Microtest
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Test Report

Report No.:	MTi240820012-06E4
Date of issue:	2024-12-20
Applicant:	IC Nexus Co., Ltd
Product name:	SBC_NSD_EC
Model(s):	EC4107, EC4110, EC4107, EC4105, EC4110-HL, EC4110-HL-KK3, EC4107-HL, EC4107-HL-KK3, EC4105-HL, EC4105-HL-KK3, NSD4110, NSD4110-HL, NSD4110-HL-KK3, NSD4107, NSD4107-HL, NSD4107-HL-KK3, NSD4105, NSD4105-HL, NSD4105-HL-KK3, SBC4100
FCC ID:	2ACLCECNSDSBC410N60

Shenzhen Microtest Co., Ltd.

http://www.mtitest.cn

Address: 101, No. 7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinhe Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China.
Tel: 0755-88850135-1439 Mobile: 131-4343-1439 (Wechat same number) Web: http://www.mtitest.cn E-mail: mti@51mti.com

Instructions

1. This test report shall not be partially reproduced without the written consent of the laboratory.

2. The test results in this test report are only responsible for the samples submitted

3. This test report is invalid without the seal and signature of the laboratory.

4. This test report is invalid if transferred, altered, or tampered with in any form without authorization.

5. Any objection to this test report shall be submitted to the laboratory within 15 days from the date of receipt of the report.

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Test Result Certification	
Applicant:	IC Nexus Co., Ltd
Address:	6F-1, No.3-2 Park Street, Nankang Software Park(NKSP), Taipei 115, Taiwan ROC
Manufacturer:	IC Nexus Co., Ltd
Address:	6F-1, No.3-2 Park Street, Nankang Software Park(NKSP), Taipei 115, Taiwan ROC
Factory:	IC Nexus Co., Ltd
Address:	6F-1, No.3-2 Park Street, Nankang Software Park(NKSP), Taipei 115, Taiwan ROC
Product description	
Product name:	SBC_NSD_EC
Trademark:	ICNexus
Model name:	EC4107
Series Model(s):	EC4110, EC4107, EC4105, EC4110-HL, EC4110-HL-KK3, EC4107-HL, EC4107-HL-KK3, EC4105-HL, EC4105-HL-KK3, NSD4110, NSD4110-HL, NSD4110-HL-KK3, NSD4107, NSD4107-HL, NSD4107-HL-KK3, NSD4105, NSD4105-HL, NSD4105-HL-KK3, SBC4100
Standards:	47 CFR Part 15E
Test Method:	KDB 789033 D02 General UNII Test Procedures New Rules v02r01 ANSI C63.10-2013
Date of Test	
Date of test:	2024-11-11 to 2024-12-20
Test result:	Pass

Test Engineer	:	James Qin
		(James Qin)
Reviewed By	:	David. Lee
		(David Lee)
Approved By	:	Leon chen
		(Leon Chen)

1 General Description

1.1 Description of the EUT

Product name:	SBC_NSD_EC
Model name:	EC4107
Series Model(s):	EC4110, EC4107, EC4105, EC4110-HL, EC4110-HL-KK3, EC4107-HL, EC4107-HL-KK3, EC4105-HL, EC4105-HL-KK3, NSD4110, NSD4110-HL, NSD4110-HL-KK3, NSD4107, NSD4107-HL, NSD4107-HL-KK3, NSD4105, NSD4105-HL, NSD4105-HL-KK3, SBC4100
Model difference:	All the models are the same circuit and module, except the model name.
Electrical rating:	Input: DC 12V
Accessories:	N/A
Hardware version:	PCB0N600
Software version:	android & Linux
Test sample(s) number:	MTi240820012-06S1007
RF specification	
Operating frequency range:	802.11a/n(HT20)/ac(HT20): U-NII Band 1: 5180MHz to 5240MHz; U-NII Band 3: 5745MHz to 5825MHz; 802.11n(HT40)/ac(HT40): U-NII Band 1: 5190MHz to 5230MHz; U-NII Band 3: 5755MHz to 5795MHz; 802.11ac(HT80): U-NII Band 1: 5210MHz; U-NII Band 3: 5775MHz
Channel number:	802.11a/n(HT20)/ac(HT20): U-NII Band 1: 4; U-NII Band 3: 5; 802.11n(HT40)/ac(HT40): U-NII Band 1: 2; U-NII Band 3: 2; 802.11ac(HT80): U-NII Band 1: 1; U-NII Band 3: 1;
Modulation type:	802.11a: OFDM(BPSK, QPSK, 16QAM, 64QAM); 802.11n: OFDM (BPSK, QPSK, 16QAM, 64QAM); 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM);
Antenna(s) type:	dipole
Antenna(s) gain:	3dBi

1.2 Description of test modes

No.	Emission test modes
Mode1	802.11a mode
Mode2	802.11n20 mode
Mode3	802.11n40 mode
Mode4	802.11ac20 mode
Mode5	802.11ac40 mode
Mode6	802.11ac80 mode

1.2.1 Operation channel list

U-NII Band 1

Bandwidth:	20MHz	Bandwidth:	40MHz	Bandwidth:	80MHz
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	38	5190	42	5210
40	5200	46	5230	/	/
44	5220	/	/	/	/
48	5240	/	/	/	/

U-NII Band 3

Bandwidth:	20MHz	Bandwidth:	40MHz	Bandwidth:	80MHz
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	151	5755	155	5775
153	5765	159	5795	/	/
157	5785	/	/	/	/
161	5805	/	/	/	/
165	5825	/	/	/	/

Test Channel List

Operation Band: 5150-5250 MHz

Bandwidth (MHz)	Lowest Channel (LCH) (MHz)	Middle Channel (MCH) (MHz)	Highest Channel (HCH) (MHz)
20	5180	5200	5240
40	5190	/	5230
80	5210	5210	5210

Operation Band: 5725-5850 MHz

Bandwidth (MHz)	Lowest Channel (LCH) (MHz)	Middle Channel (MCH) (MHz)	Highest Channel (HCH) (MHz)
20	5745	5785	5825
40	5755	/	5795
80	5775	5775	5775

Note: The test software provided by manufacturer is used to control EUT for working in engineering mode, that enables selectable channel, and capable of continuous transmitting mode.

Test Software: ComTool

For power setting, refer to below table.

Mode	LCH	MCH	HCH
802.11a	16	16	16
802.11n(HT20)	16	16	16
802.11n(HT40)	16	16	16
802.11ac(VHT20)	16	16	16
802.11ac(VHT40)	16	16	16
802.11ac(VHT80)	16	16	16

Mode	LCH	MCH	HCH
802.11a	16	16	16
802.11n(HT20)	16	16	16
802.11n(HT40)	16	16	16
802.11ac(VHT20)	16	16	16
802.11ac(VHT40)	16	16	16
802.11ac(VHT80)	16	16	16

1.3 Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15°C ~ 35°C
Humidity:	20% RH ~ 75% RH
Atmospheric pressure:	98 kPa ~ 101 kPa

1.4 Description of support units

Support equipment list			
Description	Model	Serial No.	Manufacturer
Laptop	e485	/	Lenovo
Adaptor	WDS050120	/	Wearnes GLOBAL CO., LTD.
Support cable list			
Description	Length (m)	From	To
/	/	/	/

1.5 Measurement uncertainty

Measurement	Uncertainty
Conducted emissions (AMN 150kHz~30MHz)	±3.1dB
Time	±1 %
Occupied channel bandwidth	±3 %
RF output power, conducted	±1 dB
Power Spectral Density, conducted	±1 dB
Radiated spurious emissions (above 1GHz)	±5.3dB
Radiated spurious emissions (9kHz~30MHz)	±4.3dB
Radiated spurious emissions (30MHz~1GHz)	±4.7dB
Temperature	±1 °C
Humidity	± 5 %

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

2 Summary of Test Result

No.	Item	Standard	Requirement	Result
1	Antenna requirement	47 CFR Part 15E	Part 15.203	Pass
2	Conducted Emission at AC power line	47 CFR Part 15E	47 CFR Part 15.207(a)	Pass
3	Duty Cycle	47 CFR Part 15E		Pass
4	Emission bandwidth and occupied bandwidth	47 CFR Part 15E	U-NII 1, U-NII 2A, U-NII 2C: No limits, only for report use. 47 CFR Part 15.407(e)	Pass
5	Maximum conducted output power	47 CFR Part 15E	47 CFR Part 15.407(a)(1)(i) 47 CFR Part 15.407(a)(1)(ii) 47 CFR Part 15.407(a)(1)(iii) 47 CFR Part 15.407(a)(1)(iv) 47 CFR Part 15.407(a)(3)(i)	Pass
6	Power spectral density	47 CFR Part 15E	47 CFR Part 15.407(a)(1)(i) 47 CFR Part 15.407(a)(1)(ii) 47 CFR Part 15.407(a)(1)(iii) 47 CFR Part 15.407(a)(1)(iv) 47 CFR Part 15.407(a)(3)(i)	Pass
7	Band edge emissions (Radiated)	47 CFR Part 15E	47 CFR Part 15.407(b)(1) 47 CFR Part 15.407(b)(4) 47 CFR Part 15.407(b)(10)	Pass
8	Undesirable emission limits (below 1GHz)	47 CFR Part 15E	47 CFR Part 15.407(b)(9)	Pass
9	Undesirable emission limits (above 1GHz)	47 CFR Part 15E	47 CFR Part 15.407(b)(1) 47 CFR Part 15.407(b)(4) 47 CFR Part 15.407(b)(10)	Pass

3 Test Facilities and accreditations

3.1 Test laboratory

Test laboratory:	Shenzhen Microtest Co., Ltd.
Test site location:	101, No.7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinhe Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Telephone:	(86-755)88850135
Fax:	(86-755)88850136
CNAS Registration No.:	CNAS L5868
FCC Registration No.:	448573
IC Registration No.:	21760
CABID:	CN0093

4 List of test equipment

No.	Equipment	Manufacturer	Model	Serial No.	Cal. date	Cal. Due
Conducted Emission at AC power line						
1	EMI Test Receiver	Rohde&schwarz	ESCI3	101368	2024-03-20	2025-03-19
2	Artificial mains network	Schwarzbeck	NSLK 8127	183	2024-03-21	2025-03-20
3	Artificial Mains Network	Rohde & Schwarz	ESH2-Z5	100263	2024-03-20	2025-03-19
Duty Cycle Emission bandwidth and occupied bandwidth Maximum conducted output power Power spectral density						
1	Wideband Radio Communication Tester	Rohde&schwarz	CMW500	149155	2024-03-20	2025-03-19
2	ESG Series Analog Ssignal Generator	Agilent	E4421B	GB40051240	2024-03-21	2025-03-20
3	PXA Signal Analyzer	Agilent	N9030A	MY51350296	2024-03-21	2025-03-20
4	Synthesized Sweeper	Agilent	83752A	3610A01957	2024-03-21	2025-03-20
5	MXA Signal Analyzer	Agilent	N9020A	MY50143483	2024-03-21	2025-03-20
6	RF Control Unit	Tonscend	JS0806-1	19D8060152	2024-03-21	2025-03-20
7	Band Reject Filter Group	Tonscend	JS0806-F	19D8060160	2024-03-21	2025-03-20
8	ESG Vector Signal Generator	Agilent	N5182A	MY50143762	2024-03-20	2025-03-19
9	DC Power Supply	Agilent	E3632A	MY40027695	2024-03-21	2025-03-20
Band edge emissions (Radiated) Undesirable emission limits (above 1GHz)						
1	EMI Test Receiver	Rohde&schwarz	ESCI7	101166	2024-03-20	2025-03-19
2	Double Ridged Broadband Horn Antenna	schwarabeck	BBHA 9120 D	2278	2023-06-17	2025-06-16
3	Amplifier	Agilent	8449B	3008A01120	2024-03-20	2025-03-19
4	MXA signal analyzer	Agilent	N9020A	MY54440859	2024-03-21	2025-03-20
5	PXA Signal Analyzer	Agilent	N9030A	MY51350296	2024-03-21	2025-03-20
6	Horn antenna	Schwarzbeck	BBHA 9170	00987	2023-06-17	2025-06-16
7	Pre-amplifier	Space-Dtronics	EWLAN1840 G	210405001	2024-03-21	2025-03-20
Undesirable emission limits (below 1GHz)						
1	EMI Test Receiver	Rohde&schwarz	ESCI7	101166	2024-03-20	2025-03-19
2	TRILOG Broadband Antenna	schwarabeck	VULB 9163	9163-1338	2023-06-11	2025-06-10
3	Active Loop Antenna	Schwarzbeck	FMZB 1519 B	00066	2024-03-23	2025-03-22
4	Amplifier	Hewlett-Packard	8447F	3113A06184	2024-03-20	2025-03-19

5 Evaluation Results (Evaluation)

5.1 Antenna requirement

Test Requirement:	Refer to 47 CFR Part 15.203, 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 a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

6 Radio Spectrum Matter Test Results (RF)

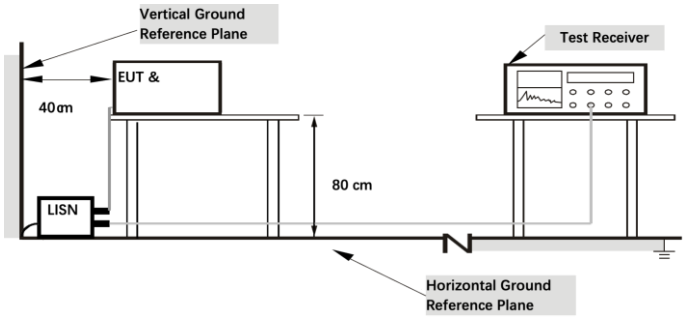
6.1 Conducted Emission at AC power line

Test Requirement:	47 CFR Part 15.207(a)		
Test Limit:	Frequency of emission (MHz)	Conducted limit (dBμV)	
		Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	50
	*Decreases with the logarithm of the frequency.		
Test Method:	ANSI C63.10-2013 section 6.2		

6.1.1 E.U.T. Operation:

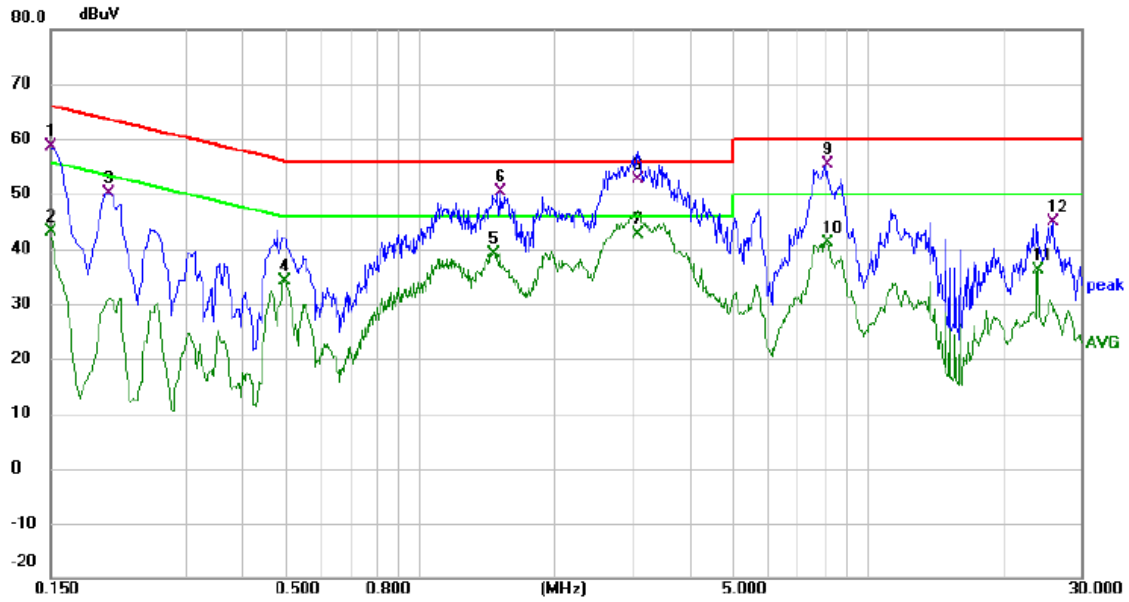
Operating Environment:					
Temperature:	25 °C	Humidity:	59 %	Atmospheric Pressure:	96 kPa
Pre test mode:	Mode1, Mode2, Mode3, Mode4, Mode5, Mode6				
Final test mode:	All of the listed pre-test mode were tested, only the data of the worst mode (Mode1) is recorded in the report				

6.1.2 Test Setup Diagram:



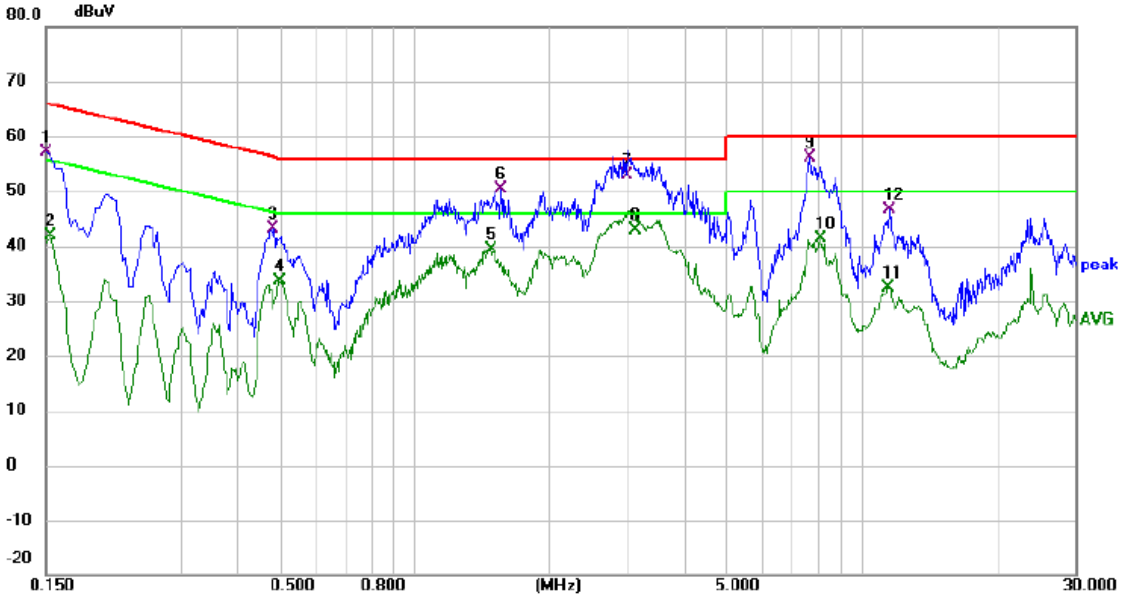
6.1.3 Test Data:

Mode1 / Line: Line / CH: L



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1500	48.25	10.29	58.54	66.00	-7.46	QP	
2		0.1500	32.92	10.29	43.21	56.00	-12.79	AVG	
3		0.2020	39.80	10.30	50.10	63.53	-13.43	QP	
4		0.4980	23.64	10.43	34.07	46.03	-11.96	AVG	
5		1.4700	28.68	10.54	39.22	46.00	-6.78	AVG	
6		1.5140	39.92	10.55	50.47	56.00	-5.53	QP	
7		3.0788	31.99	10.56	42.55	46.00	-3.45	AVG	
8	*	3.0819	42.13	10.56	52.69	56.00	-3.31	QP	
9		8.1139	44.77	10.65	55.42	60.00	-4.58	QP	
10		8.1139	30.53	10.65	41.18	50.00	-8.82	AVG	
11		24.0180	25.04	11.00	36.04	50.00	-13.96	AVG	
12		25.9060	33.92	10.94	44.86	60.00	-15.14	QP	

Mode1 / Line: Neutral / CH: L



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1500	46.82	10.29	57.11	66.00	-8.89	QP	
2		0.1539	31.66	10.30	41.96	55.79	-13.83	AVG	
3		0.4780	32.79	10.42	43.21	56.37	-13.16	QP	
4		0.4980	23.11	10.43	33.54	46.03	-12.49	AVG	
5		1.4780	28.80	10.54	39.34	46.00	-6.66	AVG	
6		1.5660	39.81	10.55	50.36	56.00	-5.64	QP	
7	*	2.9860	42.42	10.56	52.98	56.00	-3.02	QP	
8		3.1060	32.32	10.56	42.88	46.00	-3.12	AVG	
9		7.6700	45.48	10.64	56.12	60.00	-3.88	QP	
10		8.0619	30.74	10.64	41.38	50.00	-8.62	AVG	
11		11.4019	21.73	10.75	32.48	50.00	-17.52	AVG	
12		11.5100	35.89	10.77	46.66	60.00	-13.34	QP	

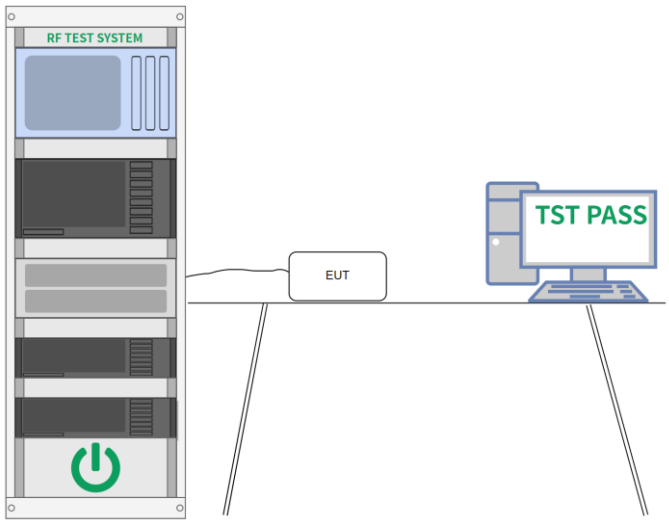
6.2 Duty Cycle

Test Requirement:	All measurements are to be performed with the EUT transmitting at 100% duty cycle at its maximum power control level; however, if 100% duty cycle cannot be achieved, measurements of duty cycle, x, and maximum-power transmission duration, T, are required for each tested mode of operation.
Test Limit:	No limits, only for report use.
Test Method:	ANSI C63.10-2013 section 12.2 (b)
Procedure:	i) Set the center frequency of the instrument to the center frequency of the transmission. ii) Set RBW >= EBW if possible; otherwise, set RBW to the largest available value. iii) Set VBW >= RBW. iv) Set detector = peak. v) The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T, where T is defined in item a1) of 12.2, and the number of sweep points across duration T exceeds 100.

6.2.1 E.U.T. Operation:

Operating Environment:					
Temperature:	25 °C	Humidity:	59 %	Atmospheric Pressure:	101 kPa
Pre test mode:	Mode1, Mode2, Mode3, Mode4, Mode5, Mode6				
Final test mode:	Mode1, Mode2, Mode3, Mode4, Mode5, Mode6				

6.2.2 Test Setup Diagram:



6.2.3 Test Data:

Please Refer to Appendix for Details.

6.3 Emission bandwidth and occupied bandwidth

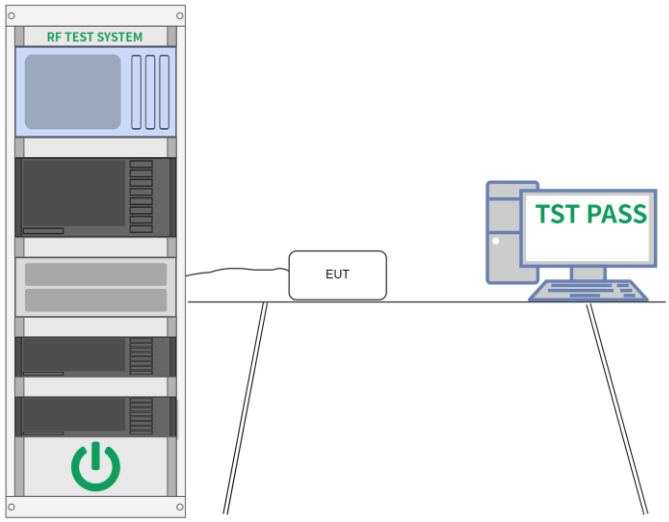
Test Requirement:	U-NII 1, U-NII 2A, U-NII 2C: No limits, only for report use. U-NII 3, U-NII 4: 47 CFR Part 15.407(e)
Test Limit:	U-NII 1, U-NII 2A, U-NII 2C: No limits, only for report use. U-NII 3, U-NII 4: Within the 5.725-5.850 GHz and 5.850-5.895 GHz bands, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.
Test Method:	ANSI C63.10-2013, section 6.9 & 12.4 KDB 789033 D02, Clause C.2
Procedure:	Emission bandwidth: a) Set RBW = approximately 1% of the emission bandwidth. b) Set the VBW > RBW. c) Detector = peak. d) Trace mode = max hold. e) Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the instrument. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%. Occupied bandwidth: a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW. b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement. c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.5.2. d) Step a) through step c) might require iteration to adjust within the specified range. e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used. f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth. g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the

	total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies. h) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s). 6 dB emission bandwidth: a) Set RBW = 100 kHz. b) Set the video bandwidth (VBW) ≥ 3 >= RBW. c) Detector = Peak. d) Trace mode = max hold. e) Sweep = auto couple. f) Allow the trace to stabilize. g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

6.3.1 E.U.T. Operation:

Operating Environment:					
Temperature:	25 °C	Humidity:	59 %	Atmospheric Pressure:	101 kPa
Pre test mode:	Mode1, Mode2, Mode3, Mode4, Mode5, Mode6				
Final test mode:	Mode1, Mode2, Mode3, Mode4, Mode5, Mode6				

6.3.2 Test Setup Diagram:



6.3.3 Test Data:

Please Refer to Appendix for Details.

6.4 Maximum conducted output power

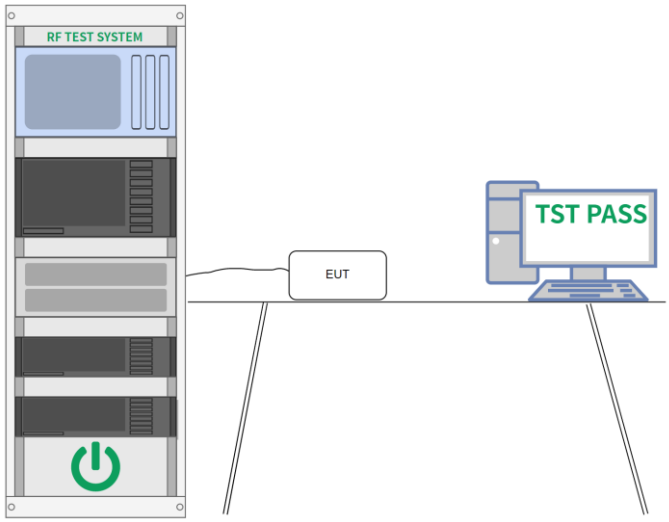
Test Requirement:	47 CFR Part 15.407(a)(1)(i) 47 CFR Part 15.407(a)(1)(ii) 47 CFR Part 15.407(a)(1)(iii) 47 CFR Part 15.407(a)(1)(iv) 47 CFR Part 15.407(a)(3)(i)
Test Limit:	For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm). For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations. For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems

	employing high gain directional antennas are used exclusively for fixed, point-to-point operations.
Test Method:	ANSI C63.10-2013, section 12.3
Procedure:	Refer to ANSI C63.10-2013 section 12.3

6.4.1 E.U.T. Operation:

Operating Environment:					
Temperature:	25 °C	Humidity:	59 %	Atmospheric Pressure:	101 kPa
Pre test mode:	Mode1, Mode2, Mode3, Mode4, Mode5, Mode6				
Final test mode:	Mode1, Mode2, Mode3, Mode4, Mode5, Mode6				

6.4.2 Test Setup Diagram:



6.4.3 Test Data:

Please Refer to Appendix for Details.

6.5 Power spectral density

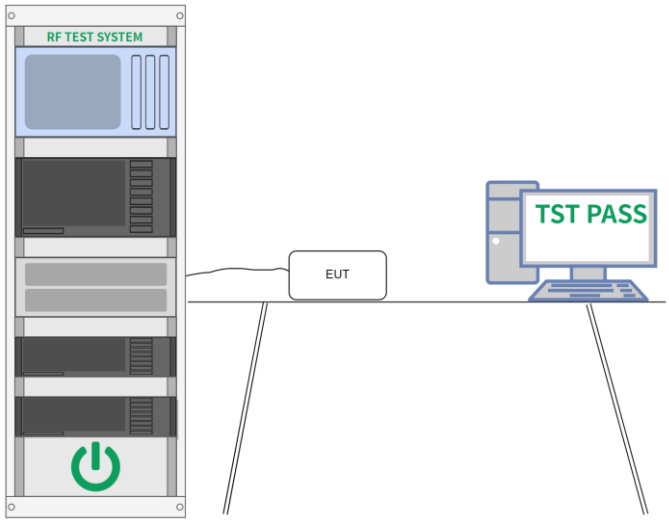
Test Requirement:	47 CFR Part 15.407(a)(1)(i) 47 CFR Part 15.407(a)(1)(ii) 47 CFR Part 15.407(a)(1)(iii) 47 CFR Part 15.407(a)(1)(iv) 47 CFR Part 15.407(a)(3)(i)
Test Limit:	For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations. For client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For the band 5.725-5.850 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.
Test Method:	ANSI C63.10-2013, section 12.5

Procedure:	Refer to ANSI C63.10-2013, section 12.5

6.5.1 E.U.T. Operation:

Operating Environment:					
Temperature:	25 °C	Humidity:	59 %	Atmospheric Pressure:	101 kPa
Pre test mode:	Mode1, Mode2, Mode3, Mode4, Mode5, Mode6				
Final test mode:	Mode1, Mode2, Mode3, Mode4, Mode5, Mode6				

6.5.2 Test Setup Diagram:



6.5.3 Test Data:

Please Refer to Appendix for Details.

6.6 Band edge emissions (Radiated)

<table>
<tr><td>Test Requirement:</td><td>47 CFR Part 15.407(b)(1)
47 CFR Part 15.407(b)(4)
47 CFR Part 15.407(b)(10)</td></tr>
<tr><td>Test Limit:</td><td>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 solely in the 5.725-5.850 GHz band:
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.
<table>
<tr><th>MHz</th><th>MHz</th><th>MHz</th><th>GHz</th></tr>
<tr><td>0.090-0.110</td><td>16.42-16.423</td><td>399.9-410</td><td>4.5-5.15</td></tr>
<tr><td>[1] 0.495-0.505</td><td>16.69475-16.69525</td><td>608-614</td><td>5.35-5.46</td></tr>
<tr><td>2.1735-2.1905</td><td>16.80425-16.80475</td><td>960-1240</td><td>7.25-7.75</td></tr>
<tr><td>4.125-4.128</td><td>25.5-25.67</td><td>1300-1427</td><td>8.025-8.5</td></tr>
<tr><td>4.17725-4.17775</td><td>37.5-38.25</td><td>1435-1626.5</td><td>9.0-9.2</td></tr>
<tr><td>4.20725-4.20775</td><td>73-74.6</td><td>1645.5-1646.5</td><td>9.3-9.5</td></tr>
<tr><td>6.215-6.218</td><td>74.8-75.2</td><td>1660-1710</td><td>10.6-12.7</td></tr>
<tr><td>6.26775-6.26825</td><td>108-121.94</td><td>1718.8-1722.2</td><td>13.25-13.4</td></tr>
<tr><td>6.31175-6.31225</td><td>123-138</td><td>2200-2300</td><td>14.47-14.5</td></tr>
<tr><td>8.291-8.294</td><td>149.9-150.05</td><td>2310-2390</td><td>15.35-16.2</td></tr>
<tr><td>8.362-8.366</td><td>156.52475-156.52525</td><td>2483.5-2500</td><td>17.7-21.4</td></tr>
<tr><td>8.37625-8.38675</td><td>156.7-156.9</td><td>2690-2900</td><td>22.01-23.12</td></tr>
<tr><td>8.41425-8.41475</td><td>162.0125-167.17</td><td>3260-3267</td><td>23.6-24.0</td></tr>
<tr><td>12.29-12.293</td><td>167.72-173.2</td><td>3332-3339</td><td>31.2-31.8</td></tr>
<tr><td>12.51975-12.52025</td><td>240-285</td><td>3345.8-3358</td><td>36.43-36.5</td></tr>
<tr><td>12.57675-12.57725</td><td>322-335.4</td><td>3600-4400</td><td>([2])</td></tr>
<tr><td>13.36-13.41</td><td></td><td></td><td></td></tr>
</table>
[1] Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

[2] Above 38.6

The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in § 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in § 15.209shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in § 15.209shall be demonstrated based on the average value of the measured emissions. The provisions in § 15.35apply to these measurements.

Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:</td></tr>
</table>

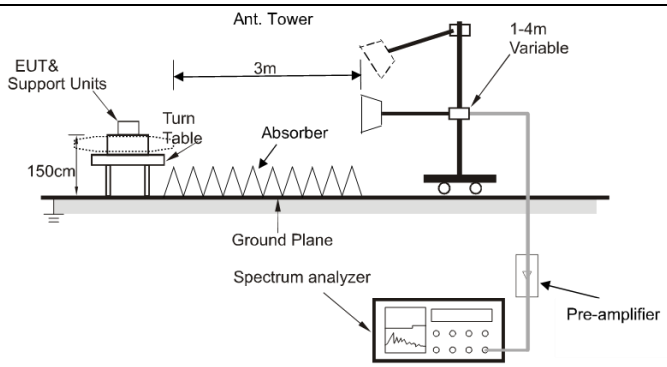
	<table><tr><th>Frequency (MHz)</th><th>Field strength (microvolts/meter)</th><th>Measurement distance (meters)</th></tr><tr><td>0.009-0.490</td><td>2400/F(kHz)</td><td>300</td></tr><tr><td>0.490-1.705</td><td>24000/F(kHz)</td><td>30</td></tr><tr><td>1.705-30.0</td><td>30</td><td>30</td></tr><tr><td>30-88</td><td>100 **</td><td>3</td></tr><tr><td>88-216</td><td>150 **</td><td>3</td></tr><tr><td>216-960</td><td>200 **</td><td>3</td></tr><tr><td>Above 960</td><td>500</td><td>3</td></tr></table> ** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241. In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.
Test Method:	ANSI C63.10-2013, section 12.7.4, 12.7.6, 12.7.7
Procedure:	Above 1GHz: a. 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. b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. c. 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. d. 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. e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. 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 or average method as specified and then reported in a data sheet. g. Test the EUT in the lowest channel, the middle channel, the Highest channel. h. 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. i. Repeat above procedures until all frequencies measured was complete. Remark: 1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor 2. Scan from 18GHz to 40GHz, the disturbance above 18GHz 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. 3. 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. 4. The disturbance above 18GHz were very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

6.6.1 E.U.T. Operation:

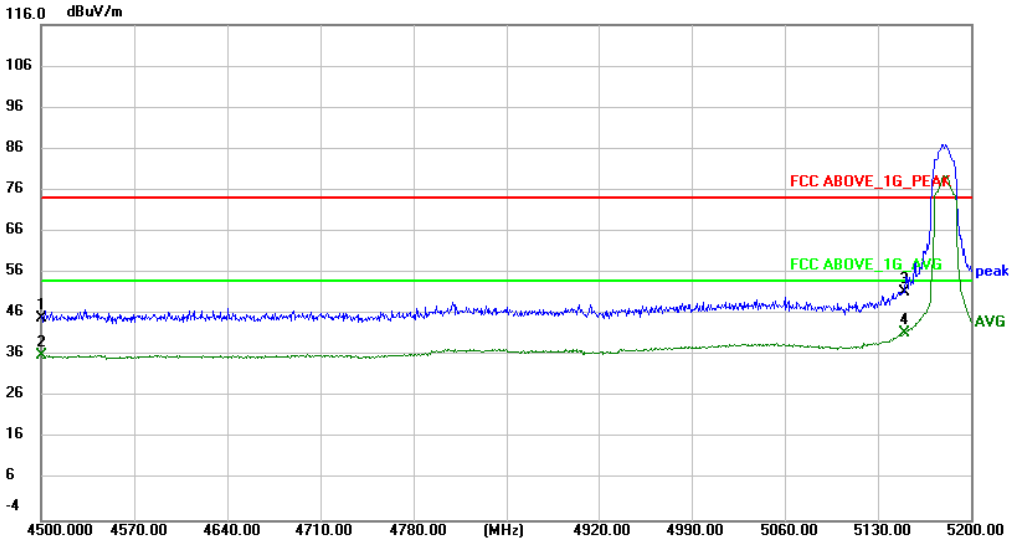
Operating Environment:					
Temperature:	26 °C	Humidity:	54 %	Atmospheric Pressure:	101.5 kPa
Pre test mode:	Mode1, Mode2, Mode3, Mode4, Mode5, Mode6				
Final test mode:	Mode1, Mode2, Mode3, Mode4, Mode5, Mode6				

6.6.2 Test Setup Diagram:



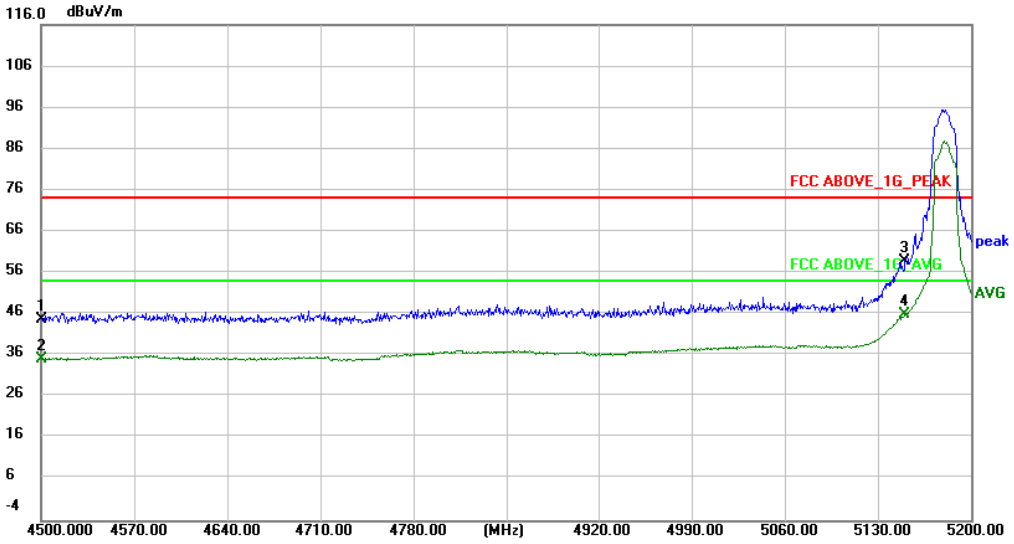
6.6.3 Test Data:

Mode1 / Polarization: Horizontal / U-NII Band 1 / 5180



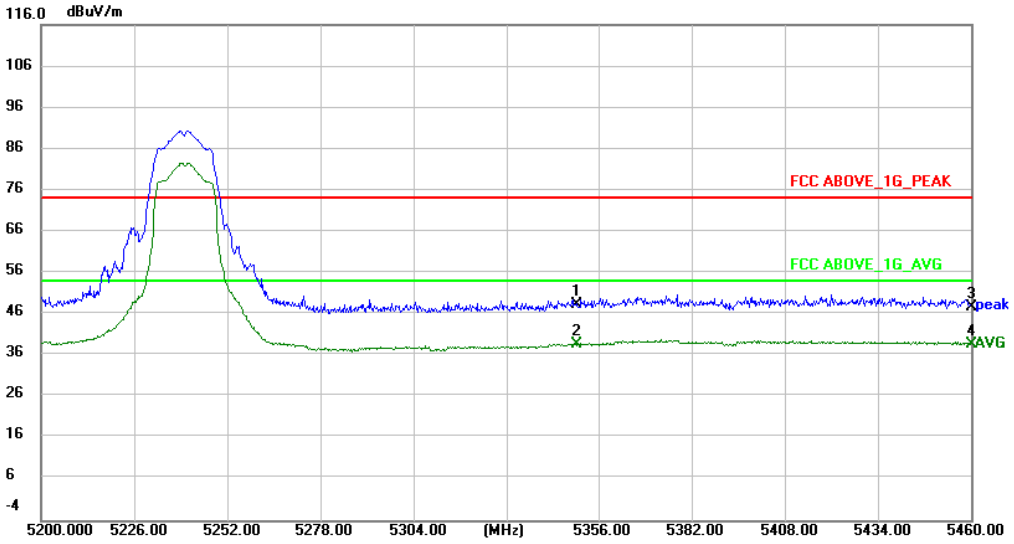
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4500.000	46.19	-1.08	45.11	74.00	-28.89	peak	
2		4500.000	37.10	-1.08	36.02	54.00	-17.98	AVG	
3		5150.000	49.58	1.85	51.43	74.00	-22.57	peak	
4	*	5150.000	39.71	1.85	41.56	54.00	-12.44	AVG	

Mode1 / Polarization: Vertical / U-NII Band 1 / 5180



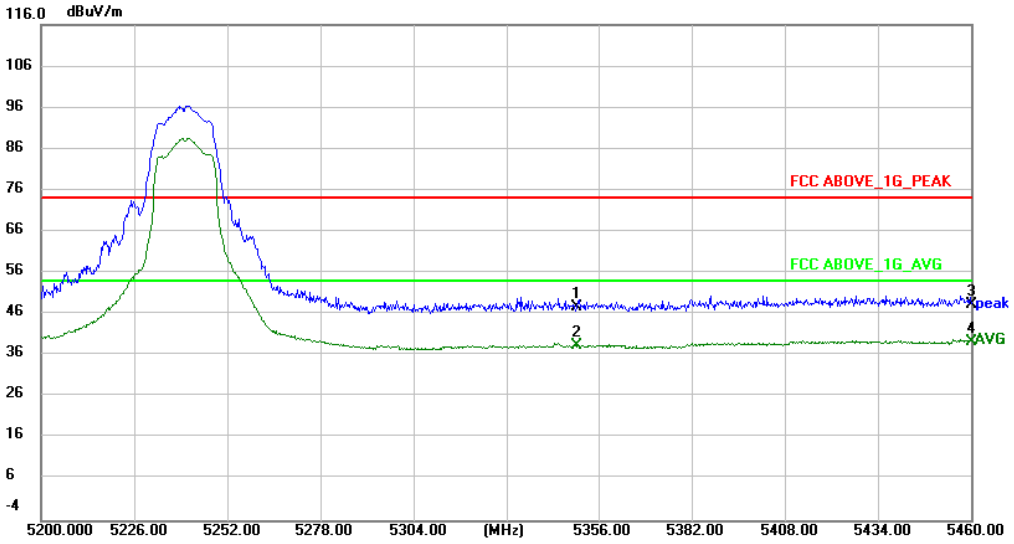
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4500.000	45.72	-1.08	44.64	74.00	-29.36	peak	
2		4500.000	36.29	-1.08	35.21	54.00	-18.79	AVG	
3		5150.000	57.10	1.85	58.95	74.00	-15.05	peak	
4	*	5150.000	44.03	1.85	45.88	54.00	-8.12	AVG	

Mode1 / Polarization: Horizontal / U-NII Band 1 / 5240



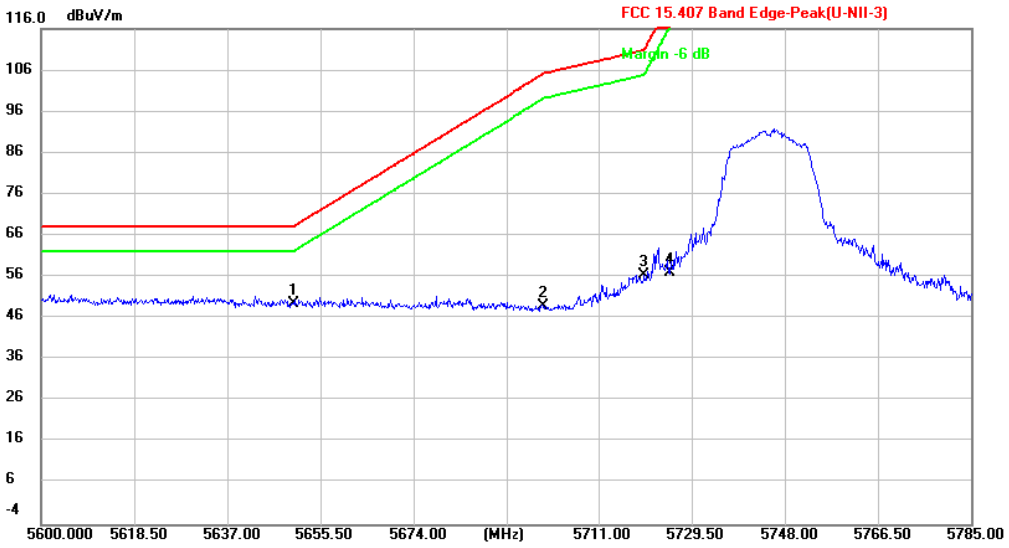
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5350.000	46.07	2.30	48.37	74.00	-25.63	peak	
2		5350.000	36.34	2.30	38.64	54.00	-15.36	AVG	
3		5460.000	45.66	2.24	47.90	74.00	-26.10	peak	
4	*	5460.000	36.66	2.24	38.90	54.00	-15.10	AVG	

Mode1 / Polarization: Vertical / U-NII Band 1 / 5240



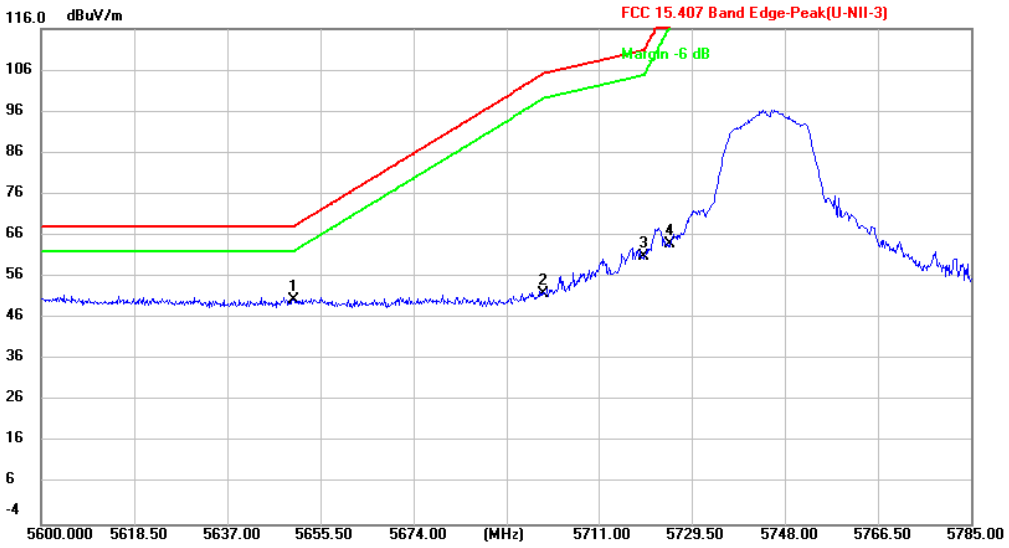
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5350.000	45.54	2.30	47.84	74.00	-26.16	peak	
2		5350.000	36.03	2.30	38.33	54.00	-15.67	AVG	
3		5460.000	46.22	2.24	48.46	74.00	-25.54	peak	
4	*	5460.000	37.26	2.24	39.50	54.00	-14.50	AVG	

Mode1 / Polarization: Horizontal / U-NII Band 3 / 5745



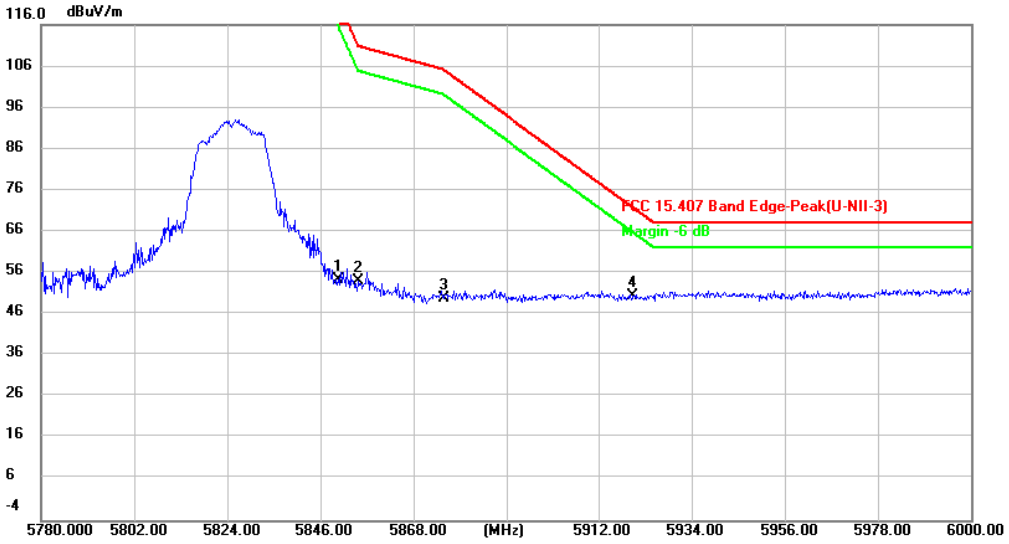
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5650.000	46.84	2.79	49.63	68.20	-18.57	peak	
2		5700.000	45.95	2.86	48.81	105.20	-56.39	peak	
3		5720.000	53.68	2.77	56.45	110.80	-54.35	peak	
4		5725.000	54.33	2.75	57.08	122.20	-65.12	peak	

Mode1 / Polarization: Vertical / U-NII Band 3 / 5745



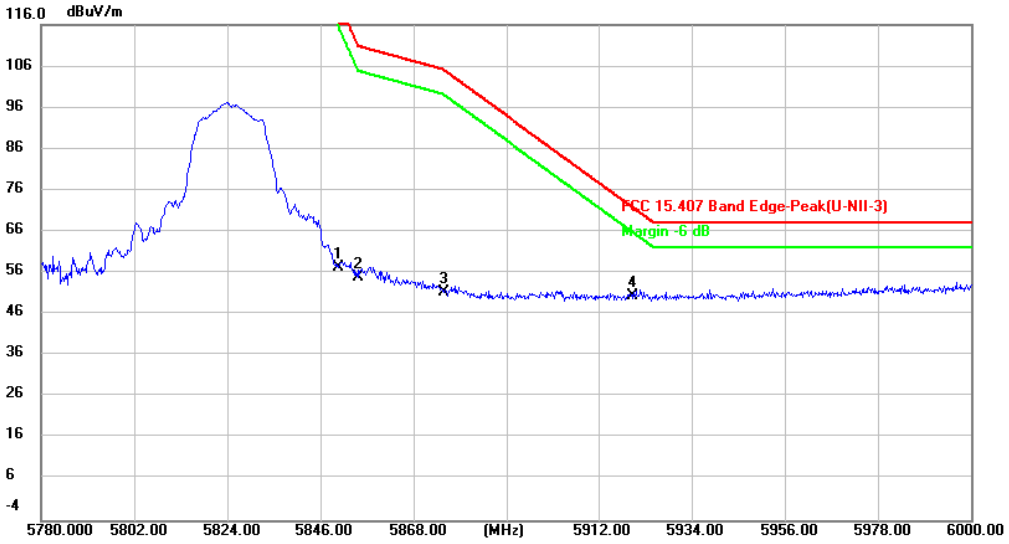
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5650.000	47.73	2.79	50.52	68.20	-17.68	peak	
2		5700.000	49.21	2.86	52.07	105.20	-53.13	peak	
3		5720.000	58.16	2.77	60.93	110.80	-49.87	peak	
4		5725.000	61.13	2.75	63.88	122.20	-58.32	peak	

Mode1 / Polarization: Horizontal / U-NII Band 3 / 5825



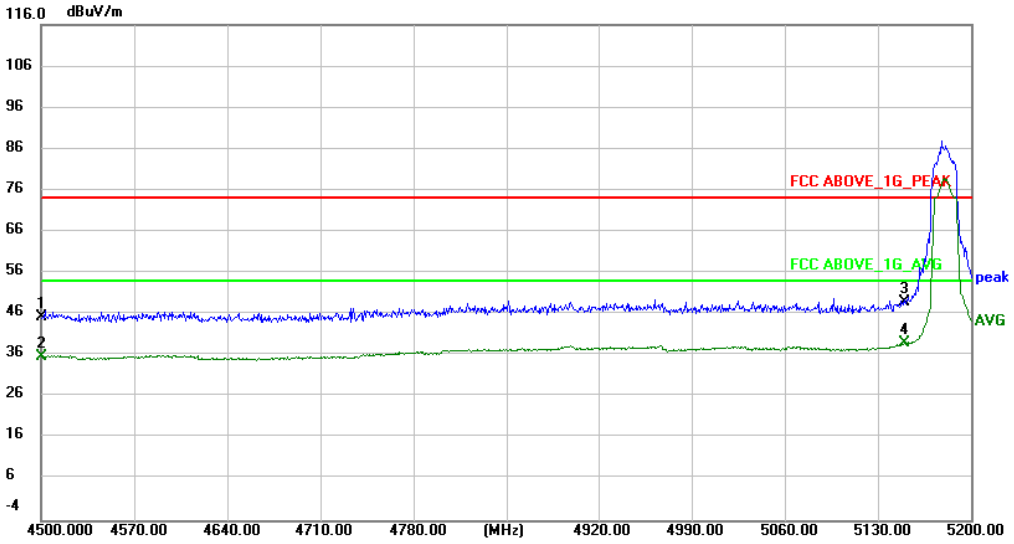
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5850.000	51.63	2.67	54.30	122.20	-67.90	peak	
2		5855.000	51.44	2.72	54.16	110.80	-56.64	peak	
3		5875.000	46.91	2.91	49.82	105.20	-55.38	peak	
4	*	5920.000	47.15	3.22	50.37	71.90	-21.53	peak	

Mode1 / Polarization: Vertical / U-NII Band 3 / 5825



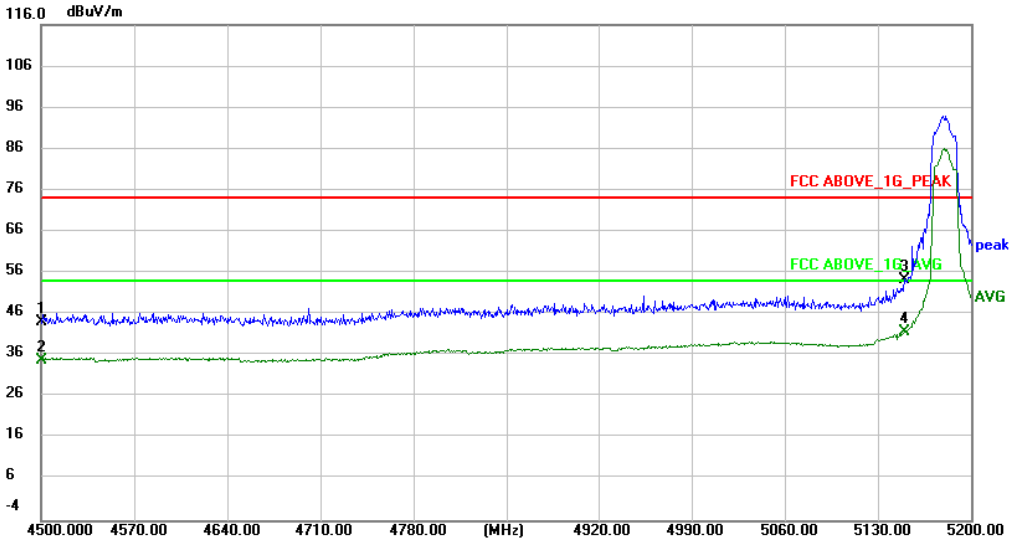
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5850.000	54.62	2.67	57.29	122.20	-64.91	peak	
2		5855.000	52.33	2.72	55.05	110.80	-55.75	peak	
3		5875.000	48.36	2.91	51.27	105.20	-53.93	peak	
4	*	5920.000	47.27	3.22	50.49	71.90	-21.41	peak	

Mode2 / Polarization: Horizontal / U-NII Band 1 / 5190



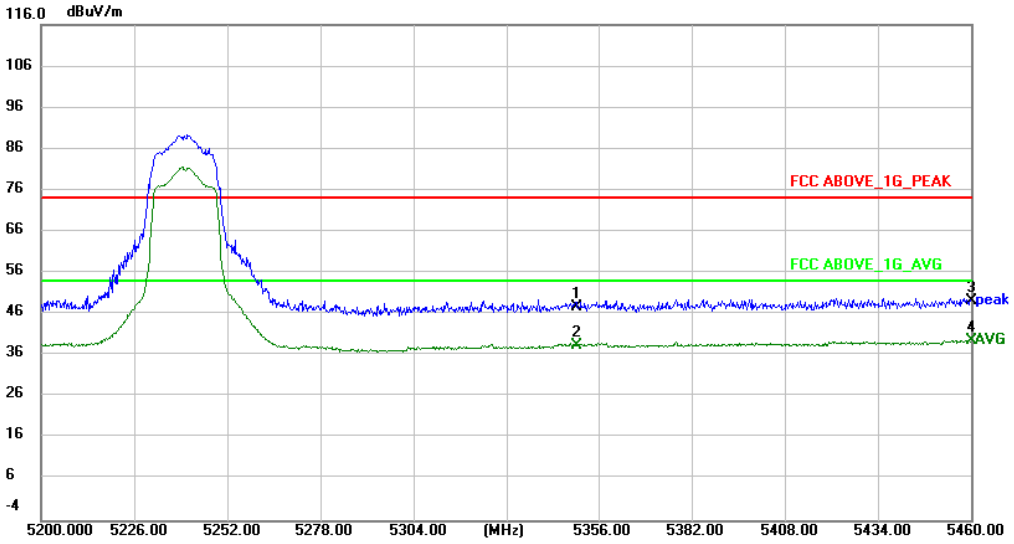
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4500.000	46.38	-1.08	45.30	74.00	-28.70	peak	
2		4500.000	36.77	-1.08	35.69	54.00	-18.31	AVG	
3		5150.000	47.20	1.85	49.05	74.00	-24.95	peak	
4	*	5150.000	37.16	1.85	39.01	54.00	-14.99	AVG	

Mode2 / Polarization: Vertical / U-NII Band 1 / 5190



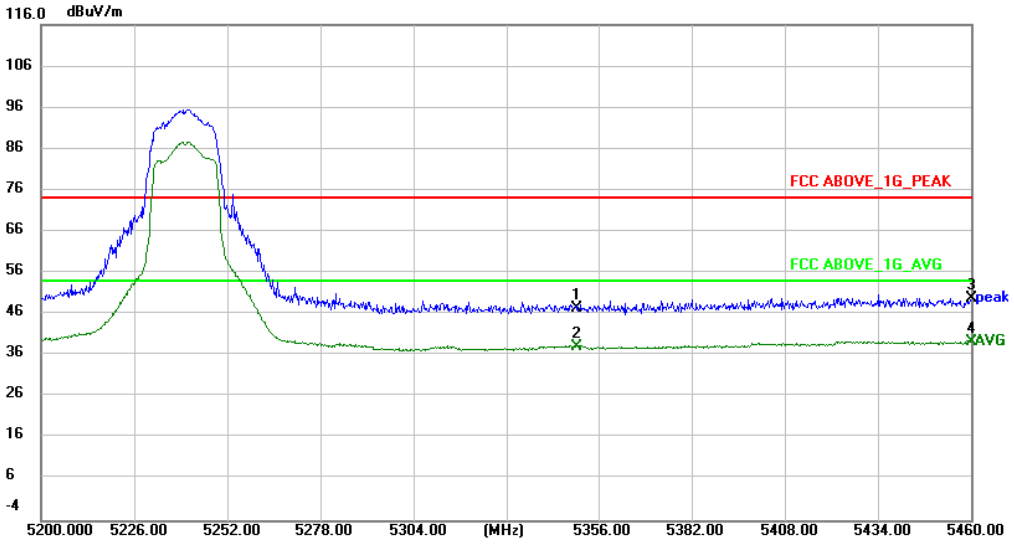
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4500.000	45.27	-1.08	44.19	74.00	-29.81	peak	
2		4500.000	36.05	-1.08	34.97	54.00	-19.03	AVG	
3		5150.000	52.53	1.85	54.38	74.00	-19.62	peak	
4	*	5150.000	39.92	1.85	41.77	54.00	-12.23	AVG	

Mode2 / Polarization: Horizontal / U-NII Band 1 / 5240



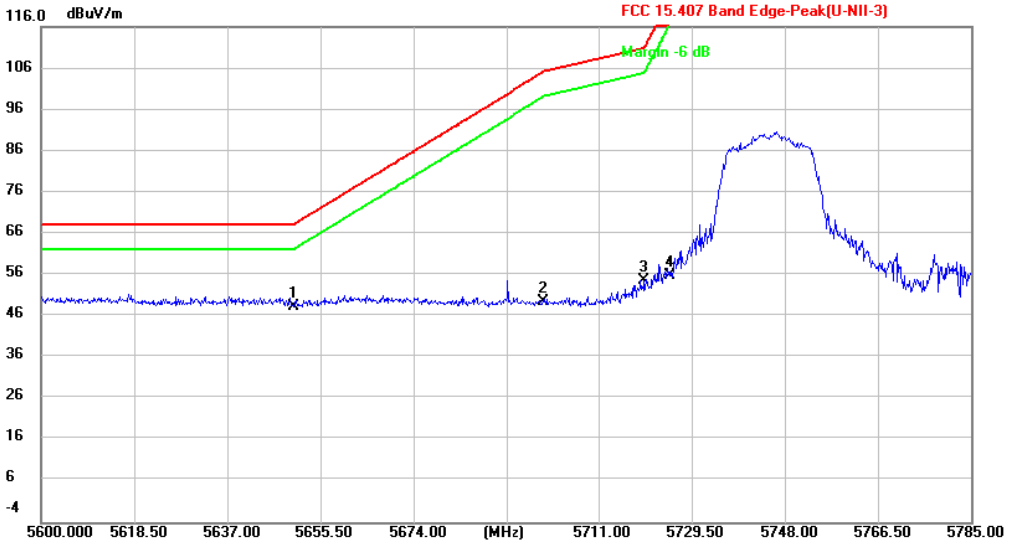
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5350.000	45.54	2.30	47.84	74.00	-26.16	peak	
2		5350.000	36.26	2.30	38.56	54.00	-15.44	AVG	
3		5460.000	46.99	2.24	49.23	74.00	-24.77	peak	
4	*	5460.000	37.40	2.24	39.64	54.00	-14.36	AVG	

Mode2 / Polarization: Vertical / U-NII Band 1 / 5240



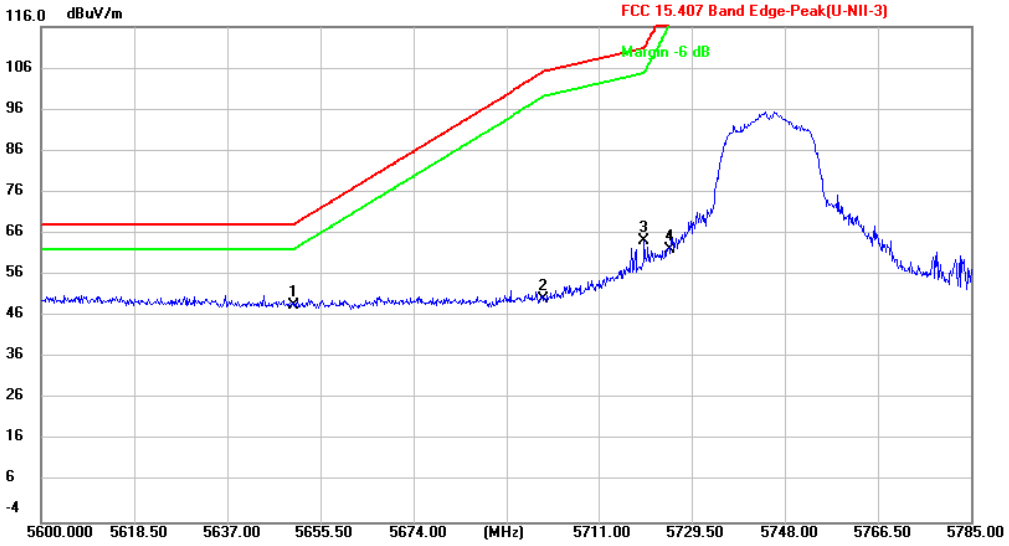
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5350.000	45.06	2.30	47.36	74.00	-26.64	peak	
2		5350.000	35.89	2.30	38.19	54.00	-15.81	AVG	
3		5460.000	47.54	2.24	49.78	74.00	-24.22	peak	
4	*	5460.000	37.23	2.24	39.47	54.00	-14.53	AVG	

Mode2 / Polarization: Horizontal / U-NII Band 3 / 5745



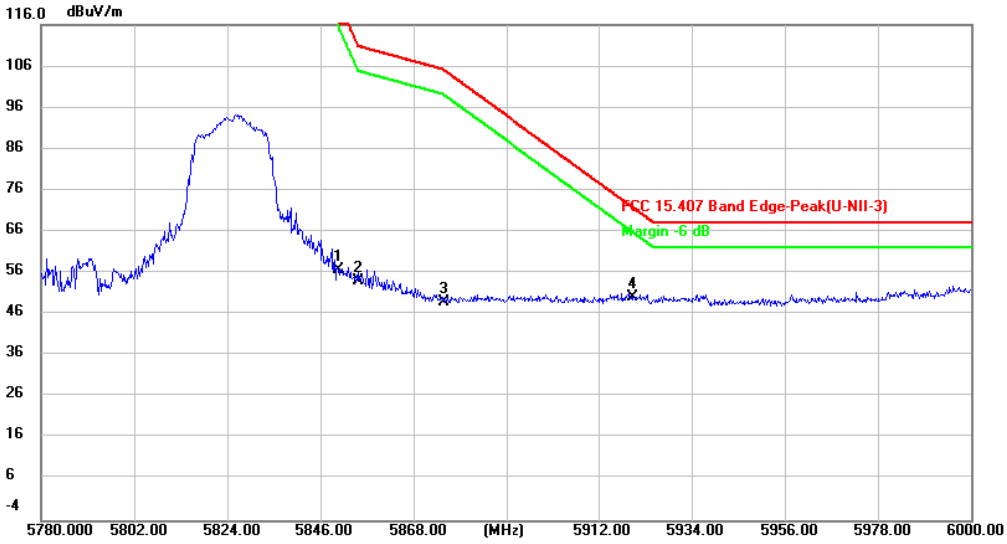
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5650.000	45.54	2.79	48.33	68.20	-19.87	peak	
2		5700.000	46.81	2.86	49.67	105.20	-55.53	peak	
3		5720.000	51.91	2.77	54.68	110.80	-56.12	peak	
4		5725.000	53.01	2.75	55.76	122.20	-66.44	peak	

Mode2 / Polarization: Vertical / U-NII Band 3 / 5745



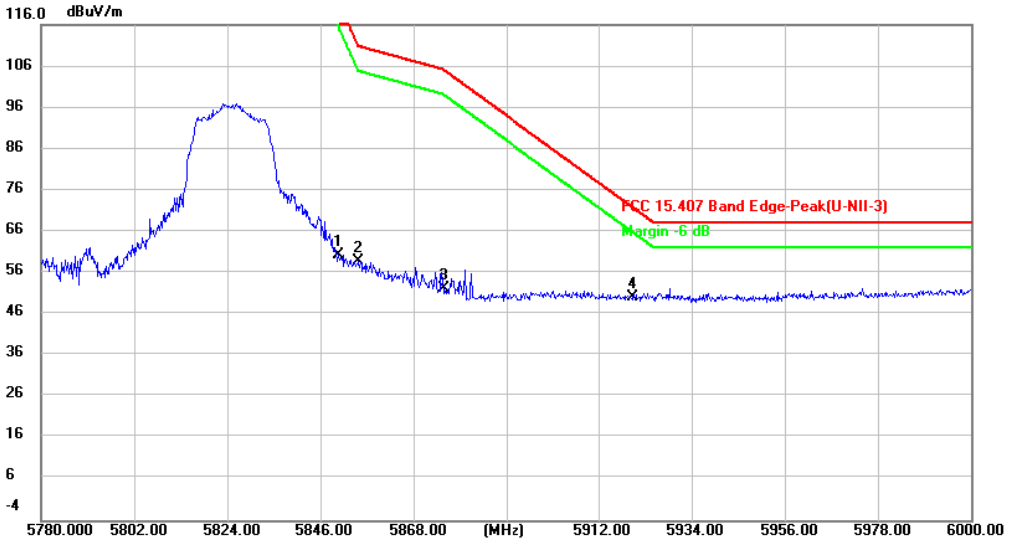
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5650.000	45.86	2.79	48.65	68.20	-19.55	peak	
2		5700.000	47.39	2.86	50.25	105.20	-54.95	peak	
3		5720.000	61.34	2.77	64.11	110.80	-46.69	peak	
4		5725.000	59.48	2.75	62.23	122.20	-59.97	peak	

Mode2 / Polarization: Horizontal / U-NII Band 3 / 5825



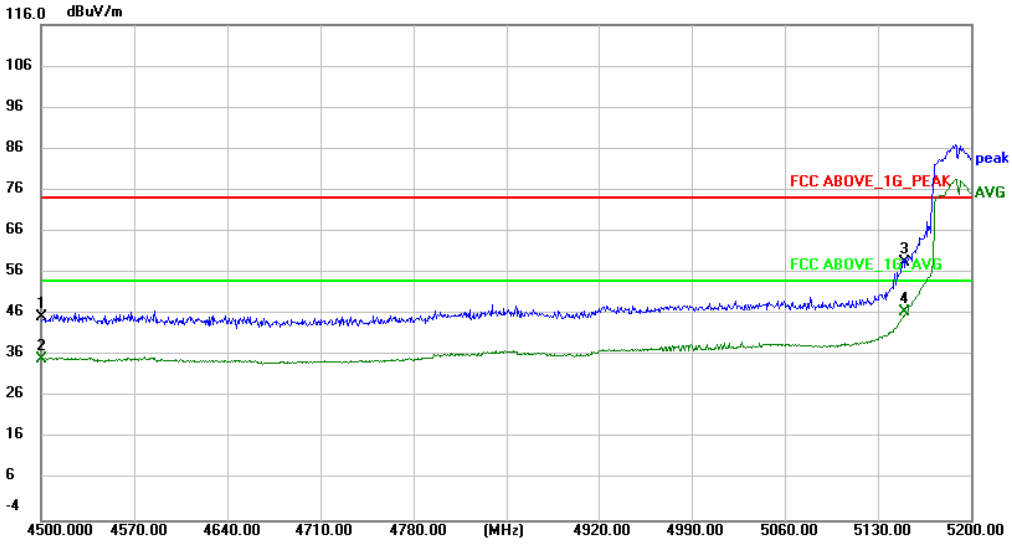
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5850.000	54.20	2.67	56.87	122.20	-65.33	peak	
2		5855.000	51.26	2.72	53.98	110.80	-56.82	peak	
3		5875.000	46.06	2.91	48.97	105.20	-56.23	peak	
4	*	5920.000	46.99	3.22	50.21	71.90	-21.69	peak	

Mode2 / Polarization: Vertical / U-NII Band 3 / 5825



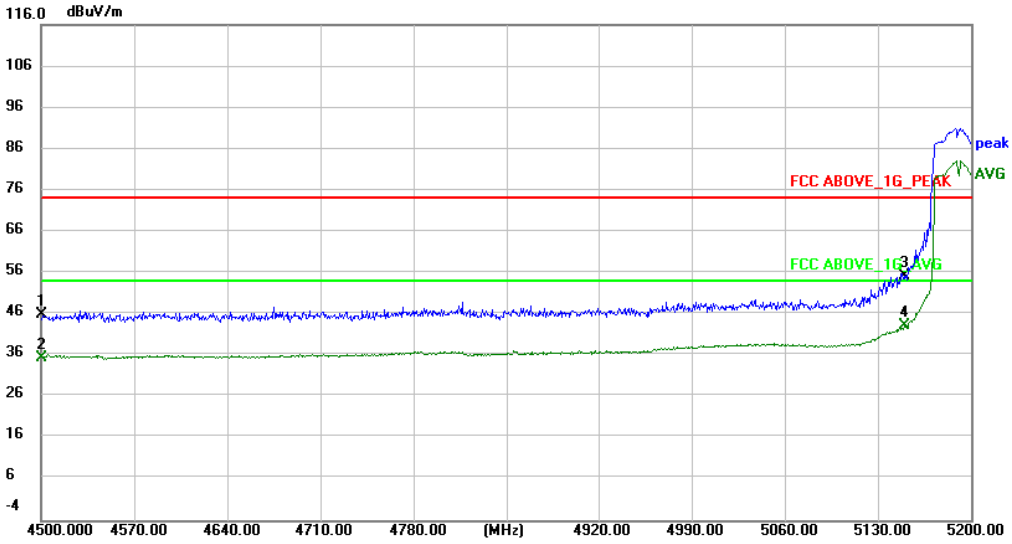
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5850.000	57.61	2.67	60.28	122.20	-61.92	peak	
2		5855.000	56.13	2.72	58.85	110.80	-51.95	peak	
3		5875.000	49.36	2.91	52.27	105.20	-52.93	peak	
4	*	5920.000	47.08	3.22	50.30	71.90	-21.60	peak	

Mode3 / Polarization: Horizontal / U-NII Band 1 / 5190



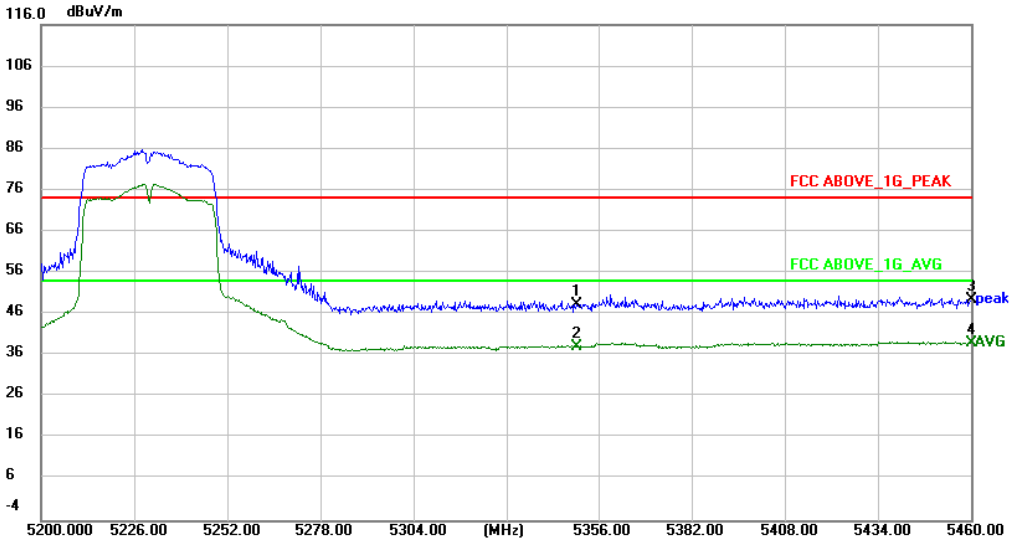
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4500.000	46.44	-1.08	45.36	74.00	-28.64	peak	
2		4500.000	36.37	-1.08	35.29	54.00	-18.71	AVG	
3		5150.000	56.59	1.85	58.44	74.00	-15.56	peak	
4	*	5150.000	44.64	1.85	46.49	54.00	-7.51	AVG	

Mode3 / Polarization: Vertical / U-NII Band 1 / 5190



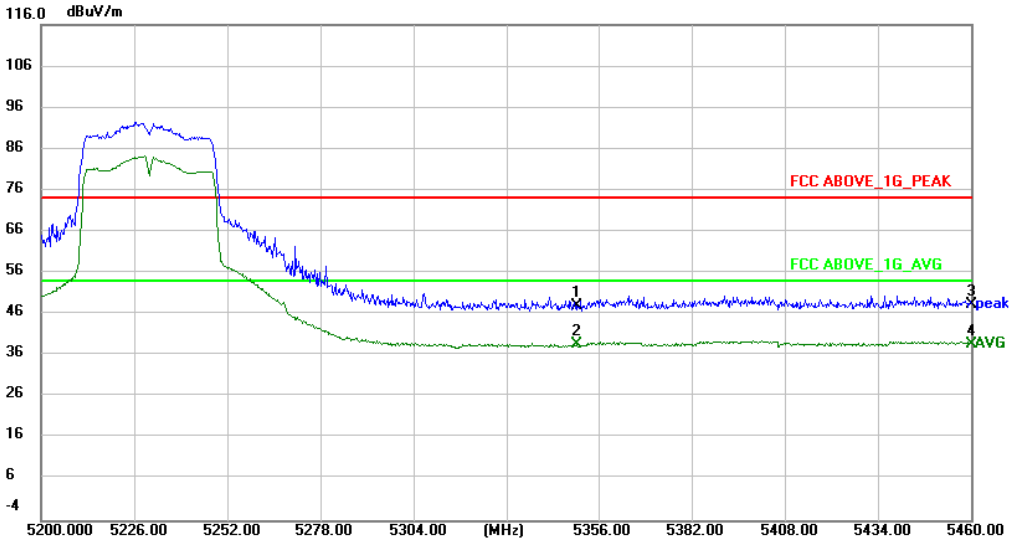
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4500.000	46.94	-1.08	45.86	74.00	-28.14	peak	
2		4500.000	36.61	-1.08	35.53	54.00	-18.47	AVG	
3		5150.000	53.35	1.85	55.20	74.00	-18.80	peak	
4	*	5150.000	41.38	1.85	43.23	54.00	-10.77	AVG	

Mode3 / Polarization: Horizontal / U-NII Band 1 / 5230



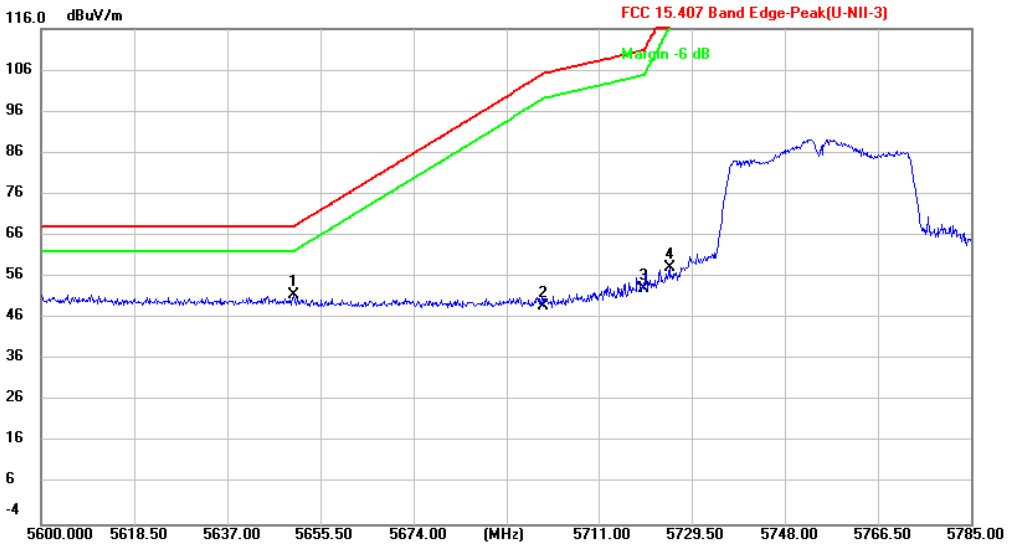
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5350.000	45.95	2.30	48.25	74.00	-25.75	peak	
2		5350.000	35.88	2.30	38.18	54.00	-15.82	AVG	
3		5460.000	47.24	2.24	49.48	74.00	-24.52	peak	
4	*	5460.000	36.71	2.24	38.95	54.00	-15.05	AVG	

Mode3 / Polarization: Vertical / U-NII Band 1 / 5230



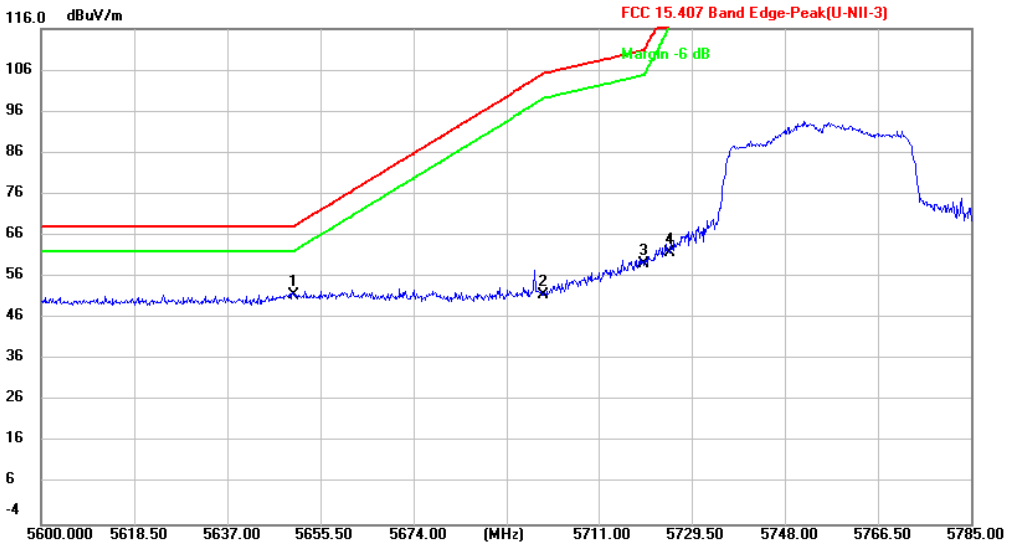
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5350.000	45.88	2.30	48.18	74.00	-25.82	peak	
2		5350.000	36.53	2.30	38.83	54.00	-15.17	AVG	
3		5460.000	46.24	2.24	48.48	74.00	-25.52	peak	
4	*	5460.000	36.65	2.24	38.89	54.00	-15.11	AVG	

Mode3 / Polarization: Horizontal / U-NII Band 3 / 5755



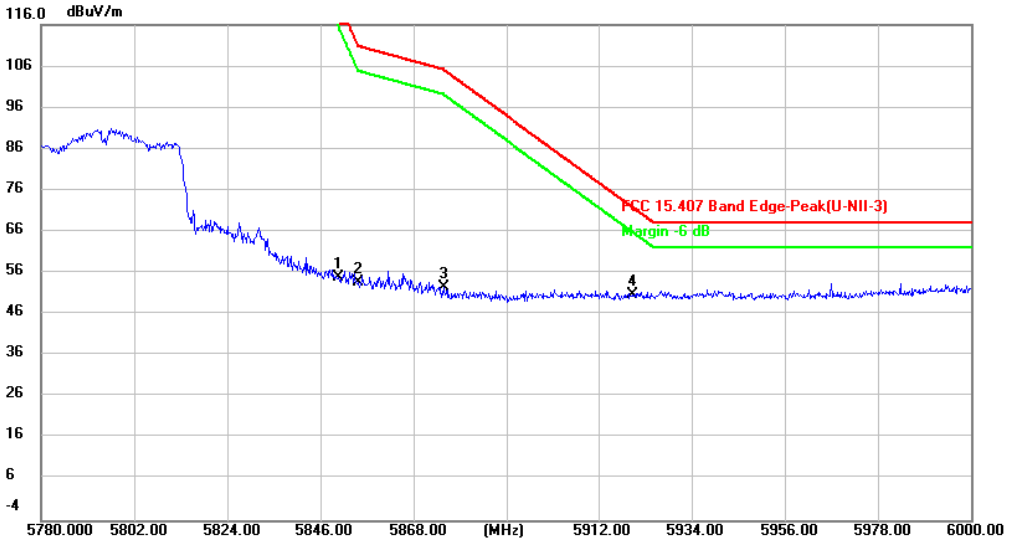
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5650.000	48.89	2.79	51.68	68.20	-16.52	peak	
2		5700.000	46.20	2.86	49.06	105.20	-56.14	peak	
3		5720.000	50.51	2.77	53.28	110.80	-57.52	peak	
4		5725.000	55.46	2.75	58.21	122.20	-63.99	peak	

Mode3 / Polarization: Vertical / U-NII Band 3 / 5755



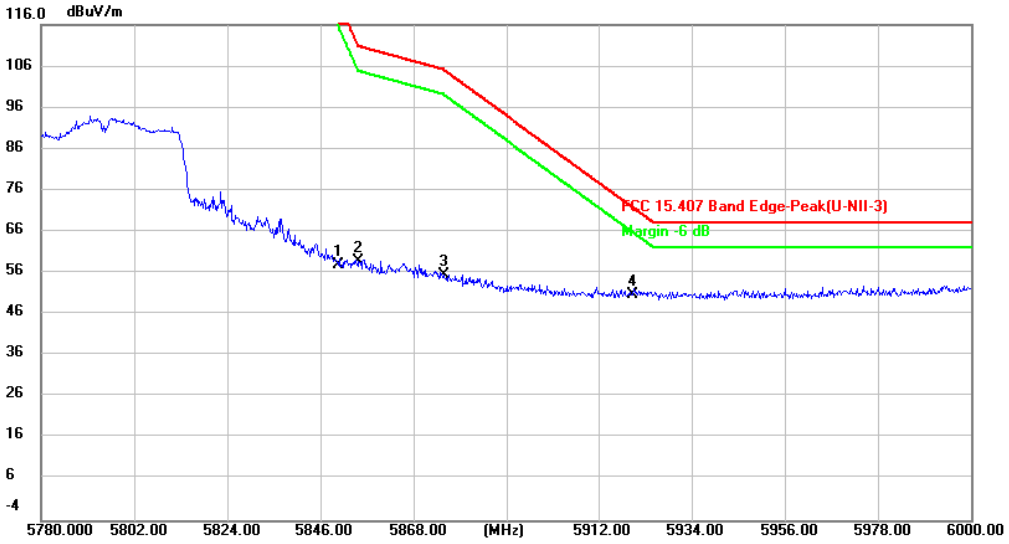
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5650.000	48.87	2.79	51.66	68.20	-16.54	peak	
2		5700.000	48.81	2.86	51.67	105.20	-53.53	peak	
3		5720.000	56.39	2.77	59.16	110.80	-51.64	peak	
4		5725.000	59.04	2.75	61.79	122.20	-60.41	peak	

Mode3 / Polarization: Horizontal / U-NII Band 3 / 5795



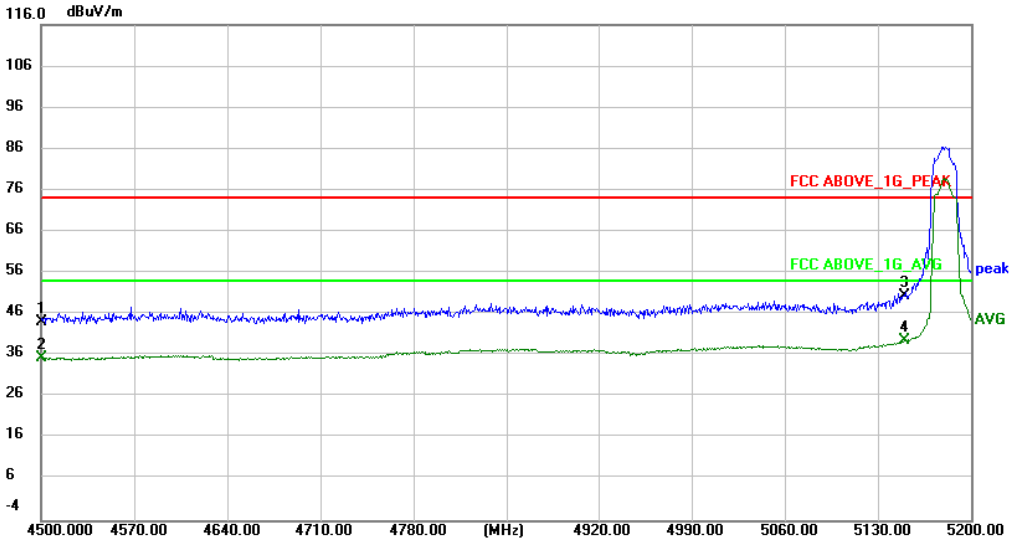
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5850.000	52.26	2.67	54.93	122.20	-67.27	peak	
2		5855.000	50.90	2.72	53.62	110.80	-57.18	peak	
3		5875.000	49.54	2.91	52.45	105.20	-52.75	peak	
4	*	5920.000	47.54	3.22	50.76	71.90	-21.14	peak	

Mode3 / Polarization: Vertical / U-NII Band 3 / 5795



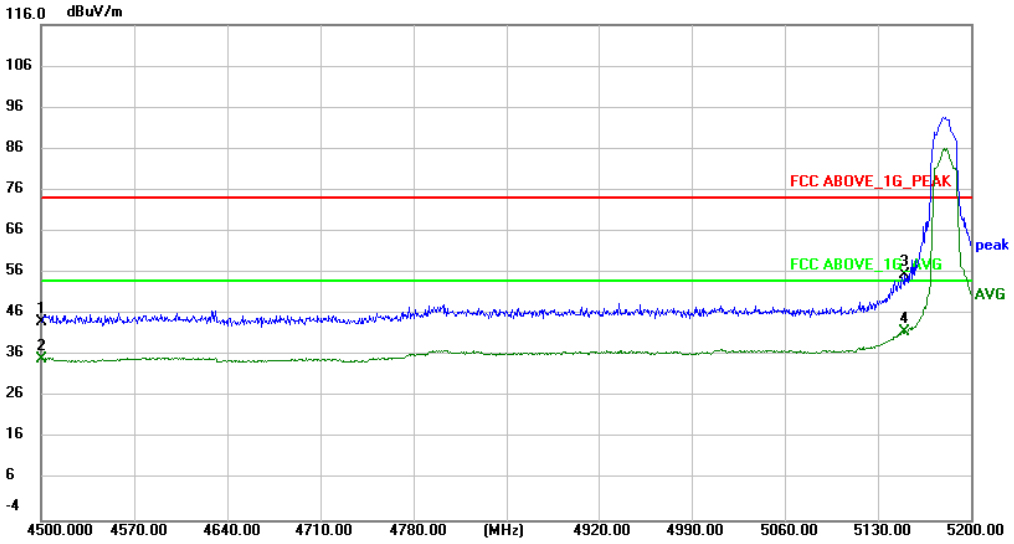
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5850.000	55.31	2.67	57.98	122.20	-64.22	peak	
2		5855.000	56.08	2.72	58.80	110.80	-52.00	peak	
3		5875.000	52.65	2.91	55.56	105.20	-49.64	peak	
4	*	5920.000	47.43	3.22	50.65	71.90	-21.25	peak	

Mode4 / Polarization: Horizontal / U-NII Band 1 / 5180



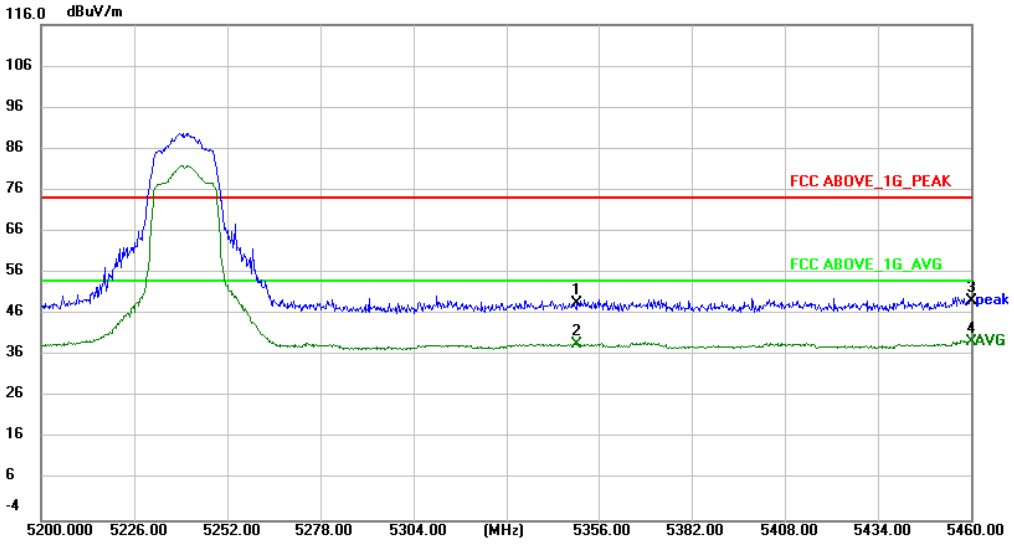
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4500.000	45.17	-1.08	44.09	74.00	-29.91	peak	
2		4500.000	36.43	-1.08	35.35	54.00	-18.65	AVG	
3		5150.000	48.61	1.85	50.46	74.00	-23.54	peak	
4	*	5150.000	37.79	1.85	39.64	54.00	-14.36	AVG	

Mode4 / Polarization: Vertical / U-NII Band 1 / 5180



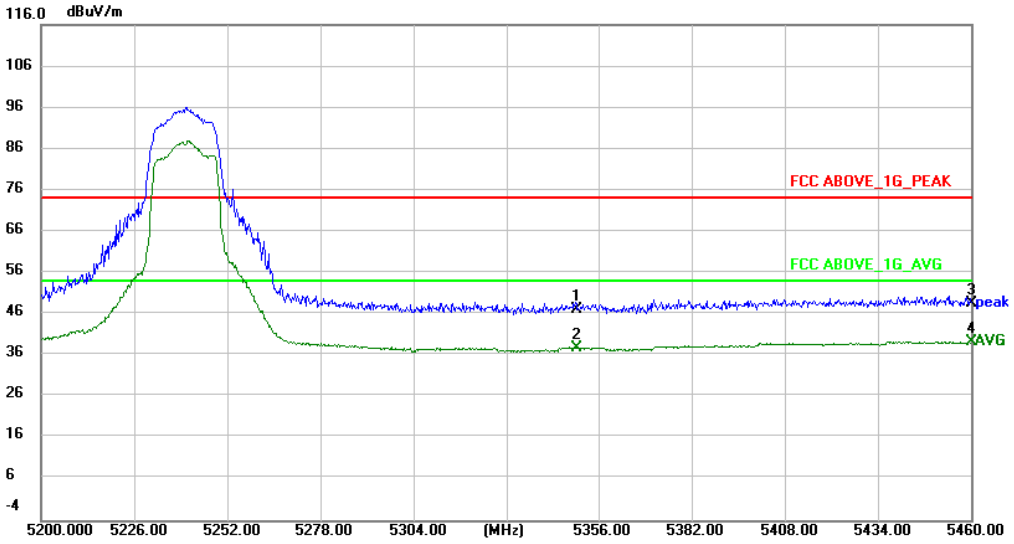
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4500.000	45.26	-1.08	44.18	74.00	-29.82	peak	
2		4500.000	36.16	-1.08	35.08	54.00	-18.92	AVG	
3		5150.000	53.56	1.85	55.41	74.00	-18.59	peak	
4	*	5150.000	39.96	1.85	41.81	54.00	-12.19	AVG	

Mode4 / Polarization: Horizontal / U-NII Band 1 / 5240



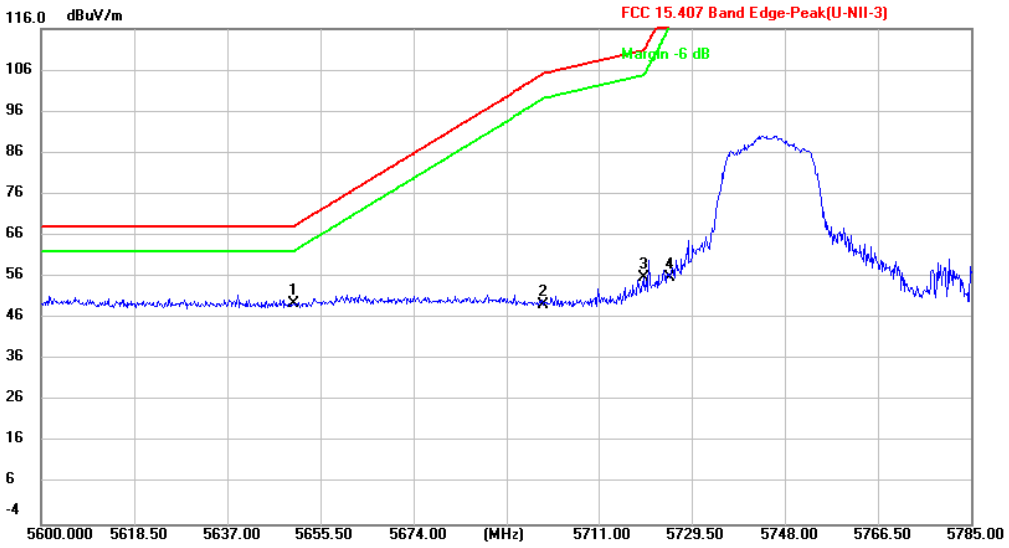
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5350.000	46.22	2.30	48.52	74.00	-25.48	peak	
2		5350.000	36.36	2.30	38.66	54.00	-15.34	AVG	
3		5460.000	47.05	2.24	49.29	74.00	-24.71	peak	
4	*	5460.000	37.19	2.24	39.43	54.00	-14.57	AVG	

Mode4 / Polarization: Vertical / U-NII Band 1 / 5240



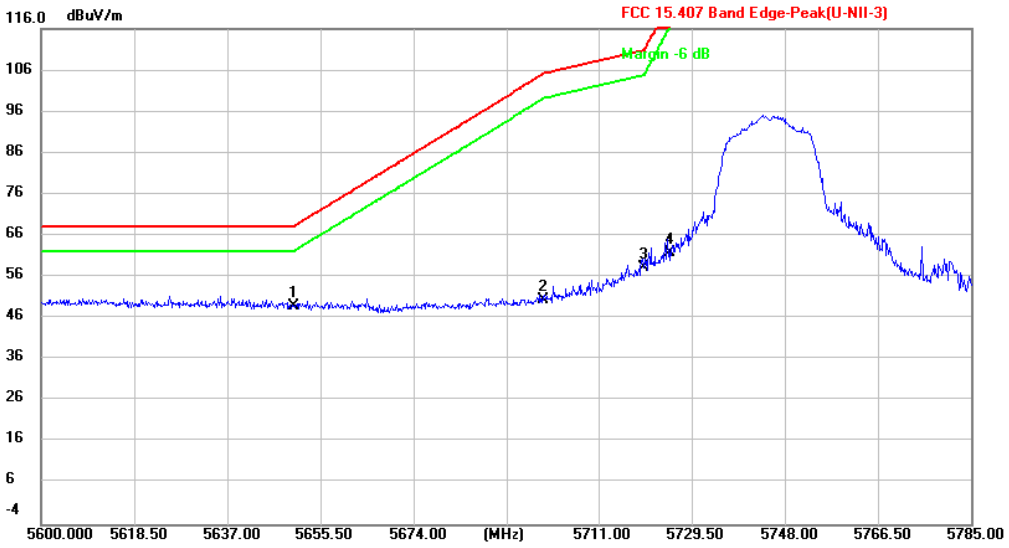
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5350.000	44.84	2.30	47.14	74.00	-26.86	peak	
2		5350.000	35.54	2.30	37.84	54.00	-16.16	AVG	
3		5460.000	46.40	2.24	48.64	74.00	-25.36	peak	
4	*	5460.000	37.04	2.24	39.28	54.00	-14.72	AVG	

Mode4 / Polarization: Horizontal / U-NII Band 3 / 5745



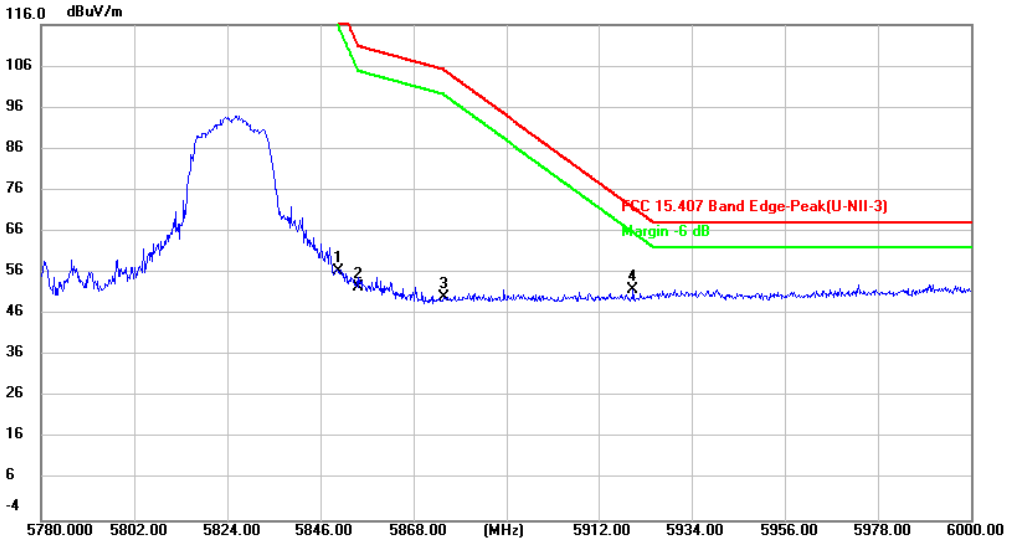
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5650.000	46.77	2.79	49.56	68.20	-18.64	peak	
2		5700.000	46.49	2.86	49.35	105.20	-55.85	peak	
3		5720.000	53.08	2.77	55.85	110.80	-54.95	peak	
4		5725.000	53.23	2.75	55.98	122.20	-66.22	peak	

Mode4 / Polarization: Vertical / U-NII Band 3 / 5745



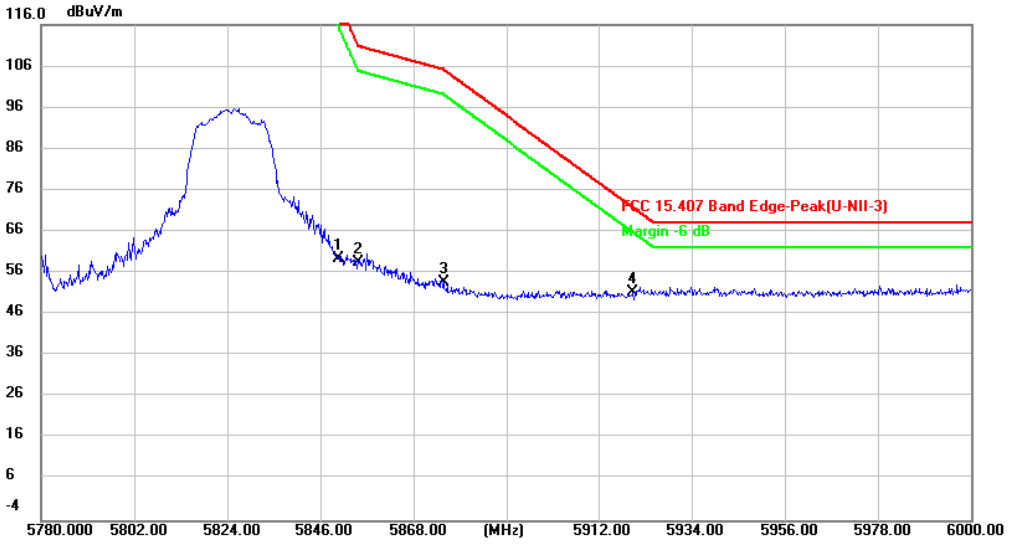
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5650.000	46.28	2.79	49.07	68.20	-19.13	peak	
2		5700.000	47.69	2.86	50.55	105.20	-54.65	peak	
3		5720.000	55.54	2.77	58.31	110.80	-52.49	peak	
4		5725.000	59.08	2.75	61.83	122.20	-60.37	peak	

Mode4 / Polarization: Horizontal / U-NII Band 3 / 5825



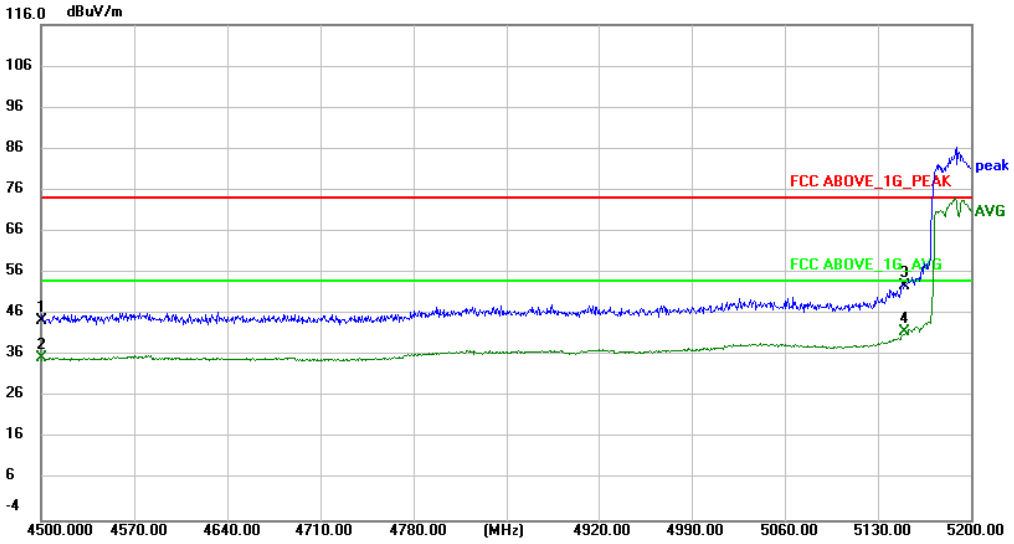
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5850.000	53.68	2.67	56.35	122.20	-65.85	peak	
2		5855.000	49.69	2.72	52.41	110.80	-58.39	peak	
3		5875.000	47.12	2.91	50.03	105.20	-55.17	peak	
4	*	5920.000	48.79	3.22	52.01	71.90	-19.89	peak	

Mode4 / Polarization: Vertical / U-NII Band 3 / 5825



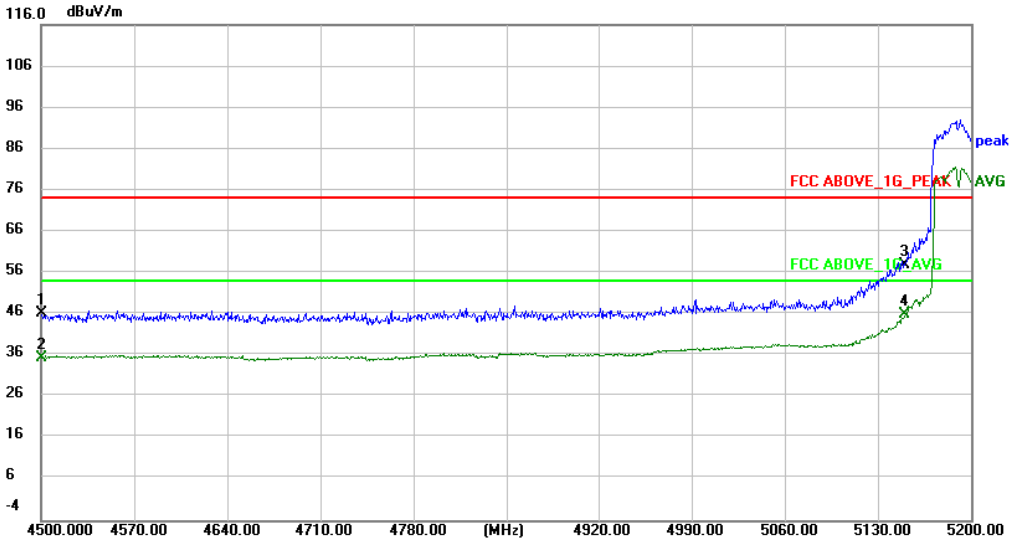
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5850.000	56.67	2.67	59.34	122.20	-62.86	peak	
2		5855.000	55.83	2.72	58.55	110.80	-52.25	peak	
3		5875.000	50.93	2.91	53.84	105.20	-51.36	peak	
4	*	5920.000	48.05	3.22	51.27	71.90	-20.63	peak	

Mode5 / Polarization: Horizontal / U-NII Band 1 / 5190



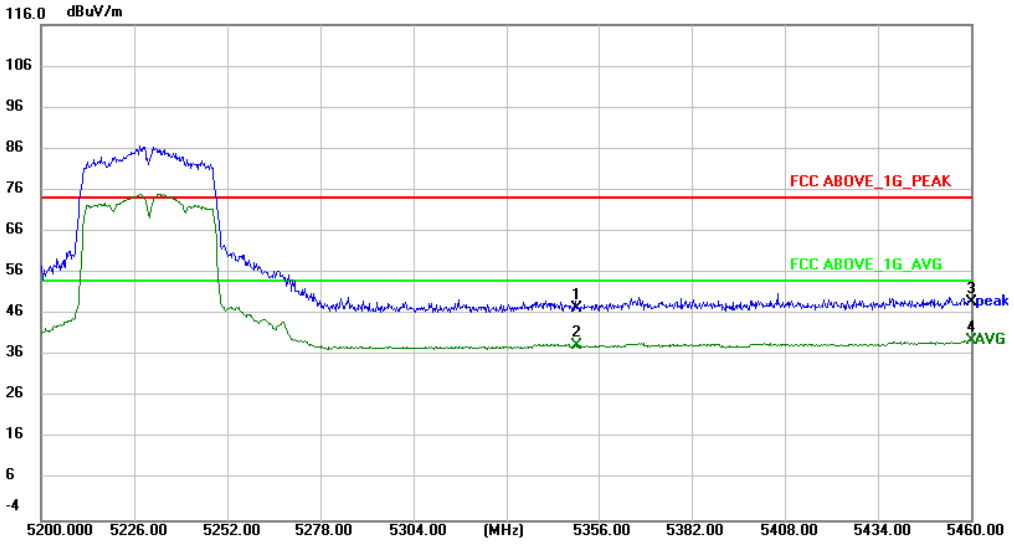
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4500.000	45.66	-1.08	44.58	74.00	-29.42	peak	
2		4500.000	36.42	-1.08	35.34	54.00	-18.66	AVG	
3		5150.000	50.89	1.85	52.74	74.00	-21.26	peak	
4	*	5150.000	39.77	1.85	41.62	54.00	-12.38	AVG	

Mode5 / Polarization: Vertical / U-NII Band 1 / 5190



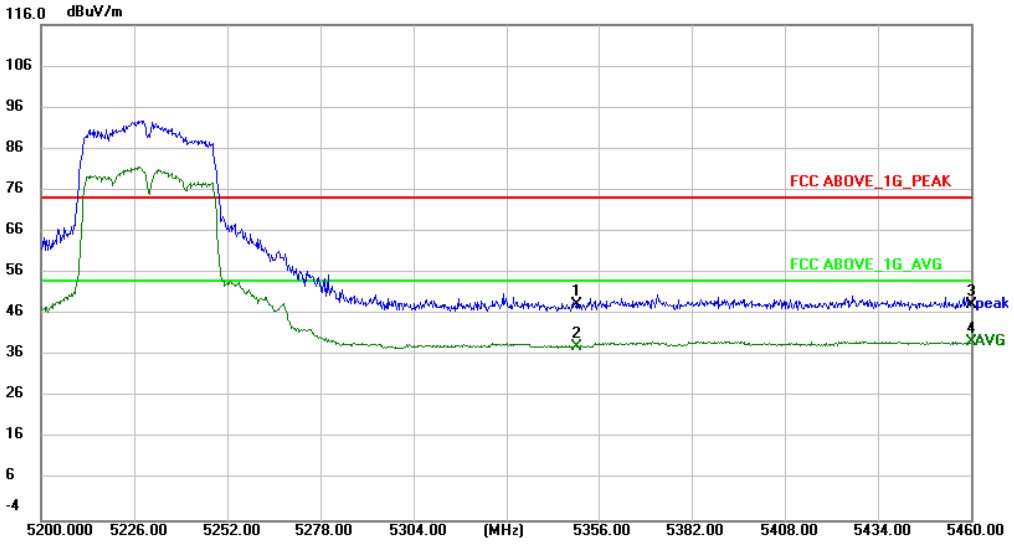
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4500.000	47.35	-1.08	46.27	74.00	-27.73	peak	
2		4500.000	36.68	-1.08	35.60	54.00	-18.40	AVG	
3		5150.000	56.20	1.85	58.05	74.00	-15.95	peak	
4	*	5150.000	44.06	1.85	45.91	54.00	-8.09	AVG	

Mode5 / Polarization: Horizontal / U-NII Band 1 / 5230



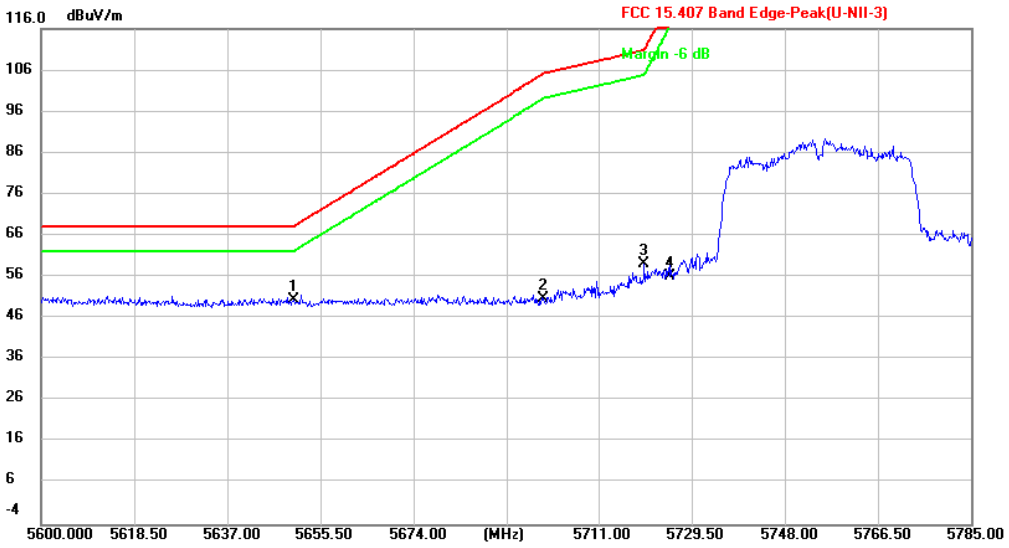
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5350.000	45.16	2.30	47.46	74.00	-26.54	peak	
2		5350.000	36.02	2.30	38.32	54.00	-15.68	AVG	
3		5460.000	46.57	2.24	48.81	74.00	-25.19	peak	
4	*	5460.000	37.38	2.24	39.62	54.00	-14.38	AVG	

Mode5 / Polarization: Vertical / U-NII Band 1 / 5230



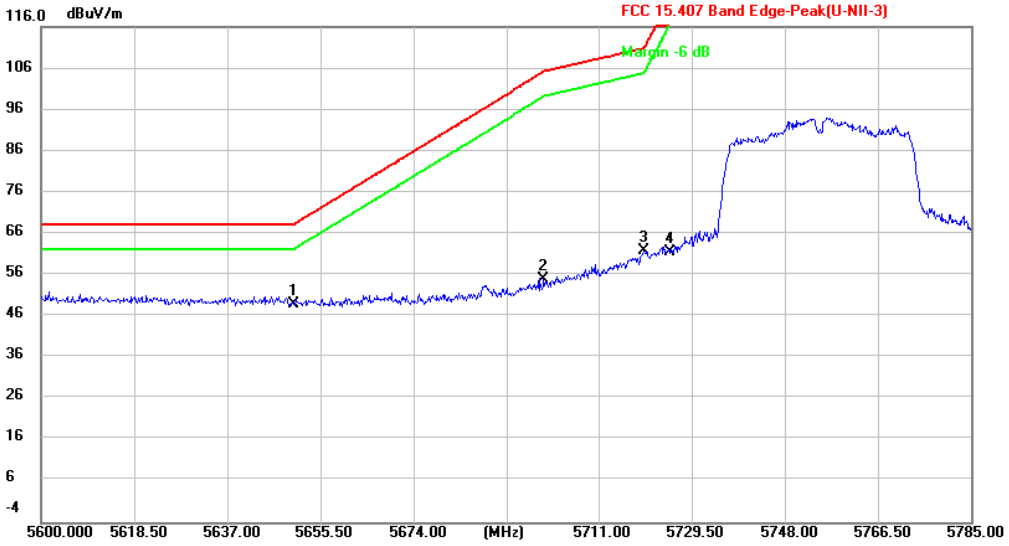
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5350.000	45.94	2.30	48.24	74.00	-25.76	peak	
2		5350.000	35.93	2.30	38.23	54.00	-15.77	AVG	
3		5460.000	46.09	2.24	48.33	74.00	-25.67	peak	
4	*	5460.000	37.01	2.24	39.25	54.00	-14.75	AVG	

Mode5 / Polarization: Horizontal / U-NII Band 3 / 5755



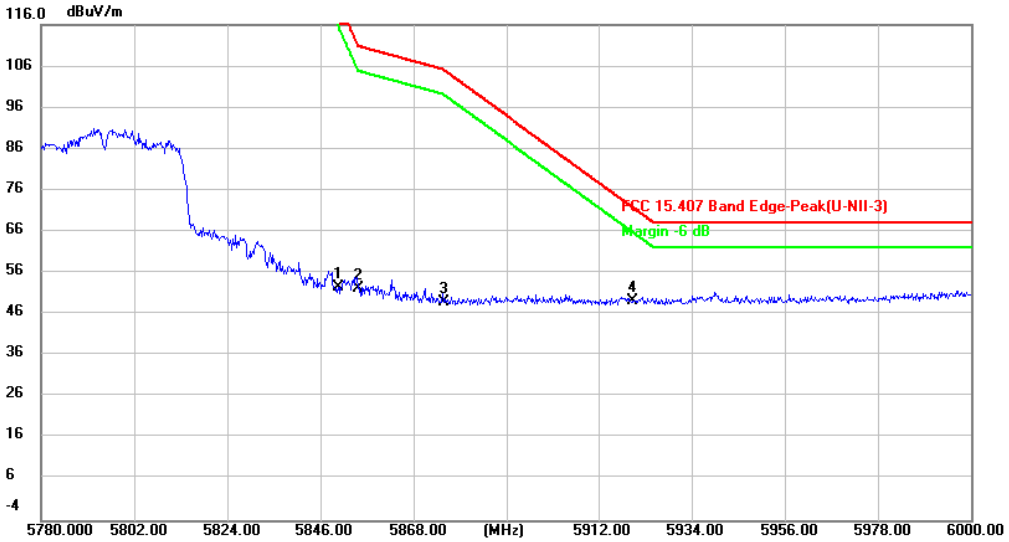
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5650.000	47.70	2.79	50.49	68.20	-17.71	peak	
2		5700.000	47.76	2.86	50.62	105.20	-54.58	peak	
3		5720.000	56.40	2.77	59.17	110.80	-51.63	peak	
4		5725.000	53.50	2.75	56.25	122.20	-65.95	peak	

Mode5 / Polarization: Vertical / U-NII Band 3 / 5755



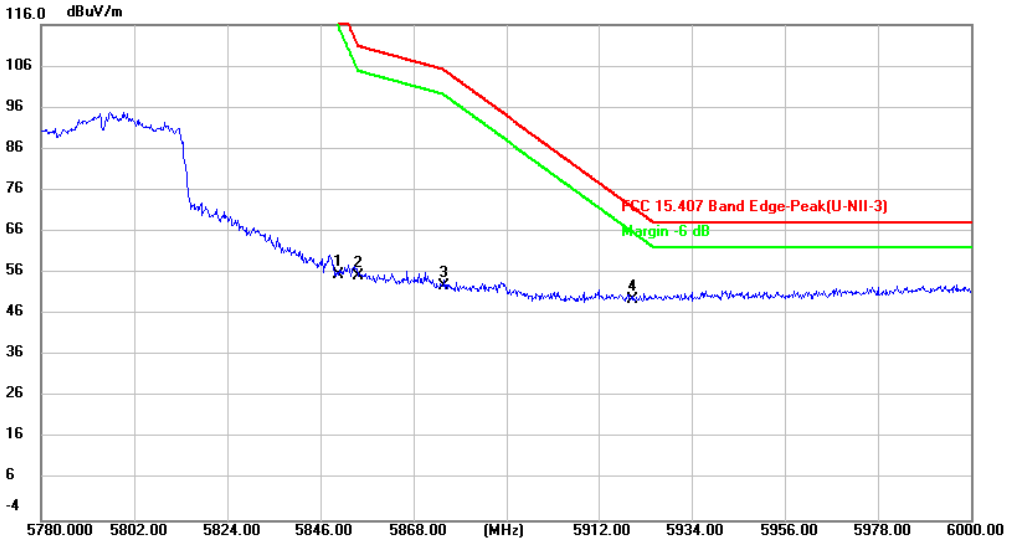
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5650.000	46.08	2.79	48.87	68.20	-19.33	peak	
2		5700.000	52.09	2.86	54.95	105.20	-50.25	peak	
3		5720.000	58.97	2.77	61.74	110.80	-49.06	peak	
4		5725.000	58.79	2.75	61.54	122.20	-60.66	peak	

Mode5 / Polarization: Horizontal / U-NII Band 3 / 5795



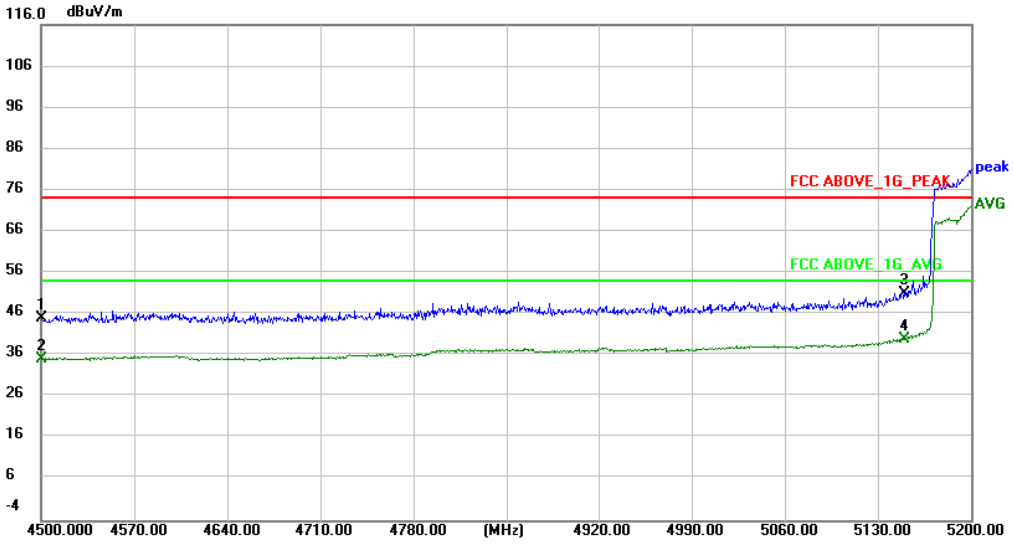
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5850.000	49.81	2.67	52.48	122.20	-69.72	peak	
2		5855.000	49.56	2.72	52.28	110.80	-58.52	peak	
3		5875.000	45.98	2.91	48.89	105.20	-56.31	peak	
4	*	5920.000	46.16	3.22	49.38	71.90	-22.52	peak	

Mode5 / Polarization: Vertical / U-NII Band 3 / 5795



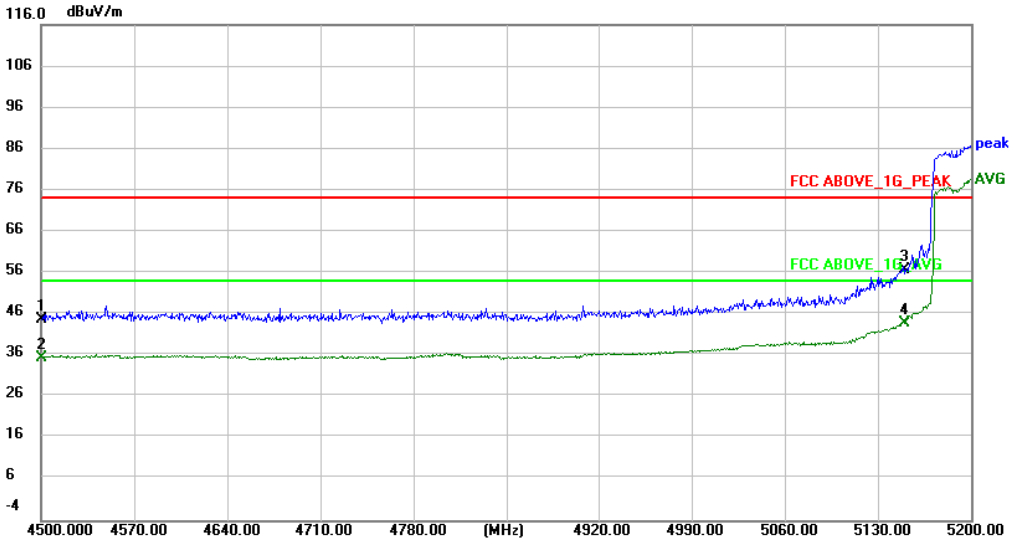
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5850.000	53.00	2.67	55.67	122.20	-66.53	peak	
2		5855.000	52.45	2.72	55.17	110.80	-55.63	peak	
3		5875.000	49.84	2.91	52.75	105.20	-52.45	peak	
4	*	5920.000	46.30	3.22	49.52	71.90	-22.38	peak	

Mode6 / Polarization: Horizontal / U-NII Band 1 / 5210



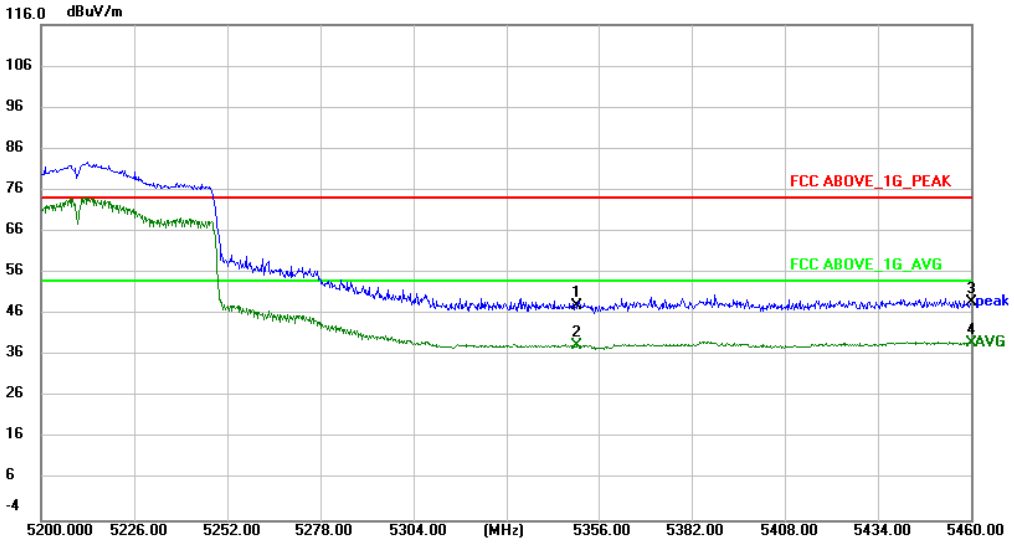
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4500.000	46.01	-1.08	44.93	74.00	-29.07	peak	
2		4500.000	36.23	-1.08	35.15	54.00	-18.85	AVG	
3		5150.000	49.22	1.85	51.07	74.00	-22.93	peak	
4	*	5150.000	38.20	1.85	40.05	54.00	-13.95	AVG	

Mode6 / Polarization: Vertical / U-NII Band 1 / 5210



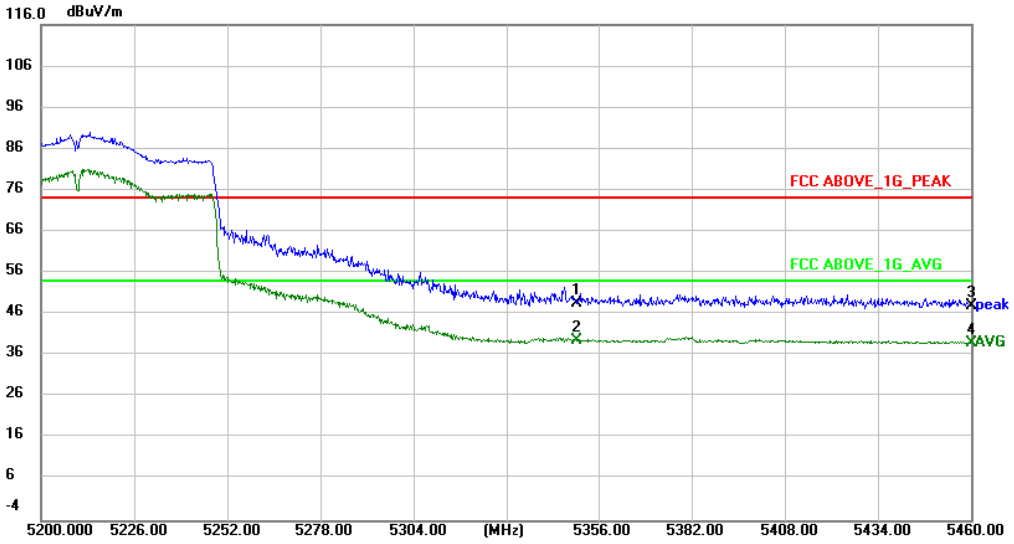
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4500.000	45.95	-1.08	44.87	74.00	-29.13	peak	
2		4500.000	36.66	-1.08	35.58	54.00	-18.42	AVG	
3		5150.000	54.78	1.85	56.63	74.00	-17.37	peak	
4	*	5150.000	42.02	1.85	43.87	54.00	-10.13	AVG	

Mode6 / Polarization: Horizontal / U-NII Band 1 / 5210



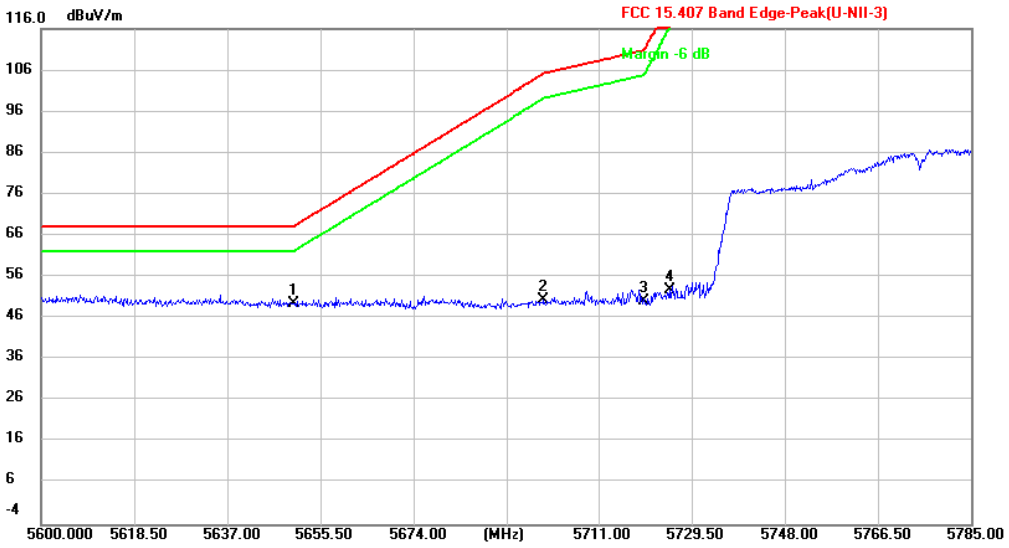
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5350.000	45.81	2.30	48.11	74.00	-25.89	peak	
2		5350.000	36.05	2.30	38.35	54.00	-15.65	AVG	
3		5460.000	46.70	2.24	48.94	74.00	-25.06	peak	
4	*	5460.000	36.85	2.24	39.09	54.00	-14.91	AVG	

Mode6 / Polarization: Vertical / U-NII Band 1 / 5210



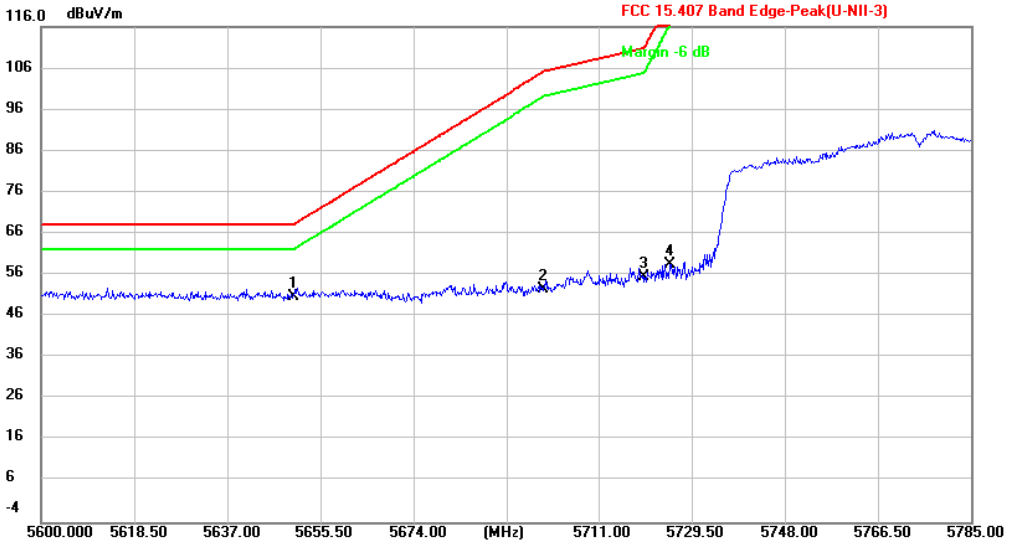
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5350.000	46.29	2.30	48.59	74.00	-25.41	peak	
2	*	5350.000	37.29	2.30	39.59	54.00	-14.41	AVG	
3		5460.000	45.81	2.24	48.05	74.00	-25.95	peak	
4		5460.000	36.78	2.24	39.02	54.00	-14.98	AVG	

Mode6 / Polarization: Horizontal / U-NII Band 3 / 5775



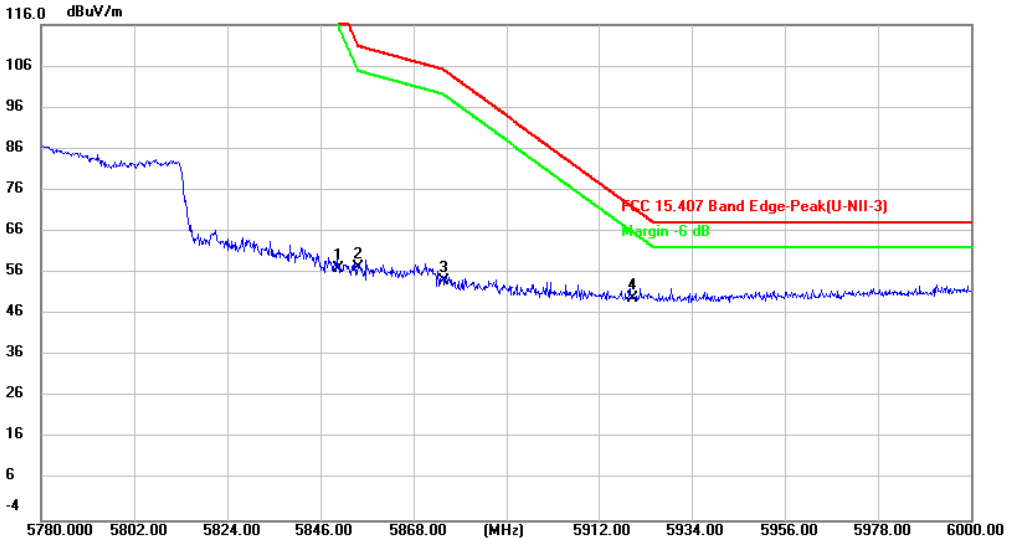
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5650.000	46.67	2.79	49.46	68.20	-18.74	peak	
2		5700.000	47.56	2.86	50.42	105.20	-54.78	peak	
3		5720.000	47.33	2.77	50.10	110.80	-60.70	peak	
4		5725.000	49.98	2.75	52.73	122.20	-69.47	peak	

Mode6 / Polarization: Vertical / U-NII Band 3 / 5775



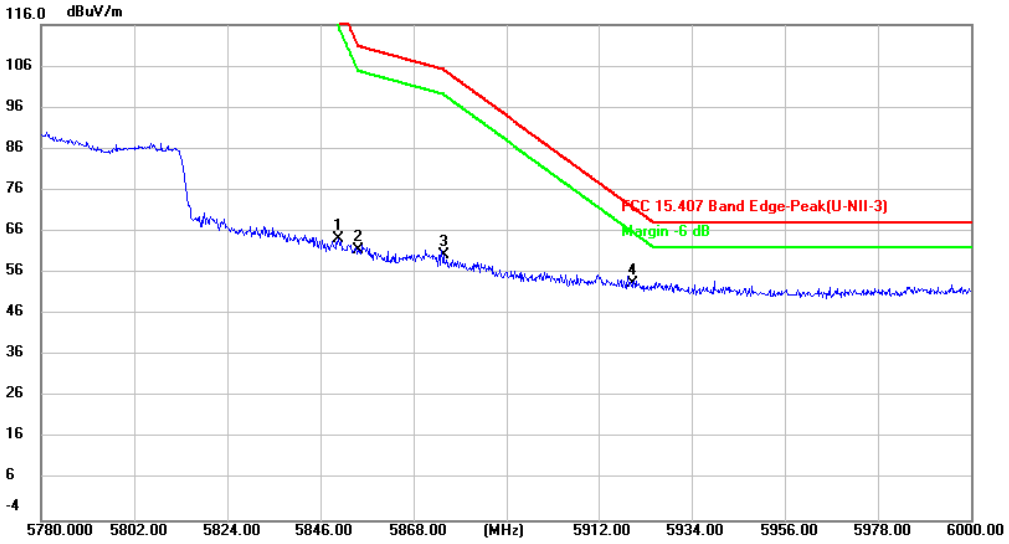
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5650.000	48.11	2.79	50.90	68.20	-17.30	peak	
2		5700.000	49.78	2.86	52.64	105.20	-52.56	peak	
3		5720.000	52.74	2.77	55.51	110.80	-55.29	peak	
4		5725.000	55.81	2.75	58.56	122.20	-63.64	peak	

Mode6 / Polarization: Horizontal / U-NII Band 3 / 5775



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5850.000	54.49	2.67	57.16	122.20	-65.04	peak	
2		5855.000	54.66	2.72	57.38	110.80	-53.42	peak	
3		5875.000	51.26	2.91	54.17	105.20	-51.03	peak	
4	*	5920.000	46.68	3.22	49.90	71.90	-22.00	peak	

Mode6 / Polarization: Vertical / U-NII Band 3 / 5775



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5850.000	61.71	2.67	64.38	122.20	-57.82	peak	
2		5855.000	58.84	2.72	61.56	110.80	-49.24	peak	
3		5875.000	57.36	2.91	60.27	105.20	-44.93	peak	
4	*	5920.000	50.21	3.22	53.43	71.90	-18.47	peak	

6.7 Undesirable emission limits (below 1GHz)

<table>
<tr><td>Test Requirement:</td><td>47 CFR Part 15.407(b)(9)</td></tr>
<tr><td>Test Limit:</td><td>Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209.

Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:
<table>
<tr><th>Frequency (MHz)</th><th>Field strength (microvolts/meter)</th><th>Measurement distance (meters)</th></tr>
<tr><td>0.009-0.490</td><td>2400/F(kHz)</td><td>300</td></tr>
<tr><td>0.490-1.705</td><td>24000/F(kHz)</td><td>30</td></tr>
<tr><td>1.705-30.0</td><td>30</td><td>30</td></tr>
<tr><td>30-88</td><td>100 **</td><td>3</td></tr>
<tr><td>88-216</td><td>150 **</td><td>3</td></tr>
<tr><td>216-960</td><td>200 **</td><td>3</td></tr>
<tr><td>Above 960</td><td>500</td><td>3</td></tr>
</table>
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.
In the emission table above, the tighter limit applies at the band edges.
The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10-2013, section 12.7.4, 12.7.5</td></tr>
<tr><td>Procedure:</td><td>Below 1GHz:
a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. 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.
c. 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.
d. 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.
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
f. 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 quasi-peak method as specified and then reported in a data sheet.
g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
h. 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.
i. Repeat above procedures until all frequencies measured was complete.</td></tr>
</table>

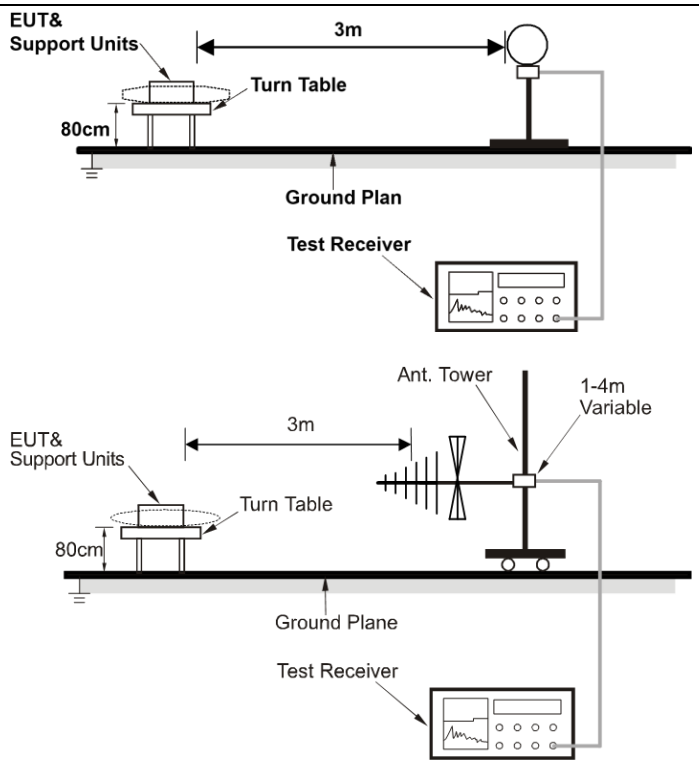
	Remark: 1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor 2. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. 3. The disturbance below 1GHz was very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. Above 1GHz: a. 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. b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. c. 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. d. 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. e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. 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 or average method as specified and then reported in a data sheet. g. Test the EUT in the lowest channel, the middle channel, the Highest channel. h. 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. i. Repeat above procedures until all frequencies measured was complete. Remark: 1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor 2. Scan from 18GHz to 40GHz, the disturbance above 18GHz 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. 3. 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. 4. The disturbance above 18GHz were very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

6.7.1 E.U.T. Operation:

Operating Environment:

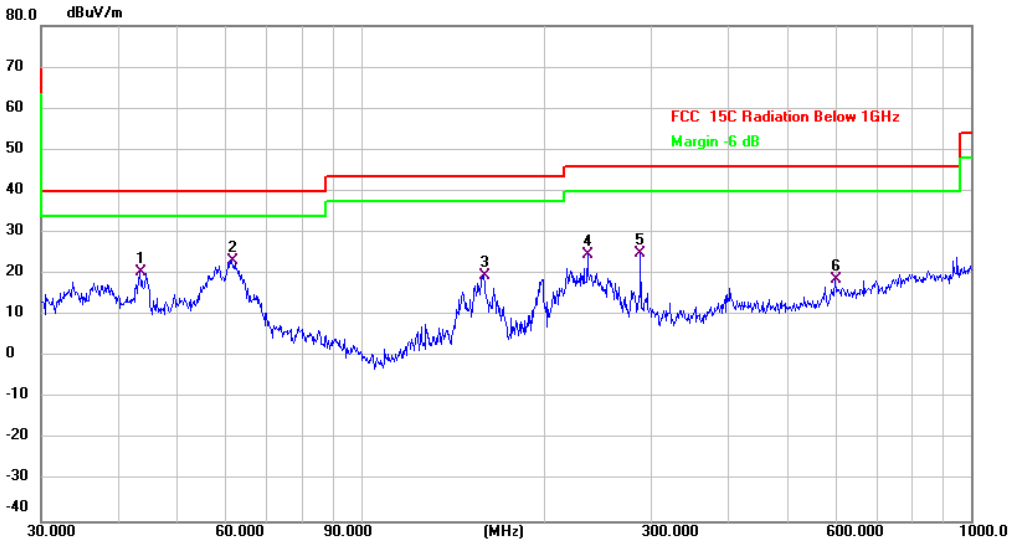
Temperature:	26 °C	Humidity:	54 %	Atmospheric Pressure:	101.5 kPa
Pre test mode:	Mode1, Mode2, Mode3, Mode4, Mode5, Mode6				
Final test mode:	All of the listed pre-test mode were tested, only the data of the worst mode (Mode1) is recorded in the report				

6.7.2 Test Setup Diagram:



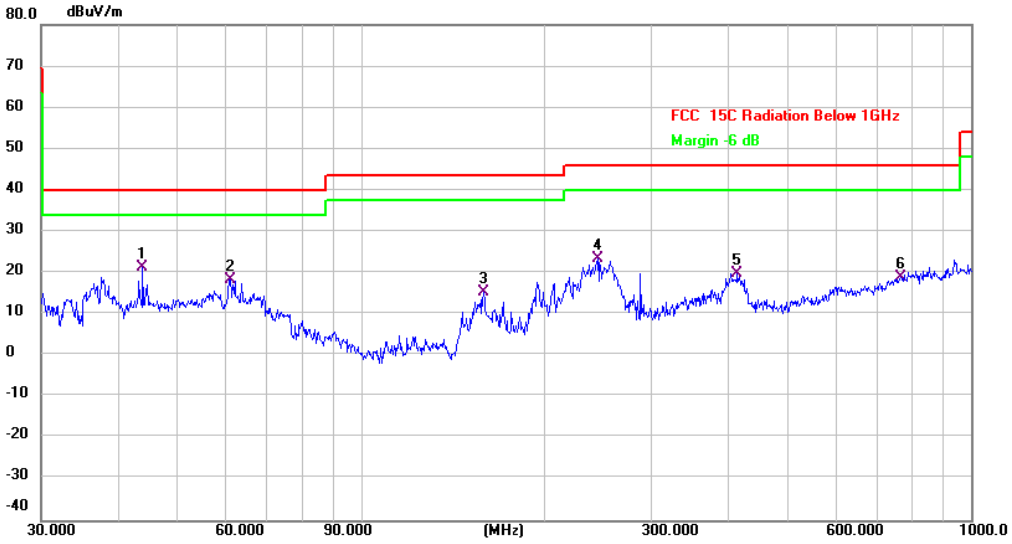
6.7.3 Test Data:

Mode1 U-NII Band 1 / Polarization: Horizontal / CH: H



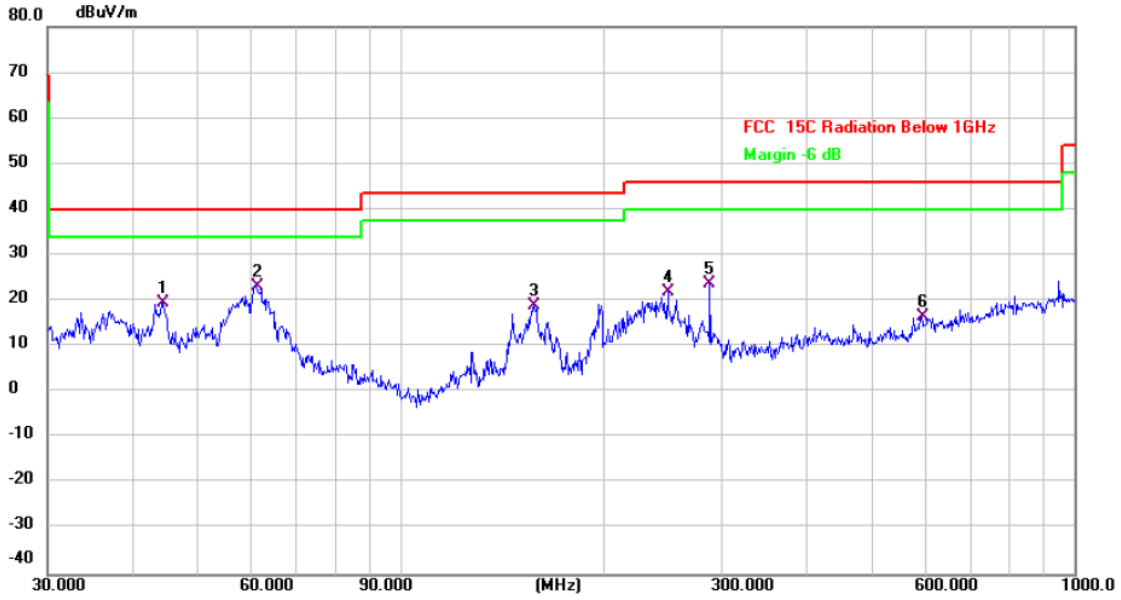
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		43.5057	35.27	-14.93	20.34	40.00	-19.66	QP	
2	*	61.5618	40.62	-17.35	23.27	40.00	-16.73	QP	
3		158.6677	40.27	-20.71	19.56	43.50	-23.94	QP	
4		235.8164	39.30	-14.63	24.67	46.00	-21.33	QP	
5		287.9904	41.05	-15.96	25.09	46.00	-20.91	QP	
6		599.3212	29.16	-10.55	18.61	46.00	-27.39	QP	

Mode1 U-NII Band 1 / Polarization: Vertical / CH: H



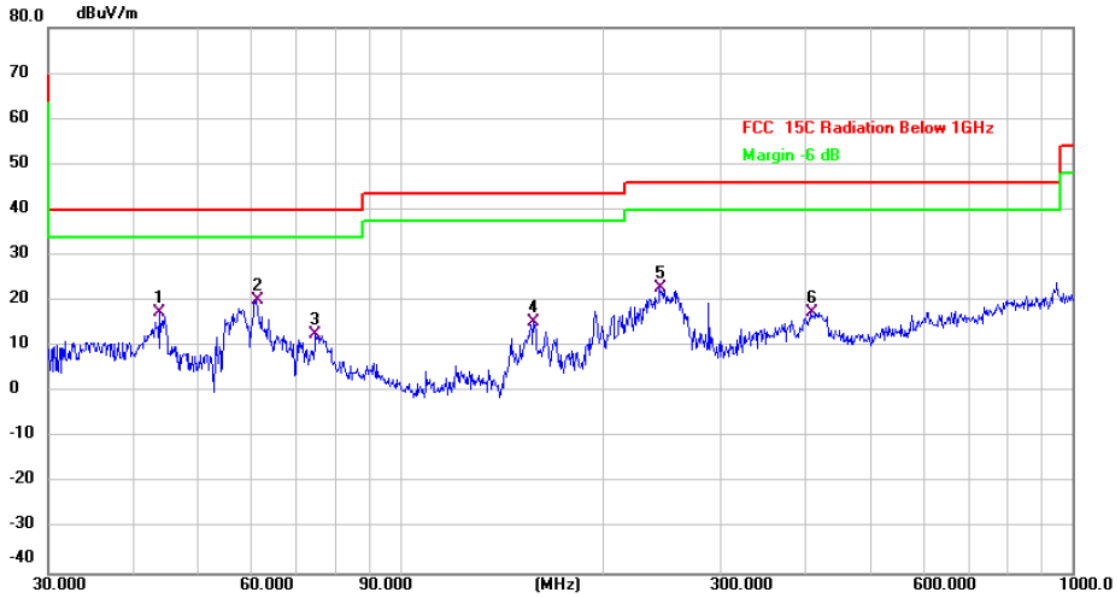
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	43.9658	45.17	-23.88	21.29	40.00	-18.71	QP	
2		60.9176	39.95	-21.52	18.43	40.00	-21.57	QP	
3		158.6677	32.82	-17.44	15.38	43.50	-28.12	QP	
4		245.0900	42.10	-18.62	23.48	46.00	-22.52	QP	
5		414.7223	33.95	-14.20	19.75	46.00	-26.25	QP	
6		766.0571	27.64	-8.67	18.97	46.00	-27.03	QP	

Mode1 U-NII Band 3 / Polarization: Horizontal / CH: L



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		44.2752	34.63	-14.95	19.68	40.00	-20.32	QP	
2	*	61.1316	40.63	-17.34	23.29	40.00	-16.71	QP	
3		158.1123	39.47	-20.66	18.81	43.50	-24.69	QP	
4		249.4250	37.40	-15.31	22.09	46.00	-23.91	QP	
5		287.9904	39.58	-15.96	23.62	46.00	-22.38	QP	
6		593.0497	27.27	-10.68	16.59	46.00	-29.41	QP	

Mode1 U-NII Band 3 / Polarization: Vertical / CH: L



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		43.9658	41.21	-23.88	17.33	40.00	-22.67	QP	
2	*	61.1316	41.76	-21.47	20.29	40.00	-19.71	QP	
3		74.9191	30.17	-17.62	12.55	40.00	-27.45	QP	
4		158.1123	32.82	-17.38	15.44	43.50	-28.06	QP	
5		243.3772	41.69	-18.82	22.87	46.00	-23.13	QP	
6		408.9460	31.51	-13.92	17.59	46.00	-28.41	QP	

6.8 Undesirable emission limits (above 1GHz)

Test Requirement:	47 CFR Part 15.407(b)(1) 47 CFR Part 15.407(b)(4) 47 CFR Part 15.407(b)(10)
Test 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 solely in the 5.725-5.850 GHz band: 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.

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1] 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	([2])
13.36-13.41			

[1] Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

[2] Above 38.6

The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in § 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in § 15.209shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in § 15.209shall be demonstrated based on the average value of the measured emissions. The provisions in § 15.35apply to these measurements.

Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

	<table><tr><th>Frequency (MHz)</th><th>Field strength (microvolts/meter)</th><th>Measurement distance (meters)</th></tr><tr><td>0.009-0.490</td><td>2400/F(kHz)</td><td>300</td></tr><tr><td>0.490-1.705</td><td>24000/F(kHz)</td><td>30</td></tr><tr><td>1.705-30.0</td><td>30</td><td>30</td></tr><tr><td>30-88</td><td>100 **</td><td>3</td></tr><tr><td>88-216</td><td>150 **</td><td>3</td></tr><tr><td>216-960</td><td>200 **</td><td>3</td></tr><tr><td>Above 960</td><td>500</td><td>3</td></tr></table> ** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241. In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.
Test Method:	ANSI C63.10-2013, section 12.7.4, 12.7.6, 12.7.7
Procedure:	Above 1GHz: a. 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. b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. c. 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. d. 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. e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. 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 or average method as specified and then reported in a data sheet. g. Test the EUT in the lowest channel, the middle channel, the Highest channel. h. 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. i. Repeat above procedures until all frequencies measured was complete. Remark: 1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor 2. Scan from 18GHz to 40GHz, the disturbance above 18GHz 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. 3. 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. 4. The disturbance above 18GHz were very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

6.8.1 E.U.T. Operation:

Operating Environment:					
Temperature:	26 °C	Humidity:	54 %	Atmospheric Pressure:	101.5 kPa
Pre test mode:	Mode1, Mode2, Mode3, Mode4, Mode5, Mode6				
Final test mode:	All of the listed pre-test mode were tested, only the data of the worst mode (Mode1) is recorded in the report				

6.8.2 Test Data:

Mode1 / Polarization: Horizontal / U-NII Band 1 / 5180

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		10360.000	42.82	10.75	53.57	74.00	-20.43	peak
2		10360.000	32.51	10.75	43.26	54.00	-10.74	AVG
3		15540.000	45.13	13.16	58.29	74.00	-15.71	peak
4	*	15540.000	35.41	13.16	48.57	54.00	-5.43	AVG

Mode1 / Polarization: Vertical / U-NII Band 1 / 5180

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		10360.000	41.65	10.75	52.40	74.00	-21.60	peak
2		10360.000	31.82	10.75	42.57	54.00	-11.43	AVG
3		15540.000	46.10	13.16	59.26	74.00	-14.74	peak
4	*	15540.000	36.52	13.16	49.68	54.00	-4.32	AVG

Mode1 / Polarization: Horizontal / U-NII Band 1 / 5200

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		10400.000	43.92	10.85	54.77	74.00	-19.23	peak
2		10400.000	33.84	10.85	44.69	54.00	-9.31	AVG
3		15600.000	45.07	12.71	57.78	74.00	-16.22	peak
4	*	15600.000	35.03	12.71	47.74	54.00	-6.26	AVG

Mode1 / Polarization: Vertical / U-NII Band 1 / 5200

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		10400.000	42.08	10.85	52.93	74.00	-21.07	peak
2		10400.000	35.73	10.85	46.58	54.00	-7.42	AVG
3		15600.000	45.13	12.71	57.84	74.00	-16.16	peak
4	*	15600.000	34.98	12.71	47.69	54.00	-6.31	AVG

Mode1 / Polarization: Horizontal / U-NII Band 1 / 5240

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		10480.000	41.33	10.65	51.98	74.00	-22.02	peak
2		10480.000	30.71	10.65	41.36	54.00	-12.64	AVG
3		15720.000	44.76	12.68	57.44	74.00	-16.56	peak
4	*	15720.000	35.01	12.68	47.69	54.00	-6.31	AVG

Mode1 / Polarization: Vertical / U-NII Band 1 / 5240

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		10480.000	42.23	10.65	52.88	74.00	-21.12	peak
2		10480.000	31.71	10.65	42.36	54.00	-11.64	AVG
3		15720.000	44.79	12.68	57.47	74.00	-16.53	peak
4	*	15720.000	34.91	12.68	47.59	54.00	-6.41	AVG

Mode1 / Polarization: Horizontal / U-NII Band 3 / 5745

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		11490.000	42.37	12.51	54.88	68.20	-13.32	peak
2		11490.000	32.17	12.51	44.68	54.00	-9.32	AVG
3		17235.000	44.96	14.54	59.50	68.20	-8.70	peak
4	*	17235.000	35.14	14.54	49.68	54.00	-4.32	AVG

Mode1 / Polarization: Vertical / U-NII Band 3 / 5745

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		11490.000	42.60	12.51	55.11	68.20	-13.09	peak
2		11490.000	32.85	12.51	45.36	54.00	-8.64	AVG
3		17235.000	44.90	14.54	59.44	68.20	-8.76	peak
4	*	17235.000	35.14	14.54	49.68	54.00	-4.32	AVG

Mode1 / Polarization: Horizontal / U-NII Band 3 / 5785

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		11570.000	42.71	12.37	55.08	68.20	-13.12	peak
2		11570.000	32.89	12.37	45.26	54.00	-8.74	AVG
3		17355.000	44.99	14.60	59.59	68.20	-8.61	peak
4	*	17355.000	35.08	14.60	49.68	54.00	-4.32	AVG

Mode1 / Polarization: Horizontal / U-NII Band 3 / 5785

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		11570.000	43.56	12.37	55.93	68.20	-12.27	peak
2		11570.000	33.11	12.37	45.48	54.00	-8.52	AVG
3		17355.000	45.15	14.60	59.75	68.20	-8.45	peak
4	*	17355.000	34.94	14.60	49.54	54.00	-4.46	AVG

Mode1 / Polarization: Horizontal / U-NII Band 3 / 5825

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		11650.000	44.22	12.19	56.41	68.20	-11.79	peak
2		11650.000	34.06	12.19	46.25	54.00	-7.75	AVG
3		17475.000	45.68	14.88	60.56	68.20	-7.64	peak
4	*	17475.000	35.60	14.88	50.48	54.00	-3.52	AVG

Mode1 / Polarization: Horizontal / U-NII Band 3 / 5825

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		11650.000	42.87	12.19	55.06	68.20	-13.14	peak
2		11650.000	33.13	12.19	45.32	54.00	-8.68	AVG
3		17475.000	45.46	14.88	60.34	68.20	-7.86	peak
4	*	17475.000	35.81	14.88	50.69	54.00	-3.31	AVG

Photographs of the test setup

Refer to Appendix - Test Setup Photos

Photographs of the EUT

Refer to Appendix - EUT Photos

Appendix

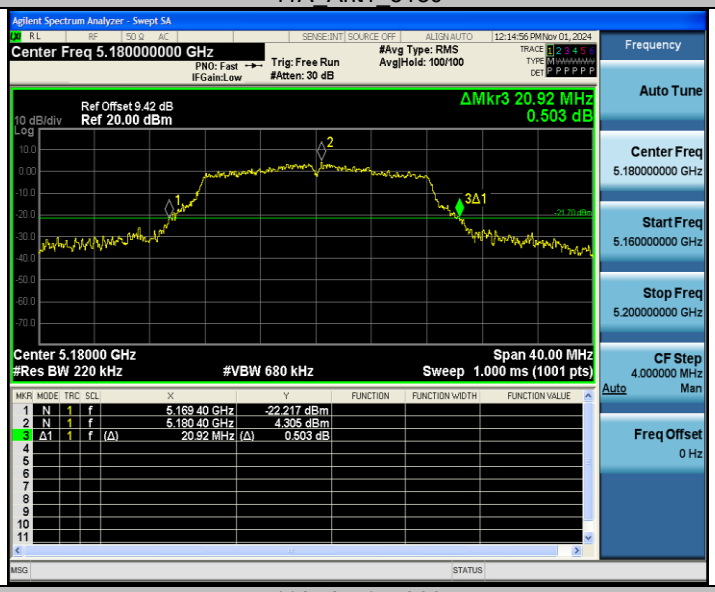
Appendix A1: Emission bandwidth (26dB bandwidth)

Test Result

Test Mode	Antenna	Frequency [MHz]	26db EBW [MHz]
11A	Ant1	5180	20.920
		5200	20.840
		5240	20.840
		5745	20.960
		5785	20.960
		5825	21.000
11N20SISO	Ant1	5180	21.240
		5200	21.360
		5240	21.320
		5745	21.120
		5785	21.080
		5825	21.360
11N40SISO	Ant1	5190	40.640
		5230	39.840
		5755	40.160
		5795	42.960
11AC20SISO	Ant1	5180	21.360
		5200	21.440
		5240	21.240
		5745	21.200
		5785	21.360
		5825	21.120
11AC40SISO	Ant1	5190	39.760
		5230	39.680
		5755	39.360
		5795	41.120
11AC80SISO	Ant1	5210	81.760
		5775	80.960

Test Graphs

11A_Ant1_5180



11A_Ant1_5200

11A_Ant1_5240

11A_Ant1_5745

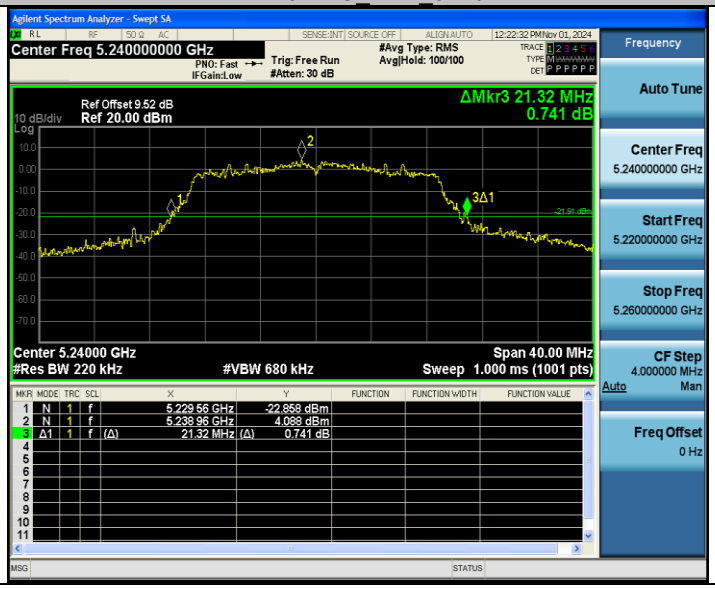
11A_Ant1_5785

11A_Ant1_5825

11N20SISO_Ant1_5180

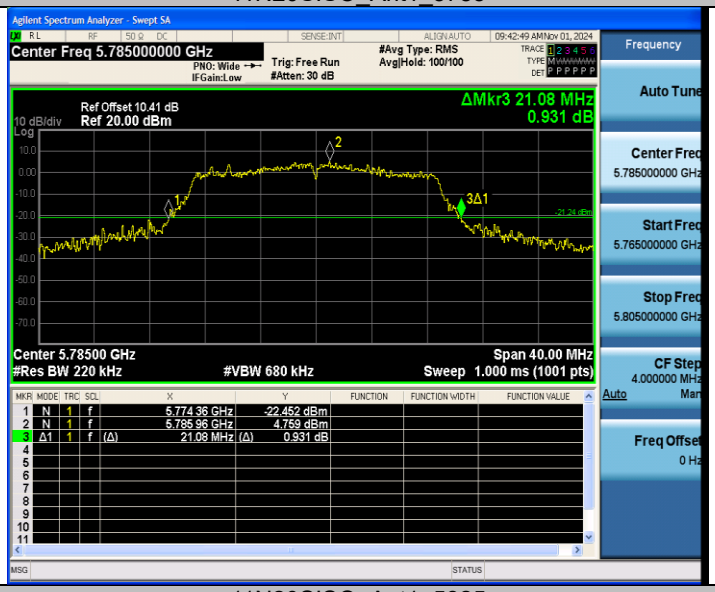
11N20SISO_Ant1_5200

11N20SISO_Ant1_5240



11N20SISO_Ant1_5745

11N20SISO_Ant1_5785

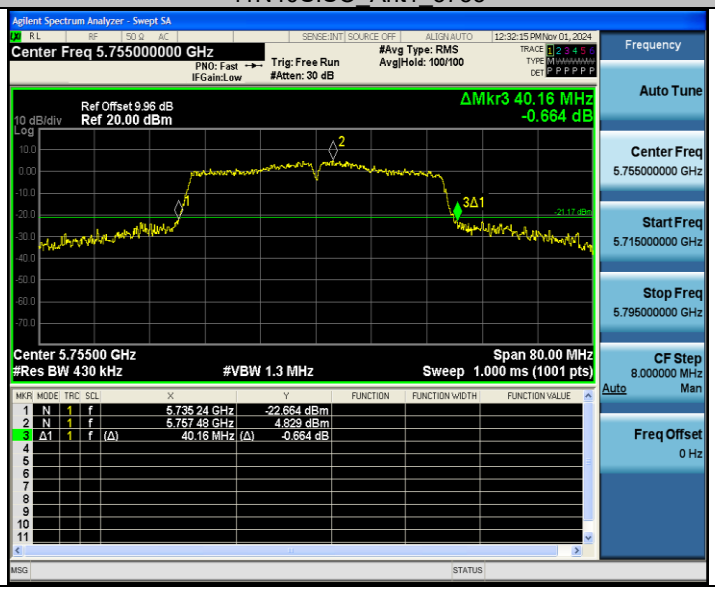


11N20SISO_Ant1_5825

11N40SISO_Ant1_5190

11N40SISO_Ant1_5230

11N40SISO_Ant1_5755



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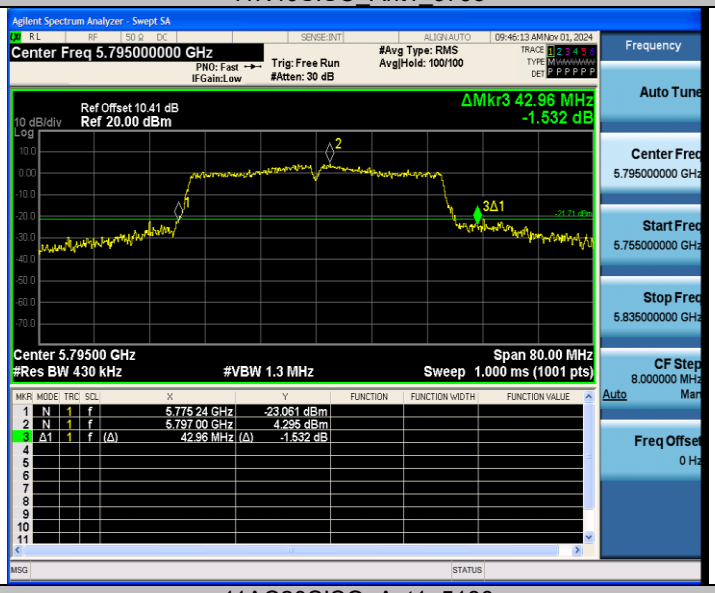
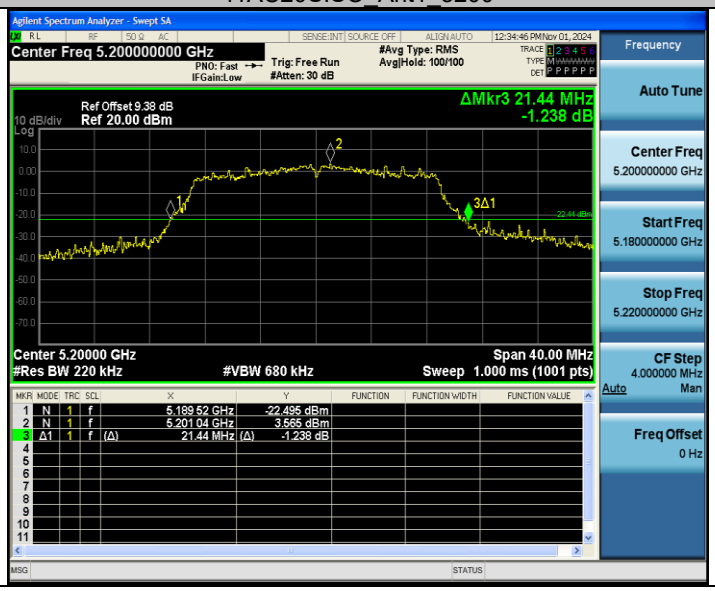

11AC20SISO_Ant1_5180

11AC20SISO_Ant1_5200


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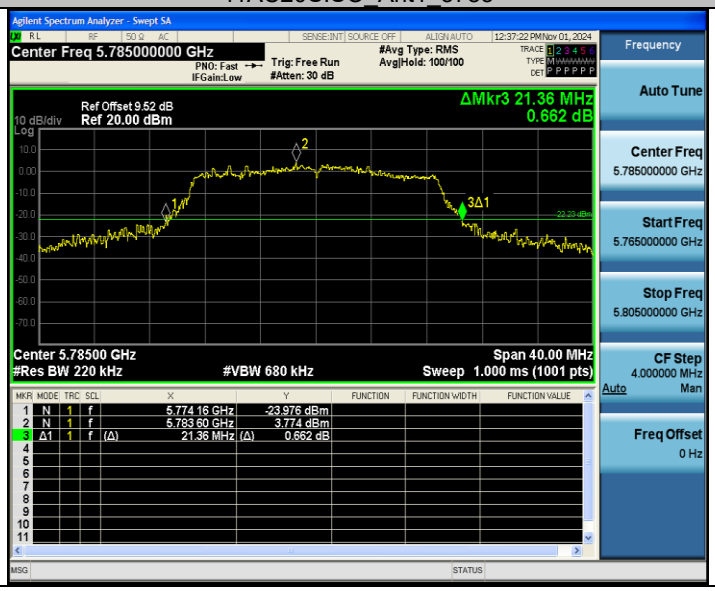
11AC20SISO_Ant1_5745

11AC20SISO_Ant1_5785



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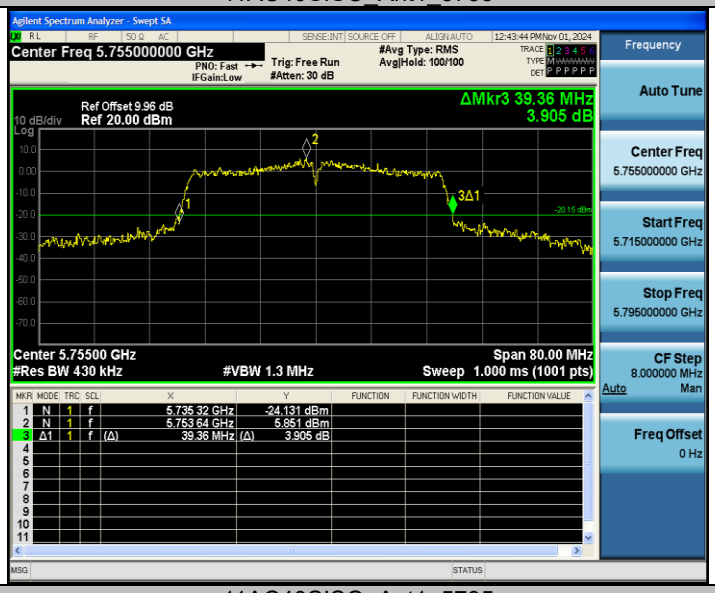
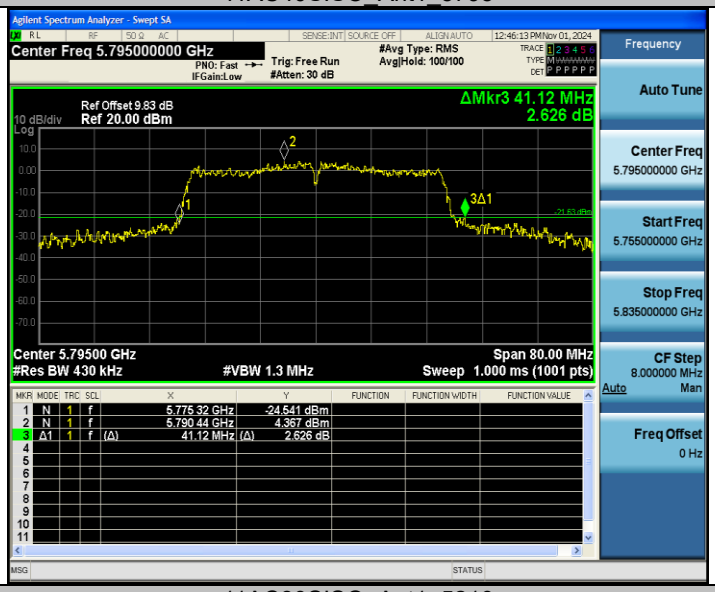
11AC40SISO_Ant1_5190

11AC40SISO_Ant1_5230

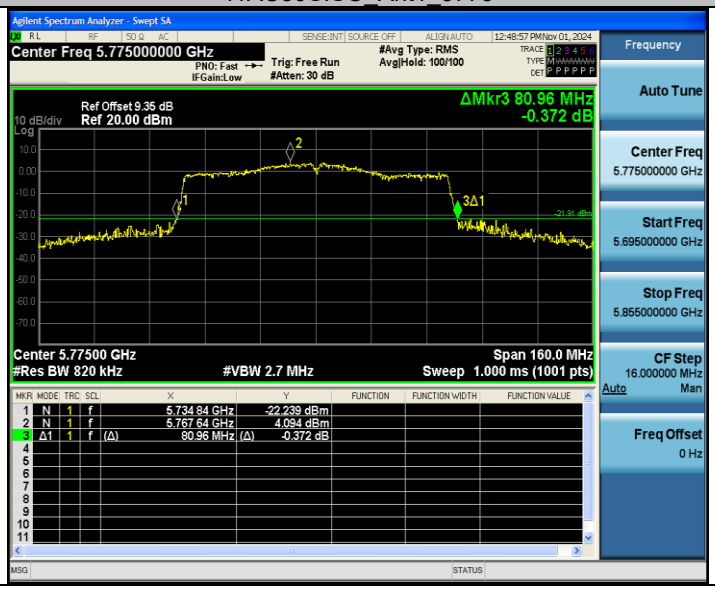
11AC40SISO_Ant1_5755



11AC40SISO_Ant1_5795



11AC80SISO_Ant1_5210

11AC80SISO_Ant1_5775


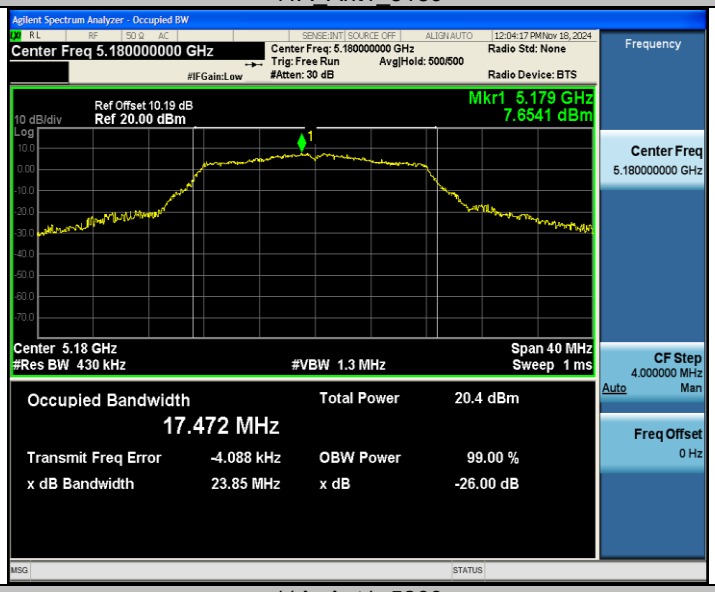
6.9 Appendix A2: Occupied channel bandwidth

6.9.1 Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	17.472	5171.2599	5188.7319	---	---
		5200	18.707	5190.8913	5209.5983	---	---
		5240	18.757	5230.6634	5249.4204	---	---
		5745	19.405	5735.2084	5754.6134	---	---
		5785	18.897	5775.3583	5794.2553	---	---
		5825	18.859	5815.5454	5834.4044	---	---
11N20SISO	Ant1	5180	18.991	5170.6493	5189.6403	---	---
		5200	18.950	5190.7555	5209.7055	---	---
		5240	18.550	5230.7842	5249.3342	---	---
		5745	18.373	5735.7865	5754.1595	---	---
		5785	18.352	5775.7239	5794.0759	---	---
		5825	18.251	5815.8252	5834.0762	---	---
11N40SISO	Ant1	5190	36.927	5171.8175	5208.7445	---	---
		5230	36.635	5211.8213	5248.4563	---	---
		5755	36.778	5736.7848	5773.5628	---	---
		5795	36.779	5776.7490	5813.5280	---	---
11AC20SISO	Ant1	5180	18.442	5170.8354	5189.2774	---	---
		5200	18.420	5190.8786	5209.2986	---	---
		5240	18.471	5230.8152	5249.2862	---	---
		5745	18.407	5735.7759	5754.1829	---	---
		5785	18.338	5775.7872	5794.1252	---	---
		5825	18.318	5815.8437	5834.1617	---	---
11AC40SISO	Ant1	5190	36.928	5171.6703	5208.5983	---	---
		5230	36.801	5211.6305	5248.4315	---	---
		5755	36.965	5736.5848	5773.5498	---	---
		5795	36.964	5776.5629	5813.5269	---	---
11AC80SISO	Ant1	5210	75.942	5172.4257	5248.3677	---	---
		5775	75.880	5737.4268	5813.3068	---	---

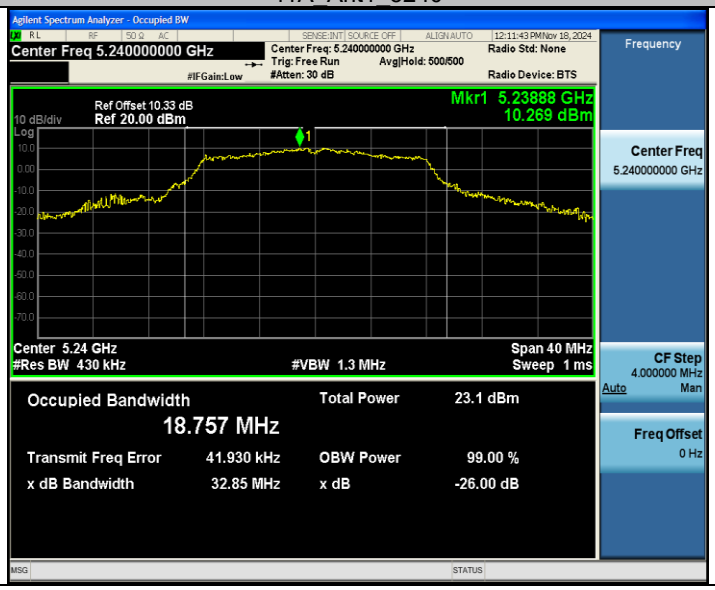
6.9.2 Test Graphs

11A_Ant1_5180

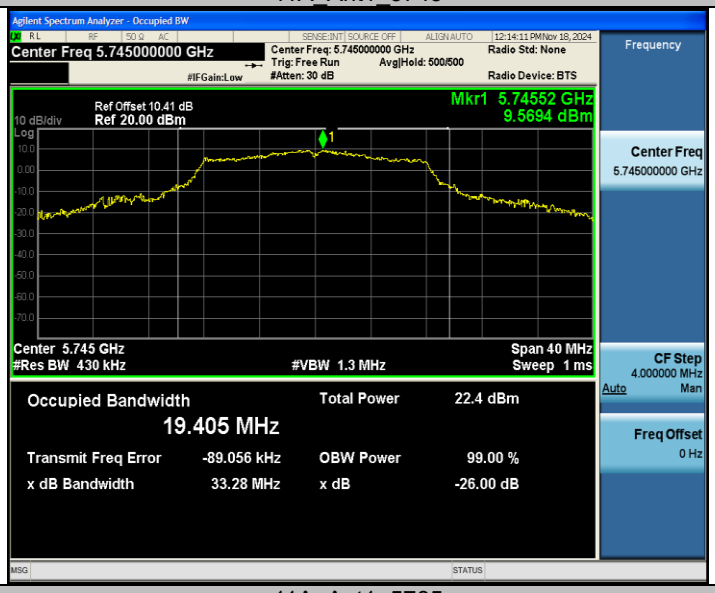


11A_Ant1_5200

11A_Ant1_5240



11A_Ant1_5745



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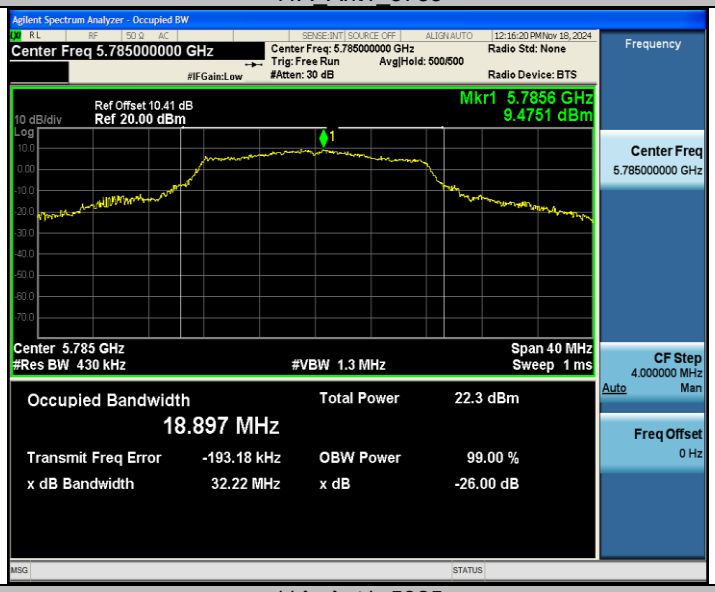

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