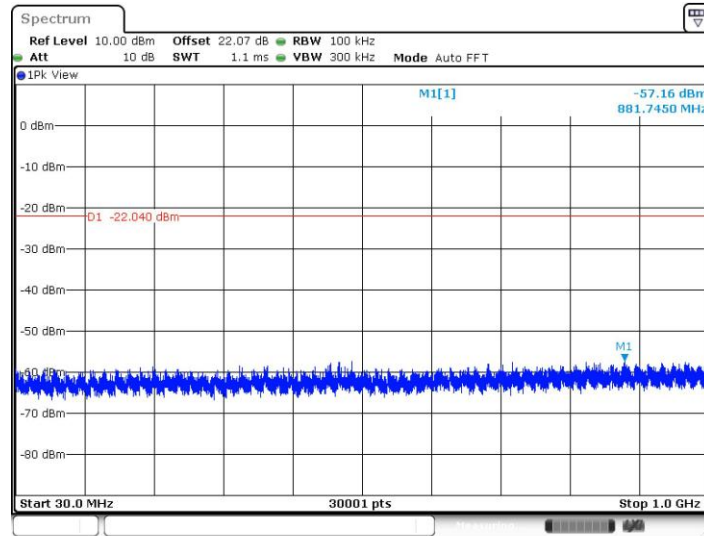
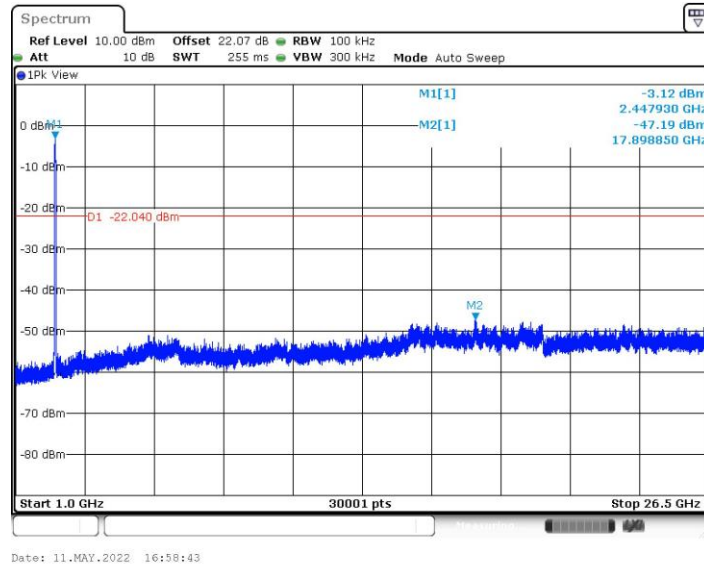




11N40MIMO_Ant2_2452_30~1000

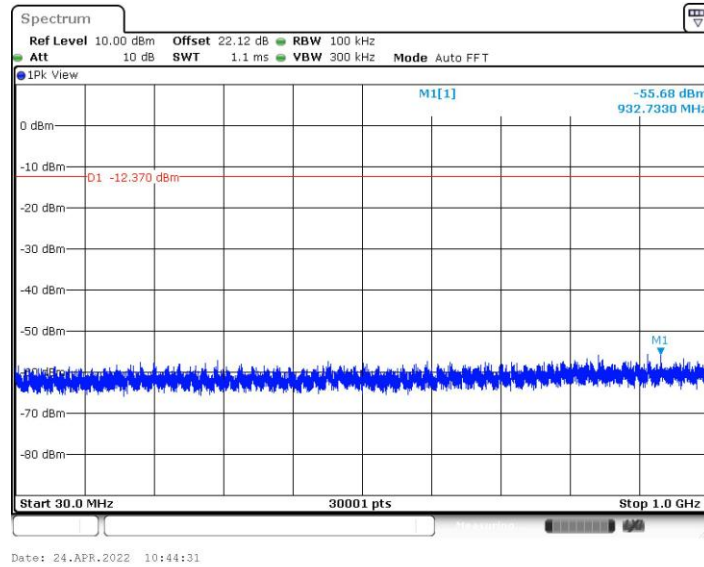


11N40MIMO_Ant2_2452_1000~26500

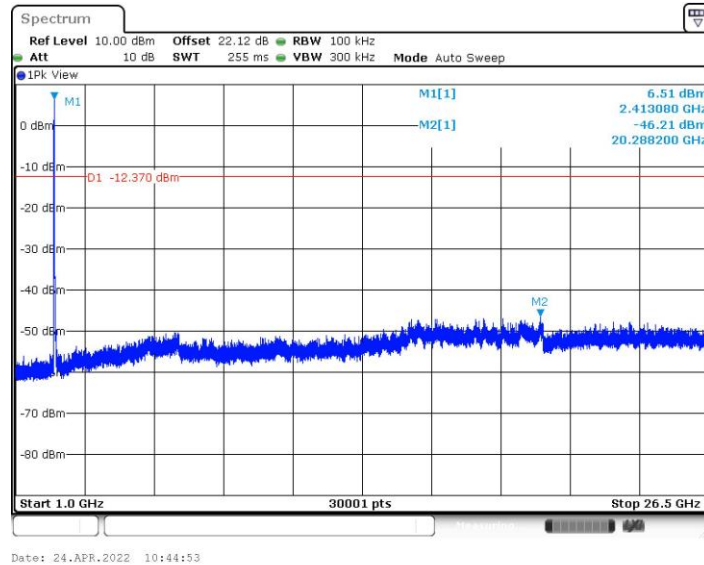




11AX20MIMO_Ant1_2412_30~1000

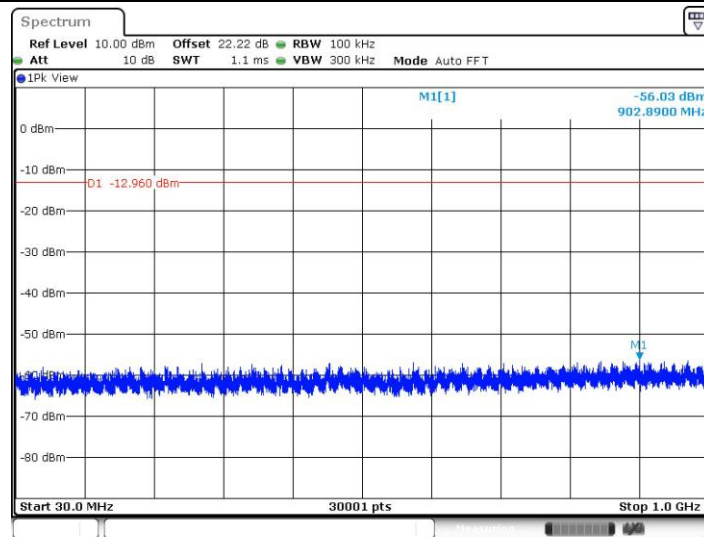


11AX20MIMO_Ant1_2412_1000~26500

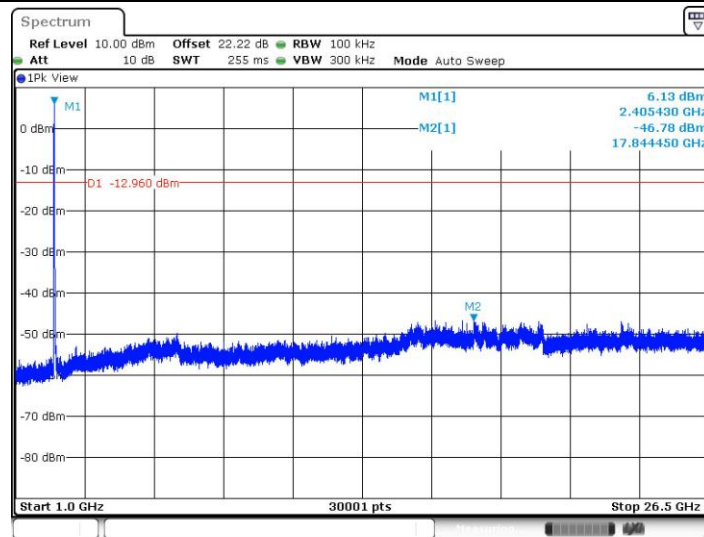




11AX20MIMO_Ant2_2412_30~1000

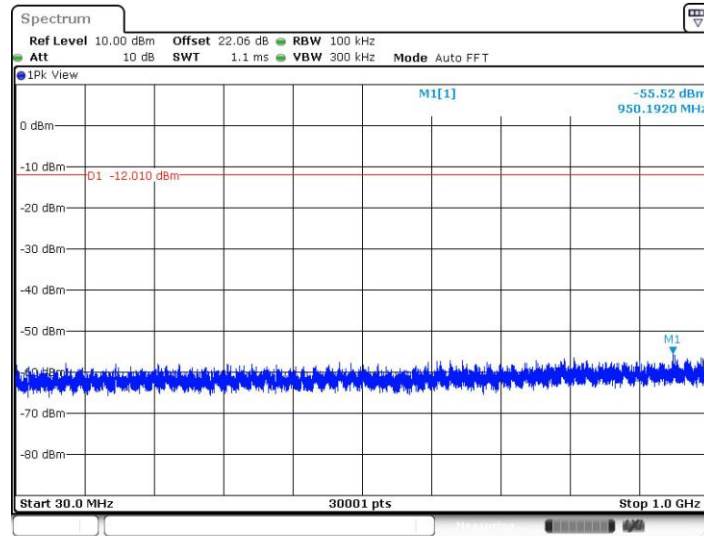


11AX20MIMO_Ant2_2412_1000~26500



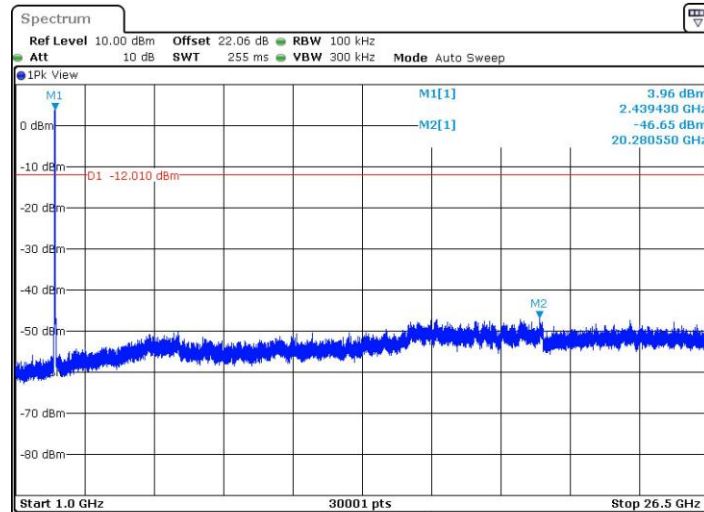


11AX20MIMO_Ant1_2437_30~1000



Date: 24.APR.2022 10:47:24

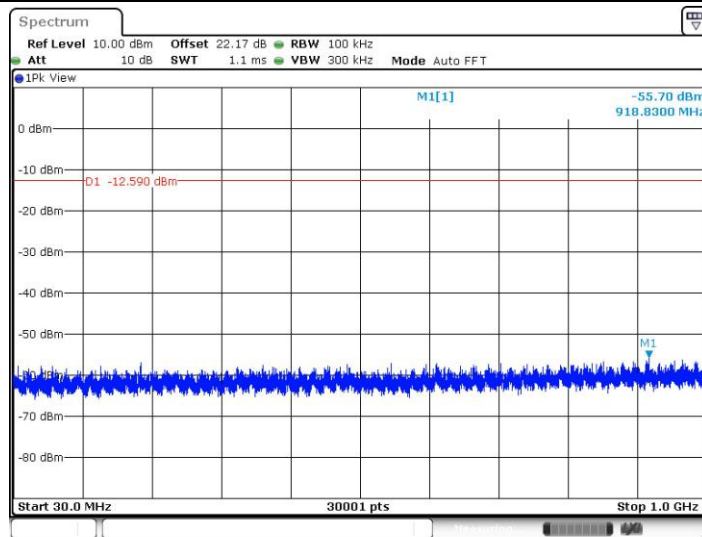
11AX20MIMO_Ant1_2437_1000~26500



Date: 24.APR.2022 10:47:46

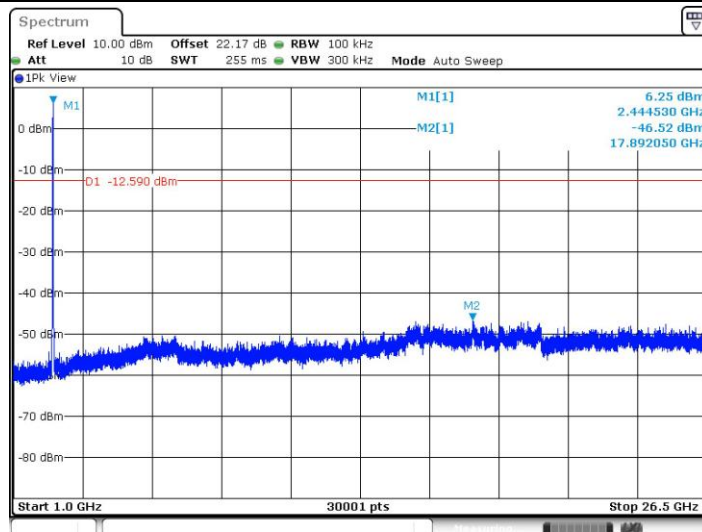


11AX20MIMO_Ant2_2437_30~1000



Date: 24.APR.2022 10:48:39

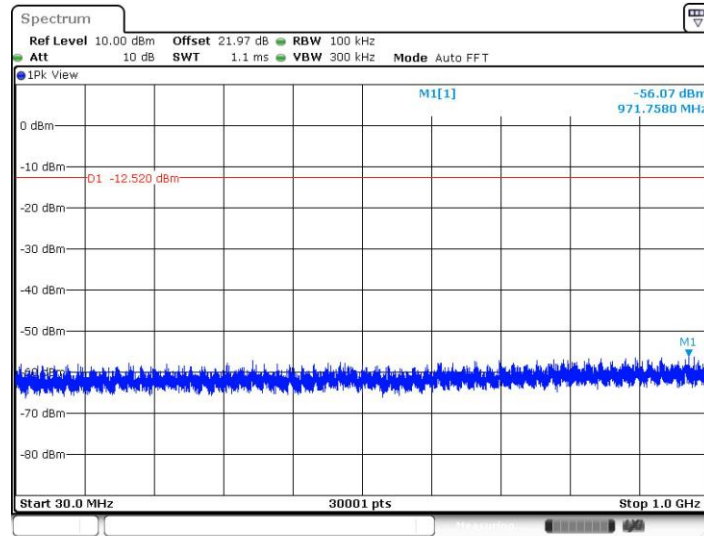
11AX20MIMO_Ant2_2437_1000~26500



Date: 24.APR.2022 10:49:01

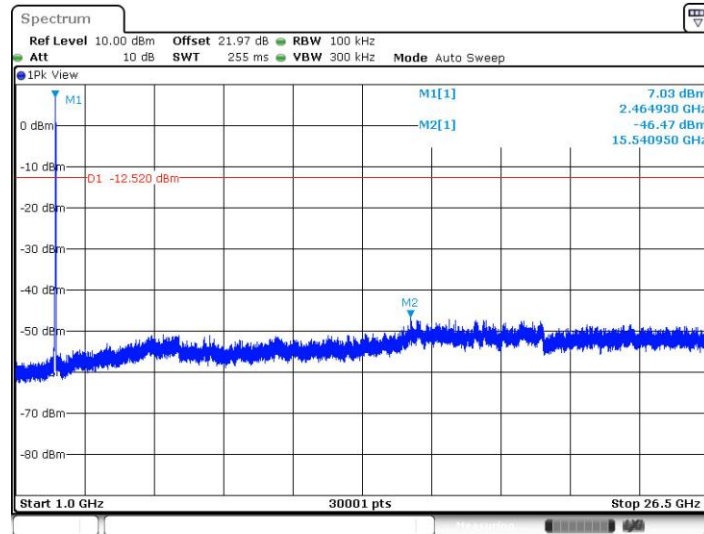


11AX20MIMO_Ant1_2462_30~1000



Date: 24.APR.2022 10:50:23

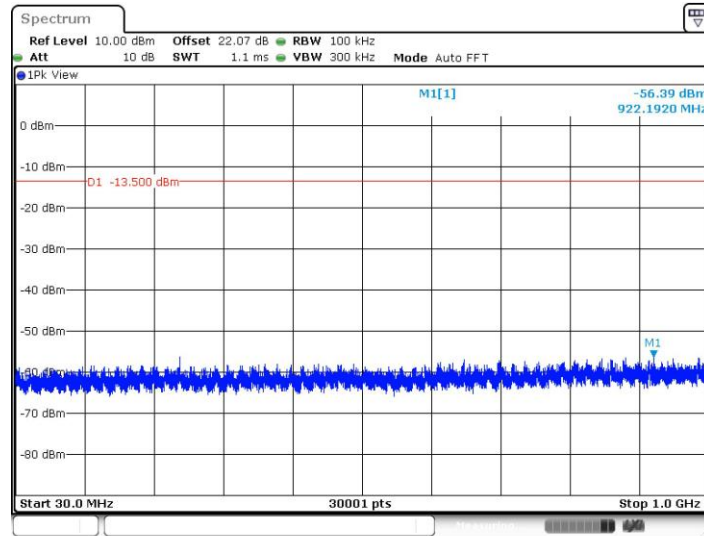
11AX20MIMO_Ant1_2462_1000~26500



Date: 24.APR.2022 10:50:45

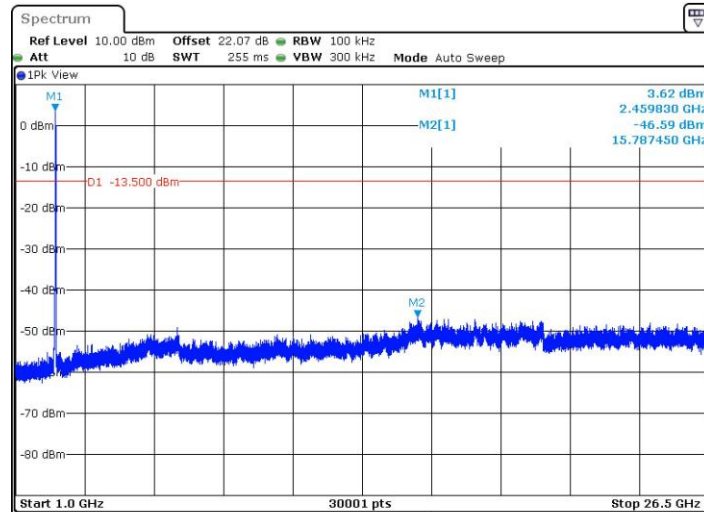


11AX20MIMO_Ant2_2462_30~1000



Date: 24.APR.2022 10:51:49

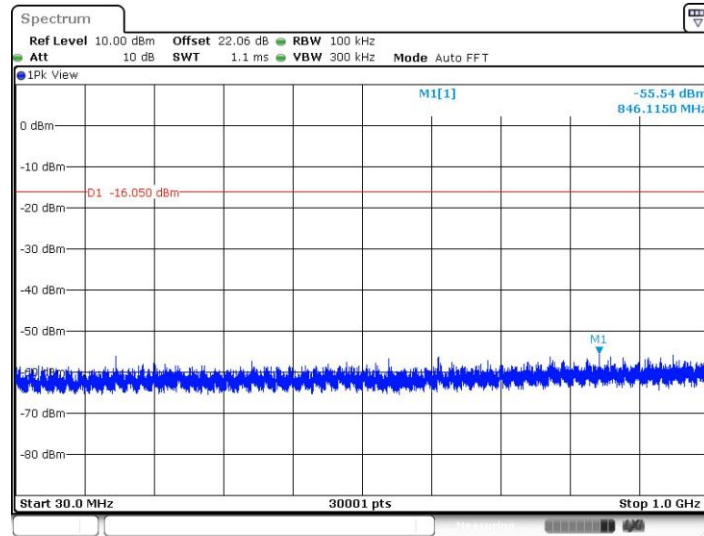
11AX20MIMO_Ant2_2462_1000~26500



Date: 24.APR.2022 10:52:11

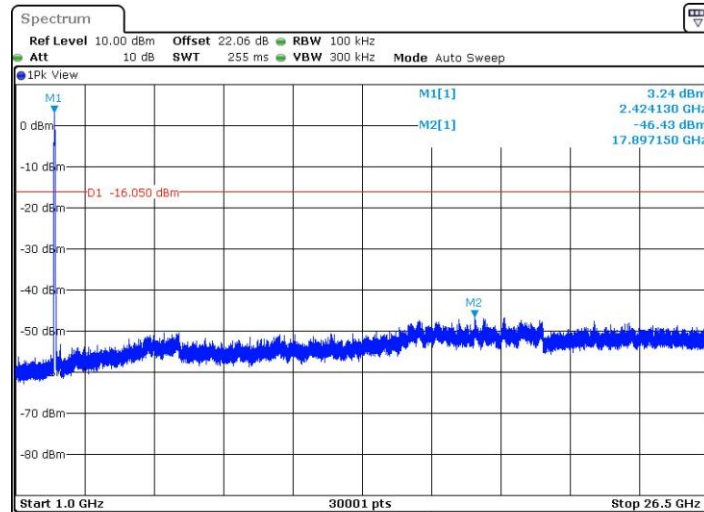


11AX40MIMO_Ant1_2422_30~1000



Date: 24.APR.2022 10:53:56

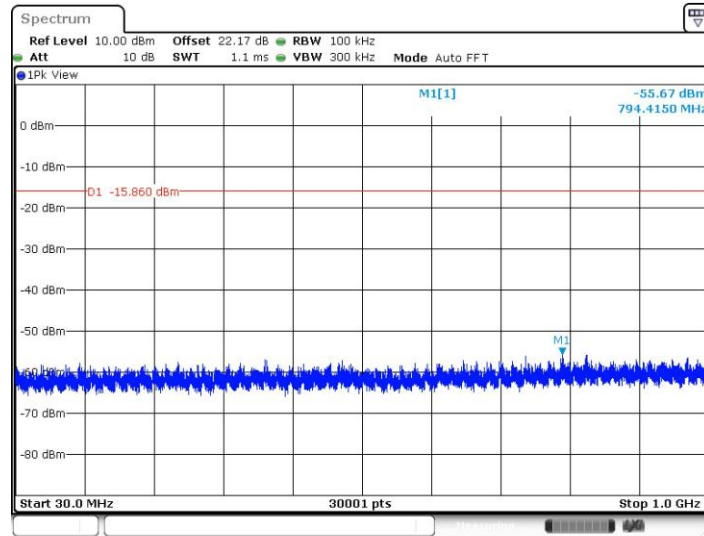
11AX40MIMO_Ant1_2422_1000~26500



Date: 24.APR.2022 10:54:18

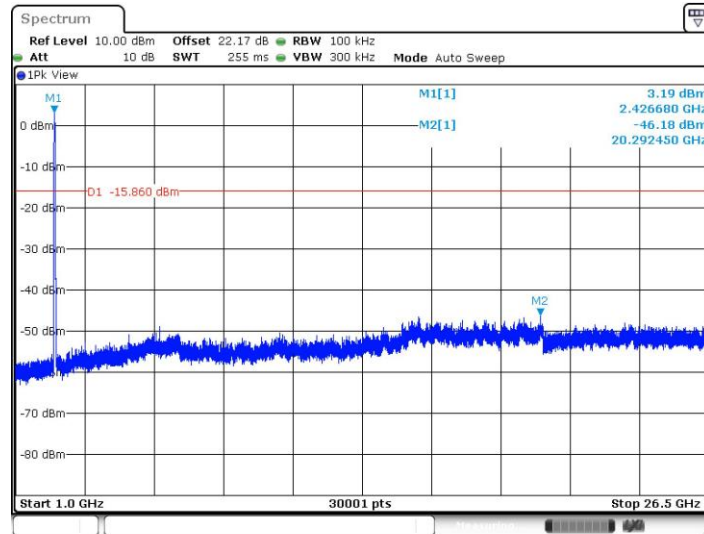


11AX40MIMO_Ant2_2422_30~1000



Date: 24.APR.2022 10:55:23

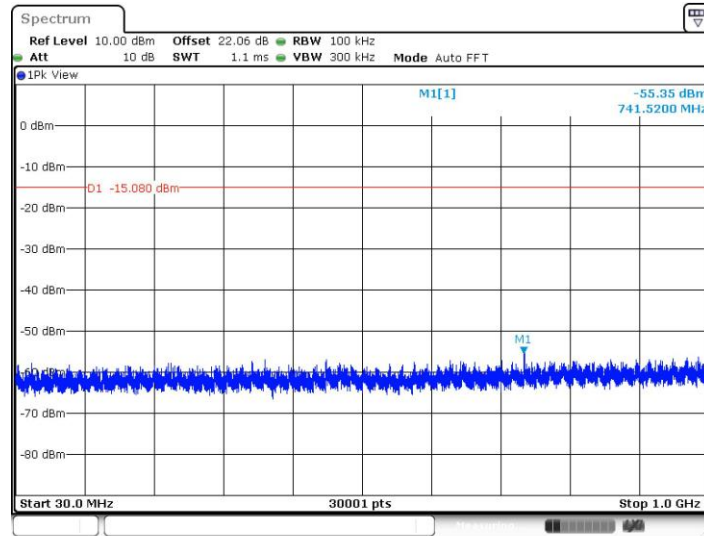
11AX40MIMO_Ant2_2422_1000~26500



Date: 24.APR.2022 10:55:45

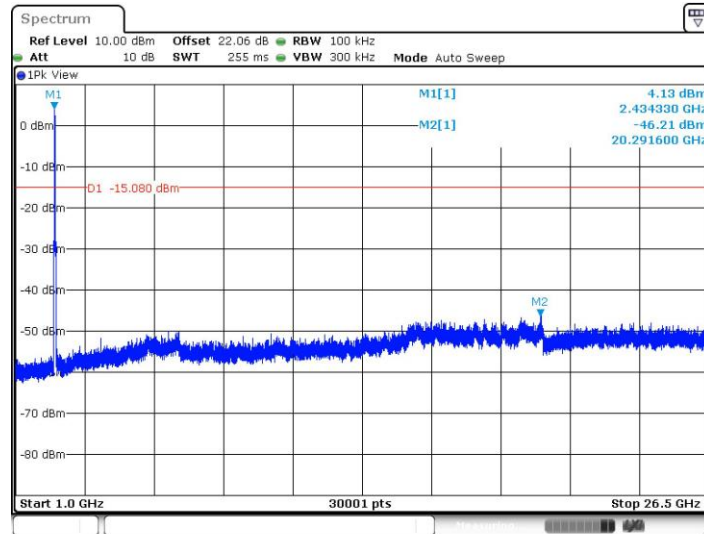


11AX40MIMO_Ant1_2437_30~1000



Date: 24.APR.2022 10:57:27

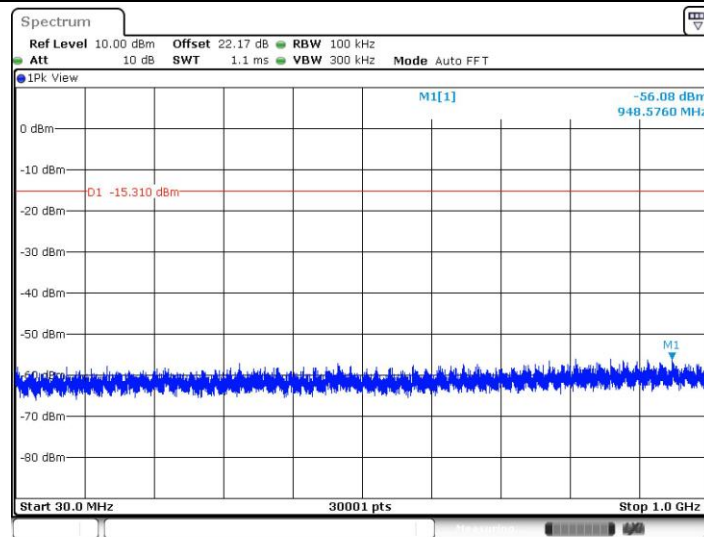
11AX40MIMO_Ant1_2437_1000~26500



Date: 24.APR.2022 10:57:49

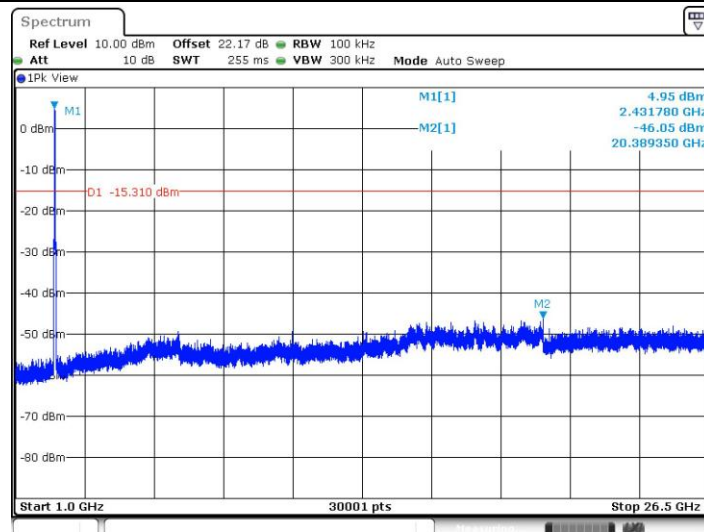


11AX40MIMO_Ant2_2437_30~1000



Date: 24.APR.2022 10:58:42

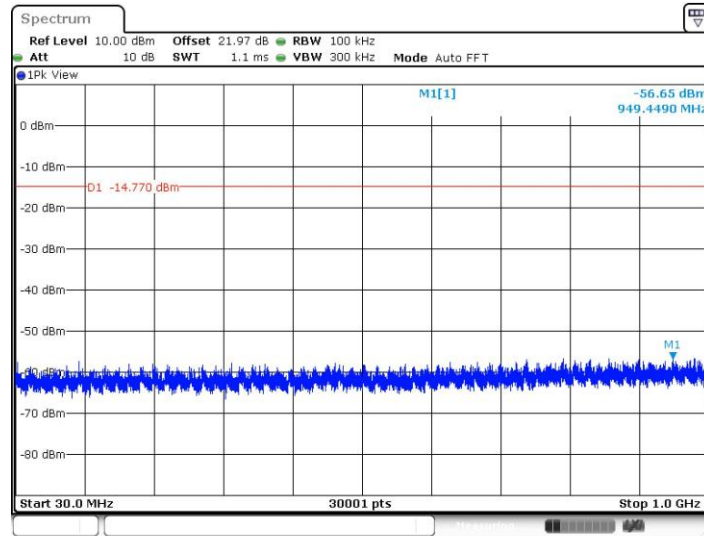
11AX40MIMO_Ant2_2437_1000~26500



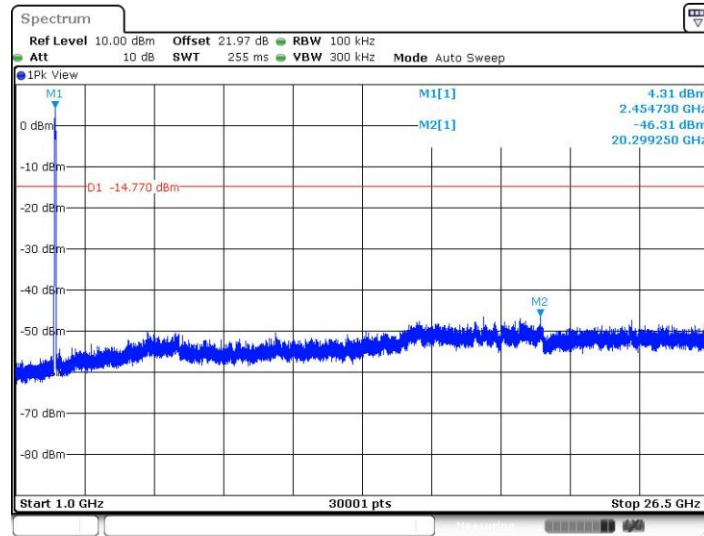
Date: 24.APR.2022 10:59:04



11AX40MIMO_Ant1_2452_30~1000

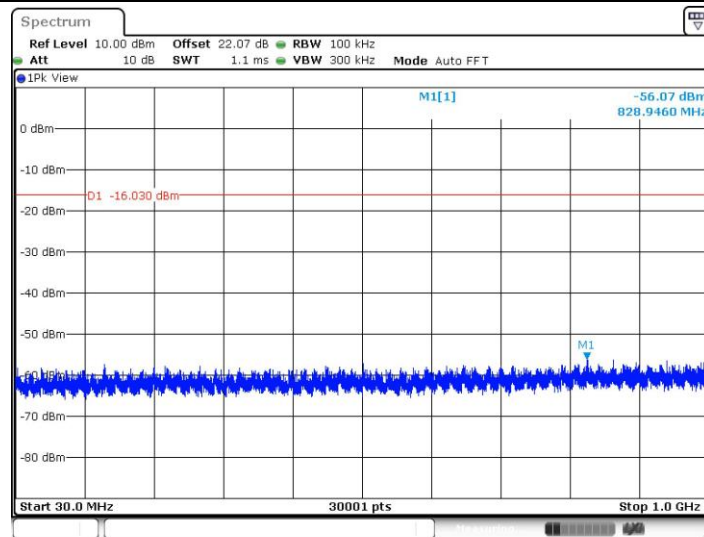


11AX40MIMO_Ant1_2452_1000~26500

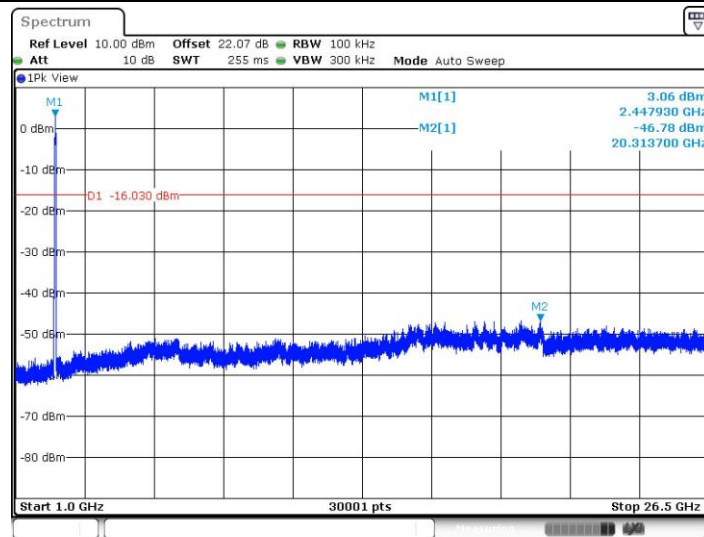




11AX40MIMO_Ant2_2452_30~1000



11AX40MIMO_Ant2_2452_1000~26500



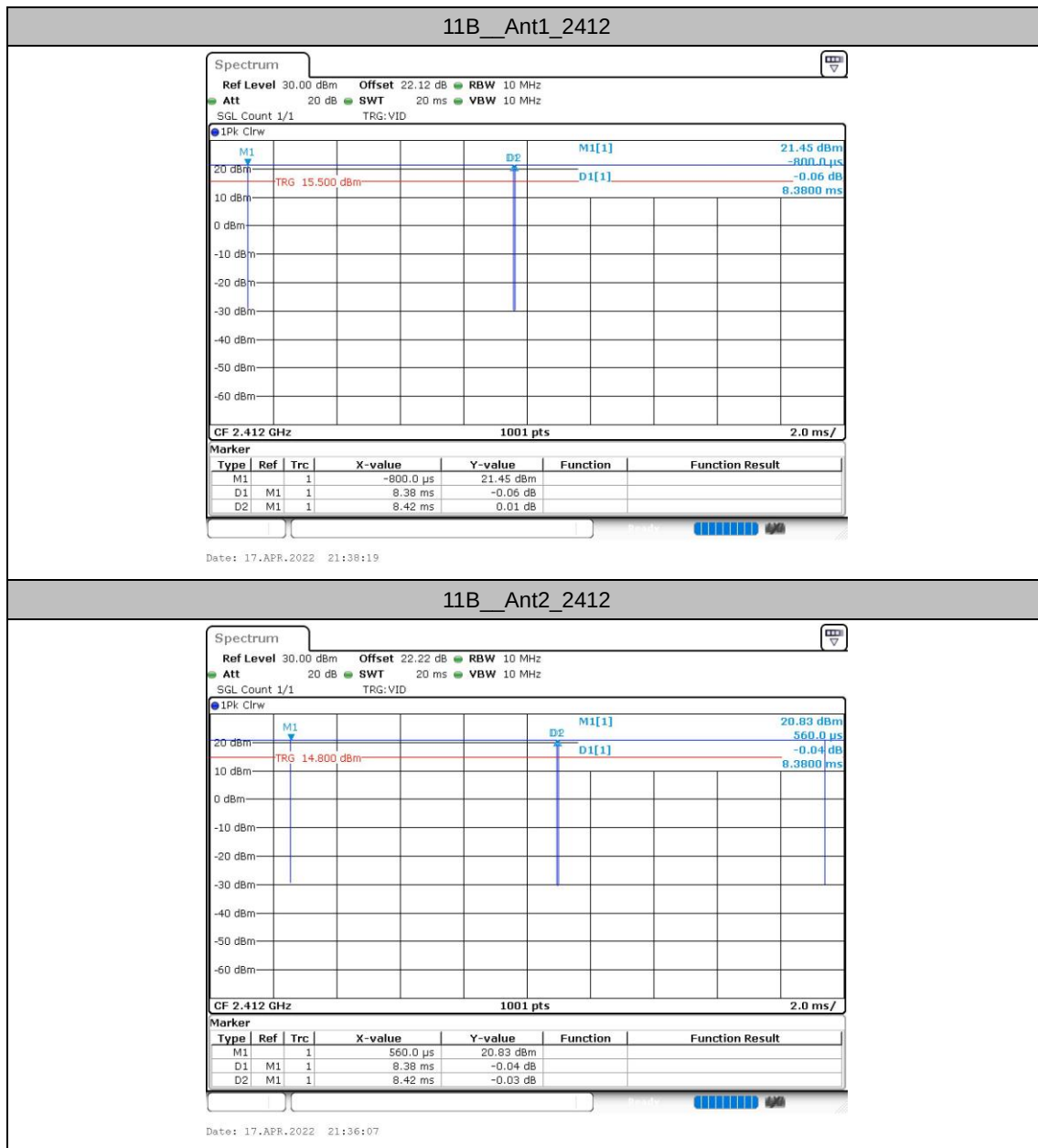
Duty Cycle

Test Result

TestMode	Antenna	Freq(MHz)	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Verdict
11B_	Ant1	2412	8.38	8.42	99.52	---
	Ant2	2412	8.38	8.42	99.52	---
11G_	Ant1	2412	1.39	1.44	96.53	---
	Ant2	2412	1.39	1.44	96.53	---
11N20MIMO	Ant1	2412	1.30	1.35	96.30	---
	Ant2	2412	1.30	1.35	96.30	---
11N40MIMO	Ant1	2422	0.65	0.69	94.20	---
	Ant2	2422	0.65	0.69	94.20	---
11AX20MIMO	Ant1	2412	1.01	1.05	96.19	---
	Ant2	2412	1.02	1.06	96.23	---
11AX40MIMO	Ant1	2422	0.54	0.58	93.10	---
	Ant2	2422	0.54	0.58	93.10	---

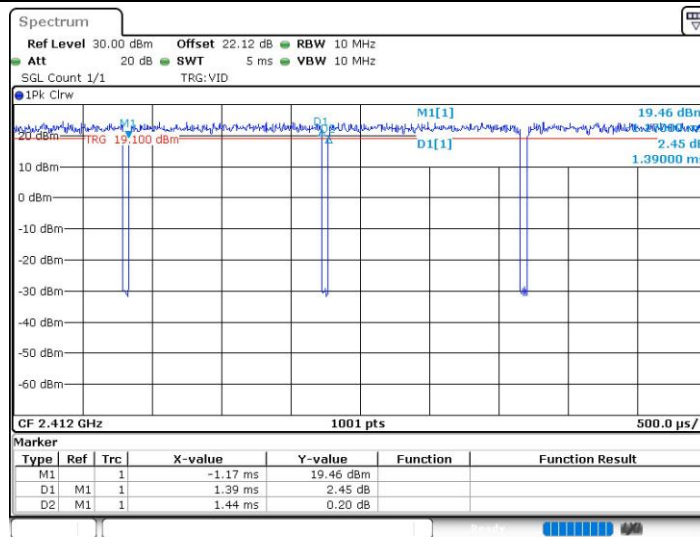


Test Graphs



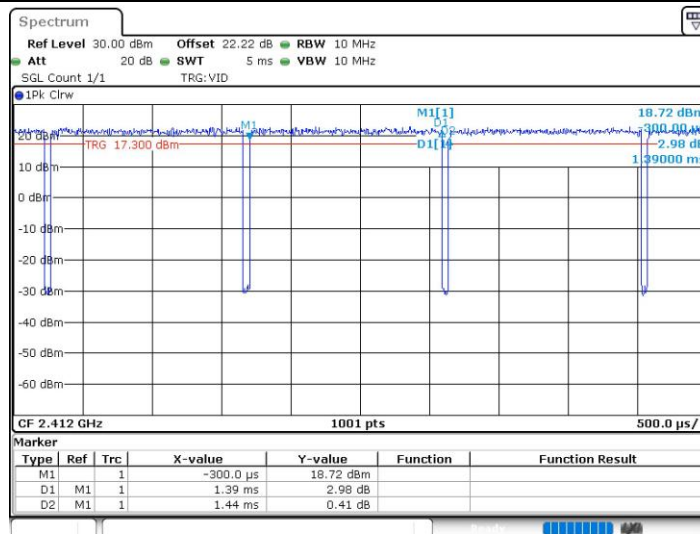


11G_Ant1_2412



Date: 17.APR.2022 21:42:21

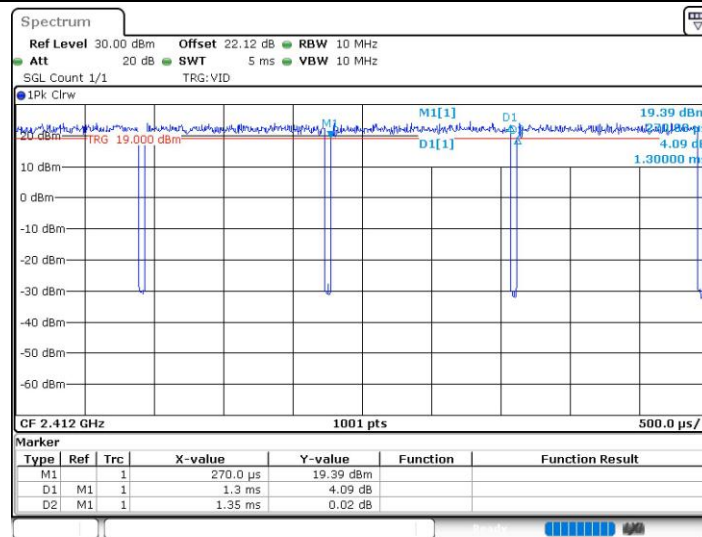
11G_Ant2_2412



Date: 17.APR.2022 21:42:33

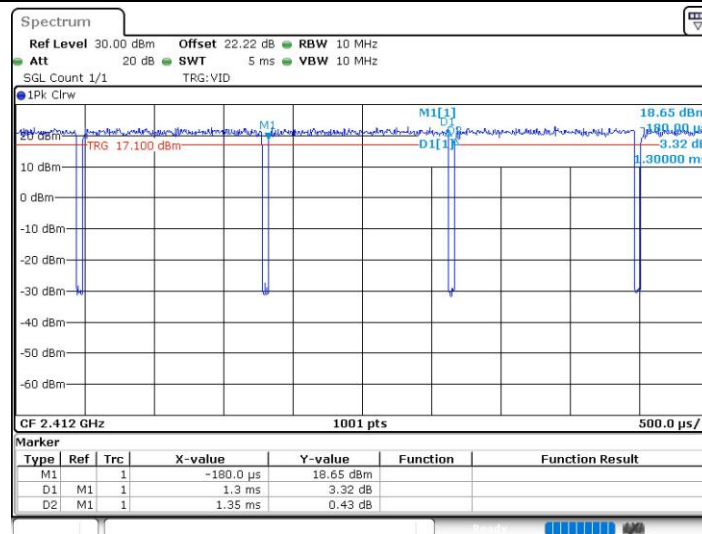


11N20MIMO_Ant1_2412



Date: 17.APR.2022 21:49:16

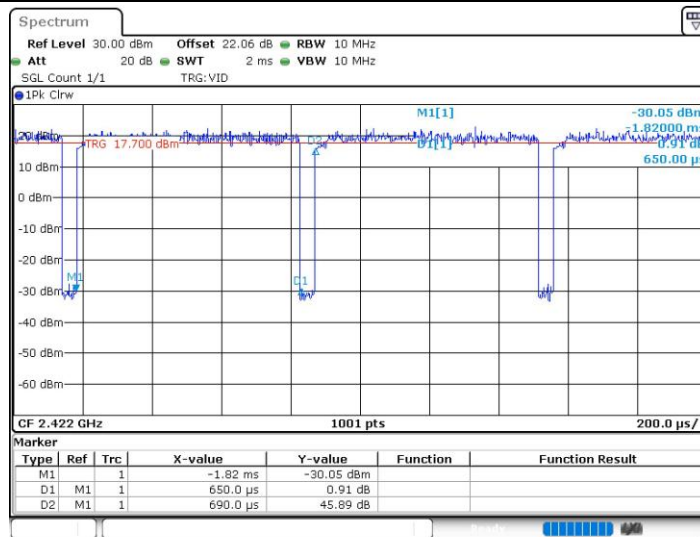
11N20MIMO_Ant2_2412



Date: 17.APR.2022 21:49:28

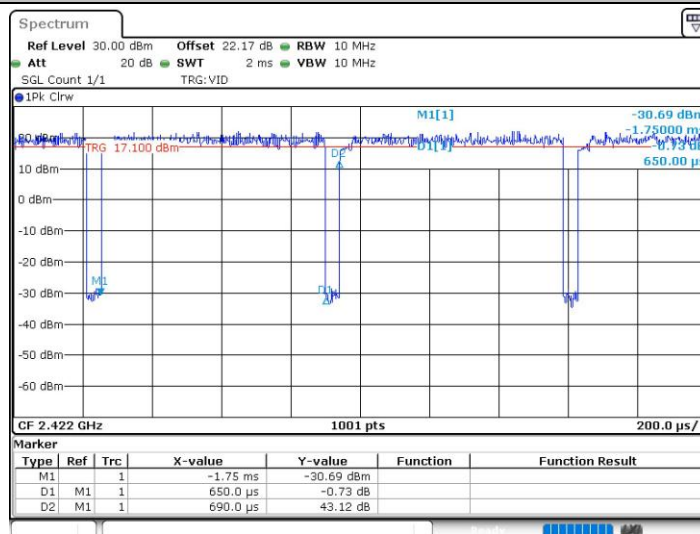


11N40MIMO_Ant1_2422

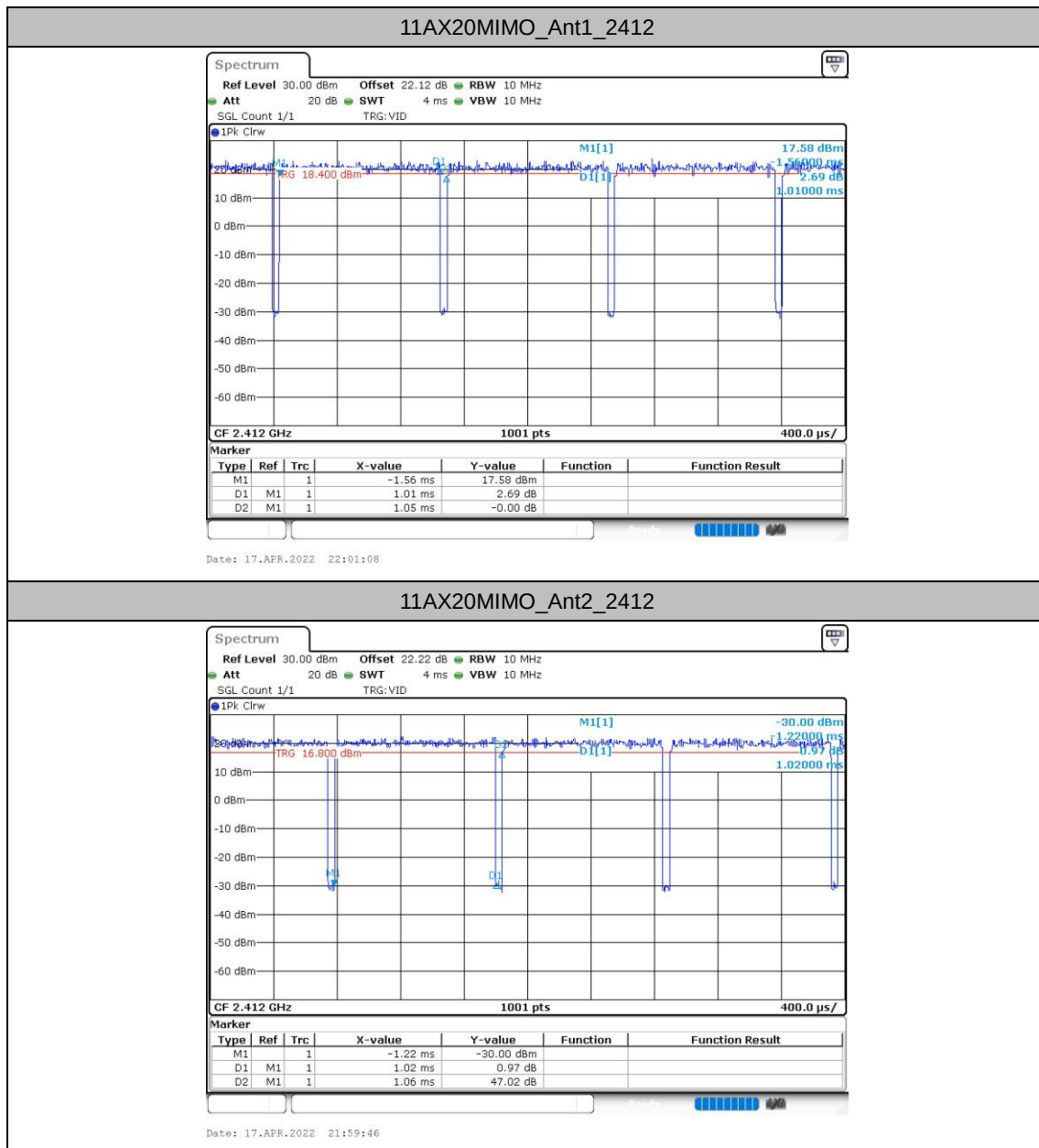


Date: 17.APR.2022 21:52:58

11N40MIMO_Ant2_2422

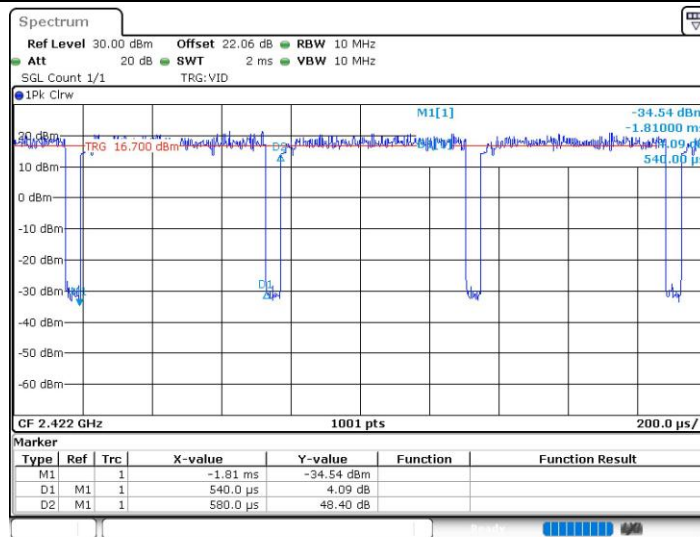


Date: 17.APR.2022 21:53:09

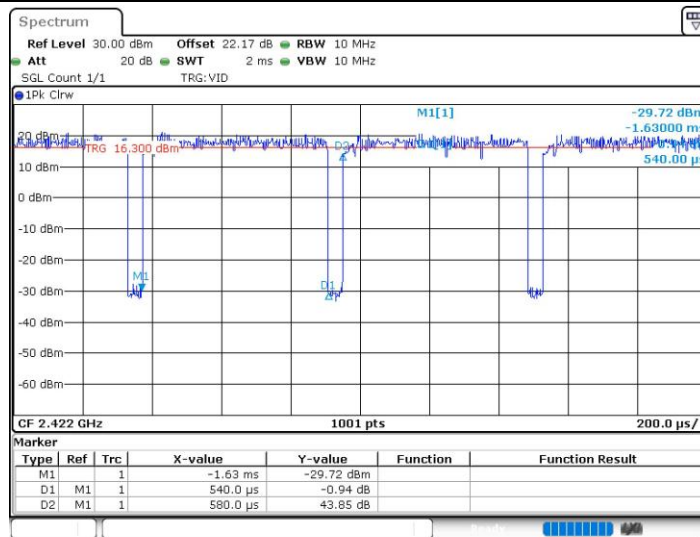




11AX40MIMO_Ant1_2422



11AX40MIMO_Ant2_2422

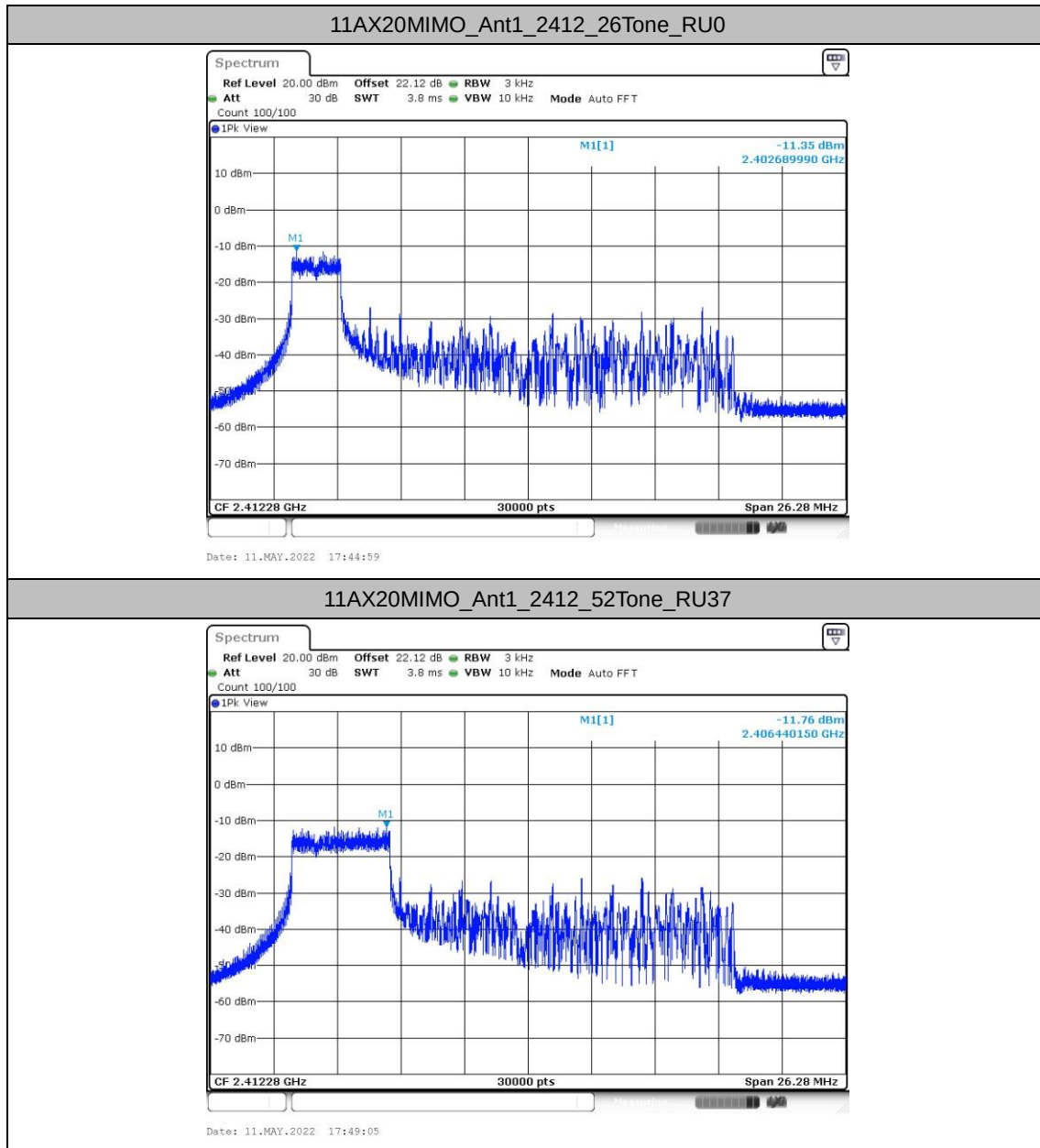


**Verify 11ax Part RU Maximum power spectral density****Test Result**

TestMode	Antenna	Freq(MHz)	RuSize	RuIndex	Result [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
11AX20MIMO	Ant1	2412	26Tone	RU0	-11.35	≤8.00	PASS
			52Tone	RU37	-11.76	≤8.00	PASS
			106Tone	RU53	-10.88	≤8.00	PASS
	Ant2	2412	26Tone	RU0	-10.74	≤8.00	PASS
			52Tone	RU37	-10.61	≤8.00	PASS
			106Tone	RU53	-10.6	≤8.00	PASS
	total	2412	26Tone	RU0	-8.02	≤8.00	PASS
			52Tone	RU37	-8.14	≤8.00	PASS
			106Tone	RU53	-7.73	≤8.00	PASS
	Ant1	2462	26Tone	RU8	-12.75	≤8.00	PASS
			52Tone	RU40	-13.02	≤8.00	PASS
			106Tone	RU54	-13.35	≤8.00	PASS
	Ant2	2462	26Tone	RU8	-14.5	≤8.00	PASS
			52Tone	RU40	-13.34	≤8.00	PASS
			106Tone	RU54	-14.54	≤8.00	PASS
	total	2462	26Tone	RU8	-10.53	≤8.00	PASS
			52Tone	RU40	-10.17	≤8.00	PASS
			106Tone	RU54	-10.89	≤8.00	PASS
11AX40MIMO	Ant1	2422	242Tone	RU61	-16.07	≤8.00	PASS
	Ant2	2422	242Tone	RU61	-15.61	≤8.00	PASS
	total	2422	242Tone	RU61	-12.82	≤8.00	PASS
	Ant1	2452	242Tone	RU62	-16.53	≤8.00	PASS
	Ant2	2452	242Tone	RU62	-18.33	≤8.00	PASS
	total	2452	242Tone	RU62	-14.33	≤8.00	PASS

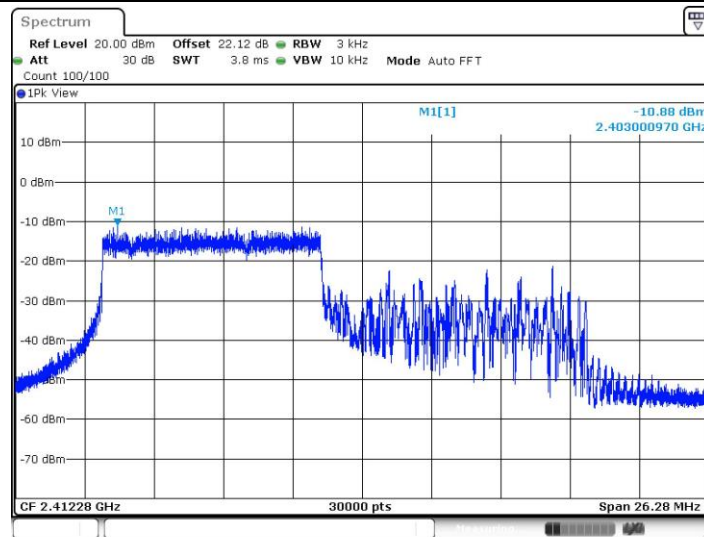


Test Graphs



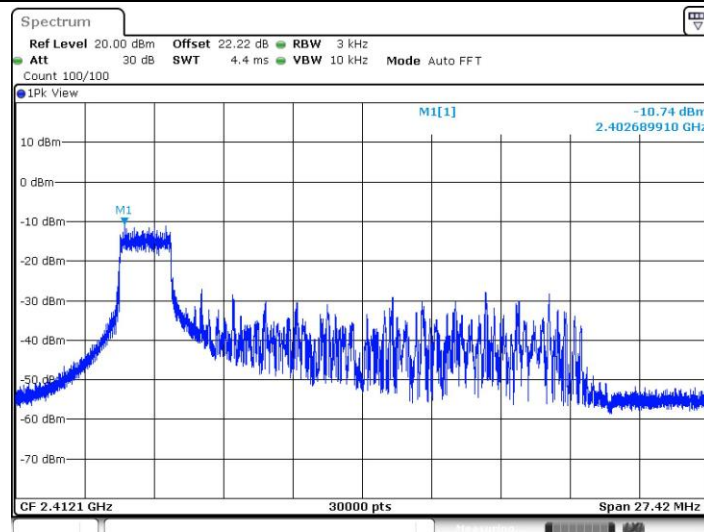


11AX20MIMO_Ant1_2412_106Tone_RU53



Date: 11.MAY.2022 17:55:30

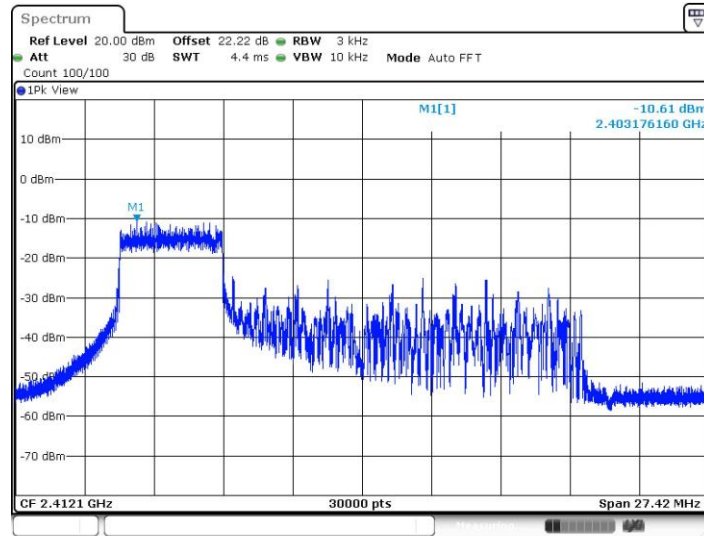
11AX20MIMO_Ant2_2412_26Tone_RU0



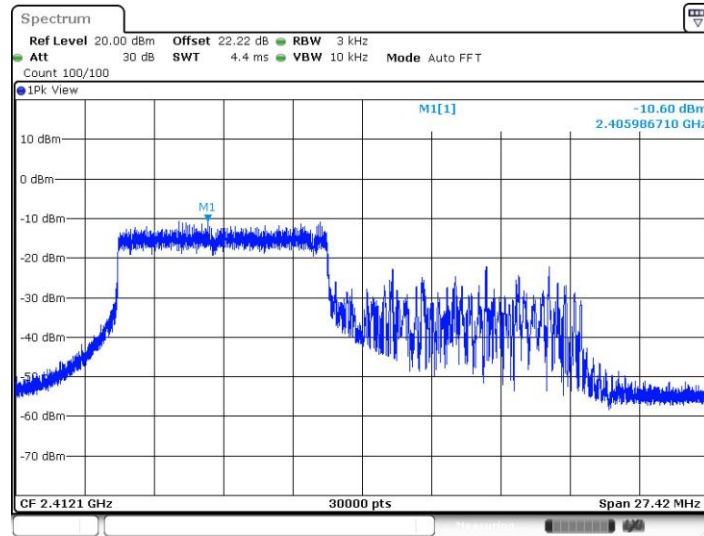
Date: 11.MAY.2022 17:46:04



11AX20MIMO_Ant2_2412_52Tone_RU37

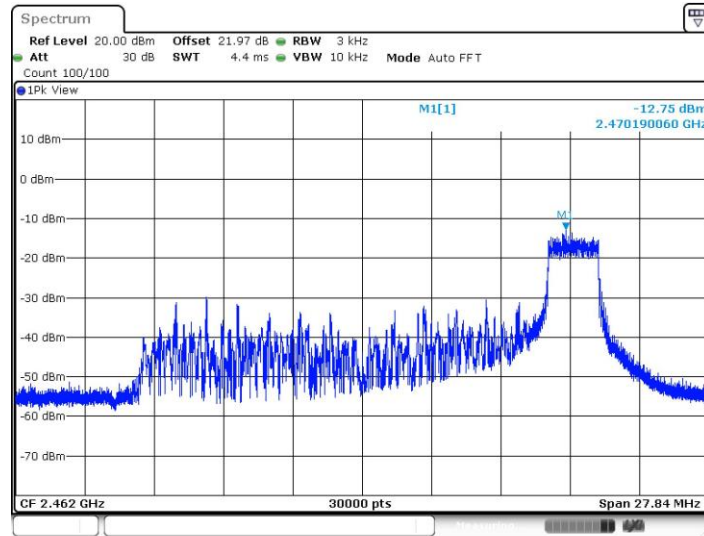


11AX20MIMO_Ant2_2412_106Tone_RU53

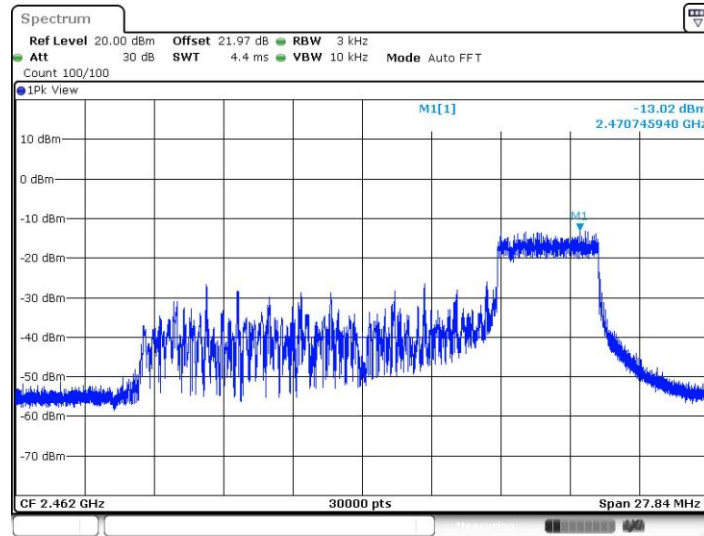




11AX20MIMO_Ant1_2462_26Tone_RU8

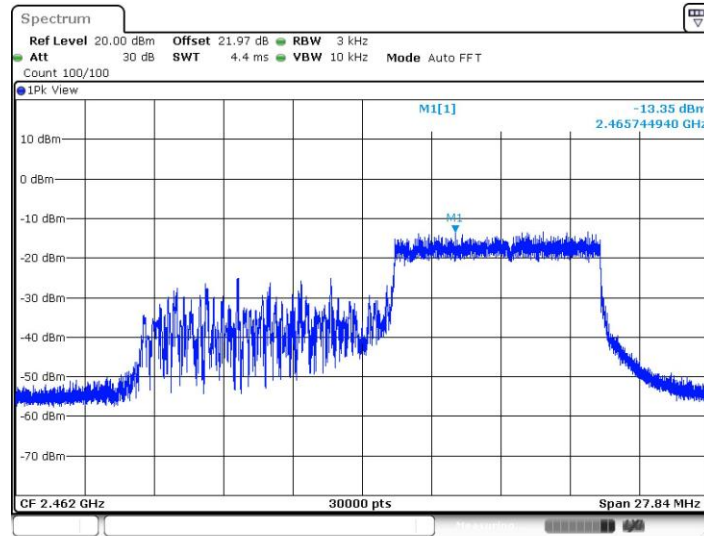


11AX20MIMO_Ant1_2462_52Tone_RU40



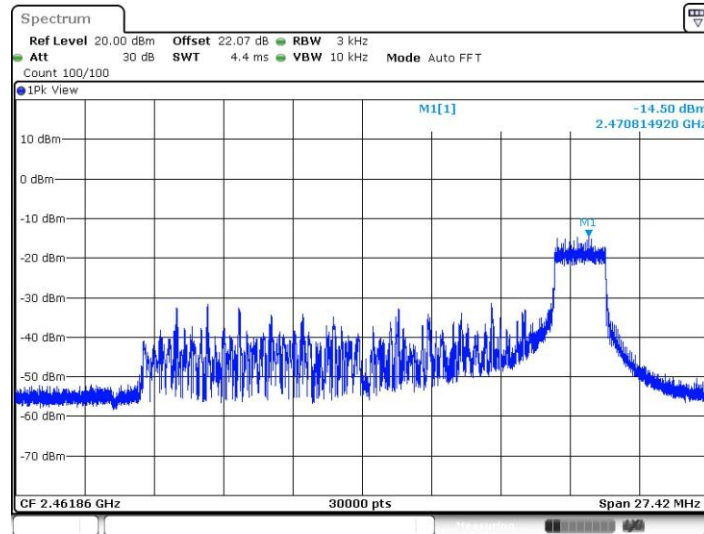


11AX20MIMO_Ant1_2462_106Tone_RU54



Date: 11.MAY.2022 18:14:32

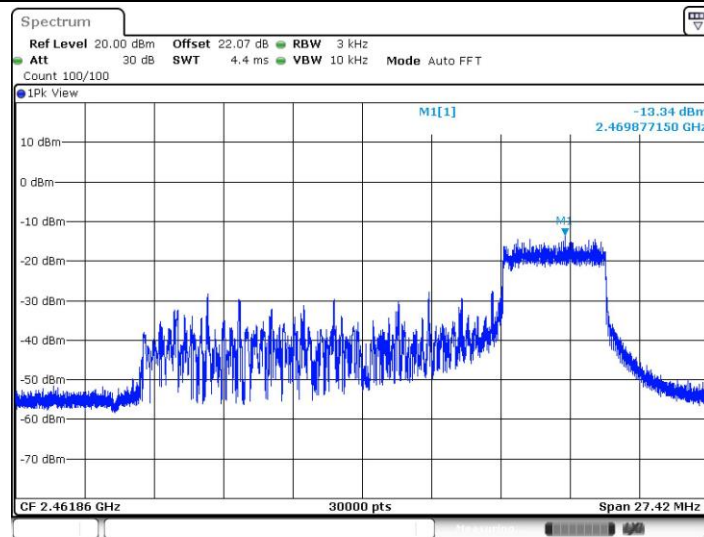
11AX20MIMO_Ant2_2462_26Tone_RU8



Date: 11.MAY.2022 18:08:30

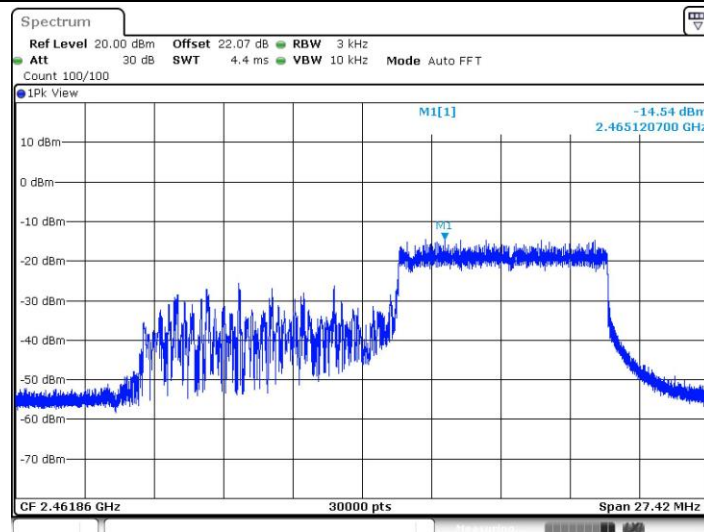


11AX20MIMO_Ant2_2462_52Tone_RU40



Date: 11.MAY.2022 18:11:24

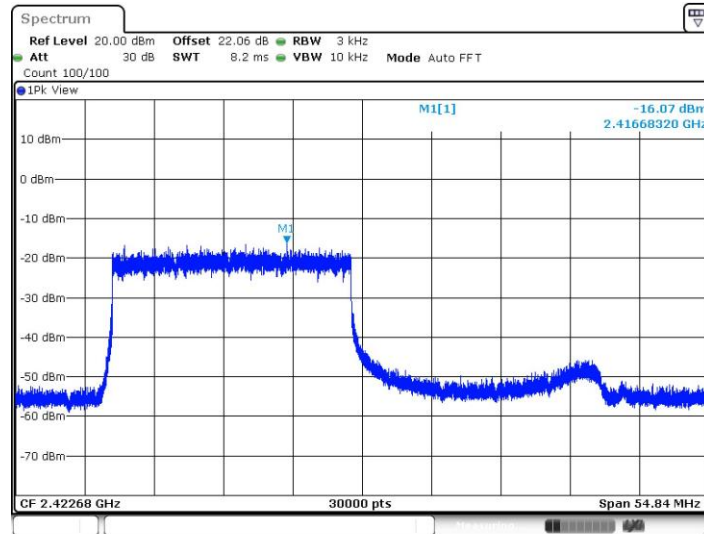
11AX20MIMO_Ant2_2462_106Tone_RU54



Date: 11.MAY.2022 18:15:53

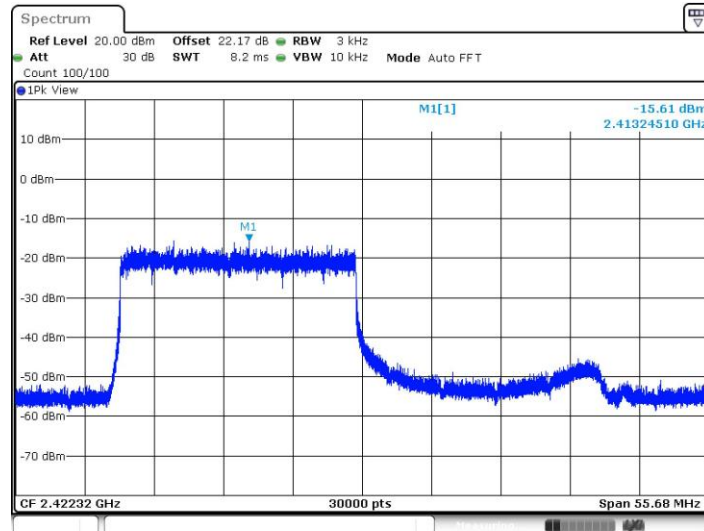


11AX40MIMO_Ant1_2422_242Tone_RU61



Date: 11.MAY.2022 18:25:10

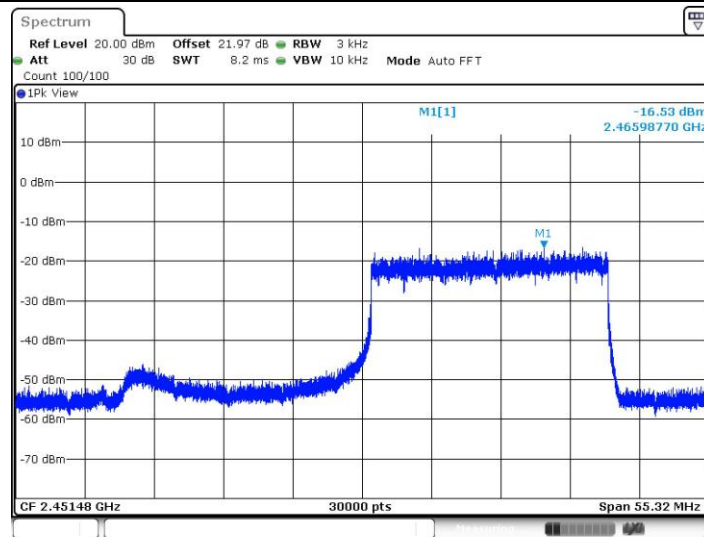
11AX40MIMO_Ant2_2422_242Tone_RU61



Date: 11.MAY.2022 18:25:47

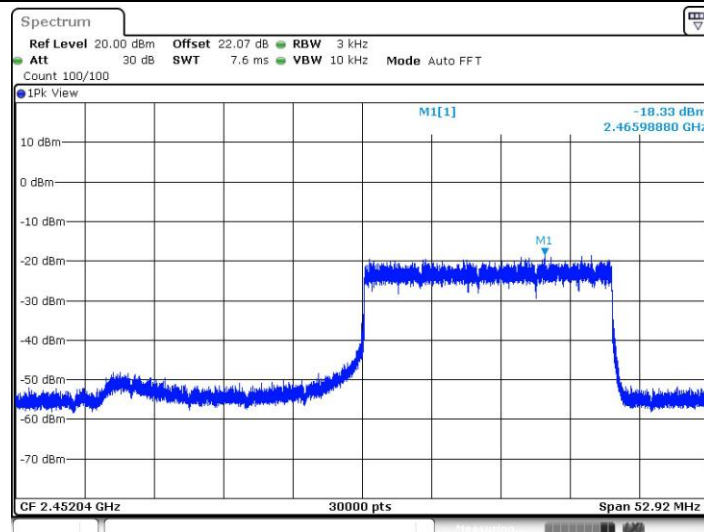


11AX40MIMO_Ant1_2452_242Tone_RU62



Date: 11.MAY.2022 18:31:14

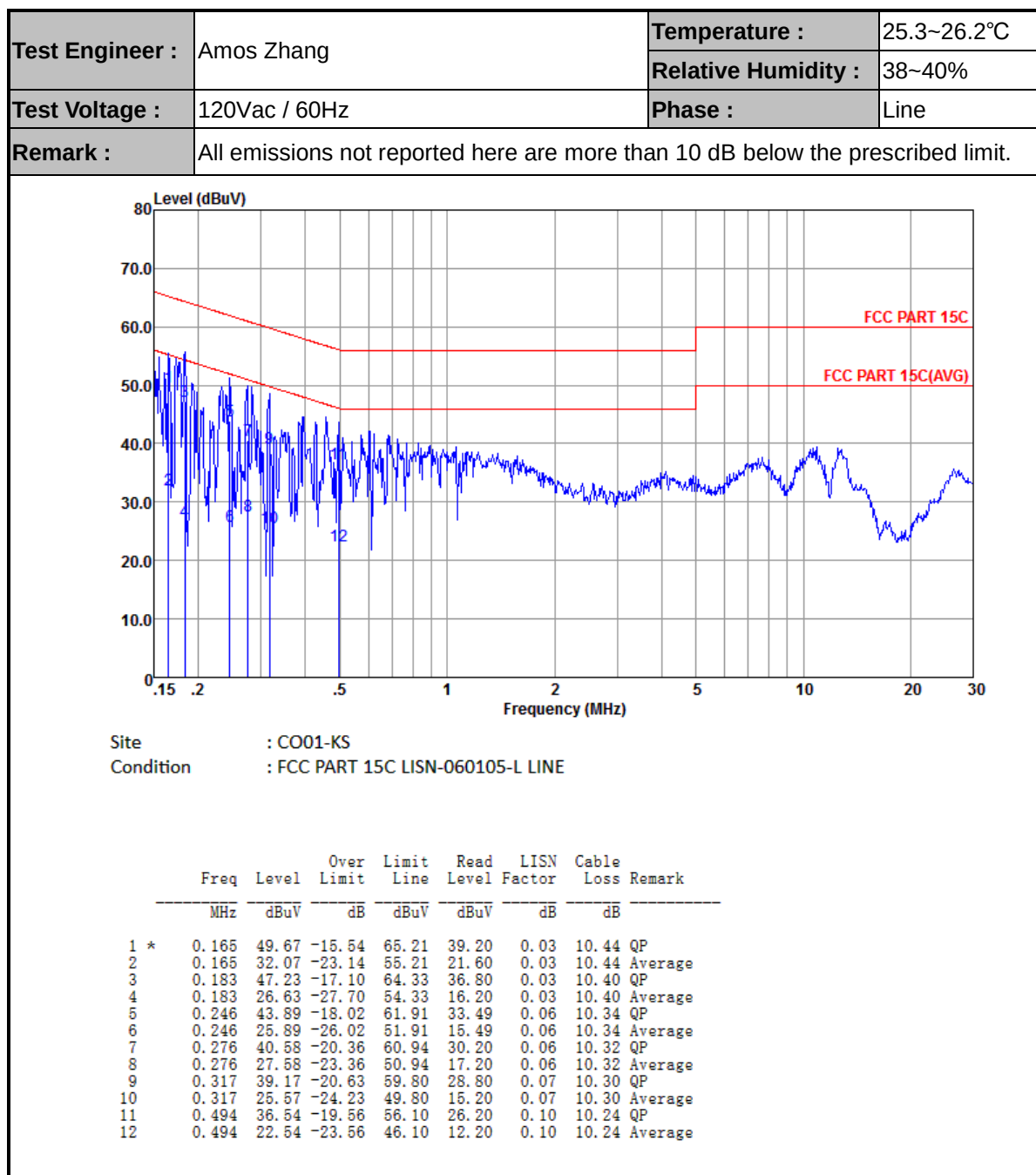
11AX40MIMO_Ant2_2452_242Tone_RU62



Date: 11.MAY.2022 18:32:02

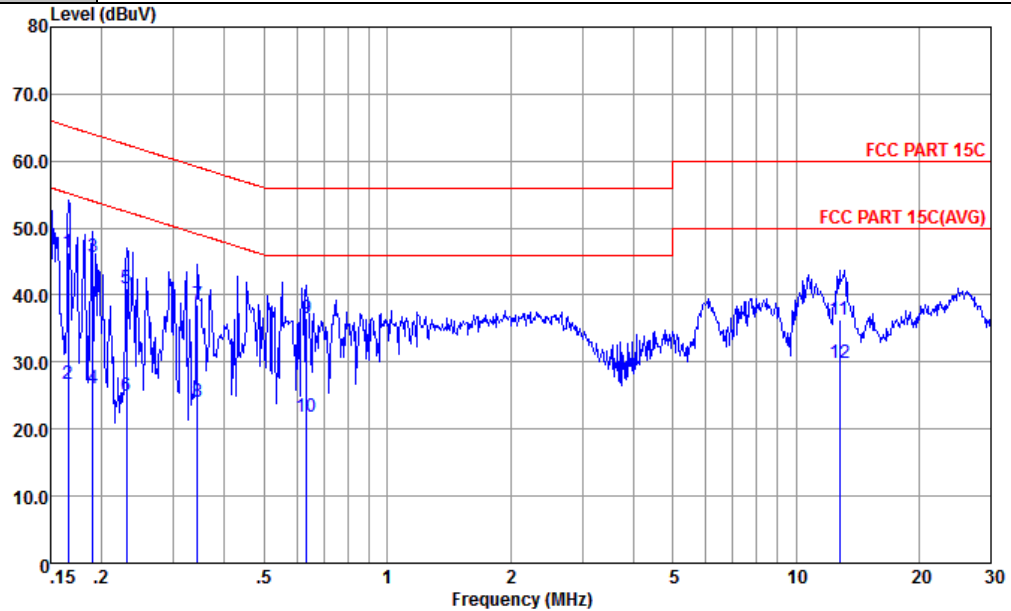


Appendix B. AC Conducted Emission Test Results





Test Engineer :	Amos Zhang	Temperature :	25.3~26.2°C
		Relative Humidity :	38~40%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-KS
Condition : FCC PART 15C LISN-060105-N NEUTRAL

	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.166	46.45	-18.71	65.16	35.90	0.11	10.44	QP
2	0.166	26.85	-28.31	55.16	16.30	0.11	10.44	Average
3 *	0.190	45.69	-18.33	64.02	35.21	0.10	10.38	QP
4	0.190	26.09	-27.93	54.02	15.61	0.10	10.38	Average
5	0.230	40.94	-21.50	62.44	30.50	0.10	10.34	QP
6	0.230	25.04	-27.40	52.44	14.60	0.10	10.34	Average
7	0.343	38.59	-20.54	59.13	28.20	0.10	10.29	QP
8	0.343	23.99	-25.14	49.13	13.60	0.10	10.29	Average
9	0.634	36.55	-19.45	56.00	26.20	0.11	10.24	QP
10	0.634	21.85	-24.15	46.00	11.50	0.11	10.24	Average
11	12.784	36.25	-23.75	60.00	25.60	0.28	10.37	QP
12	12.784	29.95	-20.05	50.00	19.30	0.28	10.37	Average

Note:

1. $\text{Level(dB}\mu\text{V)} = \text{Read Level(dB}\mu\text{V)} + \text{LISN Factor(dB)} + \text{Cable Loss(dB)}$
2. $\text{Over Limit(dB)} = \text{Level(dB}\mu\text{V)} - \text{Limit Line(dB}\mu\text{V)}$



Appendix C. Radiated Spurious Emission

Only the worst results for each operation mode are shown in the report

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
2+9		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 11 2462MHz		2485.6	56.17	-17.83	74	49.88	32.2	6.73	32.64	130	282	P	H
		2489.2	45.88	-8.12	54	39.57	32.2	6.75	32.64	130	282	A	H
	*	2460	108.11	-	-	101.92	32.2	6.7	32.71	130	282	P	H
	*	2460	104	-	-	97.81	32.2	6.7	32.71	130	282	A	H
		2496.76	56.02	-17.98	74	49.64	32.2	6.75	32.57	372	62	P	V
		2483.5	45.04	-8.96	54	38.75	32.2	6.73	32.64	372	62	A	V
	*	2462	105.66	-	-	99.47	32.2	6.7	32.71	372	62	P	V
	*	2460	102.79	-	-	96.6	32.2	6.7	32.71	372	62	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
2+9		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 11 2462MHz		4920	43.36	-30.64	74	61.62	33.9	9.58	61.74	300	0	P	H
		7380	46.03	-27.97	74	60.7	35.68	11.71	62.06	300	0	P	H
		4920	46.9	-27.1	74	65.16	33.9	9.58	61.74	100	0	P	V
		7380	43.16	-30.84	74	57.83	35.68	11.71	62.06	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz
WIFI 802.11g (Band Edge @ 3m)

WIFI Ant. 2+9	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 11 2462MHz		2483.5	67.99	-6.01	74	61.7	32.2	6.73	32.64	100	224	P	H
		2483.5	50.92	-3.08	54	44.63	32.2	6.73	32.64	100	224	A	H
	*	2466	109.88	-	-	103.69	32.2	6.7	32.71	100	224	P	H
	*	2462	102.65	-	-	96.46	32.2	6.7	32.71	100	224	A	H
		2483.92	62.67	-11.33	74	56.38	32.2	6.73	32.64	299	39	P	V
		2483.5	48.27	-5.73	54	41.98	32.2	6.73	32.64	299	39	A	V
	*	2464	104.54	-	-	98.35	32.2	6.7	32.71	299	39	P	V
	*	2464	97.2	-	-	91.01	32.2	6.7	32.71	299	39	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz
WIFI 802.11g (Harmonic @ 3m)

WIFI Ant. 2+9	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 11 2462MHz		4920	47.98	-26.02	74	66.24	33.9	9.58	61.74	300	0	P	H
		7380	43.7	-30.3	74	58.37	35.68	11.71	62.06	300	0	P	H
		4920	45.58	-28.42	74	63.84	33.9	9.58	61.74	100	0	P	V
		7380	43.55	-30.45	74	58.22	35.68	11.71	62.06	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 2+9	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 11 2462MHz	*	2464	106.62	-	-	100.43	32.2	6.7	32.71	100	223	P	H
	*	2464	99.74	-	-	93.55	32.2	6.7	32.71	100	223	A	H
		2483.56	63.42	-10.58	74	57.13	32.2	6.73	32.64	100	223	P	H
		2483.5	50.4	-3.6	54	44.11	32.2	6.73	32.64	100	223	A	H
	*	2466	100.73	-	-	94.54	32.2	6.7	32.71	322	60	P	V
	*	2462	93.85	-	-	87.66	32.2	6.7	32.71	322	60	A	V
		2483.92	58.07	-15.93	74	51.78	32.2	6.73	32.64	322	60	P	V
		2485.3	46.72	-7.28	54	40.43	32.2	6.73	32.64	322	60	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 2+9	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 11 2462MHz		4920	44.77	-29.23	74	63.03	33.9	9.58	61.74	300	0	P	H
		7380	42.43	-31.57	74	57.1	35.68	11.71	62.06	300	0	P	H
		4920	42.38	-31.62	74	60.64	33.9	9.58	61.74	100	0	P	V
		7380	42.43	-31.57	74	57.1	35.68	11.71	62.06	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 2+9	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 09 2452MHz		2379.94	55.04	-18.96	74	49.41	31.93	6.58	32.88	109	226	P	H
		2387.74	44.73	-9.27	54	39	32	6.61	32.88	109	226	A	H
	*	2448	102.7	-	-	96.53	32.2	6.68	32.71	109	226	P	H
	*	2442	95.53	-	-	89.36	32.2	6.68	32.71	109	226	A	H
		2483.5	68.18	-5.82	74	61.89	32.2	6.73	32.64	109	226	P	H
		2484.4	50.95	-3.05	54	44.66	32.2	6.73	32.64	109	226	A	H
		2374.22	54.49	-19.51	74	48.86	31.93	6.58	32.88	380	62	P	V
		2382.28	44.7	-9.3	54	39.07	31.93	6.58	32.88	380	62	A	V
	*	2448	97.18	-	-	91.01	32.2	6.68	32.71	380	62	P	V
	*	2450	89.77	-	-	83.6	32.2	6.68	32.71	380	62	A	V
		2485	62.99	-11.01	74	56.7	32.2	6.73	32.64	380	62	P	V
		2484.52	47.93	-6.07	54	41.64	32.2	6.73	32.64	380	62	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 2+9	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 09 2452MHz		4905	41.75	-32.25	74	60.04	33.9	9.56	61.75	300	0	P	H
		7350	43.17	-30.83	74	57.86	35.66	11.71	62.06	300	0	P	H
		4905	41.86	-32.14	74	60.15	33.9	9.56	61.75	100	0	P	V
		7350	43.03	-30.97	74	57.72	35.66	11.71	62.06	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11 ax HE20 Full (Band Edge @ 3m)

WIFI Ant. 2+9	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE20 Full CH 01 2412MHz		2389.69	63.8	-10.2	74	58.07	32	6.61	32.88	100	225	P	H
		2389.95	50.62	-3.38	54	44.85	32	6.61	32.84	100	225	A	H
	*	2410	110.78	-	-	104.92	32.07	6.63	32.84	100	225	P	H
	*	2414	101.6	-	-	95.74	32.07	6.63	32.84	100	225	A	H
		2389.56	58.92	-15.08	74	53.19	32	6.61	32.88	395	52	P	V
		2389.95	46.79	-7.21	54	41.02	32	6.61	32.84	395	52	A	V
	*	2414	107.2	-	-	101.34	32.07	6.63	32.84	395	52	P	V
	*	2414	97.92	-	-	92.06	32.07	6.63	32.84	395	52	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11 ax HE20 Full (Harmonic @ 3m)

WIFI Ant. 2+9	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE20 Full CH 01 2412MHz		4830	45.19	-28.81	74	63.43	34.1	9.47	61.81	300	0	P	H
		4830	42.63	-31.37	74	60.87	34.1	9.47	61.81	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11ax HE20 Partial 106 (Band Edge @ 3m)

WIFI Ant. 2+9	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE20 Partial 106/54 CH 11 2462MHz	*	2464	110.64	-	-	104.45	32.2	6.7	32.71	300	204	P	H
	*	2464	100.07	-	-	93.88	32.2	6.7	32.71	300	204	A	H
		2483.8	58.56	-15.44	74	52.27	32.2	6.73	32.64	300	204	P	H
		2483.56	47.56	-6.44	54	41.27	32.2	6.73	32.64	300	204	A	H
	*	2464	112.81	-	-	106.62	32.2	6.7	32.71	263	258	P	V
	*	2464	104.19	-	-	98	32.2	6.7	32.71	263	258	A	V
		2483.62	64.26	-9.74	74	57.97	32.2	6.73	32.64	263	258	P	V
		2483.5	50.97	-3.03	54	44.68	32.2	6.73	32.64	263	258	A	V
Remark	3. No other spurious found. 4. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11 ax HE40 Full (Band Edge @ 3m)

WIFI Ant. 2+9	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE40 Full CH 09 2452MHz		2379.81	55.25	-18.75	74	49.62	31.93	6.58	32.88	104	221	P	H
		2380.98	45.46	-8.54	54	39.83	31.93	6.58	32.88	104	221	A	H
	*	2442	107.84	-	-	101.67	32.2	6.68	32.71	104	221	P	H
	*	2442	97.13	-	-	90.96	32.2	6.68	32.71	104	221	A	H
		2484.76	61.67	-12.33	74	55.38	32.2	6.73	32.64	104	221	P	H
		2484.58	50.87	-3.13	54	44.58	32.2	6.73	32.64	104	221	A	H
		2355.11	55.48	-18.52	74	49.97	31.87	6.56	32.92	305	40	P	V
		2387.87	45.25	-8.75	54	39.52	32	6.61	32.88	305	40	A	V
	*	2446	98.67	-	-	92.5	32.2	6.68	32.71	305	40	P	V
	*	2446	90.23	-	-	84.06	32.2	6.68	32.71	305	40	A	V
		2489.92	56.09	-17.91	74	49.78	32.2	6.75	32.64	305	40	P	V
		2484.52	46.24	-7.76	54	39.95	32.2	6.73	32.64	305	40	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11 ax HE40 Full (Harmonic @ 3m)

WIFI Ant. 2+9	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE40 Full CH 09 2452MHz		4890	40.83	-33.17	74	59.15	33.9	9.54	61.76	300	0	P	H
		7335	42.76	-31.24	74	57.48	35.64	11.7	62.06	300	0	P	H
		4890	41.08	-32.92	74	59.4	33.9	9.54	61.76	100	0	P	V
		7335	42.78	-31.22	74	57.5	35.64	11.7	62.06	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz



WIFI 802.11ax HE40 Partial 242 (Band Edge @ 3m)

WIFI Ant. 2+9	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ax HE40 Partial 242/62 CH 09 2452MHz		2377.47	55.83	-18.17	74	50.2	31.93	6.58	32.88	384	227	P	H
		2383.58	44.49	-9.51	54	38.86	31.93	6.58	32.88	384	227	A	H
	*	2458	104.46	-	-	98.27	32.2	6.7	32.71	384	227	P	H
	*	2464	95.17	-	-	88.98	32.2	6.7	32.71	384	227	A	H
		2485.18	62.6	-11.4	74	56.31	32.2	6.73	32.64	384	227	P	H
		2483.5	48.04	-5.96	54	41.75	32.2	6.73	32.64	384	227	A	H
		2380.98	55.38	-18.62	74	49.75	31.93	6.58	32.88	227	256	P	V
		2389.95	44.65	-9.35	54	38.88	32	6.61	32.84	227	256	A	V
	*	2464	108.16	-	-	101.97	32.2	6.7	32.71	227	256	P	V
	*	2460	98.53	-	-	92.34	32.2	6.7	32.71	227	256	A	V
		2485.18	66.57	-7.43	74	60.28	32.2	6.73	32.64	227	256	P	V
		2483.5	50.24	-3.76	54	43.95	32.2	6.73	32.64	227	256	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Emission below 1GHz

2.4GHz WIFI 802.11ax HE20 Partial 106 (LF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2+9		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11ax HE20 Partial 106 LF		30	21.78	-18.22	40	28.9	24.8	0.88	32.8	-	-	P	H
		145.43	14.76	-28.74	43.5	28.86	16.88	1.92	32.9	-	-	P	H
		331.67	17.51	-28.49	46	27.69	19.83	2.93	32.94	-	-	P	H
		430.61	21.54	-24.46	46	29	22.34	3.32	33.12	-	-	P	H
		581.93	24.58	-21.42	46	28.55	25.48	3.85	33.3	-	-	P	H
		686.69	25.76	-20.24	46	28.59	26.35	4.18	33.36	-	-	P	H
		30	21.78	-18.22	40	28.9	24.8	0.88	32.8	-	-	P	V
		50.37	13.8	-26.2	40	31.3	14.3	1.11	32.91	-	-	P	V
		145.43	14.76	-28.74	43.5	28.86	16.88	1.92	32.9	-	-	P	V
		367.56	18.96	-27.04	46	28.15	20.69	3.07	32.95	-	-	P	V
		430.61	21.54	-24.46	46	29	22.34	3.32	33.12	-	-	P	V
		576.11	23.83	-22.17	46	27.9	25.41	3.83	33.31	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



Co-location Mode

2.4GHz 2400~2483.5MHz

WIFI 802. 11ax(HE20)_Tx_Ch11 RU106_Right & LTE_B30_BW_10M (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
2+9		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ax HE20 Partial 106/54 CH 11 2462MHz		2485.3	61.02	-12.98	74	54.73	32.2	6.73	32.64	107	280	P	H
		2483.92	48.07	-5.93	54	41.78	32.2	6.73	32.64	107	280	A	H
	*	2468	111.49	-	-	105.23	32.2	6.7	32.64	107	280	P	H
	*	2470	102.18	-	-	95.92	32.2	6.7	32.64	107	280	A	H
		2483.86	59.59	-14.41	74	53.3	32.2	6.73	32.64	374	69	P	V
		2484.7	46.3	-7.7	54	40.01	32.2	6.73	32.64	374	69	A	V
	*	2468	108.94	-	-	102.68	32.2	6.7	32.64	374	69	P	V
	*	2468	99.19	-	-	92.93	32.2	6.7	32.64	374	69	A	V
Remark	5. No other spurious found. 6. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802. 11ax(HE20)_Tx_Ch11 RU106_Right & LTE_B30_BW_10M (Harmonic @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
2+9		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ax HE20 Partial 106/54 CH 11 2462MHz		4920	41.15	-32.85	74	59.41	33.9	9.58	61.74	300	0	P	H
		7380	43.1	-30.9	74	57.77	35.68	11.71	62.06	300	0	P	H
		4920	42.02	-31.98	74	60.28	33.9	9.58	61.74	100	0	P	V
		7380	42.89	-31.11	74	57.56	35.68	11.71	62.06	100	0	P	V
Remark	3. No other spurious found. 4. All results are PASS against Peak and Average limit line.												

**Note symbol**

*	Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is over limit line.
P/A	P eak or A verage
H/V	H orizontal or V ertical



A calculation example for radiated spurious emission is shown as below:

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2+9		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
2412MHz		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)

2. Level(dBμV/m) =

Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

3. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

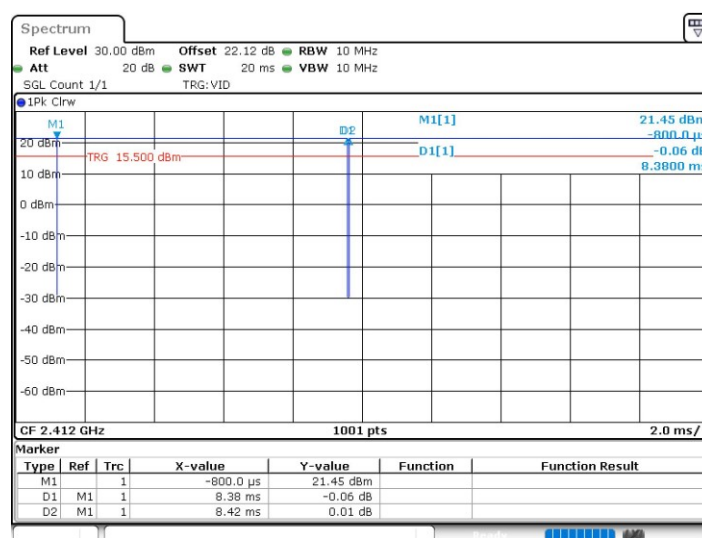
= -10.46(dB)

Both peak and average measured complies with the limit line, so test result is “PASS”.

Appendix D. Duty Cycle Plots

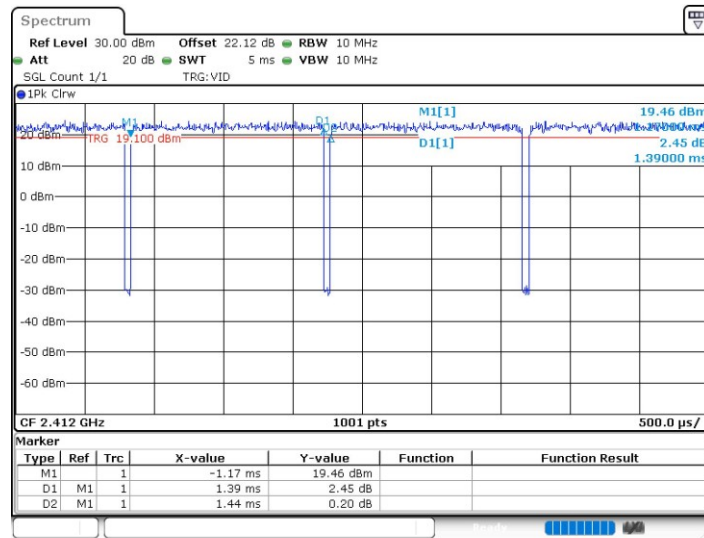
Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11b	99.52	-	-	10Hz
802.11g	96.53	1.390	0.719	0.75kHz
802.11n HT20	96.30	1.300	0.769	0.82kHz
802.11n HT40	94.20	0.650	1.538	1.6kHz
802.11ax HE20	96.23	1.020	0.980	1kHz
802.11ax HE40	93.10	0.540	1.852	2kHz

802.11b

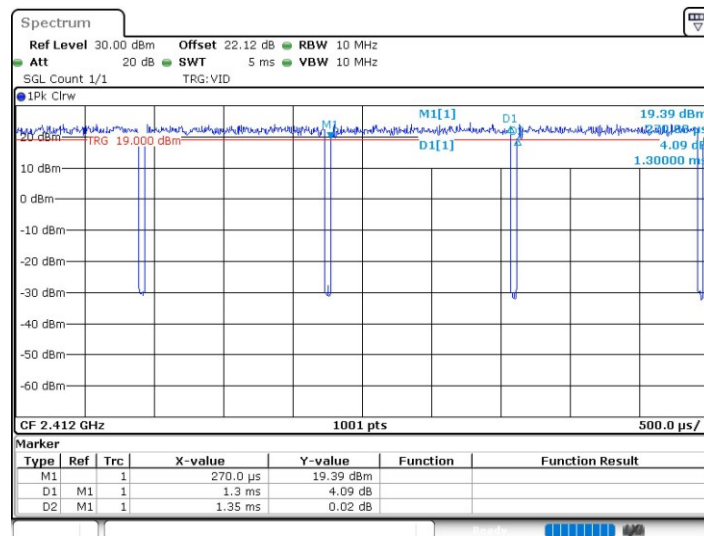




802.11g

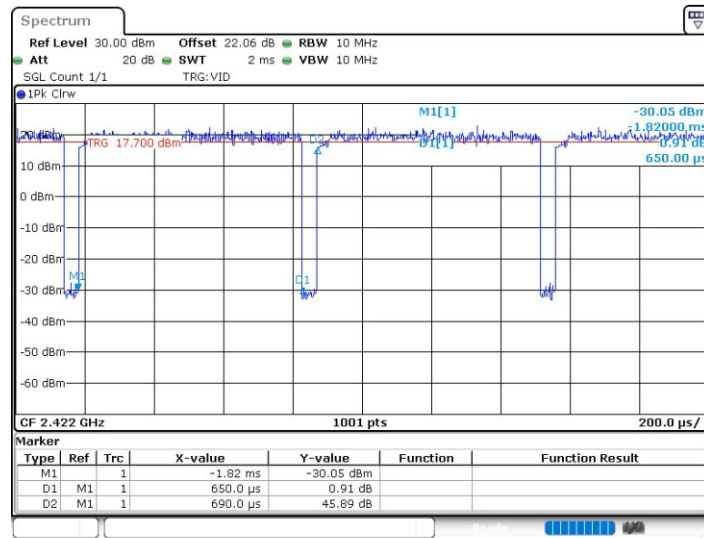


802.11n HT20

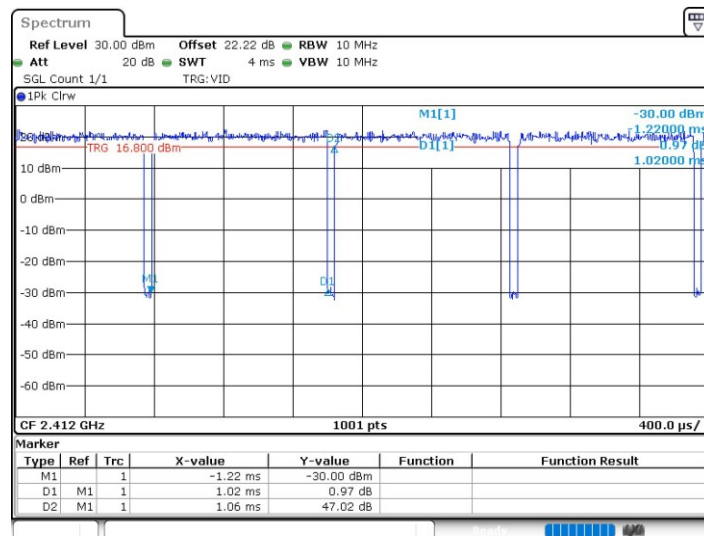




802.11n HT40



802.11ax HE20





802.11ax HE40

