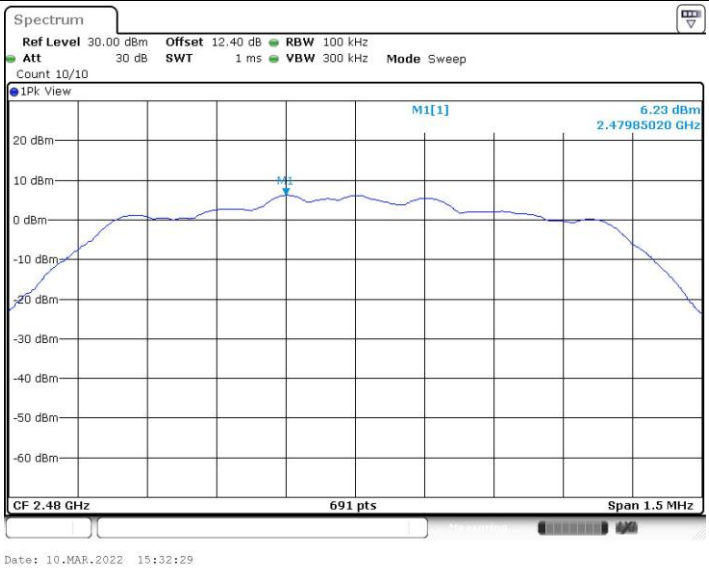
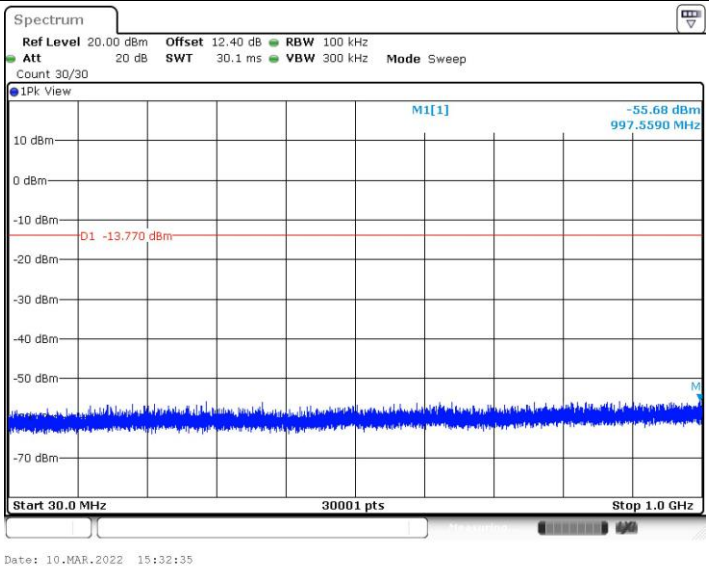
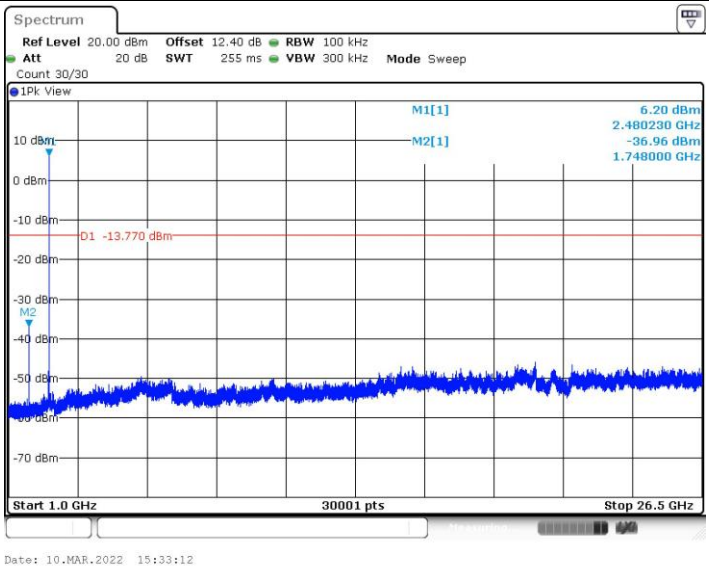
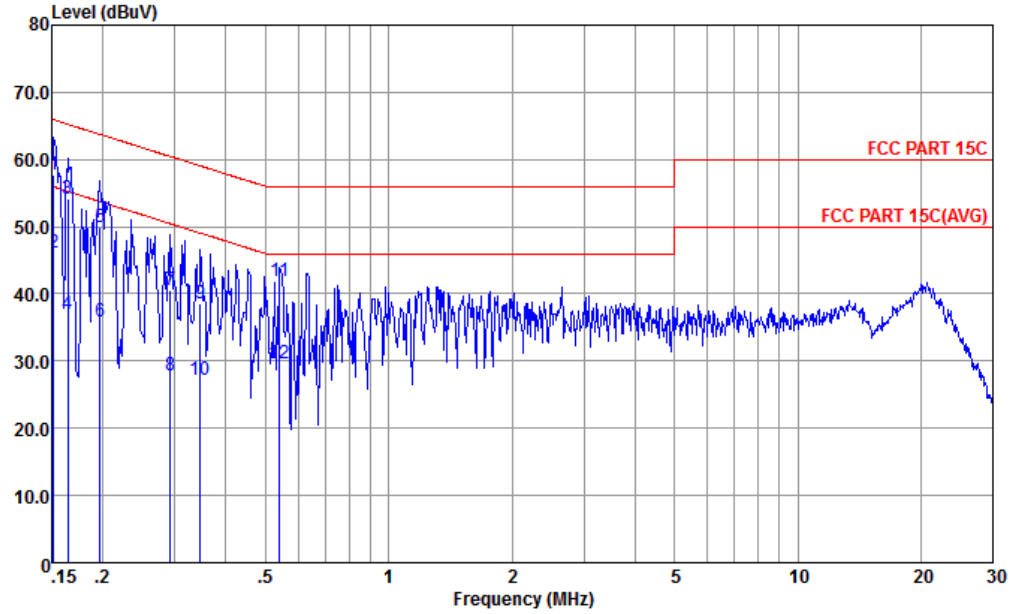
3DH1_Ant1_2480_0~Reference


3DH1_Ant1_2480_30~1000


3DH1_Ant1_2480_1000~26500


Appendix B. AC Conducted Emission Test Results

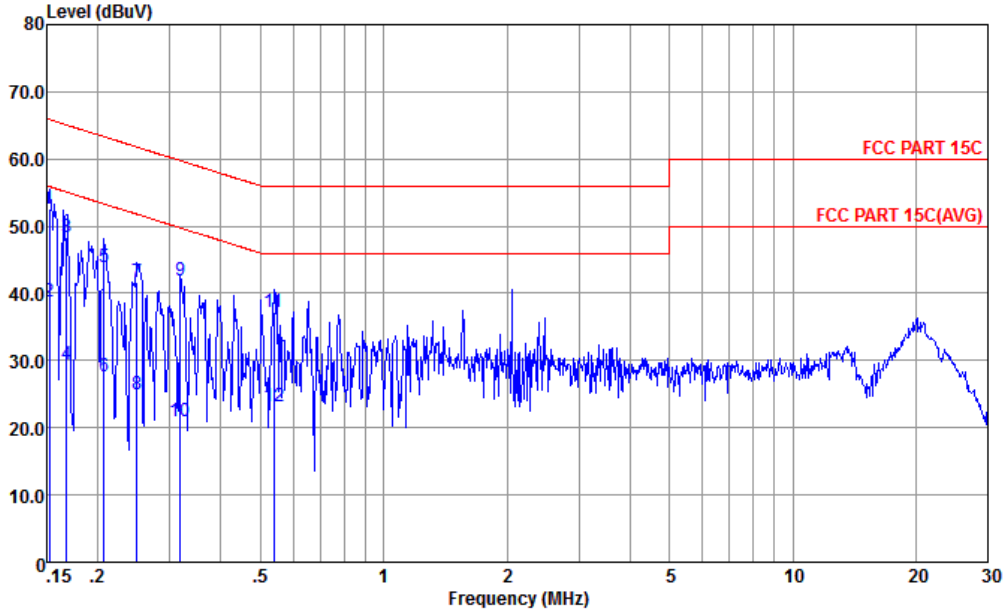
Test Engineer :	Amos Zhang	**Temperature :**	25.3~26.2℃
		Relative Humidity :	38~40%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



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	*	0.152	57.70	-8.21	65.91	47.20	0.02	10.48	QP
2		0.152	46.10	-9.81	55.91	35.60	0.02	10.48	Average
3		0.164	54.07	-11.18	65.25	43.60	0.03	10.44	QP
4		0.164	37.07	-18.18	55.25	26.60	0.03	10.44	Average
5		0.197	49.91	-13.85	63.76	39.50	0.04	10.37	QP
6		0.197	35.91	-17.85	53.76	25.50	0.04	10.37	Average
7		0.292	40.58	-19.88	60.46	30.20	0.07	10.31	QP
8		0.292	27.88	-22.58	50.46	17.50	0.07	10.31	Average
9		0.346	38.57	-20.48	59.05	28.20	0.08	10.29	QP
10		0.346	27.27	-21.78	49.05	16.90	0.08	10.29	Average
11		0.541	41.84	-14.16	56.00	31.50	0.10	10.24	QP
12		0.541	29.64	-16.36	46.00	19.30	0.10	10.24	Average

Test Engineer :	Amos Zhang	**Temperature :**	25.3~26.2℃
		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 : site
Condition : FCC PART 15C LISN-060105-N NEUTRAL

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	*	0.152	52.48	-13.39	65.87	41.90	0.11	10.47	QP
2		0.152	38.88	-16.99	55.87	28.30	0.11	10.47	Average
3		0.168	48.34	-16.74	65.08	37.80	0.11	10.43	QP
4		0.168	29.34	-25.74	55.08	18.80	0.11	10.43	Average
5		0.207	43.96	-19.36	63.32	33.50	0.10	10.36	QP
6		0.207	27.66	-25.66	53.32	17.20	0.10	10.36	Average
7		0.249	41.63	-20.15	61.78	31.20	0.10	10.33	QP
8		0.249	25.06	-26.72	51.78	14.63	0.10	10.33	Average
9		0.318	42.00	-17.75	59.75	31.60	0.10	10.30	QP
10		0.318	21.00	-28.75	49.75	10.60	0.10	10.30	Average
11		0.538	37.25	-18.75	56.00	26.90	0.11	10.24	QP
12		0.538	23.25	-22.75	46.00	12.90	0.11	10.24	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

Test Engineer :	Carry xu	Temperature :	22~23°C
		Relative Humidity :	41~42%

2.4GHz 2400~2483.5MHz

BT (Band Edge @ 3m)

BT	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BT CH 78 2480MHz		2483.5	58.84	-15.16	74	55.43	32.98	7.25	36.82	133	298	P	H
	*	2483.5	34.08	-19.92	54	-	-	-	-	-	-	A	H
		2480	107.61	-	-	104.2	32.98	7.25	36.82	133	298	P	H
		2480	82.85	-	-	-	-	-	-	-	-	A	H
		2483.5	58.48	-15.52	74	55.07	32.98	7.25	36.82	102	250	P	V
	*	2483.5	33.72	-20.28	54	-	-	-	-	-	-	A	V
		2480	107.01	-	-	103.6	32.98	7.25	36.82	102	250	P	V
		2480	82.25	-	-	-	-	-	-	-	-	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	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BT CH 78 2480MHz		4965	41.29	-32.71	74	62.07	34.28	10.41	65.47	300	0	P	H
		7440	50.27	-23.73	74	67.9	35.89	12.79	66.31	300	0	P	H
		4965	41.94	-32.06	74	62.72	34.28	10.41	65.47	100	0	P	V
		7440	50.32	-23.68	74	67.95	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.
				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)
2.4GHz BT LF		31	23.03	-16.97	40	30.63	24.32	0.89	32.81	-	-	P	H
		95.96	26.02	-17.48	43.5	42.14	15.24	1.56	32.92	-	-	P	H
		126.03	25.74	-17.76	43.5	40.46	16.42	1.78	32.92	-	-	P	H
		164.83	30.65	-12.85	43.5	45.19	16.35	2.04	32.93	-	-	P	H
		268.62	25.32	-20.68	46	36.93	18.76	2.64	33.01	-	-	P	H
		336.52	25.61	-20.39	46	35.66	19.93	2.95	32.93	-	-	P	H
		44.55	26.18	-13.82	40	41.23	16.8	1.05	32.9	-	-	P	V
		126.03	24.36	-19.14	43.5	39.08	16.42	1.78	32.92	-	-	P	V
		168.71	27.77	-15.73	43.5	42.45	16.18	2.07	32.93	-	-	P	V
		199.75	26.22	-17.28	43.5	42.14	14.8	2.27	32.99	-	-	P	V
		278.32	21.44	-24.56	46	32.85	18.9	2.69	33	-	-	P	V
		360.77	26.42	-19.58	46	35.81	20.5	3.04	32.93	-	-	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	**P**eak or **A**verage
H/V	**H**orizontal or **V**ertical

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)

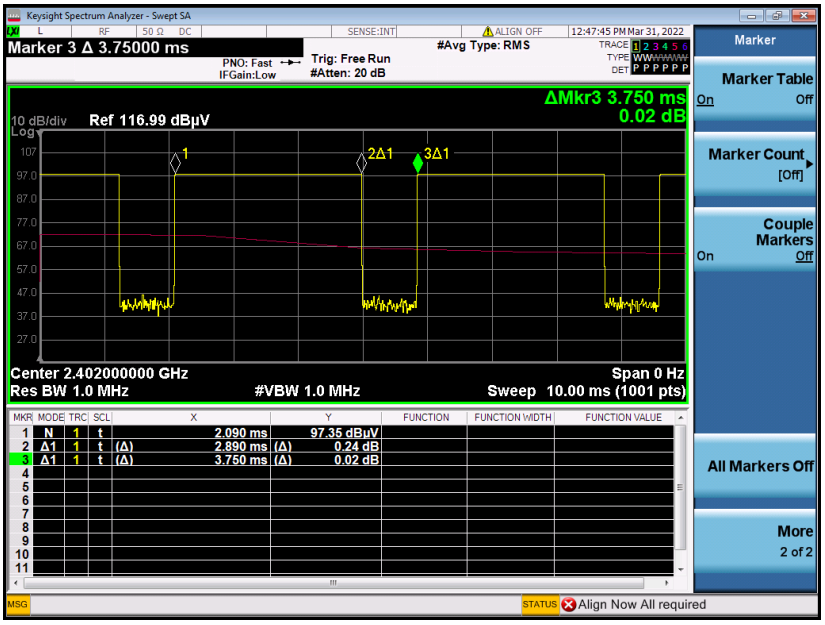
= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

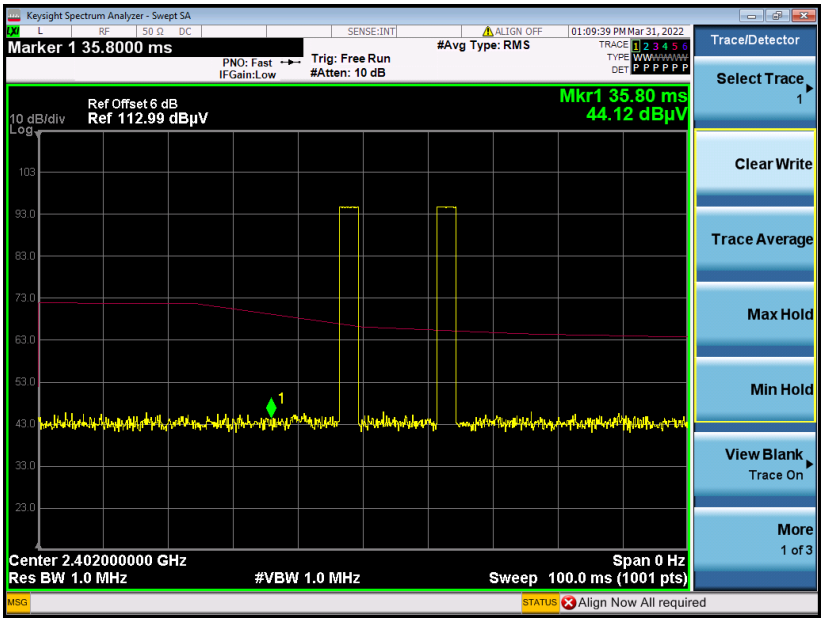
Both peak and average measured complies with the limit line, so test result is “PASS”.

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 * 2.89 / 100 = 5.78 %
2. Worst case Duty cycle correction factor = 20*log(Duty cycle) = -24.76 dB
3. DH5 has the highest duty cycle worst case and is reported.