

Project No.: TM-2305000074P
Report No.: TMWK2305001409KR

FCC ID: P4Q-N635RN
IC: 2420C-N635RN

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Rev.: 01

RADIO TEST REPORT

FCC 47 CFR PART 15 SUBPART C

INDUSTRY CANADA RSS-247

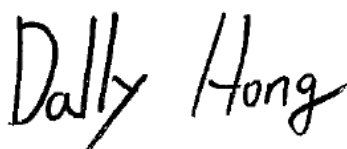
Test Standard	FCC Part 15.407 IC RSS-247 issue 3 and IC RSS-GEN issue 5
Product name	Chrion Pro
Brand Name	Mio, MiTAC, Magellan, Teletrac Navman
Model No.	N635RN
Test Result	Pass
Statements of Conformity	Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

The test Result was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were given in ANSI C63.10: 2013 and compliance standards.

The test results of this report relate only to the tested sample (EUT) identified in this report.

The test Report of full or partial shall not copy. Without written approval of Compliance Certification Services Inc.(Wugu Laboratory)

Approved by:



Dally Hong
Sr. Engineer

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	January 4, 2024	Initial Issue	ALL	Allison Chen
01	March 13, 2024	See the following Note Rev.(01)	P.1, 4	Allison Chen

Note:

Rev.(01)

1. Applicant modified model name.



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1. GENERAL INFORMATION

1.1 EUT INFORMATION

FCC Applicant	Mitac Digital Technology Corporation 4F., No. 1, R&D Road 2, Hsinchu Science Park, Hsinchu 30076 Taiwan
IC Applicant	MiTAC Digital Technology Corporation 4F., No. 1, R&D Road 2, Hsinchu Science Park, Hsinchu 30076 Taiwan
Manufacturer	MITAC COMPUTER (KUNSHAN) CO., LTD. No. 269, 2nd Avenue, District A, Comprehensive Free Trade Zone, Kunshan, Jiangsu, P.R. China
Equipment	Chrion Pro
Trade Name	Mio, MiTAC, Magellan, Teletrac Navman
Model No.	N635RN
Model Discrepancy	Difference of the those trade names (list on this report) are just for marketing purpose only.
Received Date	May 25, 2023
Date of Test	October 12~26, 2023
Power Supply	1. Powered from AC Adapter. I/P: 100-240Vac, 50-60Hz, 0.3A; O/P: Vdc, 5V 2.0A 2. Powered from car charge. I/P: 12-24Vdc; O/P: 5Vdc, 2A (Max) 3. Powered from Rechargeable Li-ion Polymer Battery. Rating: 3.7VDC, 4000mAh, 14.8Wh
HW Version	R02
SW Version	R15
Serial number	HGM37E0001

Remark:

- For more details, please refer to the User's manual of the EUT.
- Disclaimer: Antenna information is provided by the applicant, test results of this report are applicable to the sample EUT received.
- Disclaimer: The variant model numbers / trademarks are assessed as identical in hardware and software to each other, hence all variants are fully covered by the test results in this test report without further verification test.

1.2 EUT CHANNEL INFORMATION

Frequency Range	UNII-1	
	IEEE 802.11a	5180 ~ 5240 MHz
	IEEE 802.11n HT 20 MHz	5180 ~ 5240 MHz
	IEEE 802.11n HT 40 MHz	5190 ~ 5230 MHz
	IEEE 802.11ac VHT 20 MHz	5180 ~ 5240 MHz
	IEEE 802.11ac VHT 40 MHz	5190 ~ 5230 MHz
	IEEE 802.11ac VHT 80 MHz	5210 MHz
	UNII-2a	
	IEEE 802.11a	5260 ~ 5320 MHz
	IEEE 802.11n HT 20 MHz	5260 ~ 5320 MHz
	IEEE 802.11n HT 40 MHz	5270 ~ 5310 MHz
	IEEE 802.11ac VHT 20 MHz	5260 ~ 5320 MHz
	IEEE 802.11ac VHT 40 MHz	5270 ~ 5310 MHz
	IEEE 802.11ac VHT 80 MHz	5290 MHz
	UNII-2c	
	IEEE 802.11a	5500 ~ 5700 MHz
	IEEE 802.11n HT 20 MHz	5500 ~ 5700 MHz
	IEEE 802.11n HT 20 MHz	5720 MHz
	IEEE 802.11n HT 40 MHz	5510 ~ 5670 MHz
	IEEE 802.11n HT 40 MHz	5710 MHz
	IEEE 802.11ac VHT 20 MHz	5500 ~ 5700 MHz
	IEEE 802.11ac VHT 20 MHz	5720 MHz
	IEEE 802.11ac VHT 40 MHz	5510 ~ 5670 MHz
	IEEE 802.11ac VHT 40 MHz	5710 MHz
	IEEE 802.11ac VHT 80 MHz	5530-5610 MHz
	IEEE 802.11ac VHT 80 MHz	5690 MHz
	UNII-3	
	IEEE 802.11a	5745 ~ 5825 MHz
	IEEE 802.11n HT 20 MHz	5745 ~ 5825 MHz
	IEEE 802.11n HT 40 MHz	5755 ~ 5795 MHz
	IEEE 802.11ac VHT 20 MHz	5745 ~ 5825 MHz
	IEEE 802.11ac VHT 40 MHz	5755 ~ 5795 MHz
	IEEE 802.11ac VHT 80 MHz	5775 MHz
Modulation Type	1. IEEE 802.11a mode: OFDM 2. IEEE 802.11n HT 20 MHz mode: OFDM 3. IEEE 802.11n HT 40 MHz mode: OFDM 4. IEEE 802.11ac VHT 20 MHz mode: OFDM 5. IEEE 802.11ac VHT 40 MHz mode: OFDM 5. IEEE 802.11ac VHT 80 MHz mode: OFDM	

Remark:

1. Refer as ANSI C63.10: 2013 clause 5.6.1 Table 4 and RSS-GEN Table 1 for test channels
2. For Canada the EUT Frequency Range 5600~5650MHz will be disabled.

Number of frequencies to be tested		
Frequency range in which device operates	Number of frequencies	Location in frequency range of operation
☐ 1 MHz or less	1	Middle
☐ 1 MHz to 10 MHz	2	1 near top and 1 near bottom
☒ More than 10 MHz	3	1 near top, 1 near middle, and 1 near bottom

1.3 ANTENNA INFORMATION

Antenna Type	☐ PIFA ☐ PCB ☐ Dipole ☐ Coils ☒ Chip
Antenna Gain	Antenna Gain: 1.25 dBi
Brand / Model	INPAQ / ACM3-5036-A1-CC-S
Antenna connector	i-pex

Notes:

1. The antenna(s) of the EUT are permanently attached and there are no provisions for connection to an external antenna. So the EUT complies with the requirements of §15.203.

1.4 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
AC Powerline Conducted Emission	± 2.213 dB
Channel Bandwidth	± 2.7 %
RF output power (Spectrum)	± 2.440 dB
Power Spectral density	± 2.739 dB
Radiated Emission_9kHz-30MHz	± 3.761 dB
Radiated Emission_30MHz-200MHz	± 3.473 dB
Radiated Emission_200MHz-1GHz	± 3.946 dB
Radiated Emission_1GHz-6GHz	± 4.797 dB
Radiated Emission_6GHz-18GHz	± 4.803 dB
Radiated Emission_18GHz-26GHz	± 3.459 dB
Radiated Emission_26GHz-40GHz	± 3.297 dB

Remark:

- 1.This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2
2. ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report.

1.5 FACILITIES AND TEST LOCATION

All measurement facilities used to collect the measurement data are located at

AC Powerline Conducted Emission and Conducted:

☒ No.11, Wugong 6th Rd., Wugu Dist., New Taipei City, Taiwan.

Radiated emission 9kHz to 40GHz:

☒ No.11, Wugong 6th Rd., Wugu Dist., New Taipei City, Taiwan.

☐ No. 12, Ln. 116, Wugong 3rd Rd., Wugu Dist., New Taipei City, Taiwan 24803

CAB identifier: TW1309

Test site	Test Engineer	Remark
AC Conduction Room	Tony Chao	-
Radiation	Tony Chao	-
RF Conducted	David Li	-

Remark: The lab has been recognized as the FCC accredited lab. under the KDB 974614 D01 and is listed in the FCC public Access Link (PAL) database, FCC Registration No. :444940, the FCC Designation No.:TW1309



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1.6 INSTRUMENT CALIBRATION

Conducted_FCC/IC/NCC (All)					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Power Sensor	Anritsu	MA2411B	1911386	2023-07-25	2024-07-24
Power Sensor	Anritsu	MA2411B	1911387	2023-07-25	2024-07-24
Power Meter	Anritsu	ML2496A	2136002	2022-11-24	2023-11-23
EXA Signal Analyzer	Keysight	N9010B	MY60242460	2023-02-02	2024-02-01
Software	Radio Test Software Ver. 21				

966A_Radiated Wi-Fi 5GHz					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Signal Analyzer	KEYSIGHT	N9010A	MY54200716	2023-10-13	2024-10-12
Cable	EMCI	EMC101G	211010+211011+211012	2022-12-12	2023-12-11
Loop Antenna	COM-POWER	AL-130	121051	2023-05-23	2024-05-22
Preamplifier	EMEC	EM330	060609	2023-02-22	2024-02-21
Thermo-Hygro Meter	WISEWIND	1206	D07	2022-12-19	2023-12-18
Preamplifier	HP	8449B	3008A00965	2022-12-23	2023-12-22
Bi-Log Antenna	Sunol Sciences	JB3	A030105	2023-08-08	2024-08-07
Cable	Huber+Suhner	104PEA	20995+21000+182330	2023-02-22	2024-02-21
Cable	EMCI	EMC101G	221213+221011+221012	2023-10-17	2024-10-16
Cable	EMCI	EMC101G	211010+211011+211012	2022-12-12	2023-12-11
Horn Antenna	ETC	MCTD 1209	DRH13M02003	2023-01-12	2024-01-11
High Pass Filters	MICRO TRONICS	HPM13195	003	2023-02-01	2024-01-31
Horn Antenna	SCHWARZBECK	BBHA9170	1047	2022-12-30	2023-12-29
Pre-Amplifier	EMCI	EMC184045SE	980860	2022-12-27	2023-12-26
Turn Table	CCS	CC-T-1F	N/A	N.C.R	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R	N.C.R
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R	N.C.R
Software	e3 V9-210616c				

RF_Conduction(RF)					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
EMI Test Receiver	R&S	ESCI	100064	2023-06-07	2024-06-06
LISN	TESEQ	LN2-16N	22012	2023-03-08	2024-03-07
Cable	EMCI	CFD300-NL	CERF	2023-06-27	2024-06-26
Software	EZ-EMC(CCS-3A1-CE-WUKU)				

Remark:

1. Each piece of equipment is scheduled for calibration once a year.
2. N.C.R. = No Calibration Required.

DFS Test					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
EXA Signal Analyzer	Keysight	N9010B	MY60242460	2023-02-02	2024-02-01
Attenuator	E-INSTRUMENT	EPA-600H	EC1400050	2023-06-13	2024-06-12
Vector Signal Generator	KEYSIGHT	N5182B/N5182BX 07	MY61252828/ MY59362552	2023-02-01	2024-01-31
Power Divider	Marvelous Microwave	MVE8586	16011205	2023-06-16	2024-06-15
Power Divider	Marvelous Microwave	MVE8586	16011202	2023-06-16	2024-06-15
Power Divider	Solvang Technology	STI08-0015	008	2023-07-11	2024-07-10
Cable	Woken	SUMITOMO	13	2023-03-02	2024-03-01
Cable	Woken	SUMITOMO	12	2023-03-02	2024-03-01
Cable	Woken	SUMITOMO	11	2023-03-02	2024-03-01
Cable	Woken	SUMITOMO	10	2023-03-02	2024-03-01
Cable	Woken	SUMITOMO	9	2023-03-02	2024-03-01
Cable	Woken	SUMITOMO	7	2023-03-02	2024-03-01
Cable	Woken	SUMITOMO	6	2023-03-02	2024-03-01
Cable	Woken	SUMITOMO	5	2023-03-02	2024-03-01
Cable	Woken	SUMITOMO	4	2023-03-02	2024-03-01
Software	GPIBShot,DFS Test Software,DFS Radar Profiles 2022 Update 1.0				

Remark:

- Each piece of equipment is scheduled for calibration once a year.
- N.C.R. = No Calibration Required.



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1.7 SUPPORT AND EUT ACCESSORIES EQUIPMENT

Conducted_Sup_Units					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
NB(E)	Lenovo	T460	N/A	N/A	N/A
Cable	SP	Type C Cable	N/A	N/A	N/A

Support Unit List					
NO	Kind	Brand	Model	Core	Length
1	NB(D)	Lenovo	ThinkPad X260	N/A	N/A
A	TypeA to TypeC	N/A	N/A	N/A	N/A

RF_Conduction(RF)					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
NB	Lenovo	IBM 7663	N/A	N.C.R	N.C.R

DFS_Sup_Units					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
NB	Lenovo	TP00075A	N/A	N/A	N/A
NB	Lenovo	V4400u	N/A	N/A	N/A
AP	ASUS	RT-AX88U	N/A	N/A	N/A

1.8 TEST METHODOLOGY AND APPLIED STANDARDS

The test methodology, setups and results comply with all requirements in accordance with ANSI C63.10:2013, FCC Part 2, FCC Part 15.407, KDB 789033 D02.

2. TEST SUMMARY

FCC Standard Sec.	IC Standard Sec.	Chapter	Test Item	Result
15.203	RSS-Gen (6.8)	1.3	Antenna Requirement	Pass
15.207	RSS-Gen (8.8)	4.1	AC Conducted Emission	Pass
15.403(i)	-	4.2	26dB Bandwidth	Pass
15.407(e)	RSS-247(6.2.4)	4.2	6dB Bandwidth	Pass
15.403(i)	RSS-Gen(6.7)	4.2	Occupied Bandwidth (99%)	Pass
15.407(a)	RSS-247(6.2.1.1) RSS-247(6.2.2.1) RSS-247(6.2.3.1) RSS-247(6.2.4.1)	4.3	Output Power Measurement	Pass
15.407(a)	RSS-247(6.2.1.1) RSS-247(6.2.2.1) RSS-247(6.2.3.1) RSS-247(6.2.4.1)	4.4	Power Spectral Density	Pass
15.407(b)	RSS-247(6.2.1.2) RSS-247(6.2.2.2) RSS-247(6.2.3.2) RSS-247(6.2.4.2)	4.5	Radiation Band Edge	Pass
15.407(b)	RSS-247(6.2.1.2) RSS-247(6.2.2.2) RSS-247(6.2.3.2) RSS-247(6.2.4.2)	4.5	Radiation Spurious Emission	Pass
15.407(h)	RSS-247(6.3)	4.6	Dynamic Frequency Selection	Pass

3. DESCRIPTION OF TEST MODES

3.1 THE WORST MODE OF OPERATING CONDITION

Operation mode	1. IEEE 802.11a mode: 6Mbps 2. IEEE 802.11n HT 20 MHz mode: MCS0 3. IEEE 802.11n HT 40 MHz mode: MCS0 4. IEEE 802.11ac VHT 20 MHz mode: MCS0 5. IEEE 802.11ac VHT 40 MHz mode: MCS0 5. IEEE 802.11ac VHT 80 MHz mode: MCS0		
Operating Frequency Range & Number of Channels	U-NII-1	Mode	Frequency Range (MHz)
		IEEE 802.11a	5180, 5220, 5240
		IEEE 802.11n HT20	5180, 5220, 5240
		IEEE 802.11n HT40	5190, 5230
		IEEE 802.11ac VHT20	5180, 5220, 5240
		IEEE 802.11ac VHT40	5190, 5230
	U-NII-2a	IEEE 802.11ac VHT80	5210
		IEEE 802.11a	5260, 5300, 5320
		IEEE 802.11n HT20	5260, 5300, 5320
		IEEE 802.11n HT40	5270, 5310
		IEEE 802.11ac VHT20	5260, 5300, 5320
		IEEE 802.11ac VHT40	5270, 5310
	U-NII-2c	IEEE 802.11ac VHT80	5290
		IEEE 802.11a	5500, 5580, 5700, 5720
		IEEE 802.11n HT20	5500, 5580, 5700, 5720
		IEEE 802.11n HT40	5510, 5550, 5670, 5710
		IEEE 802.11ac VHT20	5500, 5580, 5700, 5720
		IEEE 802.11ac VHT40	5510, 5550, 5670, 5710
	U-NII-3	IEEE 802.11ac VHT80	5530, 5610, 5690
		IEEE 802.11a	5745, 5785, 5825
		IEEE 802.11n HT20	5745, 5785, 5825
		IEEE 802.11n HT40	5755, 5795
		IEEE 802.11ac VHT20	5745, 5785, 5825
		IEEE 802.11ac VHT40	5755, 5795
	IEEE 802.11ac VHT80	5775	

Remark:

1. EUT pre-scanned data rate of output power for each mode, the worst data rate were recorded in this report.
2. For Canada the EUT Frequency Range 5600~5650MHz will be disabled.
3. The mode IEEE 802.11ac VHT20 and VHT40 are only different in control messages with IEEE 802.11n HT20 and HT40, and have same power setting. Therefore, the highest power(IEEE 802.11n HT20 and HT40) were test conducted and radiated measurement and recorded in this report.

3.2 THE WORST MODE OF MEASUREMENT

Radiated Emission Measurement Above 1G	
Test Condition	Radiated Emission Above 1G
Power supply Mode	Mode 1: EUT power by Adapter without Cradle
Worst Mode	☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ Mode 4
Worst Position	☐ Placed in fixed position. ☒ Placed in fixed position at X-Plane (E2-Plane) ☐ Placed in fixed position at Y-Plane (E1-Plane) ☐ Placed in fixed position at Z-Plane (H-Plane)

Radiated Emission Measurement Below 1G	
Test Condition	Radiated Emission Below 1G
Power supply Mode	Mode 1: EUT power by Adapter without Cradle Mode 2: EUT power by N635_V+CarCharger Mode 3: EUT power by N564_TN+CarCharger Mode 4: EUT power by N635_V+Adapter Mode 5: EUT power by N564_TN+Adapter
Worst Mode	☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ Mode 4

AC Power Line Conducted Emission	
Test Condition	AC Power line conducted emission for line and neutral
Power supply Mode	Mode 1: EUT power by NB Mode 2: EUT power by Adapter
Worst Mode	☒ Mode 1 ☒ Mode 2 ☐ Mode 3 ☐ Mode 4

Remark:

1. The worst mode was record in this test report.
2. EUT pre-scanned in three axis ,X,Y, Z and two polarity, for radiated measurement. The worst case(X-Plane) were recorded in this report
3. AC power line conducted emission and for below 1G radiation emission were performed the EUT transmit at the highest output power channel as worse case.



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3.3 EUT DUTY CYCLE

Temperature: 22.7~25.6°C

Test date: October 11 ~ 30, 2023

Humidity: 51~61% RH

Tested by: David Li

Mode	Duty Cycle (%) =Ton / (Ton+Toff)	Duty Factor (dB) =10*log (1/Duty Cycle)	1/T (kHz)	VBW setting (kHz)
802.11a	87.32	0.59	0.73	1.00
802.11n_20	86.57	0.63	0.78	1.00
802.11ac_20	83.13	0.80	1.02	2.00
802.11n_40	76.08	1.19	1.57	2.00
802.11ac_40	71.30	1.47	2.03	3.00
802.11ac_80	55.36	2.57	4.03	5.00

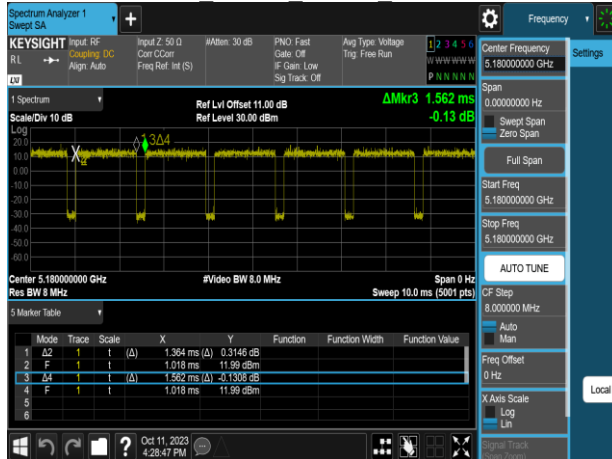


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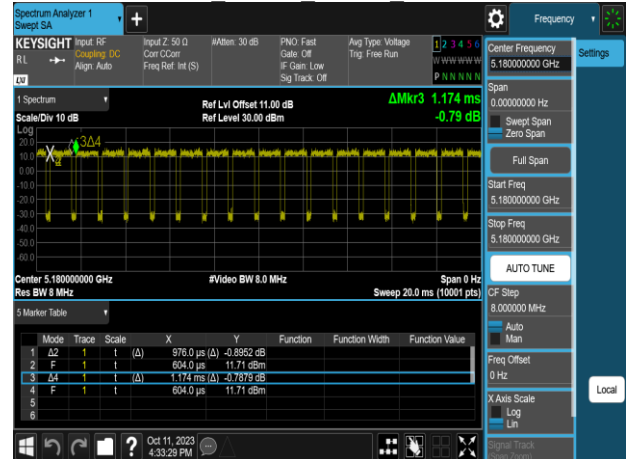
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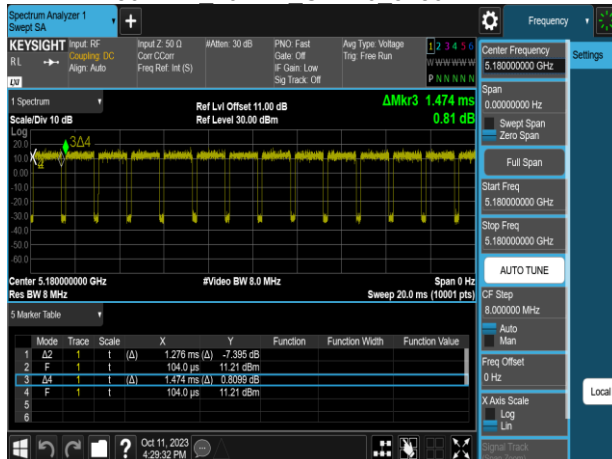
802.11a 20MHz Chain0 5180MHz



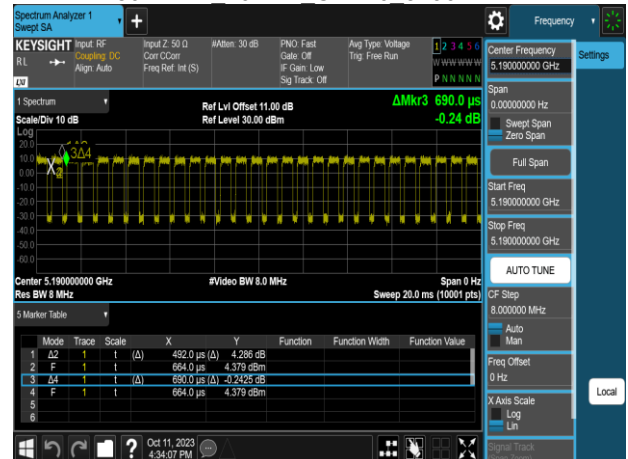
802.11ac 20MHz Chain0 5180MHz



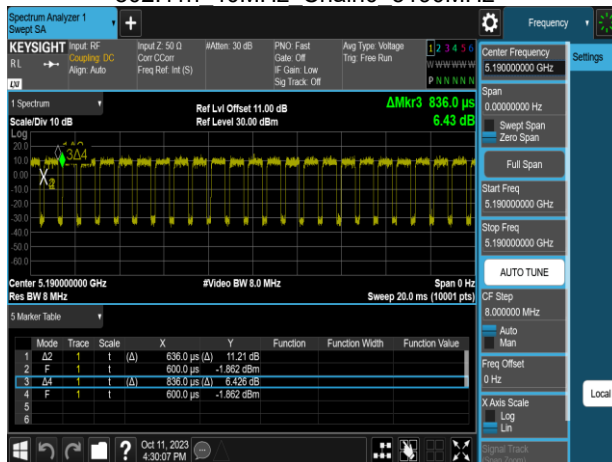
802.11n 20MHz Chain0 5180MHz



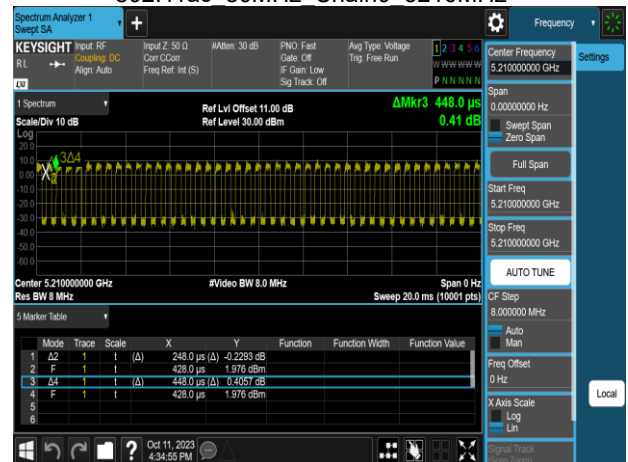
802.11ac 40MHz Chain0 5190MHz



802.11n 40MHz Chain0 5190MHz



802.11ac 80MHz Chain0 5210MHz



4. TEST RESULT

4.1 AC POWER LINE CONDUCTED EMISSION

4.1.1 Test Limit

According to §15.207(a) and RSS-GEN section 8.8,

Frequency Range (MHz)	Limits(dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56*	56 to 46*
0.50 to 5	56	46
5 to 30	60	50

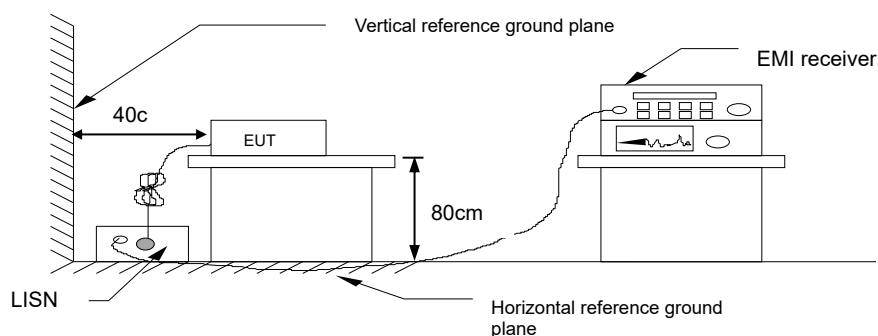
* Decreases with the logarithm of the frequency.

4.1.2 Test Procedure

Test method Refer as ANSI C63.10: 2013 clause 6.2,

1. The EUT was placed on a non-conducted table, which is 0.8m above horizontal ground plane and 0.4m above vertical ground plane.
2. EUT connected to the line impedance stabilization network (LISN)
3. Receiver set RBW of 9kHz and Detector Peak, and note as quasi-peak and average.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. Recorded Line for Neutral and Line.

4.1.3 Test Setup



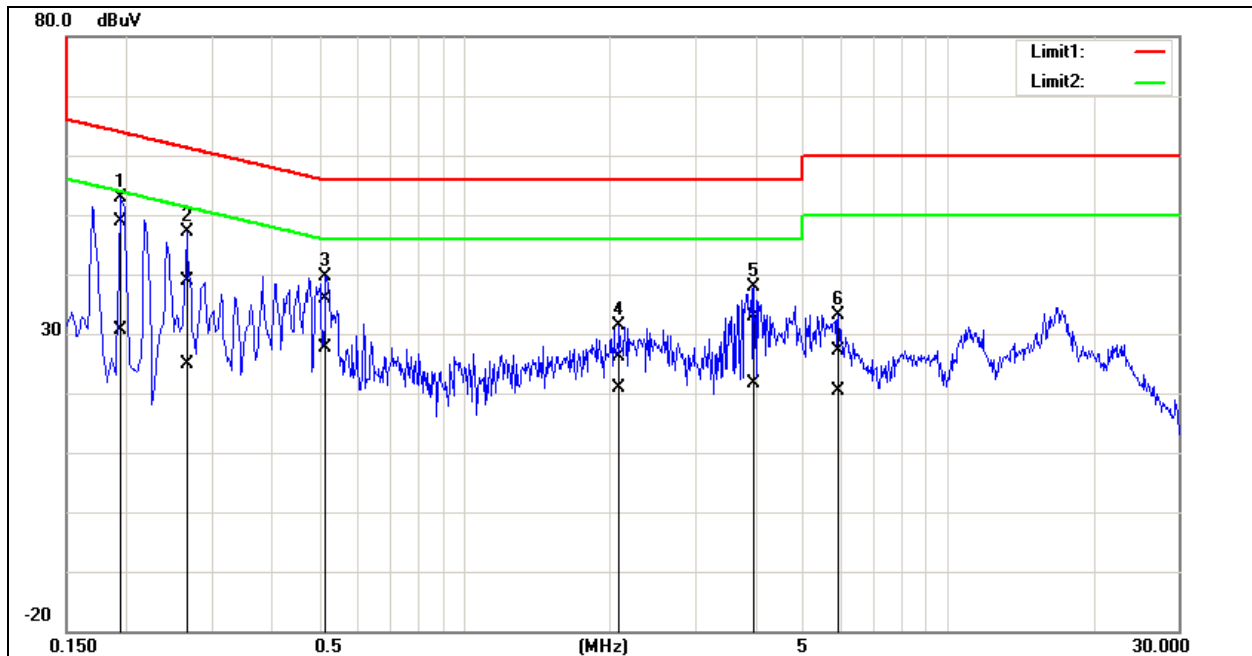
4.1.4 Test Result

Pass.

Test Data

Note: 1. Correction factor = LISN loss + Cable loss.

Project No.:	TM-2305000074P	Date:	2023/10/26
Standard:	NCC/FCC/IC QP	Temp.(°C)/Hum.(%):	24.3(°C)/52%
Test item:	Conduction test	Test By:	Tony.Chao
Line:	L1	Test Voltage:	AC 120V/60Hz
Model:	Mode 1		
Description:			

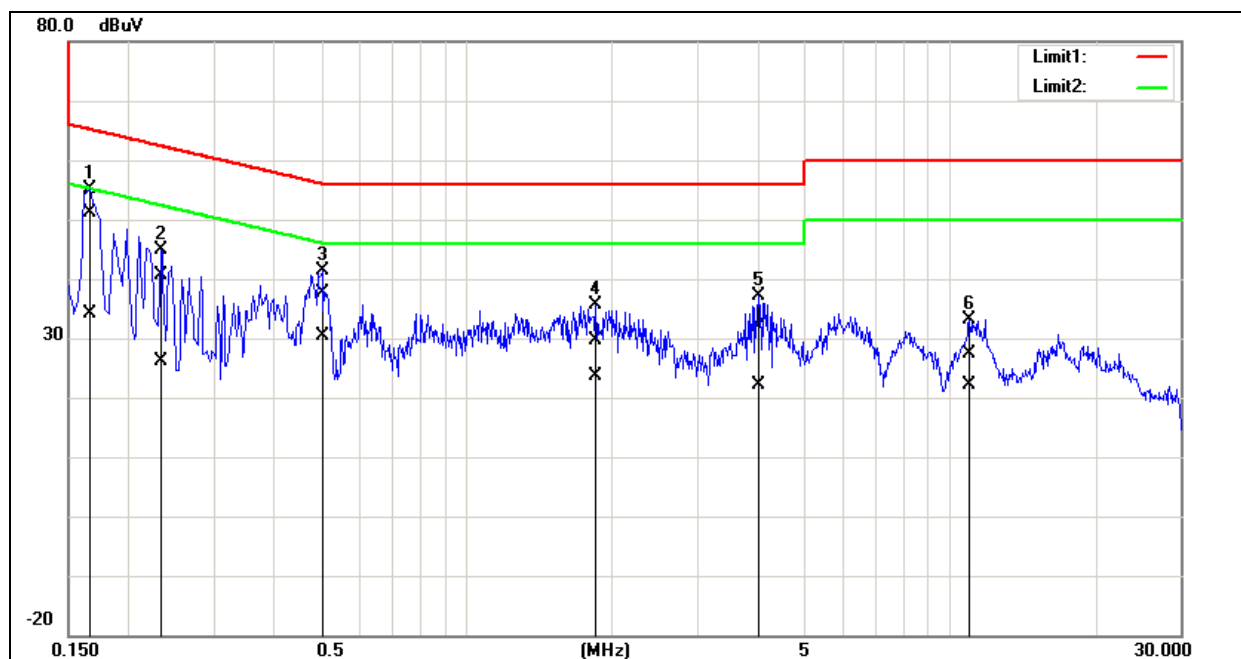


No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1*	0.1940	48.73	30.42	0.15	48.88	30.57	63.86	53.86	-14.98	-23.29	Pass
2	0.2660	38.69	24.72	0.15	38.84	24.87	61.24	51.24	-22.40	-26.37	Pass
3	0.5180	35.85	27.57	0.15	36.00	27.72	56.00	46.00	-20.00	-18.28	Pass
4	2.0980	25.93	20.57	0.22	26.15	20.79	56.00	46.00	-29.85	-25.21	Pass
5	3.9740	32.54	21.25	0.26	32.80	21.51	56.00	46.00	-23.20	-24.49	Pass
6	5.9420	26.78	20.20	0.29	27.07	20.49	60.00	50.00	-32.93	-29.51	Pass

Project No.: TM-2305000074P
Standard: NCC/FCC/IC QP
Test item: Conduction test
Line: N
Model: Mode 1

Date: 2023/10/26
Temp.(°C)/Hum.(%): 24.3(°C)/52%
Test By: Tony.Chao
Test Voltage: AC 120V/60Hz

Description:

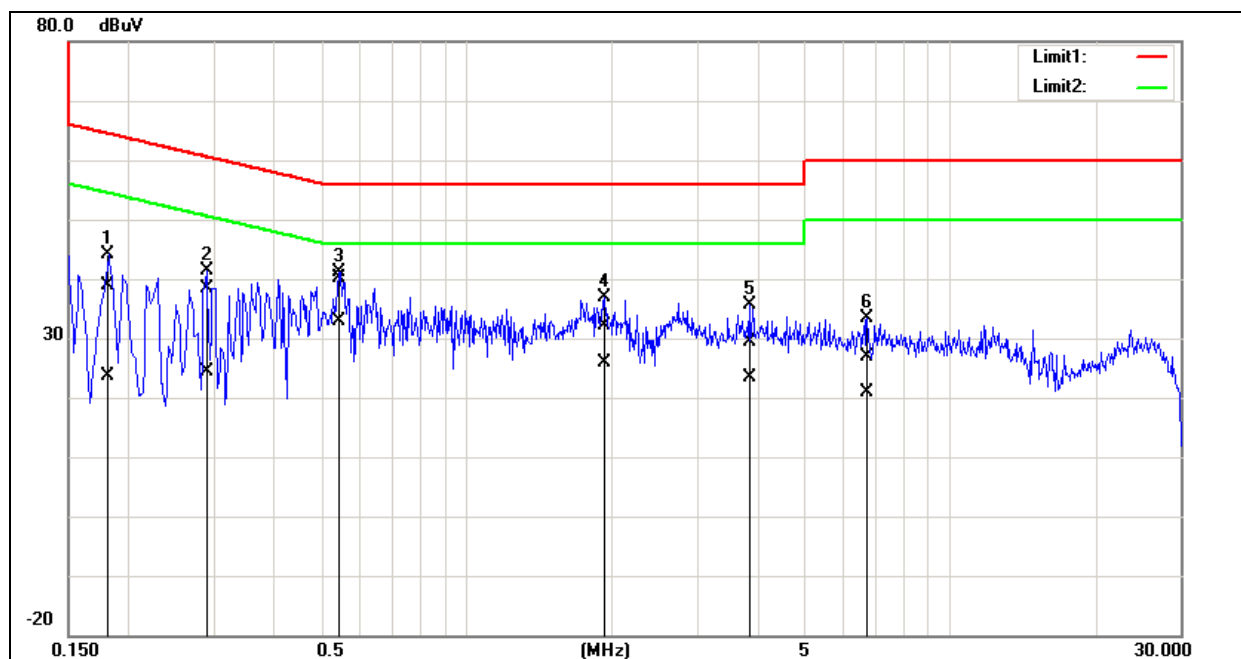


No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1*	0.1660	50.98	33.85	0.19	51.17	34.04	65.16	55.16	-13.99	-21.12	Pass
2	0.2340	40.50	26.05	0.19	40.69	26.24	62.31	52.31	-21.62	-26.07	Pass
3	0.5020	37.39	30.26	0.19	37.58	30.45	56.00	46.00	-18.42	-15.55	Pass
4	1.8500	29.36	23.45	0.25	29.61	23.70	56.00	46.00	-26.39	-22.30	Pass
5	4.0260	31.52	21.88	0.31	31.83	22.19	56.00	46.00	-24.17	-23.81	Pass
6	11.0100	27.07	21.63	0.41	27.48	22.04	60.00	50.00	-32.52	-27.96	Pass

Project No.: TM-2305000074P
Standard: NCC/FCC/IC QP
Test item: Conduction test
Line: L1
Model: Mode 2

Date: 2023/11/3
Temp.(°C)/Hum.(%): 24.3(°C)/52%
Test By: Tony.Chao
Test Voltage: AC 120V/60Hz

Description:

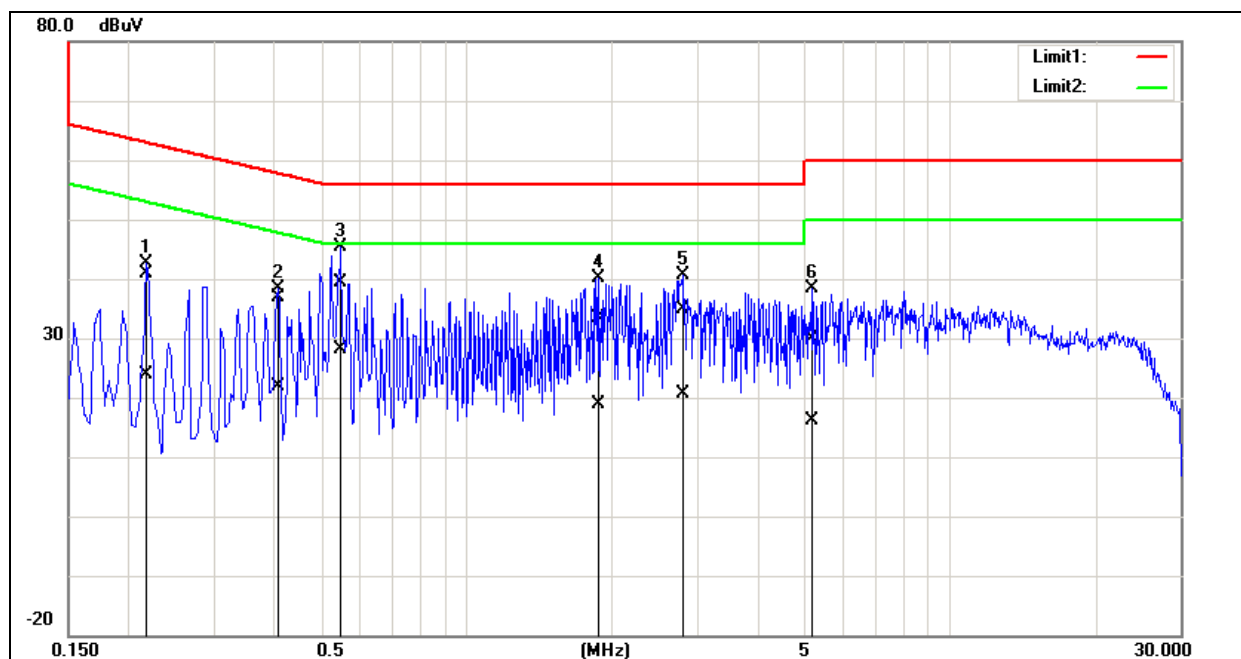


No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1	0.1820	38.81	23.36	0.15	38.96	23.51	64.39	54.39	-25.43	-30.88	Pass
2	0.2900	38.23	24.23	0.15	38.38	24.38	60.52	50.52	-22.14	-26.14	Pass
3*	0.5460	40.01	32.79	0.15	40.16	32.94	56.00	46.00	-15.84	-13.06	Pass
4	1.9300	31.85	25.60	0.22	32.07	25.82	56.00	46.00	-23.93	-20.18	Pass
5	3.8500	29.10	23.12	0.26	29.36	23.38	56.00	46.00	-26.64	-22.62	Pass
6	6.7540	26.57	20.52	0.30	26.87	20.82	60.00	50.00	-33.13	-29.18	Pass

Project No.: TM-2305000074P
Standard: NCC/FCC/IC QP
Test item: Conduction test
Line: N
Model: Mode 2

Date: 2023/11/3
Temp.(°C)/Hum.(%): 24.3(°C)/52%
Test By: Tony.Chao
Test Voltage: AC 120V/60Hz

Description:

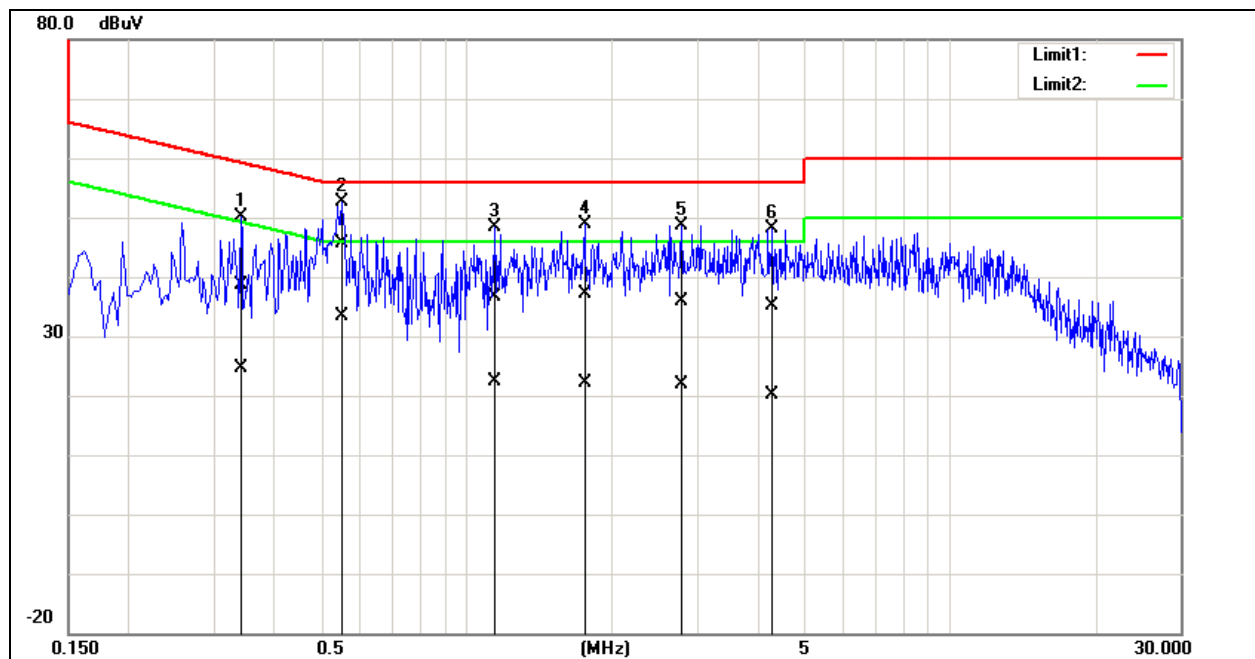


No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1	0.2180	40.62	23.71	0.19	40.81	23.90	62.89	52.89	-22.08	-28.99	Pass
2	0.4100	36.70	21.68	0.19	36.89	21.87	57.65	47.65	-20.76	-25.78	Pass
3*	0.5500	39.14	27.95	0.19	39.33	28.14	56.00	46.00	-16.67	-17.86	Pass
4	1.8780	33.21	18.74	0.26	33.47	19.00	56.00	46.00	-22.53	-27.00	Pass
5	2.8060	34.52	20.24	0.28	34.80	20.52	56.00	46.00	-21.20	-25.48	Pass
6	5.2060	29.43	15.90	0.33	29.76	16.23	60.00	50.00	-30.24	-33.77	Pass

Project No.: TM-2305000074P
Standard: NCC/FCC/IC QP
Test item: Conduction test
Line: L1
Model: Mode 2

Date: 2023/11/6
Temp.(°C)/Hum.(%): 24.3(°C)/52%
Test By: Tony.Chao
Test Voltage: AC 230V/50Hz

Description:

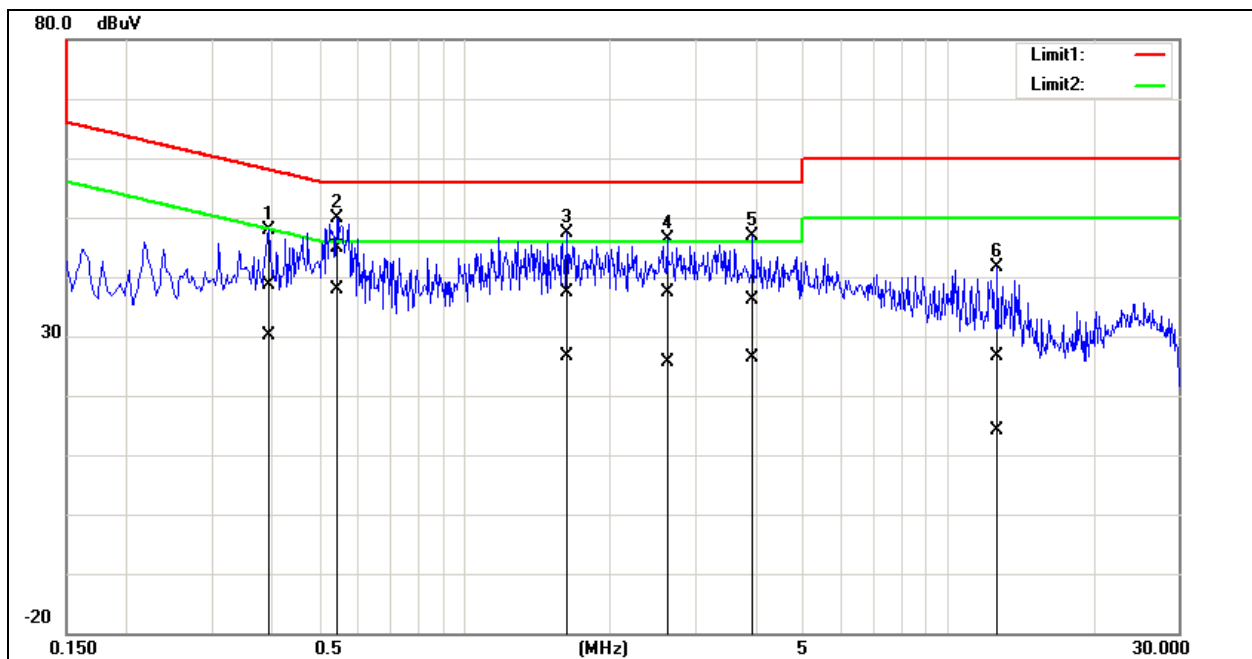


No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1	0.3420	28.51	14.53	10.19	38.70	24.72	59.15	49.15	-20.45	-24.43	Pass
2*	0.5540	35.43	23.20	10.19	45.62	33.39	56.00	46.00	-10.38	-12.61	Pass
3	1.1460	26.30	12.27	10.22	36.52	22.49	56.00	46.00	-19.48	-23.51	Pass
4	1.7540	26.96	11.92	10.26	37.22	22.18	56.00	46.00	-18.78	-23.82	Pass
5	2.7940	25.70	11.50	10.29	35.99	21.79	56.00	46.00	-20.01	-24.21	Pass
6	4.2980	24.77	9.88	10.31	35.08	20.19	56.00	46.00	-20.92	-25.81	Pass

Project No.: TM-2305000074P
Standard: NCC/FCC/IC QP
Test item: Conduction test
Line: N
Model: Mode 2

Date: 2023/11/6
Temp.(°C)/Hum.(%): 24.3(°C)/52%
Test By: Tony.Chao
Test Voltage: AC 230V/50Hz

Description:



No.	Frequency (MHz)	QuasiPeak reading (dBμV)	Average reading (dBμV)	Correction factor (dB)	QuasiPeak result (dBμV)	Average result (dBμV)	QuasiPeak limit (dBμV)	Average limit (dBμV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1	0.3940	28.45	20.04	10.18	38.63	30.22	57.98	47.98	-19.35	-17.76	Pass
2*	0.5460	34.76	27.70	10.18	44.94	37.88	56.00	46.00	-11.06	-8.12	Pass
3	1.6300	27.17	16.38	10.24	37.41	26.62	56.00	46.00	-18.59	-19.38	Pass
4	2.6260	27.05	15.42	10.27	37.32	25.69	56.00	46.00	-18.68	-20.31	Pass
5	3.9460	25.81	16.01	10.29	36.10	26.30	56.00	46.00	-19.90	-19.70	Pass
6	12.6940	16.19	3.65	10.38	26.57	14.03	60.00	50.00	-33.43	-35.97	Pass

4.2 26dB BANDWIDTH, 6dB BANDWIDTH AND OCCUPIED BANDWIDTH(99%)

4.2.1 Test Limit

26 dB Bandwidth : For reporting purposes only.

6 dB Bandwidth : Least 500kHz.

Occupied Bandwidth(99%) : For reporting purposes only.

4.2.2 Test Procedure

26dB

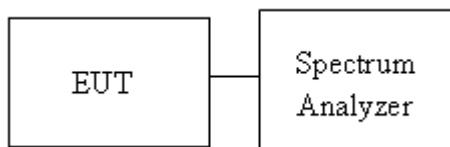
1. This measurement setting are specified in section D of KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
2. Set RBW: approximately 1% of the emission bandwidth.
3. Set the VBW>RBW.
4. Detector = Peak.
5. Trace mode = max hold.
6. Measure the maximum width of the emission that is 26dB down from the peak of the emission. Compare this with the RBW setting of the analyser. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

6dB

1. This measurement setting are specified in section D of KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
2. Set RBW = 100 kHz.
3. Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
4. Detector = Peak.
5. Trace mode = max hold.
6. Sweep = auto couple.
7. Allow the trace to stabilize.
8. 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.

99%

1. This measurement setting are specified in section D of KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
2. Set center frequency to the nominal EUT channel center frequency.
3. Set span = 1.5 times to 5.0 times the OBW.
4. Set RBW = 1 % to 5% of the OBW.
5. Set VBW $\geq 3 \times$ RBW

4.2.3 Test Setup

4.2.4 Test Result

Temperature: 22.7~25.6°C

Test date: October 11 ~ 30, 2023

Humidity: 51~61% RH

Tested by: David Li

Occupied Bandwidth (99%)

802.11a_Ch0

Frequency (MHz)	99% BW (MHz)	10 Log (B) (dB)
5180	16.649	12.210
5220	16.654	12.220
5240	16.688	12.220
5260	16.682	12.220
5300	16.724	12.230
5320	16.659	12.220
5500	16.668	12.220
5580	16.683	12.220
5700	16.683	12.220

802.11a_Ch0

Frequency (MHz)	99% BW (MHz)	6dB BW (MHz)
5745	16.680	16.470
5785	16.645	16.390
5825	16.694	16.440

802.11n_HT20_Ch0

Frequency (MHz)	99% BW (MHz)	10 Log (B) (dB)
5180	17.811	12.510
5220	17.796	12.500
5240	17.852	12.520
5260	17.841	12.510
5300	17.841	12.510
5320	17.801	12.500
5500	17.842	12.510
5580	17.946	12.540
5700	17.896	12.530

802.11n_HT20_Ch0

Frequency (MHz)	99% BW (MHz)	6dB BW (MHz)
5745	17.946	17.620
5785	17.881	17.600
5825	17.794	17.630

802.11n_HT40_Ch0

Frequency (MHz)	99% BW (MHz)	10 Log (B) (dB)
5190	36.092	15.570
5230	36.065	15.570
5270	36.122	15.580
5310	36.163	15.580
5510	36.039	15.570
5550	36.100	15.580
5670	36.188	15.590

802.11n_HT40_Ch0

Frequency (MHz)	99% BW (MHz)	6dB BW (MHz)
5755	36.161	35.930
5795	36.179	36.280



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802.11ac_VHT80_Ch0

Frequency (MHz)	99% BW (MHz)	10 Log (B) (dB)
5210	74.653	18.730
5290	74.758	18.740
5530	74.639	18.730
5610	74.790	18.740

802.11ac_VHT80_Ch0

Frequency (MHz)	99% BW (MHz)	6dB BW (MHz)
5775	74.789	73.090

26dB Bandwidth & 6dB Bandwidth

802.11a_Ch0

Freq. (MHz)	26dB BW (MHz)	10 Log (B) (dB)
5180	21.11	13.240
5220	21.66	13.360
5240	21.46	13.320
5260	21.62	13.350
5300	21.06	13.230
5320	21.41	13.310
5500	21.19	13.260
5580	21.26	13.280
5700	21.76	13.380

802.11a_Ch0

Freq. (MHz)	6dB BW (MHz)	10 Log (B) (dB)
5745	16.39	12.150
5785	16.41	12.150
5825	16.41	12.150

802.11a_Ch0

Freq. (MHz)	Measured Freq. (MHz)	Limit (MHz)
5240	5248.36	< 5250
5745	5736.73	> 5725

802.11n_HT20_Ch0

Freq. (MHz)	26dB BW (MHz)	10 Log (B) (dB)
5180	22.00	13.420
5220	21.91	13.410
5240	22.73	13.570
5260	21.83	13.390
5300	22.46	13.510
5320	24.93	13.970
5500	23.15	13.650
5580	29.63	14.720
5700	28.29	14.520

802.11n_HT20_Ch0

Freq. (MHz)	6dB BW (MHz)	10 Log (B) (dB)
5745	17.25	12.370
5785	17.28	12.380
5825	17.61	12.460

802.11n_HT20_Ch0

Freq. (MHz)	Measured Freq. (MHz)	Limit (MHz)
5240	5248.94	< 5250
5745	5736.10	> 5725

802.11n_HT40_Ch0

Freq. (MHz)	26dB BW (MHz)	10 Log (B) (dB)
5190	42.22	16.260
5230	43.99	16.430
5270	46.55	16.680
5310	49.02	16.900
5510	44.81	16.510
5550	47.66	16.780
5670	55.94	17.480

802.11n_HT40_Ch0

Freq. (MHz)	6dB BW (MHz)	10 Log (B) (dB)
5755	33.27	15.220
5795	34.50	15.380

802.11n_HT40_Ch0

Freq. (MHz)	Measured Freq. (MHz)	Limit (MHz)
5230	5248.04	< 5250
5755	5736.91	> 5725

802.11ac_VHT80_Ch0

Freq. (MHz)	26dB BW (MHz)	10 Log (B) (dB)
5210	80.85	19.080
5290	86.23	19.360
5530	85.52	19.320
5610	102.86	20.120

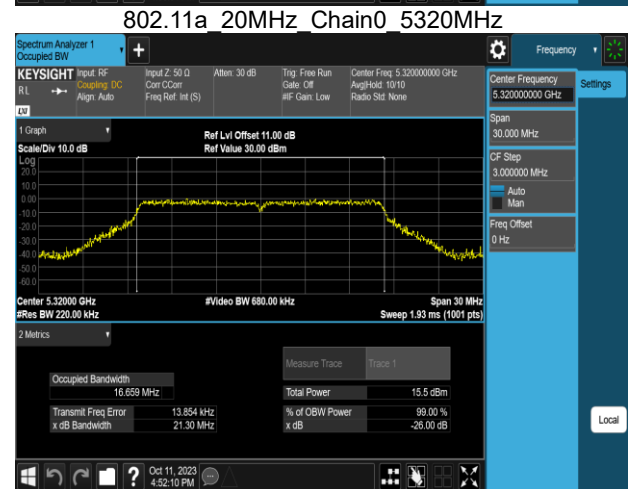
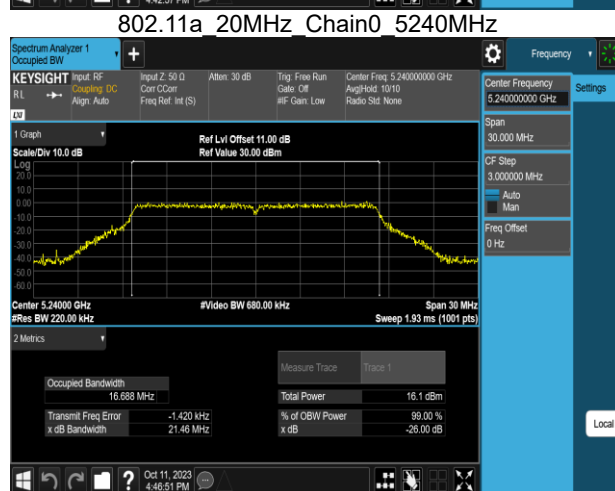
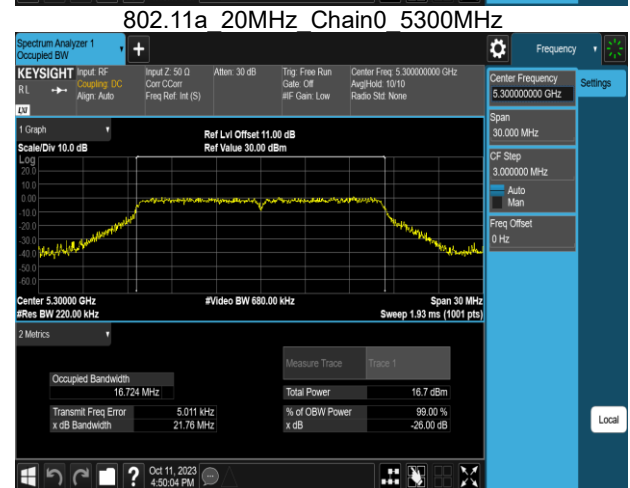
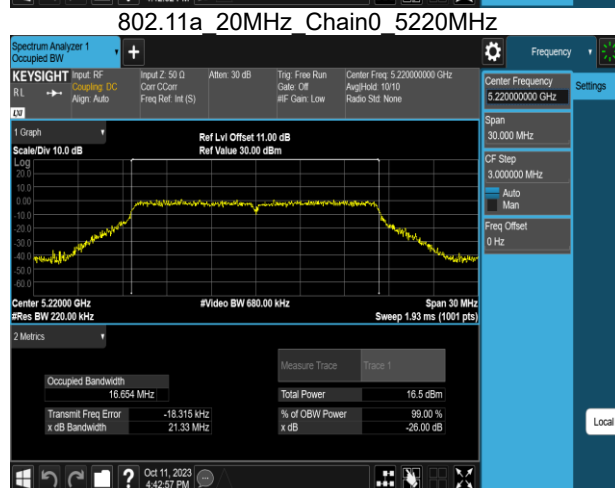
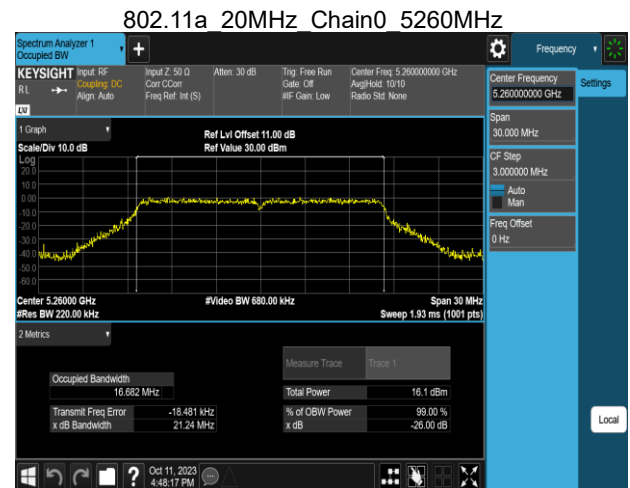
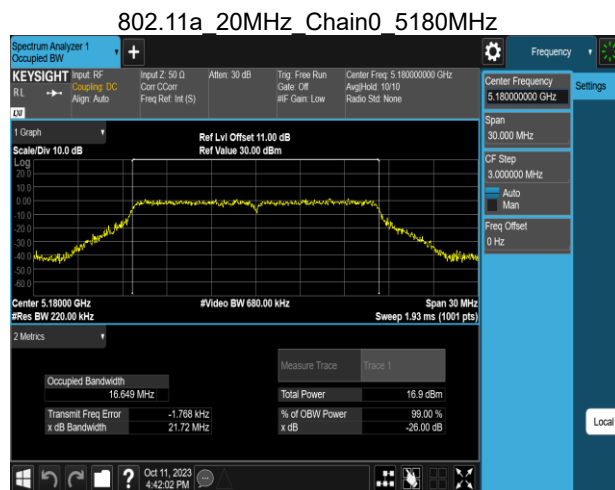
802.11ac_VHT80_Ch0

Freq. (MHz)	6dB BW (MHz)	10 Log (B) (dB)
5775	72.78	18.620

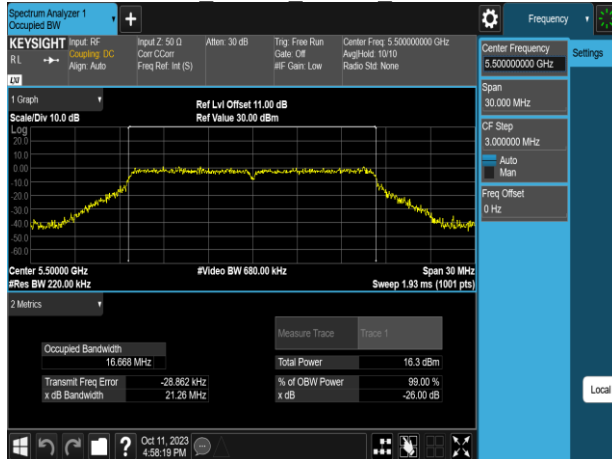
802.11ac_VHT80_Ch0

Freq. (MHz)	Measured Freq. (MHz)	Limit (MHz)
5210	5247.39	< 5250
5775	5737.61	> 5725

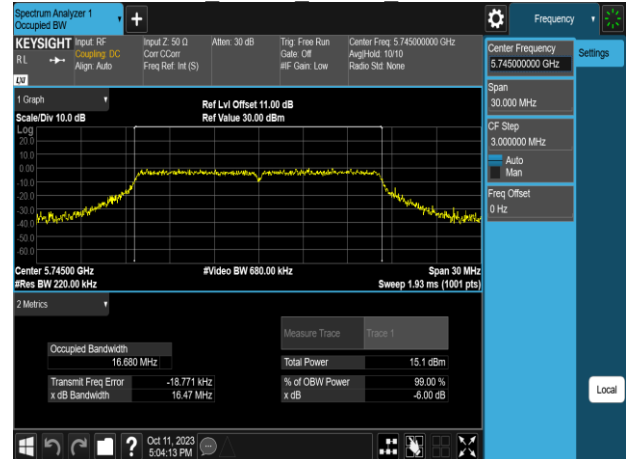
Test Data (Occupied Bandwidth 99%)



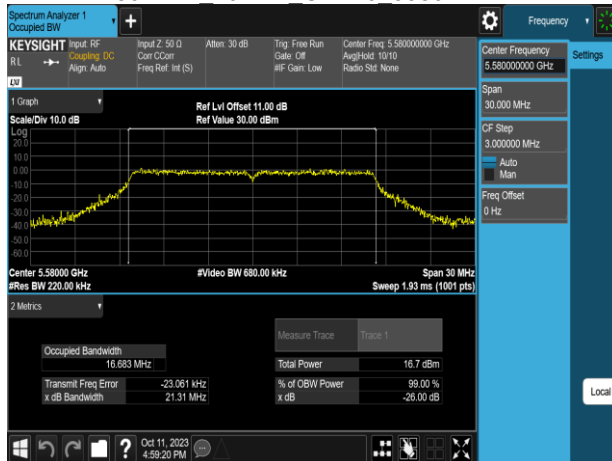
802.11a 20MHz Chain0 5500MHz



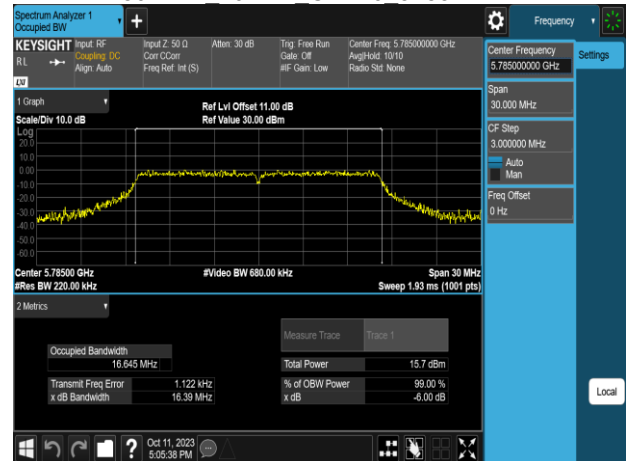
802.11a 20MHz Chain0 5745MHz



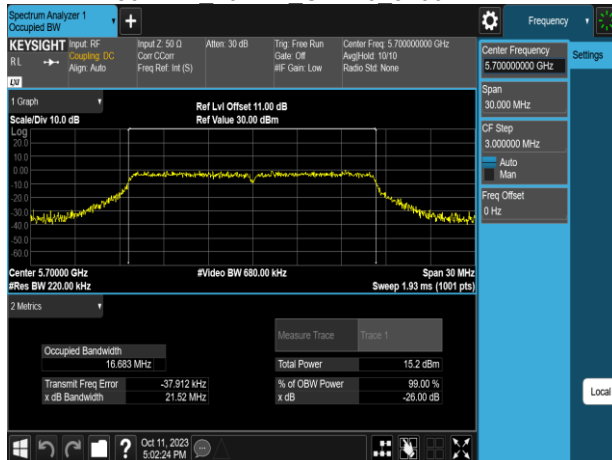
802.11a 20MHz Chain0 5580MHz



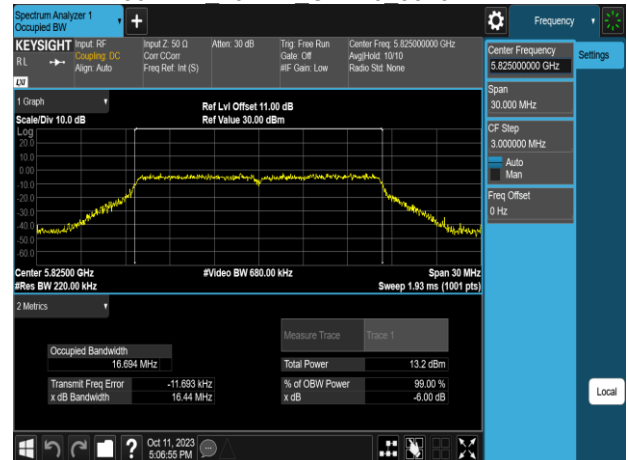
802.11a 20MHz Chain0 5785MHz



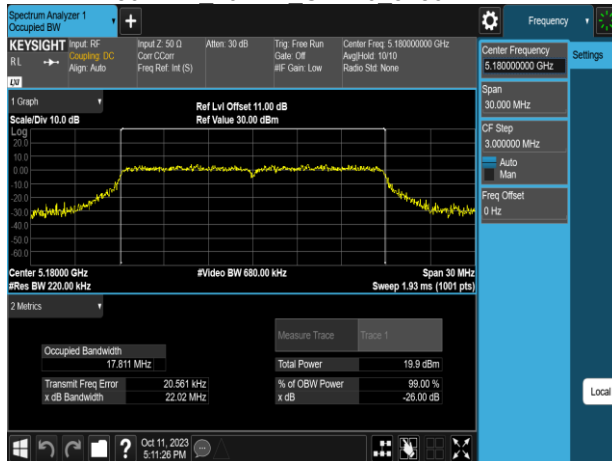
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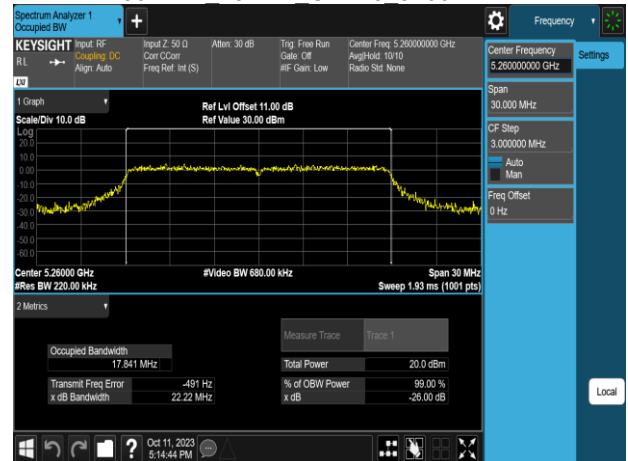
802.11a 20MHz Chain0 5825MHz



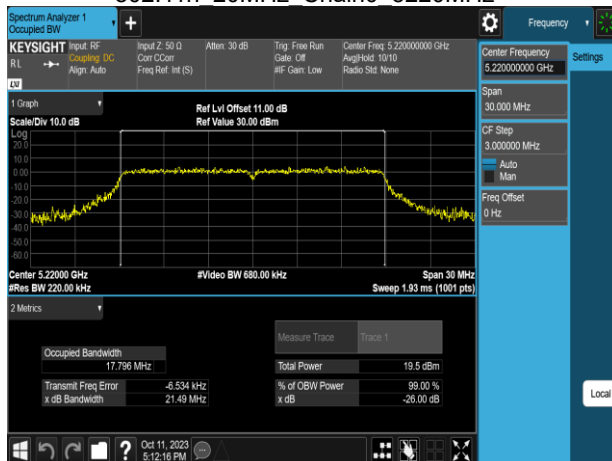
802.11n 20MHz Chain0 5180MHz



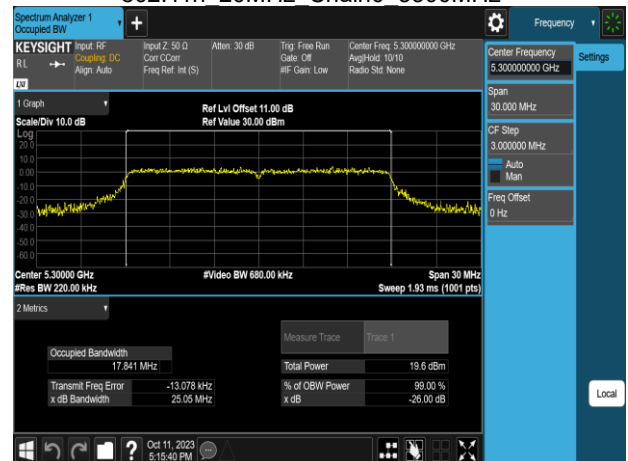
802.11n 20MHz Chain0 5260MHz



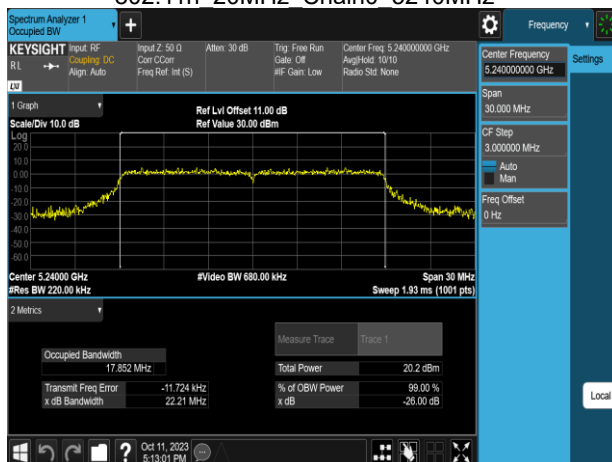
802.11n 20MHz Chain0 5220MHz



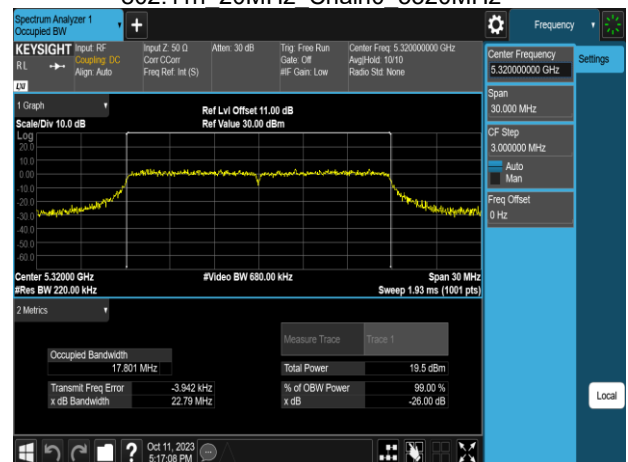
802.11n 20MHz Chain0 5300MHz



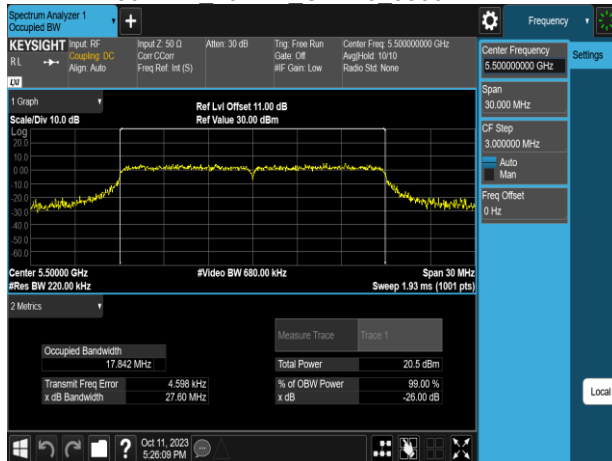
802.11n 20MHz Chain0 5240MHz



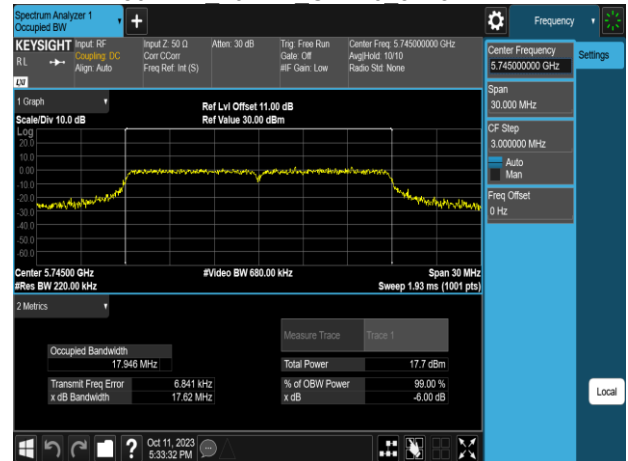
802.11n 20MHz Chain0 5320MHz



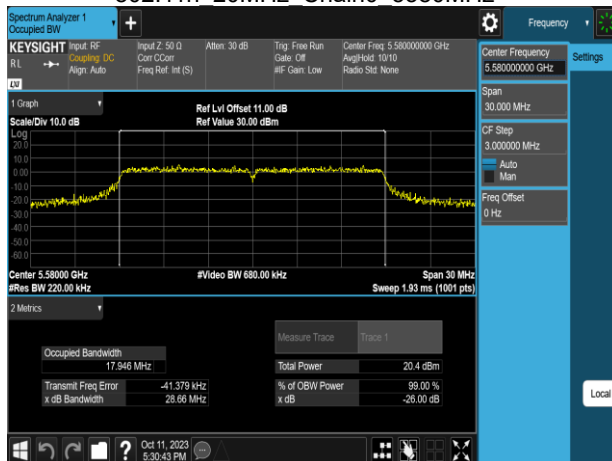
802.11n 20MHz Chain0 5500MHz



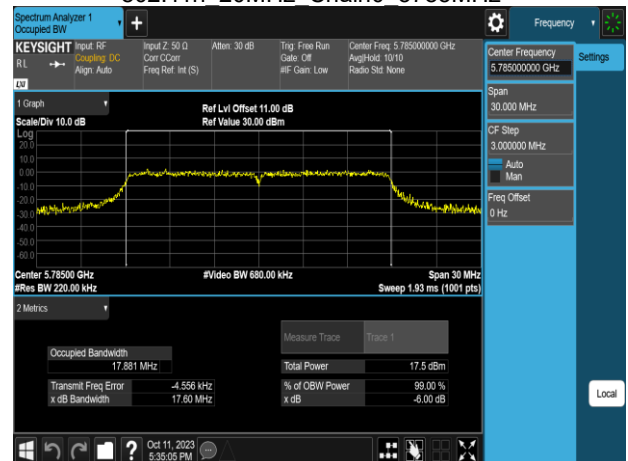
802.11n 20MHz Chain0 5745MHz



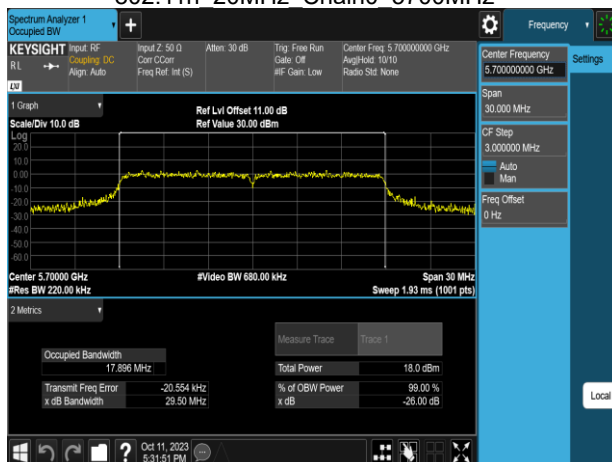
802.11n 20MHz Chain0 5580MHz



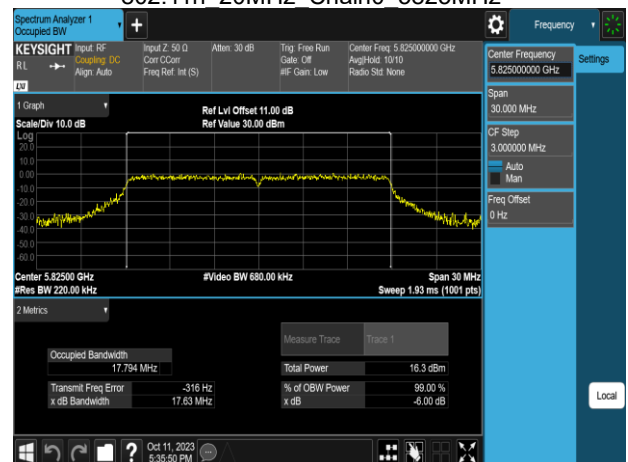
802.11n 20MHz Chain0 5785MHz

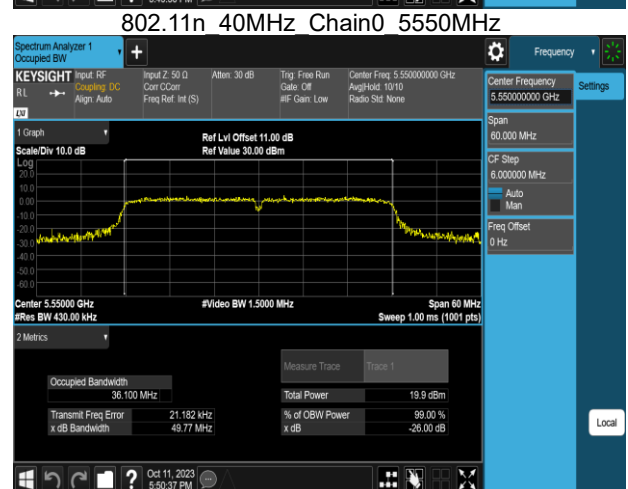
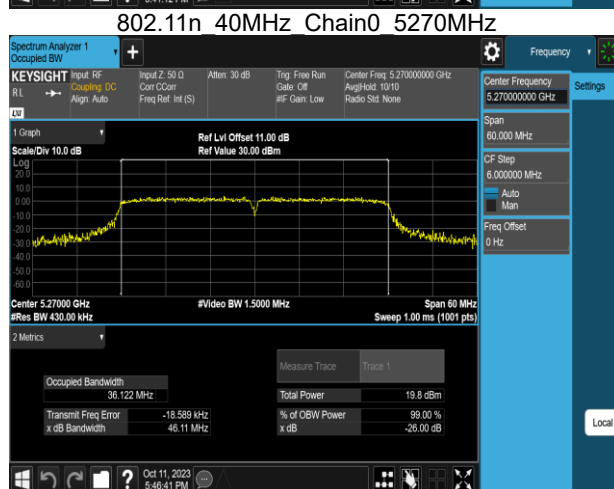
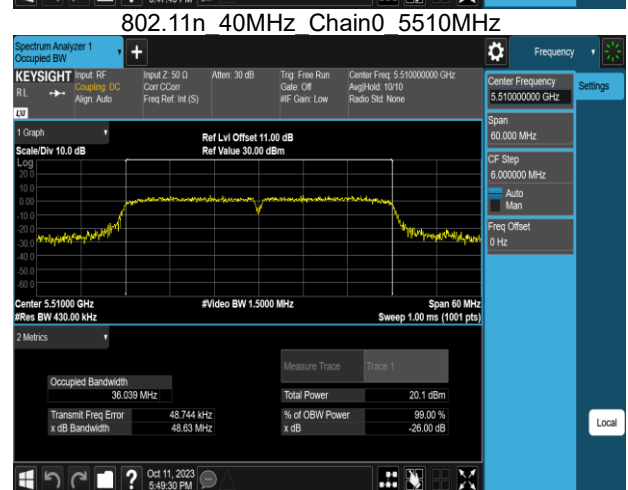
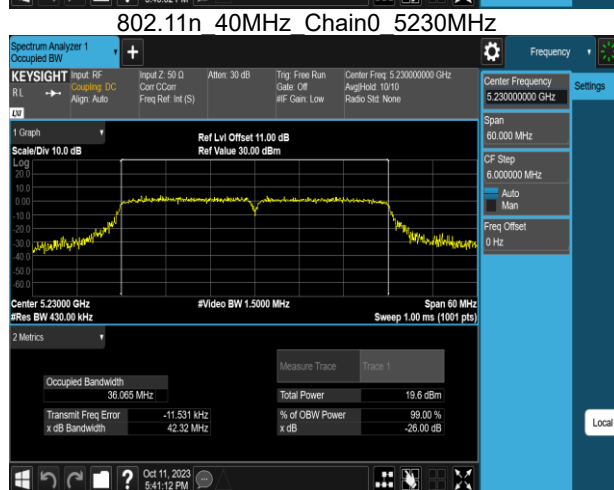
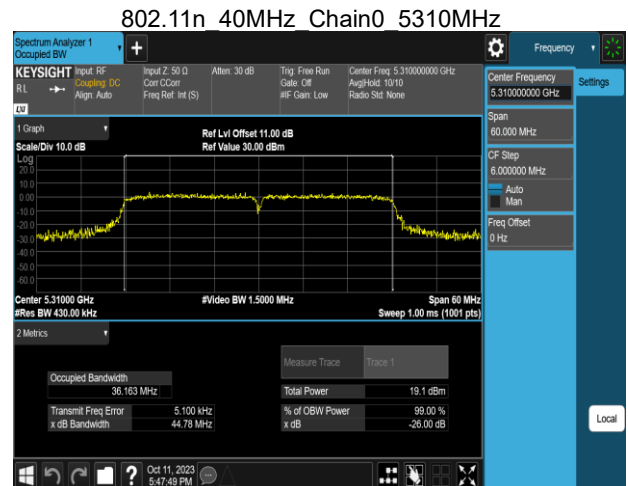
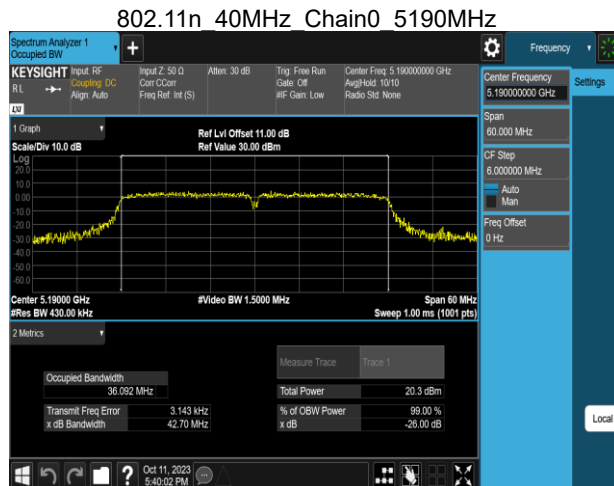


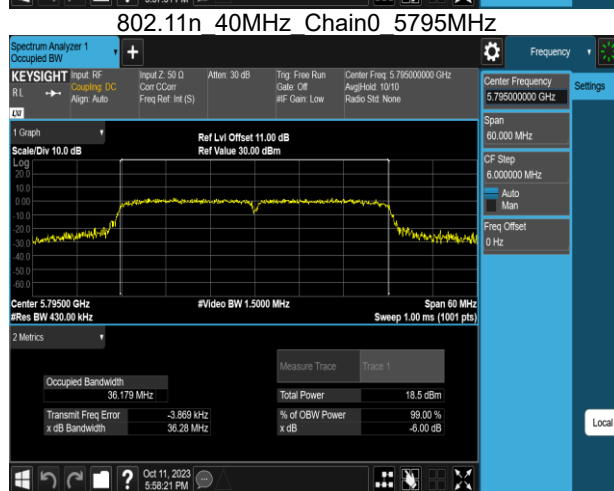
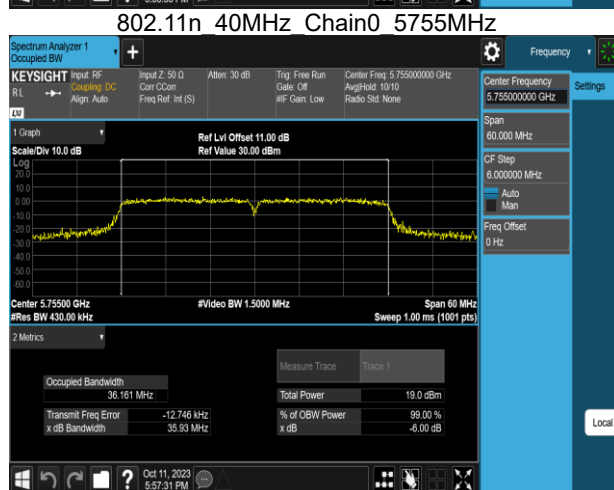
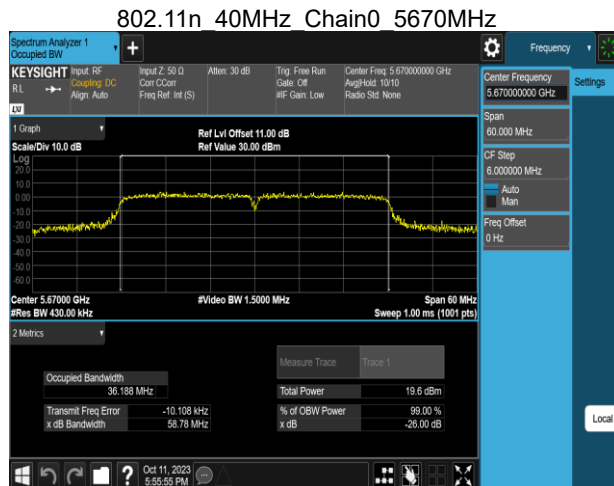
802.11n 20MHz Chain0 5700MHz

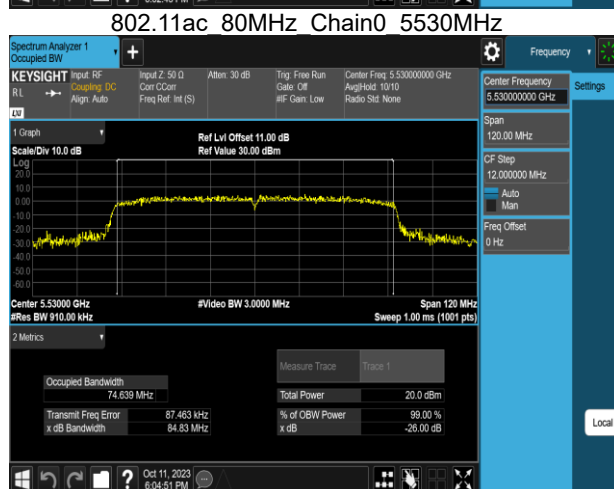
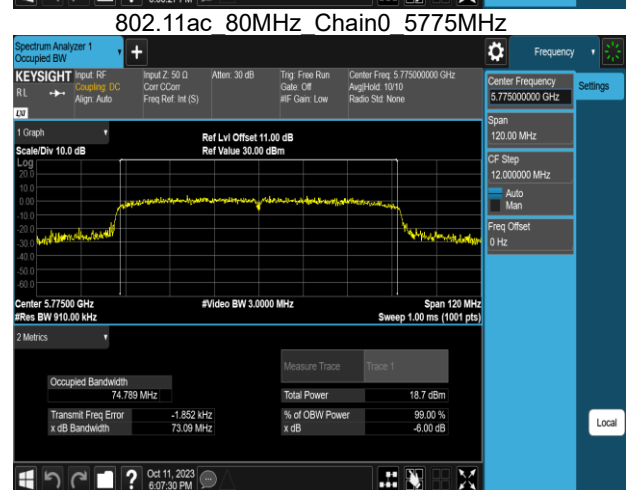
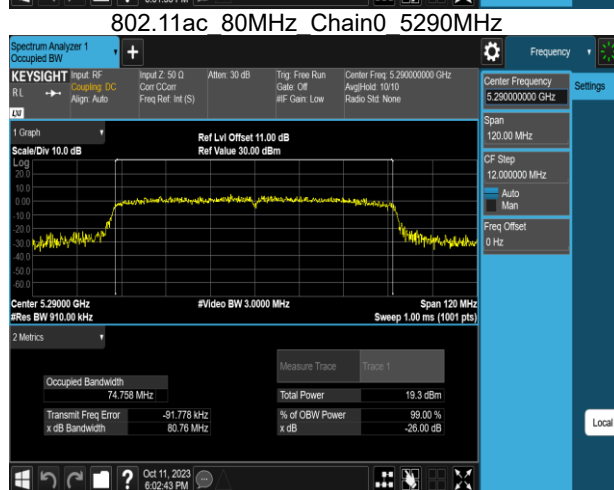
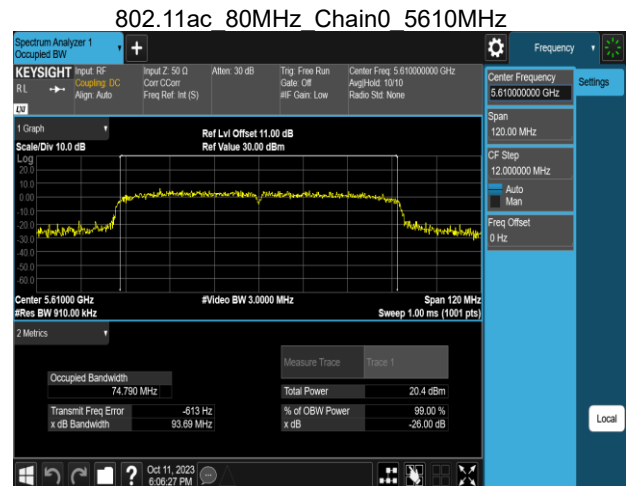
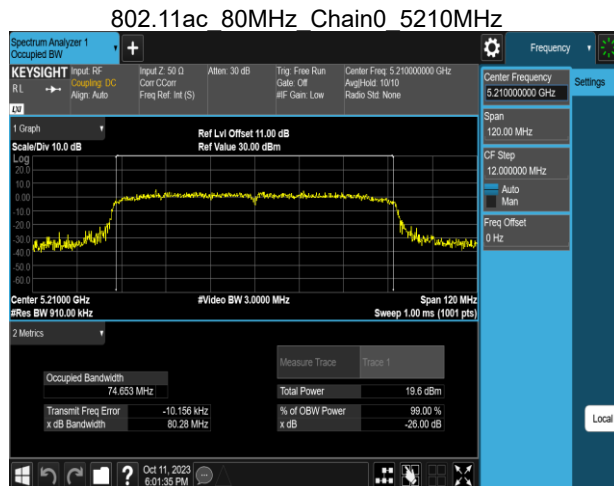


802.11n 20MHz Chain0 5825MHz









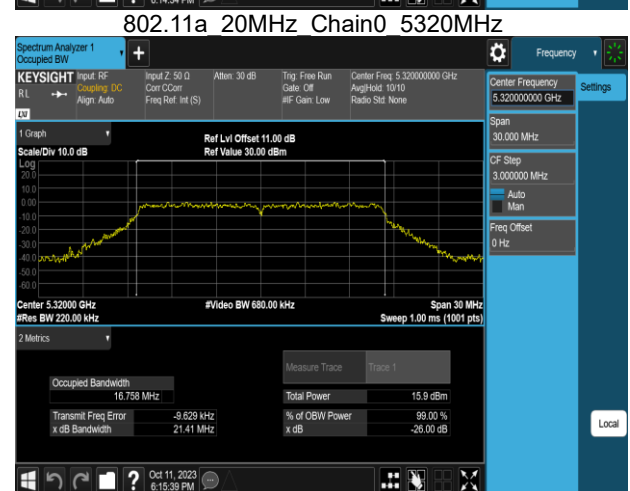
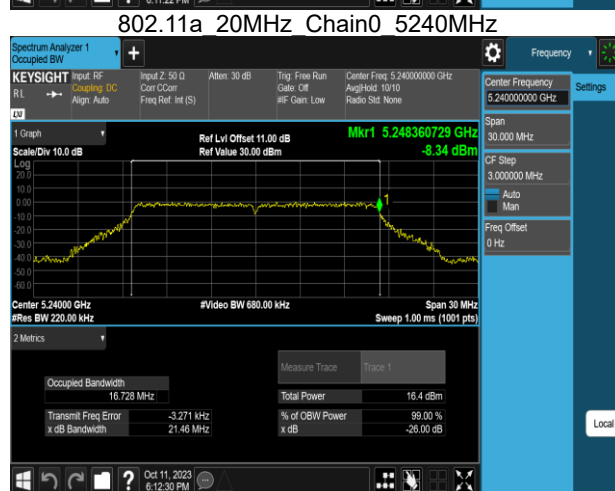
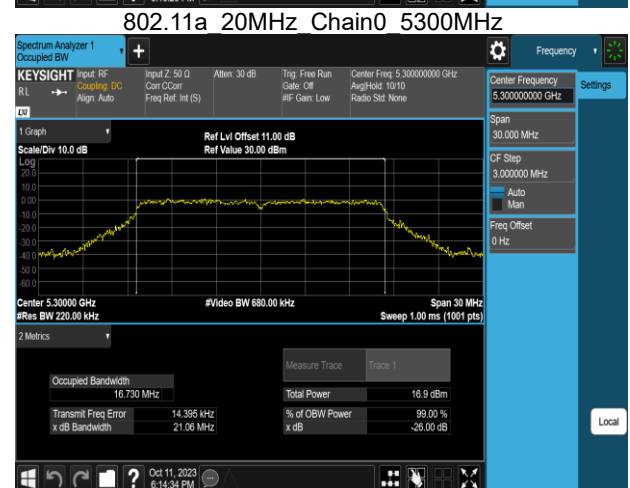
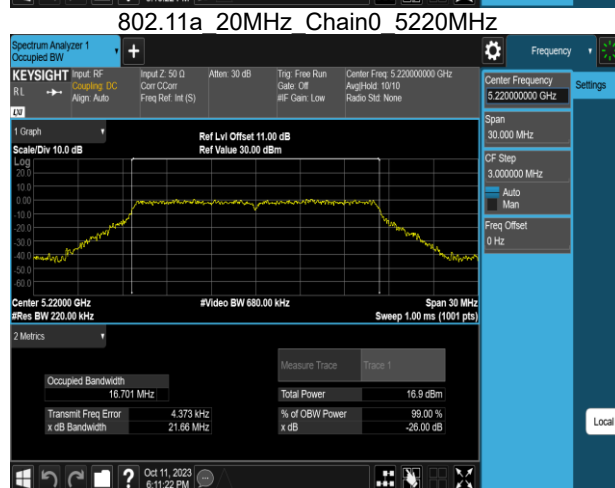
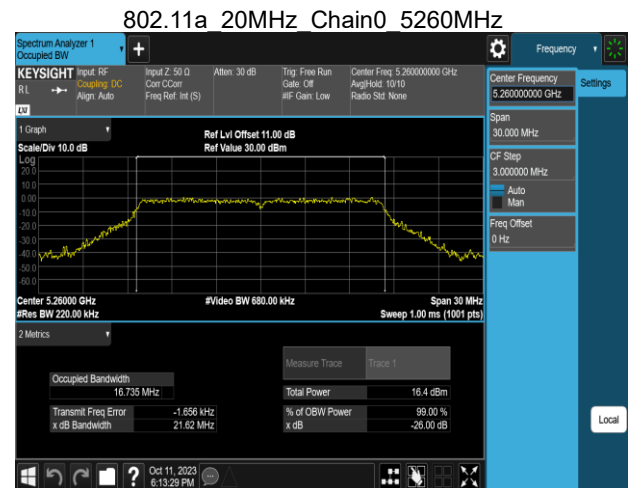
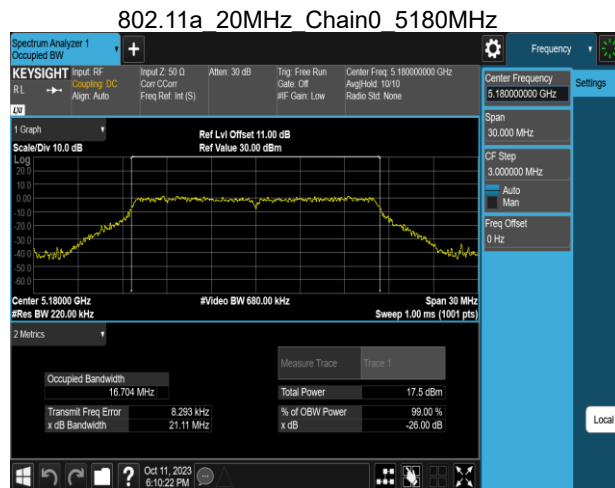


Report No.: TMWK2305001409KR

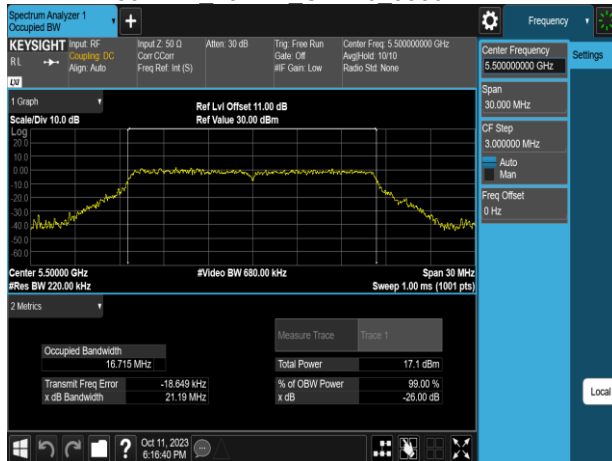
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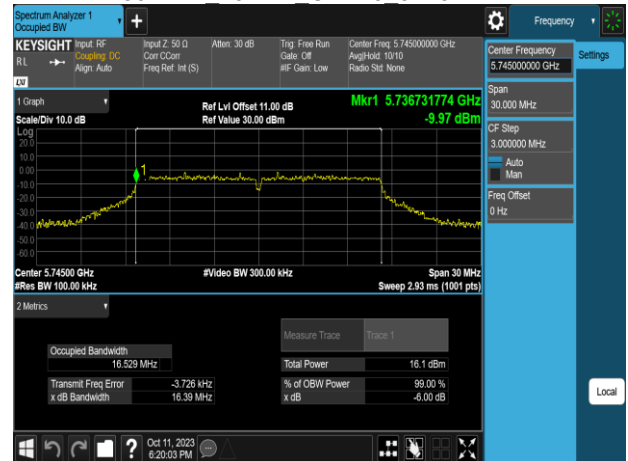
Test Data (26dB Bandwidth & 6dB Bandwidth)



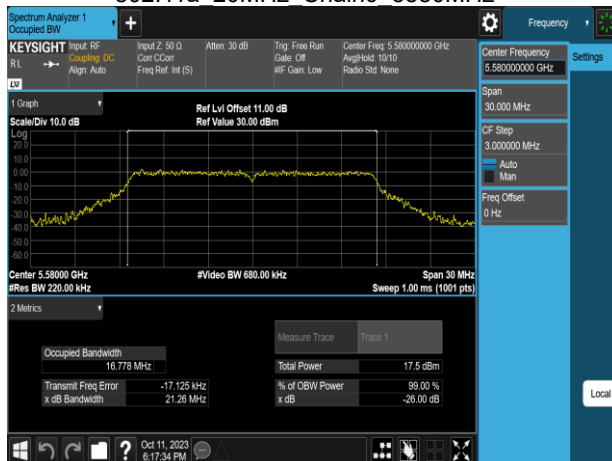
802.11a 20MHz Chain0 5500MHz



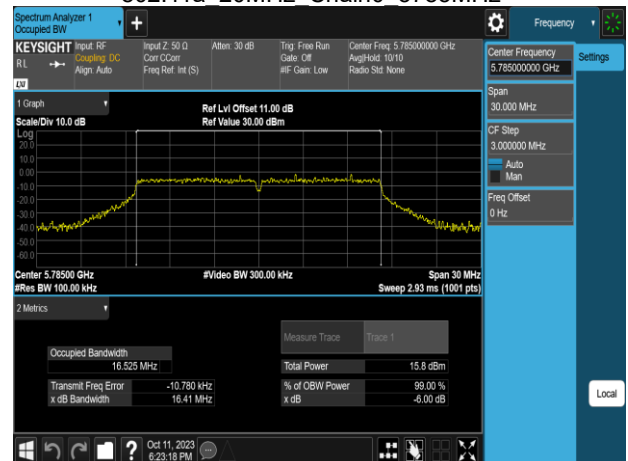
802.11a 20MHz Chain0 5745MHz



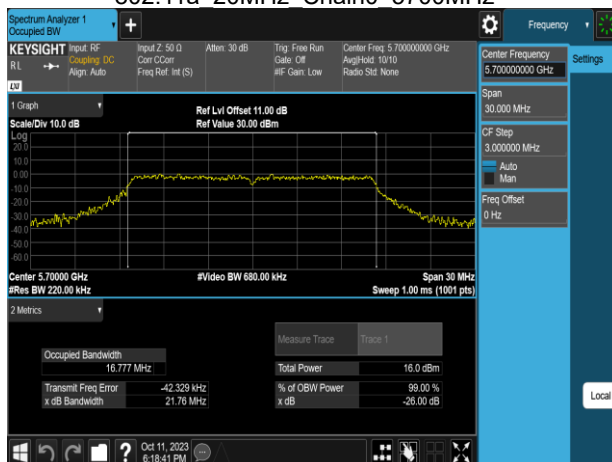
802.11a 20MHz Chain0 5580MHz



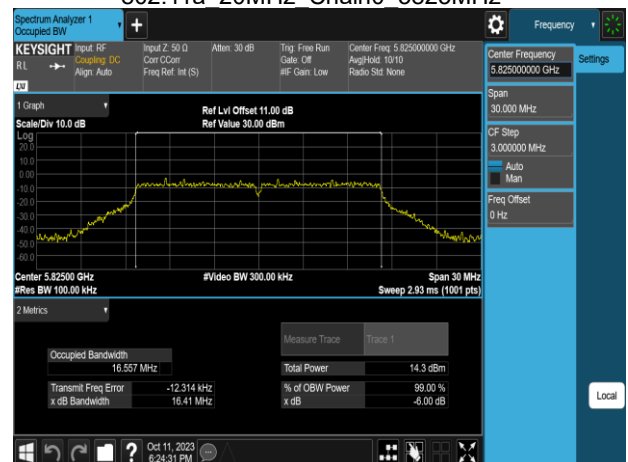
802.11a 20MHz Chain0 5785MHz



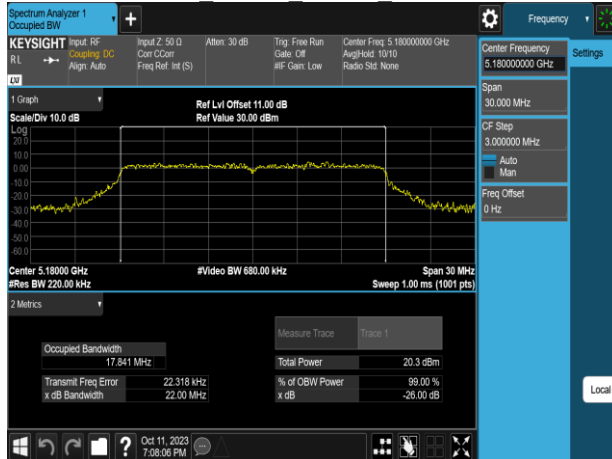
802.11a 20MHz Chain0 5700MHz



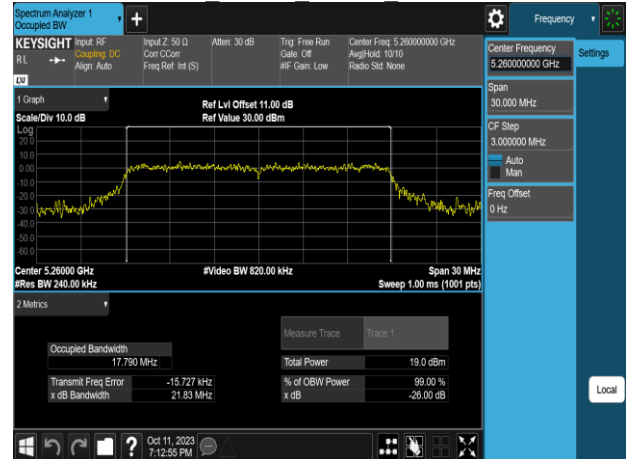
802.11a 20MHz Chain0 5825MHz



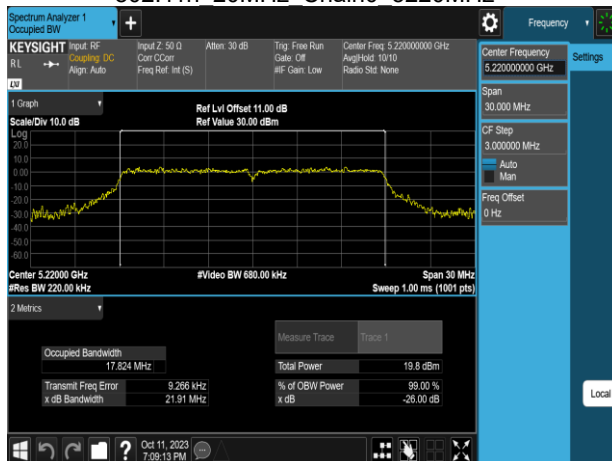
802.11n 20MHz Chain0 5180MHz



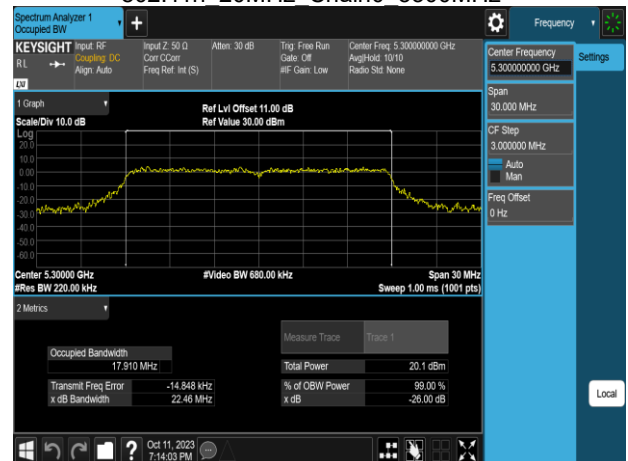
802.11n 20MHz Chain0 5260MHz



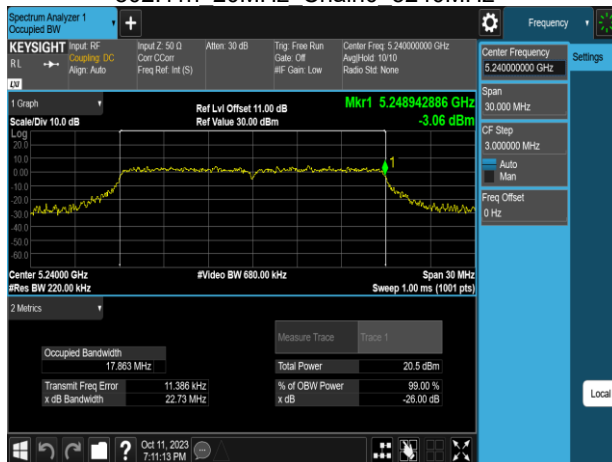
802.11n 20MHz Chain0 5220MHz



802.11n 20MHz Chain0 5300MHz



802.11n 20MHz Chain0 5240MHz



802.11n 20MHz Chain0 5320MHz

