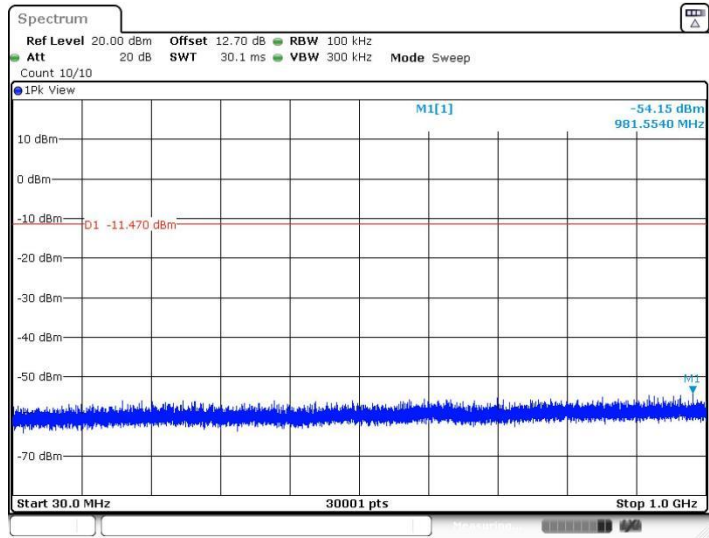
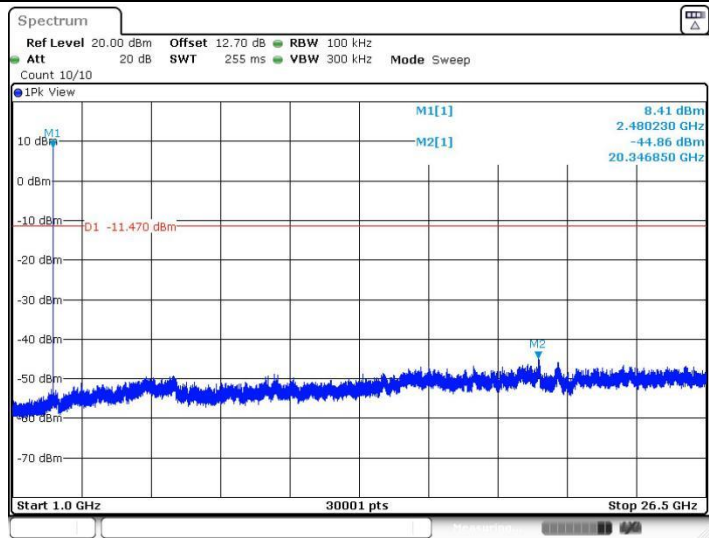




2DH1_Ant1_2480_30~1000

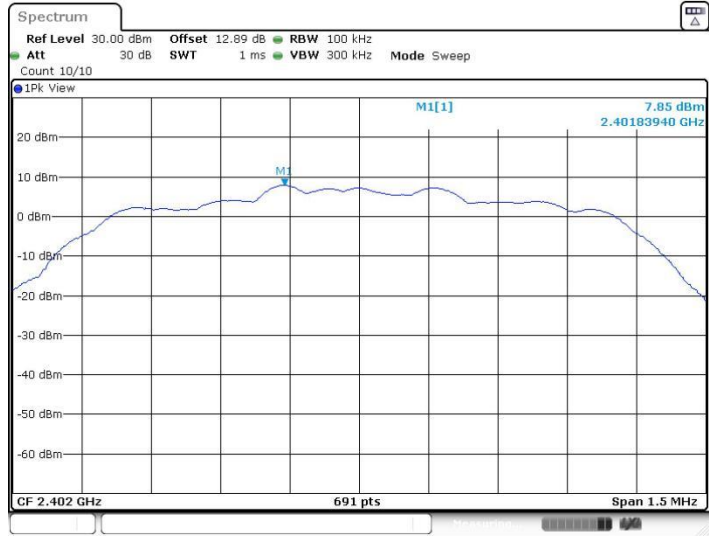


2DH1_Ant1_2480_1000~26500



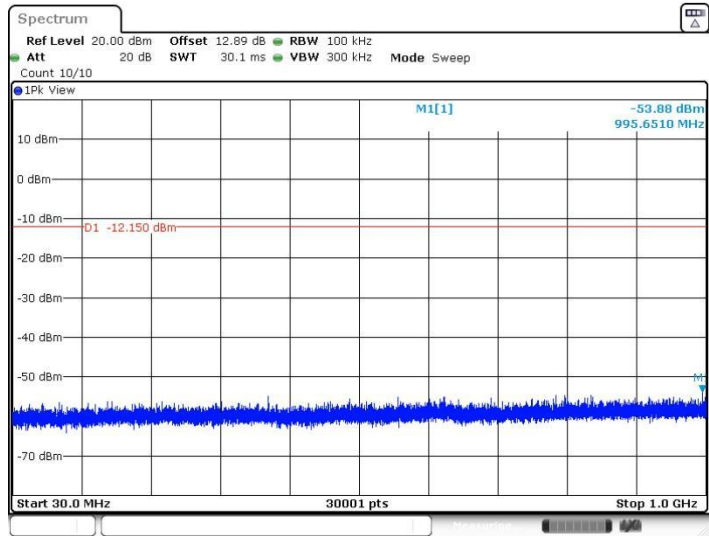


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Date: 23.OCT.2022 09:47:42

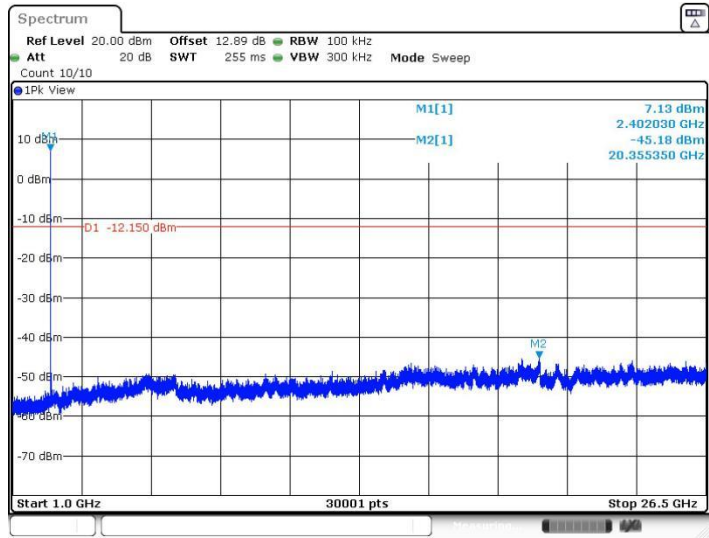
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Date: 23.OCT.2022 09:47:48

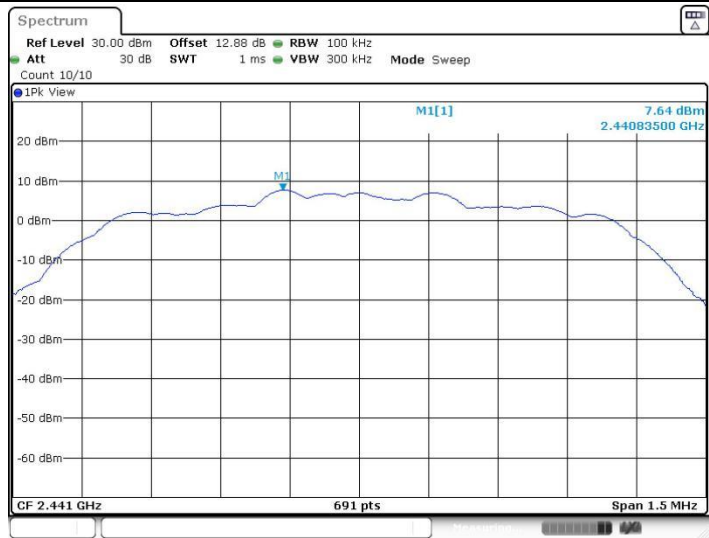


3DH1_Ant1_2402_1000~26500

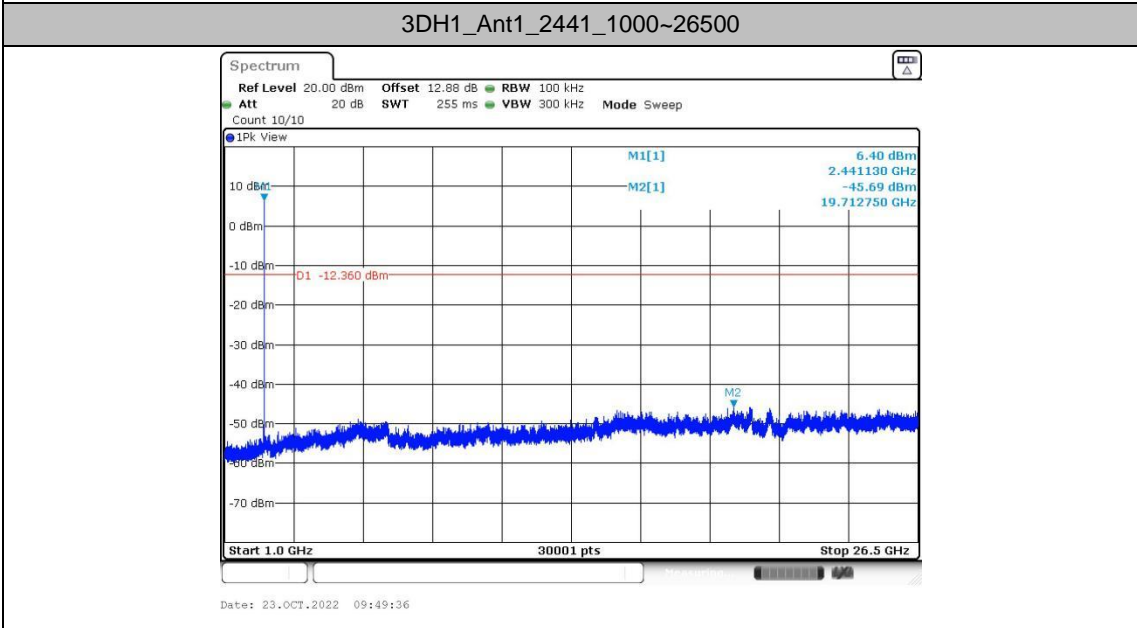
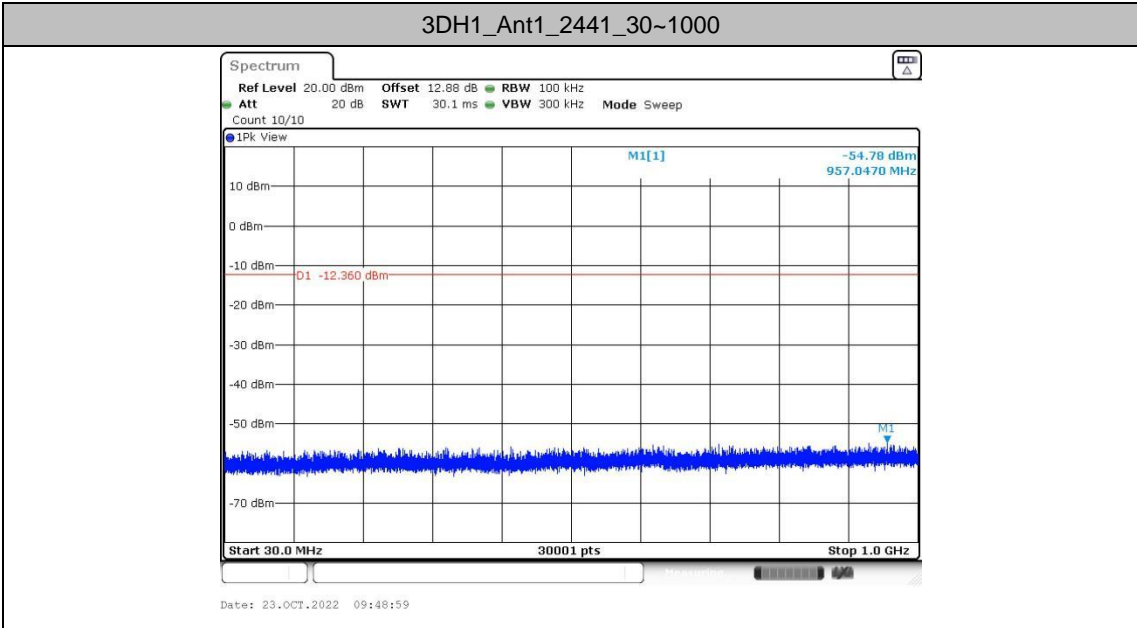


Date: 23.OCT.2022 09:48:25

3DH1_Ant1_2441_0~Reference

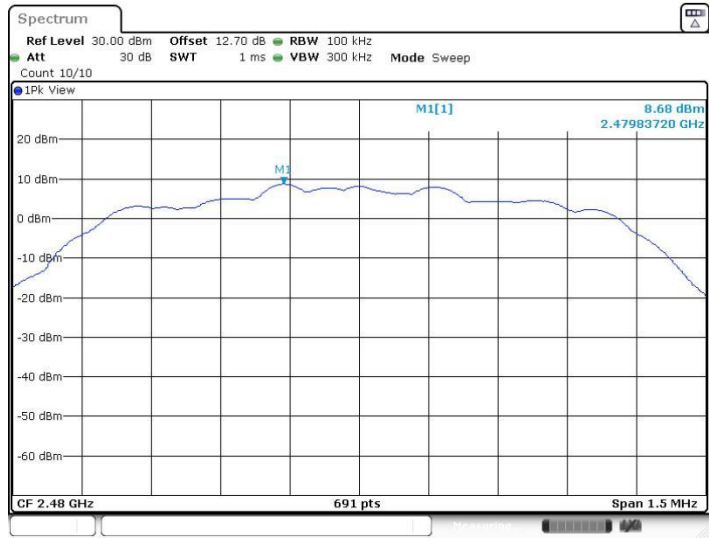


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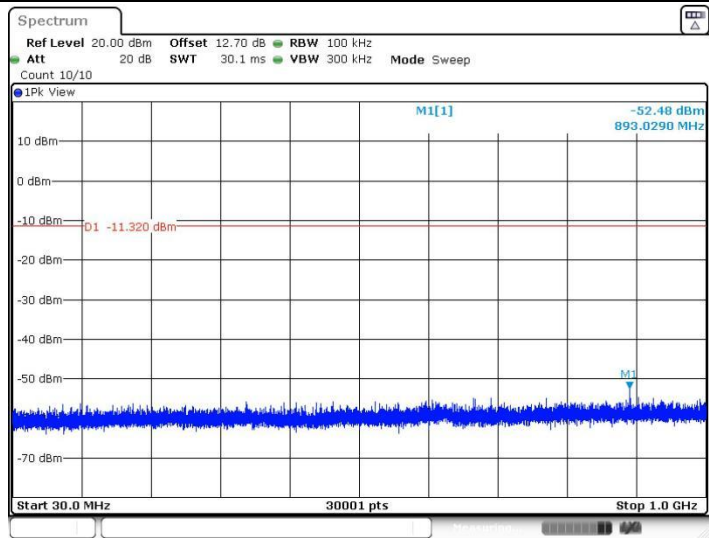


3DH1_Ant1_2480_0~Reference

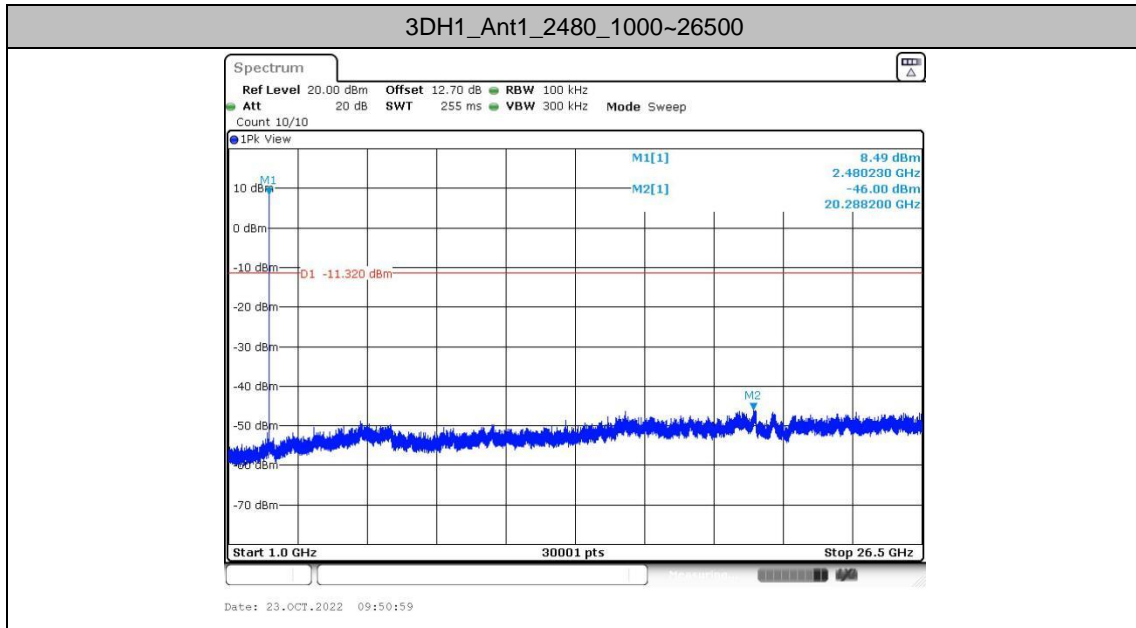


Date: 23.OCT.2022 09:50:16

3DH1_Ant1_2480_30~1000



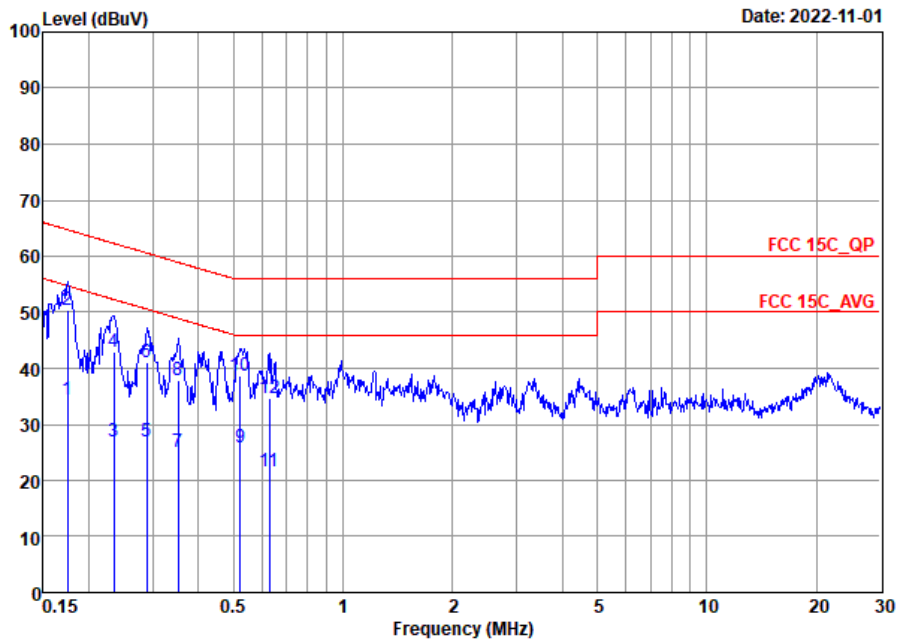
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Appendix B. AC Conducted Emission Test Results

Test Engineer :	Yuki Tang	Temperature :	21~24°C
		Relative Humidity :	39~43%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

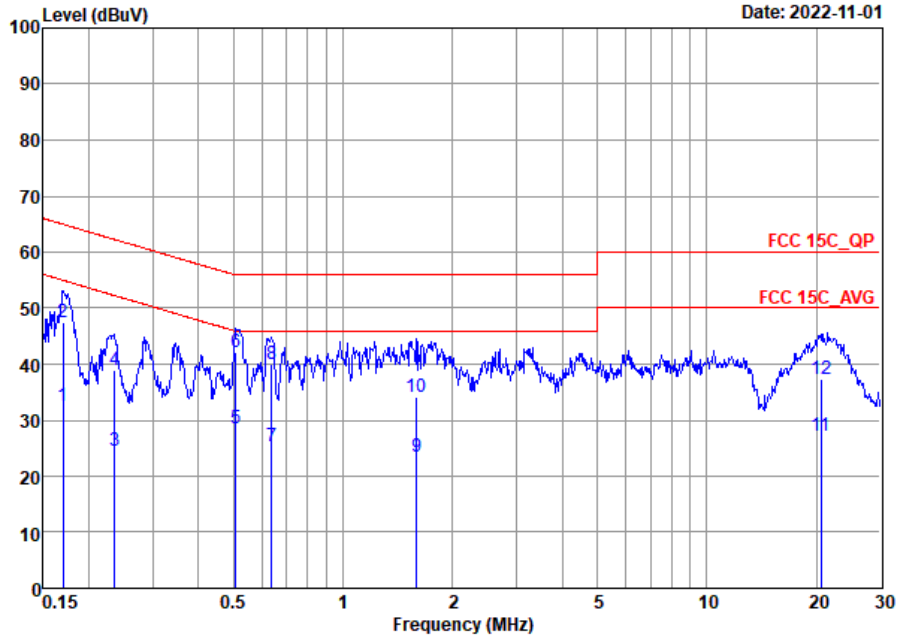


Site : CO01-SZ
 Condition: FCC 15C QP LISN 20220811 L LINE

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.17	34.37	-20.35	54.72	13.70	10.20	10.47	Average
2 *	0.17	50.47	-14.25	64.72	29.80	10.20	10.47	QP
3	0.23	26.94	-25.36	52.30	6.30	10.19	10.45	Average
4	0.23	43.04	-19.26	62.30	22.40	10.19	10.45	QP
5	0.29	26.81	-23.73	50.54	5.80	10.16	10.85	Average
6	0.29	41.11	-19.43	60.54	20.10	10.16	10.85	QP
7	0.35	24.99	-23.92	48.91	3.70	10.08	11.21	Average
8	0.35	37.99	-20.92	58.91	16.70	10.08	11.21	QP
9	0.52	25.78	-20.22	46.00	3.89	10.12	11.77	Average
10	0.52	38.68	-17.32	56.00	16.79	10.12	11.77	QP
11	0.63	21.55	-24.45	46.00	0.10	10.12	11.33	Average
12	0.63	34.75	-21.25	56.00	13.30	10.12	11.33	QP



Test Engineer :	Yuki Tang	Temperature :	21~24°C
		Relative Humidity :	39~43%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-SZ
 Condition: FCC 15C QP LISN 20220811 N NEUTRAL

	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.17	32.44	-22.50	54.94	11.60	10.31	10.53	Average
2	0.17	47.34	-17.60	64.94	26.50	10.31	10.53	QP
3	0.24	24.41	-27.85	52.26	3.70	10.26	10.45	Average
4	0.24	38.91	-23.35	62.26	18.20	10.26	10.45	QP
5	0.51	28.52	-17.48	46.00	6.51	10.19	11.82	Average
6 *	0.51	42.12	-13.88	56.00	20.11	10.19	11.82	QP
7	0.64	25.22	-20.78	46.00	3.70	10.23	11.29	Average
8	0.64	39.92	-16.08	56.00	18.40	10.23	11.29	QP
9	1.59	23.47	-22.53	46.00	3.00	10.23	10.24	Average
10	1.59	34.27	-21.73	56.00	13.80	10.23	10.24	QP
11	20.59	27.26	-22.74	50.00	7.11	9.80	10.35	Average
12	20.59	37.36	-22.64	60.00	17.21	9.80	10.35	QP

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	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BT CH00 2402MHz		2388.855	47.81	-26.19	74	40.45	32.26	7.8	32.7	100	271	P	H
		2388.855	23.02	-30.98	54	-	-	-	-	-	-	A	H
	*	2402	105.84	-	-	98.46	32.28	7.8	32.7	100	271	P	H
	*	2402	81.05	-	-	-	-	-	-	-	-	A	H
		2389.275	48.61	-25.39	74	41.25	32.26	7.8	32.7	100	228	P	V
		2389.275	23.82	-30.18	54	-	-	-	-	-	-	A	V
	*	2402	95.71	-	-	88.33	32.28	7.8	32.7	100	228	P	V
	*	2402	70.92	-	-	-	-	-	-	-	-	A	V
BT CH 39 2441MHz		2364.46	47.06	-26.94	74	39.87	32.2	7.69	32.7	100	274	P	H
		2364.46	22.27	-31.73	54	-	-	-	-	-	-	A	H
	*	2441	106.68	-	-	99.17	32.37	7.84	32.7	100	274	P	H
	*	2441	81.89	-	-	-	-	-	-	-	-	A	H
		2484.11	47.39	-26.61	74	39.74	32.47	7.88	32.7	100	274	P	H
		2484.11	22.6	-31.4	54	-	-	-	-	-	-	A	H
		2388.54	46.91	-27.09	74	39.56	32.25	7.8	32.7	100	193	P	V
		2388.54	22.12	-31.88	54	-	-	-	-	-	-	A	V
	*	2441	98.05	-	-	90.54	32.37	7.84	32.7	100	193	P	V
	*	2441	73.26	-	-	-	-	-	-	-	-	A	V
		2490.62	47.33	-26.67	74	39.67	32.48	7.88	32.7	100	193	P	V
		2490.62	22.54	-31.46	54	-	-	-	-	-	-	A	V
BT CH 78 2480MHz	*	2480	107.61	-	-	99.97	32.46	7.88	32.7	100	262	P	H
	*	2480	82.82	-	-	-	-	-	-	-	-	A	H
		2484.4	49.46	-24.54	74	41.81	32.47	7.88	32.7	100	262	P	H
		2484.4	24.67	-29.33	54	-	-	-	-	-	-	A	H
	*	2480	99.45	-	-	91.81	32.46	7.88	32.7	100	202	P	V
	*	2480	74.66	-	-	-	-	-	-	-	-	A	V
		2484.44	47.44	-26.56	74	39.79	32.47	7.88	32.7	100	202	P	V
		2484.44	22.65	-31.35	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	Note	Frequency	Level	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
BT CH 00 2402MHz		4804	45.28	-28.72	74	51.53	34.82	11.08	52.15	-	-	P	H
		4804	20.49	-33.51	54	-	-	-	-	-	-	A	H
		4804	45.69	-28.31	74	51.94	34.82	11.08	52.15	-	-	P	V
		4804	20.9	-33.1	54	-	-	-	-	-	-	A	V
BT CH 39 2441MHz		4882	44.86	-29.14	74	51	34.85	11.11	52.1	-	-	P	H
		4882	20.07	-33.93	54	-	-	-	-	-	-	A	H
		7323	47.01	-26.99	74	49.37	36.33	13.08	51.77	-	-	P	H
		7323	22.22	-31.78	54	-	-	-	-	-	-	A	H
		4882	44.89	-29.11	74	51.03	34.85	11.11	52.1	-	-	P	V
		4882	20.1	-33.9	54	-	-	-	-	-	-	A	V
		7323	47.27	-26.73	74	49.63	36.33	13.08	51.77	-	-	P	V
		7323	22.48	-31.52	54	-	-	-	-	-	-	A	V
BT CH 78 2480MHz		4960	45.54	-28.46	74	51.55	34.88	11.14	52.03	-	-	P	H
		4960	20.75	-33.25	54	-	-	-	-	-	-	A	H
		7440	47.08	-26.92	74	49.36	36.38	12.99	51.65	-	-	P	H
		7440	22.29	-31.71	54	-	-	-	-	-	-	A	H
		4960	45.83	-28.17	74	51.84	34.88	11.14	52.03	-	-	P	V
		4960	21.04	-32.96	54	-	-	-	-	-	-	A	V
		7440	47.15	-26.85	74	49.43	36.38	12.99	51.65	-	-	P	V
		7440	22.36	-31.64	54	-	-	-	-	-	-	A	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	Margin	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz BT LF		42.61	19.45	-20.55	40	33.4	19.48	1.5	34.93	-	-	P	H
		182.29	30.11	-13.39	43.5	45.23	17.05	2.53	34.7	-	-	P	H
		286.08	27.06	-18.94	46	39.84	18.69	3.16	34.63	-	-	P	H
		480.08	24.64	-21.36	46	32.61	23.11	3.42	34.5	-	-	P	H
		706.09	28.67	-17.33	46	32.17	27.16	3.74	34.4	-	-	P	H
		835.1	30.7	-15.3	46	32.1	28.52	4.38	34.3	-	-	P	H
		42.61	27.18	-12.82	40	41.13	19.48	1.5	34.93	-	-	P	V
		181.32	29.6	-13.9	43.5	44.69	17.1	2.51	34.7	-	-	P	V
		288.99	22.23	-23.77	46	34.89	18.79	3.17	34.62	-	-	P	V
		400.54	24.44	-21.56	46	34.19	21.44	3.31	34.5	-	-	P	V
		586.78	26.62	-19.38	46	32.04	25.58	3.57	34.57	-	-	P	V
	794.36	29.07	-16.93	46	31.26	27.81	4.31	34.31	-	-	P	V	
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

A calculation example for radiated spurious emission is shown as below:

BT	Note	Frequency	Level	Margin	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		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 00		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H
2402MHz													

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. Margin (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. Margin (dB)
= Level(dBμV/m) – Limit Line(dBμV/m)
= 55.45(dBμV/m) – 74(dBμV/m)
= -18.55(dB)

For Average Limit @ 2390MHz:

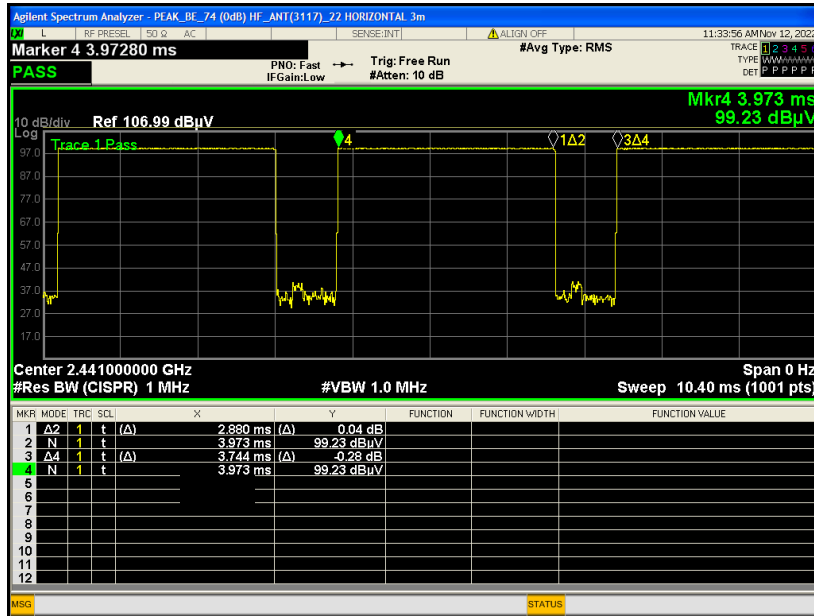
1. Level(dBμV/m)
= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)
= 43.54 (dBμV/m)
2. Margin (dB)
= Level(dBμV/m) – Limit Line(dBμV/m)
= 43.54(dBμV/m) – 54(dBμV/m)
= -10.46(dB)

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

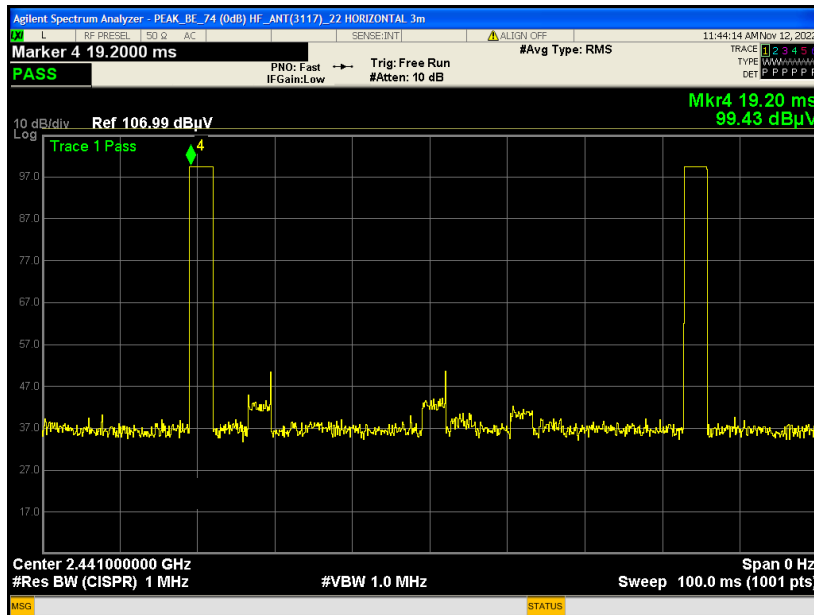


Appendix D. Duty Cycle Plots

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 * 2.880 / 100 = 5.76 %
2. Worst case Duty cycle correction factor = 20*log(Duty cycle) = -24.79 dB
3. DH5 has the highest duty cycle worst case and is reported.