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Shenzhen, Guangdong, China 518057

Telephone: +86 (0) 755 2601 2053 Report No.: SZEM180500417803

Fax: +86 (0) 755 2671 0594 Page: 1 of 84

TEST REPORT

Application No.: SZEM1805004178CR

Applicant: SZ DJI TECHNOLOGY CO., LTD

Address of Applicant: 14th floor, West Wing, Skyworth Semiconductor Design Building NO.18

Gaoxin South 4th Ave, Nanshan District, 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 Zoom

Model No.: L1Z Trade mark: DJI

FCC ID: SS3-L1Z1805 **IC:** 11805A-L1Z1805

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:
 2018-05-30

 Date of Issue:
 2018-06-15

Test Result: Pass*



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.

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



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

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



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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



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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 Lis	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 hi	ghlight frequer	ncies are chos	en to do all of	the test.			



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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		



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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		

4.2 Description of Support Units

The EUT has been tested as an independent unit.



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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	DE Dadiated news	± 4.5dB (below 1GHz)
/	RF Radiated power	± 4.8dB (above 1GHz)
8	Dedicted Cruvious emission test	± 4.5dB (Below 1GHz)
0	Radiated Spurious emission test	± 4.8dB (Above 1GHz)
9	Temperature test	± 1 ℃
10	Humidity test	± 3%
11	Supply voltages	± 1.5%
12	Time	± 3%



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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



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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	ZhaoXin RXN-305D SI		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					

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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					

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



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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				



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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.



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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.



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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

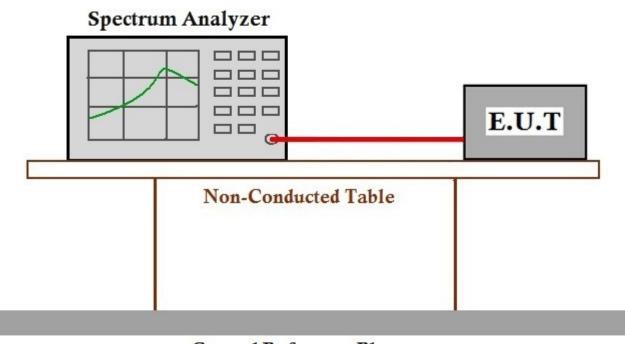
7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 25.1 °C Humidity: 58.9 % 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



Ground Reference Plane

7.1.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.407



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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

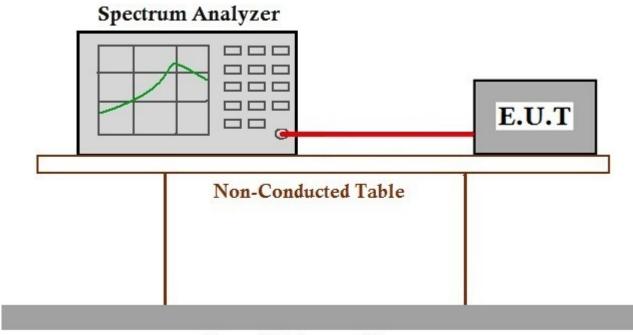
7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 25.1 °C Humidity: 58.9 % 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



Ground Reference Plane

7.2.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.407



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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 \leq 250mW(24dBm) or 11dBm+10logB* 5470-5725 Conducted power \leq 250mW(24dBm) or 11dBm+10logB*

5725-5850 Conducted power $\leq 1W(30dBm)$

Remark: * Where B is the 26dB emission bandwidth in MHz.

Frequency band(MHz) Limit (Canada IC)

5150-5250 e.i.r.p. \leq 200mW(23dBm) or 10 + 10logB*

5250-5350 Conducted power ≤ 250mW(24dBm) or 11dBm+10logB*

e.i.r.p. $\leq 1W(30dBm)$ or $17 + 10logB^*$

5470-5725 Conducted power ≤ 250mW(24dBm) or 11dBm+10logB*

e.i.r.p. $\leq 1W(30dBm)$ or $17 + 10logB^*$

5725-5850 Conducted power $\leq 1W(30dBm)$

Remark: * Where B is the 99% emission bandwidth in MHz.

7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 25.1 °C Humidity: 58.9 % RH Atmospheric Pressure: 1010 mbar

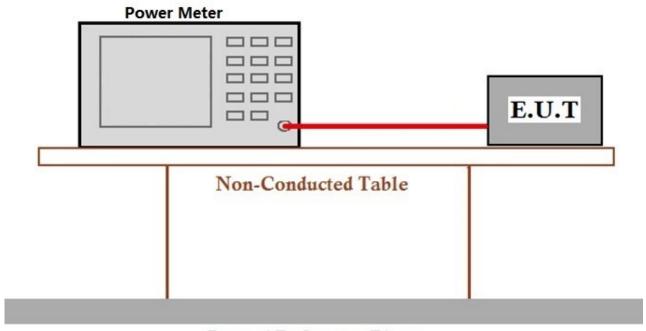
Test mode b:TX mode_Keep the EUT in continuously transmitting mode with modulation.



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7.3.2 Test Setup Diagram



Ground Reference Plane

7.3.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.407



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7.4 Peak Power spectrum density

Test Requirement 47 CFR Part 15, Subpart E 15.407 (a); RSS-247 Section 6.2

Test Method: ANSI C63.10 Section 12.5

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 $\leq 11 dBm/MHz$ 5470-5725 $\leq 11 dBm/MHz$ 5725-5850 $\leq 30 dBm/500kHz$

7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 25.1 °C Humidity: 58.9 % 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

Spectrum Analyzer E.U.T Non-Conducted Table

Ground Reference Plane

7.4.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.407

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7.5 Radiated Emissions

Test Requirement 47 CFR Part 15, Subpart E 15.209 & 15.407(b); RSS-247 Section 3.3

& 6.2 & RSS-Gen Section 8.9

Test Method: ANSI C63.10 Section 12.7.3

Measurement Distance: 3n

Limit:

For transmitters operating in the 5.15-5.25 GHz band:

For transmitters operating in the 5.25-5.35 GHz band:

For transmitters operating in the 5.47-5.725 GHz band:

For transmitters operating in the 5.725-5.85 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.

All emissions outside of the 5.15-5.35 GHz band shall not exceed an

e.i.r.p. of –27 dBm/MHz.

All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(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: 25.2 °C Humidity: 54.2 % RH Atmospheric Pressure: 1015 mbar

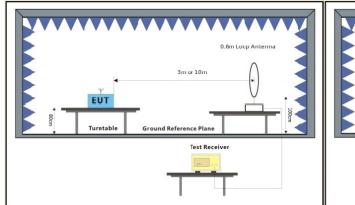
Test mode b:TX mode_Keep the EUT in continuously transmitting mode with modulation.

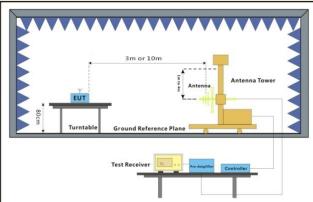


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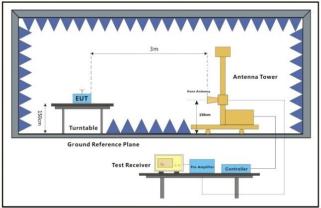
7.5.2 Test Setup Diagram





Below 30MHz

30MHz-1GHz



Above 1GHz



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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:

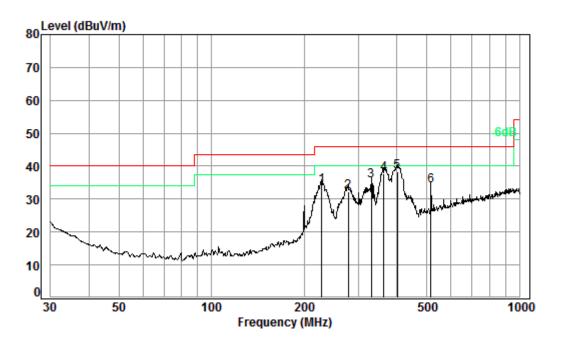
- 1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
- 2. For emission below 1GHz, pre-test was performed on each mode at the lowest, middle and highest channel, and found 1.4MHz BW mode at the middle channel is the worst case. So, only the data of that case is recorded in the report.
-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



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



Condition: 3m HORIZONTAL

Job No. : 04178CR

Test mode: b

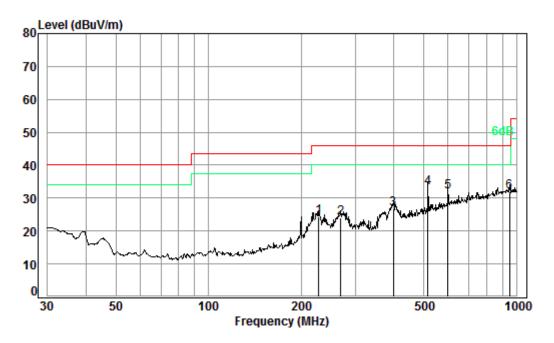
	Freq			Preamp Factor				Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	228.49	1.56	17.90	27.53	42.07	34.00	46.00	-12.00
2	278.07	1.81	18.83	27.54	39.25	32.35	46.00	-13.65
3	330.19	2.00	20.53	27.60	40.63	35.56	46.00	-10.44
4	362.98	2.10	21.45	27.67	41.80	37.68	46.00	-8.32
5 p	p 401.84	2.21	22.45	27.73	41.50	38.43	46.00	-7.57
6	515.44	2.62	24.93	27.85	34.28	33.98	46.00	-12.02



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



Condition: 3m VERTICAL Job No. : 04178CR

Test mode: b

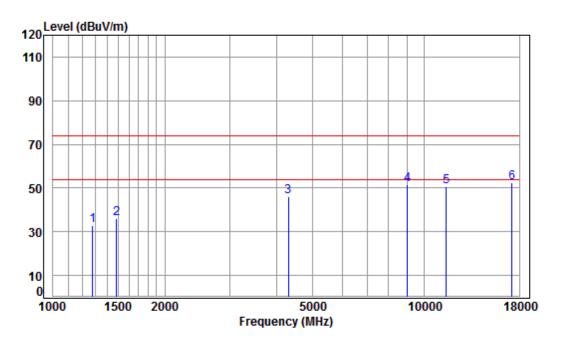
	Freq			Preamp Factor				Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	227.69	1.56	17.83	27.53	32.33	24.19	46.00	-21.81
2	268.49	1.76	18.97	27.54	30.95	24.14	46.00	-21.86
3	399.03	2.20	22.38	27.73	30.06	26.91	46.00	-19.09
4 pp	515.44	2.62	24.93	27.85	33.33	33.03	46.00	-12.97
5	599.32	2.70	26.59	27.70	30.41	32.00	46.00	-14.00
6	948.76	3.65	30.05	26.92	25.27	32.05	46.00	-13.95



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



Condition: 3m HORIZONTAL

Job No : 04178CR

Mode : 5728.5 TX RSE

Note: 1.4M ANT1

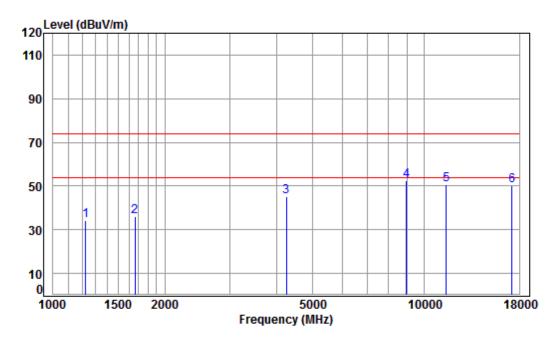
		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
									
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1278.492	4 72	24 93	<i>I</i> 11 25	44 53	32 93	74 00	-41 07	neak
2									•
									•
	8995.123								•
	11457.000								•
	pp17185.500								•



Report No.: SZEM180500417803

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



Condition: 3m VERTICAL

Job No : 04178CR

Mode : 5728.5 TX RSE

Note: 1.4M ANT1

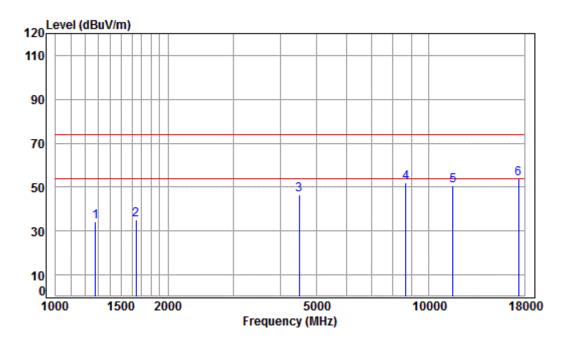
ote	: 1.4	MANII							
		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1224.247	4.51	24.70	41.20	46.02	34.03	74.00	-39.97	peak
2	1663.137	5.27	26.52	41.51	45.80	36.08	74.00	-37.92	peak
3	4242.641	7.27	33.15	42.37	46.96	45.01	74.00	-28.99	peak
4 p	op 8943.274	10.39	37.18	38.70	43.68	52.55	74.00	-21.45	peak
5	11457.000	12.10	37.89	38.17	38.64	50.46	74.00	-23.54	peak
6	17185.500	16.29	42.71	40.44	31.66	50.22	74.00	-23.78	neak



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



Condition: 3m HORIZONTAL

Job No : 04178CR

Mode : 5788.5 TX RSE

Note : 1.4M ANT1

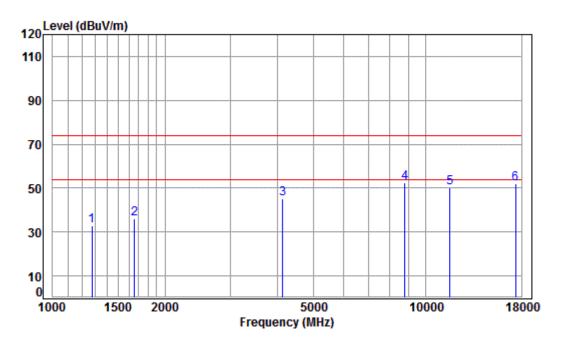
		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1278.492	4.72	24.93	41.25	45.72	34.12	74.00	-39.88	peak
2	1644.019	5.30	26.44	41.50	45.08	35.32	74.00	-38.68	peak
3	4495.125	7.55	33.59	42.42	47.88	46.60	74.00	-27.40	peak
4	8663.404	10.31	37.07	39.13	43.62	51.87	74.00	-22.13	peak
	11575.000								•
	pp17362.500								•



Report No.: SZEM180500417803

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



Condition: 3m VERTICAL

Job No : 04178CR

Mode : 5788.5 TX RSE

Note : 1.4M ANT1

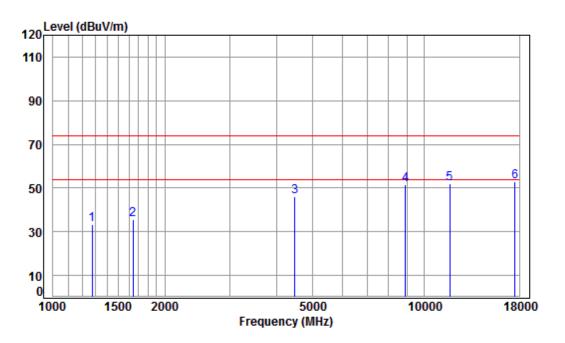
ote	. 1.4	ANII T								
		Cable	Ant	Preamp	Read		Limit	0ver		
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
										_
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	1274.802	4.71	24.92	41.24	44.66	33.05	74.00	-40.95	peak	
2	1658.337	5.28	26.50	41.51	45.98	36.25	74.00	-37.75	peak	
3	4133.699	7.14	32.95	42.35	47.53	45.27	74.00	-28.73	peak	
4	pp 8764.146	10.34	37.11	38.97	43.91	52.39	74.00	-21.61	peak	
5	11575.000	12.17	37.87	38.24	38.57	50.37	74.00	-23.63	peak	
6	17362.500	15.90	42.82	40.59	34.01	52.14	74.00	-21.86	peak	



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



Condition: 3m HORIZONTAL

Job No : 04178CR

Mode : 5846.5 TX RSE

Note: 1.4M ANT1

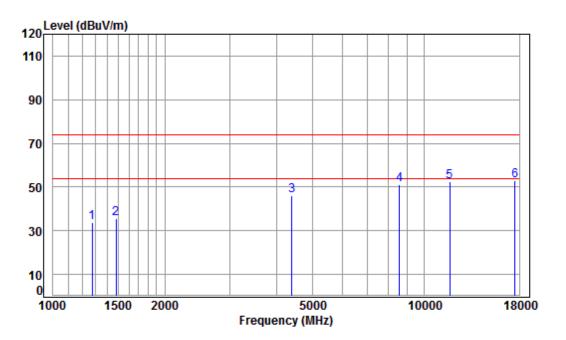
		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1274.802	4.71	24.92	41.24	44.82	33.21	74.00	-40.79	peak
2	1644.019	5.30	26.44	41.50	45.27	35.51	74.00	-38.49	peak
3	4482.150	7.54	33.57	42.41	47.59	46.29	74.00	-27.71	peak
4	8891.725	10.37	37.16	38.78	42.76	51.51	74.00	-22.49	peak
5	11693.000	12.21	37.82	38.32	40.49	52.20	74.00	-21.80	peak
6	pp17539.500	15.64	42.95	40.73	35.23	53.09	74.00	-20.91	peak



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



Condition: 3m VERTICAL

Job No : 04178CR

Mode : 5846.5 TX RSE

Note: 1.4M ANT1

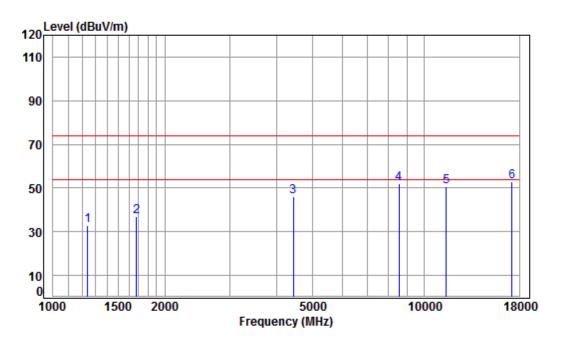
		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1274.802	4.71	24.92	41.24	45.24	33.63	74.00	-40.37	peak
2	1477.276	5.41	25.72	41.39	46.02	35.76	74.00	-38.24	peak
3	4392.376	7.44	33.42	42.40	47.76	46.22	74.00	-27.78	peak
4	8563.818	10.29	37.03	39.28	43.02	51.06	74.00	-22.94	peak
5	11693.000	12.21	37.82	38.32	40.83	52.54	74.00	-21.46	peak
6	pp17539.500	15.64	42.95	40.73	35.22	53.08	74.00	-20.92	peak



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



Condition: 3m HORIZONTAL

Job No : 04178CR

Mode : 5730.5 TX RSE

Note: 10M ANT1

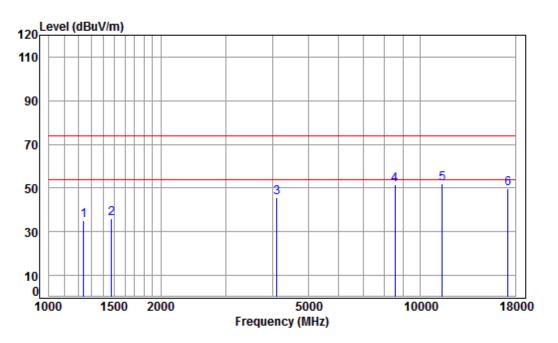
OLE	5 : TOM	ANII							
		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1238.483	4.57	24.76	41.21	44.75	32.87	74.00	-41.13	peak
2	1677.621	5.25	26.58	41.52	46.66	36.97	74.00	-37.03	peak
3	4430.628	7.48	33.48	42.41	47.73	46.28	74.00	-27.72	peak
4	8539.102	10.28	37.02	39.32	43.92	51.90	74.00	-22.10	peak
5	11461.000	12.10	37.89	38.17	38.85	50.67	74.00	-23.33	peak
6	pp17191_500	16.28	42.72	49 44	34 33	52.89	74.00	-21.11	neak



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



Condition: 3m VERTICAL

Job No : 04178CR

Mode : 5730.5 TX RSE

Note : 10M ANT1

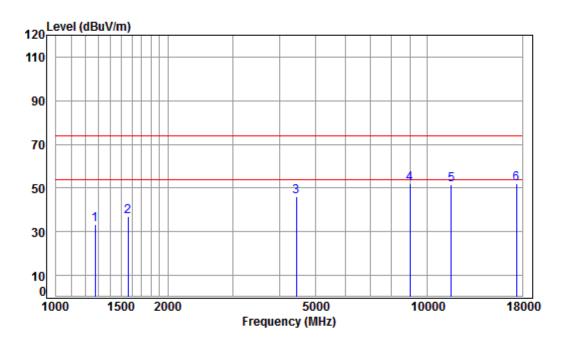
OLE	3 : 10M	ANII							
		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1238.483	4.57	24.76	41.21	46.99	35.11	74.00	-38.89	peak
2	1473.013	5.39	25.70	41.39	46.13	35.83	74.00	-38.17	peak
3	4109.872	7.11	32.91	42.35	47.97	45.64	74.00	-28.36	peak
4	8539.102	10.28	37.02	39.32	43.52	51.50	74.00	-22.50	peak
5	pp11461.000								
6	17191 500	16.28	42.72	49 44	31.20	49.76	74 00	-24 24	neak



Report No.: SZEM180500417803

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



Condition: 3m HORIZONTAL

Job No : 04178CR

Mode : 5787.5 TX RSE

Note : 10M ANT1

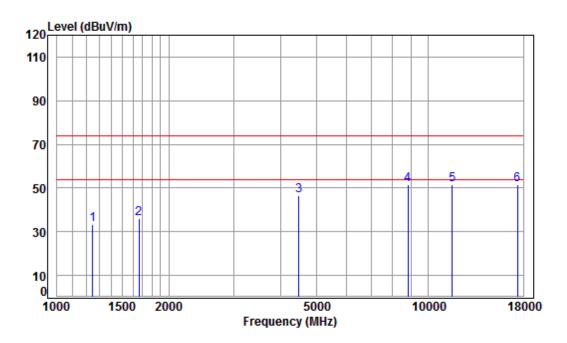
		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1274.802	4.71	24.92	41.24	45.06	33.45	74.00	-40.55	peak
2	1565.191	5.39	26.10	41.45	46.84	36.88	74.00	-37.12	peak
3	4430.628	7.48	33.48	42.41	47.62	46.17	74.00	-27.83	peak
4	8969.161	10.39	37.19	38.66	42.96	51.88	74.00	-22.12	peak
5	11575.000	12.17	37.87	38.24	39.60	51.40	74.00	-22.60	peak
6	pp17362.500	15.90	42.82	40.59	33.93	52.06	74.00	-21.94	peak



Report No.: SZEM180500417803

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



Condition: 3m VERTICAL

Job No : 04178CR

Mode : 5787.5 TX RSE

Note : 10M ANT1

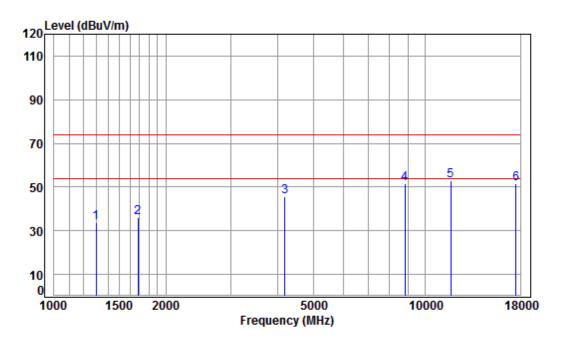
OLE	: 10M	ANII							
		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1249.269	4.61	24.81	41.22	44.95	33.15	74.00	-40.85	peak
2	1663.137	5.27	26.52	41.51	45.66	35.94	74.00	-38.06	peak
3	4482.150	7.54	33.57	42.41	47.72	46.42	74.00	-27.58	peak
4	8789.516	10.35	37.12	38.93	43.12	51.66	74.00	-22.34	peak
5	pp11575.000	12.17	37.87	38.24	39.86	51.66	74.00	-22.34	peak
6	17362 500	15.90	42 82	40.59	33.30	51.43	74 00	-22.57	neak



Report No.: SZEM180500417803

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



Condition: 3m HORIZONTAL

Job No : 04178CR

Mode : 5844.5 TX RSE

Note: 10M ANT1

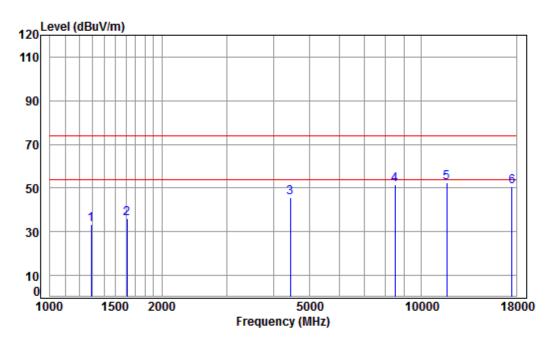
		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1297.103	4.79	25.01	41.26	45.29	33.83	74.00	-40.17	peak
2	1682.477	5.25	26.60	41.52	45.62	35.95	74.00	-38.05	peak
3	4181.768	7.20	33.04	42.36	47.62	45.50	74.00	-28.50	peak
4	8789.516	10.35	37.12	38.93	42.81	51.35	74.00	-22.65	peak
5	pp11689.000	12.21	37.82	38.31	41.08	52.80	74.00	-21.20	peak
6	17533.500	15.64	42.94	40.73	33.70	51.55	74.00	-22.45	peak



Report No.: SZEM180500417803

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



Condition: 3m VERTICAL

Job No : 04178CR

Mode : 5844.5 TX RSE

Note : 10M ANT1

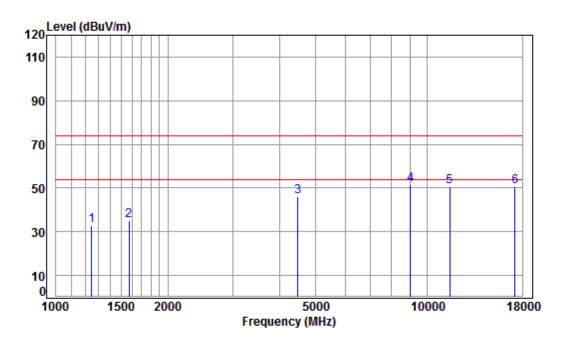
OLE	: 10M	ANII							
		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1289.627	4.76	24.98	41.25	44.80	33.29	74.00	-40.71	peak
2	1611.091	5.34	26.30	41.48	46.06	36.22	74.00	-37.78	peak
3	4443.453	7.50	33.50	42.41	47.26	45.85	74.00	-28.15	peak
4	8489.882	10.26	36.99	39.40	43.62	51.47	74.00	-22.53	peak
5	pp11689.000	12.21	37.82	38.31	40.61	52.33	74.00	-21.67	peak
6	17533.500	15.64	42 94	40.73	32.70	50.55	74 00	-23.45	neak



Report No.: SZEM180500417803

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



Condition: 3m HORIZONTAL

Job No : 04178CR

Mode : 5735.5 TX RSE

Note : 20M ANT1

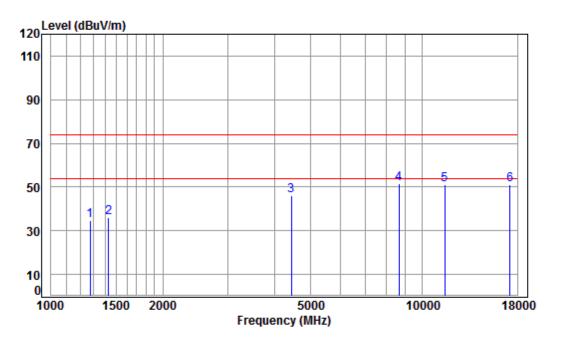
ote	: 2014	ANII							
		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1249.269	4.61	24.81	41.22	44.81	33.01	74.00	-40.99	peak
2	1574.265	5.38	26.14	41.45	45.29	35.36	74.00	-38.64	peak
3	4482.150	7.54	33.57	42.41	47.57	46.27	74.00	-27.73	peak
4 p	p 8995.123	10.40	37.20	38.62	42.45	51.43	74.00	-22.57	peak
5	11471.000	12.11	37.89	38.18	38.96	50.78	74.00	-23.22	peak
6	17206.500	16.25	42.72	49.46	32.31	50.82	74 00	-23.18	neak



Report No.: SZEM180500417803

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



Condition: 3m VERTICAL

Job No : 04178CR

Mode : 5735.5 TX RSE

Note : 20M ANT1

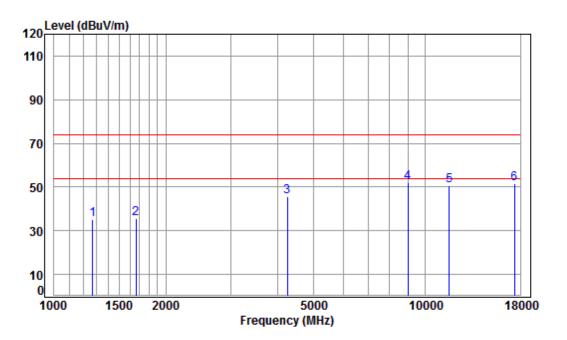
ote	: 2014	ANII							
		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1274.802	4.71	24.92	41.24	46.16	34.55	74.00	-39.45	peak
2	1431.047	5.26	25.54	41.36	46.69	36.13	74.00	-37.87	peak
3	4430.628	7.48	33.48	42.41	47.53	46.08	74.00	-27.92	peak
4 p	p 8638.399	10.31	37.06	39.17	43.33	51.53	74.00	-22.47	peak
5	11471.000	12.11	37.89	38.18	39.09	50.91	74.00	-23.09	peak
6	17206, 500	16.25	42.72	49.46	32.40	50.91	74 00	-23.09	neak



Report No.: SZEM180500417803

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



Condition: 3m HORIZONTAL

Job No : 04178CR

Mode : 5787.5 TX RSE

Note: 20M ANT1

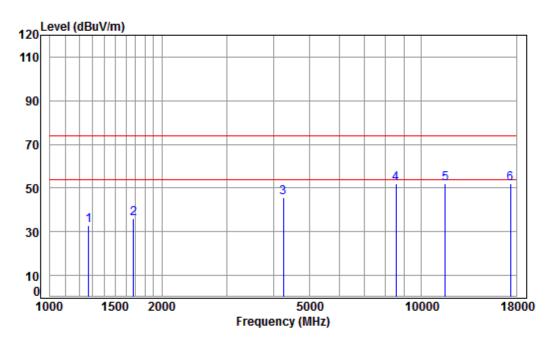
		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1271.123	4.69	24.90	41.24	46.68	35.03	74.00	-38.97	peak
2	1663.137	5.27	26.52	41.51	45.42	35.70	74.00	-38.30	peak
3	4254.921	7.28	33.17	42.37	47.34	45.42	74.00	-28.58	peak
4	pp 8969.161	10.39	37.19	38.66	42.93	51.85	74.00	-22.15	peak
5	11575.000	12.17	37.87	38.24	38.63	50.43	74.00	-23.57	peak
6	17362.500	15.90	42.82	40.59	33.45	51.58	74.00	-22.42	peak



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



Condition: 3m VERTICAL

Job No : 04178CR

Mode : 5787.5 TX RSE

Note: 20M ANT1

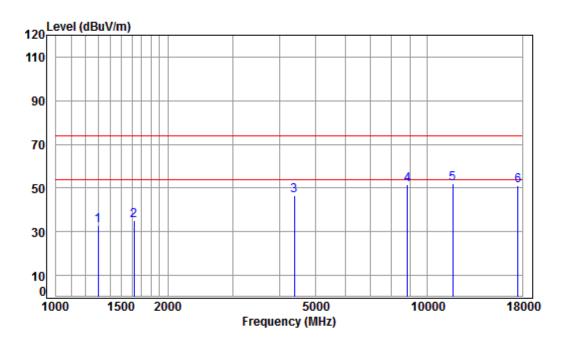
		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1271.123	4.69	24.90	41.24	44.59	32.94	74.00	-41.06	peak
2	1677.621	5.25	26.58	41.52	45.83	36.14	74.00	-37.86	peak
3	4254.921	7.28	33.17	42.37	47.42	45.50	74.00	-28.50	peak
4	pp 8539.102								
5	11575.000	12.17	37.87	38.24	40.32	52.12	74.00	-21.88	peak
6	17362.500	15.90	42.82	40.59	33.97	52.10	74.00	-21.90	peak



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



Condition: 3m HORIZONTAL

Job No : 04178CR

Mode : 5839.5 TX RSE

Note: 20M ANT1

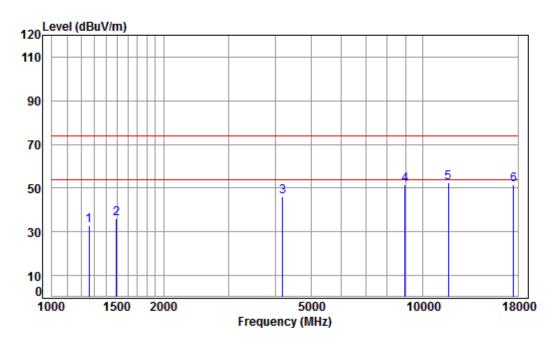
		Cable	Ant	Preamp	Read		Limit	0ver		
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
										_
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	1300.858	4.80	25.03	41.26	44.34	32.91	74.00	-41.09	peak	
2	1620.431	5.32	26.34	41.48	45.06	35.24	74.00	-38.76	peak	
3	4379.699	7.43	33.39	42.40	47.96	46.38	74.00	-27.62	peak	
4	8840.473	10.36	37.14	38.86	42.98	51.62	74.00	-22.38	peak	
5	pp11679.000	12.21	37.83	38.31	40.36	52.09	74.00	-21.91	peak	
6	17518.500	15.62	42.92	40.71	33.27	51.10	74.00	-22.90	peak	



Report No.: SZEM180500417803

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



Condition: 3m VERTICAL

Job No : 04178CR

Mode : 5839.5 TX RSE

Note : 20M ANT1

OL	e : 20M	ANII								
		Cable	Ant	Preamp	Read		Limit	0ver		
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	1260.149	4.65	24.85	41.23	44.68	32.95	74.00	-41.05	peak	
2	1494.455	5.46	25.78	41.40	46.24	36.08	74.00	-37.92	peak	
3	4181.768	7.20	33.04	42.36	47.98	45.86	74.00	-28.14	peak	
4	8943.274	10.39	37.18	38.70	42.50	51.37	74.00	-22.63	peak	
5	pp11679.000	12.21	37.83	38.31	40.77	52.50	74.00	-21.50	peak	
6	17518 500	15 62	42 92	49 71	33 90	51 73	74 00	-22 27	neak	



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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.



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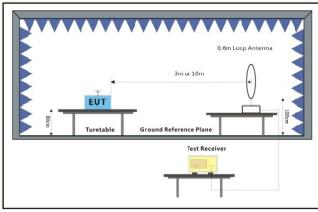
7.6.1 E.U.T. Operation

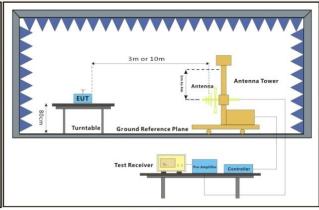
Operating Environment:

Temperature: 25.6 °C Humidity: 56.4 % RH Atmospheric Pressure: 1010 mbar

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

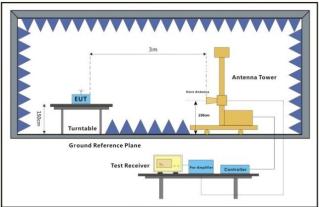
7.6.2 Test Setup Diagram





Below 30MHz

30MHz-1GHz



Above 1GHz



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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.

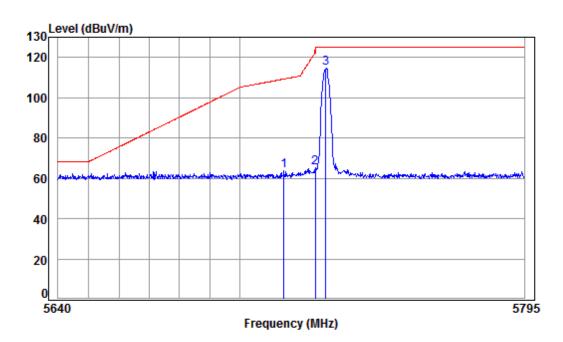
Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor



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



Condition: 3m HORIZONTAL

Job No : 04178CR

Mode : 5728.5 Band edge

Note: 1.4M ANT1

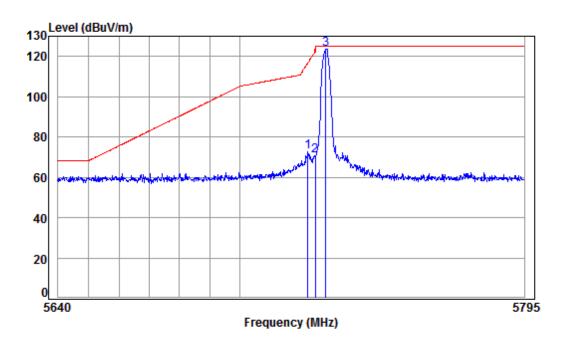
ote	: 1.4	M ANII								
		Cable	Ant	Preamp	Read		Limit	0ver		
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
	•									
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	5714.495	9.61	34.82	41.85	61.03	63.61	109.26	-45.65	Peak	
2	5725.000	9.64	34.83	41.84	62.65	65.28	125.20	-59.92	Peak	
3	pp 5728.500	9.66	34.83	41.83	111.96	114.62	125.20	-10.58	Peak	



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



Condition: 3m VERTICAL

Job No : **04178**CR

Mode : 5728.5 Band edge

Note: 1.4M ANT1

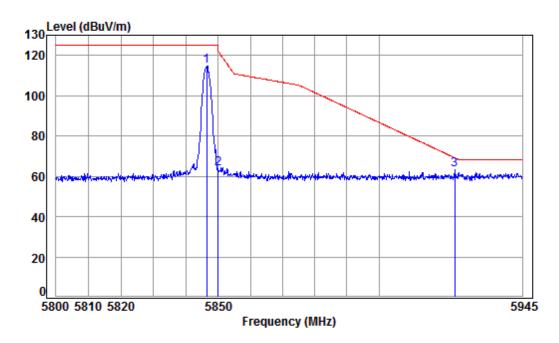
	Cable	Ant	Preamp	Read		Limit	0ver	
Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
5722.557	9.63	34.83	41.84	70.19	72.81	116.63	-43.82	Peak
5725.000	9.64	34.83	41.84	68.24	70.87	125.20	-54.33	Peak
op 5728.500	9.66	34.83	41.83	121.09	123.75	125.20	-1.45	Peak
	MHz 5722.557 5725.000	Freq Loss MHz dB 5722.557 9.63 5725.000 9.64	Freq Loss Factor MHz dB dB/m 5722.557 9.63 34.83 5725.000 9.64 34.83	Freq Loss Factor Factor MHz dB dB/m dB 5722.557 9.63 34.83 41.84 5725.000 9.64 34.83 41.84	Freq Loss Factor Factor Level MHz dB dB/m dB dBuV 5722.557 9.63 34.83 41.84 70.19 5725.000 9.64 34.83 41.84 68.24	Freq Loss Factor Factor Level Level MHz dB dB/m dB dBuV dBuV/m 5722.557 9.63 34.83 41.84 70.19 72.81 5725.000 9.64 34.83 41.84 68.24 70.87	Freq Loss Factor Factor Level Level Level Line MHz dB dB/m dB dBuV dBuV/m dBuV/m 5722.557 9.63 34.83 41.84 70.19 72.81 116.63 5725.000 9.64 34.83 41.84 68.24 70.87 125.20	



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



Condition: 3m HORIZONTAL

Job No : 04178CR

Mode : 5846.5 Band edge

Note

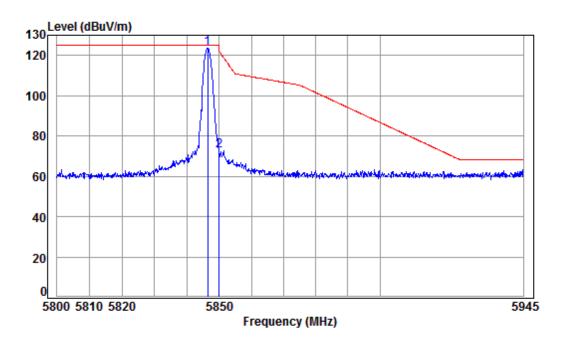
ote	2	: 1.4	M ANI1								
			Cable	Ant	Preamp	Read		Limit	0ver		
		Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
	_	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		_
							-	-			
1		5846.500	10.06	34.95	41.73	111.25	114.53	125.20	-10.67	Peak	
2		5850.000	10.07	34.95	41.73	60.46	63.75	122.08	-58.33	Peak	
3	pp	5923.752	10.32	35.03	41.67	59.68	63.36	69.12	-5.76	Peak	



Report No.: SZEM180500417803

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



Condition: 3m VERTICAL

Job No : 04178CR

Mode : 5846.5 Band edge

Note: 1.4M ANT1

Cable Ant Preamp Read Limit 0ver Freq Loss Factor Factor Level Level Line Limit Remark MHz dΒ dBuV dBuV/m dBuV/m dB dB dB/m

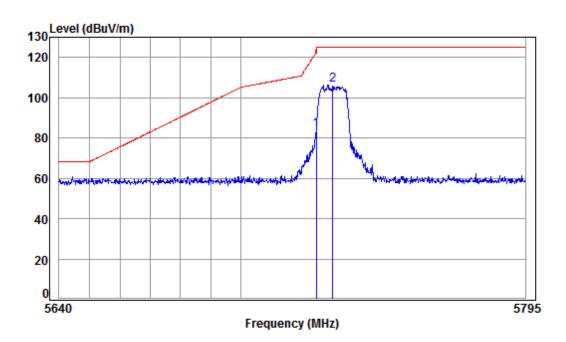
1 pp 5846.500 10.06 34.95 41.73 120.37 123.65 125.20 -1.55 Peak 2 5850.000 10.07 34.95 41.73 69.27 72.56 122.08 -49.52 Peak



Report No.: SZEM180500417803

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



Condition: 3m HORIZONTAL

Job No : 04178CR

Mode : 5730.5 Band edge

Note : 10M ANT1

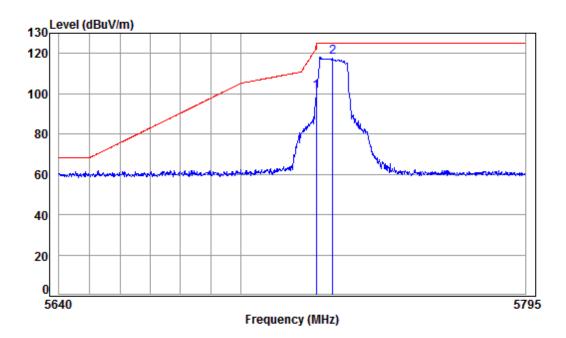
OLE	2	: TOM	ANII								
			Cable	Ant	Preamp	Read		Limit	0ver		
		Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
		MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	572	25.000	9.64	34.83	41.84	81.18	83.81	125.20	-41.39	Peak	
2	pp 573	30.500	9.66	34.83	41.83	103.58	106.24	125.20	-18.96	Peak	



Report No.: SZEM180500417803

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



Condition: 3m VERTICAL

Job No : 04178CR

Mode : 5730.5 Band edge

Note : 10M ANT1

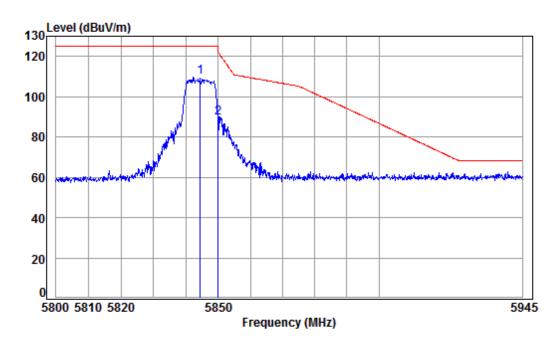
ote		Cable		Preamp Factor					Remark	
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		_
1	5725.000	9.64	34.83	41.84	98.29	100.92	125.20	-24.28	Peak	
2 p	p 5730.500	9.65	34.83	41.84	115.56	118.20	125.20	-7.00	Peak	



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



Condition: 3m HORIZONTAL

Job No : 04178CR

Mode : 5844.5 Band edge

Note : 10M ANT1

Cable Ant Preamp Read Limit 0ver Freq Loss Factor Factor Level Level Line Limit Remark MHz dΒ dBuV dBuV/m dBuV/m dB dB dB/m

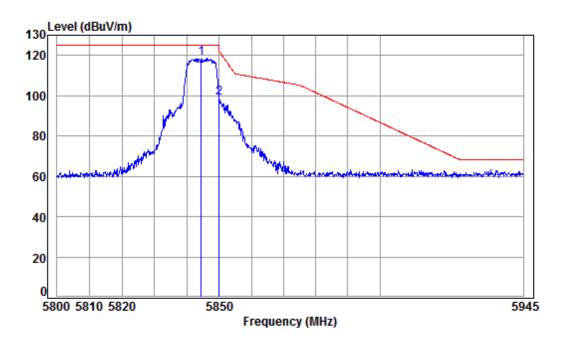
1 pp 5844.500 10.04 34.95 41.74 106.45 109.70 125.20 -15.50 Peak 2 5850.000 10.07 34.95 41.73 85.97 89.26 122.08 -32.82 Peak



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



Condition: 3m VERTICAL

Job No : 04178CR

Mode : 5844.5 Band edge

Note : 10M ANT1

Cable Ant Preamp Read Limit 0ver Freq Loss Factor Factor Level Level Line Limit Remark MHz dΒ dBuV dBuV/m dBuV/m dB dB dB/m

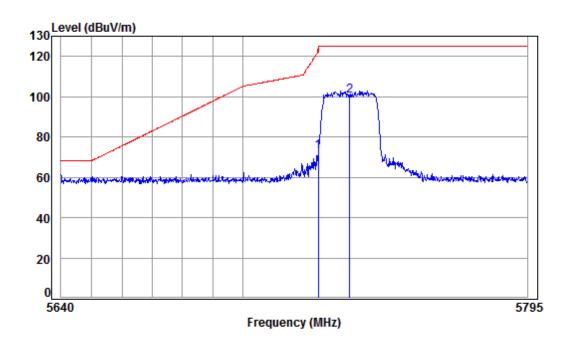
1 pp 5844.500 10.06 34.95 41.73 115.16 118.44 125.20 -6.76 Peak 2 5850.000 10.07 34.95 41.73 95.72 99.01 122.08 -23.07 Peak



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



Condition: 3m HORIZONTAL

Job No : 04178CR

Mode : 5735.5 Band edge

Note : 20M ANT1

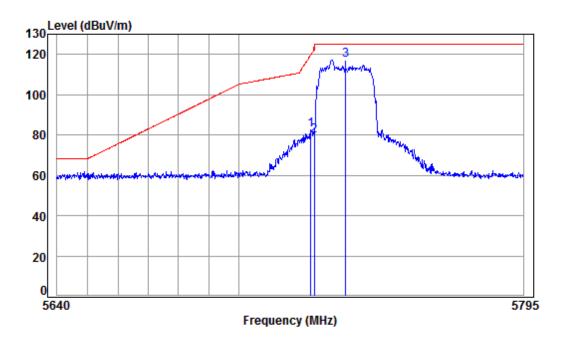
ote	≘ : 20M		Ant	Preamp	Read		Limit	0ver	
	Freq			Factor					Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5725.000	9.64	34.83	41.84	70.24	72.87	125.20	-52.33	Peak
2	pp 5735.500	9.68	34.84	41.83	97.45	100.14	125.20	-25.06	Peak



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



Condition: 3m VERTICAL Job No : 04178CR

Mode : 5735.5 Band edge

Note : 20M ANT1

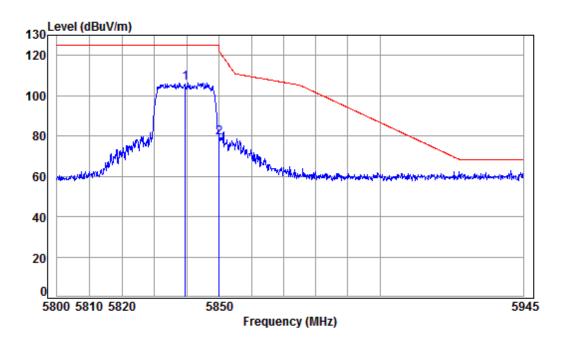
lote	: 2014	ANII								
		Cable	Ant	Preamp	Read		Limit	0ver		
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
	-									
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
			•			•	•			
1	5723.799	9.64	34.83	41.84	79.79	82.42	119.46	-37.04	Peak	
2	5725.000									
3 1	op 5735.500									



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



Condition: 3m HORIZONTAL

Job No : 04178CR

Mode : 5839.5 Band edge

Note : 20M ANT1

Cable Ant Preamp Read Limit 0ver Freq Loss Factor Factor Level Level Line Limit Remark MHz dΒ dBuV dBuV/m dBuV/m dB dB dB/m

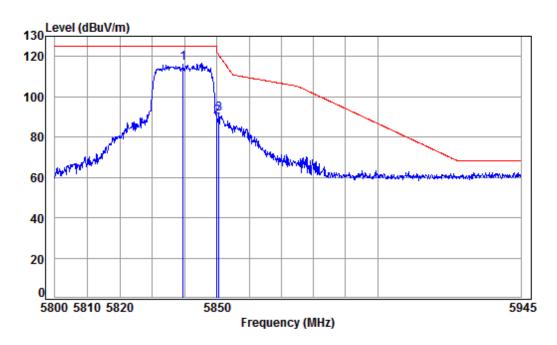
1 pp 5839.500 10.04 34.95 41.74 103.21 106.46 125.20 -18.74 Peak 2 5850.000 10.07 34.95 41.73 75.85 79.14 122.08 -42.94 Peak



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



Condition: 3m VERTICAL Job No : 04178CR

Mode : 5839.5 Band edge

Note : 20M ANT1

000		. 2011	WILL T								
			Cable	Ant	Preamp	Read		Limit	0ver		
		Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark	
											_
		MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	pp	5839.500	10.05	34.95	41.74	113.19	116.45	125.20	-8.75	Peak	
2		5850.000	10.07	34.95	41.73	86.43	89.72	122.08	-32.36	Peak	
3		5850.632	10.07	34.96	41.73	87.93	91.23	120.76	-29.53	Peak	



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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.



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8 Appendix 15.407

8.1 Appendix 15.407

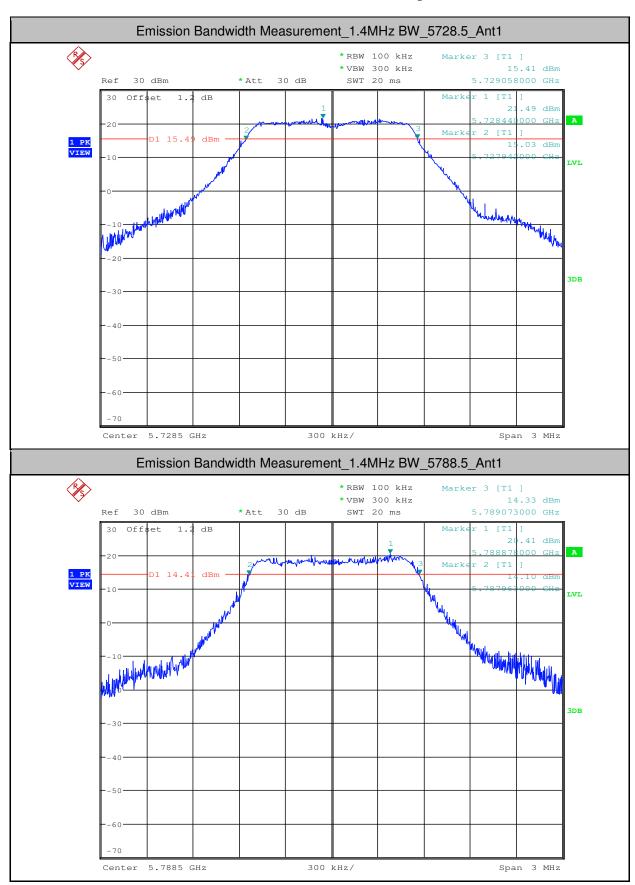
1.Emission Bandwidth Measurement

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	1.110	>=0.5	PASS
1.4MHz BW	5846.5	Ant1	1.113	>=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	18.030	>=0.5	PASS
10MHz BW	5730.5	Ant1	9.060	>=0.5	PASS
10MHz BW	5787.5	Ant1	9.060	>=0.5	PASS
10MHz BW	5844.5	Ant1	9.045	>=0.5	PASS



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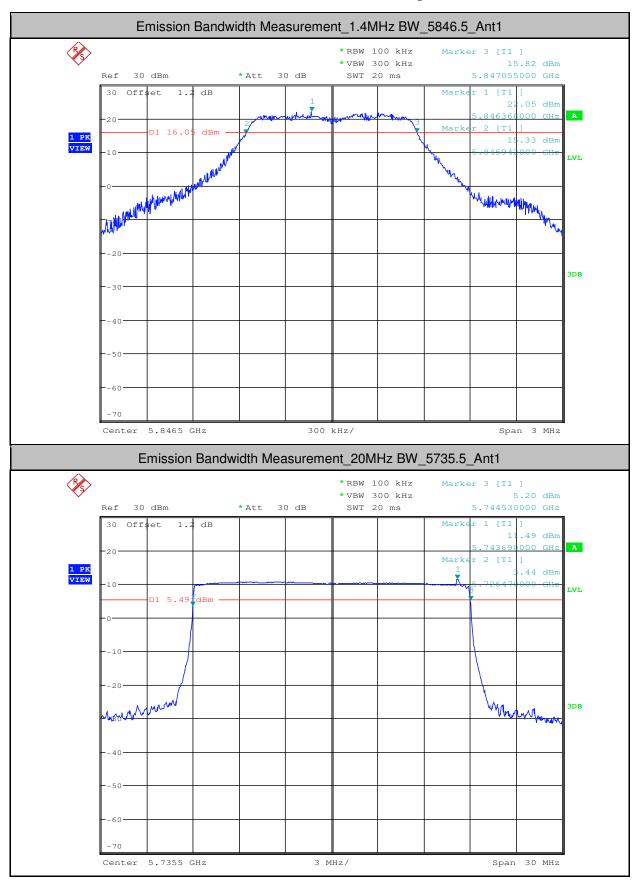
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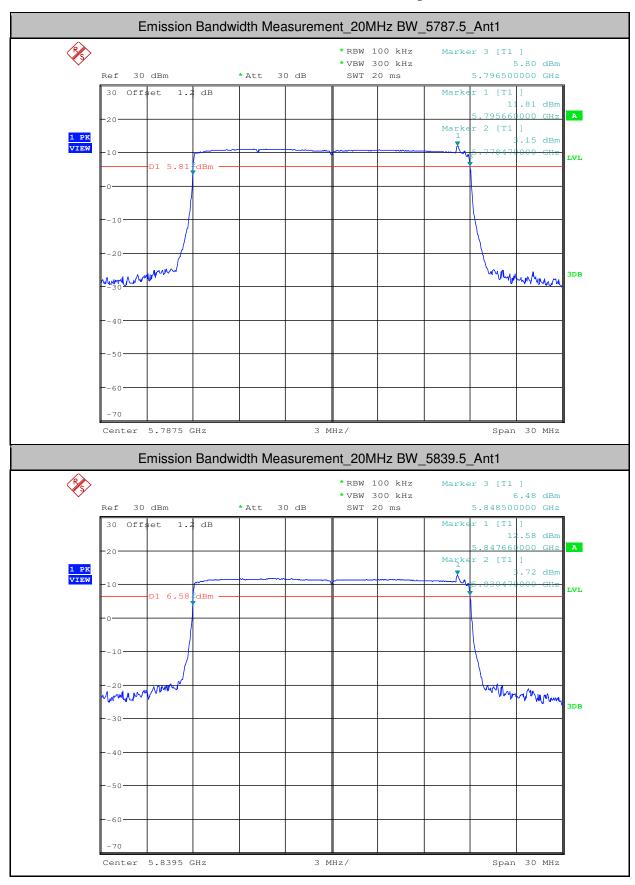
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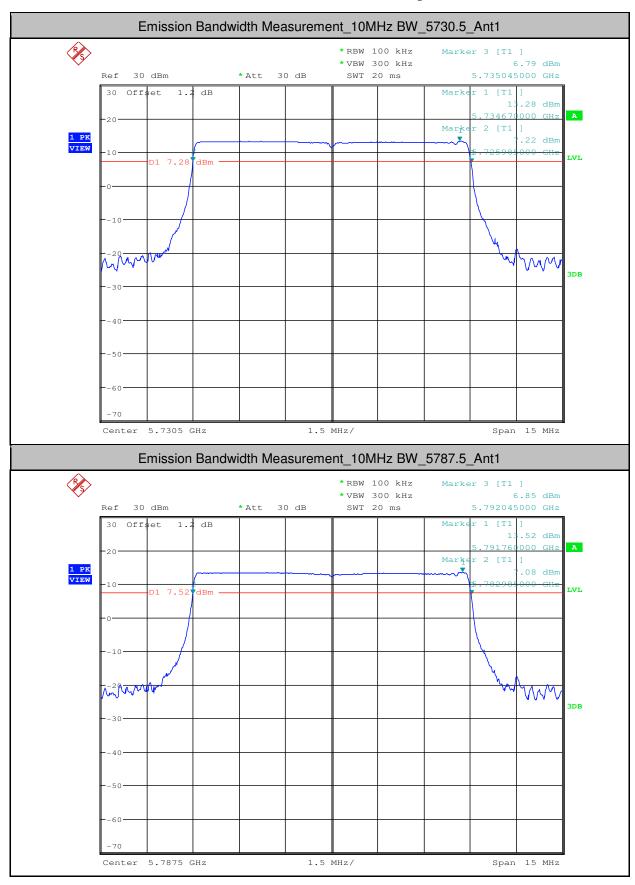
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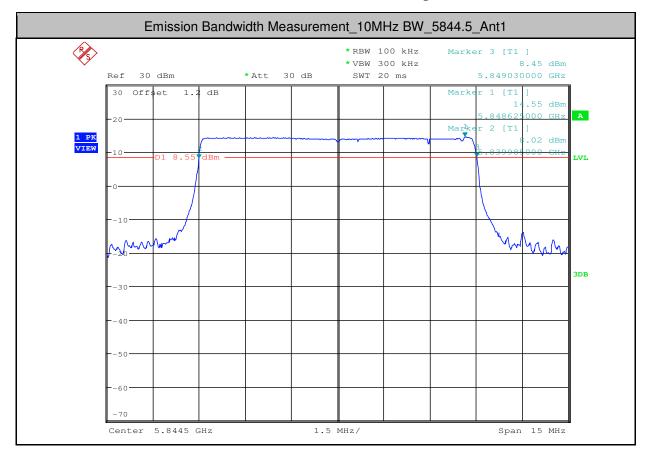
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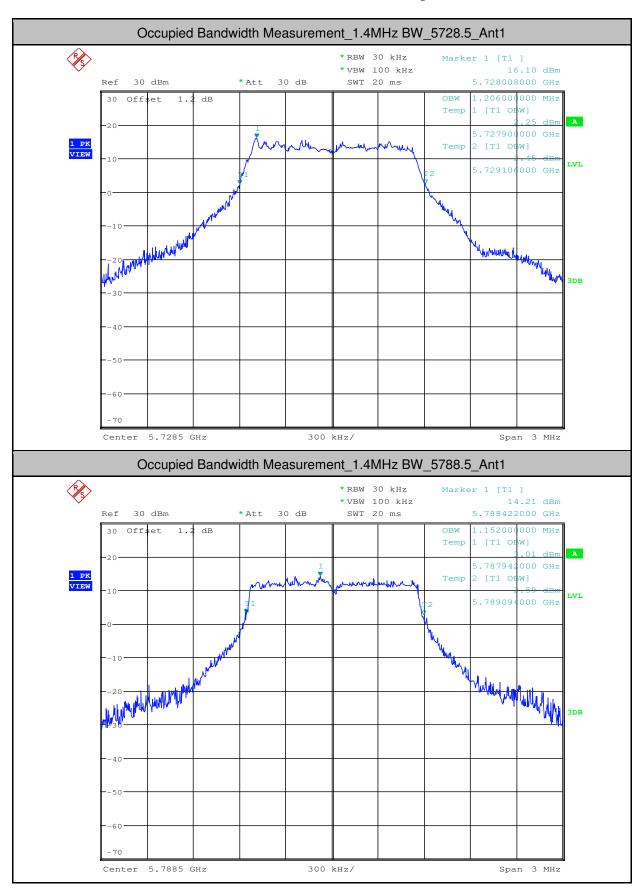
2.Occupied Bandwidth Measurement

Test Mode	Test Channel	Ant	OBW[MHz]	Limit[MHz]	Verdict
1.4MHz BW	5728.5	Ant1	1.206		PASS
1.4MHz BW	5788.5	Ant1	1.152		PASS
1.4MHz BW	5846.5	Ant1	1.230		PASS
20MHz BW	5735.5	Ant1	17.760		PASS
20MHz BW	5787.5	Ant1	17.760		PASS
20MHz BW	5839.5	Ant1	17.760		PASS
10MHz BW	5730.5	Ant1	9.045		PASS
10MHz BW	5787.5	Ant1	9.045		PASS
10MHz BW	5844.5	Ant1	9.045		PASS



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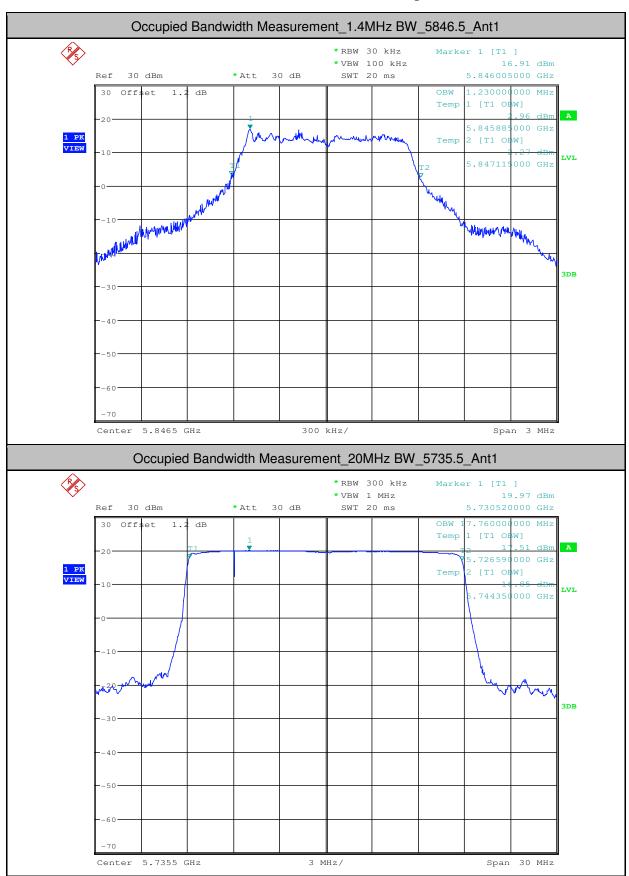
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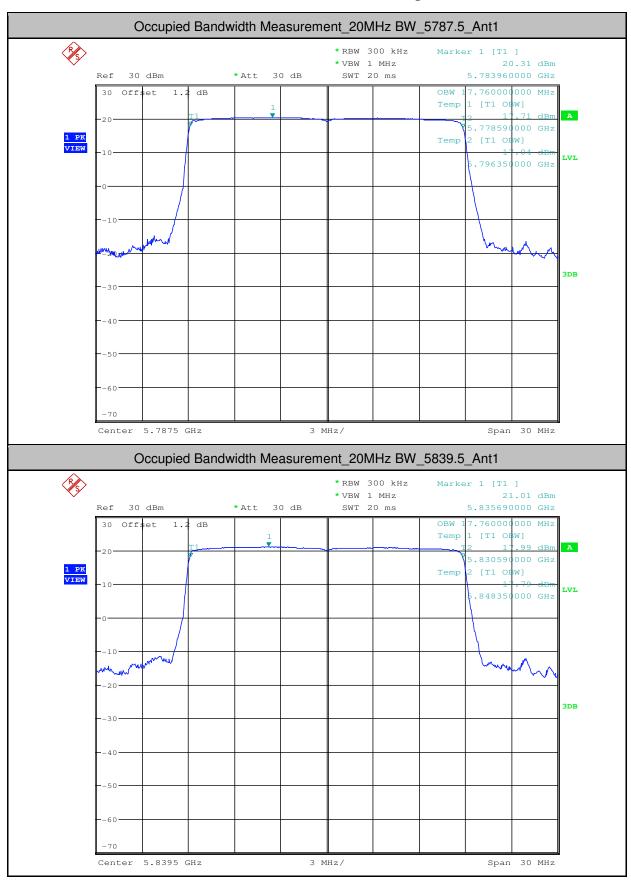
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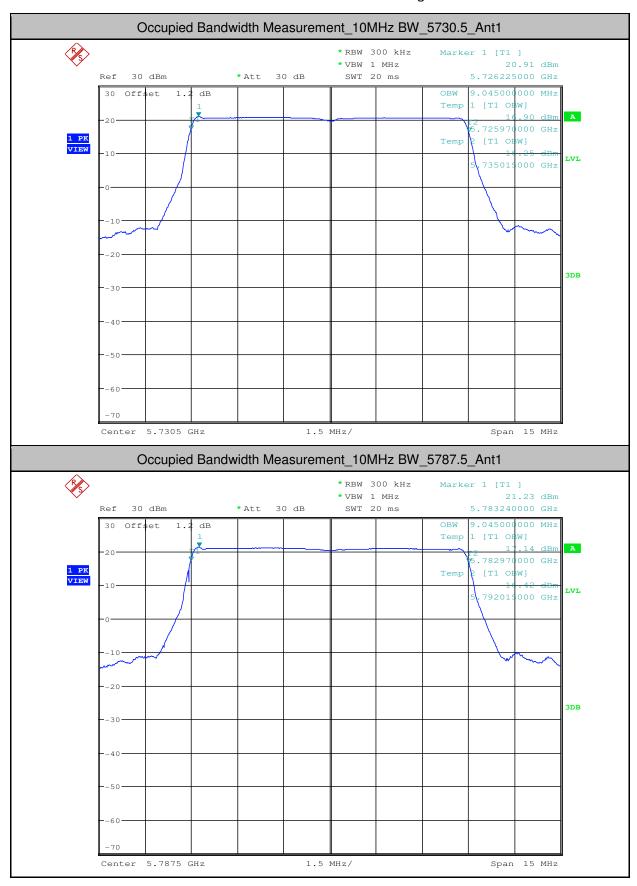
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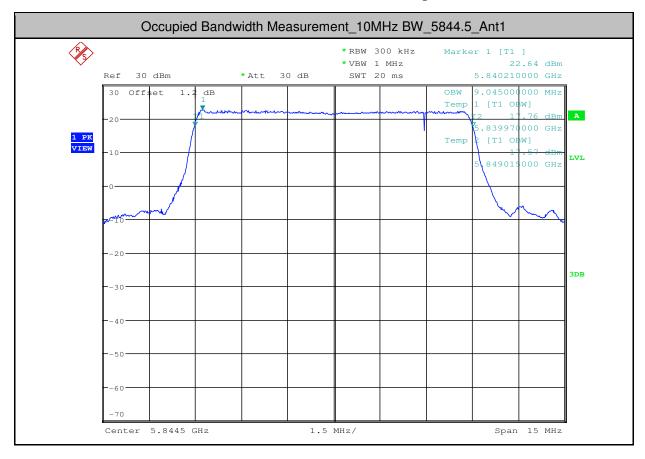
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3.Maximum Conduct Output Power

Test Mode	Test Channel	Ant	Power [dBm]	Limit [dBm]	Verdict
1.4MHz BW	5728.5	Ant1	21.90	<30.00	PASS
1.4MHz BW	5788.5	Ant1	21.29	<30.00	PASS
1.4MHz BW	5846.5	Ant1	22.45	<30.00	PASS
20MHz BW	5735.5	Ant1	22.56	<30.00	PASS
20MHz BW	5787.5	Ant1	22.76	<30.00	PASS
20MHz BW	5839.5	Ant1	22.49	<30.00	PASS
10MHz BW	5730.5	Ant1	22.33	<30.00	PASS
10MHz BW	5787.5	Ant1	22.52	<30.00	PASS
10MHz BW	5844.5	Ant1	22.44	<30.00	PASS



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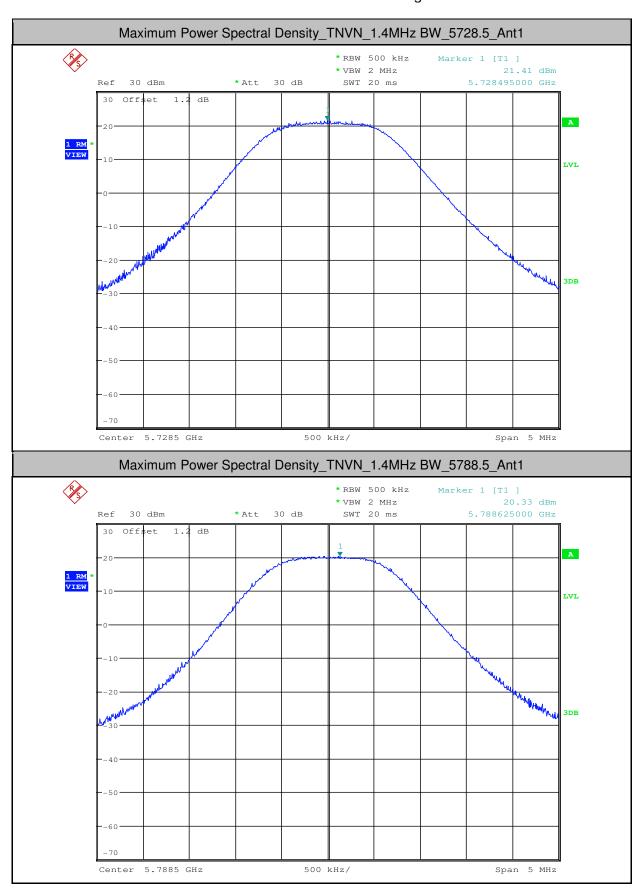
4. Maximum Power Spectral Density

Test Mode	Test Channel	Ant	Level [dBm/500 kHz]	10log(1/x) Factor[dB]	10log(500k Hz/RBW) Factor [dB]	[dBm/500	Limit [dBm/500 kHz]	Verdict
1.4MHz BW	5728.5	Ant1	21.41	0	0	21.41	<30.00	PASS
1.4MHz BW	5788.5	Ant1	20.33	0	0	20.33	<30.00	PASS
1.4MHz BW	5846.5	Ant1	21.79	0	0	21.79	<30.00	PASS
20MHz BW	5735.5	Ant1	12.36	0	0	12.36	<30.00	PASS
20MHz BW	5787.5	Ant1	12.57	0	0	12.57	<30.00	PASS
20MHz BW	5839.5	Ant1	13.46	0	0	13.46	<30.00	PASS
10MHz BW	5730.5	Ant1	14.8	0	0	14.8	<30.00	PASS
10MHz BW	5787.5	Ant1	15.16	0	0	15.16	<30.00	PASS
10MHz BW	5844.5	Ant1	15.96	0	0	15.96	<30.00	PASS



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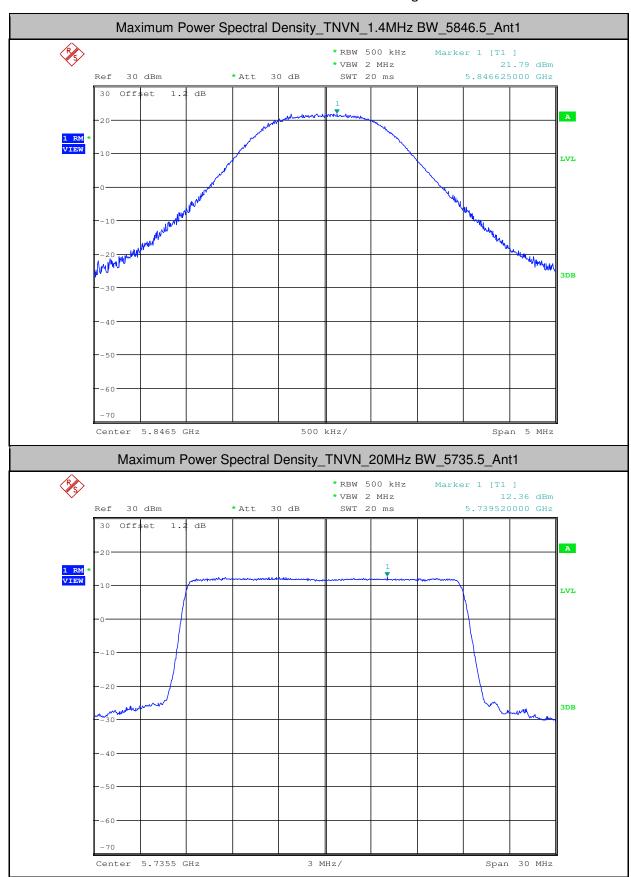
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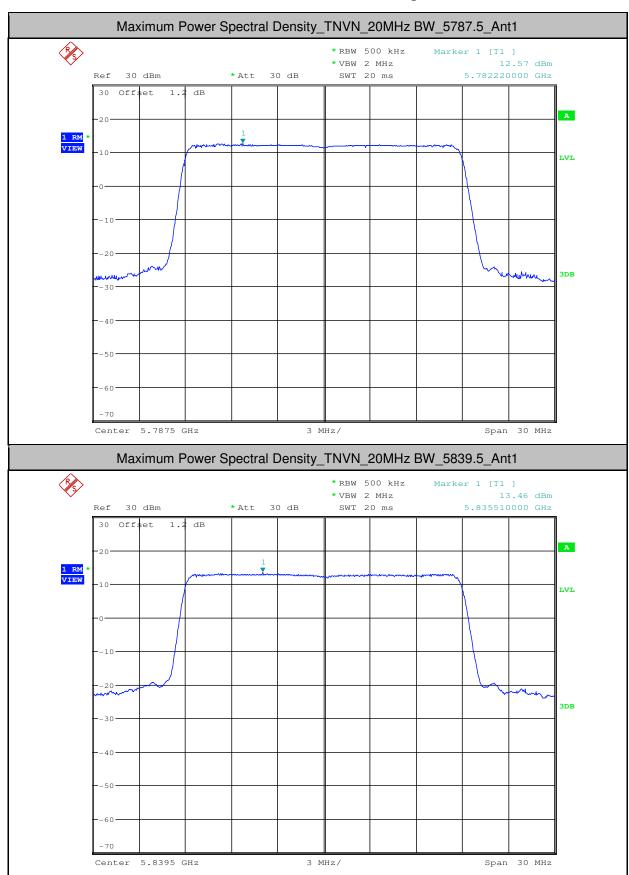
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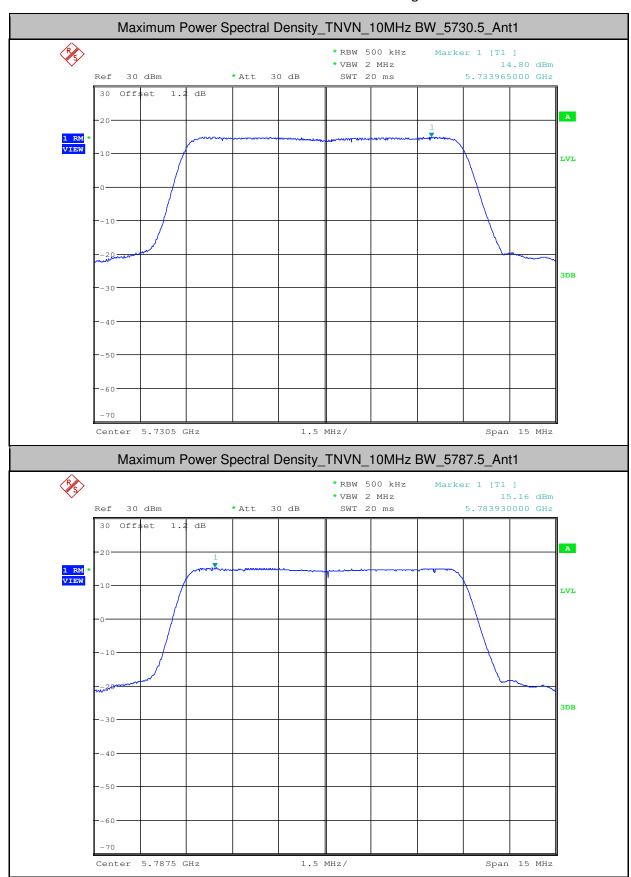
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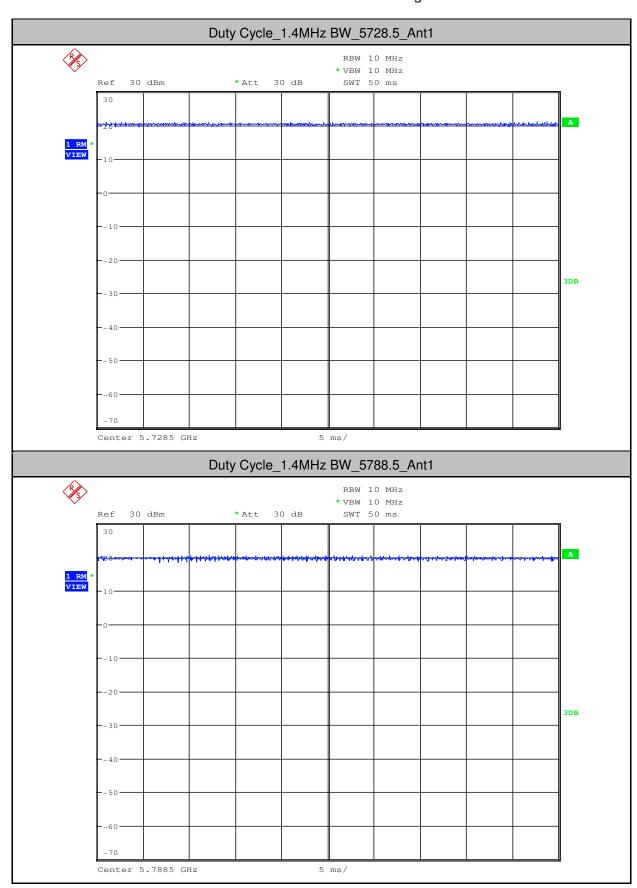
5.Duty Cycle (x)

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



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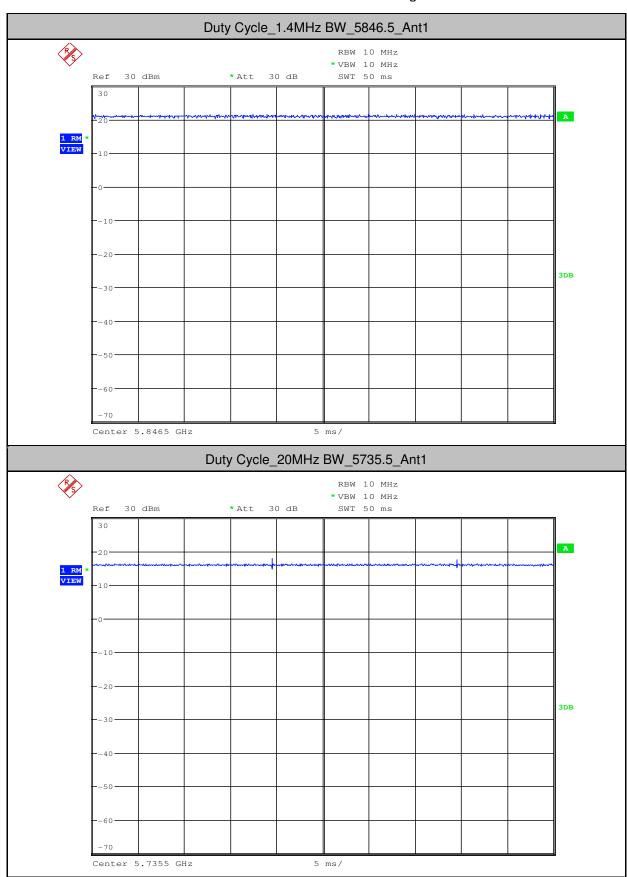
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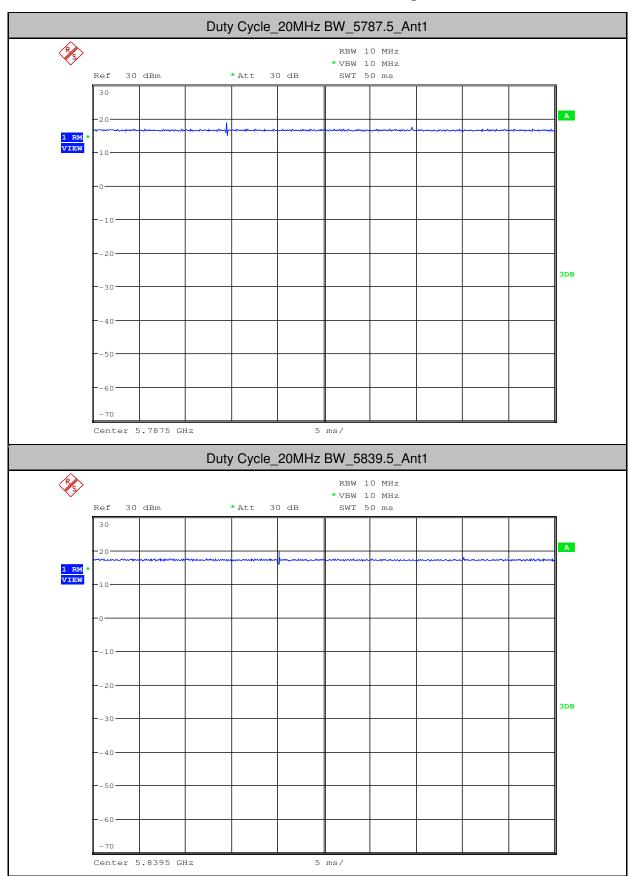
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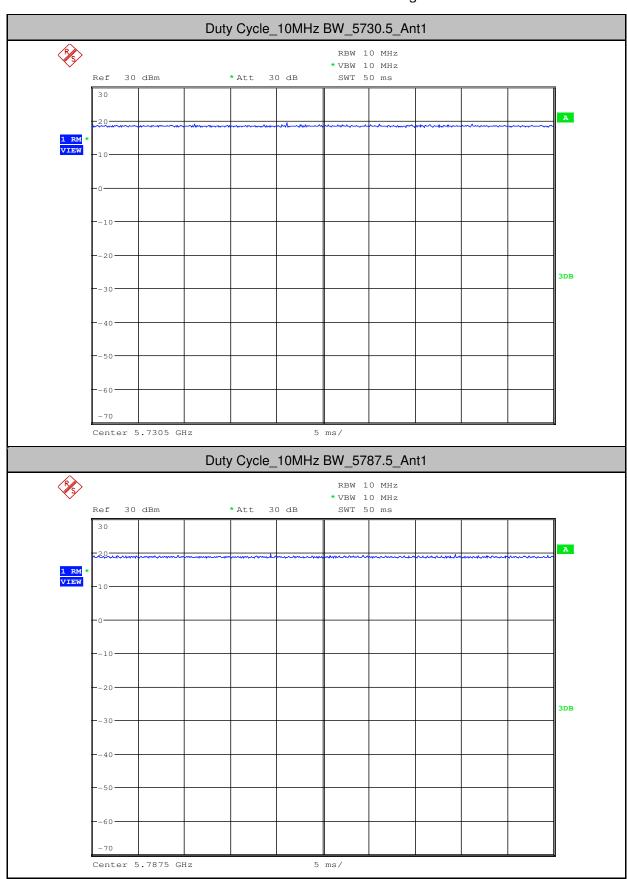
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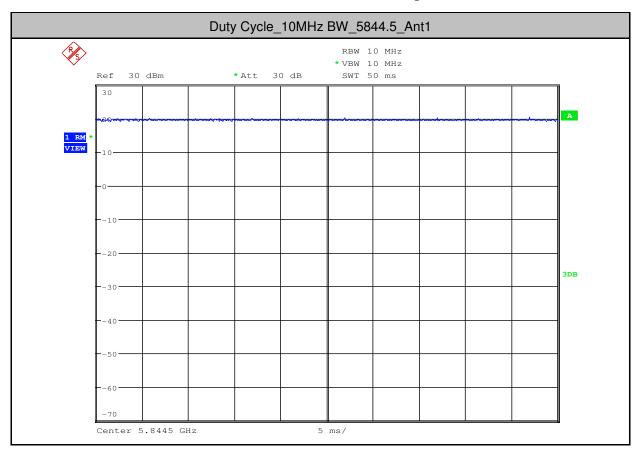
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