

FCC RADIO TEST REPORT

FCC ID: 2AAWC-1786AIO

Sample: ALL IN ONE

Trade Name: iVIEW

Main Model: 1786AIO

Additional Model: 1780AIO

Report No.: UNIA22022143ER-64

Prepared for

Wiltronic Corporation

13939 Central Ave, Chino, California, 91710, United States

Prepared by

Shenzhen United Testing Technology Co., Ltd.

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TEST RESULT CERTIFICATION

Applicant.....: Wiltronic Corporation

Address.....: 13939 Central Ave, Chino, California, 91710, United States

Manufacturer.....: HOPELAND DIGITAL (SHENZHEN) CO., LTD

Address.....: RM3A02, BLOCK A, DEFENGYUAN INNOVATION VALLEY,
NEIHUAN RD, SANWEI, HANGCHENG STREET, BAO'AN
DISTRICT, SHENZHEN, CHINA

Product description

Product.....: ALL IN ONE

Trade Name.....: iVIEW

Model Name.....: 1786AIO, 1780AIO

Test Methods.....: FCC Rules and Regulations Part 15 Subpart E Section 15.407
KDB 789033 D02 v02r01

This device described above has been tested by Shenzhen United Testing Technology Co., Ltd., and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report. This report shall not be reproduced except in full, without the written approval of UNI, this document may be altered or revised by Shenzhen United Testing Technology Co., Ltd., personnel only, and shall be noted in the revision of the document.

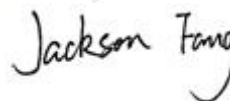
Date of Test.....:

Date (s) of performance of tests.....: Feb. 21, 2022 ~ Mar. 16, 2022

Date of Issue.....: Mar. 23, 2022

Test Result.....: Pass

Prepared by:



Jackson Fang/Editor

kahn.yang

Reviewer:

Kahn yang/Supervisor

Approved & Authorized Signer:



Liuze/Manager

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1. GENERAL INFORMATION

1.1. PRODUCT DESCRIPTION

Product:	ALL IN ONE
Trade Name:	iVIEW
Main Model:	1786AIO
Additional Model:	1780AIO
Model Difference:	All model's the function, software and electric circuit are the same, only with a product color and model named different. Test sample model: 1786AIO.
FCC ID:	2AAWC-1786AIO
Operation Frequency:	5745MHz~5825MHz
Number of Channels:	20MHz: 5CH 40MHz: 2CH 80MHz: 1CH
Modulation Type:	BPSK, QPSK, 16QAM, 64QAM, 128QAM, 256QAM, OFDM
Antenna Type:	Internal Antenna
Antenna Gain:	2dBi
Battery:	DC 7.4V, 2600mAh
Adapter:	M/N: JHD-AP036U-120300AA-A Input: AC 100-240V, 50/60Hz, 1.2A Output: DC 12V, 3.0A
Power Source:	DC 7.4V from Li-battery or DC 12V from adapter with AC 120(240)V/60Hz

Note:

1. The EUT is designed as Client without Radar Detection device
2. The device do not support TPC.

1.2. TABLE OF CARRIER FREQUENCIES

Frequency Band	Channel Number	Frequency
5745 MHz ~ 5825 MHz	149	5745 MHz
	151	5755 MHz
	153	5765 MHz
	155	5775 MHz
	157	5785 MHz
	159	5795 MHz
	161	5805 MHz
	165	5825 MHz

Note:

For 20MHZ bandwidth system use Channel 149,153,157,161,165.

For 40MHZ bandwidth system use Channel 151,159.

For 80MHZ bandwidth system use Channel 155.

2. MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

A. Conducted Measurement:

Test Site	Method	Measurement Frequency Range	U, (dB)	NOTE
UNI	ANSI	9kHz ~ 150kHz	2.96	
		150kHz ~ 30MHz	2.44	

B. Radiated Measurement:

Test Site	Method	Measurement Frequency Range	U, (dB)	NOTE
UNI	ANSI	9kHz ~ 30MHz	2.50	
		30MHz ~ 1000MHz	4.80	
		Above 1000MHz	4.13	

3. DESCRIPTION OF TEST MODES

Mode	Tested channel	Modulation	Date rate(Mbps)
802.11a/n20/ac20	149,157, 165	OFDM	6Mbps/MCS0
802.11n40/ac40	151,159	OFDM	MCS0
802.11ac80	155	42, 155	OFDM

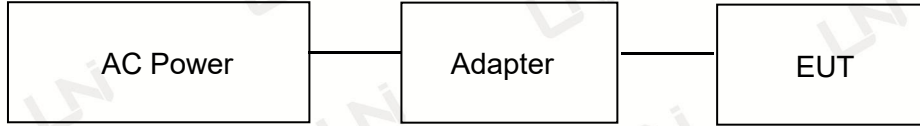
Note:

- The EUT has been set to operate continuously on tested channel individually, and the EUT is operating at its maximum duty cycle>or equal 98%.
- All modes under which configure applicable have been tested and the worst mode test data recording in the test report, if no other mode data.

4. SYSTEM TEST CONFIGURATION

4.1. CONFIGURATION OF EUT SYSTEM

Operation of EUT during Conducted and Radiation testing:



Operation of EUT during Above1GHz Radiation testing:



4.2. EQUIPMENT USED IN EUT SYSTEM

Item	Equipment	Mfr/Brand	Model/Type No.	Remark
1	ALL IN ONE	iVIEW	1786AIO	EUT

4.3. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§15.407	6dB Bandwidth	Compliant
§15.407	Emission Bandwidth	Compliant
§15.407	Maximum conducted output power	Compliant
§15.407	Conducted Spurious Emission	Compliant
§15.407	Maximum Conducted Output Power Density	Compliant
§15.209	Radiated Emission	Compliant
§15.407	Band Edges	Compliant
§15.207	Line Conduction Emission	Compliant

5. TEST FACILITY

Test Laboratory : Shenzhen United Testing Technology Co., Ltd.
Address : 2F, Annex Bldg, Jiahuangyuan Tech Park, #365 Baotian 1 Rd, Tiegang Community, Xixiang Str, Bao'an District, Shenzhen, China

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19. The testing quality system of our laboratory meets with ISO/IEC-17025 requirements. This approval result is accepted by MRA of APLAC.

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

A2LA Certificate Number: 4747.01

The EMC Laboratory has been accredited by A2LA, and in compliance with ISO/IEC 17025:2017 General Requirements for testing Laboratories.

FCC Registration Number: 674885

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission.

IC Registration Number: 21947

The EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada.

6. TEST EQUIPMENT OF CONDUCTED EMISSION TEST

Item	Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
Conduction Emissions Measurement					
1	Conducted Emission Test Software	EZ-EMC	Ver.CCS-3A1-CE	N/A	N/A
2	AMN	Schwarzbeck	NNLK8121	8121370	2022.09.22
3	AAN	TESEQ	T8-Cat6	38888	2022.09.22
4	Pulse Limiter	CYBRTEK	EM5010	E115010056	2022.05.17
5	EMI Test Receiver	Rohde&Schwarz	ESCI	101210	2022.09.22
Radiated Emissions Measurement					
1	Radiated Emission Test Software	EZ-EMC	Ver.CCS-03A1	N/A	N/A
2	Horn Antenna	Sunol	DRH-118	A101415	2022.09.27
3	Broadband Hybrid Antenna	Sunol	JB1	A090215	2024.02.26
4	PREAMP	HP	8449B	3008A00160	2022.09.22
5	PREAMP	HP	8447D	2944A07999	2022.05.17
6	EMI TEST RECEIVER	Rohde&Schwarz	ESR3	101891	2022.09.22
7	VECTOR Signal Generator	Rohde&Schwarz	SMU200A	101521	2022.09.22
8	Signal Generator	Agilent	E4421B	MY4335105	2022.09.22
9	MXA Signal Analyzer	Agilent	N9020A	MY50510140	2022.09.22
10	MXA Signal Analyzer	Keysight	N9020A	MY51110104	2022.09.22
11	RF Power sensor	DARE	RPR3006W	15I00041SNO88	2022.05.17
12	RF Power sensor	DARE	RPR3006W	15I00041SNO89	2022.05.17
13	RF power divider	Anritsu	K241B	992289	2022.09.22
14	Wideband radio communication tester	Rohde&Schwarz	CMW500	154987	2022.09.22
15	Active Loop Antenna	Com-Power	AL-130R	10160009	2022.07.25
16	Broadband Hybrid Antennas	Schwarzbeck	VULB9163	VULB9163#958	2022.09.22
17	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1680	2022.05.23
18	Horn Antenna	A-INFOMW	LB-180400-KF	J211060660	2022.09.27
19	Microwave Broadband Preamplifier	Schwarzbeck	BBV 9721	100472	2022.09.22
20	Signal Generator	Agilent	N5183A	MY47420153	2022.09.22
21	Spectrum Analyzer	Rohde&Schwarz	FSP 40	100501	2022.09.22
22	Power Meter	KEYSIGHT	N1911A	MY50520168	2022.09.22
23	Frequency Meter	VICTOR	VC2000	997406086	2022.09.22
24	DC Power Source	HYELEC	HY5020E	055161818	2022.09.22

7. MAXIMUM CONDUCTED OUTPUT POWER

7.1. MEASUREMENT PROCEDURE

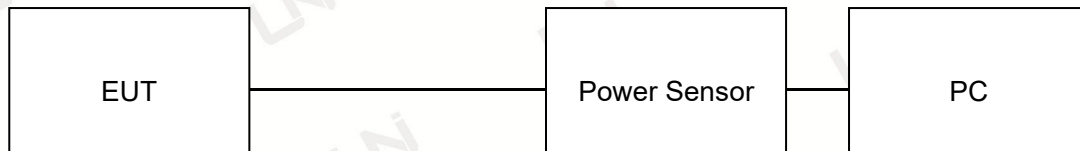
For average power test:

1. Connect EUT RF output port to power sensor through an RF attenuator.
2. Connect the power sensor to the PC.
3. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
4. Record the maximum power from the software.

Note: The EUT was tested according to KDB 789033 D02 v02r01 for compliance to FCC 47CFR 15.407 requirements.

7.2. TEST SET-UP

AVERAGE POWER SETUP



7.3. LIMITS AND MEASUREMENT RESULT

LIMITS AND MEASUREMENT RESULT FOR 802.11A20 MODULATION			
Frequency (MHz)	Average Power (dBm)	Applicable Limits (dBm)	Pass or Fail
5745	9.65	30	Pass
5785	9.45	30	Pass
5825	9.52	30	Pass

LIMITS AND MEASUREMENT RESULT FOR 802.11N20 MODULATION			
Frequency (MHz)	Average Power (dBm)	Applicable Limits (dBm)	Pass or Fail
5745	9.63	30	Pass
5785	9.52	30	Pass
5825	9.45	30	Pass

LIMITS AND MEASUREMENT RESULT FOR 802.11AC20 MODULATION			
Frequency (MHz)	Average Power (dBm)	Applicable Limits (dBm)	Pass or Fail
5745	9.34	30	Pass
5785	9.43	30	Pass
5825	9.52	30	Pass

LIMITS AND MEASUREMENT RESULT FOR 802.11N40 MODULATION			
Frequency (MHz)	Average Power (dBm)	Applicable Limits (dBm)	Pass or Fail
5755	8.64	30	Pass
5795	8.54	30	Pass

LIMITS AND MEASUREMENT RESULT FOR 802.11AC40 MODULATION			
Frequency (MHz)	Average Power (dBm)	Applicable Limits (dBm)	Pass or Fail
5755	8.43	30	Pass
5795	8.74	30	Pass

LIMITS AND MEASUREMENT RESULT FOR 802.11AC80 MODULATION			
Frequency (MHz)	Average Power (dBm)	Applicable Limits (dBm)	Pass or Fail
5775	8.26	30	Pass

8. -6dB BANDWIDTH

8.1.1 -6dB BANDWIDTH MEASUREMENT PROCEDURE

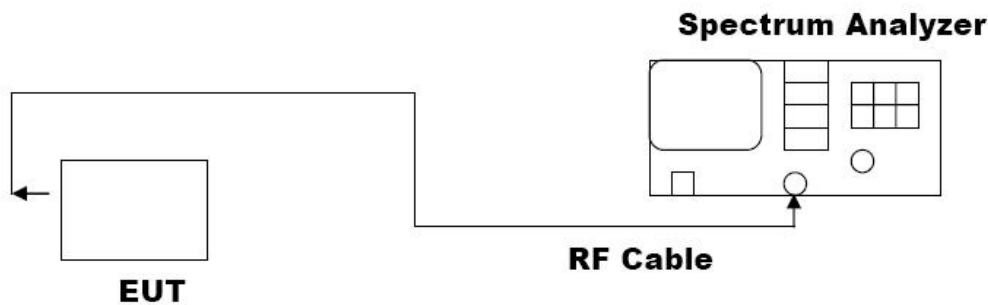
1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on operation frequency individually.
3. Set RBW = 100kHz.
4. Set the VBW $\geq 3 \times$ RBW. Detector = Peak. Trace mode = max hold.
5. Measure the maximum width of the emission that is 6 dB down from the peak of the emission.

8.1.2 99% OCCUPIED BANDWIDTH

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
3. Set Span = approximately 1.5 to 5 times the OBW, centered on a nominal channel
The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW and video bandwidth (VBW) shall be approximately three times RBW; Sweep = auto; Detector function = peak
4. Set SPA Trace 1 Max hold, then View.

Note: The EUT was tested according to KDB 789033 D02 v02r01 for compliance to FCC 47CFR 15.407 requirements.

8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



8.3. LIMITS AND MEASUREMENT RESULTS

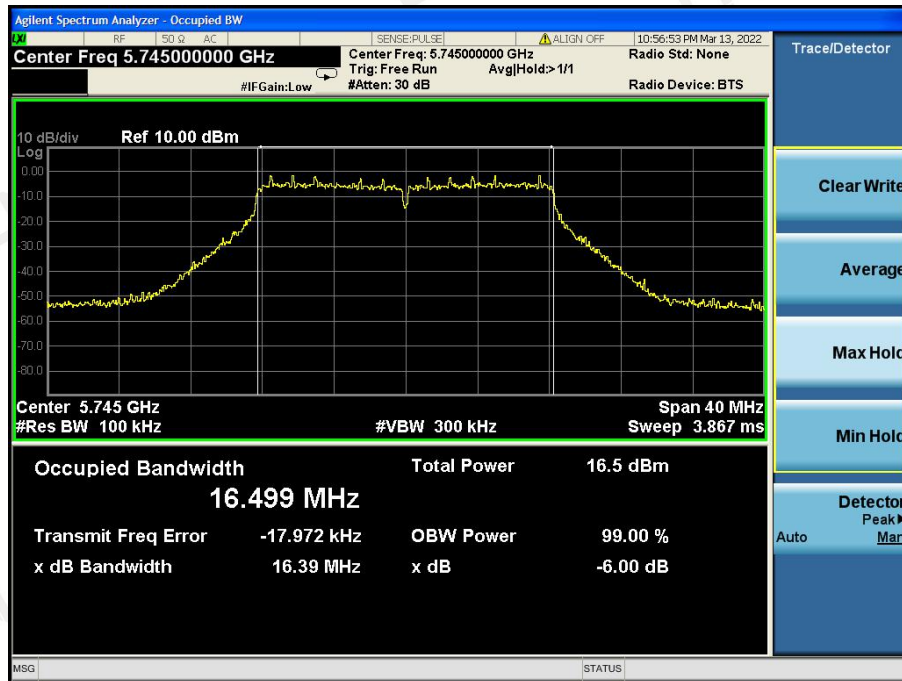
LIMITS AND MEASUREMENT RESULT FOR 802.11A20 MODULATION				
Applicable Limits	Applicable Limits			
	Test Data (MHz)			Criteria
	Frequency (MHz)	-6dB Bandwidth	99.00% Occupied Bandwidth	
>500KHZ	5745MHz	16.39	16.499	PASS
	5785MHz	16.39	16.480	PASS
	5825MHz	15.40	16.500	PASS

LIMITS AND MEASUREMENT RESULT FOR 802.11N20/40 MODULATION				
Applicable Limits	Applicable Limits			
	Test Data (MHz)			Criteria
	Frequency (MHz)	-6dB Bandwidth	99.00% Occupied Bandwidth	
>500KHZ	5745MHz	17.60	17.638	PASS
	5785MHz	17.58	17.628	PASS
	5825MHz	17.57	17.637	PASS
	5755MHz	36.12	36.131	PASS
	5795MHz	36.14	36.110	PASS

LIMITS AND MEASUREMENT RESULT FOR 802.11AC20/40/80 MODULATION				
Applicable Limits	Applicable Limits			
	Test Data (MHz)			Criteria
	Frequency (MHz)	-6dB Bandwidth	99.00% Occupied Bandwidth	
>500KHZ	5745MHz	17.58	17.657	PASS
	5785MHz	17.57	17.635	PASS
	5825MHz	17.58	17.640	PASS
	5755MHz	35.98	36.139	PASS
	5795MHz	36.07	36.117	PASS
	5775MHz	75.23	75.108	PASS

802.11a20 TEST RESULT

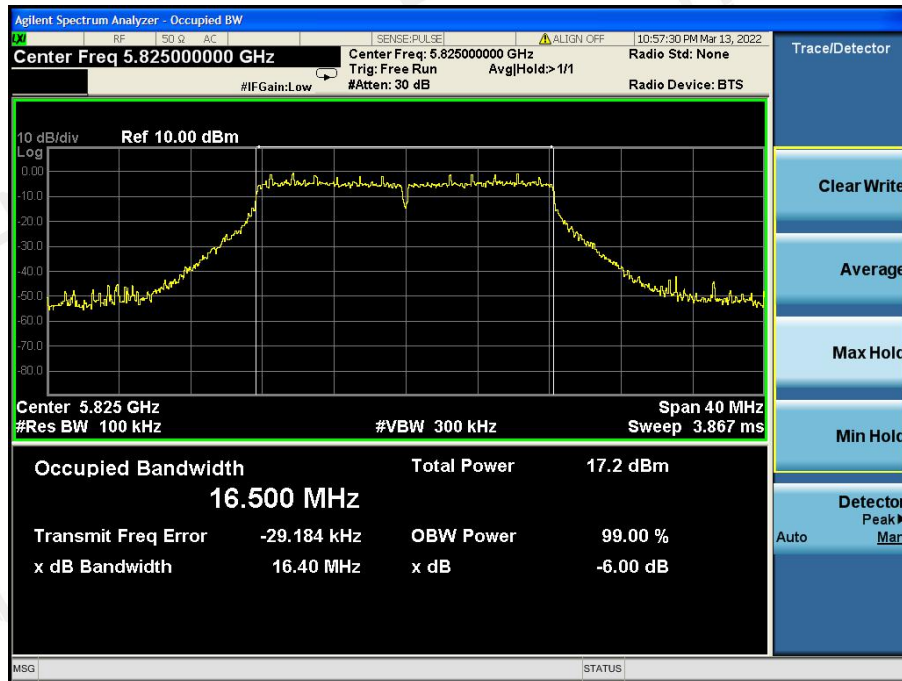
BANDWIDTH FOR 5745MHz (-6dB BANDWIDTH)



BANDWIDTH FOR 5785MHz (-6dB BANDWIDTH)

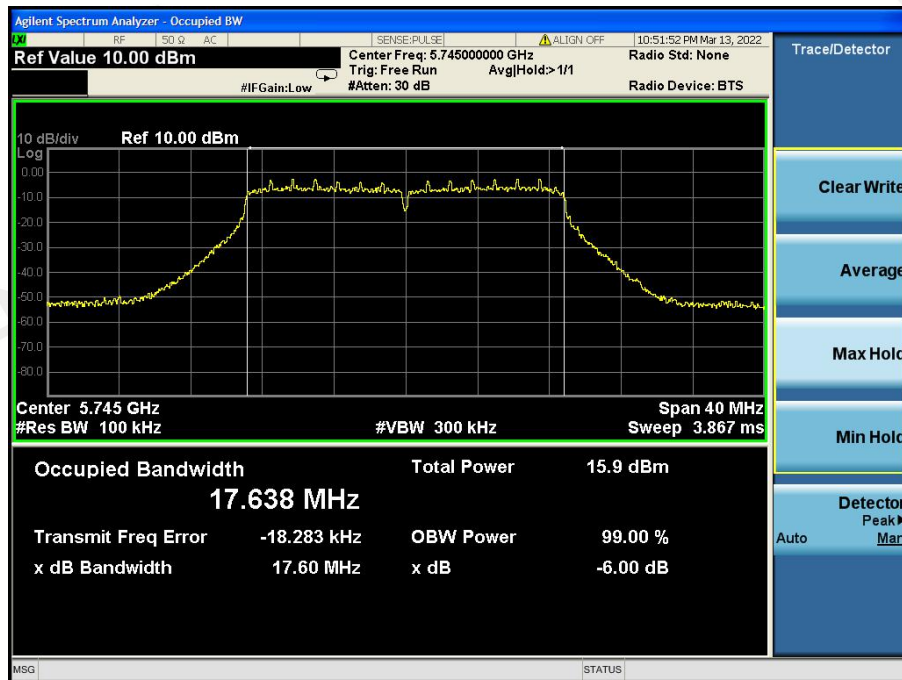


BANDWIDTH FOR 5825MHz (-6dB BANDWIDTH)

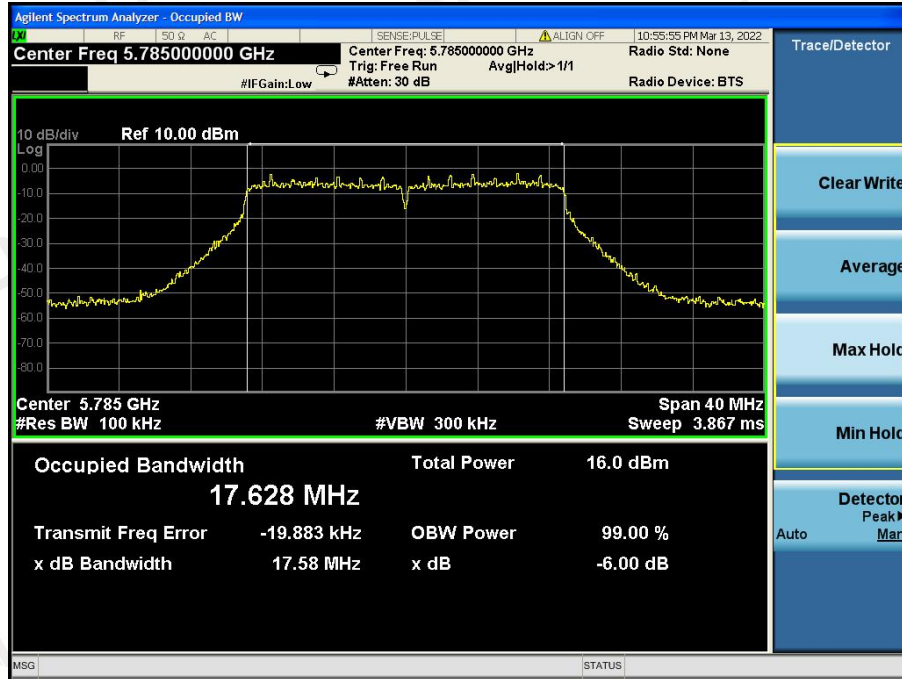


802.11n20 TEST RESULT

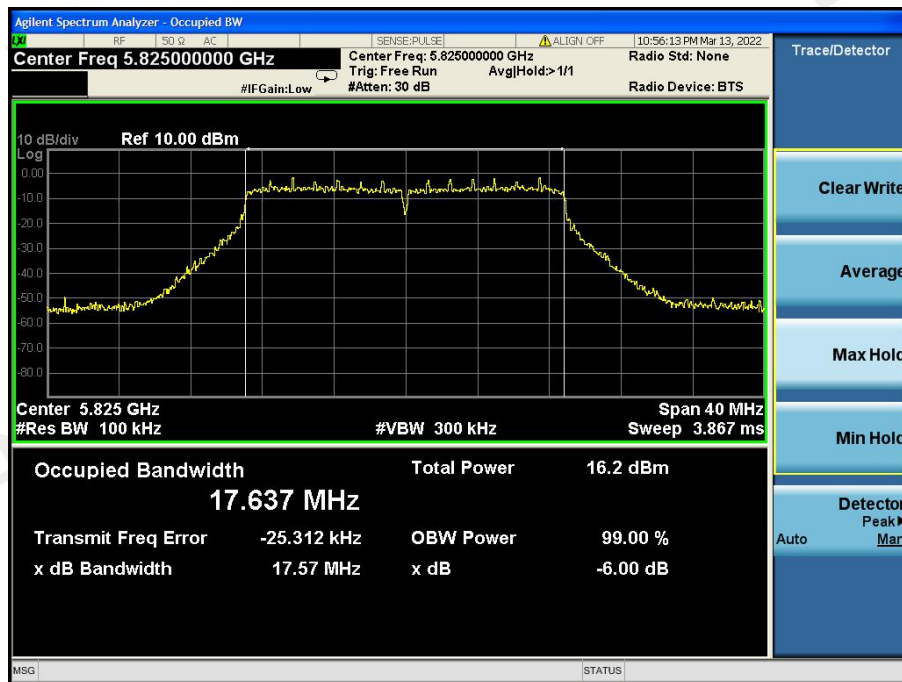
BANDWIDTH FOR 5745MHz (-6dB BANDWIDTH)



BANDWIDTH FOR 5785MHz (-6dB BANDWIDTH)

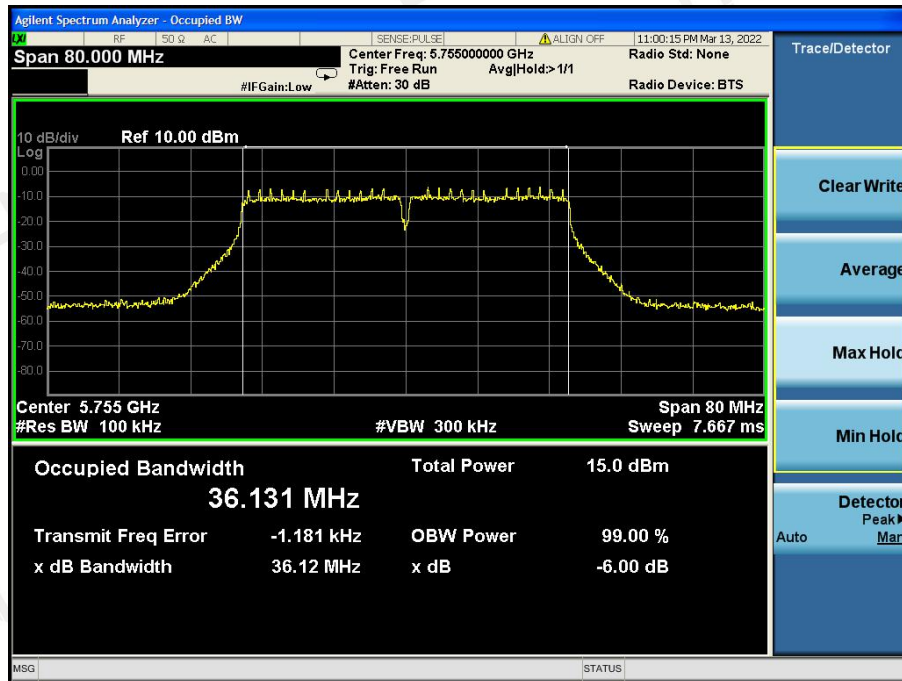


BANDWIDTH FOR 5825MHz (-6dB BANDWIDTH)

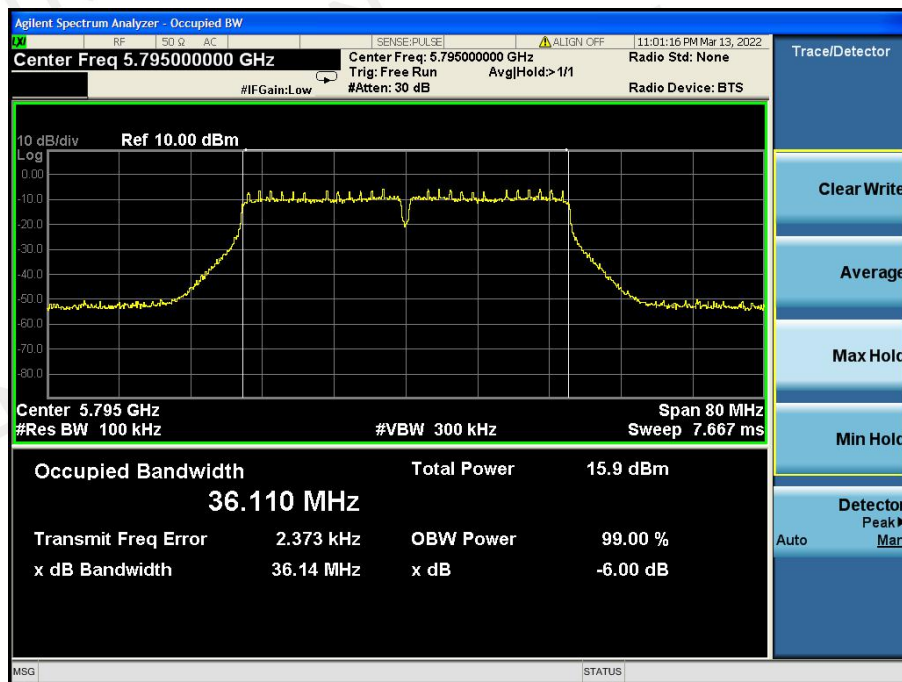


802.11n40 TEST RESULT

BANDWIDTH FOR 5755MHz (-6dB BANDWIDTH)

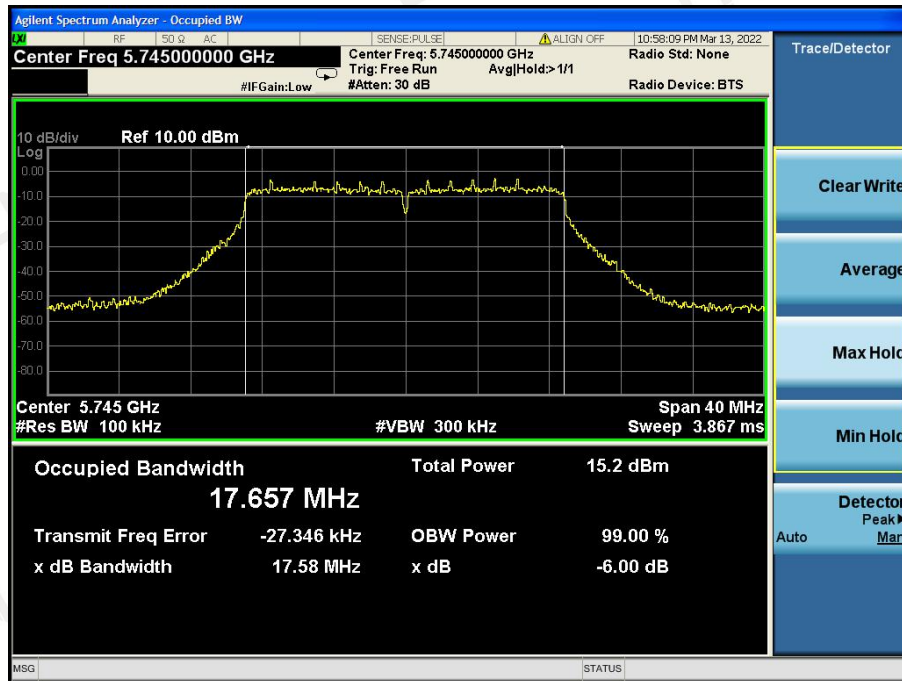


BANDWIDTH FOR 5795MHz (-6dB BANDWIDTH)



802.11ac20 TEST RESULT

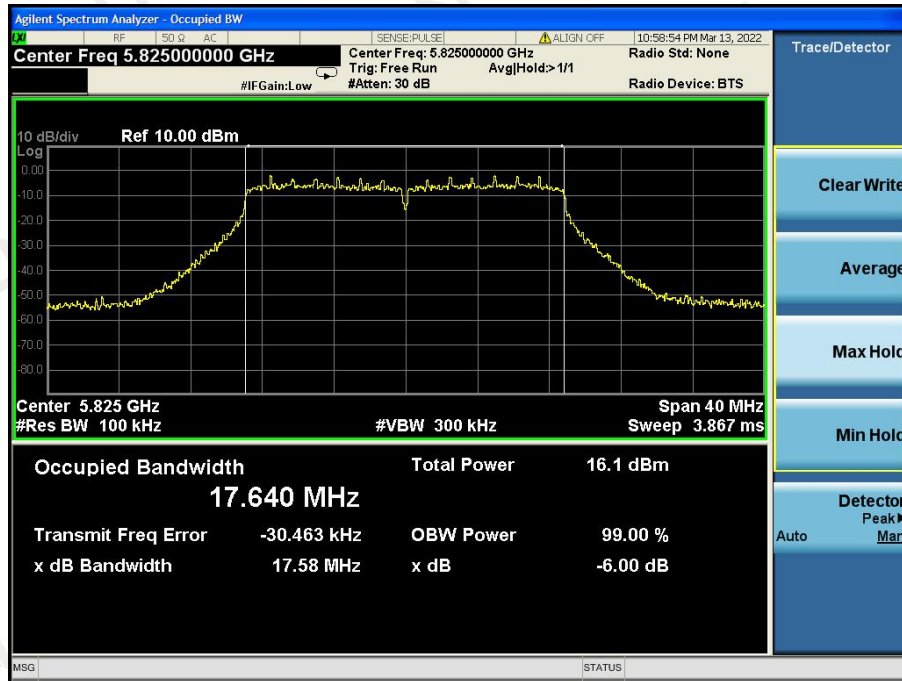
BANDWIDTH FOR 5745MHz (-6dB BANDWIDTH)



BANDWIDTH FOR 5785MHz (-6dB BANDWIDTH)

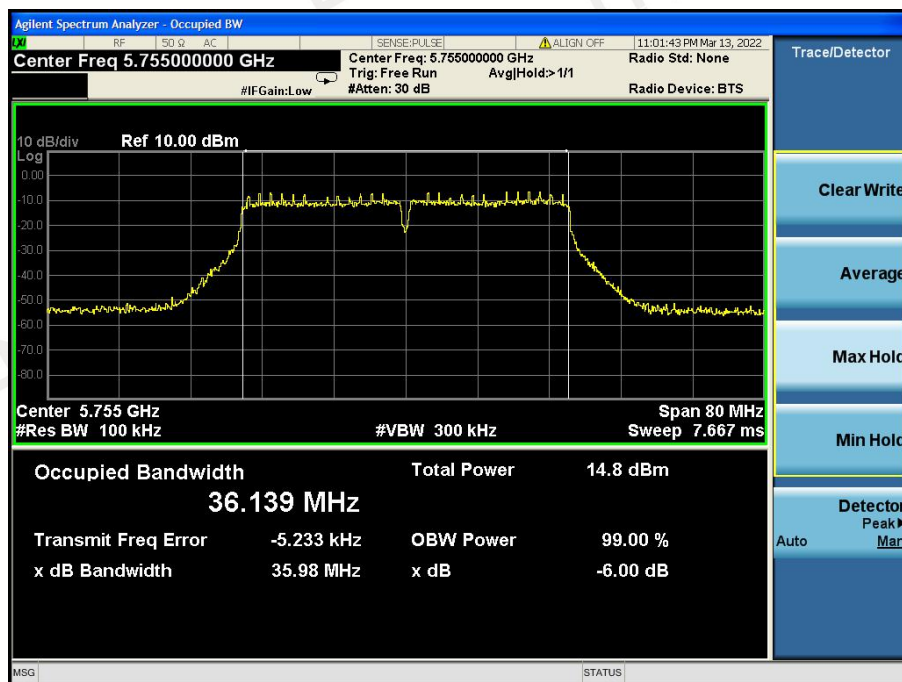


BANDWIDTH FOR 5825MHz (-6dB BANDWIDTH)

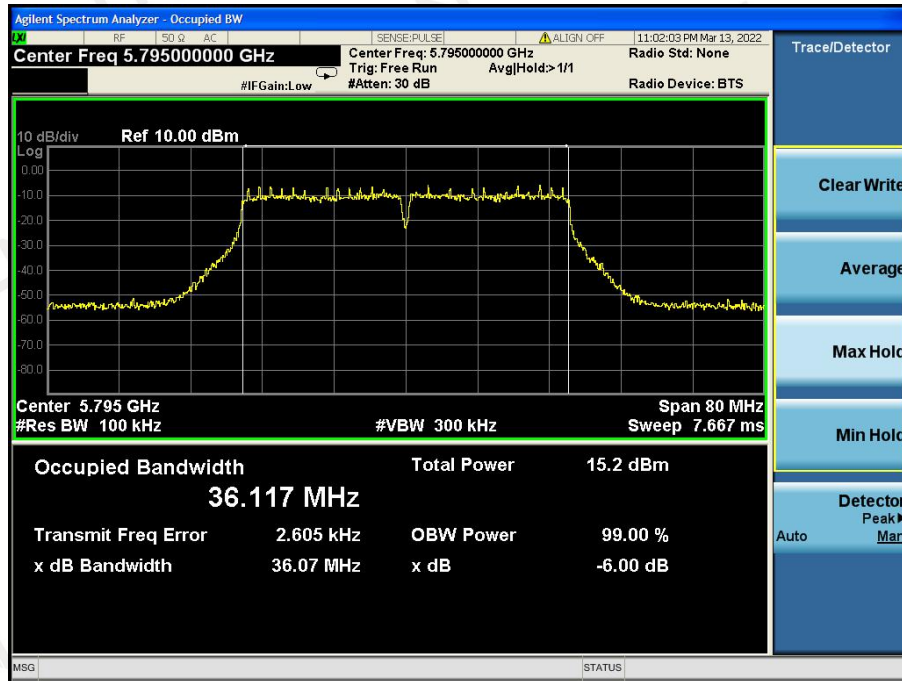


802.11ac40 TEST RESULT

BANDWIDTH FOR 5755MHz (-6dB BANDWIDTH)

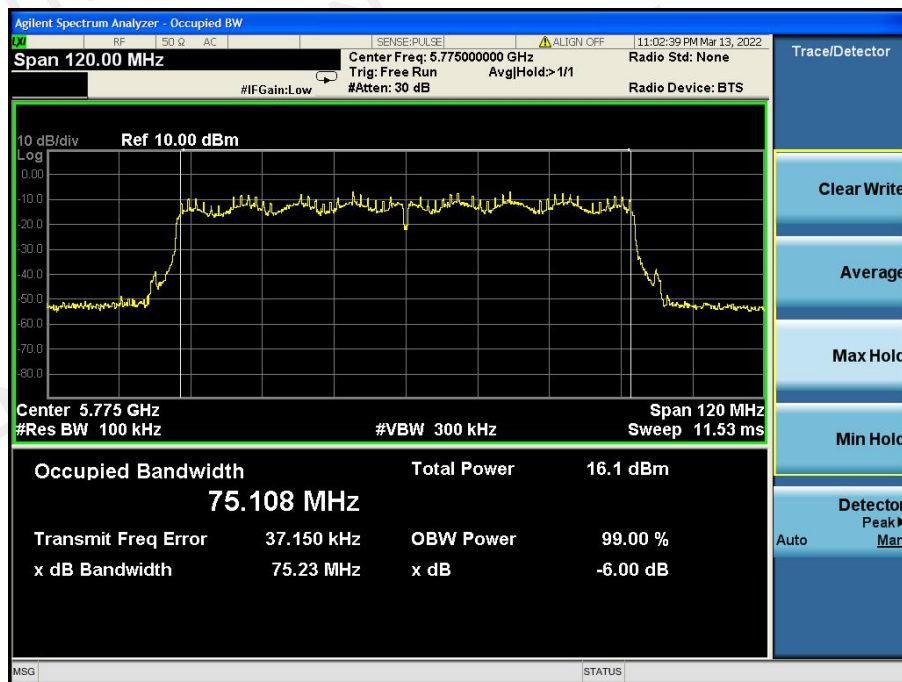


BANDWIDTH FOR 5795MHz (-6dB BANDWIDTH)



802.11ac80 TEST RESULT

BANDWIDTH FOR 5775MHz (-6dB BANDWIDTH)



9. MAXIMUM CONDUCTED OUTPUT AVERAGE POWER SPECTRAL DENSITY

9.1 MEASUREMENT PROCEDURE

Refer to KDB 789033 D02 v02r01 section F

9.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

Refer To Section 8.2.

9.3 MEASUREMENT EQUIPMENT USED

Refer To Section 6.

9.4 LIMITS AND MEASUREMENT RESULT

LIMITS AND MEASUREMENT RESULT FOR 802.11A20 MODULATION			
Frequency (MHz)	Power density (30dBm/500kHz)	Applicable Limits (30dBm/500kHz)	Pass or Fail
5745	2.408	30	Pass
5785	3.348	30	Pass
5825	3.874	30	Pass

LIMITS AND MEASUREMENT RESULT FOR 802.11N20 MODULATION			
Frequency (MHz)	Power density (30dBm/500kHz)	Applicable Limits (30dBm/500kHz)	Pass or Fail
5745	0.501	30	Pass
5785	1.093	30	Pass
5825	1.300	30	Pass

LIMITS AND MEASUREMENT RESULT FOR 802.11N40 MODULATION			
Frequency (MHz)	Power density (30dBm/500kHz)	Applicable Limits (30dBm/500kHz)	Pass or Fail
5755	-2.338	30	Pass
5795	-3.310	30	Pass

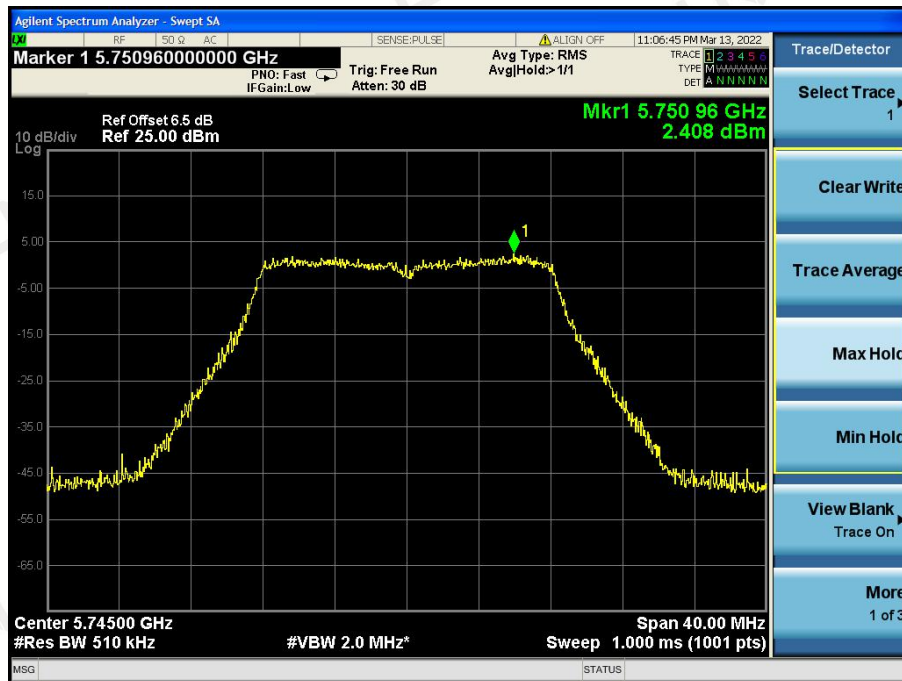
LIMITS AND MEASUREMENT RESULT FOR 802.11AC20 MODULATION			
Frequency (MHz)	Power density (30dBm/500kHz)	Applicable Limits (30dBm/500kHz)	Pass or Fail
5745	3.257	30	Pass
5785	3.002	30	Pass
5825	3.627	30	Pass

LIMITS AND MEASUREMENT RESULT FOR 802.1AC40 MODULATION			
Frequency (MHz)	Power density (30dBm/500kHz)	Applicable Limits (30dBm/500kHz)	Pass or Fail
5755	-2.461	30	Pass
5795	-2.675	30	Pass

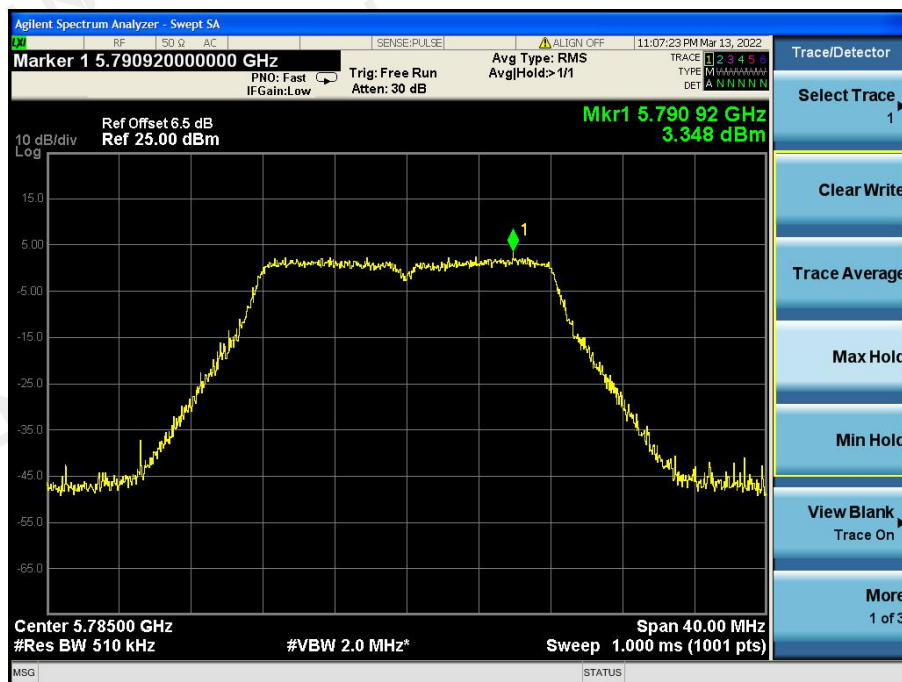
LIMITS AND MEASUREMENT RESULT FOR 802.1AC80 MODULATION			
Frequency (MHz)	Power density (30dBm/500kHz)	Applicable Limits (30dBm/500kHz)	Pass or Fail
5775	-2.626	30	Pass

802.11a20 TEST RESULT

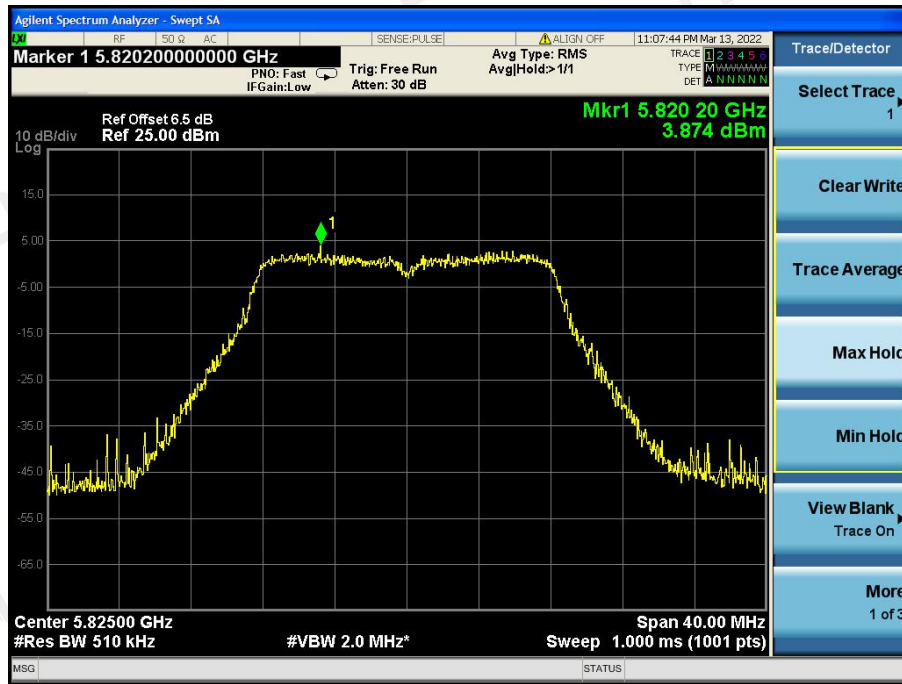
SPECTRAL DENSITY FOR 5745MHz



SPECTRAL DENSITY FOR 5785MHz

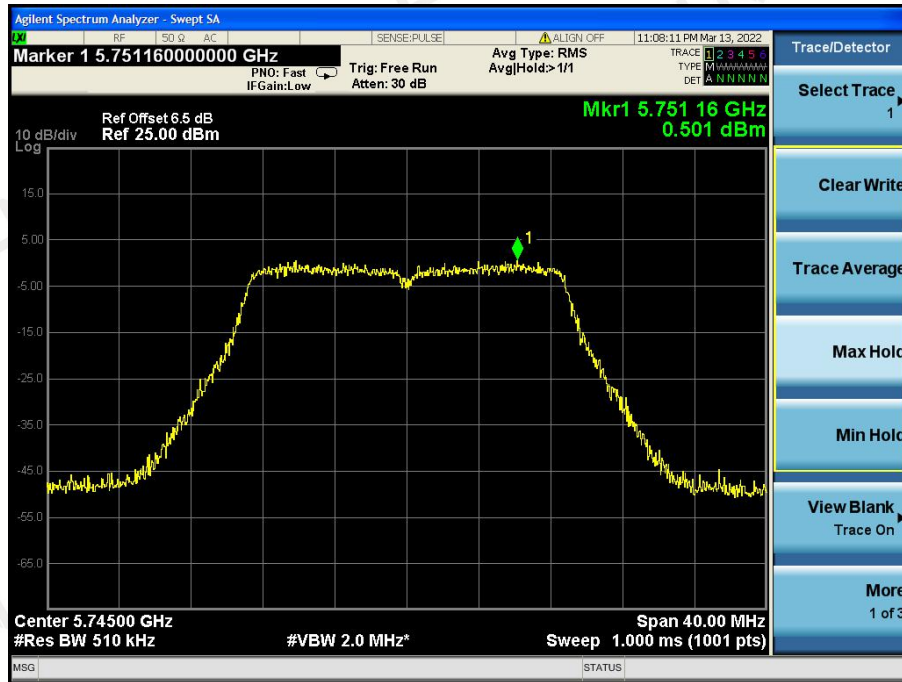


SPECTRAL DENSITY FOR 5825MHz

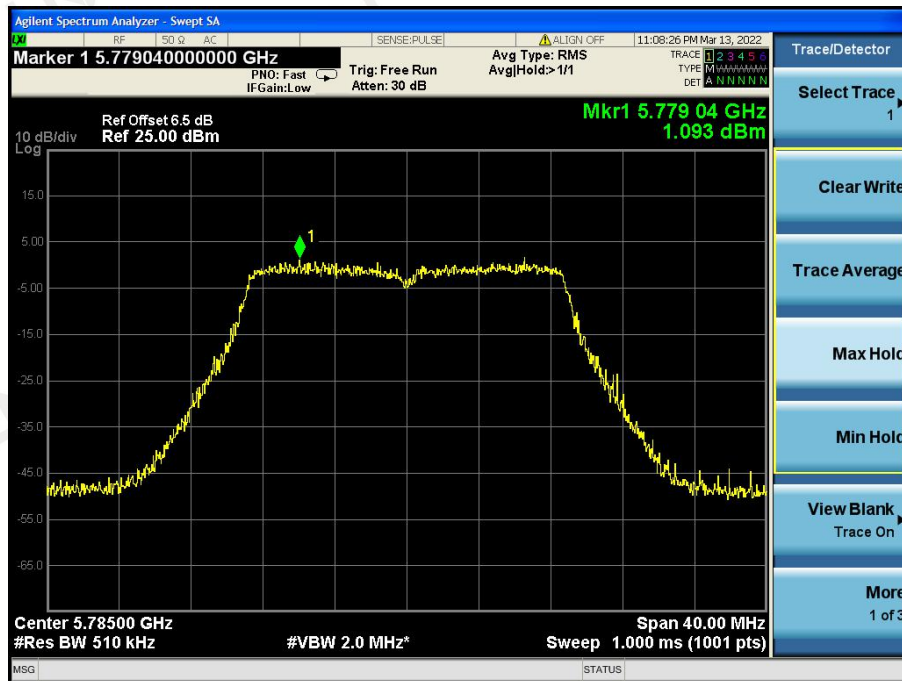


802.11n20 TEST RESULT

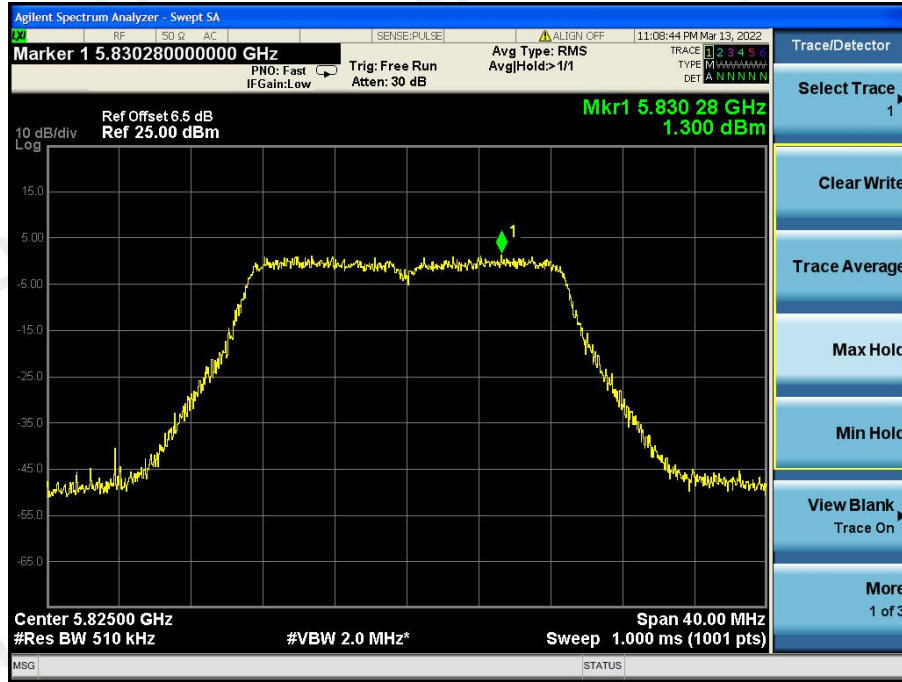
SPECTRAL DENSITY FOR 5745MHz



SPECTRAL DENSITY FOR 5785MHz

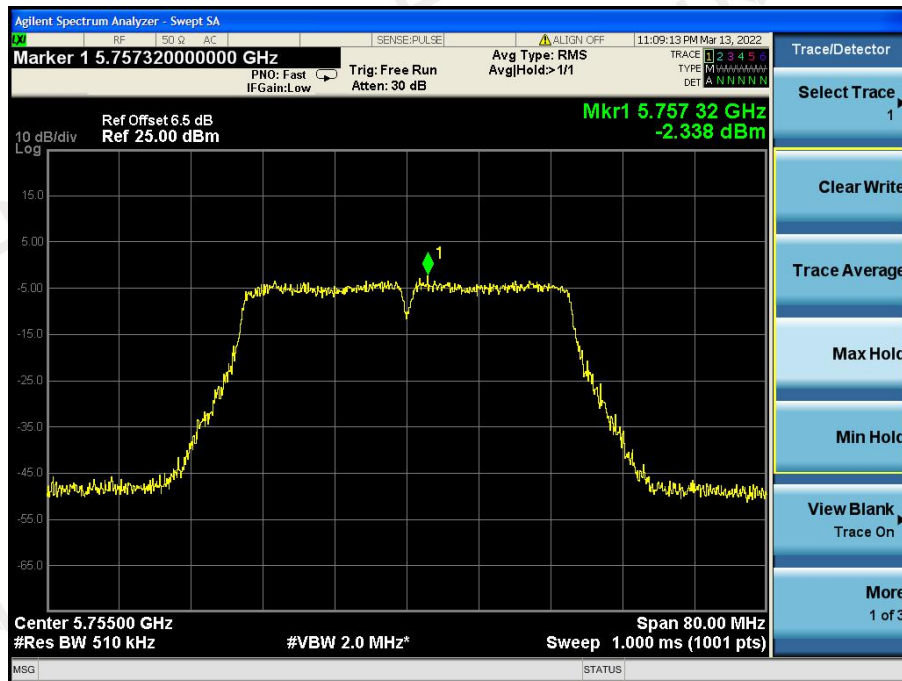


SPECTRAL DENSITY FOR 5825MHz

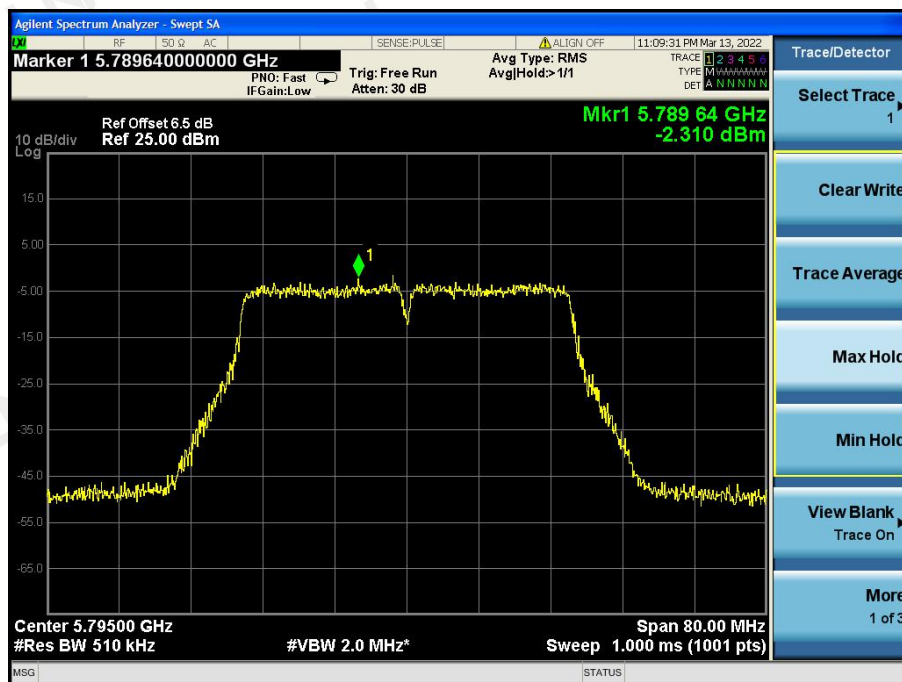


802.11n40 TEST RESULT

SPECTRAL DENSITY FOR 5755MHz

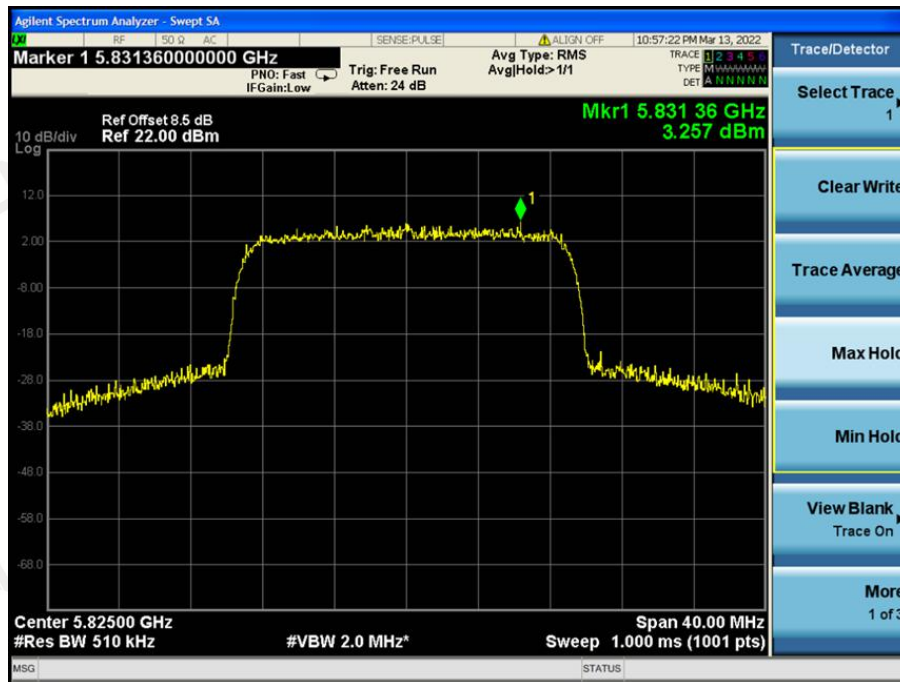


SPECTRAL DENSITY FOR 5795MHz

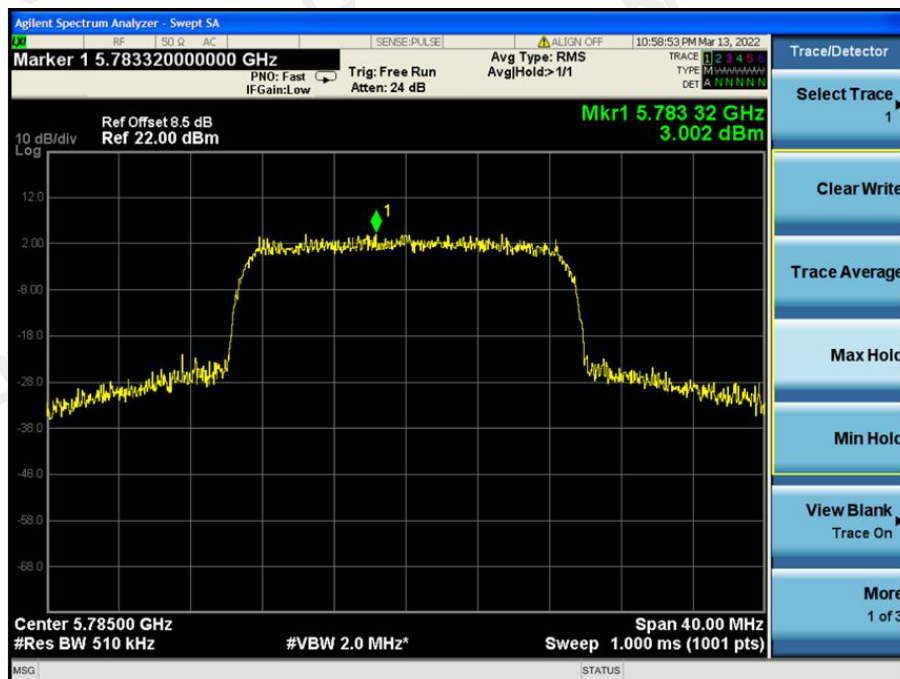


802.11ac20 TEST RESULT

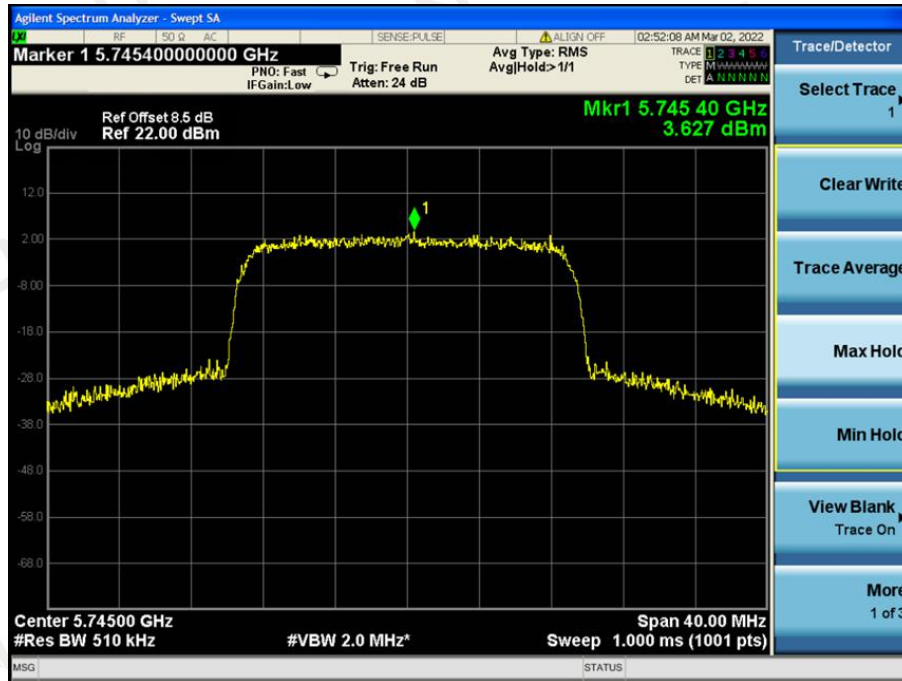
SPECTRAL DENSITY FOR 5745MHz



SPECTRAL DENSITY FOR 5785MHz

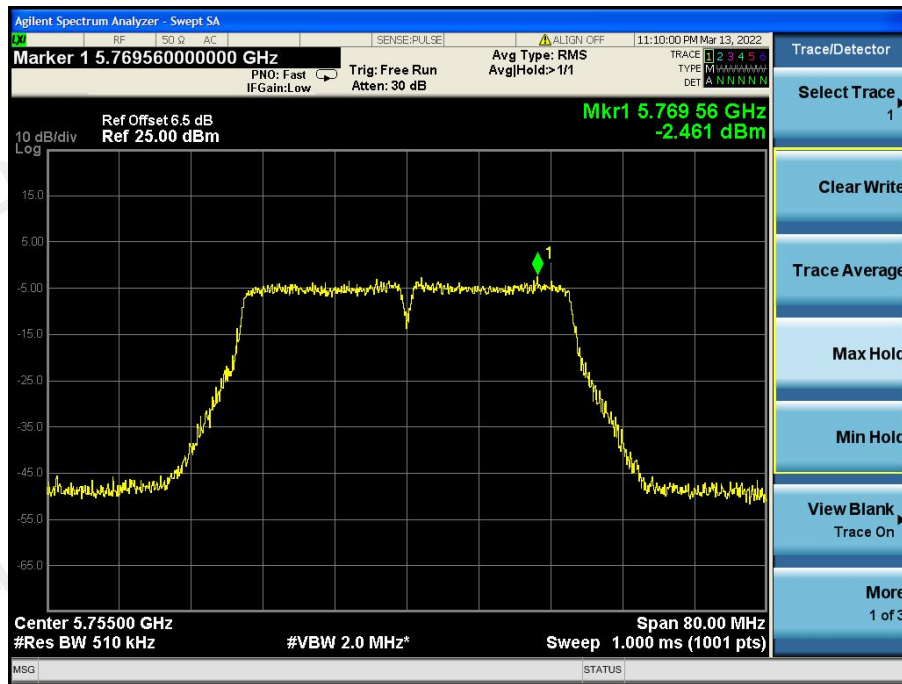


SPECTRAL DENSITY FOR 5825MHz

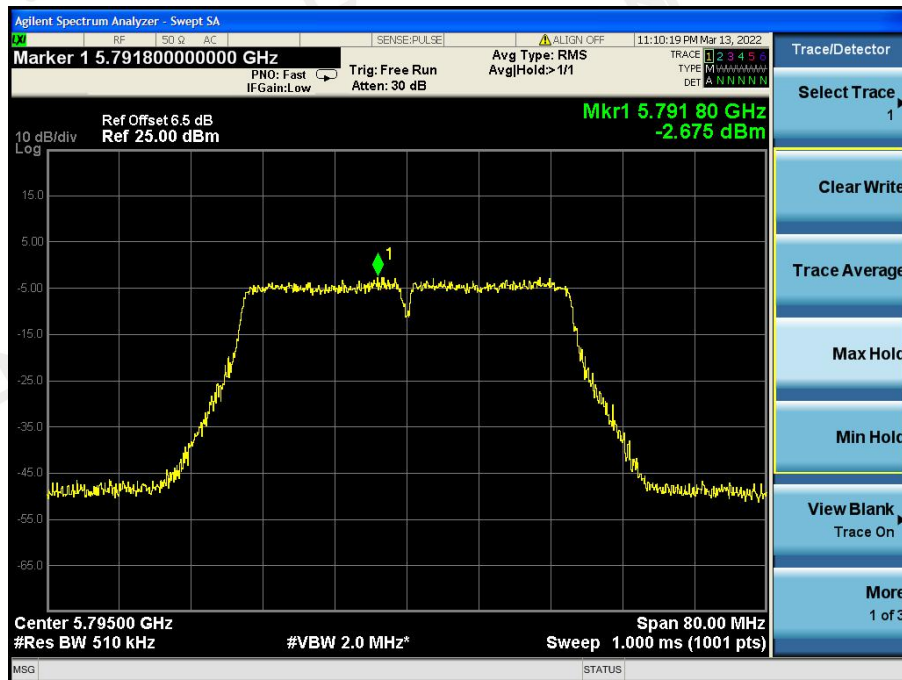


802.11ac40 TEST RESULT

SPECTRAL DENSITY FOR 5755MHz

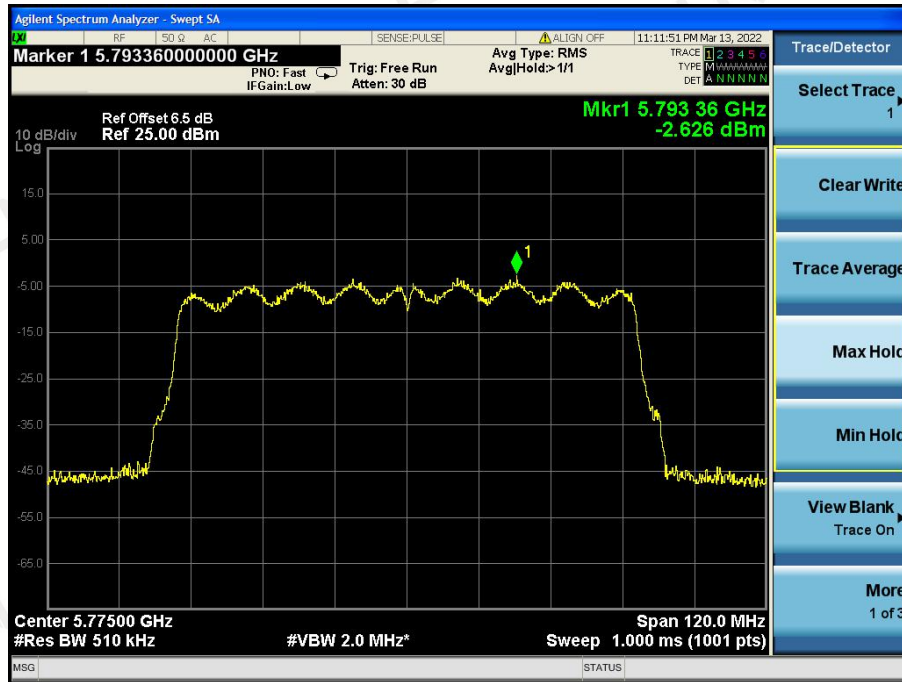


SPECTRAL DENSITY FOR 5795MHz



802.11ac80 TEST RESULT

TEST PLOT OF SPECTRAL DENSITY FOR 5775MHz



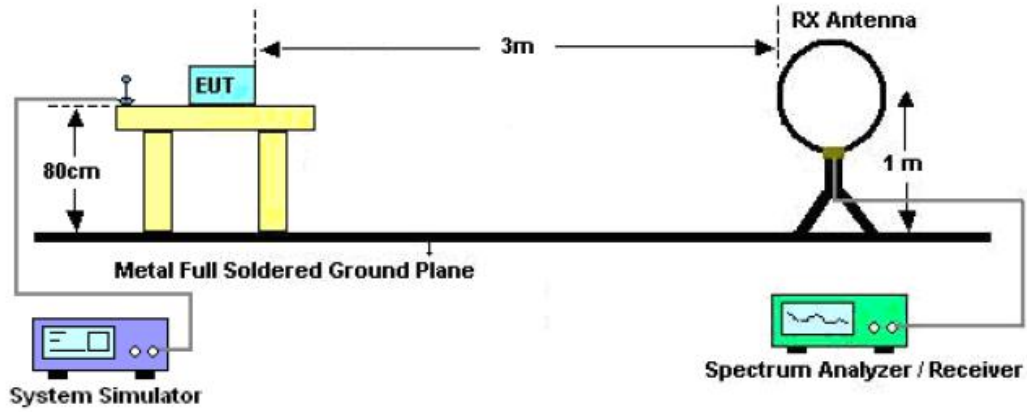
10. RADIATED EMISSION

10.1. MEASUREMENT PROCEDURE

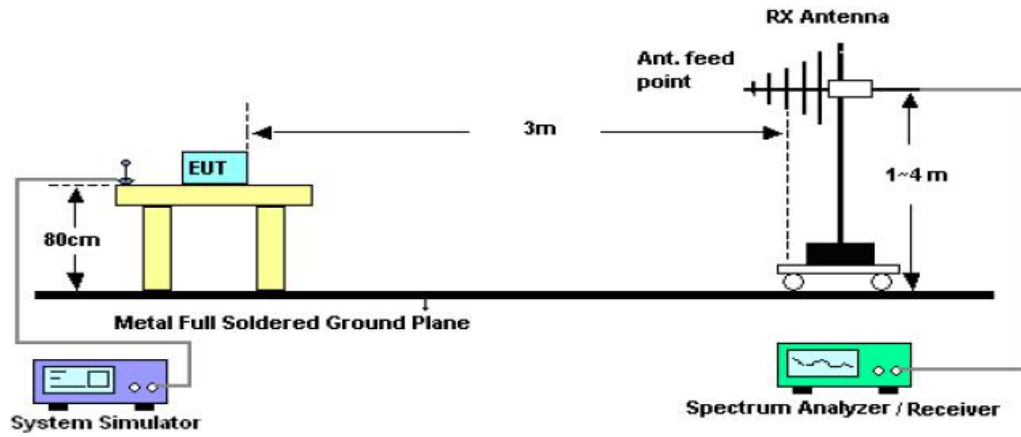
1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz RBW and 3M VBW for peak reading. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High - Low scan is not required in this case.

10.2. TEST SETUP

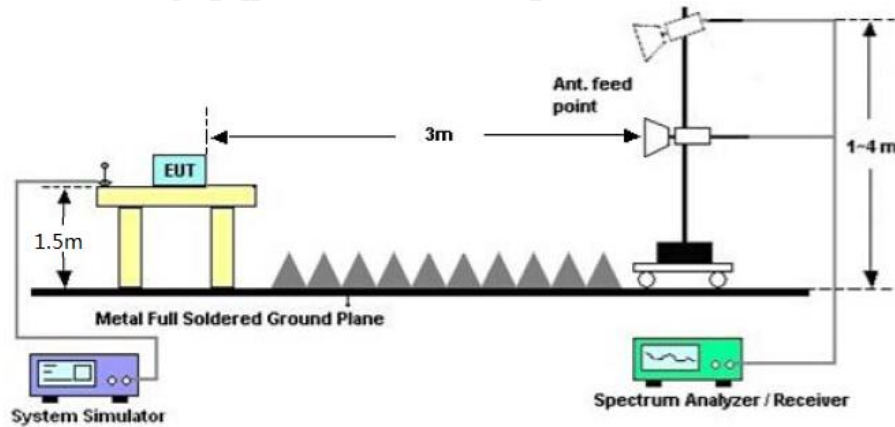
Radiated Emission Test-Setup Frequency Below 30MHz



RADIATED EMISSION TEST SETUP 30MHz-1000MHz



RADIATED EMISSION TEST SETUP ABOVE 1000MHz



10.3. LIMITS AND MEASUREMENT RESULT

15.209(a) Limit in the below table has to be followed

Frequencies (MHz)	Field Strength (micorvolts/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

Note: All modes were tested For restricted band radiated emission,
the test records reported below are the worst result compared to other modes.

10.4. TEST RESULT

RADIATED EMISSION BELOW 30MHZ

The amplitude of spurious emissions from 9kHz to 30MHz which are attenuated more than 20 dB below the permissible value need not be reported.

RADIATED EMISSION BELOW 1GHz

Between 9KHz – 30 MHz

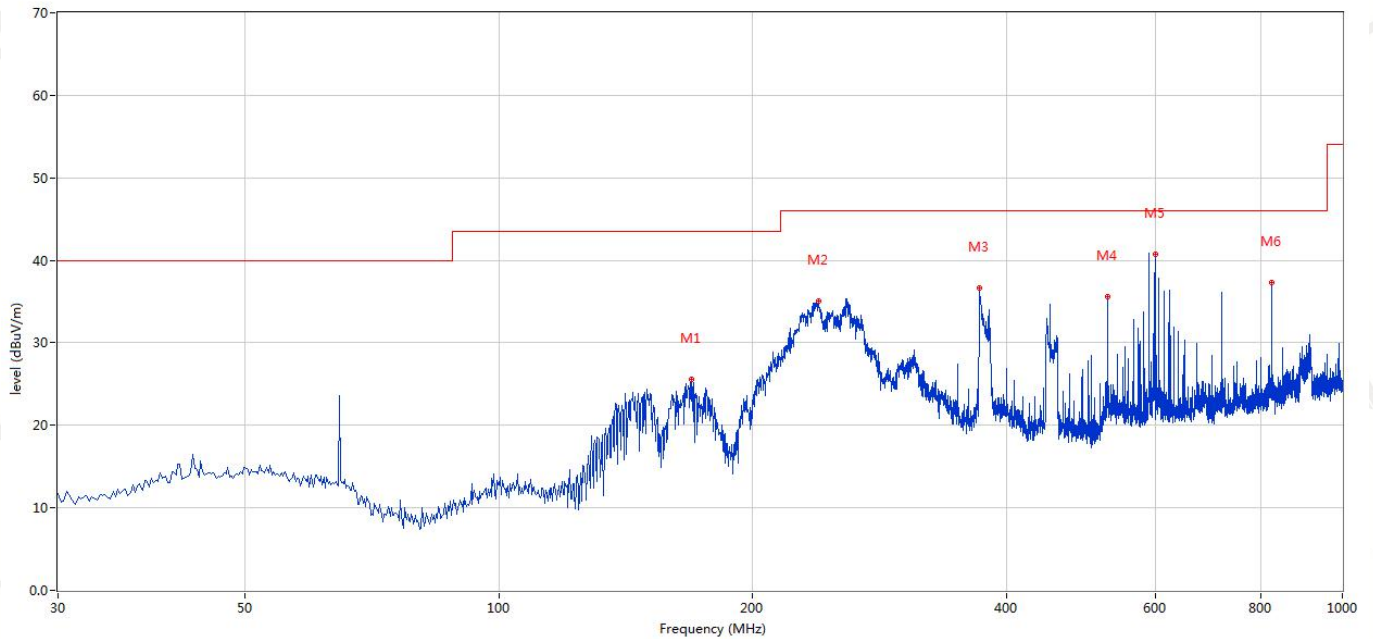
Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	N/A
--	--	--	--	N/A

NOTE:

1. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
2. Distance extrapolation factor = $40 \log (\text{specific distance/test distance})$ (dB);
3. Limit line = specific limits(dBuv) + distance extrapolation factor.

Temperature:	24℃	Relative Humidity:	48%
Test Date:	Mar. 14, 2022	Pressure:	1010hPa
Test Voltage:	AC 120V, 60Hz	Phase:	Horizontal
Test Mode:	Transmitting mode of 802.11a 5745MHz		

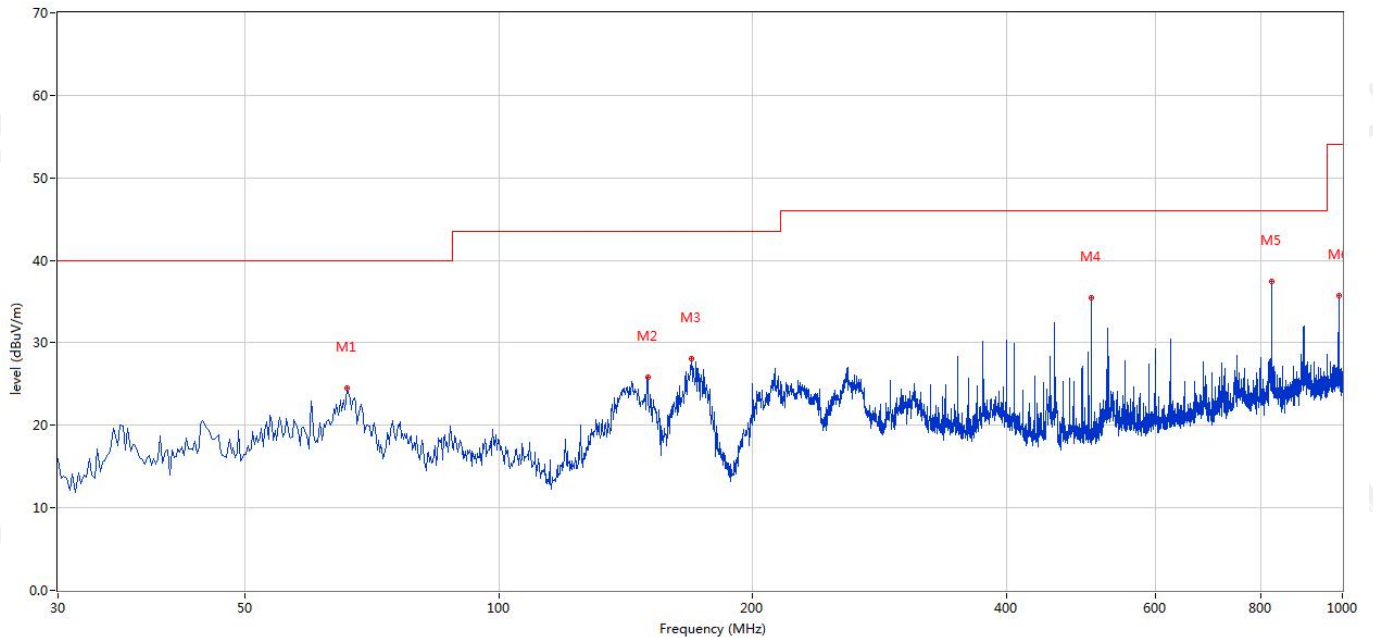
BETWEEN 30 – 1000 MHZ



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	ANT	Verdict
1	168.918	25.56	-16.11	43.5	-17.94	Peak	Horizontal	Pass
2	239.468	35.09	-12.36	46.0	-10.91	Peak	Horizontal	Pass
3	371.355	36.67	-9.51	46.0	-9.33	Peak	Horizontal	Pass
4	526.516	35.64	-6.55	46.0	-10.36	Peak	Horizontal	Pass
5	599.975	40.79	-4.95	46.0	-5.21	Peak	Horizontal	Pass
6	824.959	37.29	-2.91	46.0	-8.71	Peak	Horizontal	Pass

RESULT: PASS

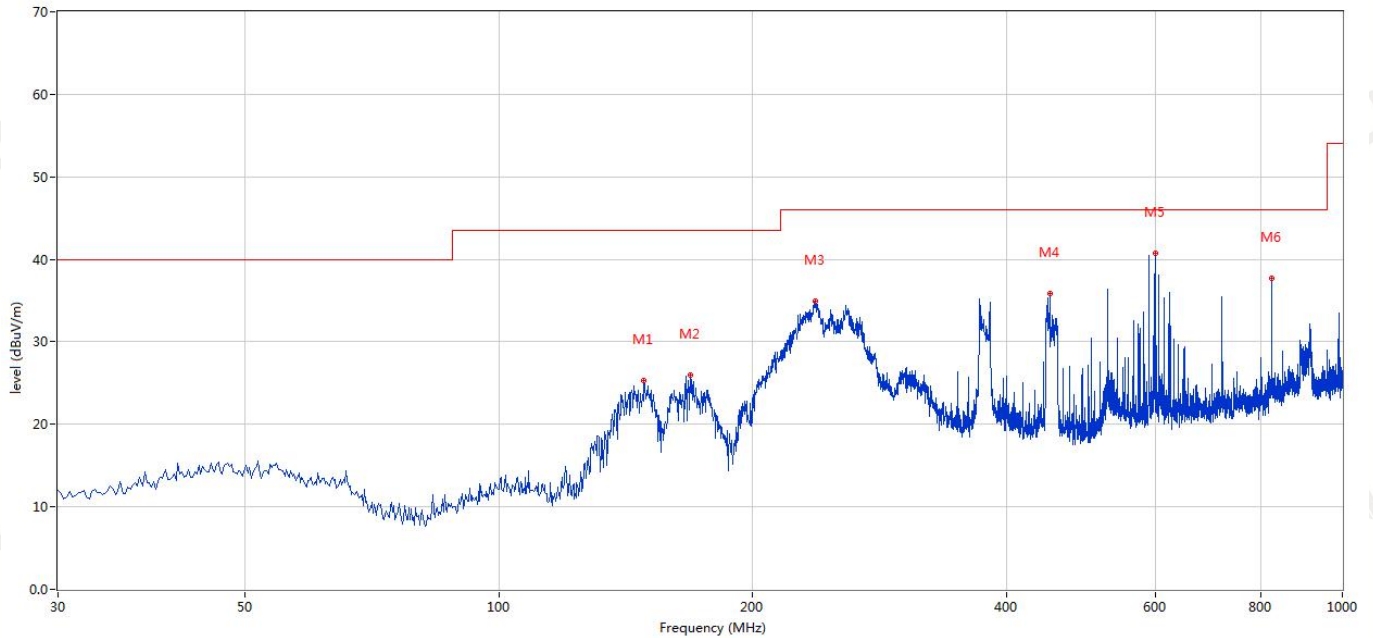
Temperature:	24°C	Relative Humidity:	48%
Test Date:	Mar. 14, 2022	Pressure:	1010hPa
Test Voltage:	AC 120V, 60Hz	Phase:	Vertical
Test Mode:	Transmitting mode of 802.11a 5745MHz		



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	ANT	Verdict
1	66.123	24.52	-13.97	40.0	-15.48	Peak	Vertical	Pass
2	150.007	25.89	-17.03	43.5	-17.61	Peak	Vertical	Pass
3	169.160	28.13	-16.10	43.5	-15.37	Peak	Vertical	Pass
4	503.969	35.41	-7.05	46.0	-10.59	Peak	Vertical	Pass
5	824.959	37.48	-2.91	46.0	-8.52	Peak	Vertical	Pass
6	989.818	35.77	-1.36	54.0	-18.23	Peak	Vertical	Pass

RESULT: PASS

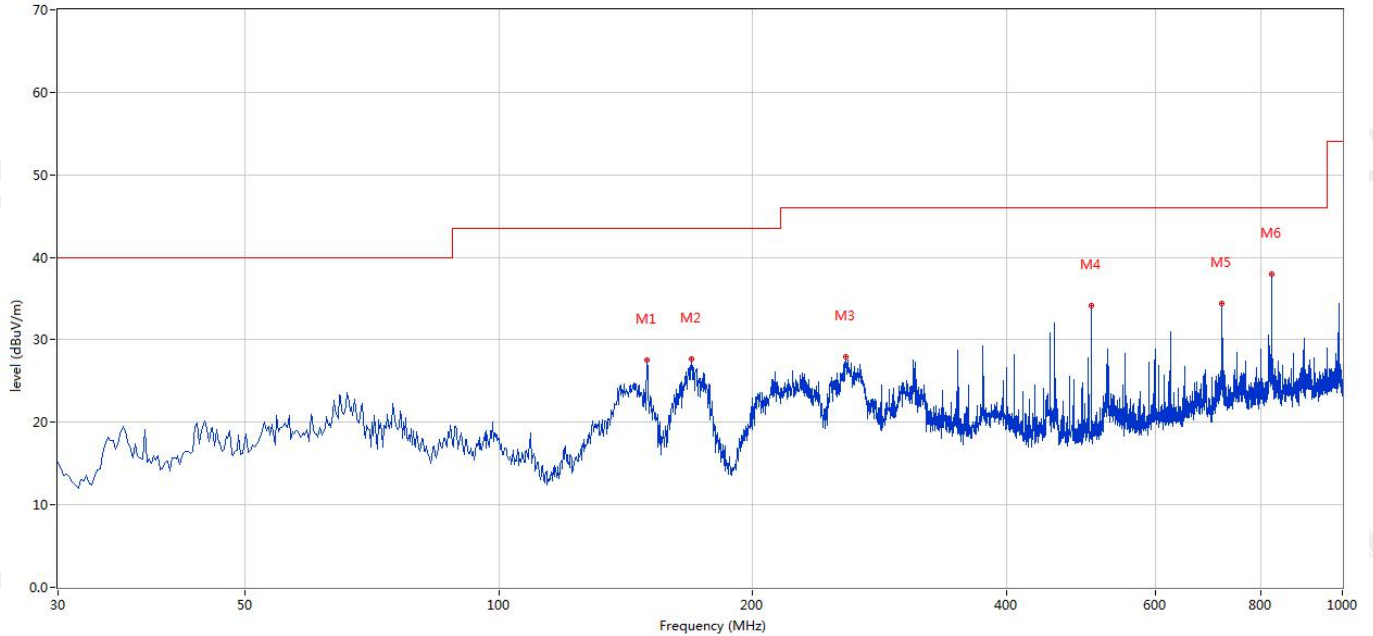
Temperature:	24℃	Relative Humidity:	48%
Test Date:	Mar. 14, 2022	Pressure:	1010hPa
Test Voltage:	AC 120V, 60Hz	Phase:	Horizontal
Test Mode:	Transmitting mode of 802.11a 5825MHz		



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	ANT	Verdict
1	148.553	25.38	-17.15	43.5	-18.12	Peak	Horizontal	Pass
2	168.675	26.02	-16.12	43.5	-17.48	Peak	Horizontal	Pass
3	237.528	34.98	-12.41	46.0	-11.02	Peak	Horizontal	Pass
4	449.905	35.89	-8.01	46.0	-10.11	Peak	Horizontal	Pass
5	599.975	40.76	-4.95	46.0	-5.24	Peak	Horizontal	Pass
6	824.959	37.65	-2.91	46.0	-8.35	Peak	Horizontal	Pass

RESULT: PASS

Temperature:	24℃	Relative Humidity:	48%
Test Date:	Mar. 14, 2022	Pressure:	1010hPa
Test Voltage:	AC 120V, 60Hz	Phase:	Vertical
Test Mode:	Transmitting mode of 802.11a 5825MHz		



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	ANT	Verdict
1	149.765	27.59	-17.05	43.5	-15.91	Peak	Vertical	Pass
2	168.918	27.67	-16.11	43.5	-15.83	Peak	Vertical	Pass
3	257.893	27.92	-11.84	46.0	-18.08	Peak	Vertical	Pass
4	503.969	34.17	-7.05	46.0	-11.83	Peak	Vertical	Pass
5	720.225	34.37	-4.04	46.0	-11.63	Peak	Vertical	Pass
6	824.959	37.95	-2.91	46.0	-8.05	Peak	Vertical	Pass

RESULT: PASS

Note: All test channels had been tested. The 802.11a20 is the worst case and recorded in the test report..

Factor = Antenna Factor + Cable loss - Amplifier gain, Margin= Limit-Level.

The "Factor" value can be calculated automatically by software of measurement system.

Above 1 GHz Test Results:

802.11a20 Mode:

Test mode:		802.11a		Test channel:		lowest	
Antenna Pol.	Frequency (MHz)	Reading Level	Factor	Measure Level	Limit (dBuV/m)	Over limit(dB)	Detector
V	11510.00	26.52	21.64	48.16	54(Note3)	-5.84	PK
V	17265.00	24.25	21.80	46.05	54(Note3)	-7.95	PK
H	11510.00	24.32	21.83	46.15	54(Note3)	-7.85	PK
H	17265.00	23.20	21.67	44.87	54(Note3)	-9.13	PK

Test mode:		802.11a		Test channel:		Middle	
Antenna Pol.	Frequency (MHz)	Reading Level	Factor	Measure Level	Limit (dBuV/m)	Over limit(dB)	Detector
V	11570.00	25.68	21.64	47.32	54(Note3)	-6.68	PK
V	17355.00	24.05	21.80	45.85	54(Note3)	-8.15	PK
H	11570.00	22.71	21.83	44.54	54(Note3)	-9.46	PK
H	17355.00	23.45	21.67	45.12	54(Note3)	-8.88	PK

Test mode:		802.11a		Test channel:		Highest	
Antenna Pol.	Frequency (MHz)	Reading Level	Factor	Measure Level	Limit (dBuV/m)	Over limit(dB)	Detector
V	11650.00	25.92	21.64	47.56	54(Note3)	-6.44	PK
V	17475.00	23.60	21.80	45.40	54(Note3)	-8.60	PK
H	11650.00	23.47	21.83	45.30	54(Note3)	-8.70	PK
H	17475.00	22.05	21.67	43.72	54(Note3)	-10.28	PK

Note:

1. Measure Level = Reading Level + Factor.
2. The test trace is same as the ambient noise (the test frequency range: 18GHz~40GHz), therefore no data appear in the report.
3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.
4. All test channels had been tested. The 802.11a20 is the worst case and recorded in the test report. Other frequencies radiation emission from 1 to 40GHz at least have 20dB margin and not recorded in the test report.

11. BAND EDGE EMISSION

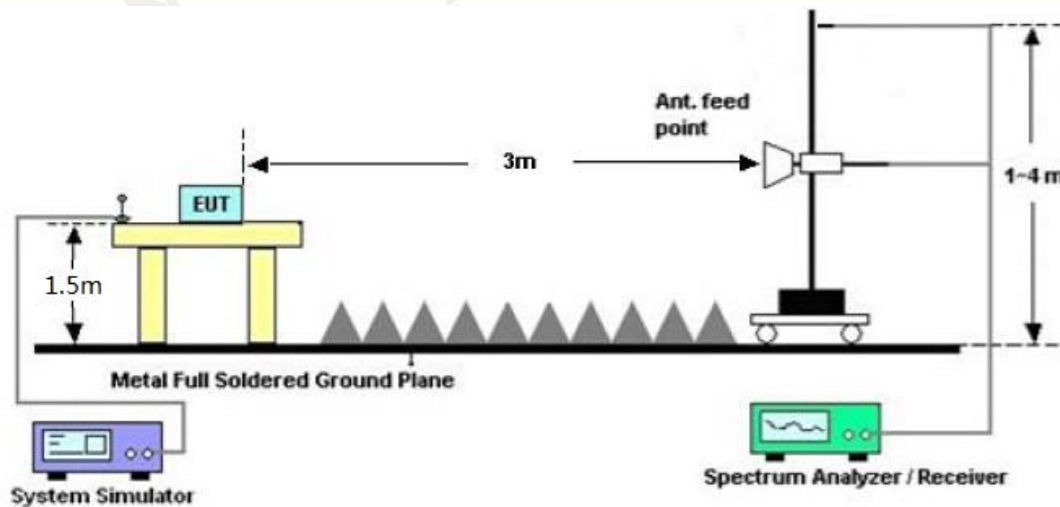
11.1. MEASUREMENT PROCEDURE

1. The EUT operates at transmitting mode. The operate channel is tested to verify the largest transmission and spurious emissions power at the continuous transmission mode.
2. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission: (a) PEAK: RBW=1MHz, VBW=3MHz / Sweep=AUTO
(b) AVERAGE: RBW=1MHz ; VBW=3MHz/ Sweep=AUTO
3. Other procedures refer to clause 11.2.

Note:

1. Factor=Antenna Factor + Cable loss - Amplifier gain. Field Strength=Factor + Reading level
2. The factor had been edited in the "Input Correction" of the Spectrum Analyzer. So the Amplitude of test plots is equal to Reading level plus the Factor in dB. Use the A dB(μ V) to represent the Amplitude. Use the F dB(μ V/m) to represent the Field Strength. So A=F.
3. Only the data of band edge emission at the restricted band 4.5GHz-5.15GHz record in the report. Other restricted band 5.35GHz-5.46GHz and 7.25GHz-7.77GHz were considered as ambient noise. No recording in the test report.

11.2. TEST SET-UP



11.3. TEST RESULT

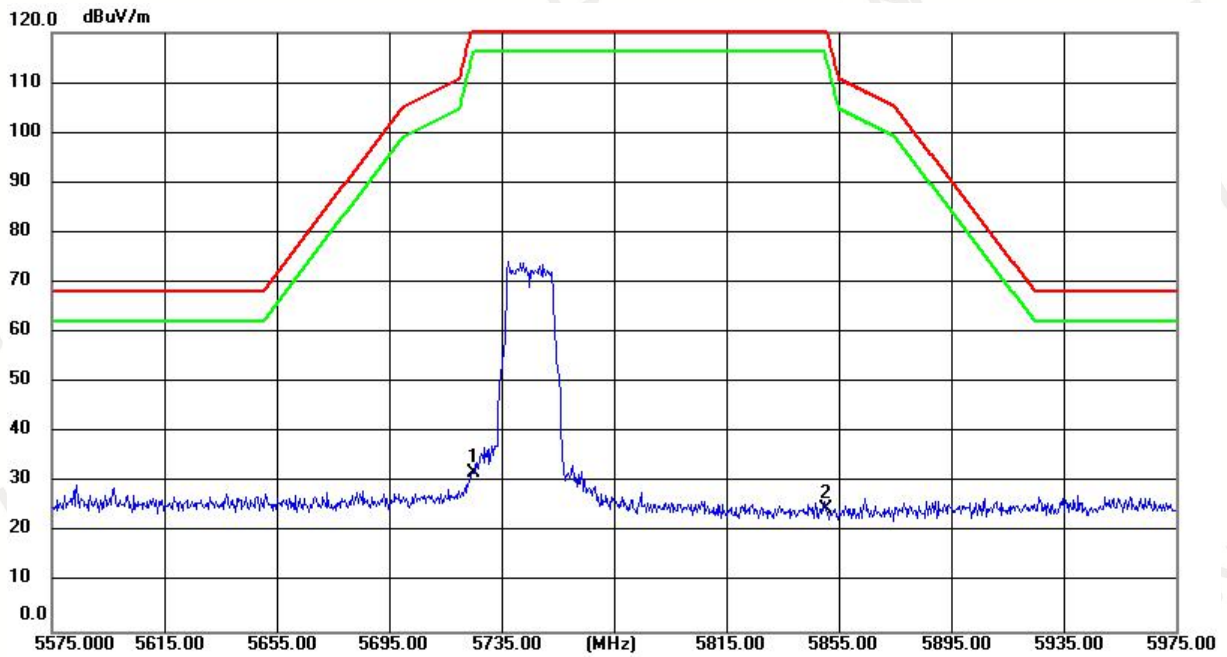
RESULT: PASS

EUT:	ALL IN ONE	Model Name :	1786AIO
Temperature:	25 °C	Relative Humidity:	56%
Pressure:	1010 hPa	Test Voltage:	DC 7.4V
Test Mode :	802.11a CH 149		
Test Date :	2022-03-14		
Note:	In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.		

Freq. (MHz)	Ant.Pol. H/V	Reading (dBuv)	Ant/CF (dB)	Act (dBuv/m)	Limit (dBuv/m)	Note
5725.000	V	27.94	3.95	31.89	122.20	CH 149
5850.000	V	20.64	3.96	24.60	122.20	CH 149
5725.000	H	36.56	3.95	40.51	122.20	CH 149
5850.000	H	20.94	3.96	24.90	122.20	CH 149

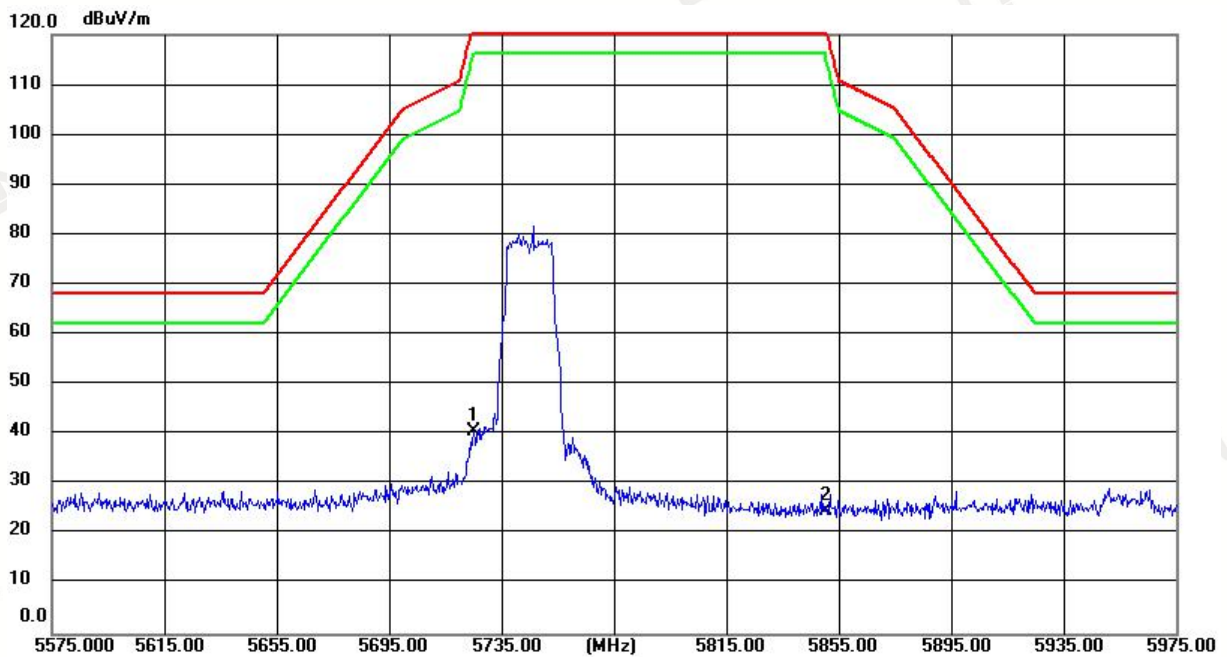
Detector mode: Peak

Polarity: Vertical



Detector mode: Peak

Polarity: Horizontal

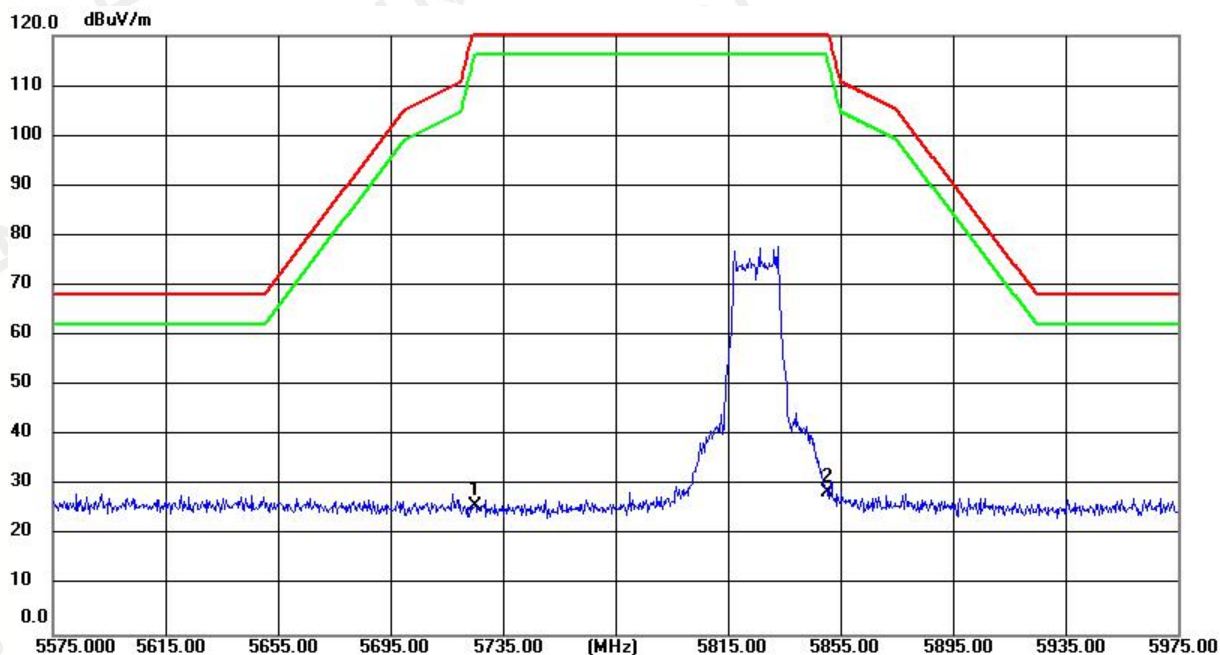


EUT:	ALL IN ONE	Model Name :	1786AIO
Temperature:	25 °C	Relative Humidity:	56%
Pressure:	1010 hPa	Test Voltage:	DC 7.4V
Test Mode :	802.11a CH 165		
Test Date :	2022-03-14		
Note:	In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.		

Freq. (MHz)	Ant.Pol. H/V	Reading (dBuV)	Ant/CF (dB)	Act (dBuV/m)	Limit (dBuV/m)	Note
5725.000	V	21.95	3.95	25.90	122.20	CH 165
5850.000	V	24.67	3.96	28.63	122.20	CH 165
5725.000	H	23.26	3.95	27.21	122.20	CH 165
5850.000	H	30.08	3.96	34.04	122.20	CH 165

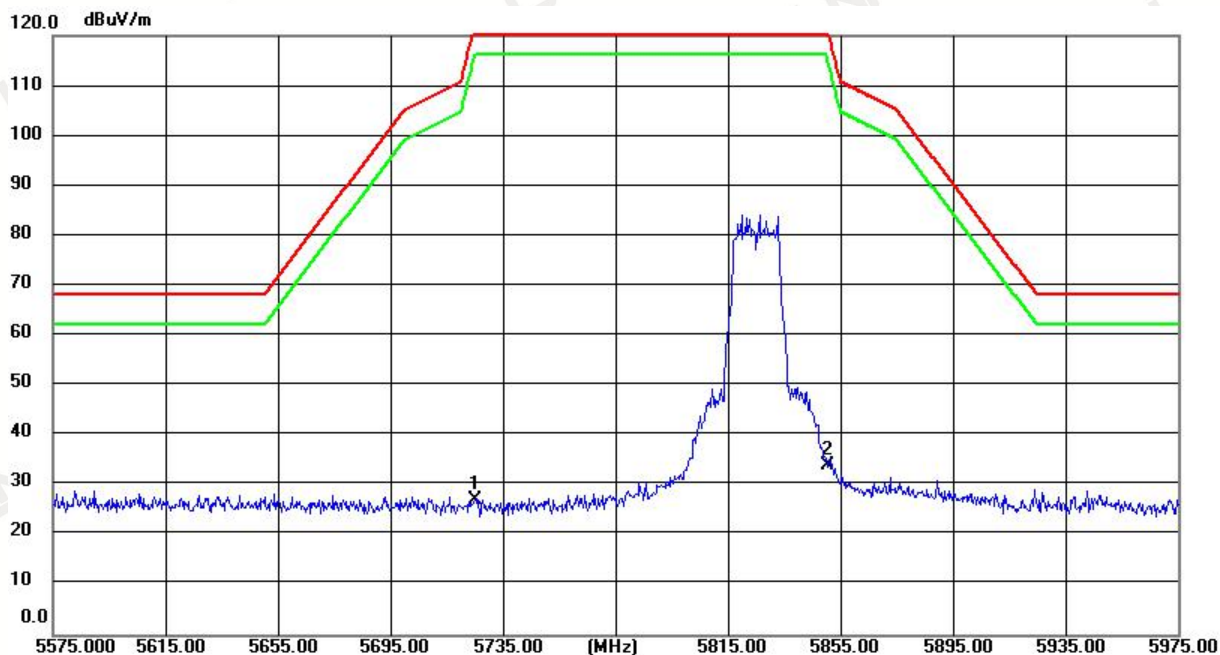
Detector mode: Peak

Polarity: Vertical



Detector mode: Peak

Polarity: Horizontal

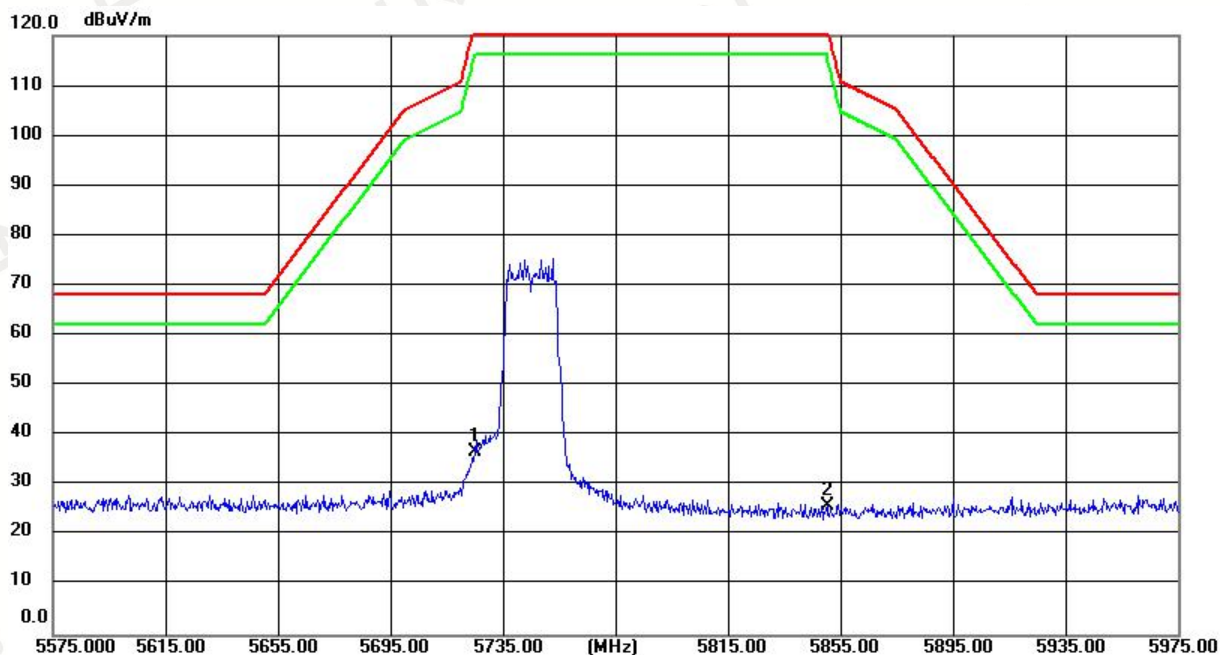


EUT:	ALL IN ONE	Model Name :	1786AIO
Temperature:	25 °C	Relative Humidity:	56%
Pressure:	1010 hPa	Test Voltage:	DC 7.4V
Test Mode :	802.11n20(5G) CH 149		
Test Date :	2022-03-14		
Note:	In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.		

Freq. (MHz)	Ant.Pol. H/V	Reading (dBuv)	Ant/CF (dB)	Act (dBuv/m)	Limit (dBuv/m)	Note
5725.000	V	32.85	3.95	36.80	122.20	CH 149
5850.000	V	21.98	3.96	25.94	122.20	CH 149
5725.000	H	33.98	3.95	37.93	122.20	CH 149
5850.000	H	21.33	3.96	25.29	122.20	CH 149

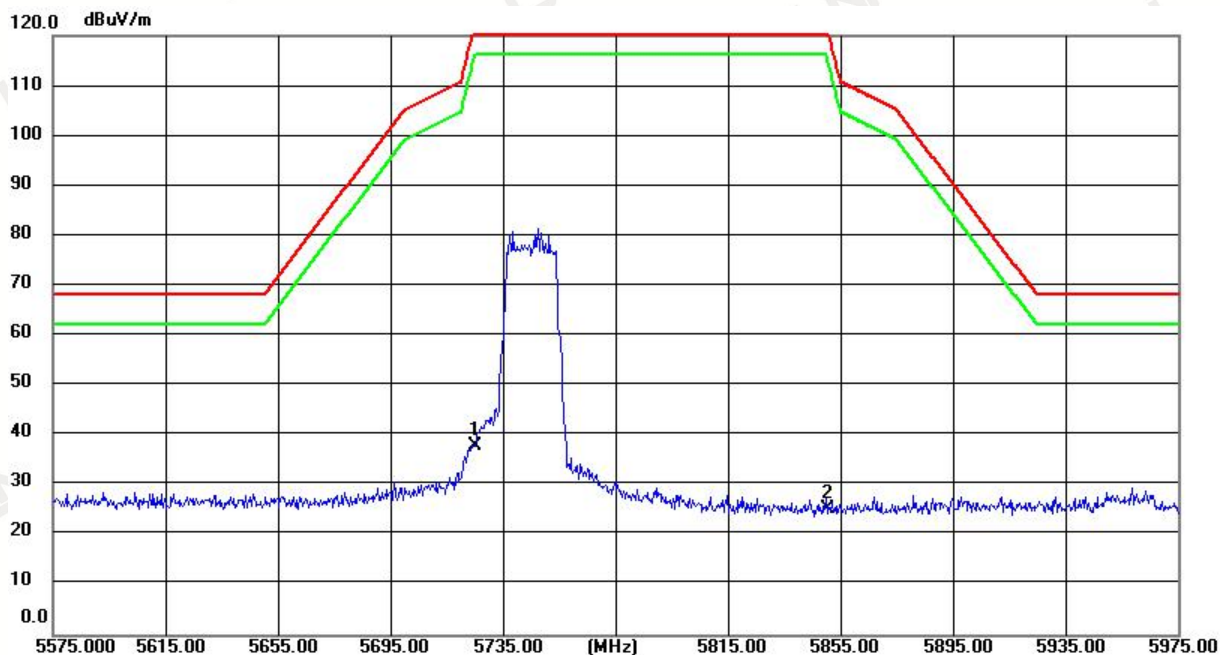
Detector mode: Peak

Polarity: Vertical



Detector mode: Peak

Polarity: Horizontal



EUT:	ALL IN ONE	Model Name :	1786AIO
Temperature:	25 °C	Relative Humidity:	56%
Pressure:	1010 hPa	Test Voltage:	DC 7.4V
Test Mode :	802.11n20(5G) CH 165		
Test Date :	2022-03-14		
Note:	In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.		

Freq. (MHz)	Ant.Pol. H/V	Reading (dBuV)	Ant/CF (dB)	Act (dBuV/m)	Limit (dBuV/m)	Note
5725.000	V	21.73	3.95	25.68	122.20	CH 165
5850.000	V	30.07	3.96	34.03	122.20	CH 165
5725.000	H	21.33	3.95	25.28	122.20	CH 165
5850.000	H	33.35	3.96	37.31	122.20	CH 165