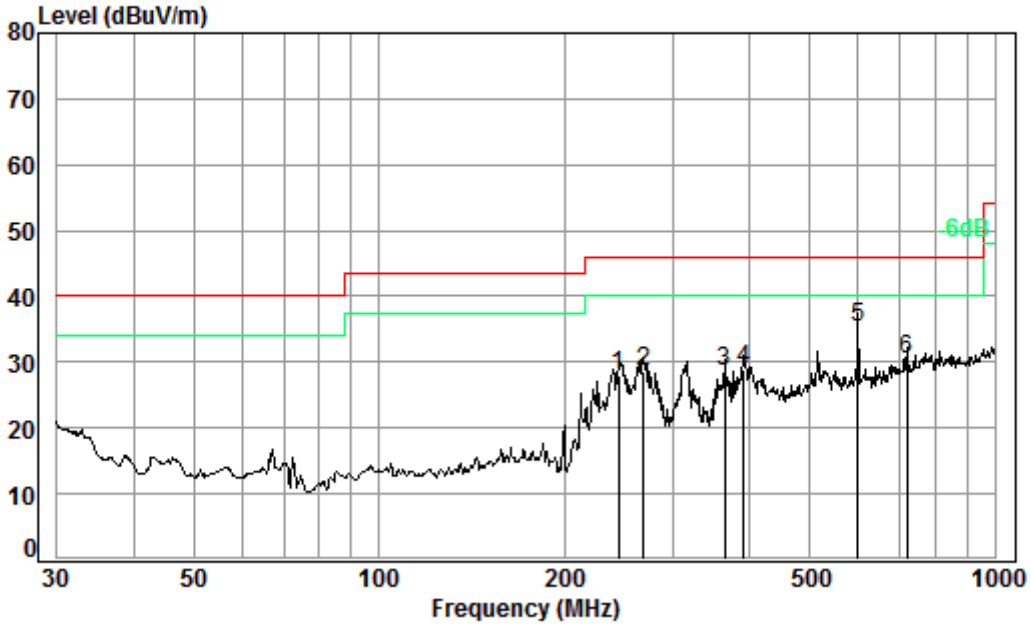
Mode:b; Polarization:Horizontal; Bandwidth:1.4MHz; Channel:5788.5MHz



Condition: 3m HORIZONTAL
Job No. : 04179CR
Test mode: b

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	239.15	1.62	18.73	27.53	43.18	36.00	46.00	-10.00
2	267.55	1.76	18.98	27.54	42.60	35.80	46.00	-10.20
3	322.19	1.97	20.29	27.59	40.78	35.45	46.00	-10.55
4 pp	364.26	2.10	21.49	27.67	41.84	37.76	46.00	-8.24
5	404.67	2.22	22.51	27.74	37.78	34.77	46.00	-11.23
6	515.44	2.62	24.93	27.85	30.07	29.77	46.00	-16.23

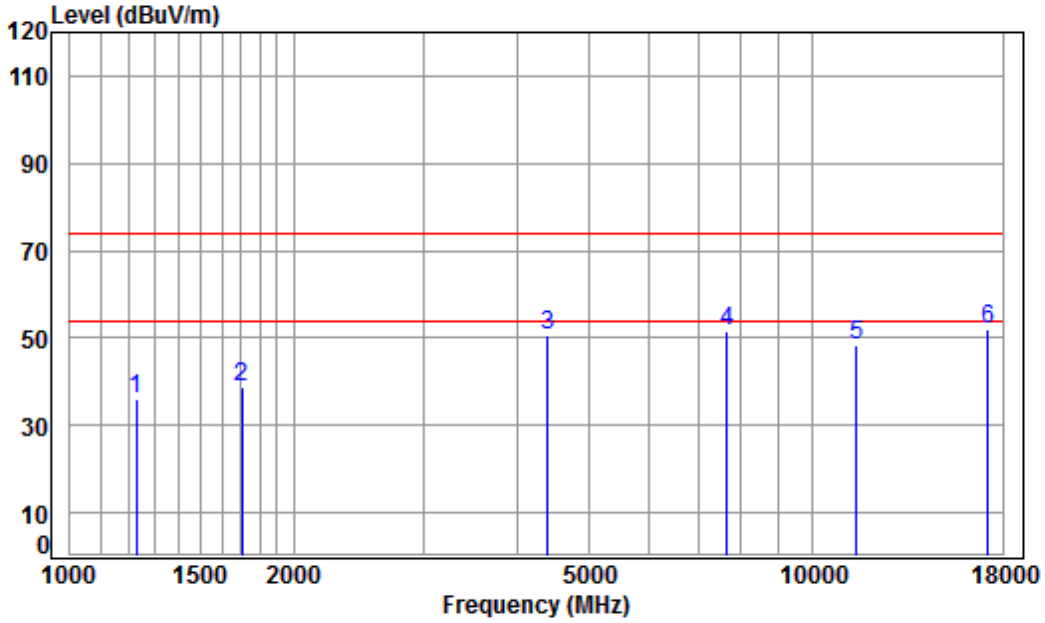
Mode:b; Polarization:Vertical; Bandwidth:1.4MHz; Channel:5788.5MHz



Condition: 3m VERTICAL
Job No. : 04179CR
Test mode: b

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	245.09	1.65	18.88	27.53	34.92	27.92	46.00	-18.08
2	268.49	1.76	18.97	27.54	35.45	28.64	46.00	-17.36
3	364.26	2.10	21.49	27.67	32.64	28.56	46.00	-17.44
4	390.72	2.17	22.17	27.72	32.42	29.04	46.00	-16.96
5 pp	599.32	2.70	26.59	27.70	33.72	35.31	46.00	-10.69
6	719.20	2.96	28.02	27.52	26.81	30.27	46.00	-15.73

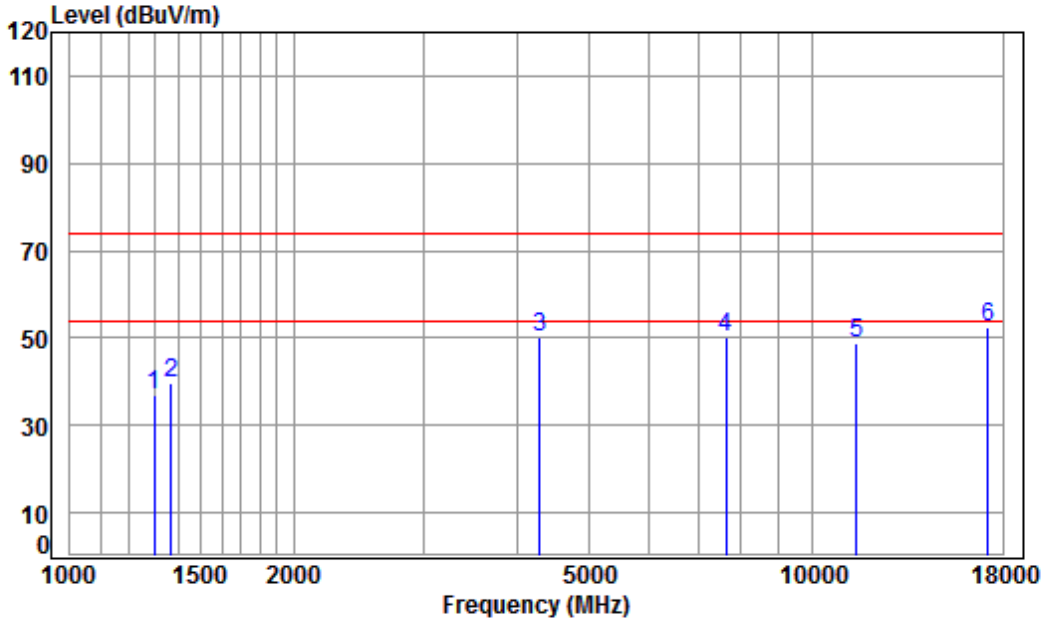
Mode:b; Polarization:Horizontal; Bandwidth:1.4MHz; Channel:5728.5MHz



Condition: 3m HORIZONTAL
Job No : 04179CR
Mode : 5728.5 TX RSE
Note : 1.4M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1227.791	4.53	24.61	38.07	45.03	36.10	74.00	-37.90	peak
2	1702.042	5.23	26.68	38.02	44.94	38.83	74.00	-35.17	peak
3	4392.376	7.44	33.60	38.21	47.69	50.52	74.00	-23.48	peak
4	7673.034	9.98	36.41	36.68	41.74	51.45	74.00	-22.55	peak
5	11457.000	12.10	38.07	35.96	33.96	48.17	74.00	-25.83	peak
6	pp17185.500	16.29	43.02	36.21	29.08	52.18	74.00	-21.82	peak

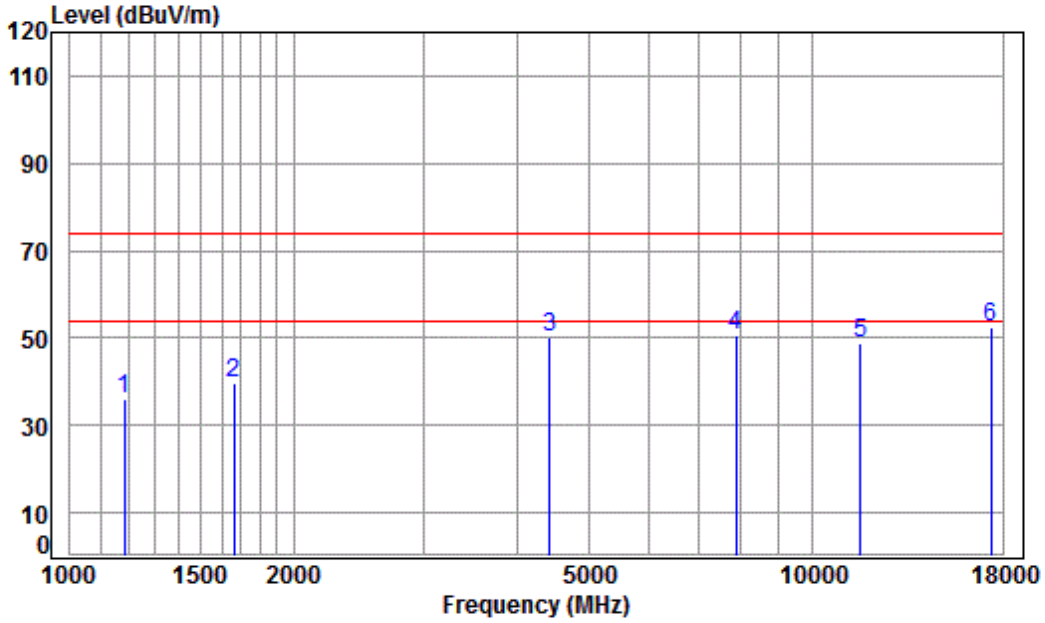
Mode:b; Polarization:Vertical; Bandwidth:1.4MHz; Channel:5728.5MHz



Condition: 3m VERTICAL
Job No : 04179CR
Mode : 5728.5 TX RSE
Note : 1.4M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1300.858	4.80	24.96	38.06	45.14	36.84	74.00	-37.16	peak
2	1370.328	5.05	25.26	38.05	47.39	39.65	74.00	-34.35	peak
3	4291.977	7.33	33.60	38.16	47.23	50.00	74.00	-24.00	peak
4	7628.806	9.99	36.38	36.72	40.62	50.27	74.00	-23.73	peak
5	11457.000	12.10	38.07	35.96	34.62	48.83	74.00	-25.17	peak
6	pp17185.500	16.29	43.02	36.21	29.42	52.52	74.00	-21.48	peak

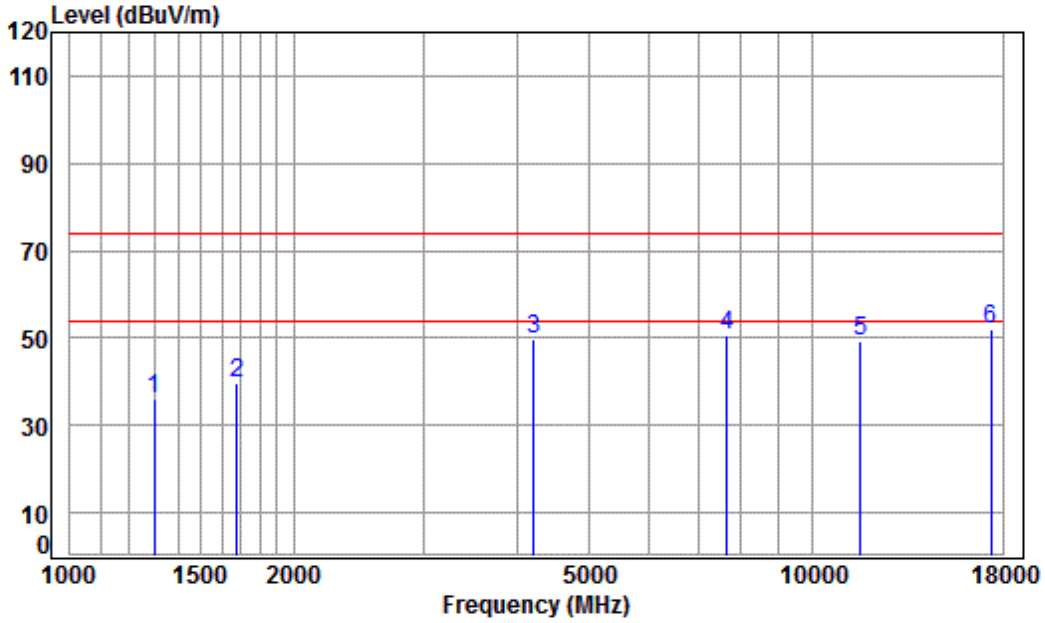
Mode:b; Polarization:Horizontal; Bandwidth:1.4MHz; Channel:5788.5MHz



Condition: 3m HORIZONTAL
Job No : 04179CR
Mode : 5788.5 TX RSE
Note : 1.4M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1185.936	4.36	24.41	38.08	45.42	36.11	74.00	-37.89	peak
2	1663.137	5.27	26.52	38.03	46.12	39.88	74.00	-34.12	peak
3	4417.841	7.47	33.60	38.22	47.42	50.27	74.00	-23.73	peak
4	7875.254	9.96	36.53	36.51	40.51	50.49	74.00	-23.51	peak
5	11575.000	12.17	38.18	36.10	34.34	48.59	74.00	-25.41	peak
6	pp17362.500	15.90	43.24	36.12	29.50	52.52	74.00	-21.48	peak

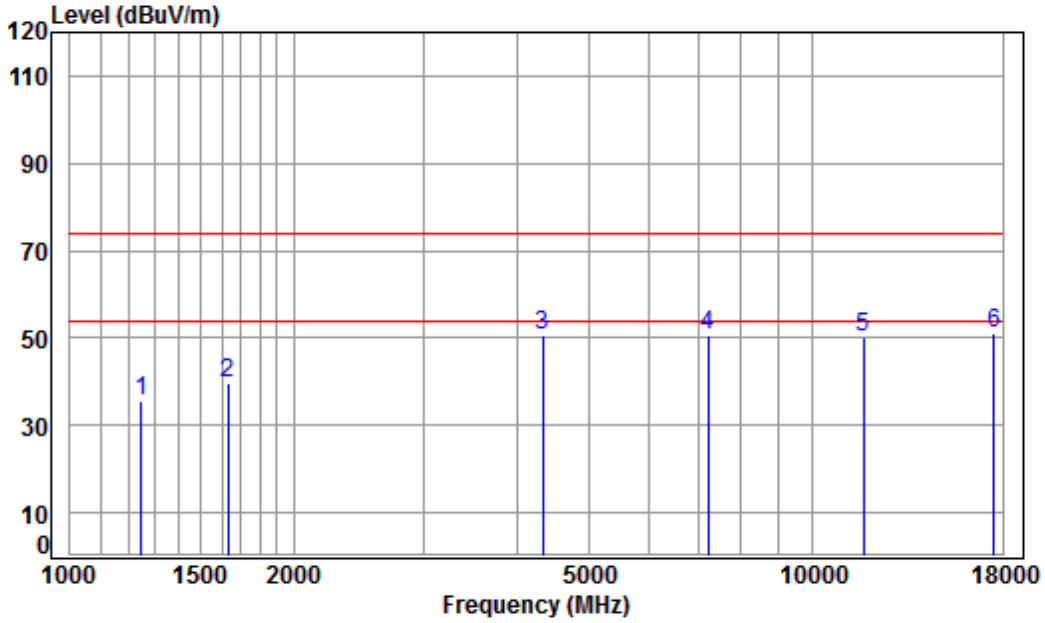
Mode:b; Polarization:Vertical; Bandwidth:1.4MHz; Channel:5788.5MHz



Condition: 3m VERTICAL
Job No : 04179CR
Mode : 5788.5 TX RSE
Note : 1.4M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1300.858	4.80	24.96	38.06	44.25	35.95	74.00	-38.05	peak
2	1677.621	5.25	26.58	38.03	45.73	39.53	74.00	-34.47	peak
3	4206.011	7.23	33.60	38.11	46.93	49.65	74.00	-24.35	peak
4	7673.034	9.98	36.41	36.68	40.89	50.60	74.00	-23.40	peak
5	11575.000	12.17	38.18	36.10	34.97	49.22	74.00	-24.78	peak
6	pp17362.500	15.90	43.24	36.12	29.18	52.20	74.00	-21.80	peak

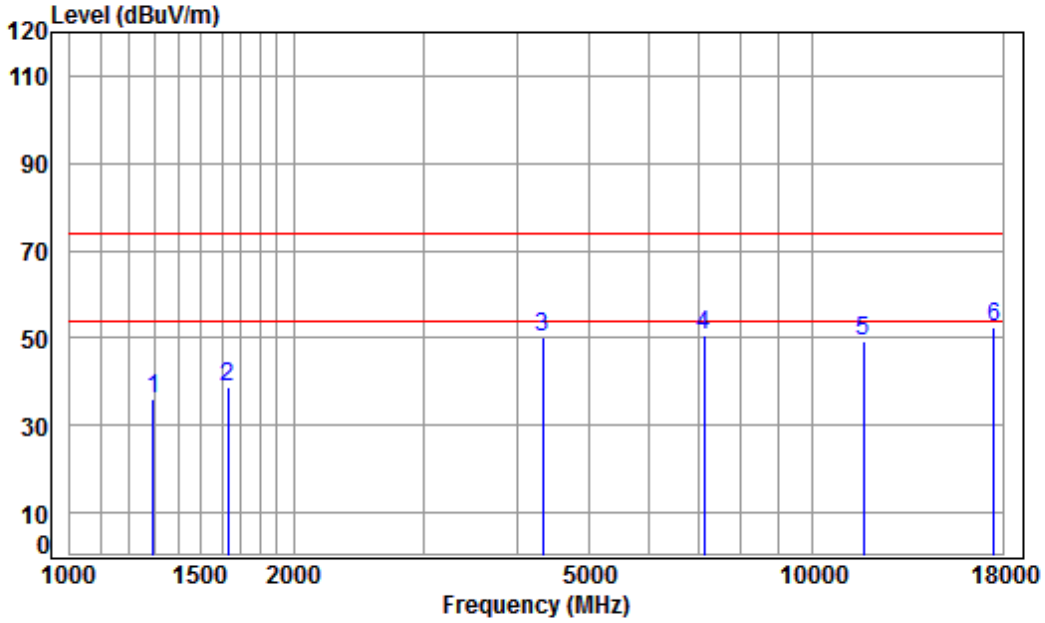
Mode:b; Polarization:Horizontal; Bandwidth:1.4MHz; Channel:5846.5MHz



Condition: 3m HORIZONTAL
Job No : 04179CR
Mode : 5846.5 TX RSE
Note : 1.4M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1249.269	4.61	24.72	38.07	44.48	35.74	74.00	-38.26	peak
2	1634.543	5.31	26.40	38.03	45.84	39.52	74.00	-34.48	peak
3	4329.354	7.37	33.60	38.18	47.84	50.63	74.00	-23.37	peak
4	7221.150	10.07	36.41	37.09	41.20	50.59	74.00	-23.41	peak
5	11693.000	12.21	38.30	36.24	35.80	50.07	74.00	-23.93	peak
6	pp17539.500	15.64	43.47	36.03	28.17	51.25	74.00	-22.75	peak

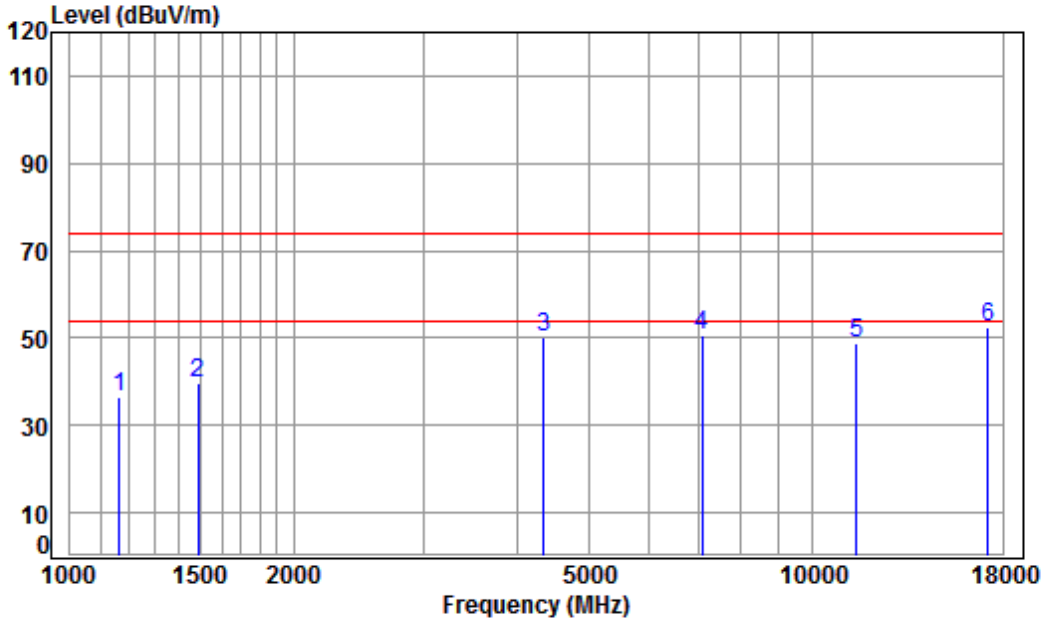
Mode:b; Polarization:Vertical; Bandwidth:1.4MHz; Channel:5846.5MHz



Condition: 3m VERTICAL
Job No : 04179CR
Mode : 5846.5 TX RSE
Note : 1.4M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1293.359	4.77	24.92	38.06	44.62	36.25	74.00	-37.75	peak
2	1634.543	5.31	26.40	38.03	45.28	38.96	74.00	-35.04	peak
3	4329.354	7.37	33.60	38.18	47.18	49.97	74.00	-24.03	peak
4	7138.144	10.09	36.44	37.17	41.41	50.77	74.00	-23.23	peak
5	11693.000	12.21	38.30	36.24	34.98	49.25	74.00	-24.75	peak
6	pp17539.500	15.64	43.47	36.03	29.30	52.38	74.00	-21.62	peak

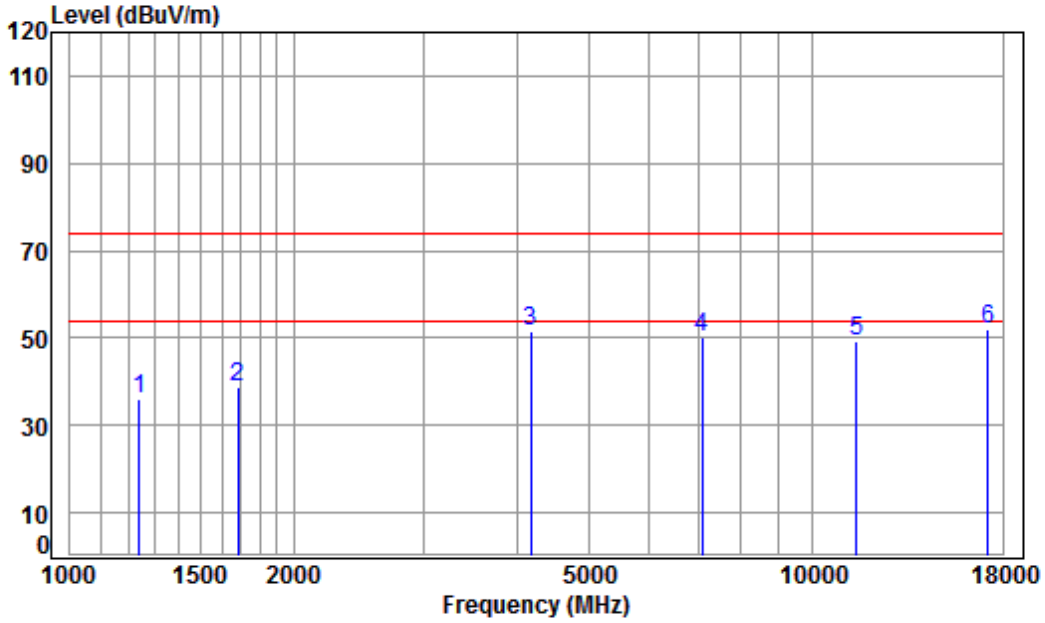
Mode:b; Polarization:Horizontal; Bandwidth:10MHz; Channel:5730.5MHz



Condition: 3m HORIZONTAL
Job No : 04179CR
Mode : 5730.5 TX RSE
Note : 10M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1165.546	4.28	24.31	38.08	45.92	36.43	74.00	-37.57	peak
2	1490.142	5.45	25.76	38.04	46.75	39.92	74.00	-34.08	peak
3	4341.886	7.38	33.60	38.18	47.39	50.19	74.00	-23.81	peak
4	7096.999	10.10	36.46	37.21	41.17	50.52	74.00	-23.48	peak
5	11461.000	12.10	38.07	35.97	34.81	49.01	74.00	-24.99	peak
6	pp17191.500	16.28	43.03	36.20	29.25	52.36	74.00	-21.64	peak

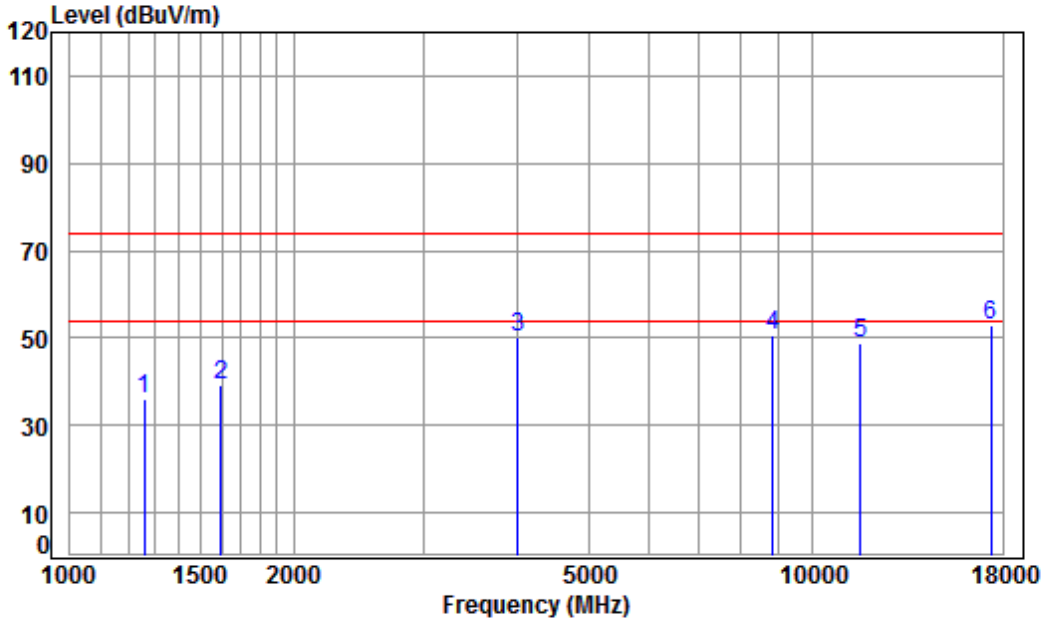
Mode:b; Polarization:Vertical; Bandwidth:10MHz; Channel:5730.5MHz



Condition: 3m VERTICAL
Job No : 04179CR
Mode : 5730.5 TX RSE
Note : 10M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1242.068	4.58	24.68	38.07	44.98	36.17	74.00	-37.83	peak
2	1682.477	5.25	26.60	38.02	44.88	38.71	74.00	-35.29	peak
3	4169.698	7.18	33.60	38.09	48.84	51.53	74.00	-22.47	peak
4	7096.999	10.10	36.46	37.21	40.94	50.29	74.00	-23.71	peak
5	11461.000	12.10	38.07	35.97	34.90	49.10	74.00	-24.90	peak
6	pp17191.500	16.28	43.03	36.20	28.88	51.99	74.00	-22.01	peak

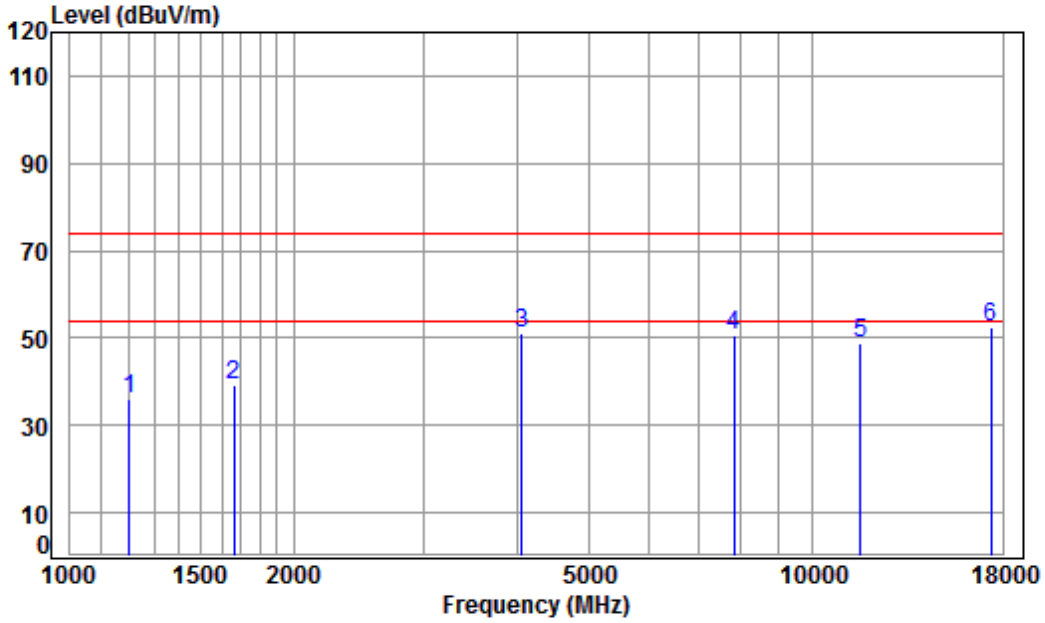
Mode:b; Polarization:Horizontal; Bandwidth:10MHz; Channel:5787.5MHz



Condition: 3m HORIZONTAL
Job No : 04179CR
Mode : 5787.5 TX RSE
Note : 10M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1260.149	4.65	24.77	38.07	44.65	36.00	74.00	-38.00	peak
2	1597.181	5.35	26.24	38.03	45.56	39.12	74.00	-34.88	peak
3	4004.339	6.99	33.60	38.00	47.43	50.02	74.00	-23.98	peak
4	8840.473	10.36	36.41	35.55	39.36	50.58	74.00	-23.42	peak
5	11575.000	12.17	38.18	36.10	34.54	48.79	74.00	-25.21	peak
6	pp17362.500	15.90	43.24	36.12	29.68	52.70	74.00	-21.30	peak

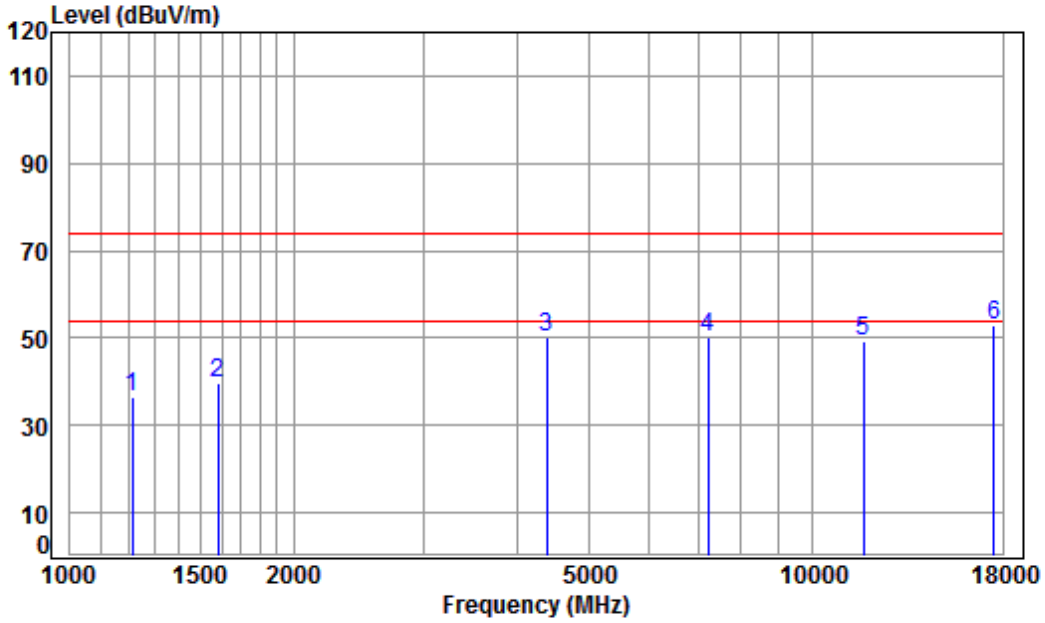
Mode:b; Polarization:Vertical; Bandwidth:10MHz; Channel:5787.5MHz



Condition: 3m VERTICAL
Job No : 04179CR
Mode : 5787.5 TX RSE
Note : 10M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1203.199	4.43	24.49	38.07	45.08	35.93	74.00	-38.07	peak
2	1663.137	5.27	26.52	38.03	45.49	39.25	74.00	-34.75	peak
3	4062.629	7.06	33.60	38.03	48.44	51.07	74.00	-22.93	peak
4	7829.860	9.97	36.50	36.54	40.77	50.70	74.00	-23.30	peak
5	11575.000	12.17	38.18	36.10	34.58	48.83	74.00	-25.17	peak
6	pp17362.500	15.90	43.24	36.12	29.63	52.65	74.00	-21.35	peak

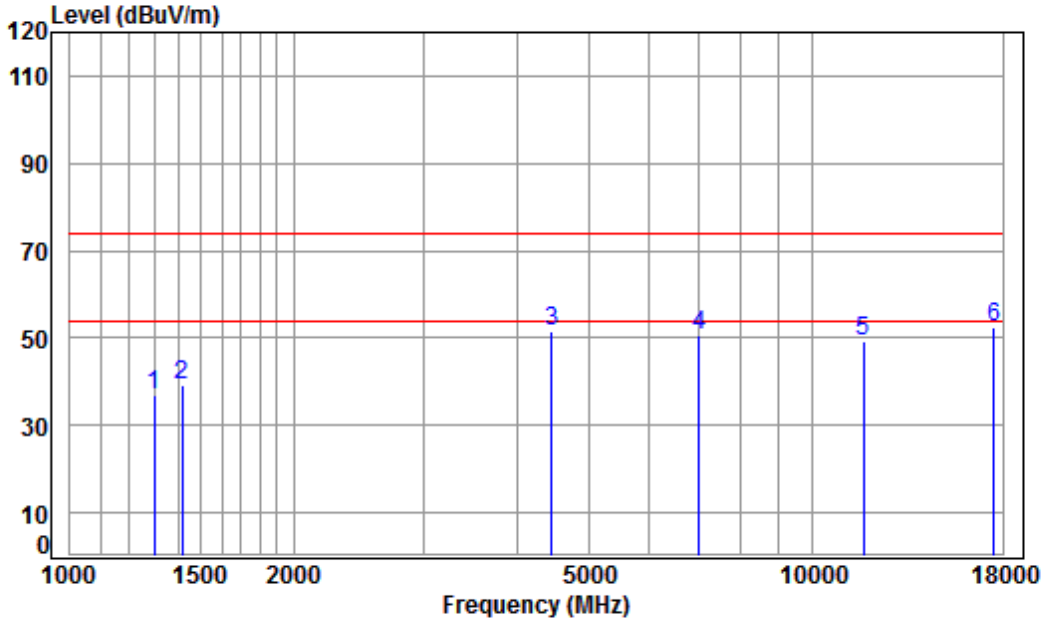
Mode:b; Polarization:Horizontal; Bandwidth:10MHz; Channel:5844.5MHz



Condition: 3m HORIZONTAL
Job No : 04179CR
Mode : 5844.5 TX RSE
Note : 10M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1213.677	4.47	24.55	38.07	45.55	36.50	74.00	-37.50	peak
2	1583.392	5.37	26.18	38.03	45.95	39.47	74.00	-34.53	peak
3	4379.699	7.43	33.60	38.20	47.50	50.33	74.00	-23.67	peak
4	7221.150	10.07	36.41	37.09	40.78	50.17	74.00	-23.83	peak
5	11689.000	12.21	38.29	36.24	35.00	49.26	74.00	-24.74	peak
6	pp17533.500	15.64	43.46	36.03	29.82	52.89	74.00	-21.11	peak

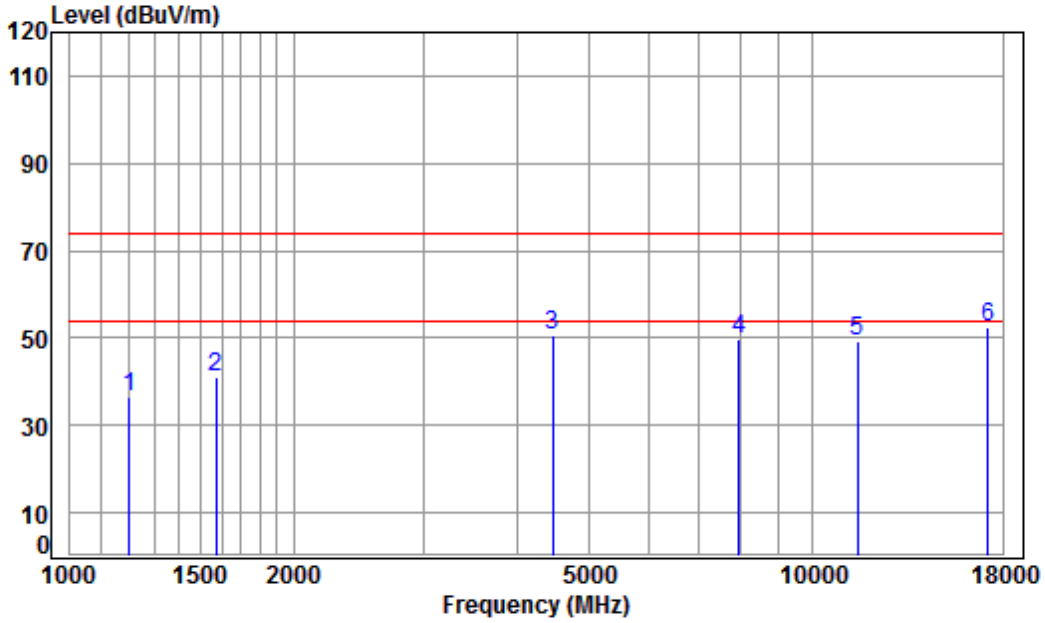
Mode:b; Polarization:Vertical; Bandwidth:10MHz; Channel:5844.5MHz



Condition: 3m VERTICAL
Job No : 04179CR
Mode : 5844.5 TX RSE
Note : 10M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1300.858	4.80	24.96	38.06	45.34	37.04	74.00	-36.96	peak
2	1414.597	5.20	25.45	38.05	46.46	39.06	74.00	-34.94	peak
3	4456.315	7.51	33.60	38.24	48.90	51.77	74.00	-22.23	peak
4	7035.727	10.12	36.49	37.27	41.52	50.86	74.00	-23.14	peak
5	11689.000	12.21	38.29	36.24	35.06	49.32	74.00	-24.68	peak
6	pp17533.500	15.64	43.46	36.03	29.49	52.56	74.00	-21.44	peak

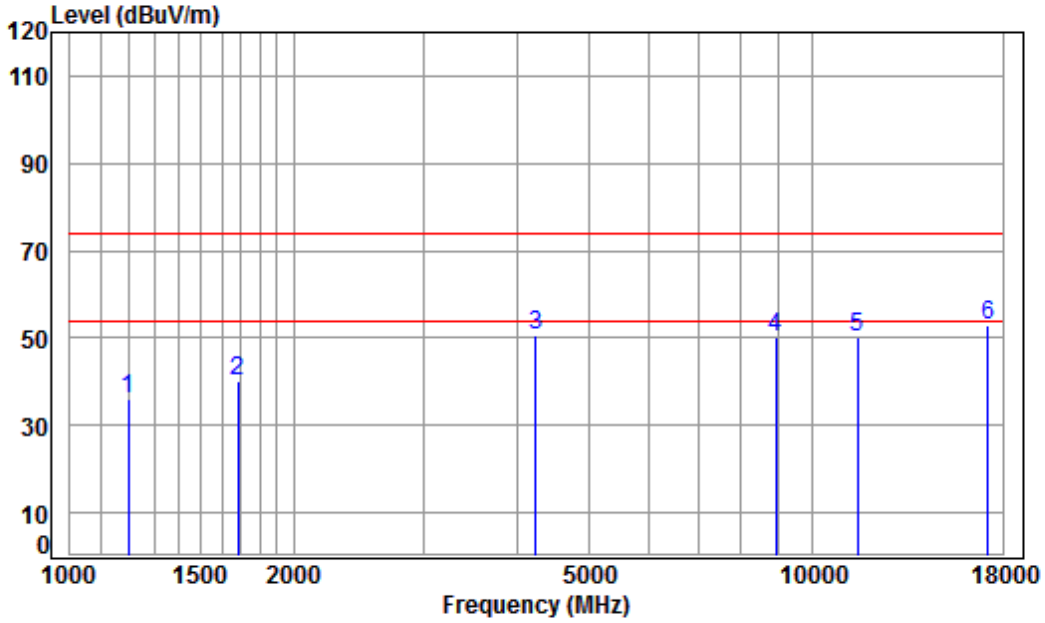
Mode:b; Polarization:Horizontal; Bandwidth:20MHz; Channel:5735.5MHz



Condition: 3m HORIZONTAL
Job No : 04179CR
Mode : 5735.5 TX RSE
Note : 20M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1203.199	4.43	24.49	38.07	45.59	36.44	74.00	-37.56	peak
2	1574.265	5.38	26.14	38.03	47.43	40.92	74.00	-33.08	peak
3	4469.214	7.53	33.60	38.25	47.84	50.72	74.00	-23.28	peak
4	7943.838	9.96	36.57	36.45	39.64	49.72	74.00	-24.28	peak
5	11471.000	12.11	38.08	35.98	34.98	49.19	74.00	-24.81	peak
6	pp17206.500	16.25	43.05	36.19	29.18	52.29	74.00	-21.71	peak

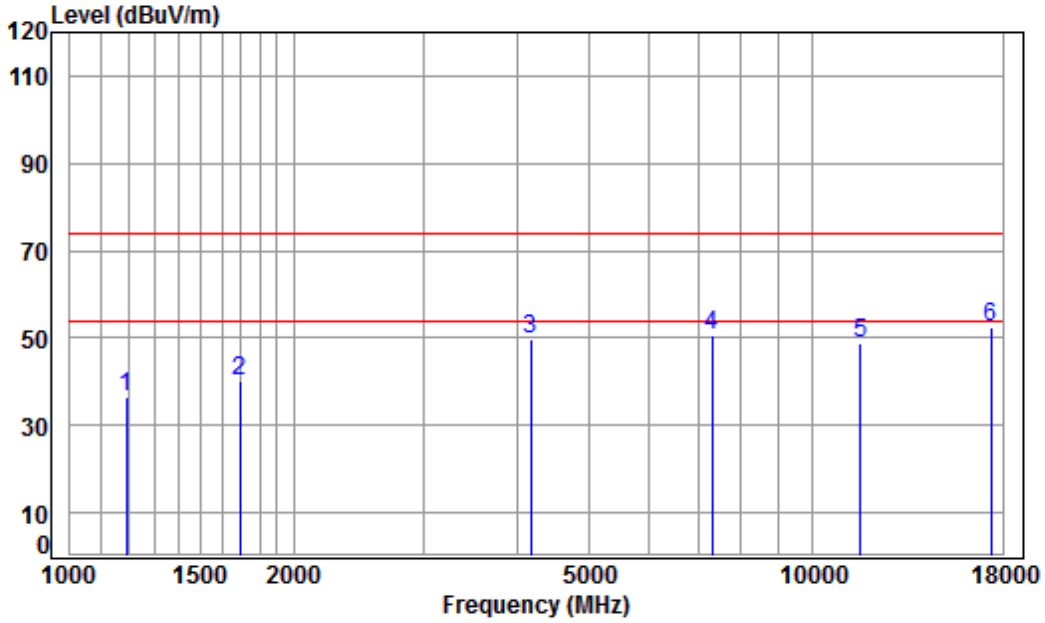
Mode:b; Polarization:Vertical; Bandwidth:20MHz; Channel:5735.5MHz



Condition: 3m VERTICAL
Job No : 04179CR
Mode : 5735.5 TX RSE
Note : 20M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1199.726	4.42	24.48	38.07	45.10	35.93	74.00	-38.07	peak
2	1682.477	5.25	26.60	38.02	46.30	40.13	74.00	-33.87	peak
3	4230.396	7.26	33.60	38.13	47.79	50.52	74.00	-23.48	peak
4	8917.462	10.38	36.50	35.48	38.76	50.16	74.00	-23.84	peak
5	11471.000	12.11	38.08	35.98	35.95	50.16	74.00	-23.84	peak
6	pp17206.500	16.25	43.05	36.19	29.96	53.07	74.00	-20.93	peak

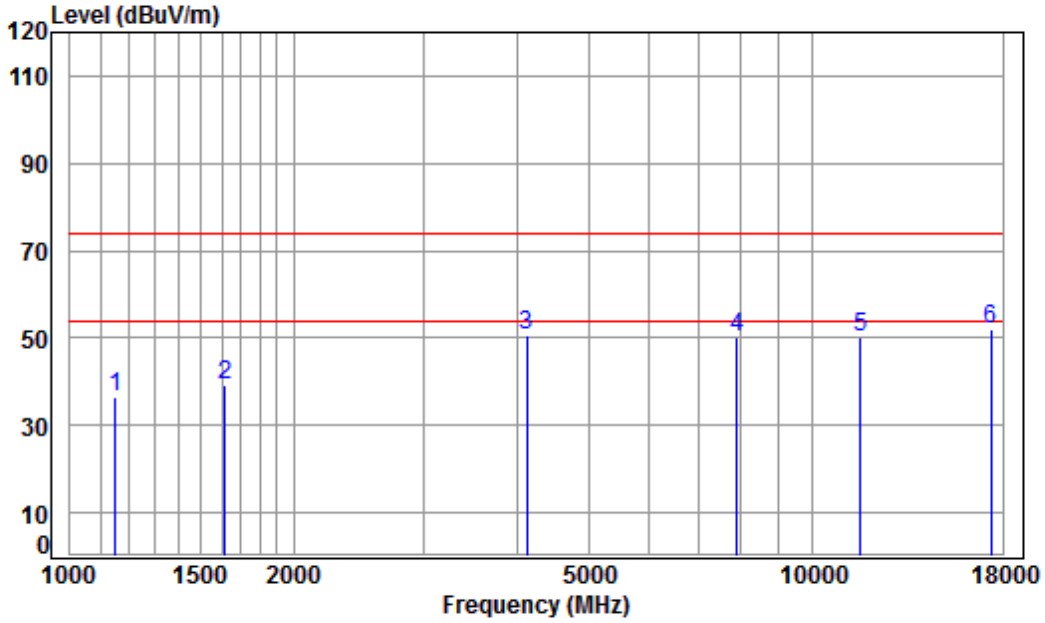
Mode:b; Polarization:Horizontal; Bandwidth:20MHz; Channel:5787.5MHz



Condition: 3m HORIZONTAL
Job No : 04179CR
Mode : 5787.5 TX RSE
Note : 20M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1192.811	4.39	24.44	38.07	45.60	36.36	74.00	-37.64	peak
2	1692.231	5.24	26.64	38.02	46.28	40.14	74.00	-33.86	peak
3	4169.698	7.18	33.60	38.09	47.20	49.89	74.00	-24.11	peak
4	7305.122	10.05	36.38	37.01	41.28	50.70	74.00	-23.30	peak
5	11575.000	12.17	38.18	36.10	34.69	48.94	74.00	-25.06	peak
6	pp17362.500	15.90	43.24	36.12	29.36	52.38	74.00	-21.62	peak

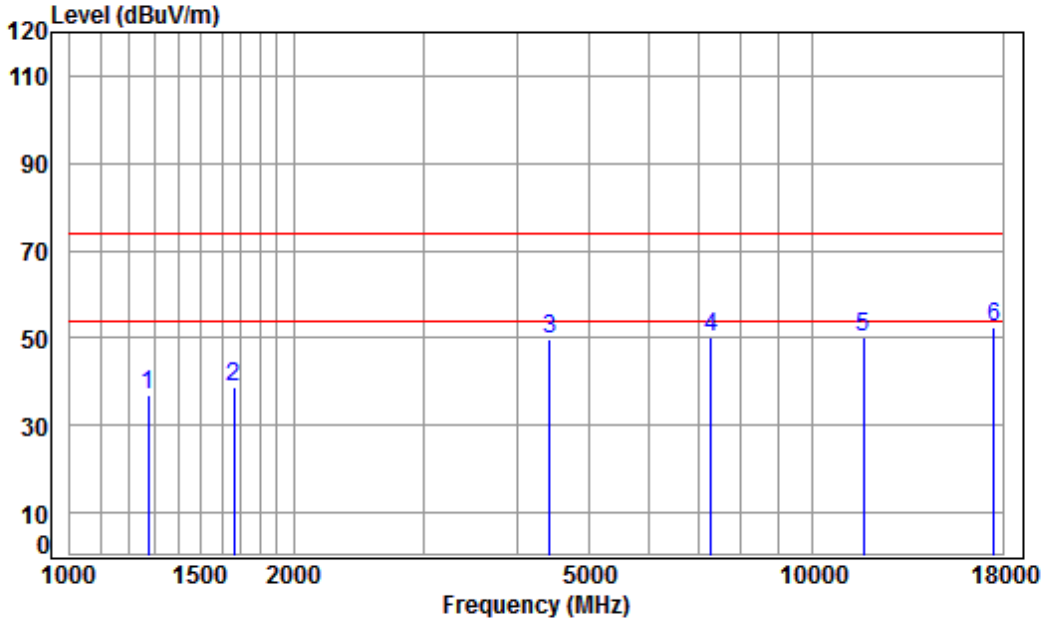
Mode:b; Polarization:Vertical; Bandwidth:20MHz; Channel:5787.5MHz



Condition: 3m VERTICAL
Job No : 04179CR
Mode : 5787.5 TX RSE
Note : 20M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1152.148	4.22	24.24	38.08	46.03	36.41	74.00	-37.59	peak
2	1615.754	5.33	26.32	38.03	45.76	39.38	74.00	-34.62	peak
3	4121.768	7.13	33.60	38.07	47.81	50.47	74.00	-23.53	peak
4	7898.049	9.96	36.54	36.49	40.38	50.39	74.00	-23.61	peak
5	11575.000	12.17	38.18	36.10	35.79	50.04	74.00	-23.96	peak
6	pp17362.500	15.90	43.24	36.12	29.10	52.12	74.00	-21.88	peak

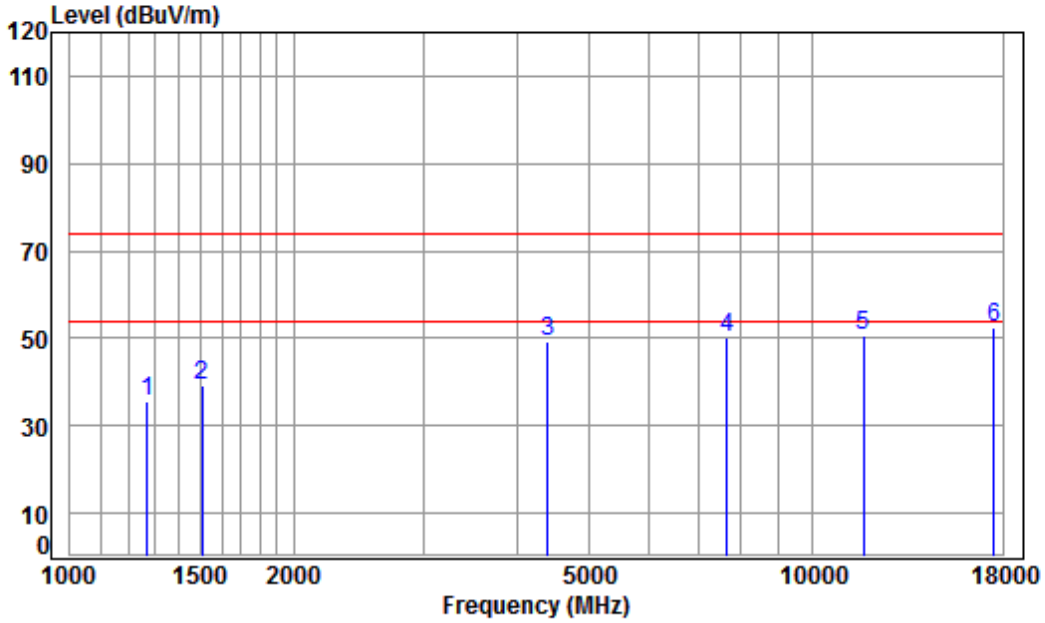
Mode:b; Polarization:Horizontal; Bandwidth:20MHz; Channel:5839.5MHz



Condition: 3m HORIZONTAL
Job No : 04179CR
Mode : 5839.5 TX RSE
Note : 20M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1274.802	4.71	24.84	38.06	45.32	36.81	74.00	-37.19	peak
2	1663.137	5.27	26.52	38.03	45.15	38.91	74.00	-35.09	peak
3	4417.841	7.47	33.60	38.22	46.83	49.68	74.00	-24.32	peak
4	7284.038	10.06	36.38	37.03	40.67	50.08	74.00	-23.92	peak
5	11679.000	12.21	38.28	36.23	35.86	50.12	74.00	-23.88	peak
6	pp17518.500	15.62	43.43	36.04	29.64	52.65	74.00	-21.35	peak

Mode:b; Polarization:Vertical; Bandwidth:20MHz; Channel:5839.5MHz



Condition: 3m VERTICAL
Job No : 04179CR
Mode : 5839.5 TX RSE
Note : 20M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1271.123	4.69	24.82	38.07	44.38	35.82	74.00	-38.18	peak
2	1507.470	5.47	25.83	38.04	45.97	39.23	74.00	-34.77	peak
3	4392.376	7.44	33.60	38.21	46.62	49.45	74.00	-24.55	peak
4	7650.888	9.98	36.39	36.70	40.36	50.03	74.00	-23.97	peak
5	11679.000	12.21	38.28	36.23	36.24	50.50	74.00	-23.50	peak
6	pp17518.500	15.62	43.43	36.04	29.39	52.40	74.00	-21.60	peak

7.6 Radiated Emissions which fall in the restricted bands

Test Requirement 47 CFR Part 15, Subpart C 15.209 & 15.407(b)
Test Method: KDB 789033 D02 II G
Measurement Distance: 3m
Limit:

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
Above 960	500	3
Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.		

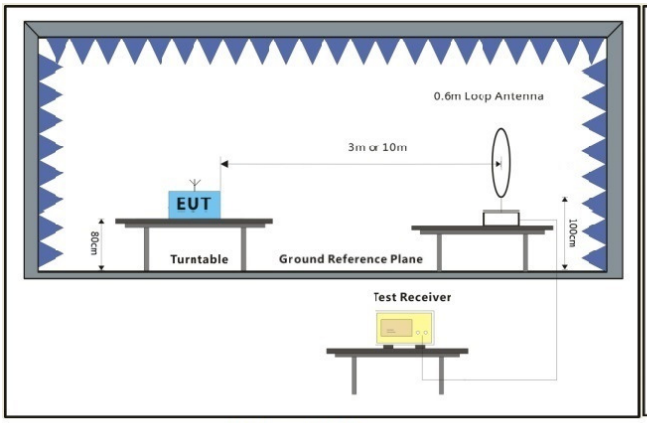
7.6.1 E.U.T. Operation

Operating Environment:

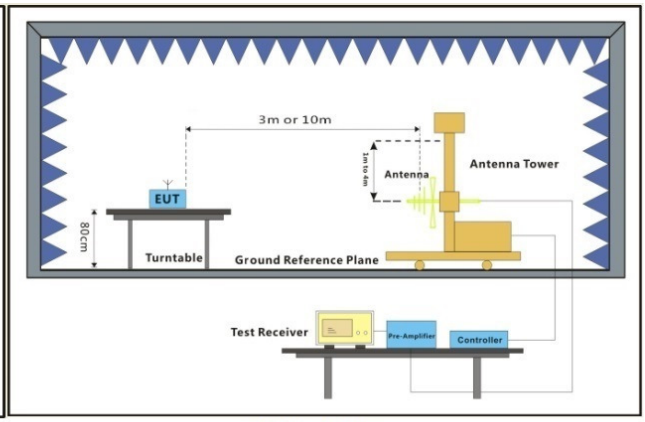
Temperature: 26.3 °C Humidity: 53.7 % RH Atmospheric Pressure: 1010 mbar

Test mode b:TX mode_Keep the EUT in continuously transmitting mode with modulation.

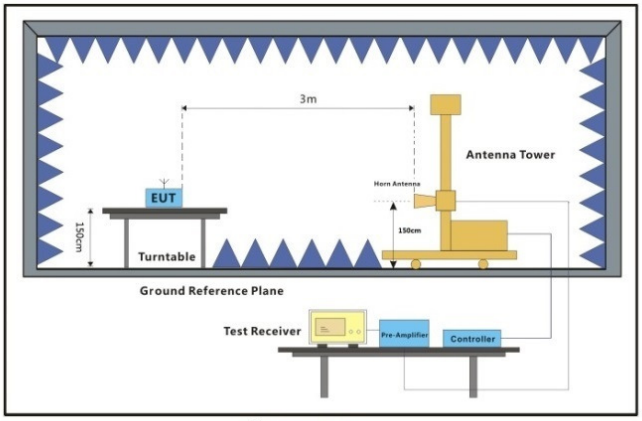
7.6.2 Test Setup Diagram



Below 30MHz



30MHz-1GHz



Above 1GHz

7.6.3 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

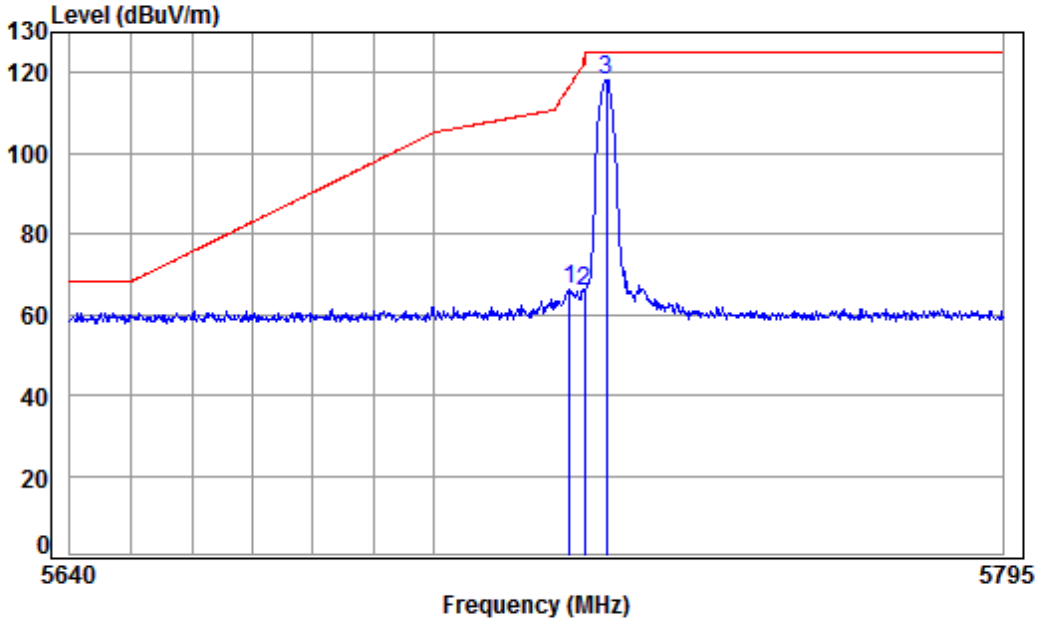
h. Test the EUT in the lowest channel, the middle channel, the Highest channel.

i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

j. Repeat above procedures until all frequencies measured was complete.

Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

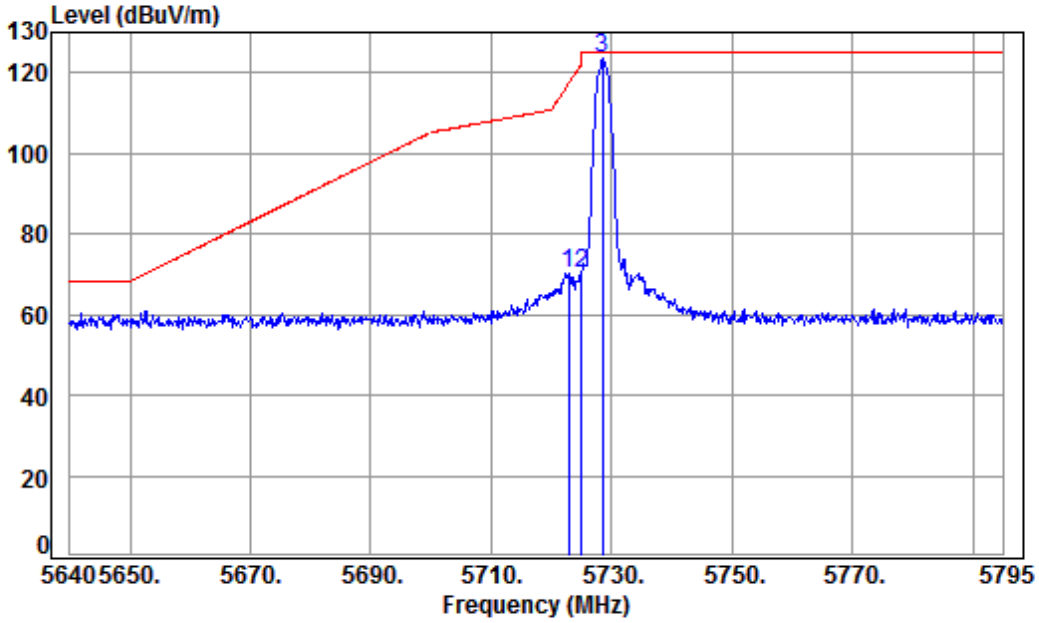
Mode:c; Polarization:Horizontal; Bandwidth:1.4MHz; Channel:5728.5MHz



Condition: 3m HORIZONTAL
Job No : 04179CR
Mode : 5728.5 Band edge
Note : L1P 1.4M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5722.557	9.63	34.83	41.84	63.49	66.11	116.63	-50.52	Peak
2	5725.000	9.64	34.83	41.84	63.36	65.99	125.20	-59.21	Peak
3 pp	5728.611	9.66	34.83	41.83	115.49	118.15	125.20	-7.05	Peak

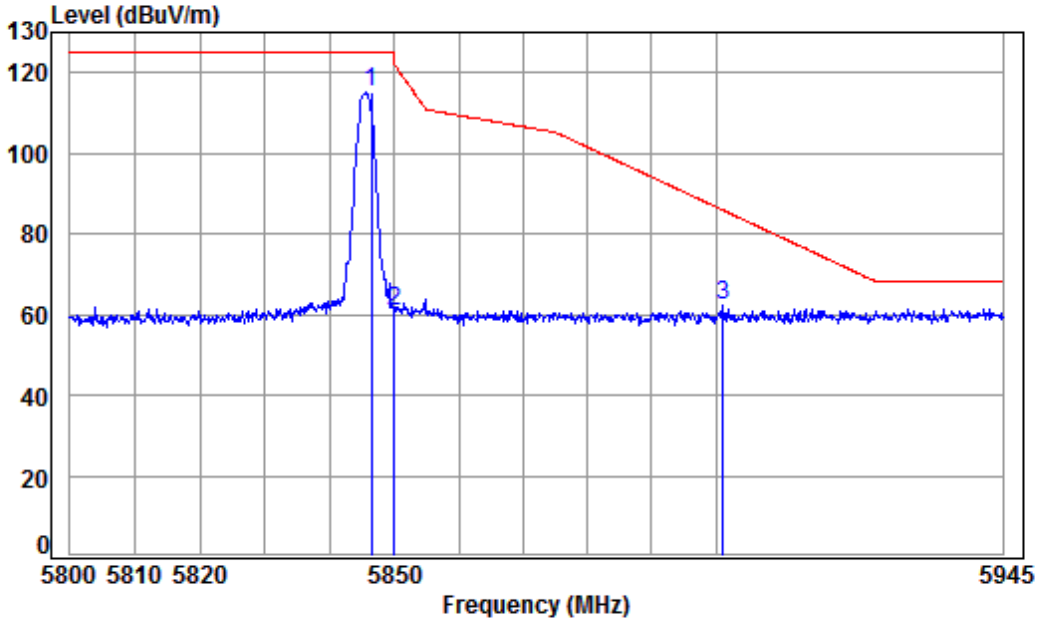
Mode:c; Polarization:Vertical; Bandwidth:1.4MHz; Channel:5728.5MHz



Condition: 3m Vertical
Job No : 04179CR
Mode : 5728.5 Band edge
Note : L1P1.4M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5722.925	9.64	34.83	41.84	67.70	70.33	117.47	-47.14	Peak
2	5725.000	9.64	34.83	41.84	67.50	70.13	122.06	-51.93	Peak
3 pp	5728.500	9.66	34.83	41.83	120.77	123.43	125.20	-1.77	Peak

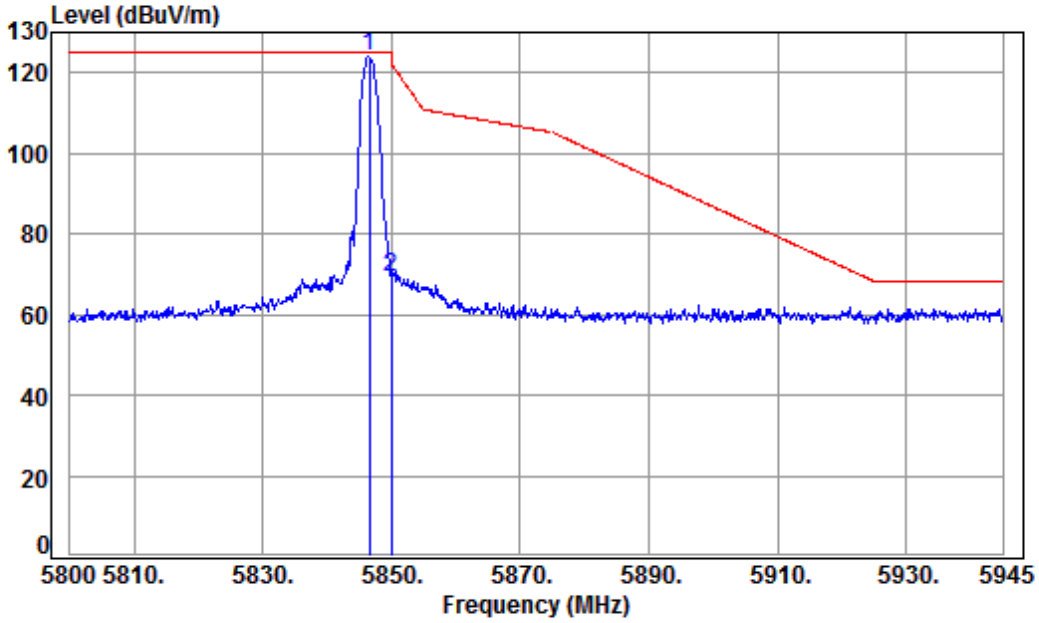
Mode:c; Polarization:Horizontal; Bandwidth:1.4MHz; Channel:5846.5MHz



Condition: 3m HORIZONTAL
Job No : 04179CR
Mode : 5846.5 Band edge
Note : L1P 1.4M ANT1

		Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
		MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	pp	5846.500	10.06	34.95	41.74	111.84	115.11	125.20	-10.09	Peak
2		5850.000	10.07	34.95	41.73	57.47	60.76	122.08	-61.32	Peak
3		5901.124	10.24	35.00	41.69	58.77	62.32	85.87	-23.55	Peak

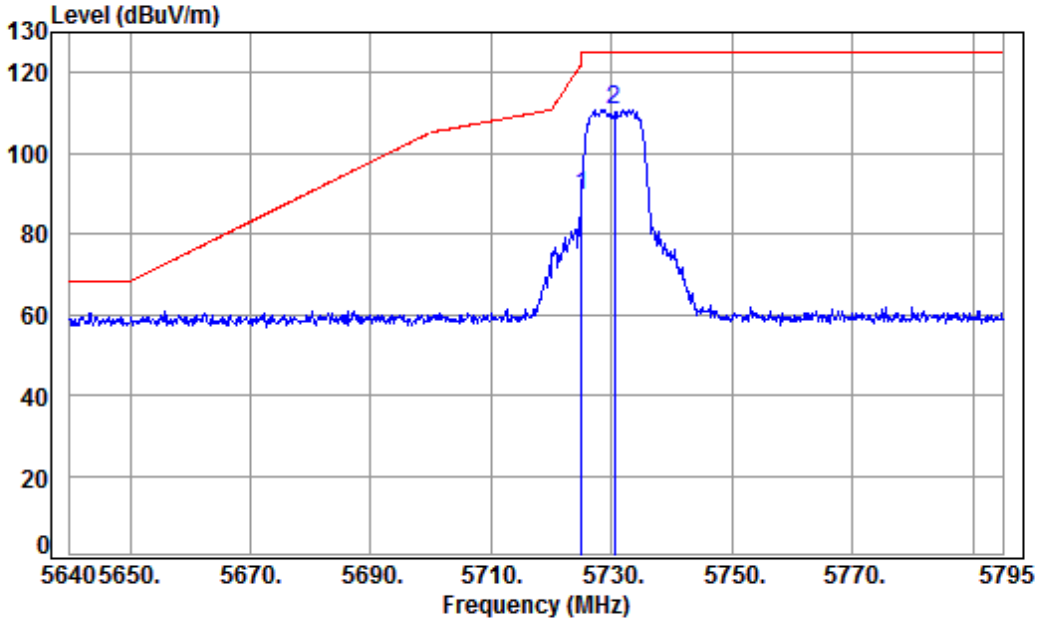
Mode:c; Polarization:Vertical; Bandwidth:1.4MHz; Channel:5846.5MHz



Condition: 3m Vertical
Job No : 04179CR
Mode : 5846.5 Band edge
Note : L1P1.4M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5846.500	10.06	34.95	41.73	121.02	124.30	125.20	-0.90	Peak
2	5850.000	10.07	34.95	41.73	65.77	69.06	122.14	-53.08	Peak

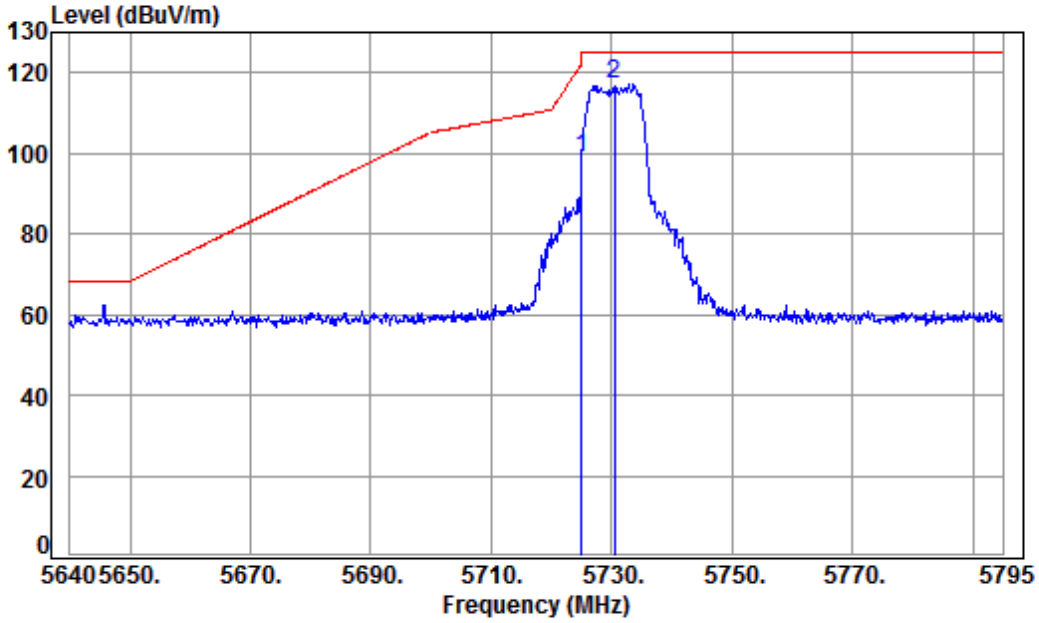
Mode:c; Polarization:Horizontal; Bandwidth:10MHz; Channel:5730.5MHz



Condition: 3m HORIZONTAL
Job No : 04179CR
Mode : 5730.5 Band edge
Note : L1P 10M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5725.000	9.64	34.83	41.84	86.94	89.57	122.06	-32.49	Peak
2 pp	5730.500	9.66	34.83	41.83	108.23	110.89	125.20	-14.31	Peak

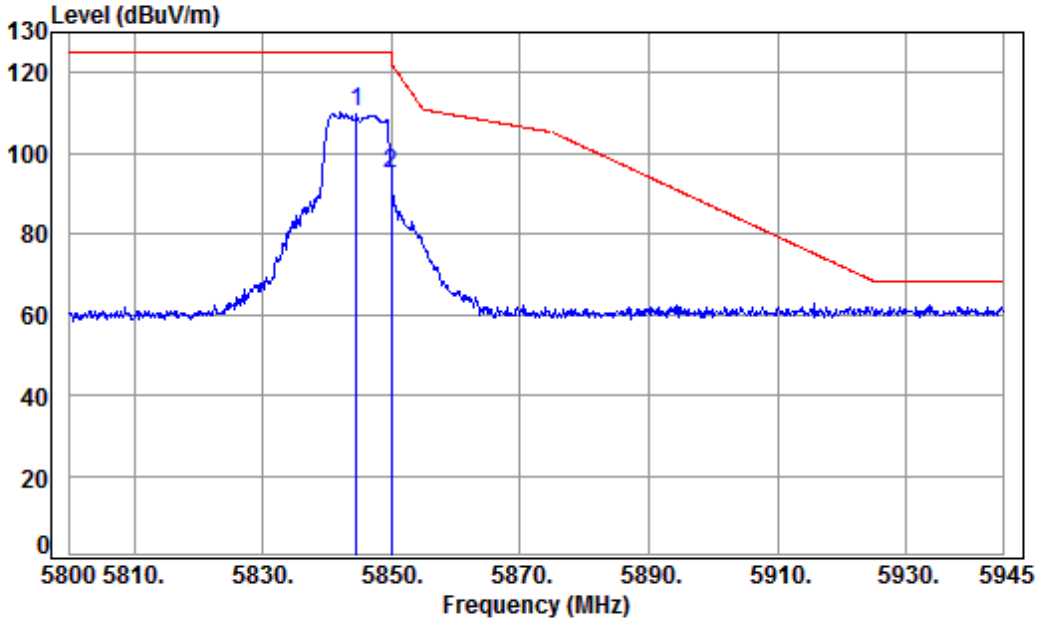
Mode:c; Polarization:Vertical; Bandwidth:10MHz; Channel:5730.5MHz



Condition: 3m Vertical
Job No : 04179CR
Mode : 5730.5 Band edge
Note : L1P 10M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5725.000	9.64	34.83	41.84	96.19	98.82	122.06	-23.24	Peak
2 pp	5730.500	9.67	34.84	41.83	114.50	117.18	125.20	-8.02	Peak

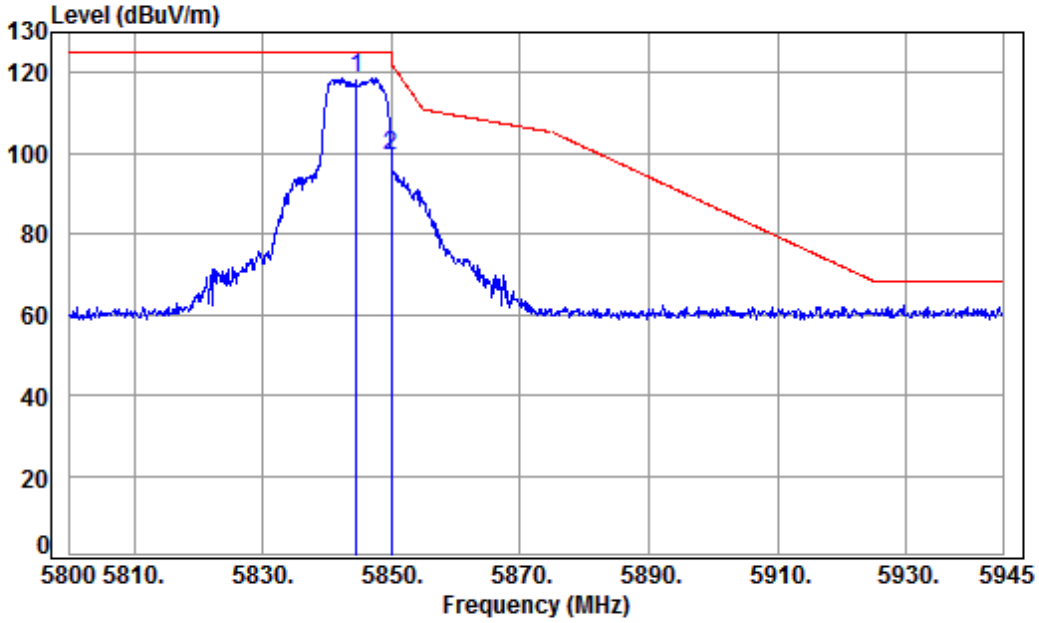
Mode:c; Polarization:Horizontal; Bandwidth:10MHz; Channel:5844.5MHz



Condition: 3m HORIZONTAL
Job No : 04179CR
Mode : 5844.5 Band edge
Note : L1P 10M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5844.500	10.04	34.95	41.74	106.78	110.03	125.20	-15.17	Peak
2	5850.000	10.07	34.95	41.73	91.49	94.78	122.14	-27.36	Peak

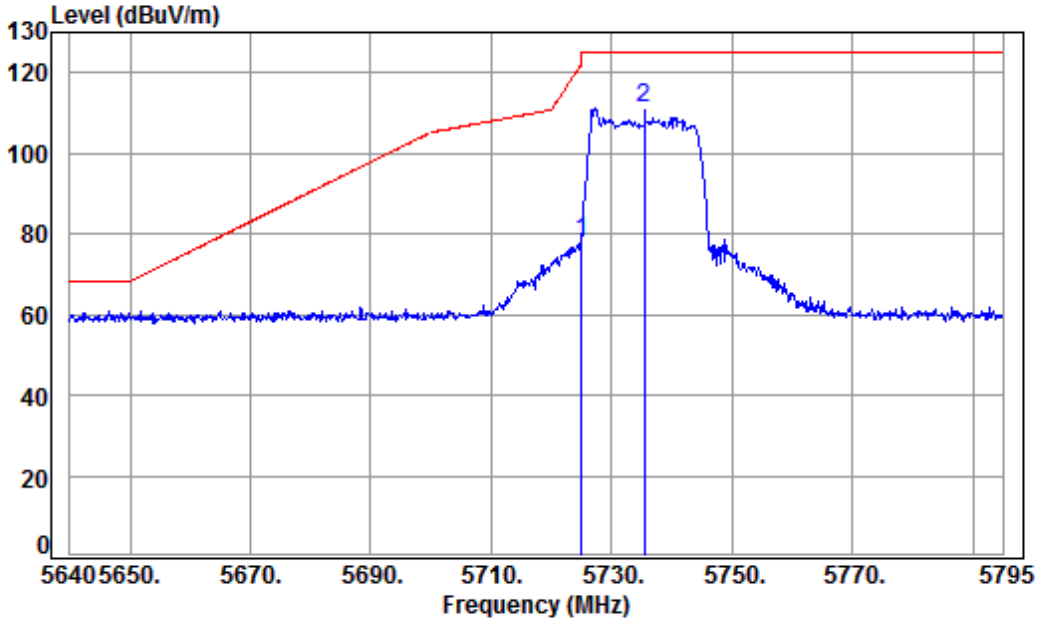
Mode:c; Polarization:Vertical; Bandwidth:10MHz; Channel:5844.5MHz



Condition: 3m Vertical
Job No : 04179CR
Mode : 5844.5 Band edge
Note : L1P 10M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5844.500	10.04	34.95	41.74	115.49	118.74	125.20	-6.46	Peak
2	5850.000	10.07	34.95	41.73	95.98	99.27	122.14	-22.87	Peak

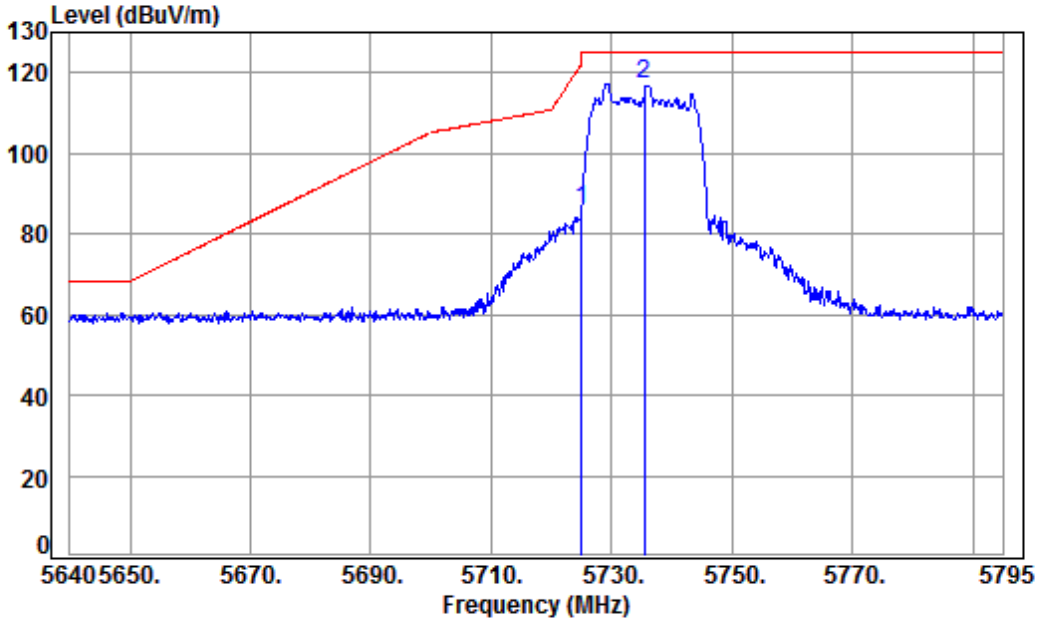
Mode:c; Polarization:Horizontal; Bandwidth:20MHz; Channel:5735.5MHz



Condition: 3m HORIZONTAL
Job No : 04179CR
Mode : 5735.5 Band edge
Note : L1P 20M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5725.000	9.64	34.83	41.84	75.54	78.17	122.06	-43.89	Peak
2 pp	5735.500	9.65	34.83	41.84	108.41	111.05	125.20	-14.15	Peak

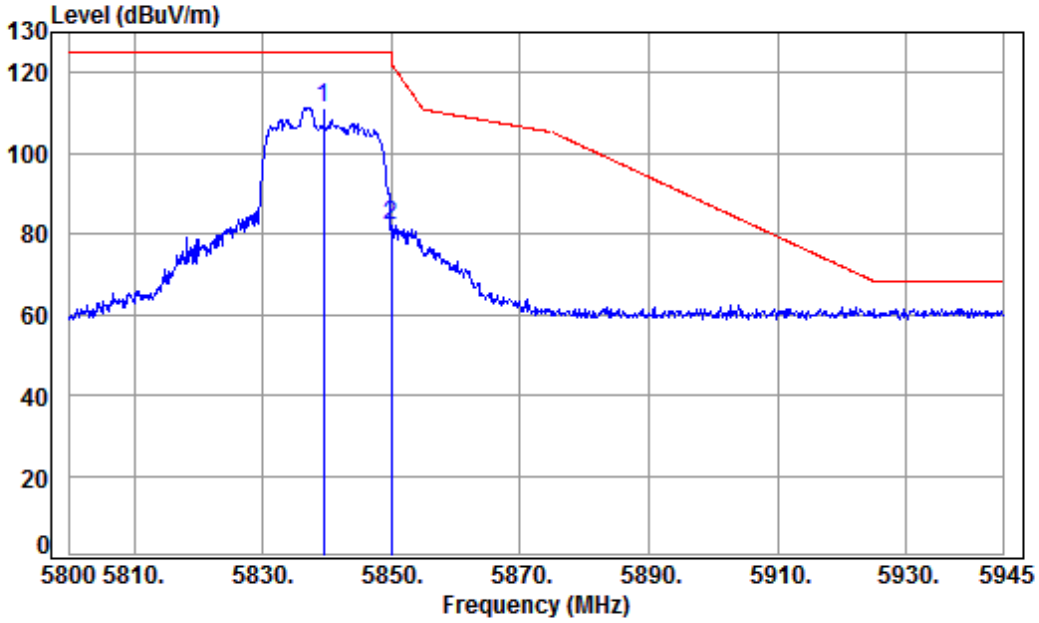
Mode:c; Polarization:Vertical; Bandwidth:20MHz; Channel:5735.5MHz



Condition: 3m Vertical
Job No : 04179CR
Mode : 5735.5 Band edge
Note : L1P 20M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5725.000	9.64	34.83	41.84	83.40	86.03	122.06	-36.03	Peak
2 pp	5735.500	9.66	34.83	41.83	114.63	117.29	125.20	-7.91	Peak

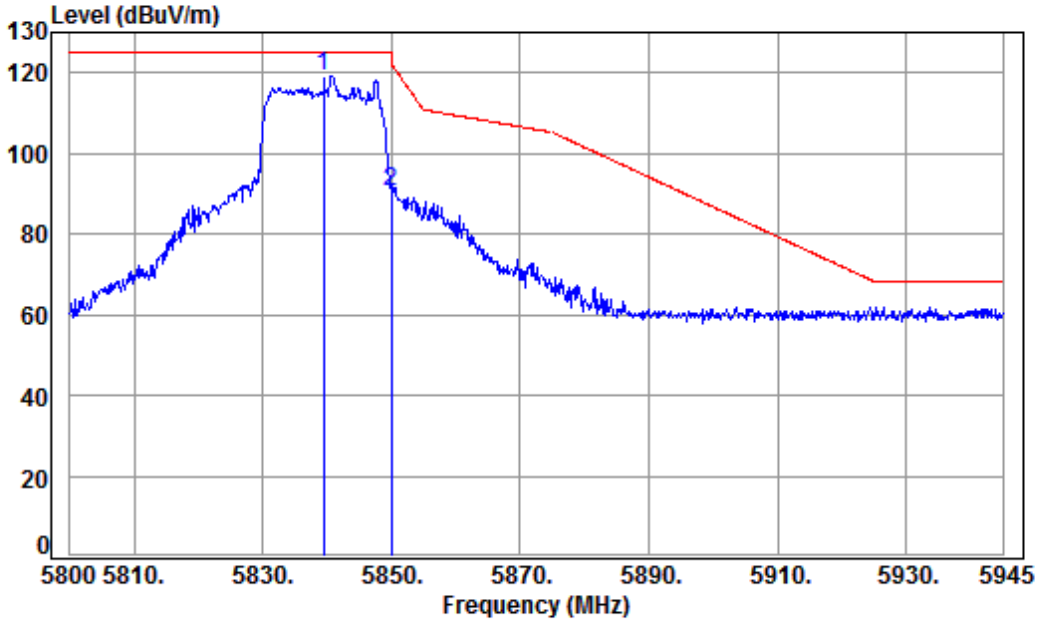
Mode:c; Polarization:Horizontal; Bandwidth:20MHz; Channel:5839.5MHz



Condition: 3m HORIZONTAL
Job No : 04179CR
Mode : 5839.5 Band edge
Note : L1P 20M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5839.500	10.02	34.94	41.74	107.89	111.11	125.20	-14.09	Peak
2	5850.000	10.07	34.95	41.73	78.58	81.87	122.14	-40.27	Peak

Mode:c; Polarization:Vertical; Bandwidth:20MHz; Channel:5839.5MHz



Condition: 3m Vertical
Job No : 04179CR
Mode : 5839.5 Band edge
Note : L1P 20M ANT1

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	5839.500	10.04	34.95	41.74	115.87	119.12	125.20	-6.08	Peak
2	5850.000	10.07	34.95	41.73	87.16	90.45	122.14	-31.69	Peak

7.7 Frequency Stability

Test Requirement	47 CFR Part 15, Subpart C 15.407 (g)
Test Method:	ANSI C63.10 (2013) Section 6.8
Limit:	The frequency tolerance shall be maintained within the band of operation frequency over a temperature variation of 0 degrees to 35 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.
Conclusion:	Pass.
	The applicant declares that the emissions are maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

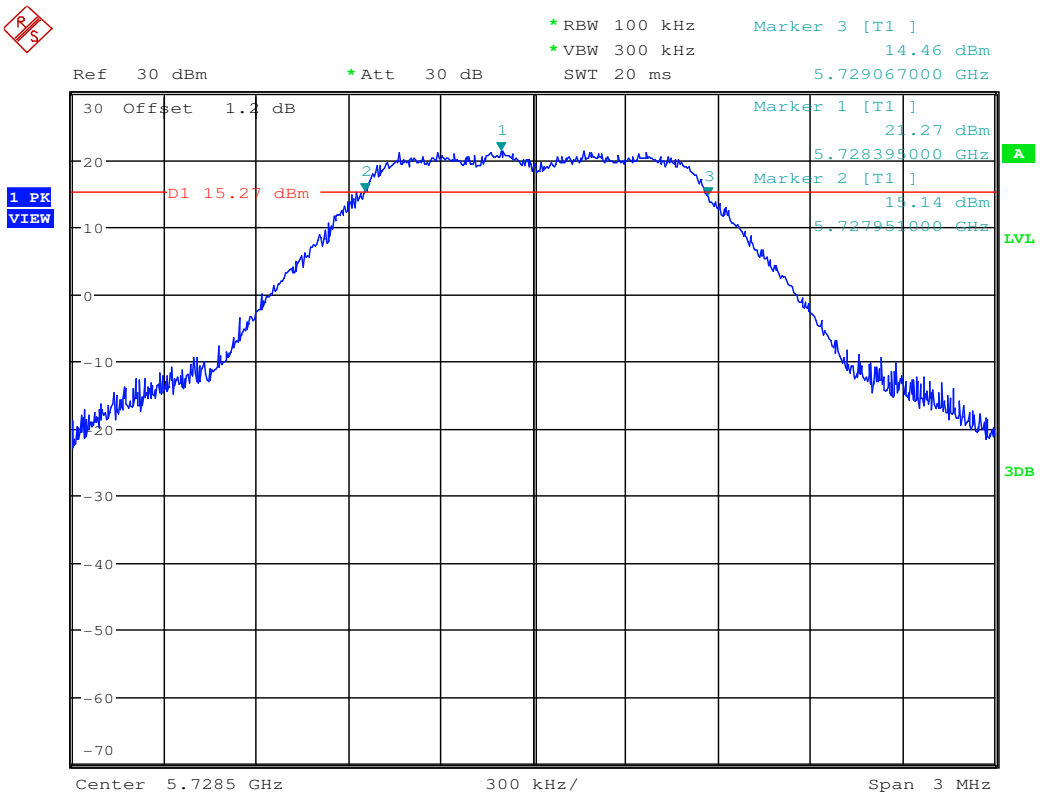
8 Appendix

8.1 Appendix 15.407

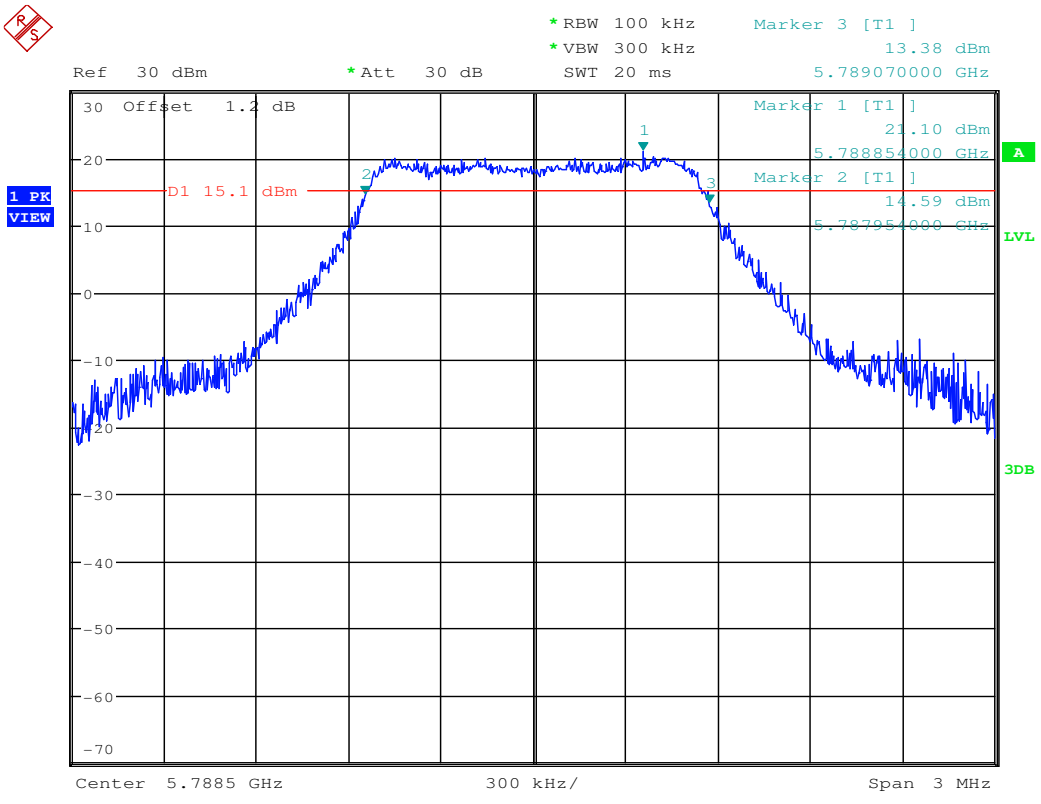
1.Emission Bandwidth Measurement

Test Mode	Test Channel	Ant	EBW[MHz]	Limit[MHz]	Verdict
1.4MHz BW	5728.5	Ant1	1.116	>=0.5	PASS
1.4MHz BW	5788.5	Ant1	1.116	>=0.5	PASS
1.4MHz BW	5846.5	Ant1	1.116	>=0.5	PASS
20MHz BW	5735.5	Ant1	18.060	>=0.5	PASS
20MHz BW	5787.5	Ant1	18.030	>=0.5	PASS
20MHz BW	5839.5	Ant1	18.060	>=0.5	PASS
10MHz BW	5730.5	Ant1	9.015	>=0.5	PASS
10MHz BW	5787.5	Ant1	9.000	>=0.5	PASS
10MHz BW	5844.5	Ant1	9.030	>=0.5	PASS

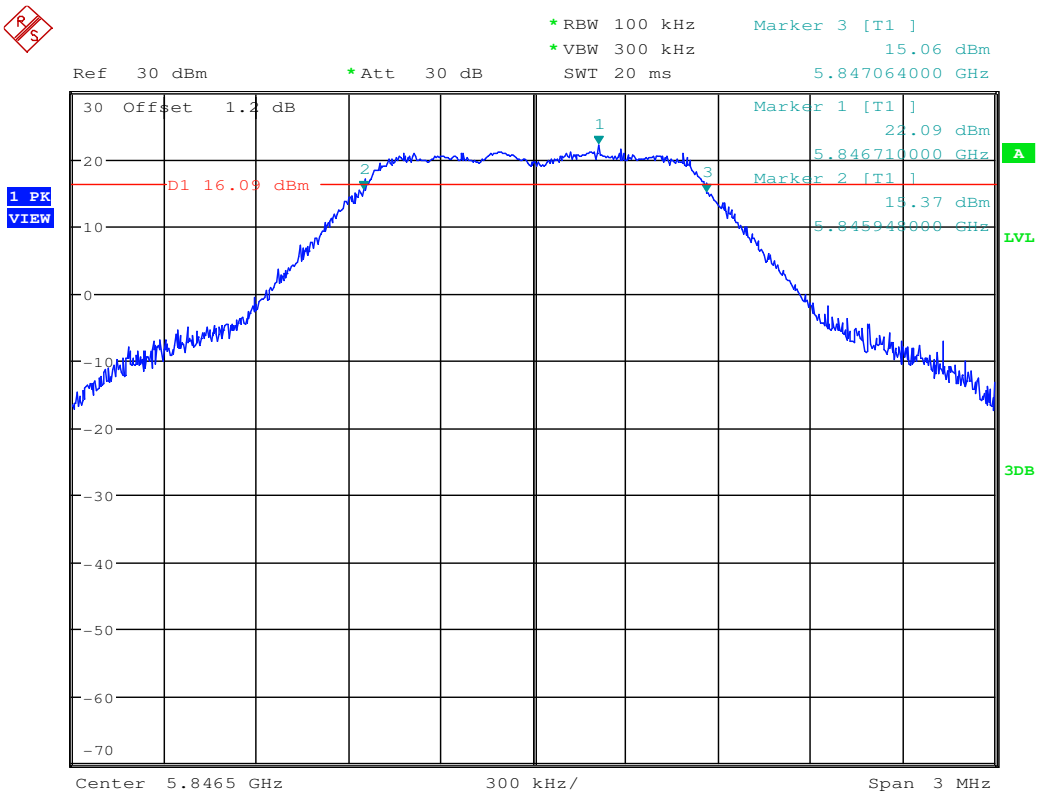
Emission Bandwidth Measurement_1.4MHz BW_5728.5_Ant1



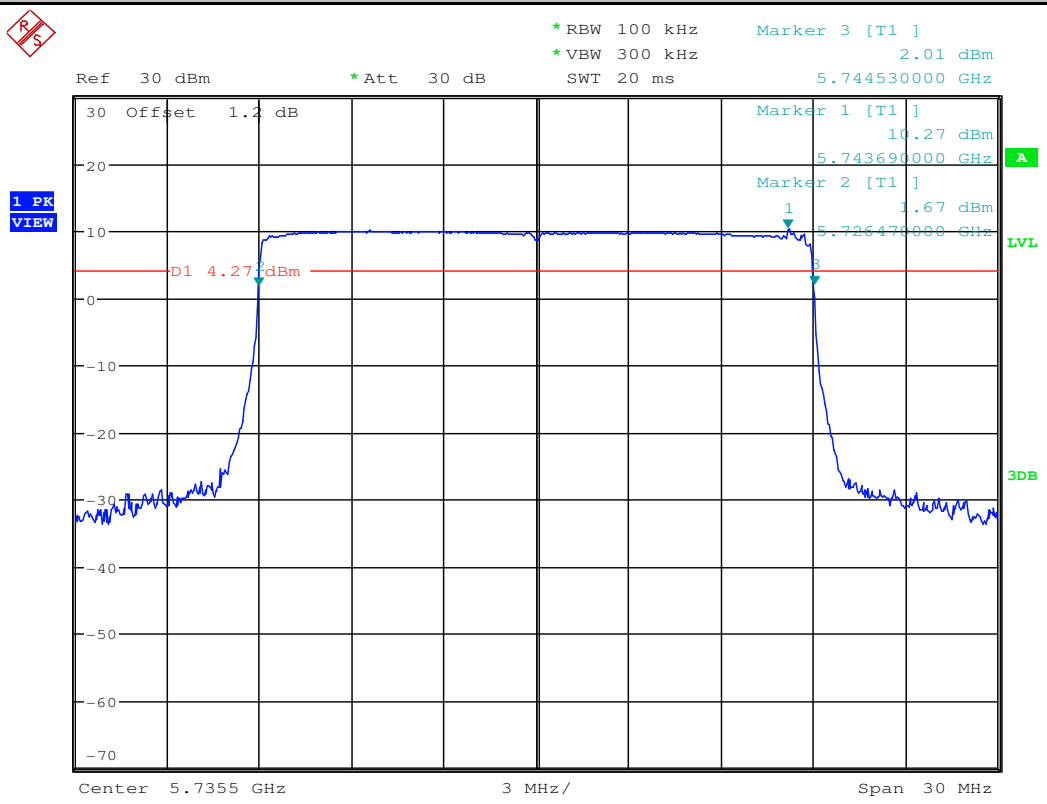
Emission Bandwidth Measurement_1.4MHz BW_5788.5_Ant1



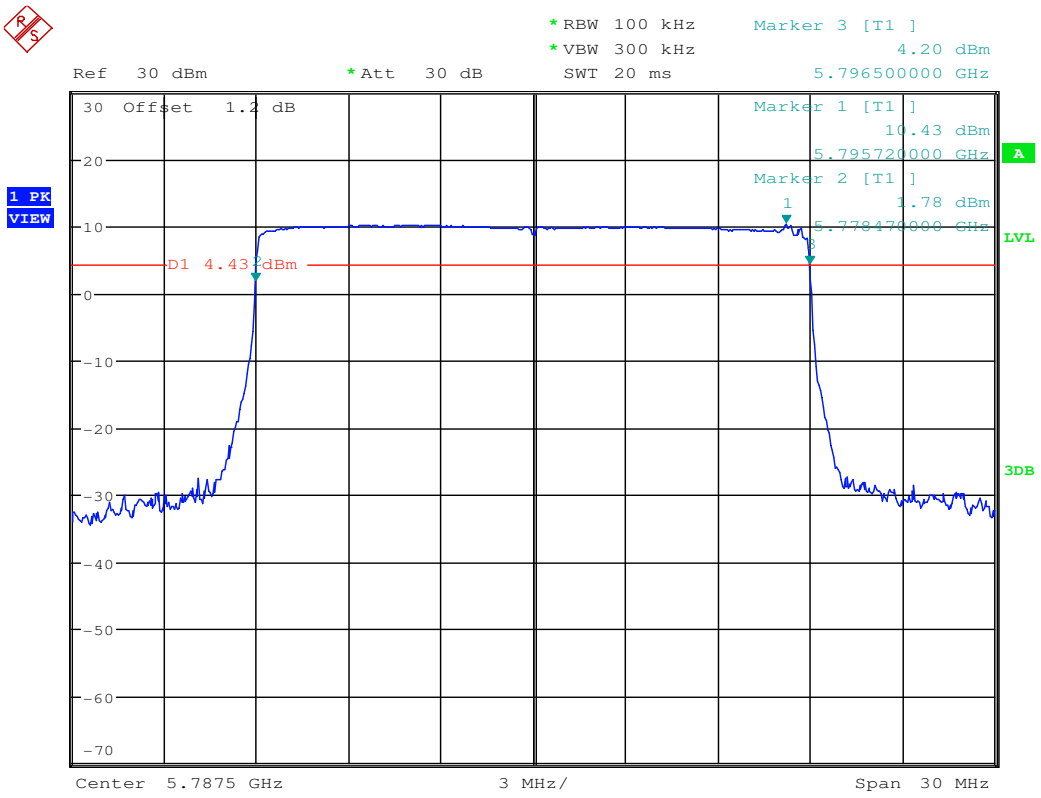
Emission Bandwidth Measurement_1.4MHz BW_5846.5_Ant1



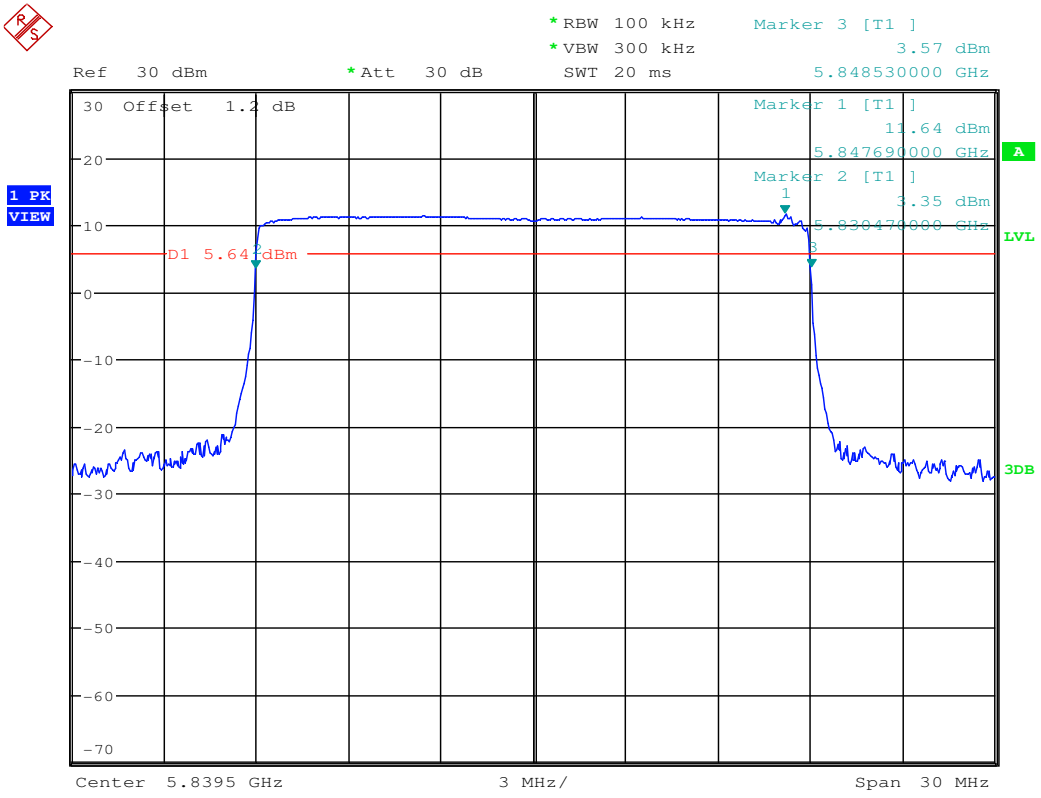
Emission Bandwidth Measurement_20MHz BW_5735.5_Ant1



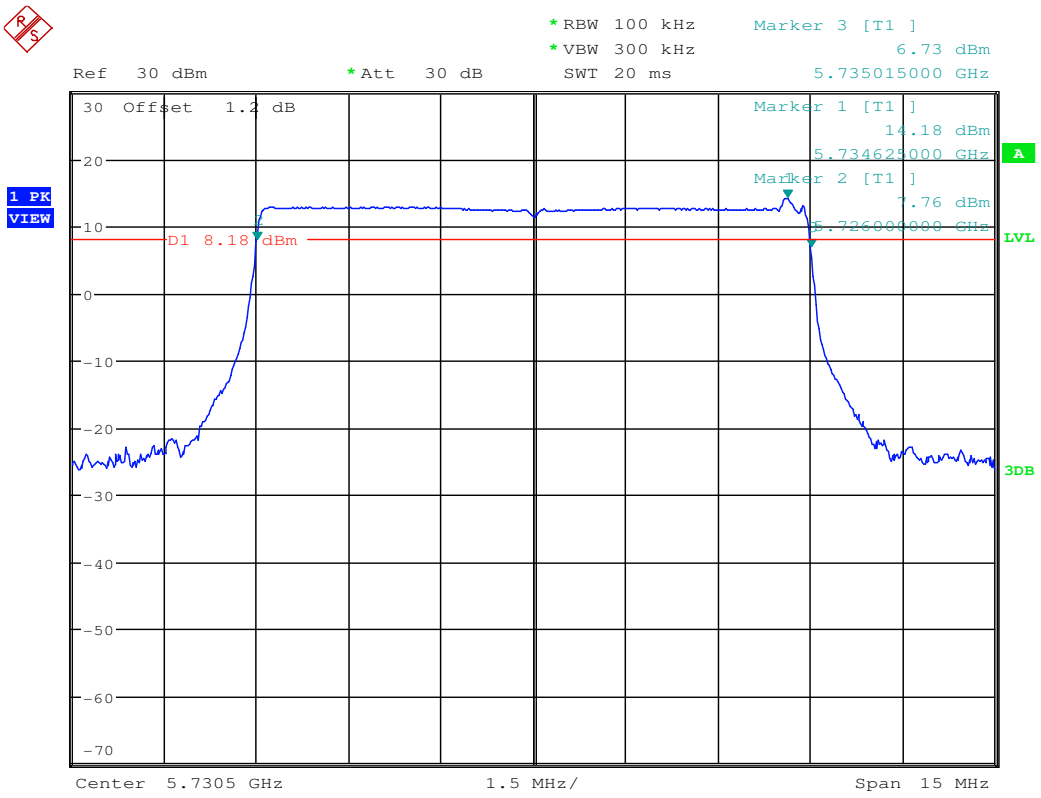
Emission Bandwidth Measurement_20MHz BW_5787.5_Ant1



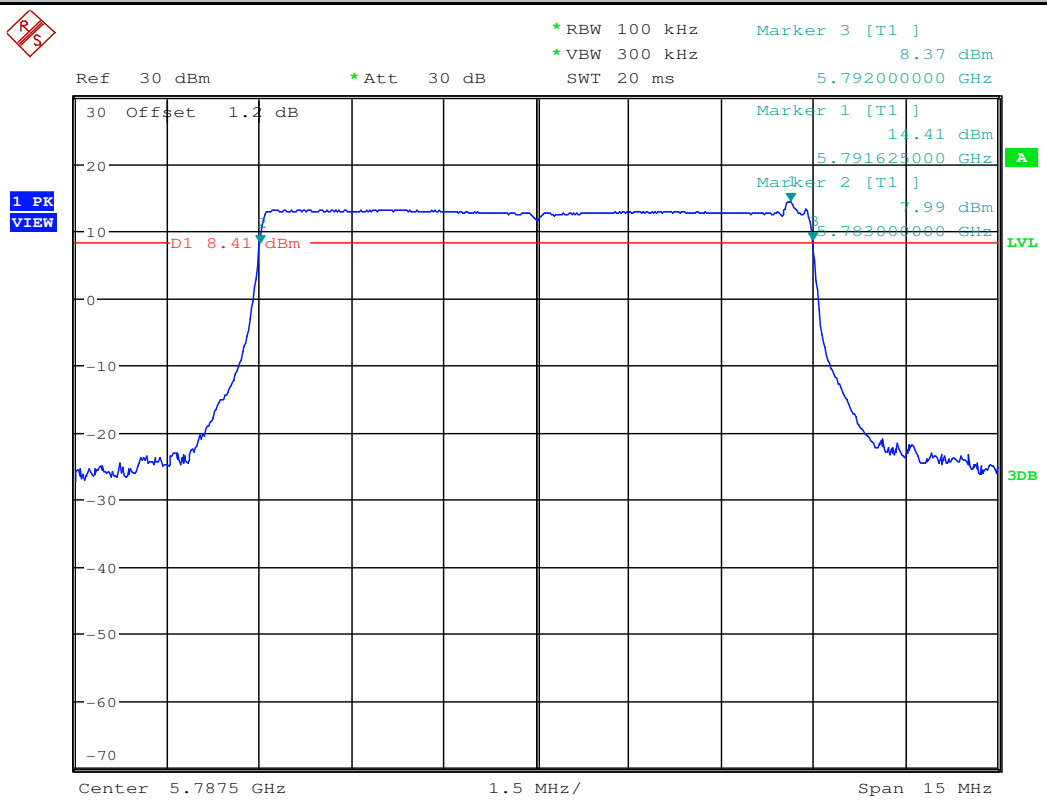
Emission Bandwidth Measurement_20MHz BW_5839.5_Ant1



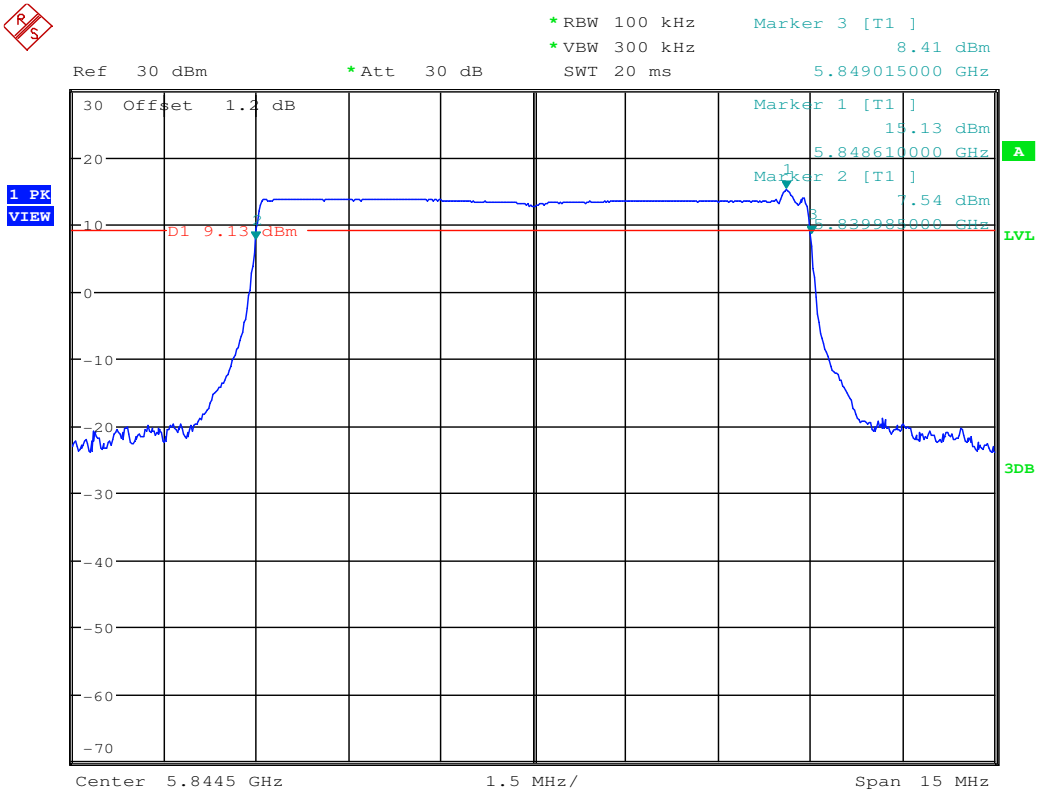
Emission Bandwidth Measurement_10MHz BW_5730.5_Ant1



Emission Bandwidth Measurement_10MHz BW_5787.5_Ant1



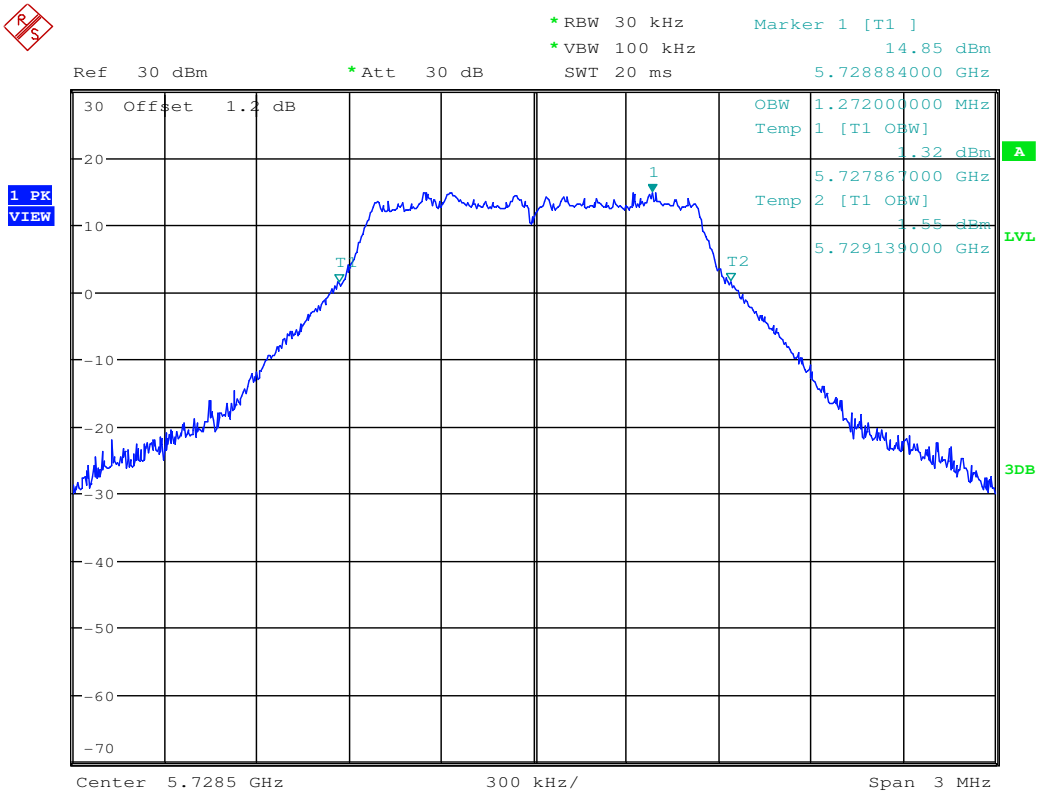
Emission Bandwidth Measurement_10MHz BW_5844.5_Ant1



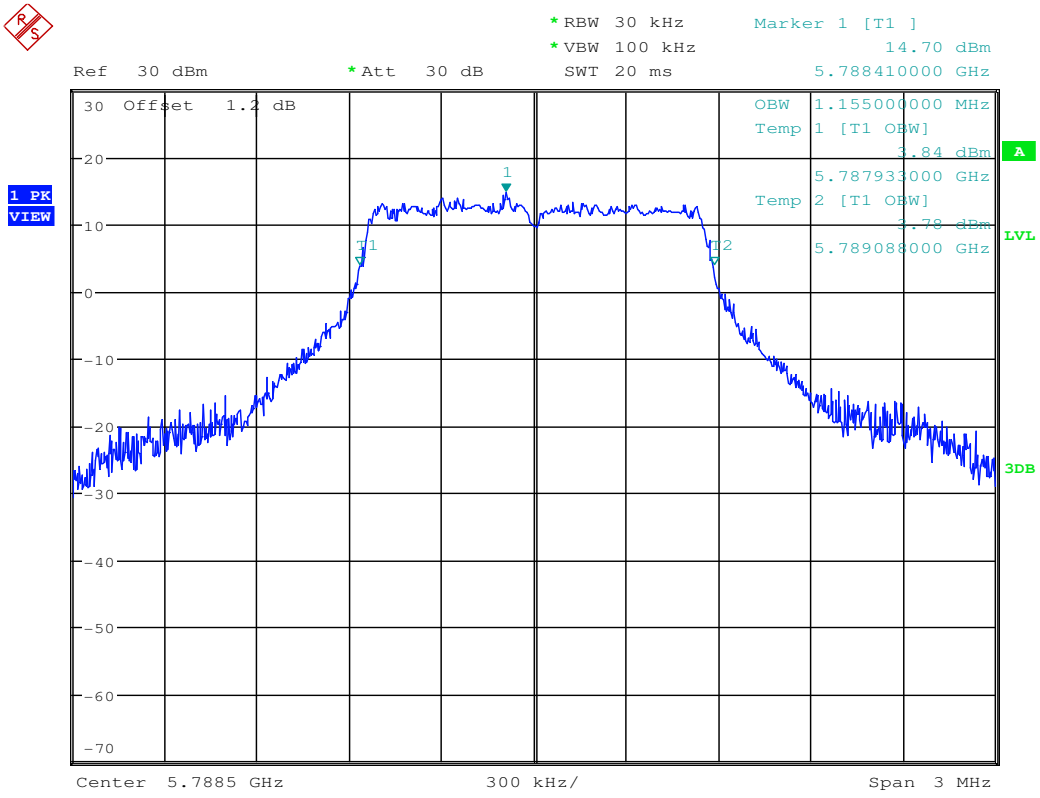
2.Occupied Bandwidth Measurement

Test Mode	Test Channel	Ant	OBW[MHz]	Limit[MHz]	Verdict
1.4MHz BW	5728.5	Ant1	1.272	---	PASS
1.4MHz BW	5788.5	Ant1	1.155	---	PASS
1.4MHz BW	5846.5	Ant1	1.281	---	PASS
20MHz BW	5735.5	Ant1	17.760	---	PASS
20MHz BW	5787.5	Ant1	17.730	---	PASS
20MHz BW	5839.5	Ant1	17.730	---	PASS
10MHz BW	5730.5	Ant1	9.045	---	PASS
10MHz BW	5787.5	Ant1	9.060	---	PASS
10MHz BW	5844.5	Ant1	9.060	---	PASS

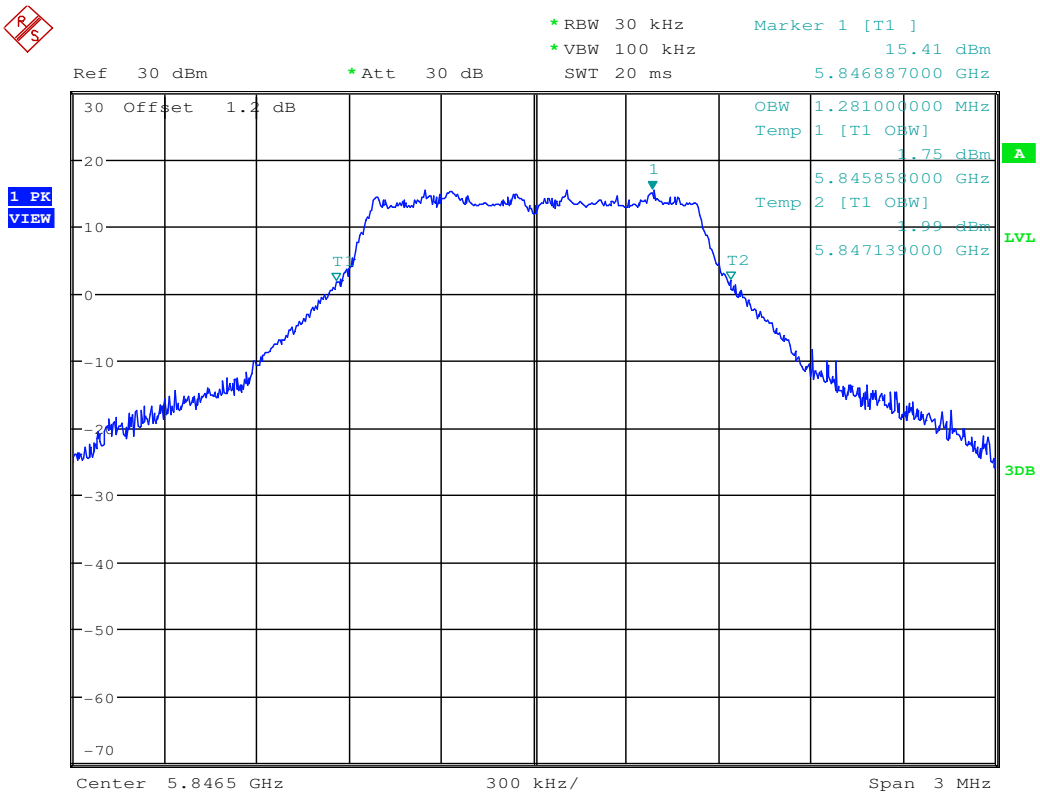
Occupied Bandwidth Measurement_1.4MHz BW_5728.5_Ant1



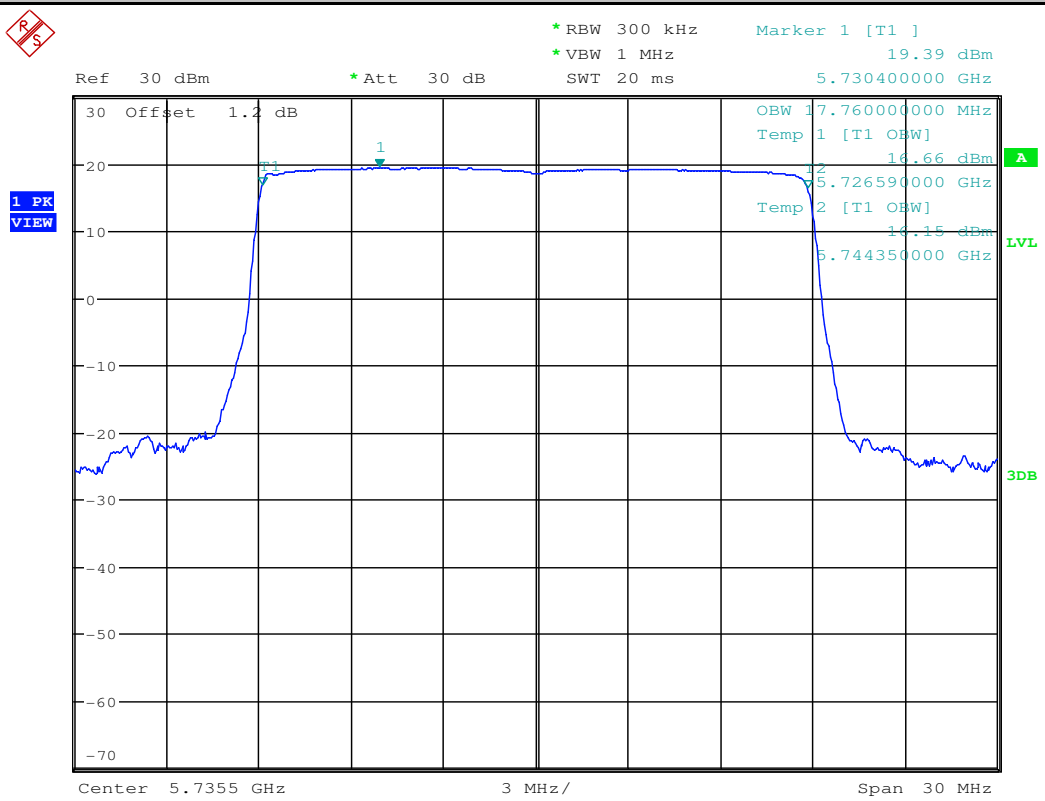
Occupied Bandwidth Measurement_1.4MHz BW_5788.5_Ant1



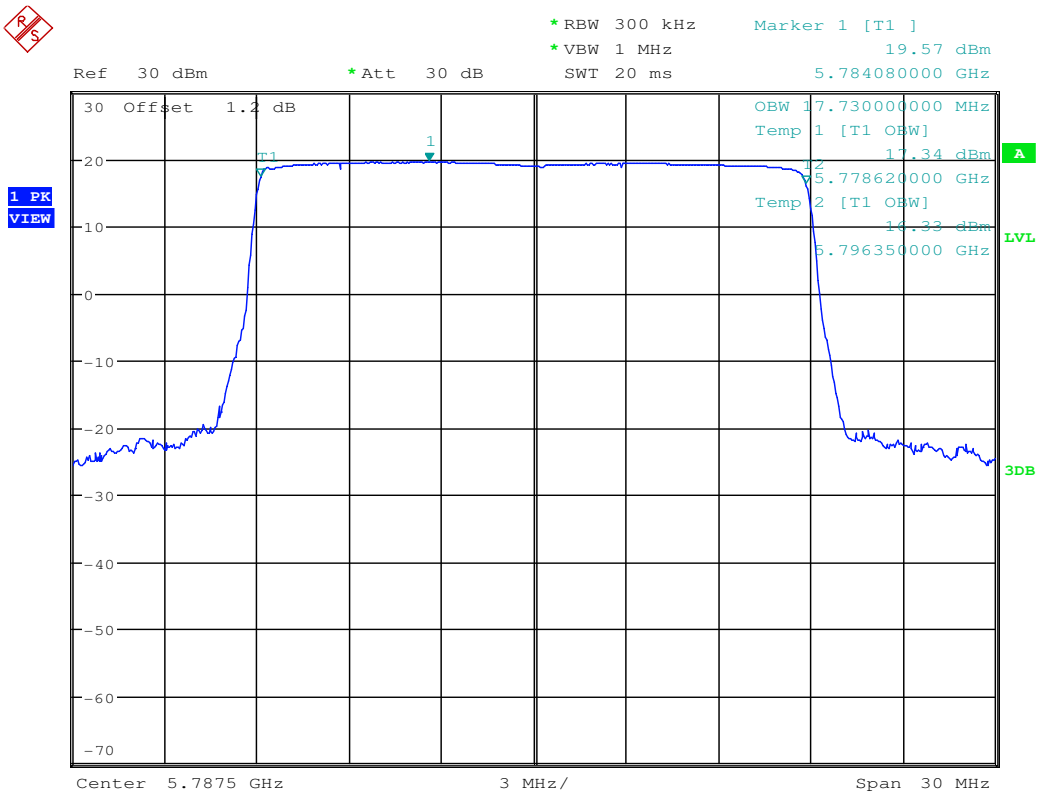
Occupied Bandwidth Measurement_1.4MHz BW_5846.5_Ant1



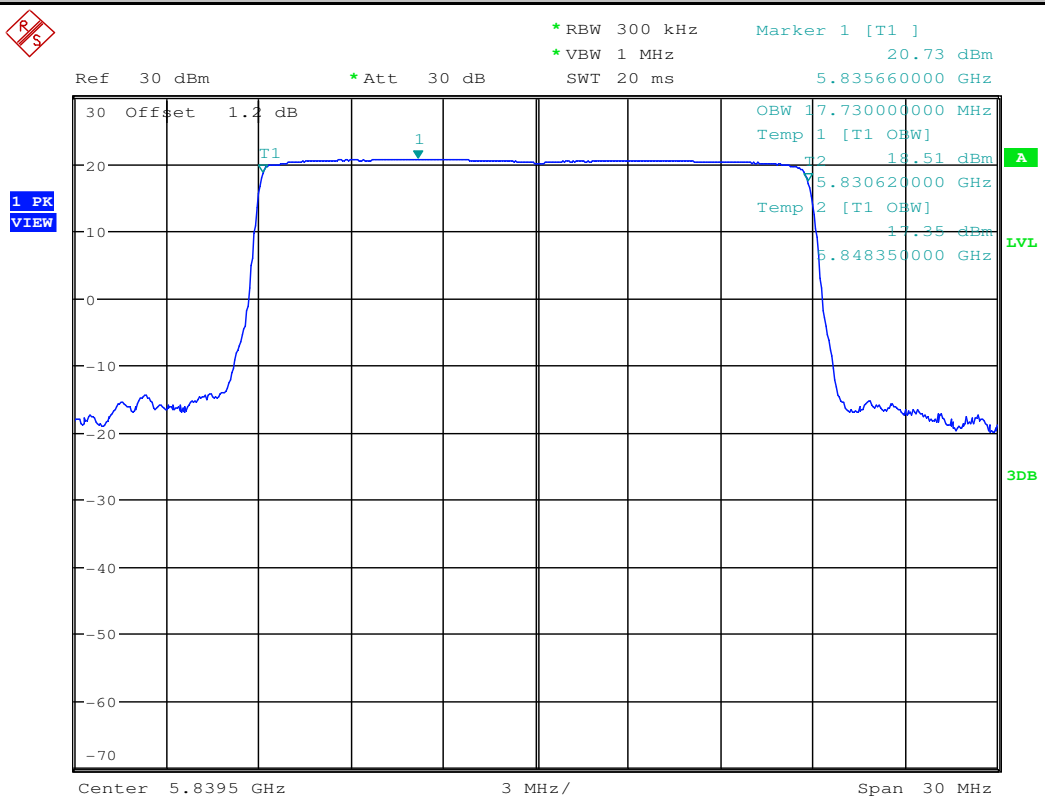
Occupied Bandwidth Measurement_20MHz BW_5735.5_Ant1



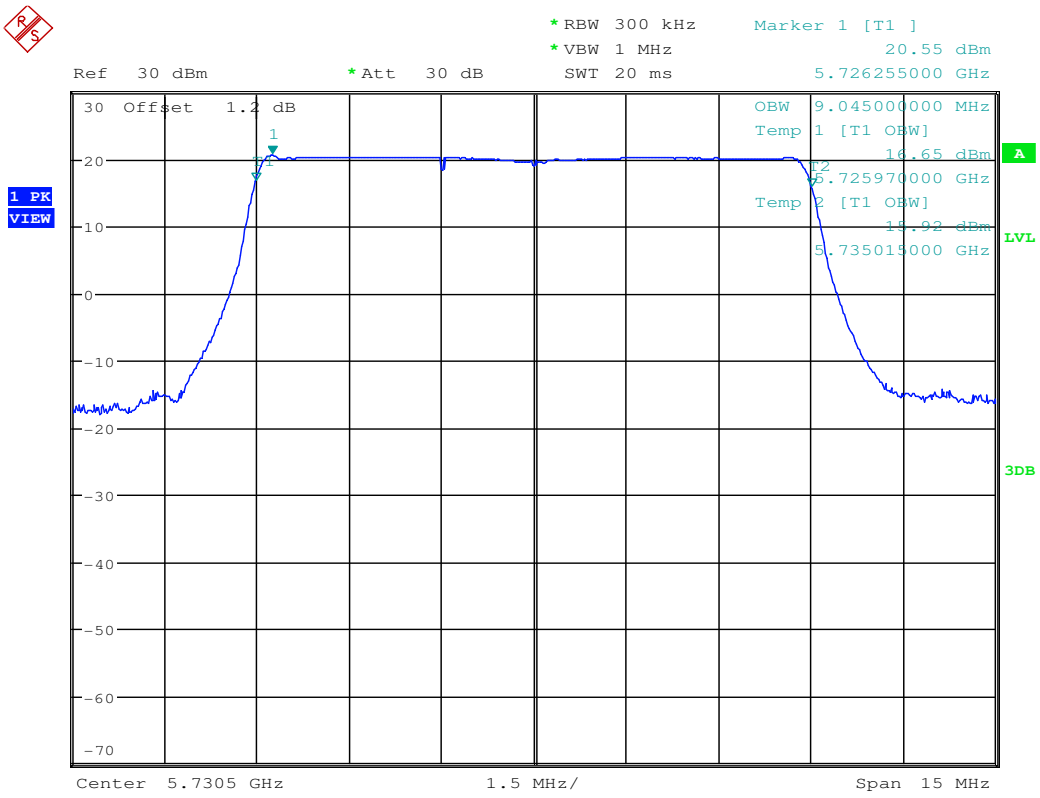
Occupied Bandwidth Measurement_20MHz BW_5787.5_Ant1



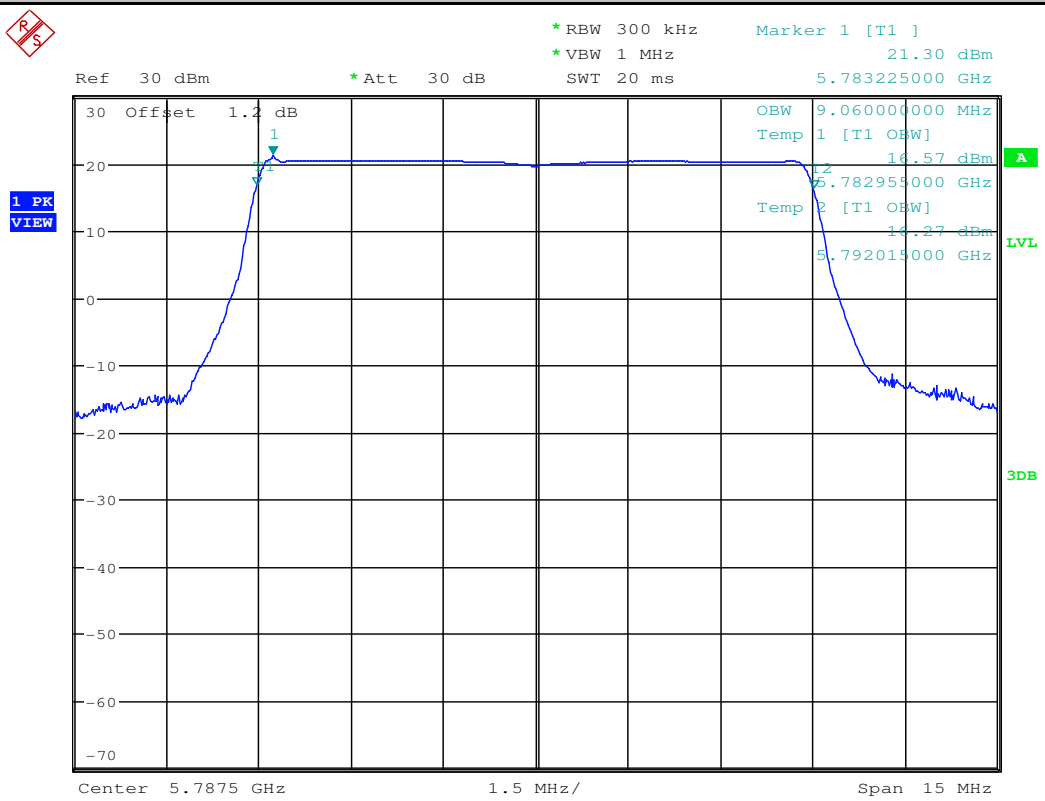
Occupied Bandwidth Measurement_20MHz BW_5839.5_Ant1



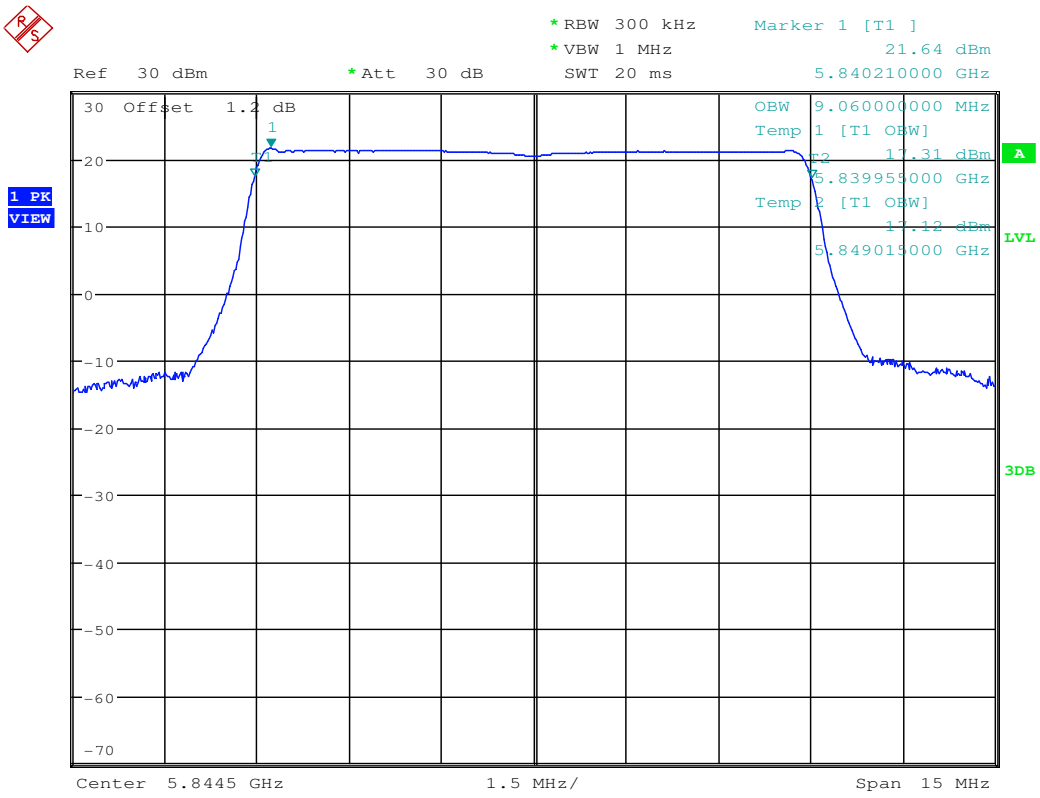
Occupied Bandwidth Measurement_10MHz BW_5730.5_Ant1



Occupied Bandwidth Measurement_10MHz BW_5787.5_Ant1



Occupied Bandwidth Measurement_10MHz BW_5844.5_Ant1



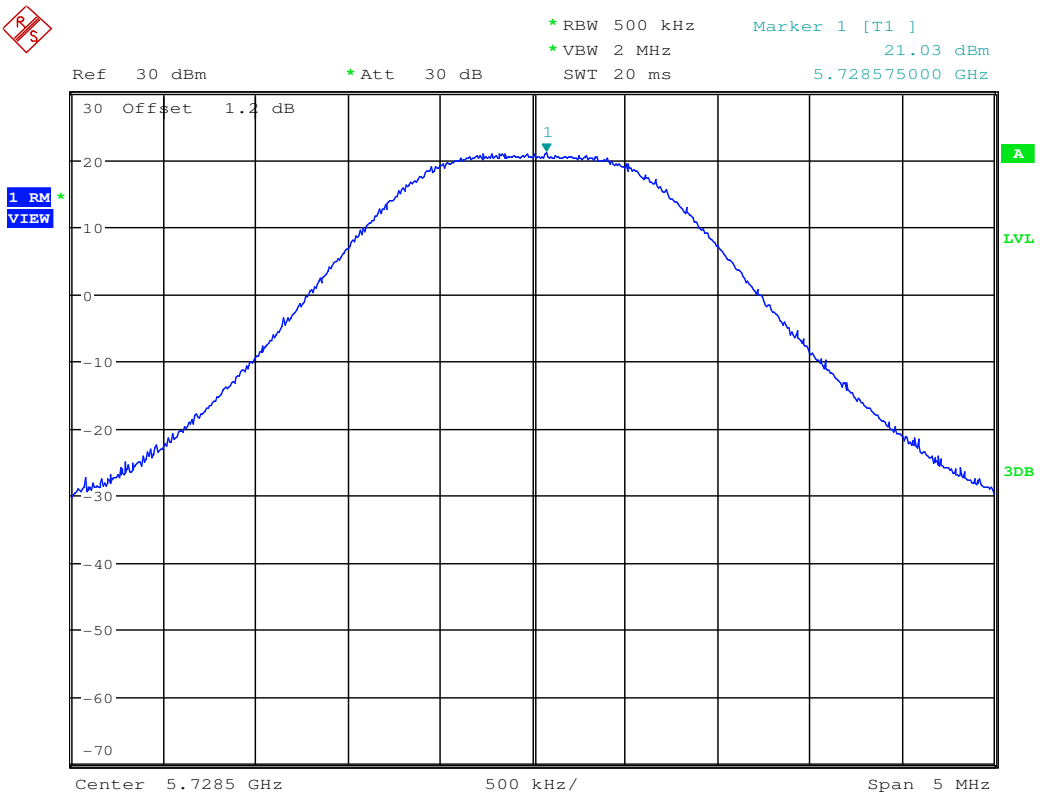
3.Maximum Conduct Output Power

Test Mode	Test Channel	Ant	Power [dBm]	Limit [dBm]	Verdict
1.4MHz BW	5728.5	Ant1	22.15	<30.00	PASS
1.4MHz BW	5788.5	Ant1	21.57	<30.00	PASS
1.4MHz BW	5846.5	Ant1	21.64	<30.00	PASS
20MHz BW	5735.5	Ant1	21.48	<30.00	PASS
20MHz BW	5787.5	Ant1	21.85	<30.00	PASS
20MHz BW	5839.5	Ant1	22.09	<30.00	PASS
10MHz BW	5730.5	Ant1	23.18	<30.00	PASS
10MHz BW	5787.5	Ant1	21.93	<30.00	PASS
10MHz BW	5844.5	Ant1	22.00	<30.00	PASS

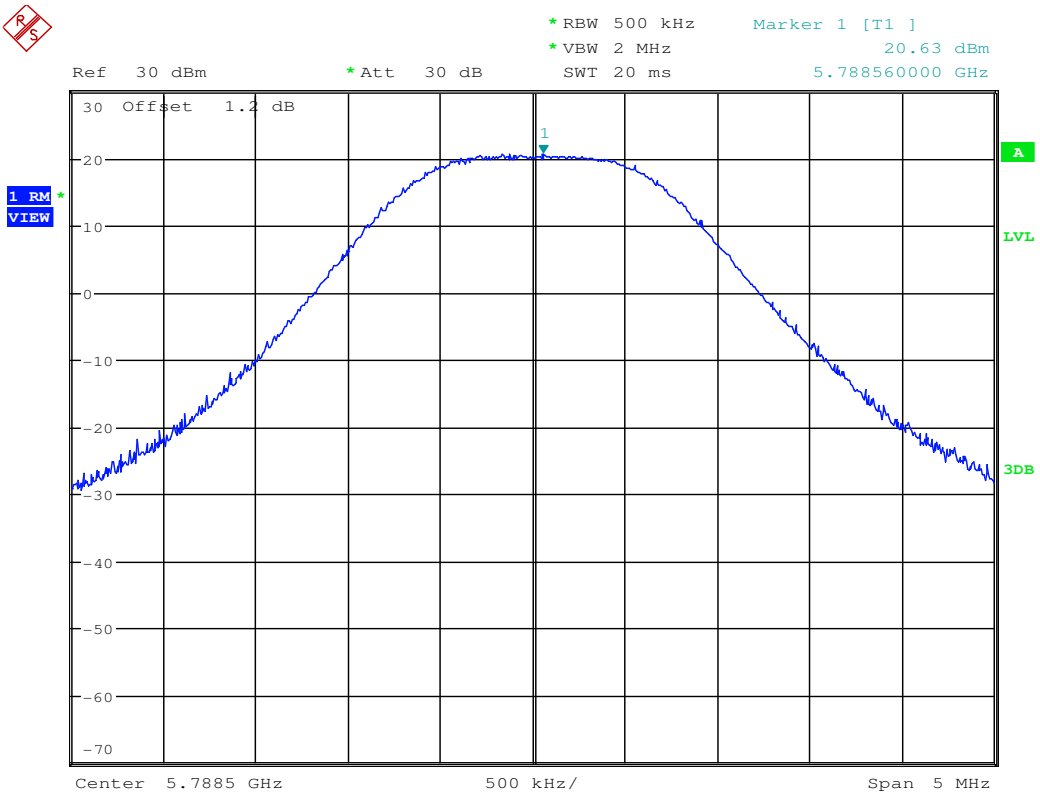
4.Maximum Power Spectral Density

Test Mode	Test Channel	Ant	Level [dBm/500 kHz]	10log(1/x) Factor[dB]	10log(500k Hz/RBW) Factor [dB]	PSD [dBm/500 kHz]	Limit [dBm/500 kHz]	Verdict
1.4MHz BW	5728.5	Ant1	21.03	0	0	21.03	<30.00	PASS
1.4MHz BW	5788.5	Ant1	20.53	0	0	20.53	<30.00	PASS
1.4MHz BW	5846.5	Ant1	20.63	0	0	20.63	<30.00	PASS
20MHz BW	5735.5	Ant1	21.47	0	0	21.47	<30.00	PASS
20MHz BW	5787.5	Ant1	11.82	0	0	11.82	<30.00	PASS
20MHz BW	5839.5	Ant1	11.84	0	0	11.84	<30.00	PASS
10MHz BW	5730.5	Ant1	13.08	0	0	13.08	<30.00	PASS
10MHz BW	5787.5	Ant1	14.52	0	0	14.52	<30.00	PASS
10MHz BW	5844.5	Ant1	14.63	0	0	14.63	<30.00	PASS

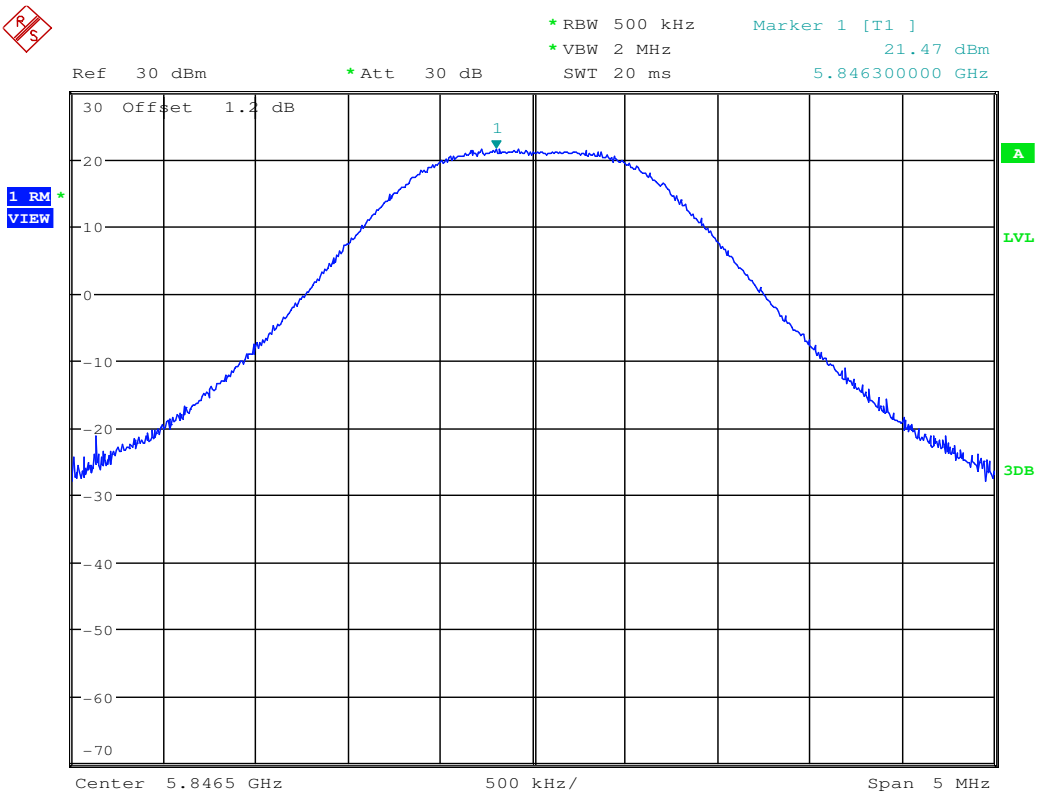
Maximum Power Spectral Density_TNVN_1.4MHz BW_5728.5_Ant1



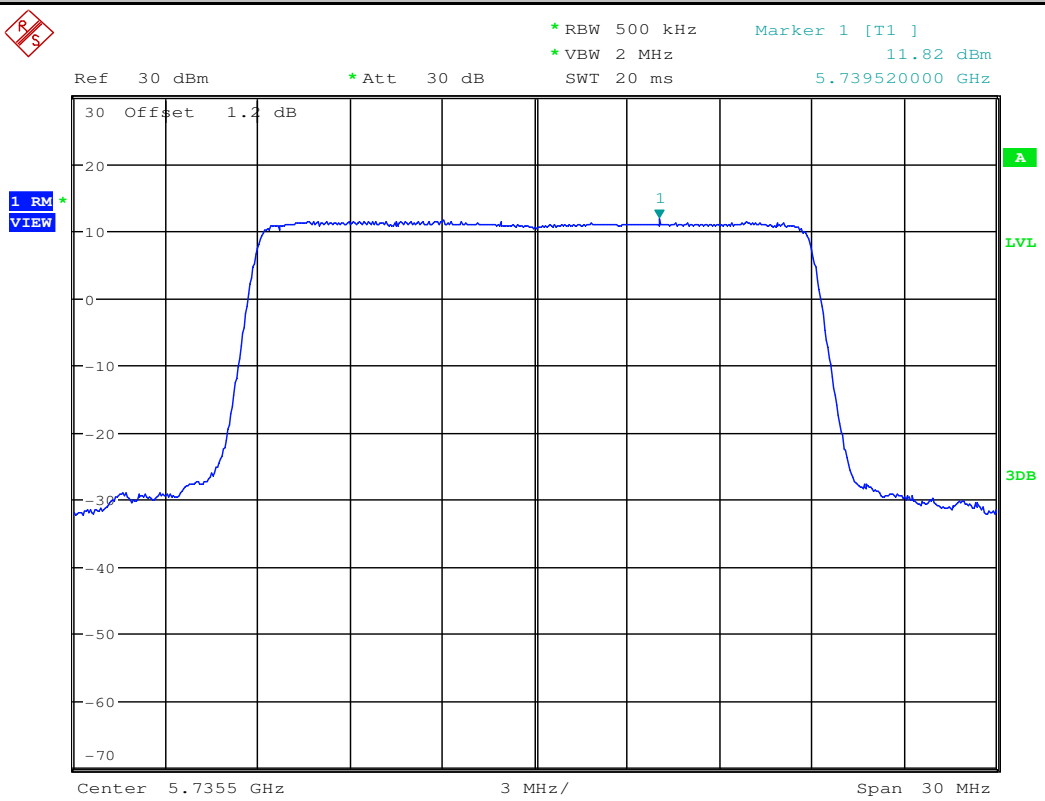
Maximum Power Spectral Density_TNVN_1.4MHz BW_5788.5_Ant1



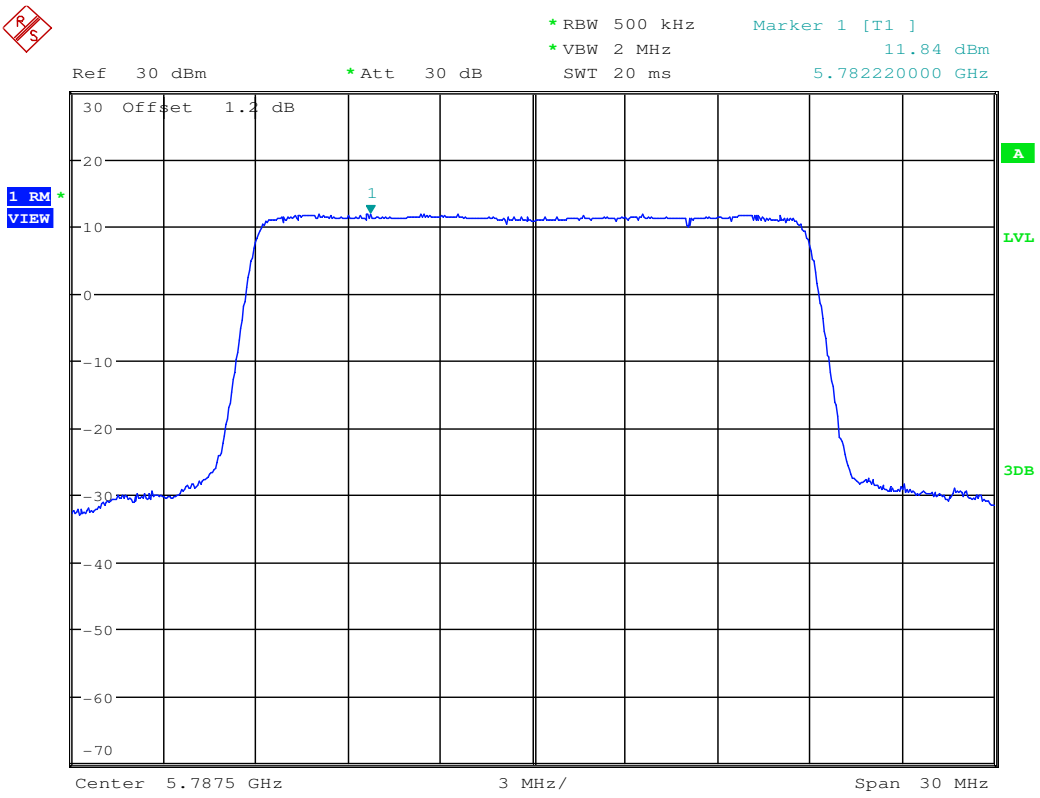
Maximum Power Spectral Density_TNVN_1.4MHz BW_5846.5_Ant1



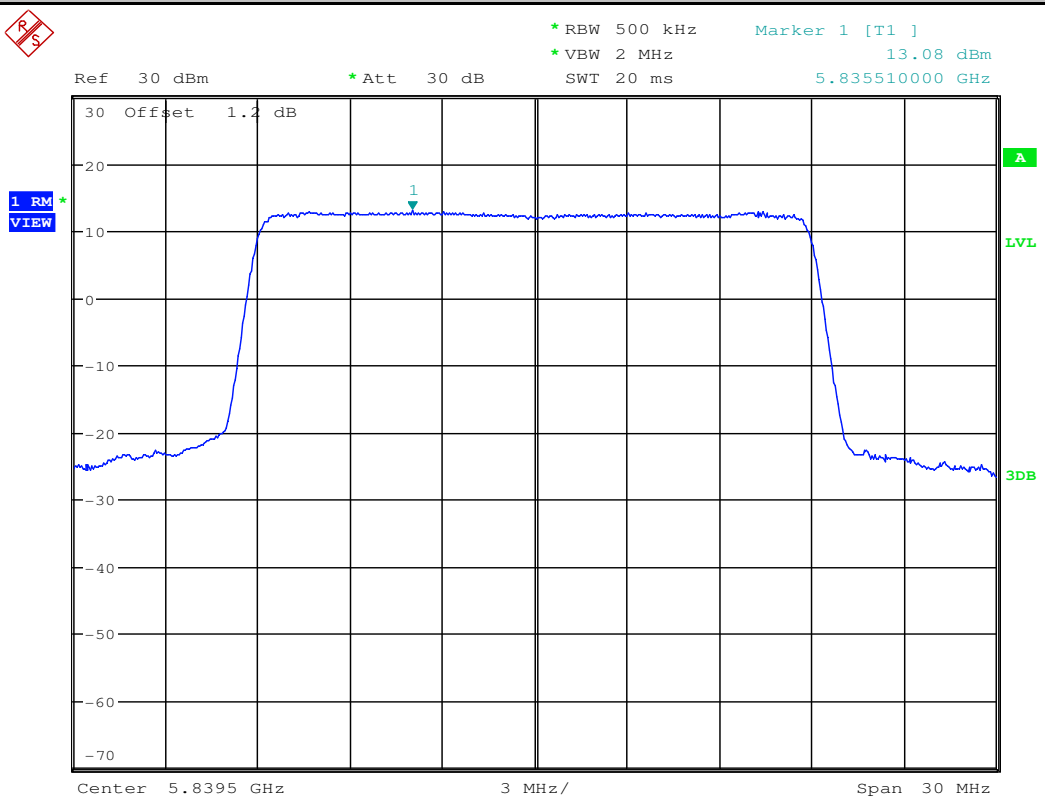
Maximum Power Spectral Density_TNVN_20MHz BW_5735.5_Ant1



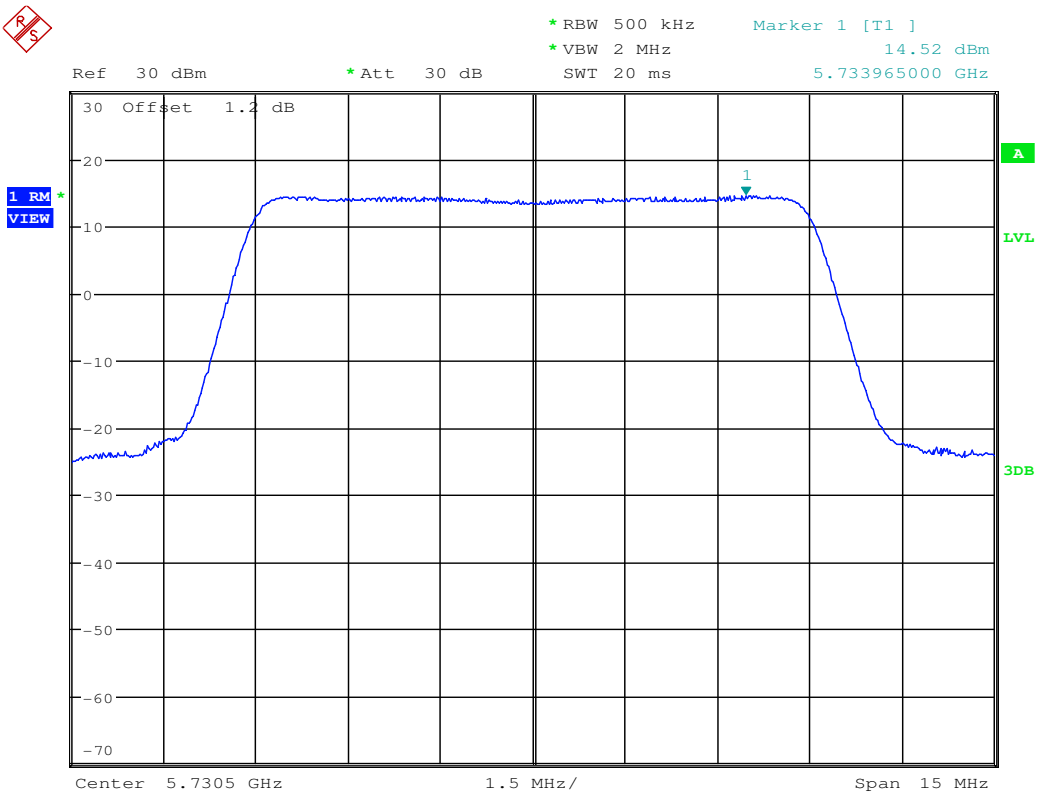
Maximum Power Spectral Density_TNVN_20MHz BW_5787.5_Ant1



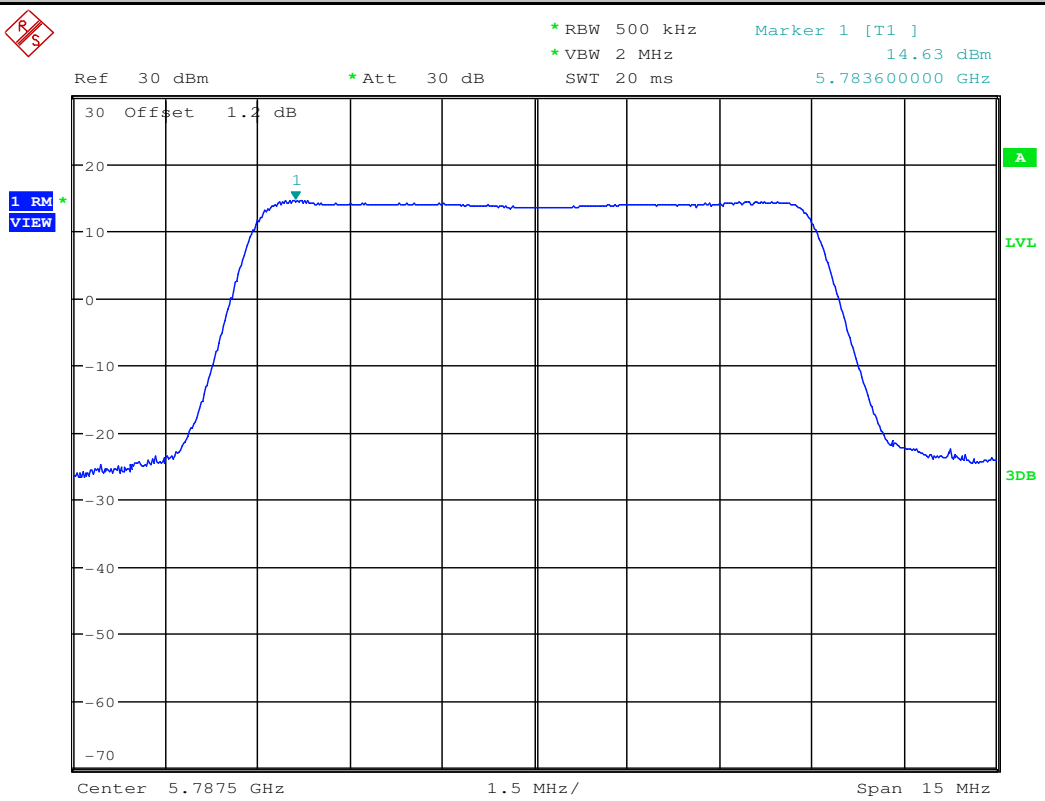
Maximum Power Spectral Density_TNVN_20MHz BW_5839.5_Ant1



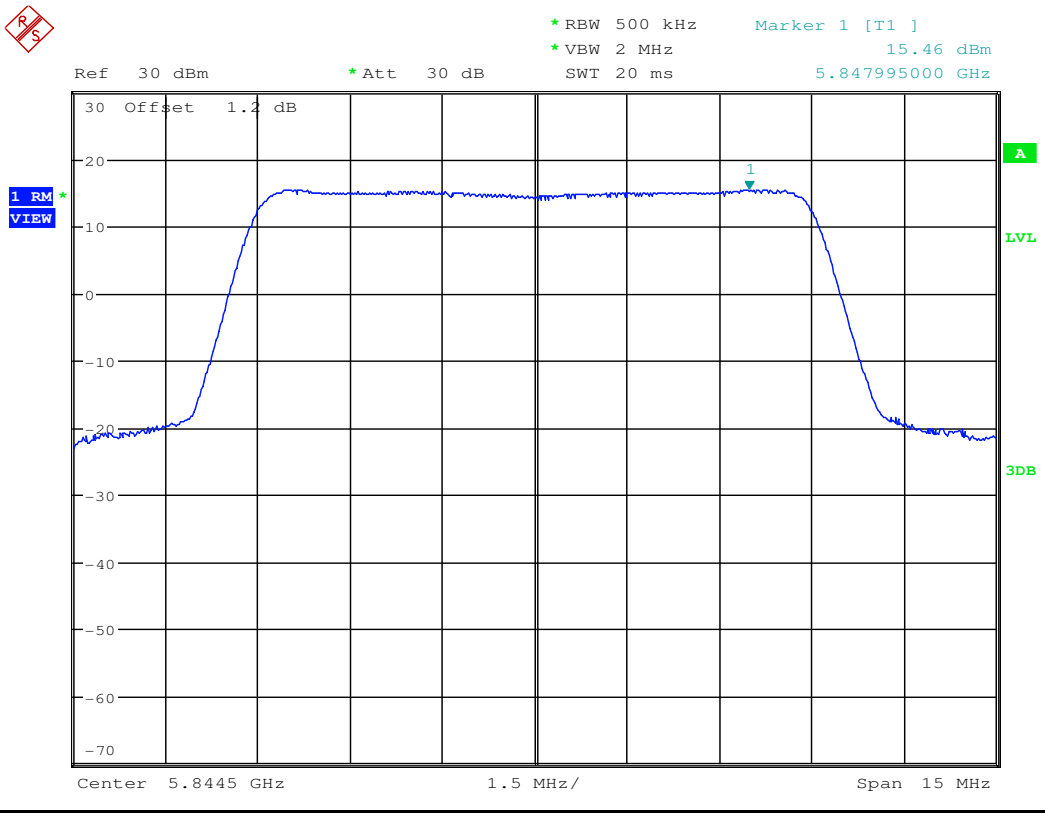
Maximum Power Spectral Density_TNVN_10MHz BW_5730.5_Ant1



Maximum Power Spectral Density_TNVN_10MHz BW_5787.5_Ant1



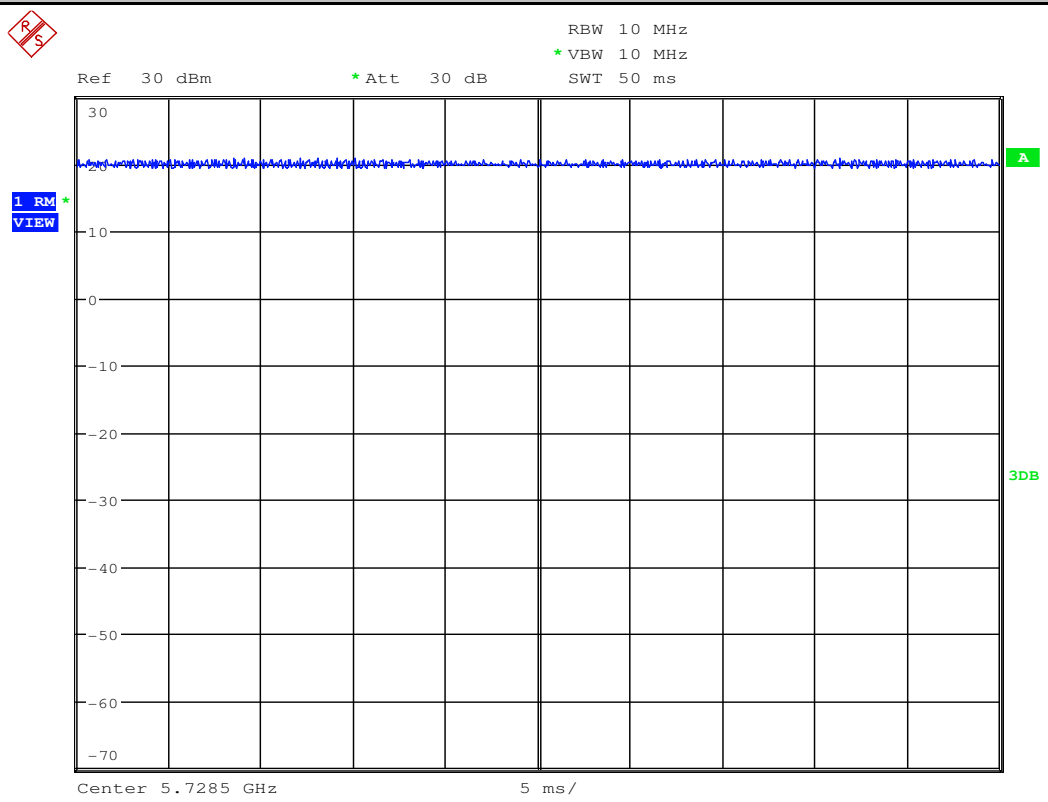
Maximum Power Spectral Density_TNVN_10MHz BW_5844.5_Ant1



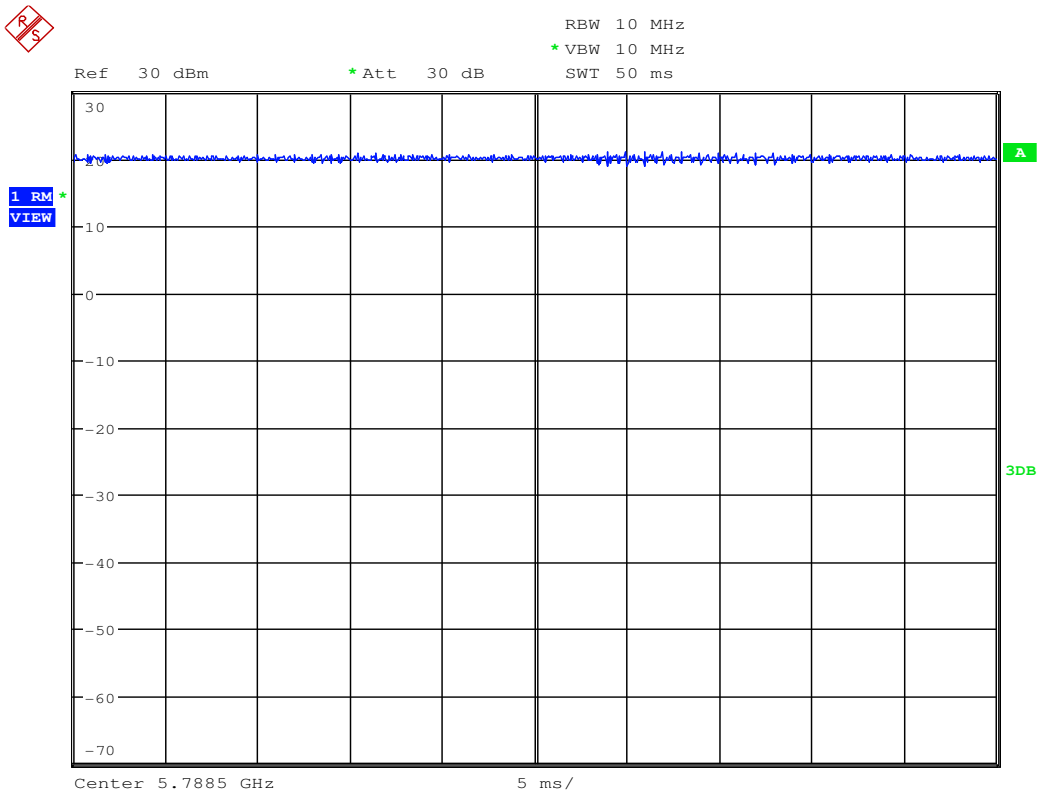
5.Duty Cycle (x)

Test Mode	Test Channel	Ant	Duty Cycle[%]	10log(1/x) Factor[dB]
1.4MHz BW	5728.5	Ant1	100	0
1.4MHz BW	5788.5	Ant1	100	0
1.4MHz BW	5846.5	Ant1	100	0
20MHz BW	5735.5	Ant1	100	0
20MHz BW	5787.5	Ant1	100	0
20MHz BW	5839.5	Ant1	100	0
10MHz BW	5730.5	Ant1	100	0
10MHz BW	5787.5	Ant1	100	0
10MHz BW	5844.5	Ant1	100	0

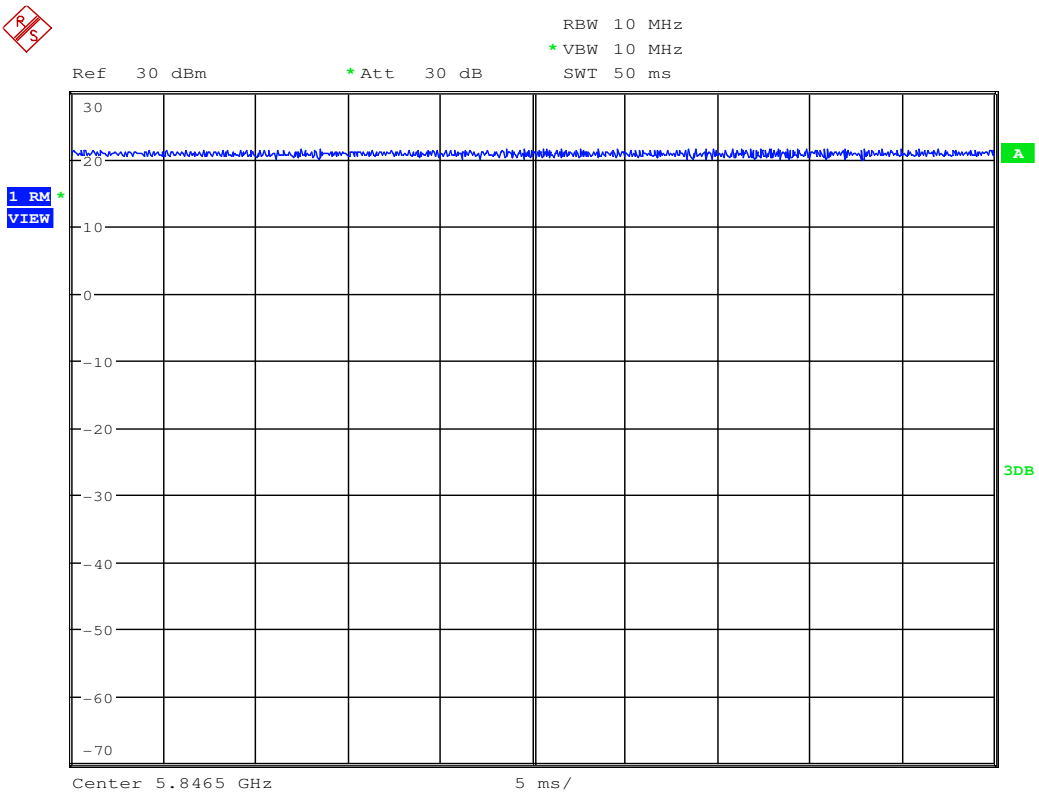
Duty Cycle_1.4MHz BW_5728.5_Ant1



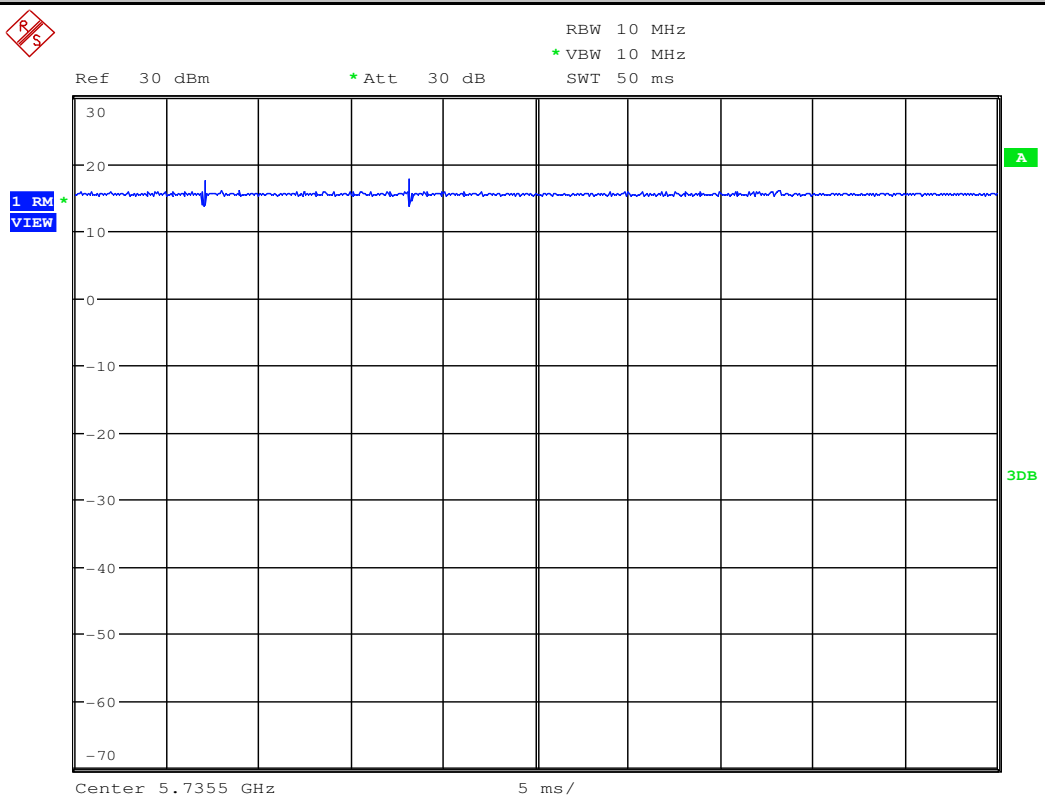
Duty Cycle_1.4MHz BW_5788.5_Ant1



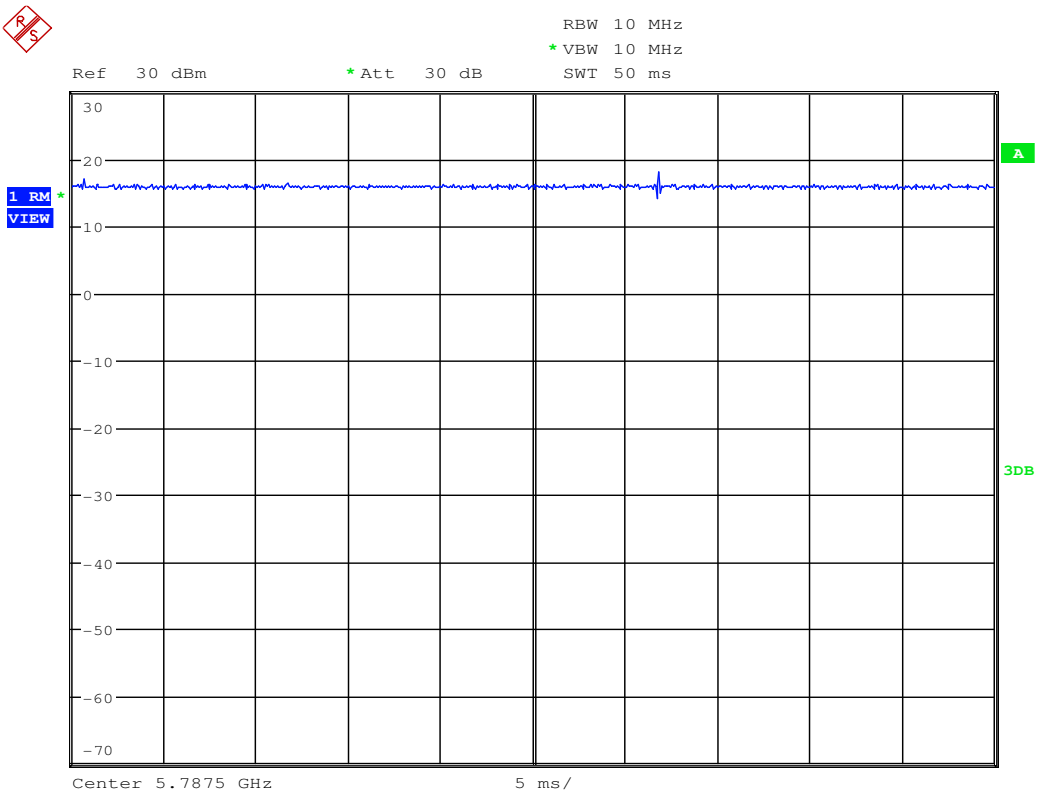
Duty Cycle_1.4MHz BW_5846.5_Ant1



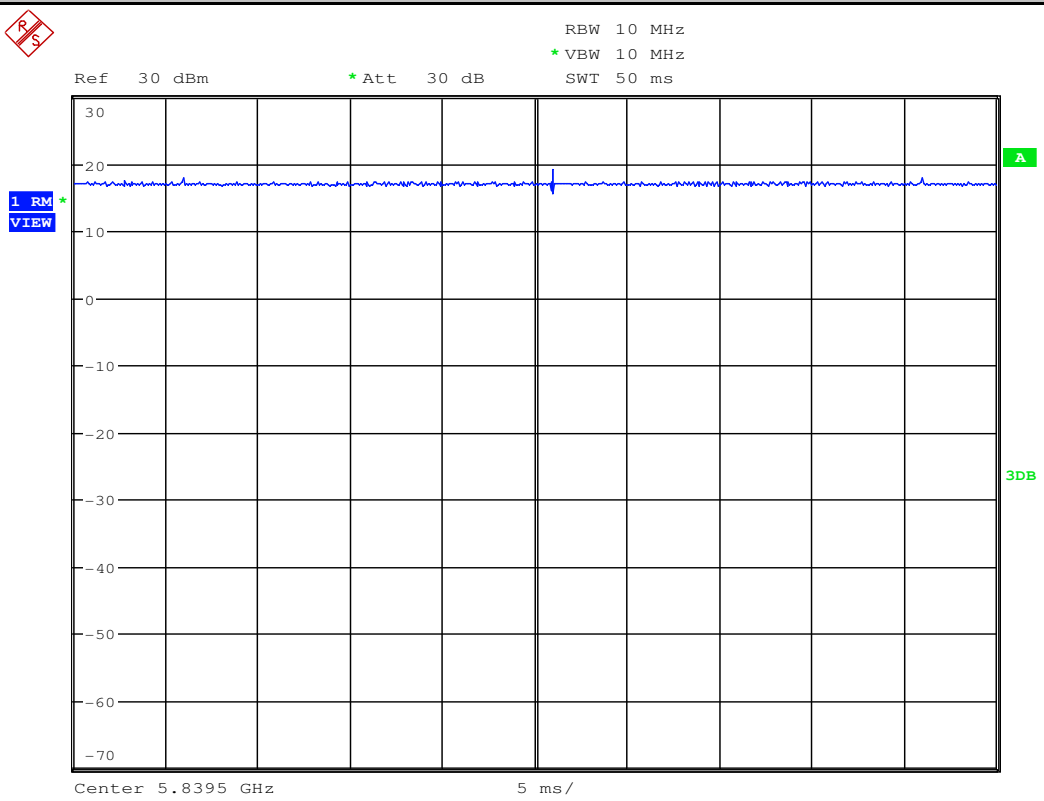
Duty Cycle_20MHz BW_5735.5_Ant1



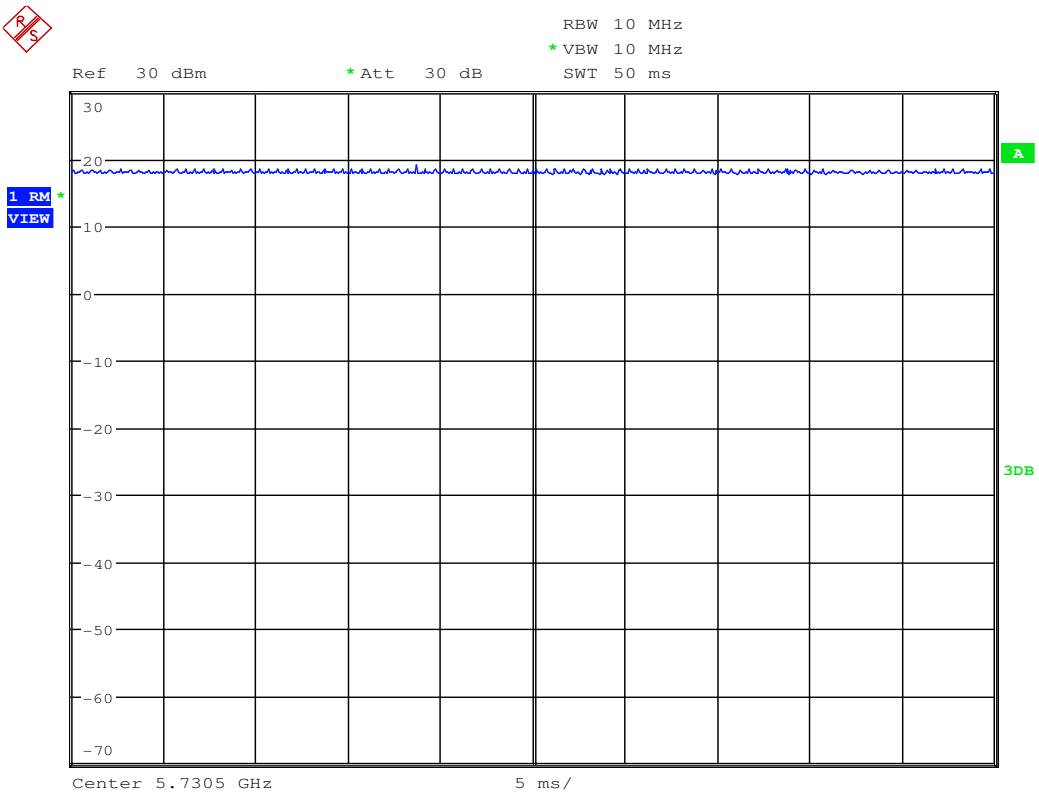
Duty Cycle_20MHz BW_5787.5_Ant1



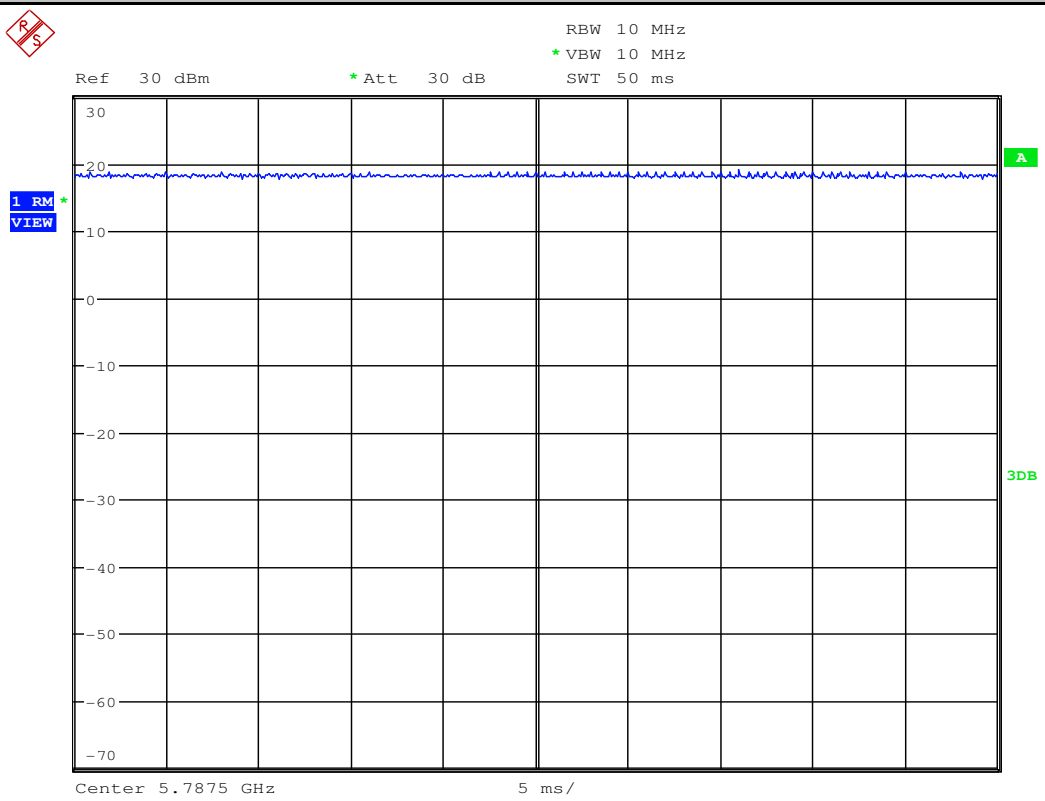
Duty Cycle_20MHz BW_5839.5_Ant1



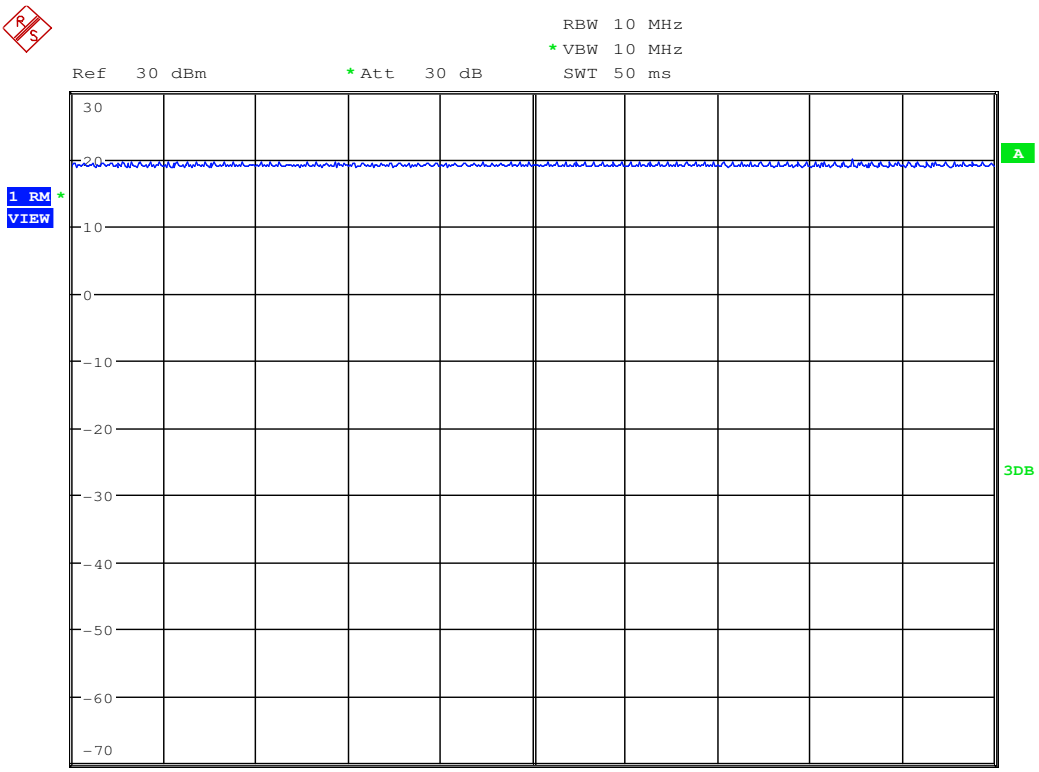
Duty Cycle_10MHz BW_5730.5_Ant1



Duty Cycle_10MHz BW_5787.5_Ant1



Duty Cycle_10MHz BW_5844.5_Ant1



- End of the Report -