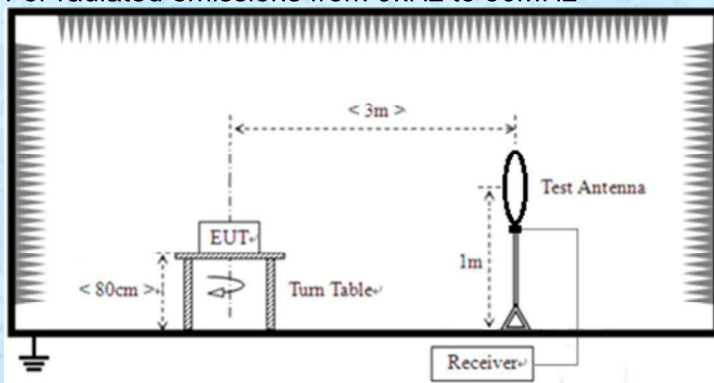
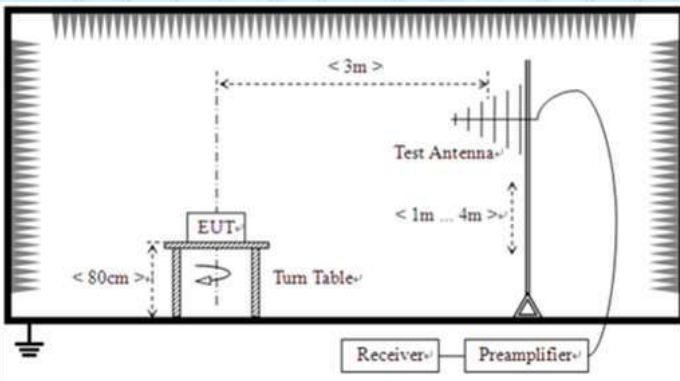
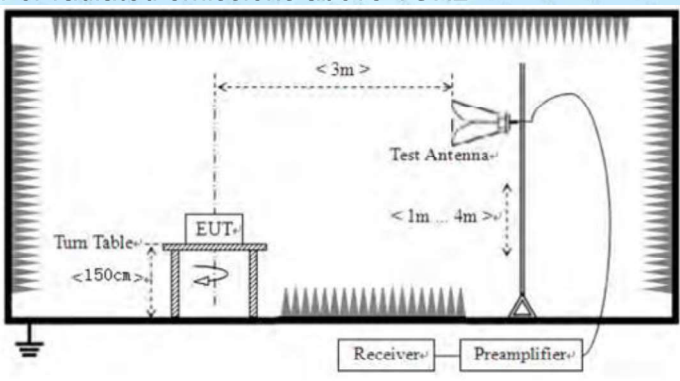


7.7.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209				
Test Method:	ANSI C63.10:2013				
Test Frequency Range:	9kHz to 25GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
	150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
		Peak	1MHz	10Hz	Average
Note: For Duty cycle $\geq 98\%$, average detector set as above For Duty cycle $< 98\%$, average detector set as below: $VBW \geq 1 / T$					
Limit:	Frequency	Limit (uV/m)	Value	Measurement Distance	
	0.009MHz-0.490MHz	2400/F(KHz)	PK/QP/AV	300m	
	0.490MHz-1.705MHz	24000/F(KHz)	QP	30m	
	1.705MHz-30MHz	30	QP	30m	
	30MHz-88MHz	100	QP	3m	
	88MHz-216MHz	150	QP		
	216MHz-960MHz	200	QP		
	960MHz-1GHz	500	QP		
	Above 1GHz	500	Average		
		5000	Peak		
Test setup:	For radiated emissions from 9kHz to 30MHz				
					

	For radiated emissions from 30MHz to1GHz 					
	For radiated emissions above 1GHz 					
Test Procedure:	1. The EUT was placed on the top of a rotating table (0.8m for below 1G and 1.5m for above 1G) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.					
Test Instruments:	Refer to section 6.0 for details					
Test mode:	Refer to section 5.2 for details					
Test environment:	Temp.:	24 °C	Humid.:	52%	Press.:	1012mbar

Test voltage:	DC5V
Test results:	Pass

Remark:

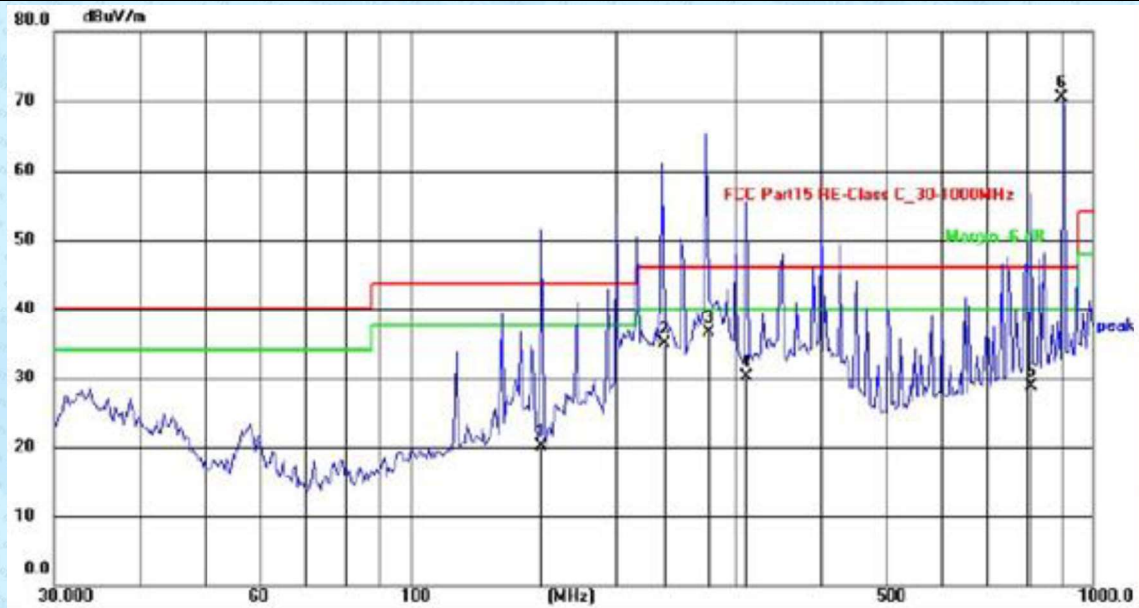
Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the X-axis which it is worse case.

Measurement data:**■ 9 kHz ~ 30 MHz**

The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

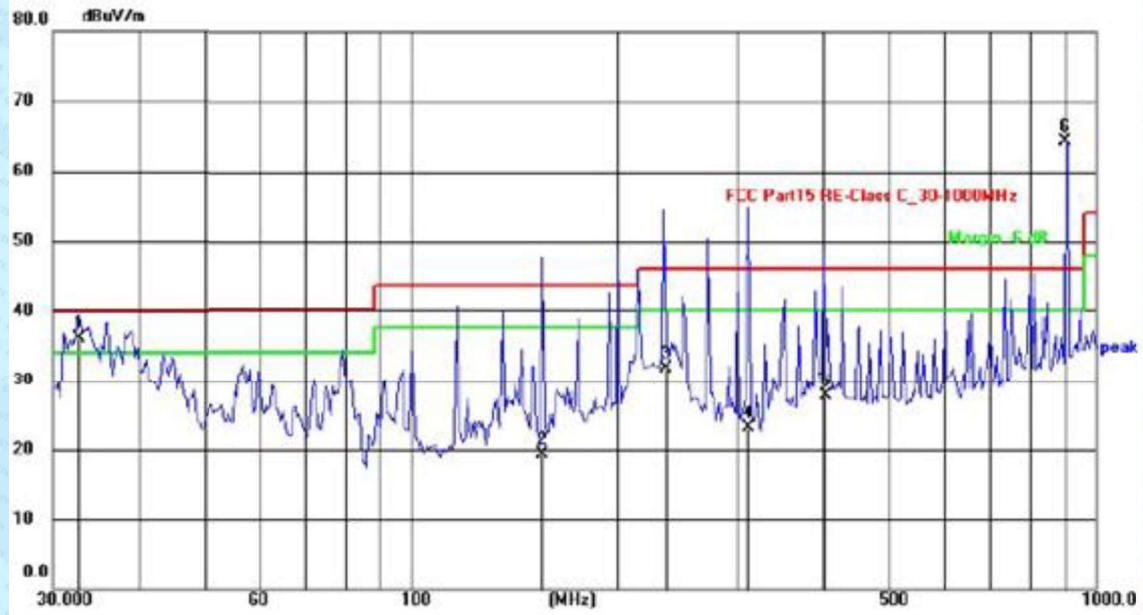
■ Below 1GHz

Test channel:	906MHz	Polarization:	Horizontal
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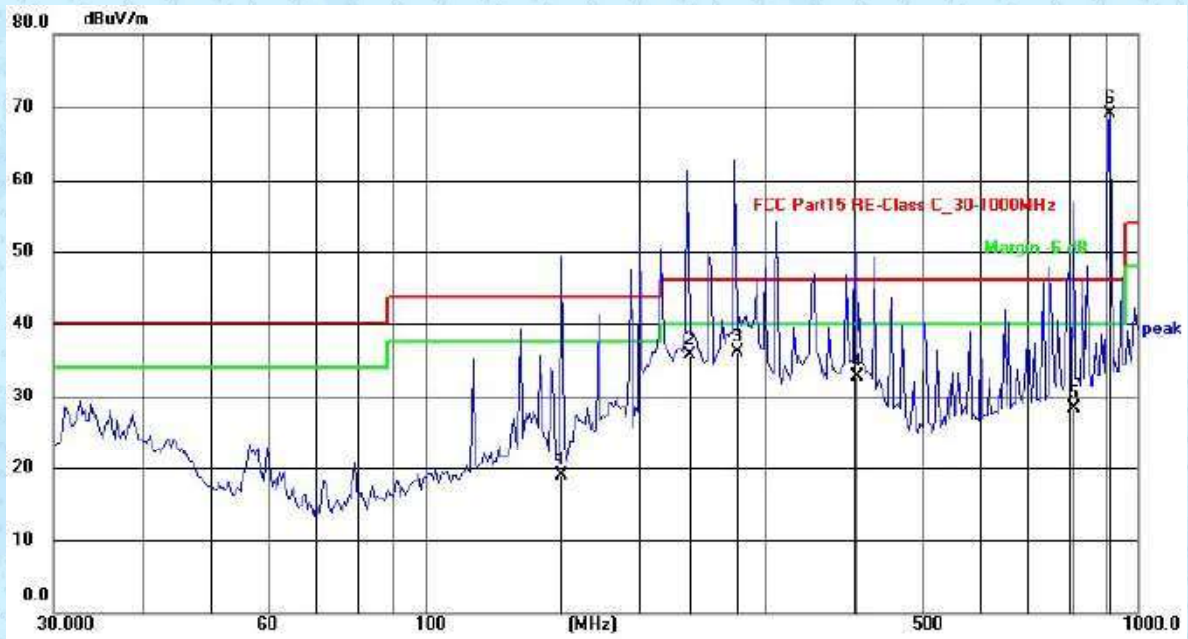
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	155.3305	28.09	-8.02	20.07	43.50	-23.43	QP
2	233.4881	40.72	-5.74	34.98	46.00	-11.02	QP
3	272.5246	42.03	-5.49	36.54	46.00	-9.46	QP
4	311.4519	34.60	-4.46	30.14	46.00	-15.86	QP
5	815.6352	25.60	3.16	28.76	46.00	-17.24	QP
6	906.0000	65.74	4.72	70.46	46.00	24.46	peak

Test channel:	906MHz	Polarization:	Vertical
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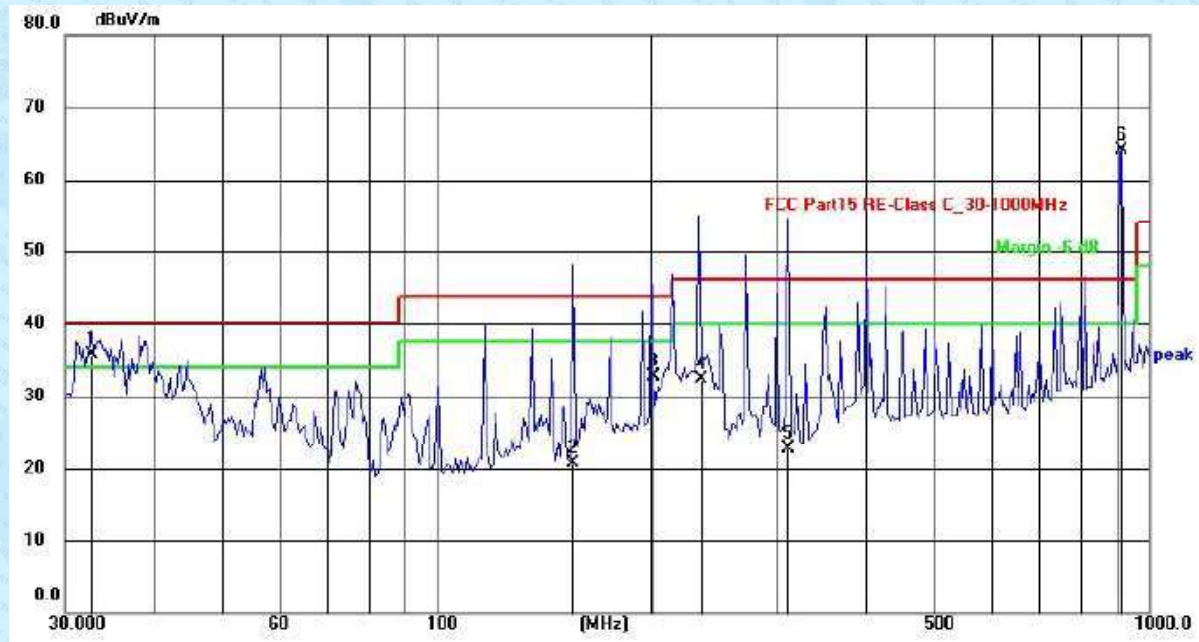
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	32.6395	38.39	-2.36	36.03	40.00	-3.97	QP
2	155.3305	27.37	-8.02	19.35	43.50	-24.15	QP
3	233.4881	36.23	-4.54	31.69	46.00	-14.31	QP
4	311.4519	27.60	-4.46	23.14	46.00	-22.86	QP
5	401.1050	30.60	-2.82	27.78	46.00	-18.22	QP
6	906.0000	59.59	4.71	64.30	46.00	18.30	peak

Test channel:	916MHz	Polarization:	Horizontal
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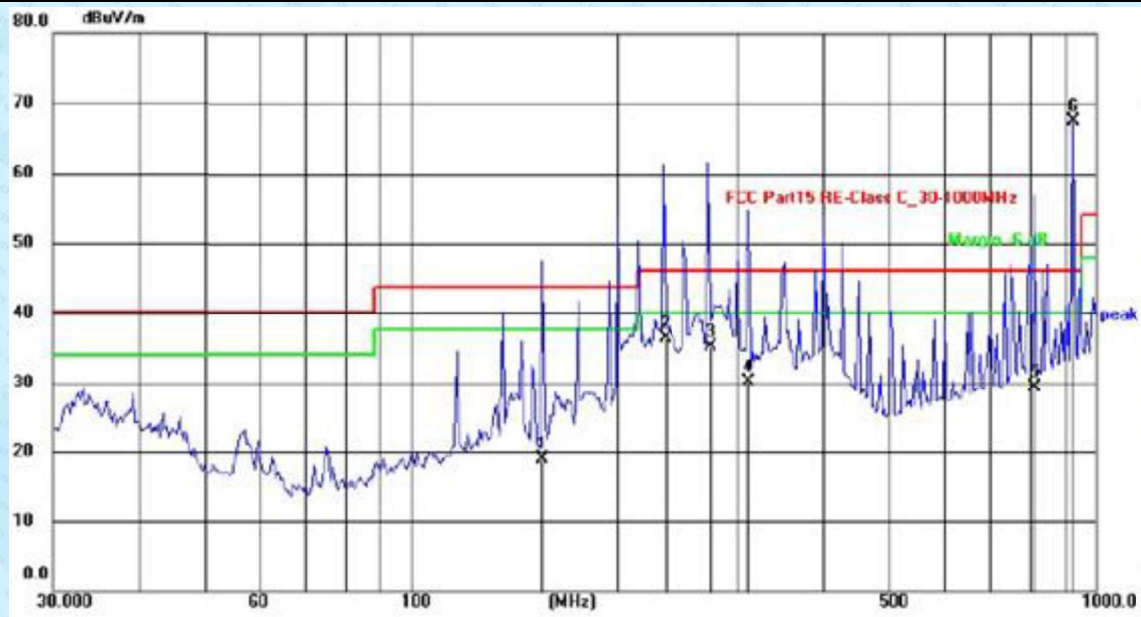
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	155.3305	26.99	-8.02	18.97	43.50	-24.53	QP
2	233.4881	41.42	-5.74	35.68	46.00	-10.32	QP
3	272.5246	41.57	-5.49	36.08	46.00	-9.92	QP
4	401.1050	37.55	-4.77	32.78	46.00	-13.22	QP
5	815.6352	25.05	3.16	28.21	46.00	-17.79	QP
6	916.0000	64.32	4.88	69.20	46.00	23.20	peak

Test channel:	916MHz	Polarization:	Vertical
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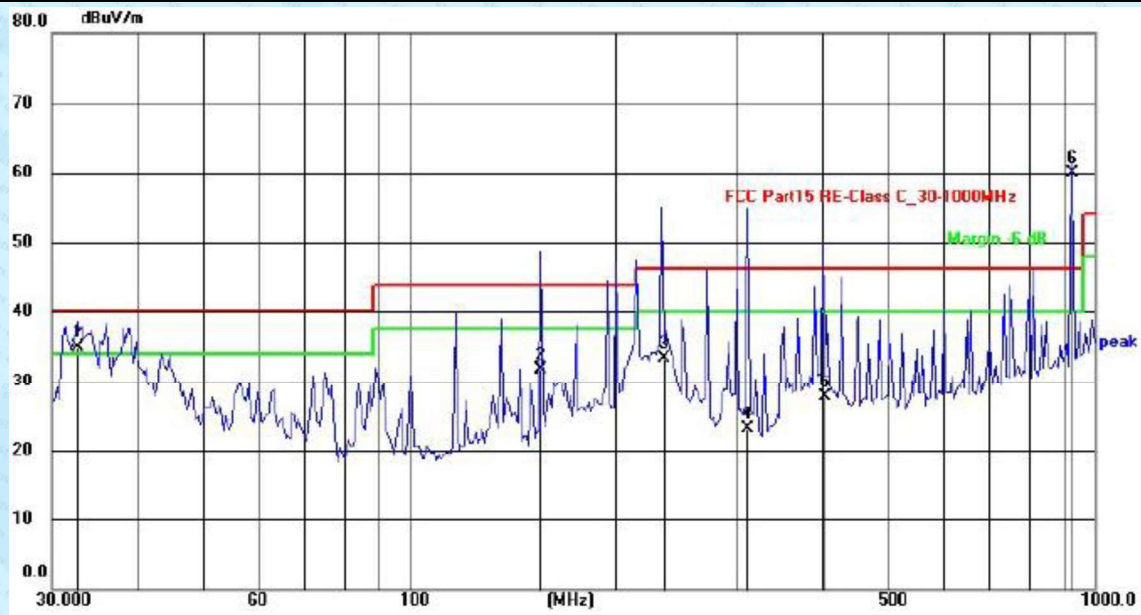
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	32.6395	37.98	-2.36	35.62	40.00	-4.38	QP
2	155.3305	28.64	-8.02	20.62	43.50	-22.88	QP
3	200.0432	35.78	-3.15	32.63	43.50	-10.87	QP
4	233.4881	36.91	-4.54	32.37	46.00	-13.63	QP
5	311.4519	27.23	-4.46	22.77	46.00	-23.23	QP
6	916.0000	59.31	4.85	64.16	46.00	18.16	peak

Test channel:	926MHz	Polarization:	Horizontal
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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	155.3305	27.00	-8.02	18.98	43.50	-24.52	QP
2	233.4881	42.02	-5.74	36.28	46.00	-9.72	QP
3	272.5246	40.63	-5.49	35.14	46.00	-10.86	QP
4	311.4519	34.47	-4.46	30.01	46.00	-15.99	QP
5	815.6352	26.16	3.16	29.32	46.00	-16.68	QP
6	926.0000	62.52	5.03	67.55	46.00	21.55	peak

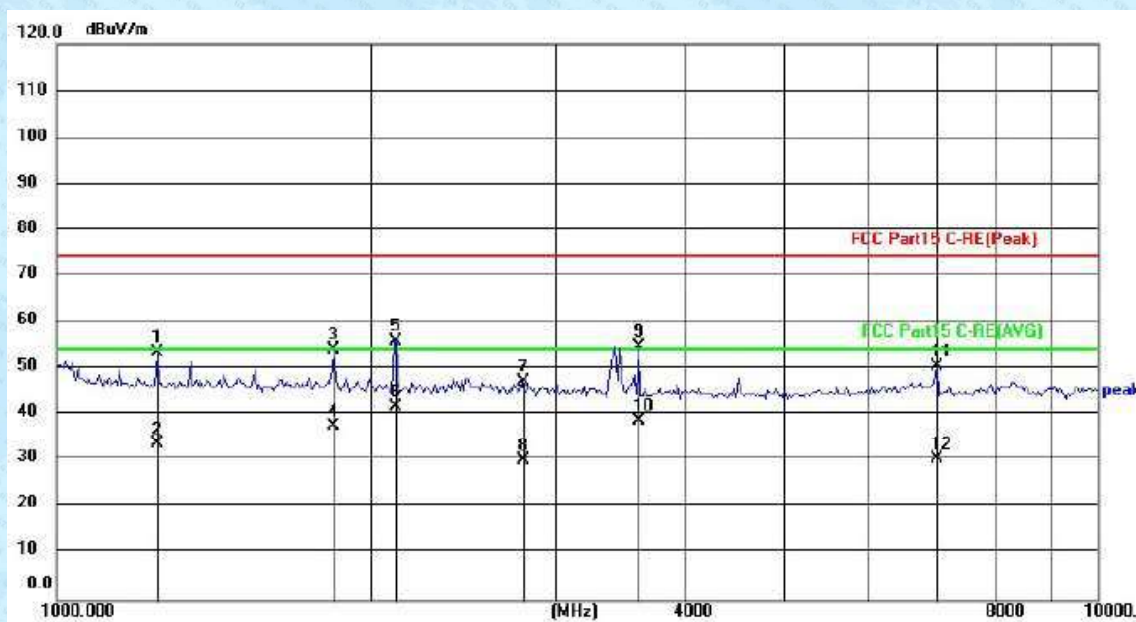
Test channel:	926MHz	Polarization:	Vertical
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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	32.6395	37.36	-2.36	35.00	40.00	-5.00	QP
2	155.3305	39.75	-8.02	31.73	43.50	-11.77	QP
3	233.4881	37.92	-4.54	33.38	46.00	-12.62	QP
4	311.4519	27.54	-4.46	23.08	46.00	-22.92	QP
5	401.1050	30.60	-2.82	27.78	46.00	-18.22	QP
6	926.0000	54.97	4.98	59.95	46.00	13.95	peak

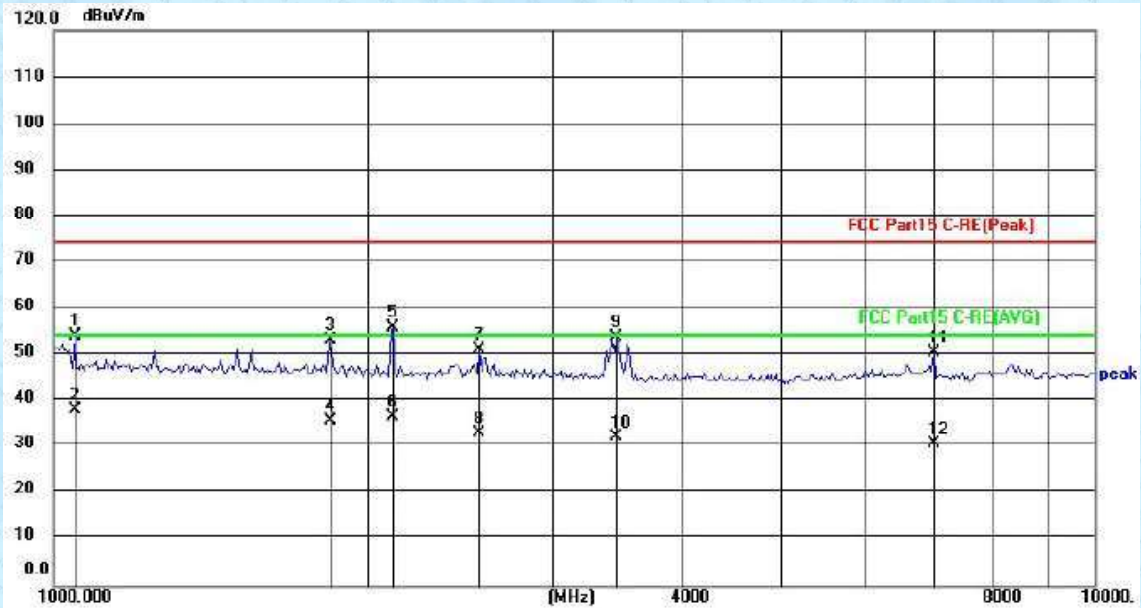
■ Above 1GHz

Test channel:	Lowest	Polarization:	Horizontal
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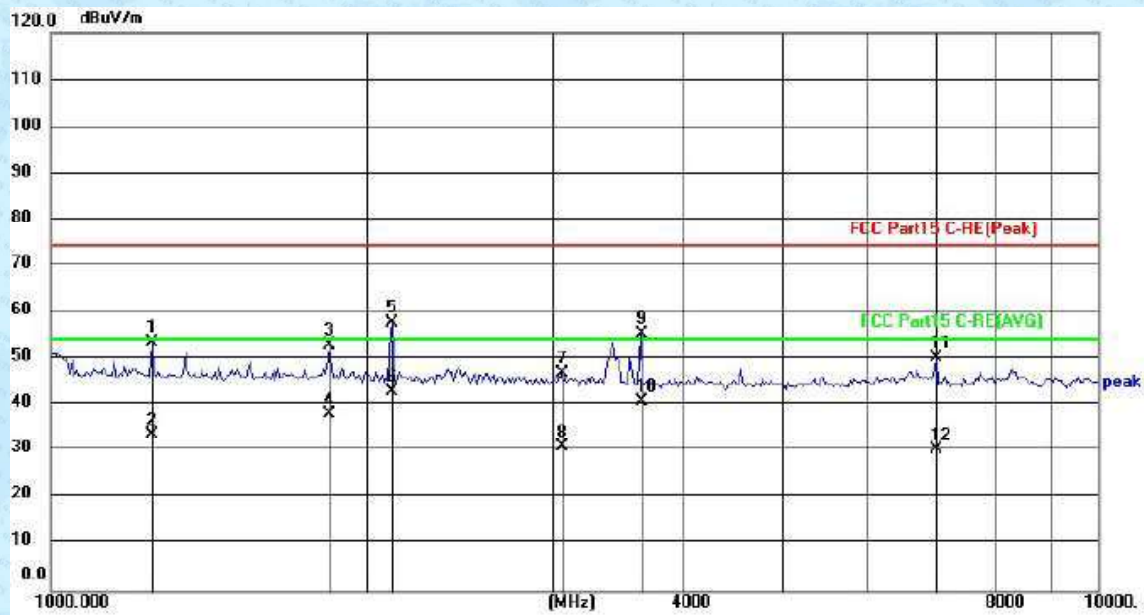
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1247.936	29.32	24.15	53.47	74.00	-20.53	peak
2	1247.936	9.52	24.15	33.67	54.00	-20.33	AVG
3	1847.281	29.06	25.24	54.30	74.00	-19.70	peak
4	1847.281	12.34	25.24	37.58	54.00	-16.42	AVG
5	2121.550	30.19	25.89	56.08	74.00	-17.92	peak
6	2121.550	15.84	25.89	41.73	54.00	-12.27	AVG
7	2798.297	20.14	27.04	47.18	74.00	-26.82	peak
8	2798.297	3.18	27.04	30.22	54.00	-23.78	AVG
9	3623.416	26.44	28.45	54.89	74.00	-19.11	peak
10	3623.416	10.47	28.45	38.92	54.00	-15.08	AVG
11	7009.570	14.66	35.81	50.47	74.00	-23.53	peak
12	7009.570	-5.28	35.81	30.53	54.00	-23.47	AVG

Test channel:	Lowest	Polarization:	Vertical
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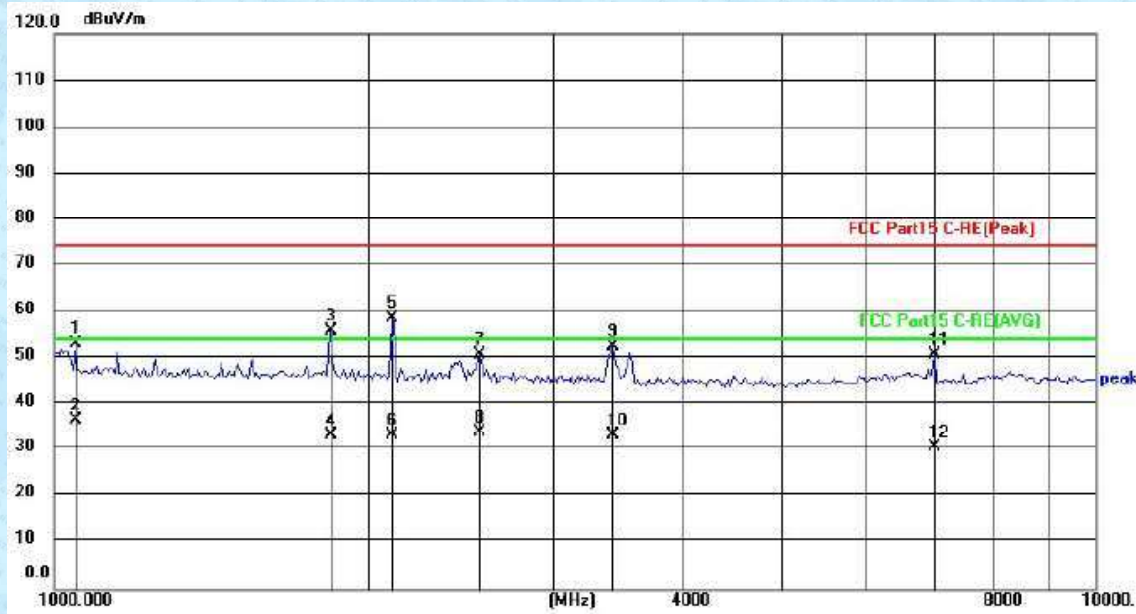
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1047.225	30.60	23.64	54.24	74.00	-19.76	peak
2	1047.225	14.49	23.64	38.13	54.00	-15.87	AVG
3	1847.281	28.11	25.24	53.35	74.00	-20.65	peak
4	1847.281	10.66	25.24	35.90	54.00	-18.10	AVG
5	2121.550	29.95	25.89	55.84	74.00	-18.16	peak
6	2121.550	11.00	25.89	36.89	54.00	-17.11	AVG
7	2563.407	24.40	26.61	51.01	74.00	-22.99	peak
8	2563.407	6.44	26.61	33.05	54.00	-20.95	AVG
9	3476.019	25.66	28.26	53.92	74.00	-20.08	peak
10	3476.019	4.14	28.26	32.40	54.00	-21.60	AVG
11	7009.570	14.79	35.81	50.60	74.00	-23.40	peak
12	7009.570	-5.03	35.81	30.78	54.00	-23.22	AVG

Test channel:	Middle	Polarization:	Horizontal
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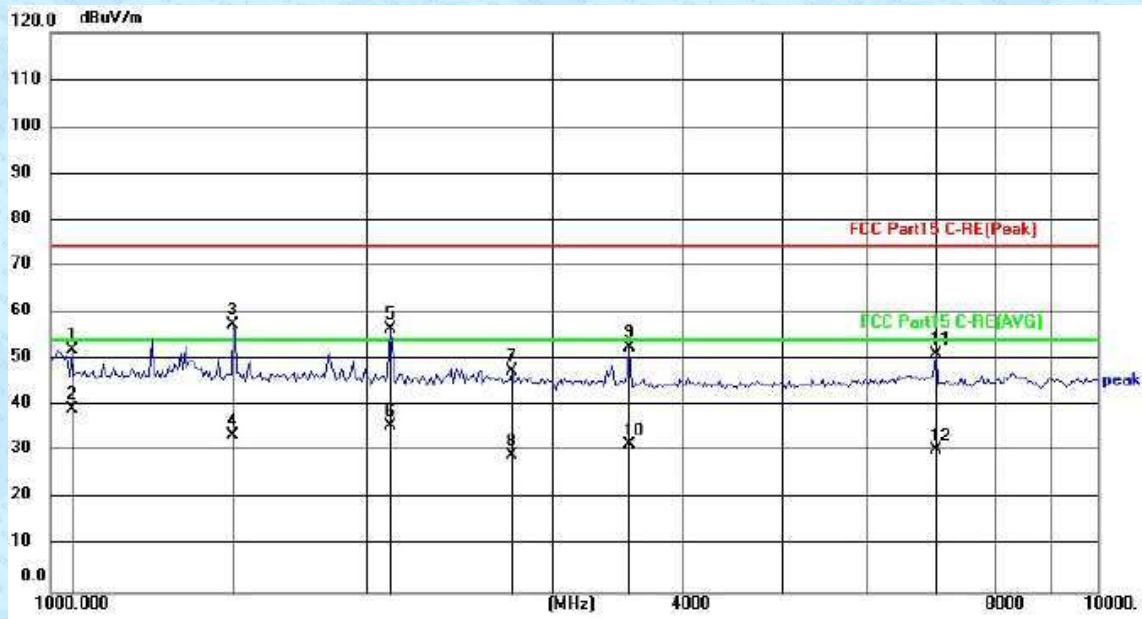
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1247.936	29.52	24.15	53.67	74.00	-20.33	peak
2	1247.936	9.49	24.15	33.64	54.00	-20.36	AVG
3	1847.281	27.84	25.24	53.08	74.00	-20.92	peak
4	1847.281	13.02	25.24	38.26	54.00	-15.74	AVG
5	2121.550	31.90	25.89	57.79	74.00	-16.21	peak
6	2121.550	17.07	25.89	42.96	54.00	-11.04	AVG
7	3068.838	19.36	27.52	46.88	74.00	-27.12	peak
8	3068.838	3.59	27.52	31.11	54.00	-22.89	AVG
9	3657.011	26.75	28.49	55.24	74.00	-18.76	peak
10	3657.011	12.47	28.49	40.96	54.00	-13.04	AVG
11	7009.570	14.59	35.81	50.40	74.00	-23.60	peak
12	7009.570	-5.33	35.81	30.48	54.00	-23.52	AVG

Test channel:	Middle	Polarization:	Vertical
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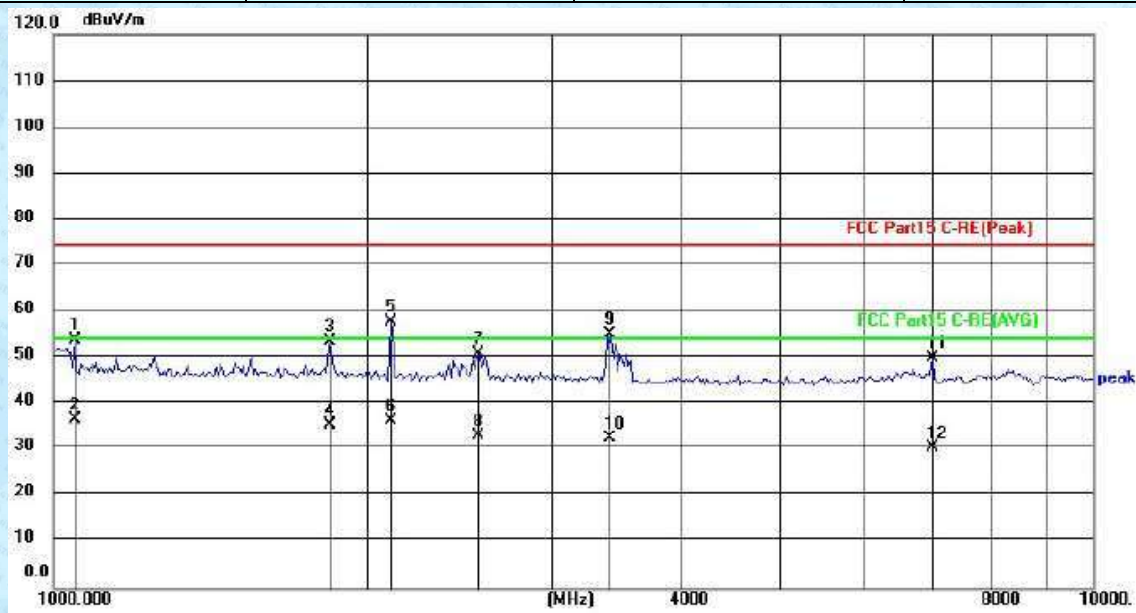
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1047.225	29.56	23.64	53.20	74.00	-20.80	peak
2	1047.225	13.09	23.64	36.73	54.00	-17.27	AVG
3	1838.777	30.78	25.22	56.00	74.00	-18.00	peak
4	1838.777	8.09	25.22	33.31	54.00	-20.69	AVG
5	2111.783	32.69	25.88	58.57	74.00	-15.43	peak
6	2111.783	7.54	25.88	33.42	54.00	-20.58	AVG
7	2563.407	24.24	26.61	50.85	74.00	-23.15	peak
8	2563.407	7.51	26.61	34.12	54.00	-19.88	AVG
9	3444.087	24.49	28.20	52.69	74.00	-21.31	peak
10	3444.087	5.35	28.20	33.55	54.00	-20.45	AVG
11	7009.570	14.99	35.81	50.80	74.00	-23.20	peak
12	7009.570	-5.14	35.81	30.67	54.00	-23.33	AVG

Test channel:	Highest	Polarization:	Horizontal
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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1047.225	28.48	23.64	52.12	74.00	-21.88	peak
2	1047.225	15.94	23.64	39.58	54.00	-14.42	AVG
3	1493.993	33.15	24.39	57.54	74.00	-16.46	peak
4	1493.993	9.39	24.39	33.78	54.00	-20.22	AVG
5	2111.783	30.81	25.88	56.69	74.00	-17.31	peak
6	2111.783	9.90	25.88	35.78	54.00	-18.22	AVG
7	2759.826	20.67	26.97	47.64	74.00	-26.36	peak
8	2759.826	2.41	26.97	29.38	54.00	-24.62	AVG
9	3573.602	24.39	28.39	52.78	74.00	-21.22	peak
10	3573.602	3.12	28.39	31.51	54.00	-22.49	AVG
11	7009.570	15.20	35.81	51.01	74.00	-22.99	peak
12	7009.570	-5.25	35.81	30.56	54.00	-23.44	AVG

Test channel:	Highest	Polarization:	Vertical
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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1047.225	30.13	23.64	53.77	74.00	-20.23	peak
2	1047.225	12.98	23.64	36.62	54.00	-17.38	AVG
3	1847.281	28.37	25.24	53.61	74.00	-20.39	peak
4	1847.281	10.18	25.24	35.42	54.00	-18.58	AVG
5	2111.783	31.95	25.88	57.83	74.00	-16.17	peak
6	2111.783	10.66	25.88	36.54	54.00	-17.46	AVG
7	2563.407	24.25	26.61	50.86	74.00	-23.14	peak
8	2563.407	6.65	26.61	33.26	54.00	-20.74	AVG
9	3412.449	27.01	28.14	55.15	74.00	-18.85	peak
10	3412.449	4.48	28.14	32.62	54.00	-21.38	AVG
11	7009.570	14.07	35.81	49.88	74.00	-24.12	peak
12	7009.570	-5.23	35.81	30.58	54.00	-23.42	AVG

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
- The emission levels of other frequencies are very lower than the limit and not show in test report.

8 Test Setup Photo

Reference to the **appendix I** for details.

9 EUT Constructional Details

Reference to the **appendix II** for details.

-----End-----