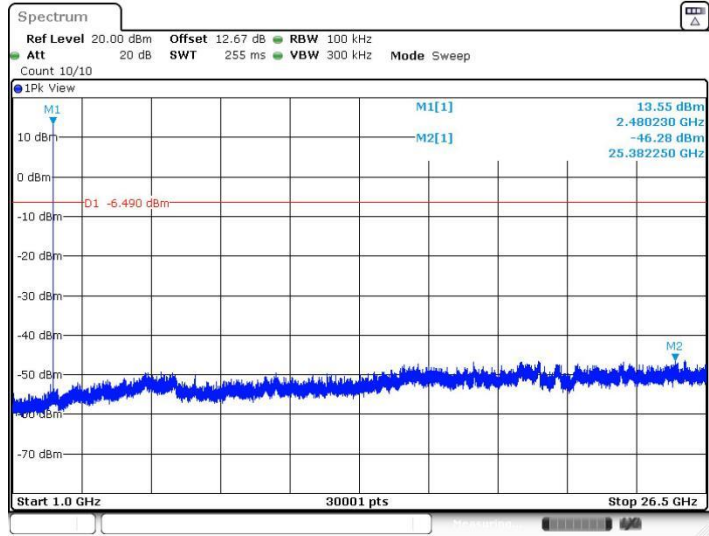
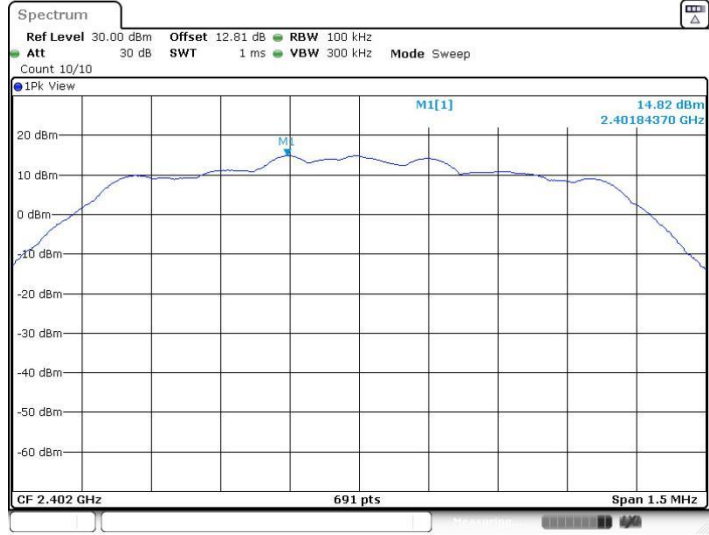




2DH1_Ant2_2480_1000~26500

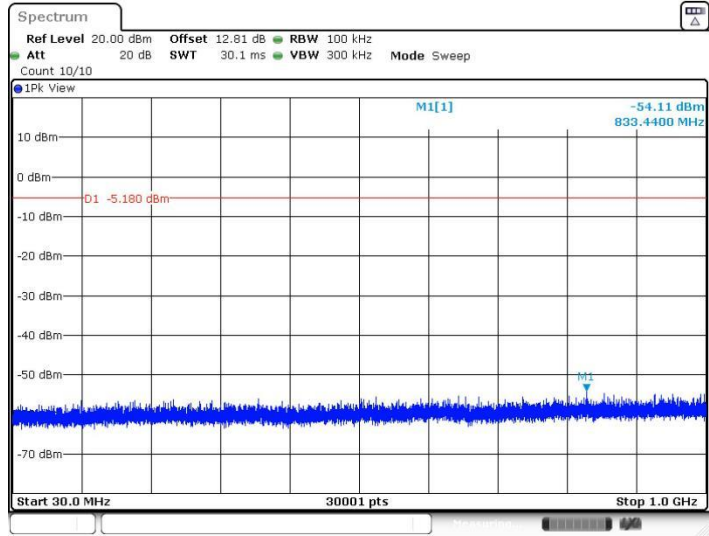


3DH1_Ant2_2402_0~Reference



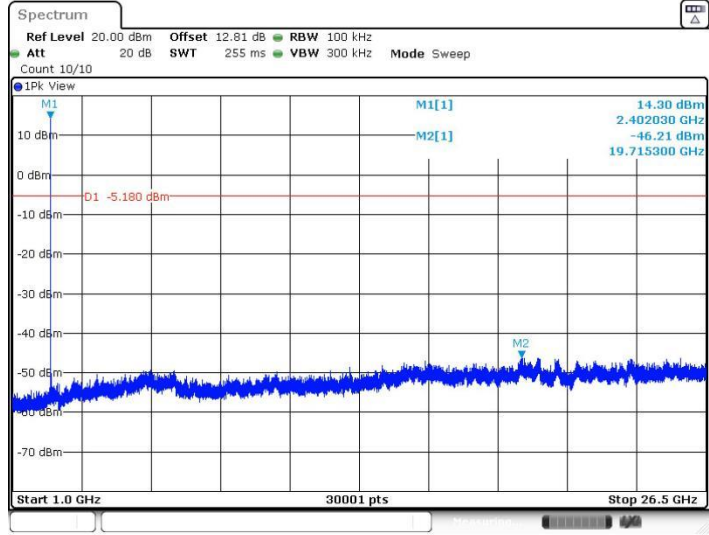


3DH1_Ant2_2402_30~1000

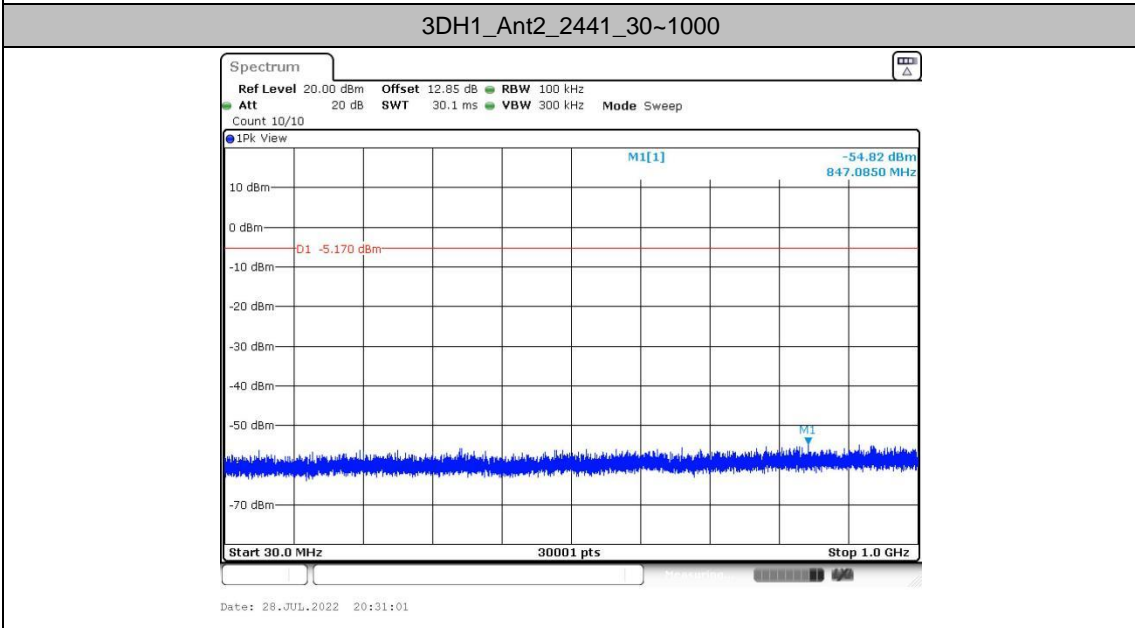
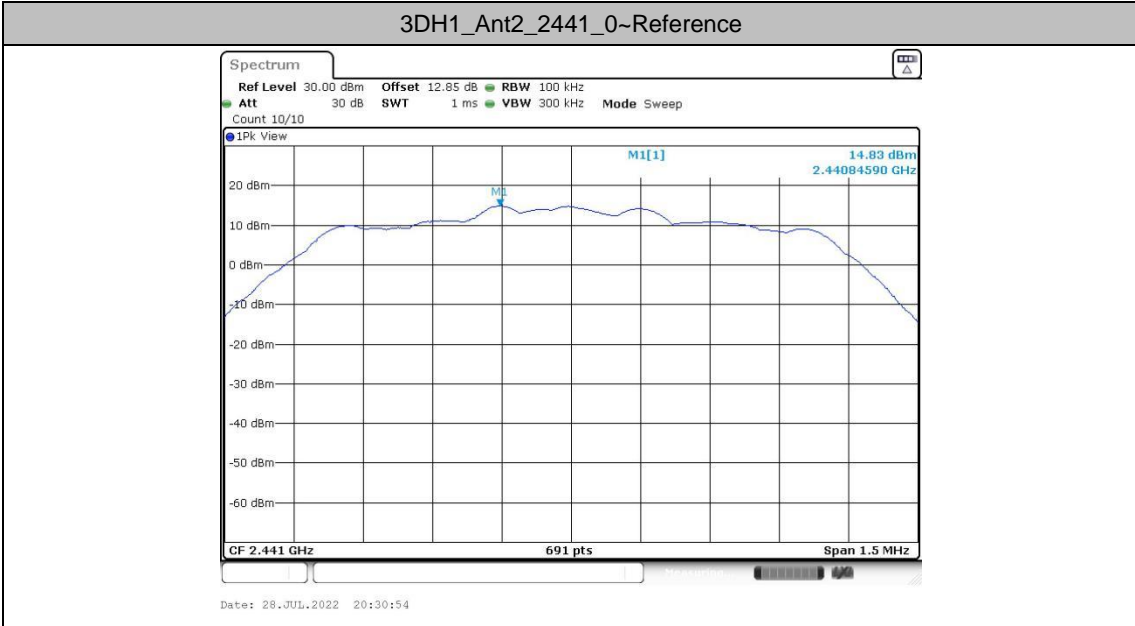


Date: 28.JUL.2022 20:29:50

3DH1_Ant2_2402_1000~26500

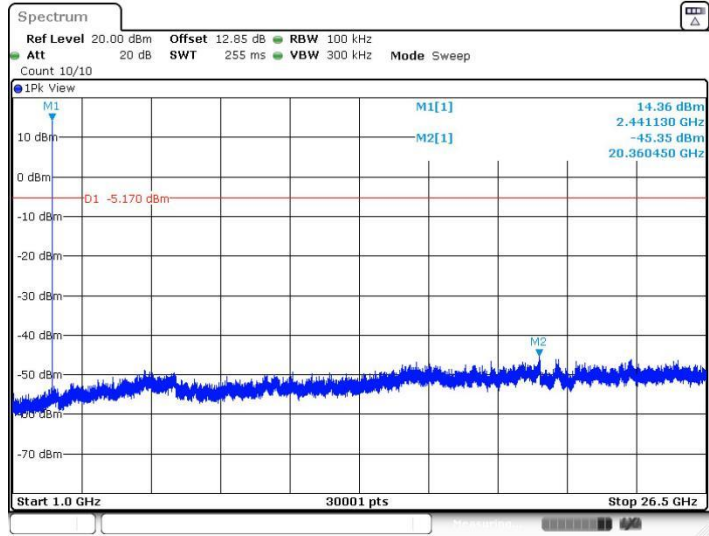


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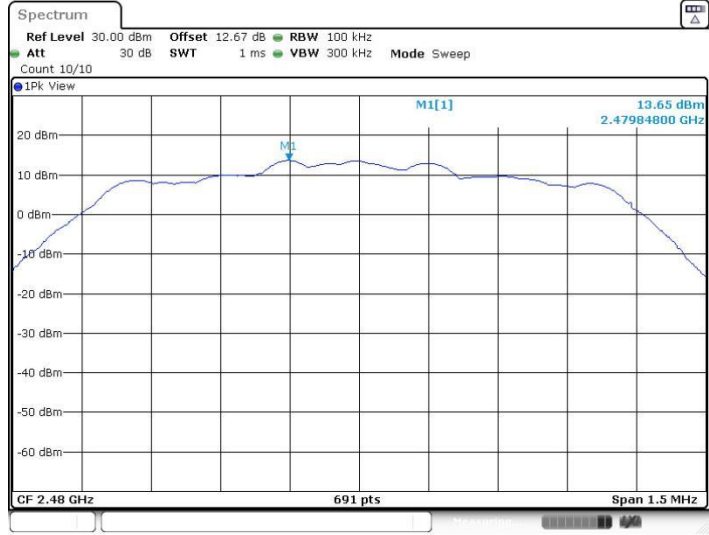




3DH1_Ant2_2441_1000~26500

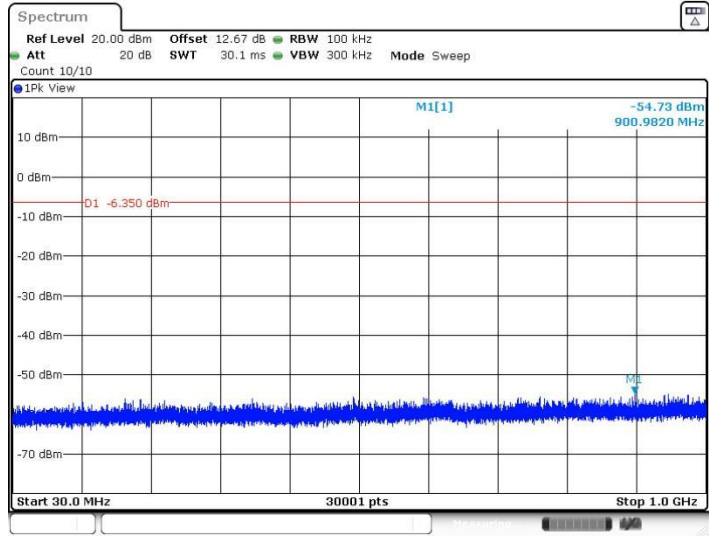


3DH1_Ant2_2480_0~Reference



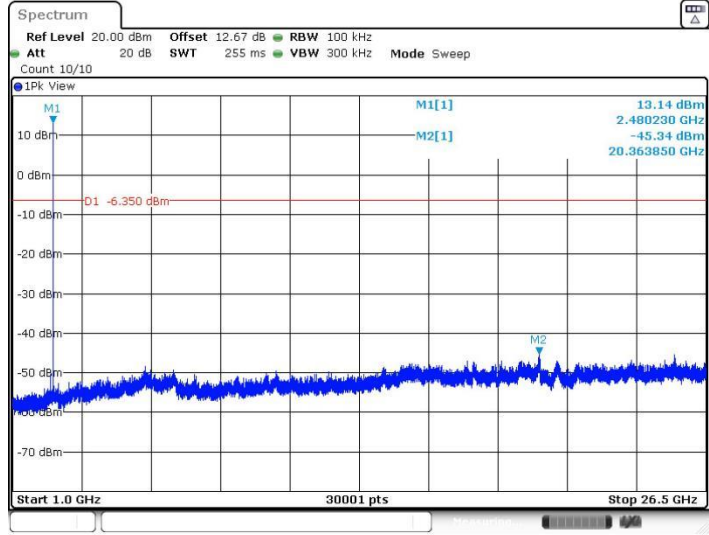


3DH1_Ant2_2480_30~1000



Date: 28.JUL.2022 20:32:24

3DH1_Ant2_2480_1000~26500

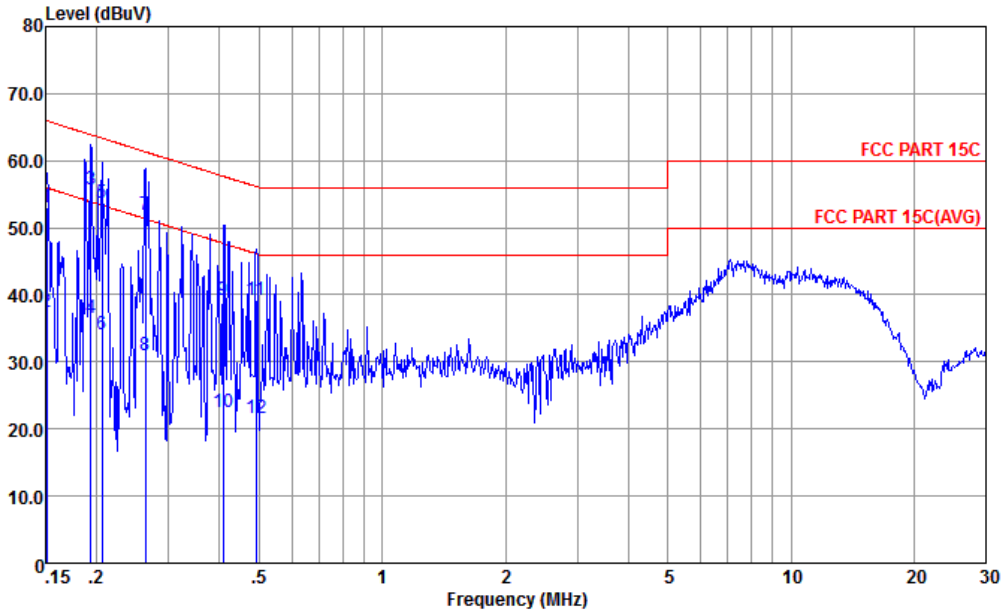


Date: 28.JUL.2022 20:33:01



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.		

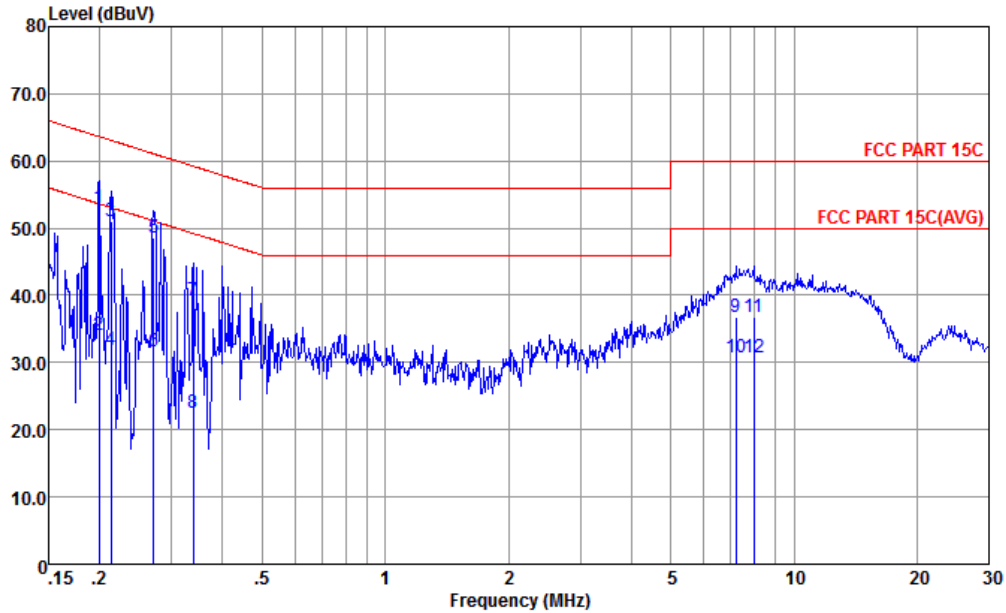


Site : CO01-KS
Condition : FCC PART 15C LISN-060105-L LINE

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.151	53.00	-12.96	65.96	42.50	0.02	10.48	QP
2	0.151	37.40	-18.56	55.96	26.90	0.02	10.48	Average
3 *	0.193	55.62	-8.27	63.89	45.20	0.04	10.38	QP
4	0.193	36.62	-17.27	53.89	26.20	0.04	10.38	Average
5	0.206	53.70	-9.66	63.36	43.30	0.04	10.36	QP
6	0.206	34.00	-19.36	53.36	23.60	0.04	10.36	Average
7	0.263	51.89	-9.45	61.34	41.50	0.06	10.33	QP
8	0.263	30.99	-20.35	51.34	20.60	0.06	10.33	Average
9	0.408	39.15	-18.53	57.68	28.80	0.09	10.26	QP
10	0.408	22.55	-25.13	47.68	12.20	0.09	10.26	Average
11	0.491	39.14	-17.00	56.14	28.80	0.10	10.24	QP
12	0.491	21.54	-24.60	46.14	11.20	0.10	10.24	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 : 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 *	0.200	53.06	-10.56	63.62	42.60	0.10	10.36	QP
2	0.200	34.06	-19.56	53.62	23.60	0.10	10.36	Average
3	0.213	50.96	-12.14	63.10	40.50	0.10	10.36	QP
4	0.213	31.96	-21.14	53.10	21.50	0.10	10.36	Average
5	0.272	48.62	-12.45	61.07	38.20	0.10	10.32	QP
6	0.272	31.62	-19.45	51.07	21.20	0.10	10.32	Average
7	0.339	39.19	-20.03	59.22	28.80	0.10	10.29	QP
8	0.339	22.59	-26.63	49.22	12.20	0.10	10.29	Average
9	7.213	36.71	-23.29	60.00	26.20	0.20	10.31	QP
10	7.213	30.71	-19.29	50.00	20.20	0.20	10.31	Average
11	7.977	36.73	-23.27	60.00	26.20	0.21	10.32	QP
12	7.977	30.83	-19.17	50.00	20.30	0.21	10.32	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

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.
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BT CH 78 2480MHz	*	2480	102.38	-	-	98.97	32.98	7.25	36.82	100	300	P	H
		2480	77.59	-	-	-	-	-	-	-	-	A	H
		2484.4	49.39	-24.61	74	45.98	32.98	7.25	36.82	100	300	P	H
		2484.4	24.60	-29.40	54	-	-	-	-	-	-	A	H
	*	2480	96.89	-	-	93.48	32.98	7.25	36.82	298	356	P	V
		2480	72.10	-	-	-	-	-	-	-	-	A	V
		2497.96	48.28	-25.72	74	44.81	33	7.28	36.81	298	356	P	V
		2497.96	23.49	-30.51	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. 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)
BT CH 78 2480MHz		4965	40.13	-33.87	74	60.91	34.28	10.41	65.47	300	0	P	H
		7440	41.57	-32.43	74	59.2	35.89	12.79	66.31	300	0	P	H
		4965	40.16	-33.84	74	60.94	34.28	10.41	65.47	100	0	P	V
		7440	41.52	-32.48	74	59.15	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.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz BT LF		30.97	22.48	-17.52	40	29.59	24.98	0.71	32.8	-	-	P	H
		94.02	22.27	-21.23	43.5	36.65	16.84	1.46	32.68	-	-	P	H
		180.35	24.5	-19	43.5	38.67	16.77	2.04	32.98	-	-	P	H
		349.13	24.41	-21.59	46	33.08	21.38	2.85	32.9	-	-	P	H
		570.29	26.15	-19.85	46	29.33	25.74	3.64	32.56	-	-	P	H
		849.65	30.49	-15.51	46	31.44	27.2	4.45	32.6	-	-	P	H
		52.31	31.05	-8.95	40	48.37	14.68	1.08	33.08	-	-	P	V
		94.02	28.73	-14.77	43.5	43.11	16.84	1.46	32.68	-	-	P	V
		203.63	22.05	-21.45	43.5	36.44	16.54	2.17	33.1	-	-	P	V
		345.25	25.83	-20.17	46	34.62	21.28	2.83	32.9	-	-	P	V
		629.46	27.33	-18.67	46	30.38	25.74	3.83	32.62	-	-	P	V
		846.74	29.69	-16.31	46	30.66	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.
		(MHz)	(dBμV/m)	(dB)	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
					(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)

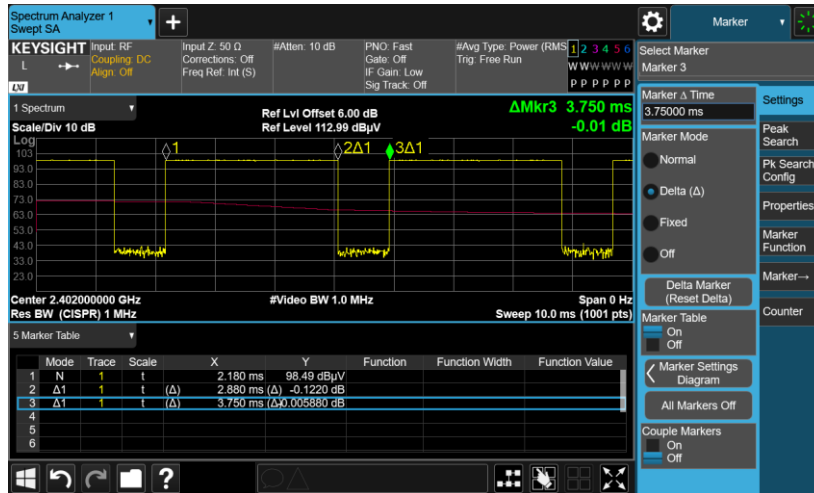
For Average Limit @ 2390MHz:

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)

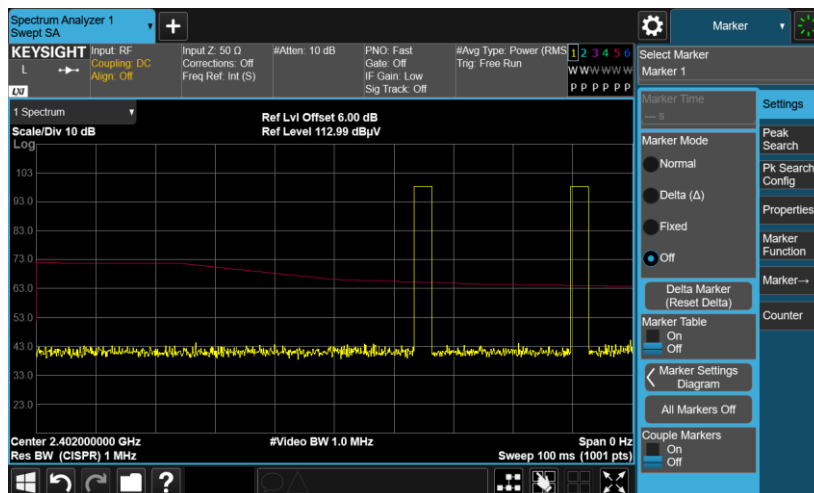
Both peak and average measured complies with the limit line, so test result is “PASS”.

Appendix D. Duty Cycle Plots

3DH5 on time (One Pulse) Plot on Channel 39



3DH5 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. 3DH5 has the highest duty cycle worst case and is reported.