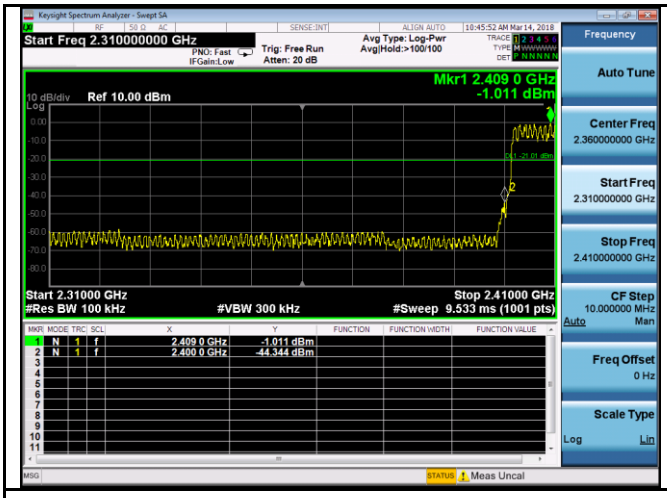
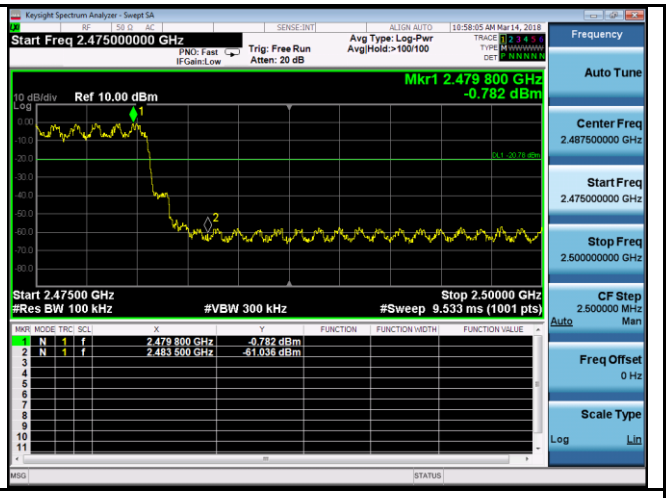
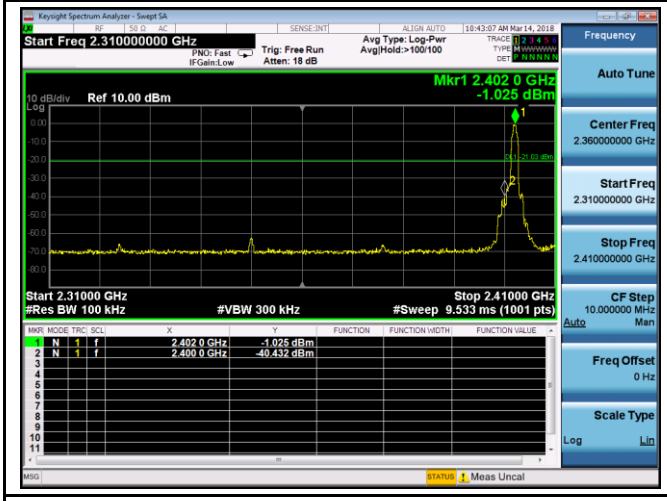
8-DPSK Mode:



8DPSK-Hopping Left Side



8DPSK-Hopping Right Side



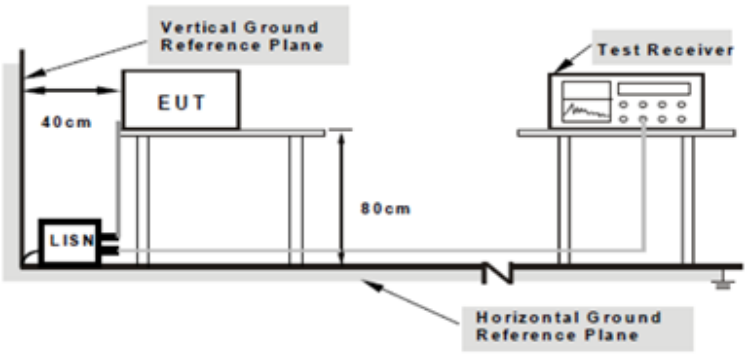
8DPSK-Left Side

8DPSK-Right Side

6.8 AC Power Line Conducted Emissions

Temperature	25 °C
Relative Humidity	51%
Atmospheric Pressure	1020mbar
Test date :	March 14, 2018
Tested By :	Aaron Liang

Requirement(s):

<table>
<tr><th>Spec</th><th>Item</th><th>Requirement</th><th>Applicable</th></tr>
<tr><td>47CFR§15.207, RSS210 (A8.1)</td><td>a)</td><td>For Low-power radio-frequency devices that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 [mu]H/50 ohms line impedance stabilization network (LISN). The lower limit applies at the boundary between the frequencies ranges.
<table>
<tr><th rowspan="2">Frequency ranges (MHz)</th><th colspan="2">Limit (dBμV)</th></tr>
<tr><th>QP</th><th>Average</th></tr>
<tr><td>0.15 ~ 0.5</td><td>66 – 56</td><td>56 – 46</td></tr>
<tr><td>0.5 ~ 5</td><td>56</td><td>46</td></tr>
<tr><td>5 ~ 30</td><td>60</td><td>50</td></tr>
</table></td><td>☑</td></tr>
<tr><td>Test Setup</td><td colspan="3"> 

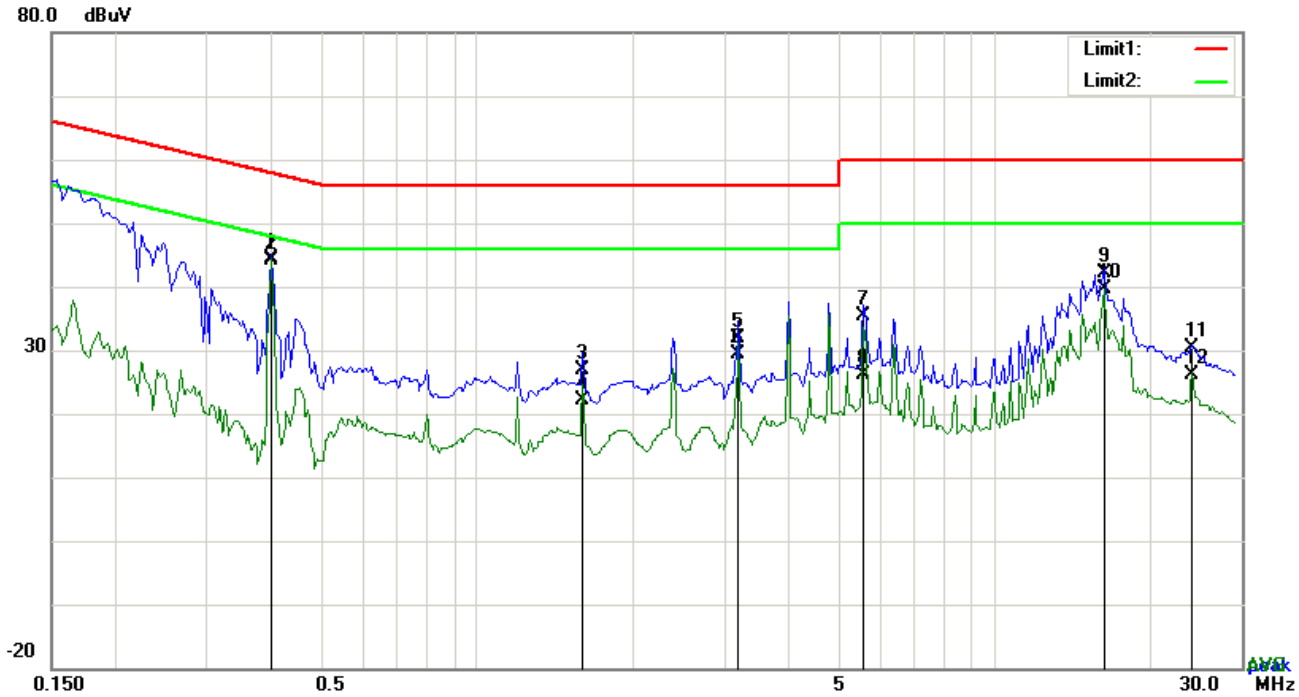
Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80cm from EUT and at least 80cm from other units and other metal planes support units.</td></tr>
<tr><td>Procedure</td><td colspan="3">1. The EUT and supporting equipment were set up in accordance with the requirements of the standard on top of a 1.5m x 1m x 0.8m high, non-metallic table.
2. The power supply for the EUT was fed through a 50W/50mH EUT LISN, connected to filtered mains.
3. The RF OUT of the EUT LISN was connected to the EMI test receiver via a low-loss</td></tr>
</table>

	coaxial cable. 4. All other supporting equipment were powered separately from another main supply. 5. The EUT was switched on and allowed to warm up to its normal operating condition. 6. A scan was made on the NEUTRAL line (for AC mains) or Earth line (for DC power) over the required frequency range using an EMI test receiver. 7. High peaks, relative to the limit line, The EMI test receiver was then tuned to the selected frequencies and the necessary measurements made with a receiver bandwidth setting of 10 kHz. 8. Step 7 was then repeated for the LIVE line (for AC mains) or DC line (for DC power).
Remark	
Result	☑ Pass ☐ Fail

Test Data ☑ Yes ☐ N/A

Test Plot ☑ Yes (See below) ☐ N/A

Test Mode:	Bluetooth Mode

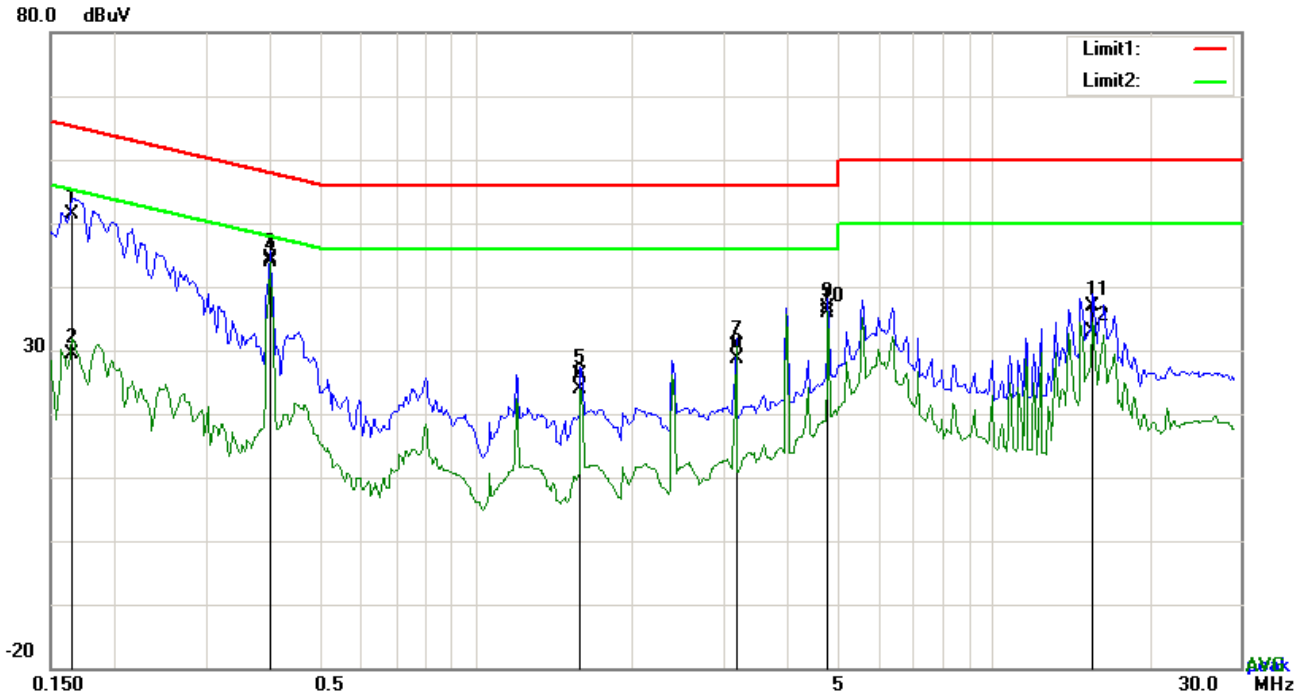


Test Data

Phase Line Plot at 120Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)
1	L1	0.3996	34.42	QP	10.03	44.45	57.86	-13.41
2	L1	0.3996	34.17	AVG	10.03	44.20	47.86	-3.66
3	L1	1.5969	16.85	QP	10.04	26.89	56.00	-29.11
4	L1	1.5969	12.13	AVG	10.04	22.17	46.00	-23.83
5	L1	3.1911	21.76	QP	10.06	31.82	56.00	-24.18
6	L1	3.1911	19.29	AVG	10.06	29.35	46.00	-16.65
7	L1	5.5857	25.35	QP	10.09	35.44	60.00	-24.56
8	L1	5.5857	16.04	AVG	10.09	26.13	50.00	-23.87
9	L1	16.2288	31.88	QP	10.24	42.12	60.00	-17.88
10	L1	16.2288	29.33	AVG	10.24	39.57	50.00	-10.43
11	L1	24.0210	19.91	QP	10.38	30.29	60.00	-29.71
12	L1	24.0210	15.84	AVG	10.38	26.22	50.00	-23.78

Test Mode:	Bluetooth Mode

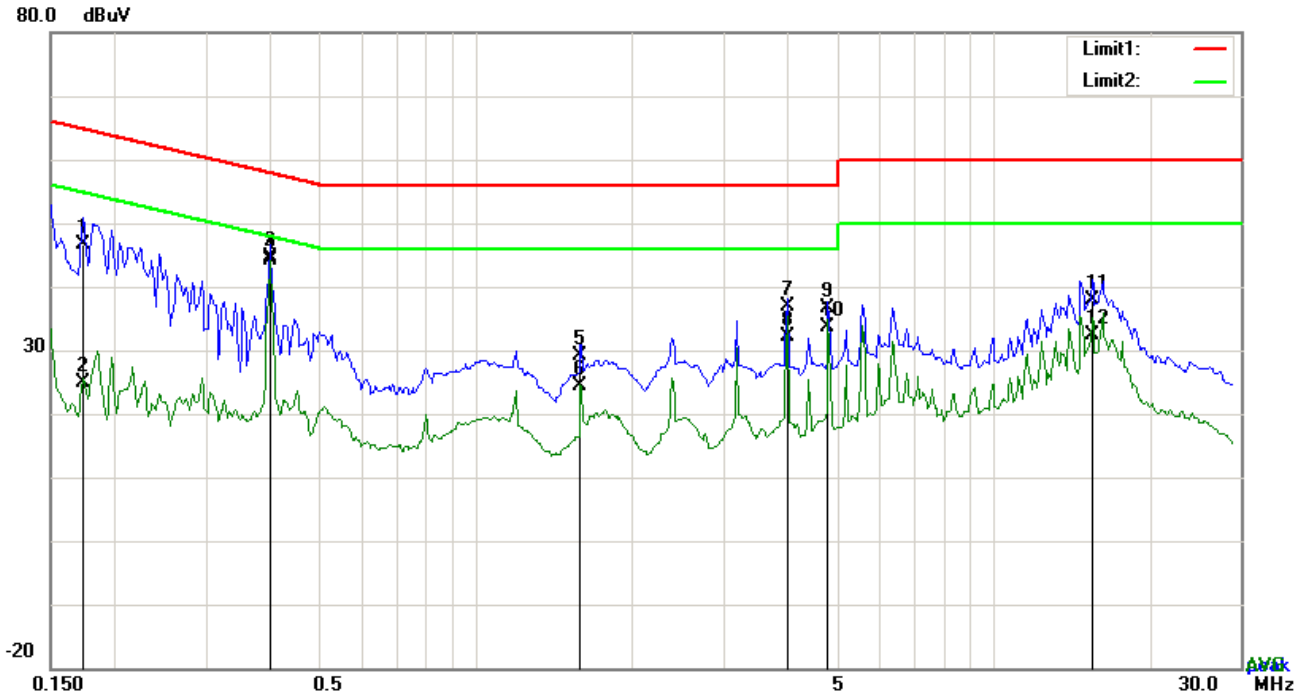


Test Data

Phase Neutral Plot at 120Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)
1	N	0.1656	41.44	QP	10.02	51.46	65.18	-13.72
2	N	0.1656	19.33	AVG	10.02	29.35	55.18	-25.83
3	N	0.3996	34.33	QP	10.02	44.35	57.86	-13.51
4	N	0.3996	33.96	AVG	10.02	43.98	47.86	-3.88
5	N	1.5930	16.14	QP	10.04	26.18	56.00	-29.82
6	N	1.5930	13.95	AVG	10.04	23.99	46.00	-22.01
7	N	3.1872	20.48	QP	10.05	30.53	56.00	-25.47
8	N	3.1872	18.55	AVG	10.05	28.60	46.00	-17.40
9	N	4.7784	26.52	QP	10.07	36.59	56.00	-19.41
10	N	4.7784	25.88	AVG	10.07	35.95	46.00	-10.05
11	N	15.5190	26.71	QP	10.21	36.92	60.00	-23.08
12	N	15.5190	22.61	AVG	10.21	32.82	50.00	-17.18

Test Mode:	Bluetooth Mode

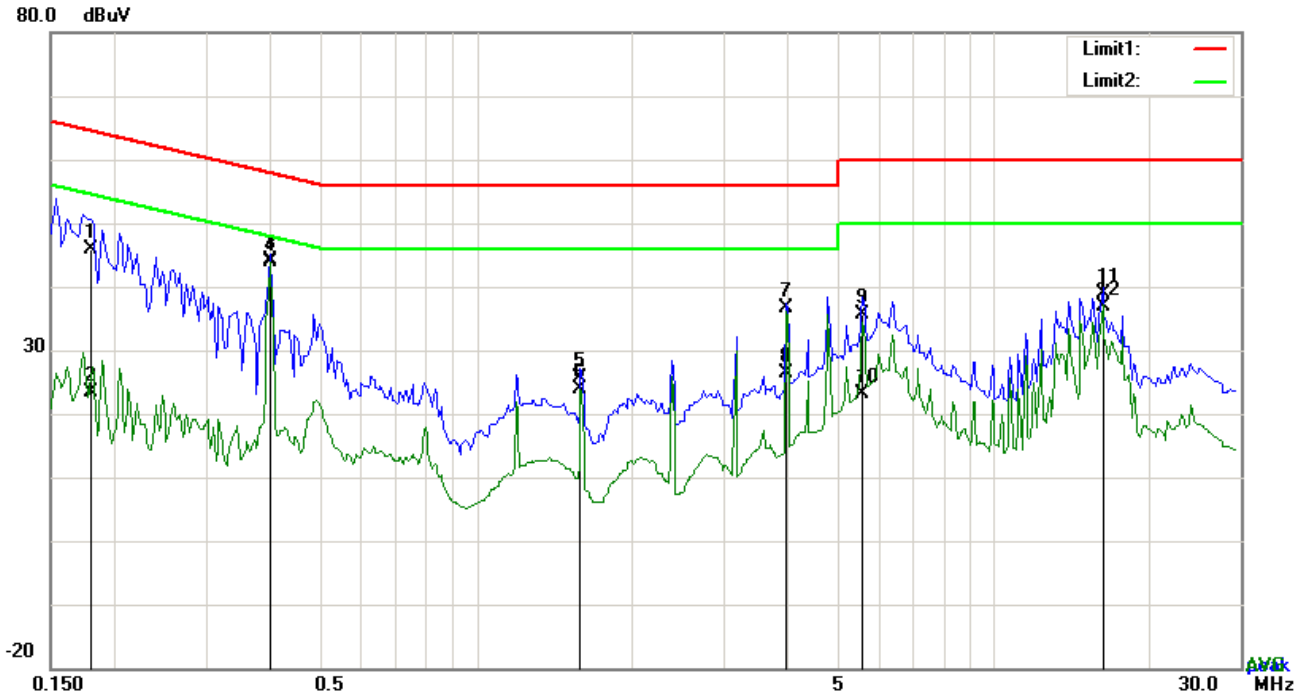


Test Data

Phase Line Plot at 240Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)
1	L1	0.1734	36.53	QP	10.03	46.56	64.80	-18.24
2	L1	0.1734	14.92	AVG	10.03	24.95	54.80	-29.85
3	L1	0.3996	34.71	QP	10.03	44.74	57.86	-13.12
4	L1	0.3996	34.13	AVG	10.03	44.16	47.86	-3.70
5	L1	1.5930	19.05	QP	10.04	29.09	56.00	-26.91
6	L1	1.5930	14.38	AVG	10.04	24.42	46.00	-21.58
7	L1	3.9867	26.85	QP	10.07	36.92	56.00	-19.08
8	L1	3.9867	22.11	AVG	10.07	32.18	46.00	-13.82
9	L1	4.7784	26.55	QP	10.08	36.63	56.00	-19.37
10	L1	4.7784	23.60	AVG	10.08	33.68	46.00	-12.32
11	L1	15.5307	27.66	QP	10.23	37.89	60.00	-22.11
12	L1	15.5307	22.14	AVG	10.23	32.37	50.00	-17.63

Test Mode:	Bluetooth Mode



Test Data

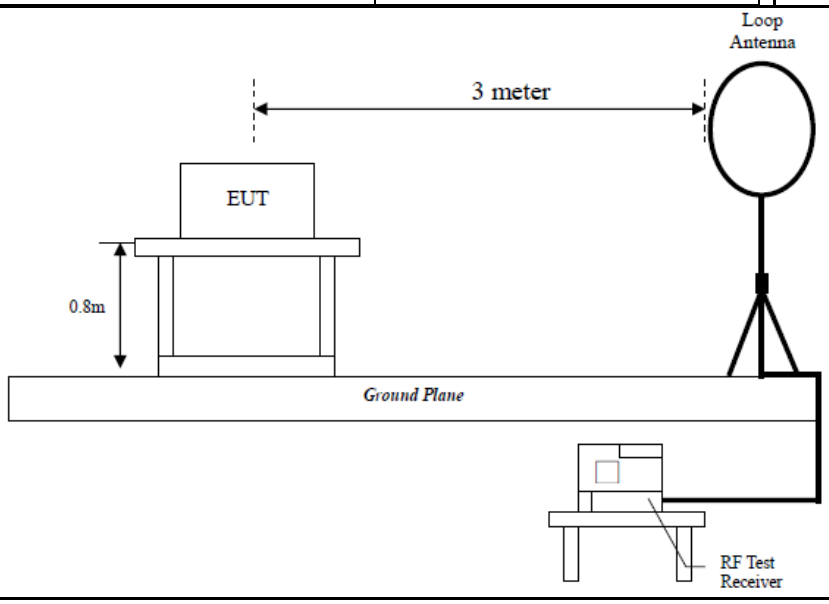
Phase Neutral Plot at 240Vac, 60Hz

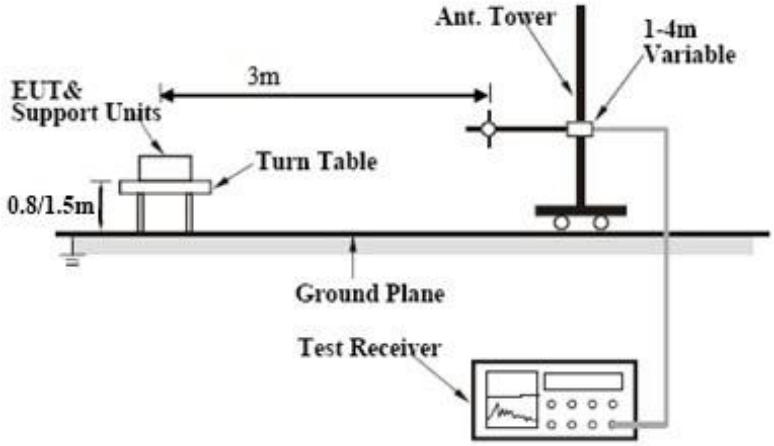
No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)
1	N	0.1796	35.79	QP	10.02	45.81	64.50	-18.69
2	N	0.1796	13.27	AVG	10.02	23.29	54.50	-31.21
3	N	0.3996	34.21	QP	10.02	44.23	57.86	-13.63
4	N	0.3996	33.79	AVG	10.02	43.81	47.86	-4.05
5	N	1.5930	15.48	QP	10.04	25.52	56.00	-30.48
6	N	1.5930	13.80	AVG	10.04	23.84	46.00	-22.16
7	N	3.9828	26.66	QP	10.06	36.72	56.00	-19.28
8	N	3.9828	16.32	AVG	10.06	26.38	46.00	-19.62
9	N	5.5857	25.59	QP	10.08	35.67	60.00	-24.33
10	N	5.5857	13.14	AVG	10.08	23.22	50.00	-26.78
11	N	16.2288	28.60	QP	10.21	38.81	60.00	-21.19
12	N	16.2288	26.55	AVG	10.21	36.76	50.00	-13.24

6.9 Radiated Emissions & Restricted Band

Temperature	25 °C
Relative Humidity	51%
Atmospheric Pressure	1020mbar
Test date :	March 14, 2018
Tested By :	Aaron Liang

Requirement(s):

<table>
<tr><th>Spec</th><th>Item</th><th>Requirement</th><th>Applicable</th></tr>
<tr><td>47CFR§15.205,
§15.209,
§15.247(d)</td><td>a)</td><td>Except higher limit as specified elsewhere in other section, the emissions from the low-power radio-frequency devices shall not exceed the field strength levels specified in the following table and the level of any unwanted emissions shall not exceed the level of the fundamental emission. The tighter limit applies at the band edges
<table>
<tr><th>Frequency range (MHz)</th><th>Field Strength (μV/m)</th></tr>
<tr><td>0.009~0.490</td><td>2400/F(KHz)</td></tr>
<tr><td>0.490~1.705</td><td>24000/F(KHz)</td></tr>
<tr><td>1.705~30.0</td><td>30</td></tr>
<tr><td>30 – 88</td><td>100</td></tr>
<tr><td>88 – 216</td><td>150</td></tr>
<tr><td>216 960</td><td>200</td></tr>
<tr><td>Above 960</td><td>500</td></tr>
</table></td><td>☑</td></tr>
<tr><td>Test Setup</td><td colspan="3"> 
</td></tr>
</table>



Procedure

1. The EUT was switched on and allowed to warm up to its normal operating condition.
2. The test was carried out at the selected frequency points obtained from the EUT characterization. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, and adjusting the antenna height in the following manner:
   a. Vertical or horizontal polarization (whichever gave the higher emission level over a full rotation of the EUT) was chosen.
   b. The EUT was then rotated to the direction that gave the maximum emission.
   c. Finally, the antenna height was adjusted to the height that gave the maximum emission.
3. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasiy Peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz with Peak detection for Peak measurement at frequency above 1GHz.
   The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz with Peak detection for Average Measurement as below at frequency above 1GHz.
5. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured.

Remark

Result ☑ Pass ☐ Fail

Test Data ☑ Yes ☐ N/A

Test Plot ☑ Yes (See below) ☐ N/A

Test Result:

Test Mode:	Transmitting Mode

Frequency range: 9KHz - 30MHz

Freq. (MHz)	Detection value	Factor (dB/m)	Reading (dBuV/m)	Result (dBuV/m)	Limit@3m (dBuV/m)	Margin (dB)
--	--	--	--	--	--	>20
--	--	--	--	--	--	>20

Note:

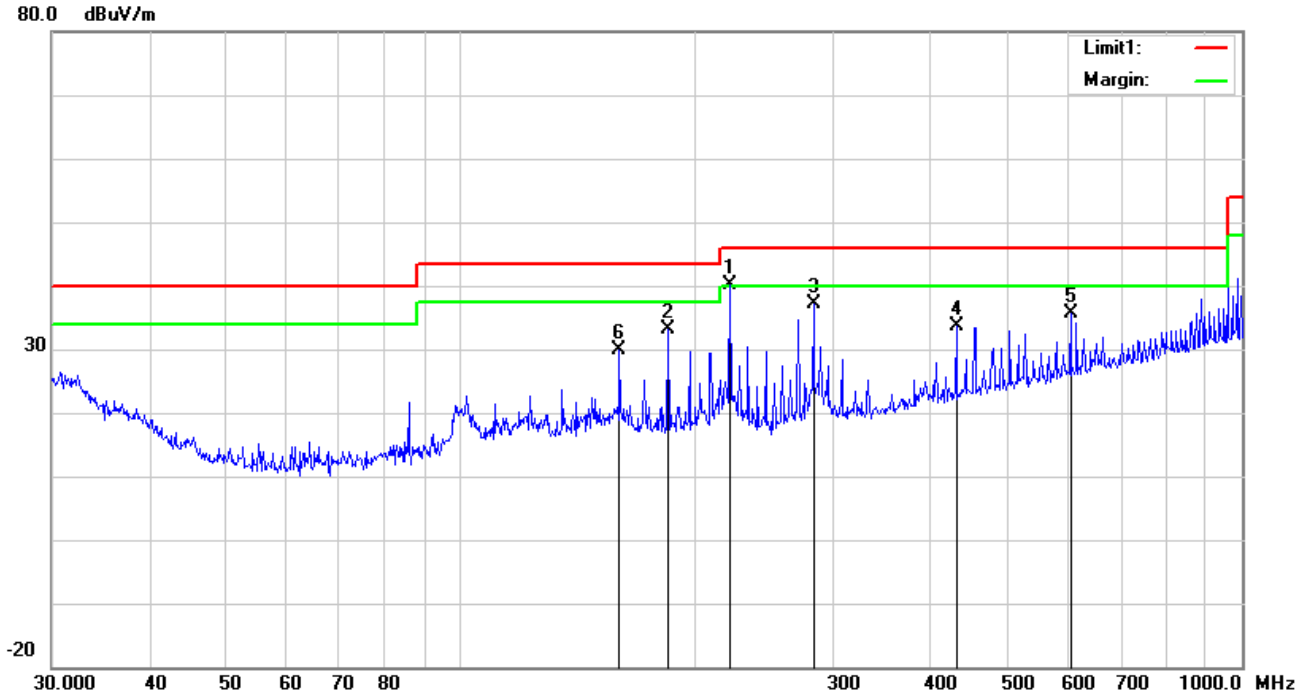
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor =40 log (specific distance/test distance)(dB);

Limit line = specific limits(dBuv) + distance extrapolation factor.

Test Mode:	Bluetooth Mode

30MHz -1GHz

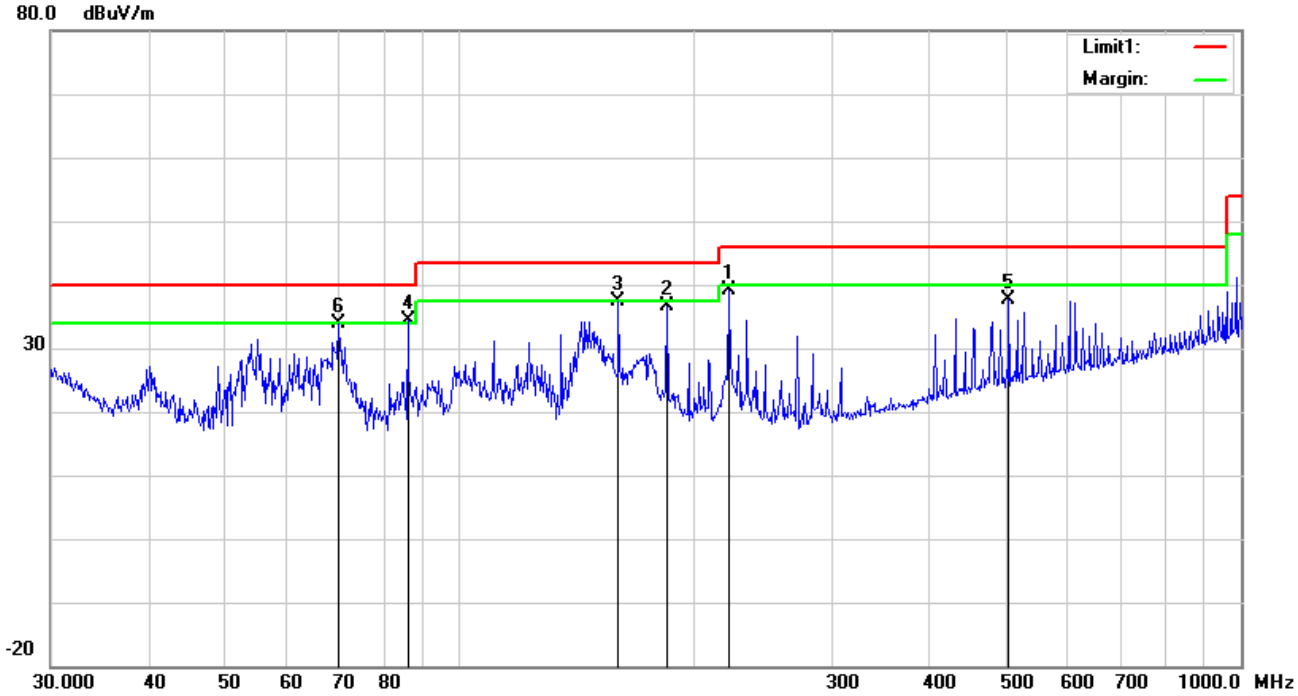


Test Data

Horizontal Polarity Plot @3m

No.	P/L	Frequency	Reading	Detector	Ant_F	PA_G	Cab_L	Result	Limit	Margin	Height	Degree
		(MHz)	(dBuV/m)		(dB/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	( )
1	H	221.3921	49.04	QP	11.80	22.34	1.61	40.11	46.00	-5.89	100	357
2	H	184.4898	42.79	peak	11.25	22.28	1.44	33.20	43.50	-10.30	100	287
3	H	282.9852	44.76	peak	12.85	22.29	1.76	37.08	46.00	-8.92	100	158
4	H	431.0316	37.19	peak	16.32	21.95	2.08	33.64	46.00	-12.36	100	51
5	H	603.5392	35.52	peak	19.14	21.57	2.50	35.59	46.00	-10.41	100	177
6	H	159.7844	38.07	peak	12.60	22.27	1.39	29.79	43.50	-13.71	100	26

30MHz -1GHz



Test Data

Vertical Polarity Plot @3m

No.	P/L	Frequency	Reading	Detector	Ant_F	PA_G	Cab_L	Result	Limit	Margin	Height	Degree
		(MHz)	(dBuV/m)		(dB/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)
1	V	221.3921	48.10	peak	11.80	22.34	1.61	39.17	46.00	-6.83	100	107
2	V	184.4898	46.18	peak	11.25	22.28	1.44	36.59	43.50	-6.91	100	158
3	V	159.7844	45.65	peak	12.60	22.27	1.39	37.37	43.50	-6.13	100	277
4	V	85.8984	47.74	QP	7.84	22.36	1.05	34.27	40.00	-5.73	100	288
5	V	504.7062	39.30	peak	17.77	21.80	2.43	37.70	46.00	-8.30	100	246
6	V	70.0903	47.47	peak	7.80	22.38	0.98	33.87	40.00	-6.13	100	94

Above 1GHz

Test Mode:	Transmitting Mode

Frequency	Meter Reading	Antenna Factor	Cable loss	Preamp factor	Emission Level	Limits	Margin	Detector	Polarity
(MHz)	(dBμV)	(dB)	(dB)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	(PK/AV)	(H/V)
Low Channel:π/4 DQPSK Mode(Worst Case)-2402MHz									
2390	37.18	28.72	3.36	26.32	42.94	74	-31.06	peak	Vertical
4804	27.15	32.94	3.98	27.49	36.58	54	-17.42	Average	Vertical
4804	37.34	32.94	3.98	27.49	46.77	74	-27.23	peak	Vertical
7206	31.21	25.28	5.51	27.94	34.06	54	-19.94	Average	Vertical
7206	39.18	25.28	5.51	27.94	42.03	74	-31.97	peak	Vertical
2390	38.27	28.72	3.36	26.32	44.03	74	-29.97	peak	Horizontal
4804	30.21	32.94	3.98	27.49	39.64	54	-14.36	Average	Horizontal
4804	40.28	32.94	3.98	27.49	49.71	74	-24.29	peak	Horizontal
7206	30.74	25.28	5.51	27.94	33.59	54	-20.41	Average	Horizontal
7206	40.81	25.28	5.51	27.94	43.66	74	-30.34	peak	Horizontal
Middle Channel:π/4 DQPSK Mode(Worst Case)-2441MHz									
4882	29.38	32.11	4.04	27.53	38.00	54	-16.00	Average	Vertical
4882	38.19	32.11	4.04	27.53	46.81	74	-27.19	peak	Vertical
7323	30.26	24.33	5.58	27.96	32.21	54	-21.79	Average	Vertical
7323	40.83	24.33	5.58	27.96	42.78	74	-31.22	peak	Vertical
4882	30.75	32.11	4.04	27.53	39.37	54	-14.63	Average	Horizontal
4882	40.92	32.11	4.04	27.53	49.54	74	-24.46	peak	Horizontal
7323	34.87	24.33	5.58	27.96	36.82	54	-17.18	Average	Horizontal
7323	40.82	24.33	5.58	27.96	42.77	74	-31.23	peak	Horizontal
High Channel:π/4 DQPSK Mode(Worst Case)-2480MHz									
2483.5	38.11	28.79	3.48	26.34	44.04	74	-29.96	peak	Vertical
4960	29.85	31.32	4.12	27.58	37.71	54	-16.29	Average	Vertical
4960	38.79	31.32	4.12	27.58	46.65	74	-27.35	peak	Vertical
7440	29.19	24.38	5.68	27.99	31.26	54	-22.74	Average	Vertical
7440	40.28	24.38	5.68	27.99	42.35	74	-31.65	peak	Vertical
2483.5	40.17	28.79	3.48	26.34	46.10	74	-27.90	peak	Horizontal
4960	29.85	31.32	4.12	27.58	37.71	54	-16.29	Average	Horizontal
4960	40.76	31.32	4.12	27.58	48.62	74	-25.38	peak	Horizontal
7440	34.19	24.38	5.68	27.99	36.26	54	-17.74	Average	Horizontal

Note:

*1, The testing has been conformed to 10*2480MHz=24,800MHz*
2, All other emissions more than 30 dB below the limit
3, X-Axis, Y-Axis and Z-Axis were investigated. The results above show only the worst case.
4, The radiated spurious test above 18GHz is subcontracted to SIEMIC (Nanjing-China) Laboratories. and found 30dB below the limit at least.

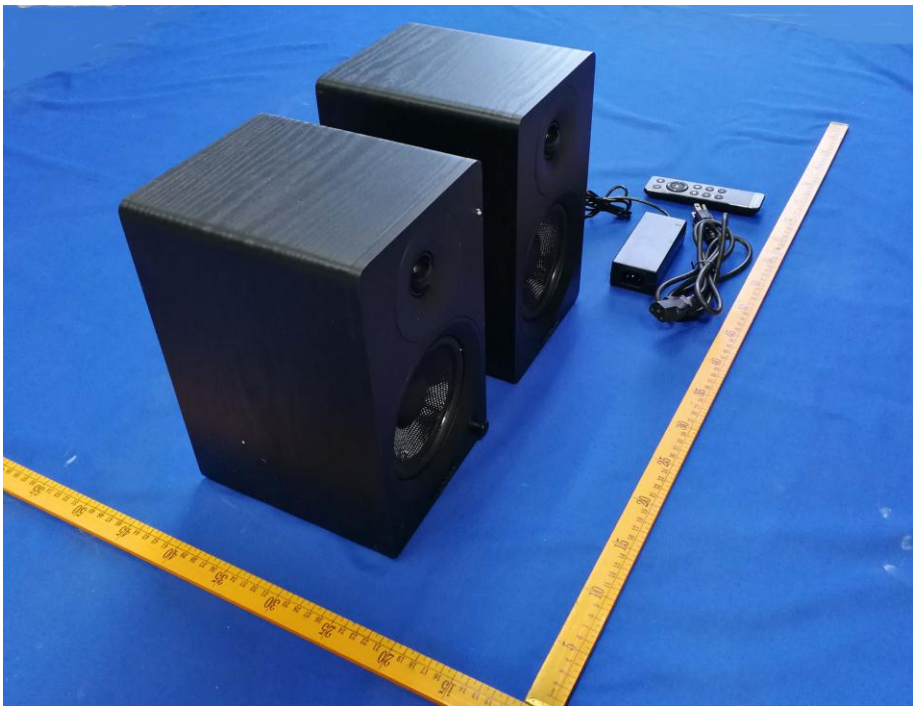
Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Due	In use
AC Line Conducted					
EMI test receiver	ESCS30	8471241027	09/15/2017	09/14/2018	☑
Line Impedance	LI-125A	191106	09/23/2017	09/22/2018	☑
Line Impedance	LI-125A	191107	09/23/2017	09/22/2018	☑
ISN	ISN T800	34373	09/23/2017	09/22/2018	☐
Transient Limiter	LIT-153	531118	08/30/2017	08/29/2018	☐
RF conducted test					
Agilent ESA-E SERIES	E4407B	MY45108319	09/15/2017	09/14/2018	☑
Power Splitter	1#	1#	08/30/2017	08/29/2018	☑
DC Power Supply	E3640A	MY40004013	09/15/2017	09/14/2018	☑
Radiated Emissions					
EMI test receiver	ESL6	100262	09/15/2017	09/14/2018	☑
Positioning Controller	UC3000	MF780208282	11/17/2017	11/16/2018	☑
OPT 010 AMPLIFIER (0.1-1300MHz)	8447E	2727A02430	08/30/2017	08/29/2018	☑
Microwave Preamplifier (1 ~ 26.5GHz)	8449B	3008A02402	03/23/2017	03/22/2018	☑
Horn Antenna	BBHA9170	3145226D1	09/27/2017	09/26/2018	☑
Active Antenna (9kHz-30MHz)	AL-130	121031	10/12/2017	10/11/2018	☑
Bilog Antenna (30MHz~6GHz)	JB6	A110712	09/19/2017	09/18/2018	☑
Double Ridge Horn Antenna (1 ~18GHz)	AH-118	71283	09/22/2017	09/21/2018	☑
Universal Radio Communication Tester	CMU200	121393	09/23/2017	09/22/2018	☑

Annex B. EUT And Test Setup Photographs

Annex B.i. Photograph: EUT External Photo

Whole Package View



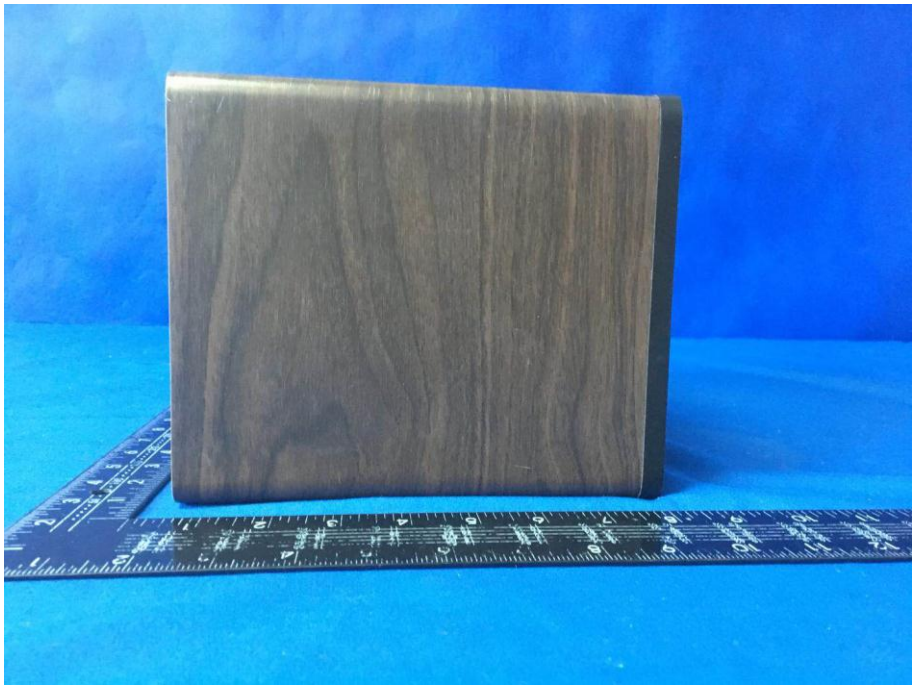
EUT - Front View 1

EUT - Rear View 1

EUT - Front View 2

EUT - Rear View 2

EUT - Top View



EUT - Bottom View

EUT - Left View

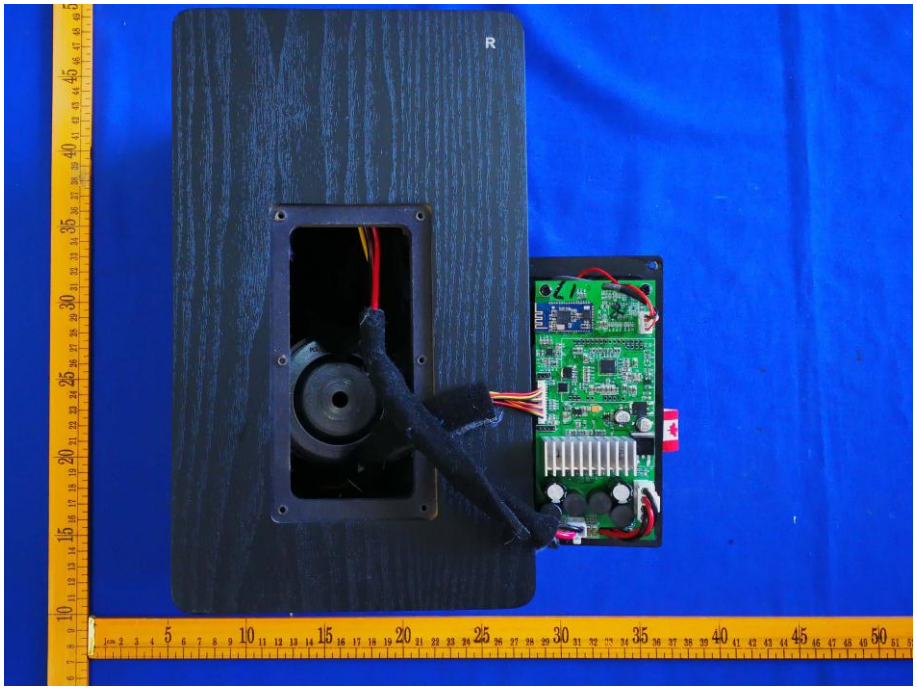
EUT - Right View

Remote control - Front View

Remote control - Rear View

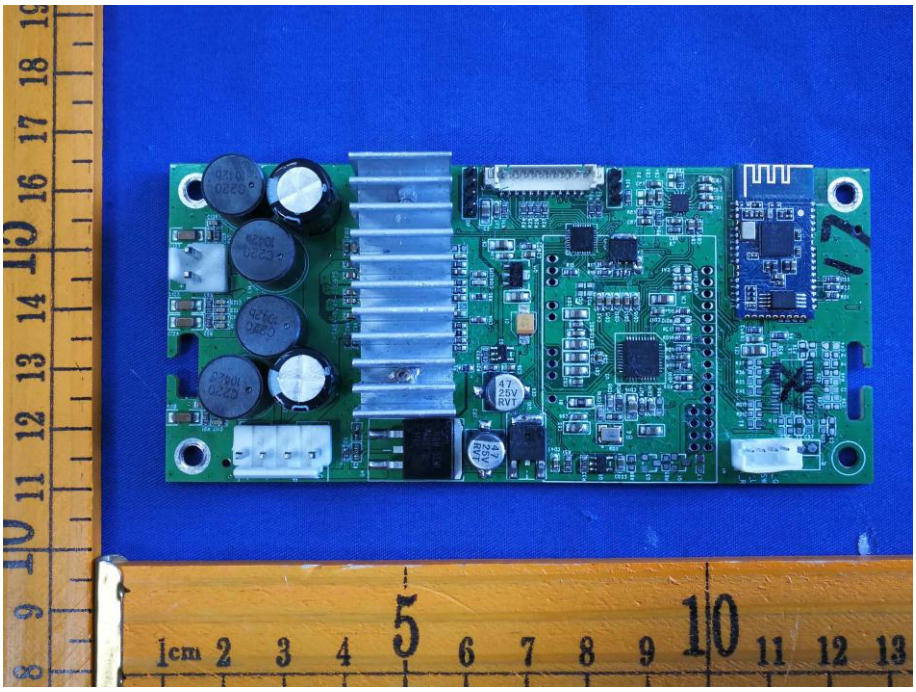
Annex B.ii. Photograph: EUT Internal Photo

Cover Off - Top View

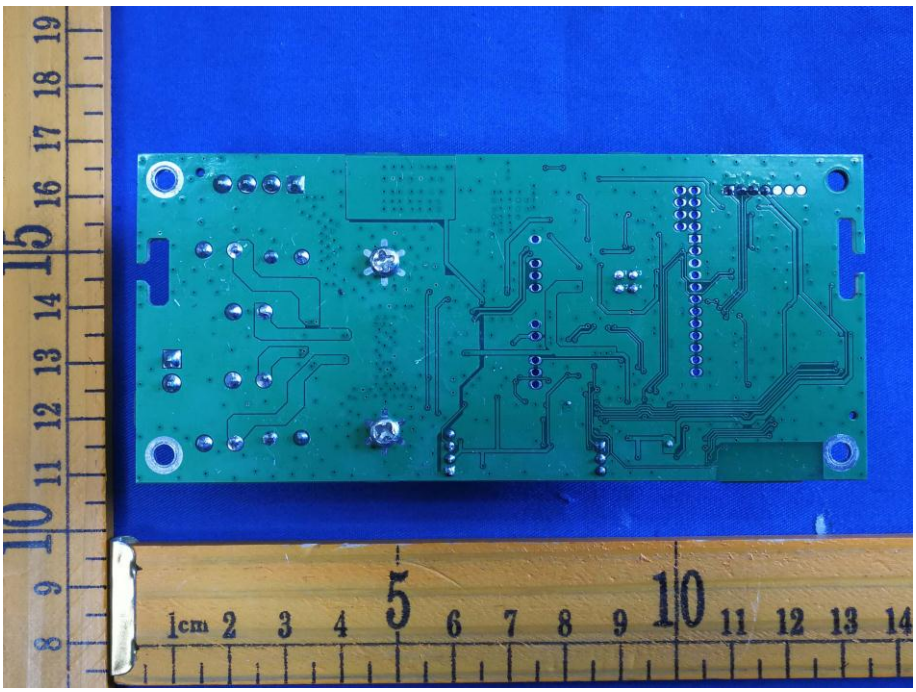


Adapter - Front View

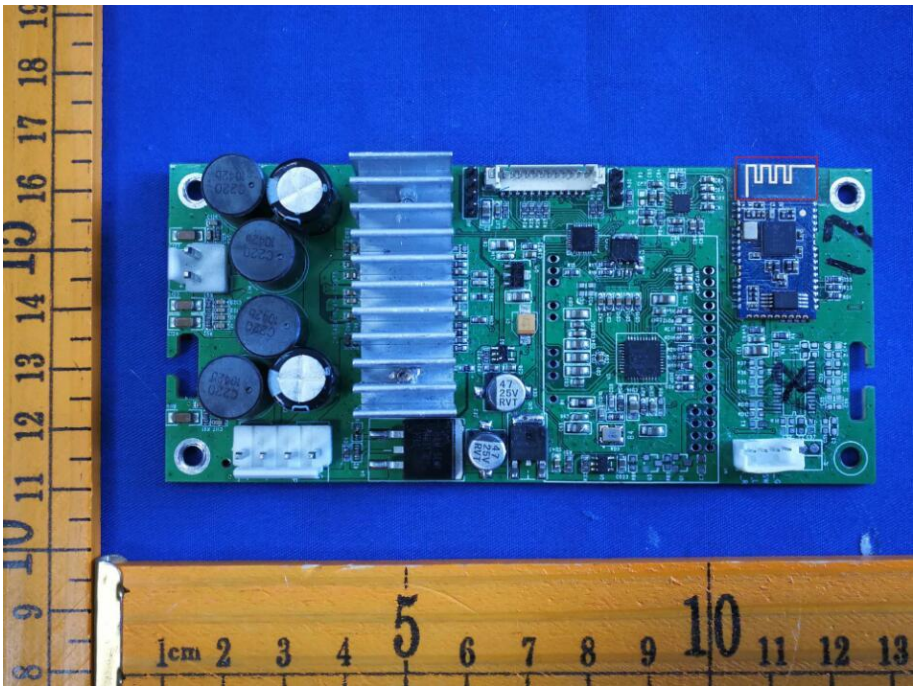
Mainboard - Front View



Mainboard – Rear View



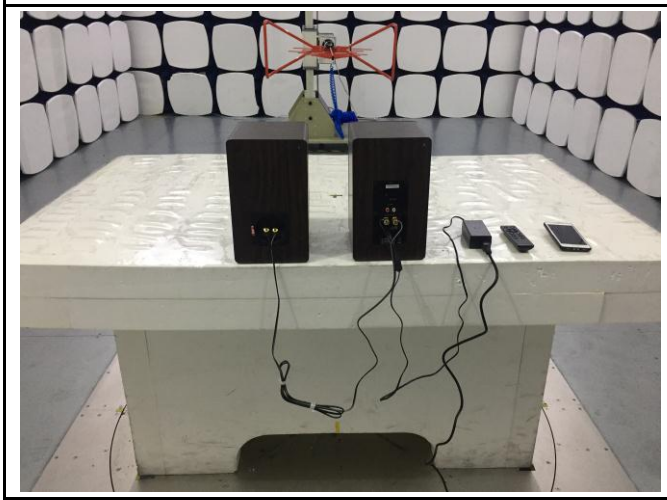
BT - Antenna View



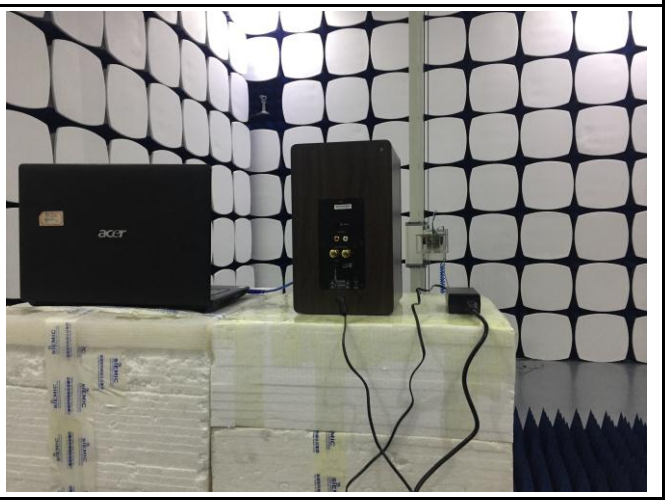
Annex B.iii. Photograph: Test Setup Photo

Conducted Emissions Test Setup Front View

Conducted Emissions Test Setup Side View



Radiated Spurious Emissions Test Setup Below 1GHz

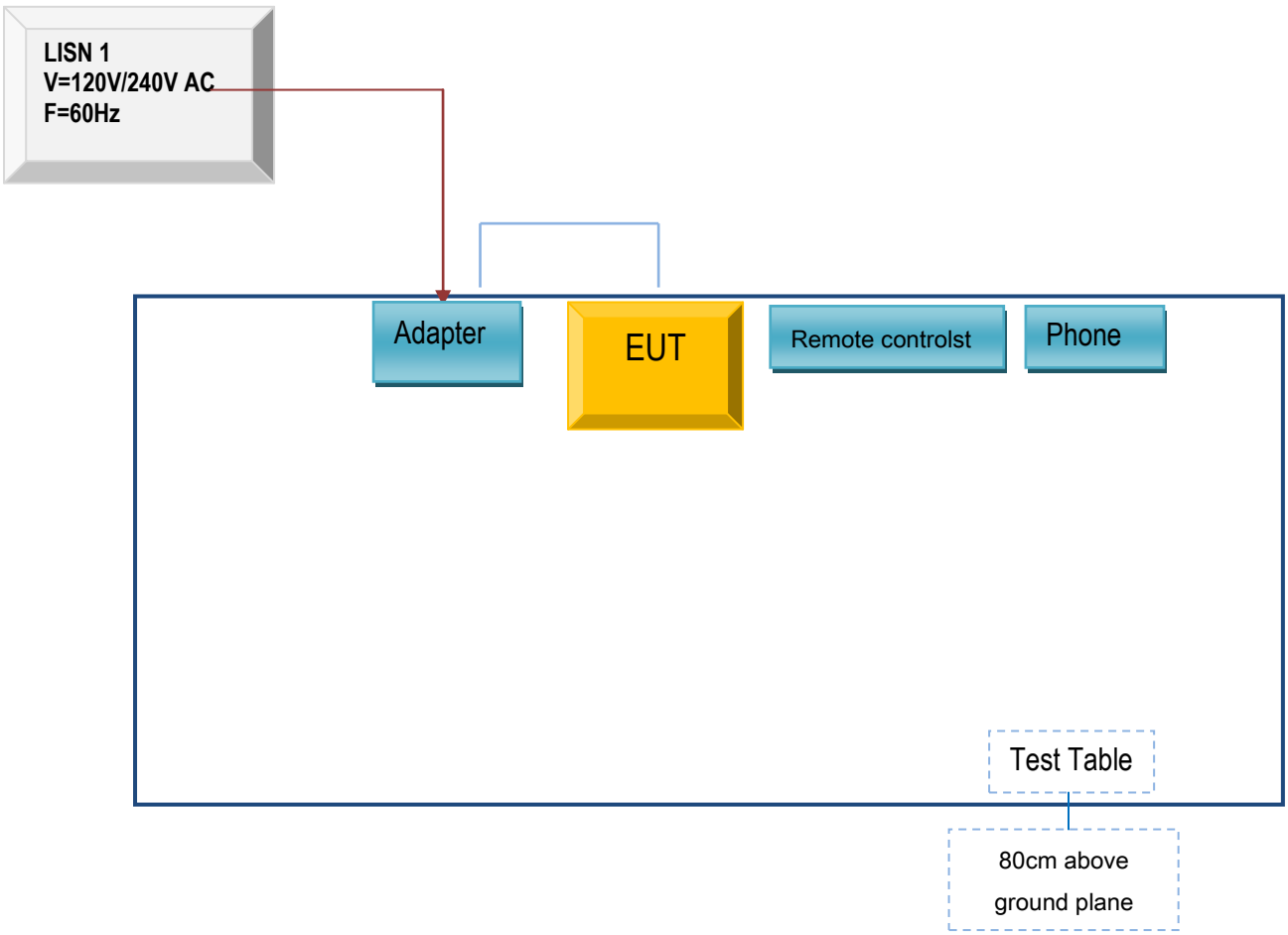


Radiated Spurious Emissions Test Setup Above 1GHz

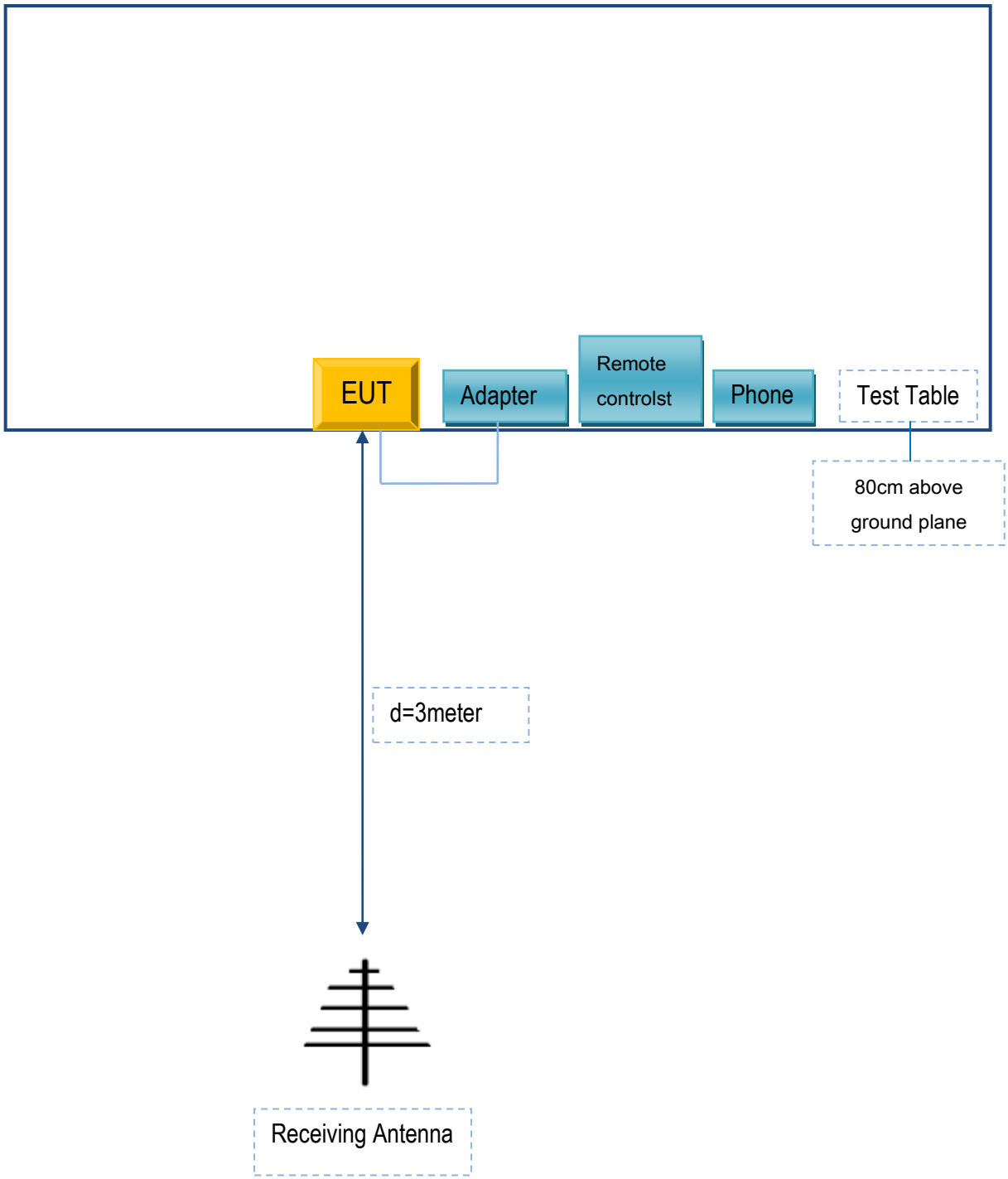
Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

Annex C.ii. TEST SET UP BLOCK

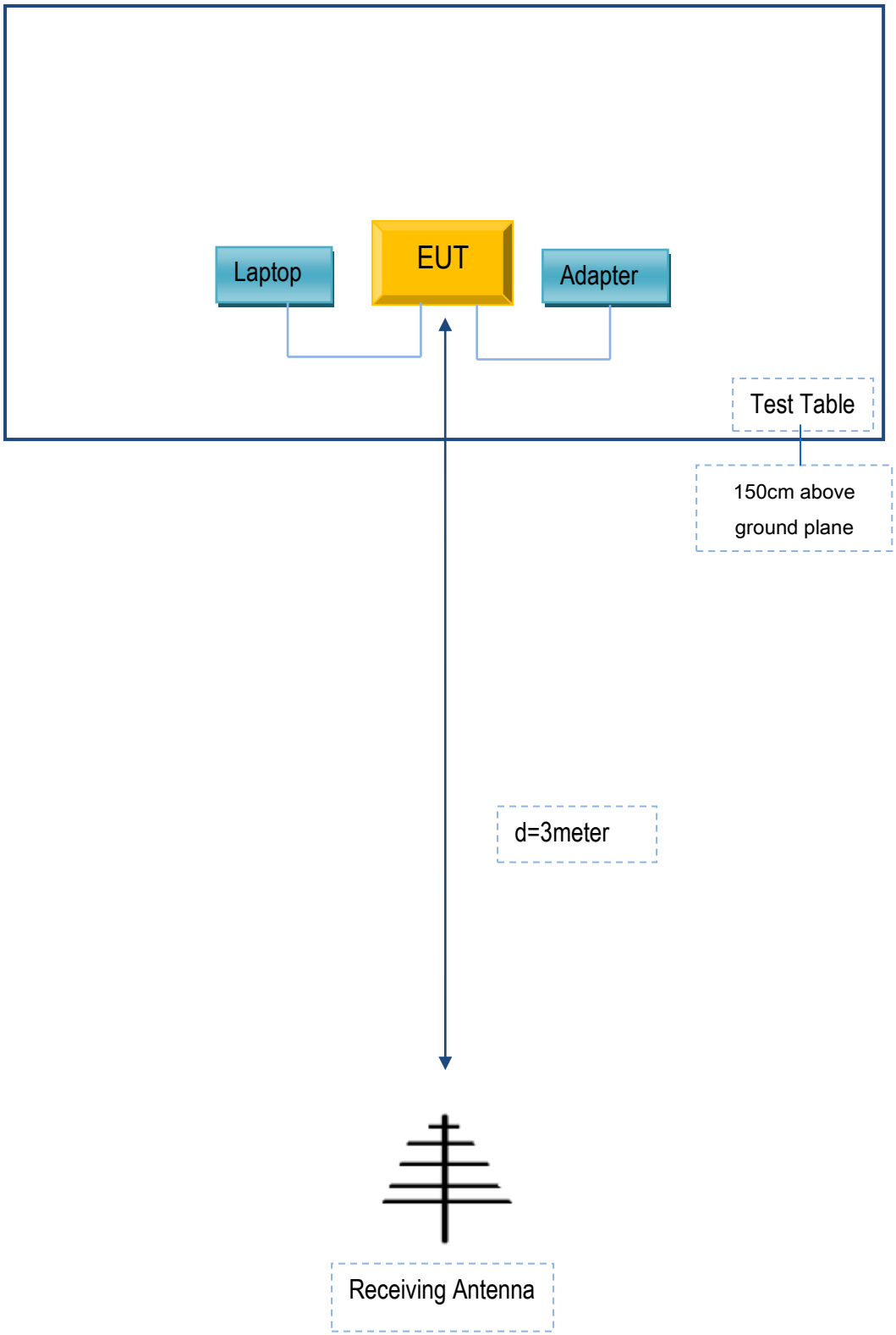
Block Configuration Diagram for AC Line Conducted Emissions



Block Configuration Diagram for Radiated Emissions （Below 1GHz）.



Block Configuration Diagram for Radiated Emissions （Above 1GHz）.



Annex C. il. SUPPORTING EQUIPMENT DESCRIPTION

The following is a description of supporting equipment and details of cables used with the EUT.

Supporting Equipment:

Manufacturer	Equipment Description	Model	Serial No
Lenovo	Laptop	thinkpad e40	N/A
Circus World Displays Limited	Adapter	PS65B190Y3150H	N/A
MEIZU	Phone	Y685Q	Y15QFBP922VGM
Circus World Displays Limited	Remote controlst	Ai40	N/A

Supporting Cable:

Cable type	Shield Type	Ferrite Core	Length	Serial No
N/A	N/A	N/A	N/A	N/A

Annex D. User Manual / Block Diagram / Schematics / Partlist

Please see the attachment

Annex E. DECLARATION OF SIMILARITY

N/A