RF TEST REPORT

For

Shenzhen Wuying Technology Co., Ltd
Product Name: Dash Cam
Test Model(s).: D9

Report Reference No.	:	**DACE240514001RF002**
FCC ID	:	**2BGO3-D9**
Applicant's Name	:	Shenzhen Wuying Technology Co., Ltd
Address	:	D3110, Xingye Road, Xingfu Gangwan Shangpinju, Fuzhongfu Community, Xixiang Street, Bao'an District, Shenzhen
Testing Laboratory	:	Shenzhen DACE Testing Technology Co., Ltd.
Address	:	101-102 Building H5 & 1/F., Building H, Hongfa Science & Technology Park, Tangtou, Shiyan, Bao'an District, Shenzhen, Guangdong, China
Test Specification Standard	:	**47 CFR Part 15E** **ANSI C63.10-2013 & KDB789033 D02 General U-NII Test Procedures New Rules v02r01**
Date of Receipt	:	May 14, 2024
Date of Test	:	May 14, 2024 to May 22, 2024
Data of Issue	:	May 22, 2024
Result	:	**Pass**

Note: This report shall not be reproduced except in full, without the written approval of Shenzhen DACE Testing Technology Co., Ltd. This document may be altered or revised by Shenzhen DACE Testing Technology Co., Ltd. personnel only, and shall be noted in the revision section of the document. The test results in the report only apply to the tested sample

Revision History Of Report

Version	Description	REPORT No.	Issue Date
V1.0	Original	DACE240514001RF002	May 22, 2024

NOTE1:

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.

Compiled by:	Supervised by:	Approved by:
Keren Huang	Stone Yin	Tom Chen
Keren Huang / Test Engineer	Stone Yin / Project Engineer	Tom Chen / Manager

CONTENTS

1 TEST SUMMARY 5
1.1 TEST STANDARDS 5
1.2 SUMMARY OF TEST RESULT 5
2 GENERAL INFORMATION 6
2.1 CLIENT INFORMATION 6
2.2 DESCRIPTION OF DEVICE (EUT) 6
2.3 DESCRIPTION OF TEST MODES 7
2.4 DESCRIPTION OF SUPPORT UNITS 8
2.5 EQUIPMENTS USED DURING THE TEST 9
2.6 STATEMENT OF THE MEASUREMENT UNCERTAINTY 10
2.7 IDENTIFICATION OF TESTING LABORATORY 10
2.8 ANNOUNCEMENT 10
3 EVALUATION RESULTS (EVALUATION) 11
3.1 ANTENNA REQUIREMENT 11
3.1.1 Conclusion: 11
4 RADIO SPECTRUM MATTER TEST RESULTS (RF) 12
4.1 MAXIMUM CONDUCTED OUTPUT POWER 12
4.1.1 E.U.T. Operation: 12
4.1.2 Test Setup Diagram: 12
4.1.3 Test Data: 12
4.2 POWER SPECTRAL DENSITY 13
4.2.1 E.U.T. Operation: 13
4.2.2 Test Setup Diagram: 13
4.2.3 Test Data: 13
4.3 EMISSION BANDWIDTH AND OCCUPIED BANDWIDTH 14
4.3.1 E.U.T. Operation: 15
4.3.2 Test Setup Diagram: 15
4.3.3 Test Data: 15
4.4 BAND EDGE EMISSIONS (RADIATED) 16
4.4.1 E.U.T. Operation: 18
4.4.2 Test Setup Diagram: 18
4.4.3 Test Data: 19
4.5 UNDESIRABLE EMISSION LIMITS (BELOW 1GHZ) 23
4.5.1 E.U.T. Operation: 24
4.5.2 Test Setup Diagram: 25
4.5.3 Test Data: 26
4.6 UNDESIRABLE EMISSION LIMITS (ABOVE 1GHZ) 28
4.6.1 E.U.T. Operation: 30
4.6.2 Test Setup Diagram: 30
4.6.3 Test Data: 31
5 TEST SETUP PHOTOS 36
6 PHOTOS OF THE EUT 36
APPENDIX 37
1. -6DB EMISSION BANDWIDTH 37
2. -26DB AND 99% EMISSION BANDWIDTH 45
3. MAXIMUM CONDUCTED OUTPUT POWER 60

4. POWER SPECTRAL DENSITY 68
5. BANDEDGE 76
6. SPURIOUS EMISSION 83
7. FREQUENCY STABILITY 91

1 TEST SUMMARY

1.1 Test Standards

The tests were performed according to following standards:

47 CFR Part 15E: Unlicensed National Information Infrastructure Devices

1.2 Summary of Test Result

Item	Method	Requirement	Result
Antenna requirement	/	47 CFR 15.203	Pass
Maximum conducted output power	ANSI C63.10-2013, section 12.3	47 CFR Part 15.407(a)(3)(i)	Pass
Power spectral density	ANSI C63.10-2013, section 12.5	47 CFR Part 15.407(a)(3)(i)	Pass
Emission bandwidth and occupied bandwidth	ANSI C63.10-2013, section 6.9 & 12.4 KDB 789033 D02, Clause C.2	47 CFR Part 15.407(e)	Pass
Band edge emissions (Radiated)	ANSI C63.10-2013, section 12.7.4, 12.7.6, 12.7.7	47 CFR Part 15.407(b)(4) 47 CFR Part 15.407(b)(10)	Pass
Undesirable emission limits (below 1GHz)	ANSI C63.10-2013, section 12.7.4, 12.7.5	47 CFR Part 15.407(b)(9)	Pass
Undesirable emission limits (above 1GHz)	ANSI C63.10-2013, section 12.7.4, 12.7.6, 12.7.7	47 CFR Part 15.407(b)(4) 47 CFR Part 15.407(b)(10)	Pass

Note:1. N/A-- Not applicable to the this test clause.
2. The results of all conduction method tests include cable loss.

2 GENERAL INFORMATION

2.1 Client Information

Applicant's Name : Shenzhen Wuying Technology Co., Ltd
Address : D3110, Xingye Road, Xingfu Gangwan Shangpinju, Fuzhongfu Community, Xixiang Street, Bao'an District, Shenzhen

Manufacturer : Shenzhen Wuying Technology Co., Ltd
Address : D3110, Xingye Road, Xingfu Gangwan Shangpinju, Fuzhongfu Community, Xixiang Street, Bao'an District, Shenzhen

2.2 Description of Device (EUT)

Product Name:	Dash Cam
Model/Type reference:	D9
Series Model:	D7, D7A, D9A
Model Difference:	There are several models of EUT, with differences in the number of cameras and appearance. The internal motherboard circuit remains the same, including PCB layout and BOM. These differences will not affect the EMC and RF performance of the product. Therefore, the test model is D9.
Trade Mark:	Driveye
Product Description:	Dash Cam
Power Supply:	DC12.0V form car-battery
Operation Frequency:	802.11a/n(HT20)/ac(HT20): U-NII Band 3: 5745MHz to 5825MHz; 802.11n(HT40)/ac(HT40): U-NII Band 3: 5755MHz to 5795MHz; 802.11ac(HT80): U-NII Band 3: 5775MHz
Number of Channels:	802.11a/n(HT20)/ac(HT20):U-NII Band 3: 5; 802.11n(HT40)/ac(HT40): U-NII Band 3: 2; 802.11ac(HT80):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 Type:	PCB ANTENNA
Antenna Gain:	2.27dBi
Hardware Version:	V1.0
Software Version:	SecureCRT

Operation Frequency each of channel

Channel	Frequency (20MHz)	Channel	Frequency (40MHz)	Channel	Frequency (80MHz)
36	/	/	/	/	/
40	/	/	/	/	/
44	/	/	/	/	/
48	/	/	/	/	/

149	5745	/	/	/	/
153	5765	151	5755	/	/
157	5785	159	5795	155	5775
161	5805	/	/	/	/
168	5825	/	/	/	/

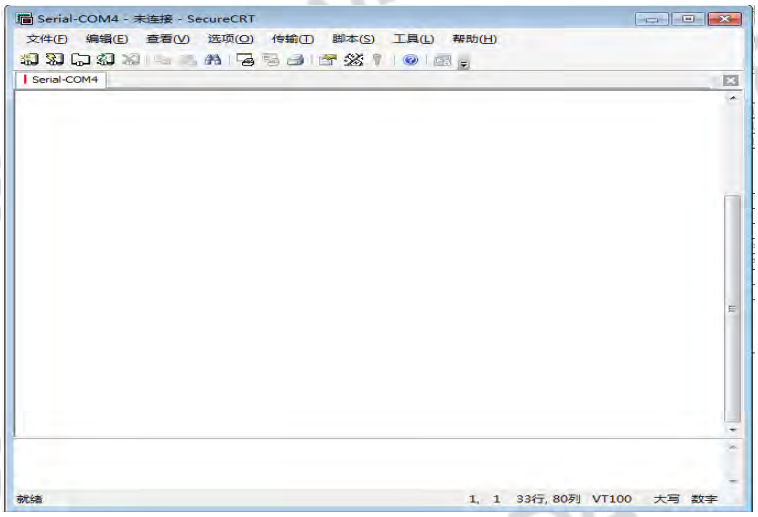
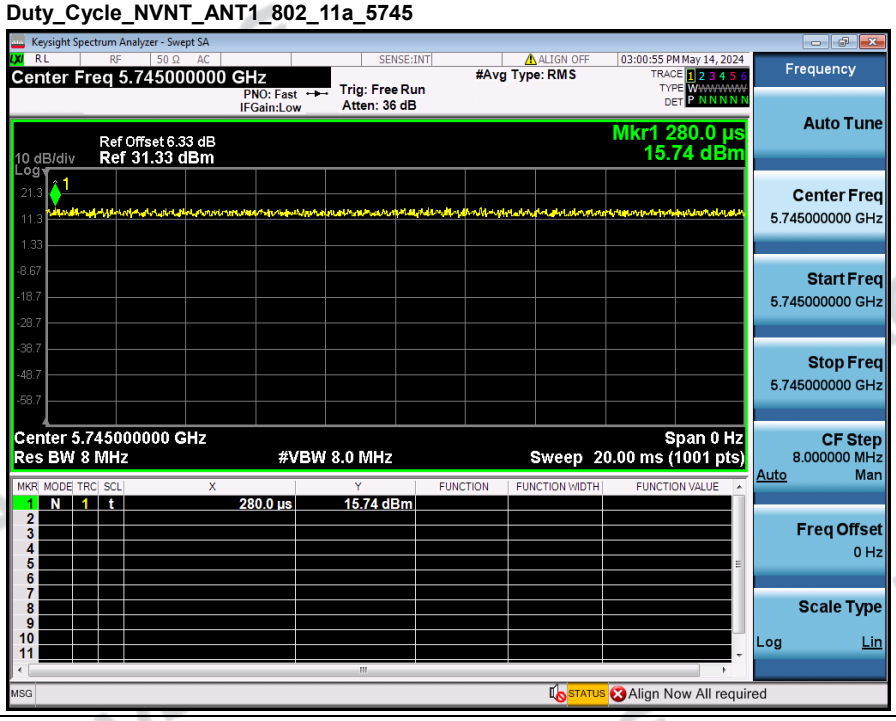
Note: In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Test channel	**Frequency (MHz)**		
	20MHz-BW	40MHz-BW	80MHz-BW
Lowest channel	5745MHz	5755	
Middle channel	5785MHz		5775
Highest channel	5825MHz	5795	

2.3 Description of Test Modes

No	**Title**	**Description**
TM1	802.11a mode	Keep the EUT in continuously transmitting mode with 802.11a modulation type. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report.
TM2	802.11n mode	Keep the EUT in continuously transmitting mode with 802.11n modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.
TM3	802.11ac mode	Keep the EUT in continuously transmitting mode with 802.11ac modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.

Description
Eut uses the maximum duty cycle (>98%) for continuous emission
☒Special software is used. ☐Through engineering command into the engineering mode. engineering command: *#*#3646633#*#* ☐Other method:

	Special software: 
Duty cycle	Use the maximum possible duty cycle (100%) during testing. **Duty_Cycle_NVNT_ANT1_802_11a_5745** 

2.4 Description of Support Units

Title	Manufacturer	Model No.	Serial No.
BATTERY	CAMEL	DC12V	/

2.5 Equipments Used During The Test

Duty Cycle
Maximum conducted output power
Power spectral density
Emission bandwidth and occupied bandwidth

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
RF Test Software	Tachoy Information	RTS-01	V2.0.0.0	/	/
RF Sensor Unit	Tachoy Information	TR1029-2	000001	2023-11-09	2024-11-08
Wideband radio communication tester	R&S	CMW500	113410	2023-06-13	2024-06-12
Vector signal generator	Keysight	N5181A	MY48180415	2023-11-09	2024-11-08
Signal generator	Keysight	N5182A	MY50143455	2023-11-09	2024-11-08
Spectrum Analyzer	Keysight	N9020A	MY53420323	2023-12-12	2024-12-11

Band edge emissions (Radiated)
Undesirable emission limits (below 1GHz)
Undesirable emission limits (above 1GHz)

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EMI Test software	Farad	EZ -EMC	V1.1.42	/	/
Positioning Controller	/	MF-7802	/	/	/
High Pass filter	ZHINAN	OQHPF1-M1.5-18G-224	6210075	/	/
Amplifier(18-40G)	COM-POWER	AH-1840	10100008-1	2022-04-05	2025-04-04
Horn antenna	COM-POWER	AH-1840 (18-40G)	10100008	2023-04-05	2025-04-04
Loop antenna	ZHINAN	ZN30900C	ZN30900C	2021-07-05	2024-07-04
Cable(LF)#2	Schwarzbeck	/	/	2024-02-19	2025-02-18
Cable(LF)#1	Schwarzbeck	/	/	2024-02-19	2025-02-18
Cable(HF)#2	Schwarzbeck	AK9515E	96250	2024-03-20	2025-03-19
Cable(HF)#1	Schwarzbeck	SYV-50-3-1	/	2024-03-20	2025-03-19
Power amplifier(LF)	Schwarzbeck	BBV9743	9743-151	2023-06-13	2024-06-12
Power amplifier(HF)	Schwarzbeck	BBV9718	9718-282	2023-06-13	2024-06-12
Wideband radio communication tester	R&S	CMW500	113410	2023-06-13	2024-06-12
Spectrum Analyzer	R&S	FSP30	1321.3008K40-101729-jR	2023-06-14	2024-06-13
Horn Antenna	Sunol Sciences	DRH-118	A091114	2023-05-13	2025-05-12
Broadband Antenna	Sunol Sciences	JB6 Antenna	A090414	2023-05-21	2025-05-20
Test Receiver	R&S	ESCI	102109	2023-06-13	2024-06-12

2.6 Statement Of The Measurement Uncertainty

Test Item	Measurement Uncertainty
Duty cycle	±3.1%
RF conducted power	±0.733dB
RF power density	±0.234%
Occupied Bandwidth	±3.63%
Radiated Emission (Above 1GHz)	±5.46dB
Radiated Emission (Below 1GHz)	±5.79dB
Note: (1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

2.7 Identification of Testing Laboratory

Company Name:	Shenzhen DACE Testing Technology Co., Ltd.
Address:	101-102 Building H5 & 1/F., Building H, Hongfa Science & Technology Park, Tangtou, Shiyan, Bao'an District, Shenzhen, Guangdong, China
Phone Number:	+86-13267178997
Fax Number:	86-755-29113252

Identification of the Responsible Testing Location

Company Name:	Shenzhen DACE Testing Technology Co., Ltd.
Address:	101-102 Building H5 & 1/F., Building H, Hongfa Science & Technology Park, Tangtou, Shiyan, Bao'an District, Shenzhen, Guangdong, China
Phone Number:	+86-13267178997
Fax Number:	86-755-29113252
FCC Registration Number:	0032847402
Designation Number:	CN1342
Test Firm Registration No.:	778666
A2LA Certificate Number:	6270.01

2.8 Announcement

(1) The test report reference to the report template version v0.

(2) The test report is invalid if not marked with the signatures of the persons responsible for preparing, reviewing and approving the test report.

(3) The test report is invalid if there is any evidence and/or falsification.

(4) This document may not be altered or revised in any way unless done so by DACE and all revisions are duly noted in the revisions section.

(5) Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.

(6) We hereby declare that the laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant. the laboratory is not responsible for the accuracy of the information provided by the client. When the information provided by the customer may affect the effectiveness of the results, the responsibility lies with the customer, and the laboratory does not assume any responsibility.

3 Evaluation Results (Evaluation)

3.1 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.

3.1.1 Conclusion:

4 Radio Spectrum Matter Test Results (RF)

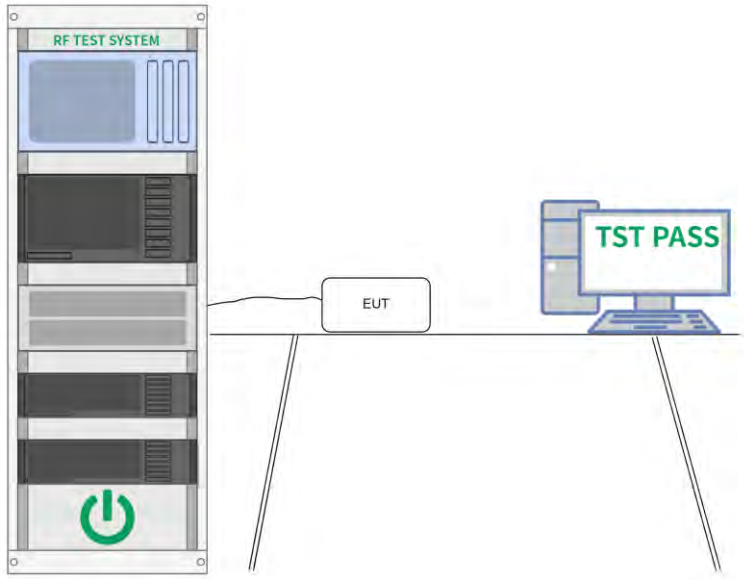
4.1 Maximum conducted output power

Test Requirement:	47 CFR Part 15.407(a)(3)(i)
Test Limit:	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

4.1.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23 °C	Humidity:	46.8 %	Atmospheric Pressure:	102 kPa
Pretest mode:	TM1, TM2, TM3				
Final test mode:	TM1, TM2, TM3				

4.1.2 Test Setup Diagram:



4.1.3 Test Data:

Please Refer to Appendix for Details.

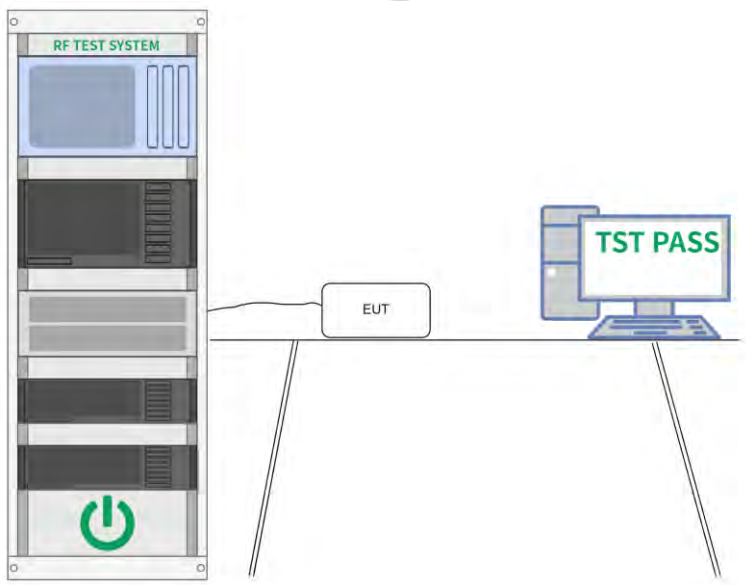
4.2 Power spectral density

Test Requirement:	47 CFR Part 15.407(a)(3)(i)
Test Limit:	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

4.2.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23 °C	Humidity:	46.8 %	Atmospheric Pressure:	102 kPa
Pretest mode:	TM1, TM2, TM3				
Final test mode:	TM1, TM2, TM3				

4.2.2 Test Setup Diagram:



4.2.3 Test Data:

Please Refer to Appendix for Details.

4.3 Emission bandwidth and occupied bandwidth

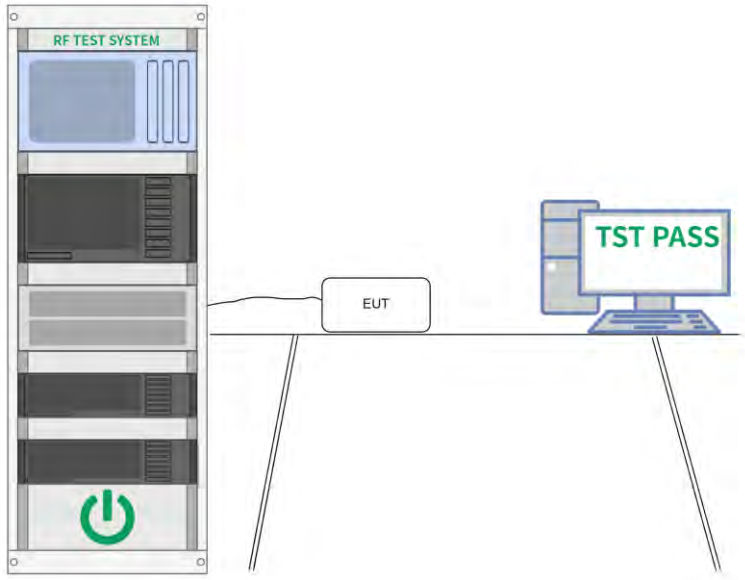
Test Requirement:	U-NII 3, U-NII 4: 47 CFR Part 15.407(e)
Test Limit:	U-NII 3, U-NII 4: Within the 5.725-5.850 GHz and 5.850-5.895 GHz bands, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.
Test Method:	ANSI C63.10-2013, section 6.9 & 12.4 KDB 789033 D02, Clause C.2
Procedure:	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.

4.3.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23 °C	Humidity:	46.8 %	Atmospheric Pressure:	102 kPa
Pretest mode:	TM1, TM2, TM3				
Final test mode:	TM1, TM2, TM3				

4.3.2 Test Setup Diagram:



4.3.3 Test Data:

Please Refer to Appendix for Details.

4.4 Band edge emissions (Radiated)

Test Requirement:	47 CFR Part 15.407(b)(4) 47 CFR Part 15.407(b)(10)
Test Limit:	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:

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

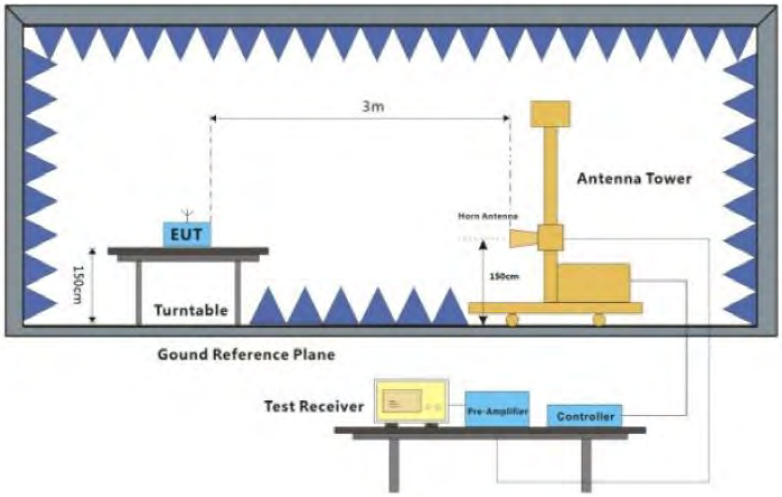
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this 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.

4.4.1 E.U.T. Operation:

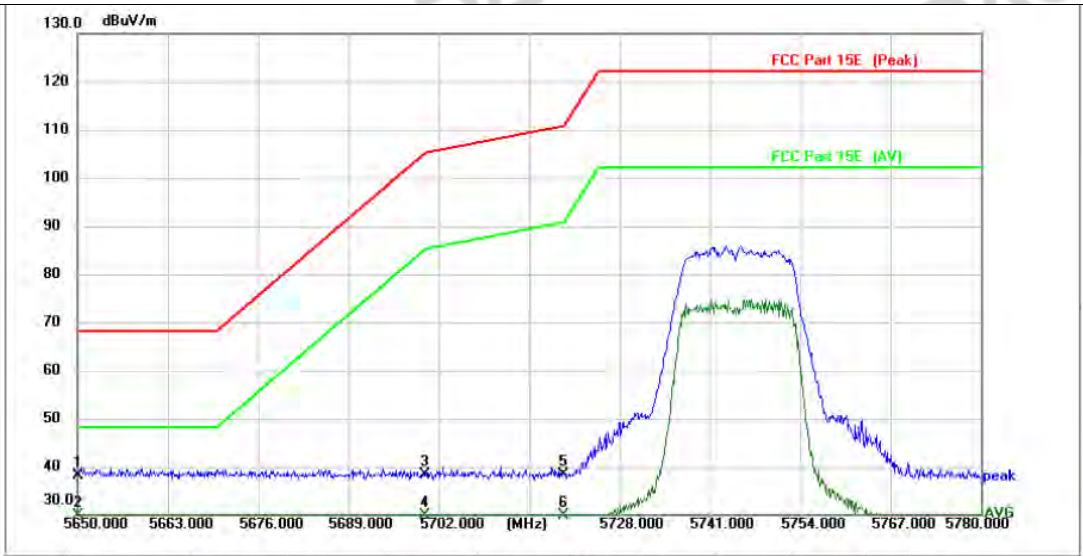
Operating Environment:					
Temperature:	22.8 °C	Humidity:	49.5 %	Atmospheric Pressure:	102 kPa
Pretest mode:	TM1, TM2, TM3				
Final test mode:	Worse case-TM1(a mode), TM2(N40 mode)				

4.4.2 Test Setup Diagram:



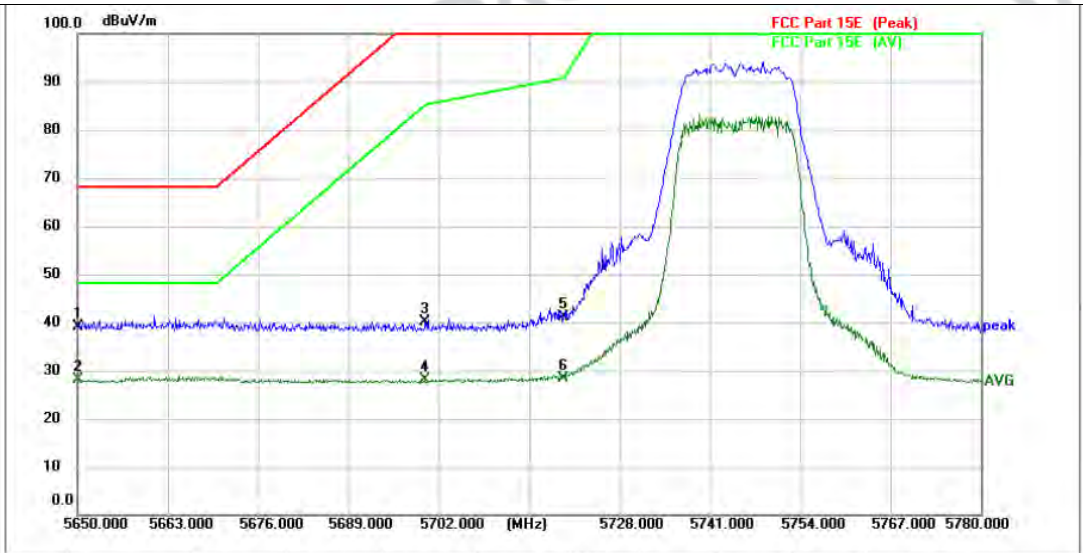
4.4.3 Test Data:

TM1 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: L



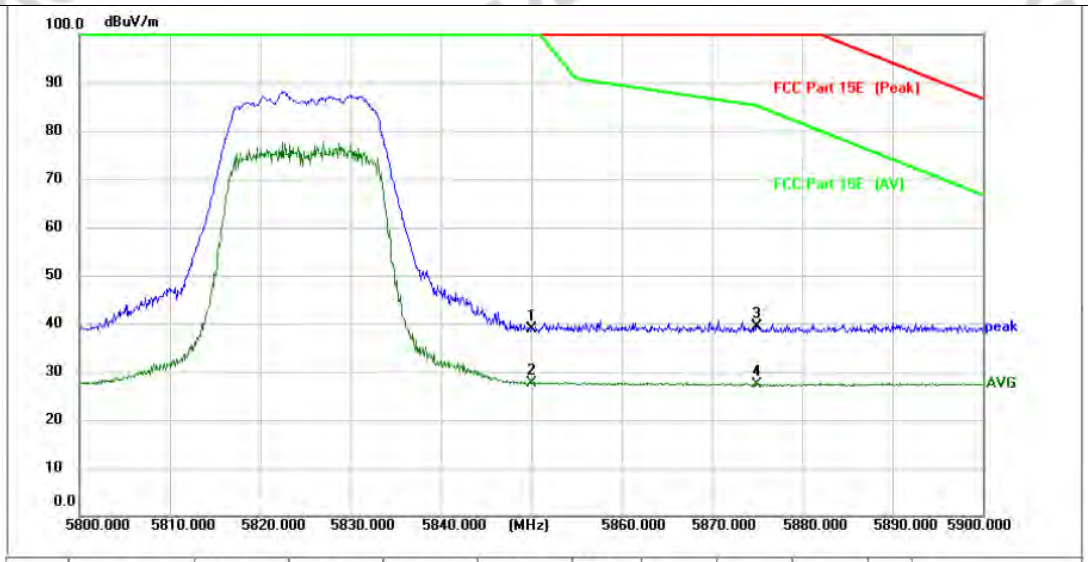
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5650.000	37.20	0.89	38.09	68.20	-30.11	peak			P	
2 *	5650.000	26.54	0.89	27.43	48.20	-20.77	AVG			P	
3	5700.000	37.36	0.95	38.31	105.20	-66.89	peak			P	
4	5700.000	26.17	0.95	27.12	85.20	-58.08	AVG			P	
5	5720.000	37.34	0.97	38.31	110.80	-72.49	peak			P	
6	5720.000	26.20	0.97	27.17	90.80	-63.63	AVG			P	

TM1 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: L



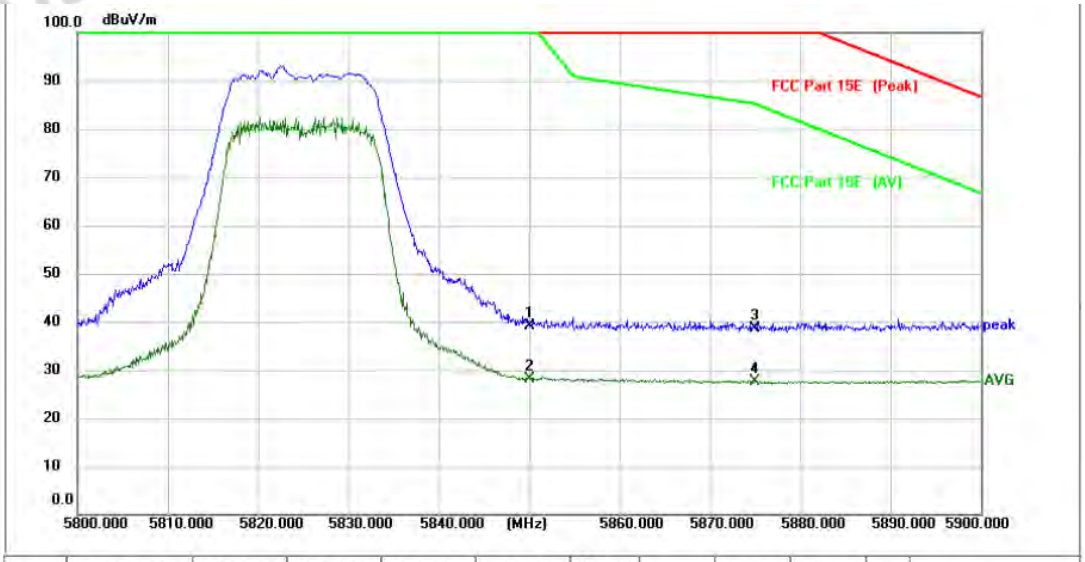
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5650.000	38.43	0.77	39.20	68.20	-29.00	peak	150		P	
2 *	5650.000	27.25	0.77	28.02	48.20	-20.18	AVG	150		P	
3	5700.000	39.22	0.80	40.02	105.20	-65.18	peak	150		P	
4	5700.000	27.29	0.80	28.09	85.20	-57.11	AVG	150		P	
5	5720.000	40.42	0.81	41.23	110.80	-69.57	peak	150		P	
6	5720.000	27.63	0.81	28.44	90.80	-62.36	AVG	150		P	

TM1 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: H



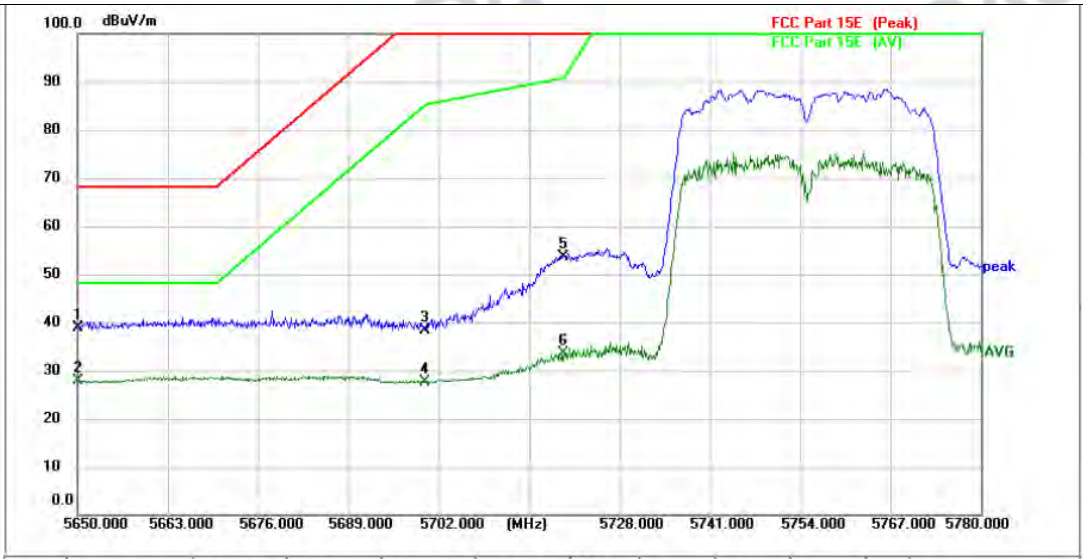
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5850.000	37.77	1.13	38.90	122.20	-83.30	peak	150		P	
2	5850.000	26.61	1.13	27.74	102.20	-74.46	AVG	150		P	
3	5875.000	38.14	1.15	39.29	105.20	-65.91	peak	150		P	
4 *	5875.000	26.22	1.15	27.37	85.20	-57.83	AVG	150		P	

TM1 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: H



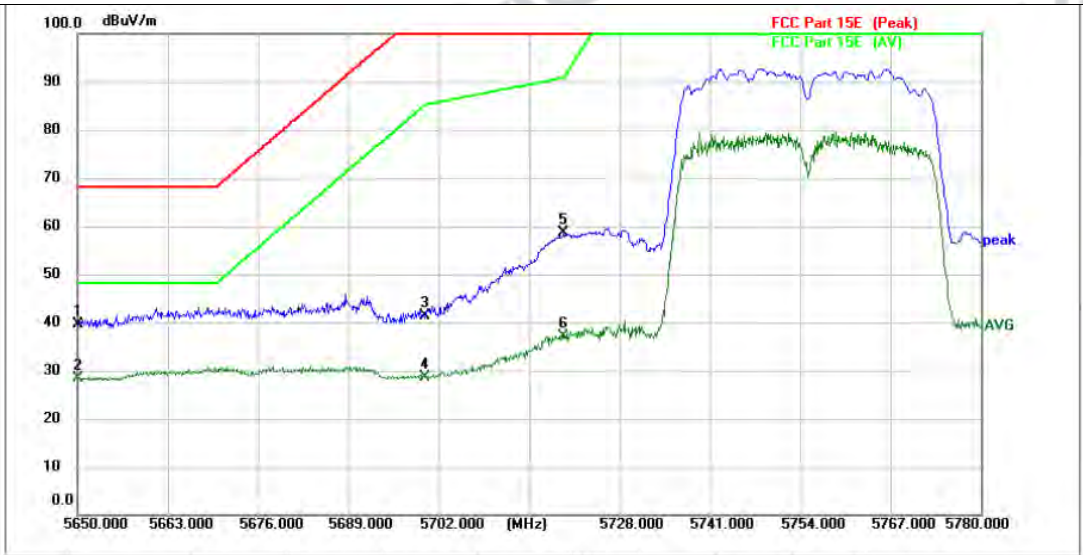
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5850.000	38.30	0.91	39.21	122.20	-82.99	peak	150		P	
2	5850.000	27.19	0.91	28.10	102.20	-74.10	AVG	150		P	
3	5875.000	37.61	0.92	38.53	105.20	-66.67	peak	150		P	
4 *	5875.000	26.79	0.92	27.71	85.20	-57.49	AVG	150		P	

TM2 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 40 / CH: L



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5650.000	38.03	0.77	38.80	68.20	-29.40	peak	149		P	
2 *	5650.000	27.08	0.77	27.85	48.20	-20.35	AVG	149		P	
3	5700.000	37.70	0.80	38.50	105.20	-66.70	peak	149		P	
4	5700.000	26.88	0.80	27.68	85.20	-57.52	AVG	149		P	
5	5720.000	52.87	0.81	53.68	110.80	-57.12	peak	149		P	
6	5720.000	32.76	0.81	33.57	90.80	-57.23	AVG	149		P	

TM2 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 40 / CH: L



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5650.000	38.92	0.77	39.69	68.20	-28.51	peak			P	
2 *	5650.000	27.65	0.77	28.42	48.20	-19.78	AVG			P	
3	5700.000	40.67	0.80	41.47	105.20	-63.73	peak			P	
4	5700.000	27.94	0.80	28.74	85.20	-56.46	AVG			P	
5	5720.000	57.83	0.81	58.64	110.80	-52.16	peak			P	
6	5720.000	36.33	0.81	37.14	90.80	-53.66	AVG			P	

TM2 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 40 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5850.000	37.67	1.13	38.80	122.20	-83.40	peak	149		P	
2	5850.000	26.84	1.13	27.97	102.20	-74.23	AVG	149		P	
3	5875.000	37.06	1.15	38.21	105.20	-66.99	peak	149		P	
4 *	5875.000	26.63	1.15	27.78	85.20	-57.42	AVG	149		P	

TM2 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 40 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5850.000	38.12	0.91	39.03	122.20	-83.17	peak			P	
2	5850.000	26.56	0.91	27.47	102.20	-74.73	AVG			P	
3	5875.000	37.42	0.92	38.34	105.20	-66.86	peak			P	
4 *	5875.000	26.36	0.92	27.28	85.20	-57.92	AVG			P	

1. Margin = Measurement Level - Limit ; Measurement Level=Test receiver reading + correction factor

2.The test software will only record the worst test angle and height, and only the worst case will be recorded in the test report.

4.5 Undesirable emission limits (below 1GHz)

Test Requirement:	47 CFR Part 15.407(b)(9)
Test Limit:	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:

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

** 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.

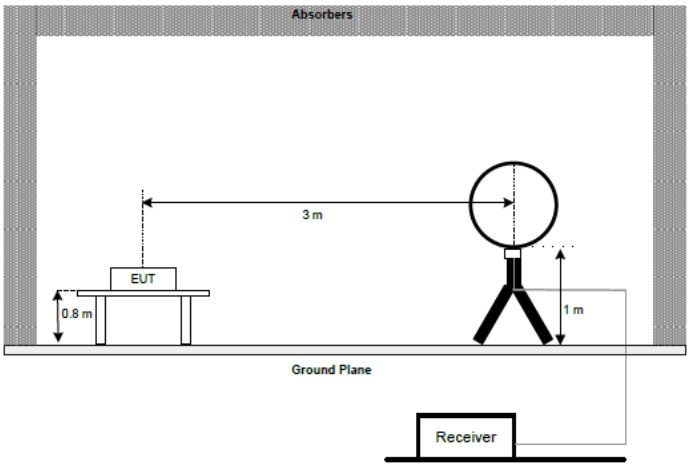
Test Method:	ANSI C63.10-2013, section 12.7.4, 12.7.5
Procedure:	Below 1GHz: a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. b. The 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. Remark: 1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

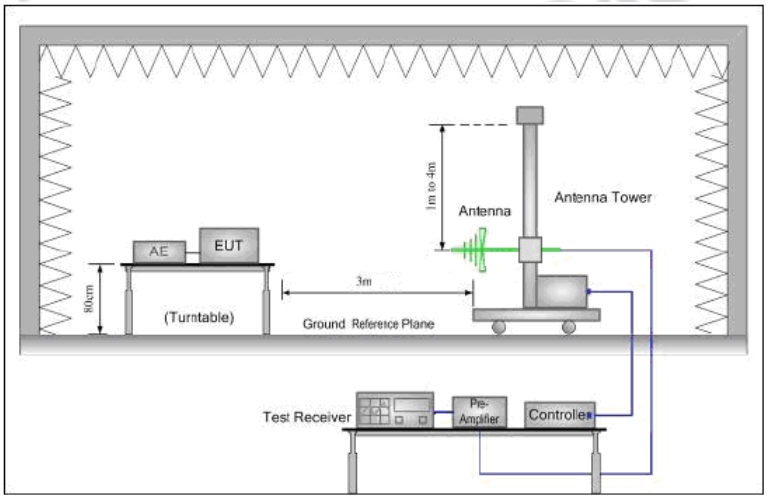
	2. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit 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.

4.5.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23 °C	Humidity:	46.8 %	Atmospheric Pressure:	102 kPa
Pretest mode:	TM1, TM2, TM3				
Final test mode:	Worse case-TM1				

4.5.2 Test Setup Diagram:



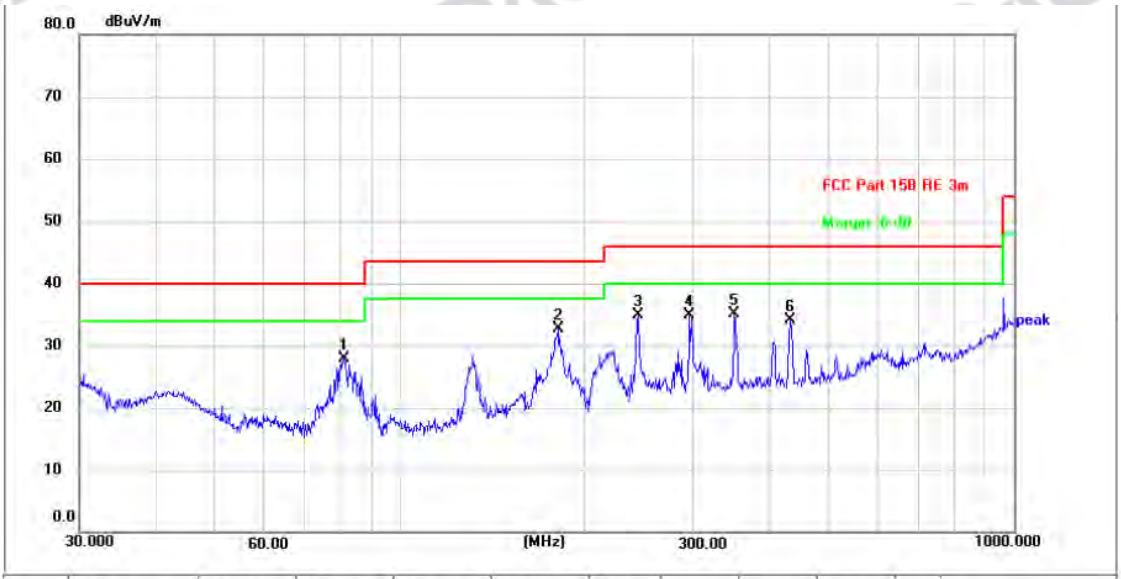


4.5.3 Test Data:

TM1 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	244.2321	41.07	-2.22	38.85	46.00	-7.15	QP	100	304	P	
2 !	298.2681	43.23	0.60	43.83	46.00	-2.17	QP	100	176	P	
3 !	350.4767	41.55	1.76	43.31	46.00	-2.69	QP	100	148	P	
4 !	404.6665	39.03	1.36	40.39	46.00	-5.61	QP	100	201	P	
5 *	431.0315	43.49	1.22	44.71	46.00	-1.29	QP	100	45	P	
6 !	962.1622	38.77	9.43	48.20	54.00	-5.80	QP	100	232	P	

TM1 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: H



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	80.9275	35.51	-7.55	27.96	40.00	-12.04	QP	100	53	P	
2	180.6488	35.74	-3.11	32.63	43.50	-10.87	QP	100	255	P	
3	244.2321	37.13	-2.22	34.91	46.00	-11.09	QP	100	166	P	
4	296.1836	35.17	-0.27	34.90	46.00	-11.10	QP	100	302	P	
5 *	350.4768	34.38	0.77	35.15	46.00	-10.85	QP	100	167	P	
6	431.0316	32.90	1.22	34.12	46.00	-11.88	QP	100	106	P	

1. Margin = Measurement Level - Limit ; Measurement Level=Test receiver reading + correction factor

2.The test software will only record the worst test angle and height, and only the worst case will be recorded in the test report.

4.6 Undesirable emission limits (above 1GHz)

Test Requirement:	47 CFR Part 15.407(b)(4) 47 CFR Part 15.407(b)(10)
Test Limit:	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:

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

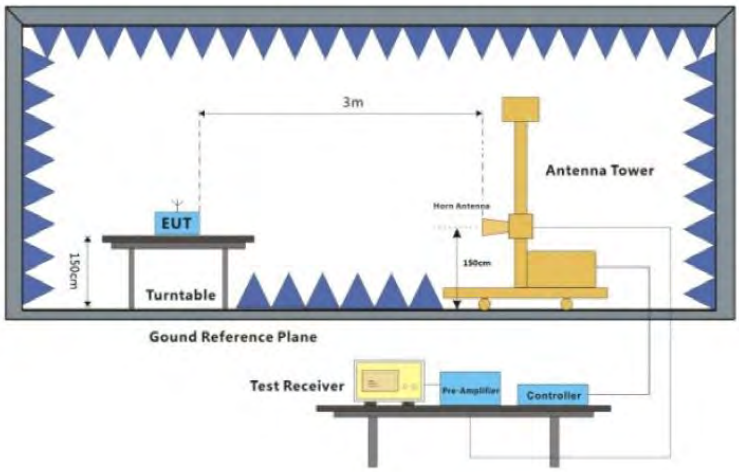
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this 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.

4.6.1 E.U.T. Operation:

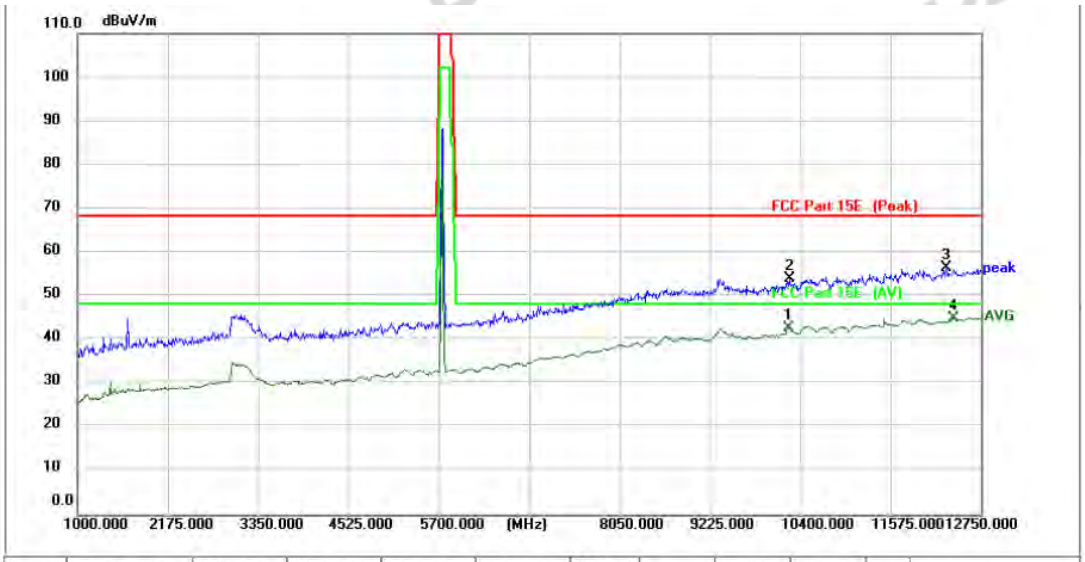
Operating Environment:					
Temperature:	23 °C	Humidity:	46.8 %	Atmospheric Pressure:	102 kPa
Pretest mode:	TM1, TM2, TM3				
Final test mode:	Worse case-TM1(a mode), TM2(N40 mode)				

4.6.2 Test Setup Diagram:



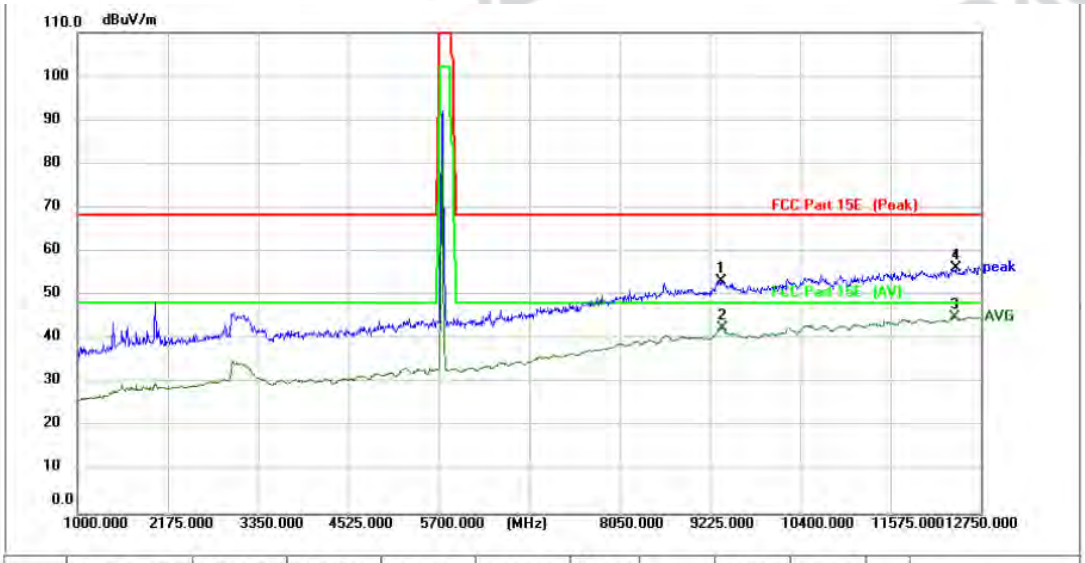
4.6.3 Test Data:

TM1 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: L



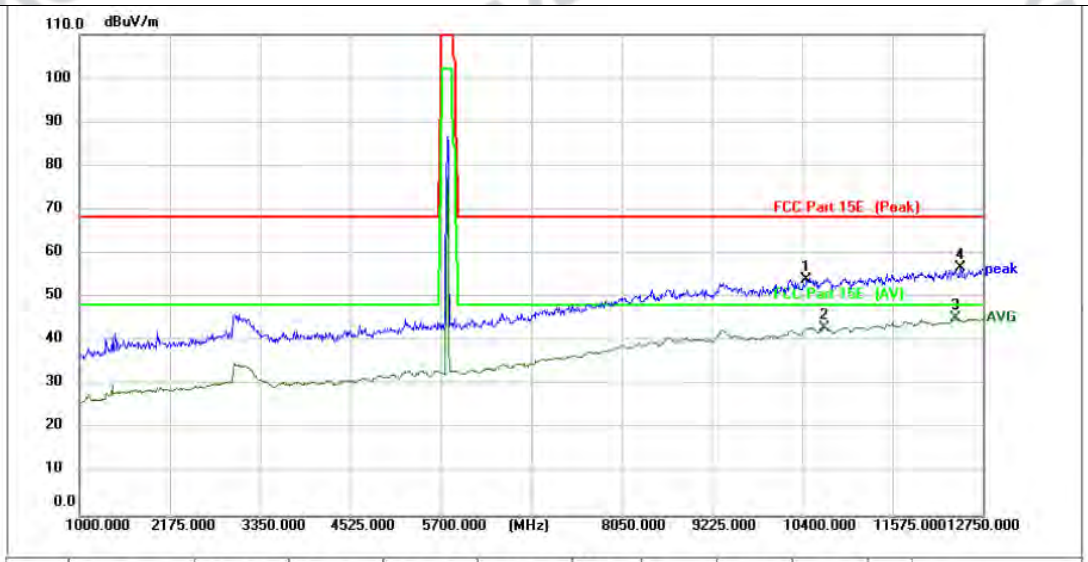
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	10247.250	34.20	8.55	42.75	48.20	-5.45	AVG	150		P	
2	10259.000	45.53	8.56	54.09	68.20	-14.11	peak	150		P	
3	12303.500	45.77	10.62	56.39	68.20	-11.81	peak	150		P	
4 *	12397.500	34.22	10.82	45.04	48.20	-3.16	AVG	150		P	

TM1 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: L



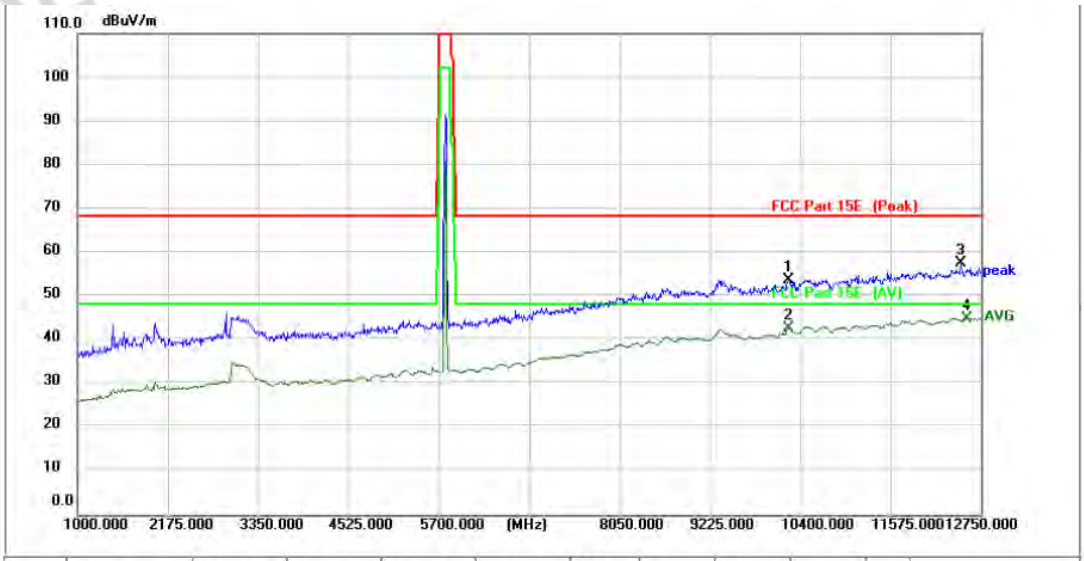
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	9377.750	45.18	8.07	53.25	68.20	-14.95	peak	150		P	
2	9389.500	34.37	8.08	42.45	48.20	-5.75	AVG	150		P	
3 *	12409.250	34.22	10.84	45.06	48.20	-3.14	AVG	150		P	
4	12421.000	45.46	10.87	56.33	68.20	-11.87	peak	150		P	

TM1 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: M



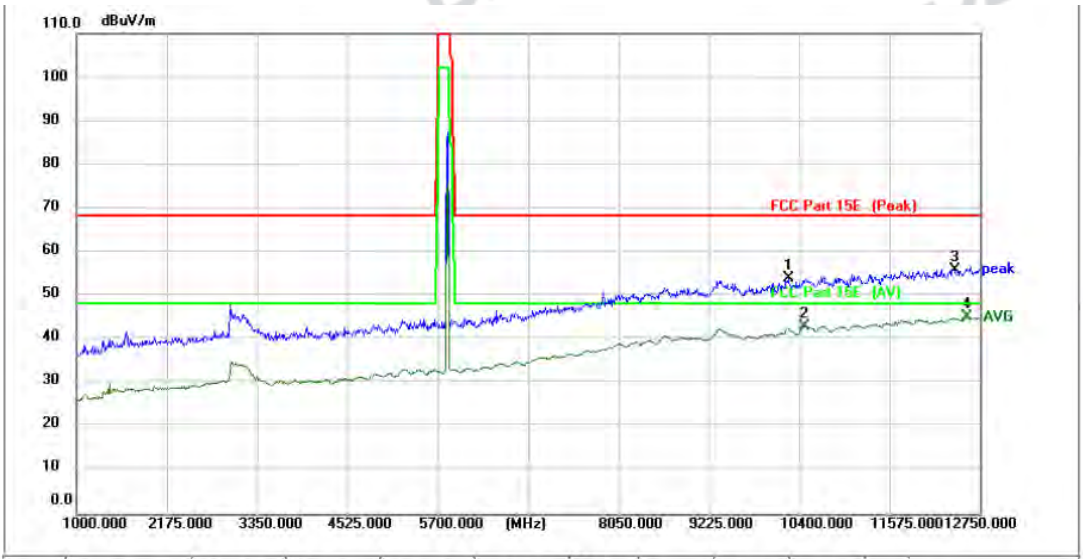
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	10458.750	45.14	8.92	54.06	68.20	-14.14	peak	150		P	
2	10682.000	34.00	9.13	43.13	48.20	-5.07	AVG	150		P	
3 *	12397.500	34.54	10.82	45.36	48.20	-2.84	AVG	150		P	
4	12456.250	45.94	10.94	56.88	68.20	-11.32	peak	150		P	

TM1 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: M



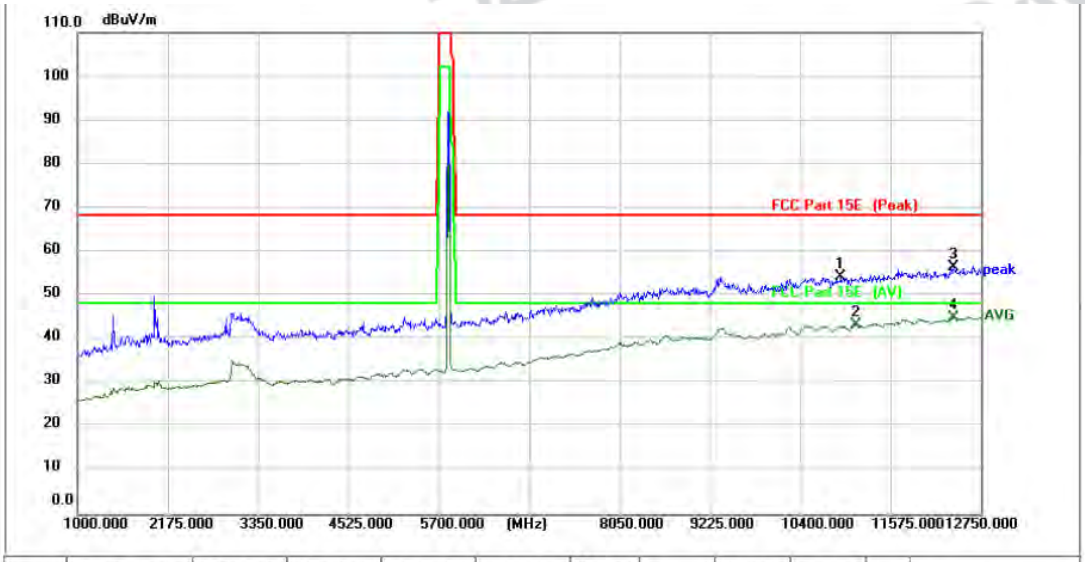
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	10247.250	45.30	8.47	53.77	68.20	-14.43	peak	150		P	
2	10247.250	34.17	8.47	42.64	48.20	-5.56	AVG	150		P	
3	12491.500	46.47	11.17	57.64	68.20	-10.56	peak	150		P	
4 *	12562.000	33.68	11.28	44.96	48.20	-3.24	AVG	150		P	

TM1 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: H



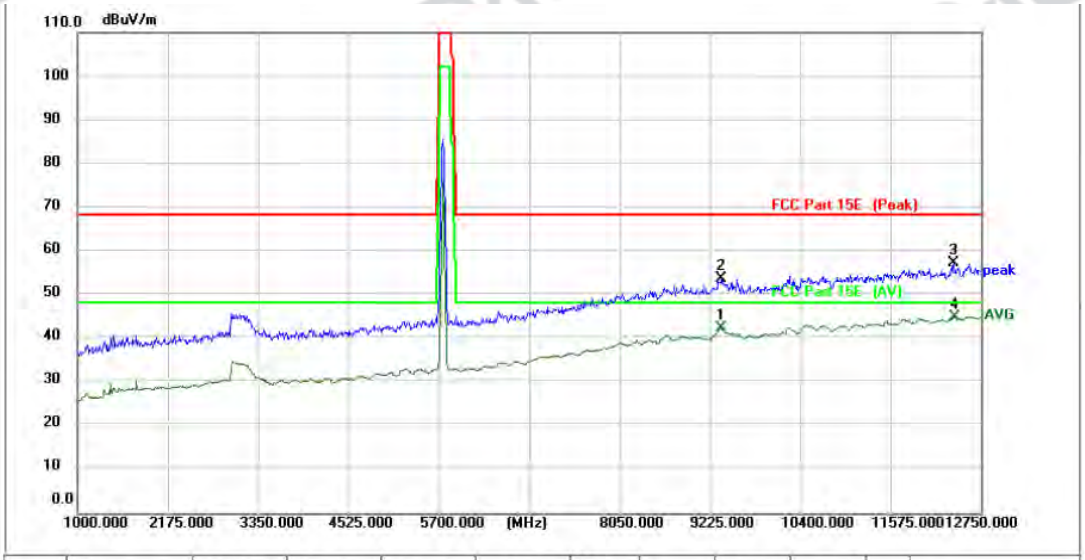
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	10259.000	45.36	8.56	53.92	68.20	-14.28	peak	150		P	
2	10470.500	34.14	8.95	43.09	48.20	-5.11	AVG	150		P	
3	12421.000	45.17	10.87	56.04	68.20	-12.16	peak	150		P	
4 *	12585.500	34.00	11.16	45.16	48.20	-3.04	AVG	150		P	

TM1 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: H



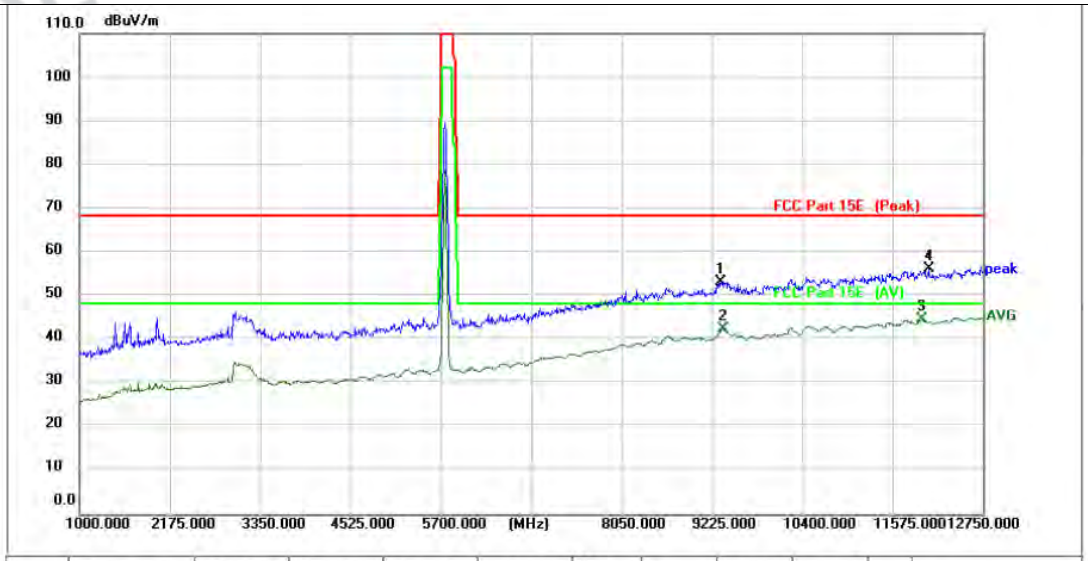
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	10928.750	45.29	8.97	54.26	68.20	-13.94	peak	150		P	
2	11128.500	34.23	9.19	43.42	48.20	-4.78	AVG	150		P	
3	12397.500	45.38	11.00	56.38	68.20	-11.82	peak	150		P	
4 *	12397.500	34.02	11.00	45.02	48.20	-3.18	AVG	150		P	

TM2 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 40 / CH: L



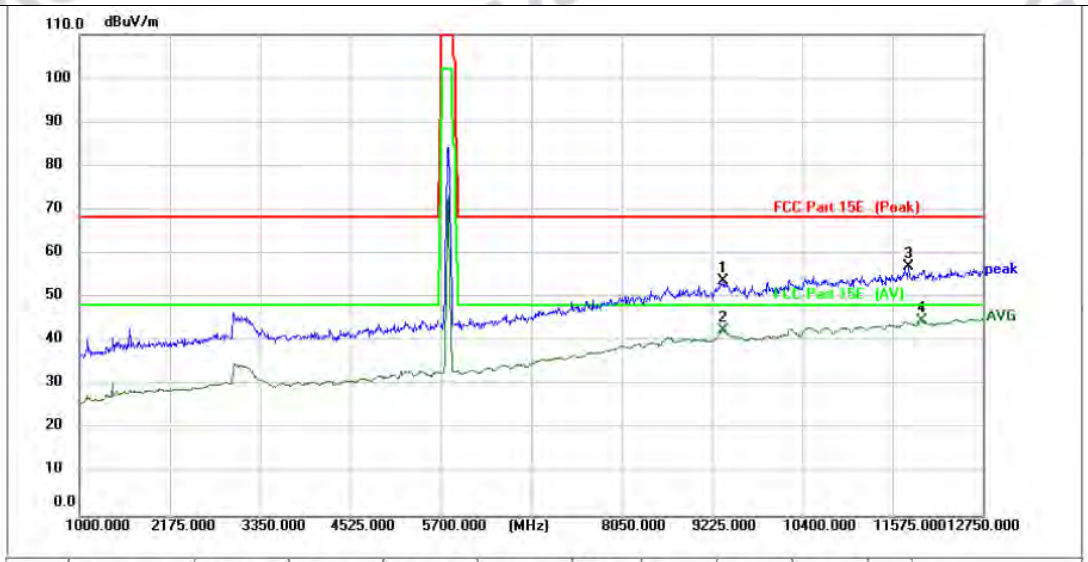
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	9366.000	34.54	8.07	42.61	48.20	-5.59	AVG	150		P	
2	9377.750	45.56	8.07	53.63	68.20	-14.57	peak	150		P	
3	12397.500	46.60	10.82	57.42	68.20	-10.78	peak	150		P	
4 *	12409.250	34.24	10.84	45.08	48.20	-3.12	AVG	150		P	

TM2 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 40 / CH: L



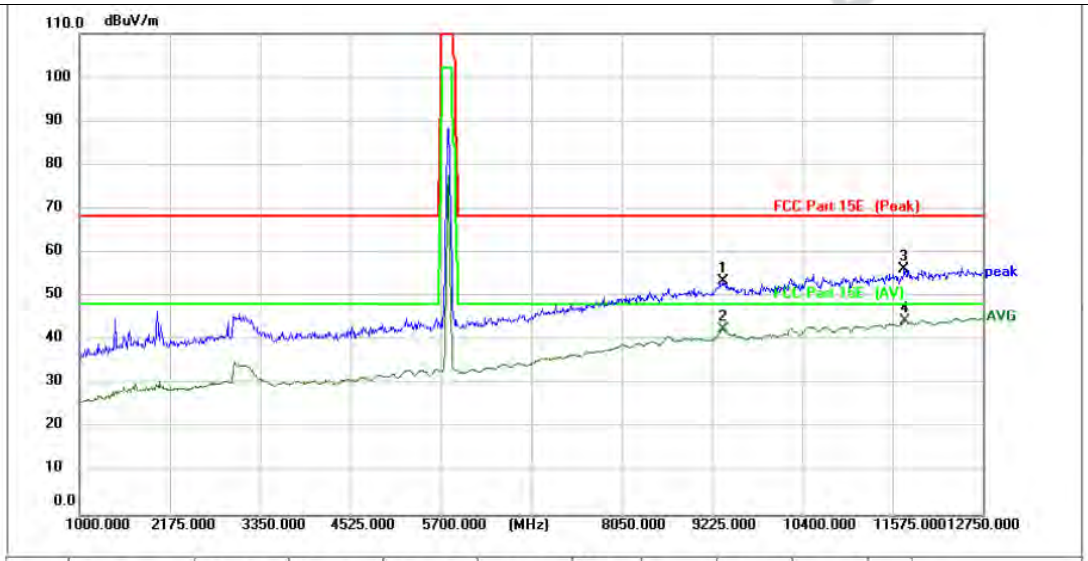
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	9342.500	45.51	7.84	53.35	68.20	-14.85	peak	150		P	
2	9366.000	34.63	7.85	42.48	48.20	-5.72	AVG	150		P	
3 *	11962.750	34.36	10.26	44.62	48.20	-3.58	AVG	150		P	
4	12045.000	45.80	10.38	56.18	68.20	-12.02	peak	150		P	

TM2 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 40 / CH: H



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	9377.750	45.67	8.07	53.74	68.20	-14.46	peak	150		P	
2	9377.750	34.41	8.07	42.48	48.20	-5.72	AVG	150		P	
3	11786.500	47.20	9.85	57.05	68.20	-11.15	peak	150		P	
4 *	11962.750	34.67	9.99	44.66	48.20	-3.54	AVG	150		P	

TM2 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 40 / CH: H



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	9366.000	45.52	7.85	53.37	68.20	-14.83	peak	150		P	
2	9366.000	34.65	7.85	42.50	48.20	-5.70	AVG	150		P	
3	11727.750	46.30	9.96	56.26	68.20	-11.94	peak	150		P	
4 *	11739.500	34.56	9.98	44.54	48.20	-3.66	AVG	150		P	

Remark: 1.Margin= Level – Limit; Level=Test receiver reading + correction factor

2.The test software will only record the worst test angle and height, and only the worst case will be recorded in the test report.

5 TEST SETUP PHOTOS

Please Refer to test setup file for Details.

6 PHOTOS OF THE EUT

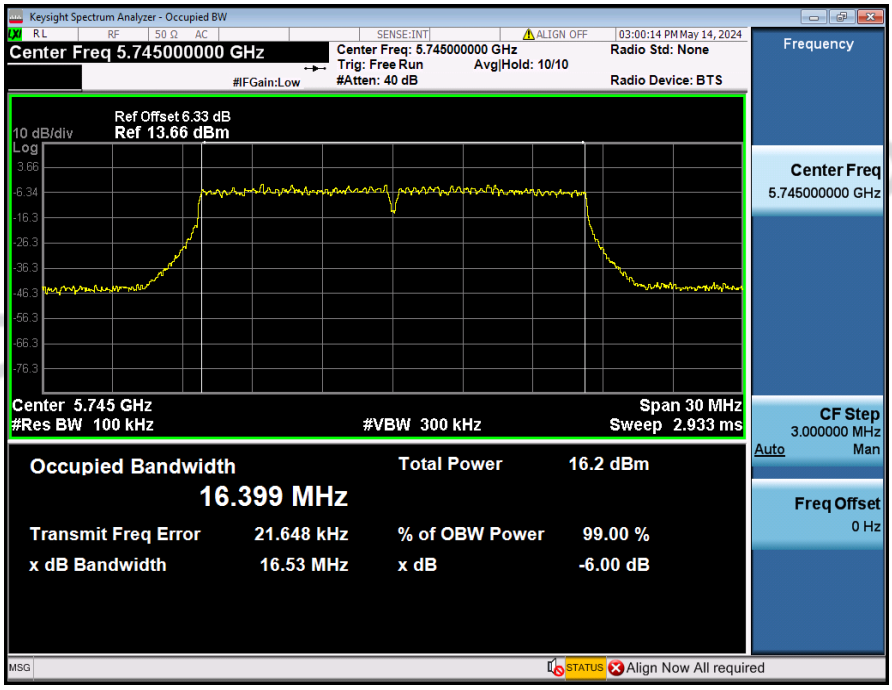
Please Refer to report external photos file and internal photos file for Details.

Appendix

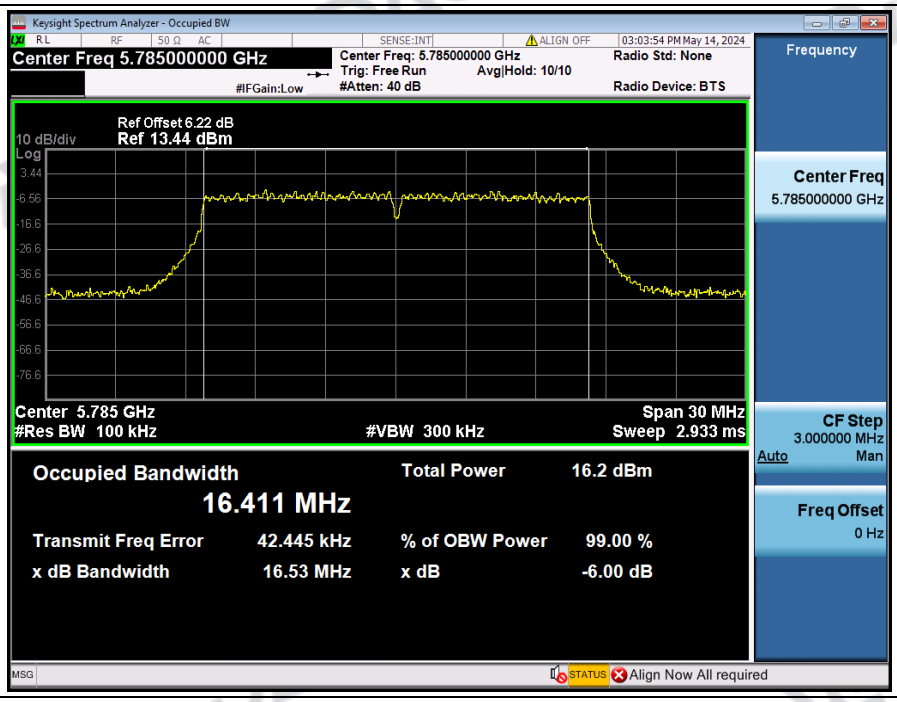
1. -6dB Emission Bandwidth

Condition	Antenna	Mode	Frequency(MHz)	-6dB_Emission_Bandwidth(MHz)	Limit(MHz)	Result
NVNT	ANT1	802.11a	5745.00	16.532	0.500	Pass
NVNT	ANT1	802.11a	5785.00	16.533	0.500	Pass
NVNT	ANT1	802.11a	5825.00	16.515	0.500	Pass
NVNT	ANT1	802.11n(HT20)	5745.00	17.796	0.500	Pass
NVNT	ANT1	802.11n(HT20)	5785.00	17.802	0.500	Pass
NVNT	ANT1	802.11n(HT20)	5825.00	17.803	0.500	Pass
NVNT	ANT1	802.11ac(VHT20)	5745.00	17.678	0.500	Pass
NVNT	ANT1	802.11ac(VHT20)	5785.00	17.683	0.500	Pass
NVNT	ANT1	802.11ac(VHT20)	5825.00	17.684	0.500	Pass
NVNT	ANT1	802.11n(HT40)	5755.00	36.496	0.500	Pass
NVNT	ANT1	802.11n(HT40)	5795.00	36.480	0.500	Pass
NVNT	ANT1	802.11ac(VHT40)	5755.00	36.439	0.500	Pass
NVNT	ANT1	802.11ac(VHT40)	5795.00	36.426	0.500	Pass
NVNT	ANT1	802.11ac(VHT80)	5775.00	74.689	0.500	Pass

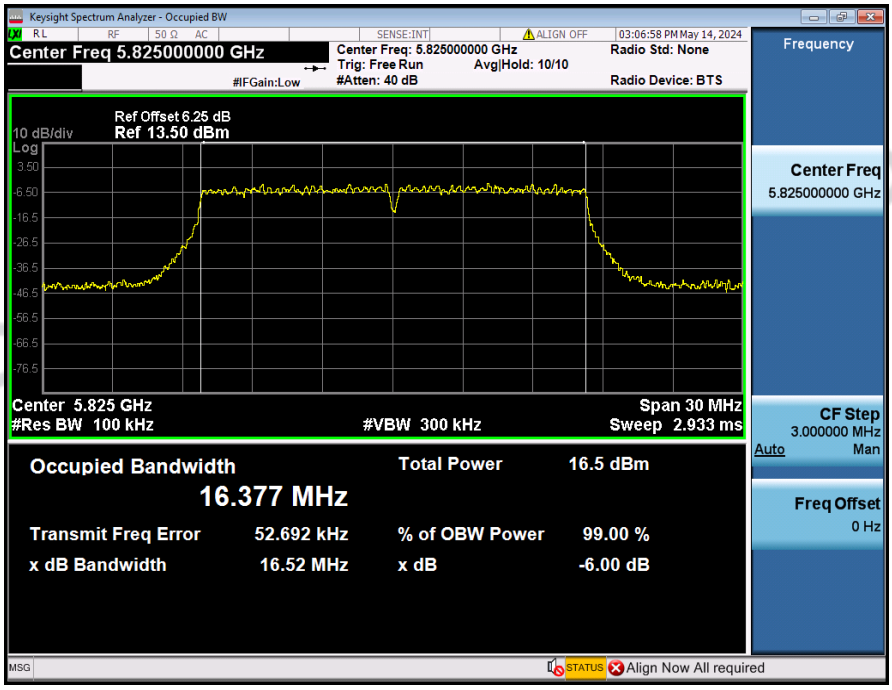
-6dB_Emission_Bandwidth_NVNT_ANT1_802_11a_5745_20M



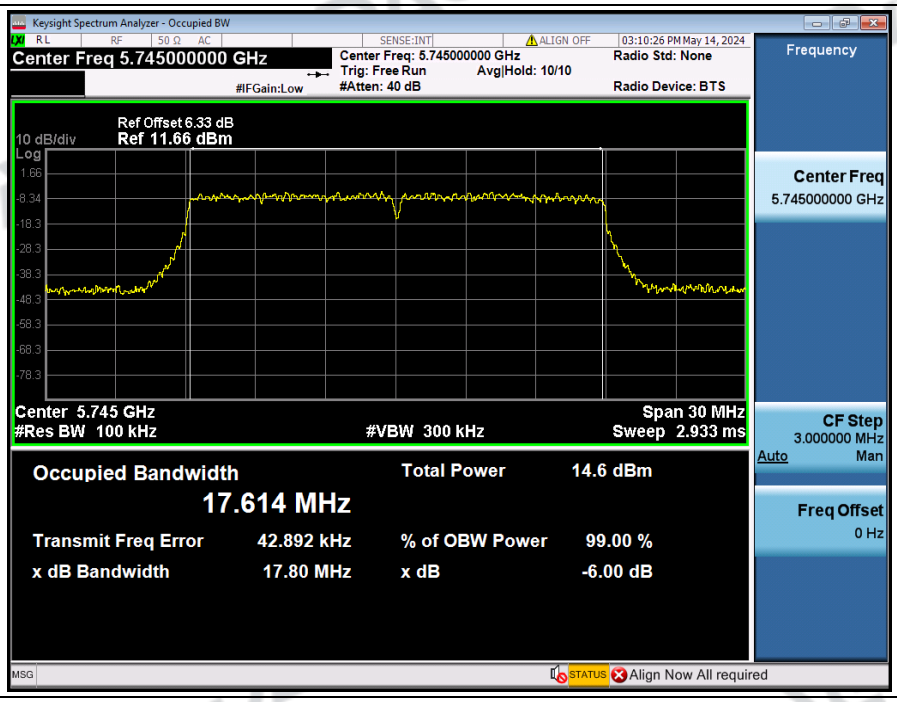
-6dB_Emission_Bandwidth_NVNT_ANT1_802_11a_5785_20M



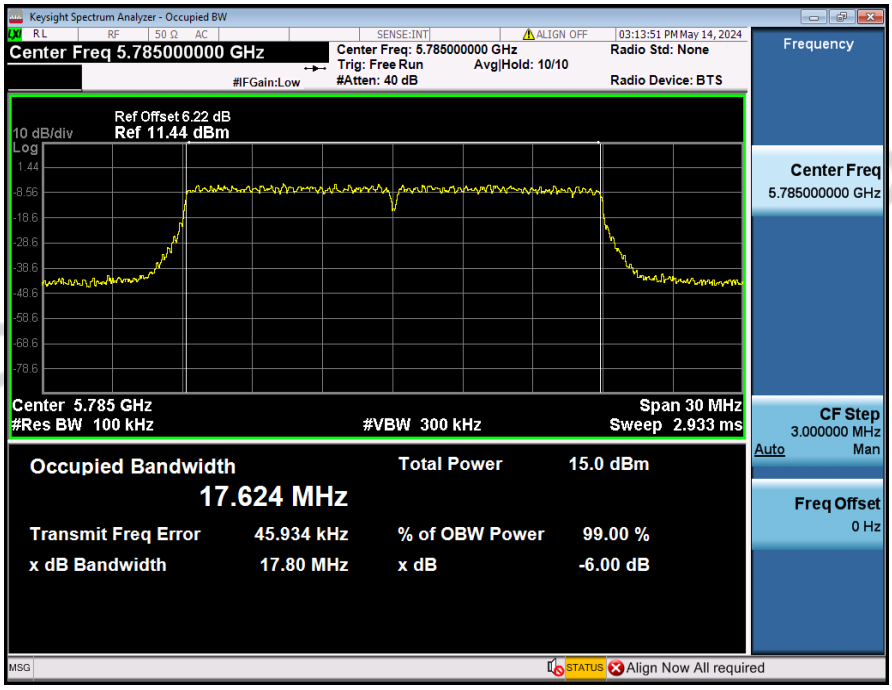
-6dB_Emission_Bandwidth_NVNT_ANT1_802_11a_5825_20M



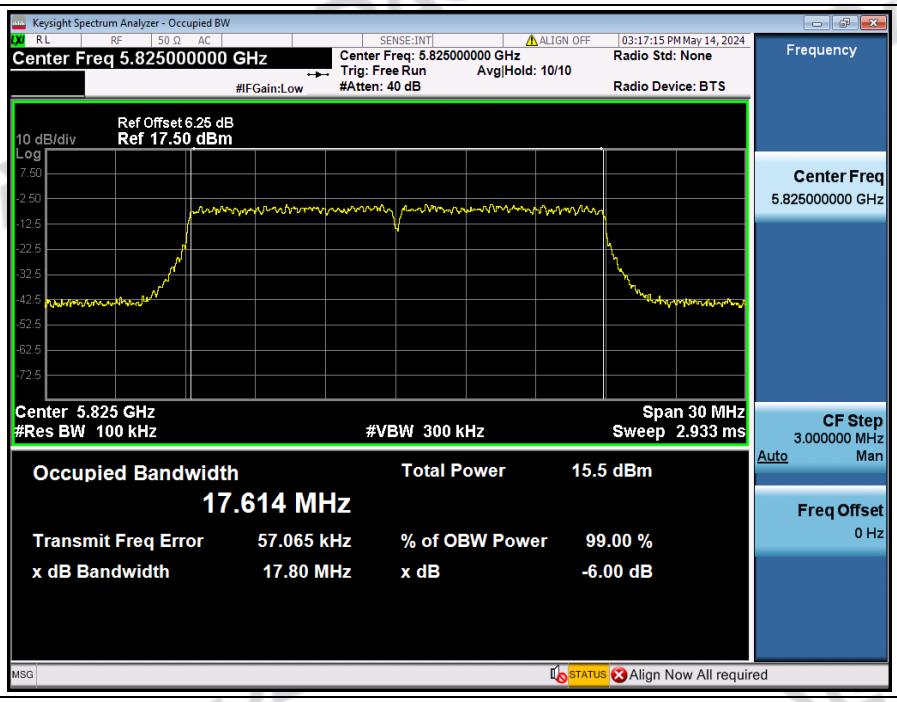
-6dB_Emission_Bandwidth_NVNT_ANT1_802_11n(HT20)_5745_20M



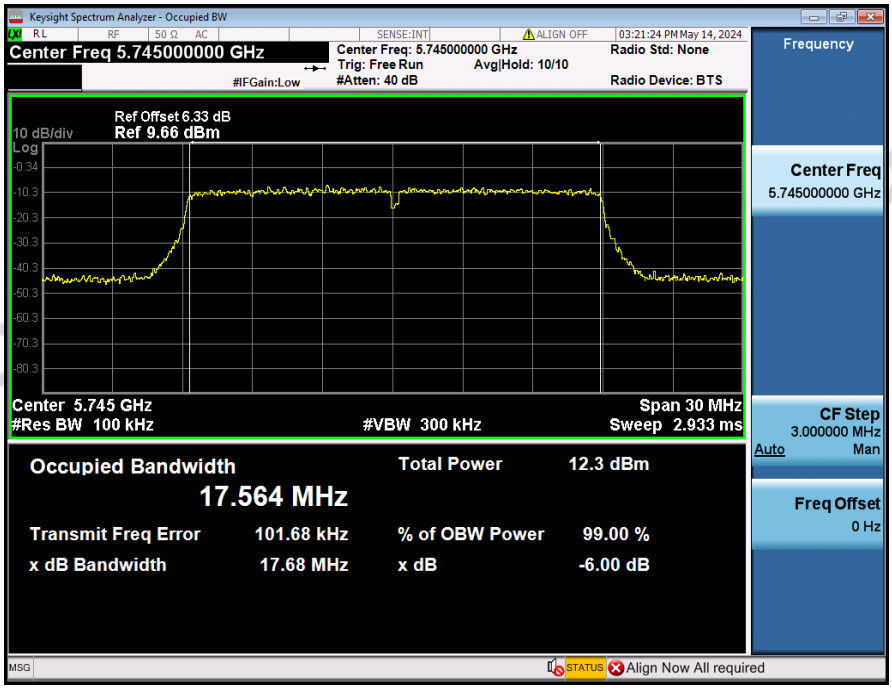
-6dB_Emission_Bandwidth_NVNT_ANT1_802_11n(HT20)_5785_20M



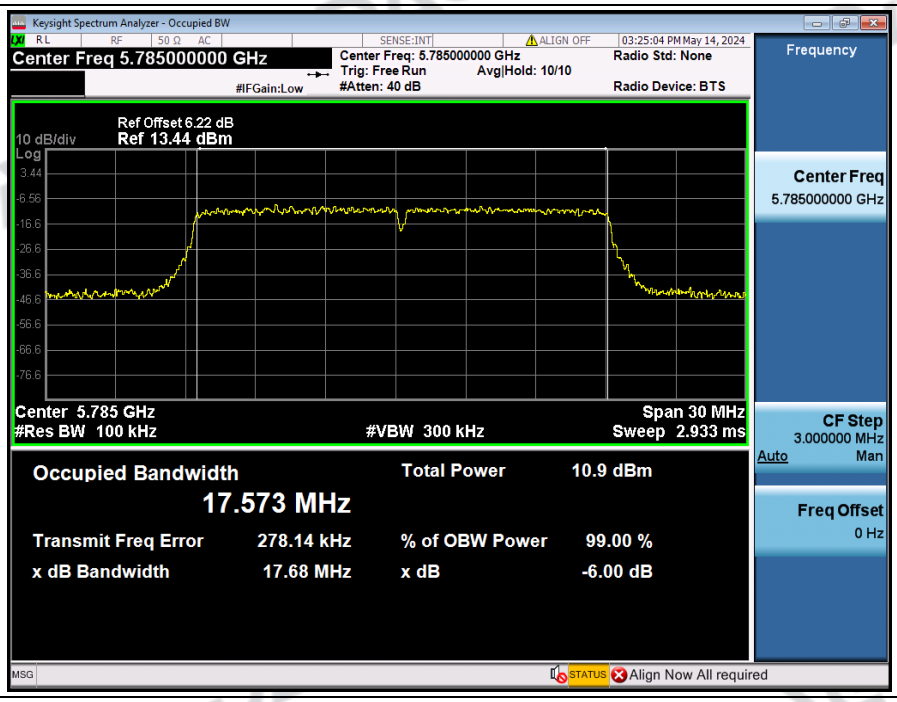
-6dB_Emission_Bandwidth_NVNT_ANT1_802_11n(HT20)_5825_20M



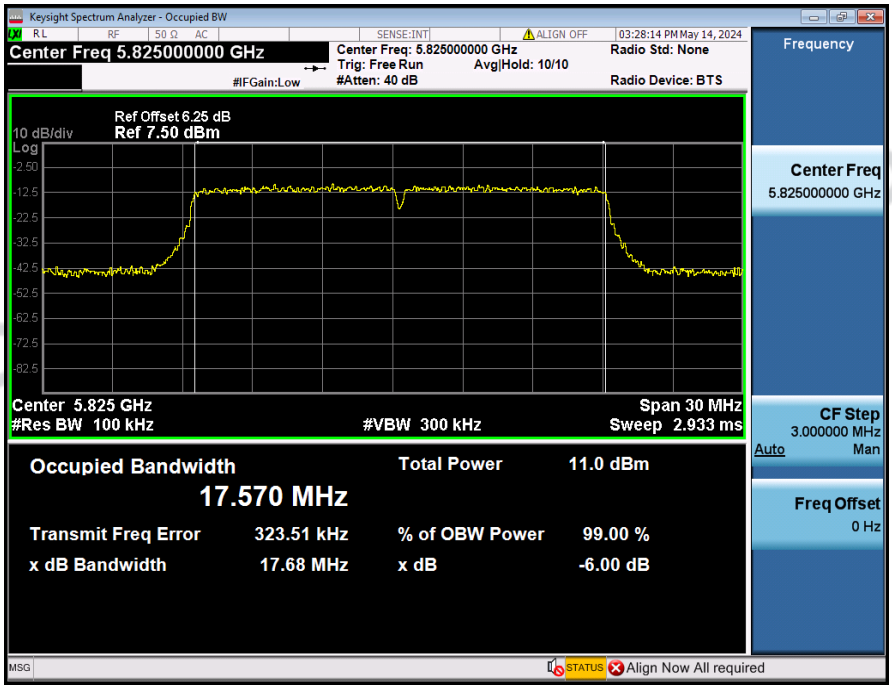
-6dB_Emission_Bandwidth_NVNT_ANT1_802_11ac(VHT20)_5745_20M



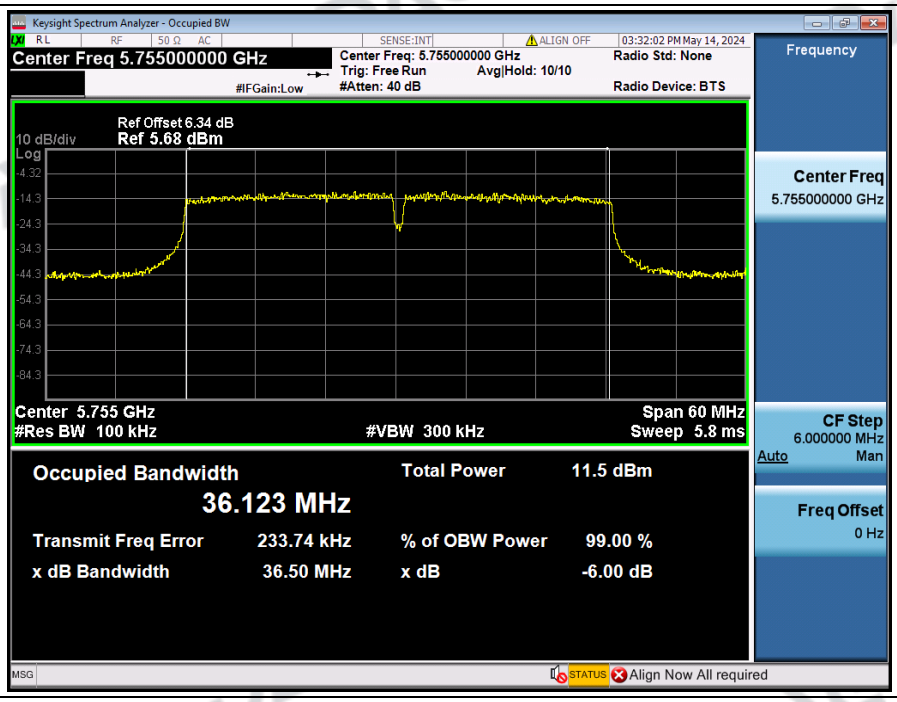
-6dB_Emission_Bandwidth_NVNT_ANT1_802_11ac(VHT20)_5785_20M



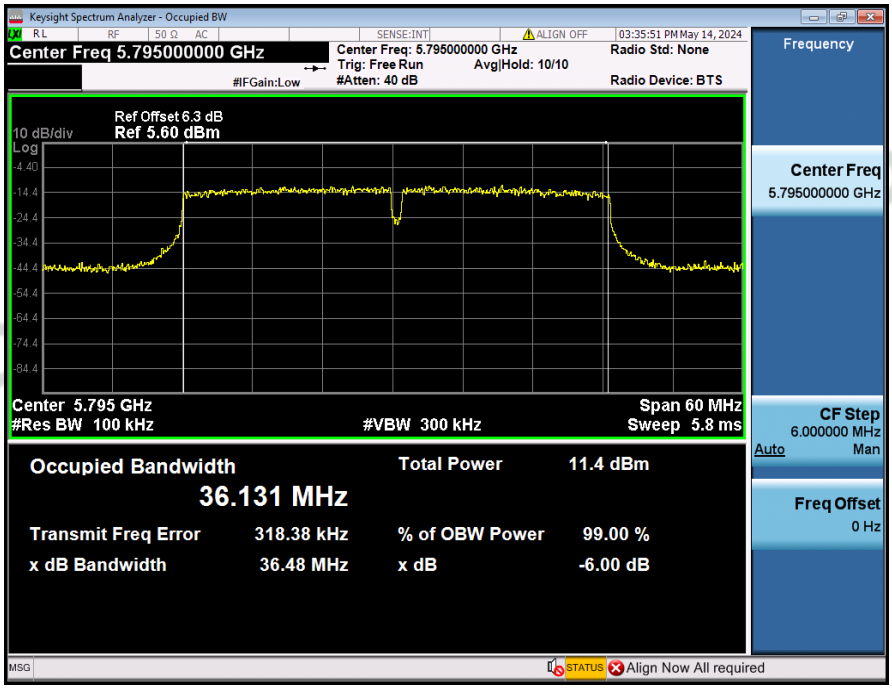
-6dB_Emission_Bandwidth_NVNT_ANT1_802_11ac(VHT20)_5825_20M



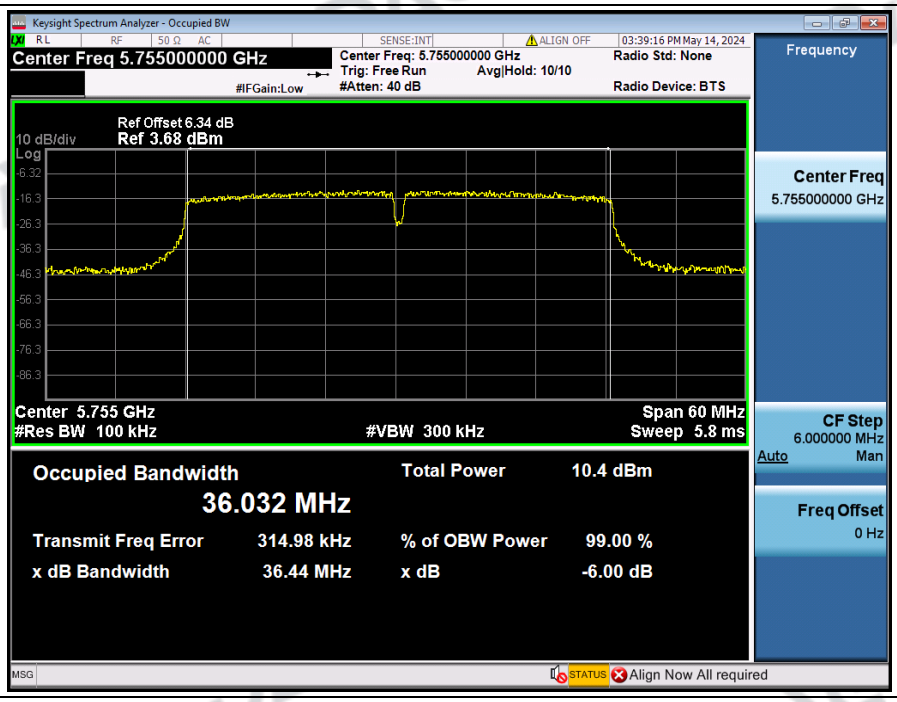
-6dB_Emission_Bandwidth_NVNT_ANT1_802_11n(HT40)_5755_40M



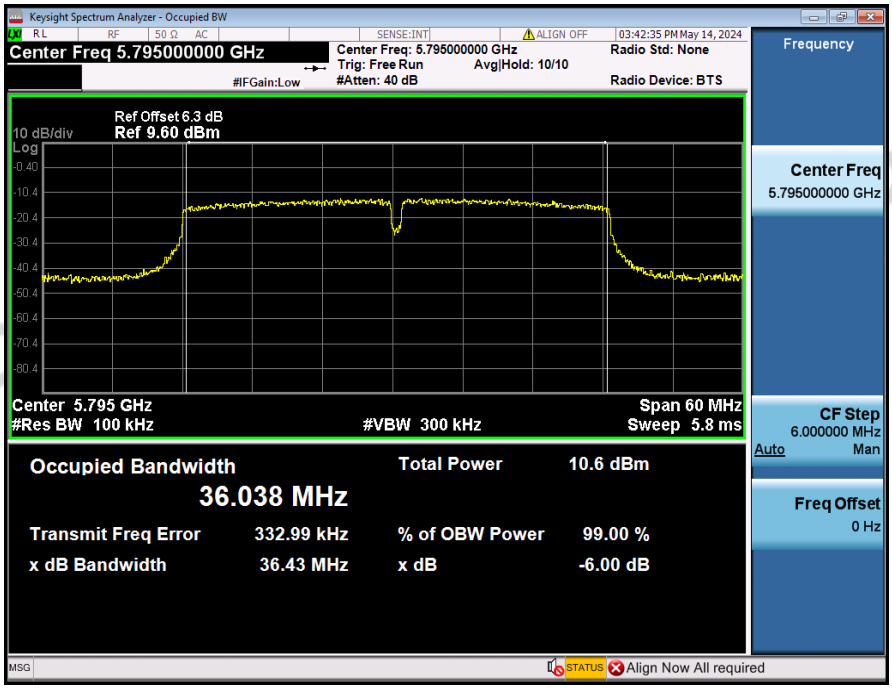
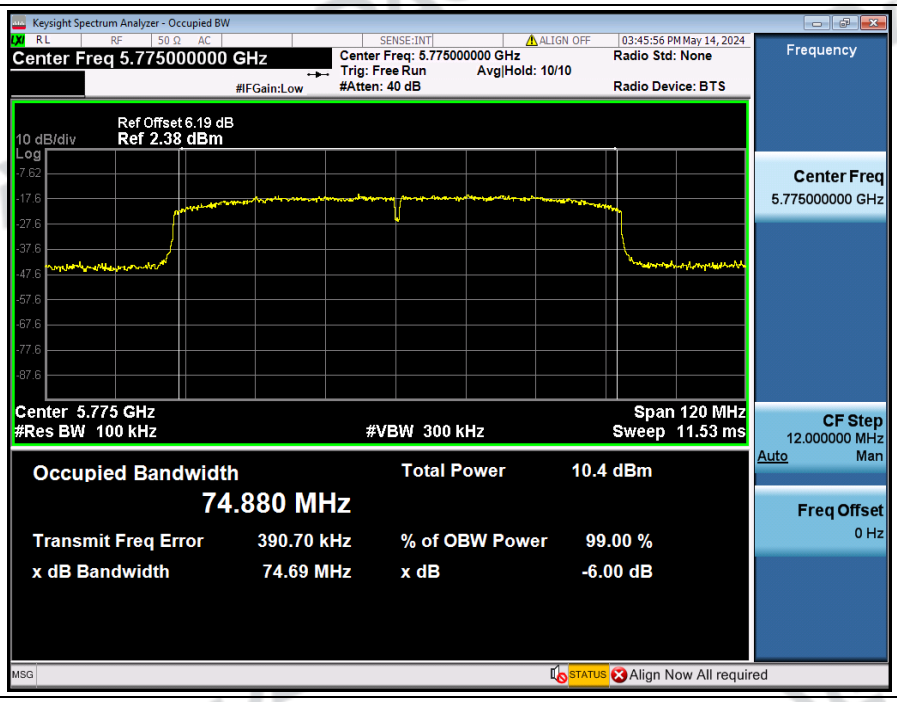
-6dB_Emission_Bandwidth_NVNT_ANT1_802_11n(HT40)_5795_40M



-6dB_Emission_Bandwidth_NVNT_ANT1_802_11ac(VHT40)_5755_40M



-6dB_Emission_Bandwidth_NVNT_ANT1_802_11ac(VHT40)_5795_40M



-6dB_Emission_Bandwidth_NVNT_ANT1_802_11ac(VHT80)_5775_80M