

7.7 Spurious Emission

7.7.1 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d)						
Test Method:	KDB558074 D01 15.247 Meas Guidance v05r02						
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.						
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane						
Test Instruments:	Refer to section 6.0 for details						
Test mode:	Refer to section 5.2 for details						
Test results:	Pass						



Test plot as follows:

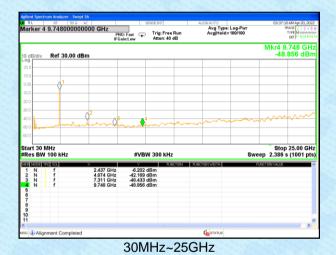
802.11b

Lowest channel



30MHz~25GHz

Middle channel



Highest channel

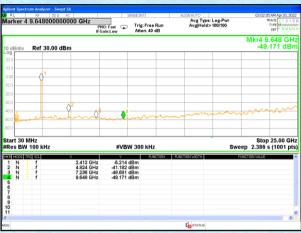


30MHz~25GHz



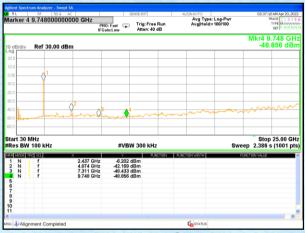
802.11g

Lowest channel



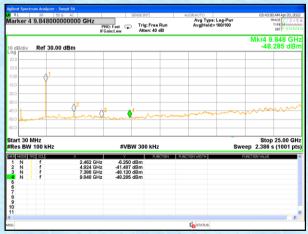
30MHz~25GHz

Middle channel



Highest channel





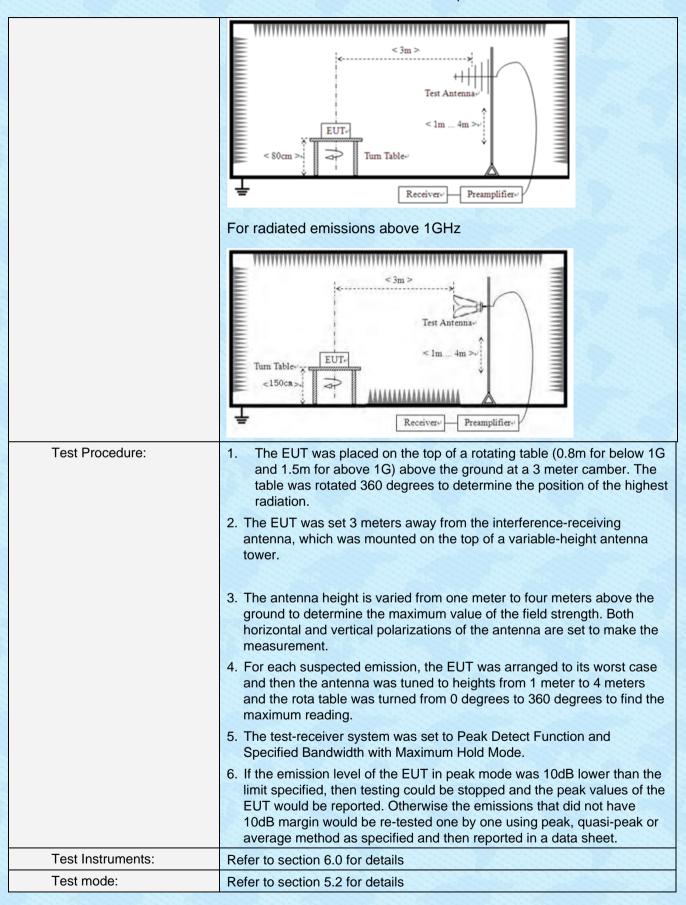
30MHz~25GHz



7.7.2 Radiated Emission Method

1.1.2 Radiated Ellission Weti	IOU						10 10	
Test Requirement:	FCC Part15 C Section	on 15	.209					
Test Method:	ANSI C63.10: 2013							
Test Frequency Range:	9kHz to 25GHz							
Test site:	Measurement Distar	nce: 3	3m					
Receiver setup:	Frequency	D	etector	RB\	N	VBW		Value
	9KHz-150KHz	Qu	asi-peak	200H	Ηz	600H:	z	Quasi-peak
	150KHz-30MHz	Qu	asi-peak	9KH	lz	30KH	z	Quasi-peak
	30MHz-1GHz	Qu	asi-peak	120K	Hz	300KH	łz	Quasi-peak
	Above 1GHz		Peak	1MH	lz	3MHz	Z	Peak
	Above IGHZ		Peak	1MH	łz	10Hz		Average
Limit:	Frequency		Limit (u\	//m)	V	'alue	M	easurement Distance
	0.009MHz-0.490M	lHz	2400/F(K	(Hz)		QP		300m
	0.490MHz-1.705M	lHz	24000/F(I	KHz)		QP	300m	
	1.705MHz-30MH	lz	30		QP		30m	
	30MHz-88MHz		100			QP		
	88MHz-216MHz	7	150			QP		
	216MHz-960MH	z	200			QP		3m
	960MHz-1GHz		500			QP		SIII
	Above 1GHz		500) Average			
	710070 10112		5000		Peak			
Test setup:	For radiated emiss	Tu	< 3m > Test An m Table	atenna Im				
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Test voltage:	AC120V 60Hz							
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar		
Test voltage:	5Vdc 1A	5Vdc 1A						
Test results:	Pass							

Remarks:

- 1. Only the worst case Main Antenna test data.
- 2. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.

Measurement data:

■ 9kHz~30MHz

The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o) & RSS-Gen 6.13, the test result no need to reported.

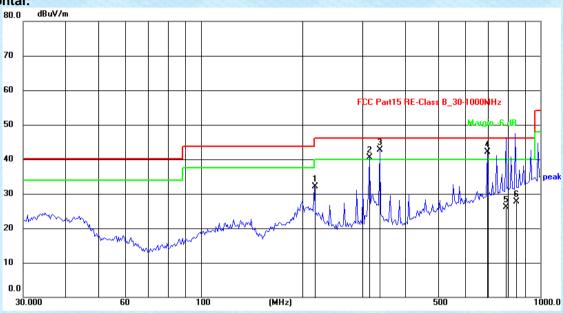
■ Above 18GHz

The emission from Above 18GHz was pre-tested and found the result was 20dB lower than the limit, the test result no need to reported.



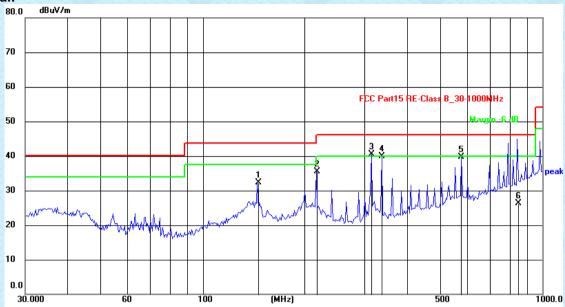
■ Below 1GHz

Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector
1	216.1197	34.35	-2.19	32.16	46.00	-13.84	QP
2	313.6482	44.91	-4.44	40.47	46.00	-5.53	QP
3	336.4817	46.95	-4.17	42.78	46.00	-3.22	QP
4	698.8035	40.40	1.71	42.11	46.00	-3.89	QP
5	793.0281	23.26	2.93	26.19	46.00	-19.81	QP
6	844.8028	24.26	3.39	27.65	46.00	-18.35	QP





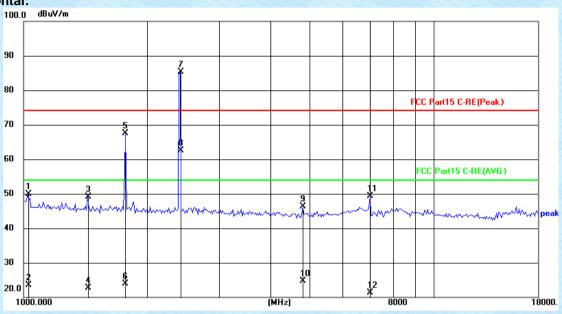
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	144.7899	40.41	-8.01	32.40	43.50	-11.10	QP
2	216.1197	38.11	-2.60	35.51	46.00	-10.49	QP
3	313.6482	45.04	-4.44	40.60	46.00	-5.40	QP
4	336.4817	44.10	-4.17	39.93	46.00	-6.07	QP
5	578.0359	39.41	0.31	39.72	46.00	-6.28	QP
6	844.8028	22.86	3.39	26.25	46.00	-19.75	QP



Above 1GHz

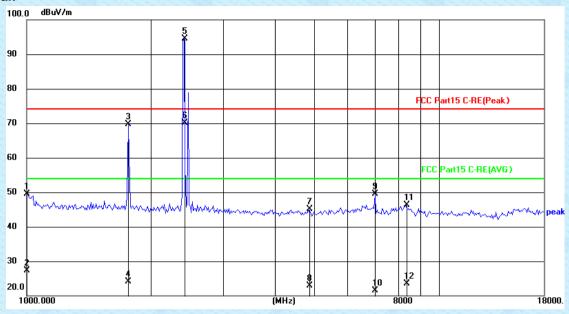
Test mode: 802.11b Test channel: Lowest

Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1023.440	48.09	1.76	49.85	74.00	-24.15	peak
2	1023.440	21.75	1.76	23.51	54.00	-30.49	AVG
3	1432.075	24.72	24.33	49.05	74.00	-24.95	peak
4	1432.075	-1.59	24.33	22.74	54.00	-31.26	AVG
5	1774.361	42.42	25.02	67.44	74.00	-6.56	peak
6	1774.361	-1.18	25.02	23.84	54.00	-30.16	AVG
7	2411.946	59.03	26.36	85.39	74.00	11.39	peak
8	2411.946	36.14	26.36	62.50	54.00	8.50	AVG
9	4805.307	16.16	30.07	46.23	74.00	-27.77	peak
10	4805.307	-5.39	30.07	24.68	54.00	-29.32	AVG
11	7002.185	13.43	35.80	49.23	74.00	-24.77	peak
12	7002.185	-14.45	35.80	21.35	54.00	-32.65	AVG





No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1005.809	48.03	1.49	49.52	74.00	-24.48	peak
2	1005.809	25.75	1.49	27.24	54.00	-26.76	AVG
3	1764.113	44.79	24.99	69.78	74.00	-4.22	peak
4	1764.113	-0.90	24.99	24.09	54.00	-29.91	AVG
5	2411.946	68.15	26.36	94.51	74.00	20.51	peak
6	2411.946	43.75	26.36	70.11	54.00	16.11	AVG
7	4833.222	14.90	30.13	45.03	74.00	-28.97	peak
8	4833.222	-7.26	30.13	22.87	54.00	-31.13	AVG
9	7002.185	13.69	35.80	49.49	74.00	-24.51	peak
10	7002.185	-14.39	35.80	21.41	54.00	-32.59	AVG
11	8331.072	9.51	36.73	46.24	74.00	-27.76	peak
12	8331.072	-13.16	36.73	23.57	54.00	-30.43	AVG



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Report No.: GTSL202204000231F01

18000.

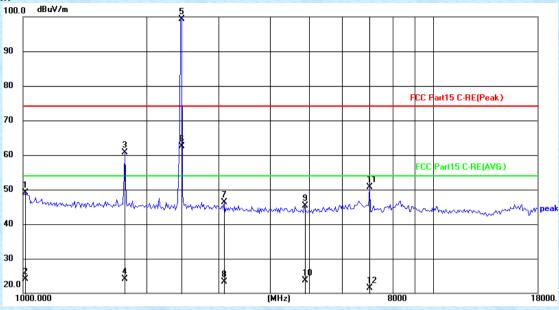
Test mode: 802.11b Test channel: Middle Horizontal:

dBuV/m 90 80 FCC Part15 C-RE(Peak) 70 60 FCC Part15 C-RE(AVG) 50 40 30 20.0

(MHz)

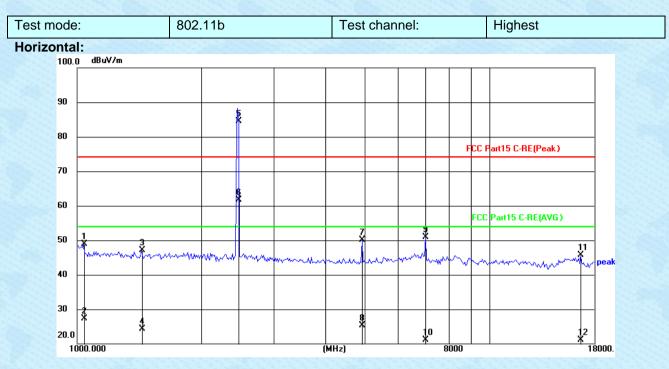
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1011.652	48.47	1.58	50.05	74.00	-23.95	peak
2	1011.652	25.76	1.58	27.34	54.00	-26.66	AVG
3	1432.075	24.10	24.33	48.43	74.00	-25.57	peak
4	1432.075	0.21	24.33	24.54	54.00	-29.46	AVG
5	2437.000	64.56	26.40	90.96	74.00	16.96	peak
6	2437.000	38.47	26.40	64.87	54.00	10.87	AVG
7	4861.299	16.23	30.19	46.42	74.00	-27.58	peak
8	4861.299	-6.88	30.19	23.31	54.00	-30.69	AVG
9	7002.185	14.95	35.80	50.75	74.00	-23.25	peak
10	7002.185	-14.06	35.80	21.74	54.00	-32.26	AVG
11	10811.895	5.66	39.77	45.43	74.00	-28.57	peak
12	10811.895	-18.01	39.77	21.76	54.00	-32.24	AVG





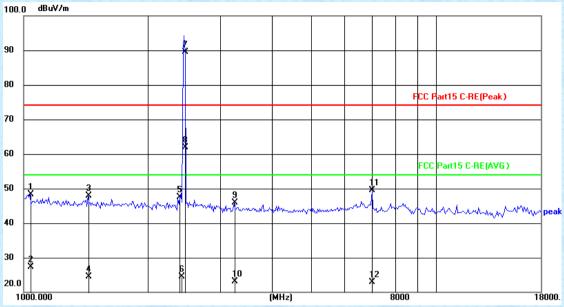
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1011.652	47.56	1.58	49.14	74.00	-24.86	peak
2	1011.652	22.57	1.58	24.15	54.00	-29.85	AVG
3	1774.361	35.77	25.02	60.79	74.00	-13.21	peak
4	1774.361	-0.93	25.02	24.09	54.00	-29.91	AVG
5	2437.000	72.95	26.40	99.35	74.00	25.35	peak
6	2437.000	36.15	26.40	62.55	54.00	8.55	AVG
7	3094.121	18.71	27.57	46.28	74.00	-27.72	peak
8	3094.121	-4.36	27.57	23.21	54.00	-30.79	AVG
9	4861.299	15.06	30.19	45.25	74.00	-28.75	peak
10	4861.299	-6.46	30.19	23.73	54.00	-30.27	AVG
11	7002.185	14.82	35.80	50.62	74.00	-23.38	peak
12	7002.185	-14.38	35.80	21.42	54.00	-32.58	AVG





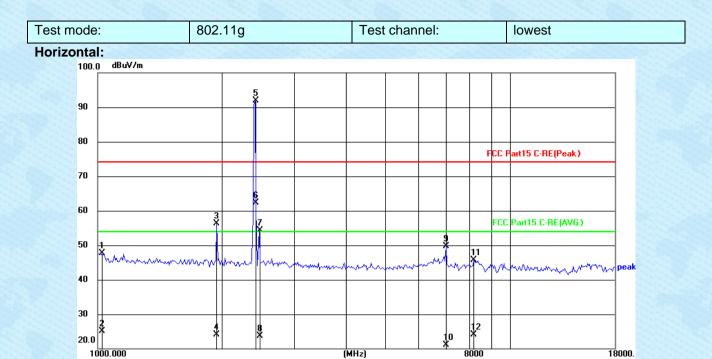
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1035.365	47.02	1.95	48.97	74.00	-25.03	peak
2	1035.365	25.26	1.95	27.21	54.00	-26.79	AVG
3	1432.075	22.87	24.33	47.20	74.00	-26.80	peak
4	1432.075	-0.01	24.33	24.32	54.00	-29.68	AVG
5	2462.000	58.12	26.44	84.56	74.00	10.56	peak
6	2462.000	35.30	26.44	61.74	54.00	7.74	AVG
7	4917.942	19.69	30.32	50.01	74.00	-23.99	peak
8	4917.942	-5.00	30.32	25.32	54.00	-28.68	AVG
9	7002.185	15.04	35.80	50.84	74.00	-23.16	peak
10	7002.185	-14.76	35.80	21.04	54.00	-32.96	AVG
11	16694.369	7.26	38.38	45.64	74.00	-28.36	peak
12	16694.369	-17.19	38.38	21.19	54.00	-32.81	AVG





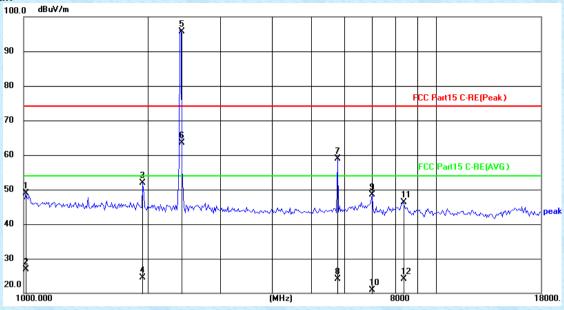
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1035.365	46.36	1.95	48.31	74.00	-25.69	peak
2	1035.365	25.31	1.95	27.26	54.00	-26.74	AVG
3	1432.075	23.65	24.33	47.98	74.00	-26.02	peak
4	1432.075	0.11	24.33	24.44	54.00	-29.56	AVG
5	2398.015	21.21	26.34	47.55	74.00	-26.45	peak
6	2411.946	-1.82	26.36	24.54	54.00	-29.46	AVG
7	2462.000	62.98	26.44	89.42	74.00	15.42	peak
8	2462.000	35.40	26.44	61.84	54.00	7.84	AVG
9	3240.873	18.03	27.83	45.86	74.00	-28.14	peak
10	3240.873	-4.82	27.83	23.01	54.00	-30.99	AVG
11	7002.185	13.63	35.80	49.43	74.00	-24.57	peak
12	7002.185	-12.81	35.80	22.99	54.00	-31.01	AVG





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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1017.529	46.13	1.67	47.80	74.00	-26.20	peak
2	1017.529	23.46	1.67	25.13	54.00	-28.87	AVG
3	1946.665	30.70	25.54	56.24	74.00	-17.76	peak
4	1946.665	-1.45	25.54	24.09	54.00	-29.91	AVG
5	2411.946	65.47	26.36	91.83	74.00	17.83	peak
6	2411.946	36.01	26.36	62.37	54.00	8.37	AVG
7	2468.482	27.86	26.45	54.31	74.00	-19.69	peak
8	2468.482	-2.76	26.45	23.69	54.00	-30.31	AVG
9	7002.185	13.83	35.80	49.63	74.00	-24.37	peak
10	7002.185	-14.71	35.80	21.09	54.00	-32.91	AVG
11	8187.553	9.00	36.72	45.72	74.00	-28.28	peak
12	8187.553	-12.62	36.72	24.10	54.00	-29.90	AVG



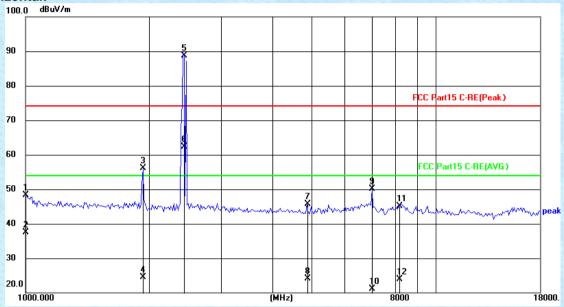


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1011.652	47.37	1.58	48.95	74.00	-25.05	peak
2	1011.652	25.40	1.58	26.98	54.00	-27.02	AVG
3	1946.665	26.39	25.54	51.93	74.00	-22.07	peak
4	1946.665	-1.10	25.54	24.44	54.00	-29.56	AVG
5	2411.946	69.30	26.36	95.66	74.00	21.66	peak
6	2411.946	37.23	26.36	63.59	54.00	9.59	AVG
7	5783.884	26.81	32.05	58.86	74.00	-15.14	peak
8	5783.884	-7.90	32.05	24.15	54.00	-29.85	AVG
9	7002.185	12.76	35.80	48.56	74.00	-25.44	peak
10	7002.185	-14.86	35.80	20.94	54.00	-33.06	AVG
11	8331.072	9.67	36.73	46.40	74.00	-27.60	peak
12	8331.072	-12.59	36.73	24.14	54.00	-29.86	AVG



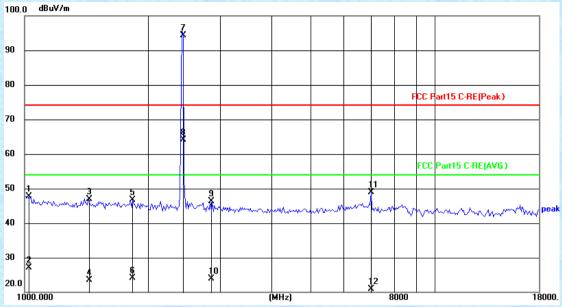
Test mode: 802.11g Test channel: Middle

Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1005.809	46.78	1.49	48.27	74.00	-25.73	peak
2	1005.809	36.07	1.49	37.56	54.00	-16.44	AVG
3	1935.422	30.66	25.51	56.17	74.00	-17.83	peak
4	1935.422	-0.94	25.51	24.57	54.00	-29.43	AVG
5	2437.000	62.35	26.40	88.75	74.00	14.75	peak
6	2437.000	35.99	26.40	62.39	54.00	8.39	AVG
7	4861.299	15.61	30.19	45.80	74.00	-28.20	peak
8	4861.299	-6.09	30.19	24.10	54.00	-29.90	AVG
9	7002.185	14.37	35.80	50.17	74.00	-23.83	peak
10	7002.185	-14.79	35.80	21.01	54.00	-32.99	AVG
11	8140.266	8.43	36.71	45.14	74.00	-28.86	peak
12	8140.266	-12.73	36.71	23.98	54.00	-30.02	AVG



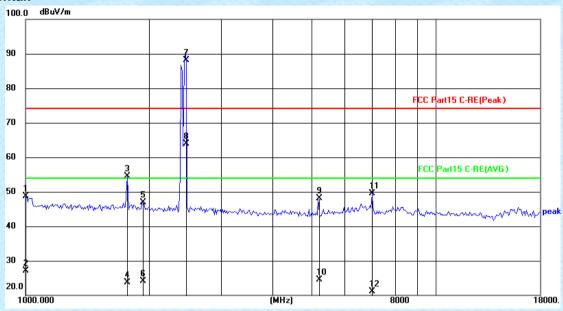


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1017.529	46.13	1.67	47.80	74.00	-26.20	peak
2	1017.529	25.42	1.67	27.09	54.00	-26.91	AVG
3	1432.075	22.54	24.33	46.87	74.00	-27.13	peak
4	1432.075	-0.77	24.33	23.56	54.00	-30.44	AVG
5	1837.111	21.42	25.21	46.63	74.00	-27.37	peak
6	1837.111	-1.09	25.21	24.12	54.00	-29.88	AVG
7	2437.000	67.99	26.40	94.39	74.00	20.39	peak
8	2437.000	37.78	26.40	64.18	54.00	10.18	AVG
9	2836.637	19.25	27.11	46.36	74.00	-27.64	peak
10	2836.637	-3.13	27.11	23.98	54.00	-30.02	AVG
11	7002.185	13.03	35.80	48.83	74.00	-25.17	peak
12	7002.185	-14.82	35.80	20.98	54.00	-33.02	AVG



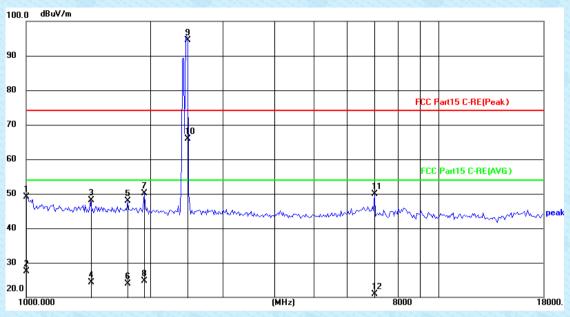
Test mode: 802.11g Test channel: Highest

Horizontal:



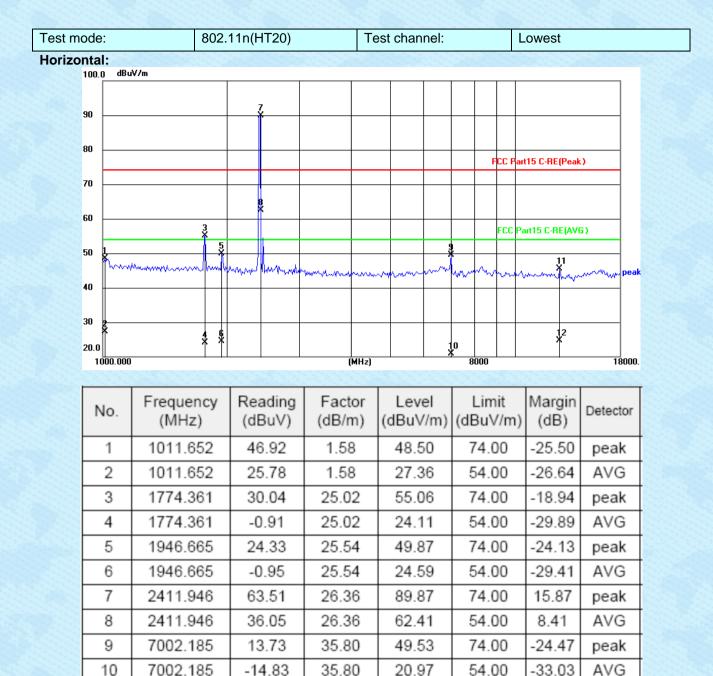
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1005.809	47.31	1.49	48.80	74.00	-25.20	peak
2	1005.809	25.62	1.49	27.11	54.00	-26.89	AVG
3	1774.361	29.50	25.02	54.52	74.00	-19.48	peak
4	1774.361	-1.23	25.02	23.79	54.00	-30.21	AVG
5	1924.244	21.46	25.47	46.93	74.00	-27.07	peak
6	1924.244	-1.34	25.47	24.13	54.00	-29.87	AVG
7	2462.000	61.72	26.44	88.16	74.00	14.16	peak
8	2462.000	37.40	26.44	63.84	54.00	9.84	AVG
9	5181.120	17.27	30.75	48.02	74.00	-25.98	peak
10	5181.120	-6.23	30.75	24.52	54.00	-29.48	AVG
11	7002.185	13.71	35.80	49.51	74.00	-24.49	peak
12	7002.185	-14.77	35.80	21.03	54.00	-32.97	AVG





No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1005.809	47.64	1.49	49.13	74.00	-24.87	peak
2	1005.809	25.95	1.49	27.44	54.00	-26.56	AVG
3	1432.075	23.77	24.33	48.10	74.00	-25.90	peak
4	1432.075	-0.04	24.33	24.29	54.00	-29.71	AVG
5	1764.113	22.90	24.99	47.89	74.00	-26.11	peak
6	1764.113	-1.18	24.99	23.81	54.00	-30.19	AVG
7	1935.422	24.54	25.51	50.05	74.00	-23.95	peak
8	1935.422	-0.75	25.51	24.76	54.00	-29.24	AVG
9	2462.000	68.14	26.44	94.58	74.00	20.58	peak
10	2462.000	39.42	26.44	65.86	54.00	11.86	AVG
11	7002.185	14.18	35.80	49.98	74.00	-24.02	peak
12	7002.185	-14.81	35.80	20.99	54.00	-33.01	AVG





45.52

24.76

39.72

39.72

12863.794

12863.794

11

12

5.80

-14.96

-28.48

-29.24

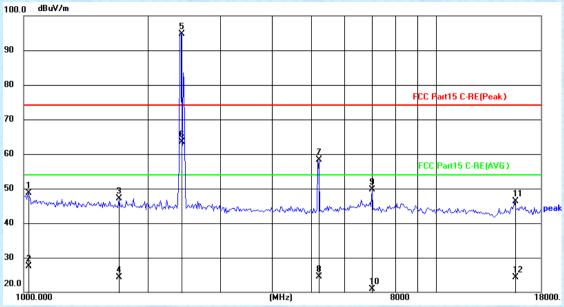
peak

AVG

74.00

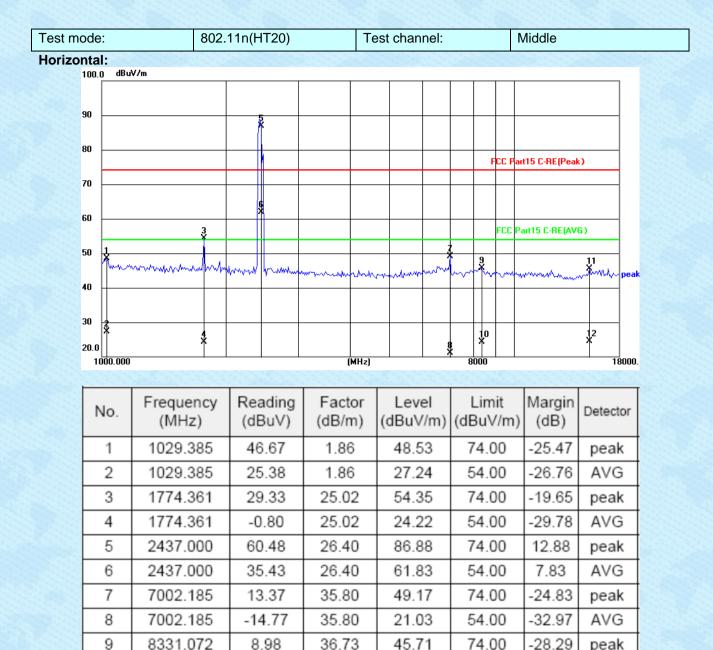
54.00





No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1023.440	46.87	1.76	48.63	74.00	-25.37	peak
2	1023.440	25.69	1.76	27.45	54.00	-26.55	AVG
3	1703.856	22.35	24.81	47.16	74.00	-26.84	peak
4	1703.856	-0.46	24.81	24.35	54.00	-29.65	AVG
5	2411.946	68.44	26.36	94.80	74.00	20.80	peak
6	2411.946	37.11	26.36	63.47	54.00	9.47	AVG
7	5181.120	27.61	30.75	58.36	74.00	-15.64	peak
8	5181.120	-6.21	30.75	24.54	54.00	-29.46	AVG
9	7002.185	13.95	35.80	49.75	74.00	-24.25	peak
10	7002.185	-14.82	35.80	20.98	54.00	-33.02	AVG
11	15573.388	8.23	38.01	46.24	74.00	-27.76	peak
12	15573.388	-13.76	38.01	24.25	54.00	-29.75	AVG





10

11

12

8331.072

15305.107

15305.107

-12.36

7.52

-13.40

36.73

37.96

37.96

24.37

45.48

24.56

54.00

74.00

54.00

peak

AVG

peak

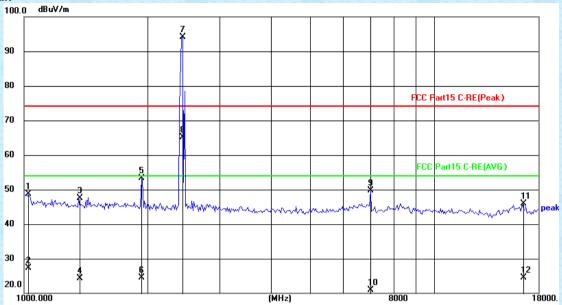
AVG

-29.63

-28.52

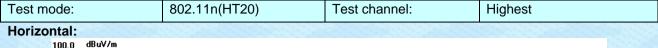
-29.44

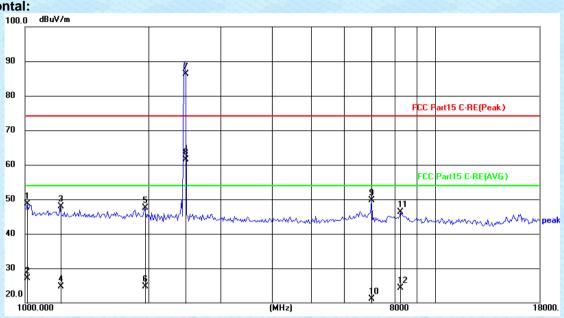




No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1017.529	47.01	1.67	48.68	74.00	-25.32	peak
2	1017.529	25.71	1.67	27.38	54.00	-26.62	AVG
3	1359.332	23.30	24.26	47.56	74.00	-26.44	peak
4	1359.332	0.07	24.26	24.33	54.00	-29.67	AVG
5	1935.422	27.77	25.51	53.28	74.00	-20.72	peak
6	1935.422	-1.06	25.51	24.45	54.00	-29.55	AVG
7	2437.000	67.74	26.40	94.14	74.00	20.14	peak
8	2437.000	38.77	26.40	65.17	54.00	11.17	AVG
9	7002.185	13.82	35.80	49.62	74.00	-24.38	peak
10	7002.185	-14.83	35.80	20.97	54.00	-33.03	AVG
11	16502.087	7.59	38.30	45.89	74.00	-28.11	peak
12	16502.087	-13.74	38.30	24.56	54.00	-29.44	AVG



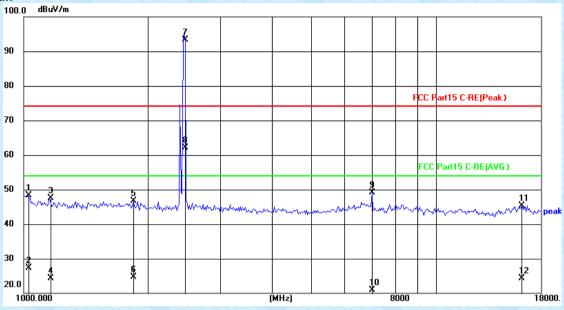




No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1011.652	47.05	1.58	48.63	74.00	-25.37	peak
2	1011.652	25.53	1.58	27.11	54.00	-26.89	AVG
3	1217.670	23.75	24.12	47.87	74.00	-26.13	peak
4	1217.670	0.51	24.12	24.63	54.00	-29.37	AVG
5	1957.974	21.93	25.57	47.50	74.00	-26.50	peak
6	1957.974	-0.82	25.57	24.75	54.00	-29.25	AVG
7	2462.000	59.96	26.44	86.40	74.00	12.40	peak
8	2462.000	35.14	26.44	61.58	54.00	7.58	AVG
9	7002.185	13.90	35.80	49.70	74.00	-24.30	peak
10	7002.185	-14.62	35.80	21.18	54.00	-32.82	AVG
11	8235.116	9.58	36.72	46.30	74.00	-27.70	peak
12	8235.116	-12.37	36.72	24.35	54.00	-29.65	AVG



Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1023.440	46.45	1.76	48.21	74.00	-25.79	peak
2	1023.440	25.56	1.76	27.32	54.00	-26.68	AVG
3	1155.818	23.45	23.97	47.42	74.00	-26.58	peak
4	1155.818	0.26	23.97	24.23	54.00	-29.77	AVG
5	1847.783	21.37	25.24	46.61	74.00	-27.39	peak
6	1847.783	-0.59	25.24	24.65	54.00	-29.35	AVG
7	2462.000	66.86	26.44	93.30	74.00	19.30	peak
8	2462.000	35.74	26.44	62.18	54.00	8.18	AVG
9	7002.185	13.31	35.80	49.11	74.00	-24.89	peak
10	7002.185	-14.81	35.80	20.99	54.00	-33.01	AVG
11	16217.807	7.07	38.19	45.26	74.00	-28.74	peak
12	16217.807	-13.82	38.19	24.37	54.00	-29.63	AVG

Remark:

- 1 Final Level =Receiver Read level + Antenna Factor
- 2 "*", means this data is the too weak instrument of signal is unable to test.



8 Test Setup Photo

Reference to the appendix I for details.

9 EUT Constructional Details

Reference to the appendix II and appendix III for details.

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