

Test Information:

Sample No.:	2X4M-1	Test Date:	2025/02/10~2025/02/26
Test Site:	RF	Test Mode:	Transmitting
Tester:	Arthur Su	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	23.5-25.3	Relative Humidity: (%)	40-49	ATM Pressure: (kPa)	101.7-101.9
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU26	200256	2024/04/01	2025/03/31
R&S	Spectrum Analyzer	FSU26	100147	2024/04/01	2025/03/31
Agilent	USB Average Power Sensor	U2001H	MY50000380	2024/04/01	2025/03/31
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A

* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Emission Bandwidth**26dB Emission Bandwidth****5150-5250MHz**

Mode	Antenna	Test Frequency (MHz)	Result (MHz)
802.11a	Chain 0	5180	23.452
		5200	23.278
		5240	23.520
802.11n20	Chain 0	5180	23.315
		5200	23.119
		5240	23.286
802.11n40	Chain 0	5190	45.520
		5230	44.640

Note: Test only was performed at Chain 0.

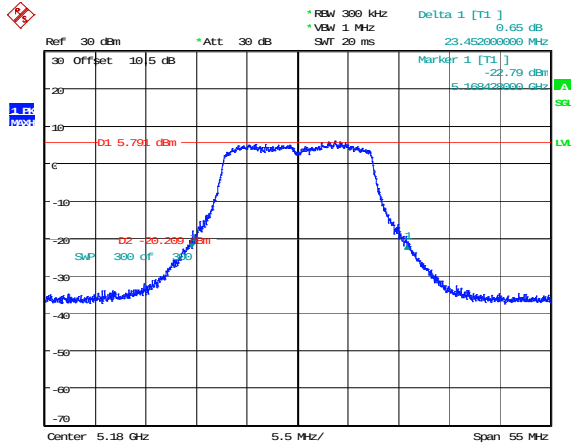
6dB Emission Bandwidth**5725-5850MHz**

Mode	Antenna	Test Frequency (MHz)	Result (MHz)	Limit (MHz)	Verdict
802.11a	Chain 0	5745	16.650	0.5	Pass
		5785	16.600	0.5	Pass
		5825	16.500	0.5	Pass
802.11n20	Chain 0	5745	17.800	0.5	Pass
		5785	17.800	0.5	Pass
		5825	17.700	0.5	Pass
802.11n40	Chain 0	5755	36.300	0.5	Pass
		5795	36.500	0.5	Pass

Note: Test only was performed at Chain 0.

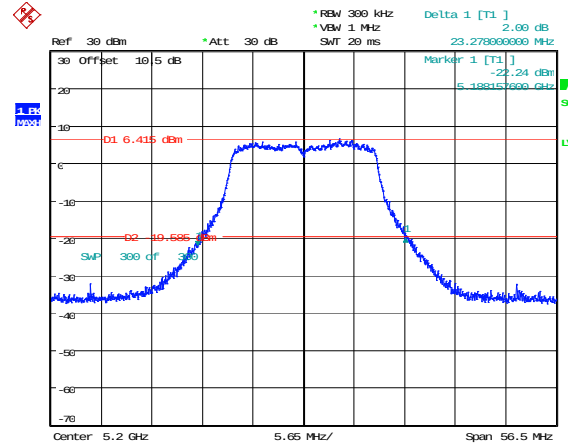
5150-5250MHz

802.11a_5180MHz_Chain 0



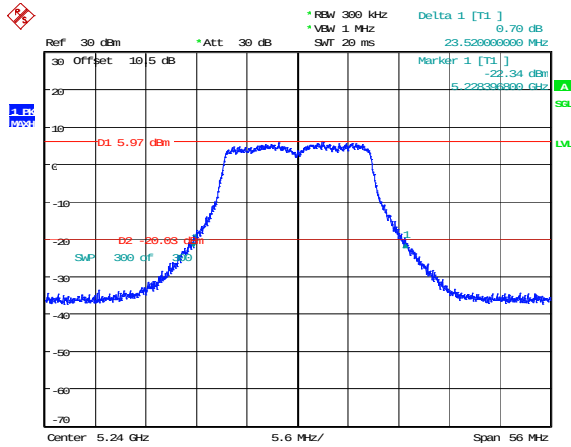
Comment: ProjectNo.:2503P40909E-RF Tester:Arthur Su
 Date: 18.FEB.2025 11:54:01

802.11a_5200MHz_Chain 0



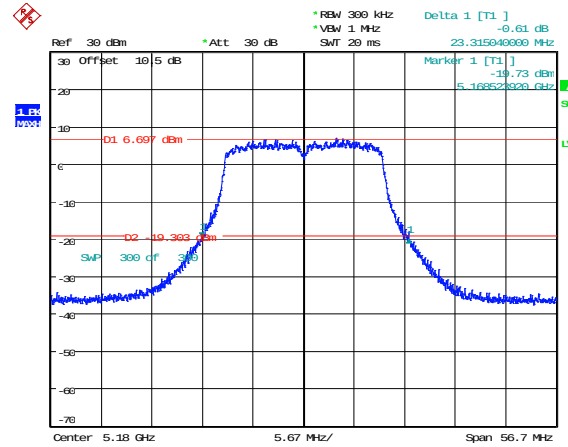
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 Date: 18.FEB.2025 13:57:31

802.11a_5240MHz_Chain 0



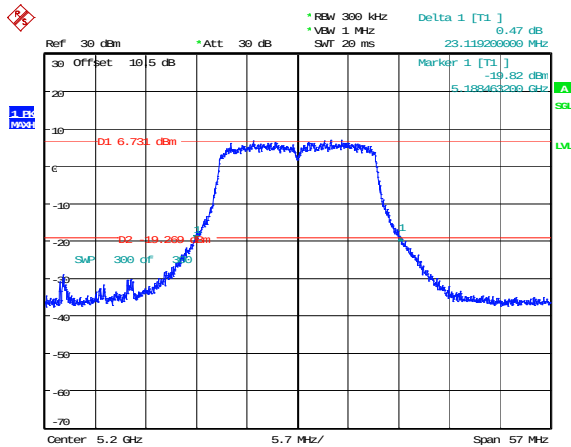
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802.11n20_5180MHz_Chain 0



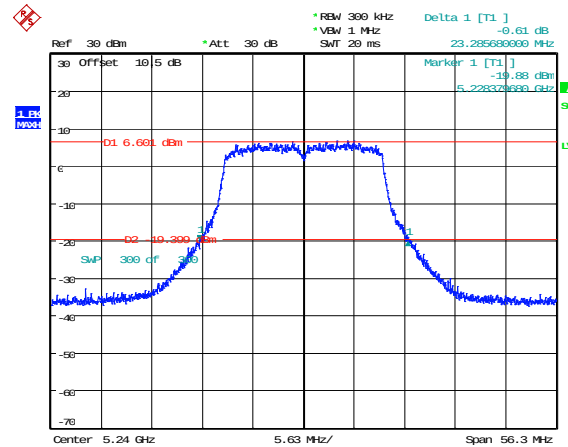
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802.11n20_5200MHz_Chain 0



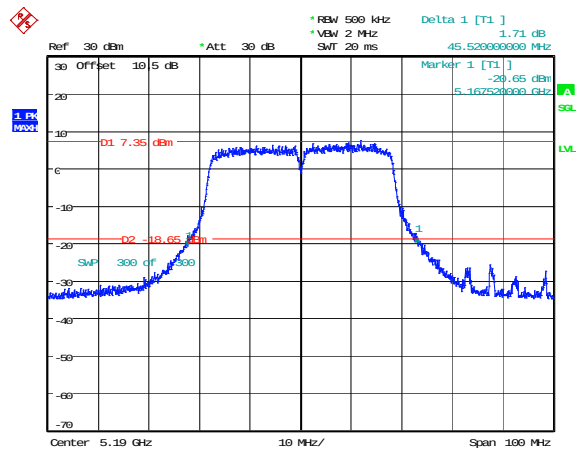
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802.11n20_5240MHz_Chain 0



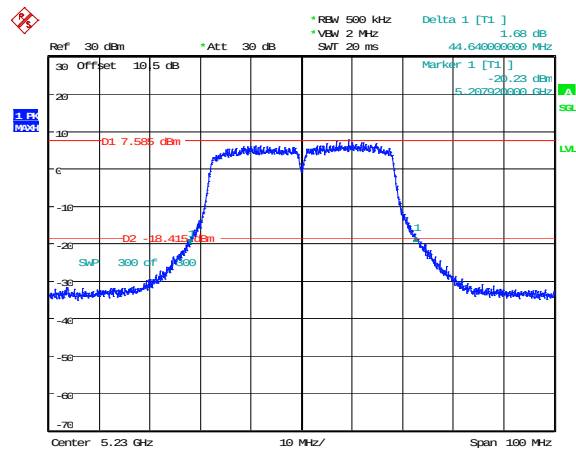
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802.11n40_5190MHz_Chain 0



Comment: ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 18.FEB.2025 14:58:23

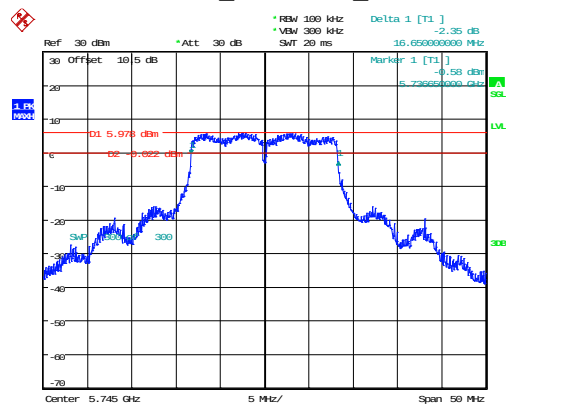
802.11n40_5230MHz_Chain 0



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Date: 18.FEB.2025 15:00:31

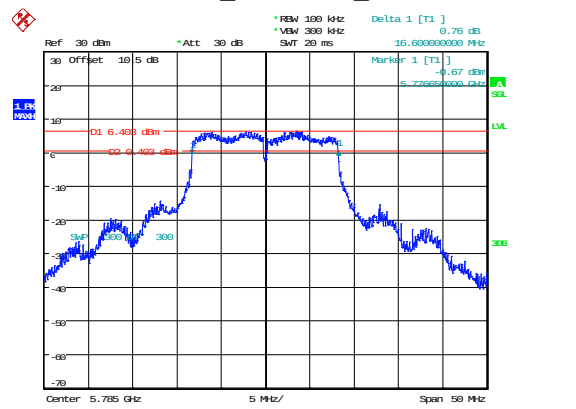
5725-5850MHz

802.11a_5745MHz_Chain 0



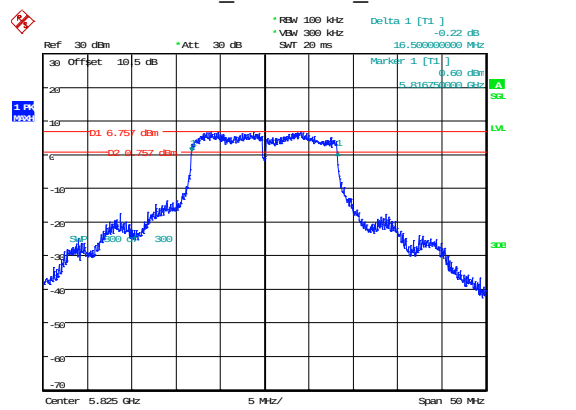
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Date: 18.FEB.2025 15:38:04

802.11a_5785MHz_Chain 0



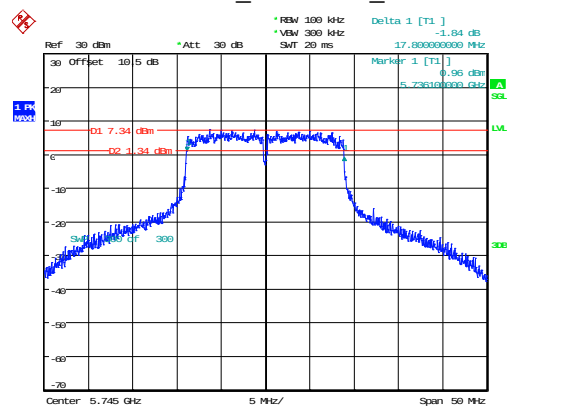
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802.11a_5825MHz_Chain 0



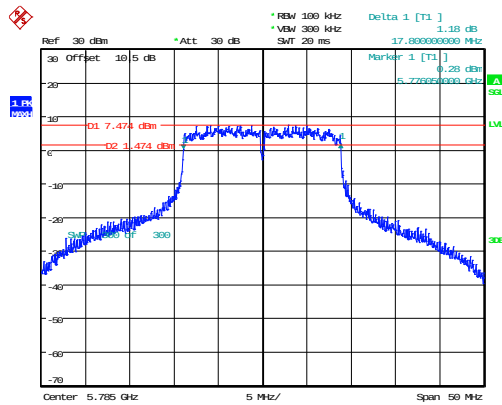
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802.11n20_5745MHz_Chain 0



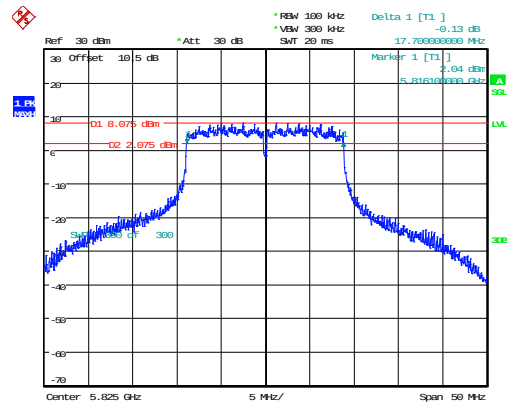
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802.11n20_5785MHz_Chain 0



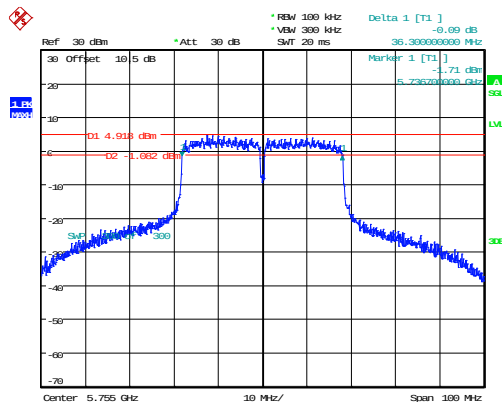
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802.11n20_5825MHz_Chain 0



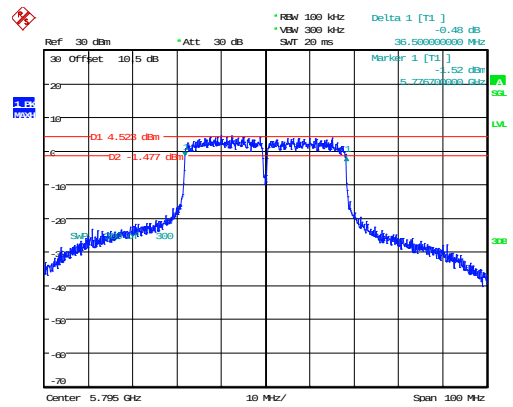
ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 10.FEB.2025 15:48:43

802.11n40_5755MHz_Chain 0



ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 10.FEB.2025 15:51:35

802.11n40_5795MHz_Chain 0



ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 10.FEB.2025 15:54:03

99% Occupied Bandwidth**5150-5250MHz**

Mode	Antenna	Test Frequency (MHz)	99% OBW (MHz)
802.11a	Chain 0	5180	16.700
		5200	16.750
		5240	16.800
802.11n20	Chain 0	5180	17.800
		5200	17.800
		5240	17.800
802.11n40	Chain 0	5190	36.500
		5230	36.500

Note:

The 99% Occupied Bandwidth have not fall into the band 5250-5350MHz, please refer to the test plots of 99% Occupied Bandwidth.

Note: Test only was performed at Chain 0.

5725-5850MHz

Mode	Antenna	Test Frequency (MHz)	99% OBW (MHz)
802.11a	Chain 0	5745	17.050
		5785	17.050
		5825	16.950
802.11n20	Chain 0	5745	17.900
		5785	17.900
		5825	17.900
802.11n40	Chain 0	5755	36.800
		5795	36.900

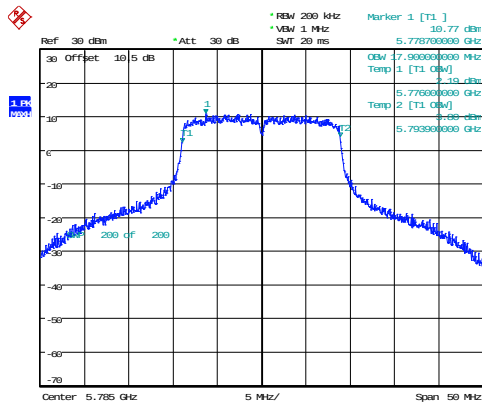
Note:

The 99% Occupied Bandwidth have not fall into the band 5470-5725MHz, please refer to the test plots of 99% Occupied Bandwidth.

Note: Test only was performed at Chain 0.

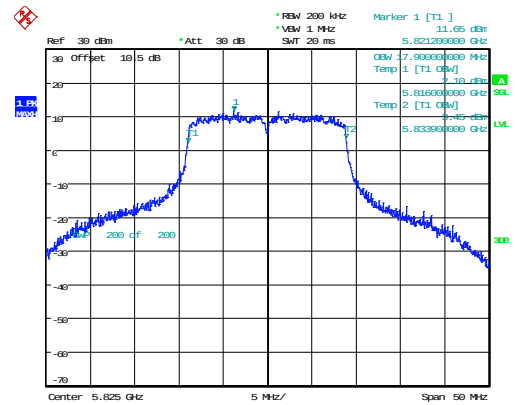


802.11n20_5785MHz_Chain 0



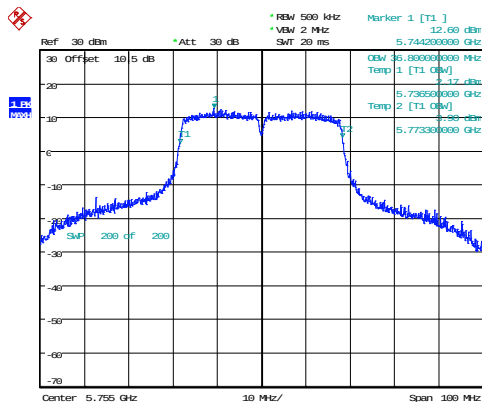
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802.11n20_5825MHz_Chain 0



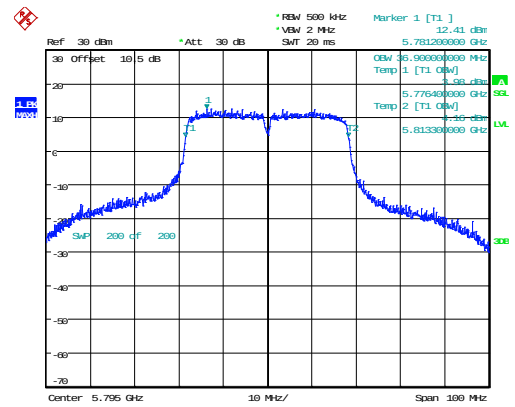
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Date: 10.FEB.2025 15:49:16

802.11n40_5755MHz_Chain 0



ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 10.FEB.2025 15:52:18

802.11n40_5795MHz_Chain 0



ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 10.FEB.2025 15:54:50

Maximum Conducted Output Power**5150-5250MHz**

Mode	Antenna	Test Frequency (MHz)	Average Output Power(dBm)	Limit (dBm)		Verdict
				Outdoor AP	Client	
802.11a	Chain 0	5180	12.79	27.22	21.22	Pass
		5200	12.43	27.22	21.22	Pass
		5240	12.11	27.22	21.22	Pass
	Chain 1	5180	13.01	29.91	23.91	Pass
		5200	12.59	29.91	23.91	Pass
		5240	12.69	29.91	23.91	Pass
	Chain 0+Chain 1	5180	15.91	27.22	21.22	Pass
		5200	15.52	27.22	21.22	Pass
		5240	15.42	27.22	21.22	Pass
802.11n20	Chain 0	5180	12.88	27.22	21.22	Pass
		5200	12.75	27.22	21.22	Pass
		5240	12.91	27.22	21.22	Pass
	Chain 1	5180	13.77	29.91	23.91	Pass
		5200	13.68	29.91	23.91	Pass
		5240	12.69	29.91	23.91	Pass
	Chain 0+Chain 1	5180	16.36	27.22	21.22	Pass
		5200	16.25	27.22	21.22	Pass
		5240	15.81	27.22	21.22	Pass
802.11n40	Chain 0	5190	13.45	27.22	21.22	Pass
		5230	13.49	27.22	21.22	Pass
	Chain 1	5190	13.74	29.91	23.91	Pass
		5230	13.58	29.91	23.91	Pass
	Chain 0+Chain 1	5190	16.61	27.22	21.22	Pass
		5230	16.55	27.22	21.22	Pass

Note:

The product can be used as an outdoor AP or client device.

The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter

Output v02r01, for power measurements on IEEE 802.11 devices:

Array Gain = 0 dB (i.e., no array gain) for $N_{\text{ANT}} \leq 4$, so directional gain = $0 + 8.78 = 8.78$ dBi

According to the antenna report, the maximum antenna gain at any elevation angle above 30 degrees as measured from the horizon is 3.51 dBi, so the maximum e.i.r.p. is 20.12 dBm which not exceed 125 mW (21 dBm).

5725-5850MHz

Mode	Antenna	Test Frequency (MHz)	Average Output Power(dBm)	Limit (dBm)	Verdict
802.11a	Chain 0	5745	19.36	28.44	Pass
		5785	19.65	28.44	Pass
		5825	20.04	28.44	Pass
	Chain 1	5745	20.49	30	Pass
		5785	20.11	30	Pass
		5825	19.73	30	Pass
	Chain 0+Chain 1	5745	22.97	28.44	Pass
		5785	22.90	28.44	Pass
		5825	22.90	28.44	Pass
802.11n20	Chain 0	5745	19.25	28.44	Pass
		5785	19.6	28.44	Pass
		5825	19.99	28.44	Pass
	Chain 1	5745	19.79	30	Pass
		5785	20.05	30	Pass
		5825	19.67	30	Pass
	Chain 0+Chain 1	5745	22.54	28.44	Pass
		5785	22.84	28.44	Pass
		5825	22.84	28.44	Pass
802.11n40	Chain 0	5755	19.07	28.44	Pass
		5795	19.44	28.44	Pass
	Chain 1	5755	19.82	30	Pass
		5795	19.99	30	Pass
	Chain 0+Chain 1	5755	22.47	28.44	Pass
		5795	22.73	28.44	Pass

Note:

The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices:

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$, so directional gain = 0 + 7.56 = 7.56 dBi

Power Spectral Density**5150-5250MHz**

Mode	Antenna	Test Frequency (MHz)	Reading (dBm/MHz)	Duty Cycle Factor(dB)	Result (dBm/MHz)	Limit (dBm/MHz)		Verdict
						Outdoor AP	Client	
802.11a	Chain 0	5180	2.01	0	2.01	14.22	8.22	Pass
		5200	1.31	0	1.31	14.22	8.22	Pass
		5240	0.56	0	0.56	14.22	8.22	Pass
	Chain 1	5180	1.92	0	1.92	16.91	10.91	Pass
		5200	1.15	0	1.15	16.91	10.91	Pass
		5240	1.17	0	1.17	16.91	10.91	Pass
	Chain 0+Chain 1	5180	4.98	0	4.98	11.22	5.22	Pass
		5200	4.24	0	4.24	11.22	5.22	Pass
		5240	3.89	0	3.89	11.22	5.22	Pass
802.11n20	Chain 0	5180	1.59	0	1.59	14.22	8.22	Pass
		5200	1.29	0	1.29	14.22	8.22	Pass
		5240	1.74	0	1.74	14.22	8.22	Pass
	Chain 1	5180	2.45	0	2.45	16.91	10.91	Pass
		5200	2.13	0	2.13	16.91	10.91	Pass
		5240	1.43	0	1.43	16.91	10.91	Pass
	Chain 0+Chain 1	5180	5.05	0	5.05	11.22	5.22	Pass
		5200	4.74	0	4.74	11.22	5.22	Pass
		5240	4.60	0	4.60	11.22	5.22	Pass
802.11n40	Chain 0	5190	-0.67	0	-0.67	14.22	8.22	Pass
		5230	-0.61	0	-0.61	14.22	8.22	Pass
	Chain 1	5190	-0.52	0	-0.52	16.91	10.91	Pass
		5230	-0.67	0	-0.67	16.91	10.91	Pass
	Chain 0+Chain 1	5190	2.42	0	2.42	11.22	5.22	Pass
		5230	2.37	0	2.37	11.22	5.22	Pass

Note:

The product can be used as an outdoor AP or client device.

Result = Reading + Duty Cycle Factor

The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices: Array Gain = $10 \log(N_{\text{ANT}}/N_{\text{SS}})$ dB

So Directional Gain = $8.78 + 10 * \log(2/1) = 11.78$ dBi

5725-5850MHz

Mode	Antenna	Test Frequency (MHz)	Reading(dBm /500kHz)	Duty Cycle Factor(dB)	Result(dBm /500kHz)	Limit(dBm /500kHz)	Verdict
802.11a	Chain 0	5745	5.80	0	5.80	28.44	Pass
		5785	6.04	0	6.04	28.44	Pass
		5825	6.39	0	6.39	28.44	Pass
	Chain 1	5745	6.44	0	6.44	30	Pass
		5785	6.09	0	6.09	30	Pass
		5825	5.76	0	5.76	30	Pass
	Chain 0+Chain 1	5745	9.14	0	9.14	25.44	Pass
		5785	9.08	0	9.08	25.44	Pass
		5825	9.1	0	9.1	25.44	Pass
802.11n20	Chain 0	5745	5.00	0	5.00	28.44	Pass
		5785	5.28	0	5.28	28.44	Pass
		5825	5.64	0	5.64	28.44	Pass
	Chain 1	5745	5.39	0	5.39	30	Pass
		5785	5.76	0	5.76	30	Pass
		5825	5.43	0	5.43	30	Pass
	Chain 0+Chain 1	5745	8.21	0	8.21	25.44	Pass
		5785	8.54	0	8.54	25.44	Pass
		5825	8.55	0	8.55	25.44	Pass
802.11n40	Chain 0	5755	1.84	0	1.84	28.44	Pass
		5795	2.13	0	2.13	28.44	Pass
	Chain 1	5755	2.37	0	2.37	30	Pass
		5795	2.68	0	2.68	30	Pass
	Chain 0+Chain 1	5755	5.12	0	5.12	25.44	Pass
		5795	5.42	0	5.42	25.44	Pass

Note:

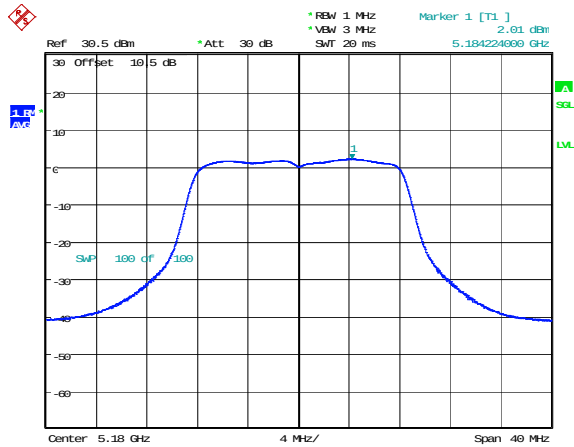
Result = Reading + Duty Cycle Factor

The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices: Array Gain = $10 \log(N_{\text{ANT}}/N_{\text{SS}})$ dB

So Directional Gain = $7.56 + 10 \cdot \log(2/1) = 10.56$ dBi

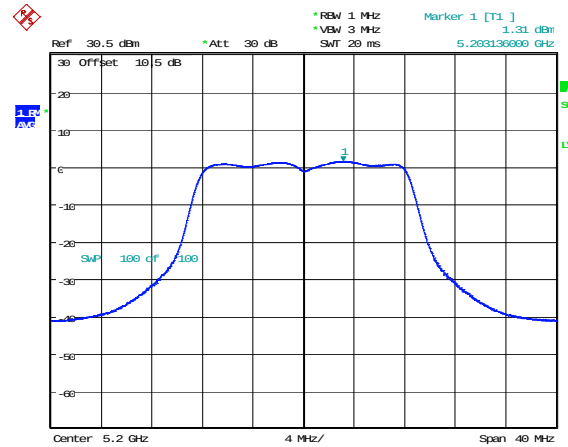
5150-5250MHz

802.11a_5180MHz_Chain 0



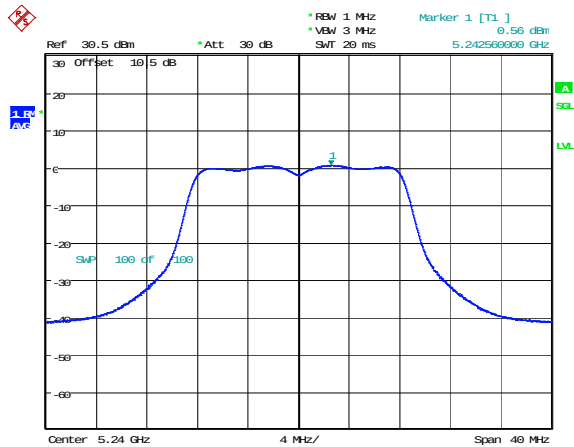
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Date: 18.FEB.2025 13:55:29

802.11a_5200MHz_Chain 0



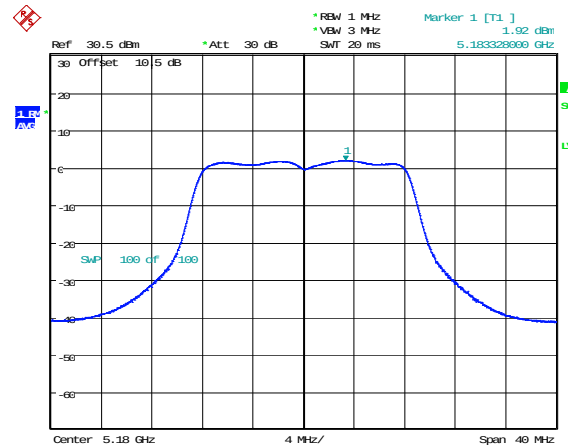
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Date: 26.FEB.2025 19:03:11

802.11a_5240MHz_Chain 0



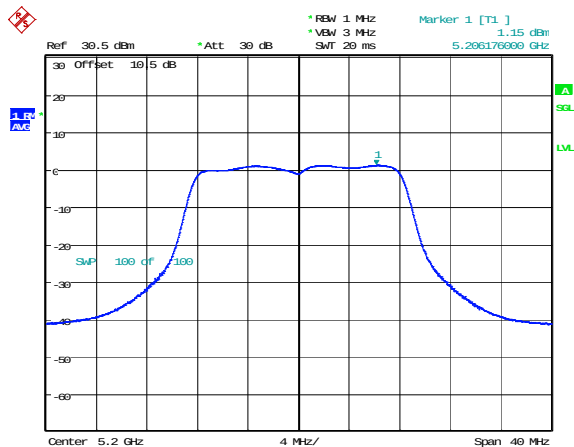
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Date: 26.FEB.2025 19:08:04

802.11a_5180MHz_Chain 1



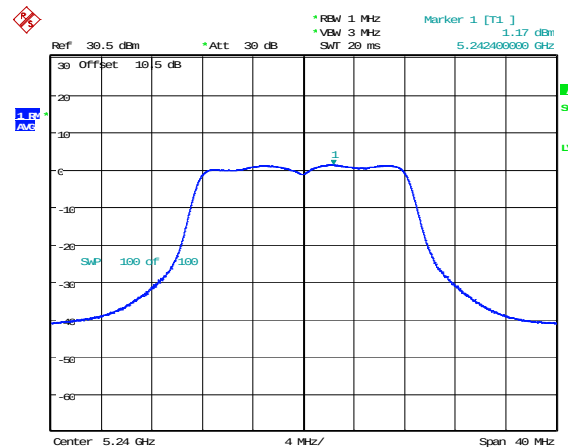
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Date: 26.FEB.2025 18:58:25

802.11a_5200MHz_Chain 1



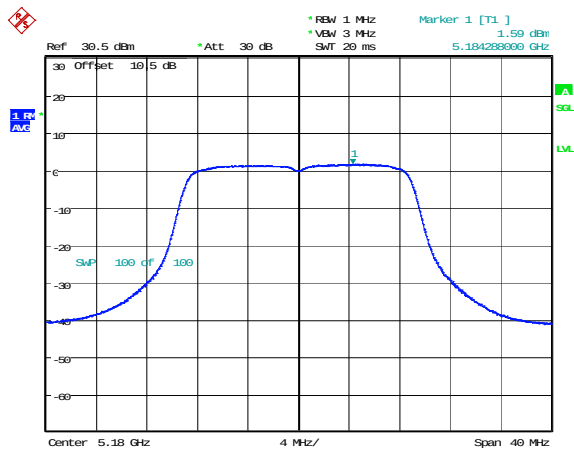
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802.11a_5240MHz_Chain 1



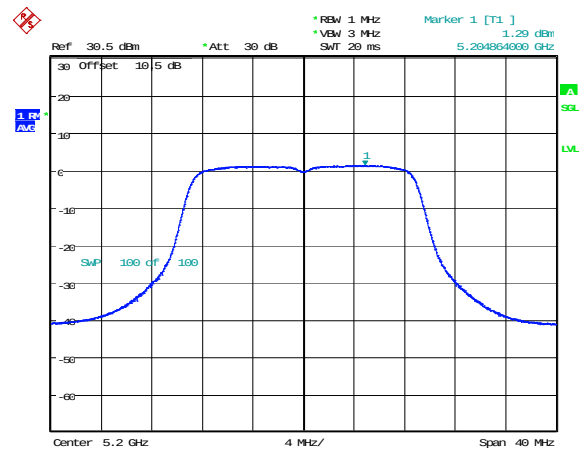
Comment: ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 26.FEB.2025 19:07:02

802.11n20_5180MHz_Chain 0



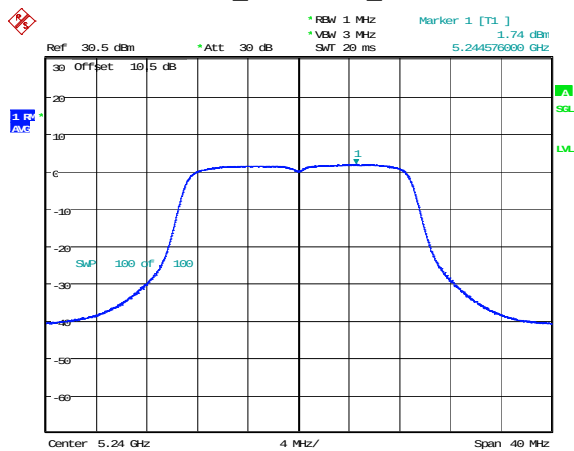
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802.11n20_5200MHz_Chain 0



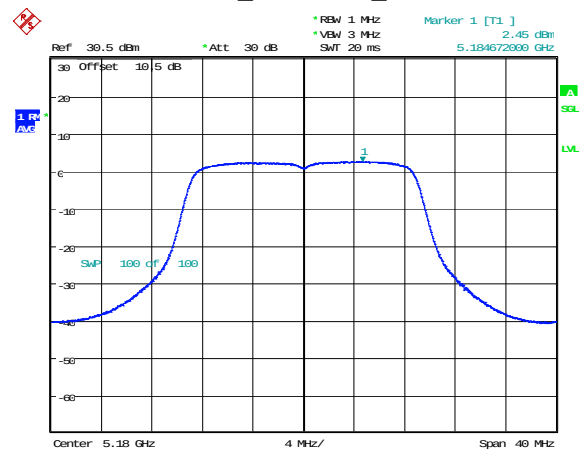
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802.11n20_5240MHz_Chain 0



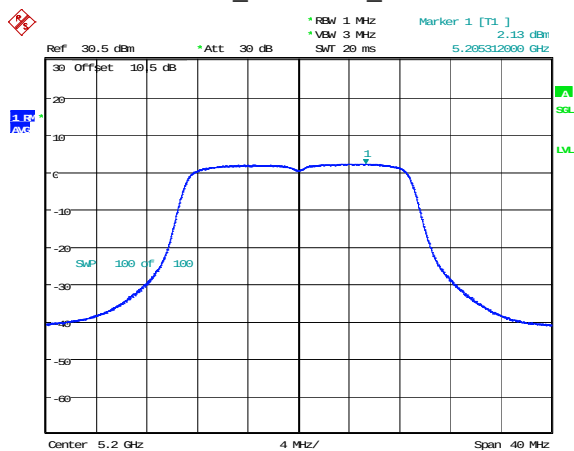
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802.11n20_5180MHz_Chain 1



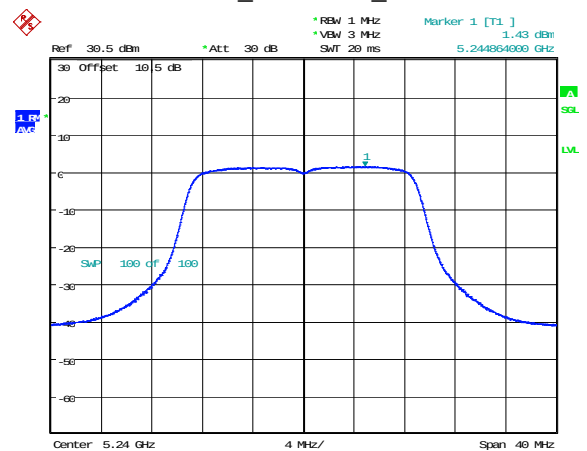
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Date: 18.FEB.2025 15:21:45

802.11n20_5200MHz_Chain 1



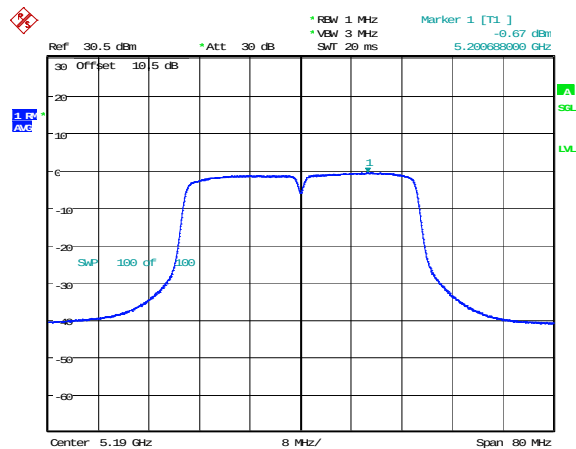
Comment: ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 26.FEB.2025 19:13:38

802.11n20_5240MHz_Chain 1



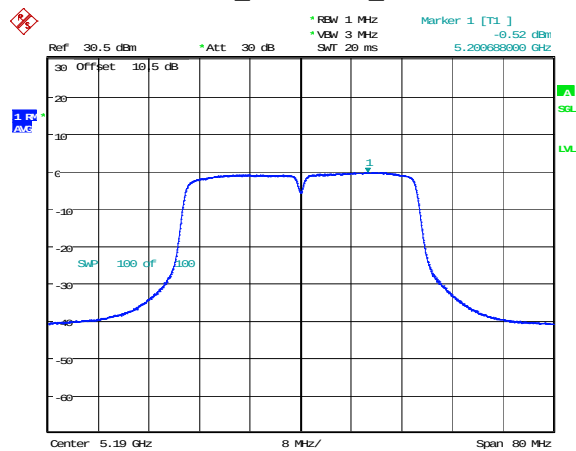
Comment: ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 18.FEB.2025 15:23:13

802.11n40_5190MHz_Chain 0



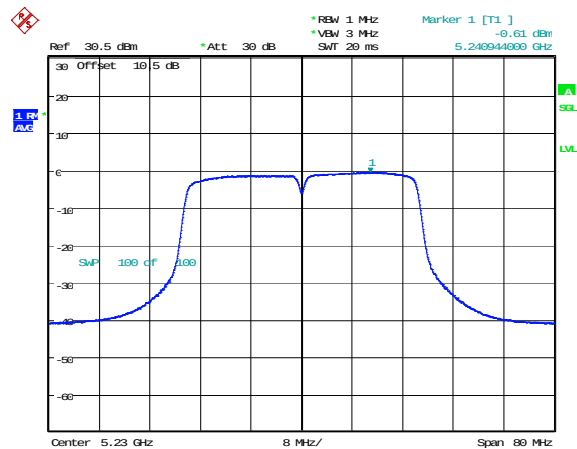
Comment: ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 18.FEB.2025 14:58:59

802.11n40_5190MHz_Chain 1



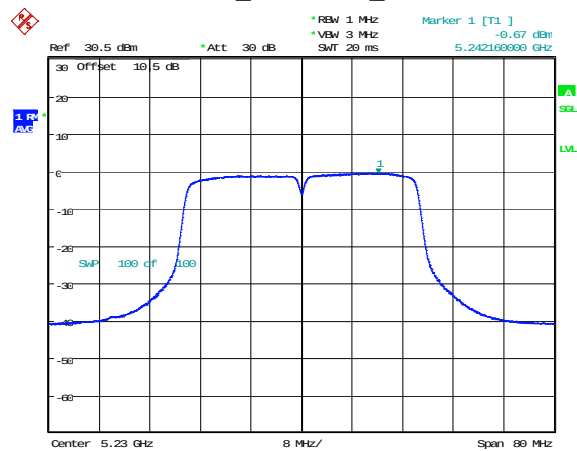
Comment: ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 18.FEB.2025 15:25:00

802.11n40_5230MHz_Chain 0



Comment: ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 18.FEB.2025 15:01:10

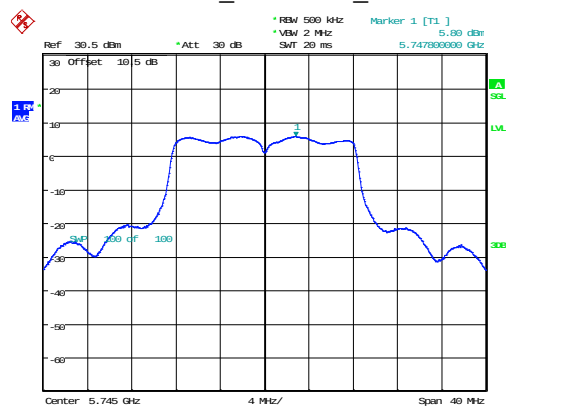
802.11n40_5230MHz_Chain 1



Comment: ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 18.FEB.2025 15:25:48

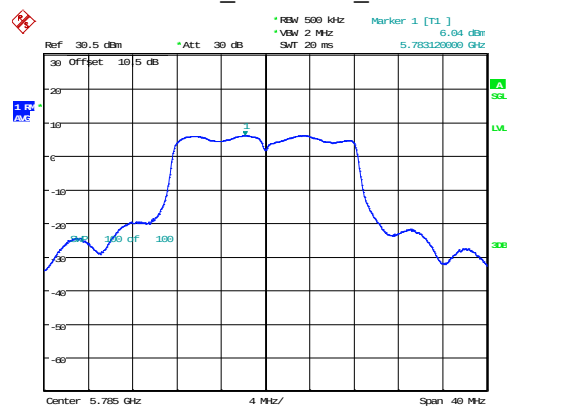
5725-5850MHz

802.11a_5745MHz_Chain 0



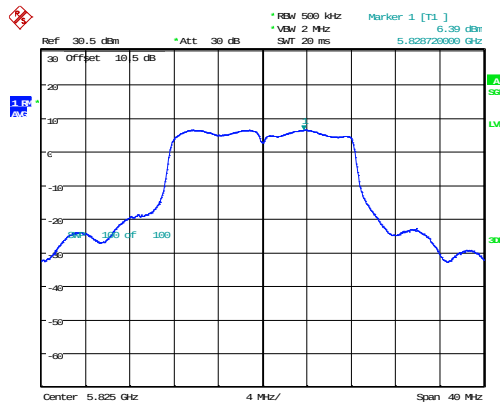
ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 18.FEB.2025 15:39:17

802.11a_5785MHz_Chain 0



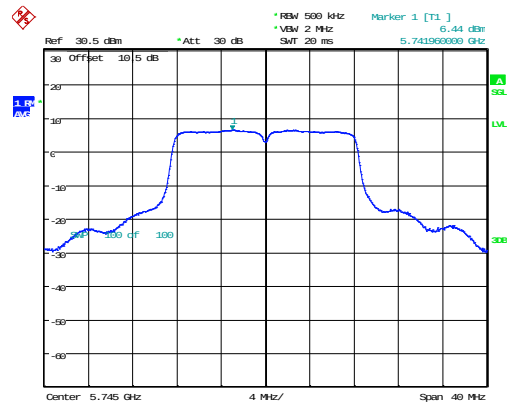
ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 18.FEB.2025 15:41:56

802.11a_5825MHz_Chain 0



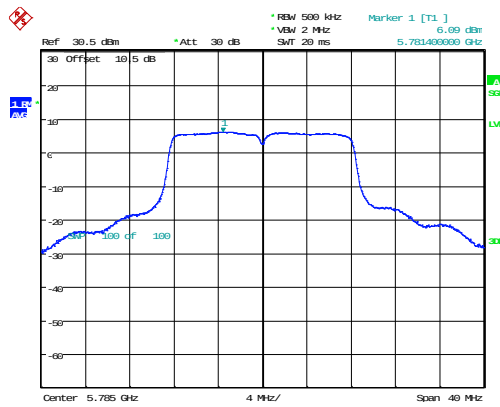
ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 10.FEB.2025 15:43:51

802.11a_5745MHz_Chain 1



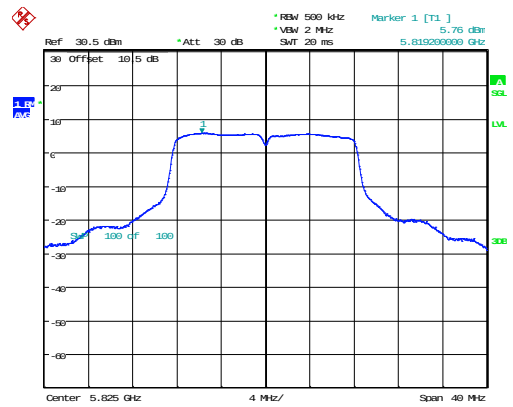
ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 10.FEB.2025 15:04:00

802.11a_5785MHz_Chain 1



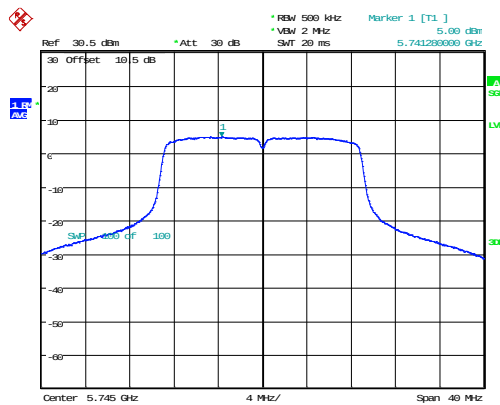
ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 10.FEB.2025 15:07:46

802.11a_5825MHz_Chain 1



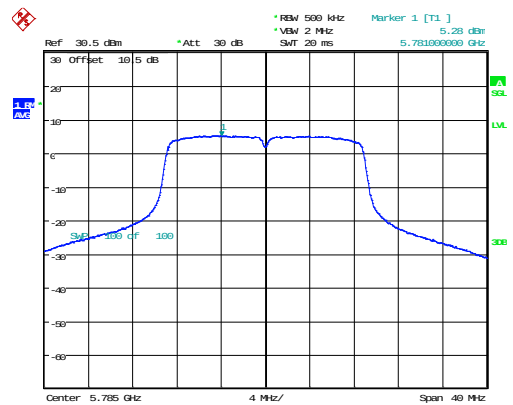
ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 10.FEB.2025 15:09:57

802.11n20_5745MHz_Chain 0



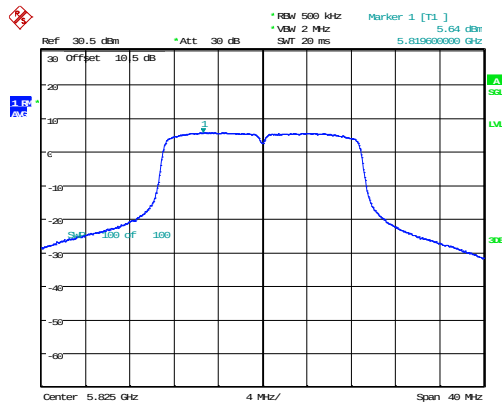
ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 10.FEB.2025 15:46:06

802.11n20_5785MHz_Chain 0



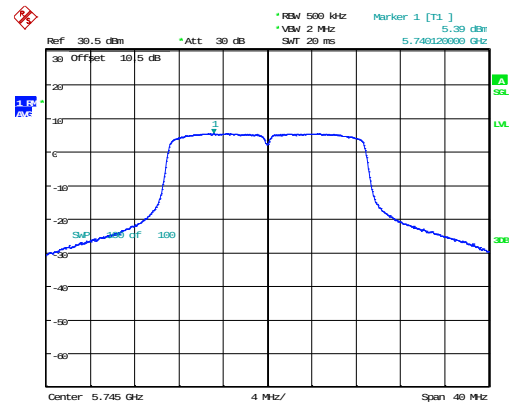
ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 10.FEB.2025 15:48:01

802.11n20_5825MHz_Chain 0



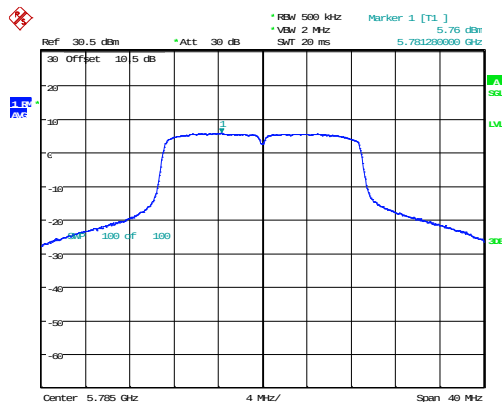
ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 10.FEB.2025 15:49:59

802.11n20_5745MHz_Chain 1



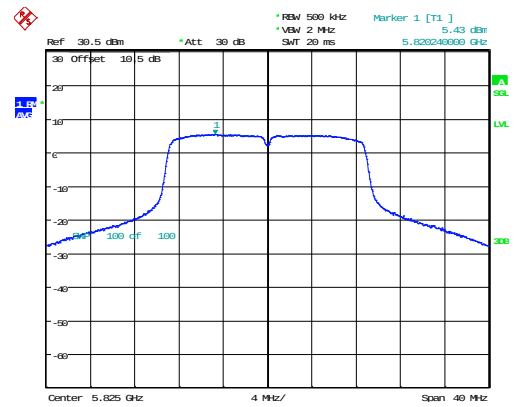
ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 10.FEB.2025 15:15:09

802.11n20_5785MHz_Chain 1



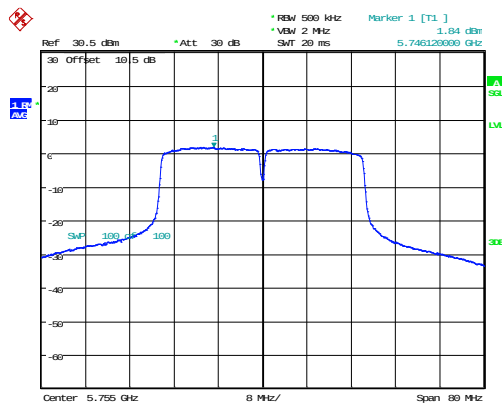
ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 10.FEB.2025 15:17:01

802.11n20_5825MHz_Chain 1



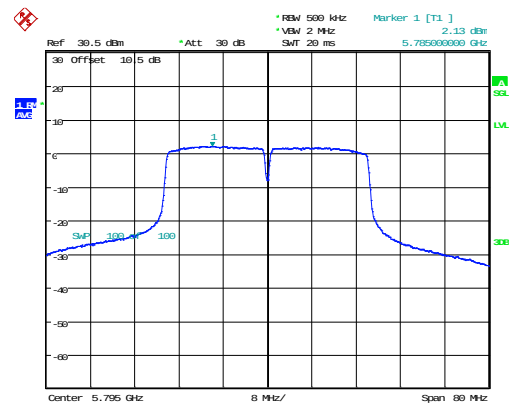
ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 10.FEB.2025 15:19:17

802.11n40_5755MHz_Chain 0



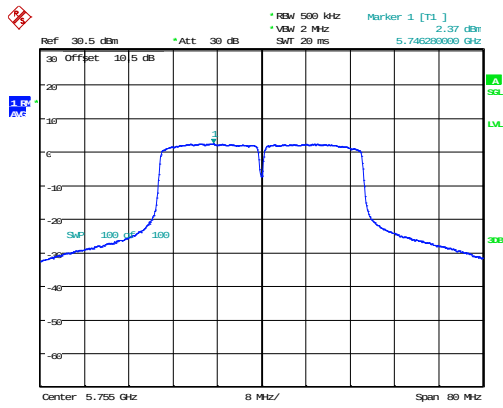
ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 10.FEB.2025 15:53:07

802.11n40_5795MHz_Chain 0



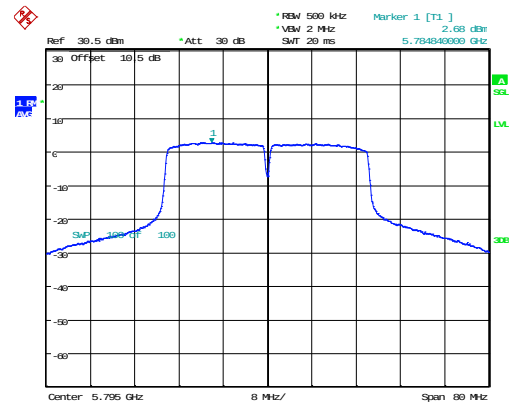
ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 10.FEB.2025 15:55:37

802.11n40_5755MHz_Chain 1



ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 10.FEB.2025 15:22:17

802.11n40_5795MHz_Chain 1



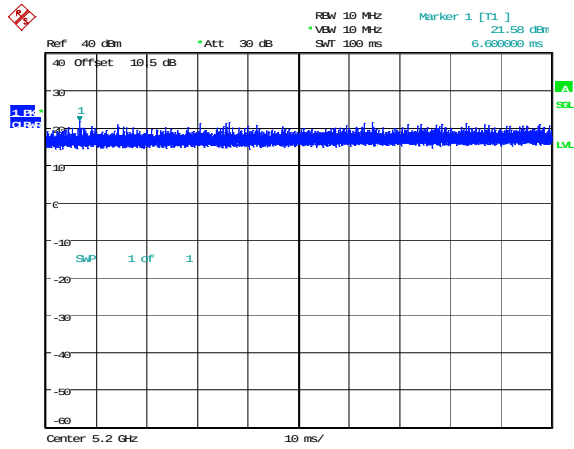
ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 10.FEB.2025 15:25:08

Duty Cycle

Mode	Antenna	Test Frequency (MHz)	Ton (ms)	Ton+Toff (ms)	Duty Cycle (%)	Duty Cycle Factor(dB)	1/Ton (Hz)	VBW Setting (kHz)
802.11a	Chain 0	5200	100	100	100	0	NA	0.010
802.11n20	Chain 0	5200	100	100	100	0	NA	0.010
802.11n40	Chain 0	5190	100	100	100	0	NA	0.010

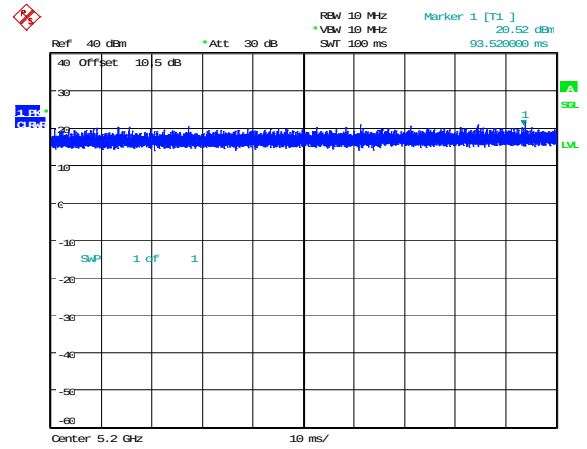
Duty Cycle = Ton/(Ton+Toff)*100%

802.11a_5200MHz_Chain 0



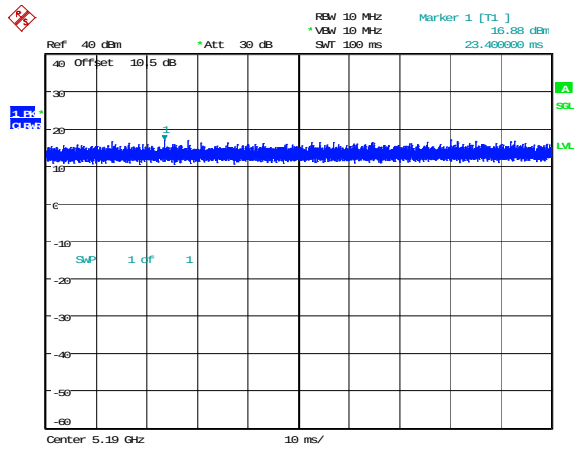
Comment: ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 18.FEB.2025 14:01:13

802.11n20_5200MHz_Chain 0



Comment: ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 18.FEB.2025 15:03:35

802.11n40_5190MHz_Chain 0



Comment: ProjectNo.:2503P40909E-RF Tester:Arthur Su
Date: 18.FEB.2025 15:02:39