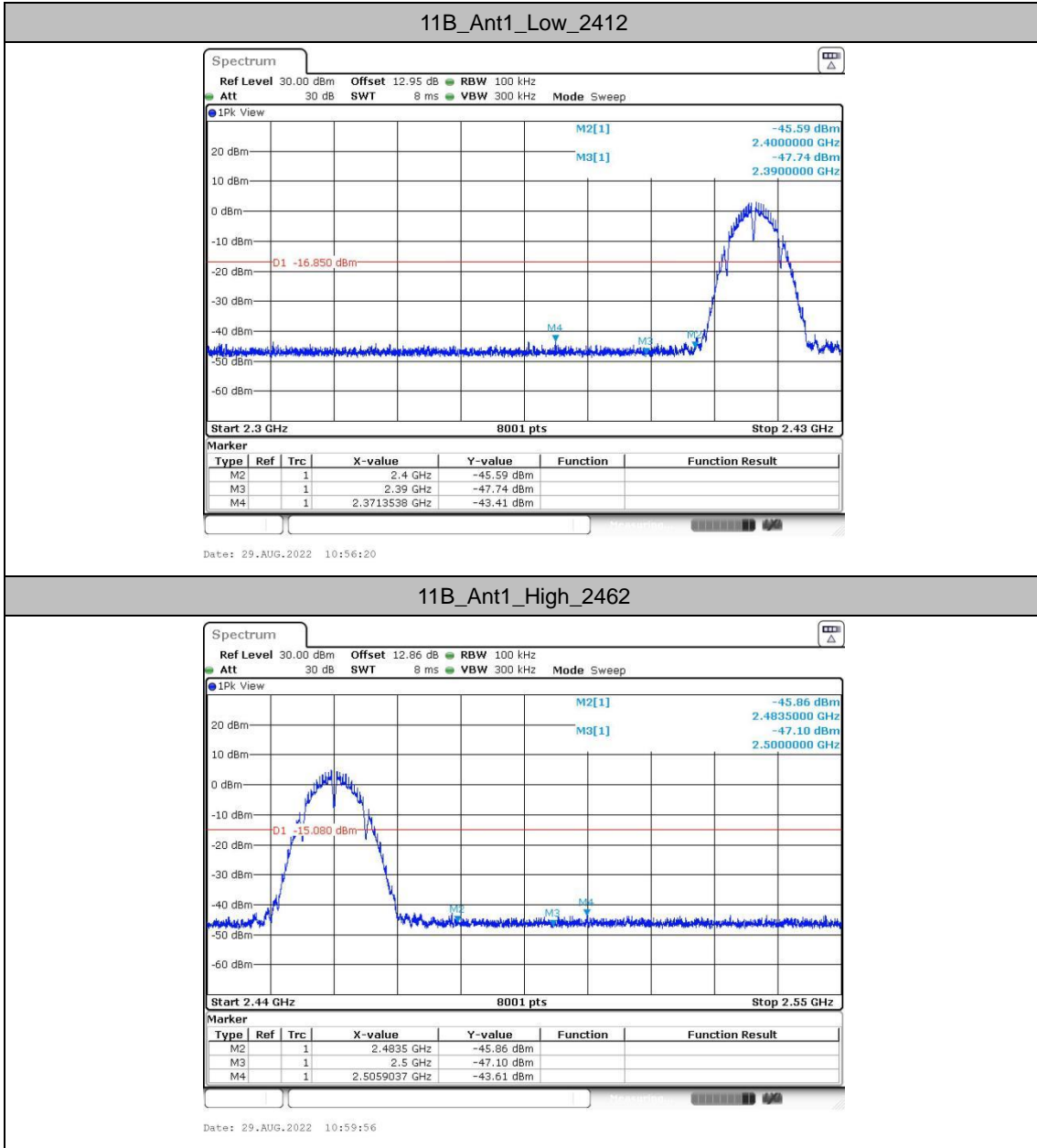
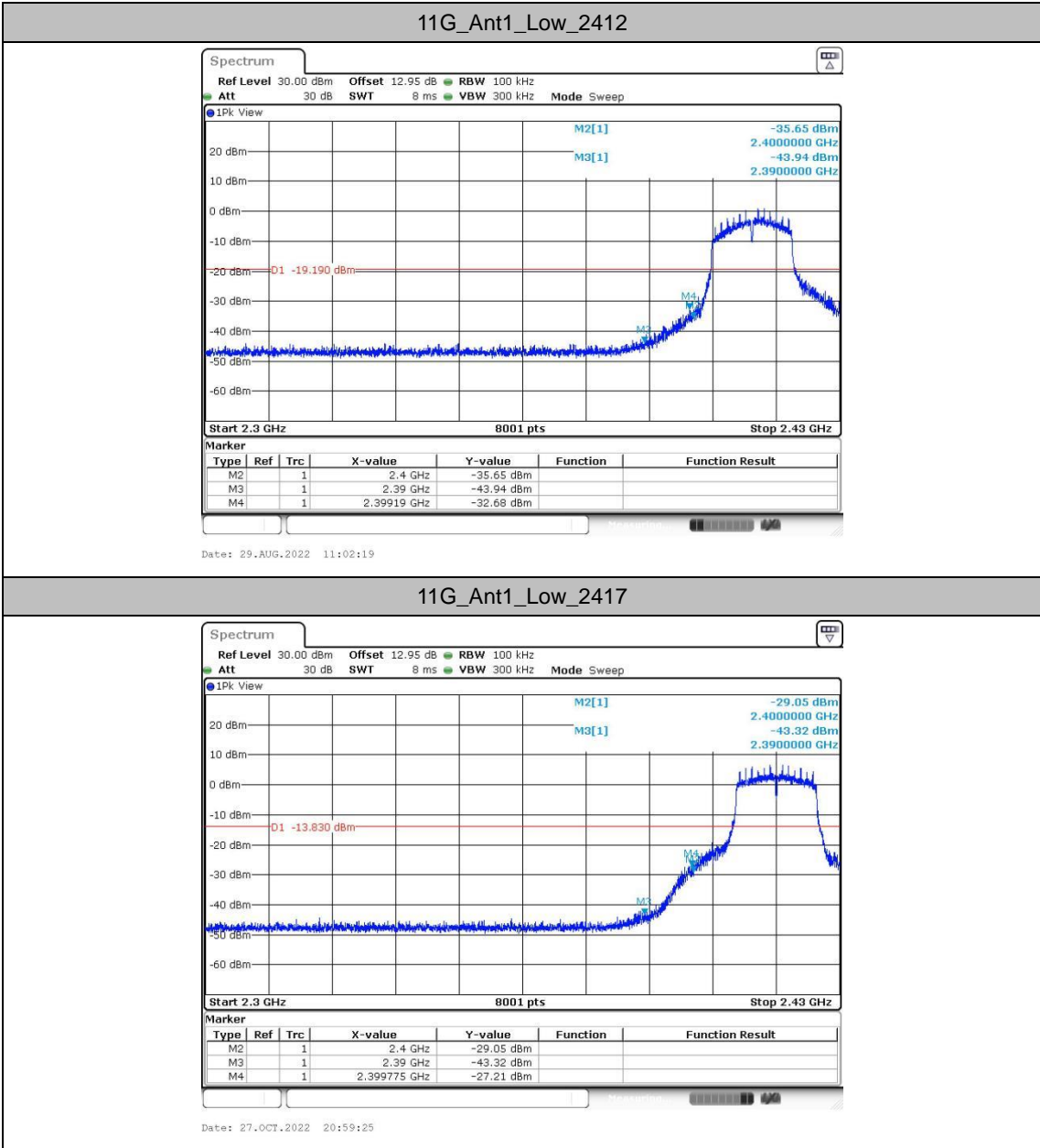
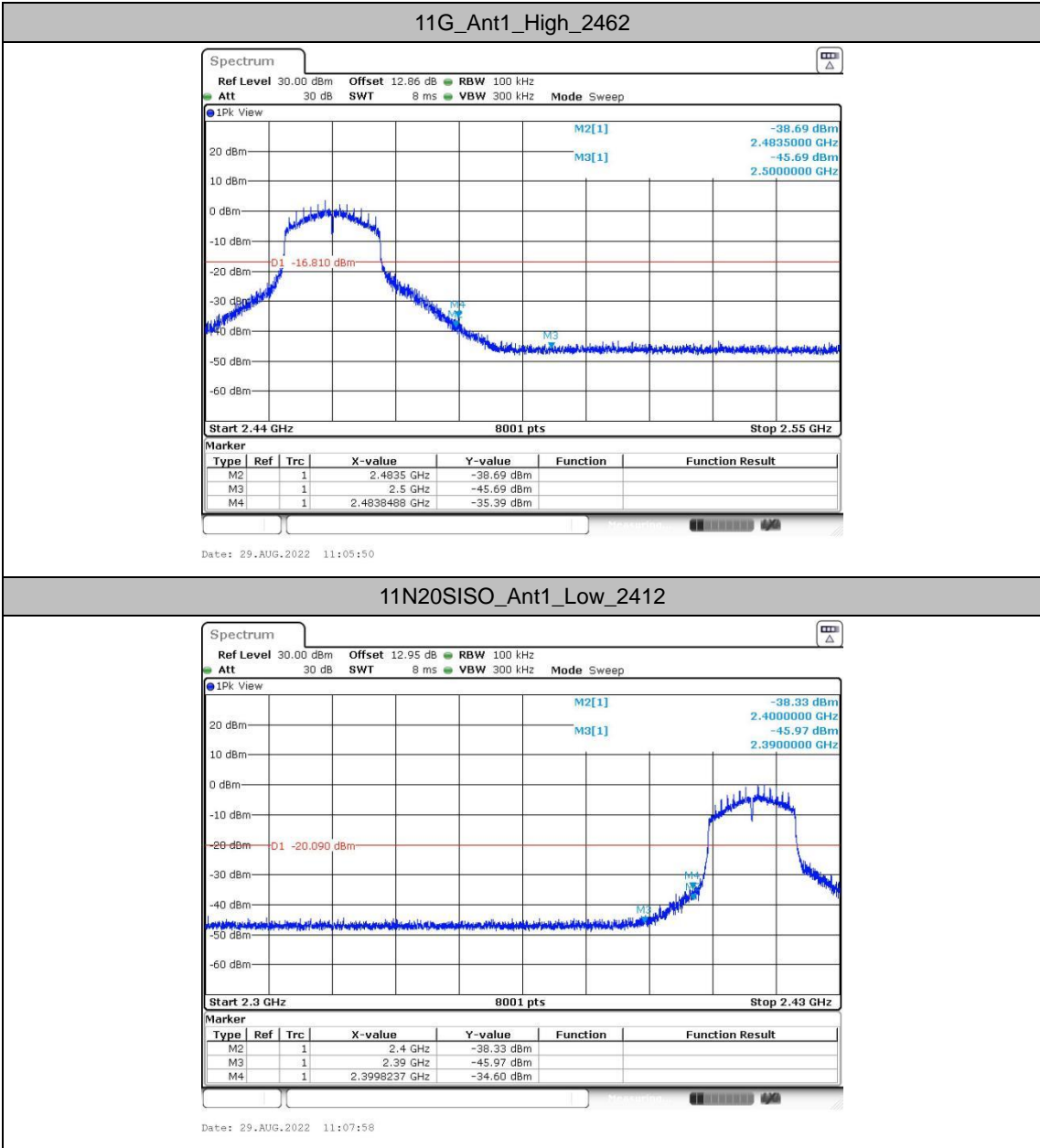


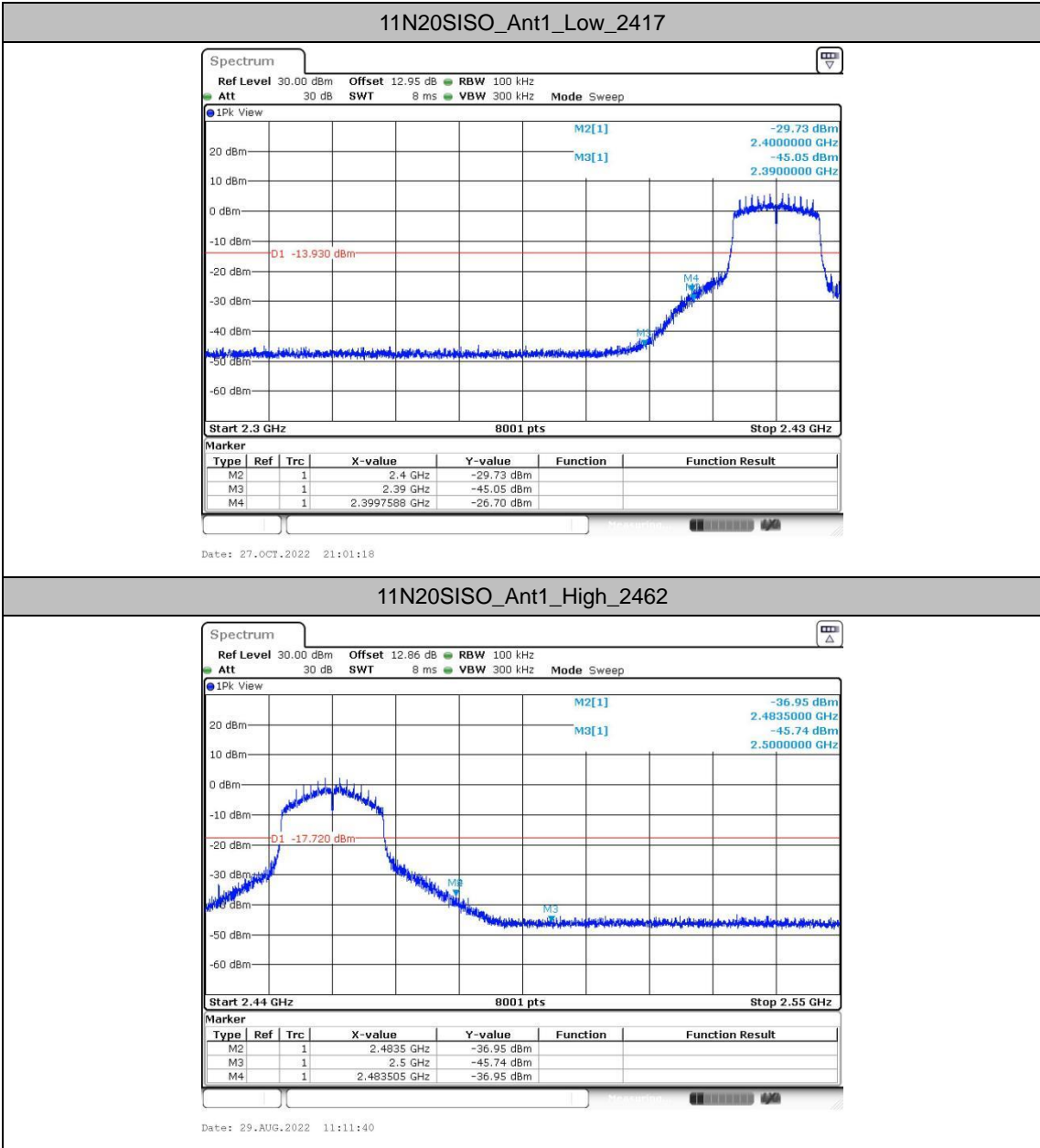


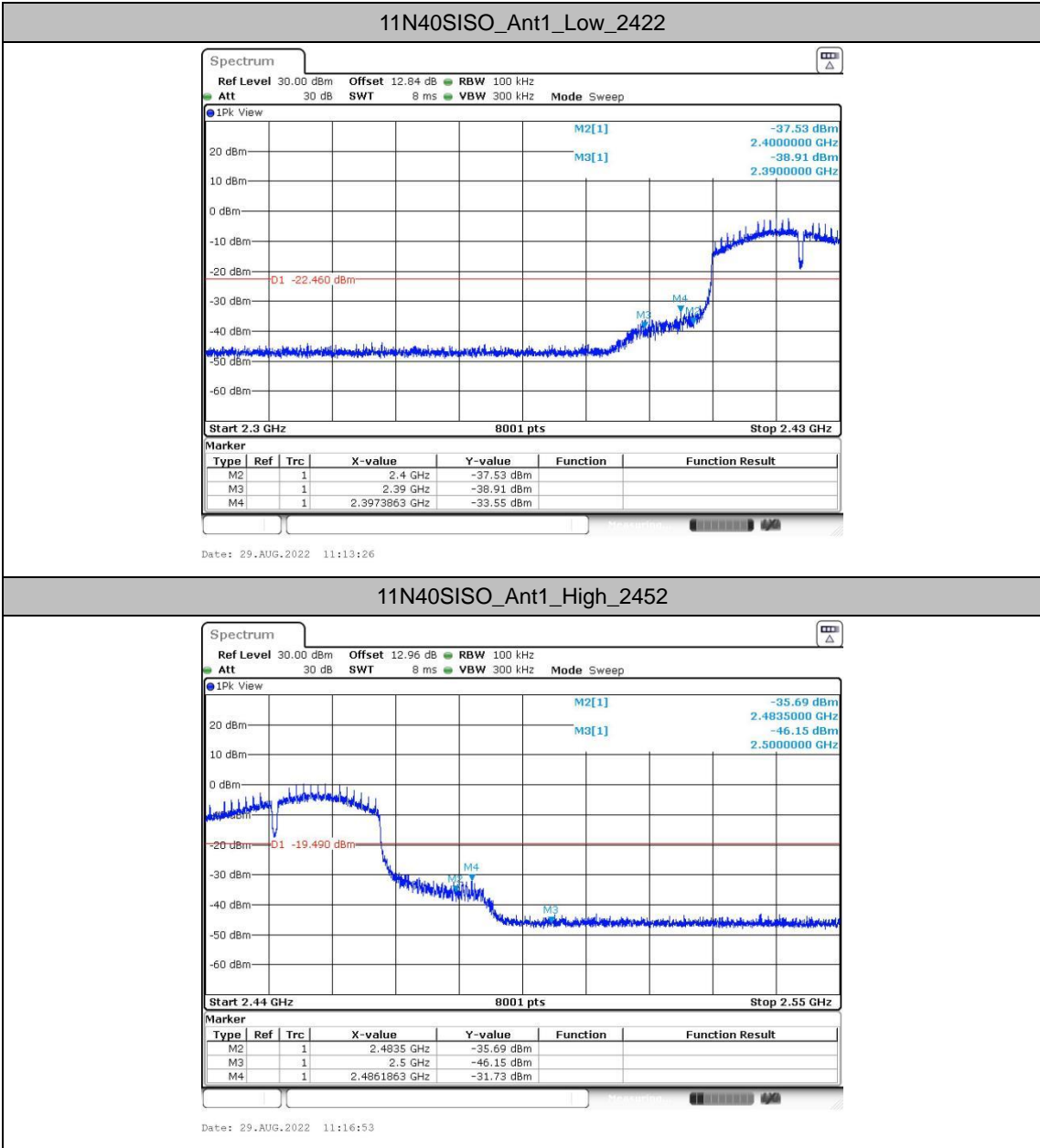
Test Graphs






11N20SISO_Ant1_Low_2412





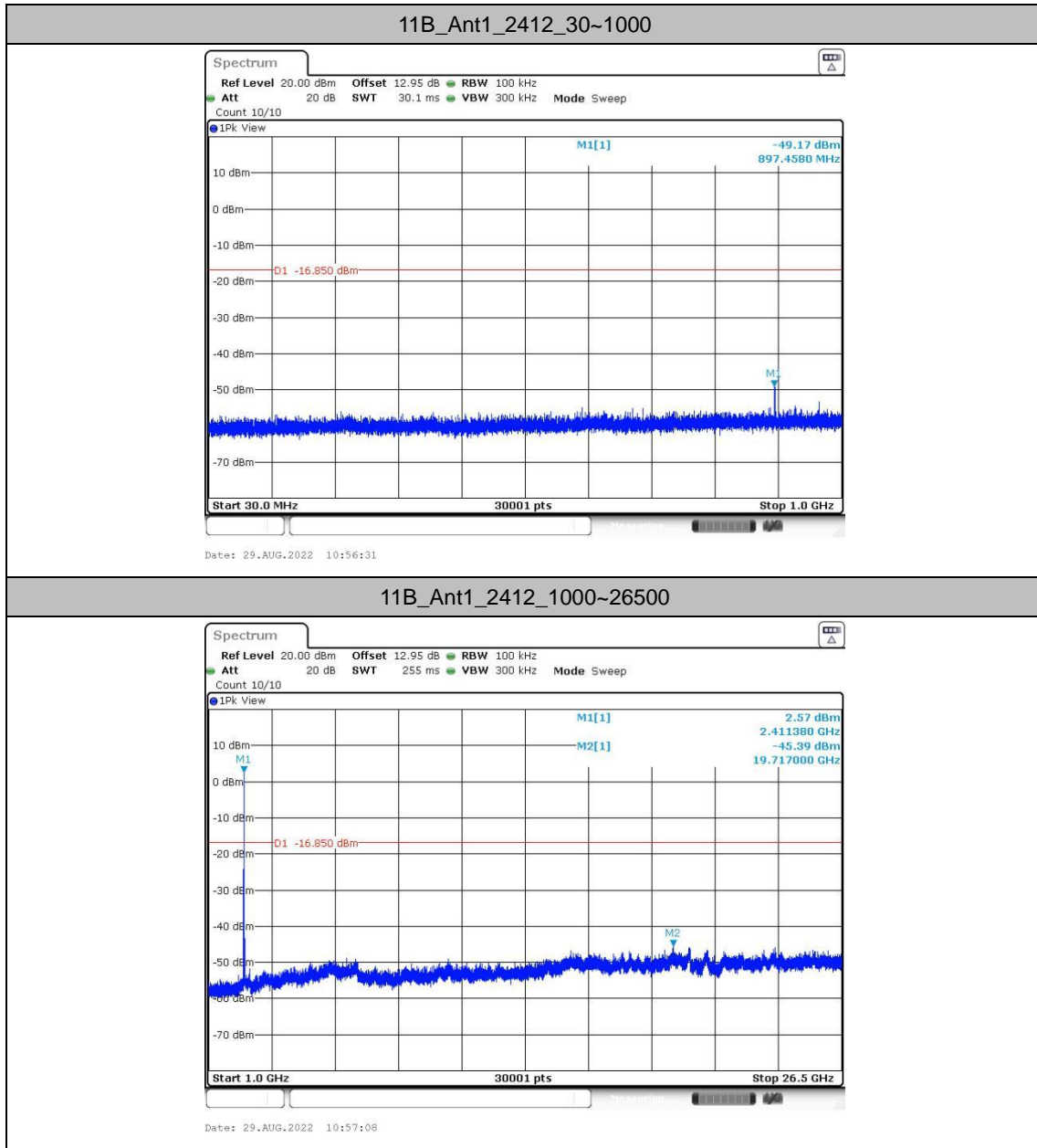
Conducted Spurious Emission

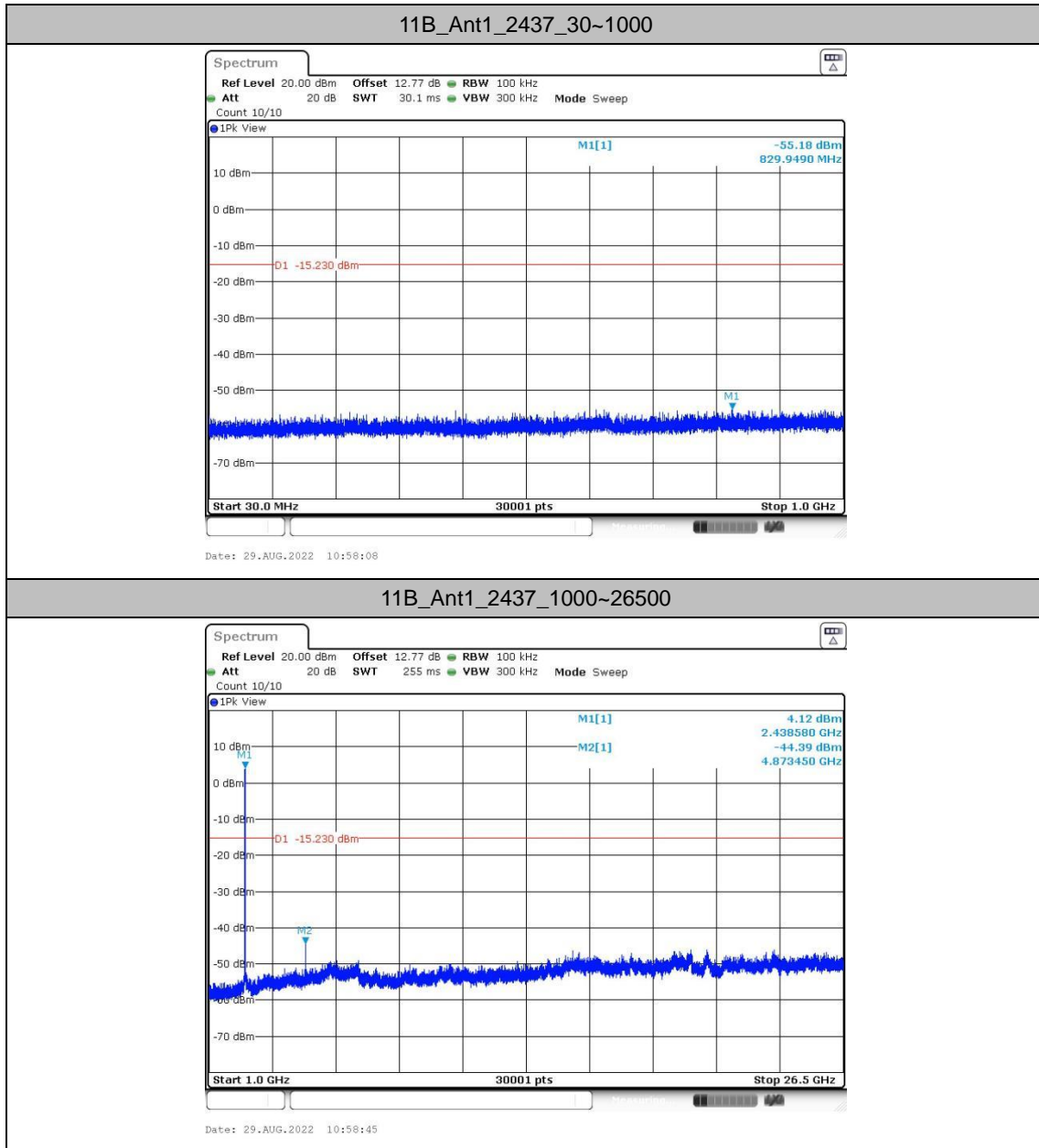
Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [Mhz]	RefLevel [dBm/100KHz]	Result [dBm/100KHz]	Limit [dBm/100KHz]	Verdict		
11B	Ant1	2412	30~1000	3.15	-49.17	≤-16.85	PASS		
			1000~26500	3.15	-45.39	≤-16.85	PASS		
		2437	30~1000	4.77	-55.18	≤-15.23	PASS		
			1000~26500	4.77	-44.39	≤-15.23	PASS		
		2462	30~1000	4.92	-54.64	≤-15.08	PASS		
			1000~26500	4.92	-45.74	≤-15.08	PASS		
11G	Ant1	2412	30~1000	0.81	-39.16	≤-19.19	PASS		
			1000~26500	0.81	-45.98	≤-19.19	PASS		
		2417	30~1000	6.17	-55.12	≤-13.83	PASS		
			1000~26500	6.17	-45.96	≤-13.83	PASS		
		2437	30~1000	6.78	-47.12	≤-13.22	PASS		
			1000~26500	6.78	-46.31	≤-13.22	PASS		
		2462	30~1000	3.19	-54.43	≤-16.81	PASS		
			1000~26500	3.19	-45.29	≤-16.81	PASS		
		11N20SISO	Ant1	2412	30~1000	-0.09	-54.1	≤-20.09	PASS
					1000~26500	-0.09	-45.8	≤-20.09	PASS
				2417	30~1000	6.07	-45.87	≤-13.93	PASS
					1000~26500	6.07	-46.4	≤-13.93	PASS
2437	30~1000			5.68	-41.45	≤-14.32	PASS		
	1000~26500			5.68	-45.59	≤-14.32	PASS		
2462	30~1000			2.28	-54.9	≤-17.72	PASS		
	1000~26500			2.28	-45.61	≤-17.72	PASS		
11N40SISO	Ant1			2422	30~1000	-2.46	-54.56	≤-22.46	PASS
					1000~26500	-2.46	-45.04	≤-22.46	PASS
		2437	30~1000	-3.25	-55.37	≤-23.25	PASS		
			1000~26500	-3.25	-45.58	≤-23.25	PASS		
		2452	30~1000	0.51	-54.78	≤-19.49	PASS		
			1000~26500	0.51	-45.9	≤-19.49	PASS		



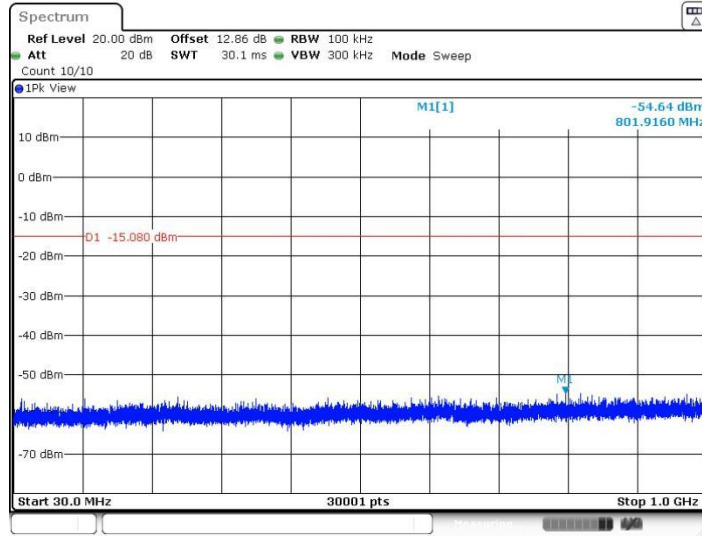
Test Graphs





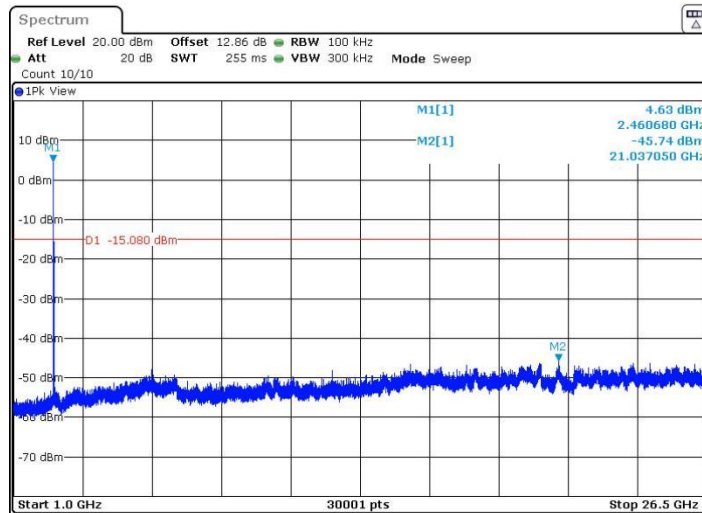


11B_Ant1_2462_30~1000

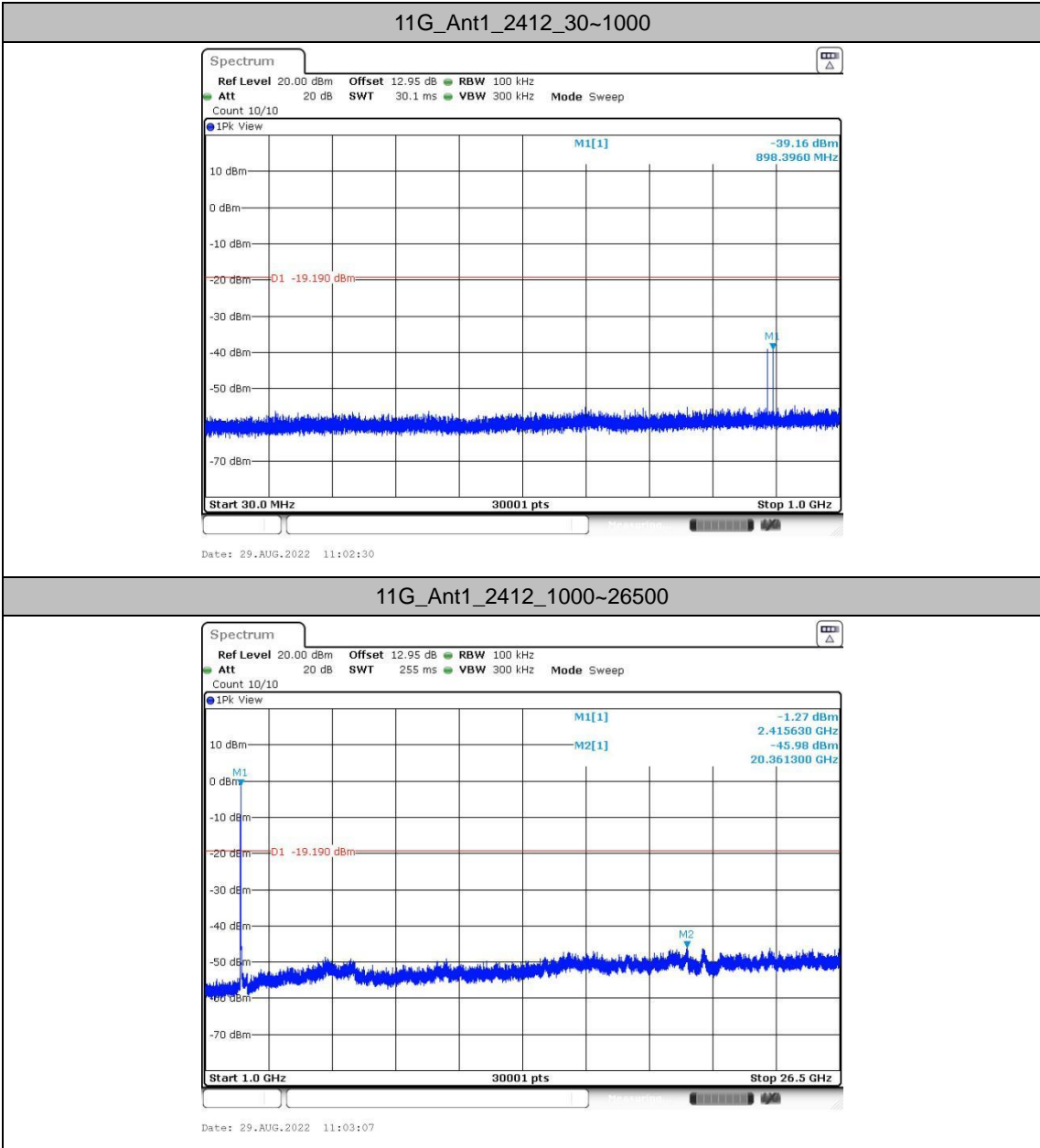


Date: 29.AUG.2022 11:00:05

11B_Ant1_2462_1000~26500

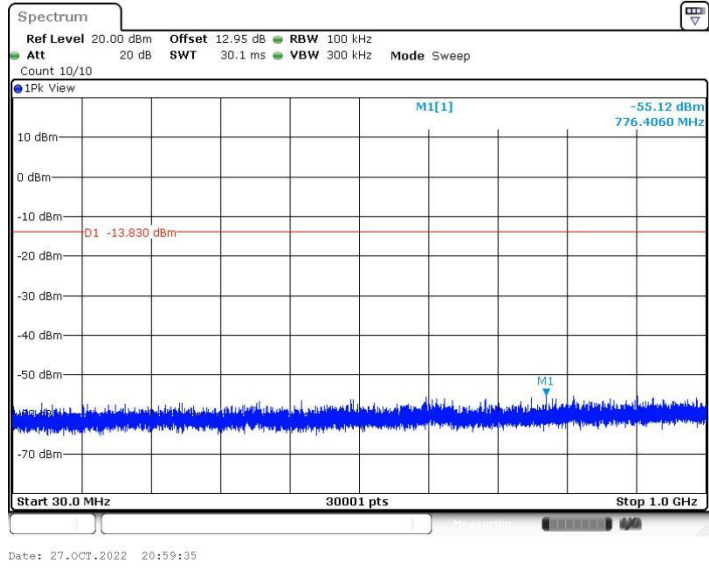


Date: 29.AUG.2022 11:00:42

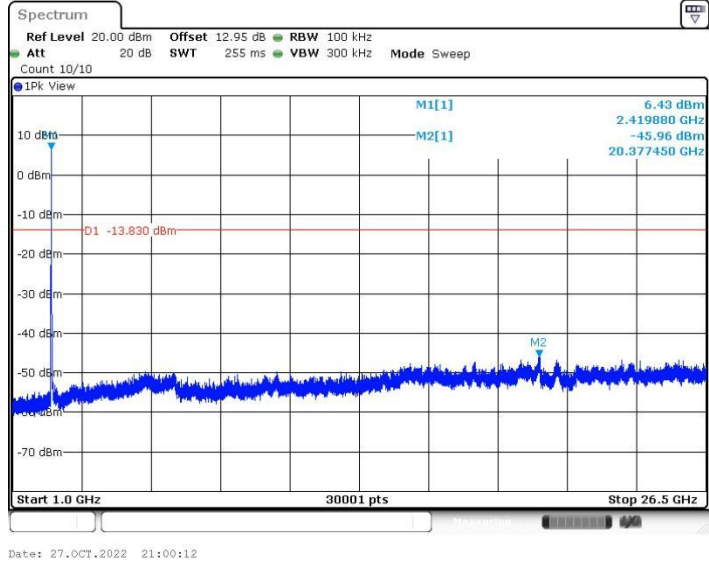


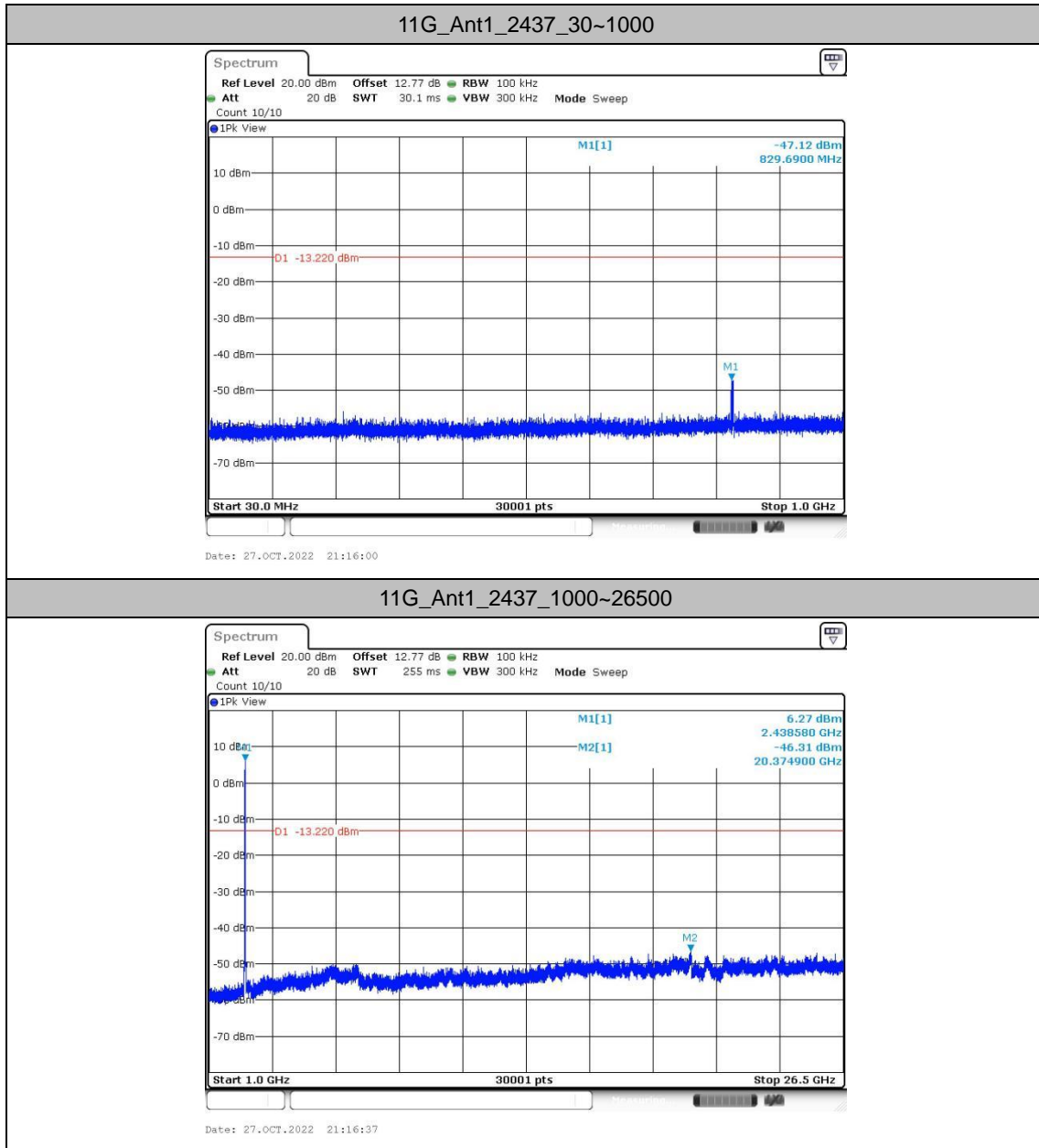


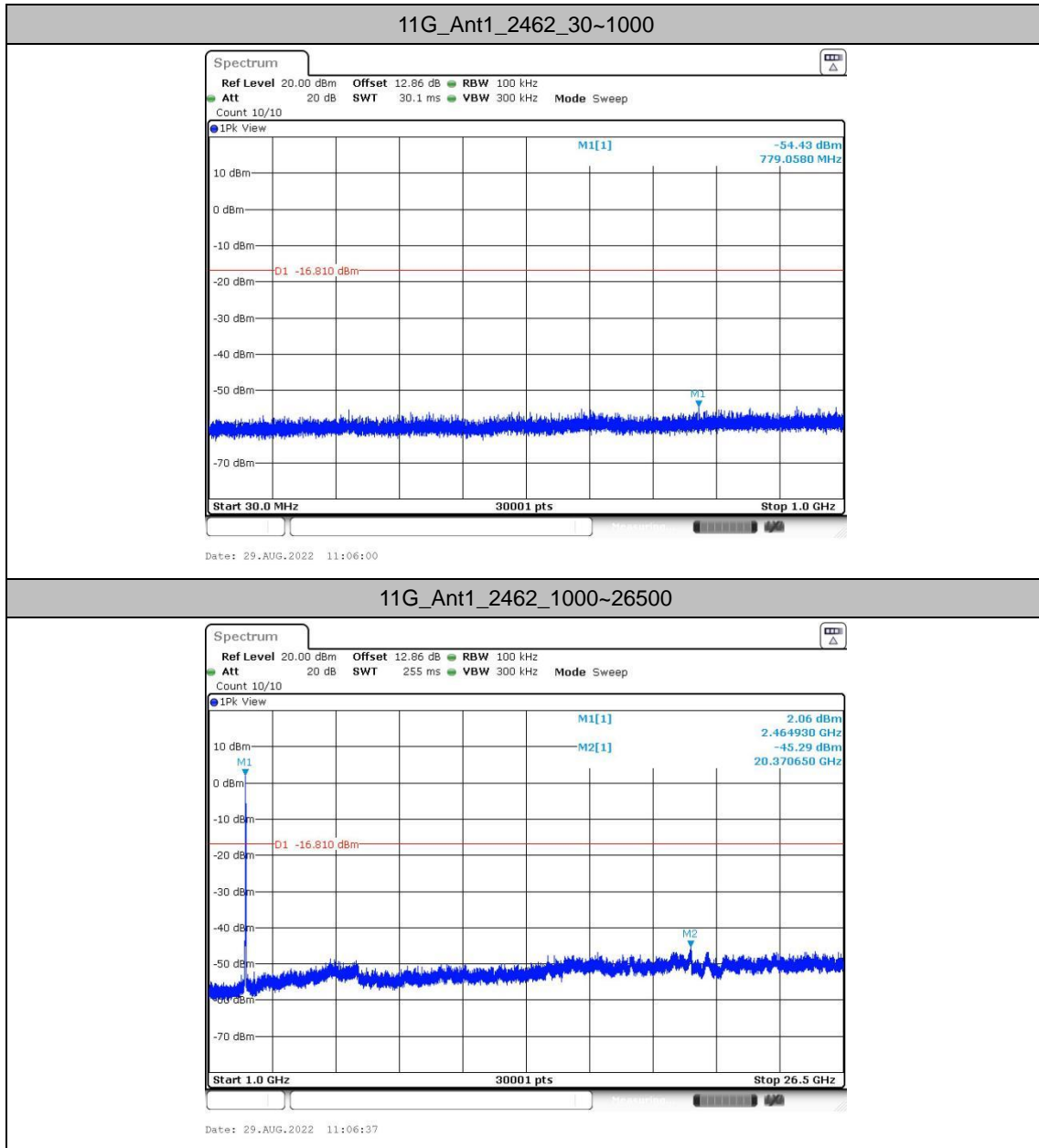
11G_Ant1_2417_30~1000



11G_Ant1_2417_1000~26500

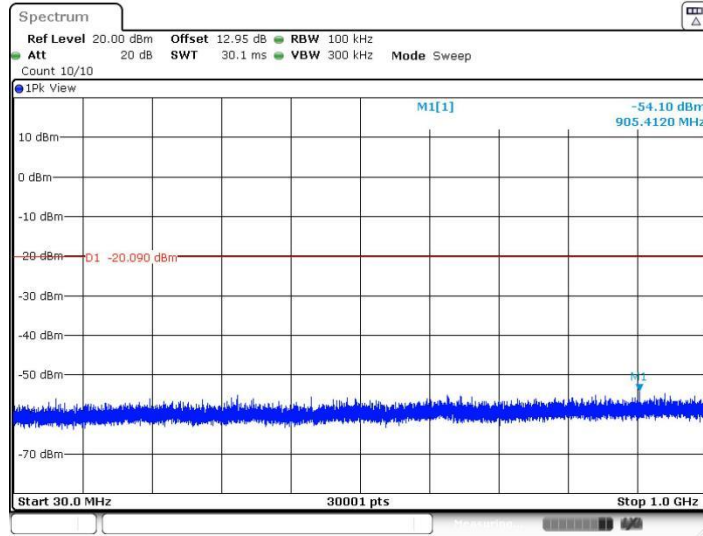




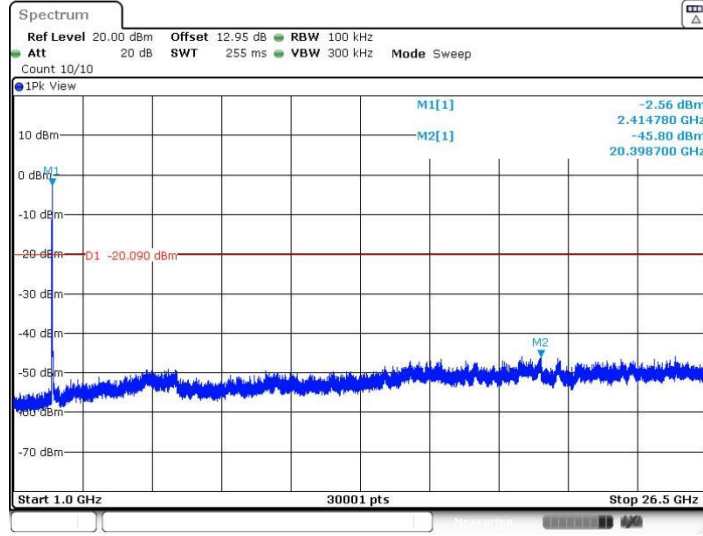


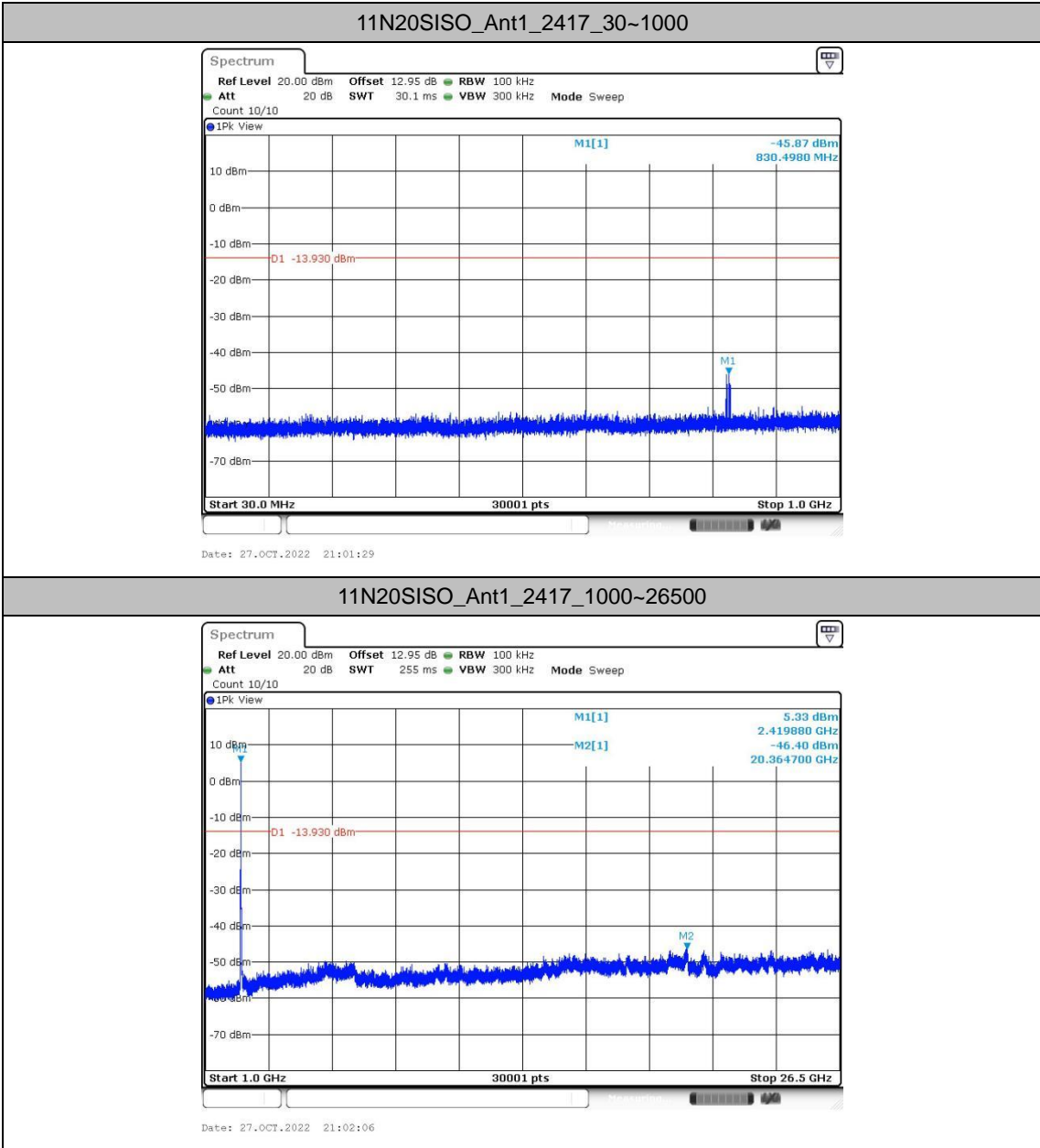


11N20SISO_Ant1_2412_30~1000



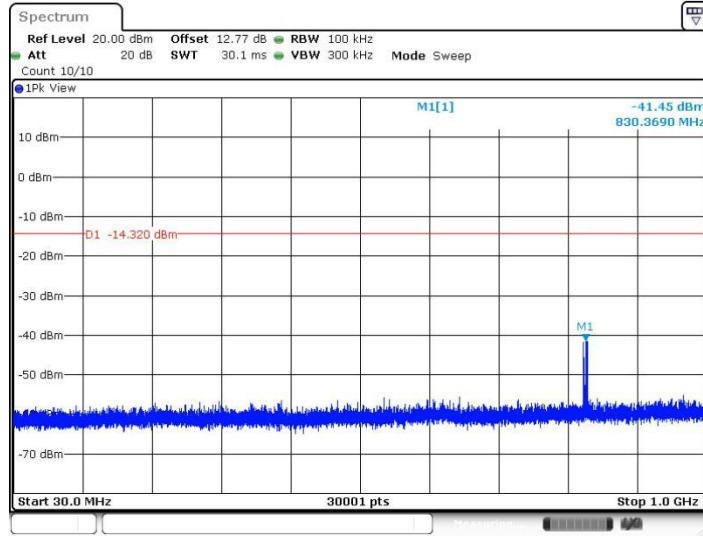
11N20SISO_Ant1_2412_1000~26500





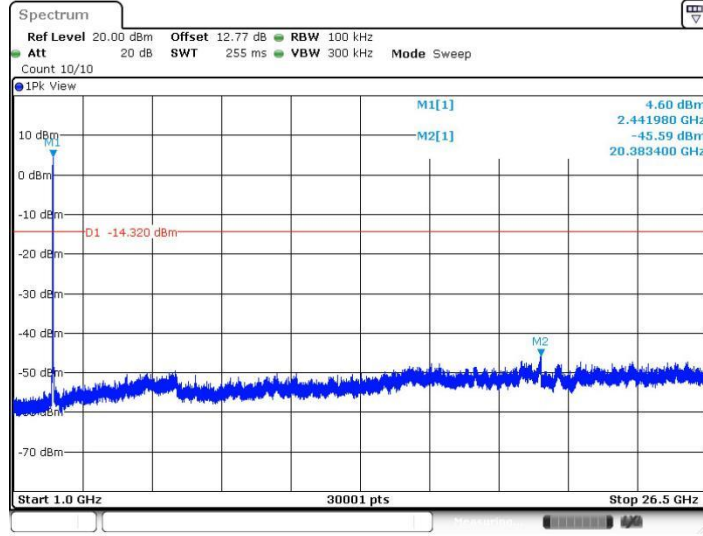


11N20SISO_Ant1_2437_30~1000



Date: 27.OCT.2022 21:17:35

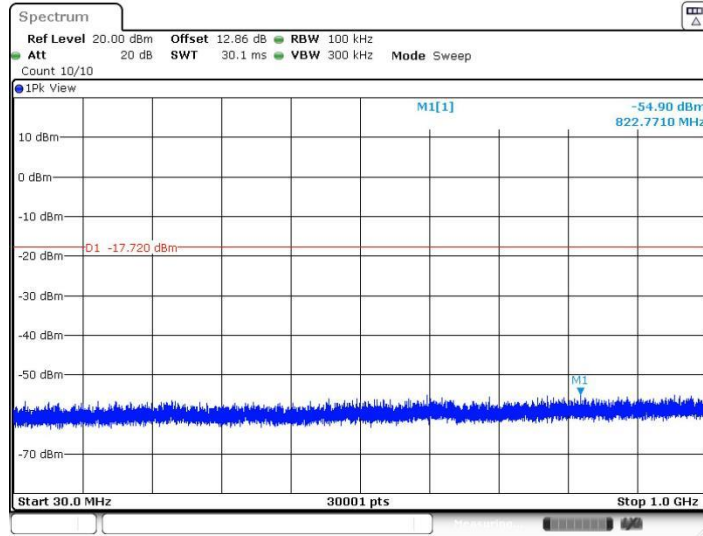
11N20SISO_Ant1_2437_1000~26500



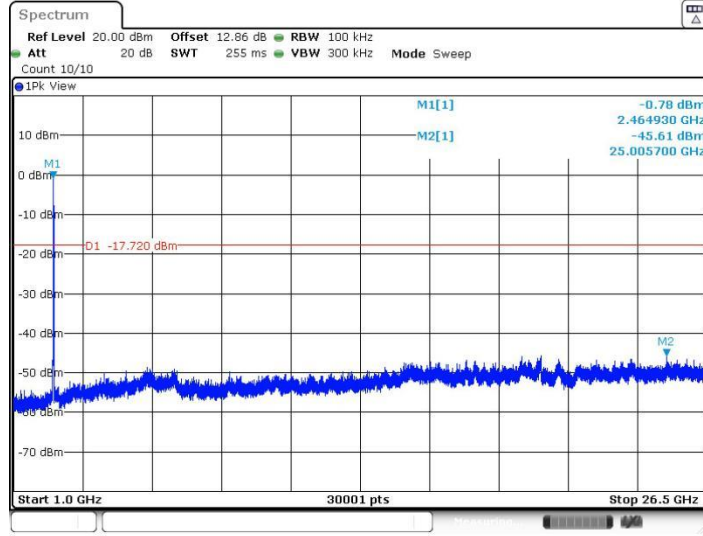
Date: 27.OCT.2022 21:18:12



11N20SISO_Ant1_2462_30~1000

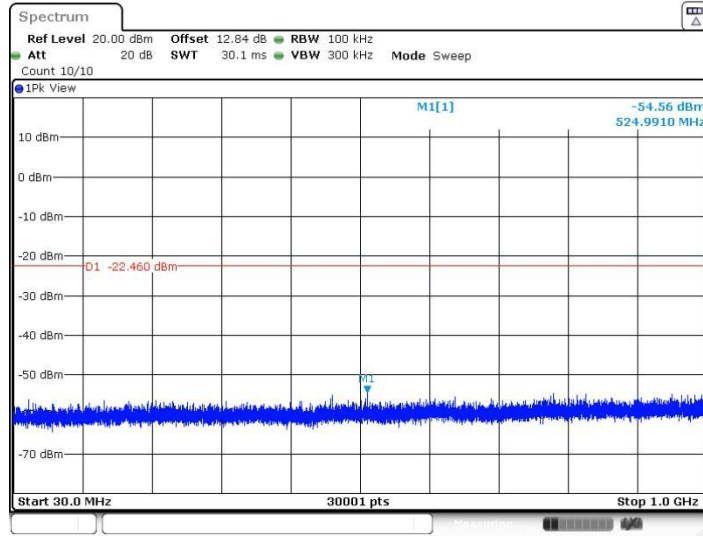


11N20SISO_Ant1_2462_1000~26500

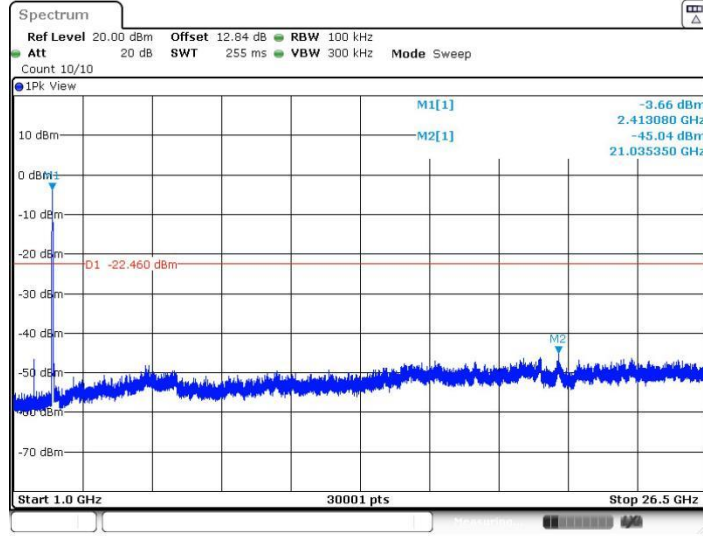




11N40SISO_Ant1_2422_30~1000

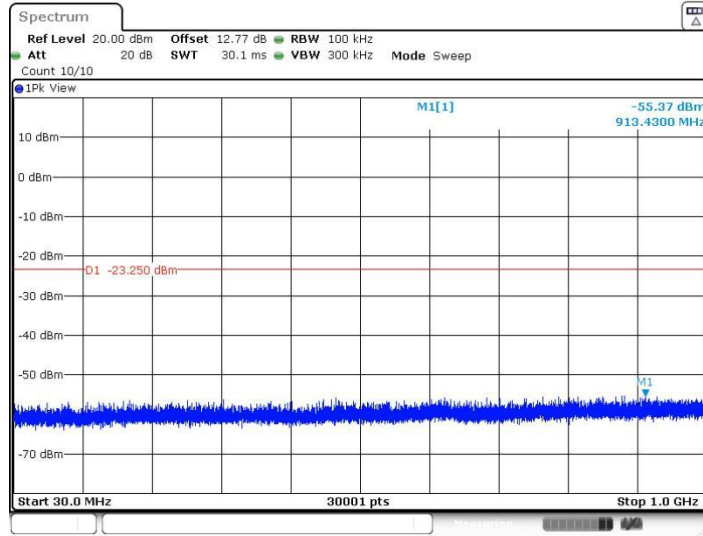


11N40SISO_Ant1_2422_1000~26500



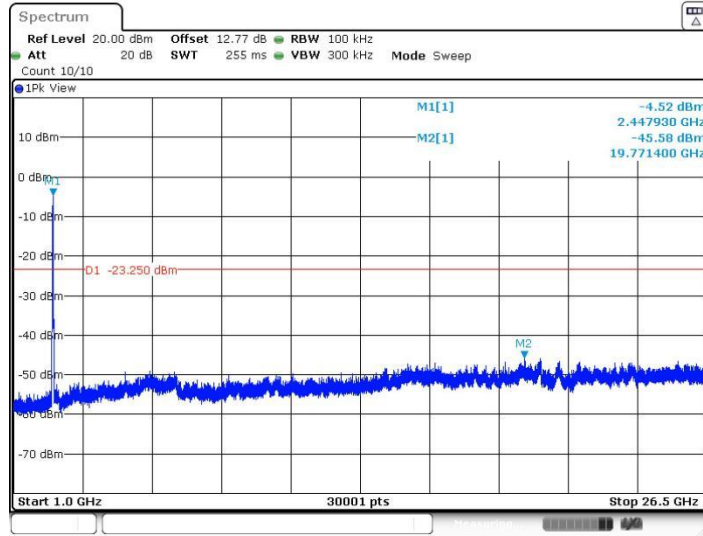


11N40SISO_Ant1_2437_30~1000



Date: 29.AUG.2022 11:15:08

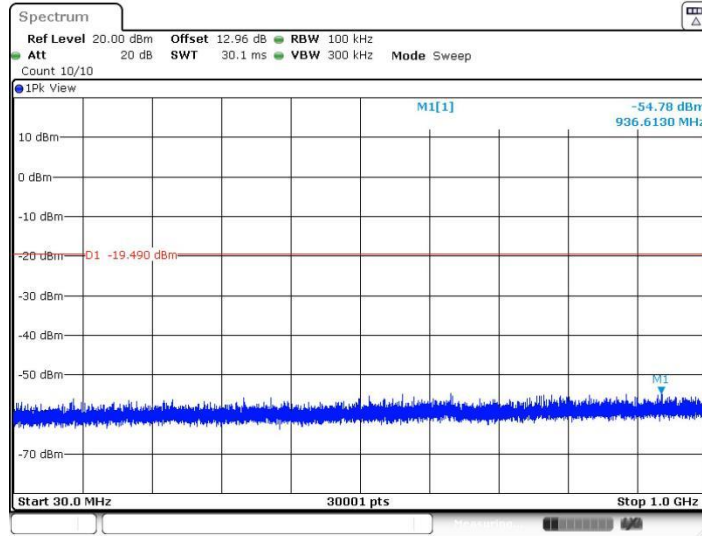
11N40SISO_Ant1_2437_1000~26500



Date: 29.AUG.2022 11:15:45

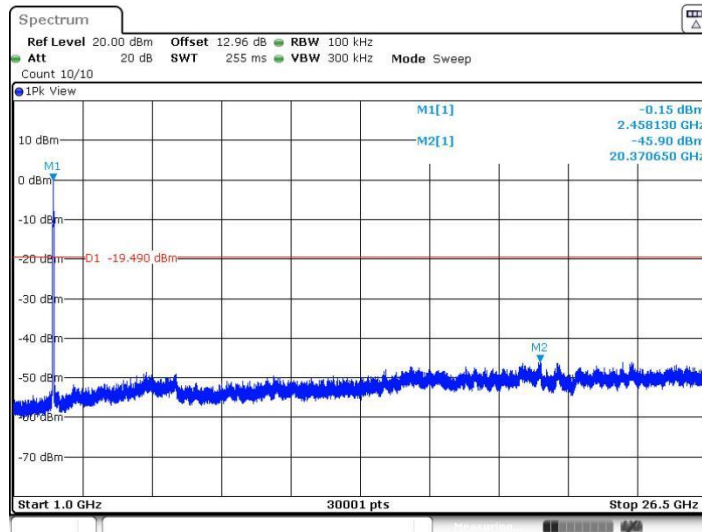


11N40SISO_Ant1_2452_30~1000



Date: 29.AUG.2022 11:17:02

11N40SISO_Ant1_2452_1000~26500

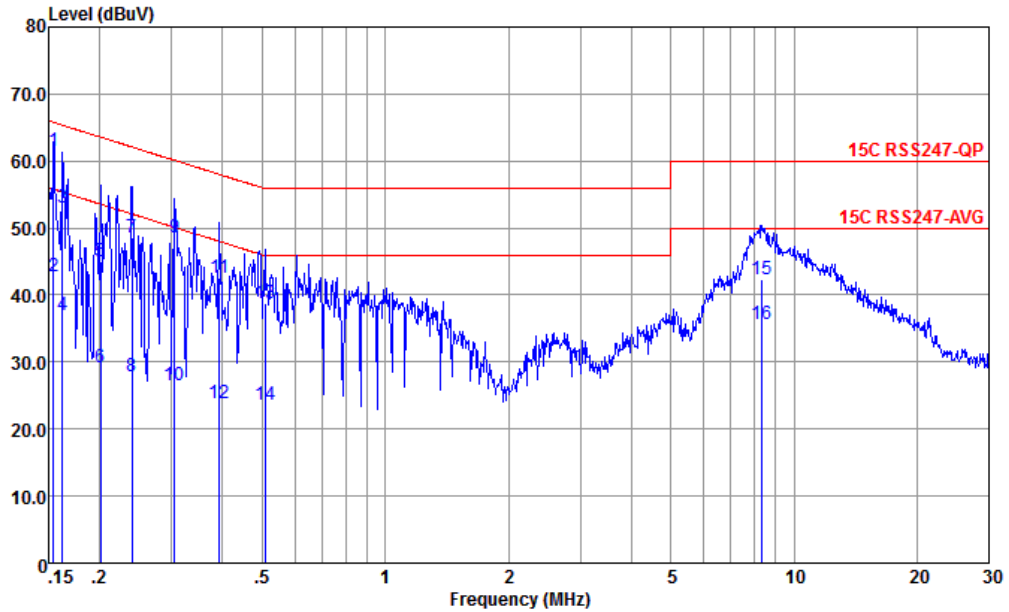


Date: 29.AUG.2022 11:17:39



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 :	Line
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

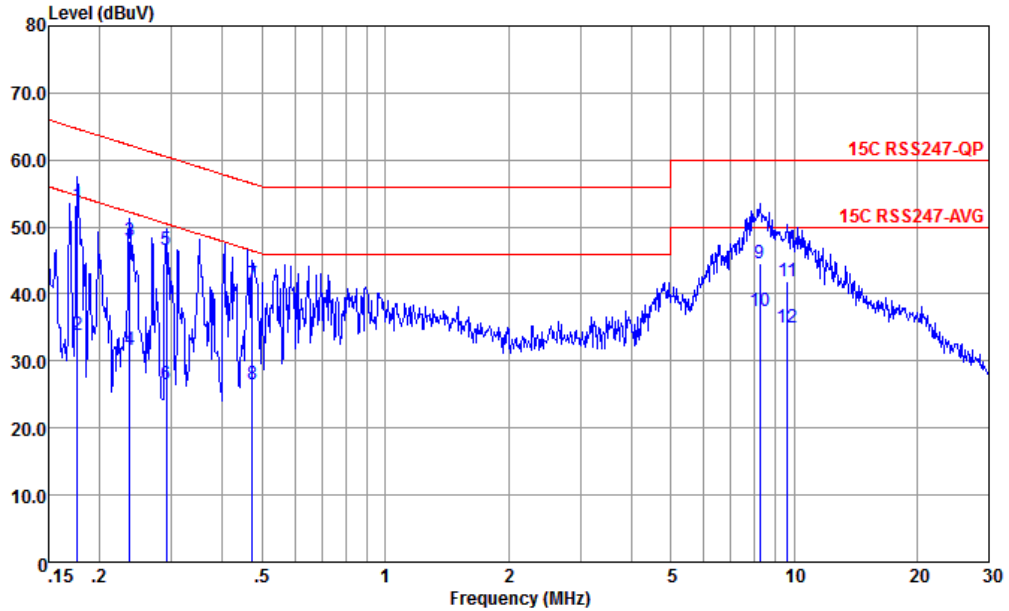


Site : CO01-KS
 Condition : 15C RSS247-QP LISN-060105-LINE LINE

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1 *	0.154	61.59	-4.19	65.78	51.09	0.07	10.43	QP
2	0.154	42.69	-13.09	55.78	32.19	0.07	10.43	Average
3	0.162	53.08	-12.26	65.34	42.59	0.06	10.43	QP
4	0.162	37.08	-18.26	55.34	26.59	0.06	10.43	Average
5	0.201	45.04	-18.54	63.58	34.60	0.02	10.42	QP
6	0.201	29.24	-24.34	53.58	18.80	0.02	10.42	Average
7	0.240	48.63	-13.45	62.08	38.20	0.04	10.39	QP
8	0.240	27.93	-24.15	52.08	17.50	0.04	10.39	Average
9	0.305	48.60	-11.50	60.10	38.19	0.06	10.35	QP
10	0.305	26.60	-23.50	50.10	16.19	0.06	10.35	Average
11	0.393	42.51	-15.48	57.99	32.20	0.01	10.30	QP
12	0.393	23.91	-24.08	47.99	13.60	0.01	10.30	Average
13	0.507	38.67	-17.33	56.00	28.49	-0.03	10.21	QP
14	0.507	23.67	-22.33	46.00	13.49	-0.03	10.21	Average
15	8.367	42.39	-17.61	60.00	32.10	-0.16	10.45	QP
16	8.367	35.59	-14.41	50.00	25.30	-0.16	10.45	Average



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 : 15C RSS247-QP LISN-060105-NEUTRAL NEUTRAL

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1 *	0.177	53.27	-11.37	64.64	42.81	0.04	10.42	QP
2	0.177	33.77	-20.87	54.64	23.31	0.04	10.42	Average
3	0.237	47.90	-14.32	62.22	37.50	0.01	10.39	QP
4	0.237	31.60	-20.62	52.22	21.20	0.01	10.39	Average
5	0.291	46.51	-13.99	60.50	36.20	-0.04	10.35	QP
6	0.291	26.61	-23.89	50.50	16.30	-0.04	10.35	Average
7	0.474	41.35	-15.10	56.45	31.20	-0.08	10.23	QP
8	0.474	26.45	-20.00	46.45	16.30	-0.08	10.23	Average
9	8.235	44.48	-15.52	60.00	34.20	-0.15	10.43	QP
10	8.235	37.48	-12.52	50.00	27.20	-0.15	10.43	Average
11	9.654	41.92	-18.08	60.00	31.50	-0.18	10.60	QP
12	9.654	34.92	-15.08	50.00	24.50	-0.18	10.60	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

Sample 1-2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

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 CH 01 2412MHz		2386.57	53.45	-20.55	74	50.46	32.4	7.1	36.51	213	100	P	H
		2386.05	46.7	-7.3	54	43.71	32.4	7.1	36.51	213	100	A	H
	*	2412	107.6	-	-	104.69	32.39	7.13	36.61	213	100	P	H
	*	2410	105.28	-	-	102.37	32.39	7.13	36.61	213	100	A	H
		2386.05	51.31	-22.69	74	48.32	32.4	7.1	36.51	400	70	P	V
		2386.44	43.61	-10.39	54	40.62	32.4	7.1	36.51	400	70	A	V
	*	2412	104.94	-	-	102.03	32.39	7.13	36.61	400	70	P	V
	*	2412	102.6	-	-	99.69	32.39	7.13	36.61	400	70	A	V
802.11b CH 11 2462MHz	*	2462	106.69	-	-	104.03	32.36	7.22	36.92	131	148	P	H
	*	2462	104.29	-	-	101.63	32.36	7.22	36.92	131	148	P	H
		2486.92	51.03	-22.97	74	48.46	32.34	7.25	37.02	131	148	P	H
		2486.92	42.59	-11.41	54	40.02	32.34	7.25	37.02	131	148	A	H
	*	2462	105.75	-	-	103.09	32.36	7.22	36.92	344	66	P	V
	*	2462	103.4	-	-	100.74	32.36	7.22	36.92	344	66	P	V
		2487.1	50.34	-23.66	74	47.77	32.34	7.25	37.02	344	66	P	V
		2487.1	41.09	-12.91	54	38.52	32.34	7.25	37.02	344	66	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**Sample 1-2.4GHz 2400~2483.5MHz
WIFI 802.11b (Harmonic @ 3m)**

WIFI Ant. 1	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	49.51	-24.49	74	70.52	34	10.25	65.26	100	244	P	H
		4830	47.14	-6.86	54	68.15	34	10.25	65.26	100	244	A	H
		4830	50.48	-23.52	74	71.49	34	10.25	65.26	102	62	P	V
		4830	47.31	-6.69	54	68.32	34	10.25	65.26	102	62	A	V
802.11b CH 06 2437MHz		4875	46.82	-27.18	74	67.81	34	10.29	65.28	300	0	P	H
		7305	41.15	-32.85	74	59.35	35.76	12.72	66.68	300	0	P	H
		4875	48.34	-25.66	74	69.33	34	10.29	65.28	100	0	P	V
		7305	41.71	-32.29	74	59.91	35.76	12.72	66.68	100	0	P	V
802.11b CH 11 2462MHz		4920	47.78	-26.22	74	68.74	34	10.34	65.3	300	0	P	H
		7380	41.69	-32.31	74	60.09	35.78	12.73	66.91	300	0	P	H
		4920	51.35	-22.65	74	72.31	34	10.34	65.3	112	350	P	V
		4920	49.34	-4.66	54	70.3	34	10.34	65.3	112	350	A	V
		7380	40.66	-33.34	74	59.06	35.78	12.73	66.91	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Sample 1-2.4GHz 2400~2483.5MHz
 WIFI 802.11g (Band Edge @ 3m)

WIFI Ant. 1	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		2389.82	66.77	-7.23	74	63.78	32.4	7.1	36.51	131	87	P	H
		2389.95	49.92	-4.08	54	46.93	32.4	7.1	36.51	131	87	A	H
	*	2410	106.02	-	-	103.11	32.39	7.13	36.61	131	87	P	H
	*	2408	98.69	-	-	95.78	32.39	7.13	36.61	131	87	A	H
		2389.95	61.6	-12.4	74	58.61	32.4	7.1	36.51	397	73	P	V
		2389.95	46.92	-7.08	54	43.93	32.4	7.1	36.51	397	73	A	V
	*	2410	102.52	-	-	99.61	32.39	7.13	36.61	397	73	P	V
	*	2406	96.49	-	-	93.58	32.39	7.13	36.61	397	73	A	V
802.11g CH 02 2417MHz		2388.39	63.89	-10.11	74	60.9	32.4	7.1	36.51	152	114	P	H
		2389.43	47.43	-6.57	54	44.44	32.4	7.1	36.51	152	114	A	H
		2418	108.78	-	-	105.84	32.39	7.16	36.61	152	114	P	H
		2416	101.33	-	-	98.39	32.39	7.16	36.61	152	114	A	H
		2388.52	57.59	-16.41	74	54.6	32.4	7.1	36.51	391	70	P	V
		2389.56	44.88	-9.12	54	41.89	32.4	7.1	36.51	391	70	A	V
		2414	106.05	-	-	103.14	32.39	7.13	36.61	391	70	P	V
		2418	98.66	-	-	95.72	32.39	7.16	36.61	391	70	A	V



802.11g CH 10 2457MHz		2456	109.22	-	-	106.56	32.36	7.22	36.92	260	109	P	H
		2456	101.83	-	-	99.17	32.36	7.22	36.92	260	109	A	H
		2487.4	60.88	-13.12	74	58.31	32.34	7.25	37.02	260	109	P	H
		2483.74	45.45	-8.55	54	42.88	32.34	7.25	37.02	260	109	A	H
		2456	107.34	-	-	104.68	32.36	7.22	36.92	333	69	P	V
		2456	100.69	-	-	98.03	32.36	7.22	36.92	333	69	A	V
		2486.08	60.69	-13.31	74	58.12	32.34	7.25	37.02	333	69	P	V
		2483.92	44.88	-9.12	54	42.31	32.34	7.25	37.02	333	69	A	V
802.11g CH 11 2462MHz	*	2458	108.17	-	-	105.51	32.36	7.22	36.92	151	100	P	H
	*	2460	100.77	-	-	98.11	32.36	7.22	36.92	151	100	A	H
		2483.56	65.04	-8.96	74	62.47	32.34	7.25	37.02	151	100	P	H
		2483.5	50.53	-3.47	54	47.96	32.34	7.25	37.02	151	100	A	H
		2458	103.65	-	-	100.99	32.36	7.22	36.92	390	67	P	V
		2456	96.25	-	-	93.59	32.36	7.22	36.92	390	67	A	V
		2483.56	59.51	-14.49	74	56.94	32.34	7.25	37.02	390	67	P	V
		2483.5	44.42	-9.58	54	41.85	32.34	7.25	37.02	390	67	A	V
Remark	<p>1. No other spurious found.</p> <p>2. All results are PASS against Peak and Average limit line.</p>												



**Sample 1-2.4GHz 2400~2483.5MHz
WIFI 802.11g (Harmonic @ 3m)**

WIFI Ant. 1	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	43.29	-30.71	74	64.3	34	10.25	65.26	300	0	P	H
		4830	42.77	-31.23	74	63.78	34	10.25	65.26	100	0	P	V
802.11g CH 02 2417MHz		4834	44.07	-29.93	74	64.61	34.6	10.25	65.39	300	0	P	H
		4834	46.01	-27.99	74	66.55	34.6	10.25	65.39	100	0	P	V
802.11g CH 06 2437MHz		4875	48.69	-25.31	74	69.68	34	10.29	65.28	300	0	P	H
		7305	41.13	-32.87	74	59.33	35.76	12.72	66.68	300	0	P	H
		4875	48.58	-25.42	74	69.57	34	10.29	65.28	100	0	P	V
		7305	40.85	-33.15	74	59.05	35.76	12.72	66.68	100	0	P	V
802.11g CH 10 2457MHz		4914	42.25	-31.75	74	63.2	34	10.34	65.29	300	0	P	H
		7371	41.47	-32.53	74	59.87	35.78	12.73	66.91	300	0	P	H
		4914	43.97	-30.03	74	64.92	34	10.34	65.29	100	0	P	V
		7371	42.15	-31.85	74	60.55	35.78	12.73	66.91	100	0	P	V
802.11g CH 11 2462MHz		4920	43.95	-30.05	74	64.91	34	10.34	65.3	300	0	P	H
		7380	41.32	-32.68	74	59.72	35.78	12.73	66.91	300	0	P	H
		4920	44.22	-29.78	74	65.18	34	10.34	65.3	100	0	P	V
		7380	41.12	-32.88	74	59.52	35.78	12.73	66.91	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**Sample 1-2.4GHz 2400~2483.5MHz
WIFI 802.11n HT20 (Band Edge @ 3m)**

WIFI Ant. 1	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	*	2410	106.71	-	-	103.8	32.39	7.13	36.61	106	107	P	H
	*	2408	99.19	-	-	96.28	32.39	7.13	36.61	106	107	A	H
		2389.82	69.32	-4.68	74	66.33	32.4	7.1	36.51	106	107	P	H
		2389.95	50.55	-3.45	54	47.56	32.4	7.1	36.51	106	107	A	H
	*	2408	103.75	-	-	100.84	32.39	7.13	36.61	399	80	P	V
	*	2408	95.72	-	-	92.81	32.39	7.13	36.61	399	80	A	V
		2389.95	64.66	-9.34	74	61.67	32.4	7.1	36.51	399	80	P	V
		2389.95	46.28	-7.72	54	43.29	32.4	7.1	36.51	399	80	A	V
802.11n HT20 CH 02 2417MHz		2418	108.39	-	-	105.45	32.39	7.16	36.61	155	110	P	H
		2416	100.88	-	-	97.94	32.39	7.16	36.61	155	110	A	H
		2389.82	64.5	-9.5	74	61.51	32.4	7.1	36.51	155	110	P	H
		2389.95	48.48	-5.52	54	45.49	32.4	7.1	36.51	155	110	A	H
		2418	105.27	-	-	102.33	32.39	7.16	36.61	399	73	P	V
		2416	97.17	-	-	94.23	32.39	7.16	36.61	399	73	A	V
		2389.82	63.05	-10.95	74	60.06	32.4	7.1	36.51	399	73	P	V
		2389.95	47.57	-6.43	54	44.58	32.4	7.1	36.51	399	73	A	V
802.11n HT20 CH 11 2462MHz	*	2458	106.98	-	-	104.32	32.36	7.22	36.92	373	109	P	H
	*	2462	99.39	-	-	96.73	32.36	7.22	36.92	373	109	A	H
		2484.16	63.82	-10.18	74	61.25	32.34	7.25	37.02	373	109	P	H
		2483.5	50.35	-3.65	54	47.78	32.34	7.25	37.02	373	109	A	H
	*	2460	104.8	-	-	102.14	32.36	7.22	36.92	386	65	P	V
	*	2458	96.65	-	-	93.99	32.36	7.22	36.92	386	65	A	V
		2483.56	65.06	-8.94	74	62.49	32.34	7.25	37.02	386	65	P	V
		2483.68	48.36	-5.64	54	45.79	32.34	7.25	37.02	386	65	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**Sample 1-2.4GHz 2400~2483.5MHz
WIFI 802.11n HT20 (Harmonic @ 3m)**

WIFI Ant. 1	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	42.49	-31.51	74	63.5	34	10.25	65.26	300	0	P	H
		4830	42.02	-31.98	74	63.03	34	10.25	65.26	100	0	P	V
802.11n HT20 CH 02 2417MHz		4834	43.58	-30.42	74	64.12	34.6	10.25	65.39	300	0	P	H
		4834	45.07	-28.93	74	65.61	34.6	10.25	65.39	100	0	P	V
802.11n HT20 CH 06 2437MHz		4875	47.83	-26.17	74	68.82	34	10.29	65.28	300	0	P	H
		7305	41.02	-32.98	74	59.22	35.76	12.72	66.68	300	0	P	H
		4875	45.04	-28.96	74	66.03	34	10.29	65.28	100	0	P	V
		7305	41.22	-32.78	74	59.42	35.76	12.72	66.68	100	0	P	V
802.11n HT20 CH 11 2462MHz		4920	42.8	-31.2	74	63.76	34	10.34	65.3	300	0	P	H
		7380	41.5	-32.5	74	59.9	35.78	12.73	66.91	300	0	P	H
		4920	46.39	-27.61	74	67.35	34	10.34	65.3	100	0	P	V
		7380	41.3	-32.7	74	59.7	35.78	12.73	66.91	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**Sample 1-2.4GHz 2400~2483.5MHz
WIFI 802.11n HT40 (Band Edge @ 3m)**

WIFI Ant. 1	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 03 2422MHz		2389.43	66.46	-7.54	74	63.47	32.4	7.1	36.51	105	97	P	H
		2389.56	50.67	-3.33	54	47.68	32.4	7.1	36.51	105	97	A	H
	*	2408	101.01	-	-	98.1	32.39	7.13	36.61	105	97	P	H
	*	2408	93.99	-	-	91.08	32.39	7.13	36.61	105	97	A	H
		2483.86	50.55	-23.45	74	47.98	32.34	7.25	37.02	105	97	P	H
		2483.56	41.11	-12.89	54	38.54	32.34	7.25	37.02	105	97	A	H
		2389.56	63.12	-10.88	74	60.13	32.4	7.1	36.51	400	71	P	V
		2389.43	47.62	-6.38	54	44.63	32.4	7.1	36.51	400	71	A	V
	*	2408	98.31	-	-	95.4	32.39	7.13	36.61	400	71	P	V
	*	2408	91.01	-	-	88.1	32.39	7.13	36.61	400	71	A	V
		2487.88	48.61	-25.39	74	46.16	32.33	7.25	37.13	400	71	P	V
		2483.86	38.42	-15.58	54	35.85	32.34	7.25	37.02	400	71	A	V
802.11n HT40 CH 06 2437MHz		2389.95	56.77	-17.23	74	53.78	32.4	7.1	36.51	125	103	P	H
		2389.95	43.62	-10.38	54	40.63	32.4	7.1	36.51	125	103	A	H
	*	2450	105.64	-	-	102.9	32.37	7.19	36.82	125	103	P	H
	*	2448	98.02	-	-	95.28	32.37	7.19	36.82	125	103	A	H
		2484.88	63.16	-10.84	74	60.59	32.34	7.25	37.02	125	103	P	H
		2483.56	49.83	-4.17	54	47.26	32.34	7.25	37.02	125	103	A	H
		2389.82	50.21	-23.79	74	47.22	32.4	7.1	36.51	383	70	P	V
		2388	39.24	-14.76	54	36.25	32.4	7.1	36.51	383	70	A	V
	*	2450	102.37	-	-	99.63	32.37	7.19	36.82	383	70	P	V
	*	2448	93.67	-	-	90.93	32.37	7.19	36.82	383	70	A	V
		2483.86	58.68	-15.32	74	56.11	32.34	7.25	37.02	383	70	P	V
		2483.5	44.88	-9.12	54	42.31	32.34	7.25	37.02	383	70	A	V



802.11n HT40 CH 09 2452MHz		2389.56	53.29	-20.71	74	50.3	32.4	7.1	36.51	300	110	P	H
		2389.17	39.81	-14.19	54	36.82	32.4	7.1	36.51	300	110	A	H
	*	2450	104.11	-	-	101.37	32.37	7.19	36.82	300	110	P	H
	*	2450	97.13	-	-	94.39	32.37	7.19	36.82	300	110	A	H
		2483.56	67.75	-6.25	74	65.18	32.34	7.25	37.02	300	110	P	H
		2483.56	49.77	-4.23	54	47.2	32.34	7.25	37.02	300	110	A	H
		2389.56	49.48	-24.52	74	46.49	32.4	7.1	36.51	383	83	P	V
		2384.75	38.68	-15.32	54	35.82	32.31	7.1	36.55	383	83	A	V
	*	2450	100.01	-	-	97.27	32.37	7.19	36.82	383	83	P	V
	*	2450	93.2	-	-	90.46	32.37	7.19	36.82	383	83	A	V
		2483.5	63.69	-10.31	74	61.12	32.34	7.25	37.02	383	83	P	V
		2483.5	46.26	-7.74	54	43.69	32.34	7.25	37.02	383	83	A	V
Remark	<p>1. No other spurious found.</p> <p>2. All results are PASS against Peak and Average limit line.</p>												



**Sample 1-2.4GHz 2400~2483.5MHz
WIFI 802.11n HT40 (Harmonic @ 3m)**

WIFI Ant. 1	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		4845	41.07	-32.93	74	62.08	34	10.25	65.26	300	0	P	H
HT40		7260	42.31	-31.69	74	60.34	35.75	12.72	66.5	300	0	P	H
CH 03		4845	42.71	-31.29	74	63.72	34	10.25	65.26	100	0	P	V
2422MHz		7260	41.45	-32.55	74	59.48	35.75	12.72	66.5	100	0	P	V
802.11n		4875	41.53	-32.47	74	62.52	34	10.29	65.28	300	0	P	H
HT40		7305	42.02	-31.98	74	60.22	35.76	12.72	66.68	300	0	P	H
CH 06		4875	41.06	-32.94	74	62.05	34	10.29	65.28	100	0	P	V
2437MHz		7305	42.06	-31.94	74	60.26	35.76	12.72	66.68	100	0	P	V
802.11n		4905	40.63	-33.37	74	61.58	34	10.34	65.29	300	0	P	H
HT40		7350	42.74	-31.26	74	61.1	35.77	12.72	66.85	300	0	P	H
CH 09		4905	40.63	-33.37	74	61.58	34	10.34	65.29	100	0	P	V
2452MHz		7350	41.52	-32.48	74	59.88	35.77	12.72	66.85	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Sample 3 ---2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

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)
802.11n HT40 CH 03 2422MHz		2389.69	65.18	-8.82	74	62.19	32.4	7.1	36.51	156	111	P	H
		2389.56	48.73	-5.27	54	45.74	32.4	7.1	36.51	156	111	A	H
	*	2414	99.75	-	-	96.84	32.39	7.13	36.61	156	111	P	H
	*	2418	92.07	-	-	89.13	32.39	7.16	36.61	156	111	A	H
		2486.5	48.43	-25.57	74	45.86	32.34	7.25	37.02	156	111	P	H
		2483.92	39.03	-14.97	54	36.46	32.34	7.25	37.02	156	111	A	H
		2389.69	63.59	-10.41	74	60.6	32.4	7.1	36.51	398	75	P	V
		2389.43	48.13	-5.87	54	45.14	32.4	7.1	36.51	398	75	A	V
	*	2420	96.92	-	-	94.1	32.38	7.16	36.72	398	75	P	V
	*	2408	90.1	-	-	87.19	32.39	7.13	36.61	398	75	A	V
	2484.76	47.73	-26.27	74	45.16	32.34	7.25	37.02	398	75	P	V	
	2484.76	38.3	-15.7	54	35.73	32.34	7.25	37.02	398	75	A	V	



**2.4GHz 2400~2483.5MHz
WIFI 802.11n HT40 (Harmonic @ 3m)**

WIFI Ant. 1	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		4845	41	-33	74	62.01	34	10.25	65.26	300	0	P	H
HT40		7260	42.57	-31.43	74	60.6	35.75	12.72	66.5	300	0	P	H
CH 03		4845	40.32	-33.68	74	61.33	34	10.25	65.26	100	0	P	V
2422MHz		7260	41.08	-32.92	74	59.11	35.75	12.72	66.5	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**Emission below 1GHz
2.4GHz WIFI 802.11n HT40 (LF)**

WIFI Ant. 1	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)
2.4GHz 802.11n HT40 LF		102.75	26.05	-17.45	43.5	39.34	18.07	1.53	32.89	-	-	P	H
		173.56	29.36	-14.14	43.5	43.36	16.94	2	32.94	-	-	P	H
		194.9	31.82	-11.68	43.5	46.35	16.42	2.12	33.07	-	-	P	H
		284.14	24.14	-21.86	46	34.58	19.95	2.57	32.96	-	-	P	H
		594.54	27.53	-18.47	46	30.77	25.55	3.72	32.51	-	-	P	H
		803.09	32.42	-13.58	46	33.68	26.92	4.33	32.51	-	-	P	H
		107.6	23.78	-19.72	43.5	37.08	18.01	1.57	32.88	-	-	P	V
		167.74	27.05	-16.45	43.5	40.91	17.08	1.97	32.91	-	-	P	V
		272.5	23.1	-22.9	46	33.83	19.76	2.52	33.01	-	-	P	V
		482.02	24.2	-21.8	46	29.44	24.17	3.35	32.76	-	-	P	V
	679.9	29.15	-16.85	46	32.14	25.78	3.99	32.76	-	-	P	V	
	890.39	32.35	-13.65	46	32.95	27.36	4.56	32.52	-	-	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)

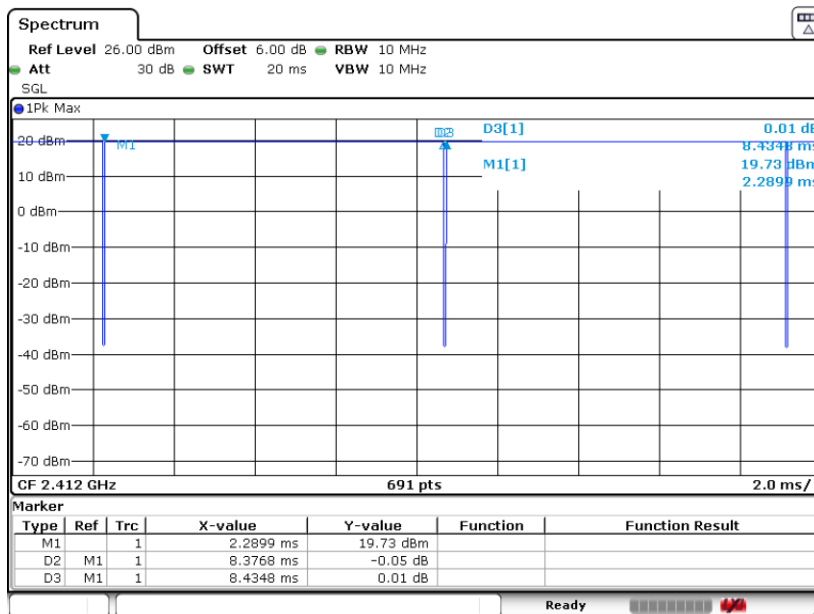
Both peak and average measured complies with the limit line, so test result is “PASS”.



Appendix D. Duty Cycle Plots

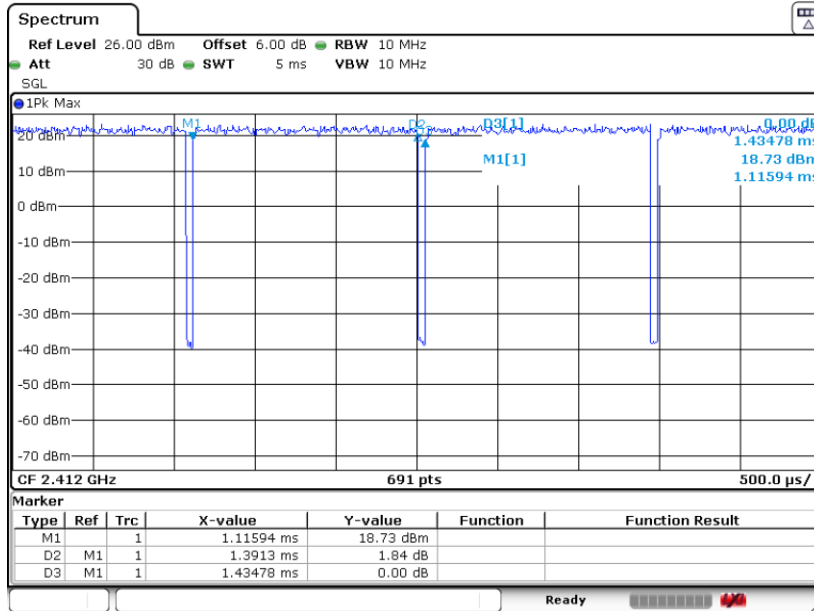
Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11b	99.31	-	-	10Hz
802.11g	96.97	1.391	0.719	0.75KHz
802.11n HT20	96.78	1.304	0.767	0.8KHz
802.11n HT40	93.73	0.649	1.540	1.6KHz

802.11b

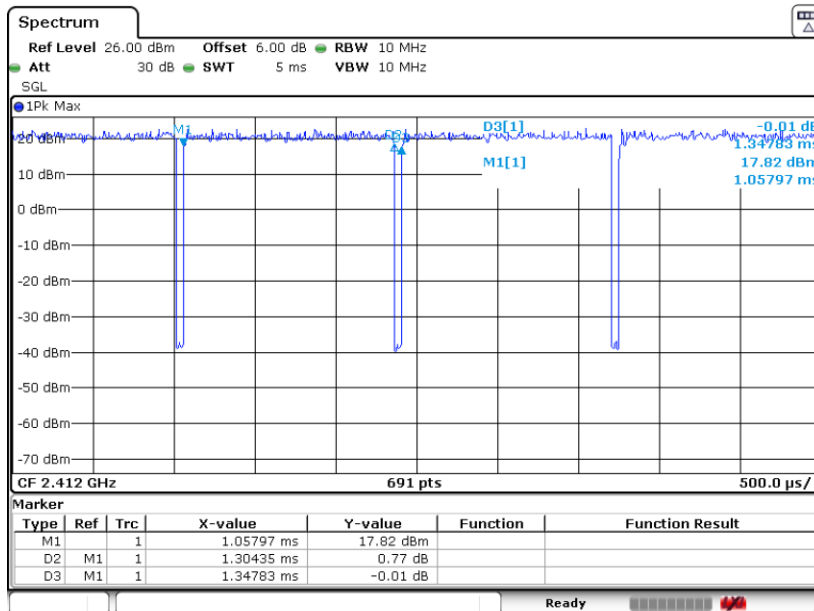




802.11g



802.11n HT20





802.11n HT40

