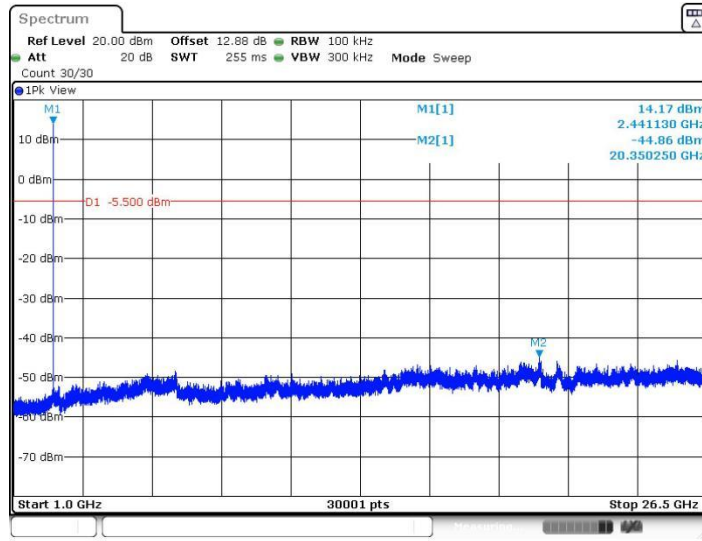


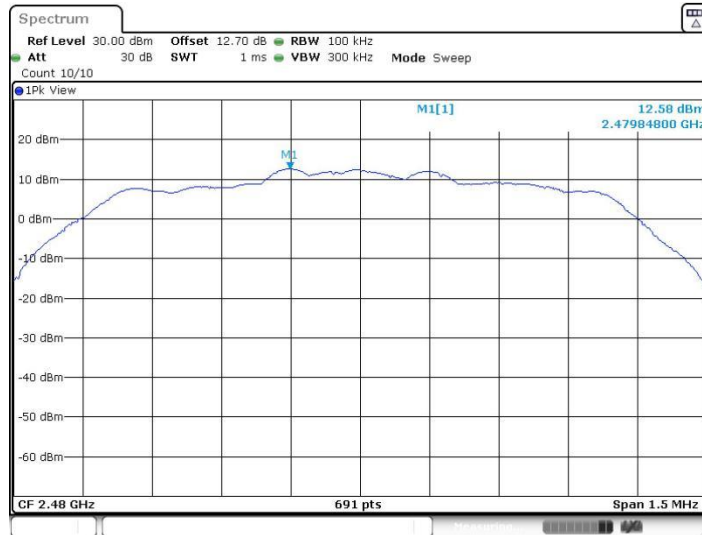


2DH1_Ant1_2441_1000~26500

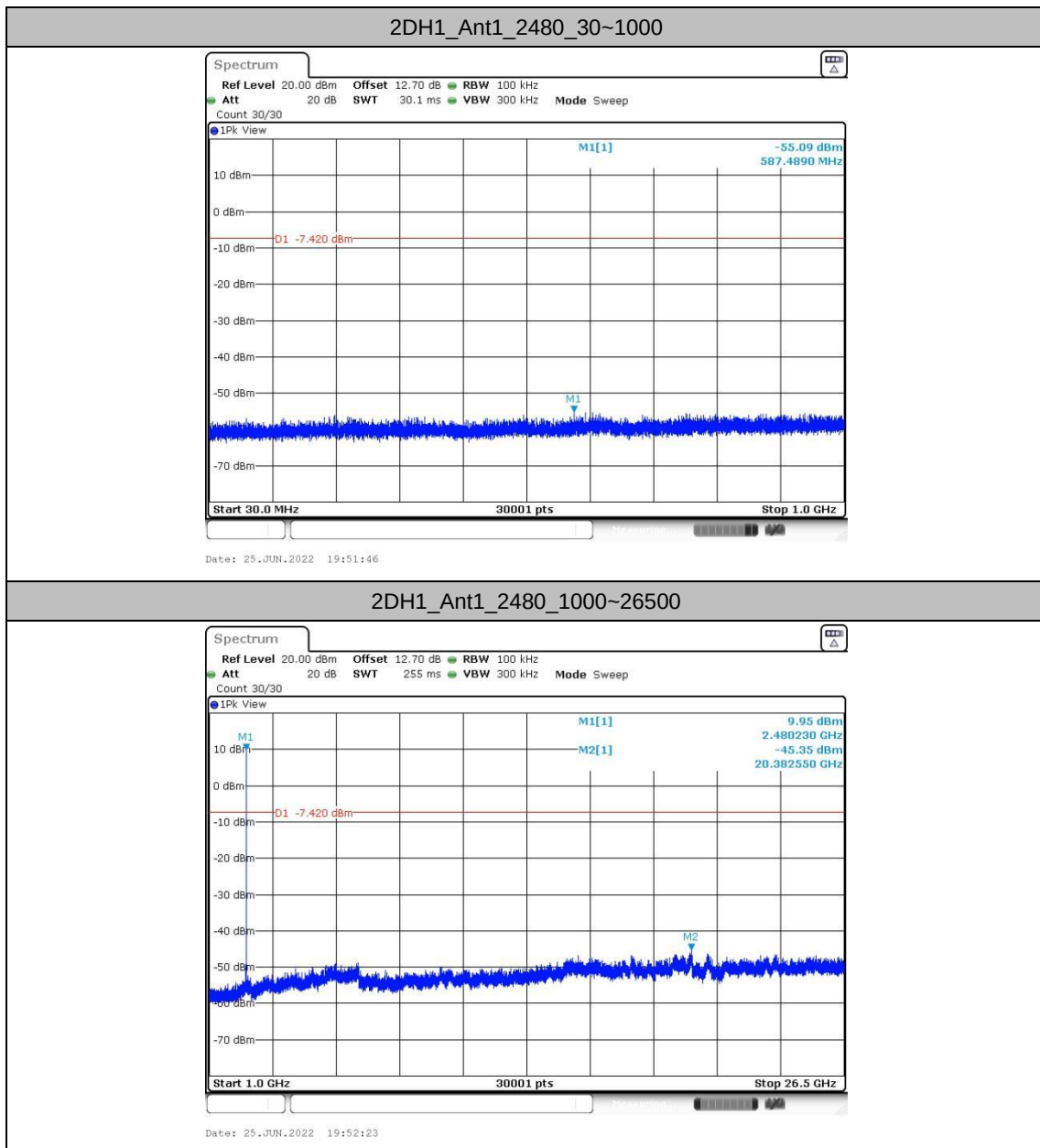


Date: 25.JUN.2022 19:50:53

2DH1_Ant1_2480_0~Reference

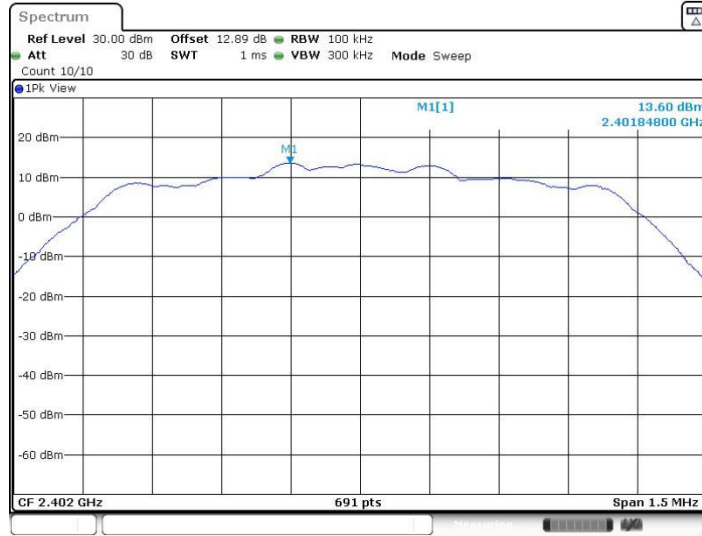


Date: 25.JUN.2022 19:51:40



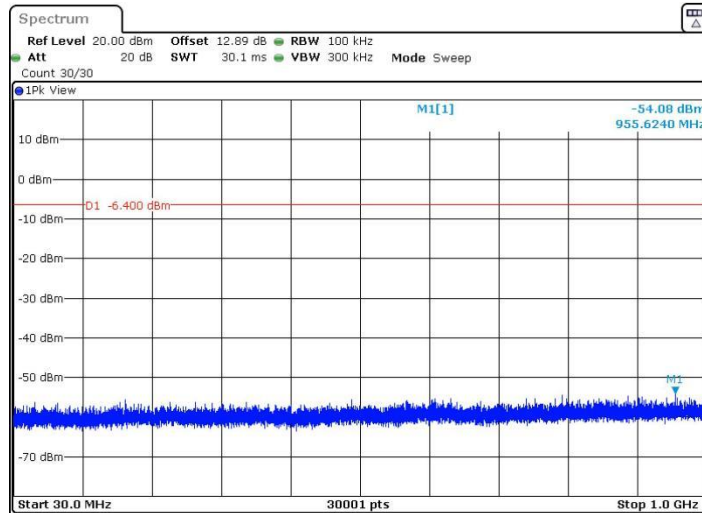


3DH1_Ant1_2402_0~Reference

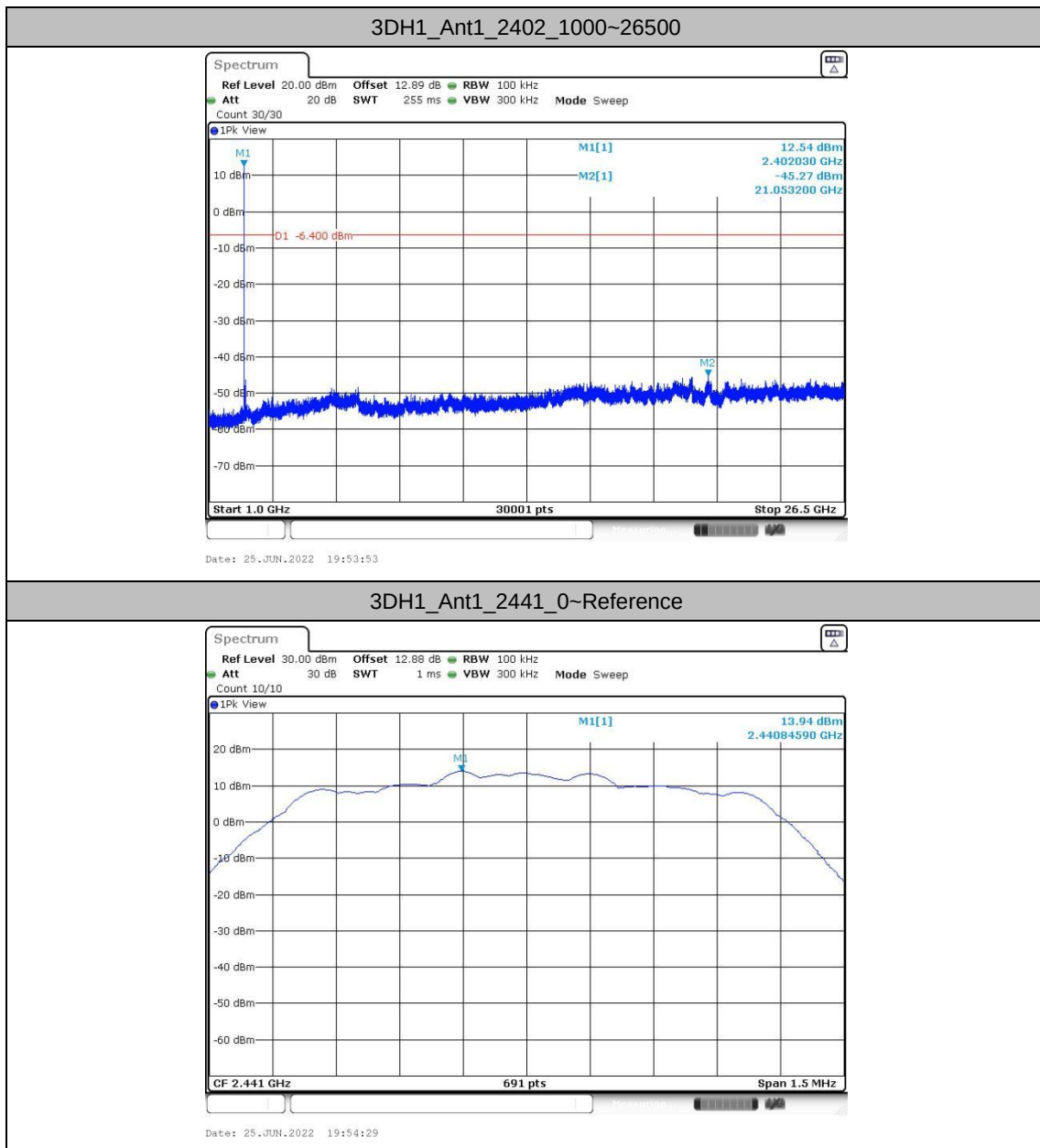


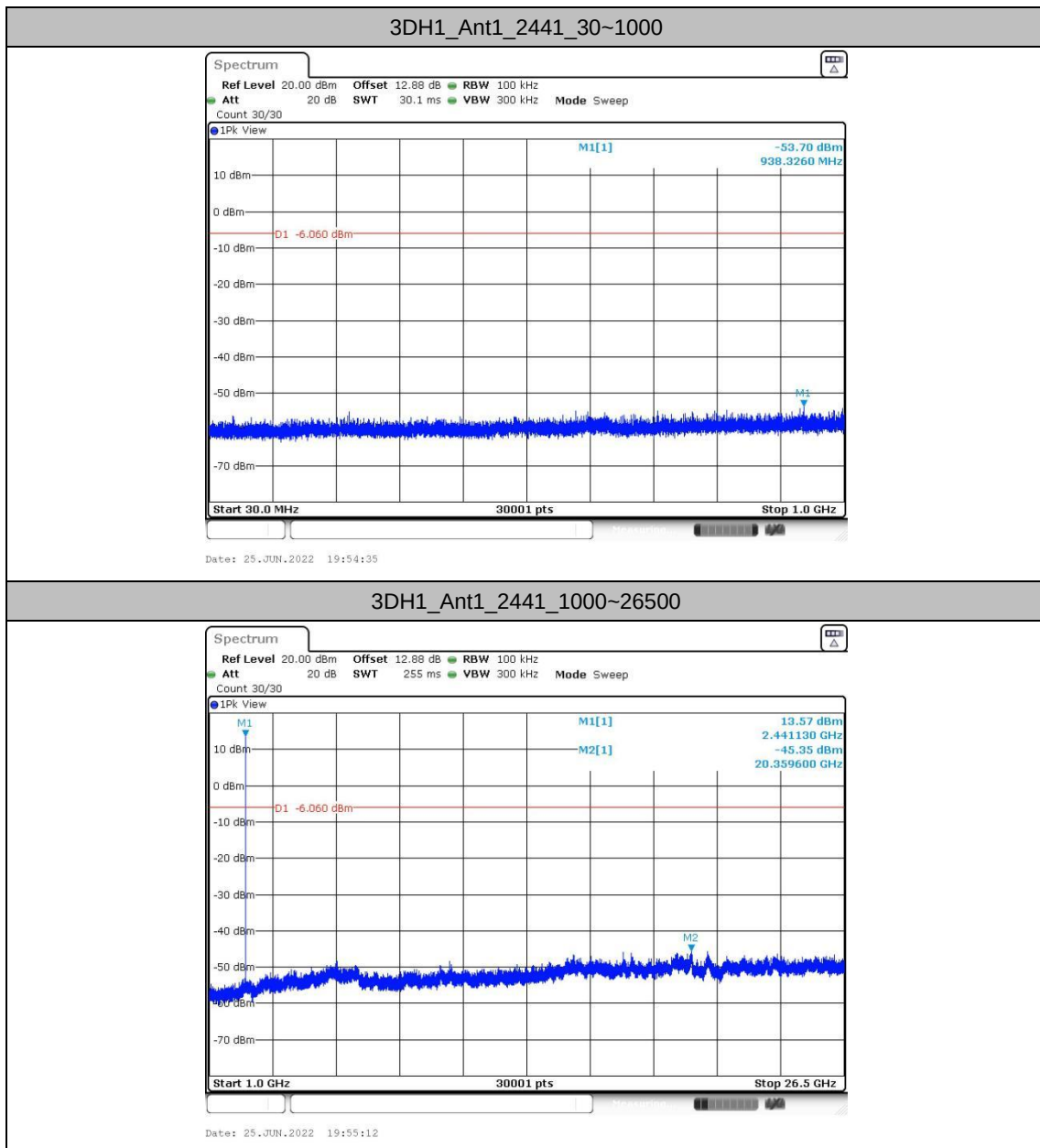
Date: 25.JUN.2022 19:53:10

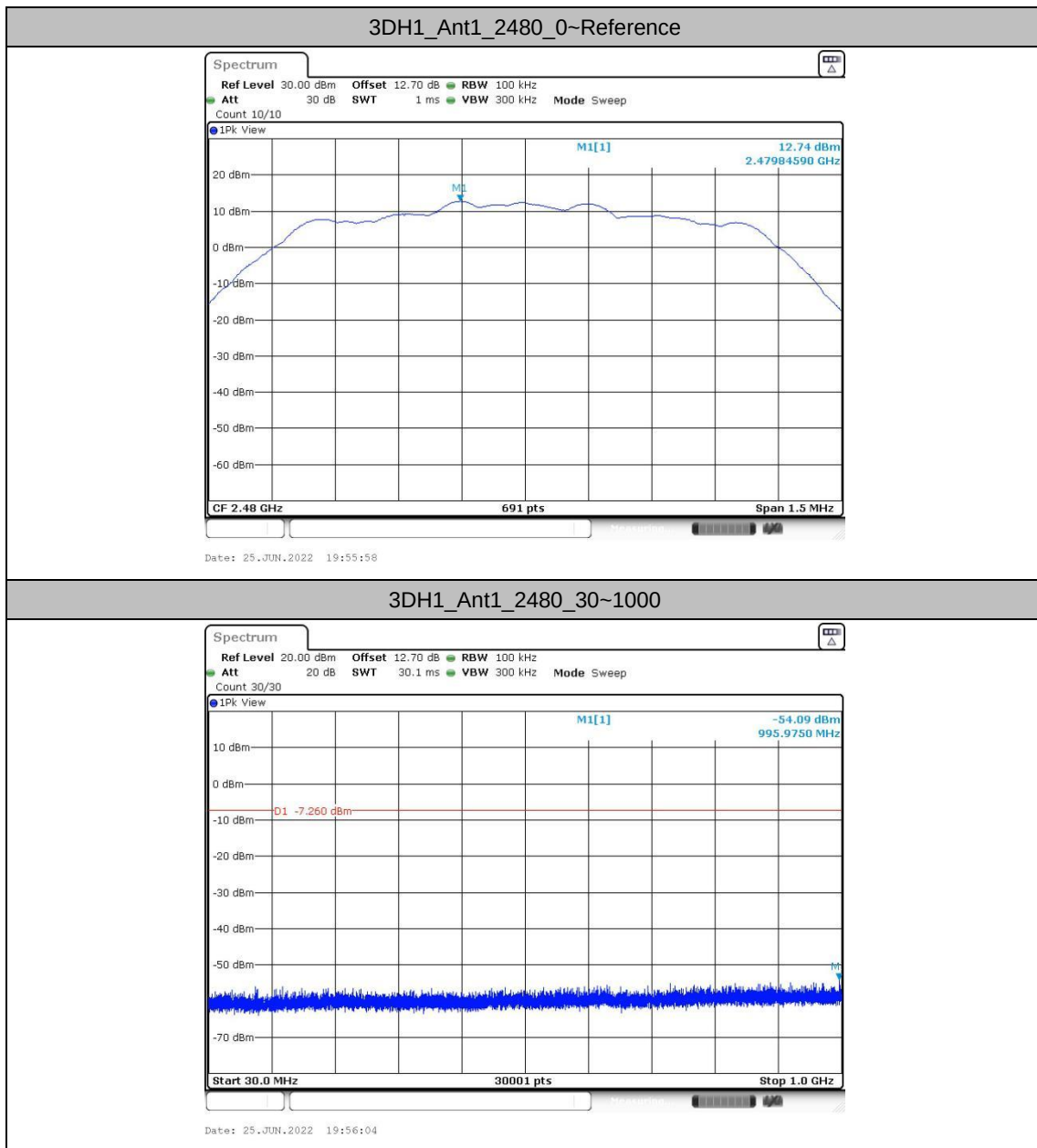
3DH1_Ant1_2402_30~1000

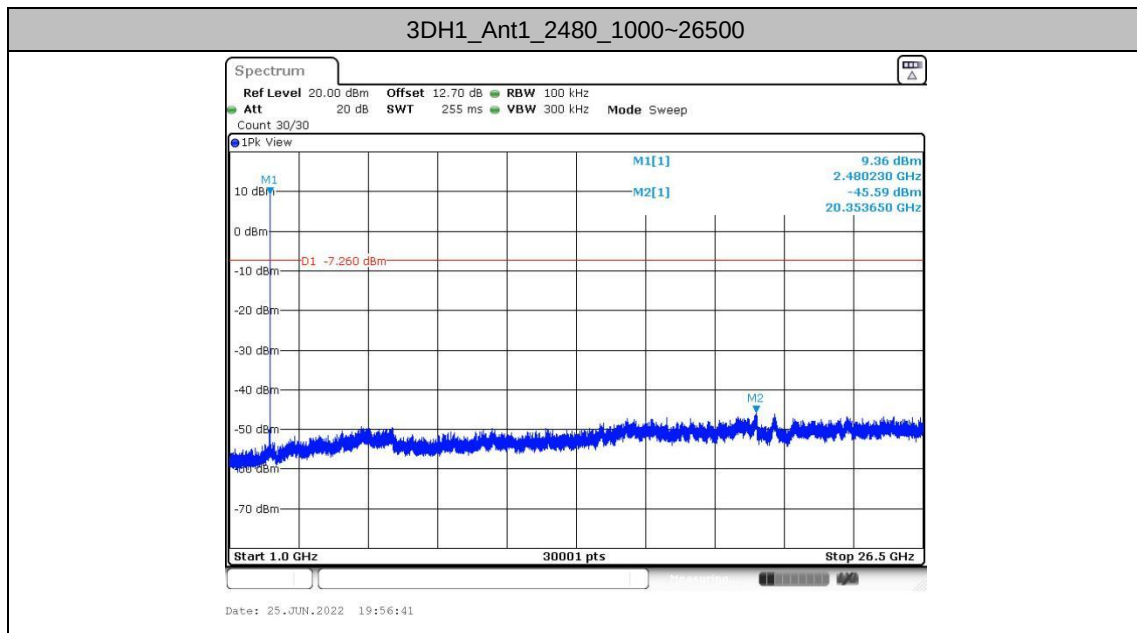


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Dwell Time

Mod.	Hopping Channel Number Rate	Hops Over Occupancy Time(hops)	Package Transfer Time (msec) (MHz)	Dwell Time (sec)	Limits (sec)	Pass/Fail
Nomal	79	106.67	2.89	0.31	0.4	Pass
AFH	20	53.33	2.89	0.15	0.4	Pass

Maximum Output Power

Peak Power

For Ant 1

DH	CH.	NTX	Peak Power (dBm)	Power Limit (dBm)	Test Result
DH1	0	1	15.41	20.97	Pass
	39	1	16.72	20.97	Pass
	78	1	15.18	20.97	Pass
2DH	CH.	NTX	Peak Power (dBm)	Power Limit (dBm)	Test Result
2DH1	0	1	15.91	20.97	Pass
	39	1	16.81	20.97	Pass
	78	1	15.19	20.97	Pass
3DH	CH.	NTX	Peak Power (dBm)	Power Limit (dBm)	Test Result
3DH1	0	1	16.23	20.97	Pass
	39	1	17.32	20.97	Pass
	78	1	15.77	20.97	Pass

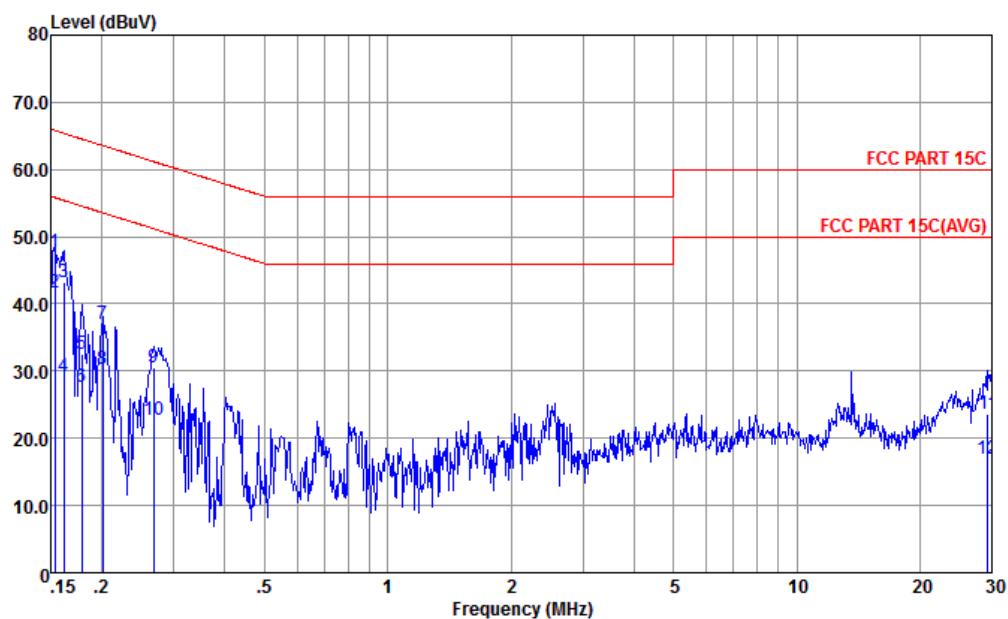
For Ant 2

DH	CH.	NTX	Peak Power (dBm)	Power Limit (dBm)	Test Result
DH1	0	1	15.89	20.97	Pass
	39	1	16.41	20.97	Pass
	78	1	15.09	20.97	Pass
d2DH	CH.	NTX	Peak Power (dBm)	Power Limit (dBm)	Test Result
2DH1	0	1	16.02	20.97	Pass
	39	1	16.63	20.97	Pass
	78	1	15.30	20.97	Pass
3DH	CH.	NTX	Peak Power (dBm)	Power Limit (dBm)	Test Result
3DH1	0	1	16.55	20.97	Pass
	39	1	17.06	20.97	Pass
	78	1	15.85	20.97	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.		

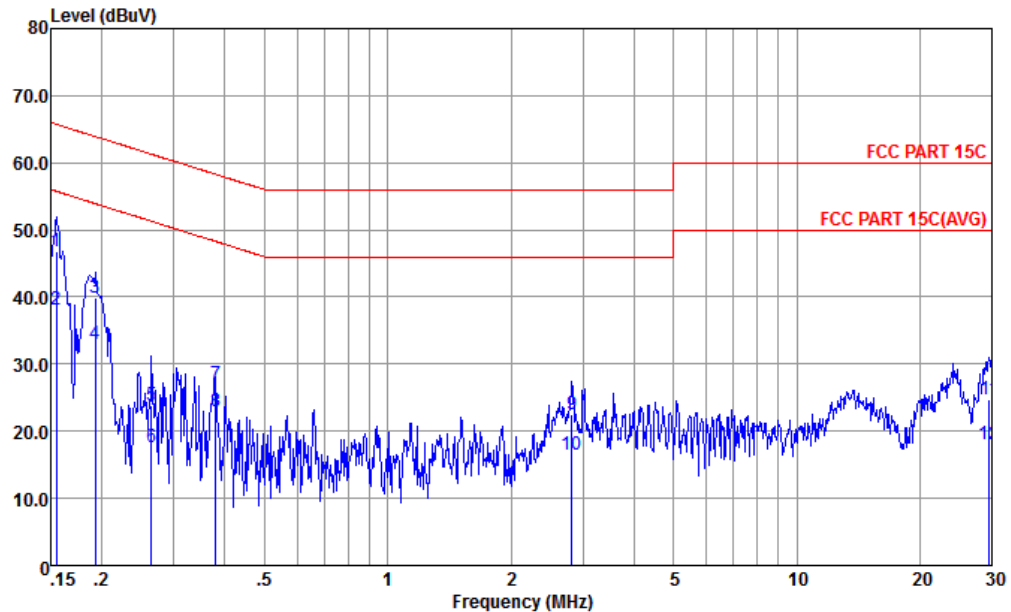


Site : CO01-KS
Condition : FCC PART 15C LISN-060105-L LINE

	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.153	47.69	-18.13	65.82	37.20	0.02	10.47	QP
2 *	0.153	41.69	-14.13	55.82	31.20	0.02	10.47	Average
3	0.162	43.27	-22.11	65.38	32.79	0.03	10.45	QP
4	0.162	29.27	-26.11	55.38	18.79	0.03	10.45	Average
5	0.179	32.64	-31.91	64.55	22.20	0.03	10.41	QP
6	0.179	27.64	-26.91	54.55	17.20	0.03	10.41	Average
7	0.201	36.90	-26.68	63.58	26.50	0.04	10.36	QP
8	0.201	30.20	-23.38	53.58	19.80	0.04	10.36	Average
9	0.267	30.59	-30.61	61.20	20.21	0.06	10.32	QP
10	0.267	22.69	-28.51	51.20	12.31	0.06	10.32	Average
11	29.371	23.60	-36.40	60.00	12.20	0.78	10.62	QP
12	29.371	17.00	-33.00	50.00	5.60	0.78	10.62	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	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.155	46.77	-18.97	65.74	36.19	0.11	10.47	QP
2 *	0.155	38.17	-17.57	55.74	27.59	0.11	10.47	Average
3	0.192	39.98	-23.95	63.93	29.50	0.10	10.38	QP
4	0.192	33.08	-20.85	53.93	22.60	0.10	10.38	Average
5	0.264	23.92	-37.37	61.29	13.50	0.10	10.32	QP
6	0.264	17.62	-33.67	51.29	7.20	0.10	10.32	Average
7	0.379	26.88	-31.42	58.30	16.51	0.10	10.27	QP
8	0.379	22.98	-25.32	48.30	12.61	0.10	10.27	Average
9	2.824	22.59	-33.41	56.00	12.20	0.15	10.24	QP
10	2.824	16.59	-29.41	46.00	6.20	0.15	10.24	Average
11	29.527	24.74	-35.26	60.00	13.30	0.82	10.62	QP
12	29.527	17.94	-32.06	50.00	6.50	0.82	10.62	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

BT (Band Edge @ 3m)

BT ANT	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BT CH 78 2480MHz		2480	97.17	-	-	93.76	32.98	7.25	36.82	100	22	P	H
		2480	72.38	-	-	-	-	-	-	-	-	A	H
		2486.56	51.10	-22.90	74	47.69	32.98	7.25	36.82	100	22	P	H
		2486.56	26.31	-27.69	54	-	-	-	-	-	-	A	H
		2480	96.54	-	-	93.13	32.98	7.25	36.82	299	12	P	V
		2480	71.75	-	-	-	-	-	-	-	-	A	V
		2491.48	50.45	-23.55	74	47.01	33	7.25	36.81	299	12	P	V
		2491.48	25.66	-28.34	54	-	-	-	-	-	-	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

BT (Harmonic @ 3m)

BT ANT	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BT CH 78 2480MHz		4965	40.53	-33.47	74	61.31	34.28	10.41	65.47	300	0	P	H
		7440	41.93	-32.07	74	59.56	35.89	12.79	66.31	300	0	P	H
		4965	40.68	-33.32	74	61.46	34.28	10.41	65.47	100	0	P	V
		7440	42.14	-31.86	74	59.77	35.89	12.79	66.31	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 BT (LF)

BT	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)
2.4GHz BT LF		30	21.38	-18.62	40	27.87	25.5	0.71	32.7	-	-	P	H
		177.44	23.36	-20.14	43.5	37.46	16.84	2.02	32.96	-	-	P	H
		350.1	21.64	-24.36	46	30.29	21.4	2.85	32.9	-	-	P	H
		565.44	26.41	-19.59	46	29.57	25.78	3.63	32.57	-	-	P	H
		688.63	26.9	-19.1	46	29.92	25.75	4.01	32.78	-	-	P	H
		838.01	29.41	-16.59	46	30.44	27.13	4.42	32.58	-	-	P	H
		62.01	27.87	-12.13	40	46.43	13.36	1.18	33.1	-	-	P	V
		175.5	24.74	-18.76	43.5	38.79	16.89	2.01	32.95	-	-	P	V
		250.19	20.74	-25.26	46	32.02	19.4	2.42	33.1	-	-	P	V
		425.76	22.04	-23.96	46	28.47	23.17	3.15	32.75	-	-	P	V
		636.25	26.59	-19.41	46	29.6	25.79	3.85	32.65	-	-	P	V
		845.77	28.96	-17.04	46	29.93	27.18	4.44	32.59	-	-	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:

BT	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BT CH 00 2402MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		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:

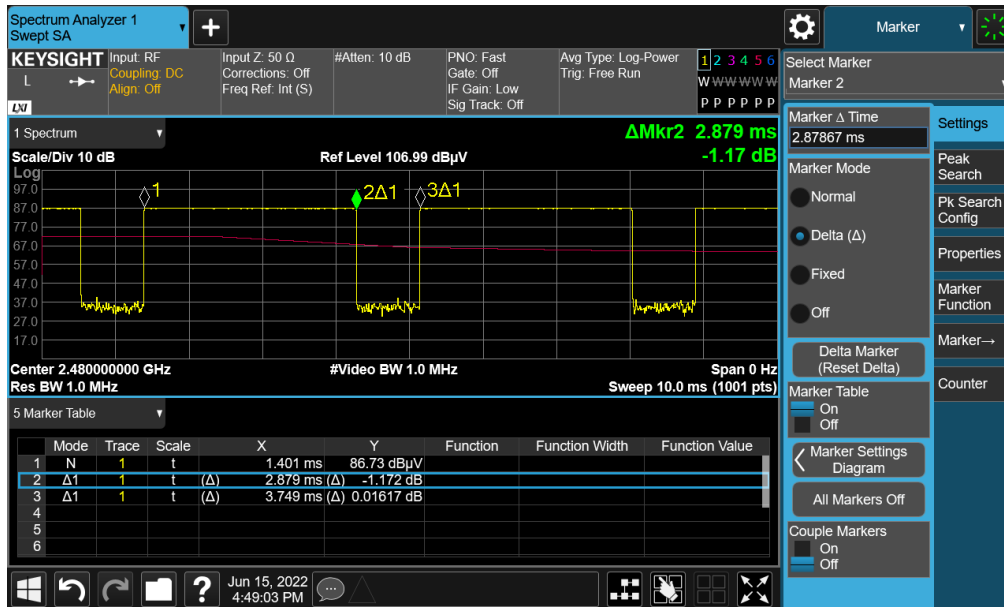
1. Level(dBμV/m)
= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)
= 43.54 (dBμV/m)
2. Over Limit(dB)
= Level(dBμV/m) – Limit Line(dBμV/m)
= 43.54(dBμV/m) – 54(dBμV/m)
= -10.46(dB)

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

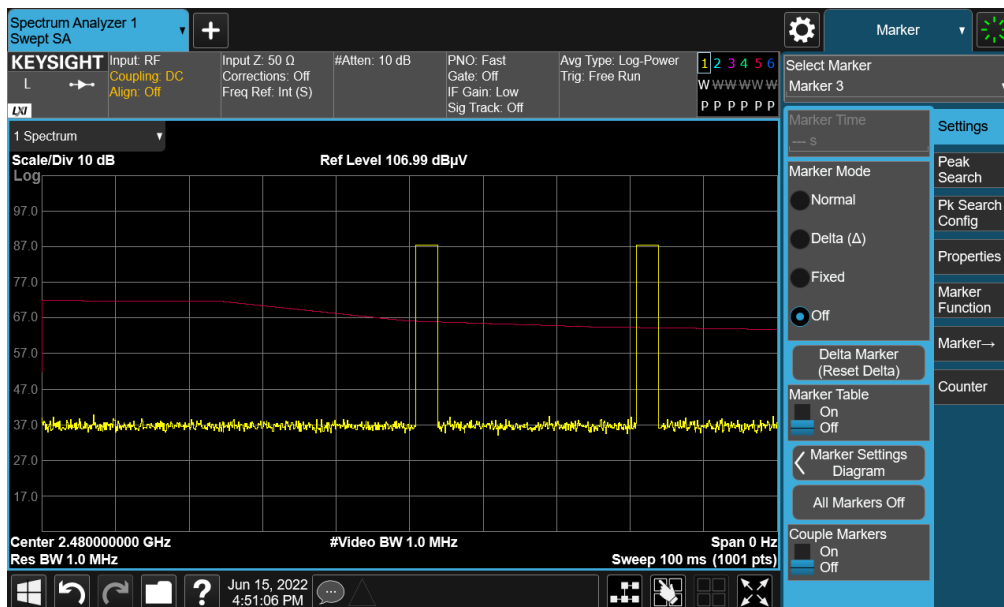


Appendix D. Duty Cycle Plots

DH5 on time (One Pulse) Plot on Channel 39



DH5 on time (Count Pulses) Plot on Channel 39



Note:

1. Worst case Duty cycle = on time/100 milliseconds = $2 * 2.88 / 100 = 5.76 \%$
2. Worst case Duty cycle correction factor = $20 * \log(\text{Duty cycle}) = -24.79 \text{ dB}$
3. DH5 has the highest duty cycle worst case and is reported.