



11AC80SISO_Ant1_5290

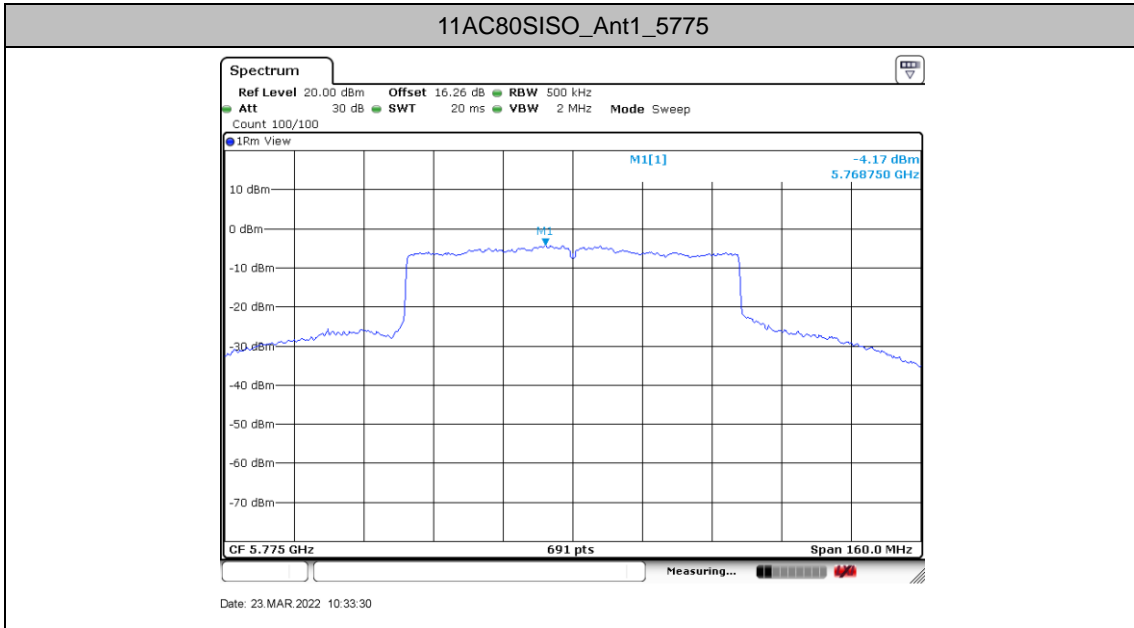


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11AC80SISO_Ant1_5530



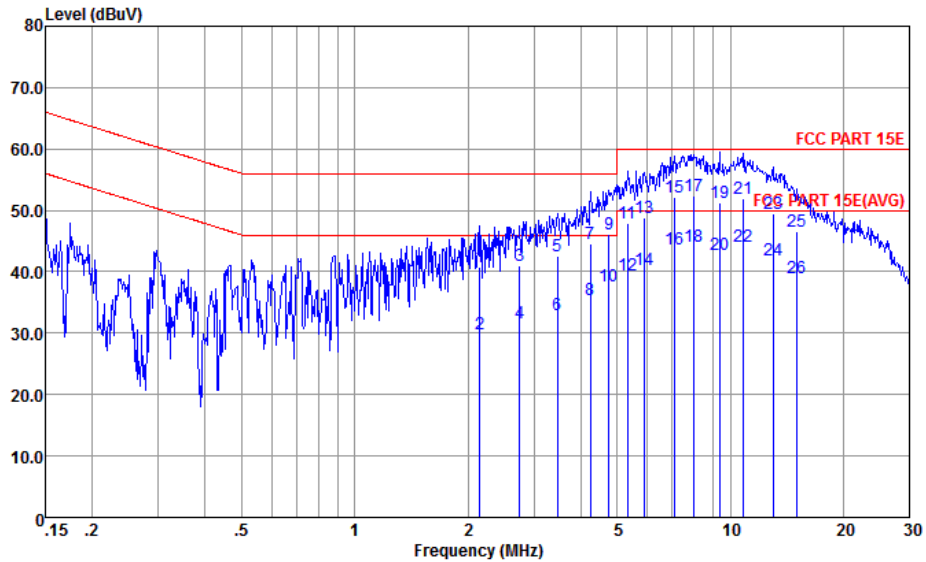
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Appendix B. AC Conducted Emission Test Results

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.		

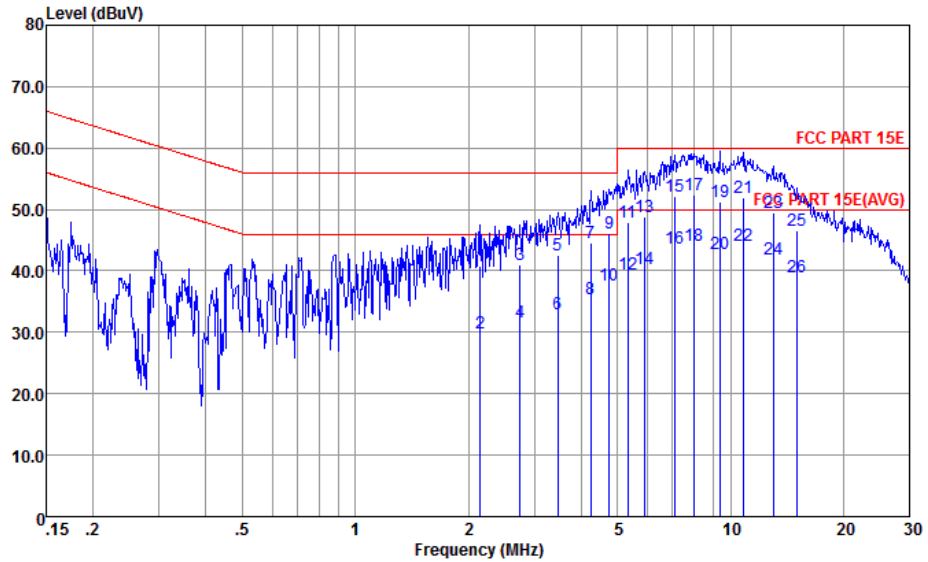


Site : CO01-KS
 Condition : FCC PART 15E LISN-060105-L LINE

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	2.155	40.87	-15.13	56.00	30.50	0.14	10.23	QP
2	2.155	29.97	-16.03	46.00	19.60	0.14	10.23	Average
3	2.750	40.99	-15.01	56.00	30.60	0.15	10.24	QP
4	2.750	31.59	-14.41	46.00	21.20	0.15	10.24	Average
5	3.472	42.61	-13.39	56.00	32.20	0.16	10.25	QP
6	3.472	33.01	-12.99	46.00	22.60	0.16	10.25	Average
7	4.247	44.63	-11.37	56.00	34.20	0.17	10.26	QP
8	4.247	35.53	-10.47	46.00	25.10	0.17	10.26	Average
9	4.746	46.04	-9.96	56.00	35.59	0.18	10.27	QP
10	4.746	37.64	-8.36	46.00	27.19	0.18	10.27	Average
11	5.333	47.96	-12.04	60.00	37.50	0.18	10.28	QP
12	5.333	39.36	-10.64	50.00	28.90	0.18	10.28	Average
13	5.898	48.77	-11.23	60.00	38.31	0.18	10.28	QP
14	5.898	40.37	-9.63	50.00	29.91	0.18	10.28	Average
15	7.100	52.09	-7.91	60.00	41.60	0.19	10.30	QP
16	7.100	43.69	-6.31	50.00	33.20	0.19	10.30	Average
17	7.977	52.42	-7.58	60.00	41.90	0.20	10.32	QP
18	7.977	44.12	-5.88	50.00	33.60	0.20	10.32	Average
19	9.352	51.15	-8.85	60.00	40.61	0.21	10.33	QP
20	9.352	42.85	-7.15	50.00	32.31	0.21	10.33	Average
21	10.790	51.89	-8.11	60.00	41.31	0.23	10.35	QP
22 *	10.790	44.19	-5.81	50.00	33.61	0.23	10.35	Average
23	12.988	49.55	-10.45	60.00	38.90	0.27	10.38	QP



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.		

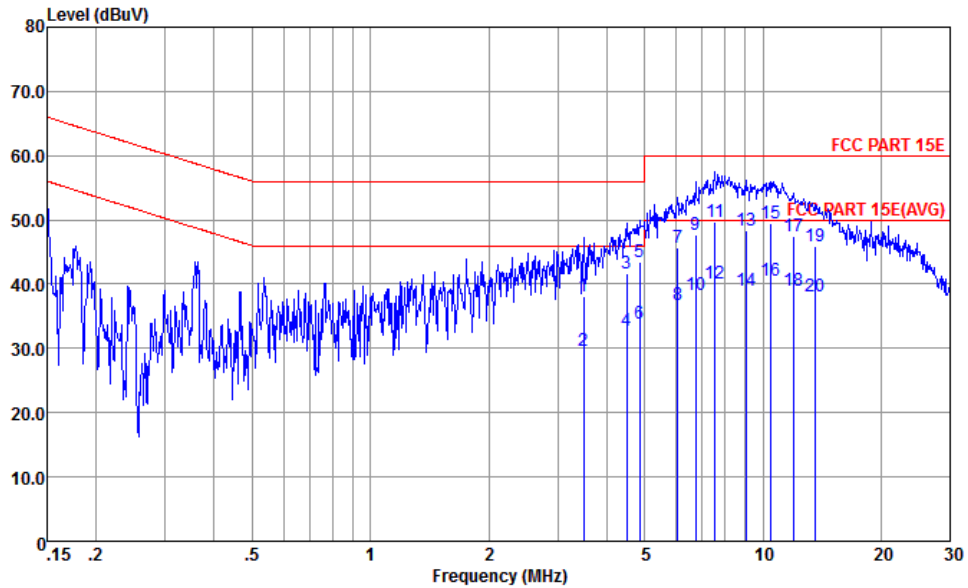


Site : CO01-KS
 Condition : FCC PART 15E LISN-060105-L LINE

Freq	Level	Over	Limit	Read	LISN	Cable	Remark
MHz	dBuV	dB	dBuV	dBuV	dB	dB	
24	12.988	41.95	-8.05	50.00	31.30	0.27	10.38 Average
25	14.986	46.59	-13.41	60.00	35.90	0.30	10.39 QP
26	14.986	38.89	-11.11	50.00	28.20	0.30	10.39 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 15E 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	3.491	38.21	-17.79	56.00	27.80	0.16	10.25	QP
2	3.491	29.61	-16.39	46.00	19.20	0.16	10.25	Average
3	4.501	41.74	-14.26	56.00	31.31	0.17	10.26	QP
4	4.501	32.74	-13.26	46.00	22.31	0.17	10.26	Average
5	4.848	43.35	-12.65	56.00	32.90	0.18	10.27	QP
6	4.848	33.95	-12.05	46.00	23.50	0.18	10.27	Average
7	6.056	45.78	-14.22	60.00	35.30	0.19	10.29	QP
8	6.056	36.68	-13.32	50.00	26.20	0.19	10.29	Average
9	6.733	47.80	-12.20	60.00	37.30	0.20	10.30	QP
10	6.733	38.30	-11.70	50.00	27.80	0.20	10.30	Average
11	7.566	49.72	-10.28	60.00	39.20	0.21	10.31	QP
12	7.566	40.12	-9.88	50.00	29.60	0.21	10.31	Average
13	9.059	48.35	-11.65	60.00	37.80	0.22	10.33	QP
14	9.059	39.05	-10.95	50.00	28.50	0.22	10.33	Average
15	10.452	49.49	-10.51	60.00	38.90	0.24	10.35	QP
16 *	10.452	40.49	-9.51	50.00	29.90	0.24	10.35	Average
17	11.996	47.53	-12.47	60.00	36.89	0.27	10.37	QP
18	11.996	38.93	-11.07	50.00	28.29	0.27	10.37	Average
19	13.623	45.97	-14.03	60.00	35.30	0.29	10.38	QP
20	13.623	38.17	-11.83	50.00	27.50	0.29	10.38	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

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

Band 1 - 5150~5250MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI 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)
802.11n HT20 CH 36 5180MHz		5147.84	63.58	-10.42	74	55.29	34.42	10.6	36.73	100	117	P	H
		5149.6	50.95	-3.05	54	42.66	34.42	10.6	36.73	100	117	A	H
	*	5182	105.24	-	-	96.84	34.45	10.64	36.69	100	117	P	H
		5182	97.76	-	-	89.36	34.45	10.64	36.69	100	117	A	H
		5146.56	54.64	-19.36	74	46.35	34.42	10.6	36.73	100	14	P	V
		5149.92	44.75	-9.25	54	36.46	34.42	10.6	36.73	100	14	A	V
	*	5176	99.15	-	-	90.75	34.45	10.64	36.69	100	14	P	V
	5176	91.47	-	-	83.07	34.45	10.64	36.69	100	14	A	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI 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)
802.11n HT20 CH 36 5180MHz		10355	44.1	-24.2	68.3	58.31	37.38	15.44	67.03	300	0	P	H
		10355	44.54	-23.76	68.3	58.75	37.38	15.44	67.03	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 - 5250~5350MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	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)
802.11n HT40 CH 62 5310MHz		5141.12	51.81	-22.19	74	43.52	34.42	10.6	36.73	100	114	P	H
		5101.92	40.73	-13.27	54	32.57	34.38	10.56	36.78	100	114	A	H
	*	5296	101.32	-	-	92.64	34.54	10.71	36.57	100	114	P	H
		5296	94.15	-	-	85.47	34.54	10.71	36.57	100	114	A	H
		5364.6	60.33	-13.67	74	51.49	34.59	10.76	36.51	100	114	P	H
		5352.3	50.59	-3.41	54	41.78	34.58	10.75	36.52	100	114	A	H
		5115.52	49.78	-24.22	74	41.57	34.39	10.58	36.76	306	82	P	V
		5100.8	40.55	-13.45	54	32.39	34.38	10.56	36.78	306	82	A	V
	*	5314	97.13	-	-	88.41	34.55	10.73	36.56	306	82	P	V
		5314	88.44	-	-	79.72	34.55	10.73	36.56	306	82	A	V
		5356.8	55.04	-18.96	74	46.23	34.58	10.75	36.52	306	82	P	V
		5351	44.82	-9.18	54	36.01	34.58	10.75	36.52	306	82	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	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)
802.11n HT40 CH 62 5310MHz		10619	44.38	-29.62	74	57.96	37.57	15.69	66.84	300	0	P	H
		10619	44.11	-29.89	74	57.69	37.57	15.69	66.84	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1	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)
802.11ac VHT80 CH 58 5290MHz		5144.96	51.05	-22.95	74	42.76	34.42	10.6	36.73	100	118	P	H
		5116.64	41.27	-12.73	54	33.06	34.39	10.58	36.76	100	118	A	H
	*	5290	98.48	-	-	89.83	34.53	10.71	36.59	100	118	P	H
		5290	90.6	-	-	81.95	34.53	10.71	36.59	100	118	A	H
		5354.9	59.84	-14.16	74	51.03	34.58	10.75	36.52	100	118	P	H
		5350.2	50.7	-3.3	54	41.89	34.58	10.75	36.52	100	118	A	H
		5121.44	49.95	-24.05	74	41.74	34.39	10.58	36.76	400	0	P	V
		5106.4	40.67	-13.33	54	32.48	34.39	10.56	36.76	400	0	A	V
	*	5296	92.51	-	-	83.83	34.54	10.71	36.57	400	0	P	V
		5296	85.18	-	-	76.5	34.54	10.71	36.57	400	0	A	V
		5351.3	50.59	-23.41	74	41.78	34.58	10.75	36.52	400	0	P	V
	5350	42.44	-11.56	54	33.63	34.58	10.75	36.52	400	0	A	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz
WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1	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)
802.11ac VHT80 CH 58 5290MHz		10575	44.07	-24.23	68.3	57.77	37.54	15.65	66.89	300	0	P	H
		10575	44.05	-24.25	68.3	57.75	37.54	15.65	66.89	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Emission below 1GHz
WIFI 802.11n HT20 (LF @ 3m)

WIFI	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)
802.11n HT20 LF		201.69	28.78	-14.72	43.5	43.67	15.12	2.09	32.1	-	-	P	H
		216.24	30.39	-15.61	46	45.17	15.26	2.09	32.13	-	-	P	H
		263.77	27.76	-18.24	46	37.58	20.13	2.22	32.17	-	-	P	H
		408.3	31.3	-14.7	46	38.45	22.11	3.02	32.28	-	-	P	H
		444.19	30.99	-15.01	46	37.12	22.96	3.12	32.21	-	-	P	H
		498.51	35.46	-10.54	46	40.74	23.97	3.14	32.39	-	-	P	H
		216.24	30.62	-15.38	46	45.4	15.26	2.09	32.13	-	-	P	V
		263.77	28.36	-17.64	46	38.18	20.13	2.22	32.17	-	-	P	V
		408.3	30.85	-15.15	46	38	22.11	3.02	32.28	-	-	P	V
		498.51	33.73	-12.27	46	39.01	23.97	3.14	32.39	-	-	P	V
		531.49	34.09	-11.91	46	38.38	24.88	3.17	32.34	-	-	P	V
		599.39	26.38	-19.62	46	29.26	25.79	3.63	32.3	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



Band 4 - 5725~5850MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	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)
802.11n HT20 CH 165 5825MHz		5824	105.11	-	-	95.41	35.09	11.31	36.7	100	299	P	H
		5824	97.17	-	-	87.47	35.09	11.31	36.7	100	299	A	H
		5850.4	62.91	-58.48	121.39	53.19	35.11	11.33	36.72	100	299	P	H
		5856.38	59.07	-51.44	110.51	49.34	35.13	11.34	36.74	100	299	P	H
		5876	55.11	-49.45	104.56	45.35	35.16	11.36	36.76	100	299	P	H
		5956.8	49.96	-18.34	68.3	40.11	35.26	11.43	36.84	100	299	P	H
		5824	107.16	-	-	97.46	35.09	11.31	36.7	100	7	P	V
		5824	99.1	-	-	89.4	35.09	11.31	36.7	100	7	A	V
		5852	64.85	-52.89	117.74	55.13	35.11	11.33	36.72	100	7	P	V
		5856.14	61.44	-49.14	110.58	51.71	35.13	11.34	36.74	100	7	P	V
		5890.8	55.64	-37.93	93.57	45.87	35.18	11.36	36.77	100	7	P	V
	5930.4	49.6	-18.7	68.3	39.79	35.22	11.4	36.81	100	7	P	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	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)
802.11n HT20 CH 165 5825MHz		11642	49.15	-24.85	74	60.78	38.28	16.45	66.36	300	0	P	H
		11642	50.13	-23.87	74	61.76	38.28	16.45	66.36	108	244	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

Table with 14 columns: WIFI Ant. 1, 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). Rows include frequencies from 5644 to 5988.8 MHz.

Remark
1. No other spurious found.
2. All results are PASS against Peak and Average limit line.



Band 4 5725~5850MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	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)
802.11n HT40 CH 151 5755MHz		11510	48.15	-25.85	74	60.06	38.2	16.37	66.48	300	0	P	H
		11510	47.13	-26.87	74	59.04	38.2	16.37	66.48	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1	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)
802.11ac VHT80 CH 155 5775MHz		5643.2	51.23	-17.07	68.3	41.82	34.87	11.05	36.51	100	298	P	H
		5697.2	63.59	-39.65	103.24	54.09	34.93	11.13	36.56	100	298	P	H
		5720	69.28	-41.62	110.9	59.75	34.97	11.16	36.6	100	298	P	H
		5721.6	69.56	-44.99	114.55	60.01	34.97	11.18	36.6	100	298	P	H
		5764	98.3	-	-	88.68	35.01	11.24	36.63	100	298	P	H
		5764	90.11	-	-	80.49	35.01	11.24	36.63	100	298	A	H
		5854.8	60.89	-50.47	111.36	51.16	35.13	11.34	36.74	100	298	P	H
		5867.6	61.84	-45.53	107.37	52.11	35.13	11.34	36.74	100	298	P	H
		5881.2	59.39	-41.3	100.69	49.63	35.16	11.36	36.76	100	298	P	H
		5926.8	51	-17.3	68.3	41.19	35.22	11.4	36.81	100	298	P	H
		5645.2	51.11	-17.19	68.3	41.7	34.87	11.05	36.51	396	20	P	V
		5686	54.82	-40.15	94.97	45.32	34.93	11.13	36.56	396	20	P	V
		5718.8	60.01	-50.55	110.56	50.48	34.97	11.16	36.6	396	20	P	V
		5722	61.54	-53.92	115.46	51.99	34.97	11.18	36.6	396	20	P	V
		5770	99.79	-	-	90.17	35.03	11.24	36.65	396	20	P	V
		5770	91.3	-	-	81.68	35.03	11.24	36.65	396	20	A	V
	5853.2	56.66	-58.34	115	46.94	35.11	11.33	36.72	396	20	P	V	
	5870.4	60.86	-45.73	106.59	51.13	35.13	11.34	36.74	396	20	P	V	



		5876.4	59.76	-44.5	104.26	50	35.16	11.36	36.76	396	20	P	V
		5925.6	50.14	-18.16	68.3	40.33	35.22	11.4	36.81	396	20	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz
WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1	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)
802.11ac		11554	44.86	-29.14	74	56.67	38.23	16.39	66.43	300	0	P	H
VHT80		11554	45.07	-28.93	74	56.88	38.23	16.39	66.43	100	0	P	V
CH 155													
5775MHz													
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Emission below 1GHz
WIFI 802.11n HT20 (LF @ 3m)

WIFI	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)
802.11n HT20 LF		166.77	27.91	-15.59	43.5	42.19	15.94	1.88	32.1	-	-	P	H
		216.24	30.87	-15.13	46	45.65	15.26	2.09	32.13	-	-	P	H
		263.77	27.61	-18.39	46	37.43	20.13	2.22	32.17	-	-	P	H
		443.22	32.31	-13.69	46	38.46	22.94	3.12	32.21	-	-	P	H
		498.51	33.1	-12.9	46	38.38	23.97	3.14	32.39	-	-	P	H
		532.46	32.88	-13.12	46	37.14	24.91	3.17	32.34	-	-	P	H
		30.97	21.37	-18.63	40	28.24	24.57	0.76	32.2	-	-	P	V
		67.83	16.59	-23.41	40	35.21	12.38	1.16	32.16	-	-	P	V
		167.74	23.21	-20.29	43.5	37.57	15.86	1.88	32.1	-	-	P	V
		263.77	23.19	-22.81	46	33.01	20.13	2.22	32.17	-	-	P	V
		498.51	32.17	-13.83	46	37.45	23.97	3.14	32.39	-	-	P	V
		640.13	32.97	-13.03	46	35.12	26.36	3.71	32.22	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



<Simultaneous transmission>

Co-location---WIFI 802.11n HT20 & LTE_B13_BW_5M

Band 1 - 5150~5250MHz

WIFI 802.11n HT20 & LTE_B13_BW_5M (Band Edge @ 3m)

WIFI 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)
802.11n HT20 CH 36 5180MHz		5149.92	57.19	-16.81	74	48.9	34.42	10.6	36.73	100	111	P	H
		5150	47.51	-6.49	54	39.22	34.42	10.6	36.73	100	111	A	H
	*	5176	102.23	-	-	93.83	34.45	10.64	36.69	100	111	P	H
		5176	94.2	-	-	85.8	34.45	10.64	36.69	100	111	A	H
		5145.92	57.01	-16.99	74	48.72	34.42	10.6	36.73	100	16	P	V
		5148.96	45.51	-8.49	54	37.22	34.42	10.6	36.73	100	16	A	V
	*	5182	99.61	-	-	91.21	34.45	10.64	36.69	100	16	P	V
	5182	92.23	-	-	83.83	34.45	10.64	36.69	100	16	A	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT20 & LTE_B13_BW_5M (Harmonic @ 3m)

WIFI 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)
802.11n HT20 CH 36 5180MHz		10355	44.35	-23.95	68.3	58.56	37.38	15.44	67.03	300	0	P	H
		10355	44.33	-23.97	68.3	58.54	37.38	15.44	67.03	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Co-location---WIFI 802.11n HT20 & &BLE(2M)

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 & &BLE(2M) (Band Edge @ 3m)

BLE	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)
BLE CH 39 2480MHz		2483.5	58.38	-15.62	74	54.97	32.98	7.25	36.82	100	108	P	H
		2483.5	50.04	-3.96	54	46.63	32.98	7.25	36.82	100	108	A	H
	*	2480	103.08	-	-	99.67	32.98	7.25	36.82	100	108	P	H
	*	2480	101.62	-	-	98.21	32.98	7.25	36.82	100	108	A	H
		2483.5	55.37	-18.63	74	51.96	32.98	7.25	36.82	339	45	P	V
		2483.5	46.71	-7.29	54	43.3	32.98	7.25	36.82	339	45	A	V
	*	2480	98.69	-	-	95.28	32.98	7.25	36.82	339	45	P	V
	*	2480	97.1	-	-	93.69	32.98	7.25	36.82	339	45	A	V

Remark	<p>1. No other spurious found.</p> <p>2. All results are PASS against Peak and Average limit line.</p>												
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2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 & &BLE(2M) (Harmonic @ 3m)

BLE	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)
BLE CH 39 2480MHz		4965	41.44	-32.56	74	62.22	34.28	10.41	65.47	300	0	P	H
		7440	43.08	-30.92	74	60.71	35.89	12.79	66.31	300	0	P	H
		4965	41.12	-32.88	74	61.9	34.28	10.41	65.47	100	0	P	V
		7440	43.37	-30.63	74	61	35.89	12.79	66.31	100	0	P	V

Remark	<p>1. No other spurious found.</p> <p>2. All results are PASS against Peak and Average limit line.</p>												
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Band 1 - 5150~5250MHz

WIFI 802.11n HT20 & &BLE(2M) (Band Edge @ 3m)

WIFI Ant. 1	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)
802.11n HT20 CH 36 5180MHz		5145.12	67.36	-6.64	74	59.07	34.42	10.6	36.73	100	113	P	H
		5148.8	50.88	-3.12	54	42.59	34.42	10.6	36.73	100	113	A	H
	*	5182	107.29	-	-	98.89	34.45	10.64	36.69	100	113	P	H
		5182	96.8	-	-	88.4	34.45	10.64	36.69	100	113	A	H
		5137.92	63.69	-10.31	74	55.42	34.41	10.6	36.74	100	129	P	V
		5147.68	42.98	-11.02	54	34.69	34.42	10.6	36.73	100	129	A	V
	*	5176	99.43	-	-	91.03	34.45	10.64	36.69	100	129	P	V
		5176	90.4	-	-	82	34.45	10.64	36.69	100	129	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT20 & &BLE(2M) (Harmonic @ 3m)

WIFI Ant. 1	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)
802.11n HT20 CH 36 5180MHz		10355	44.8	-23.5	68.3	59.01	37.38	15.44	67.03	300	0	P	H
		10355	45.37	-22.93	68.3	59.58	37.38	15.44	67.03	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average 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:

WIFI	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)
802.11b		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
2412MHz		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)

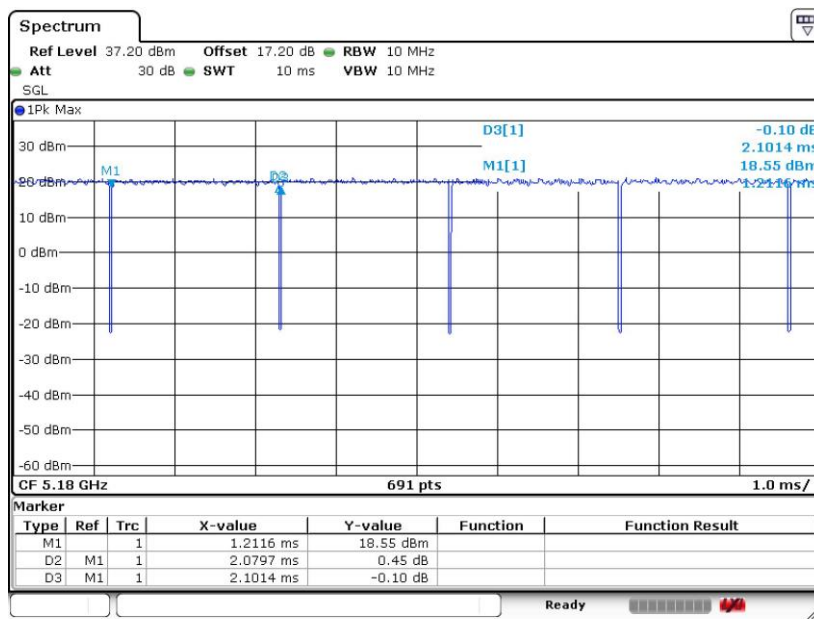
Both peak and average measured complies with the limit line, so test result is “PASS”.



Appendix D. Duty Cycle Plots

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	98.97	-	-	10Hz
802.11n HT20	97.43	1.920	0.521	0.56KHz
802.11n HT40	96.32	0.949	1.053	1.1KHz
802.11ac VHT80	92.75	0.464	2.156	2.2KHz

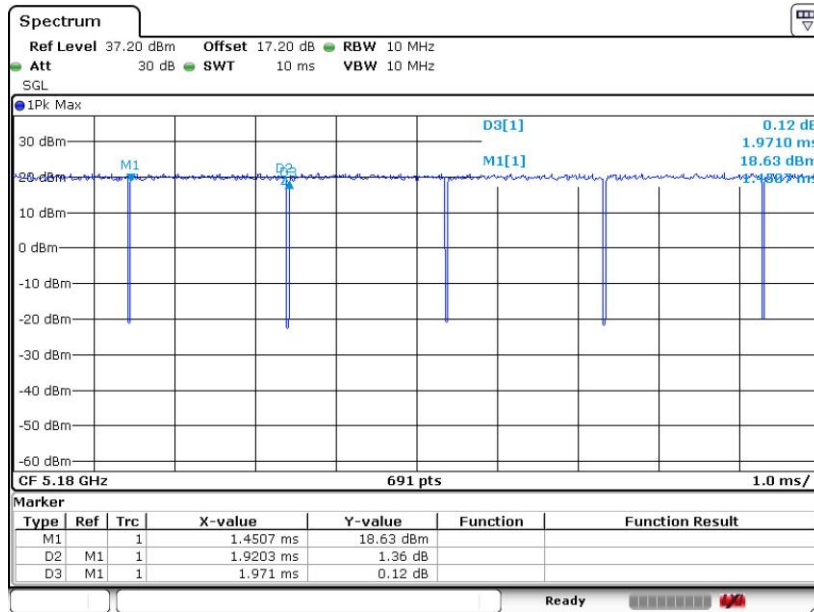
802.11a



Date: 3.MAR.2022 23:53:36

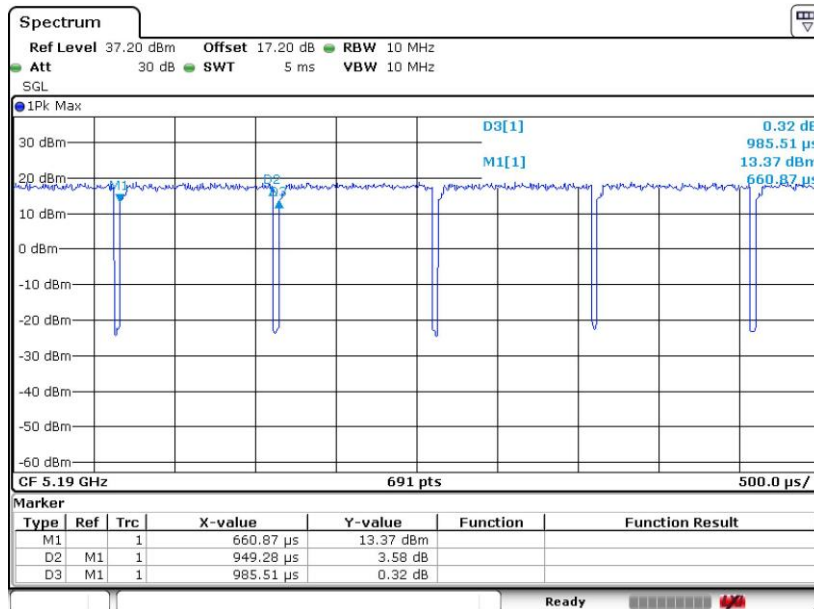


802.11n HT20



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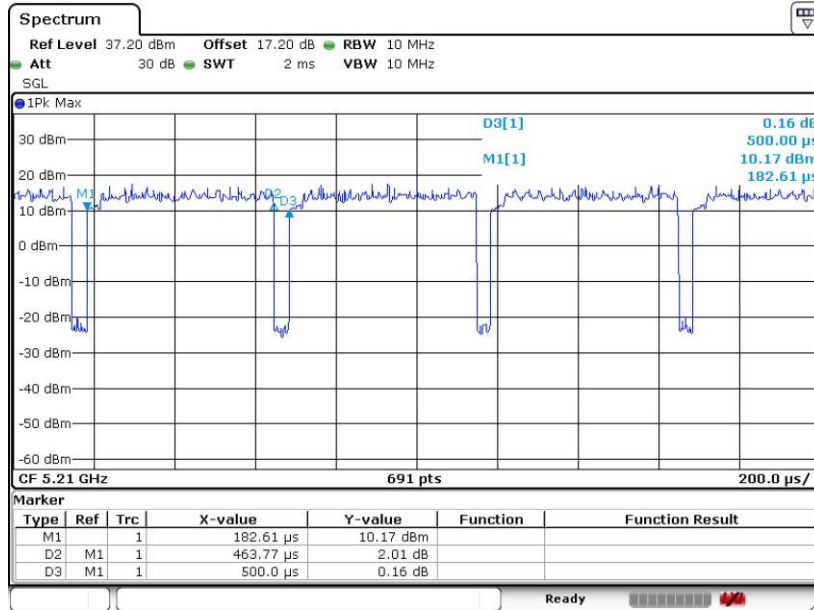
802.11n HT40



Date: 3.MAR.2022 23:52:50



802.11ac VHT80



Date: 3.MAR.2022 23:46:22