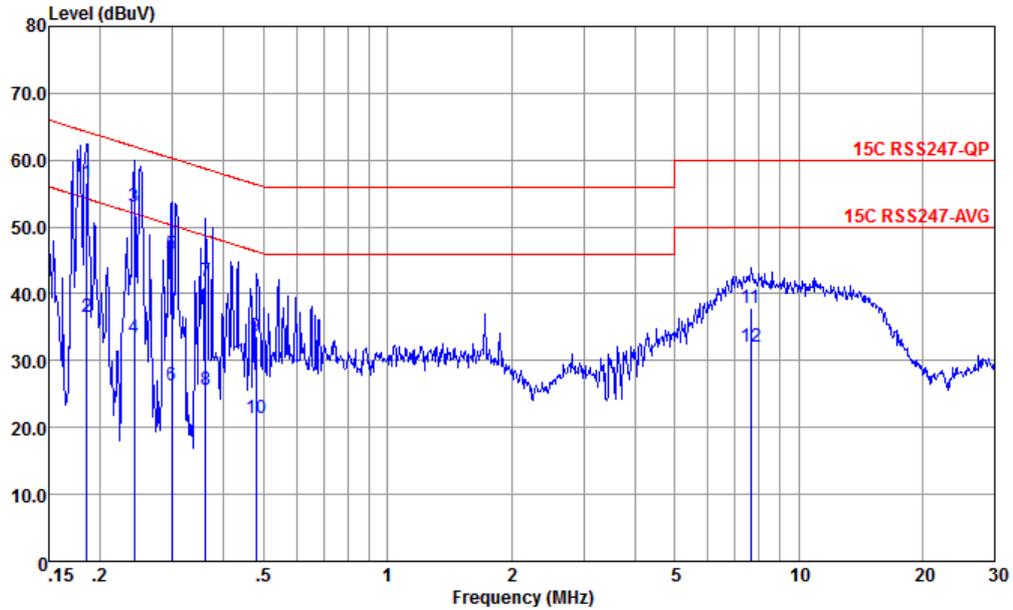




Appendix B. AC Conducted Emission Test Results

Test Engineer :	Amos	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.		

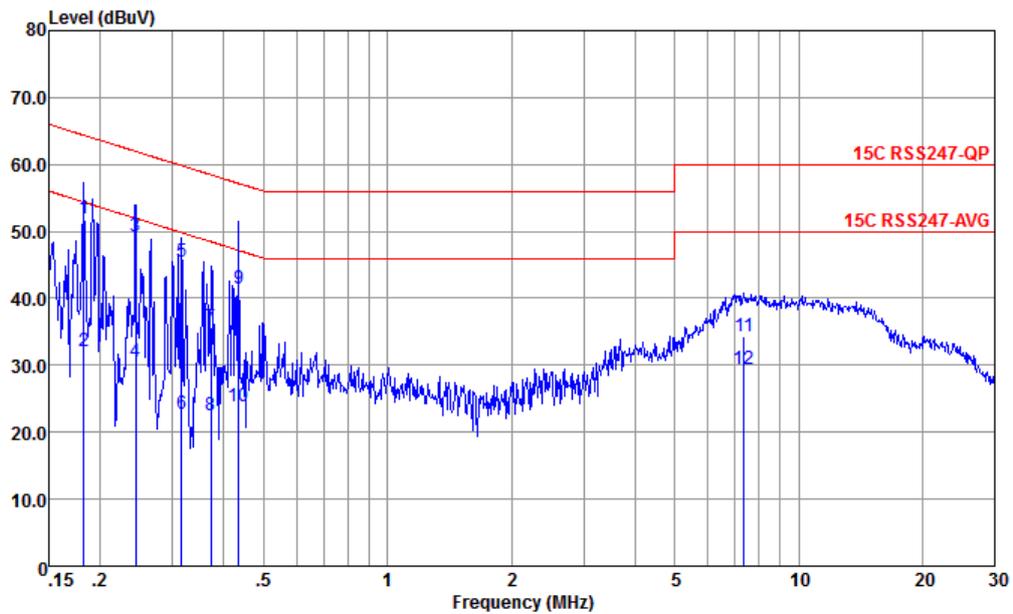


Site : CO01-KS
 Condition : 15C RSS247-QP LISN-060105-LINE LINE

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1 *	0.185	56.66	-7.58	64.24	46.21	0.03	10.42	QP
2	0.185	36.66	-17.58	54.24	26.21	0.03	10.42	Average
3	0.242	52.93	-9.11	62.04	42.50	0.04	10.39	QP
4	0.242	33.33	-18.71	52.04	22.90	0.04	10.39	Average
5	0.299	45.91	-14.37	60.28	35.50	0.06	10.35	QP
6	0.299	26.21	-24.07	50.28	15.80	0.06	10.35	Average
7	0.361	41.84	-16.85	58.69	31.49	0.03	10.32	QP
8	0.361	25.54	-23.15	48.69	15.19	0.03	10.32	Average
9	0.479	33.70	-22.66	56.36	23.49	-0.02	10.23	QP
10	0.479	21.40	-24.96	46.36	11.19	-0.02	10.23	Average
11	7.646	37.80	-22.20	60.00	27.60	-0.15	10.35	QP
12	7.646	32.00	-18.00	50.00	21.80	-0.15	10.35	Average



Test Engineer :	Amos	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 *	0.182	51.97	-12.40	64.37	41.51	0.04	10.42	QP
2	0.182	32.07	-22.30	54.37	21.61	0.04	10.42	Average
3	0.244	49.19	-12.76	61.95	38.80	0.00	10.39	QP
4	0.244	30.59	-21.36	51.95	20.20	0.00	10.39	Average
5	0.315	45.49	-14.35	59.84	35.20	-0.05	10.34	QP
6	0.315	22.79	-27.05	49.84	12.50	-0.05	10.34	Average
7	0.371	35.75	-22.72	58.47	25.50	-0.06	10.31	QP
8	0.371	22.45	-26.02	48.47	12.20	-0.06	10.31	Average
9	0.435	41.39	-15.76	57.15	31.19	-0.07	10.27	QP
10	0.435	23.79	-23.36	47.15	13.59	-0.07	10.27	Average
11	7.368	34.38	-25.62	60.00	24.20	-0.13	10.31	QP
12	7.368	29.48	-20.52	50.00	19.30	-0.13	10.31	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

Both Ant.16 & Ant.7 are tested, only the worst results of Ant.16 are recorded in the report.

2.4GHz 2400~2483.5MHz

BT (Band Edge @ 3m)

BT	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	*	2480	100.60	-	-	94.08	32.43	6.73	32.64	267	43	P	H
		2480	75.81	-	-	-	-	-	-	-	-	A	H
		2486.74	56.01	-17.99	74	49.49	32.43	6.73	32.64	267	43	P	H
		2486.74	31.22	-22.78	54	-	-	-	-	-	-	A	H
	*	2480	106.29	-	-	99.77	32.43	6.73	32.64	222	8	P	V
		2480	81.50	-	-	-	-	-	-	-	-	A	V
		2484.46	53.88	-20.12	74	47.36	32.43	6.73	32.64	222	8	P	V
		2484.46	29.09	-24.91	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 (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	40.8	-33.2	74	58.8	34.1	9.61	61.71	300	0	P	H
		7440	41.5	-32.5	74	56.09	35.7	11.78	62.07	300	0	P	H
		4965	40.05	-33.95	74	58.05	34.1	9.61	61.71	100	0	P	V
		7440	42.74	-31.26	74	57.33	35.7	11.78	62.07	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.
		(MHz)	(dBμV/m)	(dB)	Limit	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
					Line	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz BT LF		30	24.3	-15.7	40	30.77	25.15	0.58	32.2			P	H
		92.08	20.2	-23.3	43.5	35.09	15.86	1.51	32.26			P	H
		181.32	22.5	-21	43.5	36.54	15.88	2.18	32.1			P	H
		259.89	26.12	-19.88	46	37	18.7	2.6	32.18			P	H
		303.54	23.5	-22.5	46	33.5	19.28	2.83	32.11			P	H
		827.34	34.55	-11.45	46	35.8	26.42	4.68	32.35			P	H
		42.61	35.38	-4.62	40	48.41	18.34	0.77	32.14			P	V
		90.14	26.28	-17.22	43.5	41.1	16	1.48	32.3			P	V
		179.38	23.02	-20.48	43.5	36.17	16.79	2.16	32.1			P	V
		244.37	23.71	-22.29	46	34.34	19.04	2.52	32.19			P	V
		732.28	27.15	-18.85	46	28.79	26.22	4.4	32.26			P	V
		831.22	28.78	-17.22	46	29.35	27.09	4.7	32.36			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)	(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)

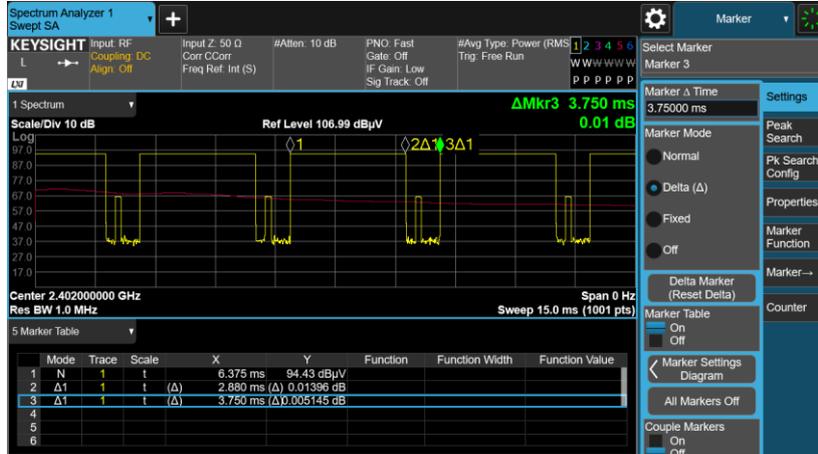
For Average Limit @ 2390MHz:

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)

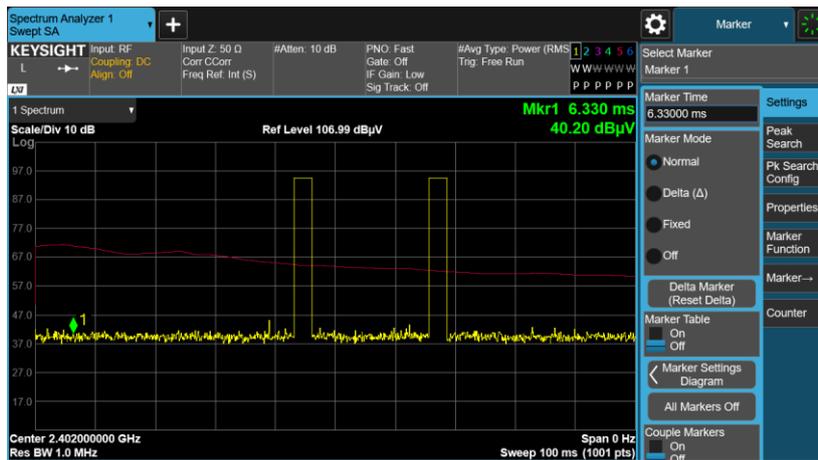
Both peak and average measured complies with the limit line, so test result is “PASS”.

Appendix D. Duty Cycle Plots

2DH5 on time (One Pulse) Plot on Channel 39



2DH5 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. 2DH5 has the highest duty cycle worst case and is reported.