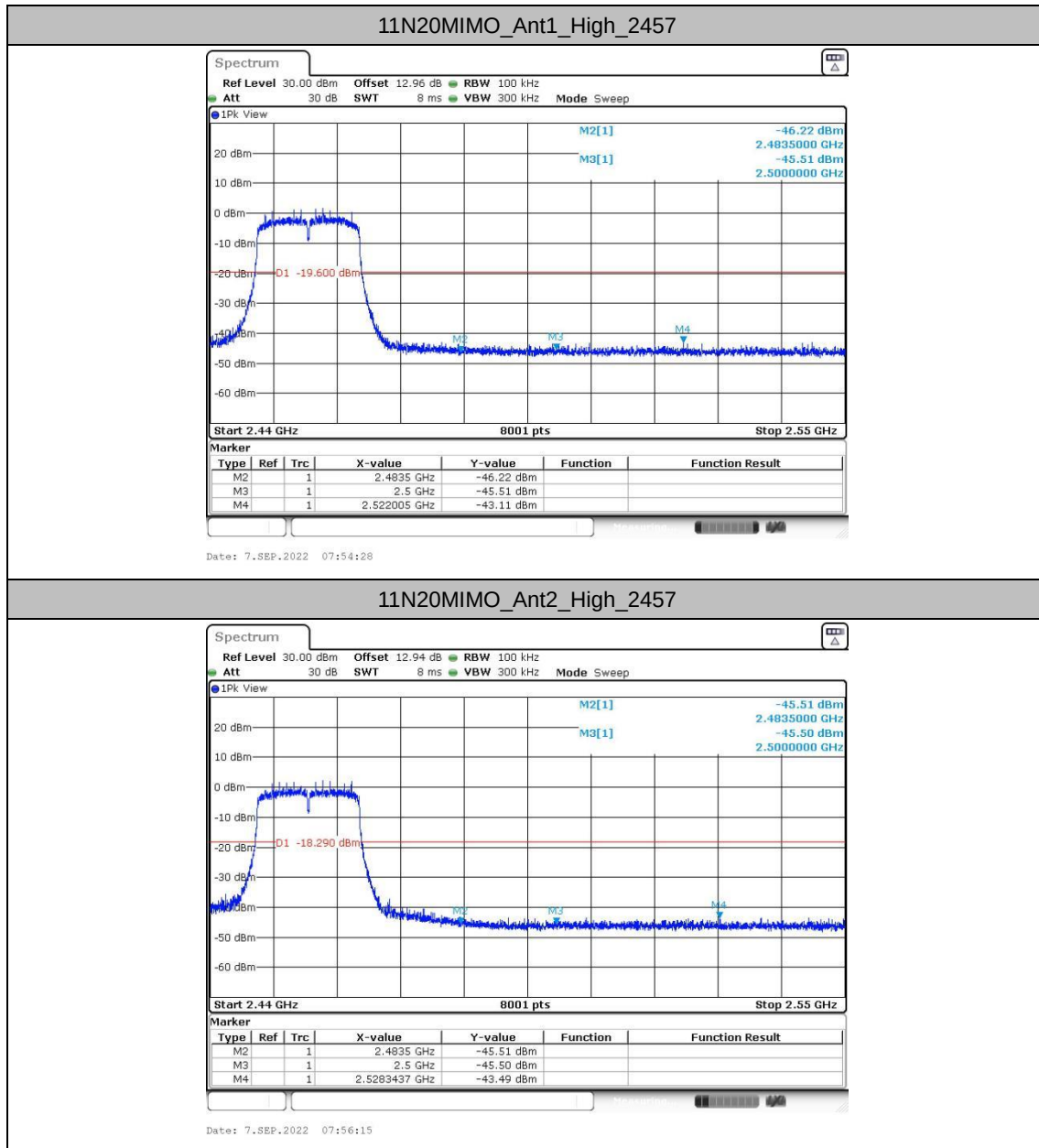
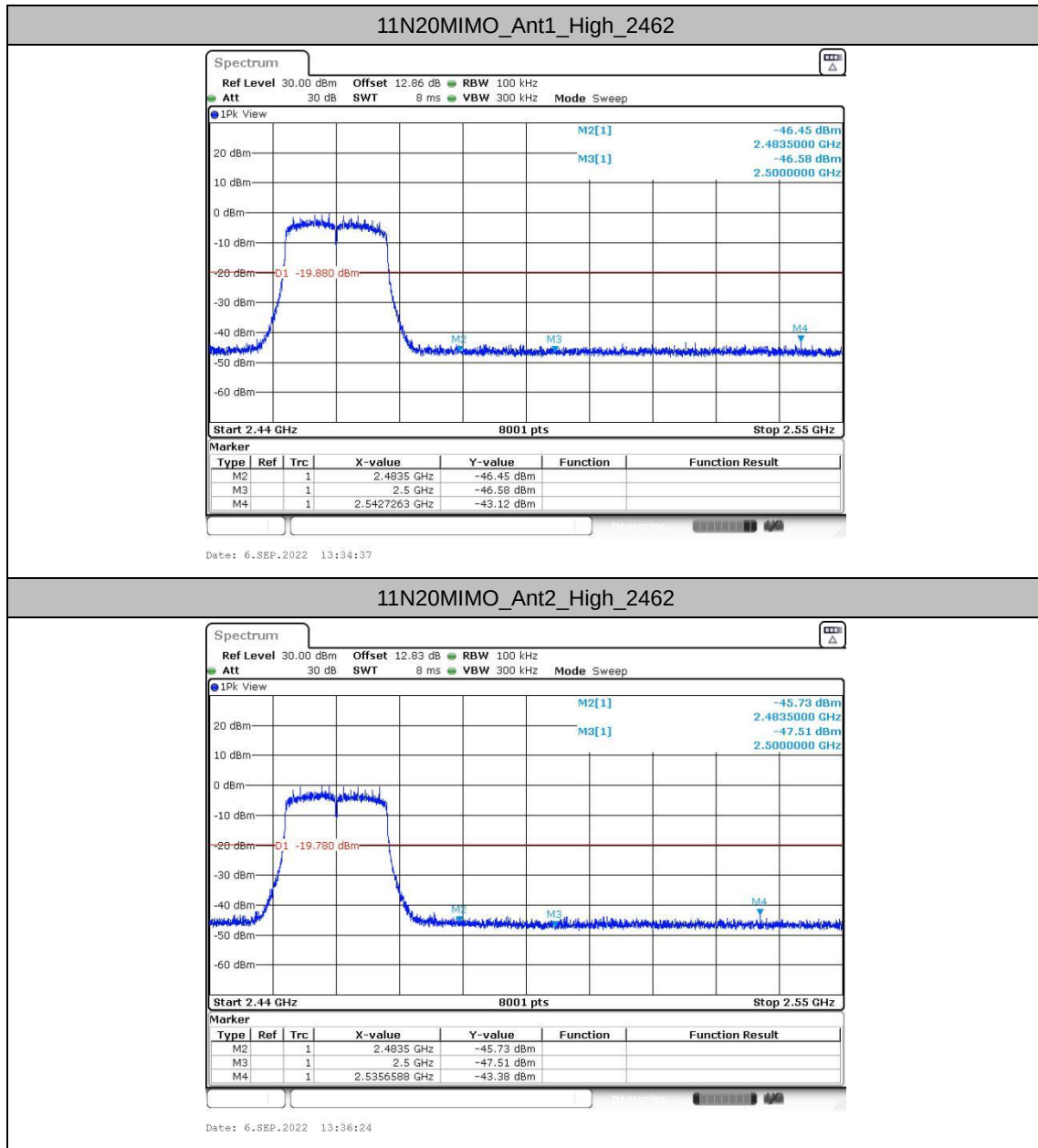








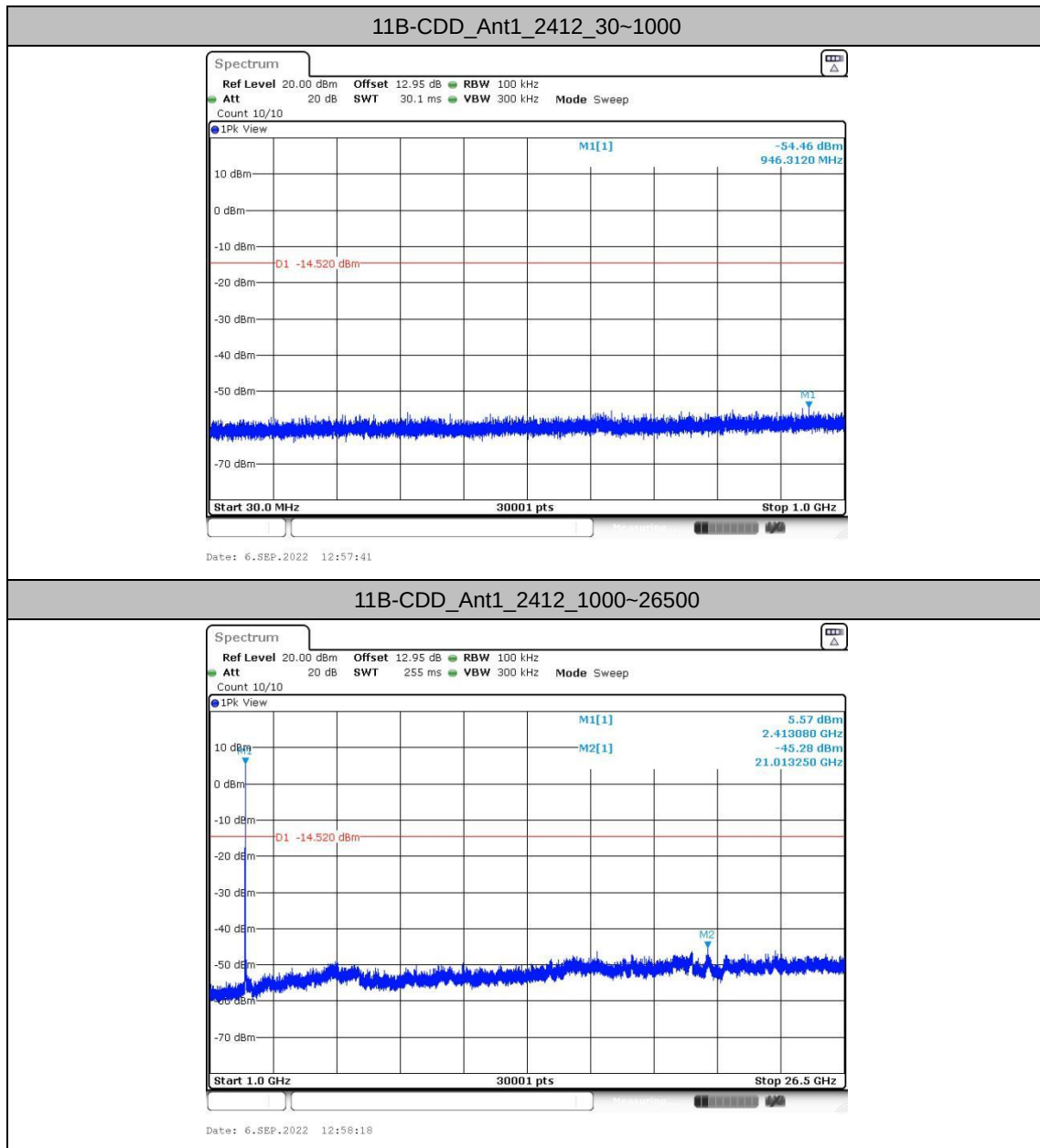
Conducted Spurious Emission

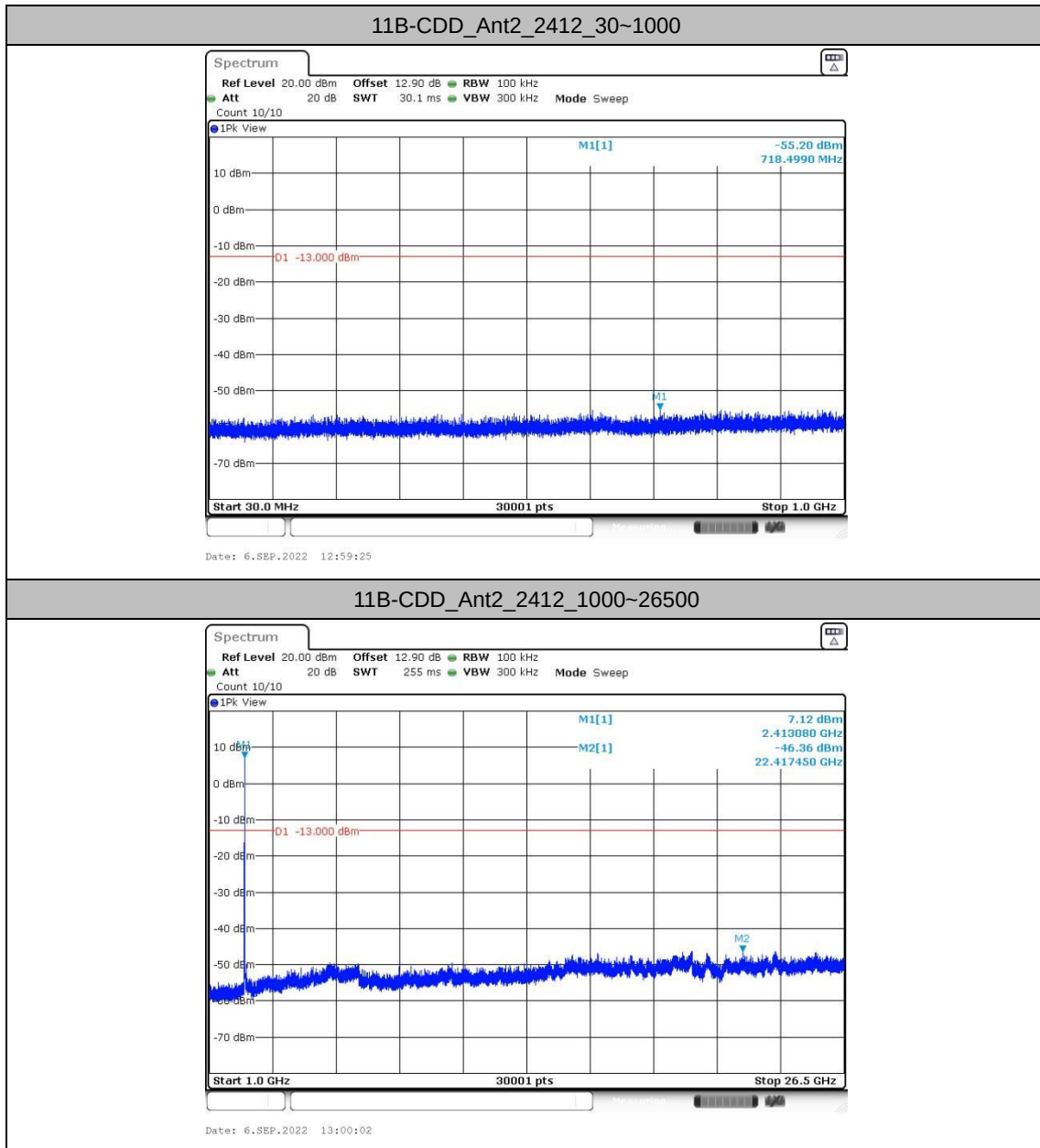
Test Result

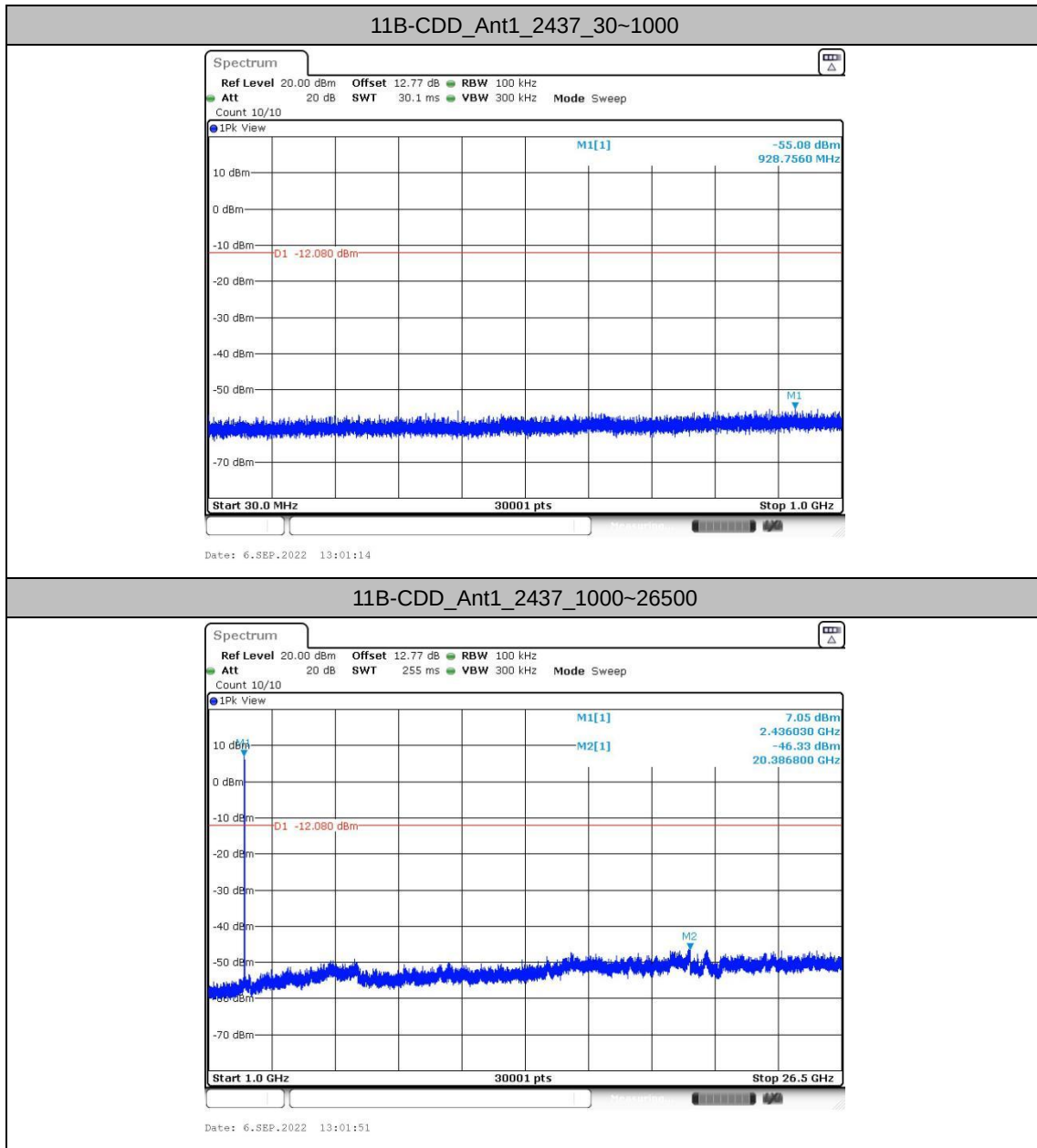
TestMode	Antenna	Frequency[MHz]	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B-CDD	Ant1	2412	30~1000	5.48	-54.46	≤-14.52	PASS
			1000~26500	5.48	-45.28	≤-14.52	PASS
	Ant2	2412	30~1000	7.00	-55.2	≤-13	PASS
			1000~26500	7.00	-46.36	≤-13	PASS
	Ant1	2437	30~1000	7.92	-55.08	≤-12.08	PASS
			1000~26500	7.92	-46.33	≤-12.08	PASS
	Ant2	2437	30~1000	5.96	-55.14	≤-14.04	PASS
			1000~26500	5.96	-46.46	≤-14.04	PASS
	Ant1	2462	30~1000	7.20	-55.28	≤-12.8	PASS
			1000~26500	7.20	-45.99	≤-12.8	PASS
	Ant2	2462	30~1000	6.71	-55.56	≤-13.29	PASS
			1000~26500	6.71	-45.79	≤-13.29	PASS
11G-CDD	Ant1	2412	30~1000	0.05	-54.73	≤-19.95	PASS
			1000~26500	0.05	-45.97	≤-19.95	PASS
	Ant2	2412	30~1000	1.29	-54.84	≤-18.71	PASS
			1000~26500	1.29	-45.77	≤-18.71	PASS
	Ant1	2417	30~1000	2.02	-55.14	≤-17.98	PASS
			1000~26500	2.02	-45.78	≤-17.98	PASS
	Ant2	2417	30~1000	2.99	-54.05	≤-17.01	PASS
			1000~26500	2.99	-45.91	≤-17.01	PASS
	Ant1	2437	30~1000	4.87	-54.81	≤-15.13	PASS
			1000~26500	4.87	-46.04	≤-15.13	PASS
	Ant2	2437	30~1000	4.87	-55.02	≤-15.13	PASS
			1000~26500	4.87	-46.17	≤-15.13	PASS
	Ant1	2457	30~1000	0.91	-54.92	≤-19.09	PASS
			1000~26500	0.91	-45.01	≤-19.09	PASS
	Ant2	2457	30~1000	2.45	-54.69	≤-17.55	PASS
			1000~26500	2.45	-45.83	≤-17.55	PASS
11N20MIMO	Ant1	2412	30~1000	0.86	-51.61	≤-19.14	PASS
			1000~26500	0.86	-45.64	≤-19.14	PASS
	Ant2	2412	30~1000	2.20	-55.01	≤-17.8	PASS
			1000~26500	2.20	-46.45	≤-17.8	PASS
	Ant1	2417	30~1000	4.06	-54.11	≤-15.94	PASS
			1000~26500	4.06	-46.08	≤-15.94	PASS
	Ant2	2417	30~1000	3.43	-54.77	≤-16.57	PASS
			1000~26500	3.43	-45.81	≤-16.57	PASS
	Ant1	2437	30~1000	5.42	-54.79	≤-14.58	PASS
			1000~26500	5.42	-44.85	≤-14.58	PASS
	Ant2	2437	30~1000	4.33	-54.34	≤-15.67	PASS
			1000~26500	4.33	-44.71	≤-15.67	PASS
	Ant1	2452	30~1000	2.66	-54.26	≤-17.34	PASS
			1000~26500	2.66	-45.81	≤-17.34	PASS
	Ant2	2452	30~1000	3.51	-54.11	≤-16.49	PASS
			1000~26500	3.51	-45.16	≤-16.49	PASS
	Ant1	2457	30~1000	0.40	-54.07	≤-19.6	PASS
			1000~26500	0.40	-45.52	≤-19.6	PASS
	Ant2	2457	30~1000	1.71	-54.67	≤-18.29	PASS
			1000~26500	1.71	-45.77	≤-18.29	PASS
	Ant1	2462	30~1000	0.12	-55.04	≤-19.88	PASS
			1000~26500	0.12	-46.38	≤-19.88	PASS
	Ant2	2462	30~1000	0.22	-54.68	≤-19.78	PASS
			1000~26500	0.22	-45.9	≤-19.78	PASS

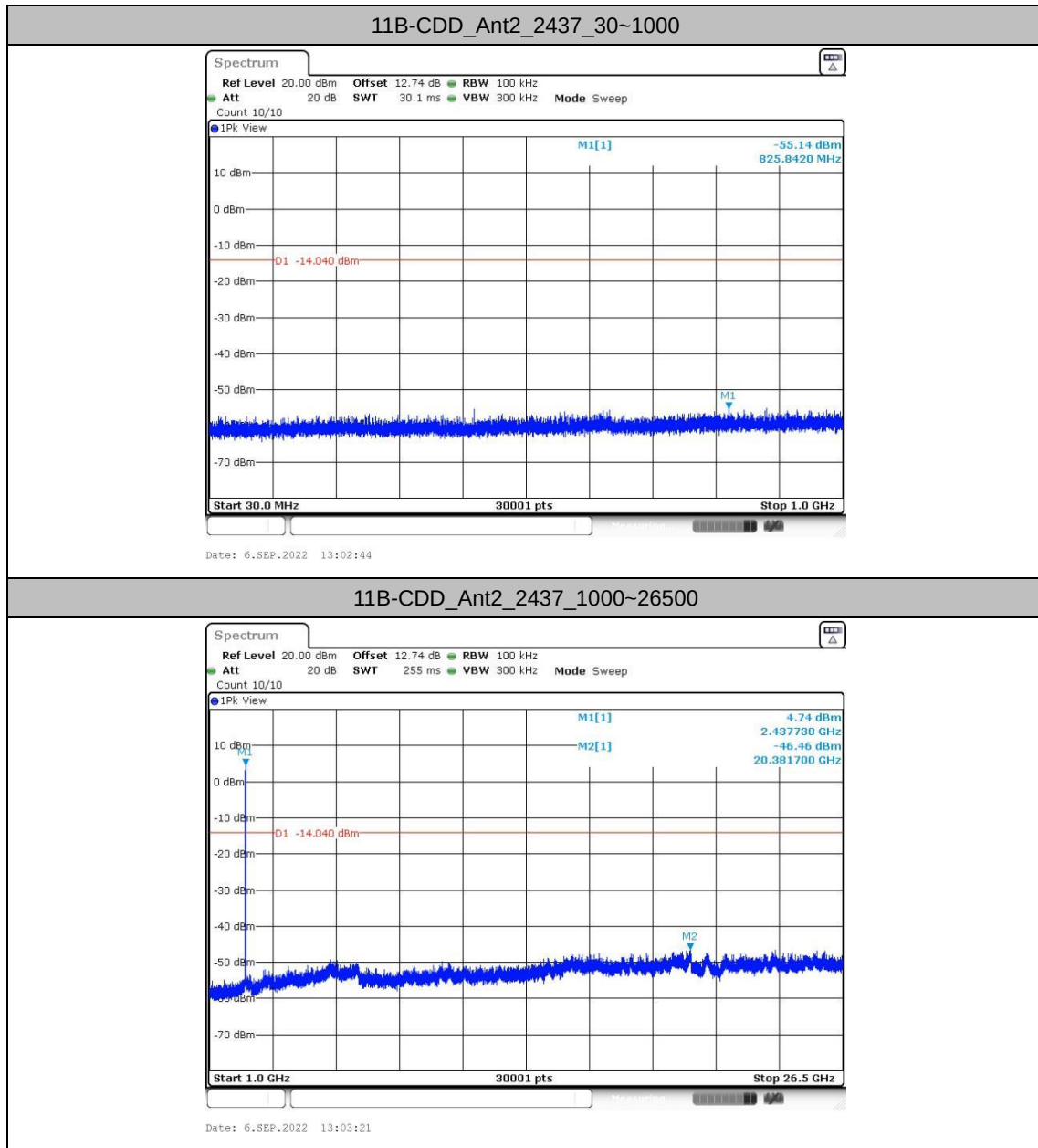


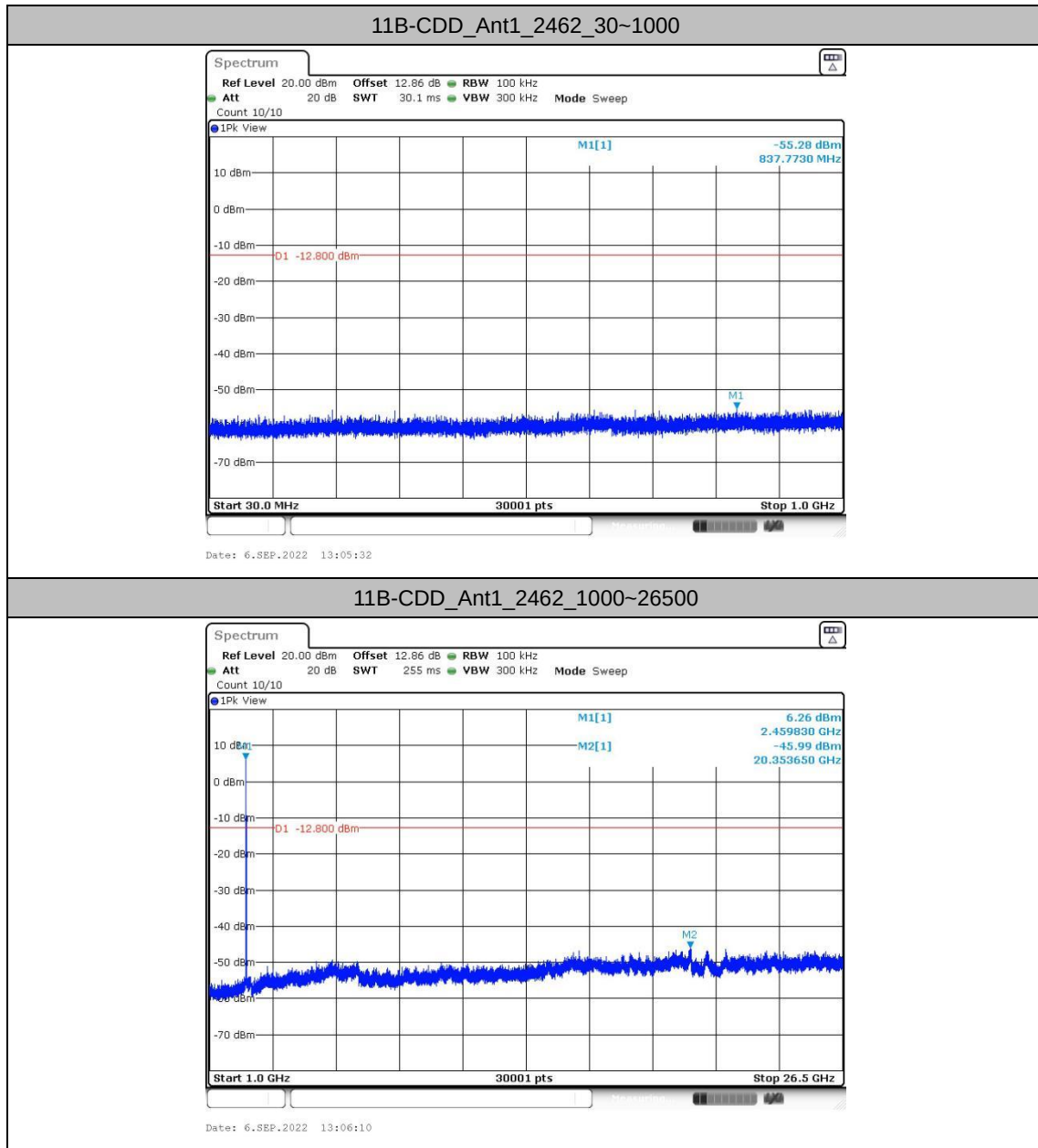
Test Graphs

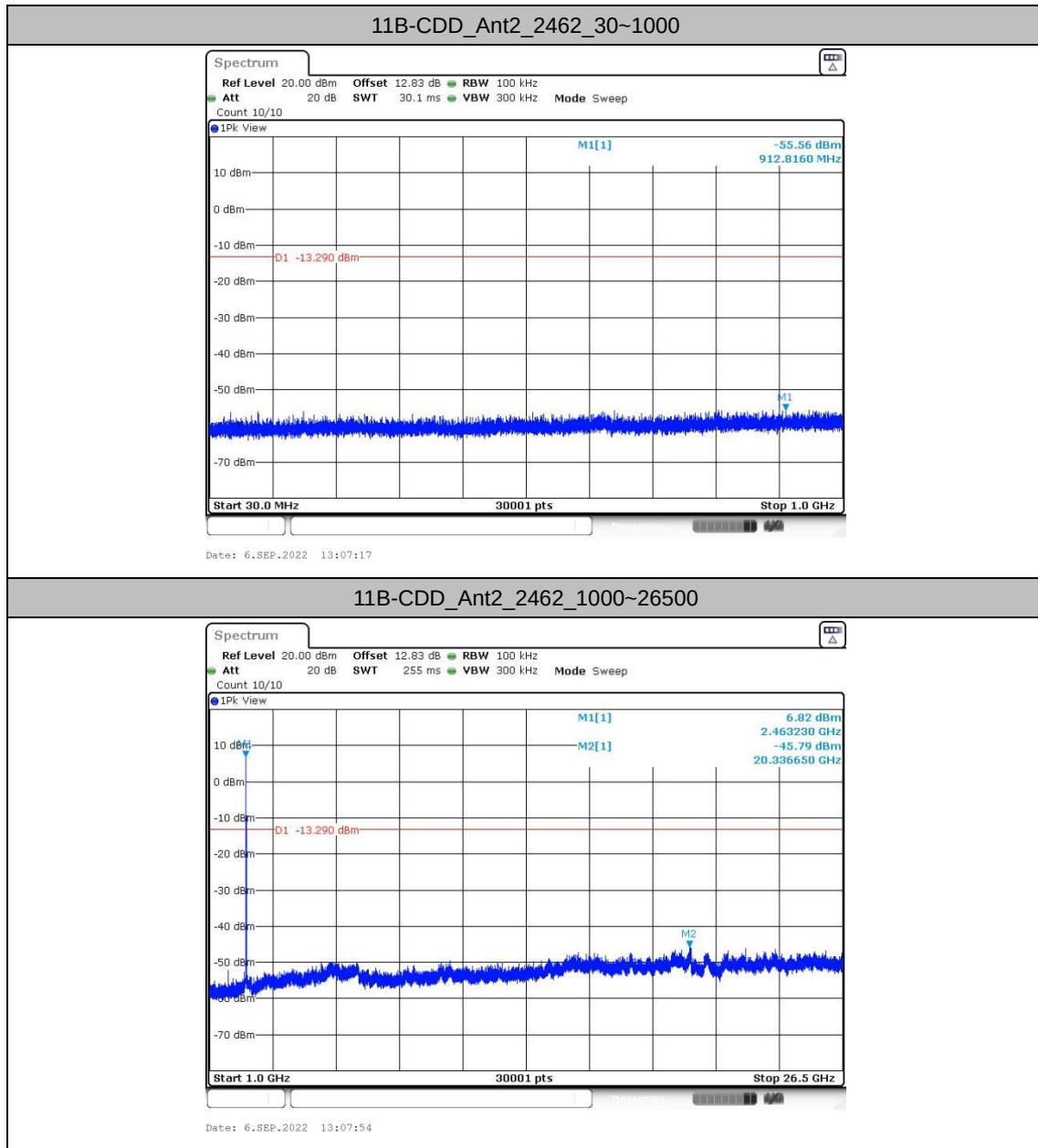


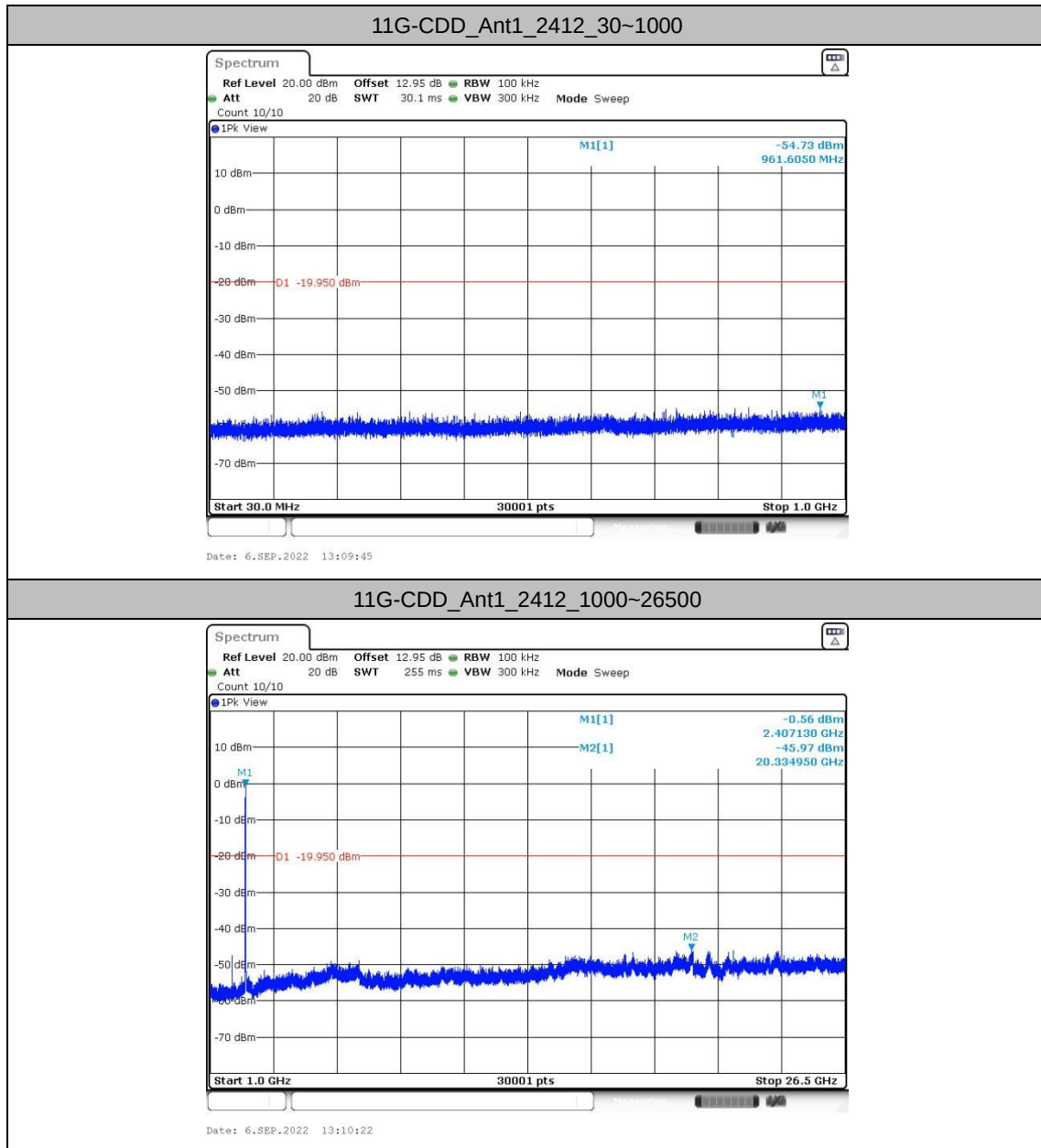


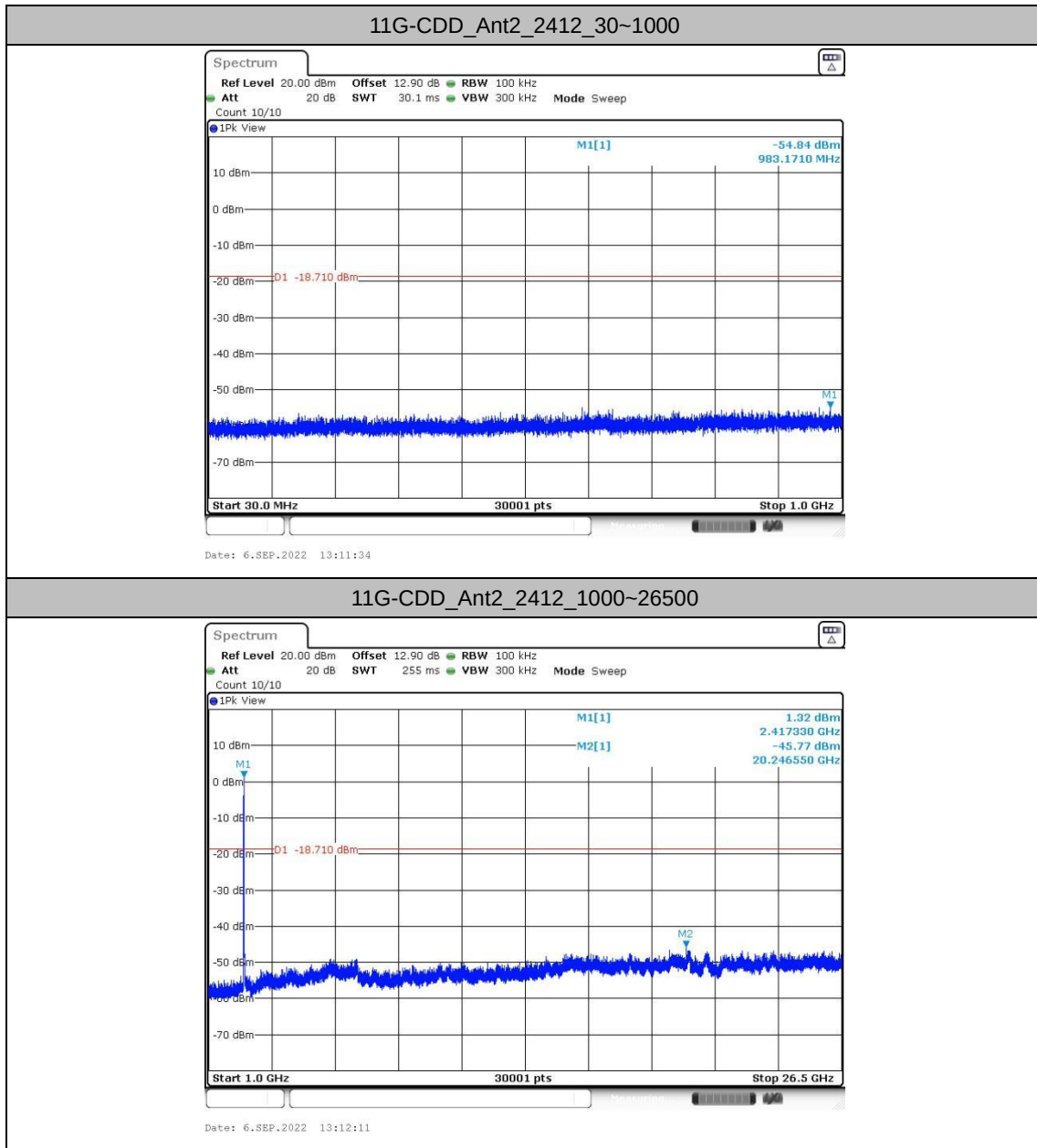


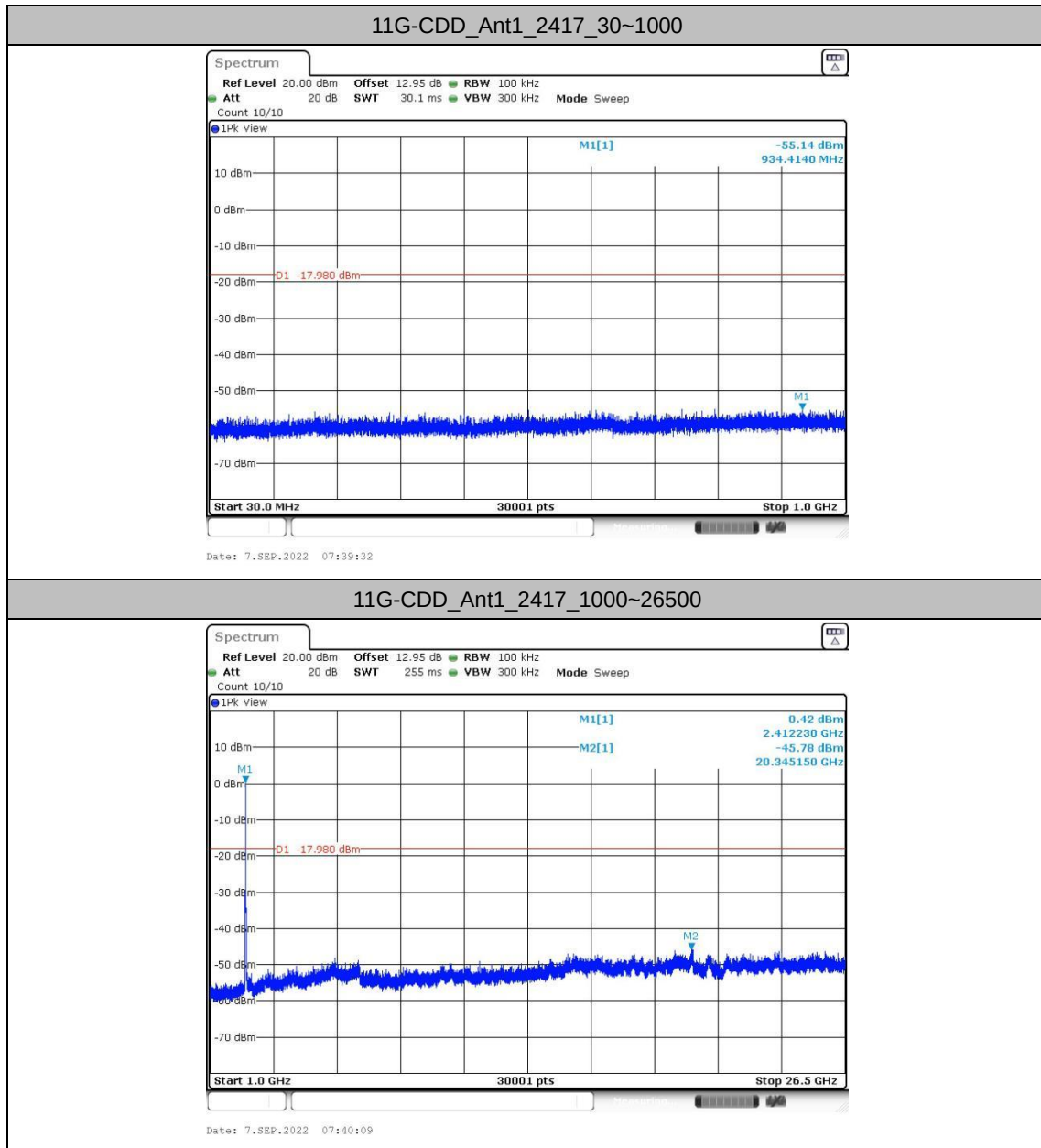


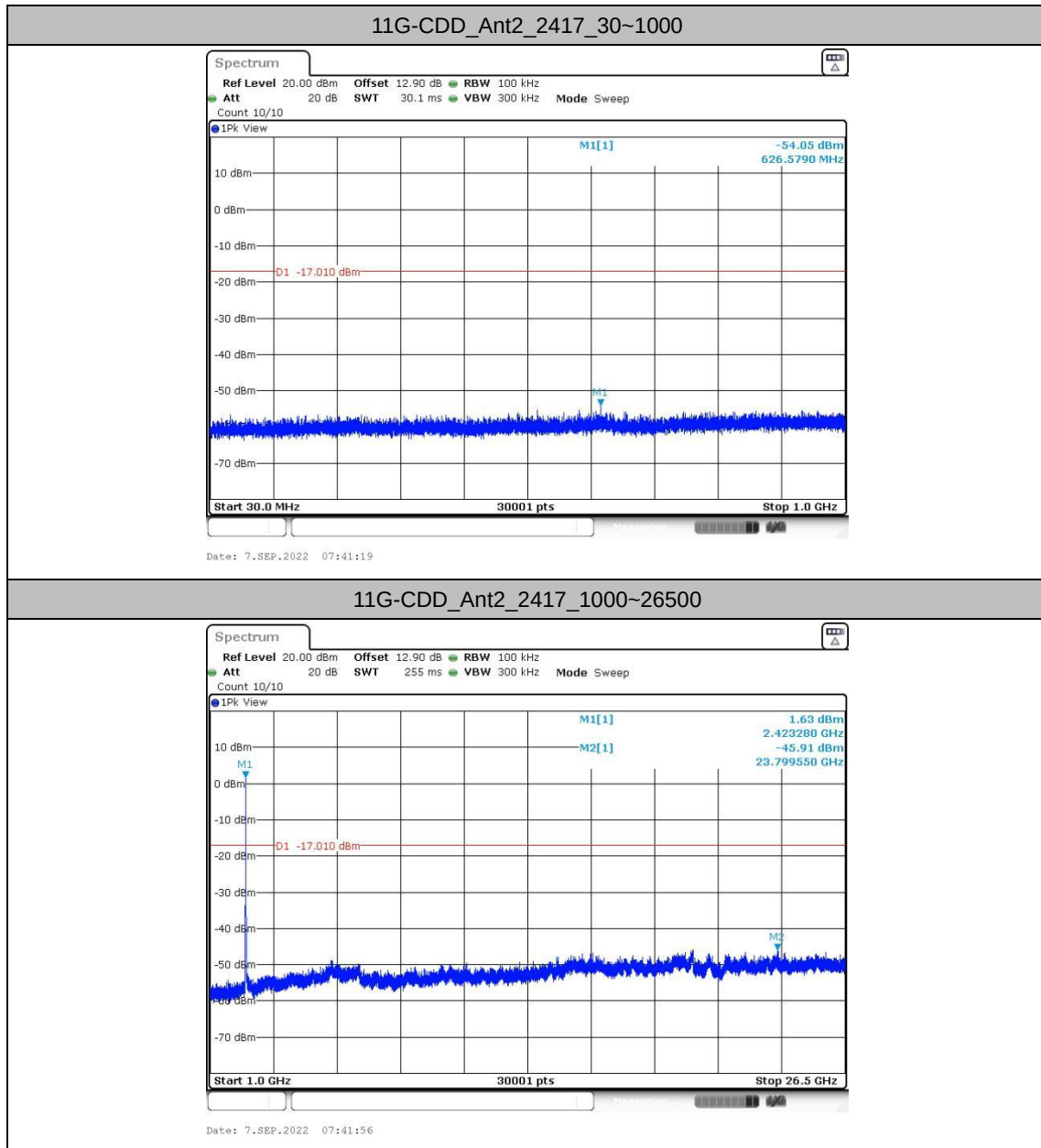


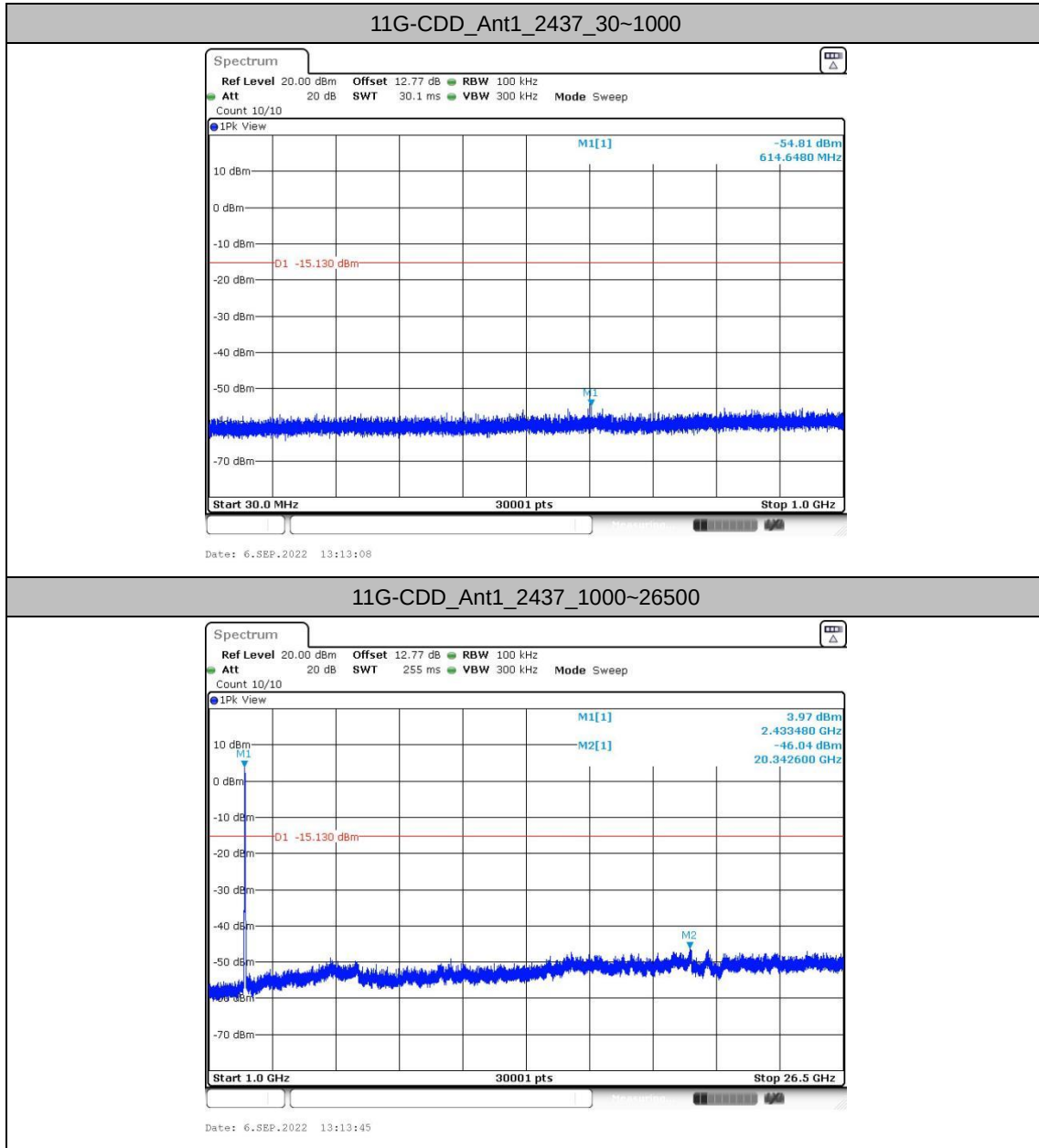


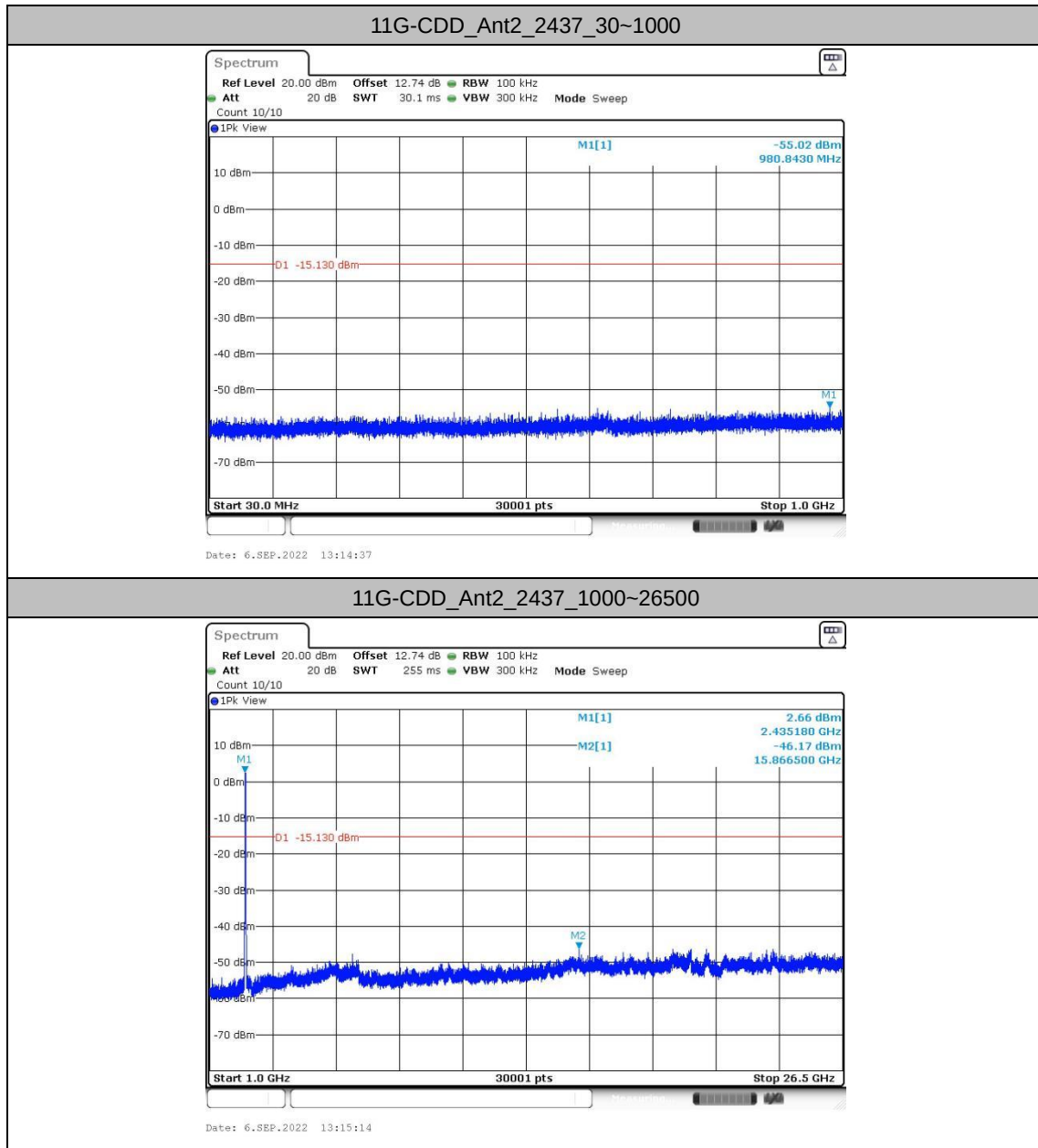


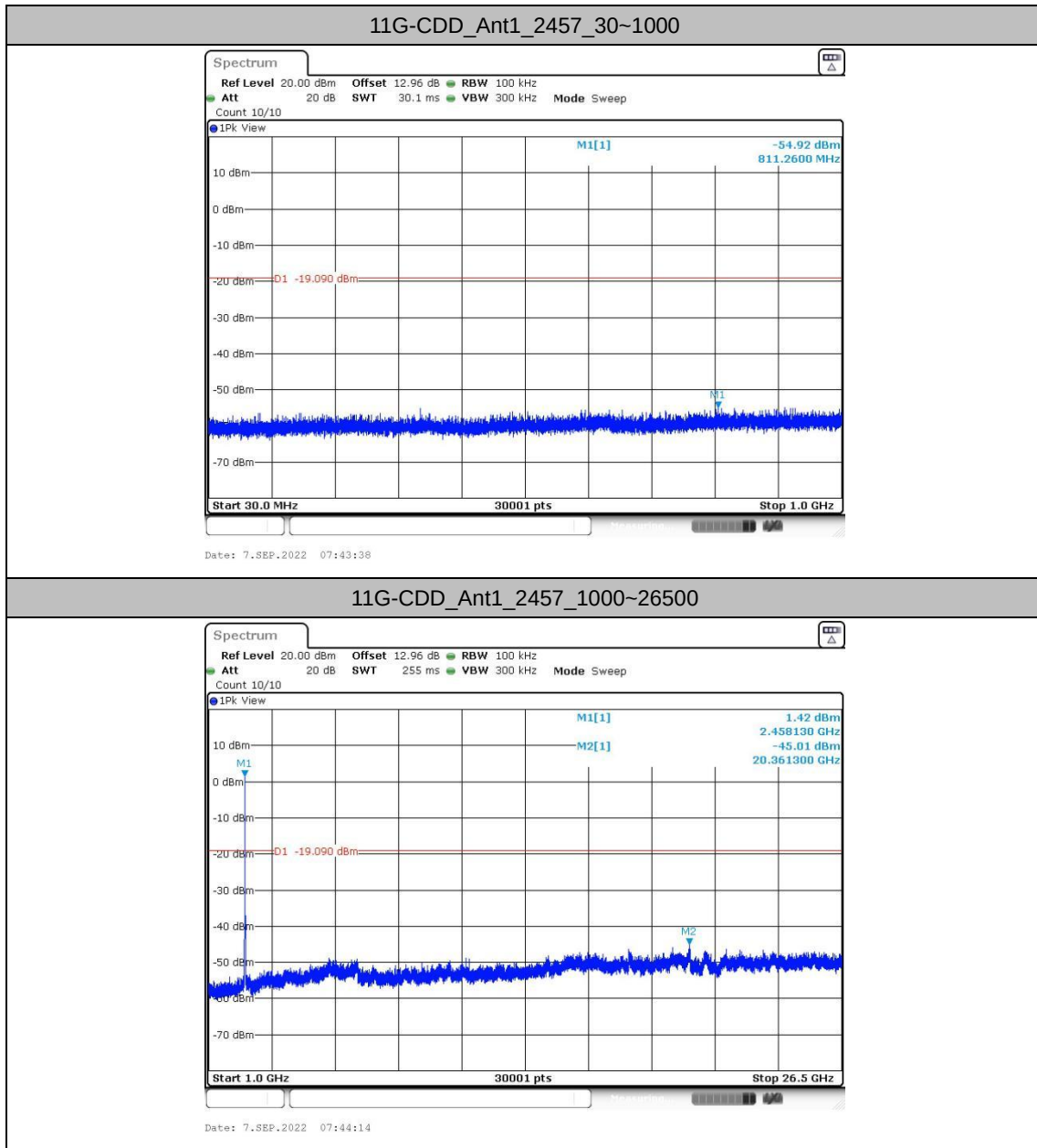


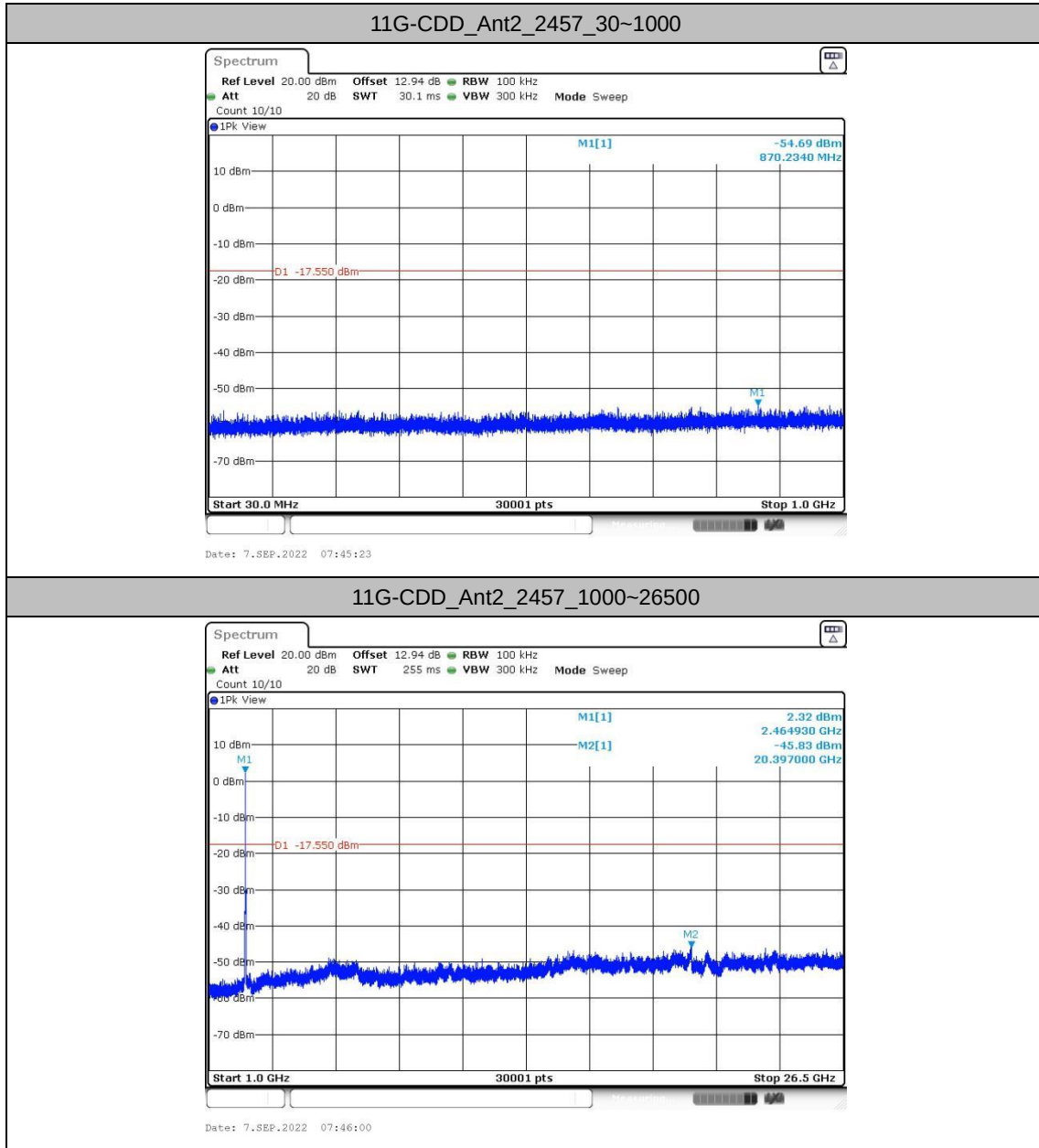


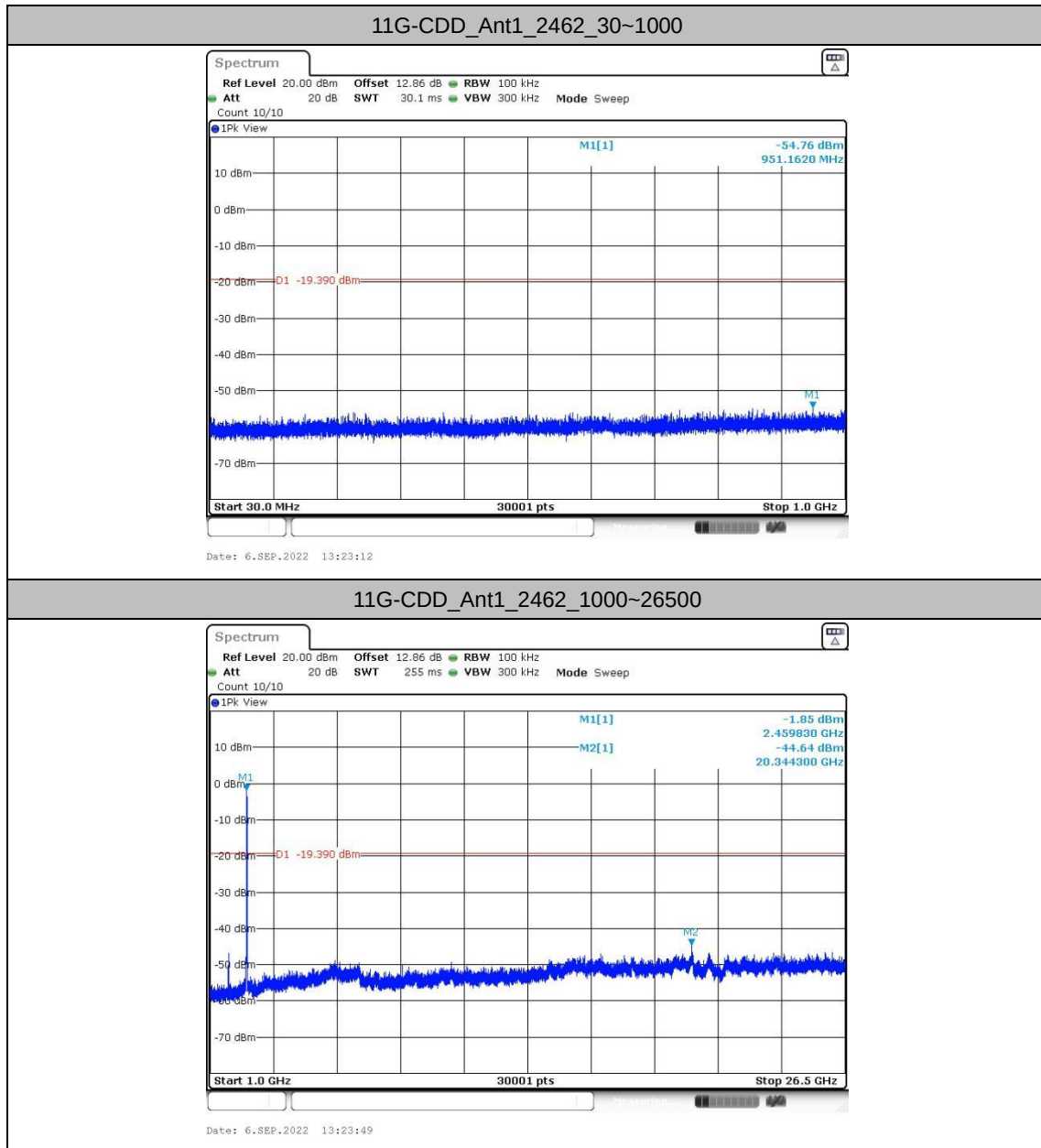


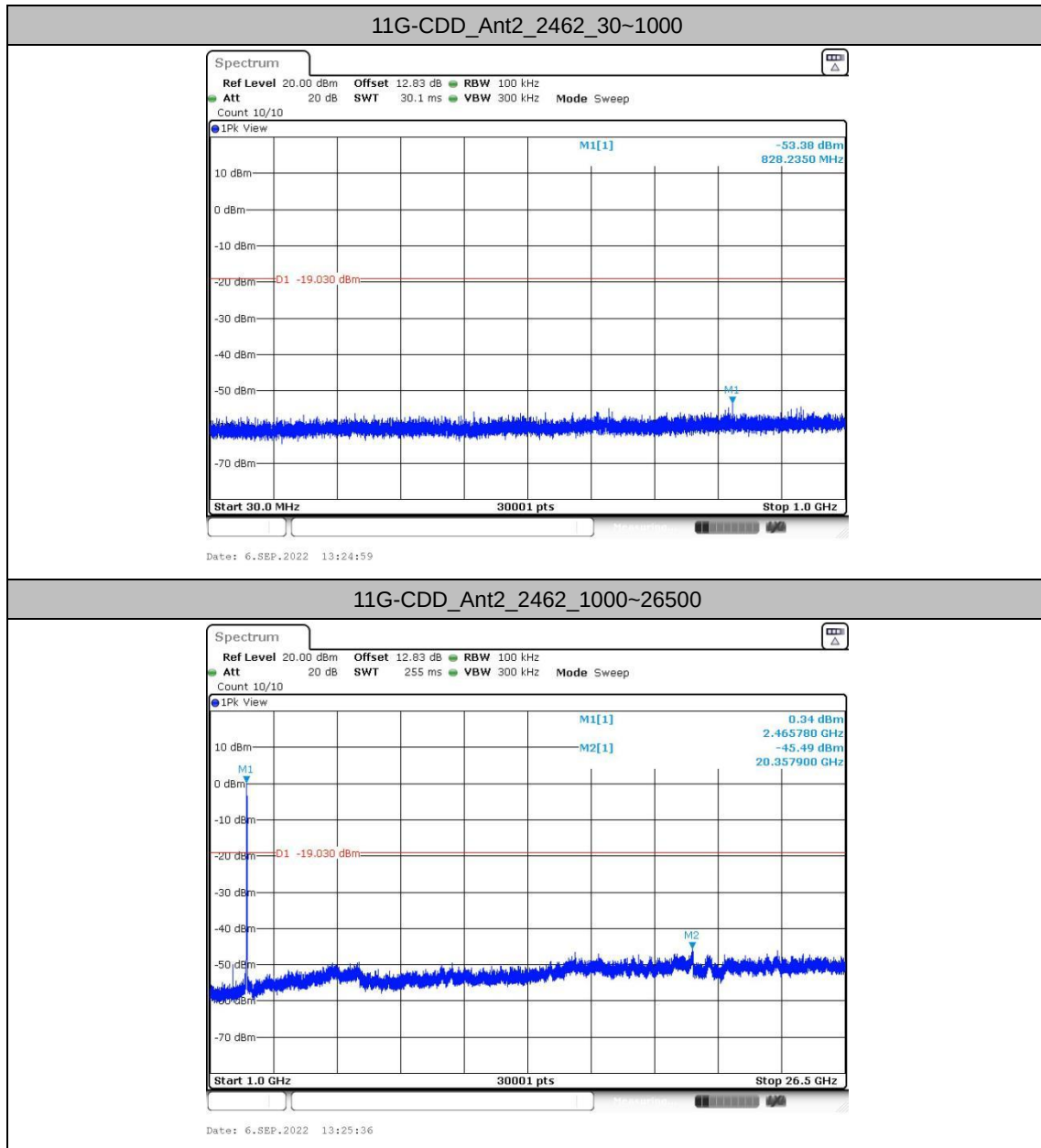


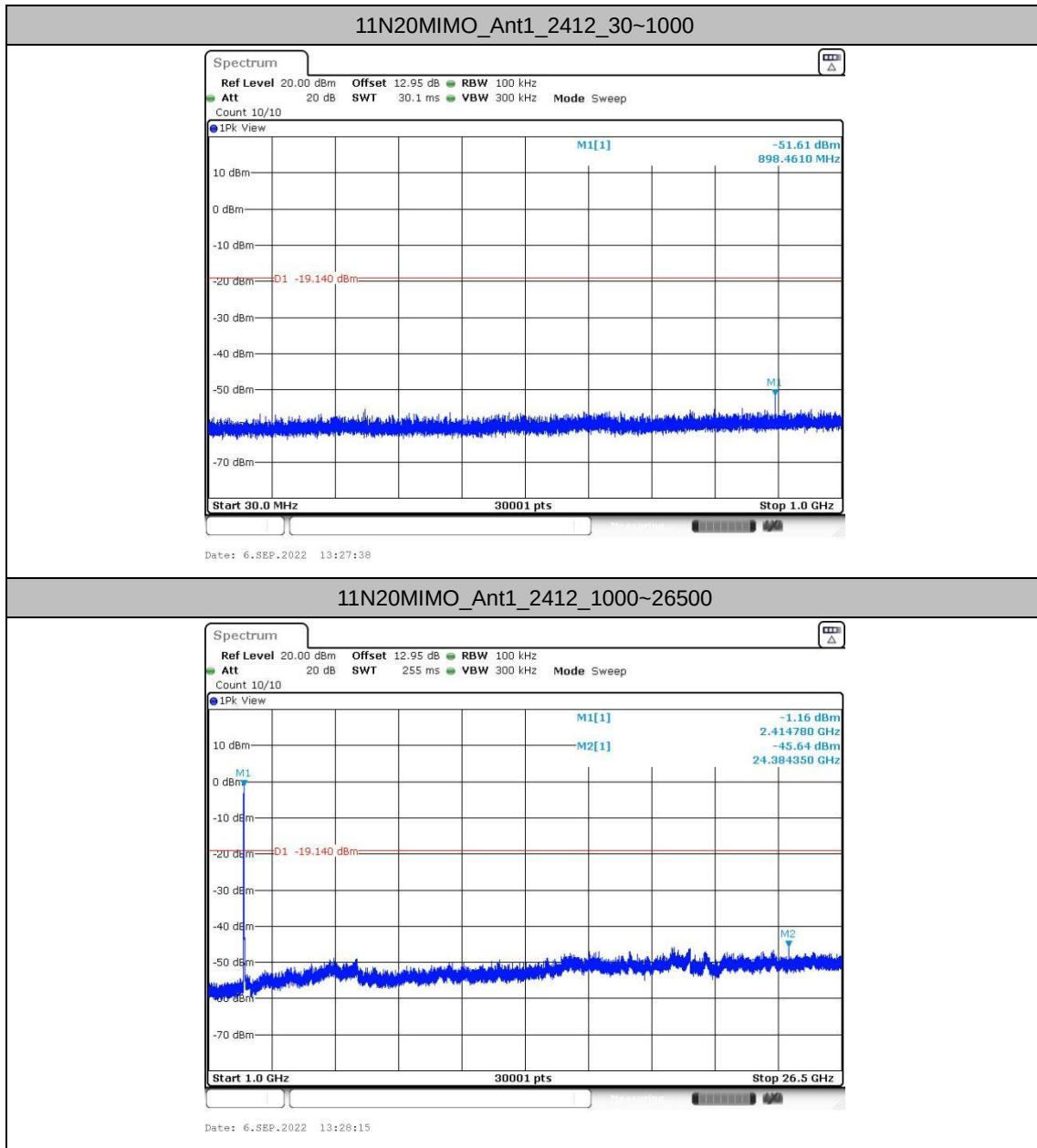






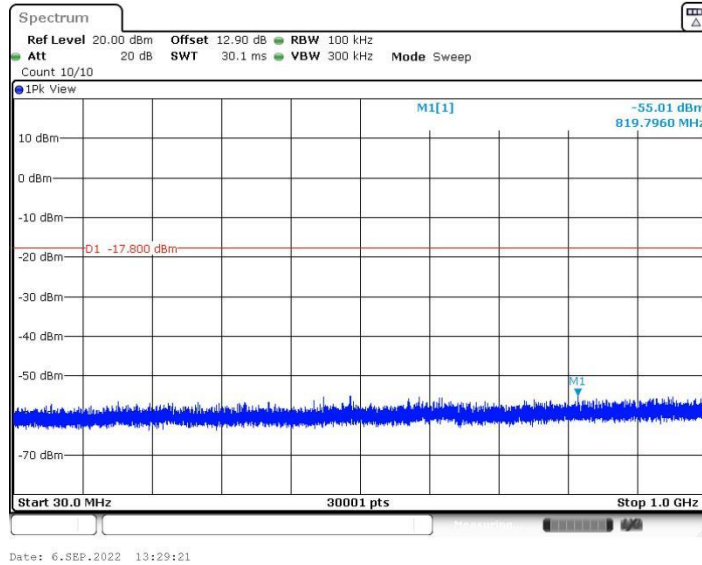




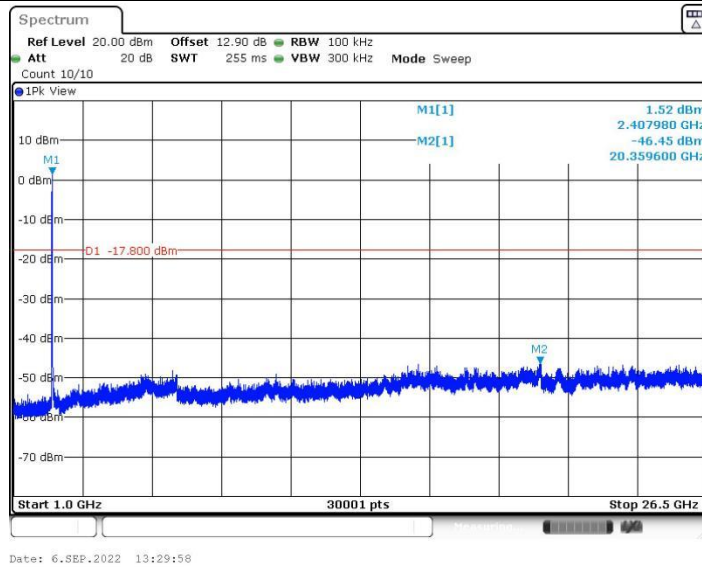


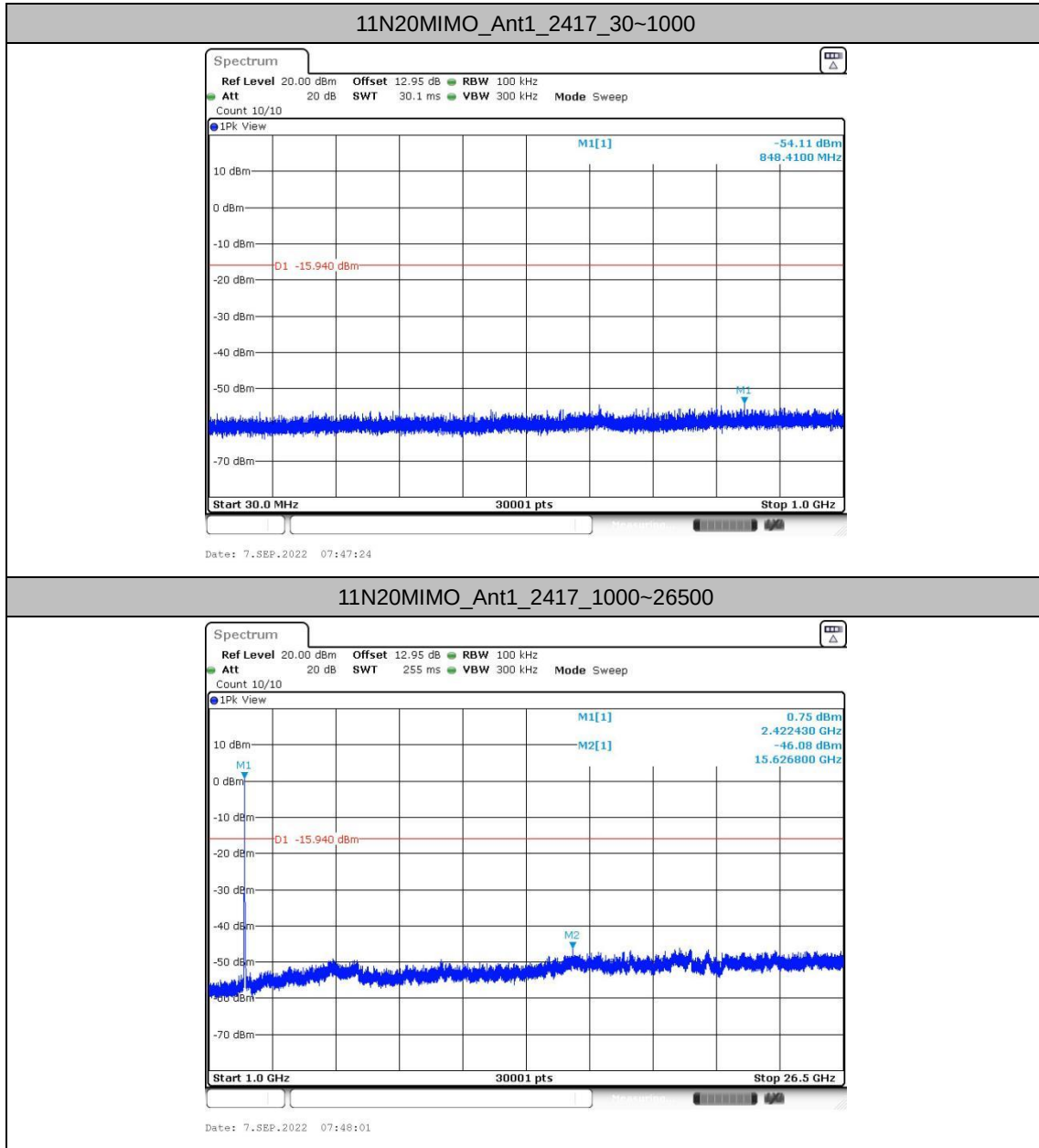


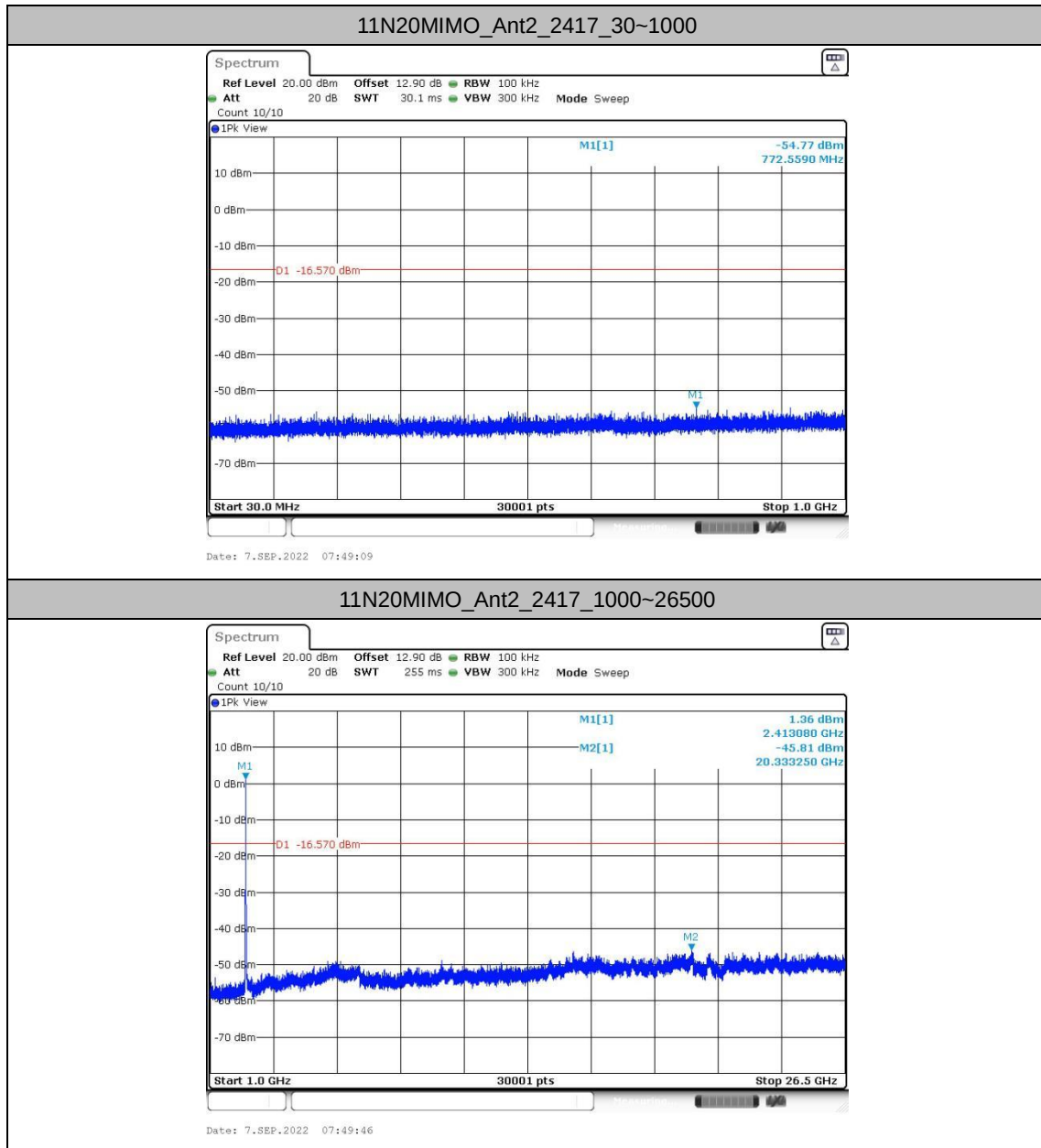
11N20MIMO_Ant2_2412_30~1000

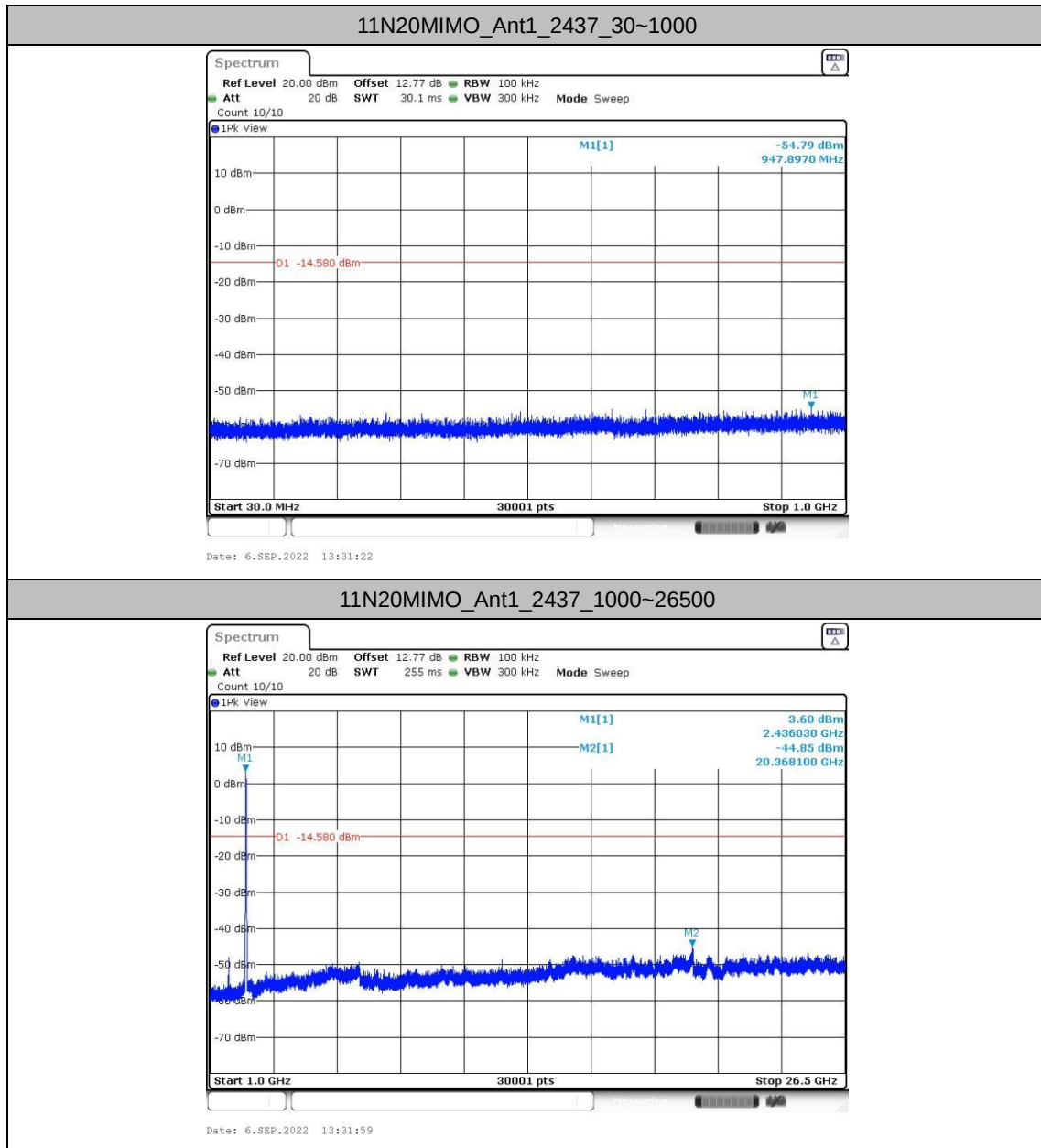


11N20MIMO_Ant2_2412_1000~26500



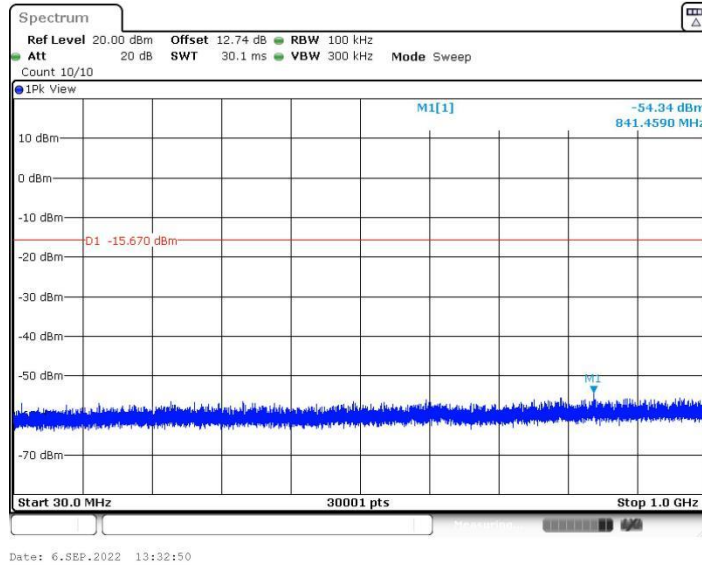




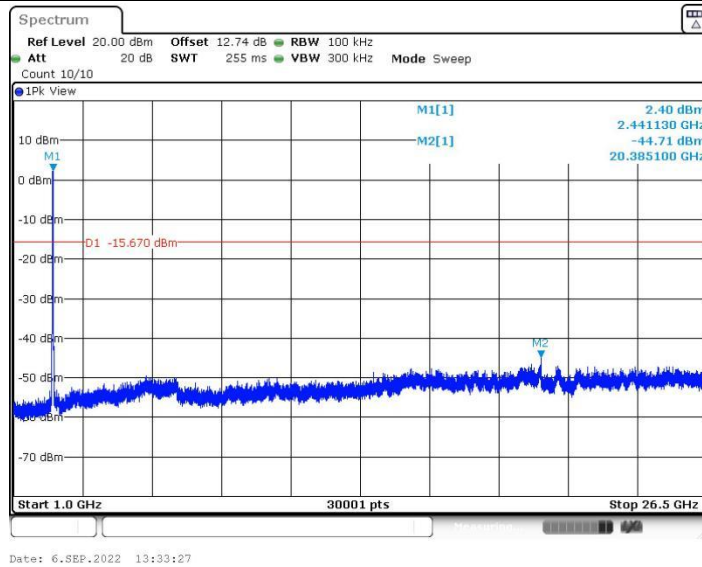


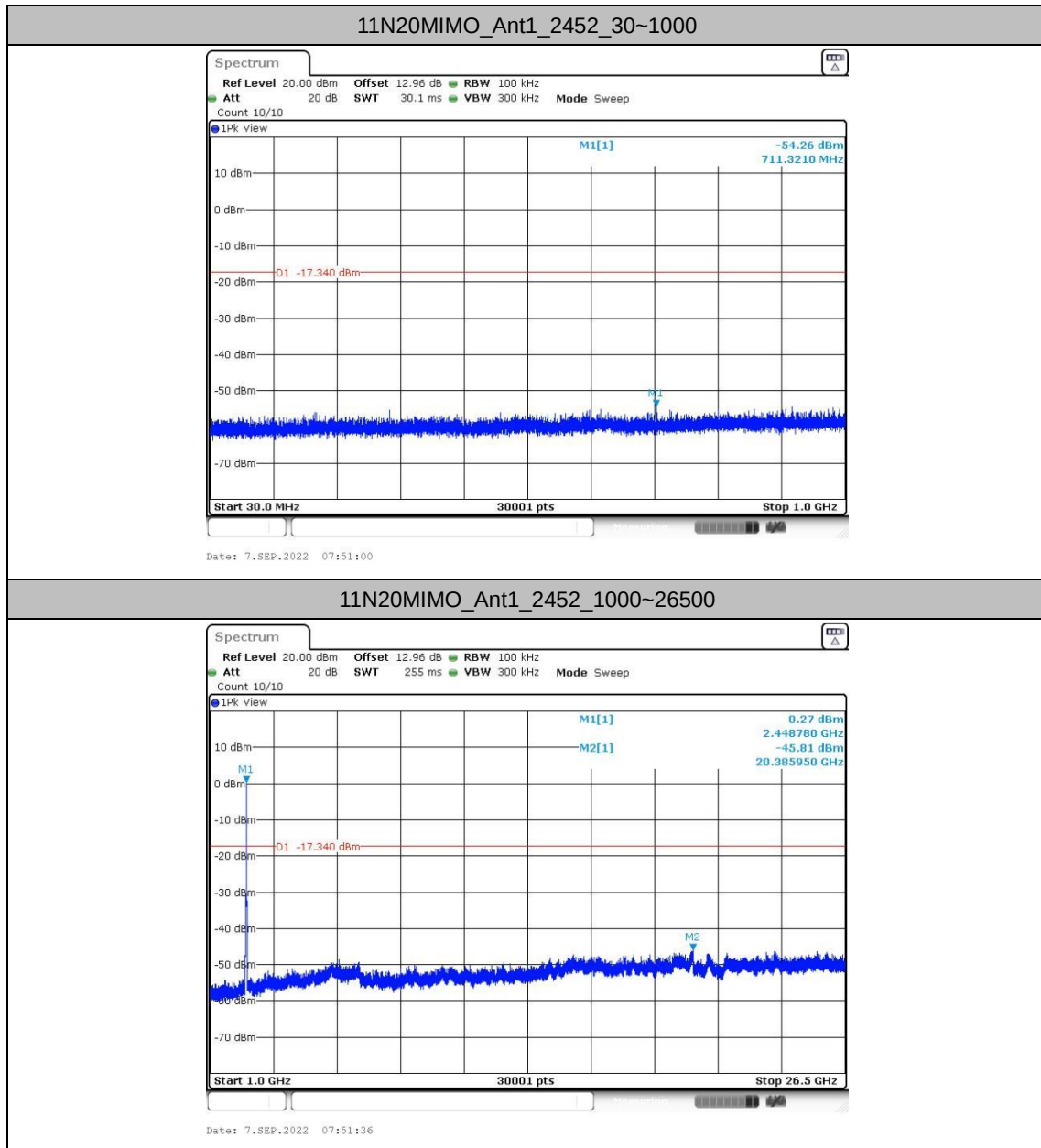


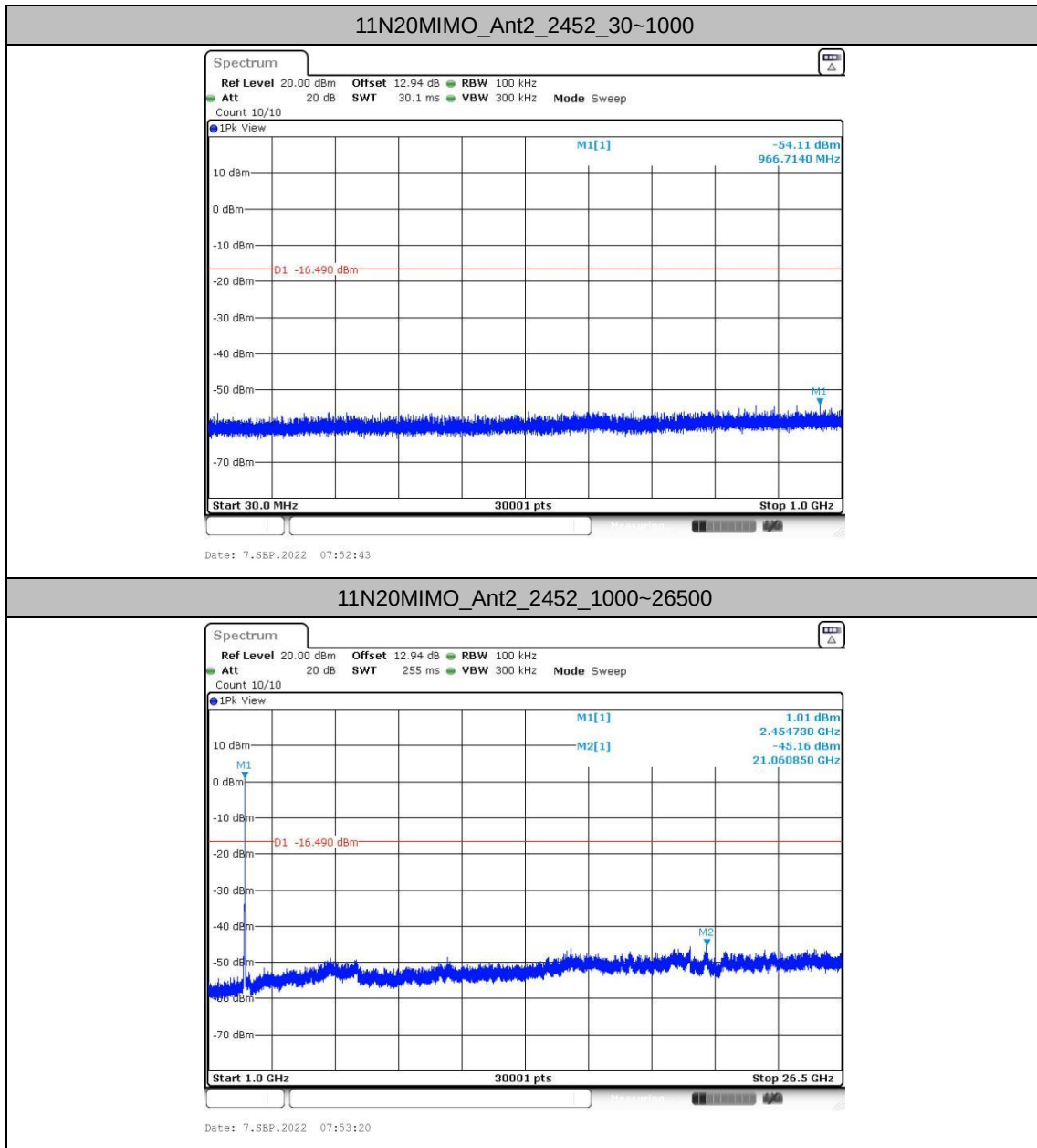
11N20MIMO_Ant2_2437_30~1000

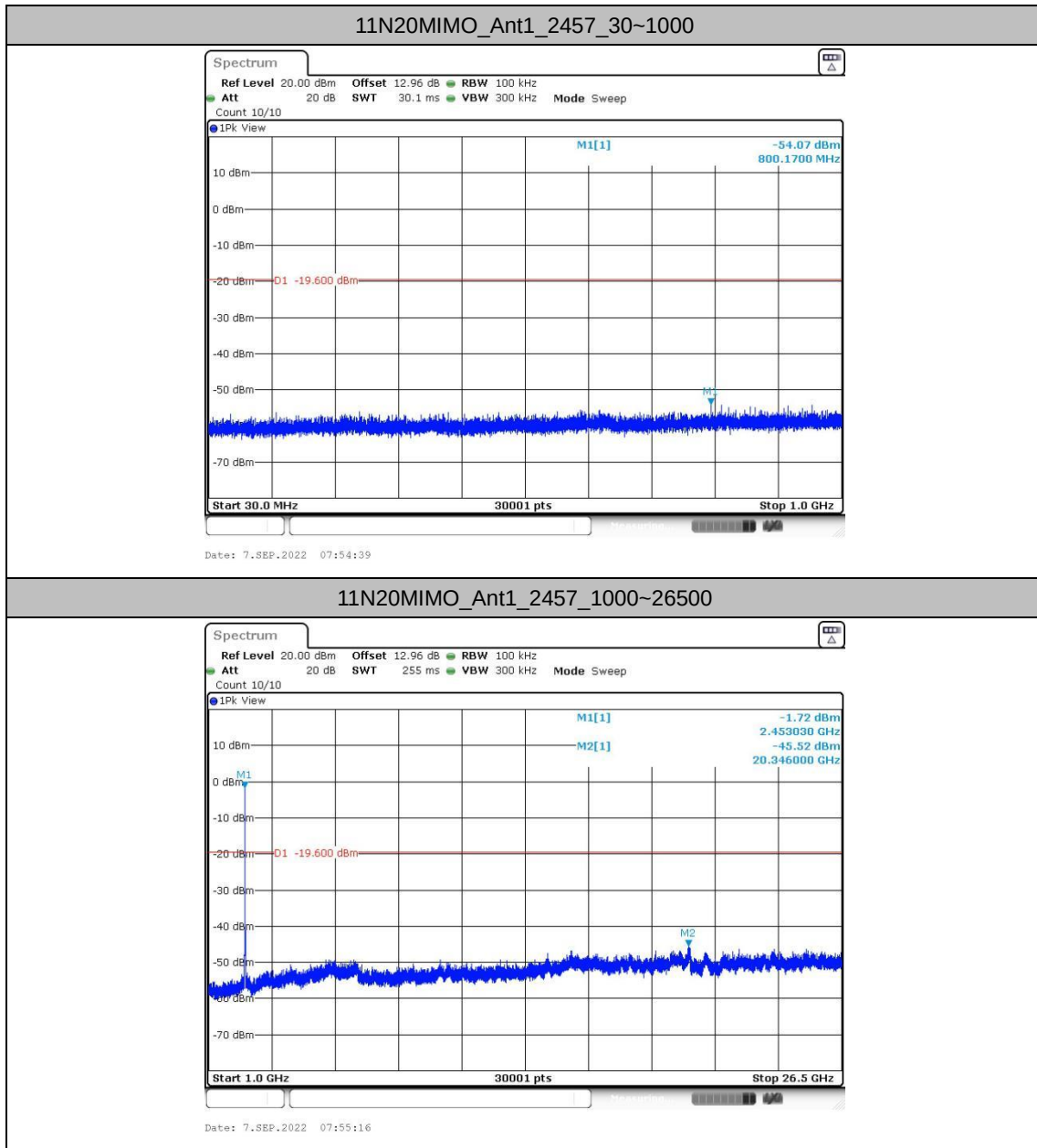


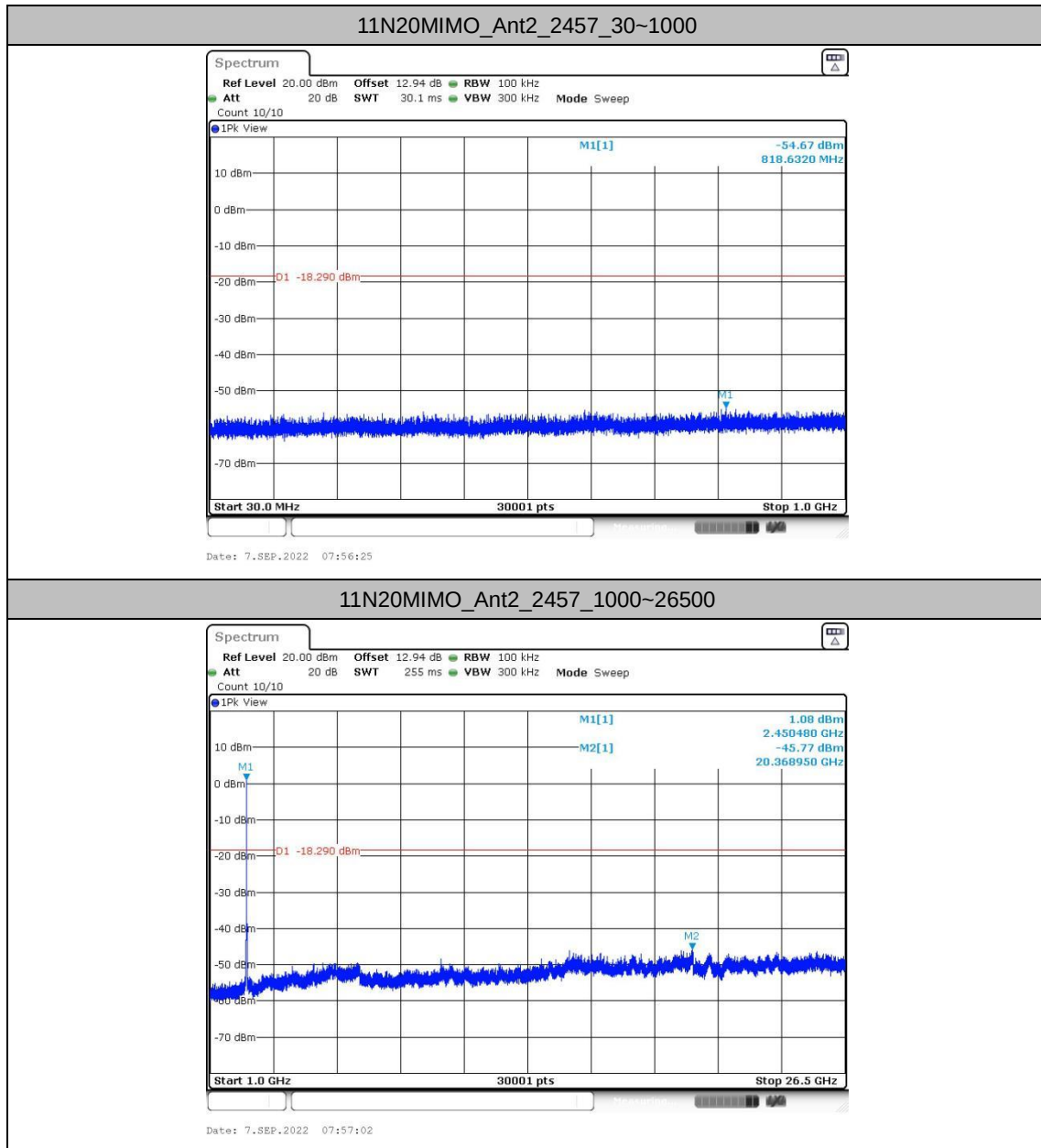
11N20MIMO_Ant2_2437_1000~26500





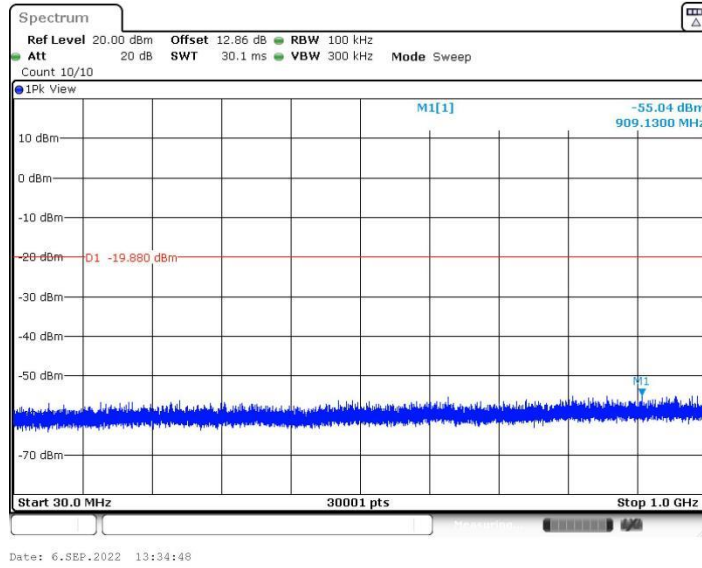




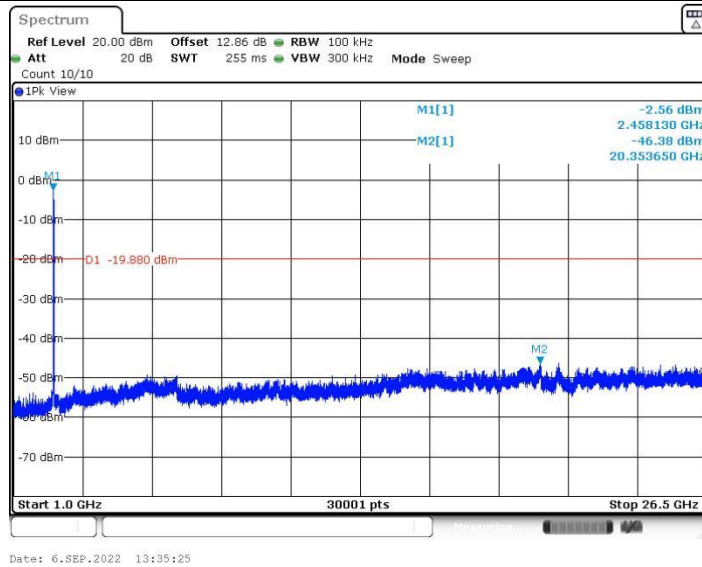


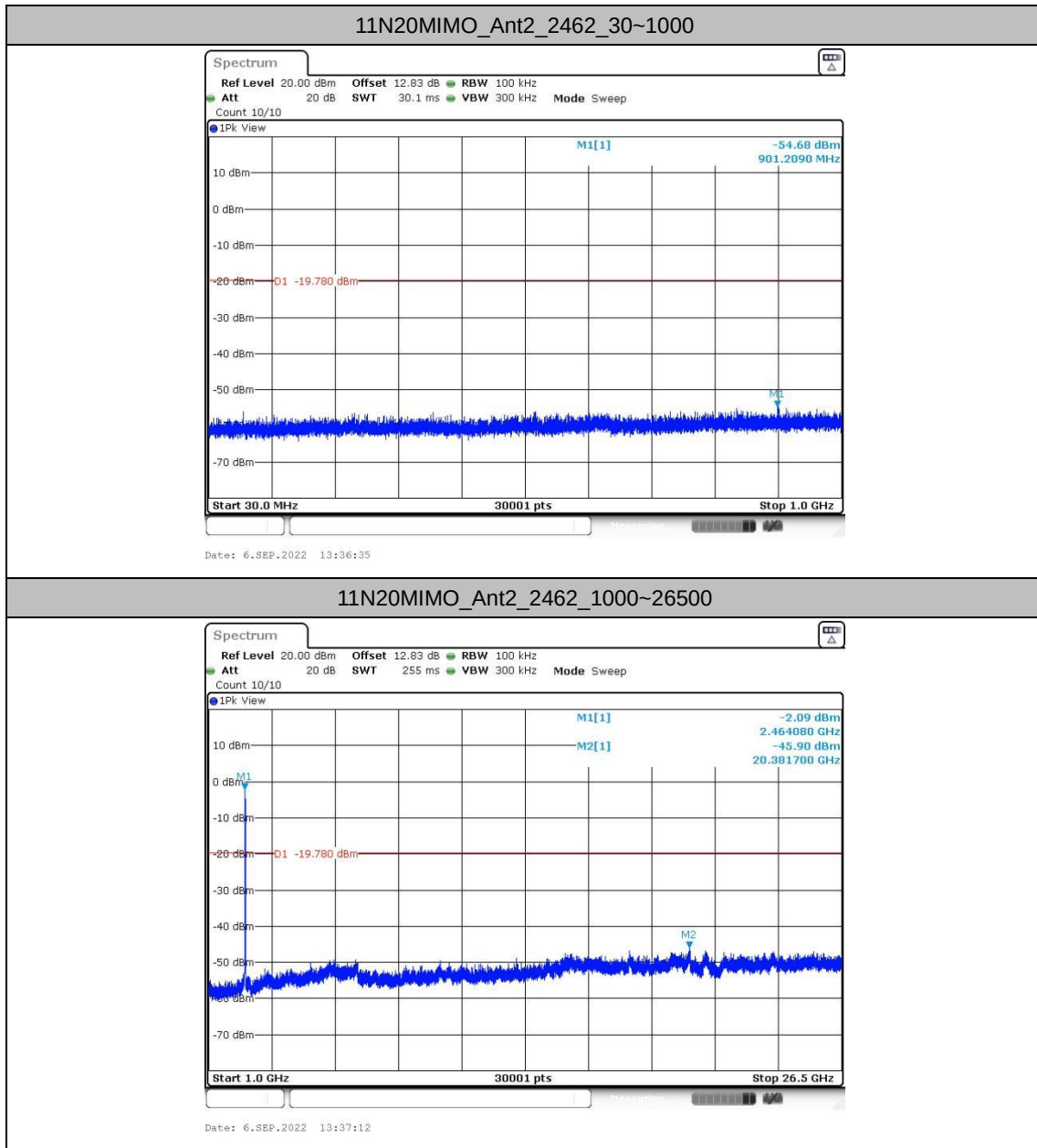


11N20MIMO_Ant1_2462_30~1000



11N20MIMO_Ant1_2462_1000~26500

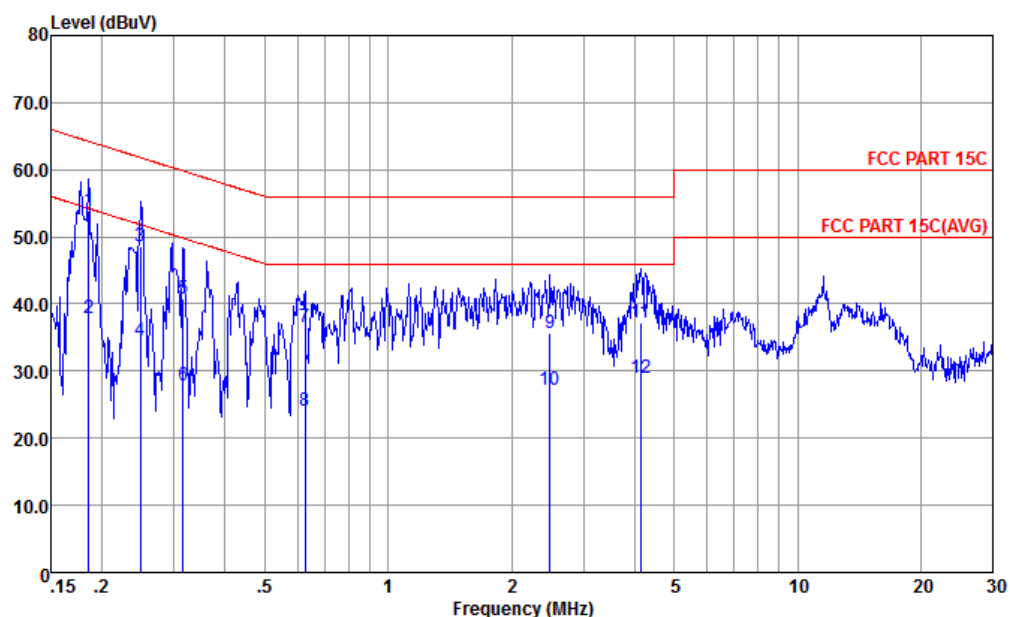






Appendix B. AC Conducted Emission Test Results

Test Engineer :	Amos	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.		

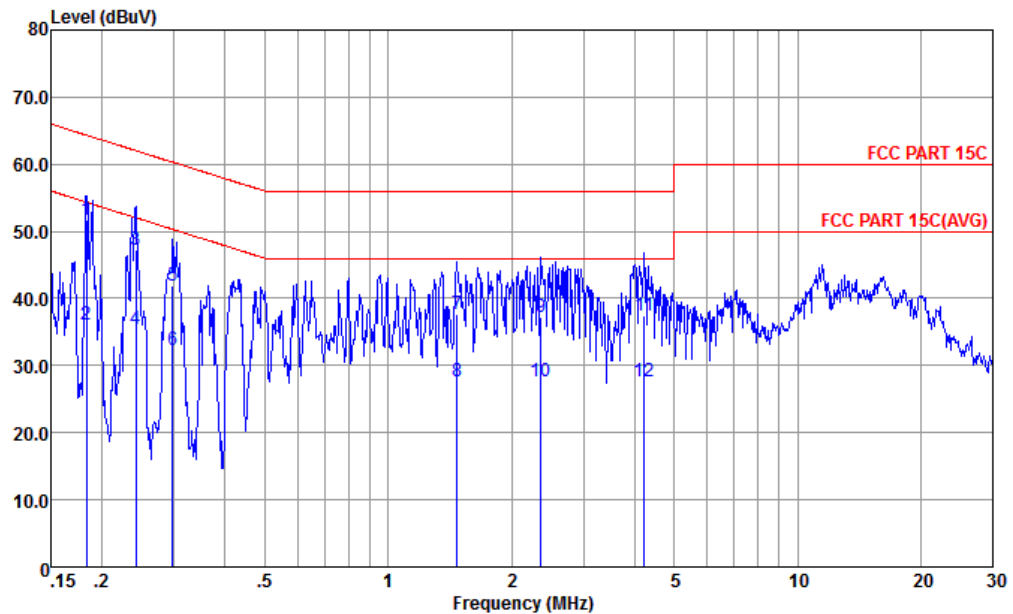


Site : CO01-KS
Condition : FCC PART 15C LISN-060105-L LINE

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1 *	0.185	54.03	-10.21	64.24	43.61	0.03	10.39	QP
2	0.185	37.93	-16.31	54.24	27.51	0.03	10.39	Average
3	0.248	48.59	-13.23	61.82	38.20	0.06	10.33	QP
4	0.248	34.49	-17.33	51.82	24.10	0.06	10.33	Average
5	0.315	40.87	-18.97	59.84	30.50	0.07	10.30	QP
6	0.315	27.87	-21.97	49.84	17.50	0.07	10.30	Average
7	0.627	36.54	-19.46	56.00	26.19	0.11	10.24	QP
8	0.627	24.14	-21.86	46.00	13.79	0.11	10.24	Average
9	2.487	35.58	-20.42	56.00	25.20	0.15	10.23	QP
10	2.487	27.28	-18.72	46.00	16.90	0.15	10.23	Average
11	4.136	37.22	-18.78	56.00	26.80	0.17	10.25	QP
12	4.136	29.02	-16.98	46.00	18.60	0.17	10.25	Average



Test Engineer :	Amos	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	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1 *	0.183	51.70	-12.63	64.33	41.20	0.10	10.40	QP
2	0.183	36.10	-18.23	54.33	25.60	0.10	10.40	Average
3	0.242	47.34	-14.70	62.04	36.90	0.10	10.34	QP
4	0.242	35.54	-16.50	52.04	25.10	0.10	10.34	Average
5	0.297	41.91	-18.41	60.32	31.50	0.10	10.31	QP
6	0.297	32.31	-18.01	50.32	21.90	0.10	10.31	Average
7	1.472	37.56	-18.44	56.00	27.20	0.13	10.23	QP
8	1.472	27.66	-18.34	46.00	17.30	0.13	10.23	Average
9	2.358	37.28	-18.72	56.00	26.91	0.14	10.23	QP
10	2.358	27.58	-18.42	46.00	17.21	0.14	10.23	Average
11	4.224	37.53	-18.47	56.00	27.10	0.17	10.26	QP
12	4.224	27.63	-18.37	46.00	17.20	0.17	10.26	Average

Note:

1. Level(dBμV) = Read Level(dBμV) + LISN Factor(dB) + Cable Loss(dB)
2. 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	Preampl Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2388.65	58.36	-15.64	74	51.19	30.94	7.13	30.9	100	286	P	H
		2387.35	52.38	-1.62	54	45.21	30.94	7.13	30.9	100	286	A	H
	*	2414	107.81	-	-	100.53	31	7.16	30.88	100	286	P	H
	*	2414	105.53	-	-	98.25	31	7.16	30.88	100	286	A	H
		2387.74	57.2	-16.8	74	50.03	30.94	7.13	30.9	387	251	P	V
		2387.35	49.5	-4.5	54	42.33	30.94	7.13	30.9	387	251	A	V
	*	2412	105.69	-	-	98.41	31	7.16	30.88	387	251	P	V
	*	2414	103.03	-	-	95.75	31	7.16	30.88	387	251	A	V
802.11b CH 06 2437MHz		2311.69	53.56	-20.44	74	46.86	30.65	7.01	30.96	154	289	P	H
		2389.95	42.49	-11.51	54	35.3	30.94	7.13	30.88	154	289	A	H
	*	2436	106.36	-	-	98.91	31.07	7.19	30.81	154	289	P	H
	*	2436	103.87	-	-	96.42	31.07	7.19	30.81	154	289	A	H
		2490.04	54.53	-19.47	74	46.71	31.17	7.32	30.67	154	289	P	H
		2485.48	43.22	-10.78	54	35.44	31.17	7.28	30.67	154	289	A	H
		2313.64	54.27	-19.73	74	47.55	30.65	7.01	30.94	380	243	P	V
		2389.95	42.47	-11.53	54	35.28	30.94	7.13	30.88	380	243	A	V
	*	2436	103.62	-	-	96.17	31.07	7.19	30.81	380	243	P	V
	*	2436	101.11	-	-	93.66	31.07	7.19	30.81	380	243	A	V
		2486.86	55.39	-18.61	74	47.61	31.17	7.28	30.67	380	243	P	V
		2491.06	43.08	-10.92	54	35.26	31.17	7.32	30.67	380	243	A	V



802.11b CH 11 2462MHz	*	2462	103.18	-	-	95.57	31.1	7.25	30.74	287	360	P	H
	*	2464	100.93	-	-	93.32	31.1	7.25	30.74	287	360	A	H
		2492.32	54.17	-19.83	74	46.28	31.17	7.32	30.6	287	360	P	H
		2486.02	43.14	-10.86	54	35.36	31.17	7.28	30.67	287	360	A	H
	*	2462	102.47	-	-	94.86	31.1	7.25	30.74	371	247	P	V
	*	2464	100.17	-	-	92.56	31.1	7.25	30.74	371	247	A	V
		2491.12	54.06	-19.94	74	46.24	31.17	7.32	30.67	371	247	P	V
		2485.24	43.07	-10.93	54	35.29	31.17	7.28	30.67	371	247	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. 1+2	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)
802.11b CH 01 2412MHz		4830	53.43	-20.57	74	73.44	34.57	10.85	65.43	379	243	P	H
		4830	51.03	-2.97	54	71.04	34.57	10.85	65.43	379	243	A	H
		7230	50.64	-30.98	81.62	65.76	36.55	13.51	65.18	300	0	P	H
		9645	53.52	-28.1	81.62	66.09	37.85	15.96	66.38	300	0	P	H
		4830	55.48	-18.52	74	75.49	34.57	10.85	65.43	119	198	P	V
		4830	52.43	-1.57	54	72.44	34.57	10.85	65.43	119	198	A	V
		7230	52.2	-24.72	76.92	67.32	36.55	13.51	65.18	300	360	P	V
		9645	56.9	-20.02	76.92	69.47	37.85	15.96	66.38	300	360	P	V
802.11b CH 06 2437MHz		4875	45.75	-28.25	74	65.66	34.66	10.87	65.44	100	0	P	H
		7305	42.76	-31.24	74	57.95	36.56	13.49	65.24	100	0	P	H
		4875	50.13	-23.87	74	70.04	34.66	10.87	65.44	100	360	P	V
		7311	47.71	-26.29	74	62.9	36.56	13.49	65.24	100	360	P	V
802.11b CH 11 2462MHz		4920	49.98	-24.02	74	69.82	34.72	10.88	65.44	100	0	P	H
		7380	50.67	-23.33	74	65.9	36.58	13.48	65.29	100	0	P	H
		4920	54.41	-19.59	74	74.25	34.72	10.88	65.44	299	10	P	V
		4920	52.65	-1.35	54	72.49	34.72	10.88	65.44	299	10	A	V
		7380	55.89	-18.11	74	71.12	36.58	13.48	65.29	100	231	P	V
		7380	52.27	-1.73	54	67.5	36.58	13.48	65.29	100	231	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 (Band Edge @ 3m)

WIFI Ant. 1+2	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 01 2412MHz		2389.95	63.16	-10.84	74	60.04	32.88	7.1	36.86	141	286	P	H
		2389.95	51.38	-2.62	54	48.26	32.88	7.1	36.86	141	286	A	H
	*	2410	106.3	-	-	103.12	32.9	7.13	36.85	141	286	P	H
	*	2416	100.22	-	-	97.01	32.9	7.16	36.85	141	286	A	H
		2389.04	62.07	-11.93	74	58.95	32.88	7.1	36.86	344	236	P	V
		2389.82	49.63	-4.37	54	46.51	32.88	7.1	36.86	344	236	A	V
	*	2410	102.49	-	-	99.31	32.9	7.13	36.85	344	236	P	V
	*	2414	95.55	-	-	92.37	32.9	7.13	36.85	344	236	A	V
802.11g CH 02 2417MHz		2389.95	65.52	-8.48	74	58.33	30.94	7.13	30.88	133	160	P	H
		2389.95	52.31	-1.69	54	45.12	30.94	7.13	30.88	133	160	A	H
	*	2420	104.92	-	-	97.51	31.03	7.19	30.81	133	160	P	H
	*	2420	98.21	-	-	90.8	31.03	7.19	30.81	133	160	A	H
		2389.17	61.34	-12.66	74	54.17	30.94	7.13	30.9	387	18	P	V
		2389.95	50.07	-3.93	54	42.88	30.94	7.13	30.88	387	18	A	V
	*	2422	100.98	-	-	93.57	31.03	7.19	30.81	387	18	P	V
	*	2420	93.89	-	-	86.48	31.03	7.19	30.81	387	18	A	V



802.11g CH 06 2437MHz		2389.56	61.64	-12.36	74	54.47	30.94	7.13	30.9	151	283	P	H
		2389.43	49.97	-4.03	54	42.8	30.94	7.13	30.9	151	283	A	H
	*	2430	104.44	-	-	97.03	31.03	7.19	30.81	151	283	P	H
	*	2430	97.44	-	-	90.03	31.03	7.19	30.81	151	283	A	H
		2483.68	58.27	-15.73	74	50.53	31.13	7.28	30.67	151	283	P	H
		2483.5	46.83	-7.17	54	39.09	31.13	7.28	30.67	151	283	A	H
		2389.82	57.23	-16.77	74	50.04	30.94	7.13	30.88	298	246	P	V
		2389.95	46.37	-7.63	54	39.18	30.94	7.13	30.88	298	246	A	V
	*	2432	101.34	-	-	93.93	31.03	7.19	30.81	298	246	P	V
	*	2432	94.36	-	-	86.95	31.03	7.19	30.81	298	246	A	V
		2485.24	55.95	-18.05	74	48.17	31.17	7.28	30.67	298	246	P	V
		2483.5	44.16	-9.84	54	36.42	31.13	7.28	30.67	298	246	A	V
802.11g CH 10 2457MHz		2484.82	64.18	-9.82	74	56.44	31.13	7.28	30.67	100	151	P	H
		2484.4	51.98	-2.02	54	44.24	31.13	7.28	30.67	100	151	A	H
	*	2460	103.97	-	-	96.36	31.1	7.25	30.74	100	151	P	H
	*	2460	97.43	-	-	89.82	31.1	7.25	30.74	100	151	A	H
		2483.86	56.97	-17.03	74	49.23	31.13	7.28	30.67	236	217	P	V
		2483.8	44.56	-9.44	54	36.82	31.13	7.28	30.67	236	217	A	V
	*	2454	95.29	-	-	87.68	31.1	7.25	30.74	236	217	P	V
	*	2454	88.46	-	-	80.85	31.1	7.25	30.74	236	217	A	V



802.11g CH 11 2462MHz	*	2460	109.68	-	-	106.33	32.96	7.22	36.83	110	93	P	H
	*	2460	102.55	-	-	99.2	32.96	7.22	36.83	110	93	A	H
		2484.88	66.39	-7.61	74	62.98	32.98	7.25	36.82	110	93	P	H
		2485.36	52.05	-1.95	54	48.64	32.98	7.25	36.82	110	93	A	H
	*	2460	103.58	-	-	100.23	32.96	7.22	36.83	304	73	P	V
	*	2460	96.79	-	-	93.44	32.96	7.22	36.83	304	73	A	V
		2486.74	62.2	-11.8	74	58.79	32.98	7.25	36.82	304	73	P	V
		2486.38	47.15	-6.85	54	43.74	32.98	7.25	36.82	304	73	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. 1+2	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 01 2412MHz		4830	45.14	-28.86	74	66.07	34.2	10.25	65.38	300	0	P	H
		7230	47.38	-28.35	75.73	64.48	35.84	12.71	65.65	300	0	P	H
		4830	51.9	-22.1	74	72.83	34.2	10.25	65.38	307	334	P	V
		4830	41.19	-12.81	54	62.12	34.2	10.25	65.38	307	334	A	V
		7230	51.49	-20.56	72.05	68.59	35.84	12.71	65.65	100	0	P	V
802.11g CH 02 2417MHz		4830	45.31	-28.69	74	65.32	34.57	10.85	65.43	100	360	P	H
		7260	47.28	-26.72	74	62.44	36.55	13.5	65.21	100	360	P	H
		4830	46.34	-27.66	74	66.35	34.57	10.85	65.43	100	0	P	V
		7260	50	-24	74	65.16	36.55	13.5	65.21	100	0	P	V
802.11g CH 06 2437MHz		4875	52.96	-21.04	74	72.87	34.66	10.87	65.44	363	346	P	H
		4875	49.64	-4.36	54	69.55	34.66	10.87	65.44	363	346	A	H
		7320	49.5	-24.5	74	64.7	36.56	13.49	65.25	300	0	P	H
		4875	57.71	-16.29	74	77.62	34.66	10.87	65.44	382	348	P	V
		4875	49.21	-4.79	54	69.12	34.66	10.87	65.44	382	348	A	V
		7320	53.04	-20.96	74	68.24	36.56	13.49	65.25	267	0	P	V
		7320	45.91	-8.09	54	61.11	36.56	13.49	65.25	267	0	A	V



802.11g CH 10 2457MHz		4905	44.71	-29.29	74	64.55	34.72	10.88	65.44	100	0	P	H
		7365	47.17	-26.83	74	62.4	36.57	13.48	65.28	100	0	P	H
		4905	50.3	-23.7	74	70.14	34.72	10.88	65.44	300	0	P	V
		7365	52.81	-21.19	74	68.04	36.57	13.48	65.28	300	178	P	V
		7365	46.41	-7.59	54	61.64	36.57	13.48	65.28	300	178	A	V
802.11g CH 11 2462MHz		4920	47.08	-26.92	74	67.93	34.26	10.34	65.45	300	0	P	H
		7380	45.56	-28.44	74	63.06	35.88	12.73	66.11	300	0	P	H
		4920	49.99	-24.01	74	70.84	34.26	10.34	65.45	100	0	P	V
		7380	48.51	-25.49	74	66.01	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 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1+2	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 01 2412MHz		2389.17	64.54	-9.46	74	61.42	32.88	7.1	36.86	163	286	P	H
		2389.95	52.95	-1.05	54	49.83	32.88	7.1	36.86	163	286	A	H
	*	2418	107.75	-	-	104.54	32.9	7.16	36.85	163	286	P	H
	*	2418	100.97	-	-	97.76	32.9	7.16	36.85	163	286	A	H
		2389.95	66.87	-7.13	74	63.75	32.88	7.1	36.86	119	60	P	V
		2389.3	51.66	-2.34	54	48.54	32.88	7.1	36.86	119	60	A	V
	*	2420	103.52	-	-	100.29	32.92	7.16	36.85	119	60	P	V
	*	2420	96.46	-	-	93.23	32.92	7.16	36.85	119	60	A	V
802.11n HT20 CH 02 2417MHz		2386.96	62.15	-11.85	74	54.98	30.94	7.13	30.9	100	267	P	H
		2386.7	49.38	-4.62	54	42.21	30.94	7.13	30.9	100	267	A	H
	*	2422	106.07	-	-	98.66	31.03	7.19	30.81	100	267	P	H
	*	2422	99.26	-	-	91.85	31.03	7.19	30.81	100	267	A	H
		2389.82	64.85	-9.15	74	57.66	30.94	7.13	30.88	380	220	P	V
		2389.95	52.57	-1.43	54	45.38	30.94	7.13	30.88	380	220	A	V
	*	2420	106.15	-	-	98.74	31.03	7.19	30.81	380	220	P	V
	*	2420	97.84	-	-	90.43	31.03	7.19	30.81	380	220	A	V



802.11n HT20 CH 06 2437MHz		2389.95	66.15	-7.85	74	58.96	30.94	7.13	30.88	129	342	P	H
		2389.95	53.21	-0.79	54	46.02	30.94	7.13	30.88	129	342	A	H
	*	2434	106.29	-	-	98.84	31.07	7.19	30.81	129	342	P	H
	*	2434	98.74	-	-	91.29	31.07	7.19	30.81	129	342	A	H
		2483.68	69.39	-4.61	74	61.65	31.13	7.28	30.67	129	342	P	H
		2483.5	50.73	-3.27	54	42.99	31.13	7.28	30.67	129	342	A	H
		2389.69	63.66	-10.34	74	56.49	30.94	7.13	30.9	379	243	P	V
		2389.95	50.55	-3.45	54	43.36	30.94	7.13	30.88	379	243	A	V
	*	2430	105.18	-	-	97.77	31.03	7.19	30.81	379	243	P	V
	*	2430	98.21	-	-	90.8	31.03	7.19	30.81	379	243	A	V
		2484.94	58.44	-15.56	74	50.7	31.13	7.28	30.67	379	243	P	V
		2483.5	44.25	-9.75	54	36.51	31.13	7.28	30.67	379	243	A	V
802.11n HT20 CH 09 2452MHz		2484.1	68.7	-5.3	74	60.96	31.13	7.28	30.67	205	92	P	H
		2485.72	53.07	-0.93	54	45.29	31.17	7.28	30.67	205	92	A	H
	*	2456	107.36	-	-	99.75	31.1	7.25	30.74	205	92	P	H
	*	2456	100.06	-	-	92.45	31.1	7.25	30.74	205	92	A	H
		2484.34	61.34	-12.66	74	53.6	31.13	7.28	30.67	332	254	P	V
		2484.82	47.92	-6.08	54	40.18	31.13	7.28	30.67	332	254	A	V
	*	2456	102.31	-	-	94.7	31.1	7.25	30.74	332	254	P	V
	*	2456	95.35	-	-	87.74	31.1	7.25	30.74	332	254	A	V



802.11n HT20 CH 10 2457MHz	*	2484.4	65.2	-8.8	74	57.46	31.13	7.28	30.67	100	91	P	H
	*	2483.5	52.67	-1.33	54	44.93	31.13	7.28	30.67	100	91	A	H
		2462	106.67	-	-	99.06	31.1	7.25	30.74	100	91	P	H
		2462	98.86	-	-	91.25	31.1	7.25	30.74	100	91	A	H
	*	2485.9	57.63	-16.37	74	49.85	31.17	7.28	30.67	366	15	P	V
	*	2486.5	45.45	-8.55	54	37.67	31.17	7.28	30.67	366	15	A	V
		2458	101.42	-	-	93.81	31.1	7.25	30.74	366	15	P	V
		2458	94.05	-	-	86.44	31.1	7.25	30.74	366	15	A	V
802.11n HT20 CH 11 2462MHz	*	2458	110.41	-	-	107.06	32.96	7.22	36.83	107	87	P	H
	*	2458	102.55	-	-	99.2	32.96	7.22	36.83	107	87	A	H
		2485.3	65.19	-8.81	74	61.78	32.98	7.25	36.82	107	87	P	H
		2485.48	52.79	-1.21	54	49.38	32.98	7.25	36.82	107	87	A	H
	*	2460	102.69	-	-	99.34	32.96	7.22	36.83	100	62	P	V
	*	2460	95.79	-	-	92.44	32.96	7.22	36.83	100	62	A	V
		2483.62	53.9	-20.1	74	50.49	32.98	7.25	36.82	100	62	P	V
		2483.5	41.87	-12.13	54	38.46	32.98	7.25	36.82	100	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 HT20 (Harmonic @ 3m)

WIFI Ant. 1+2	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 01 2412MHz		4830	45.32	-28.68	74	66.25	34.2	10.25	65.38	300	0	P	H
		7230	48.08	-28.16	76.24	65.18	35.84	12.71	65.65	300	0	P	H
		4830	54.42	-19.58	74	75.35	34.2	10.25	65.38	286	339	P	V
		4830	41.38	-12.62	54	62.31	34.2	10.25	65.38	286	339	A	V
		7230	53.1	-20.27	73.37	70.2	35.84	12.71	65.65	100	0	P	V
802.11n HT20 CH 02 2417MHz		4830	48.79	-25.21	74	68.8	34.57	10.85	65.43	300	360	P	H
		7260	53.59	-20.41	74	68.75	36.55	13.5	65.21	127	258	P	H
		7260	46.41	-7.59	54	61.57	36.55	13.5	65.21	127	258	A	H
		4830	56.14	-17.86	74	76.15	34.57	10.85	65.43	347	337	P	V
		4830	45.46	-8.54	54	65.47	34.57	10.85	65.43	347	337	A	V
		7260	56.02	-17.98	74	71.18	36.55	13.5	65.21	341	359	P	V
		7260	49.39	-4.61	54	64.55	36.55	13.5	65.21	341	359	A	V
802.11n HT20 CH 06 2437MHz		4875	53.95	-20.05	74	73.86	34.66	10.87	65.44	145	49	P	H
		4875	45.54	-8.46	54	65.45	34.66	10.87	65.44	145	49	A	H
		7305	51.97	-22.03	74	67.16	36.56	13.49	65.24	341	45	P	H
		7305	44.29	-9.71	54	59.48	36.56	13.49	65.24	341	45	A	H
		4875	58.71	-15.29	74	78.62	34.66	10.87	65.44	343	349	P	V
		4875	50.62	-3.38	54	70.53	34.66	10.87	65.44	343	349	A	V
		7320	58.94	-15.06	74	74.14	36.56	13.49	65.25	300	147	P	V
		7320	47.2	-6.8	54	62.4	36.56	13.49	65.25	300	147	A	V



802.11n HT20 CH 09 2452MHz		4905	48.57	-25.43	74	68.41	34.72	10.88	65.44	100	360	P	H
		7350	50.48	-23.52	74	65.71	36.57	13.48	65.28	100	360	P	H
		4905	54.51	-19.49	74	74.35	34.72	10.88	65.44	300	57	P	V
		4905	48.69	-5.31	54	68.53	34.72	10.88	65.44	300	57	A	V
		7350	54.96	-19.04	74	70.19	36.57	13.48	65.28	364	117	P	V
		7350	47.04	-6.96	54	62.27	36.57	13.48	65.28	364	117	A	V
802.11n HT20 CH 10 2457MHz		4905	45.94	-28.06	74	65.78	34.72	10.88	65.44	100	0	P	H
		7365	47.39	-26.61	74	62.62	36.57	13.48	65.28	100	0	P	H
		4905	52.39	-21.61	74	72.23	34.72	10.88	65.44	326	47	P	V
		4905	46.29	-7.71	54	66.13	34.72	10.88	65.44	326	47	A	V
		7365	54.62	-19.38	74	69.85	36.57	13.48	65.28	273	217	P	V
		7365	47.24	-6.76	54	62.47	36.57	13.48	65.28	273	217	A	V
802.11n HT20 CH 11 2462MHz		4920	43.63	-30.37	74	64.48	34.26	10.34	65.45	300	0	P	H
		7380	44.14	-29.86	74	61.64	35.88	12.73	66.11	300	0	P	H
		4920	47.74	-26.26	74	68.59	34.26	10.34	65.45	100	0	P	V
		7380	47.72	-26.28	74	65.22	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

Emission below 1GHz

2.4GHz WIFI 802.11n HT20 (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.
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11n HT20 LF		101.78	33.49	-10.01	43.5	48.22	16	1.47	32.2			P	H
		186.17	36.96	-6.54	43.5	52.47	14.6	1.99	32.1			P	H
		223.03	38.68	-7.32	46	53.21	15.44	2.18	32.15			P	H
		334.58	27.06	-18.94	46	36.76	19.8	2.67	32.17			P	H
		450.01	31.6	-14.4	46	37.91	22.8	3.09	32.2			P	H
		494.63	31.52	-14.48	46	36.96	23.7	3.24	32.38			P	H
		35.82	31.29	-8.71	40	41.2	21.7	0.57	32.18			P	V
		98.87	31.53	-11.97	43.5	46.78	15.5	1.45	32.2			P	V
		141.55	37	-6.5	43.5	50	17.4	1.72	32.12			P	V
		182.29	38.09	-5.41	43.5	53.63	14.6	1.96	32.1			P	V
		219.15	39.07	-6.93	46	53.93	15.12	2.16	32.14			P	V
		300.63	27	-19	46	37.36	19.2	2.54	32.1			P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



Co-location

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20&Part 96 Band48 (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.
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 06 2437MHz		2389.95	59.89	-14.11	74	52.7	30.94	7.13	30.88	150	326	P	H
		2389.95	47.85	-6.15	54	40.66	30.94	7.13	30.88	150	326	A	H
		2483.98	60.43	-13.57	74	52.69	31.13	7.28	30.67	150	326	P	H
		2483.5	47.78	-6.22	54	40.04	31.13	7.28	30.67	150	326	A	H
	*	2434	106.19	-	-	98.74	31.07	7.19	30.81	150	326	P	H
	*	2434	98.54	-	-	91.09	31.07	7.19	30.81	150	326	A	H
		2389.95	57.44	-16.56	74	50.25	30.94	7.13	30.88	381	276	P	V
		2389.95	45.84	-8.16	54	38.65	30.94	7.13	30.88	381	276	A	V
		2485	54.39	-19.61	74	46.65	31.13	7.28	30.67	381	276	P	V
		2483.5	43.69	-10.31	54	35.95	31.13	7.28	30.67	381	276	A	V
	*	2430	103.08	-	-	95.67	31.03	7.19	30.81	381	276	P	V
	*	2432	95.93	-	-	88.52	31.03	7.19	30.81	381	276	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 802.11n HT20 &Part 96 Band48 (Harmonic @ 3m)

WIFI Ant. 1+2	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 06 2437MHz		4875	49.7	-24.3	74	69.61	34.66	10.87	65.44	300	161	P	H
		7305	48.87	-25.13	74	64.06	36.56	13.49	65.24	300	161	P	H
		4875	55.5	-18.5	74	75.41	34.66	10.87	65.44	343	327	P	V
		4875	46.44	-7.56	54	66.35	34.66	10.87	65.44	343	327	A	V
		7320	54.69	-19.31	74	69.89	36.56	13.49	65.25	328	360	P	V
		7320	44.48	-9.52	54	59.68	36.56	13.49	65.25	328	360	A	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.	
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)

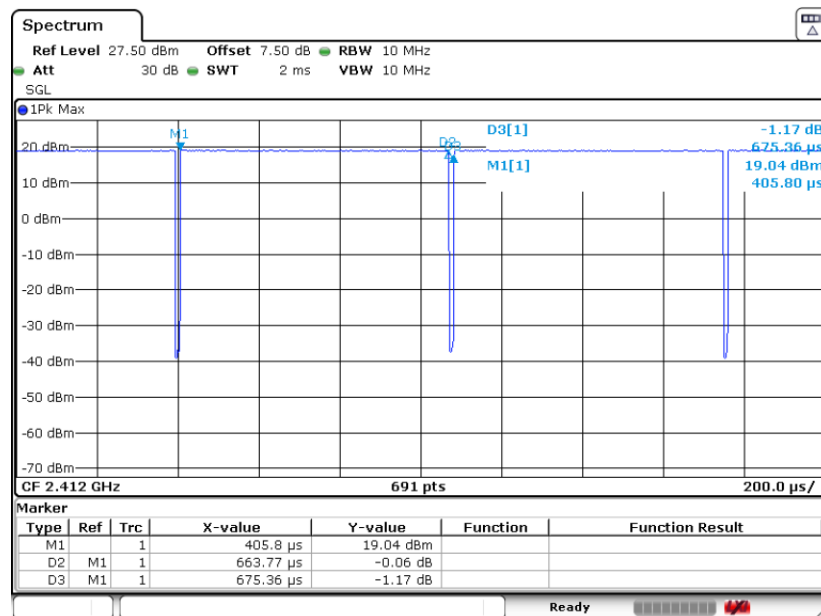
= -10.46(dB)

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

Appendix D. Duty Cycle Plots

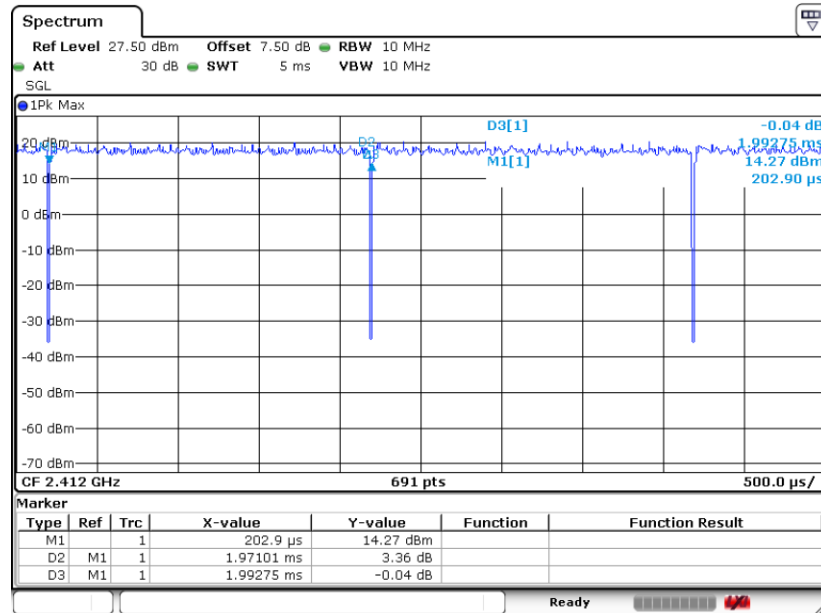
Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11b	98.28	-	-	10Hz
802.11g	98.91	-	-	10Hz
802.11n HT20	100	-	-	10Hz

802.11b





802.11g



802.11n HT20

