

FCC TEST REPORT

Product Name: Wi-Fi Dongle
Trade Mark: UNIVERSAL ELECTRONICS INC
Model No.: UEI2236B
Report Number: 180809001RFC-2
Test Standards: FCC 47 CFR Part 15 Subpart E
FCC ID: MG3-2236B
Test Result: PASS
Date of Issue: August 30, 2018

Prepared for:

Universal Electronics Inc
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Prepared by:

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August 30, 2018

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Version

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1. GENERAL INFORMATION

1.1 CLIENT INFORMATION

Applicant:	Universal Electronics Inc
Address of Applicant:	201 East Sandpointe Ave, 8th Floor, Santa Ana, CA, United States
Manufacturer:	ITON Technology Corp.
Address of Manufacturer:	Room 1302, Block A, Building 4, Tianan Cyber Park, Huangge Road, Longgang District, Shenzhen, China

1.2 EUT INFORMATION

1.2.1 General Description of EUT

Product Name:	Wi-Fi Dongle		
Model No.:	UEI2236B		
Add. Model No.:	N/A		
Trade Mark:	UNIVERSAL ELECTRONICS INC		
DUT Stage:	Production Unit		
EUT Supports Function:	2.4 GHz ISM Band:	IEEE 802.11b/g/n	
	5 GHz U-NII Bands:	5 150 MHz to 5 250 MHz	IEEE 802.11a/n
		5 250 MHz to 5 350 MHz	IEEE 802.11a/n
		5 470 MHz to 5 725 MHz	IEEE 802.11a/n
		5 725 MHz to 5 850 MHz	IEEE 802.11a/n
Software Version:	V1.0		
Hardware Version:	V1.1		
Sample Received Date:	August 10, 2018		
Sample Tested Date:	August 10, 2018 to August 21, 2018		

1.2.2 Description of Accessories

NA

1.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD

Frequency Bands:	5150 MHz to 5250 MHz
	5250 MHz to 5350 MHz
	5470 MHz to 5725 MHz
	5 725 MHz to 5 850 MHz
Frequency Range:	5180 MHz to 5240 MHz
	5260 MHz to 5320 MHz
	5500 MHz to 5700 MHz
	5 745 MHz to 5 825 MHz
Support Standards:	IEEE 802.11a/n
TPC Function:	Not Support
DFS Operational mode:	Slave without radar Interference detection function
Type of Modulation:	IEEE 802.11a: OFDM(64QAM, 16QAM, QPSK, BPSK)
	IEEE 802.11n: OFDM(64QAM, 16QAM, QPSK, BPSK)
Channel Spacing:	IEEE 802.11a/n-HT20
	IEEE 802.11n-HT40
Data Rate:	IEEE 802.11a: Up to 54 Mbps
	IEEE 802.11n-HT20: Up to MCS15
	IEEE 802.11n-HT40: Up to MCS15

Number of Channels:	5150 MHz to 5250 MHz: 4 for IEEE 802.11a/n-HT20 2 for IEEE 802.11n-HT40	
	5250 MHz to 5350 MHz: 4 for IEEE 802.11a/n-HT20 2 for IEEE 802.11n-HT40	
	5470 MHz to 5725 MHz: 11 for IEEE 802.11a/n-HT20 5 for IEEE 802.11n-HT40	
	5725 MHz to 5850 MHz: 5 for IEEE 802.11a/n-HT20 2 for IEEE 802.11n-HT40	
Antenna Type:	Chain 0	PCB Antenna
	Chain 1	PCB Antenna
Antenna Gain:	Chain 0	5150 MHz to 5250 MHz: 4.26 dBi
		5250 MHz to 5350 MHz: 4.5 dBi
		5470 MHz to 5725 MHz: 4.56 dBi
		5725 MHz to 5850 MHz: 4.84 dBi
	Chain 1	5150 MHz to 5250 MHz: 4.26 dBi
		5250 MHz to 5350 MHz: 4.5 dBi
		5470 MHz to 5725 MHz: 4.56 dBi
		5725 MHz to 5850 MHz: 4.84 dBi
Directional gain:	7.27 dBi	
	7.51 dBi	
	7.57 dBi	
	7.85 dBi	
Normal Test Voltage:	5 Vdc	

1.4 OTHER INFORMATION

Operation Frequency Each of Channel				
	U-NII-1	U-NII-2A	U-NII-2C	U-NII-3
IEEE 802.11a, IEEE 802.11n-HT20	$f = 5000 + 5k, k = 32 + 4n$			$f = 5000 + 5k,$ $k = 145 + 4n$
	$n = 1, \dots, 4$	$n = 5, \dots, 8$	$n = 17, \dots, 27$	$n = 1, \dots, 5$
IEEE 802.11n-HT40	$f = 5000 + 5k, k = 30 + 8n$			$f = 5000 + 5k,$ $k = 143 + 8n$
	$n = 1, 2$	$n = 1, \dots, 5$	$n = 9, \dots, 13$	$n = 1, 2$
Note: f is the operating frequency (MHz); k is the operating channel.				

1.5 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested with associated equipment below.

1) Support Equipment

Description	Manufacturer	Model No.	Serial Number	Supplied by
Notebook	Lenovo	E450	SL10G10780	UnionTrust

2) Support Cable

Cable No.	Description	Connector	Length	Supplied by
1	Antenna Cable	SMA	0.30 Meter	UnionTrust

1.6 TEST LOCATION

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: 16/F, Block A, Building 6, Baoneng Science and Technology Park, Qingxiang Road No.1, Longhua New District, Shenzhen, China 518109

Telephone: +86 (0) 755 2823 0888

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1.7 TEST FACILITY

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

CNAS-Lab Code: L9069

The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable under the ISO/IEC/EN 17025 to international or national standards. Equipment has been calibrated by accredited calibration laboratories.

IC-Registration No.: 21600-1

The 3m Semi-anechoic chamber of Shenzhen UnionTrust Quality and Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 21600-1.

A2LA-Lab Certificate No.: 4312.01

Shenzhen UnionTrust Quality and Technology Co., Ltd. has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

FCC Accredited Lab.

Designation Number: CN1194

Test Firm Registration Number: 259480

1.8 DEVIATION FROM STANDARDS

None.

1.9 ABNORMALITIES FROM STANDARD CONDITIONS

None.

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1.10 OTHER INFORMATION REQUESTED BY THE CUSTOMER

None.

1.11 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

No.	Item	Measurement Uncertainty
1	Conducted emission 9KHz-150KHz	±3.8 dB
2	Conducted emission 150KHz-30MHz	±3.4 dB
3	Radiated emission 9KHz-30MHz	±4.9 dB
4	Radiated emission 30MHz-1GHz	±4.7 dB
5	Radiated emission 1GHz-18GHz	±5.1 dB
6	Radiated emission 18GHz-26GHz	±5.2 dB
7	Radiated emission 26GHz-40GHz	±5.2 dB

2. TEST SUMMARY

FCC 47 CFR Part 15 Subpart E Test Cases			
Test Item	Test Requirement	Test Method	Result
Antenna Requirement	FCC 47 CFR Part 15 Subpart C Section 15.203 FCC 47 CFR Part 15 Subpart C Section 15.407(a)(1)(2)	ANSI C63.10-2013	PASS
26 dB emission bandwidth	FCC 47 CFR Part 15 Subpart E Section 15.407 (a)(2)(5)	KDB 789033 D02 v01r04 Section C.1	NA NOTE 1, 2
6 dB bandwidth	FCC 47 CFR Part 15 Subpart E Section 15.407 (e)	KDB 789033 D02 v01r04 Section C.2	NA NOTE 1, 2
Maximum conducted output power	FCC 47 CFR Part 15 Subpart E Section 15.407 (a)(1)(2)(3)	KDB 789033 D02 v01r04 Section E.3.a(Method PM)	NA NOTE 1, 2
Peak Power Spectral Density	FCC 47 CFR Part 15 Subpart E Section 15.407 (a)(1)(2)(3)	KDB 789033 D02 v01r04 Section F	NA NOTE 1, 2
Frequency stability	FCC 47 CFR Part 15 Subpart E Section 15.407 (g)	ANSI C63.10-2013	NA NOTE 1, 2
Radiated Emissions and Band Edge Measurement	FCC 47 CFR Part 15 Subpart E Section 15.407 (b)(1)(2)(3)(4)(6) FCC 47 CFR Part 15 Subpart C Section 15.209/205	KDB 789033 D02 v01r04 Section G.3, G.4, G.5, and G.6	PASS NOTE 2
Dynamic Frequency Selection	FCC 47 CFR Part 15 Subpart E Section 15.407 (h)	KDB 905462 D03 Client Without DFS New Rules v01r02	NA NOTE 1, 2
AC Power Line Conducted Emission	FCC 47 CFR Part 15 Subpart E Section 15.407 (b)(6) FCC 47 CFR Part 15 Subpart C Section 15.207	ANSI C63.10-2013	NA NOTE 1, 2
Note: 1) N/A: In this whole report not application. 2) The EUT this time and original model both Wi-Fi Dongle are identical in WIFI Module, about the difference between the both Wi-Fi Dongle, please refer to the difference statement. After assessment, all technical data is referred to previous report no. SZ18030098W02 dated May 14, 2018 by SHENZHEN MORLAB COMMUNICATIONS TECHNOLOGY Co., Ltd. except Radiated Spurious Emissions, Band Edge Measurements (Radiated).			

For Dynamic Frequency Selection

Test Case	Result
Channel Availability Check Time	N/A NOTE 1
U-NII Detection Bandwidth	N/A NOTE 1
Channel Closing Transmission Time	N/A NOTE 2
Channel Move Time	N/A NOTE 2
DFS Detection Threshold	N/A NOTE 1
Non-Occupancy Period	N/A NOTE 1
Note: 1) The EUT is slave, NA In this whole report not application. 2) The EUT this time and original model both Wi-Fi Dongle are identical in WIFI Module, about the difference between the both Wi-Fi Dongle, please refer to the difference statement. After assessment, all technical data is referred to previous report no. SZ18030098W03 dated May 14, 2018 by SHENZHEN MORLAB COMMUNICATIONS TECHNOLOGY Co., Ltd. except Radiated Spurious Emissions, Band Edge Measurements (Radiated).	

3. EQUIPMENT LIST

Radiated Emission Test Equipment List						
Used	Equipment	Manufacturer	Model No.	Serial Number	Cal. date (mm dd, yyyy)	Cal. Due date (mm dd, yyyy)
☒	3M Chamber & Accessory Equipment	ETS-LINDGREN	3M	N/A	Dec. 20, 2015	Dec. 19, 2018
☒	Receiver	R&S	ESIB26	100114	Dec. 10, 2017	Dec. 10, 2018
☒	EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY51440197	Dec.10, 2017	Dec. 10, 2018
☒	Loop Antenna	ETS-LINDGREN	6502	00202525	Dec. 22, 2017	Dec. 22, 2018
☒	Broadband Antenna	ETS-LINDGREN	3142E	00201566	Dec. 17, 2017	Dec. 17, 2018
☒	Preamplifier	HP	8447F	2805A02960	Dec. 10, 2017	Dec. 10, 2018
☒	Horn Antenna (Pre-amplifier)	ETS-LINDGREN	3117-PA	00201874	May 22, 2018	May 22, 2019
☒	Horn Antenna (Pre-amplifier)	ETS-LINDGREN	3116C-PA	00202652	Dec. 17, 2017	Dec. 17, 2018
☒	Multi device Controller	ETS-LINDGREN	7006-001	00160105	N/A	N/A
☒	Band Rejection Filter (5150MHz~5880MHz)	Micro-Tronics	BRM50716	G1868	June 06, 2018	June 06, 2019
☒	Test Software	Audix	e3	Software Version: 9.160323		

4. TEST CONFIGURATION

4.1 ENVIRONMENTAL CONDITIONS FOR TESTING

4.1.1 Record of Normal Environment

Test Item	Temperature (°C)	Relative Humidity (%)	Pressure (Kpa)	Tested by
Radiated Emissions and Band Edge Measurement	25.6	47	100.23	Tony

4.2 TEST CHANNELS

Mode	Tx/Rx Frequency	Test RF Channel Lists		
		Lowest(L)	Middle(M)	Highest(H)
IEEE 802.11a IEEE 802.11n-HT20	5150 MHz to 5250 MHz	Channel 36	Channel 44	Channel 48
		5180 MHz	5220 MHz	5240 MHz
	5250 MHz to 5350 MHz	Channel 52	Channel 60	Channel 64
		5260 MHz	5300 MHz	5320 MHz
	5470 MHz to 5725 MHz	Channel 100	Channel 116	Channel 140
		5500 MHz	5580 MHz	5700 MHz
	5725 MHz to 5850 MHz	Channel 149	Channel 157	Channel 165
		5745 MHz	5785 MHz	5825 MHz
IEEE 802.11n-HT40	5150 MHz to 5250 MHz	Channel 38	--	Channel 46
		5190 MHz	--	5230 MHz
	5250 MHz to 5350 MHz	Channel 54	--	Channel 62
		5270 MHz	--	5310 MHz
	5470 MHz to 5725 MHz	Channel 102	Channel 110	Channel 134
		5510 MHz	5550 MHz	5670 MHz
	5725 MHz to 5850 MHz	Channel 151	--	Channel 159
		5755 MHz	--	5795 MHz

4.3 EUT TEST STATUS

Mode	Tx/Rx Function	Description
IEEE 802.11a/n	1Tx/1Rx or 2Tx/2Rx	1. Keep the EUT in transmitting mode with all kind of modulation and all kind of data rate.

Test Software
Test software name: MTool

4.4 PRE-SCAN

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and data rates. Following rate(s) was (were) selected for the final test as listed below.

Mode	Worst-case data rates
IEEE 802.11a	6 Mbps
IEEE 802.11n-HT20	MCS0
IEEE 802.11n-HT40	MCS0

4.5 TEST SETUP

4.5.1 For Radiated Emissions test setup

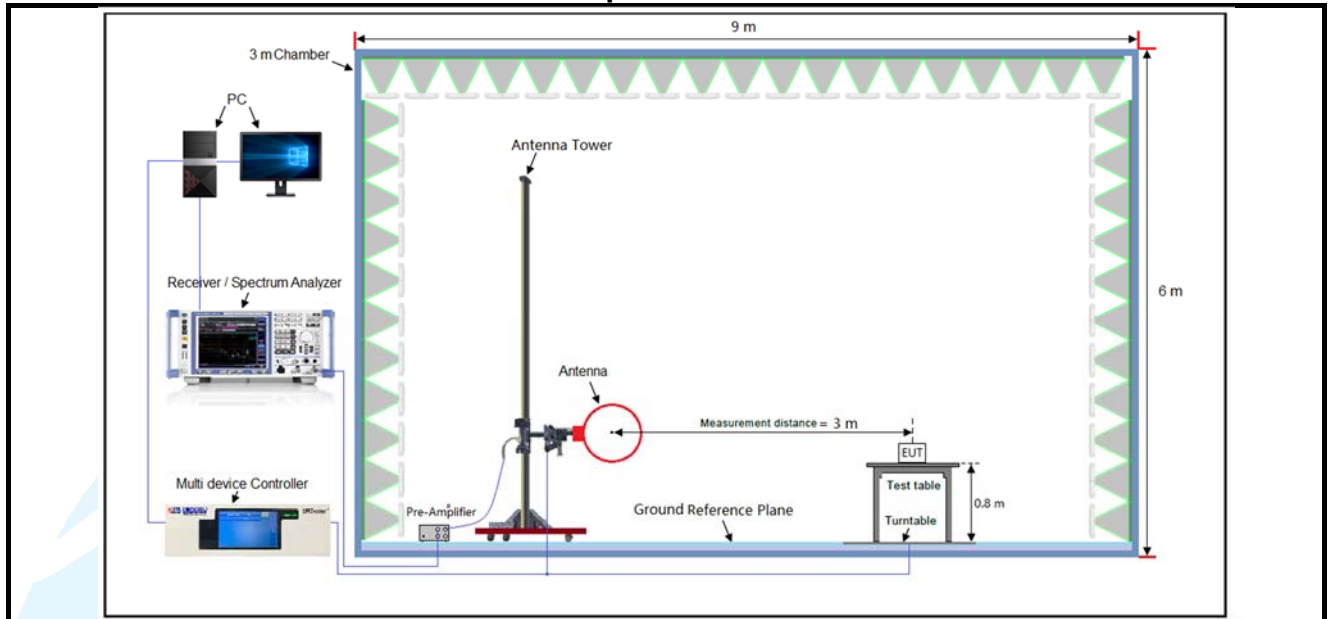


Figure 1. Below 30MHz

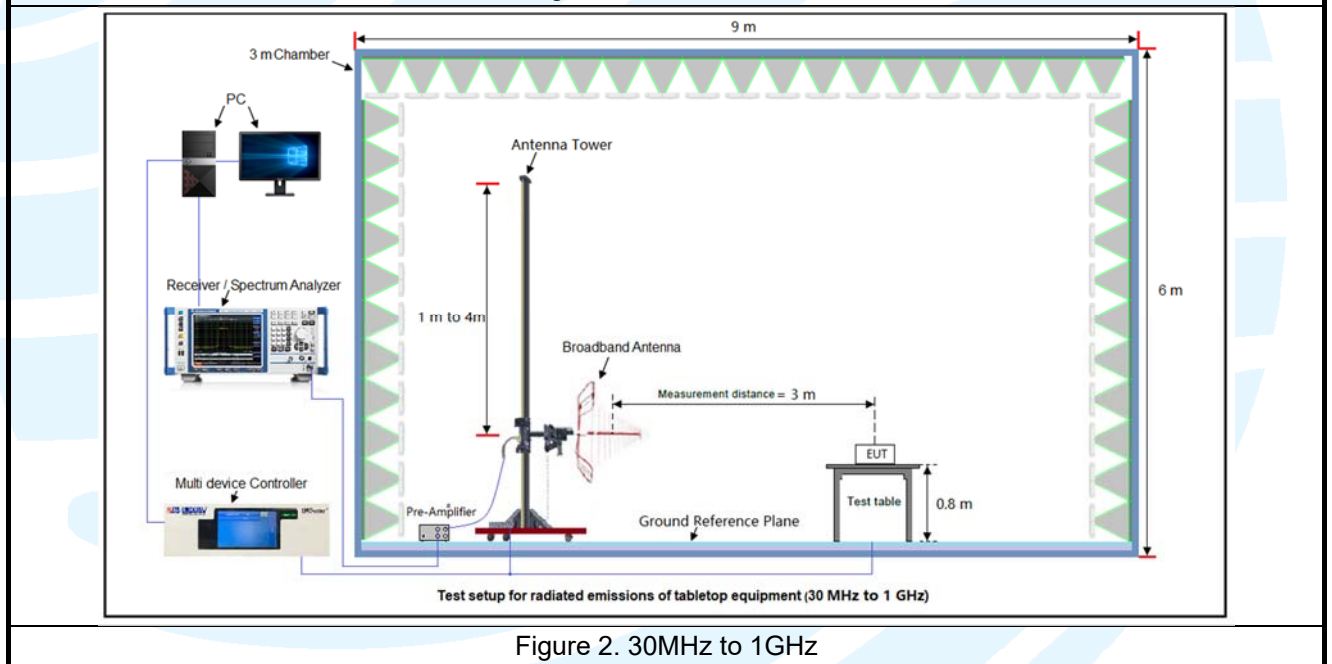
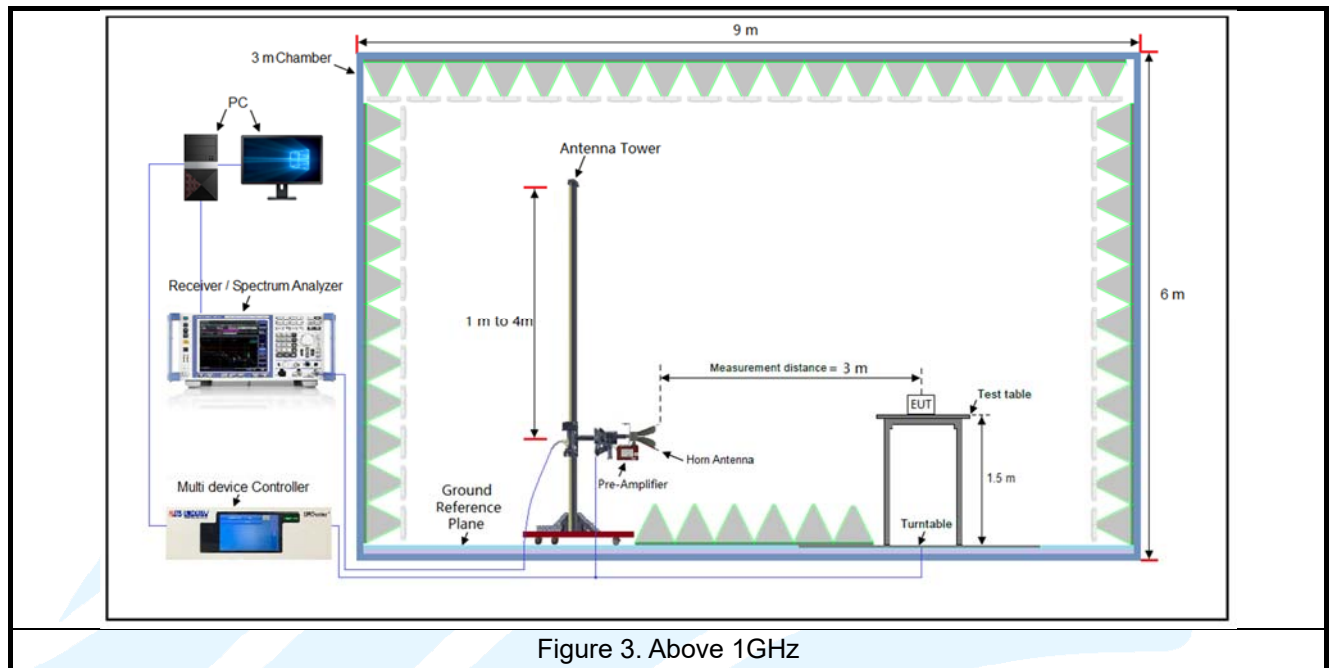


Figure 2. 30MHz to 1GHz



4.6 SYSTEM TEST CONFIGURATION

For emissions testing, the equipment under test (EUT) setup to transmit continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, radiated emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario. It is powered by computer USB 5Vdc. Only the worst case data were recorded in this test report.

The signal is maximized through rotation and placement in the three orthogonal axes. The antenna height and polarization are varied during the search for maximum signal level. The antenna height is varied from 1 to 4 meters. Radiated emissions are taken at three meters unless the signal level is too low for measurement at that distance. If necessary, a pre-amplifier is used and/or the test is conducted at a closer distance. Therefore, all final radiated testing was performed with the EUT in (see table below) orientation.

Frequency	Mode	Antenna Port	Worst-case axis positioning
Above 1GHz	1TX	Chain 0	X axis
	1TX	Chain 1	X axis
	2TX	Chain 0+1	X axis

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. Analyzer resolution is 100 kHz or greater for frequencies below 1000 MHz. The resolution is 1 MHz or greater for frequencies above 1000 MHz. The spurious emissions more than 20 dB below the permissible value are not reported.

Radiated emission measurement were performed from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

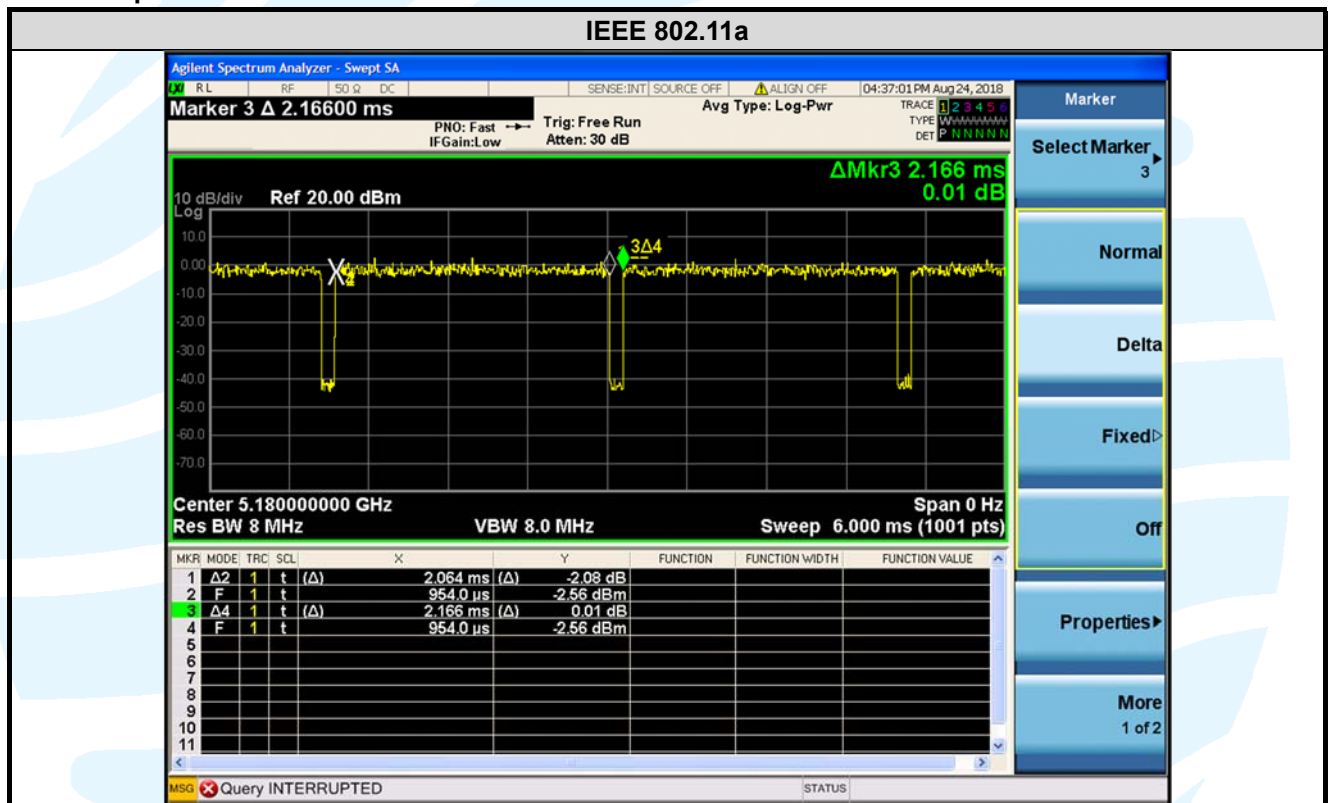
4.7 DUTY CYCLE

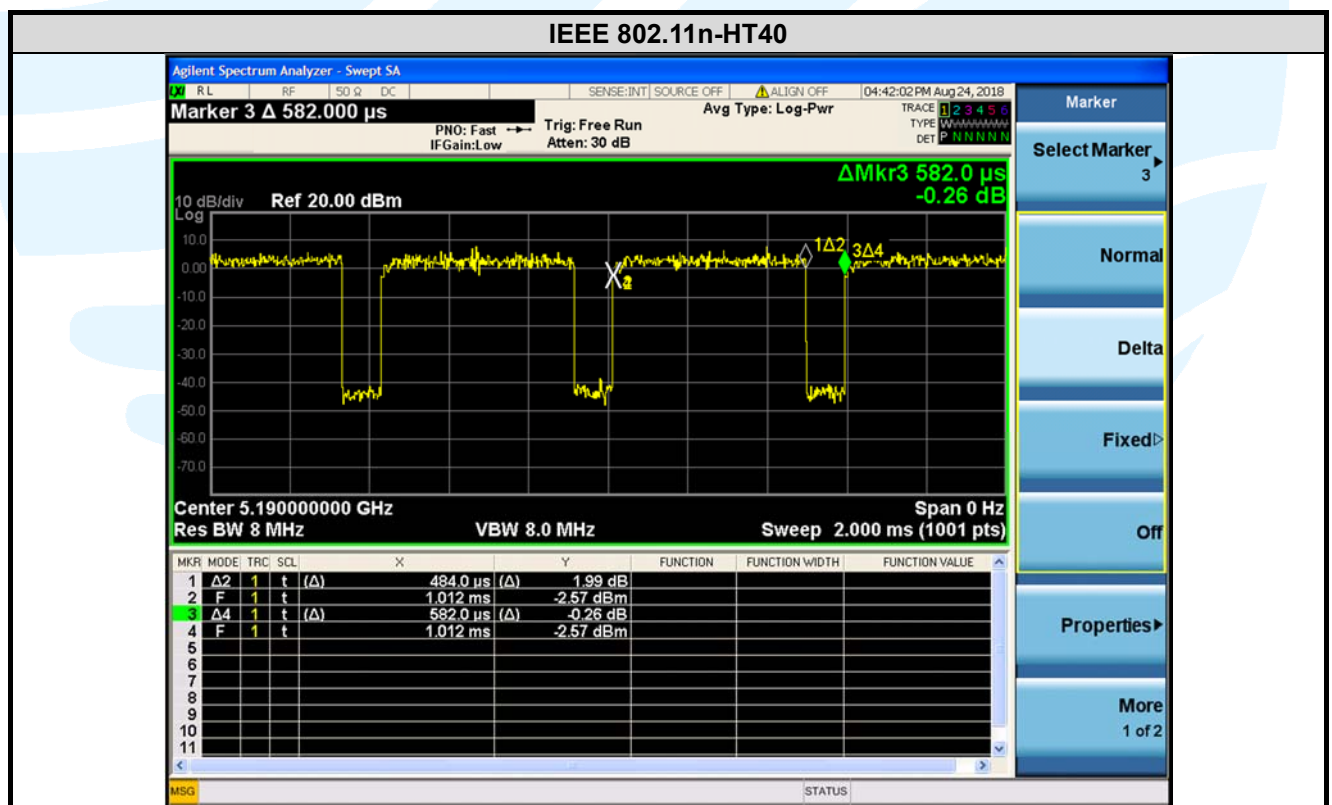
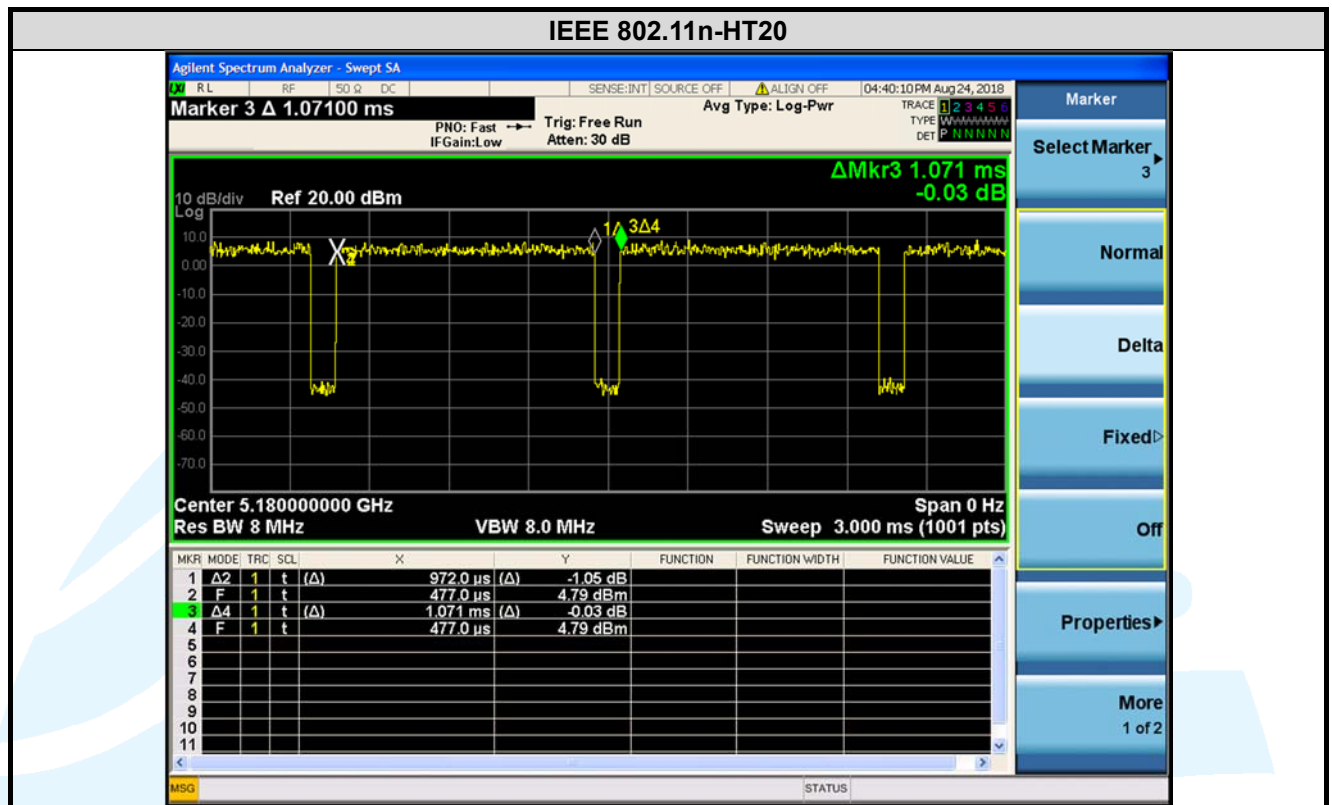
Mode	Data rates (Mbps)	On Time (msec)	Period (msec)	Duty Cycle (linear)	Duty Cycle (%)	Duty Cycle Factor (dB)	1/ T Minimum VBW (kHz)	Average Factor (dB)
IEEE 802.11a	6	2.064	2.166	0.95	95.29	0.21	0.48	-0.42
IEEE 802.11n-HT20	MCS0	0.972	1.071	0.91	90.76	0.42	1.03	-0.84
IEEE 802.11n-HT40	MCS0	0.484	0.582	0.83	83.16	0.80	2.07	-1.60

Remark:

- 1) Duty cycle= On Time/ Period;
- 2) Duty Cycle factor = $10 * \log(1/ \text{Duty cycle})$;
- 3) Average factor = $20 \log_{10} \text{Duty Cycle}$.

The test plot as follows





5. RADIO TECHNICAL REQUIREMENTS SPECIFICATION

5.1 REFERENCE DOCUMENTS FOR TESTING

No.	Identity	Document Title
1	FCC 47 CFR Part 2	Frequency allocations and radio treaty matters; general rules and regulations
2	FCC 47 CFR Part 15	Radio Frequency Devices
3	ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices
4	KDB 789033 D02 General UNII Test Procedures New Rules v01r04	Guidelines for compliance testing of unlicensed national information infrastructure (U-NII) device part 15 subpart E
5	905462 D06 802.11 Channel Plans New Rules v02	Operation in U-NII bands -802.11 channel PLAN(§15.407)
6	KDB 662911 D01 Multiple Transmitter Output v02r01	Emissions Testing of Transmitters with Multiple Outputs in the Same Band

5.2 ANTENNA REQUIREMENT

Standard Requirement
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. 15.407(a)(1) (2) requirement: The conducted output power limit specified in paragraph (a) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (a) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power and the peak power spectral density shall be reduced by the by the amount in dB that the directional gain of the antenna exceeds 6 dBi. EUT Antenna: Both antenna in the interior of the equipment and no consideration of replacement. The transmit signals are correlated with each other and the antenna gain of both chains is completely consistent, the best case directional gain of the antenna is 7.27dBi@5150MHz~5250MHz, 7.51dBi@5250MHz~5350MHz, 7.57dBi@5470MHz~5725MHz and 7.85dBi@5725MHz~5850MHz

5.3 RADIATED EMISSIONS AND BAND EDGE MEASUREMENT

Test Requirement: FCC 47 CFR Part 15 Subpart E Section 15.407 (b)(1)(2)(3)(4)(6)
FCC 47 CFR Part 15 Subpart C Section 15.209/205

Test Method: KDB 789033 D02 v01r04 Section G.3, G.4, G.5, and G.6

Receiver Setup:

Frequency	RBW
0.009 MHz-0.150 MHz	200/300 kHz
0.150 MHz -30 MHz	9/10 kHz
30 MHz-1 GHz	100/120 kHz
Above 1 GHz	1 MHz

Limits:

1. Limits of Radiated Emission and Band edge Measurement

Radiated emissions that fall in the restricted bands must comply with the general emissions limits in 15.209(a) as below table. Other emissions shall be at least 20 dB below the highest level of the desired power.

Frequency	Field strength (microvolt/meter)	Limit (dB μ V/m)	Remark	Measurement distance (m)
0.009 MHz-0.490 MHz	2400/F(kHz)	--	--	300
0.490 MHz-1.705 MHz	24000/F(kHz)	--	--	30
1.705 MHz-30 MHz	30	--	--	30
30 MHz-88 MHz	100	40.0	Quasi-peak	3
88 MHz-216 MHz	150	43.5	Quasi-peak	3
216 MHz-960 MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
Above 1 GHz	500	54.0	Average	3

Remark:

- The lower limit shall apply at the transition frequencies.
- Emission level (dB μ V/m) = 20 log Emission level (uV/m).
- For frequencies above 1000 MHz, the field strength limits are based on average detector, 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.

2. Limits of Unwanted Emission Out of the Restricted Bands

Applicable To	Limit	
789033 D02 General U-NII Test Procedures New Rules v01r04	Field Strength at 3 m	
	PK: 74 (dBμV/m)	AV: 54 (dBμV/m)
Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
FCC Part 15.407 (b)(1)	PK: -27 (dBm/MHz)	PK: 74 (dBμV/m)
FCC Part 15.407 (b)(2)	PK: -27 (dBm/MHz)	PK: 74 (dBμV/m)
FCC Part 15.407 (b)(3)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)
FCC Part 15.407 (b)(4)	27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edges;	PK: 68.2 (dBμV/m)
	15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges;	
	10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges;	
	-27 dBm/MHz at frequencies more than 75 MHz above or below the band edges.	

Test Setup: Refer to section 4.5.1 for details.

Test Procedures:

- The EUT was placed on the top of a rotating table 0.8 meters (for below 1 GHz) / 1.5 meters (for above 1 GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The height of antenna 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.
- 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 and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- The test-receiver system was set to peak and average detected function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Remark:

- The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
- The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
- The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for RMS Average (Duty cycle < 98 %) for Average detection (AV) at frequency above 1 GHz, then the measurement results was added to a correction factor (10 log(1/duty cycle)).
- The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz (Duty cycle ≥ 98 %) or ≥ 1/T(duty cycle is < 98%) for Average detection (AV) at frequency above 1 GHz.
- All modes of operation were investigated and the worst-case emissions are reported.

Equipment Used: Refer to section 3 for details.

Test Result: Pass

The measurement data as follows:

Radiated Emission Test Data (9 KHz ~ 30 MHz):

The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

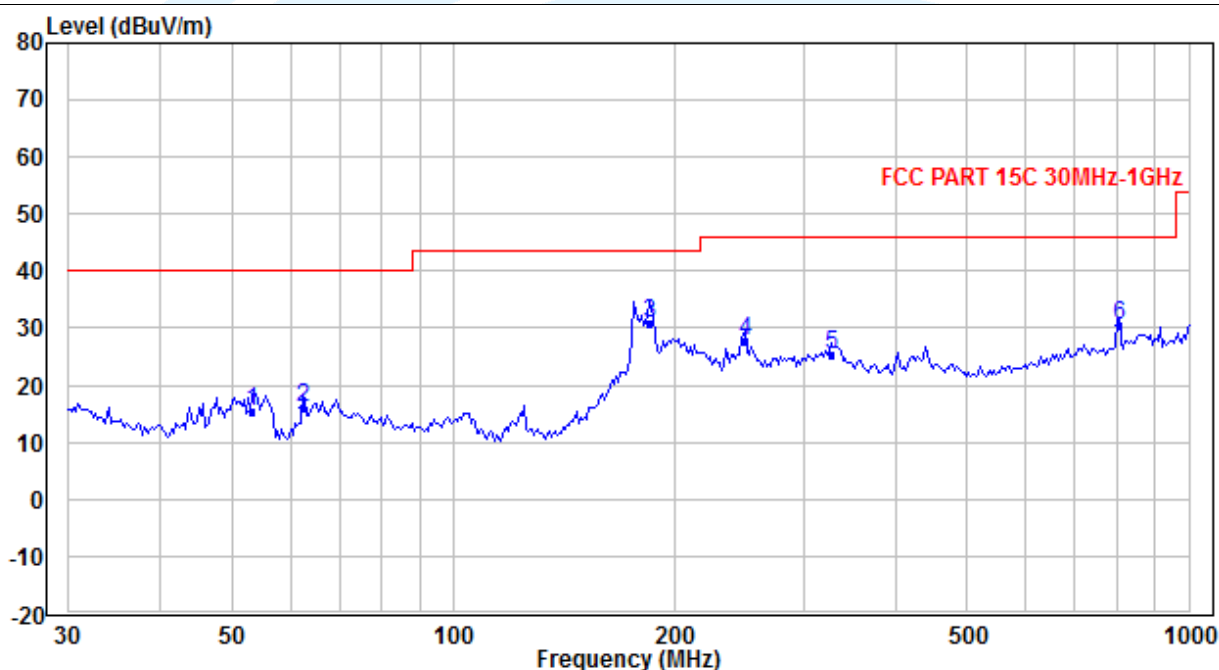
Radiated Emission Test Data (18GHz ~ 40 GHz):

The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

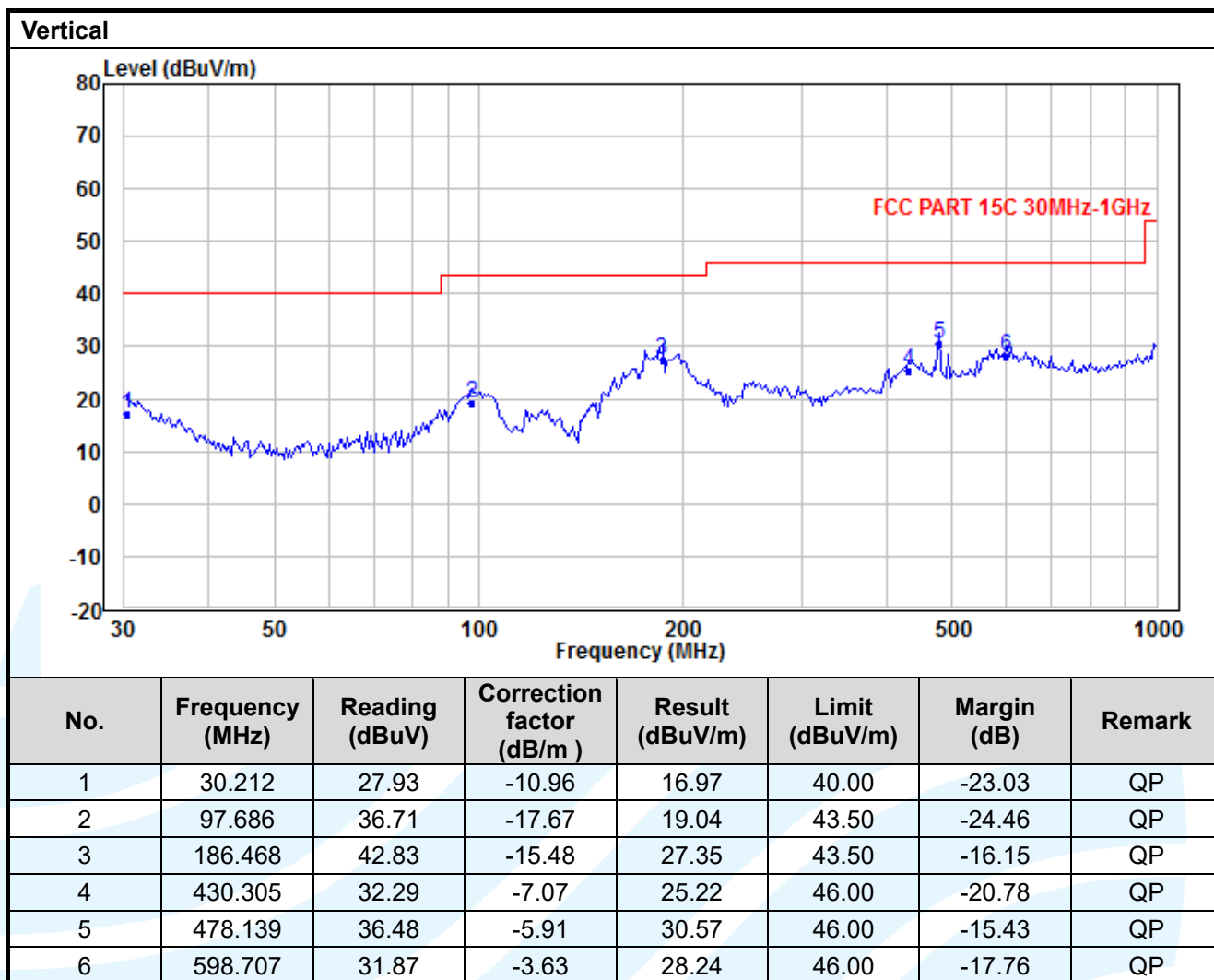
Radiated Emission Test Data (30 MHz ~ 1 GHz Worst Case):

IEEE 802.11a_Channel 36

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correction factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	53.379	35.76	-20.23	15.53	40.00	-24.47	QP
2	62.304	36.22	-20.22	16.00	40.00	-24.00	QP
3	185.163	46.47	-15.46	31.01	43.50	-12.49	QP
4	248.732	40.37	-12.45	27.92	46.00	-18.08	QP
5	327.155	35.56	-10.27	25.29	46.00	-20.71	QP
6	804.252	31.69	-1.07	30.62	46.00	-15.38	QP



Radiated Emission Test Data (Above 1GHz):
SISO_Chain 0_IEEE 802.11a_Channel 36

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10360.00	46.01	72.73	-26.72	Peak	Horizontal
2	15540.00	46.29	72.73	-26.44	Peak	Horizontal
3	10360.00	47.05	72.73	-25.68	Peak	Vertical
4	15540.00	45.34	72.73	-27.39	Peak	Vertical

SISO_Chain 0_IEEE 802.11a_Channel 44

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10440.00	46.21	72.73	-26.52	Peak	Horizontal
2	15660.00	46.00	72.73	-26.73	Peak	Horizontal
3	10440.00	46.64	72.73	-26.09	Peak	Vertical
4	15660.00	45.55	72.73	-27.18	Peak	Vertical

SISO_Chain 0_IEEE 802.11a_Channel 48

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10480.00	45.13	72.73	-27.60	Peak	Horizontal
2	15720.00	44.96	72.73	-27.77	Peak	Horizontal
3	10480.00	45.24	72.73	-27.49	Peak	Vertical
4	15720.00	45.78	72.73	-26.95	Peak	Vertical

SISO_Chain 0_IEEE 802.11a_Channel 52

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10520.00	45.07	72.49	-27.42	Peak	Horizontal
2	15780.00	45.05	72.49	-27.44	Peak	Horizontal
3	10520.00	45.13	72.49	-27.36	Peak	Vertical
4	15780.00	44.70	72.49	-27.79	Peak	Vertical

SISO_Chain 0_IEEE 802.11a_Channel 60

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10600.00	47.07	72.49	-25.42	Peak	Horizontal
2	15900.00	45.97	72.49	-26.52	Peak	Horizontal
3	10600.00	46.30	72.49	-26.19	Peak	Vertical
4	15900.00	45.88	72.49	-26.61	Peak	Vertical

SISO_Chain 0_IEEE 802.11a_Channel 64

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10640.00	45.28	72.49	-27.21	Peak	Horizontal
2	15960.00	47.55	72.49	-24.94	Peak	Horizontal
3	10640.00	45.51	72.49	-26.98	Peak	Vertical
4	15960.00	45.54	72.49	-26.95	Peak	Vertical

SISO_Chain 0_IIEEE 802.11a_Channel 100

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11000.00	47.19	72.43	-25.24	Peak	Horizontal
2	16500.00	46.02	72.43	-26.41	Peak	Horizontal
3	11000.00	47.64	72.43	-24.79	Peak	Vertical
4	16500.00	45.70	72.43	-26.73	Peak	Vertical

SISO_Chain 0_IIEEE 802.11a_Channel 120

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11200.00	47.41	72.43	-25.02	Peak	Horizontal
2	16800.00	46.02	72.43	-26.41	Peak	Horizontal
3	11200.00	47.56	72.43	-24.87	Peak	Vertical
4	16800.00	45.67	72.43	-26.76	Peak	Vertical

SISO_Chain 0_IIEEE 802.11a_Channel 140

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11400.00	47.62	72.43	-24.81	Peak	Horizontal
2	17100.00	46.40	72.43	-26.03	Peak	Horizontal
3	11400.00	48.96	72.43	-23.47	Peak	Vertical
4	17100.00	46.04	72.43	-26.39	Peak	Vertical

SISO_Chain 0_IIEEE 802.11a_Channel 149

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11490.00	50.49	72.15	-21.66	Peak	Horizontal
2	17235.00	46.90	72.15	-25.25	Peak	Horizontal
3	11490.00	52.81	72.15	-19.34	Peak	Vertical
4	17235.00	46.16	72.15	-25.99	Peak	Vertical

SISO_Chain 0_IIEEE 802.11a_Channel 157

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11570.00	49.96	72.15	-22.19	Peak	Horizontal
2	17355.00	48.47	72.15	-23.68	Peak	Horizontal
3	11570.00	52.57	72.15	-19.58	Peak	Vertical
4	17355.00	49.16	72.15	-22.99	Peak	Vertical

SISO_Chain 0_IIEEE 802.11a_Channel 165

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11650.00	49.23	72.15	-22.92	Peak	Horizontal
2	17475.00	48.22	72.15	-23.93	Peak	Horizontal
3	11650.00	51.05	72.15	-21.10	Peak	Vertical
4	17475.00	49.38	72.15	-22.77	Peak	Vertical

SISO_Chain 1_IIEEE 802.11a_Channel 36

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10360.00	48.22	72.73	-24.51	Peak	Horizontal
2	15540.00	44.66	72.73	-28.07	Peak	Horizontal
3	10360.00	51.21	72.73	-21.52	Peak	Vertical
4	15540.00	44.15	72.73	-28.58	Peak	Vertical

SISO_Chain 1_IIEEE 802.11a_Channel 44

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10440.00	49.58	72.73	-23.15	Peak	Horizontal
2	15660.00	45.38	72.73	-27.35	Peak	Horizontal
3	10440.00	52.37	72.73	-20.36	Peak	Vertical
4	15660.00	44.99	72.73	-27.74	Peak	Vertical

SISO_Chain 1_IIEEE 802.11a_Channel 48

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10480.00	48.22	72.73	-24.51	Peak	Horizontal
2	15720.00	45.30	72.73	-27.43	Peak	Horizontal
3	10480.00	49.13	72.73	-23.60	Peak	Vertical
4	15720.00	45.46	72.73	-27.27	Peak	Vertical

SISO_Chain 1_IIEEE 802.11a_Channel 52

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10520.00	47.03	72.49	-25.46	Peak	Horizontal
2	15780.00	45.62	72.49	-26.87	Peak	Horizontal
3	10520.00	50.10	72.49	-22.39	Peak	Vertical
4	15780.00	46.95	72.49	-25.54	Peak	Vertical

SISO_Chain 1_IIEEE 802.11a_Channel 60

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10600.00	47.30	72.49	-25.19	Peak	Horizontal
2	15900.00	45.63	72.49	-26.86	Peak	Horizontal
3	10600.00	49.58	72.49	-22.91	Peak	Vertical
4	15900.00	46.21	72.49	-26.28	Peak	Vertical

SISO_Chain 1_IIEEE 802.11a_Channel 64

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10640.00	46.79	72.49	-25.70	Peak	Horizontal
2	15960.00	45.37	72.49	-27.12	Peak	Horizontal
3	10640.00	48.03	72.49	-24.46	Peak	Vertical
4	15960.00	47.05	72.49	-25.44	Peak	Vertical

SISO_Chain 1_IIEEE 802.11a_Channel 100

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11000.00	48.47	72.43	-23.96	Peak	Horizontal
2	16500.00	45.84	72.43	-26.59	Peak	Horizontal
3	11000.00	48.77	72.43	-23.66	Peak	Vertical
4	16500.00	45.01	72.43	-27.42	Peak	Vertical

SISO_Chain 1_IIEEE 802.11a_Channel 120

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11200.00	47.41	72.43	-25.02	Peak	Horizontal
2	16800.00	45.67	72.43	-26.76	Peak	Horizontal
3	11200.00	47.31	72.43	-25.12	Peak	Vertical
4	16800.00	45.49	72.43	-26.94	Peak	Vertical

SISO_Chain 1_IIEEE 802.11a_Channel 140

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11400.00	48.19	72.43	-24.24	Peak	Horizontal
2	17100.00	46.66	72.43	-25.77	Peak	Horizontal
3	11400.00	49.49	72.43	-22.94	Peak	Vertical
4	17100.00	45.95	72.43	-26.48	Peak	Vertical

SISO_Chain 1_IIEEE 802.11a_Channel 149

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11490.00	56.95	72.15	-15.20	Peak	Horizontal
2	11490.00	38.98	52.15	-13.17	Average	Horizontal
3	17235.00	46.54	72.15	-25.61	Peak	Horizontal
4	17235.00	33.99	52.15	-18.16	Average	Horizontal
5	11490.00	52.12	72.15	-20.03	Peak	Vertical
6	17235.00	46.44	52.15	-5.71	Peak	Vertical

SISO_Chain 1_IIEEE 802.11a_Channel 157

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11570.00	58.10	72.15	-14.05	Peak	Horizontal
2	11570.00	40.46	52.15	-11.69	Average	Horizontal
3	17355.00	46.89	72.15	-25.26	Peak	Horizontal
4	17355.00	35.27	52.15	-16.88	Average	Horizontal
7	11570.00	61.66	72.15	-10.49	Peak	Vertical
8	11570.00	43.47	52.15	-8.68	Average	Vertical
9	17355.00	47.25	72.15	-24.90	Peak	Vertical
10	17355.00	35.28	52.15	-16.87	Average	Vertical

SISO_Chain 1_IIEEE 802.11a_Channel 165

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11650.00	48.77	72.15	-23.38	Peak	Horizontal
2	11650.00	34.96	52.15	-17.19	Average	Horizontal
3	17475.00	47.90	72.15	-24.25	Peak	Horizontal
4	17475.00	33.51	52.15	-18.64	Average	Horizontal
7	11650.00	61.45	72.15	-10.70	Peak	Vertical
8	11650.00	42.54	52.15	-9.61	Average	Vertical
9	17475.00	47.90	72.15	-24.25	Peak	Vertical
10	17475.00	33.90	52.15	-18.25	Average	Vertical

MIMO_Chain 0+1_ IEEE 802.11n-HT20_Channel 36

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10360.00	51.01	72.73	-21.72	Peak	Horizontal
2	15540.00	49.29	72.73	-23.44	Peak	Horizontal
3	10360.00	49.05	72.73	-23.68	Peak	Vertical
4	15540.00	47.34	72.73	-25.39	Peak	Vertical

MIMO_Chain 0+1_ IEEE 802.11n-HT20_Channel 44

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10440.00	51.21	72.73	-21.52	Peak	Horizontal
2	15660.00	46.02	72.73	-26.71	Peak	Horizontal
3	10440.00	50.64	72.73	-22.09	Peak	Vertical
4	15660.00	46.55	72.73	-26.18	Peak	Vertical

MIMO_Chain 0+1_ IEEE 802.11n-HT20_Channel 48

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	4804.00	49.11	72.73	-23.62	Peak	Horizontal
2	7206.00	46.96	72.73	-25.77	Peak	Horizontal
3	4804.00	48.31	72.73	-24.42	Peak	Vertical
4	7206.00	47.83	72.73	-24.90	Peak	Vertical

MIMO_Chain 0+1_ IEEE 802.11n-HT20_Channel 52

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10520.00	51.08	72.49	-21.41	Peak	Horizontal
2	15780.00	48.07	72.49	-24.42	Peak	Horizontal
3	10520.00	48.03	72.49	-24.46	Peak	Vertical
4	15780.00	46.72	72.49	-25.77	Peak	Vertical

MIMO_Chain 0+1_ IEEE 802.11n-HT20_Channel 60

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10600.00	52.16	72.49	-20.33	Peak	Horizontal
2	15900.00	48.93	72.49	-23.56	Peak	Horizontal
3	10600.00	49.33	72.49	-23.16	Peak	Vertical
4	15900.00	48.40	72.49	-24.09	Peak	Vertical

MIMO_Chain 0+1_ IEEE 802.11n-HT20_Channel 64

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10640.00	48.31	72.49	-24.18	Peak	Horizontal
2	15960.00	46.63	72.49	-25.86	Peak	Horizontal
3	10640.00	48.68	72.49	-23.81	Peak	Vertical
4	15960.00	47.45	72.49	-25.04	Peak	Vertical

MIMO_Chain 0+1_ IEEE 802.11n-HT20_Channel 100

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11000.00	47.19	72.43	-25.24	Peak	Horizontal
2	16500.00	46.02	72.43	-26.41	Peak	Horizontal
3	11000.00	49.24	72.43	-23.19	Peak	Vertical
4	16500.00	48.30	72.43	-24.13	Peak	Vertical

MIMO_Chain 0+1_ IEEE 802.11n-HT20_Channel 120

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11200.00	48.72	72.43	-23.71	Peak	Horizontal
2	16800.00	47.95	72.43	-24.48	Peak	Horizontal
3	11200.00	49.85	72.43	-22.58	Peak	Vertical
4	16800.00	47.63	72.43	-24.80	Peak	Vertical

MIMO_Chain 0+1_ IEEE 802.11n-HT20_Channel 140

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11400.00	49.80	72.43	-22.63	Peak	Horizontal
2	17100.00	47.70	72.43	-24.73	Peak	Horizontal
3	11400.00	47.80	72.43	-24.63	Peak	Vertical
4	17100.00	46.05	72.43	-26.38	Peak	Vertical

MIMO_Chain 0+1_IIEEE 802.11n-HT20_Channel 149

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11490.00	52.26	72.15	-19.89	Peak	Horizontal
2	17235.00	49.05	72.15	-23.10	Peak	Horizontal
3	11490.00	52.11	72.15	-20.04	Peak	Vertical
4	17235.00	46.63	72.15	-25.52	Peak	Vertical

MIMO_Chain 0+1_IIEEE 802.11n-HT20_Channel 157

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11570.00	50.86	72.15	-21.29	Peak	Horizontal
2	17355.00	49.30	72.15	-22.85	Peak	Horizontal
3	11570.00	61.67	72.15	-10.48	Peak	Vertical
4	11570.00	40.97	52.15	-11.18	Average	Vertical
5	17355.00	48.30	72.15	-23.85	Peak	Vertical
6	17355.00	32.27	52.15	-19.88	Average	Vertical

MIMO_Chain 0+1_IIEEE 802.11n-HT20_Channel 165

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11650.00	62.57	72.15	-9.58	Peak	Horizontal
2	11650.00	41.07	52.15	-11.08	Average	Horizontal
3	17475.00	49.80	72.15	-22.35	Peak	Horizontal
4	17475.00	33.48	52.15	-18.67	Average	Horizontal
5	11650.00	51.96	72.15	-20.19	Peak	Vertical
6	17475.00	49.50	72.15	-22.65	Peak	Vertical

MIMO_Chain 0+1_ IEEE 802.11n-HT40_Channel 38

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10380.00	52.50	72.73	-20.23	Peak	Horizontal
2	15570.00	45.88	72.73	-26.85	Peak	Horizontal
3	10380.00	52.44	72.73	-20.29	Peak	Vertical
4	15570.00	44.49	72.73	-28.24	Peak	Vertical

MIMO_Chain 0+1_ IEEE 802.11n-HT40_Channel 46

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10460.00	50.16	72.73	-22.57	Peak	Horizontal
2	15690.00	45.65	72.73	-27.08	Peak	Horizontal
3	10460.00	48.06	72.73	-24.67	Peak	Vertical
4	15690.00	44.65	72.73	-28.08	Peak	Vertical

MIMO_Chain 0+1_ IEEE 802.11n-HT40_Channel 54

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10540.00	48.30	72.49	-24.19	Peak	Horizontal
2	15810.00	46.93	72.49	-25.56	Peak	Horizontal
3	10540.00	53.19	72.49	-19.30	Peak	Vertical
4	15810.00	48.52	72.49	-23.97	Peak	Vertical

MIMO_Chain 0+1_ IEEE 802.11n-HT40_Channel 62

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	10620.00	48.30	72.49	-24.19	Peak	Horizontal
2	15930.00	46.85	72.49	-25.64	Peak	Horizontal
3	10620.00	47.58	72.49	-24.91	Peak	Vertical
4	15930.00	47.21	72.49	-25.28	Peak	Vertical

MIMO_Chain 0+1_ IEEE 802.11n-HT40_Channel 102

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11020.00	50.45	72.43	-21.98	Peak	Horizontal
2	16530.00	45.47	72.43	-26.96	Peak	Horizontal
3	11020.00	50.62	72.43	-21.81	Peak	Vertical
4	16530.00	45.28	72.43	-27.15	Peak	Vertical

MIMO_Chain 0+1_ IEEE 802.11n-HT40_Channel 118

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11180.00	50.71	72.43	-21.72	Peak	Horizontal
2	16770.00	46.58	72.43	-25.85	Peak	Horizontal
3	11180.00	52.01	72.43	-20.42	Peak	Vertical
4	16770.00	46.11	72.43	-26.32	Peak	Vertical

MIMO_Chain 0+1_ IEEE 802.11n-HT40_Channel 134

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11340.00	49.90	72.43	-22.53	Peak	Horizontal
2	17010.00	47.10	72.43	-25.33	Peak	Horizontal
3	11340.00	51.90	72.43	-20.53	Peak	Vertical
4	17010.00	47.28	72.43	-25.15	Peak	Vertical

MIMO_Chain 0+1_ IEEE 802.11n-HT40_Channel 151

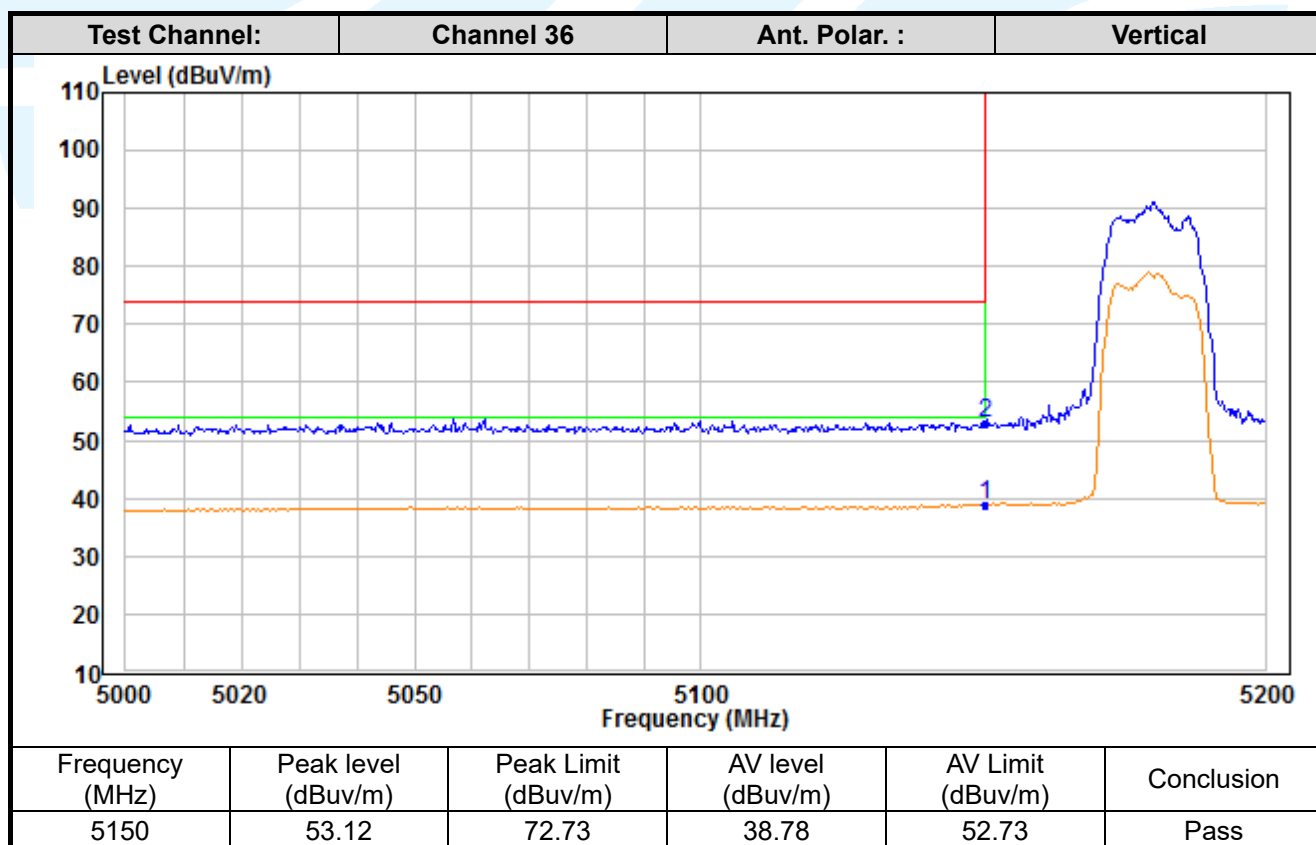
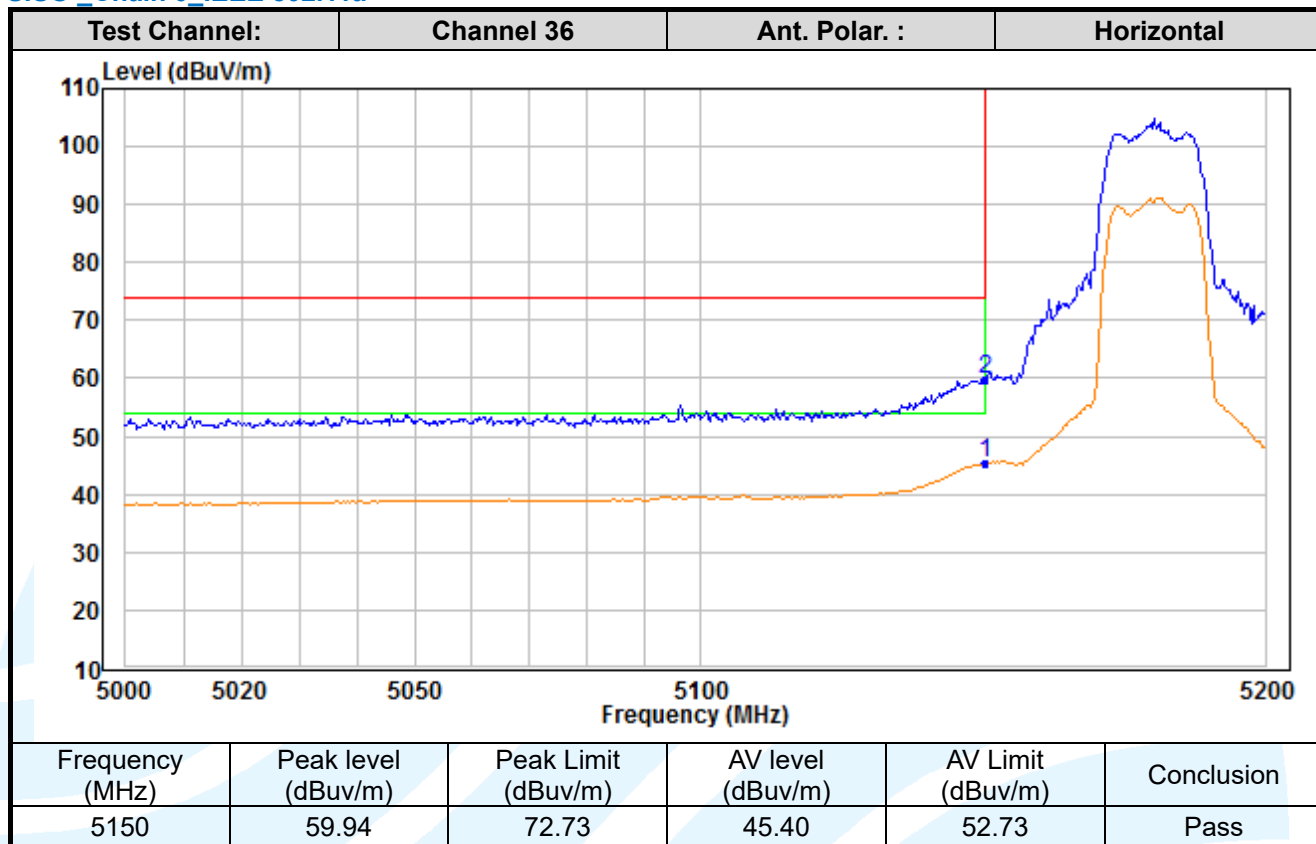
No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11510.00	48.28	72.15	-23.87	Peak	Horizontal
2	17265.00	47.25	72.15	-24.90	Peak	Horizontal
3	11510.00	57.39	72.15	-14.76	Peak	Vertical
4	11510.00	41.04	52.15	-11.11	Average	Vertical
5	17265.00	48.90	72.15	-23.25	Peak	Vertical
6	17265.00	33.80	52.15	-18.35	Average	Vertical

MIMO_Chain 0+1_ IEEE 802.11n-HT40_Channel 159

No.	Frequency (MHz)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Polaxis
1	11590.00	57.29	72.15	-14.86	Peak	Horizontal
2	11590.00	44.36	52.15	-7.79	Average	Horizontal
3	17385.00	47.80	72.15	-24.35	Peak	Horizontal
4	17385.00	34.44	52.15	-17.71	Average	Horizontal
5	11590.00	53.12	72.15	-19.03	Peak	Vertical
6	17385.00	47.44	52.15	-4.71	Peak	Vertical

Band Edge Measurements (Radiated)

SISO_Chain 0_IEEE 802.11a



Shenzhen UnionTrust Quality and Technology Co., Ltd.

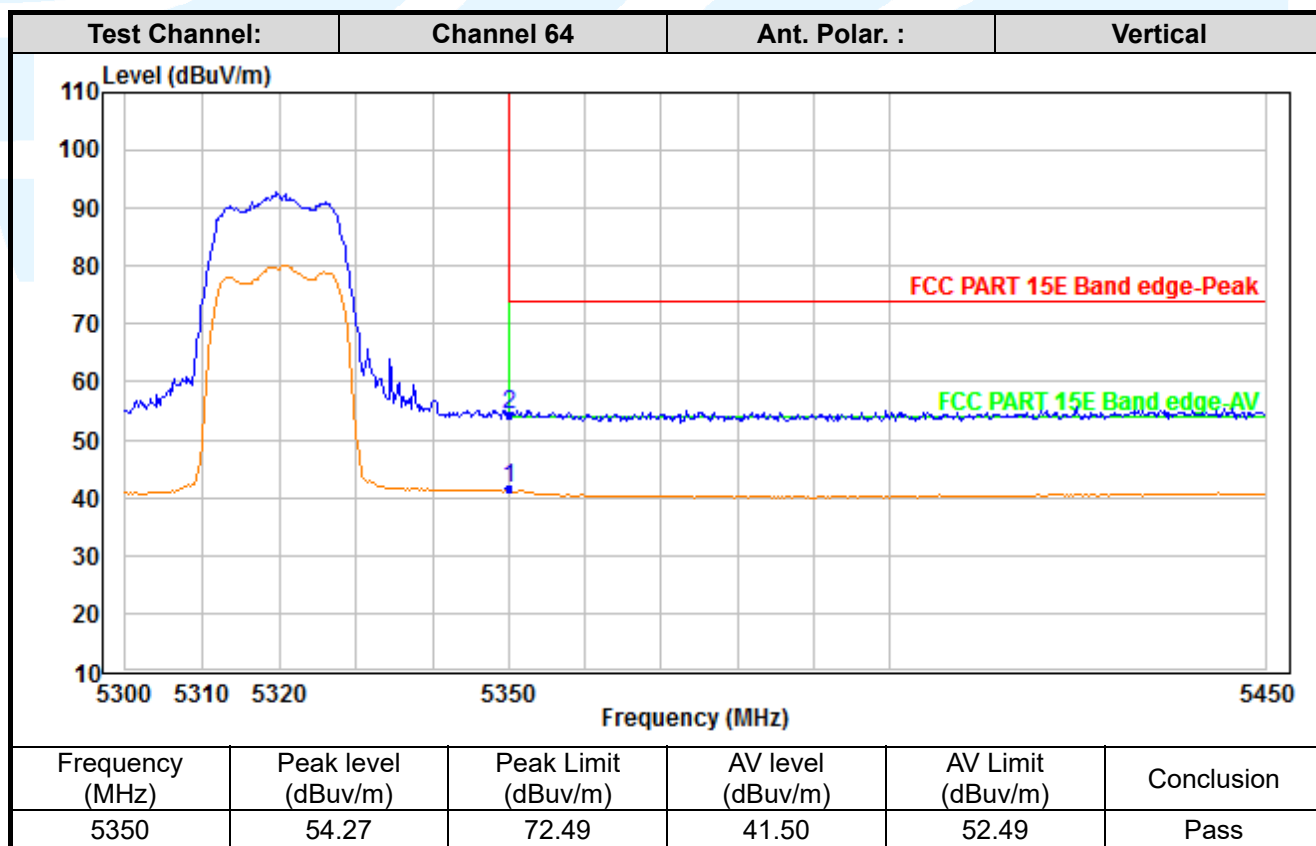
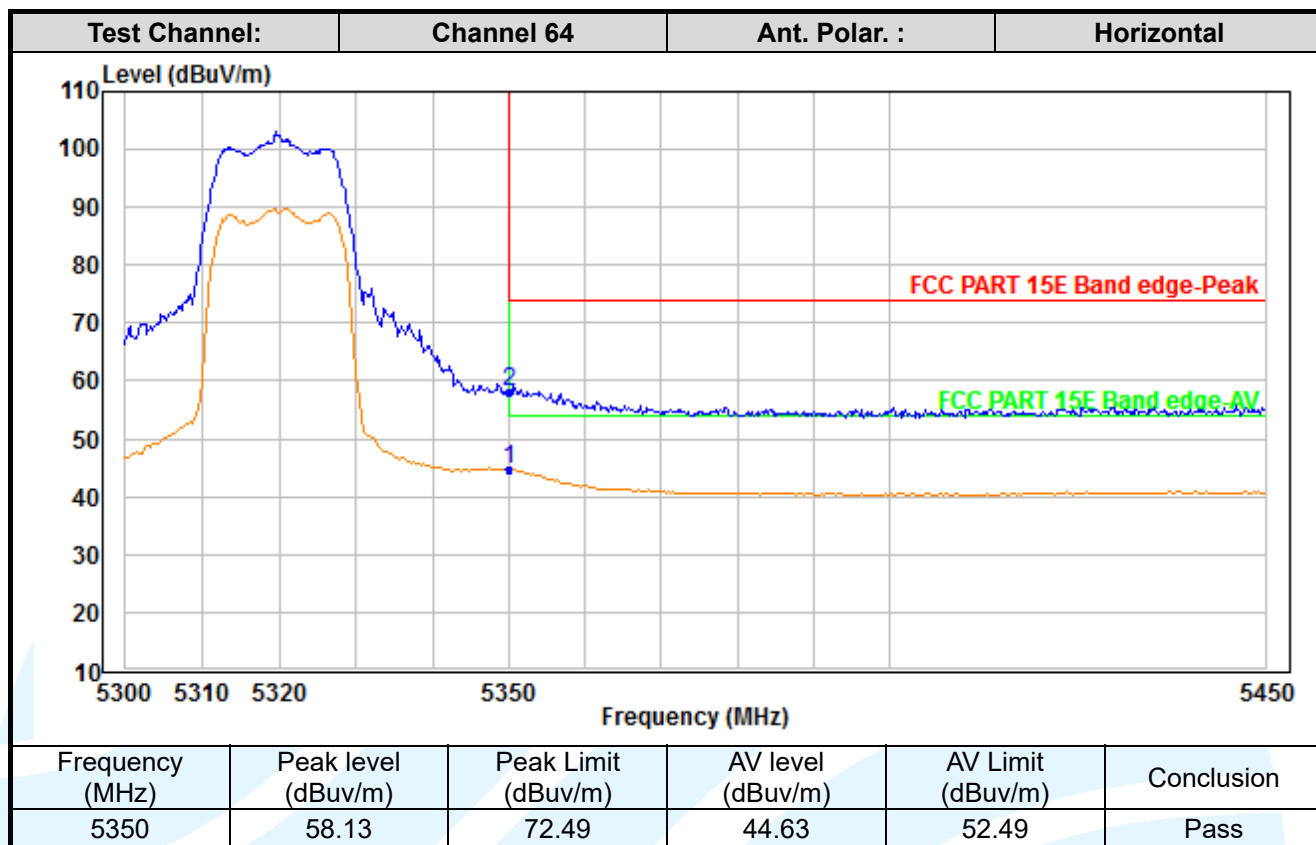
Address: 16/F, Block A, Building 6, Baoneng Science and Technology Park, Qingxiang Road No.1, Longhua New District, Shenzhen, China

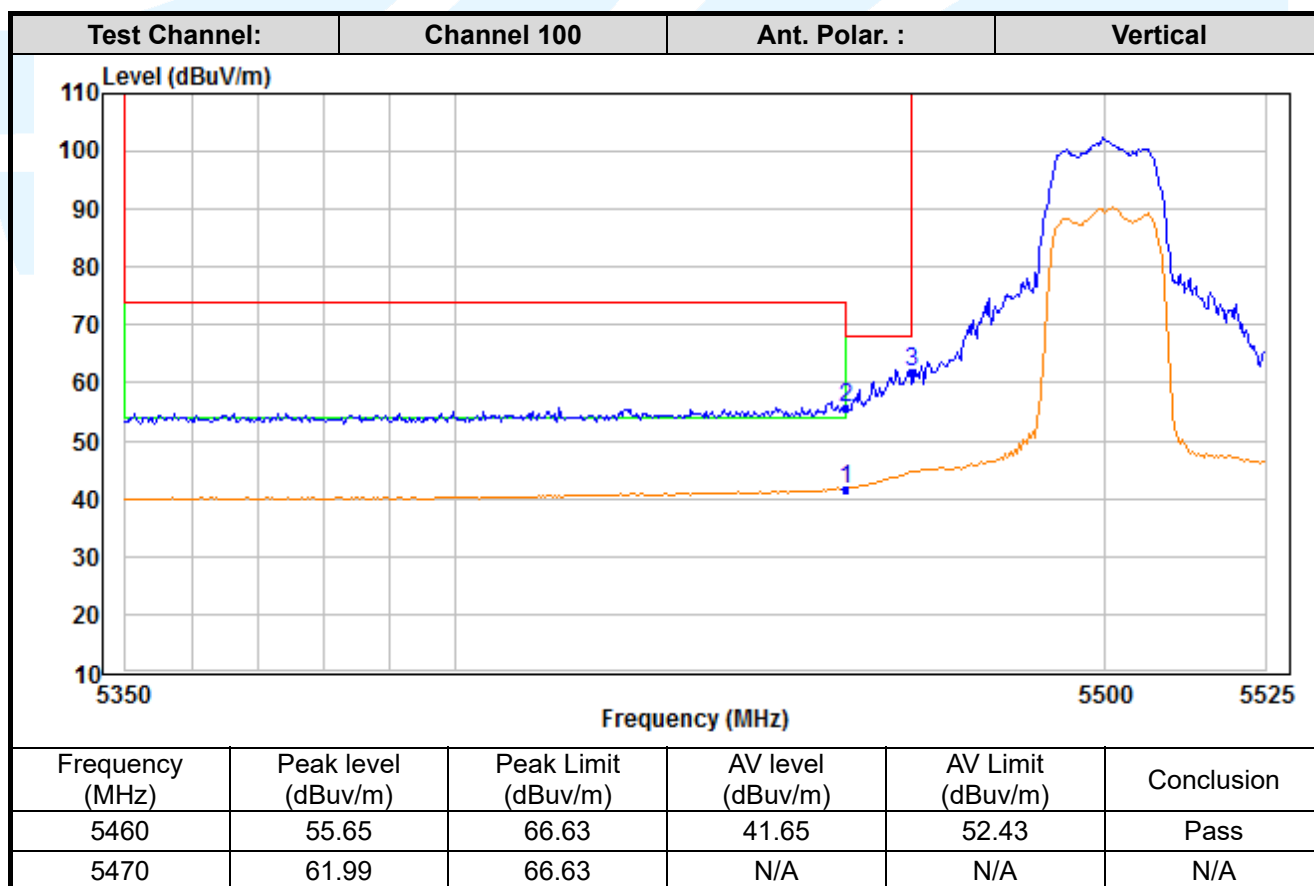
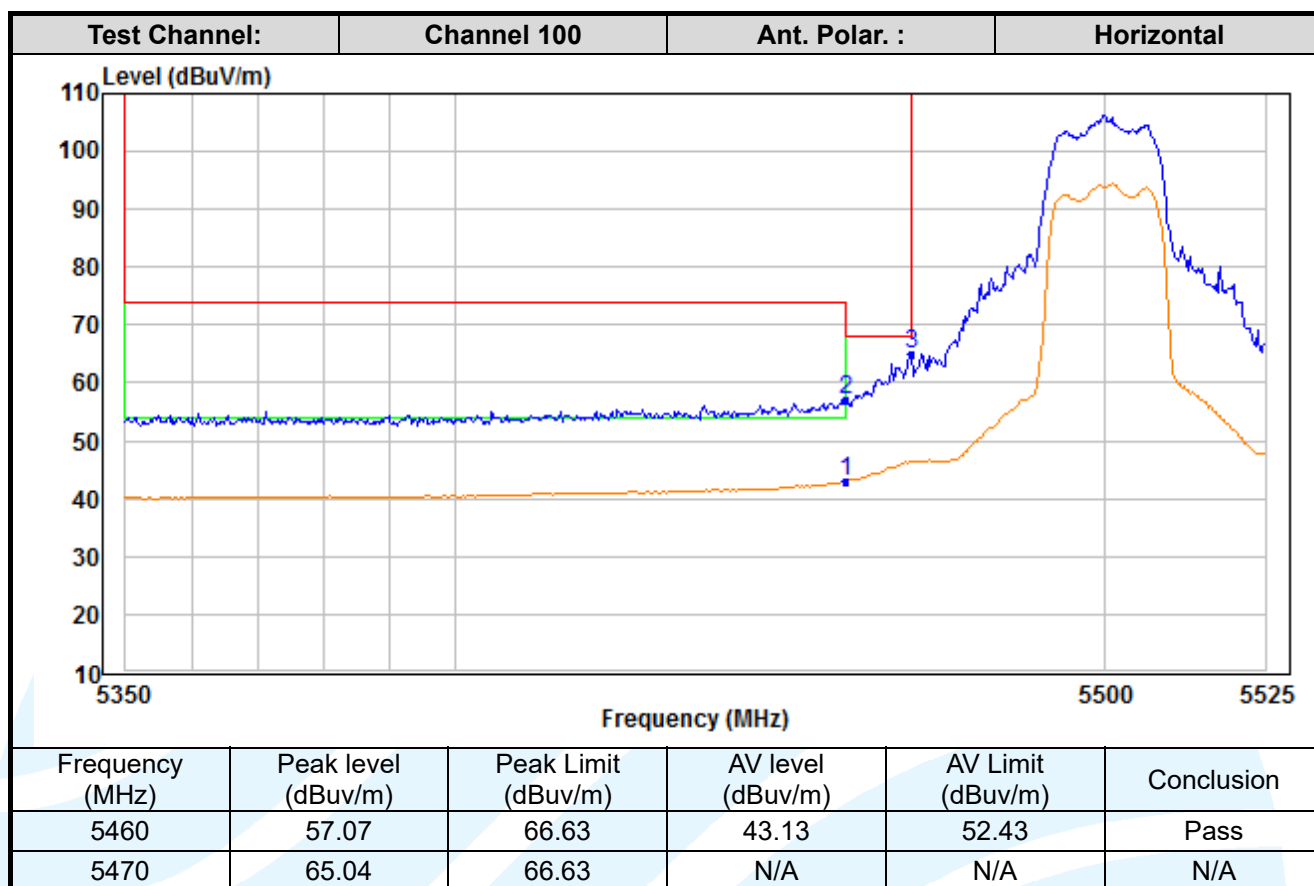
Tel: +86-755-28230888

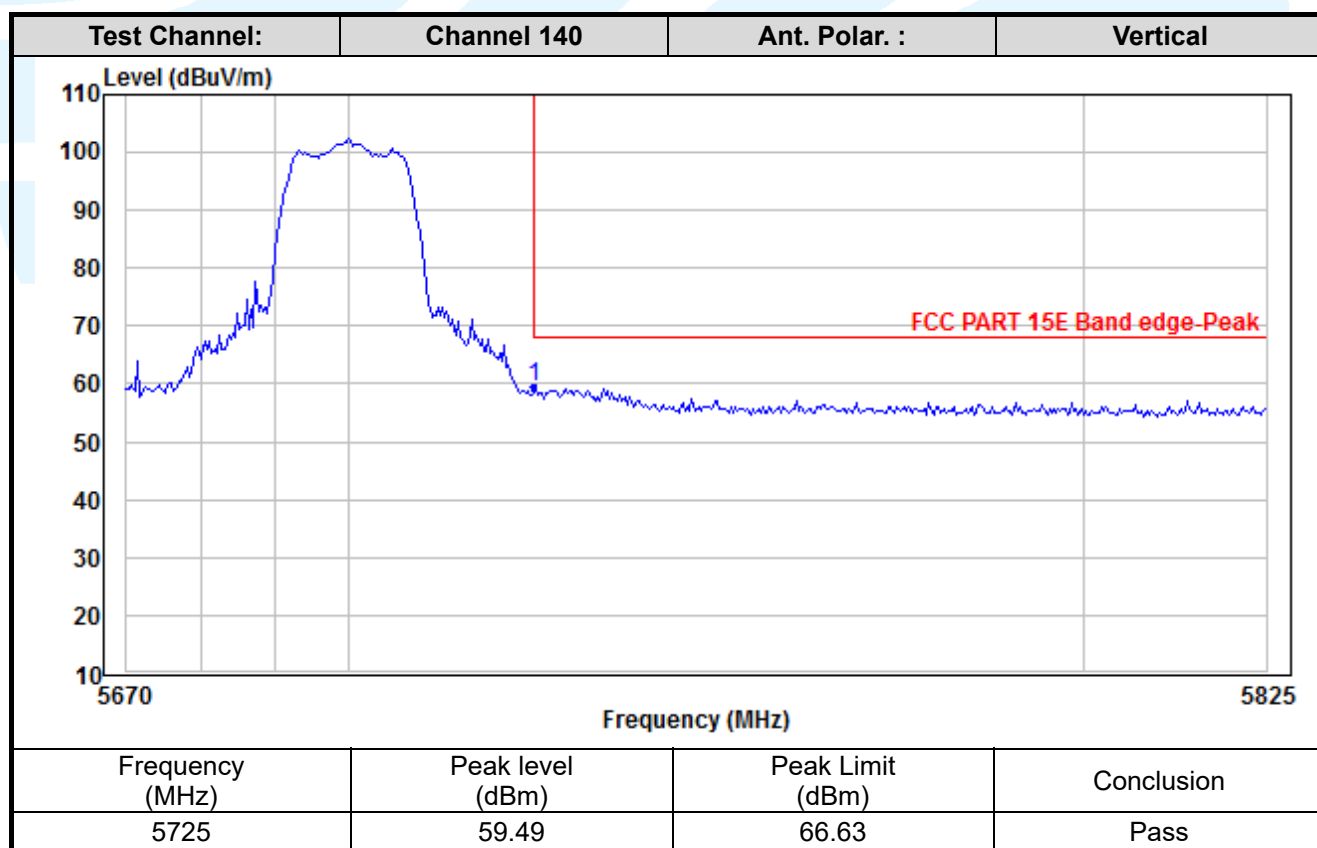
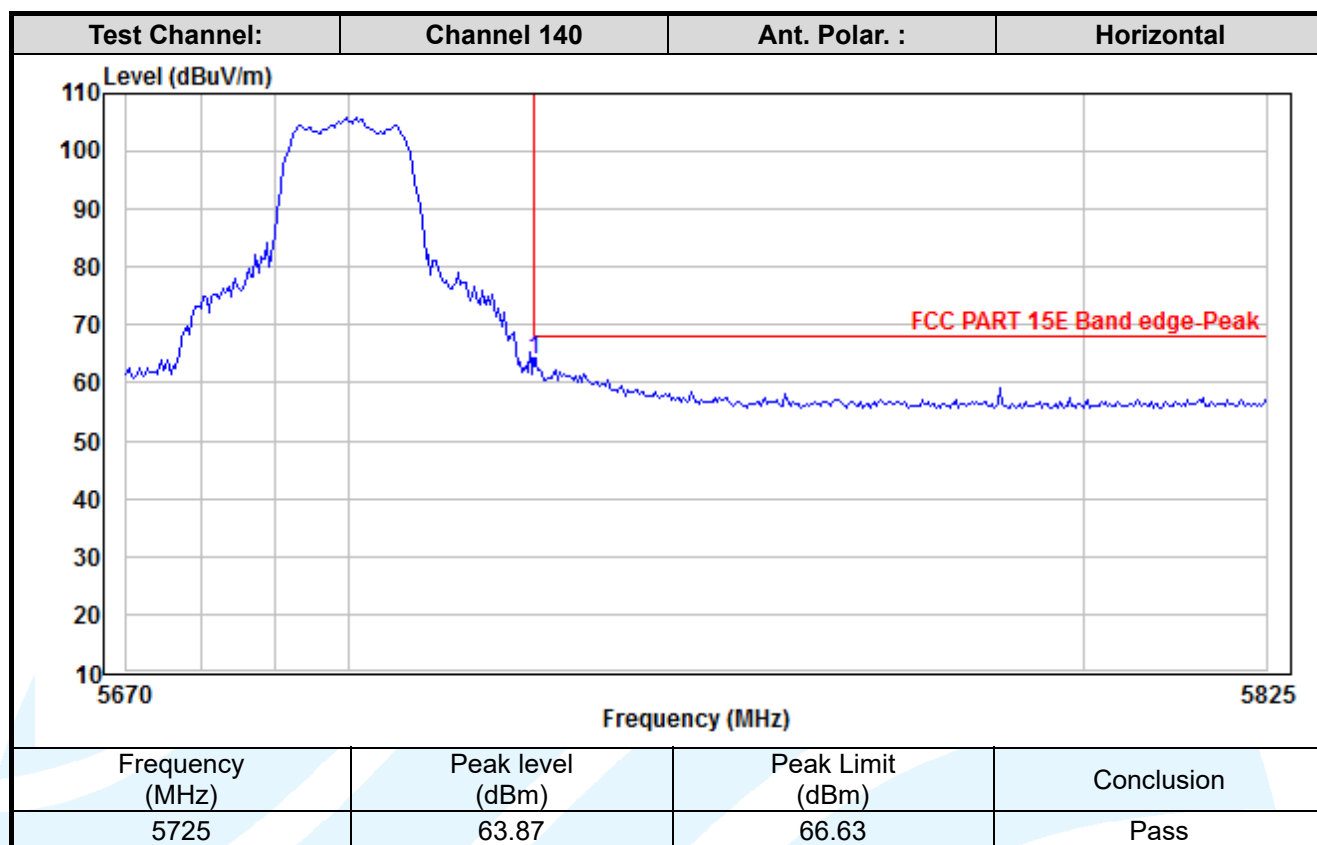
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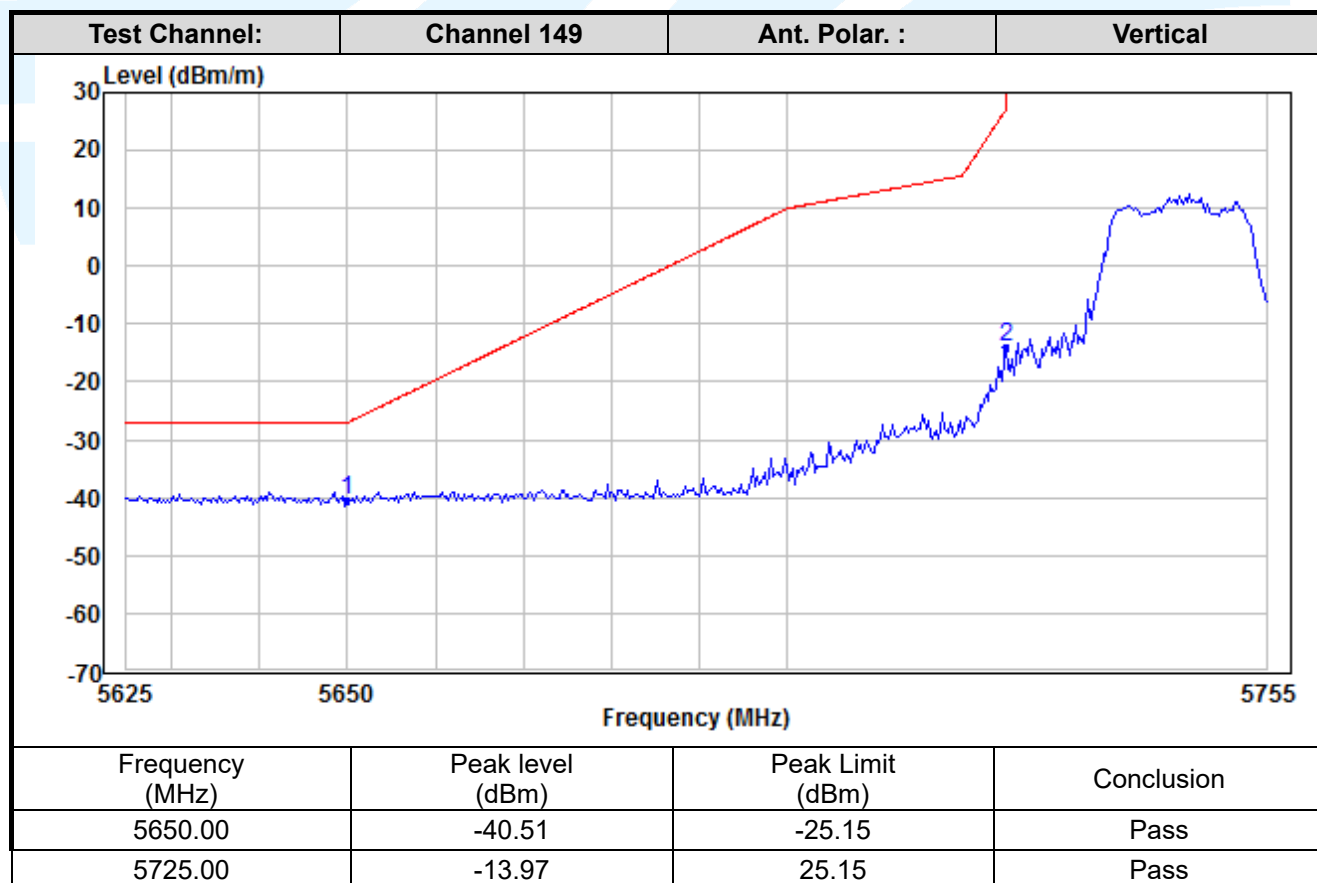
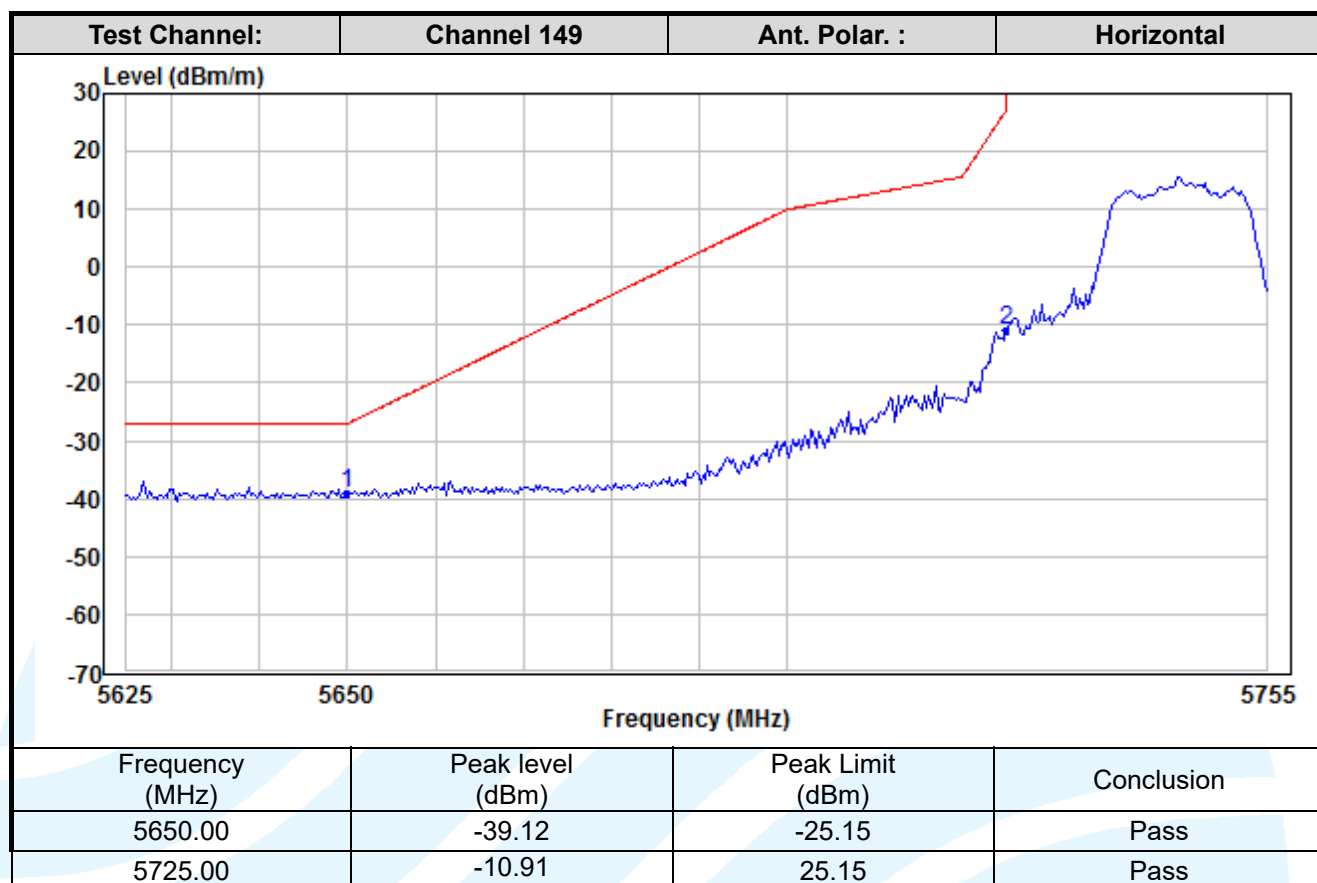
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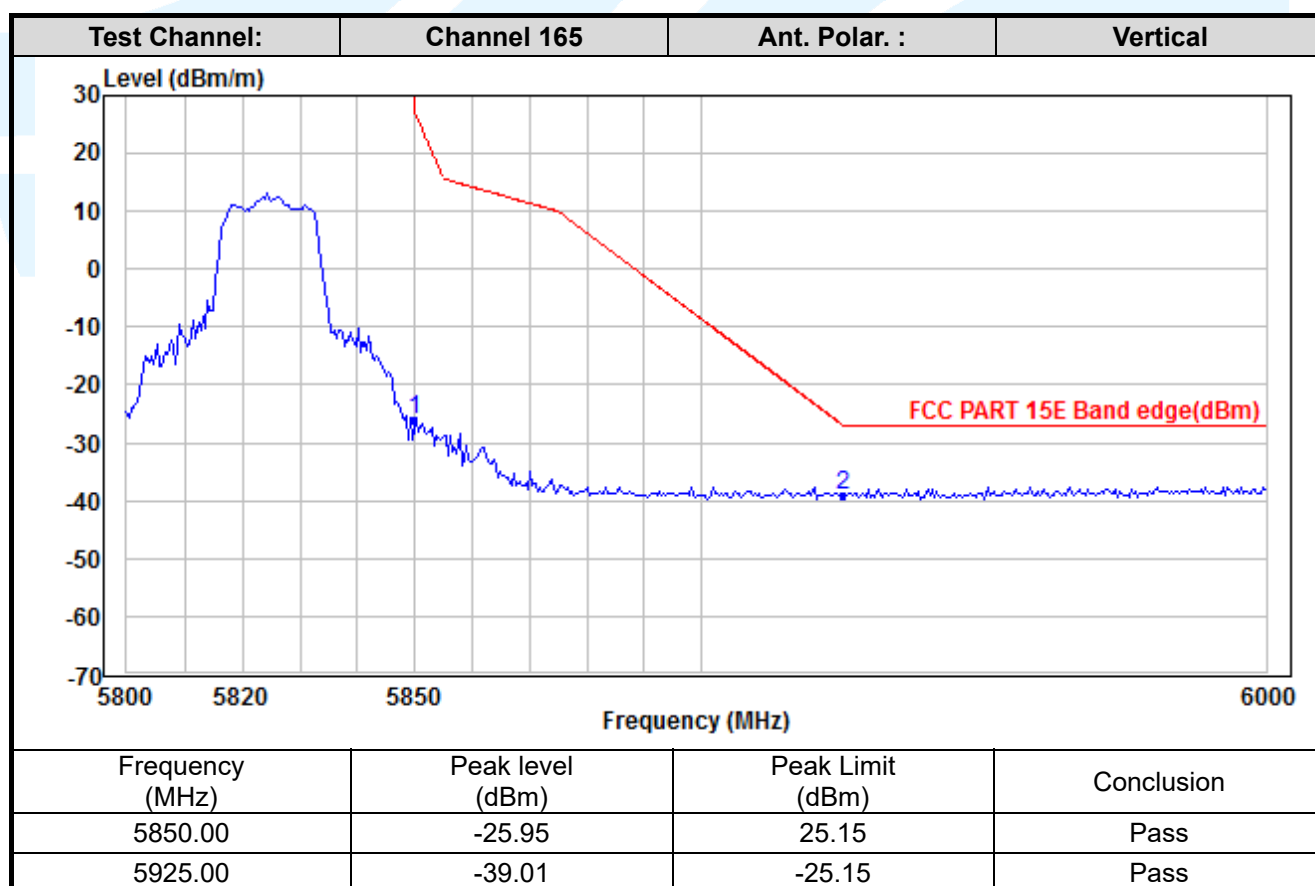
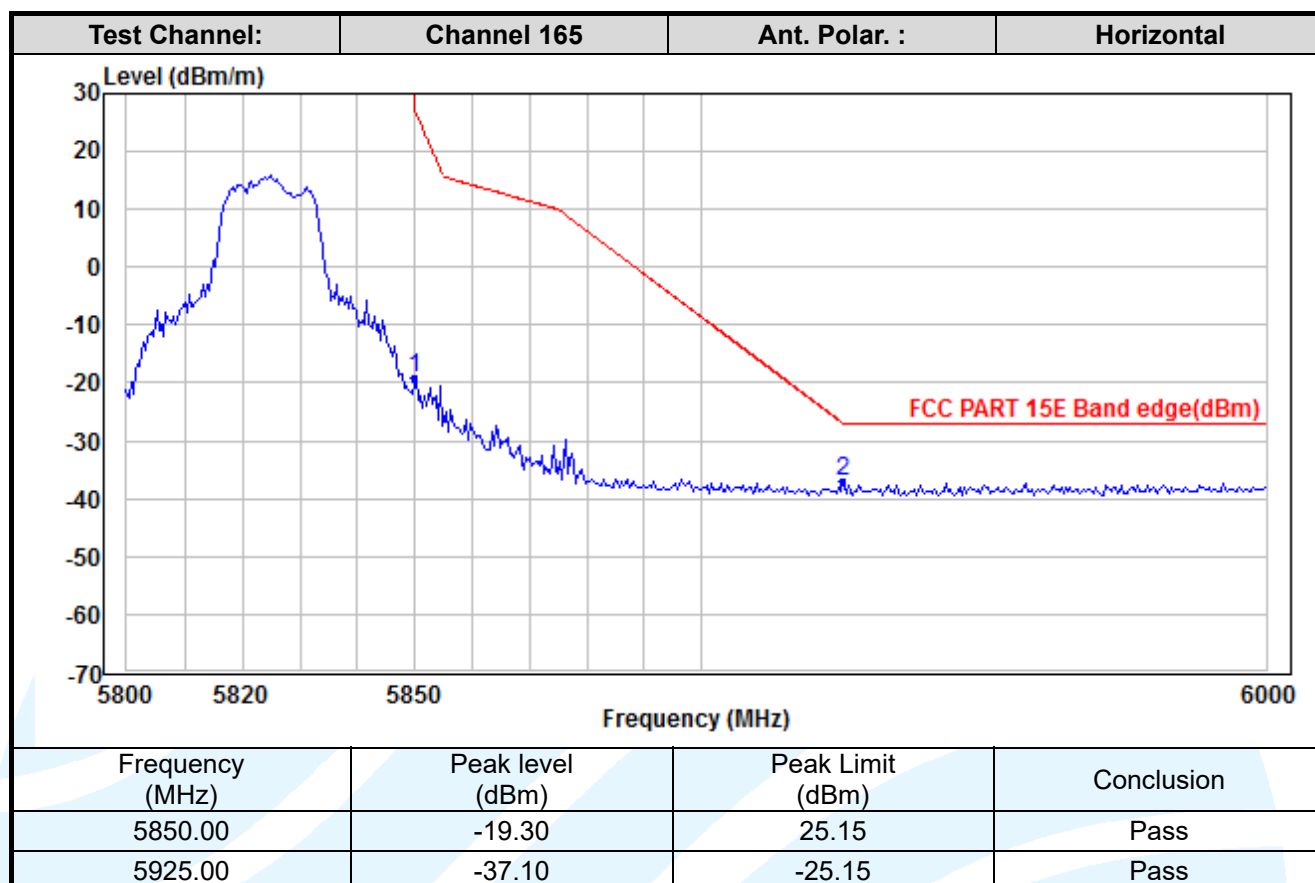
[Http://www.uttlab.com](http://www.uttlab.com)



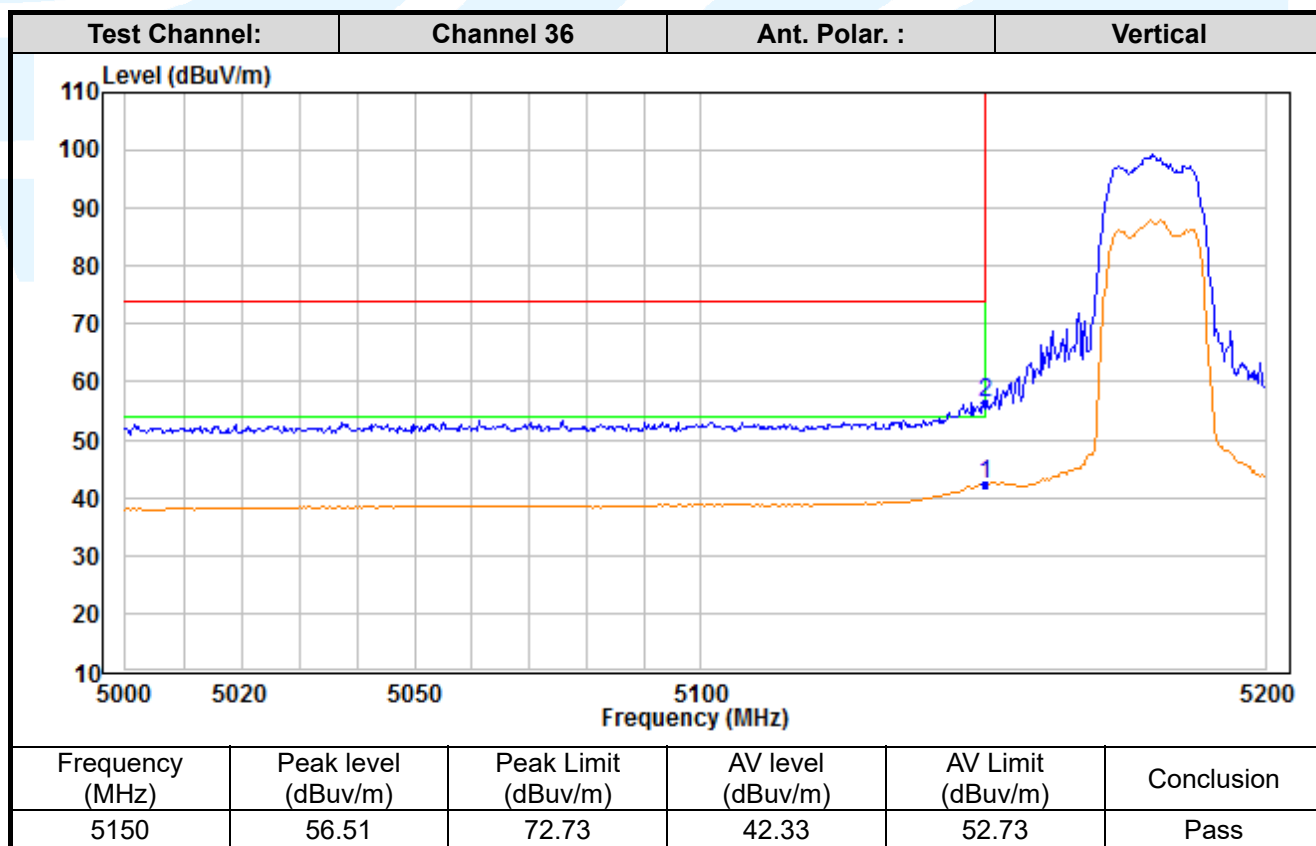
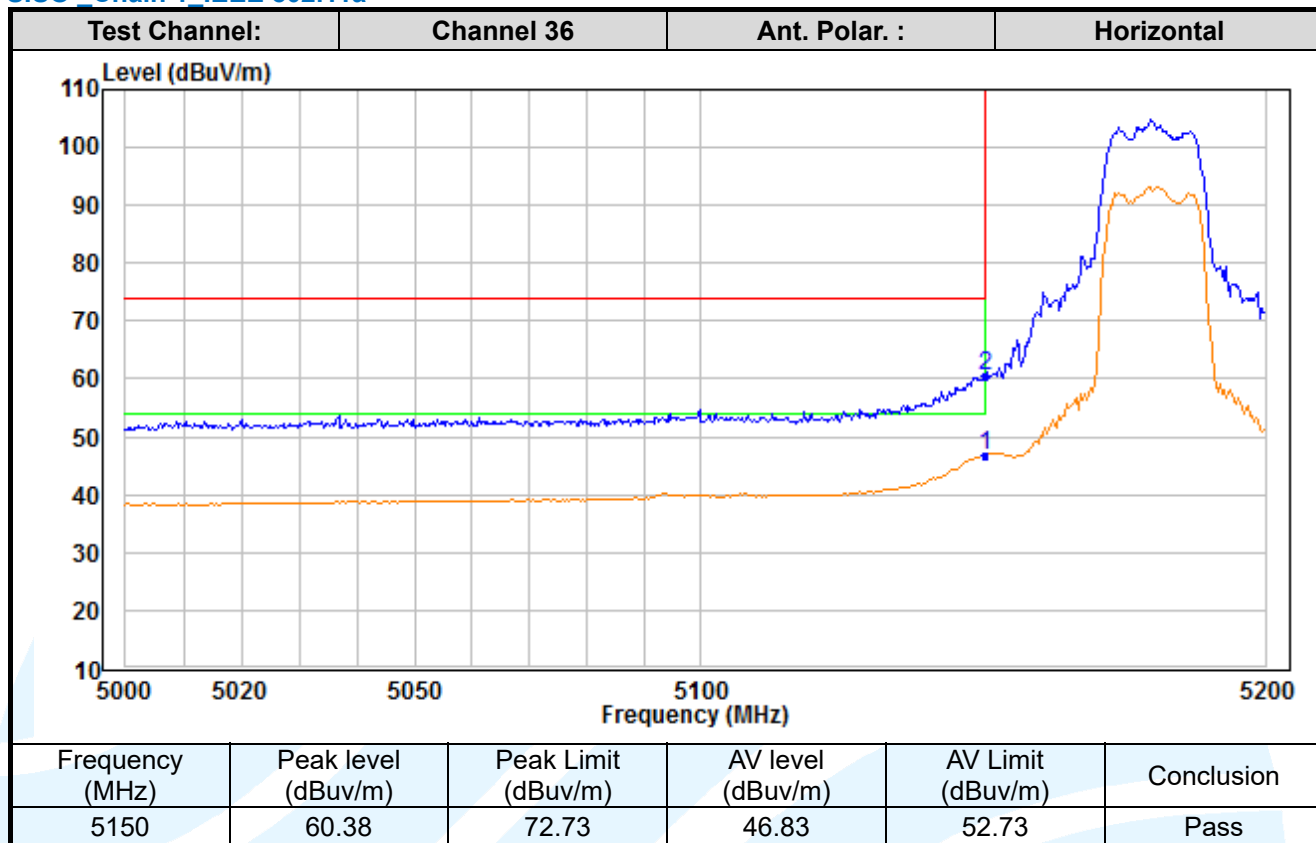


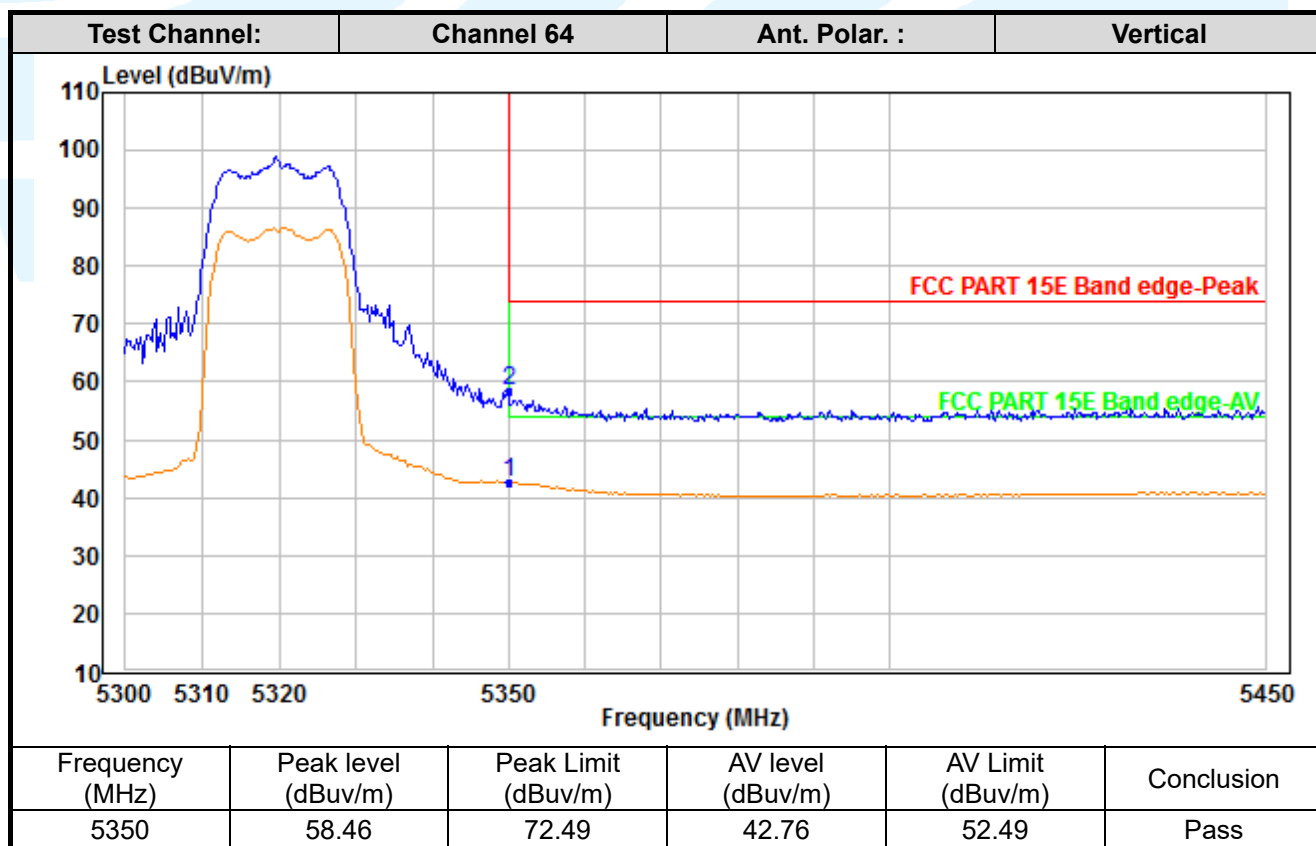
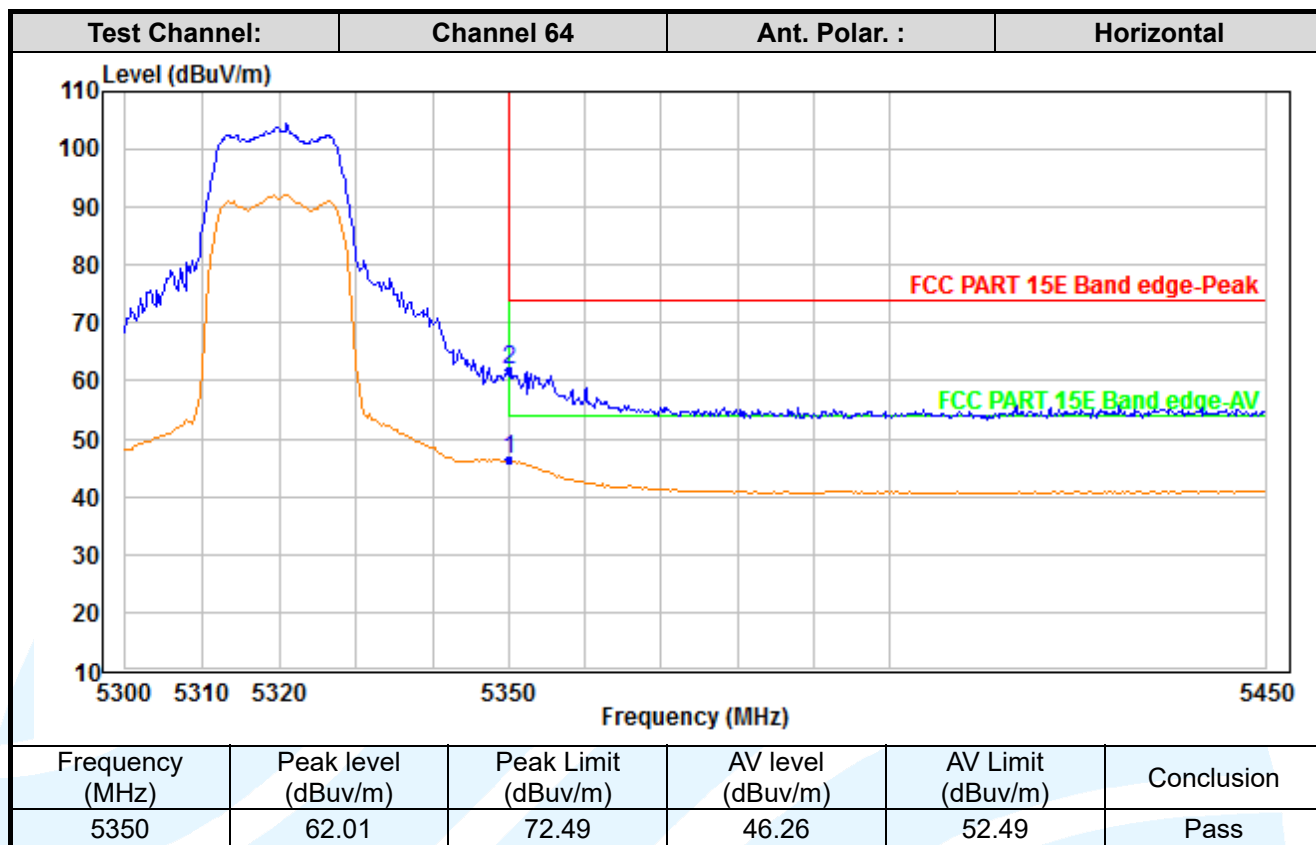


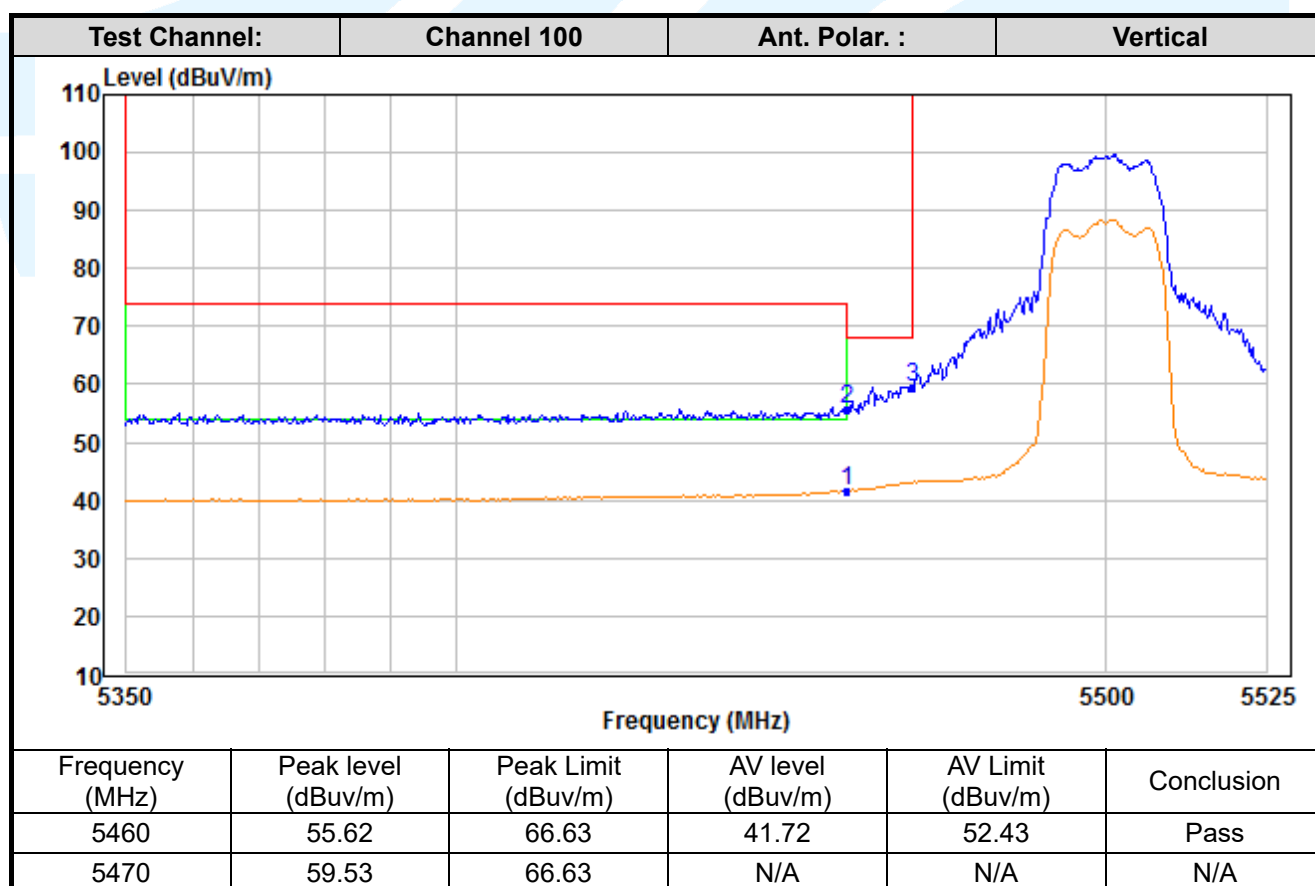
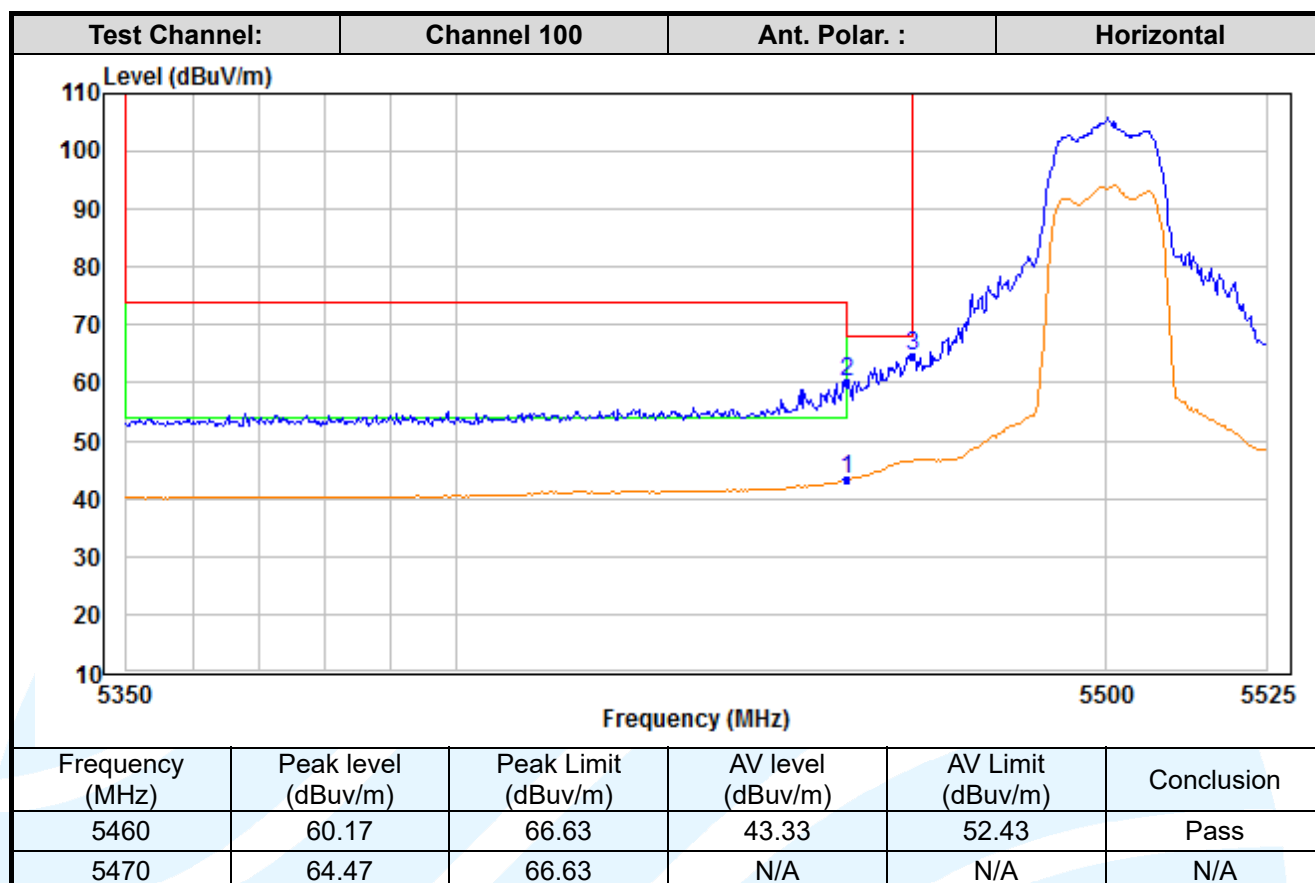


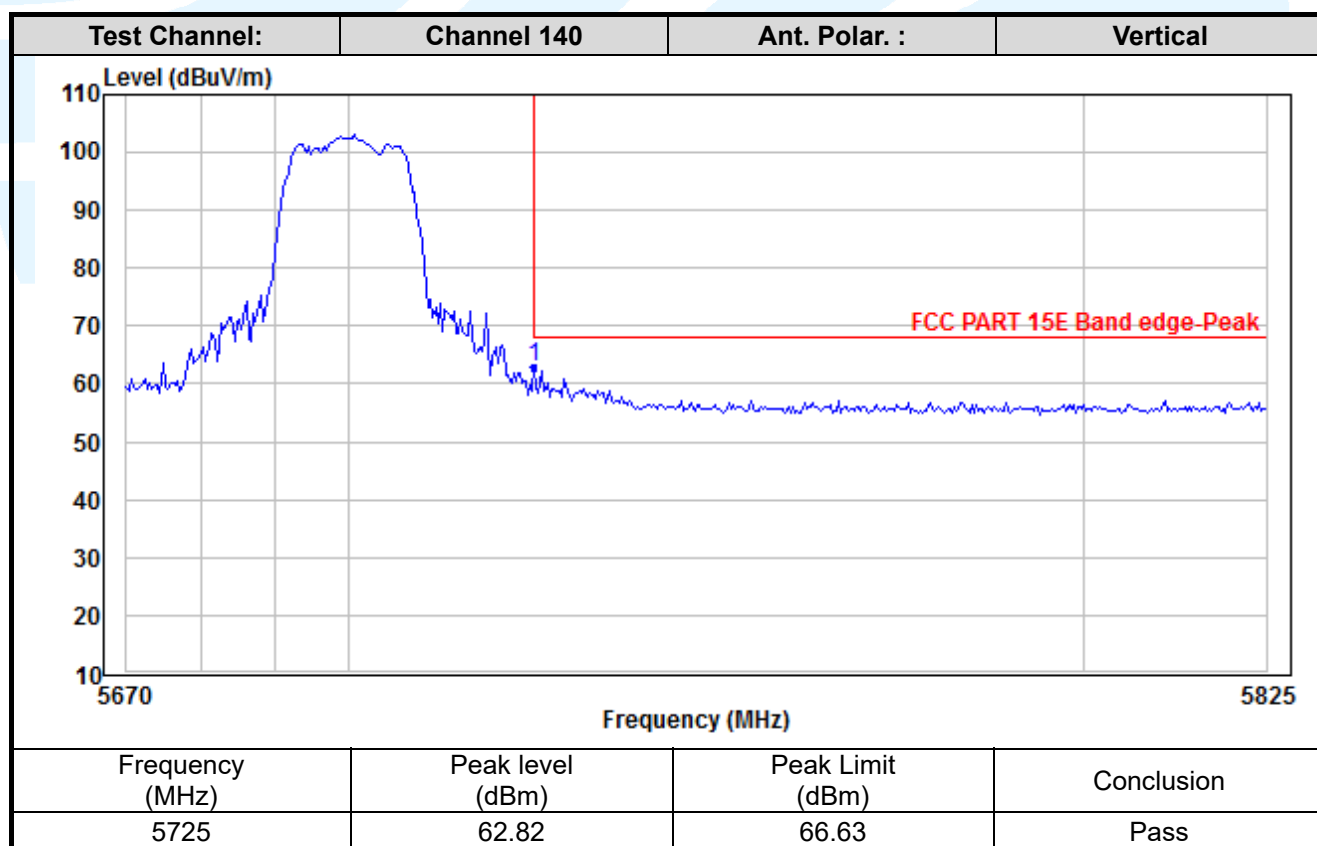
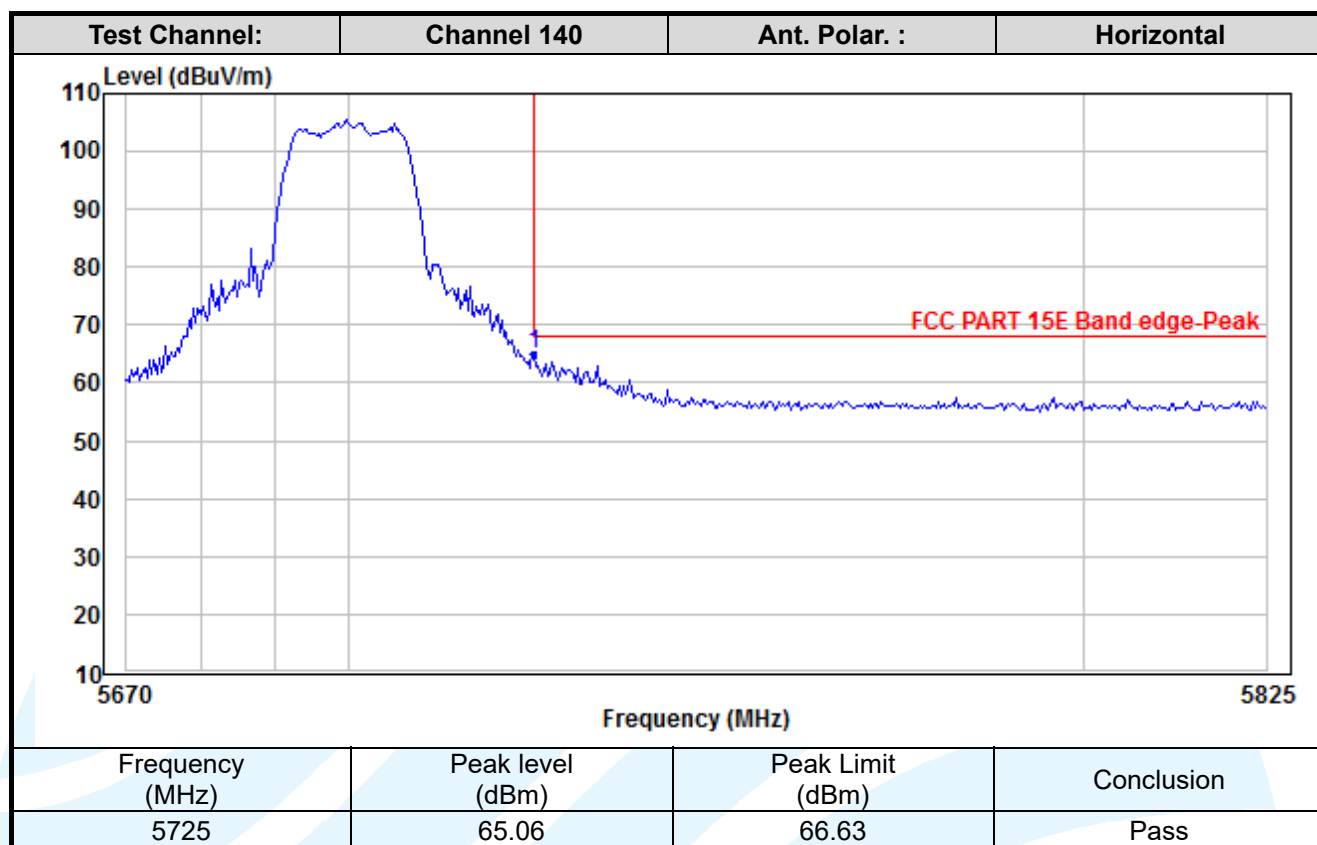


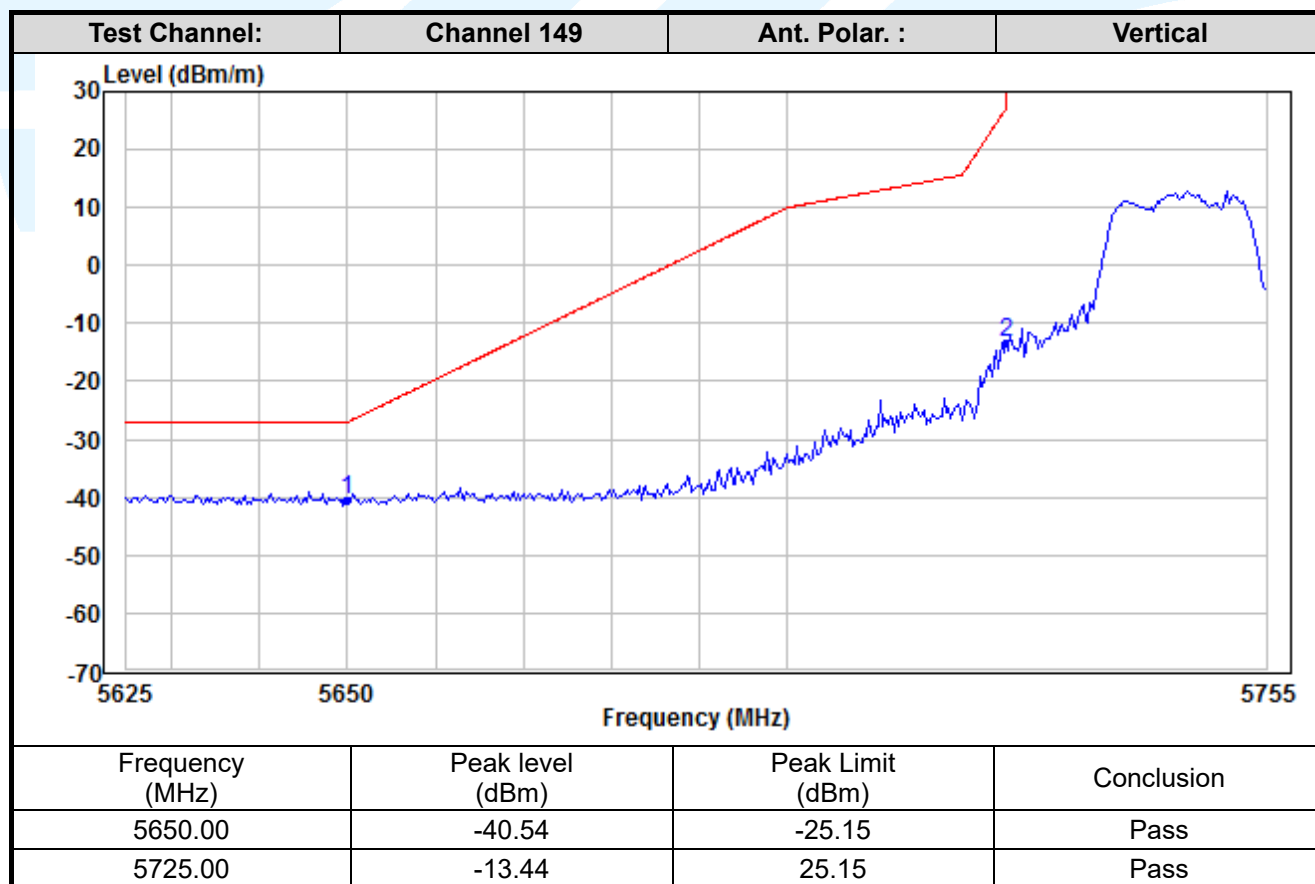
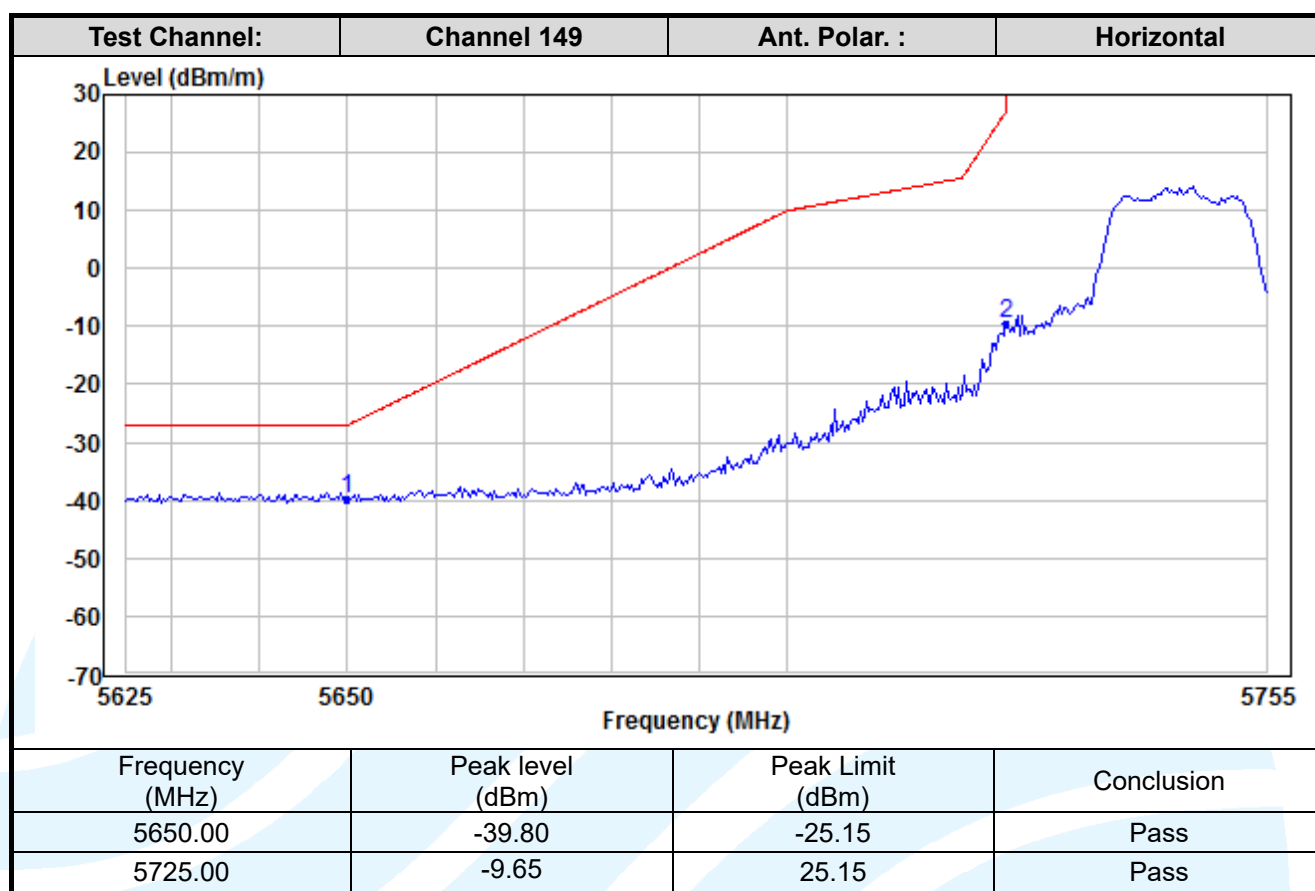
SISO_Chain 1_ IEEE 802.11a

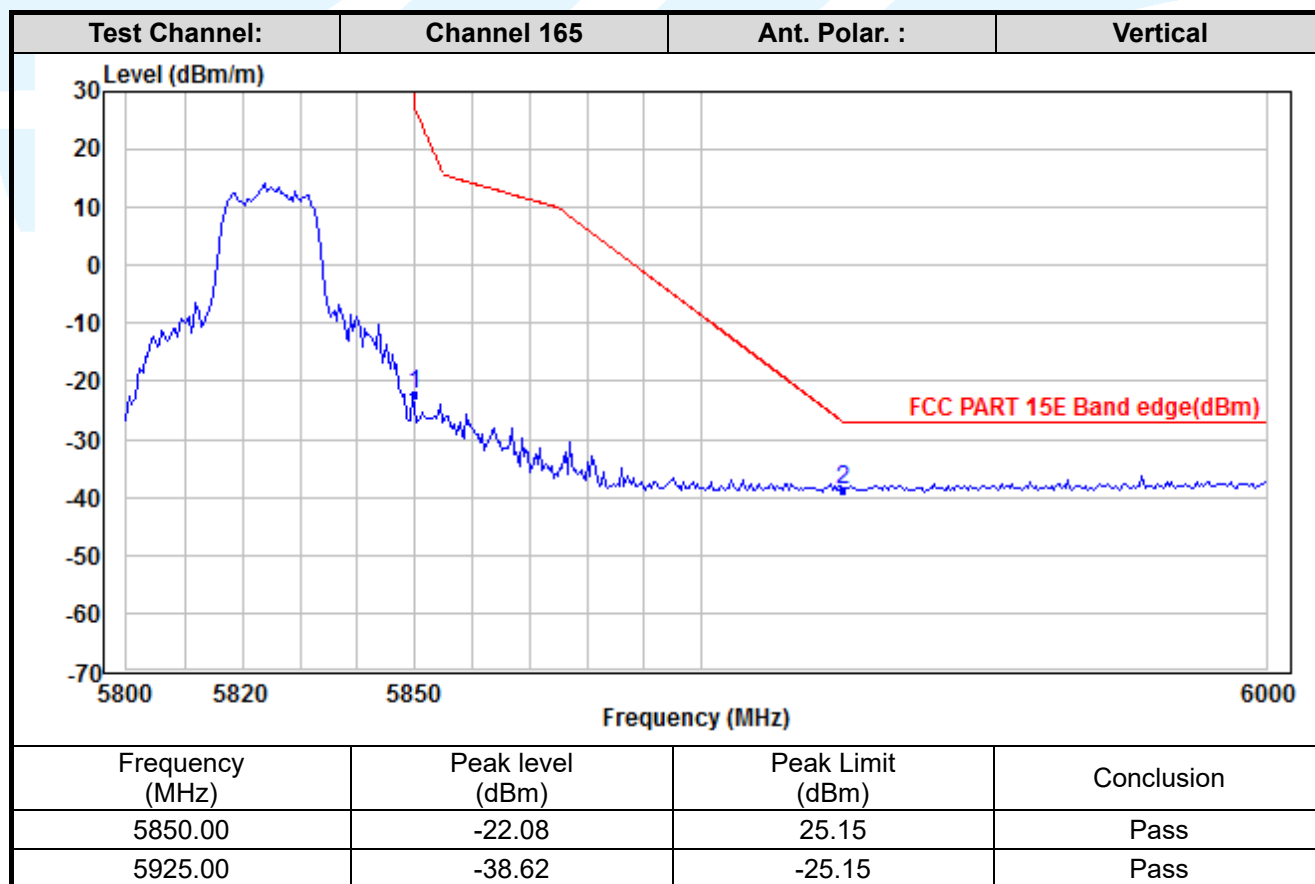
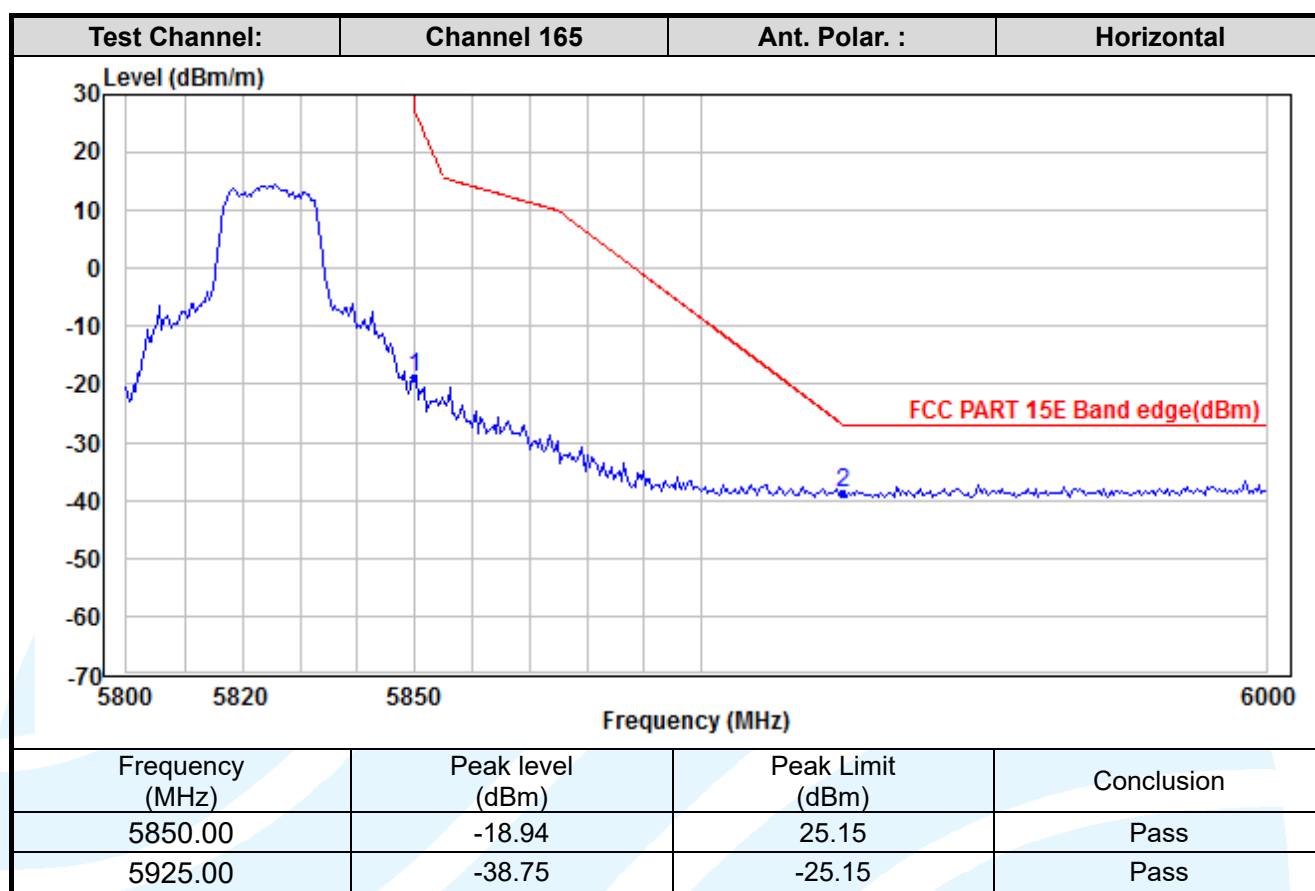




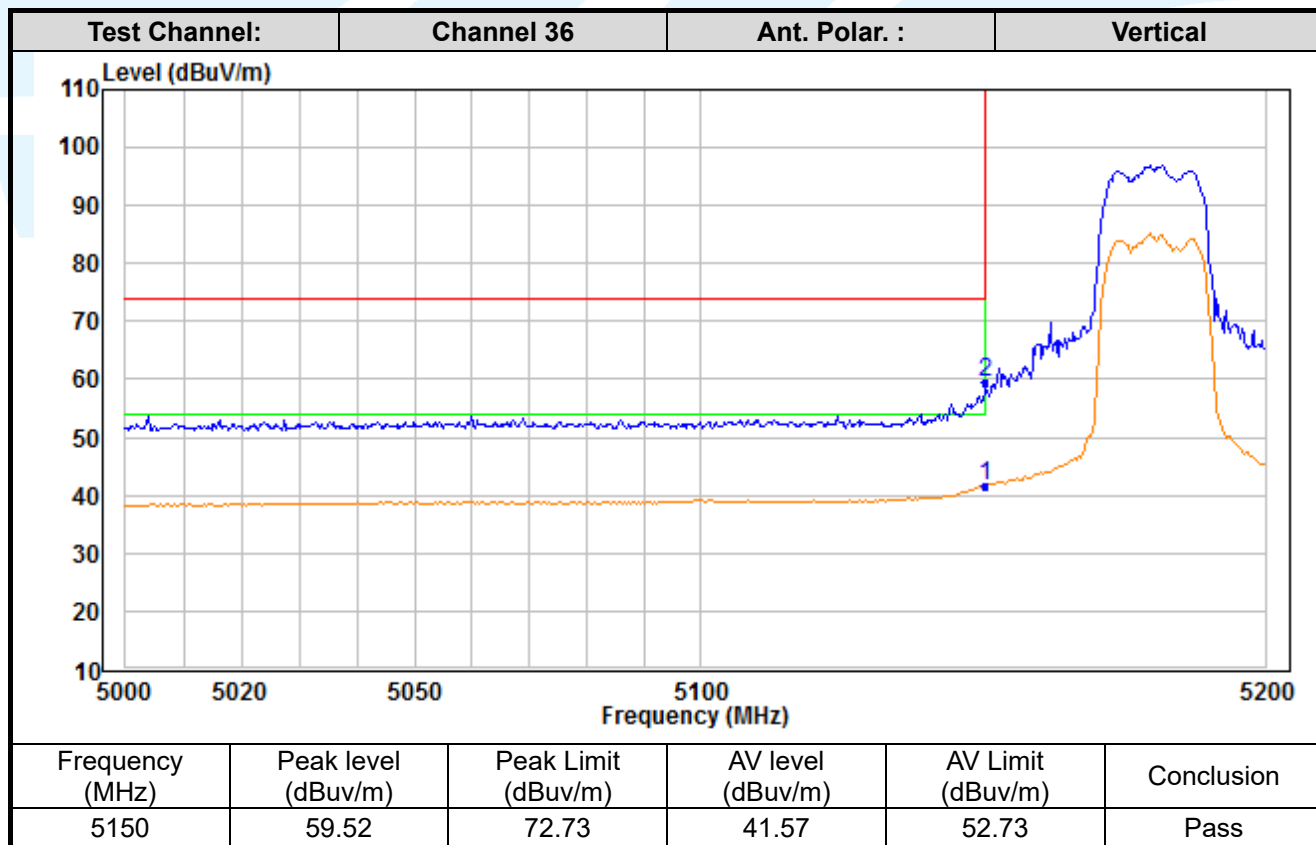
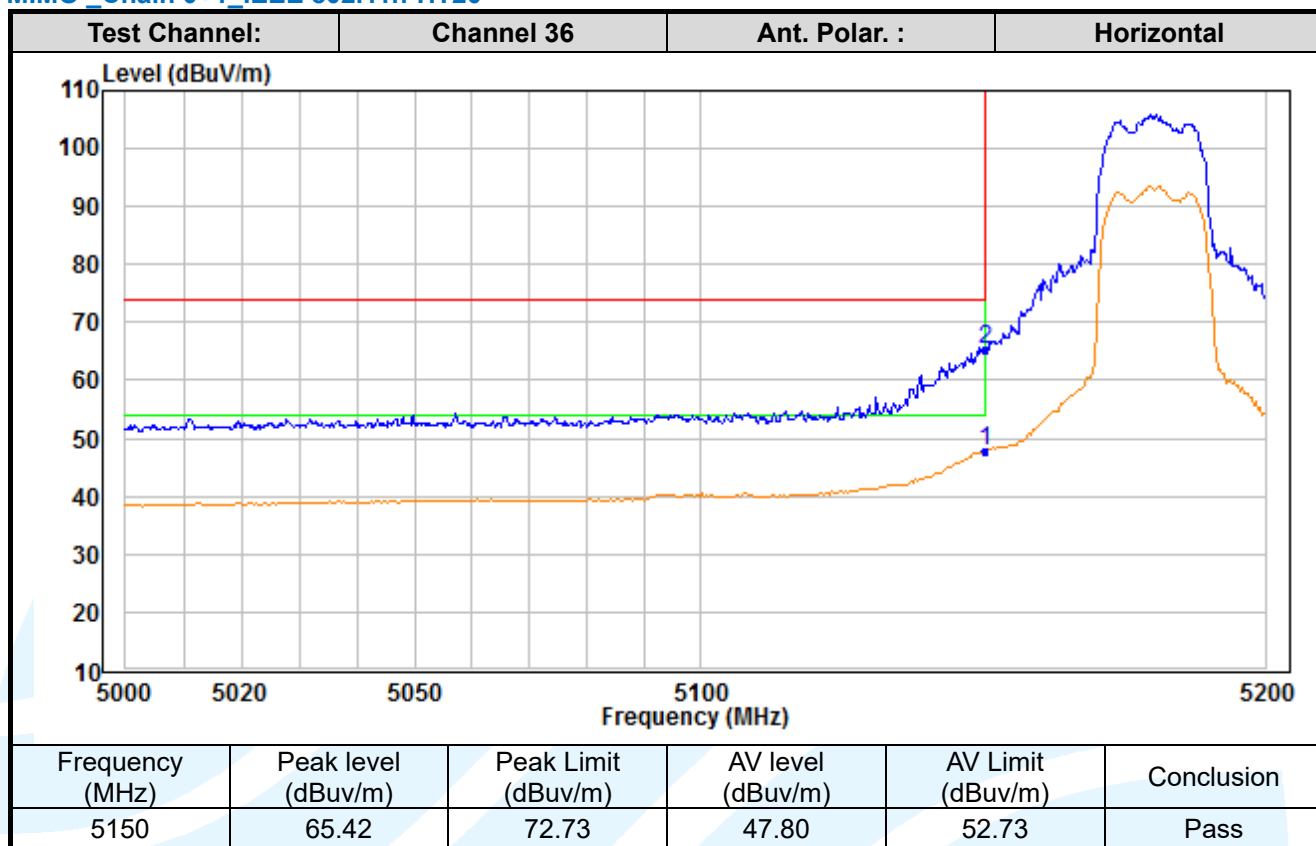


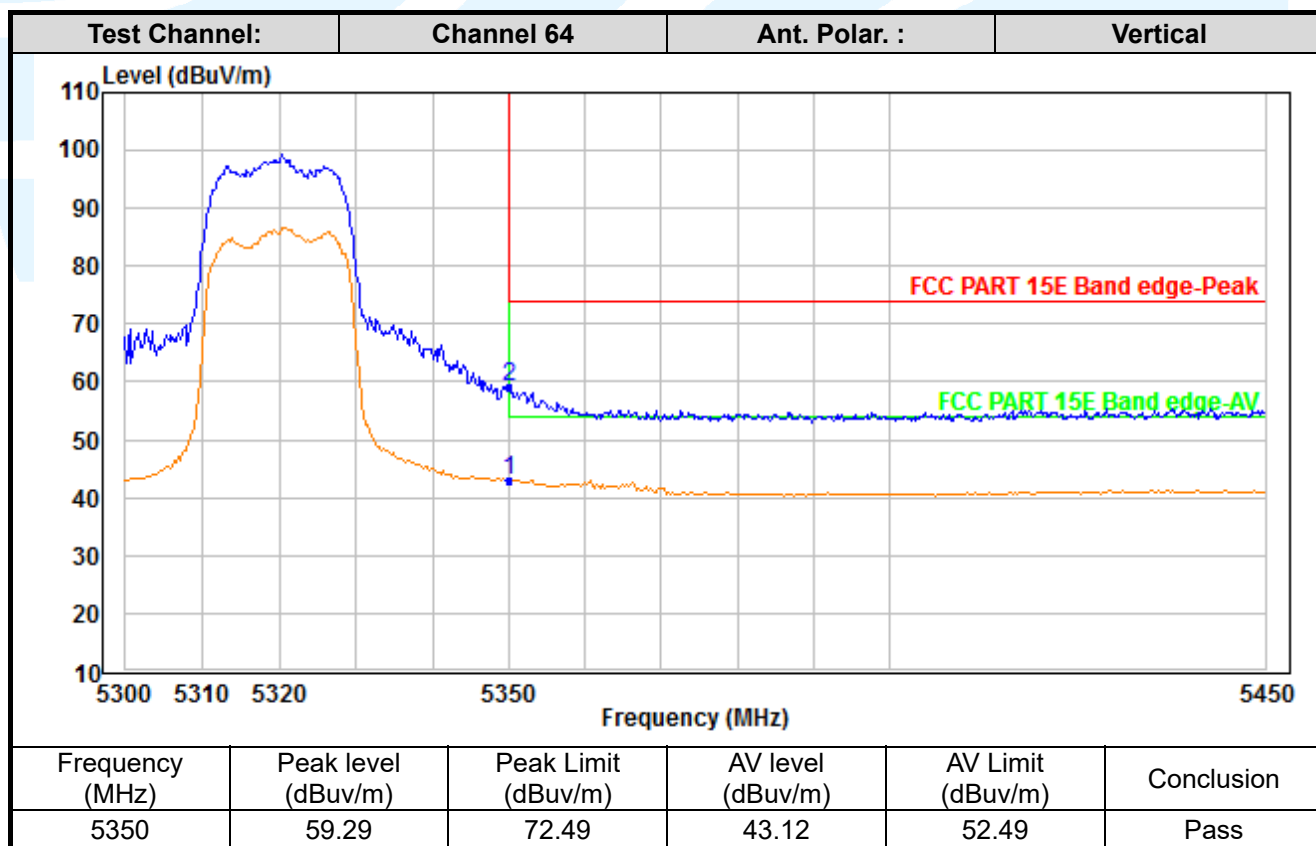
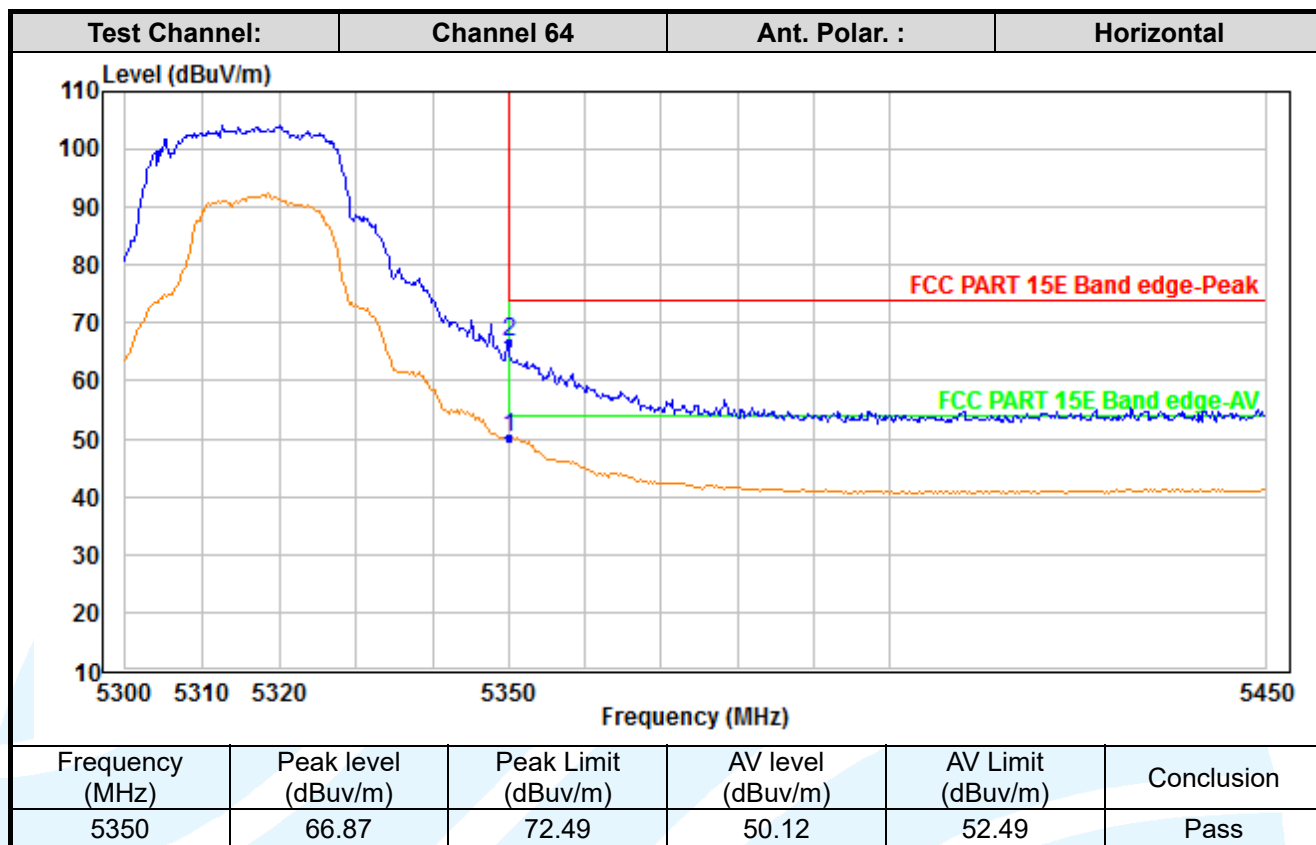


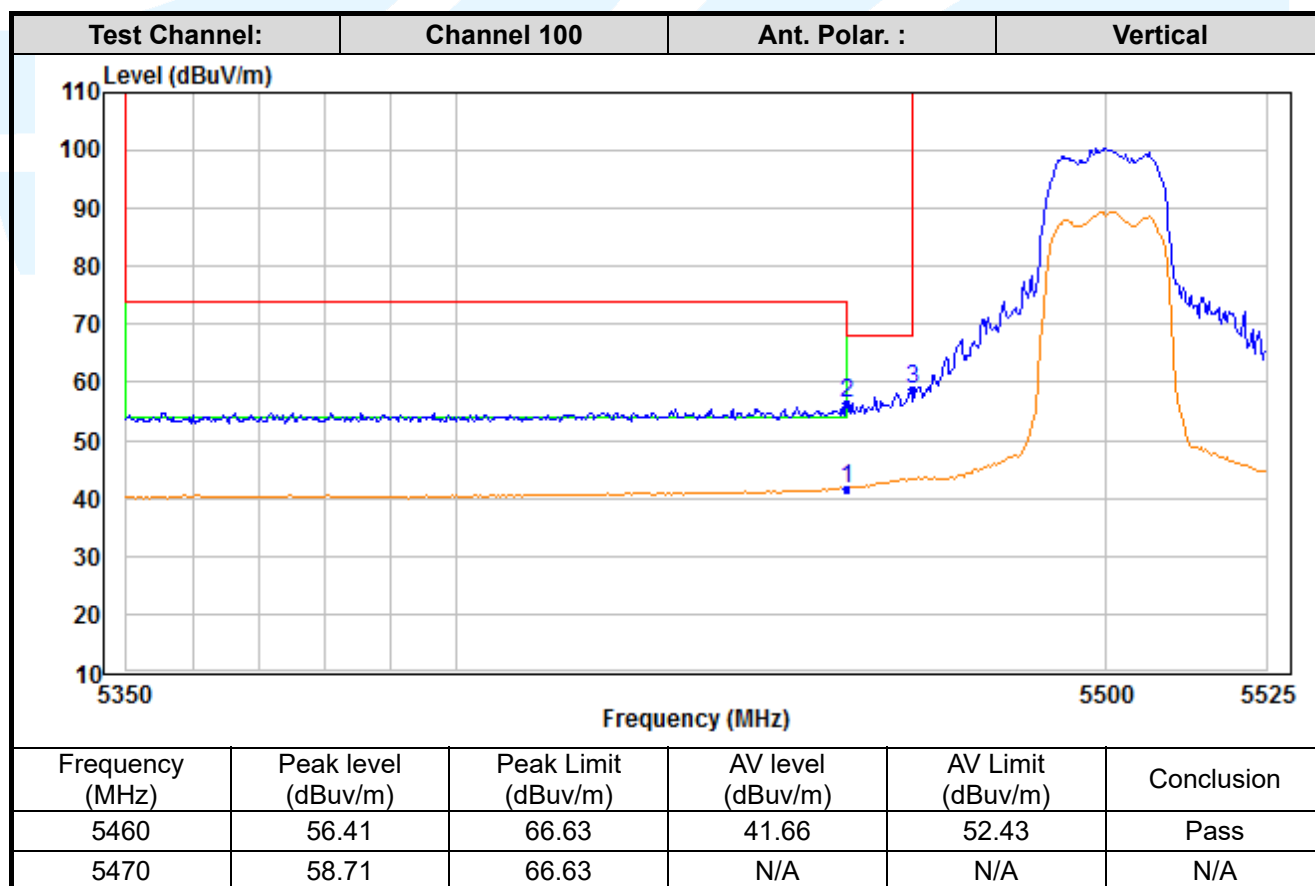
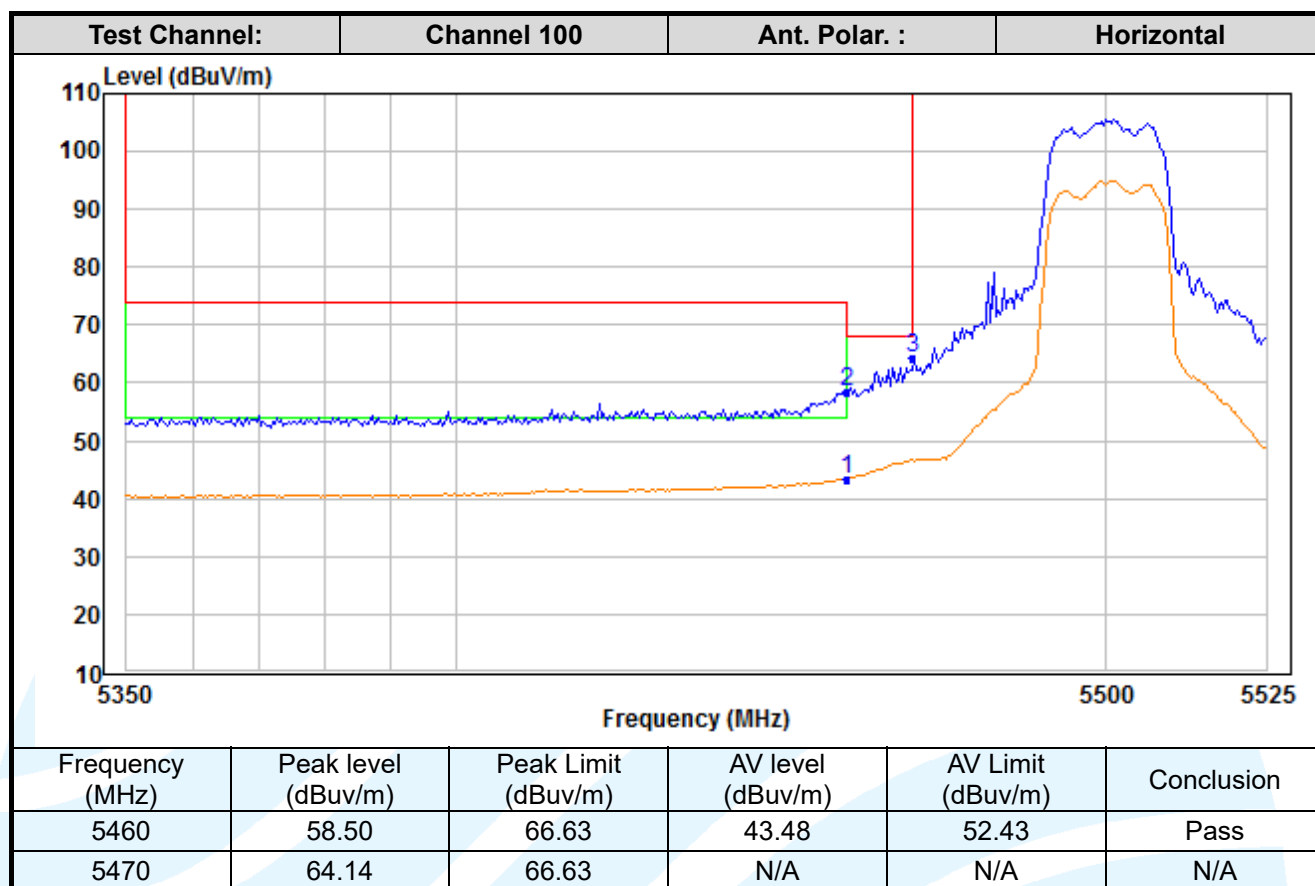


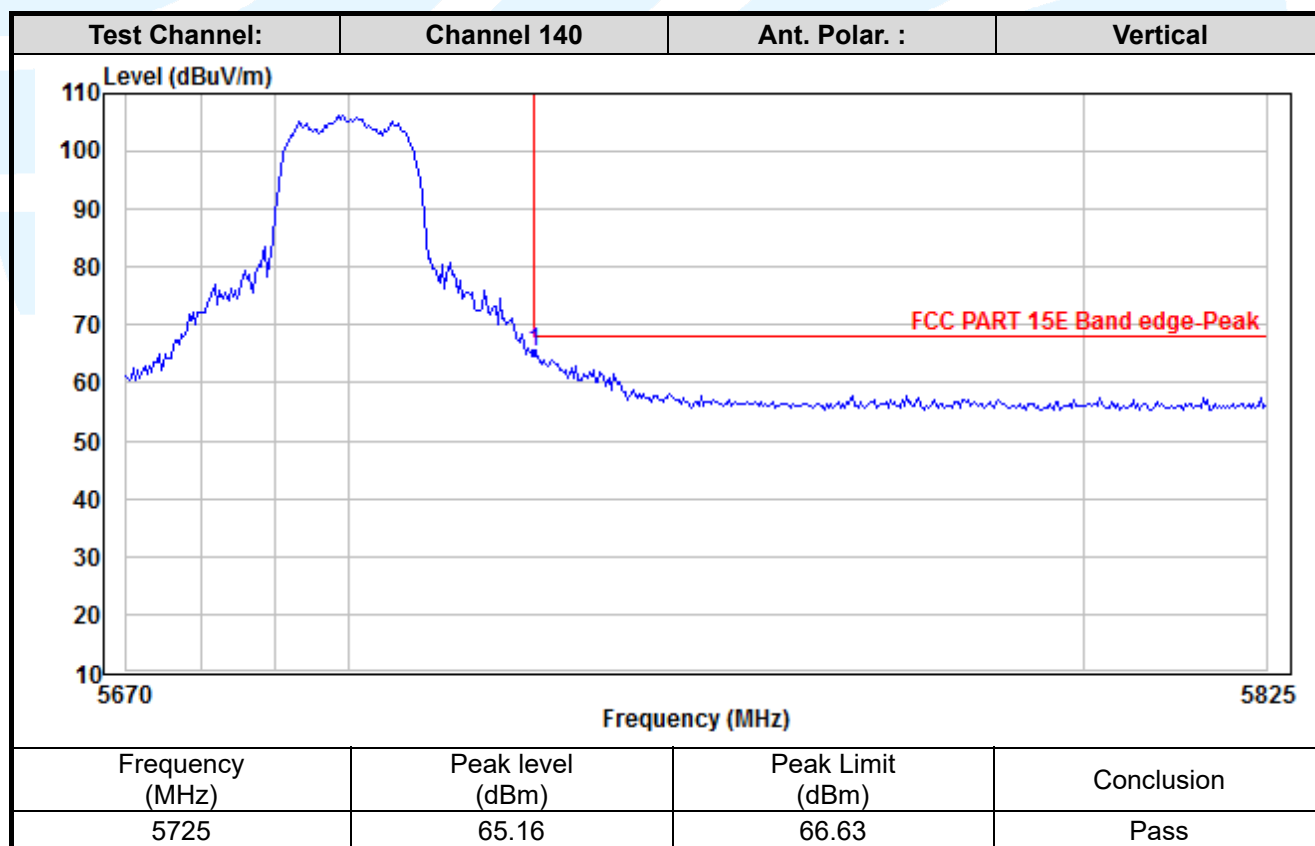
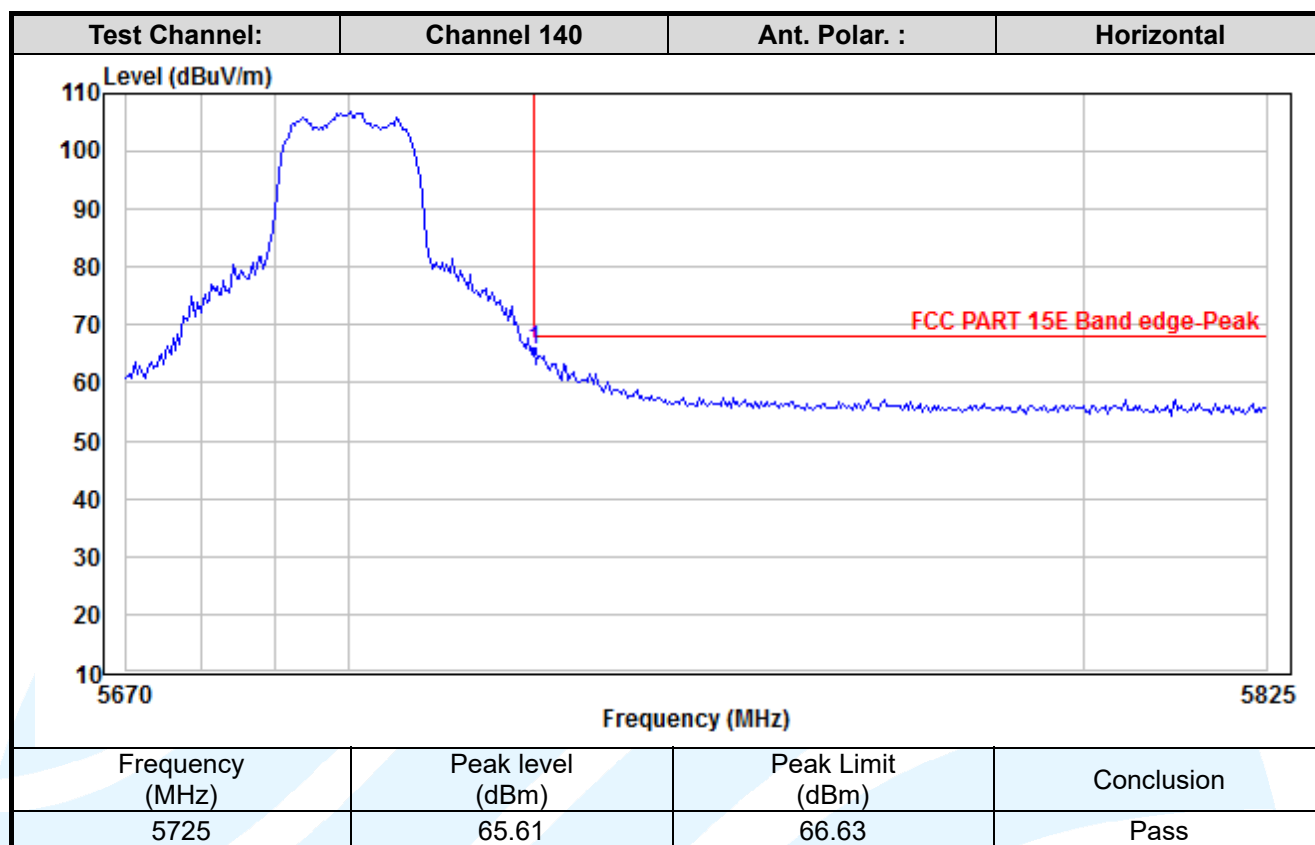


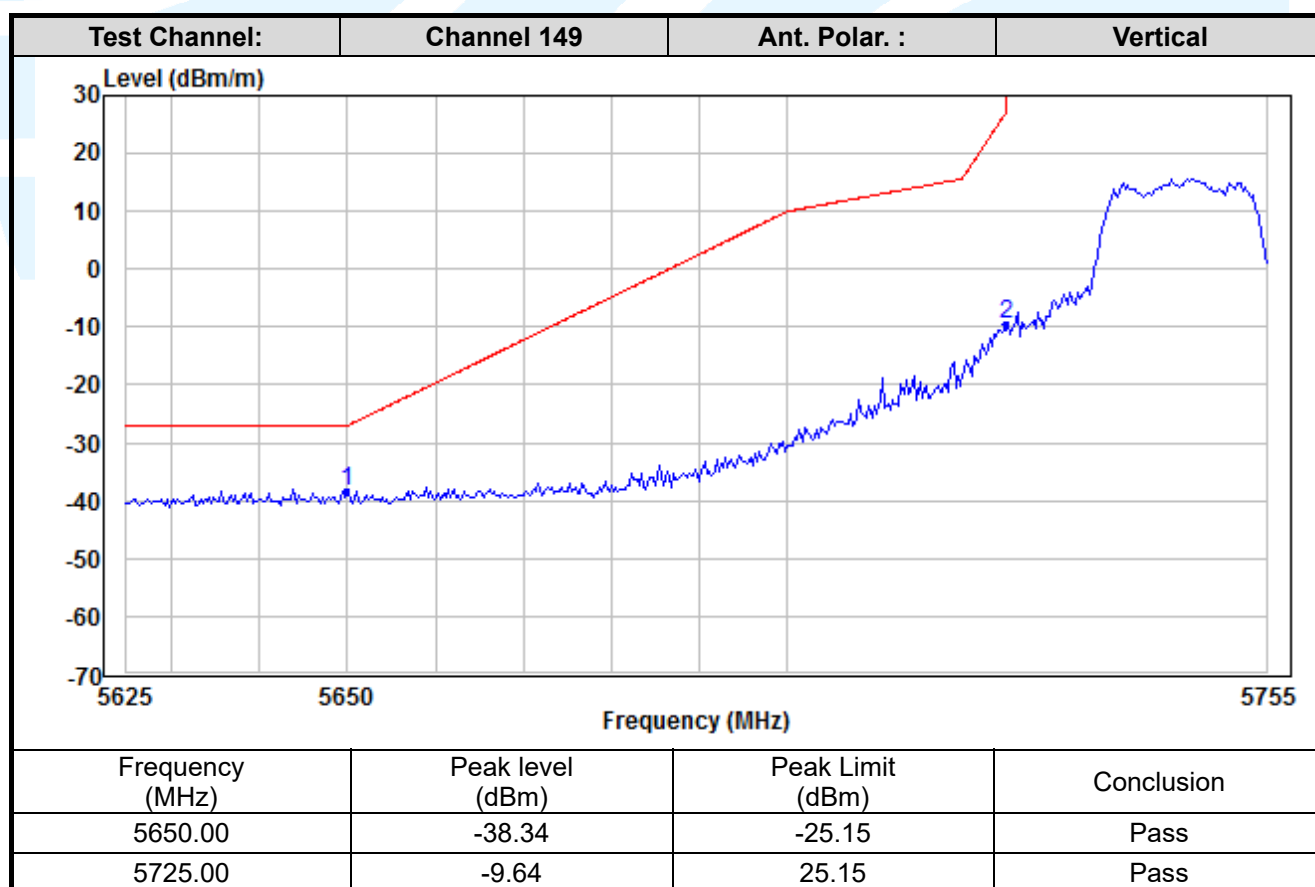
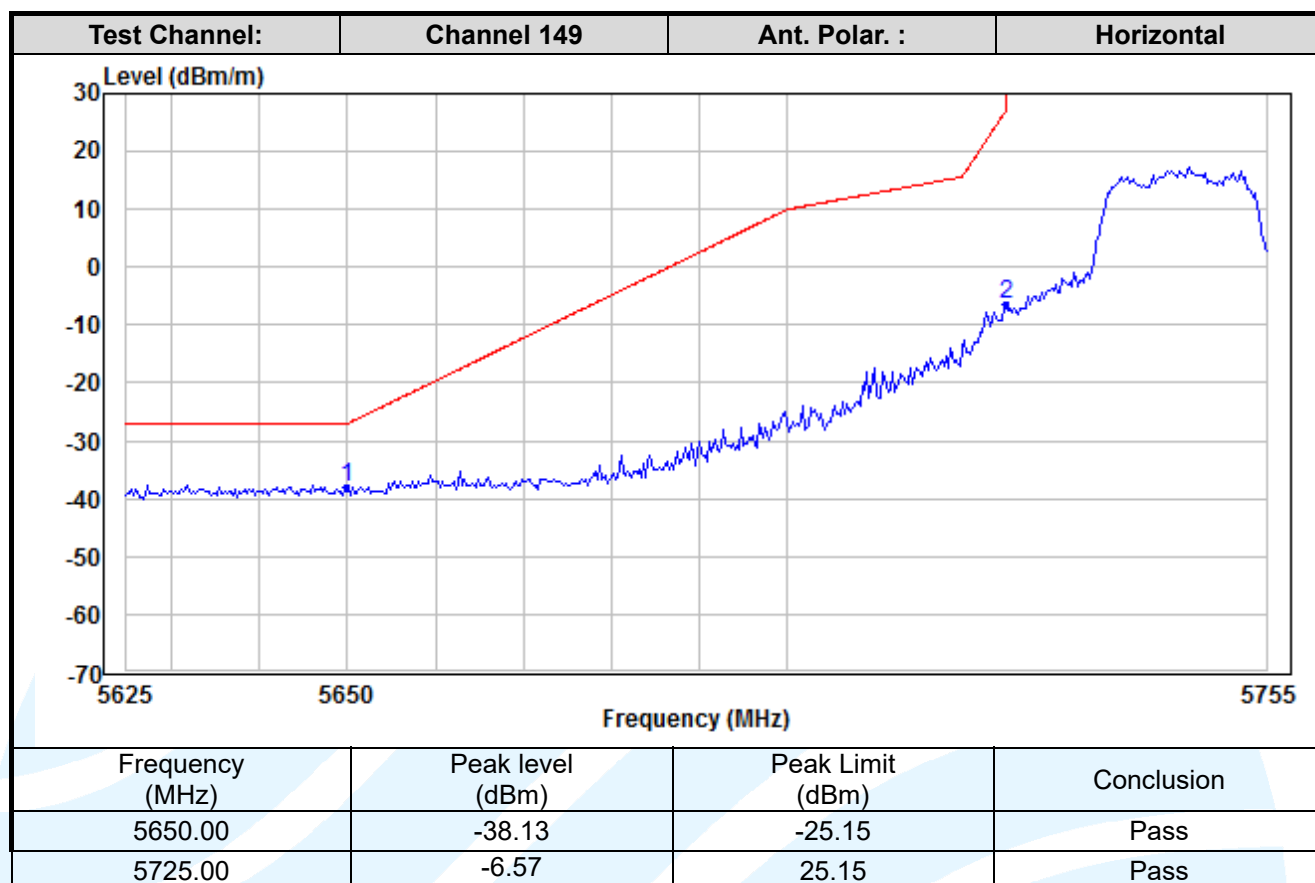
MIMO_Chain 0+1_ IEEE 802.11n-HT20

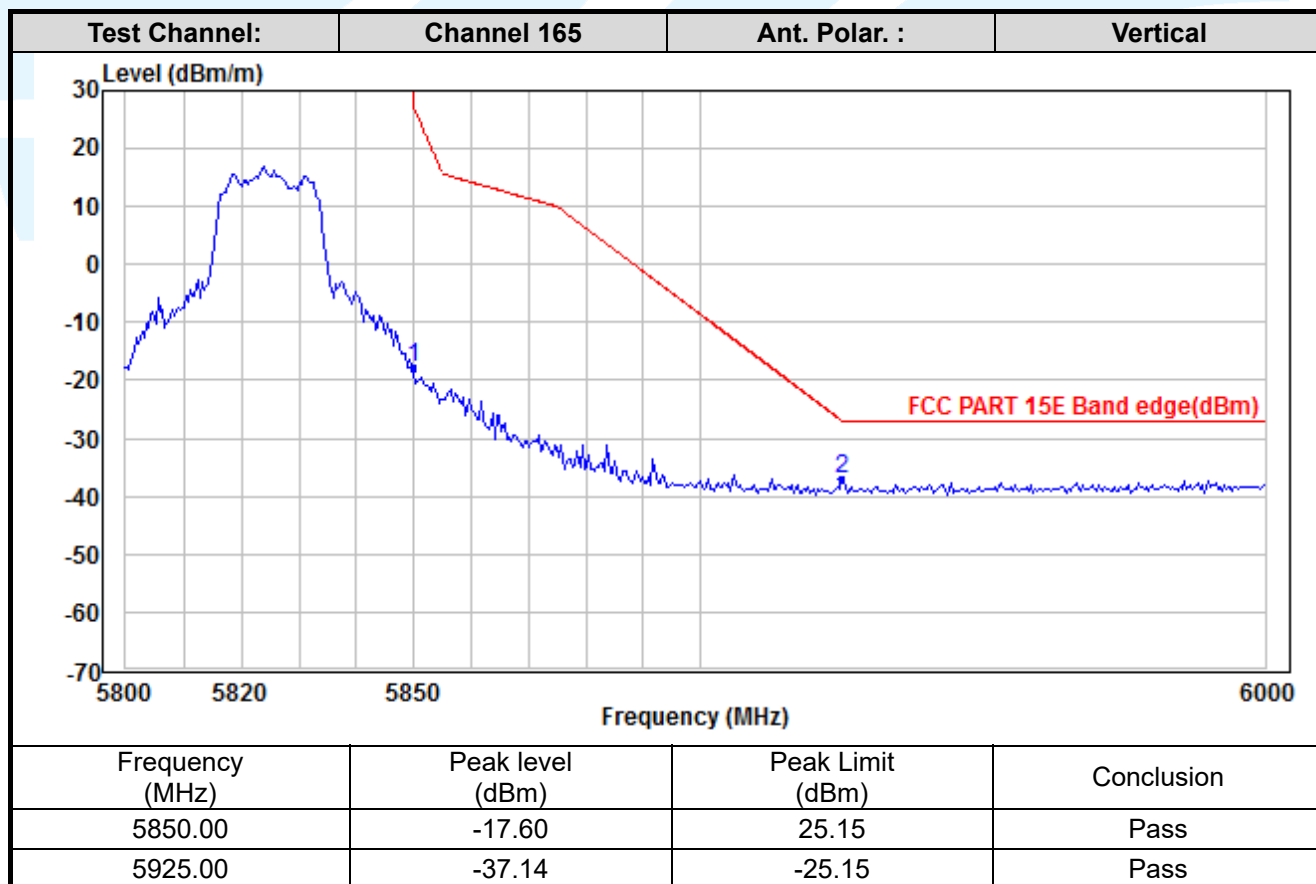
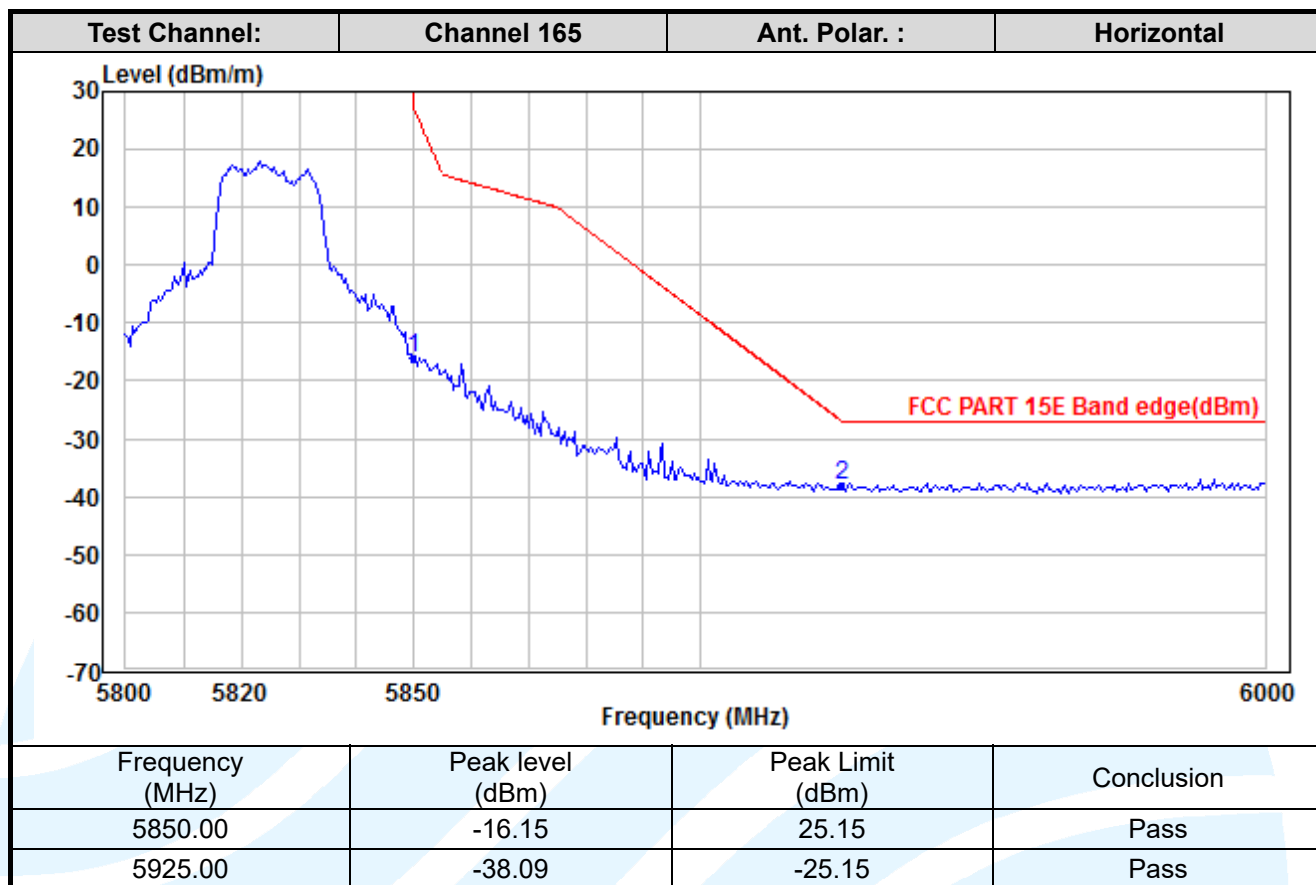




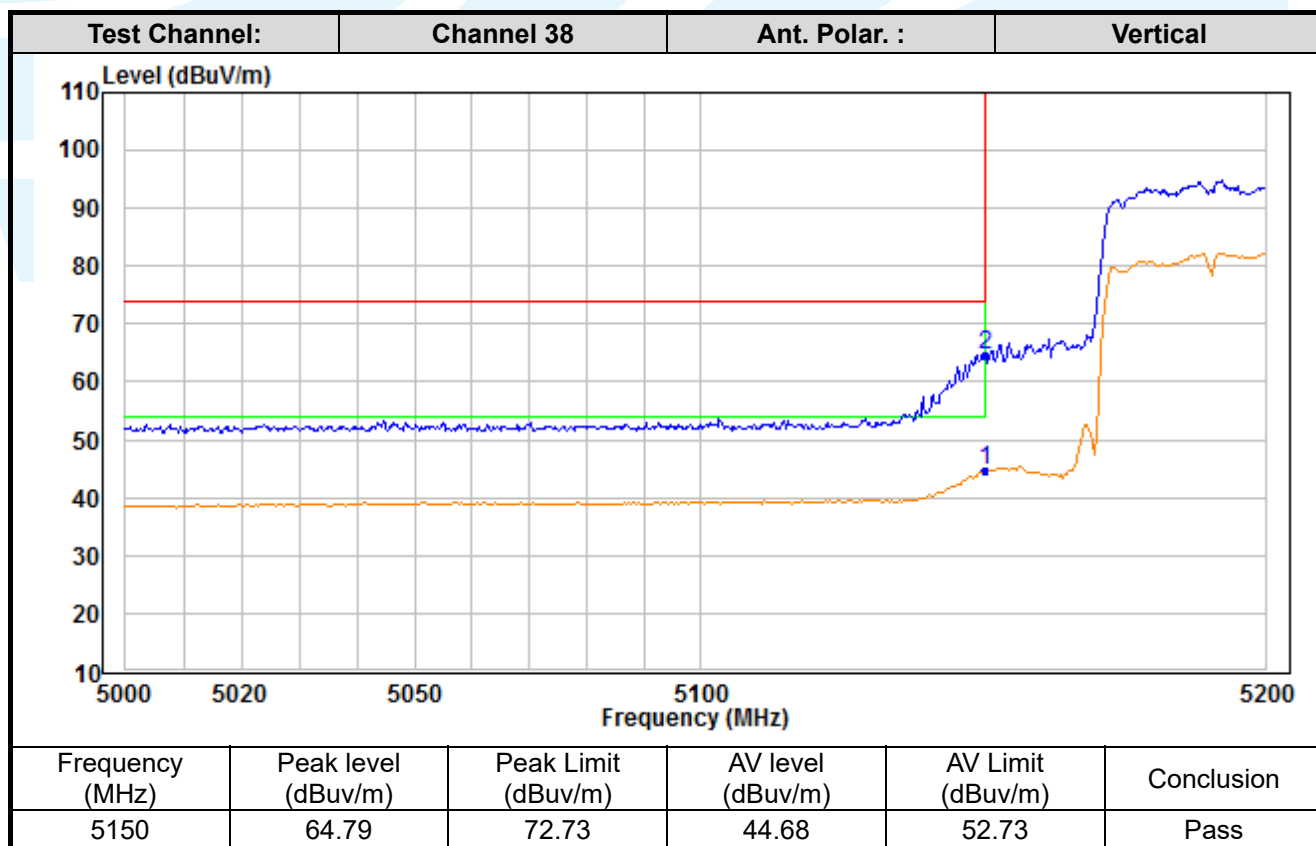
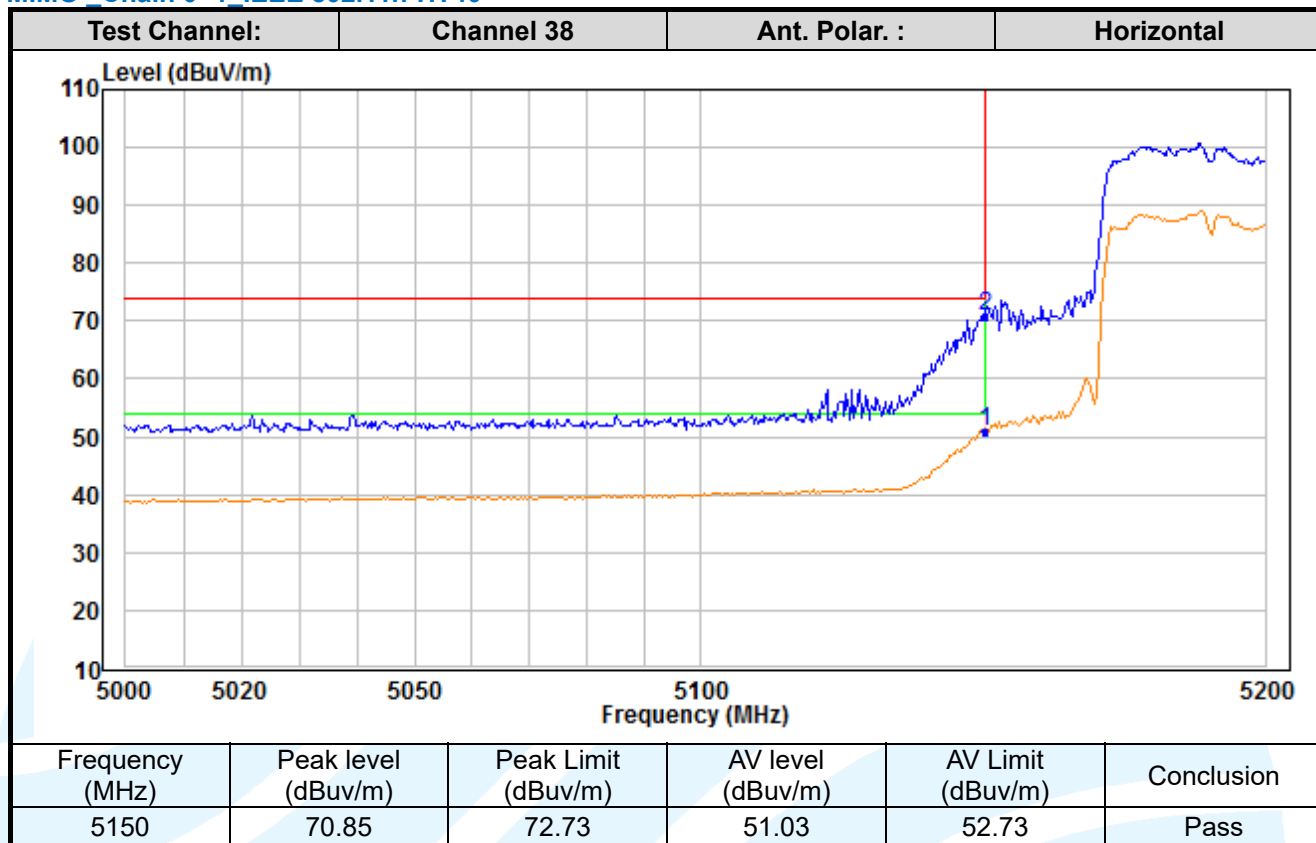


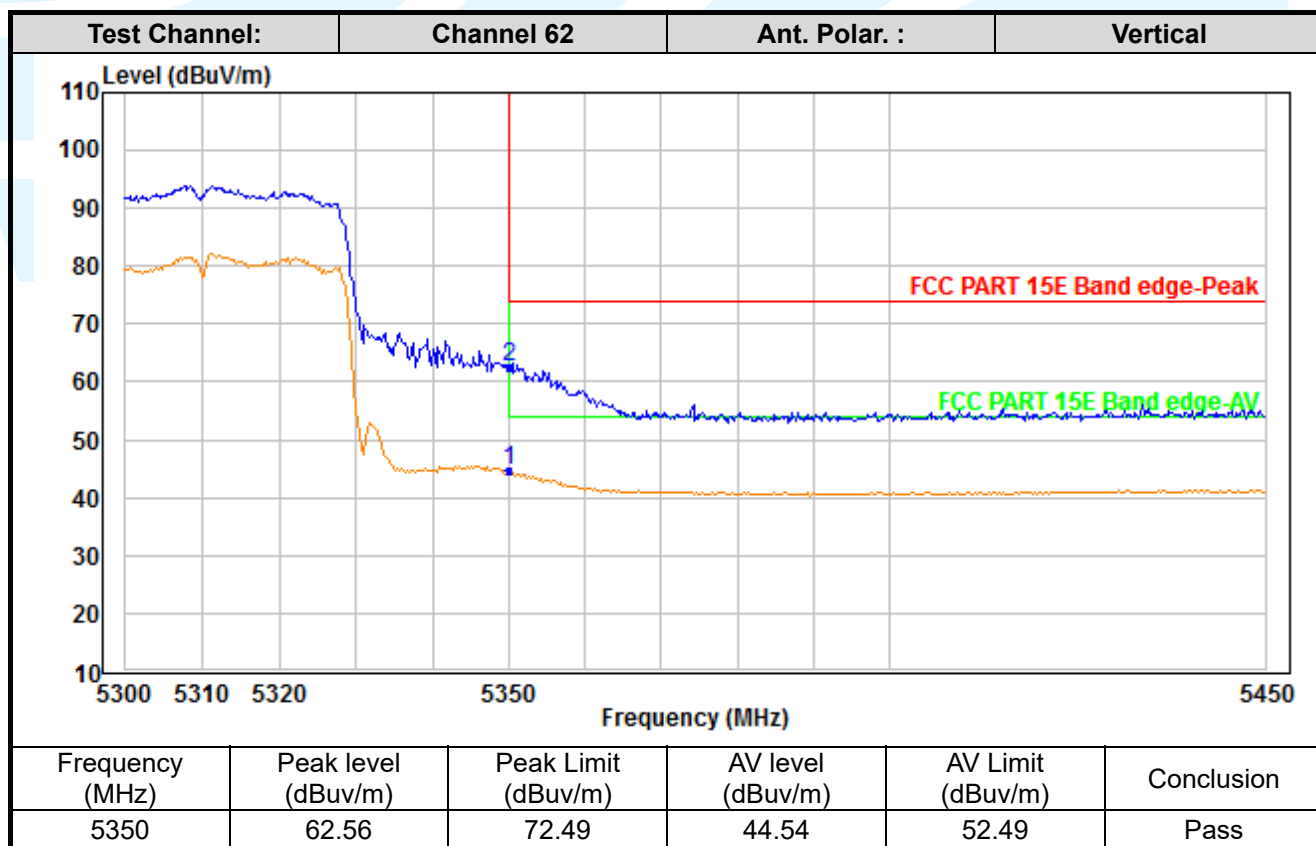
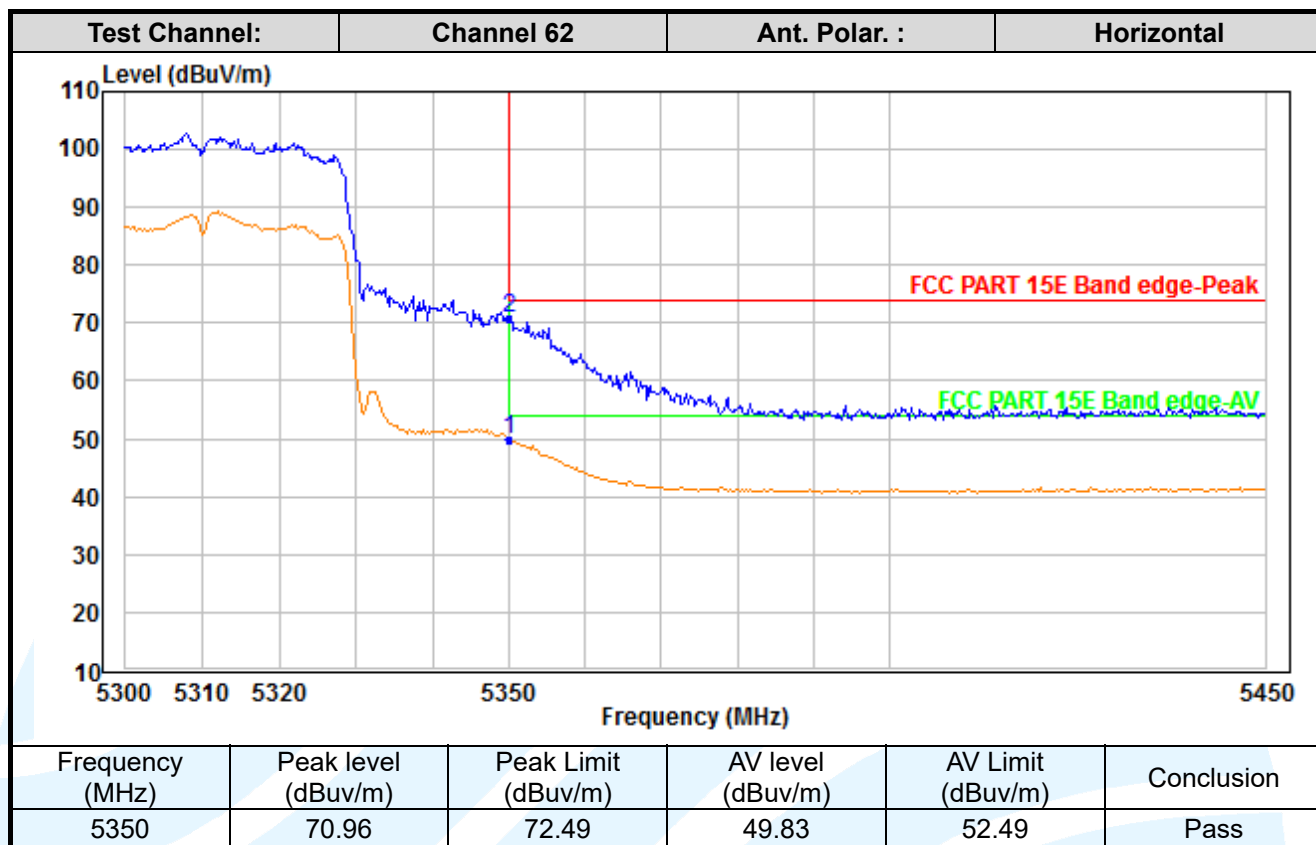


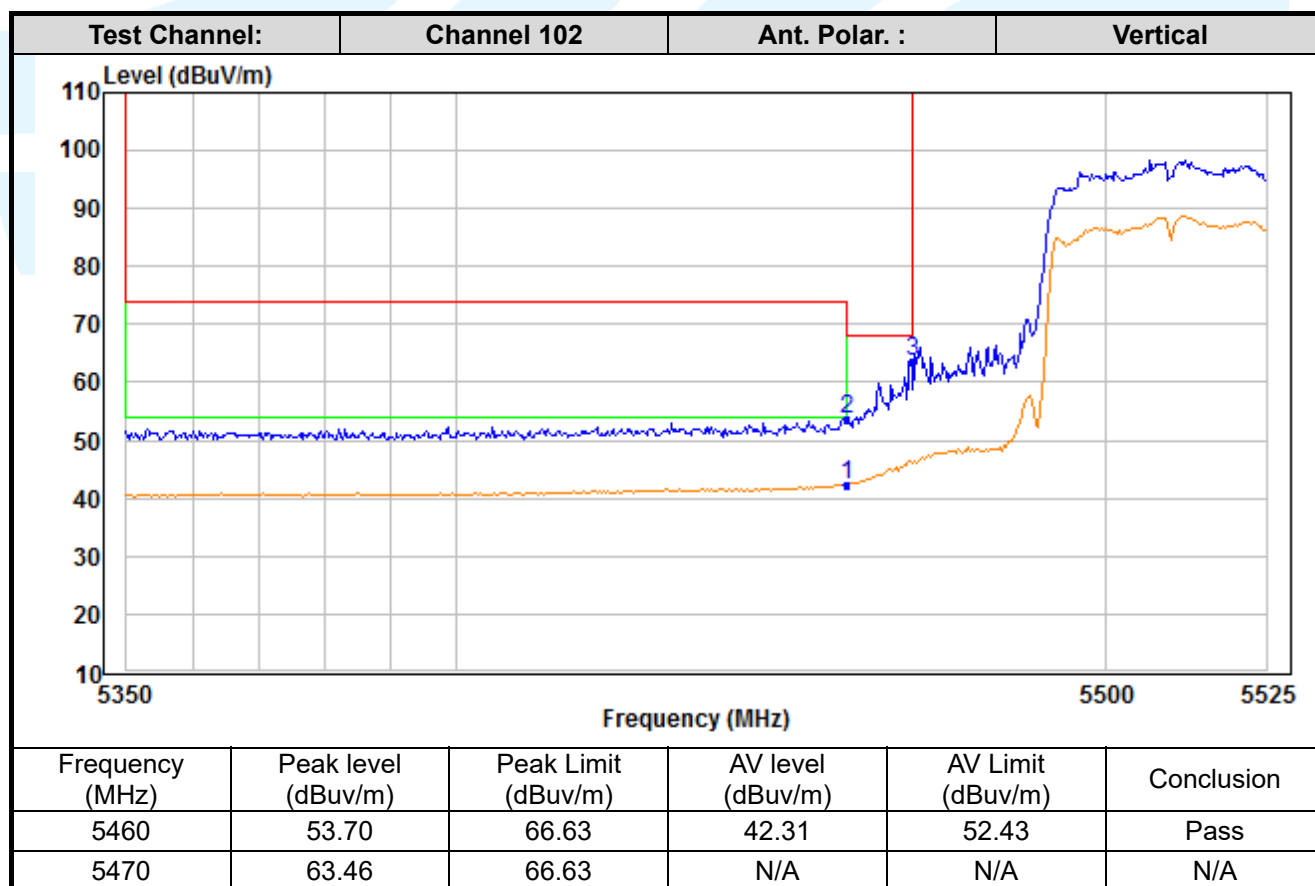
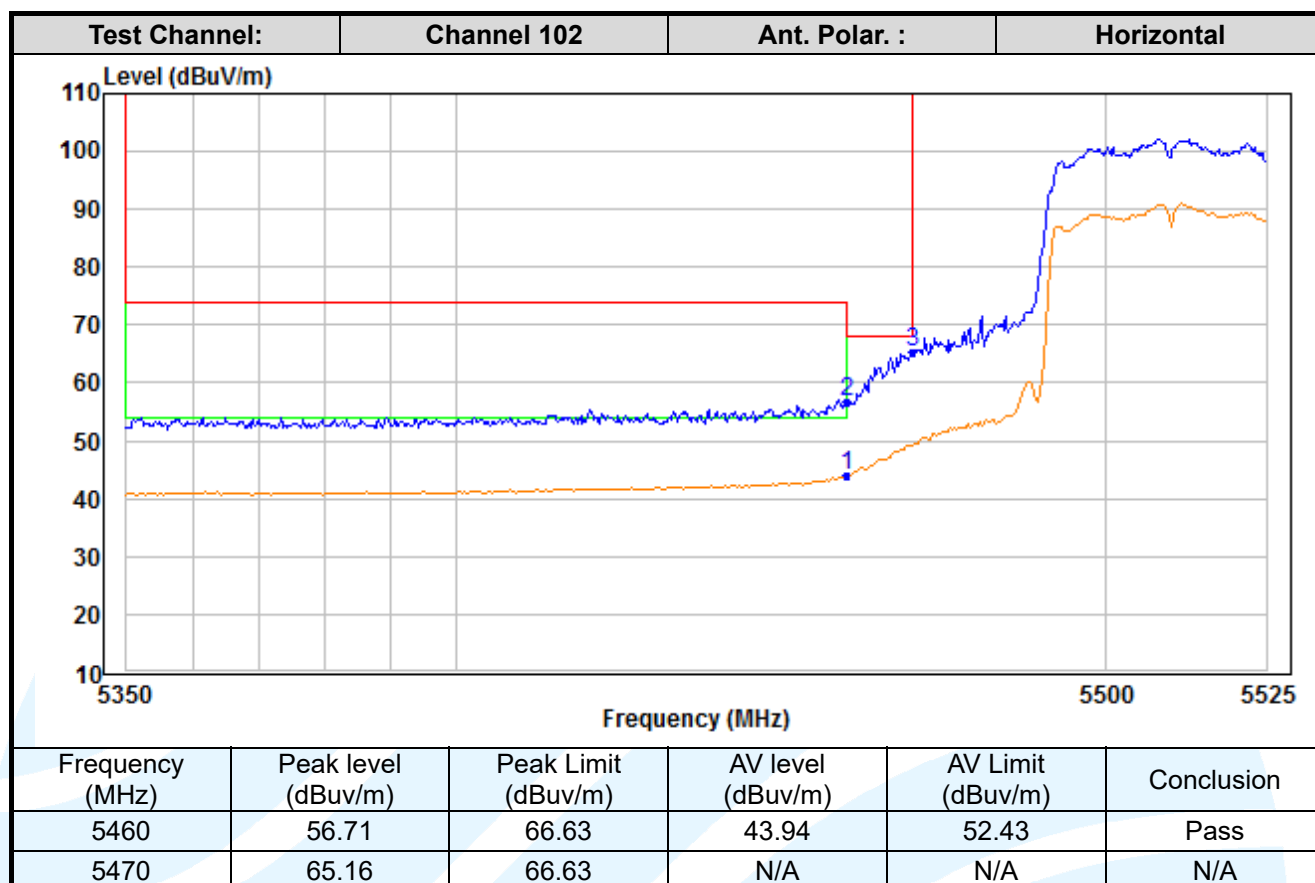


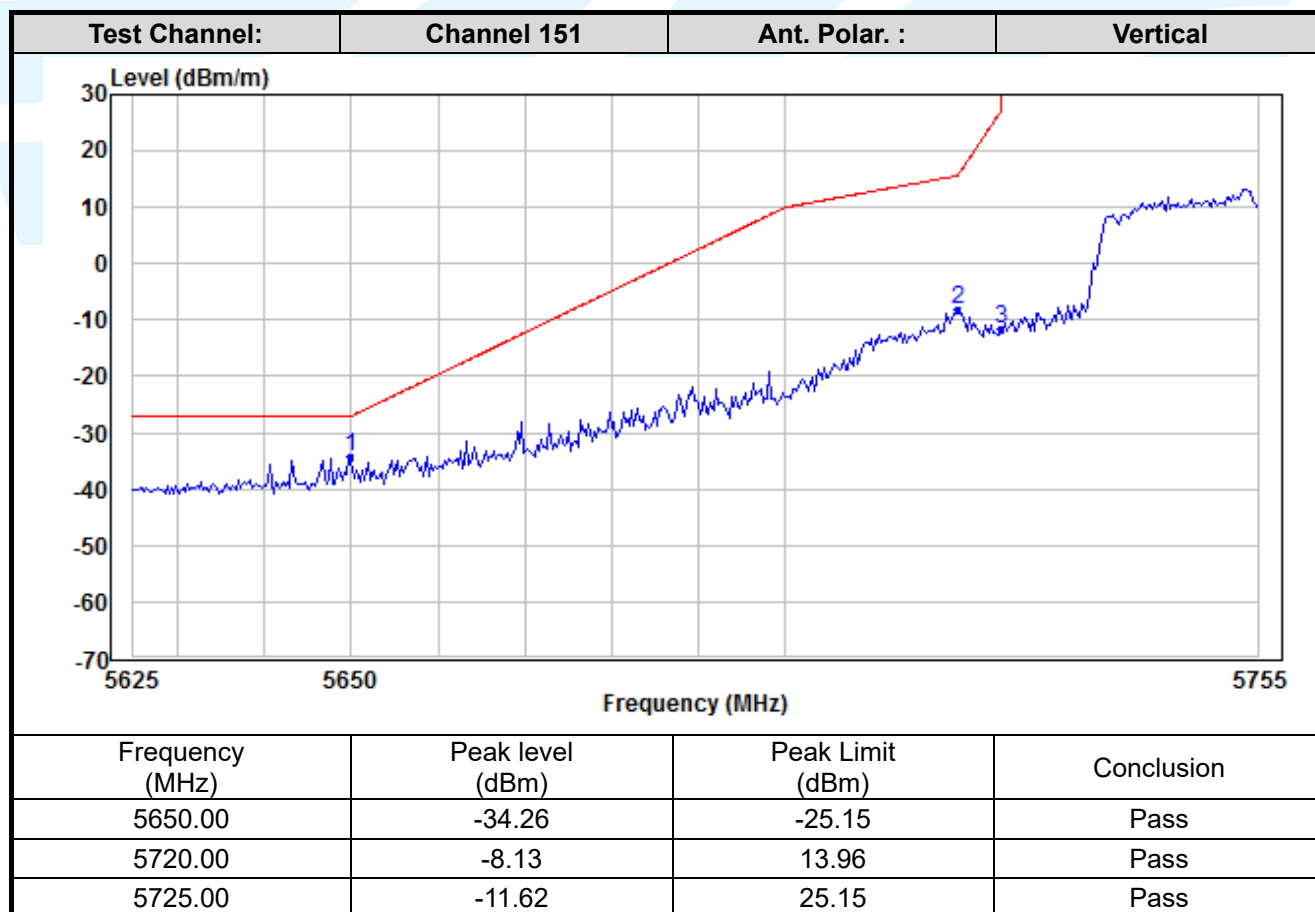
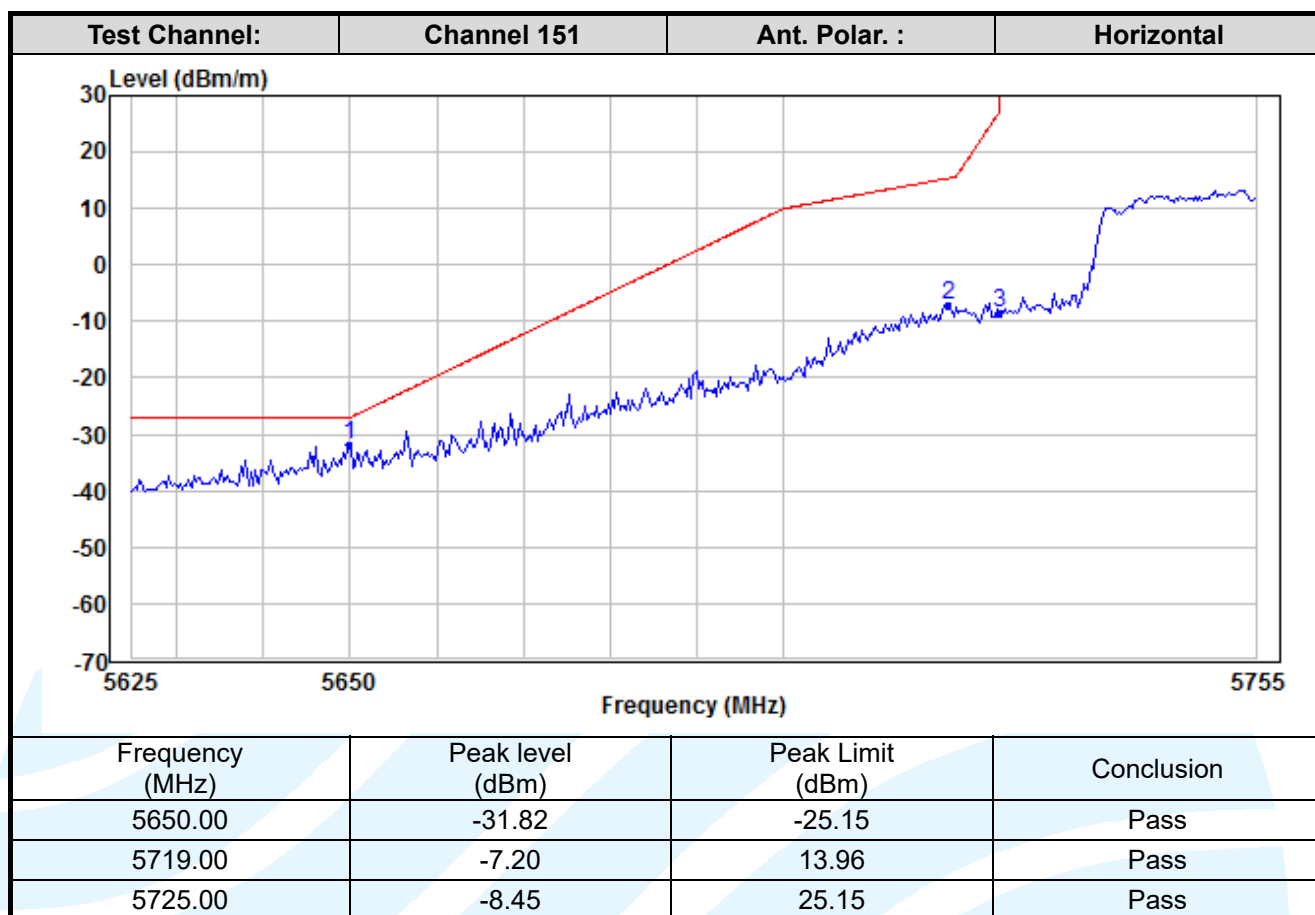


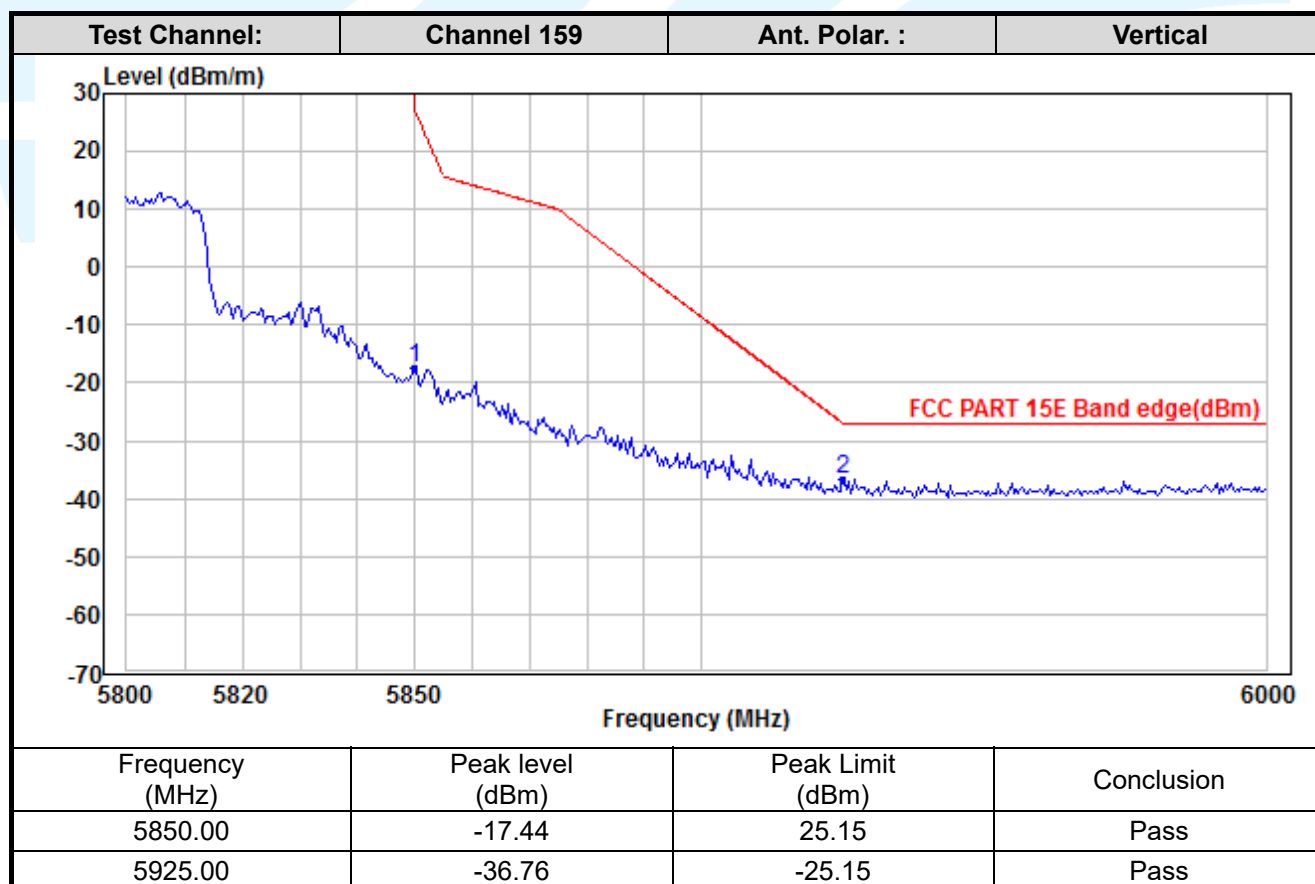
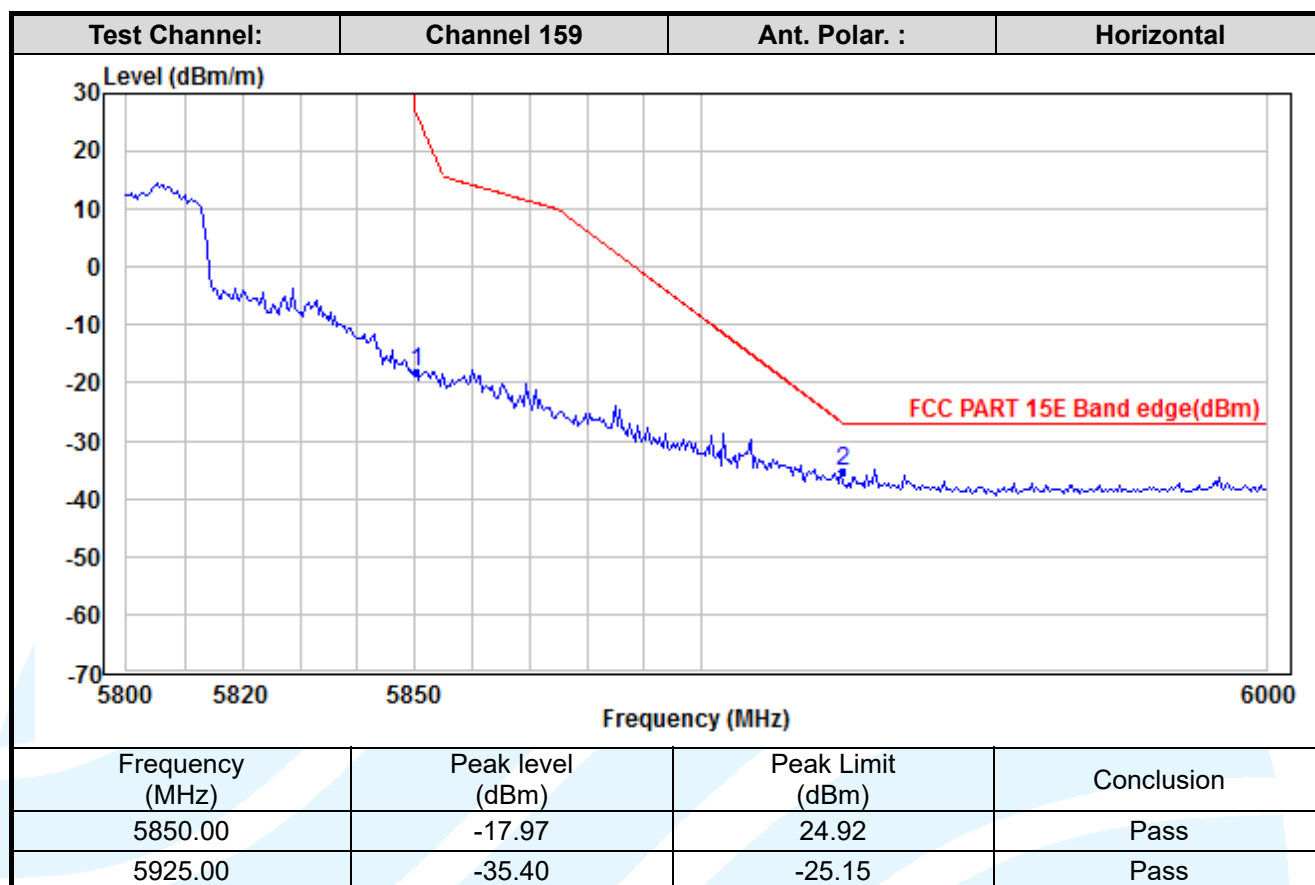
MIMO Chain 0+1 IEEE 802.11n-HT40











APPENDIX 1 PHOTOS OF TEST SETUP

See test photos attached in Appendix 1 for the actual connections between Product and support equipment.

APPENDIX 2 PHOTOS OF EUT CONSTRUCTIONAL DETAILS

Refer to Appendix 2 for EUT external and internal photos.

*** End of Report ***

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