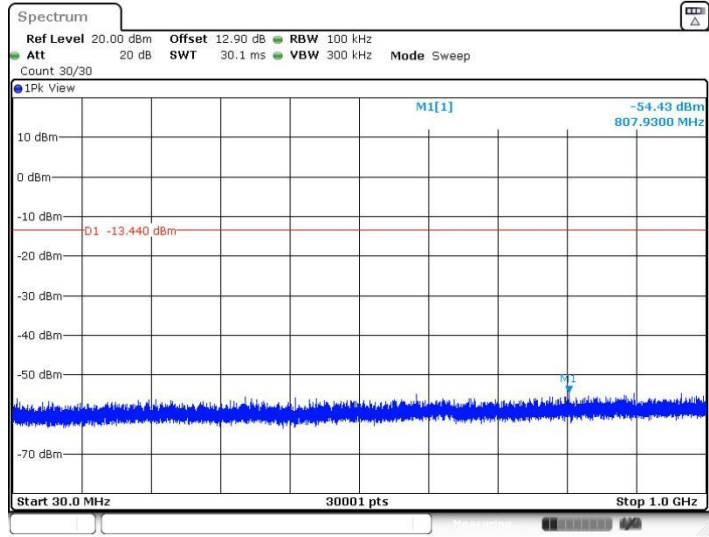


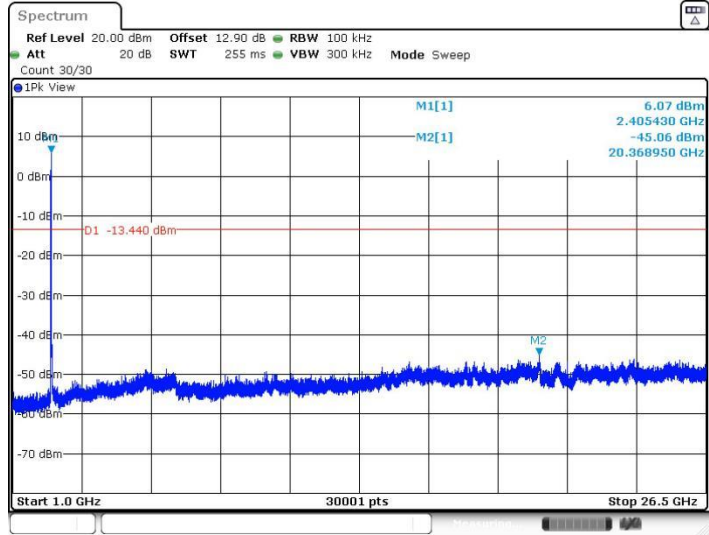


11G-CDD_Ant2_2412_30~1000

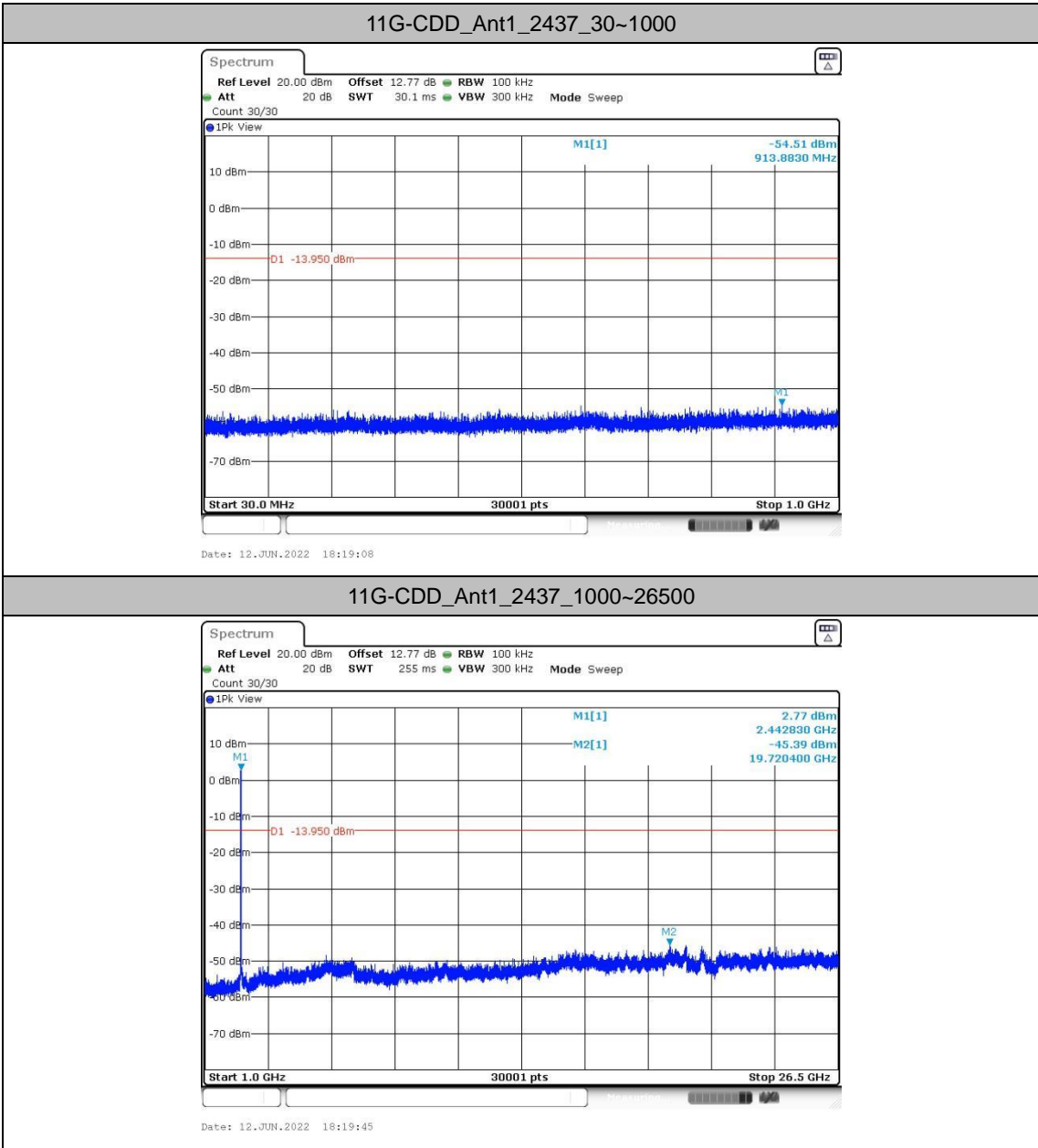


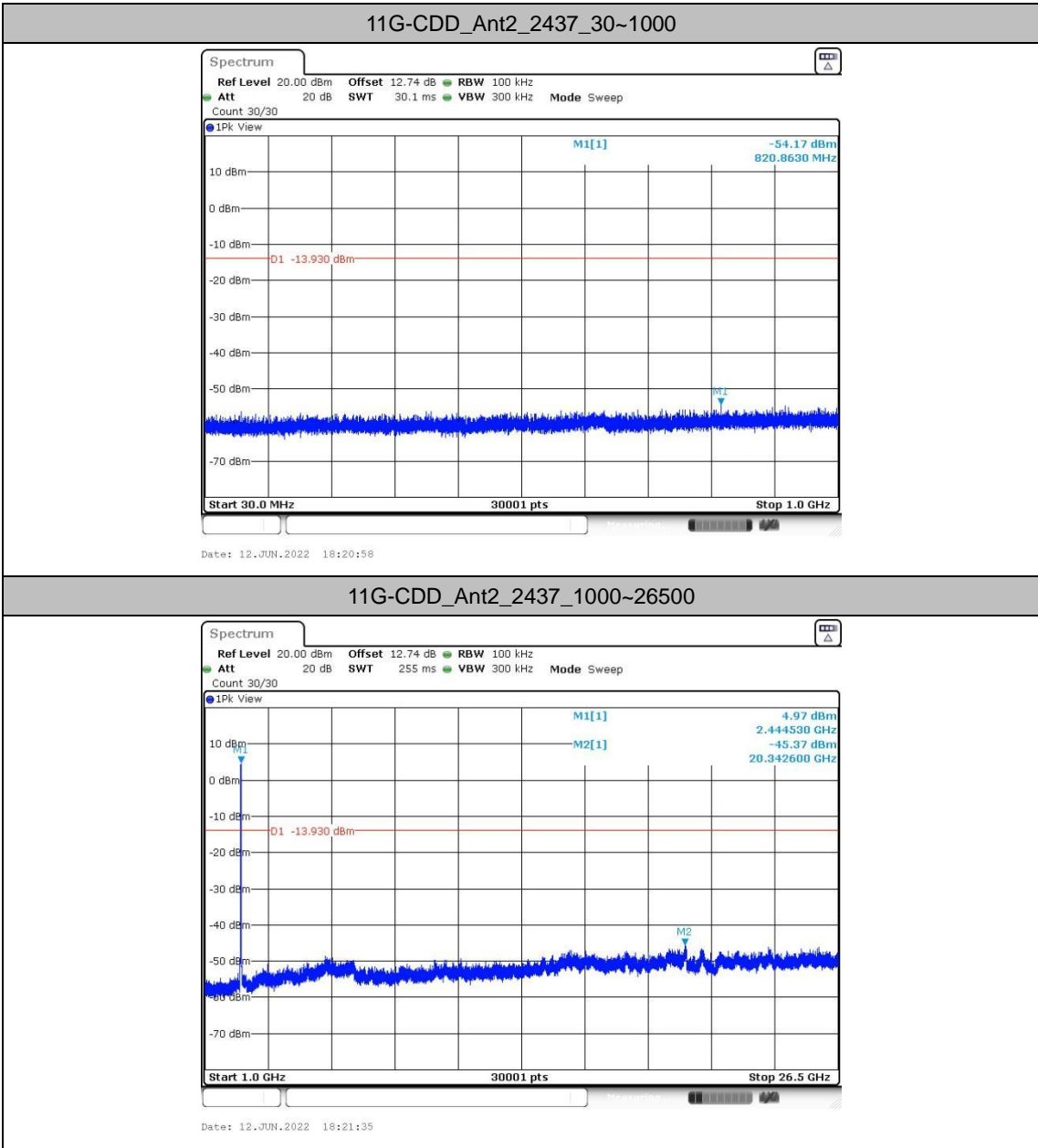
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11G-CDD_Ant2_2412_1000~26500



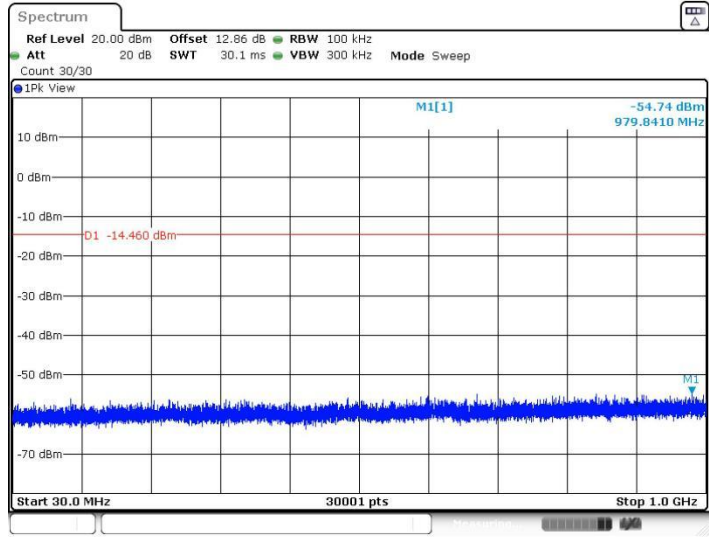
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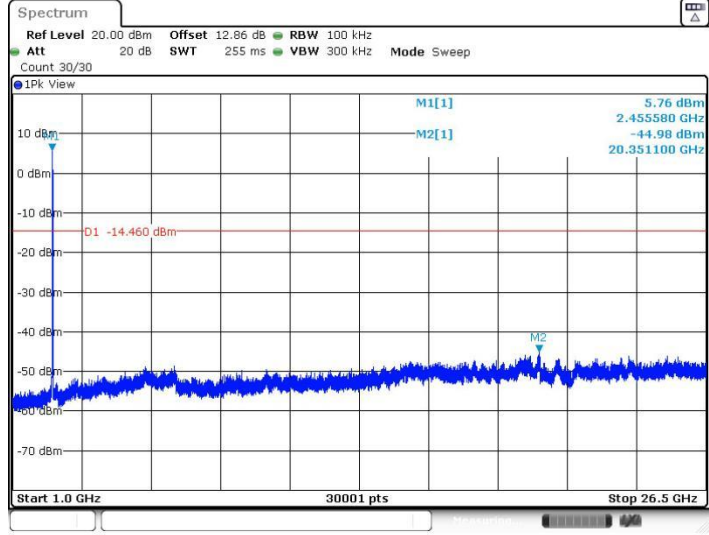


11G-CDD_Ant1_2462_30~1000

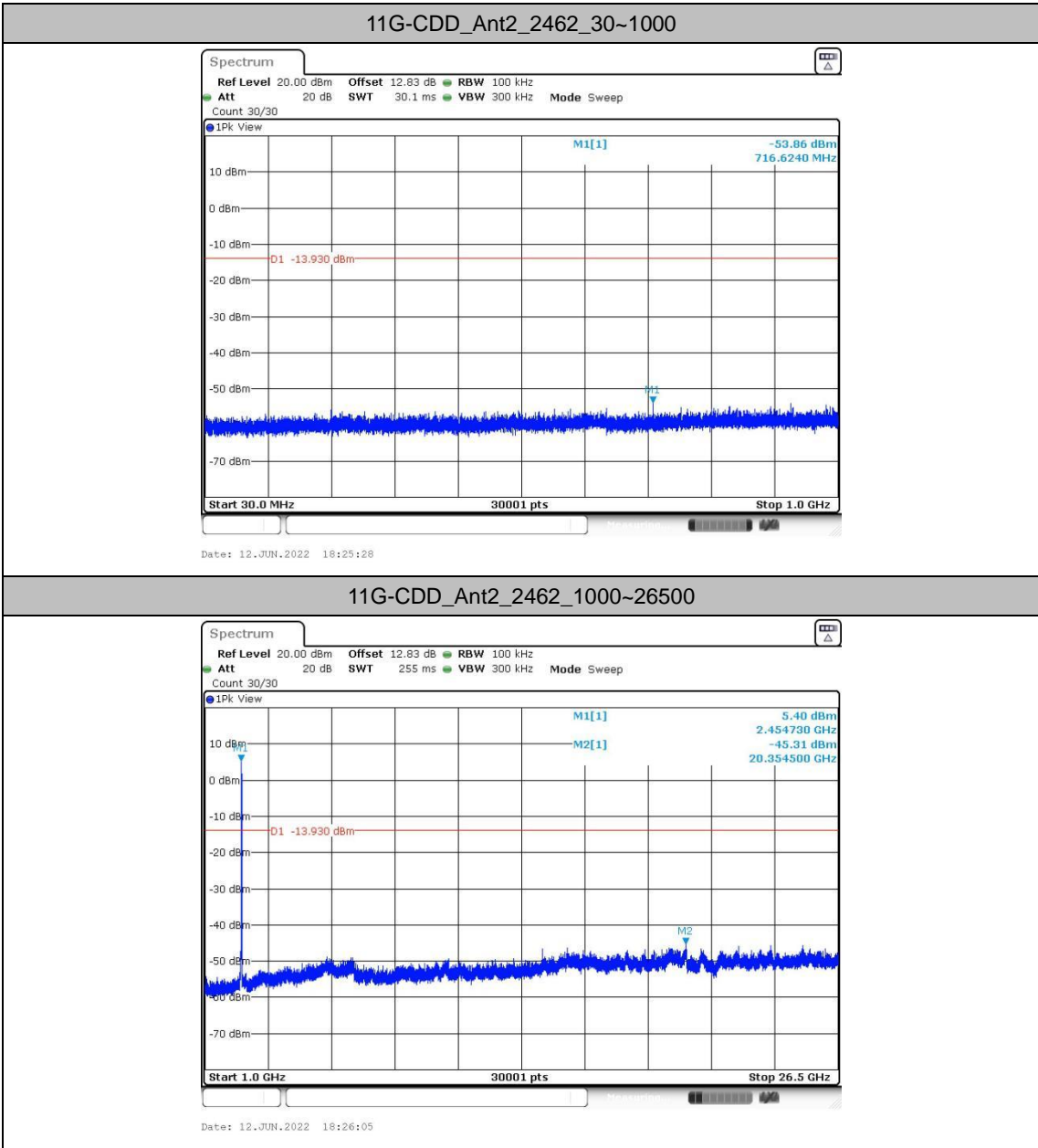


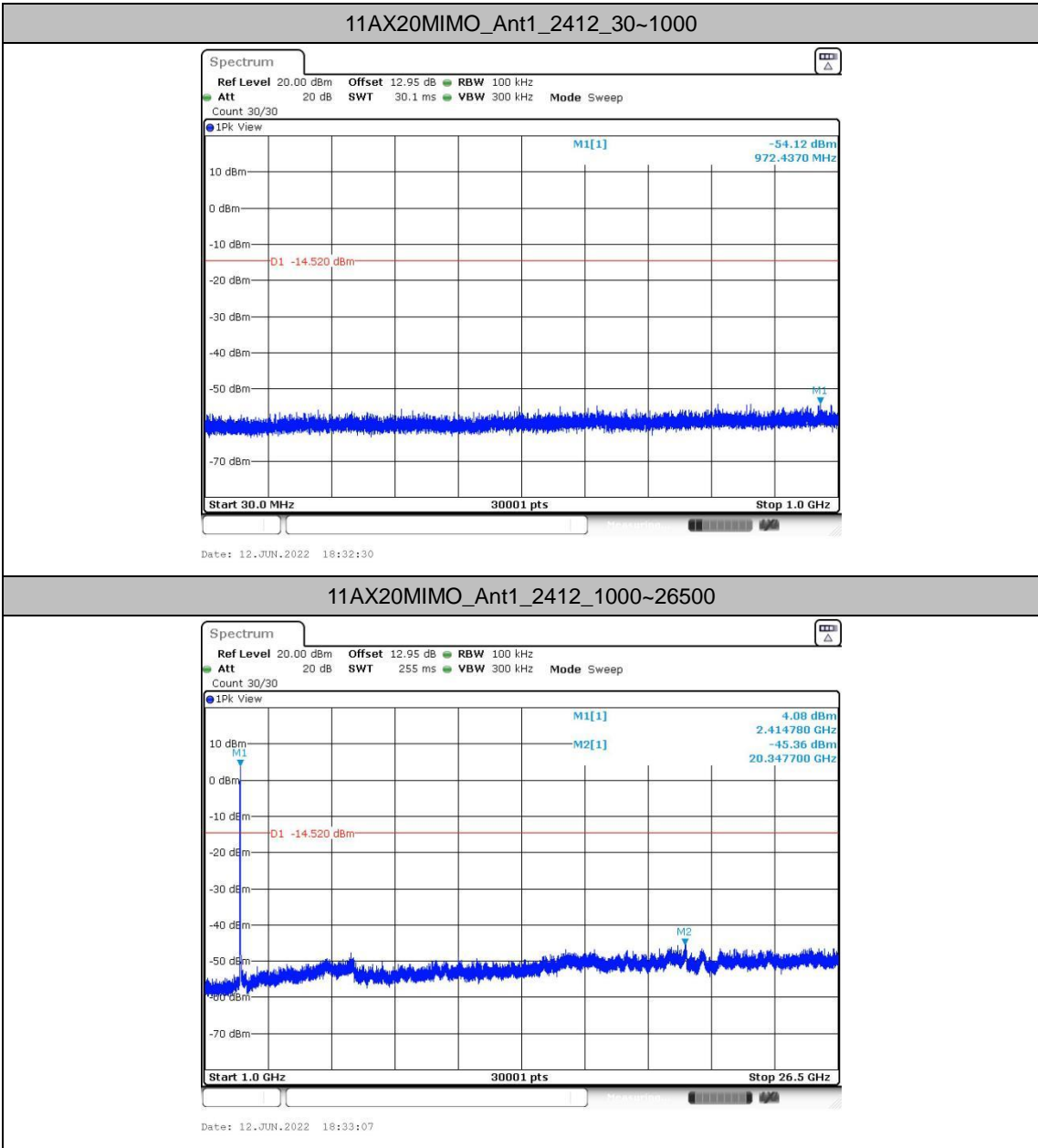
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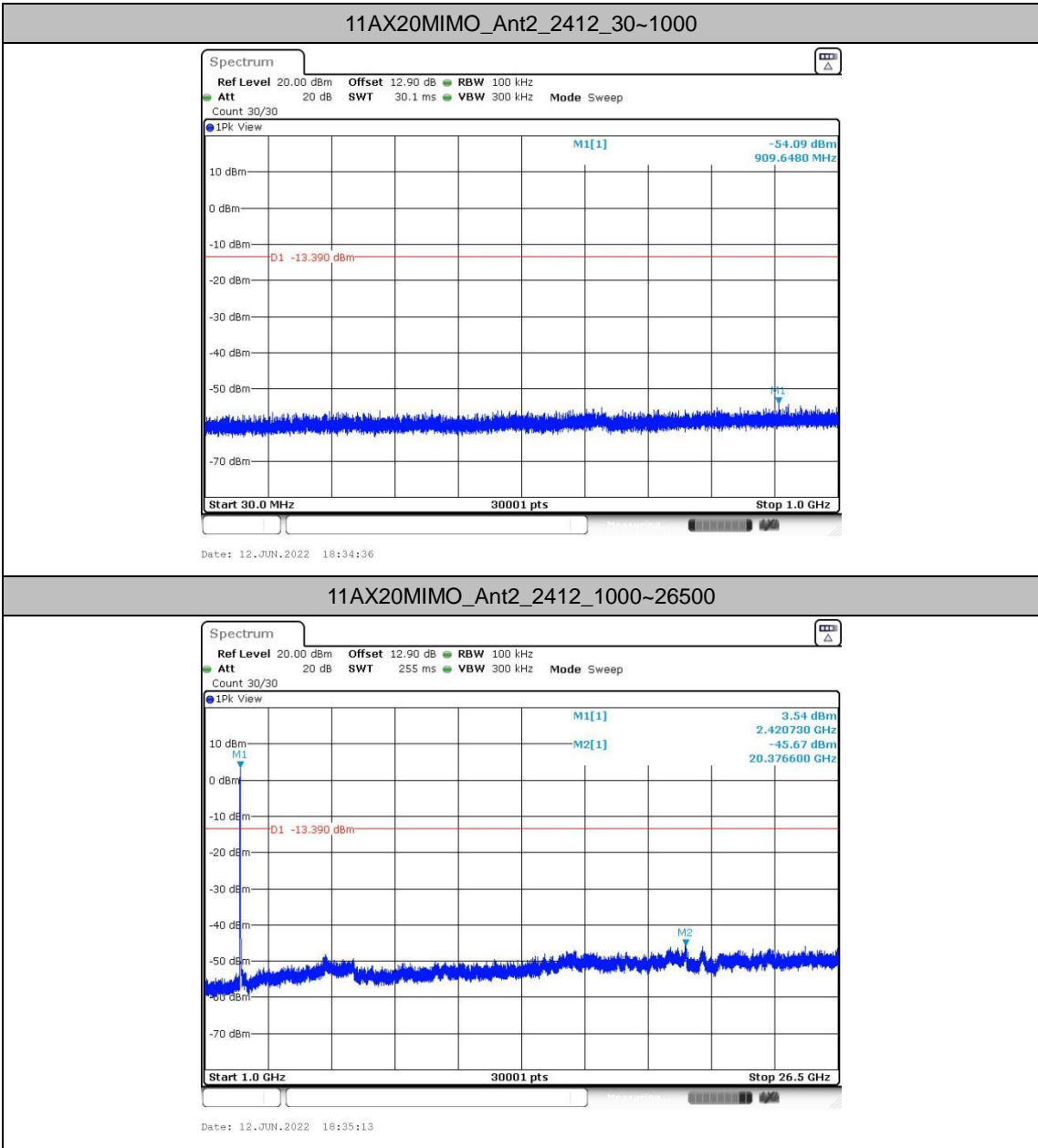
11G-CDD_Ant1_2462_1000~26500

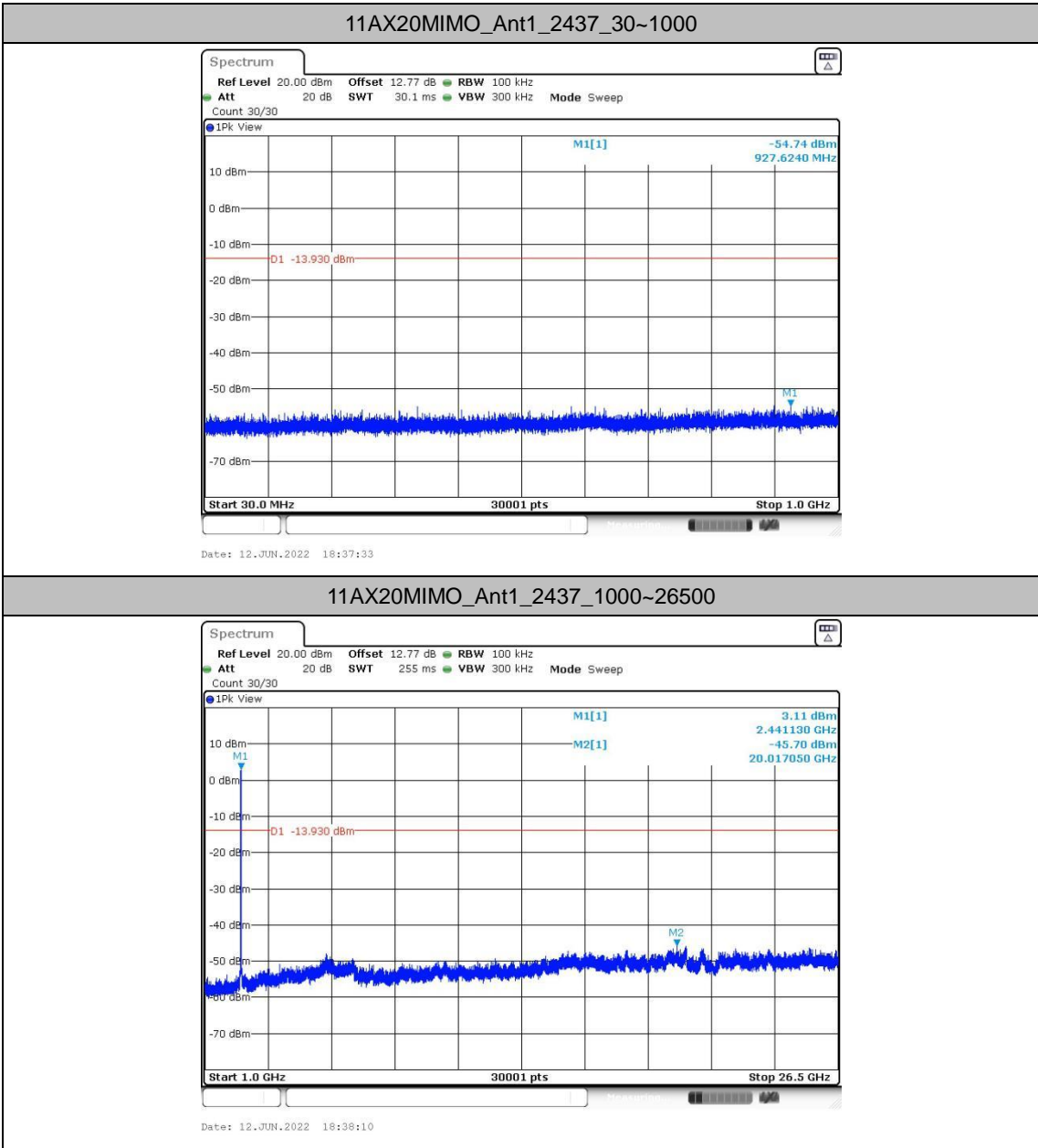


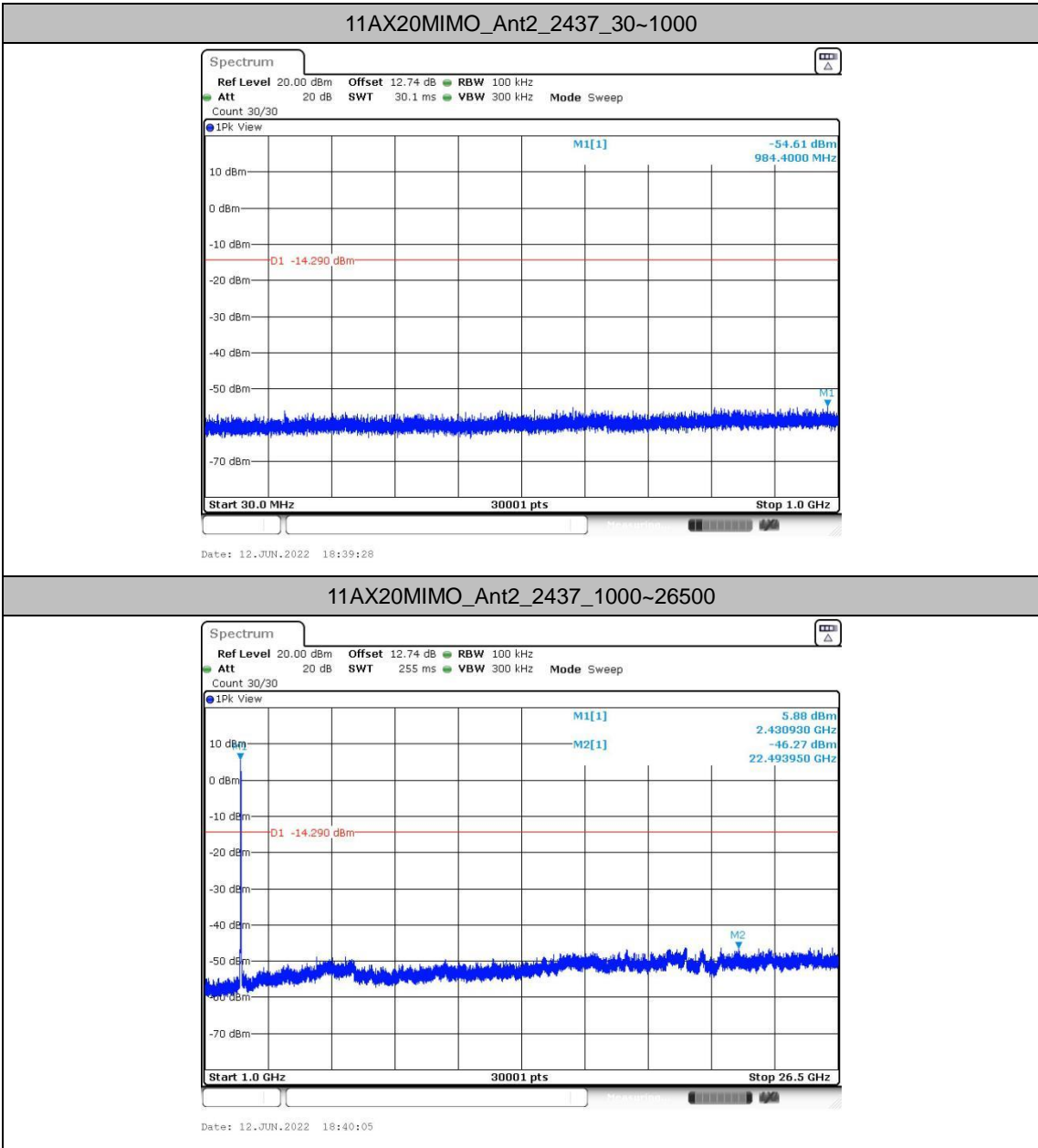
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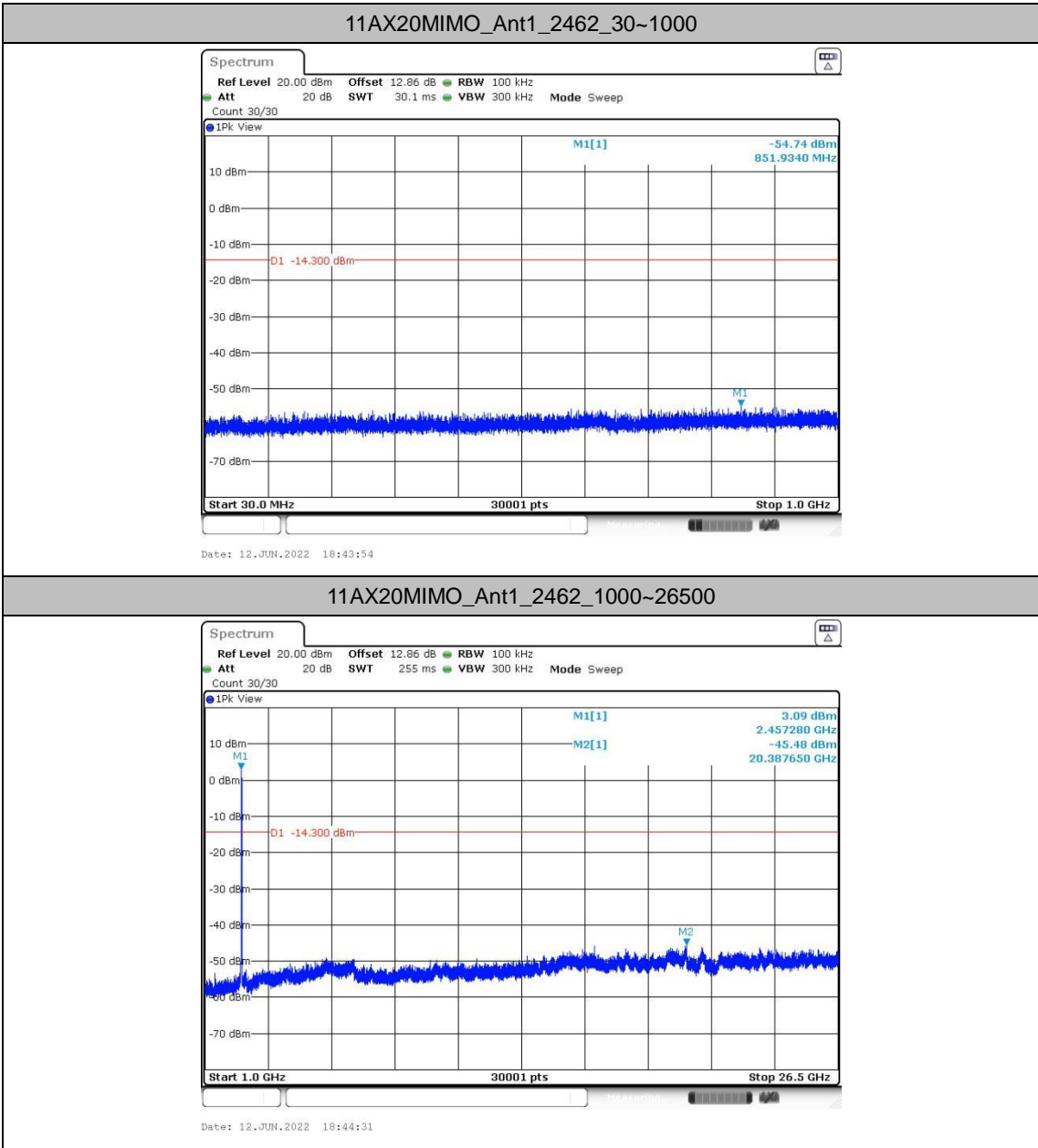


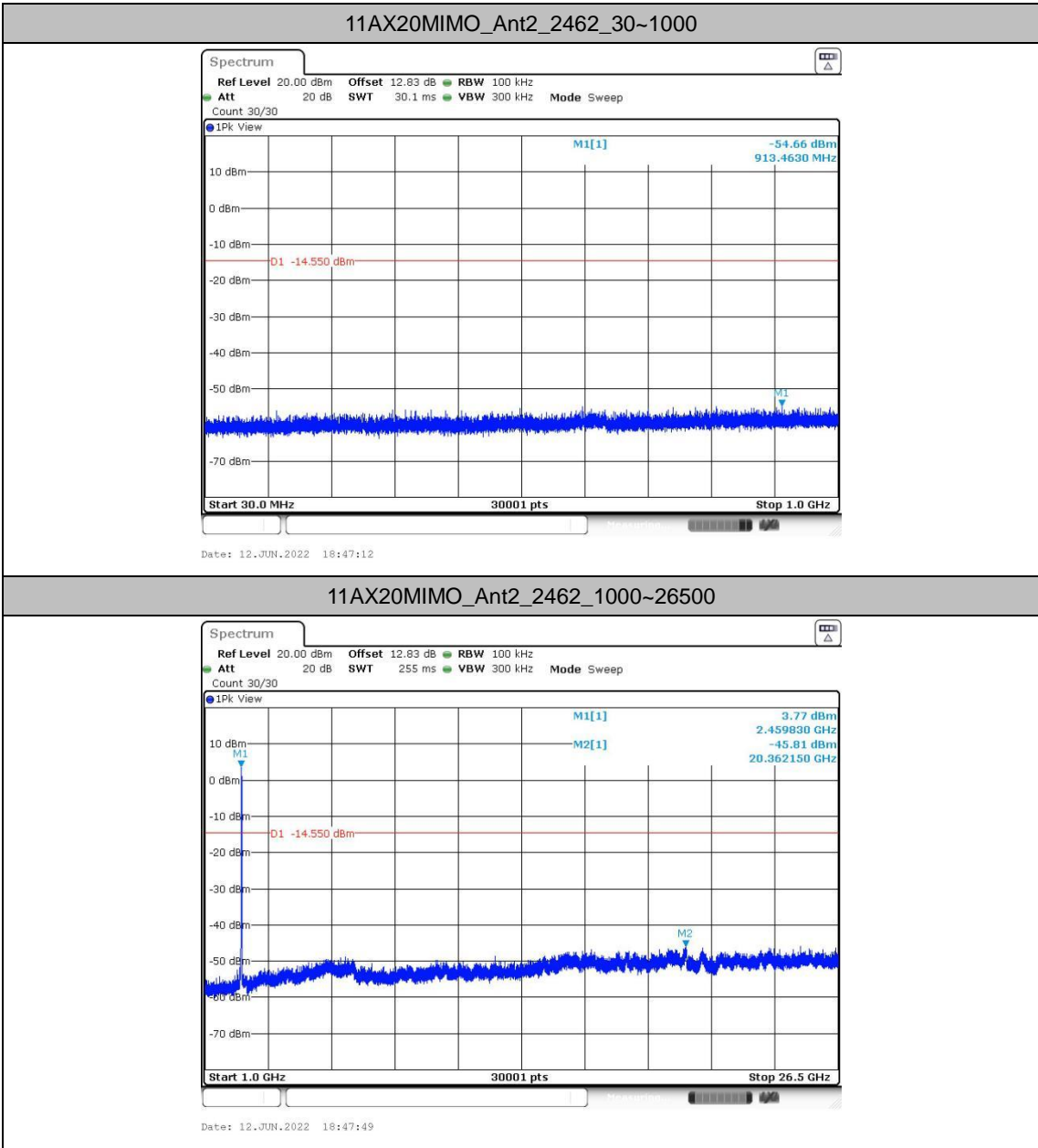


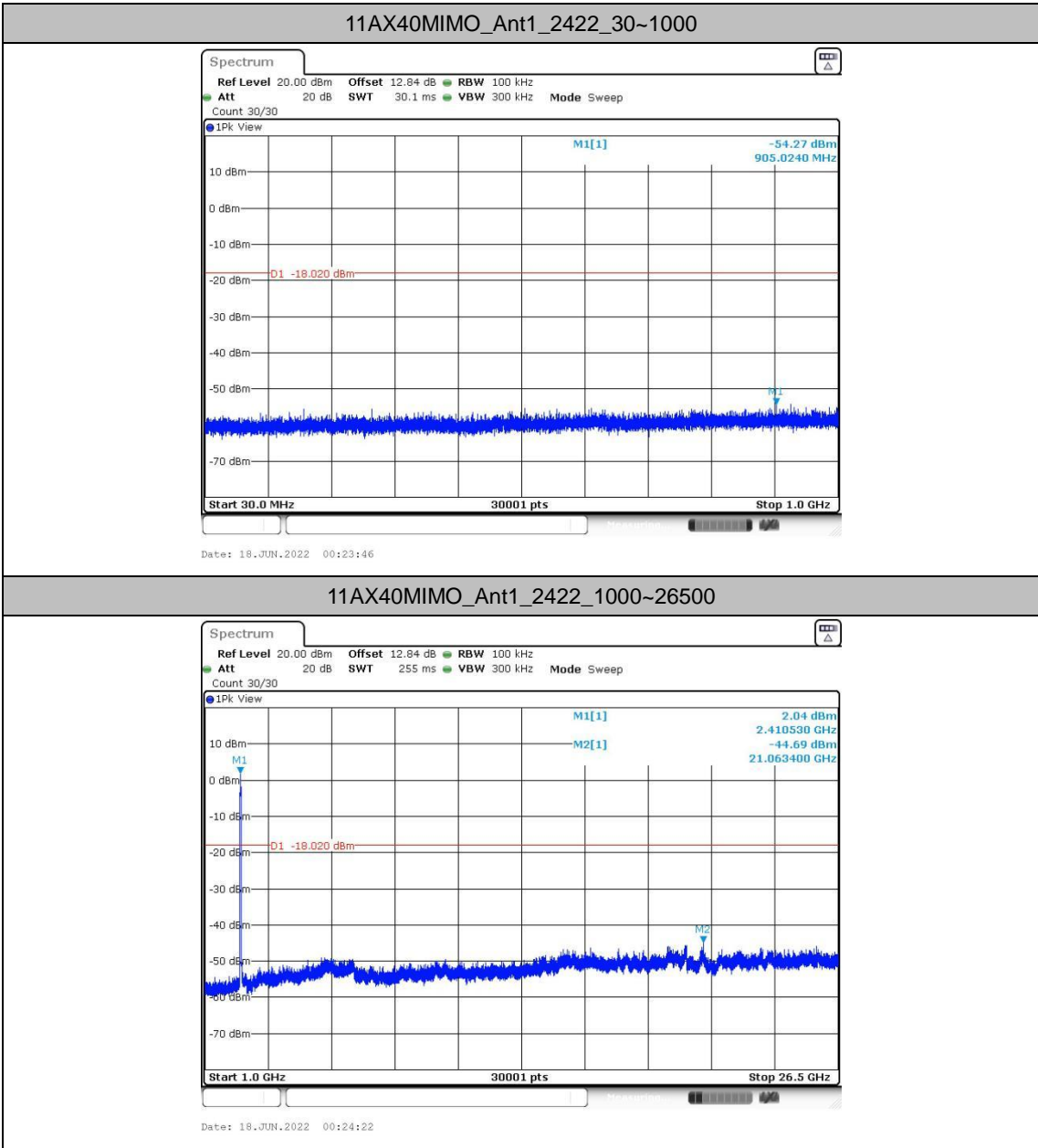






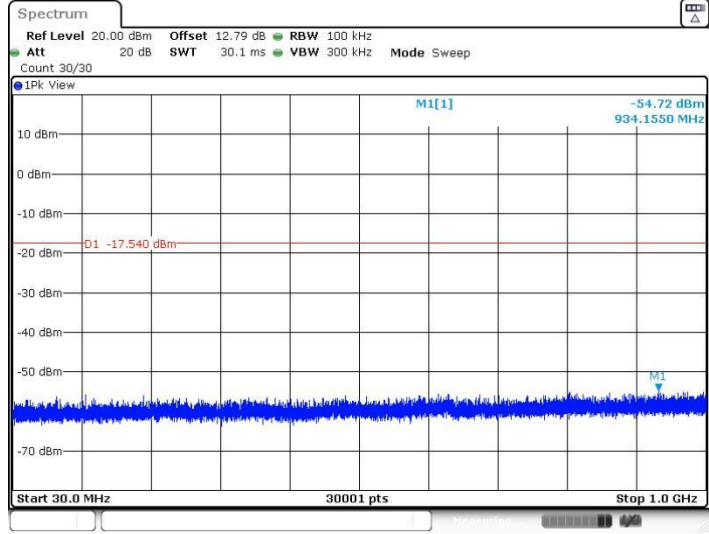






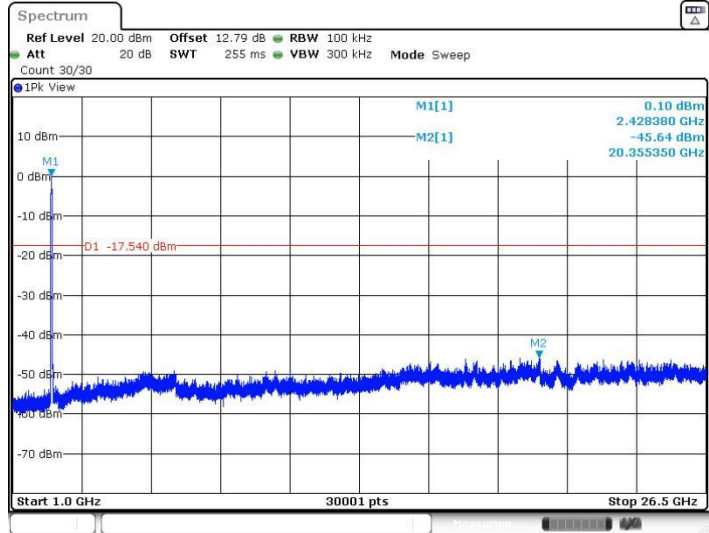


11AX40MIMO_Ant2_2422_30~1000

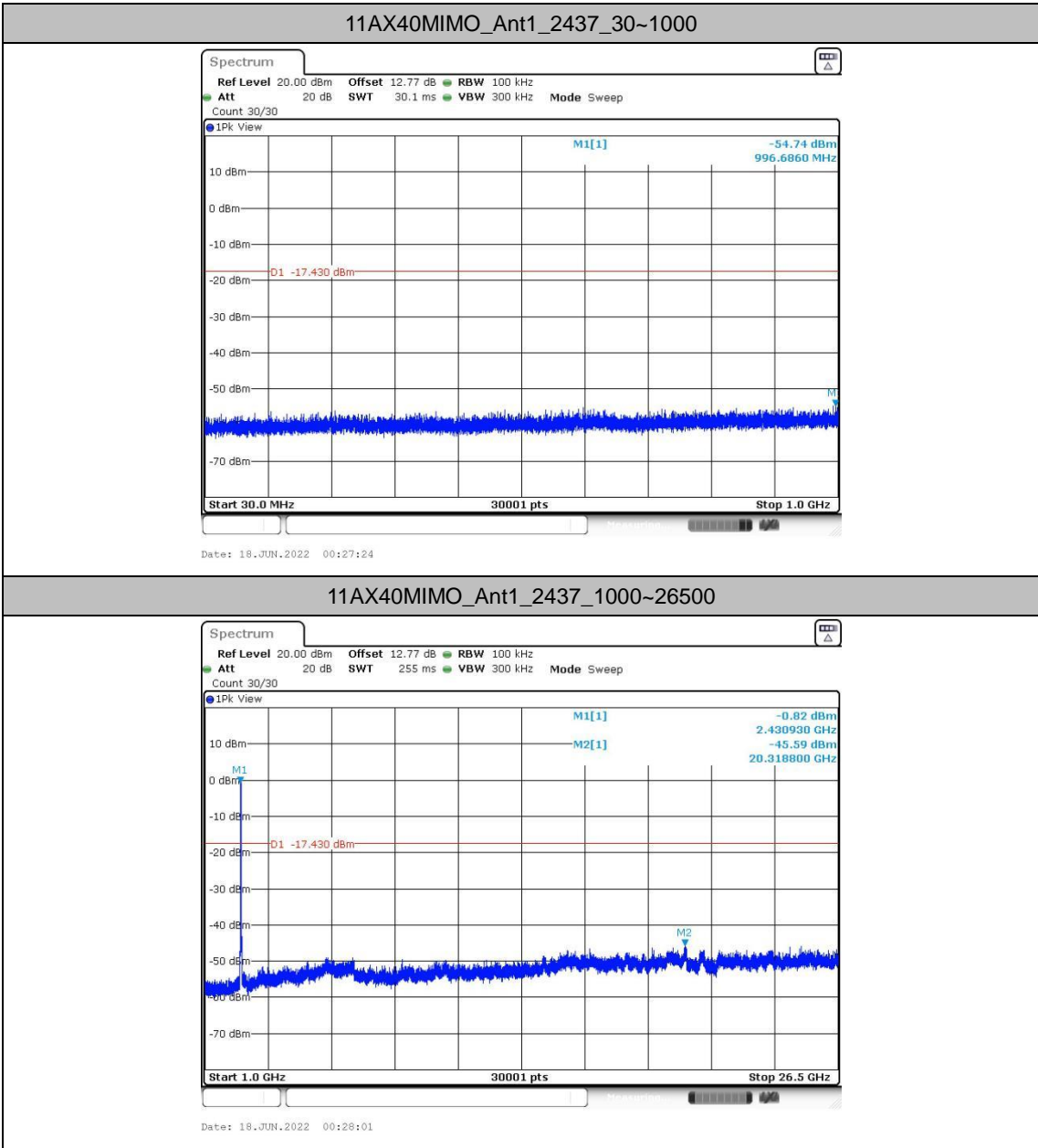


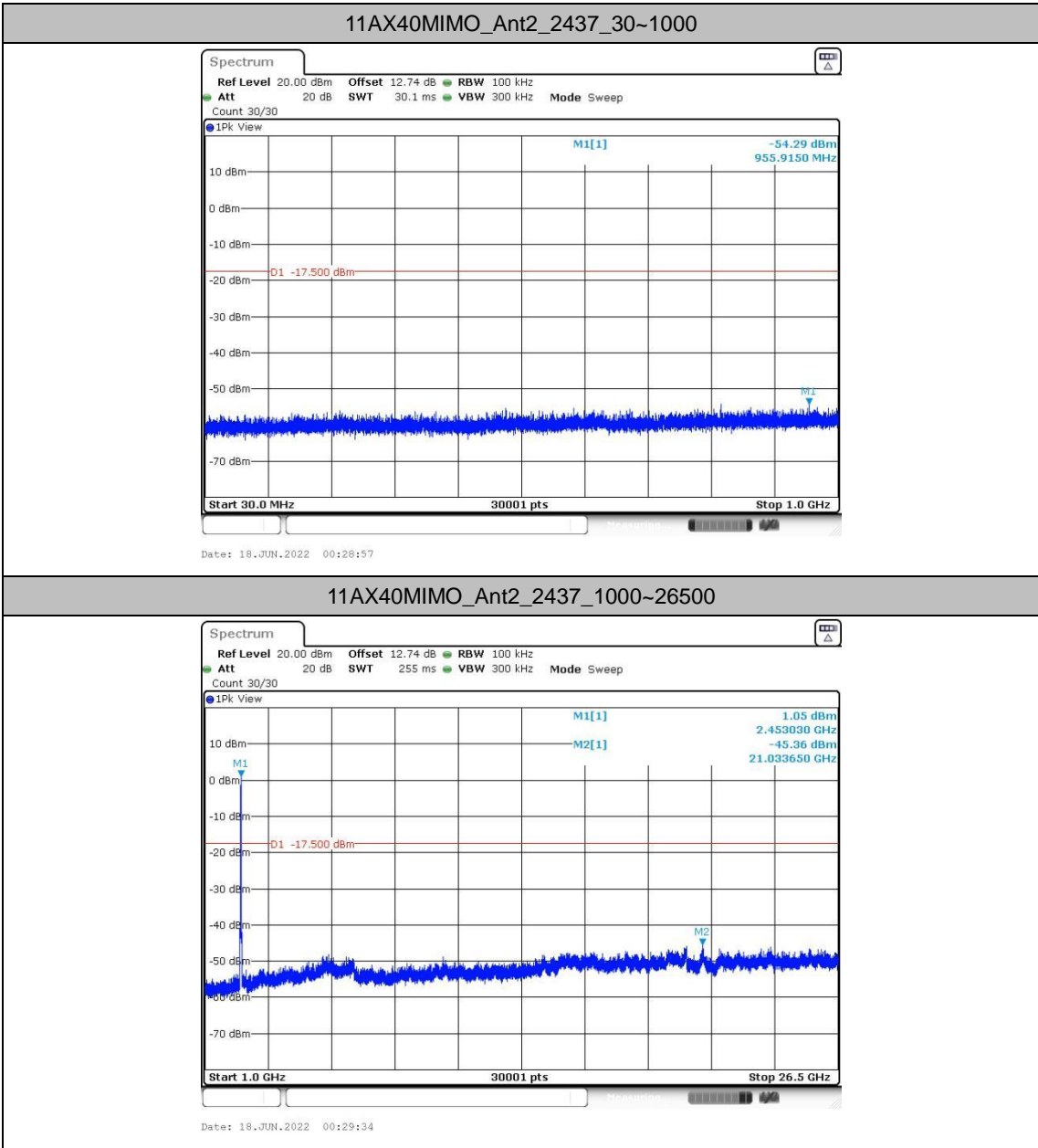
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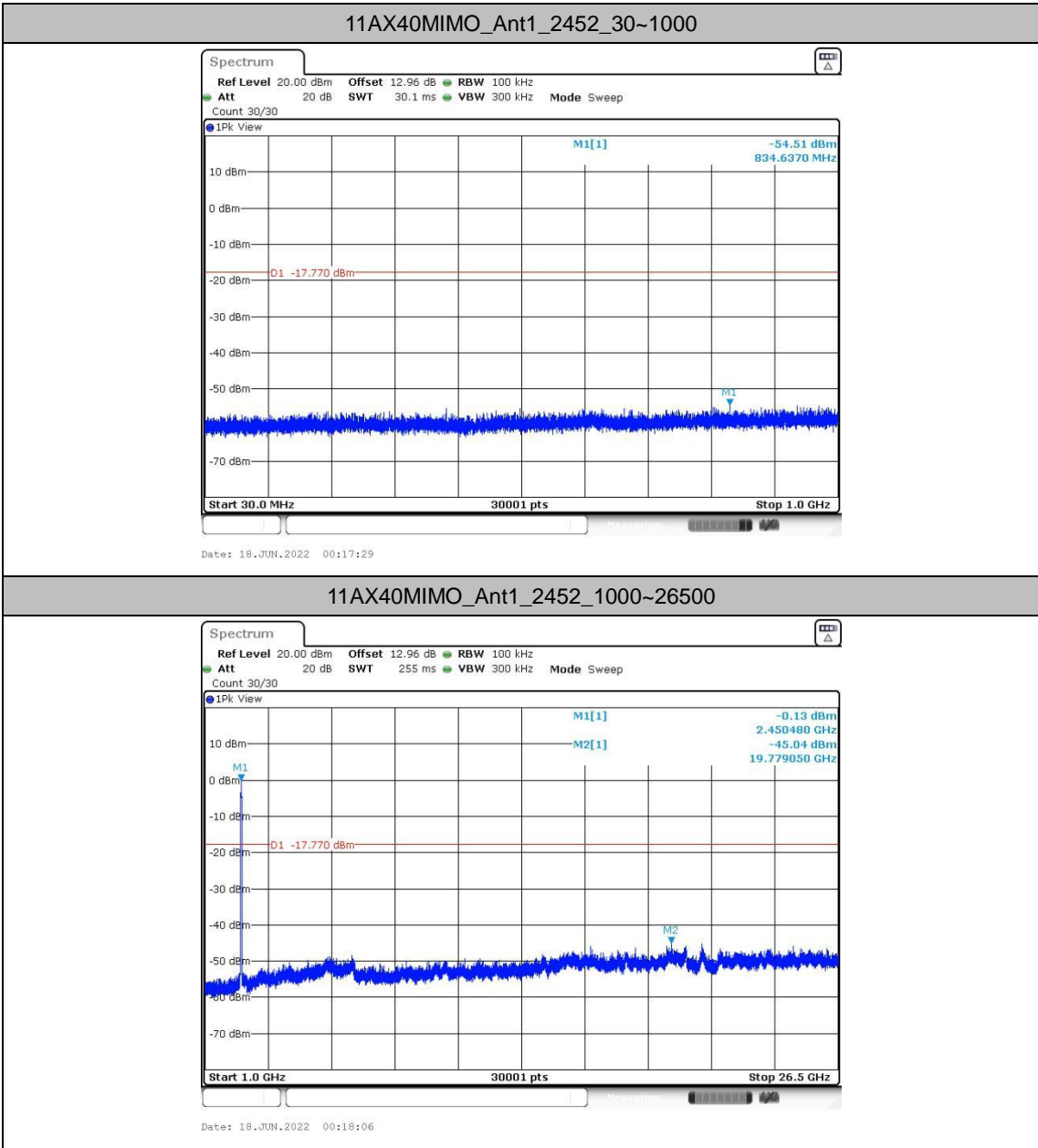
11AX40MIMO_Ant2_2422_1000~26500

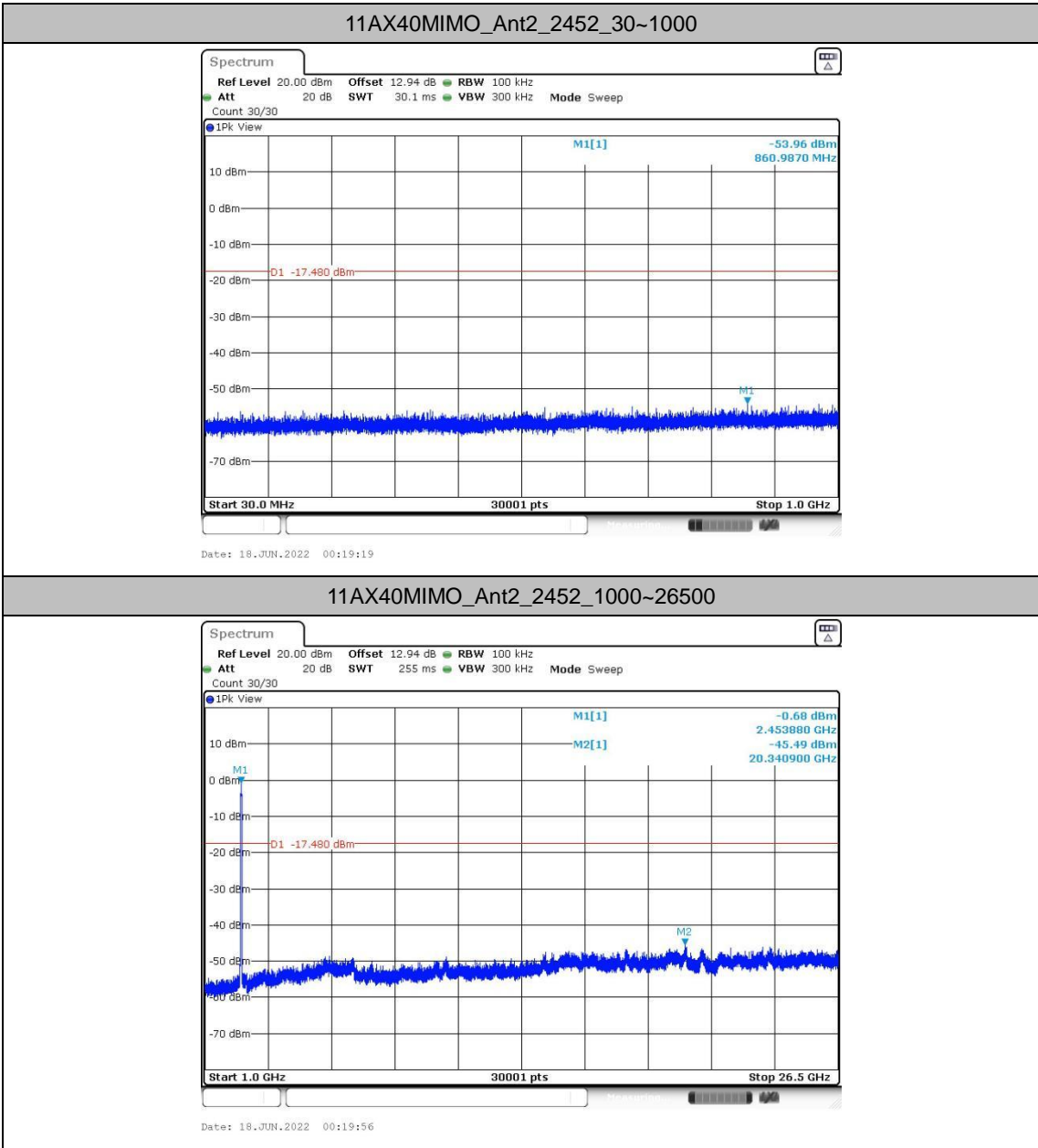


Date: 18.JUN.2022 00:26:13











Maximum Output Power

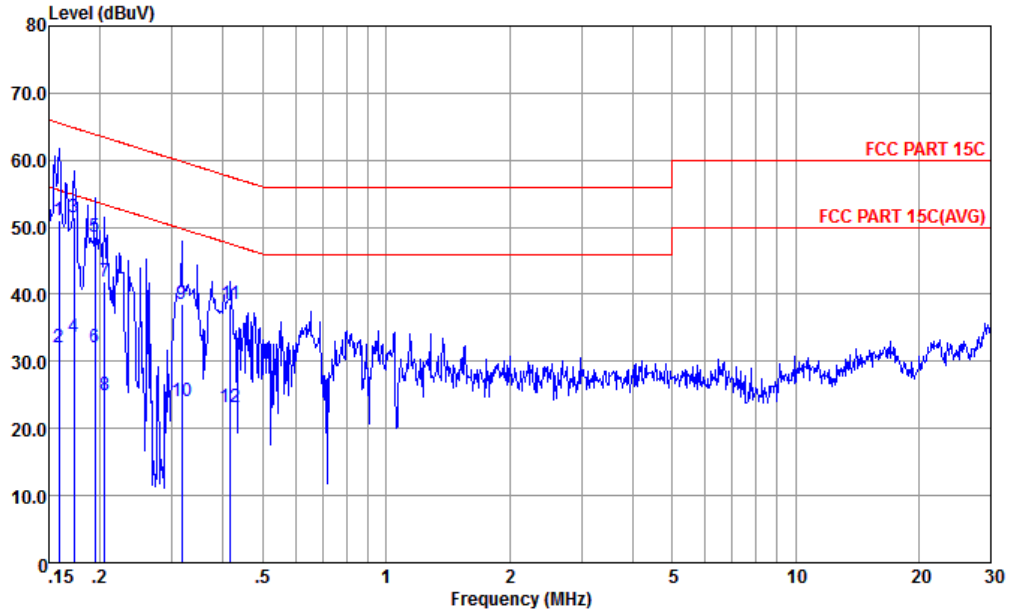
Peak Power

2.4GHz Band MIMO																
Mod.	DataRate	NTX	CH.	Freq. (MHz)	Peak Conducted Powe(dBm)			Conducted Power Limit(dBm)		DG(dBi)		EIRP Power (dBm)		EIRPPower Limit(dBm)		Pass/Fail
					Ant1	Ant2	SUM	Ant1	Ant2	Ant1	Ant2	Ant1	Ant2	Ant1	Ant2	
11b	1Mbps	2	1	2412	22.65	22.21	25.45	30.00		-3.30		22.15		36.00	Pass	
11b	1Mbps	2	6	2437	22.67	22.28	25.49	30.00		-3.30		22.19		36.00	Pass	
11b	1Mbps	2	11	2462	22.42	22.33	25.39	30.00		-3.30		22.09		36.00	Pass	
11g	6Mbps	2	1	2412	25.78	26.15	28.98	30.00		-3.30		25.68		36.00	Pass	
11g	6Mbps	2	6	2437	25.63	25.85	28.75	30.00		-3.30		25.45		36.00	Pass	
11g	6Mbps	2	11	2462	25.56	26.12	28.86	30.00		-3.30		25.56		36.00	Pass	
HT20	MCS0	2	1	2412	26.02	25.89	28.97	30.00		-3.30		25.67		36.00	Pass	
HT20	MCS0	2	6	2437	25.76	25.94	28.86	30.00		-3.30		25.56		36.00	Pass	
HT20	MCS0	2	11	2462	25.75	26.12	28.95	30.00		-3.30		25.65		36.00	Pass	
HT40	MCS0	2	3	2422	25.22	25.68	28.47	30.00		-3.30		25.17		36.00	Pass	
HT40	MCS0	2	6	2437	24.93	25.44	28.20	30.00		-3.30		24.90		36.00	Pass	
HT40	MCS0	2	9	2452	25.03	25.12	28.09	30.00		-3.30		24.79		36.00	Pass	
HE20	Full	2	1	2412	26.01	26.13	29.08	30.00		-3.30		25.78		36.00	Pass	
HE20	26/0	2	1	2412	20.06	20.54	23.32	30.00		-3.30		20.02		36.00	Pass	
HE20	52/37	2	1	2412	21.58	22.18	24.90	30.00		-3.30		21.60		36.00	Pass	
HE20	106/53	2	1	2412	23.44	23.93	26.70	30.00		-3.30		23.40		36.00	Pass	
HE20	Full	2	6	2437	25.98	26.08	29.04	30.00		-3.30		25.74		36.00	Pass	
HE20	26/4	2	6	2437	19.73	20.09	22.92	30.00		-3.30		19.62		36.00	Pass	
HE20	52/39	2	6	2437	21.22	21.44	24.34	30.00		-3.30		21.04		36.00	Pass	
HE20	106/53	2	6	2437	23.03	23.25	26.15	30.00		-3.30		22.85		36.00	Pass	
HE20	Full	2	11	2462	25.72	26.23	28.99	30.00		-3.30		25.69		36.00	Pass	
HE20	26/8	2	11	2462	19.66	20.32	23.01	30.00		-3.30		19.71		36.00	Pass	
HE20	52/40	2	11	2462	20.95	21.76	24.38	30.00		-3.30		21.08		36.00	Pass	
HE20	106/54	2	11	2462	23.42	23.62	26.53	30.00		-3.30		23.23		36.00	Pass	
HE40	Full	2	3	2422	25.58	25.63	28.62	30.00		-3.30		25.32		36.00	Pass	
HE40	242/61	2	3	2422	23.63	24.10	26.88	30.00		-3.30		23.58		36.00	Pass	
HE40	Full	2	6	2437	25.41	25.55	28.49	30.00		-3.30		25.19		36.00	Pass	
HE40	242/61	2	6	2437	23.44	23.70	26.58	30.00		-3.30		23.28		36.00	Pass	
HE40	Full	2	9	2452	25.05	25.18	28.13	30.00		-3.30		24.83		36.00	Pass	
HE40	242/62	2	9	2452	23.31	23.54	26.44	30.00		-3.30		23.14		36.00	Pass	



Appendix B. AC Conducted Emission Test Results

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

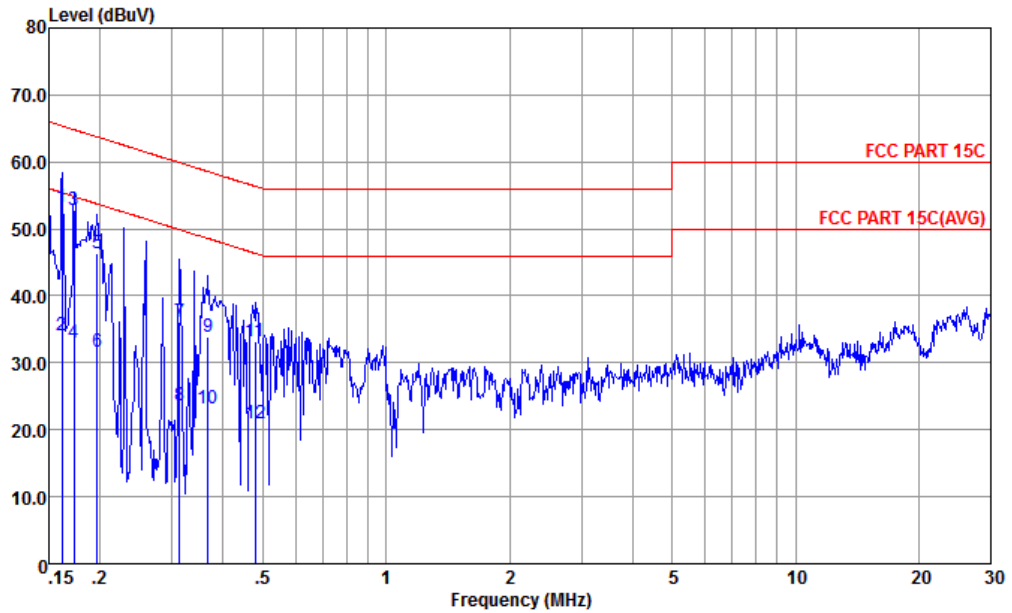


Site : CO01-KS
 Condition : FCC PART 15C LISN-060105-L LINE

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.159	51.08	-14.44	65.52	40.60	0.02	10.46	QP
2	0.159	32.08	-23.44	55.52	21.60	0.02	10.46	Average
3 *	0.173	51.55	-13.26	64.81	41.10	0.03	10.42	QP
4	0.173	33.75	-21.06	54.81	23.30	0.03	10.42	Average
5	0.194	48.61	-15.23	63.84	38.20	0.04	10.37	QP
6	0.194	32.01	-21.83	53.84	21.60	0.04	10.37	Average
7	0.205	41.90	-21.50	63.40	31.50	0.04	10.36	QP
8	0.205	25.00	-28.40	53.40	14.60	0.04	10.36	Average
9	0.317	38.57	-21.23	59.80	28.20	0.07	10.30	QP
10	0.317	24.00	-25.80	49.80	13.63	0.07	10.30	Average
11	0.417	38.55	-18.96	57.51	28.20	0.09	10.26	QP
12	0.417	23.15	-24.36	47.51	12.80	0.09	10.26	Average



Test Engineer :	Amos Zhao	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	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1 *	0.162	53.36	-12.02	65.38	42.80	0.11	10.45	QP
2	0.162	34.16	-21.22	55.38	23.60	0.11	10.45	Average
3	0.173	52.73	-12.08	64.81	42.20	0.11	10.42	QP
4	0.173	33.03	-21.78	54.81	22.50	0.11	10.42	Average
5	0.197	46.27	-17.49	63.76	35.80	0.10	10.37	QP
6	0.197	31.57	-22.19	53.76	21.10	0.10	10.37	Average
7	0.313	36.00	-23.88	59.88	25.60	0.10	10.30	QP
8	0.313	23.70	-26.18	49.88	13.30	0.10	10.30	Average
9	0.367	33.98	-24.58	58.56	23.60	0.10	10.28	QP
10	0.367	23.18	-25.38	48.56	12.80	0.10	10.28	Average
11	0.479	33.15	-23.21	56.36	22.80	0.11	10.24	QP
12	0.479	20.95	-25.41	46.36	10.60	0.11	10.24	Average

Note:

- Level(dBμV) = Read Level(dBμV) + LISN Factor(dB) + Cable Loss(dB)
- Over Limit(dB) = Level(dBμV) – Limit Line(dBμV)



Appendix C. Radiated Spurious Emission

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.
4+6		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 11 2462MHz	*	2462	111.13	-	-	107.78	32.96	7.22	36.83	339	60	P	H
	*	2462	107.96	-	-	104.61	32.96	7.22	36.83	339	60	A	H
		2486.5	53.33	-20.67	74	49.92	32.98	7.25	36.82	339	60	P	H
		2484.82	41.85	-12.15	54	38.44	32.98	7.25	36.82	339	60	A	H
	*	2462	110.02	-	-	106.67	32.96	7.22	36.83	100	88	P	V
	*	2460	106.81	-	-	103.46	32.96	7.22	36.83	100	88	A	V
		2488.18	52.11	-21.89	74	48.67	33	7.25	36.81	100	88	P	V
		2485.6	41.2	-12.8	54	37.79	32.98	7.25	36.82	100	88	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.
4+6		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 11 2462MHz		4920	41.42	-32.58	74	62.27	34.26	10.34	65.45	300	0	P	H
		7380	46.53	-27.47	74	64.03	35.88	12.73	66.11	300	0	P	H
		4920	41.57	-32.43	74	62.42	34.26	10.34	65.45	100	0	P	V
		7380	51.05	-22.95	74	68.55	35.88	12.73	66.11	134	138	P	V
		7380	46.99	-7.01	54	64.49	35.88	12.73	66.11	134	138	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 (Band Edge @ 3m)

WIFI Ant. 4+6	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)
8802.11ax HE20 Full CH 11 2462MHz	*	2462	112.03	-	-	108.68	32.96	7.22	36.83	101	309	P	H
	*	2460	103.76	-	-	100.41	32.96	7.22	36.83	101	309	A	H
		2484.58	64.13	-9.87	74	60.72	32.98	7.25	36.82	101	309	P	H
		2483.5	50.51	-3.49	54	47.1	32.98	7.25	36.82	101	309	A	H
	*	2460	114.99	-	-	111.64	32.96	7.22	36.83	228	262	P	V
	*	2460	104.62	-	-	101.27	32.96	7.22	36.83	228	262	A	V
		2485	62.9	-11.1	74	59.49	32.98	7.25	36.82	228	262	P	V
		2483.5	49.16	-4.84	54	45.75	32.98	7.25	36.82	228	262	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. 4+6	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 11 2462MHz		4920	41.45	-32.55	74	62.3	34.26	10.34	65.45	300	0	P	H
		7380	43.88	-30.12	74	61.38	35.88	12.73	66.11	300	0	P	H
		4920	41.06	-32.94	74	61.91	34.26	10.34	65.45	100	0	P	V
		7380	42.49	-31.51	74	59.99	35.88	12.73	66.11	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. 4+6	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 106/53 CH 01 2412MHz		2389.95	52.52	-21.48	74	49.4	32.88	7.1	36.86	314	63	P	H
		2389.95	38.35	-15.65	54	35.23	32.88	7.1	36.86	314	63	A	H
		2410	108.41	-	-	105.23	32.9	7.13	36.85	314	63	P	H
		2410	99.98	-	-	96.8	32.9	7.13	36.85	314	63	A	H
		2389.95	54.12	-19.88	74	51	32.88	7.1	36.86	105	86	P	V
		2389.95	38.78	-15.22	54	35.66	32.88	7.1	36.86	105	86	A	V
		2410	110.53	-	-	107.35	32.9	7.13	36.85	105	86	P	V
		2408	101.61	-	-	98.43	32.9	7.13	36.85	105	86	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 (Band Edge @ 3m)

WIFI Ant. 4+6	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		2374.22	51.12	-22.88	74	48.06	32.86	7.07	36.87	367	66	P	H	
		2389.95	40.07	-13.93	54	36.95	32.88	7.1	36.86	367	66	A	H	
	*	2460	109.3	-	-	105.95	32.96	7.22	36.83	367	66	P	H	
	*	2460	99.1	-	-	95.75	32.96	7.22	36.83	367	66	A	H	
		2484.94	63.28	-10.72	74	59.87	32.98	7.25	36.82	367	66	P	H	
		2483.5	49.91	-4.09	54	46.5	32.98	7.25	36.82	367	66	A	H	
		2386.96	52.07	-21.93	74	48.95	32.88	7.1	36.86	100	102	P	V	
		2389.95	40.94	-13.06	54	37.82	32.88	7.1	36.86	100	102	A	V	
		*	2450	110.51	-	-	107.22	32.94	7.19	36.84	100	102	P	V
		*	2460	100.58	-	-	97.23	32.96	7.22	36.83	100	102	A	V
			2484.88	64.55	-9.45	74	61.14	32.98	7.25	36.82	100	102	P	V
			2483.5	50.67	-3.33	54	47.26	32.98	7.25	36.82	100	102	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. 4+6	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		4904	40.21	-33.79	74	61.08	34.25	10.32	65.44	300	0	P	H
HE40 Full		7356	43.53	-30.47	74	60.99	35.87	12.73	66.06	300	0	P	H
CH 09		4904	40.19	-33.81	74	61.06	34.25	10.32	65.44	100	0	P	V
2452MHz		7356	44.93	-29.07	74	62.39	35.87	12.73	66.06	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. 4+6	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		2311.69	48.65	-25.35	74	45.81	32.77	6.98	36.91	302	66	P	H
		2389.95	37.84	-16.16	54	34.72	32.88	7.1	36.86	302	66	A	H
		2483.68	57.33	-16.67	74	53.92	32.98	7.25	36.82	302	66	P	H
		2483.5	41.76	-12.24	54	38.35	32.98	7.25	36.82	302	66	A	H
HE40		2470	105.3	-	-	101.95	32.96	7.22	36.83	302	66	P	H
Partial		2460	96.08	-	-	92.73	32.96	7.22	36.83	302	66	A	H
242/62		2323.91	49.14	-24.86	74	46.24	32.79	7.01	36.9	100	84	P	V
CH 09		2389.82	38.46	-15.54	54	35.34	32.88	7.1	36.86	100	84	A	V
2452MHz		2486.56	58.67	-15.33	74	55.26	32.98	7.25	36.82	100	84	P	V
		2483.5	42.48	-11.52	54	39.07	32.98	7.25	36.82	100	84	A	V
		2460	107.36	-	-	104.01	32.96	7.22	36.83	100	84	P	V
		2460	98.29	-	-	94.94	32.96	7.22	36.83	100	84	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 HE40 (LF)**

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
4+6		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11ax HE40 LF		30.97	20.53	-19.47	40	27.64	24.98	0.71	32.8	-	-	P	H
		131.85	15.28	-28.22	43.5	28.66	17.72	1.74	32.84	-	-	P	H
		264.74	18.02	-27.98	46	28.94	19.64	2.48	33.04	-	-	P	H
		383.08	20.56	-25.44	46	28.14	22.27	2.98	32.83	-	-	P	H
		633.34	26.58	-19.42	46	29.6	25.77	3.84	32.63	-	-	P	H
		873.9	30.12	-15.88	46	30.85	27.3	4.52	32.55	-	-	P	H
		30	21.9	-18.1	40	28.39	25.5	0.71	32.7	-	-	P	V
		64.92	16.6	-23.4	40	35.19	13.3	1.21	33.1	-	-	P	V
		250.19	19.81	-26.19	46	31.09	19.4	2.42	33.1	-	-	P	V
		421.88	21.05	-24.95	46	27.58	23.1	3.13	32.76	-	-	P	V
	640.13	26	-20	46	28.98	25.82	3.86	32.66	-	-	P	V	
	857.41	28.71	-17.29	46	29.59	27.23	4.47	32.58	-	-	P	V	
Remark	1. No other spurious found. 2. All results are PASS against 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	Peak or Average
H/V	Horizontal or Vertical



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.	
1		(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)

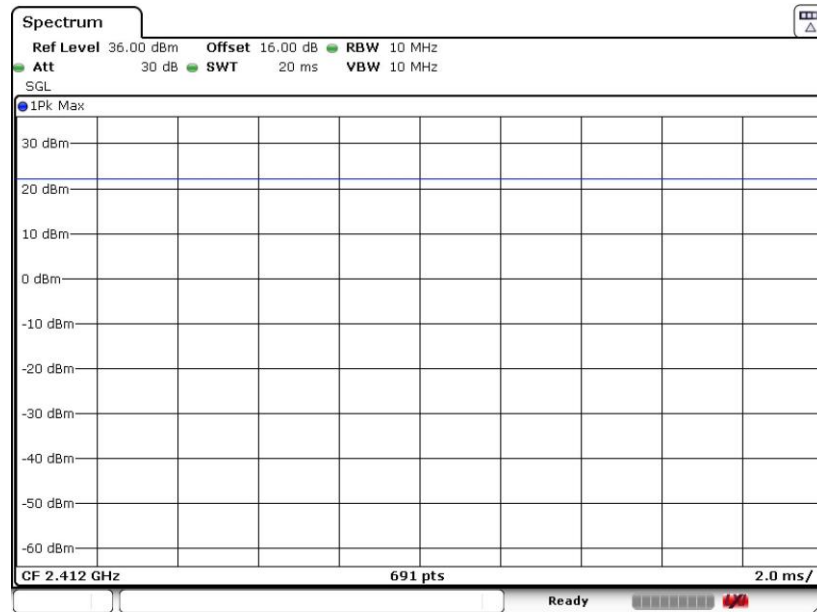
Both peak and average measured complies with the limit line, so test result is “PASS”.



Appendix D. Duty Cycle Plots

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11b	100	-	-	10Hz
802.11g	100	-	-	10Hz
802.11ax HE20	100	-	-	10Hz
802.11ax HE40	100	-	-	10Hz

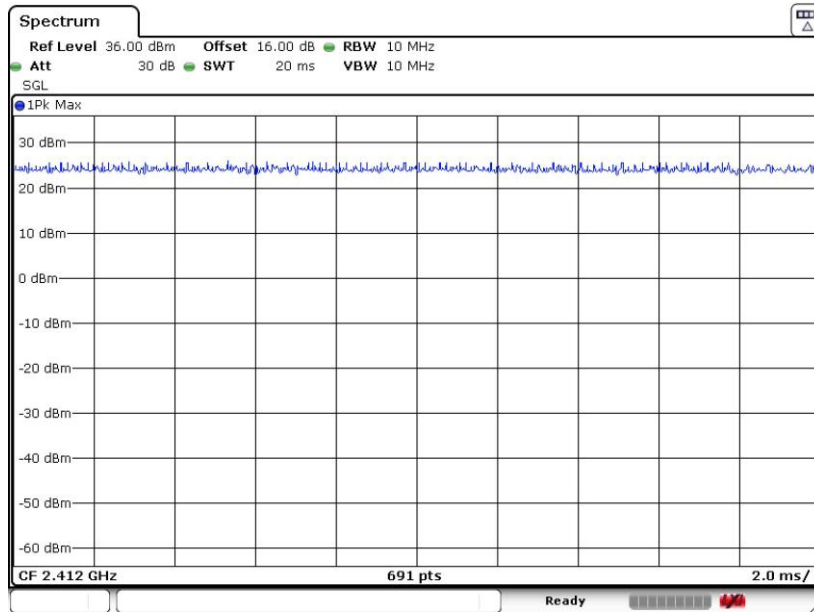
802.11b



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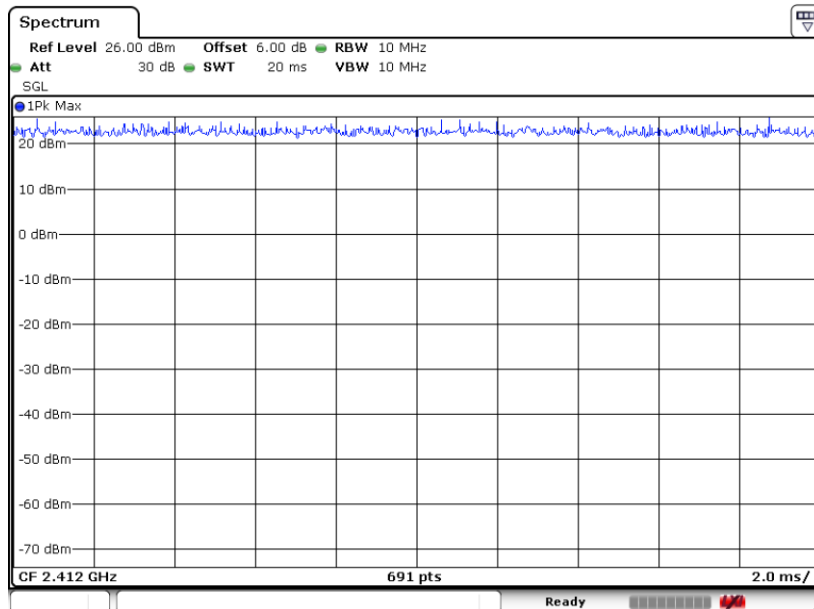


802.11g



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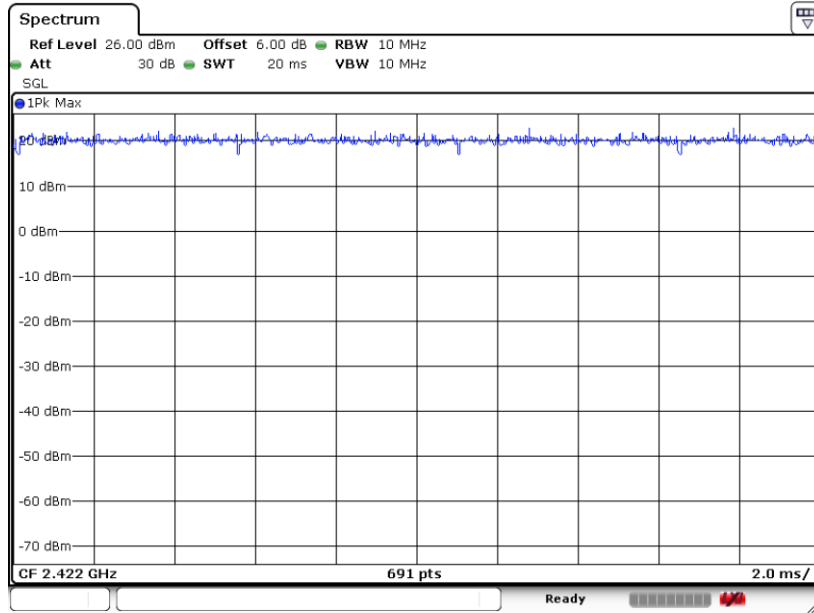
802.11ax HE20



Date: 9 JUN.2022 05:14:29



802.11ax HE40



Date: 9.JUN.2022 05:12:35