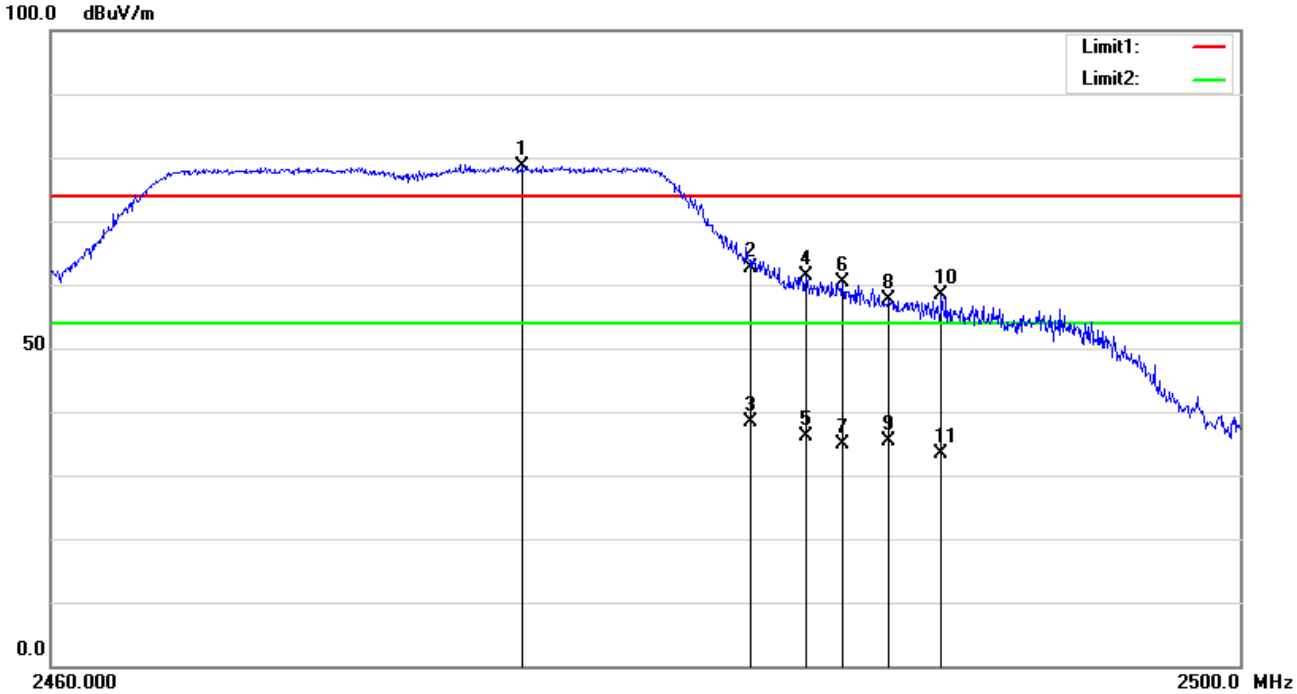
Test Mode:	802.11n20 (CH13)

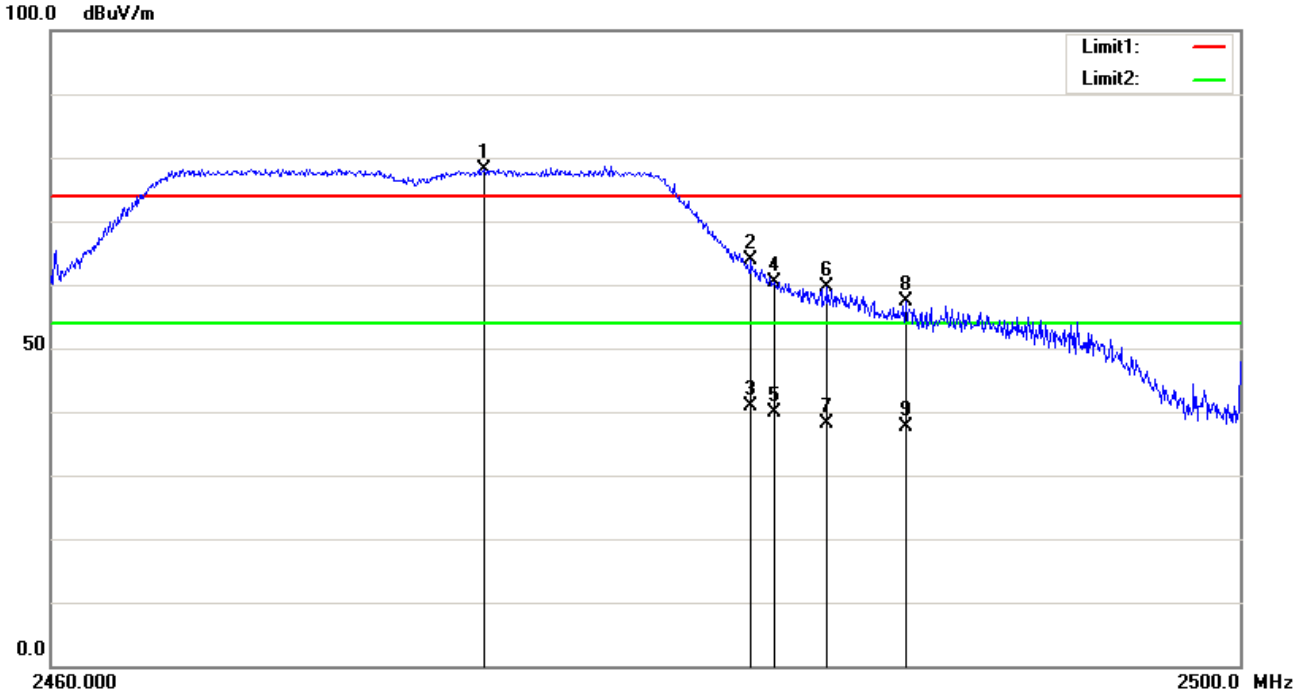
802.11n20-Vertical - Right



No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)
1	2475.800	95.65	peak	31.59	52.62	4.06	78.68	74.00	4.68	200	275
2	2483.500	79.69	peak	31.59	52.63	4.06	62.71	74.00	-11.29	200	259
3	2483.500	55.30	AVG	31.59	52.63	4.06	38.32	74.00	-35.68	200	229
4	2485.360	78.36	peak	31.59	52.63	4.06	61.38	74.00	-12.62	200	269
5	2485.360	53.16	AVG	31.59	52.63	4.06	36.18	74.00	-37.82	200	269
6	2486.600	77.33	peak	31.59	52.63	4.06	60.35	74.00	-13.65	200	256
7	2486.600	51.86	AVG	31.59	52.63	4.06	34.88	74.00	-39.12	200	256
8	2488.160	74.65	peak	31.59	52.63	4.06	57.67	74.00	-16.33	200	293
9	2488.160	52.46	AVG	31.59	52.63	4.06	35.48	74.00	-38.52	200	293
10	2489.920	75.40	peak	31.59	52.63	4.06	58.42	74.00	-15.58	200	279
11	2489.920	50.38	AVG	31.59	52.63	4.06	33.40	74.00	-40.60	200	279

Test Mode:	802.11n20 (CH13)

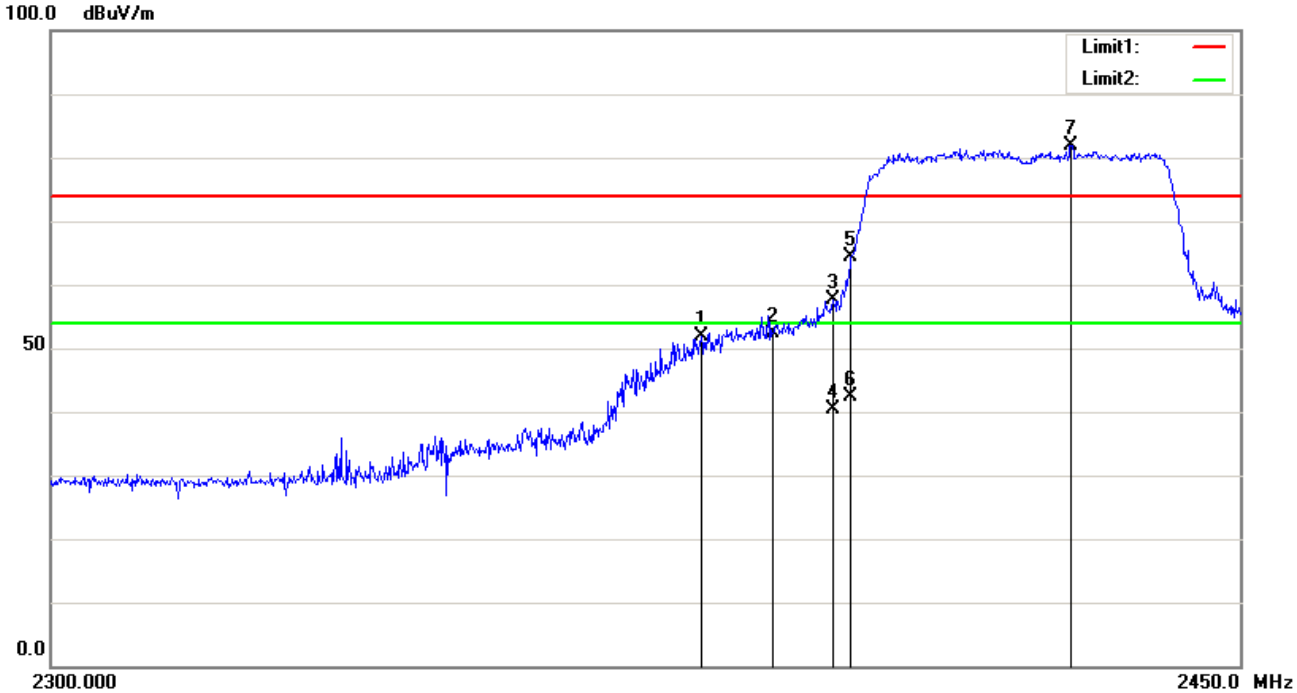
802.11n20-Horizontal- Right



No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)
1	2474.560	95.16	peak	31.58	52.62	4.05	78.17	74.00	4.17	100	101
2	2483.500	80.90	peak	31.59	52.63	4.06	63.92	74.00	-10.08	200	205
3	2483.500	57.77	AVG	31.59	52.63	4.06	40.79	74.00	-33.21	100	104
4	2484.280	77.47	peak	31.59	52.63	4.06	60.49	74.00	-13.51	100	102
5	2484.280	56.87	AVG	31.59	52.63	4.06	39.89	74.00	-34.11	200	202
6	2486.080	76.62	peak	31.59	52.63	4.06	59.64	74.00	-14.36	100	99
7	2486.080	55.19	AVG	31.59	52.63	4.06	38.21	74.00	-35.79	100	99
8	2488.720	74.46	peak	31.59	52.63	4.06	57.48	74.00	-16.52	100	101
9	2488.720	54.55	AVG	31.59	52.63	4.06	37.57	74.00	-36.43	100	101

Test Mode:	802.11n40 (CH3)

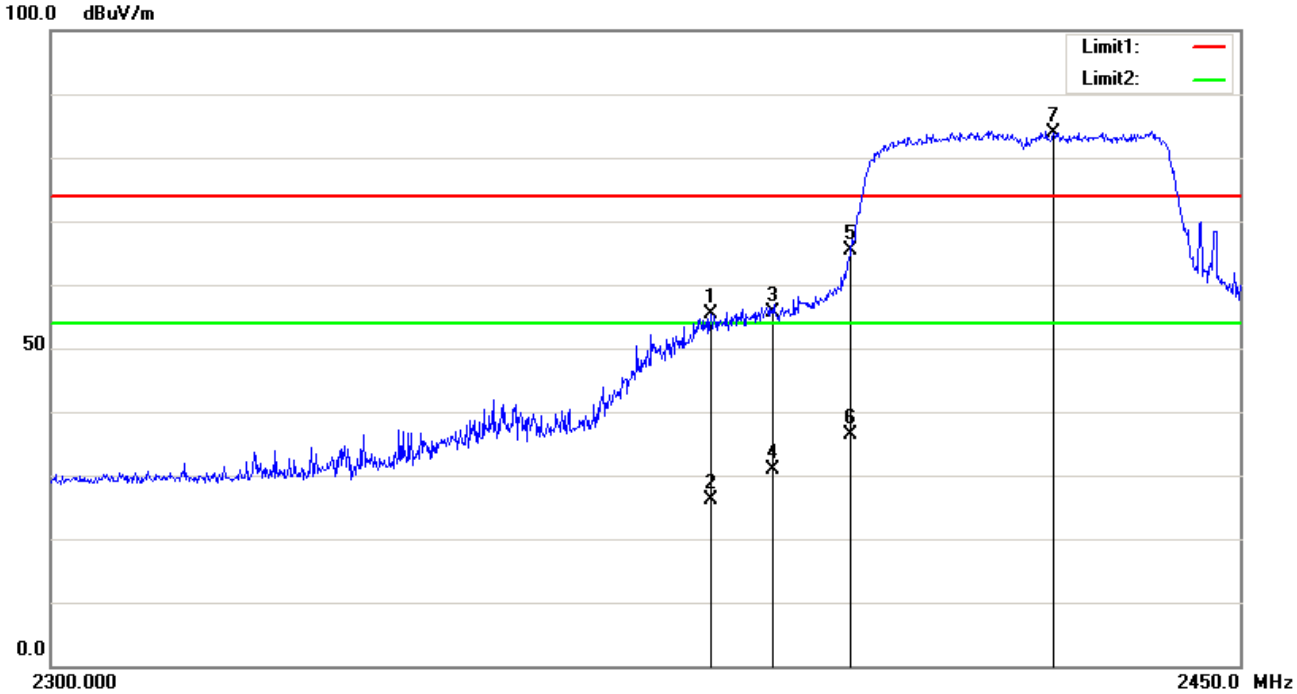
802.11n40-Vertical - Left



No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)
1	2381.000	68.82	peak	31.53	52.54	4.03	51.84	74.00	-22.16	100	55
2	2390.000	69.45	peak	31.53	52.55	4.02	52.45	74.00	-21.55	100	254
3	2397.800	74.71	peak	31.54	52.56	4.01	57.70	74.00	-16.30	200	59
4	2397.800	57.36	AVG	31.54	52.56	4.01	40.35	74.00	-33.65	100	59
5	2400.000	81.27	peak	31.54	52.56	4.01	64.26	74.00	-9.74	200	95
6	2400.000	59.36	AVG	31.54	52.56	4.01	42.35	74.00	-31.65	100	195
7	2428.250	98.84	peak	31.56	52.58	4.03	81.85	74.00	7.85	100	234

Test Mode:	802.11n40 (CH3)

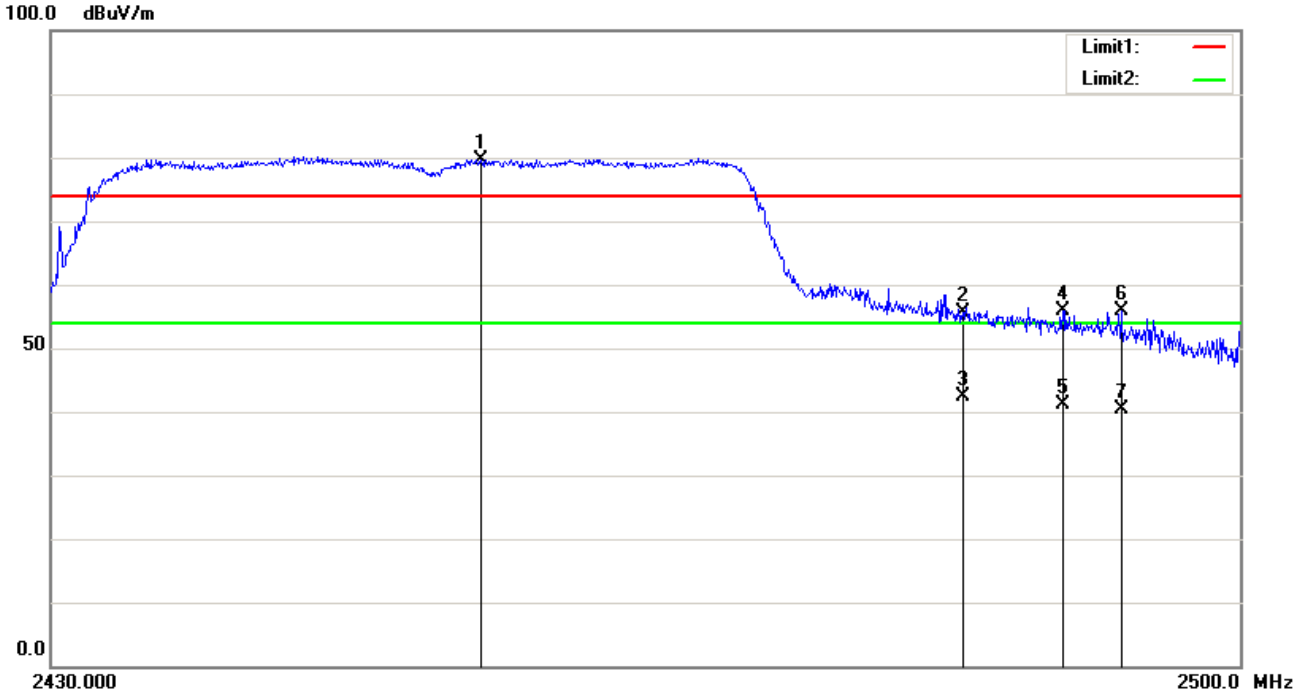
802.11n40-Horizontal- Left



No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)
1	2382.200	72.48	peak	31.53	52.55	4.03	55.49	74.00	-18.51	100	169
2	2382.200	43.16	AVG	31.53	52.55	4.03	26.17	74.00	-47.83	100	169
3	2390.000	72.59	peak	31.53	52.55	4.02	55.59	74.00	-18.41	100	107
4	2390.000	47.99	AVG	31.53	52.55	4.02	30.99	74.00	-43.01	100	107
5	2400.000	82.30	peak	31.54	52.56	4.01	65.29	74.00	-8.71	100	91
6	2400.000	53.47	AVG	31.54	52.56	4.01	36.46	74.00	-37.54	100	91
7	2425.850	100.80	peak	31.56	52.58	4.03	83.81	74.00	9.81	100	172

Test Mode:	802.11n40 (CH11)

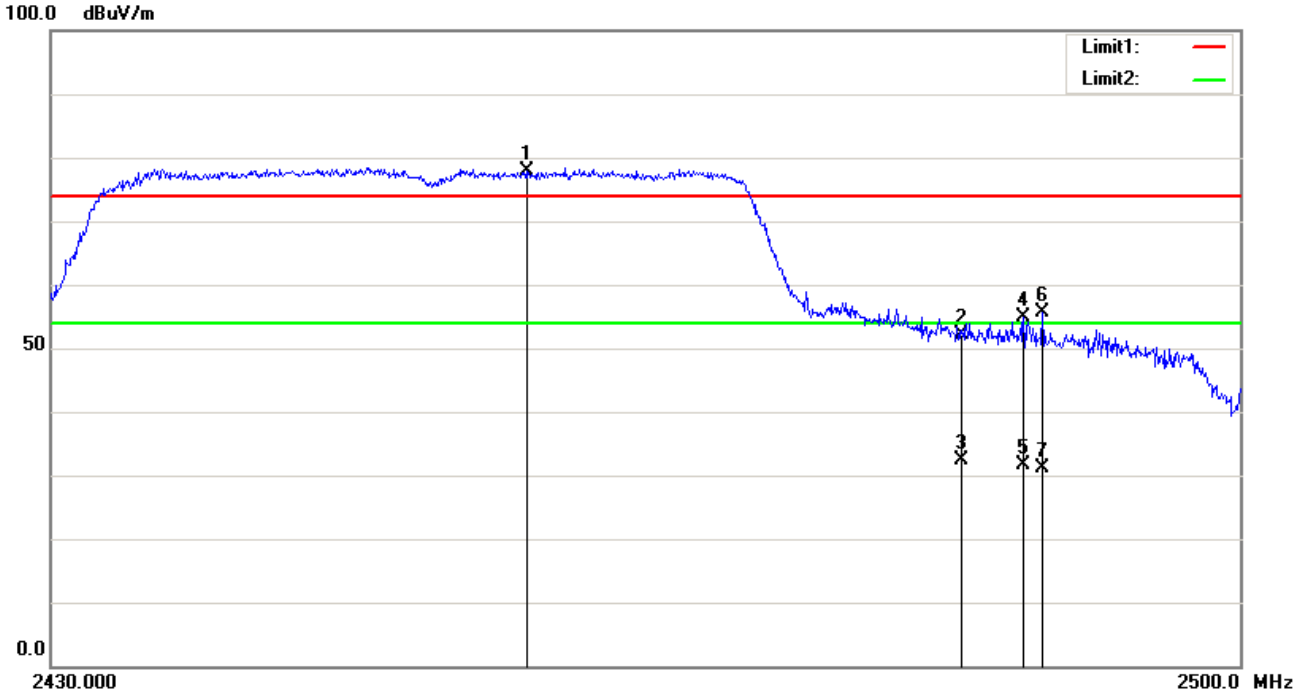
802.11n40-Vertical – Right



No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)
1	2455.130	96.70	peak	31.57	52.60	4.04	79.71	74.00	5.71	100	55
2	2483.500	72.57	peak	31.59	52.63	4.06	55.59	74.00	-18.41	100	254
3	2483.500	59.34	AVG	31.59	52.63	4.06	42.36	74.00	-31.64	200	45
4	2489.500	72.96	peak	31.59	52.63	4.06	55.98	74.00	-18.02	100	157
5	2489.500	58.19	AVG	31.59	52.63	4.06	41.21	74.00	-32.79	200	95
6	2492.930	72.92	peak	31.60	52.63	4.07	55.96	74.00	-18.04	100	147
7	2492.930	57.24	AVG	31.60	52.63	4.07	40.28	74.00	-33.72	100	234

Test Mode:	802.11n40 (CH11)

802.11n40-Horizontal- Right

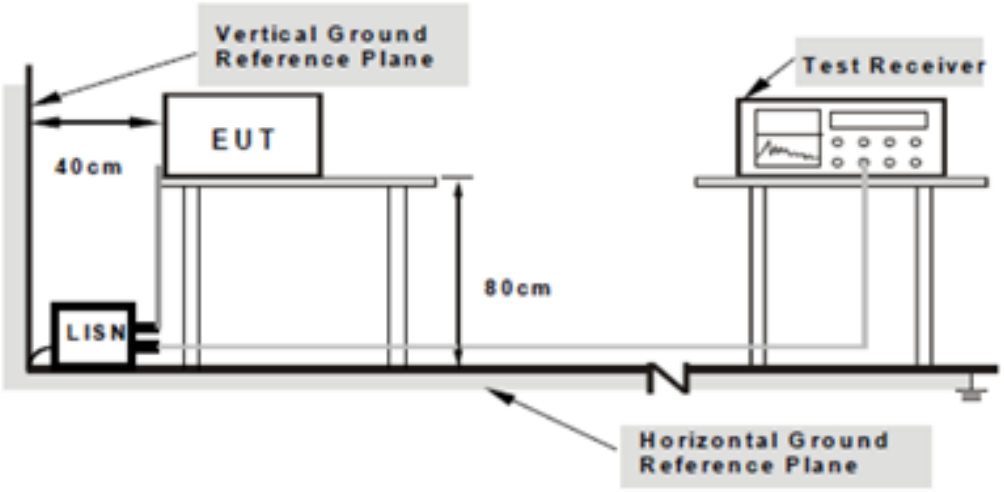


No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)
1	2457.790	94.86	peak	31.57	52.61	4.04	77.86	74.00	3.86	100	100
2	2483.500	69.07	peak	31.59	52.63	4.06	52.09	74.00	-21.91	100	96
3	2483.500	49.35	AVG	31.59	52.63	4.06	32.37	74.00	-41.63	100	103
4	2487.120	71.77	peak	31.59	52.63	4.06	54.79	74.00	-19.21	100	101
5	2487.120	48.55	AVG	31.59	52.63	4.06	31.57	74.00	-42.43	100	101
6	2488.310	72.67	peak	31.59	52.63	4.06	55.69	74.00	-18.31	100	101
7	2488.310	48.09	AVG	31.59	52.63	4.06	31.11	74.00	-42.89	100	101

6.6 AC Power Line Conducted Emissions

Temperature	24℃
Relative Humidity	52%
Atmospheric Pressure	1019mbar
Test date :	June 09, 2017
Tested By :	Trety Lu

<table>
<tr><th>Spec</th><th>Item</th><th>Requirement</th><th>Applicable</th></tr>
<tr><td>EN 55022
Class B</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.

Class A Limit
<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>79</td><td>66</td></tr>
<tr><td>0.5 ~ 30</td><td>73</td><td>60</td></tr>
</table>
Class B Limit
<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">- 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, as shown in Annex B.
- The power supply for the EUT was fed through a 50 [mu]H/50 EUT LISN, connected to filtered mains.
- The RF OUT of the EUT LISN was connected to the EMI test receiver via a low-loss coaxial cable.
- All other supporting equipment were powered separately from another main supply.</td></tr>
</table>

Remark	Note: We had tested 802.11b、802.11g、802.11n20、802.11n40,and only show worse case (802.11b) in the report.
Result	☑ Pass ☐ Fail

Test Data ☑ Yes ☐ N/A

Test Plot ☑ Yes (See below) ☐ N/A

Data sample

No.	Frequency	Reading	Detector	Lisn/Isn	Ps_Lmt	Cab_L	Result	Limit	Margin
	(MHz)	(dBμV)		(dB}	(dB)	(dB)	(dBμV)	(dBμV)	(dB)

Frequency (MHz) = Emission frequency in MHz

Reading (dBμV) = Receiver Reading Value

Detector=Quasi Peak Detector or Average Detector

Lisn/ISN= Insertion loss of LISN

Ps_Lmt= Insertion loss of transient limiter (The transient limiter included 10dB attenuation)

Cab_L= cable loss

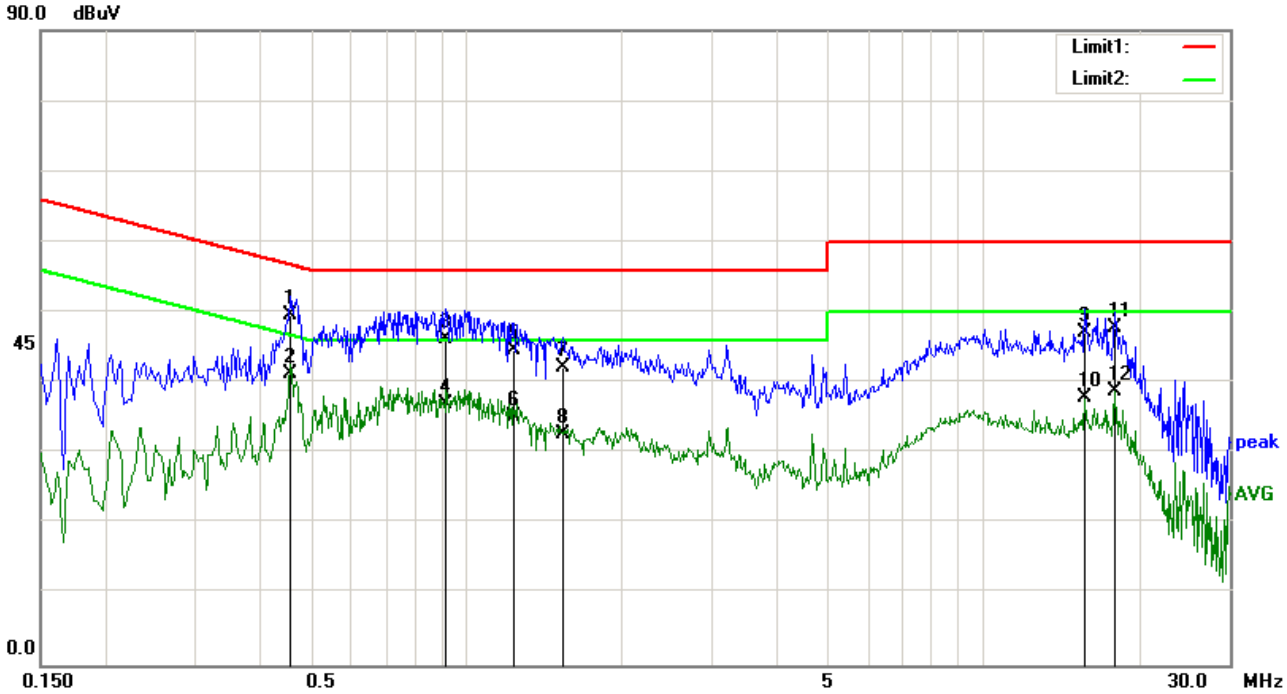
Result (dBμV) = Reading Value + Corrected Value

Limit (dBμV) = Limit stated in standard

Calculation Formula:

Margin (dB) = Result (dBμV) – limit (dBμV)

Test Mode:	Transmitting WIFI Mode (802.11b Low channel)

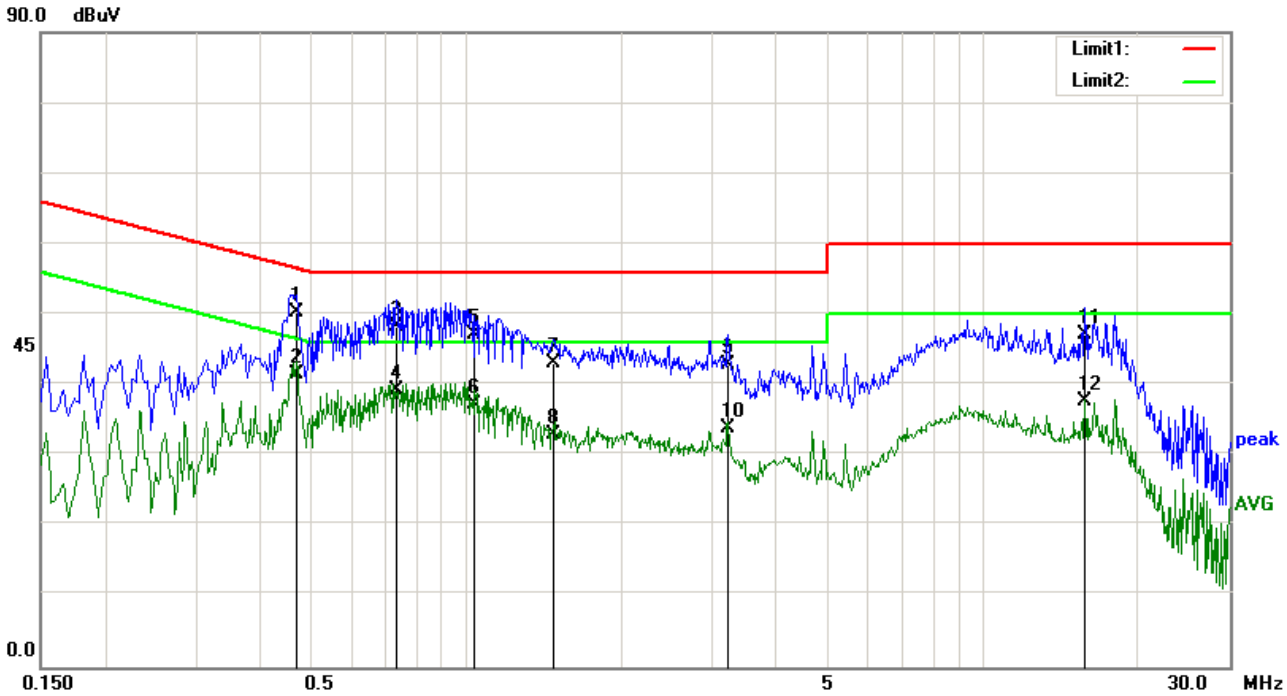


Test Data

Phase Line Plot at 120Vac, 60Hz

No.	Frequency (MHz)	Reading (dBuV)	Detector	Lisn/Isn (dB}	Ps_Lmt (dB)	Cab_L (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.4580	39.23	QP	0.12	-10.00	0.21	49.56	56.73	-7.17
2	0.4580	30.99	AVG	0.12	-10.00	0.21	41.32	46.73	-5.41
3	0.9100	36.00	QP	0.14	-10.00	0.19	46.33	56.00	-9.67
4	0.9100	26.71	AVG	0.14	-10.00	0.19	37.04	46.00	-8.96
5	1.2420	34.32	QP	0.14	-10.00	0.21	44.67	56.00	-11.33
6	1.2420	24.93	AVG	0.14	-10.00	0.21	35.28	46.00	-10.72
7	1.5420	31.75	QP	0.15	-10.00	0.20	42.10	56.00	-13.90
8	1.5420	22.38	AVG	0.15	-10.00	0.20	32.73	46.00	-13.27
9	15.7340	35.78	QP	0.89	-10.00	0.47	47.14	60.00	-12.86
10	15.7340	26.59	AVG	0.89	-10.00	0.47	37.95	50.00	-12.05
11	17.9500	36.33	QP	0.99	-10.00	0.50	47.82	60.00	-12.18
12	17.9500	27.39	AVG	0.99	-10.00	0.50	38.88	50.00	-11.12

Test Mode:	Transmitting WIFI Mode (802.11b Low Channel)

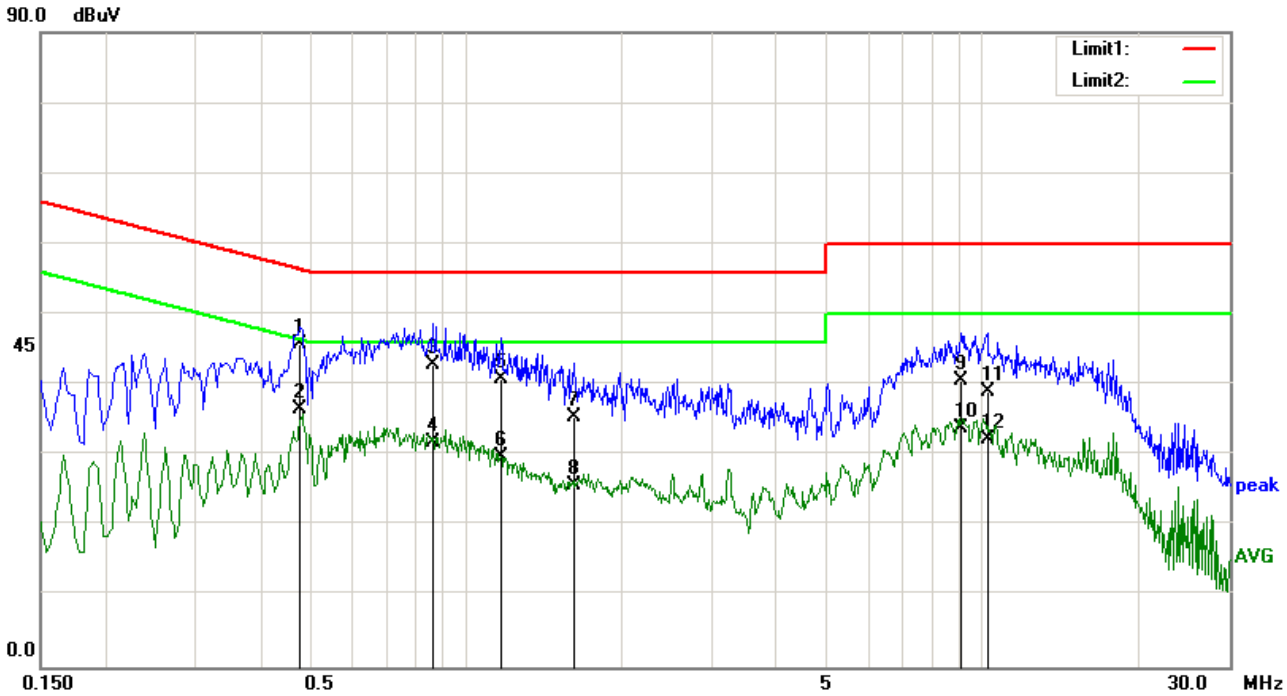


Test Data

Phase Neutral Plot at 120Vac, 60Hz

No.	Frequency (MHz)	Reading (dBuV)	Detector	Lisn/Isn (dB}	Ps_Lmt (dB)	Cab_L (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.4700	40.05	QP	0.11	-10.00	0.21	50.37	56.51	-6.14
2	0.4700	31.27	AVG	0.11	-10.00	0.21	41.59	46.51	-4.92
3	0.7340	38.05	QP	0.12	-10.00	0.20	48.37	56.00	-7.63
4	0.7340	28.89	AVG	0.12	-10.00	0.20	39.21	46.00	-6.79
5	1.0380	36.79	QP	0.13	-10.00	0.19	47.11	56.00	-8.89
6	1.0380	26.90	AVG	0.13	-10.00	0.19	37.22	46.00	-8.78
7	1.4740	32.77	QP	0.15	-10.00	0.20	43.12	56.00	-12.88
8	1.4740	22.64	AVG	0.15	-10.00	0.20	32.99	46.00	-13.01
9	3.2140	32.52	QP	0.21	-10.00	0.24	42.97	56.00	-13.03
10	3.2140	23.41	AVG	0.21	-10.00	0.24	33.86	46.00	-12.14
11	15.7340	35.71	QP	0.99	-10.00	0.47	47.17	60.00	-12.83
12	15.7340	26.13	AVG	0.99	-10.00	0.47	37.59	50.00	-12.41

Test Mode:	Transmitting WIFI Mode (802.11b Low Channel)

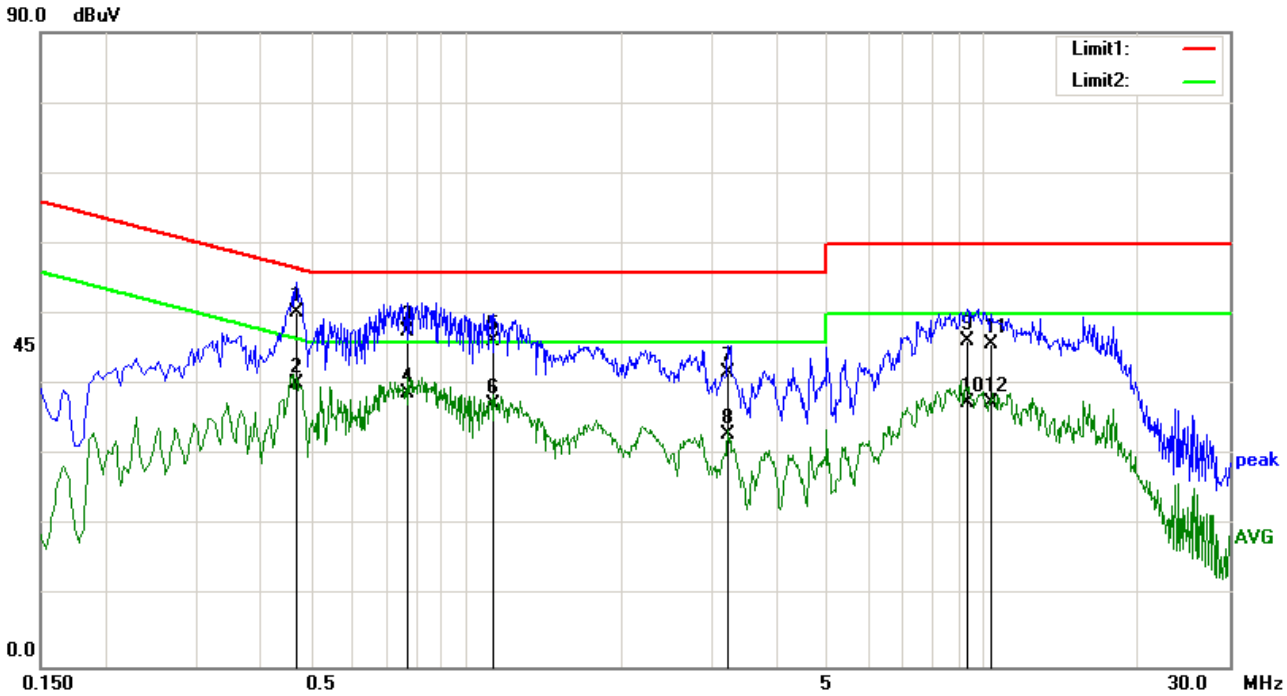


Test Data

Phase Line Plot at 230Vac, 50Hz

No.	Frequency (MHz)	Reading (dBuV)	Detector	Lisn/Isn (dB}	Ps_Lmt (dB)	Cab_L (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.4780	35.56	QP	0.11	-10.00	0.21	45.88	56.37	-10.49
2	0.4780	26.20	AVG	0.11	-10.00	0.21	36.52	46.37	-9.85
3	0.8660	32.56	QP	0.13	-10.00	0.20	42.89	56.00	-13.11
4	0.8660	21.46	AVG	0.13	-10.00	0.20	31.79	46.00	-14.21
5	1.1660	30.59	QP	0.14	-10.00	0.20	40.93	56.00	-15.07
6	1.1660	19.47	AVG	0.14	-10.00	0.20	29.81	46.00	-16.19
7	1.6140	25.16	QP	0.15	-10.00	0.20	35.51	56.00	-20.49
8	1.6140	15.37	AVG	0.15	-10.00	0.20	25.72	46.00	-20.28
9	9.0980	29.79	QP	0.49	-10.00	0.37	40.65	60.00	-19.35
10	9.0980	23.07	AVG	0.49	-10.00	0.37	33.93	50.00	-16.07
11	10.2300	28.03	QP	0.55	-10.00	0.46	39.04	60.00	-20.96
12	10.2300	21.27	AVG	0.55	-10.00	0.46	32.28	50.00	-17.72

Test Mode:	Transmitting WIFI Mode (802.11b Low Channel)

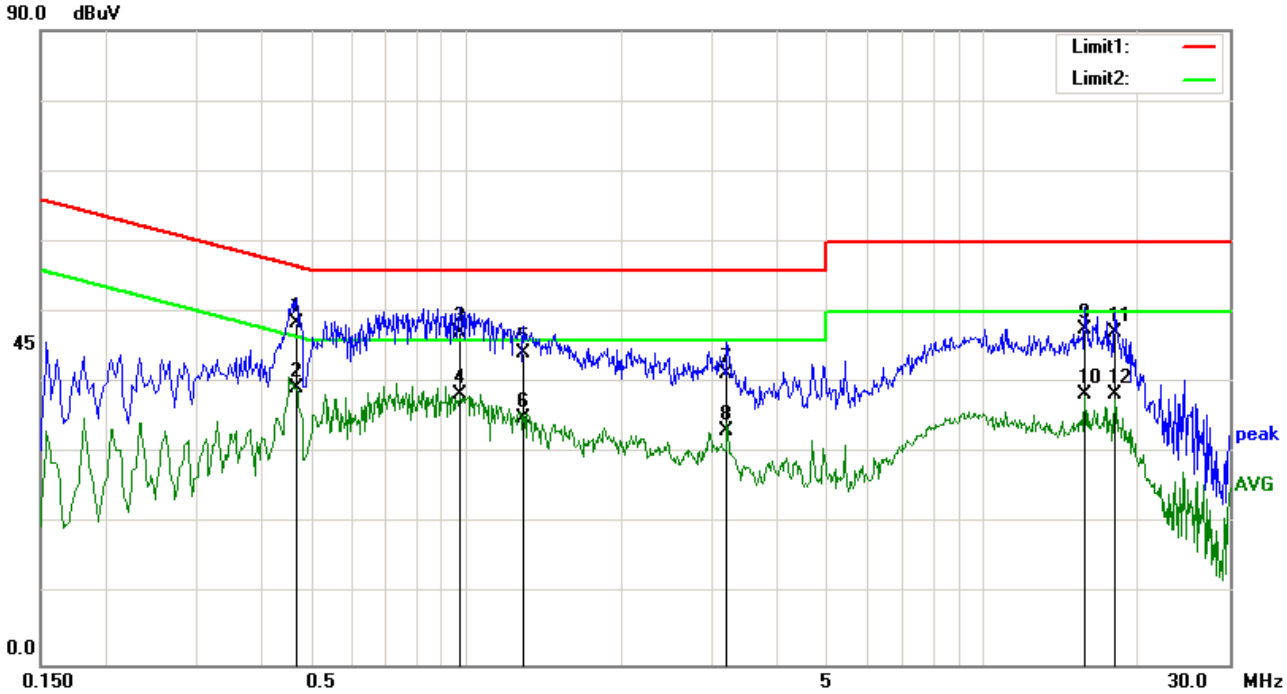


Test Data

Phase Neutral Plot at 230Vac, 50Hz

No.	Frequency (MHz)	Reading (dBuV)	Detector	Lisn/Isn (dB}	Ps_Lmt (dB)	Cab_L (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.4700	40.03	QP	0.11	-10.00	0.21	50.35	56.51	-6.16
2	0.4700	29.81	AVG	0.11	-10.00	0.21	40.13	46.51	-6.38
3	0.7740	37.31	QP	0.12	-10.00	0.20	47.63	56.00	-8.37
4	0.7740	28.58	AVG	0.12	-10.00	0.20	38.90	46.00	-7.10
5	1.1300	35.82	QP	0.14	-10.00	0.20	46.16	56.00	-9.84
6	1.1300	26.79	AVG	0.14	-10.00	0.20	37.13	46.00	-8.87
7	3.2140	31.32	QP	0.21	-10.00	0.24	41.77	56.00	-14.23
8	3.2140	22.56	AVG	0.21	-10.00	0.24	33.01	46.00	-12.99
9	9.3300	35.43	QP	0.50	-10.00	0.38	46.31	60.00	-13.69
10	9.3300	26.64	AVG	0.50	-10.00	0.38	37.52	50.00	-12.48
11	10.3500	34.85	QP	0.56	-10.00	0.48	45.89	60.00	-14.11
12	10.3500	26.40	AVG	0.56	-10.00	0.48	37.44	50.00	-12.56

Test Mode:	Transmitting WIFI Mode (802.11b Middle Channel)

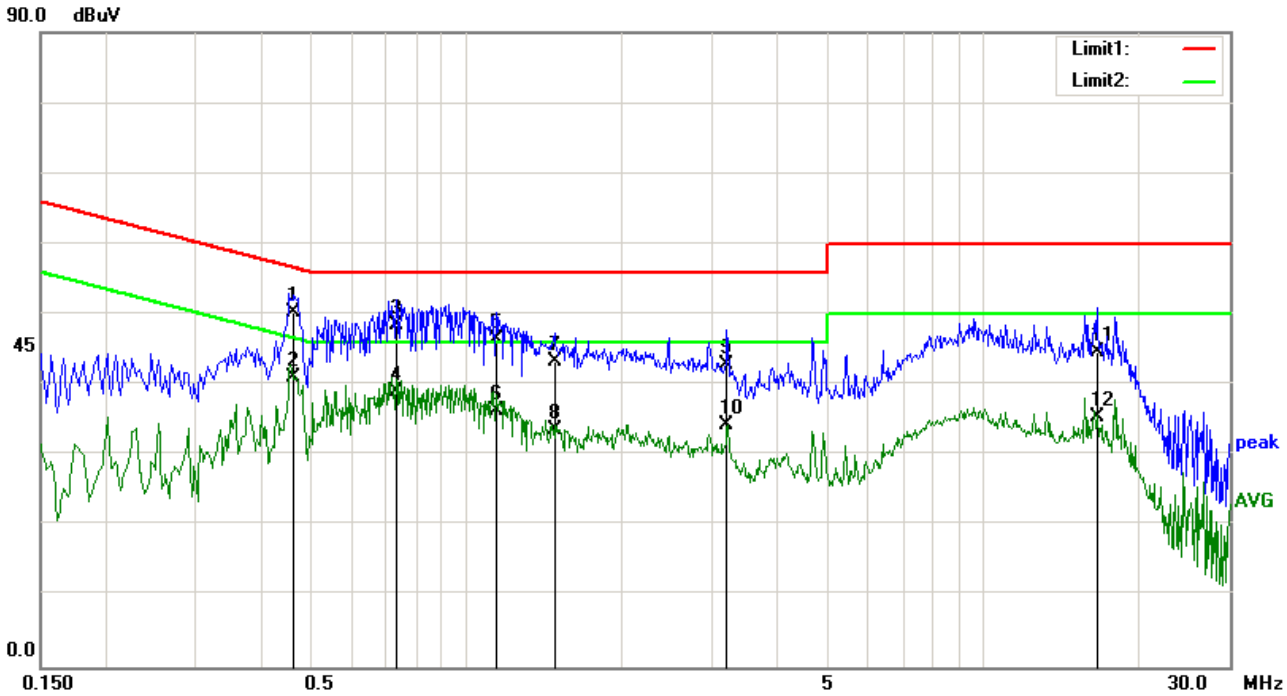


Test Data

Phase Line Plot at 120Vac, 60Hz

No.	Frequency (MHz)	Reading (dBuV)	Detector	Lisn/Isn (dB}	Ps_Lmt (dB)	Cab_L (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.4700	38.10	QP	0.12	-10.00	0.21	48.43	56.51	-8.08
2	0.4700	29.01	AVG	0.12	-10.00	0.21	39.34	46.51	-7.17
3	0.9780	36.78	QP	0.14	-10.00	0.19	47.11	56.00	-8.89
4	0.9780	28.06	AVG	0.14	-10.00	0.19	38.39	46.00	-7.61
5	1.2900	33.86	QP	0.15	-10.00	0.21	44.22	56.00	-11.78
6	1.2900	24.70	AVG	0.15	-10.00	0.21	35.06	46.00	-10.94
7	3.2020	30.86	QP	0.20	-10.00	0.24	41.30	56.00	-14.70
8	3.2020	22.73	AVG	0.20	-10.00	0.24	33.17	46.00	-12.83
9	15.7380	36.24	QP	0.89	-10.00	0.47	47.60	60.00	-12.40
10	15.7380	27.10	AVG	0.89	-10.00	0.47	38.46	50.00	-11.54
11	17.9540	35.69	QP	0.99	-10.00	0.50	47.18	60.00	-12.82
12	17.9540	26.79	AVG	0.99	-10.00	0.50	38.28	50.00	-11.72

Test Mode:	Transmitting WIFI Mode (802.11b Middle Channel)

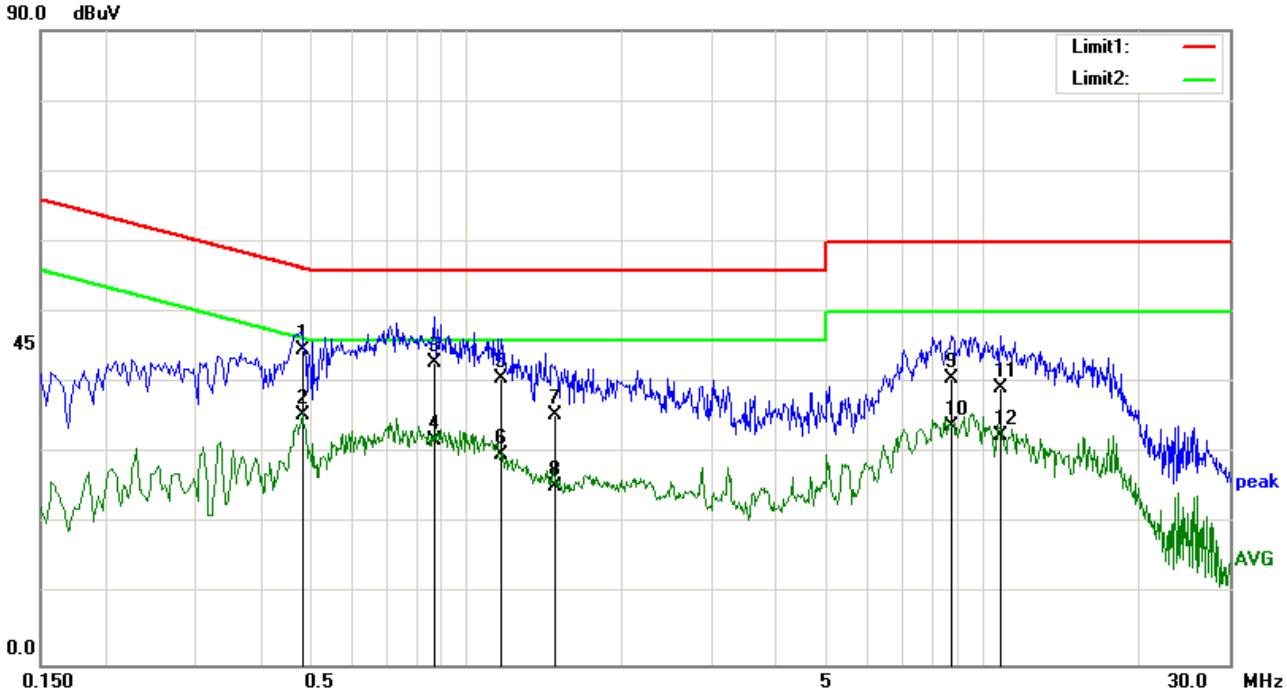


Test Data

Phase Neutral Plot at 120Vac, 60Hz

No.	Frequency (MHz)	Reading (dBuV)	Detector	Lisn/Isn (dB}	Ps_Lmt (dB)	Cab_L (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.4660	39.92	QP	0.11	-10.00	0.21	50.24	56.58	-6.34
2	0.4660	30.74	AVG	0.11	-10.00	0.21	41.06	46.58	-5.52
3	0.7340	38.06	QP	0.12	-10.00	0.20	48.38	56.00	-7.62
4	0.7340	28.82	AVG	0.12	-10.00	0.20	39.14	46.00	-6.86
5	1.1420	36.05	QP	0.14	-10.00	0.20	46.39	56.00	-9.61
6	1.1420	25.97	AVG	0.14	-10.00	0.20	36.31	46.00	-9.69
7	1.4820	33.05	QP	0.15	-10.00	0.20	43.40	56.00	-12.60
8	1.4820	23.26	AVG	0.15	-10.00	0.20	33.61	46.00	-12.39
9	3.2020	32.44	QP	0.21	-10.00	0.24	42.89	56.00	-13.11
10	3.2020	23.86	AVG	0.21	-10.00	0.24	34.31	46.00	-11.69
11	16.6140	33.18	QP	1.03	-10.00	0.49	44.70	60.00	-15.30
12	16.6140	23.99	AVG	1.03	-10.00	0.49	35.51	50.00	-14.49

Test Mode:	Transmitting WIFI Mode (802.11b Middle Channel)

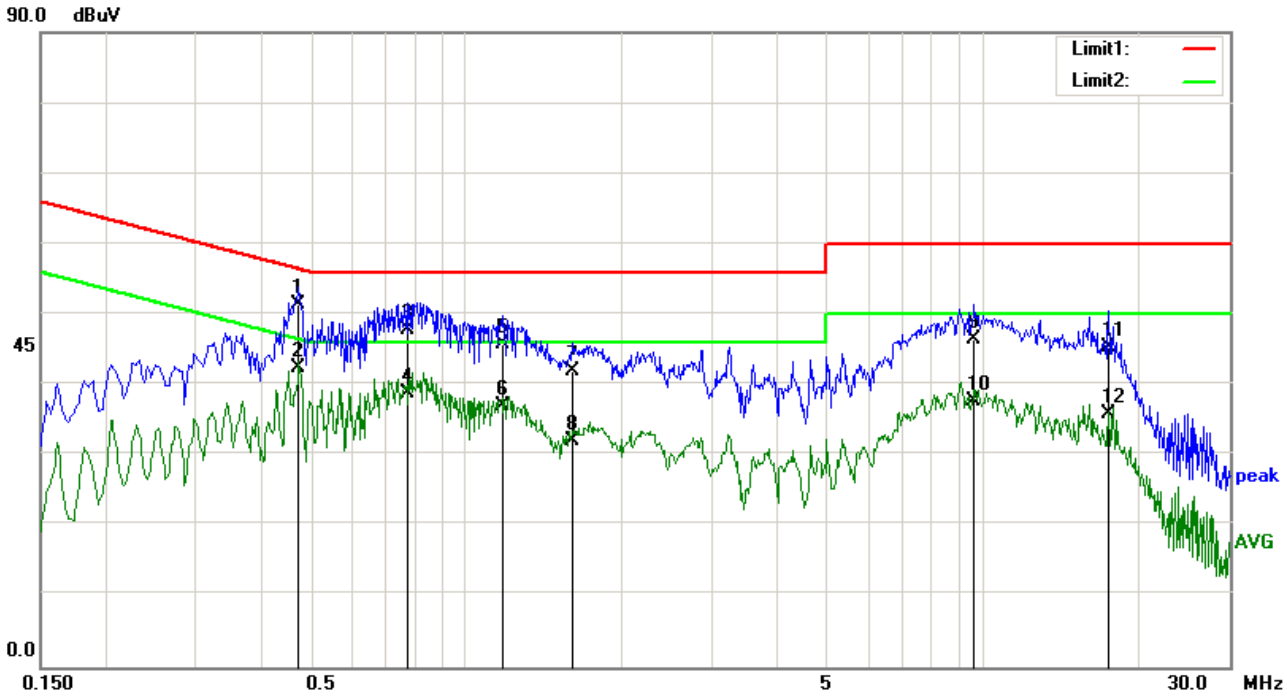


Test Data

Phase Line Plot at 230Vac, 50Hz

No.	Frequency (MHz)	Reading (dBuV)	Detector	Lisn/Isn (dB}	Ps_Lmt (dB)	Cab_L (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.4820	34.42	QP	0.11	-10.00	0.21	44.74	56.30	-11.56
2	0.4820	25.08	AVG	0.11	-10.00	0.21	35.40	46.30	-10.90
3	0.8700	32.54	QP	0.13	-10.00	0.20	42.87	56.00	-13.13
4	0.8700	21.57	AVG	0.13	-10.00	0.20	31.90	46.00	-14.10
5	1.1700	30.27	QP	0.14	-10.00	0.20	40.61	56.00	-15.39
6	1.1700	19.49	AVG	0.14	-10.00	0.20	29.83	46.00	-16.17
7	1.4820	25.14	QP	0.15	-10.00	0.20	35.49	56.00	-20.51
8	1.4820	14.86	AVG	0.15	-10.00	0.20	25.21	46.00	-20.79
9	8.6860	29.76	QP	0.48	-10.00	0.37	40.61	60.00	-19.39
10	8.6860	22.96	AVG	0.48	-10.00	0.37	33.81	50.00	-16.19
11	10.8140	28.24	QP	0.60	-10.00	0.50	39.34	60.00	-20.66
12	10.8140	21.46	AVG	0.60	-10.00	0.50	32.56	50.00	-17.44

Test Mode:	Transmitting WIFI Mode (802.11b Middle Channel)

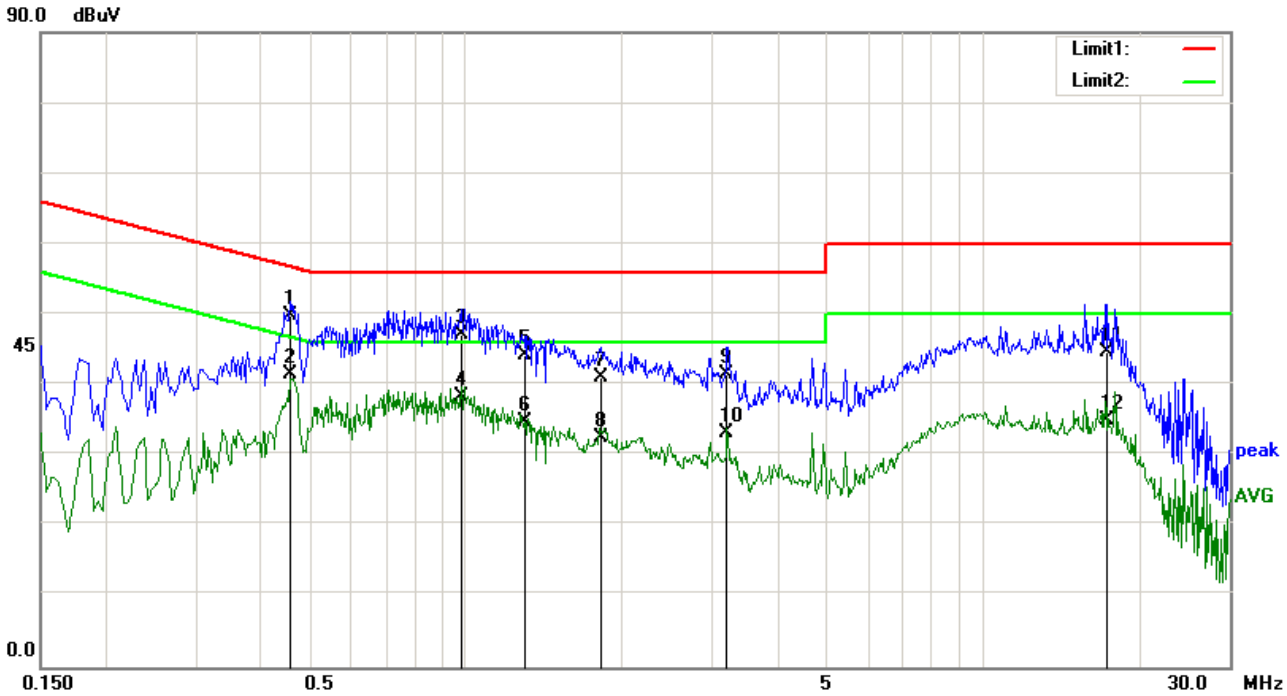


Test Data

Phase Neutral Plot at 230Vac, 50Hz

No.	Frequency (MHz)	Reading (dBuV)	Detector	Lisn/Isn (dB}	Ps_Lmt (dB)	Cab_L (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.4740	41.19	QP	0.11	-10.00	0.21	51.51	56.44	-4.93
2	0.4740	32.11	AVG	0.11	-10.00	0.21	42.43	46.44	-4.01
3	0.7700	37.46	QP	0.12	-10.00	0.20	47.78	56.00	-8.22
4	0.7700	28.51	AVG	0.12	-10.00	0.20	38.83	46.00	-7.17
5	1.1780	35.53	QP	0.14	-10.00	0.20	45.87	56.00	-10.13
6	1.1780	26.74	AVG	0.14	-10.00	0.20	37.08	46.00	-8.92
7	1.6060	31.61	QP	0.15	-10.00	0.20	41.96	56.00	-14.04
8	1.6060	21.72	AVG	0.15	-10.00	0.20	32.07	46.00	-13.93
9	9.6380	35.53	QP	0.52	-10.00	0.39	46.44	60.00	-13.56
10	9.6380	26.77	AVG	0.52	-10.00	0.39	37.68	50.00	-12.32
11	17.4980	33.78	QP	1.07	-10.00	0.48	45.33	60.00	-14.67
12	17.4980	24.38	AVG	1.07	-10.00	0.48	35.93	50.00	-14.07

Test Mode:	Transmitting WIFI Mode (802.11b High Channel)

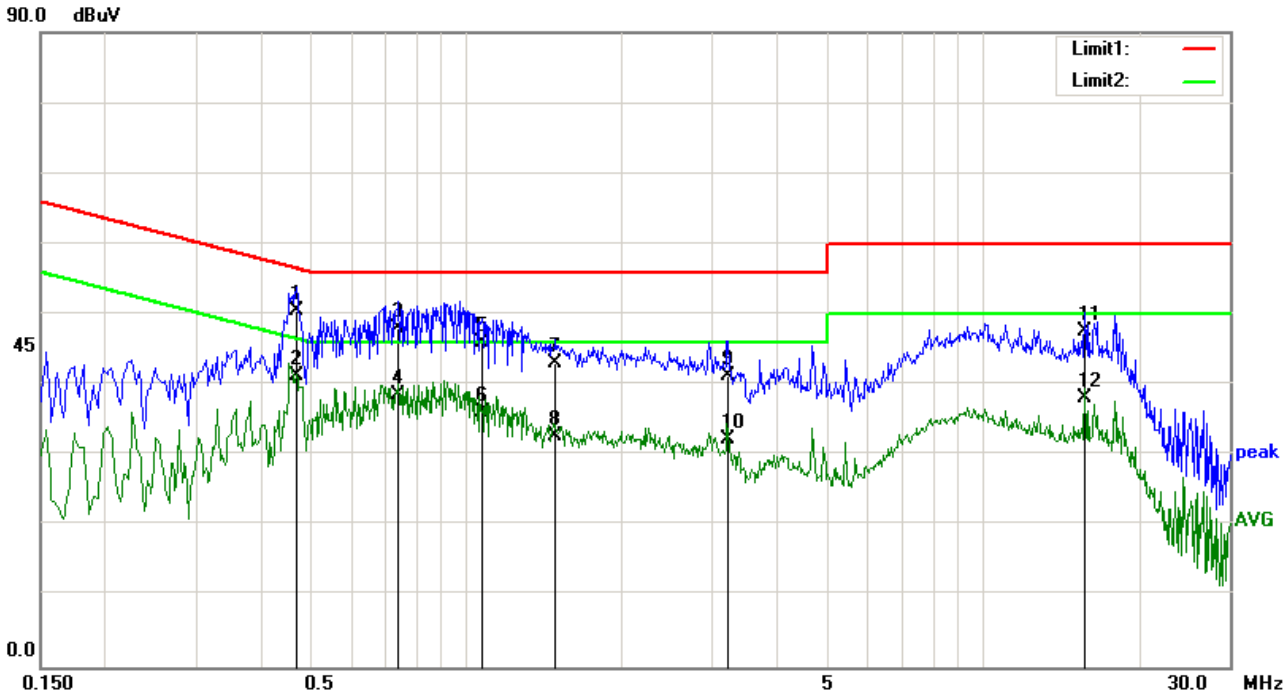


Test Data

Phase Line Plot at 120Vac, 60Hz

No.	Frequency (MHz)	Reading (dBuV)	Detector	Lisn/Isn (dB}	Ps_Lmt (dB)	Cab_L (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.4580	39.51	QP	0.12	-10.00	0.21	49.84	56.73	-6.89
2	0.4580	31.17	AVG	0.12	-10.00	0.21	41.50	46.73	-5.23
3	0.9820	36.74	QP	0.14	-10.00	0.19	47.07	56.00	-8.93
4	0.9820	27.99	AVG	0.14	-10.00	0.19	38.32	46.00	-7.68
5	1.3020	33.79	QP	0.15	-10.00	0.21	44.15	56.00	-11.85
6	1.3020	24.36	AVG	0.15	-10.00	0.21	34.72	46.00	-11.28
7	1.8260	30.74	QP	0.16	-10.00	0.20	41.10	56.00	-14.90
8	1.8260	22.08	AVG	0.16	-10.00	0.20	32.44	46.00	-13.56
9	3.2020	30.97	QP	0.20	-10.00	0.24	41.41	56.00	-14.59
10	3.2020	22.64	AVG	0.20	-10.00	0.24	33.08	46.00	-12.92
11	17.4620	33.18	QP	0.97	-10.00	0.48	44.63	60.00	-15.37
12	17.4620	23.57	AVG	0.97	-10.00	0.48	35.02	50.00	-14.98

Test Mode:	Transmitting WIFI Mode (802.11b High Channel)

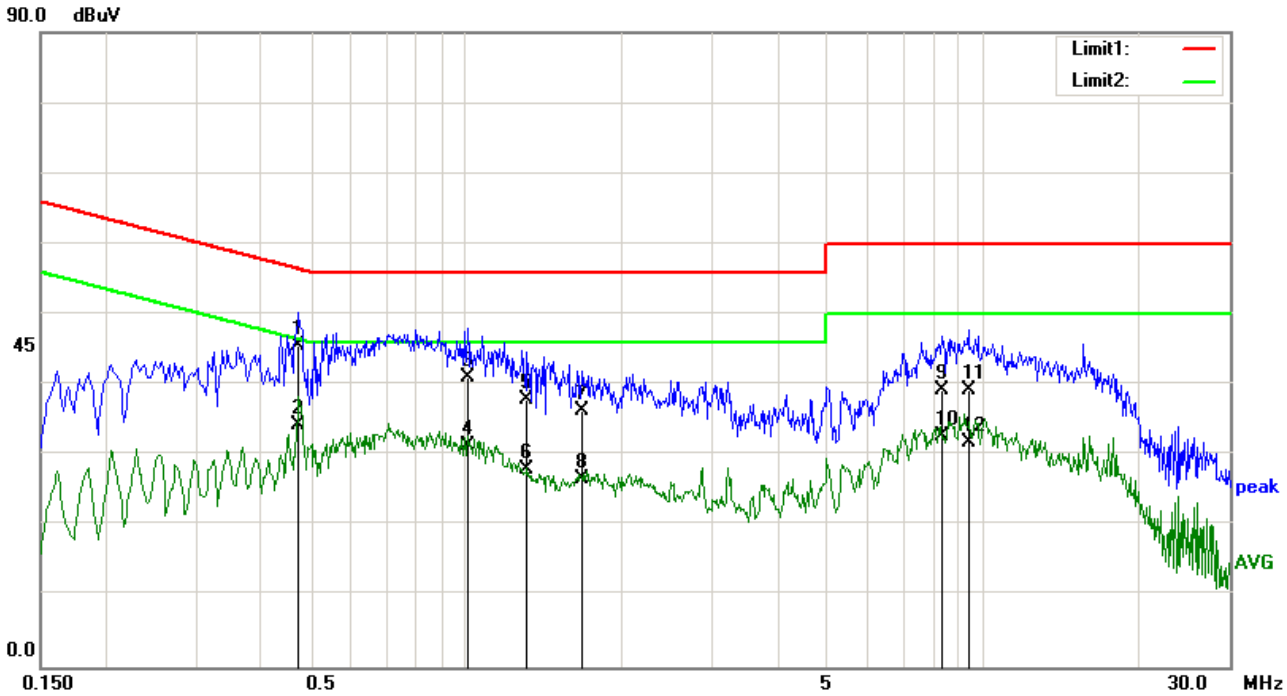


Test Data

Phase Neutral Plot at 120Vac, 60Hz

No.	Frequency (MHz)	Reading (dBuV)	Detector	Lisn/Isn (dB}	Ps_Lmt (dB)	Cab_L (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.4700	40.11	QP	0.11	-10.00	0.21	50.43	56.51	-6.08
2	0.4700	31.06	AVG	0.11	-10.00	0.21	41.38	46.51	-5.13
3	0.7420	37.69	QP	0.12	-10.00	0.20	48.01	56.00	-7.99
4	0.7420	28.27	AVG	0.12	-10.00	0.20	38.59	46.00	-7.41
5	1.0740	35.63	QP	0.13	-10.00	0.20	45.96	56.00	-10.04
6	1.0740	25.73	AVG	0.13	-10.00	0.20	36.06	46.00	-9.94
7	1.4900	32.75	QP	0.15	-10.00	0.20	43.10	56.00	-12.90
8	1.4900	22.45	AVG	0.15	-10.00	0.20	32.80	46.00	-13.20
9	3.2100	30.91	QP	0.21	-10.00	0.24	41.36	56.00	-14.64
10	3.2100	21.91	AVG	0.21	-10.00	0.24	32.36	46.00	-13.64
11	15.7380	36.08	QP	0.99	-10.00	0.47	47.54	60.00	-12.46
12	15.7380	26.63	AVG	0.99	-10.00	0.47	38.09	50.00	-11.91

Test Mode:	Transmitting WIFI Mode (802.11b High Channel)

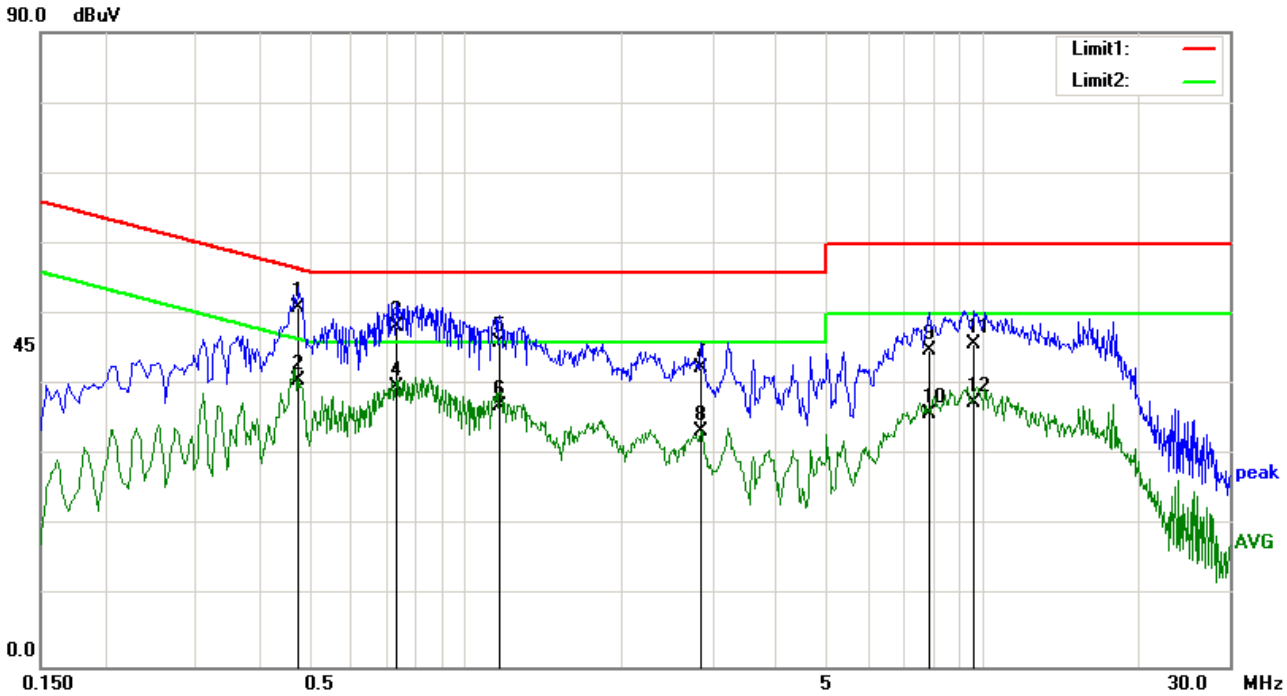


Test Data

Phase Line Plot at 230Vac, 50Hz

No.	Frequency (MHz)	Reading (dBuV)	Detector	Lisn/Isn (dB}	Ps_Lmt (dB)	Cab_L (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.4740	35.22	QP	0.11	-10.00	0.21	45.54	56.44	-10.90
2	0.4740	24.09	AVG	0.11	-10.00	0.21	34.41	46.44	-12.03
3	1.0060	30.80	QP	0.13	-10.00	0.19	41.12	56.00	-14.88
4	1.0060	21.13	AVG	0.13	-10.00	0.19	31.45	46.00	-14.55
5	1.3100	27.67	QP	0.14	-10.00	0.21	38.02	56.00	-17.98
6	1.3100	17.69	AVG	0.14	-10.00	0.21	28.04	46.00	-17.96
7	1.6740	25.87	QP	0.16	-10.00	0.21	36.24	56.00	-19.76
8	1.6740	16.18	AVG	0.16	-10.00	0.21	26.55	46.00	-19.45
9	8.3540	28.51	QP	0.46	-10.00	0.36	39.33	60.00	-20.67
10	8.3540	21.82	AVG	0.46	-10.00	0.36	32.64	50.00	-17.36
11	9.3900	28.32	QP	0.51	-10.00	0.39	39.22	60.00	-20.78
12	9.3900	20.85	AVG	0.51	-10.00	0.39	31.75	50.00	-18.25

Test Mode:	Transmitting WIFI Mode (802.11b High Channel)



Test Data

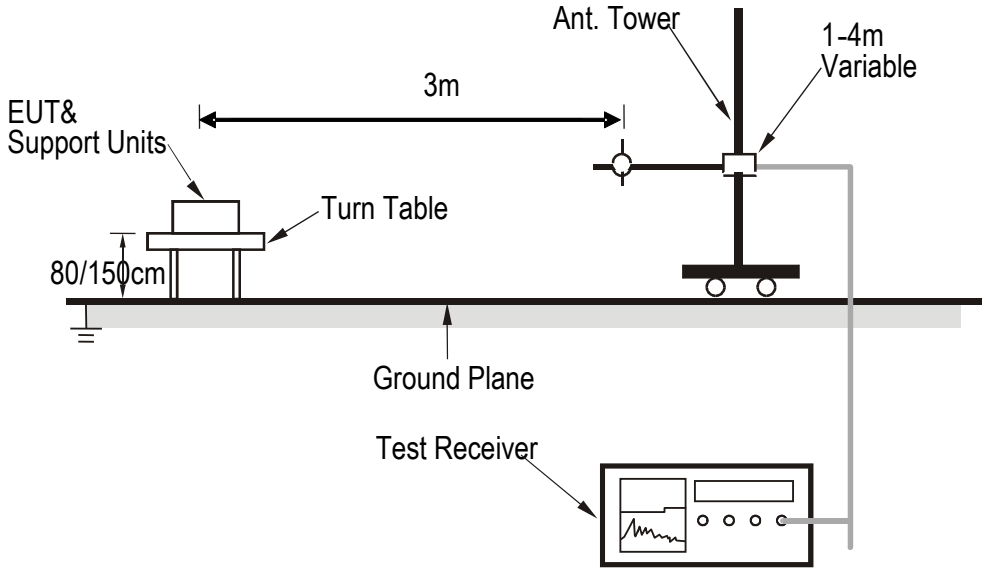
Phase Neutral Plot at 230Vac, 50Hz

No.	Frequency (MHz)	Reading (dBuV)	Detector	Lisn/Isn (dB}	Ps_Lmt (dB)	Cab_L (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.4740	40.62	QP	0.11	-10.00	0.21	50.94	56.44	-5.50
2	0.4740	30.19	AVG	0.11	-10.00	0.21	40.51	46.44	-5.93
3	0.7340	37.99	QP	0.12	-10.00	0.20	48.31	56.00	-7.69
4	0.7340	29.31	AVG	0.12	-10.00	0.20	39.63	46.00	-6.37
5	1.1620	35.70	QP	0.14	-10.00	0.20	46.04	56.00	-9.96
6	1.1620	26.70	AVG	0.14	-10.00	0.20	37.04	46.00	-8.96
7	2.8540	31.88	QP	0.20	-10.00	0.24	42.32	56.00	-13.68
8	2.8540	22.93	AVG	0.20	-10.00	0.24	33.37	46.00	-12.63
9	7.8540	34.11	QP	0.44	-10.00	0.35	44.90	60.00	-15.10
10	7.8540	25.00	AVG	0.44	-10.00	0.35	35.79	50.00	-14.21
11	9.6460	34.91	QP	0.52	-10.00	0.39	45.82	60.00	-14.18
12	9.6460	26.45	AVG	0.52	-10.00	0.39	37.36	50.00	-12.64

6.7 Radiated Emissions

Temperature	24℃
Relative Humidity	52%
Atmospheric Pressure	1019mbar
Test date :	June 20, 2017
Tested By :	Trety Lu

Requirement(s):

<table>
<tr><th>Spec</th><th>Requirement</th><th>Applicable</th></tr>
<tr><td>47CFR §15.109</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
Class A Limit
<table>
<tr><th>Frequency range (MHz)</th><th>Field Strength (μV/m)</th></tr>
<tr><td>30 – 88</td><td>90</td></tr>
<tr><td>88 – 216</td><td>150</td></tr>
<tr><td>216 – 960</td><td>210</td></tr>
<tr><td>Above 960</td><td>300</td></tr>
</table>
Class B Limit
<table>
<tr><th>Frequency range (MHz)</th><th>Field Strength (μV/m)</th></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> 
</td><td></td></tr>
<tr><td>Procedure</td><td>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 characterisation. 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 polarisation (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. For emission frequencies measured below and above 1GHz, set the spectrum analyzer on a 100kHz and 1MHz resolution bandwidth respectively for each frequency measured.</td><td></td></tr>
</table>

	4. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured.
Remark	Note: We had tested 802.11b、802.11g、802.11n20、802.11n40,and only show worse case (802.11b) in the report.
Result	☒ Pass ☐ Fail
Test Data	☒Yes ☐N/A
Test Plot	☒Yes ☐N/A

Data sample

No.	Frequency	Reading	Detector	Ant_F	PA_G	Cab_L	Result	Limit	Margin	Height	Degree
	(MHz)	(dBμV/m)		(dB/m)	(dB)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	(cm)	(°)

Frequency (MHz) = Emission frequency in MHz

Reading (dBμV/m) = Receiver Reading Value

Detector= Peak Detector or Quasi Peak Detector

Ant_F=Antenna Factor

PA_G=Pre-Amplifier Gain

Cab_L=Cable Loss

Result (dBμV/m) = Read ing Value + Corrected Value

Limit (dBμV/m) = Limit stated in standard

Height (cm) = Height of Receiver antenna

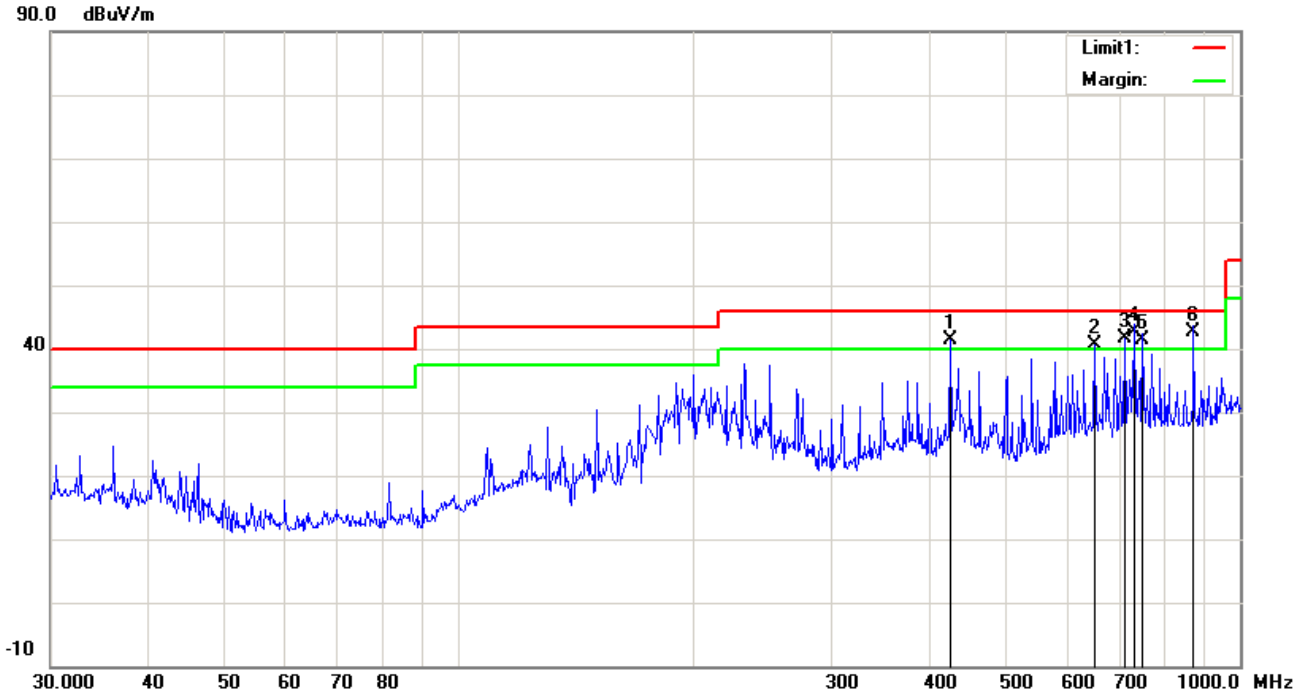
Degree = Turn table degree

Calculation Formula:

Margin (dB) = Result (dBμV/m) – limit (dBμV/m)

Test Mode:	Transmitting WIFI Mode (802.11b Low Channel)

Below 1GHz



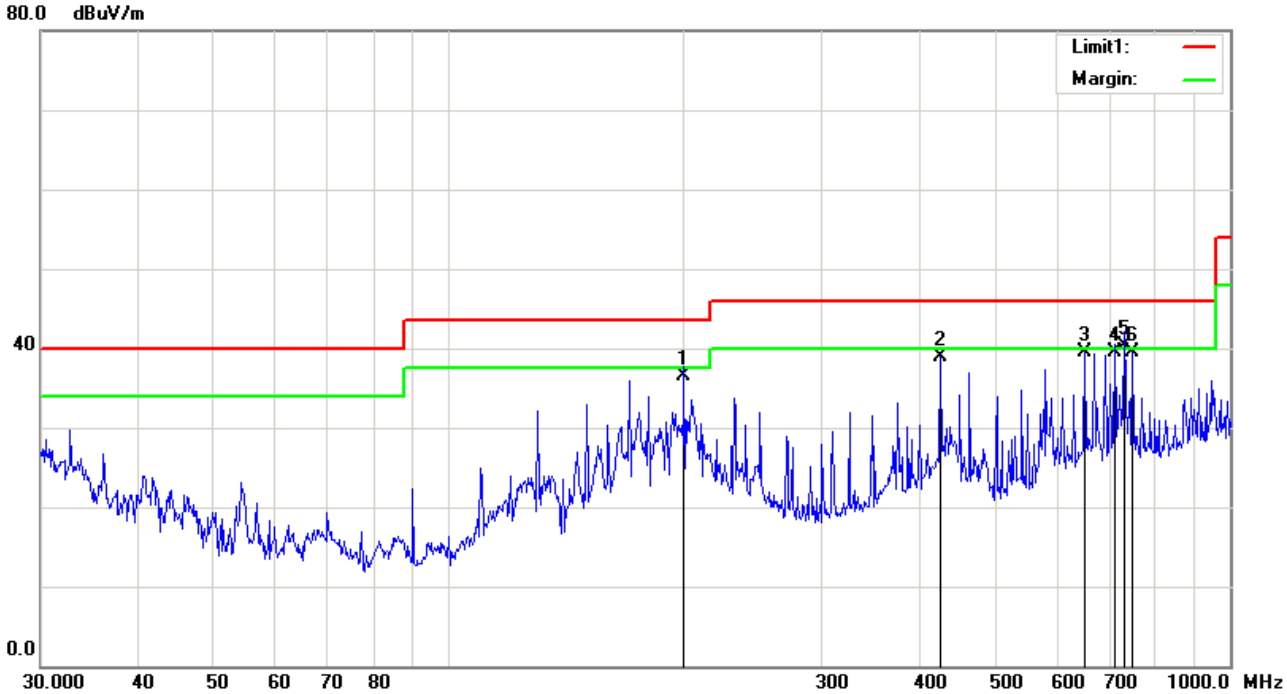
Test Data

Horizontal Polarity Plot @3m

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)
1	425.0280	71.16	QP	16.00	49.09	3.31	41.38	46.00	-4.62	200	213
2	651.9417	62.79	QP	21.85	48.15	4.10	40.59	46.00	-5.41	300	238
3	711.6734	60.48	QP	22.47	45.60	4.29	41.64	46.00	-4.36	200	192
4	731.9203	61.03	QP	22.59	45.38	4.34	42.58	46.00	-3.42	200	197
5	750.1083	59.31	QP	22.70	45.02	4.40	41.39	46.00	-4.61	200	218
6	872.1832	61.09	QP	22.78	46.06	4.77	42.58	46.00	-3.42	200	239

Test Mode:	Transmitting WIFI Mode (802.11b Low Channel)

Below 1GHz

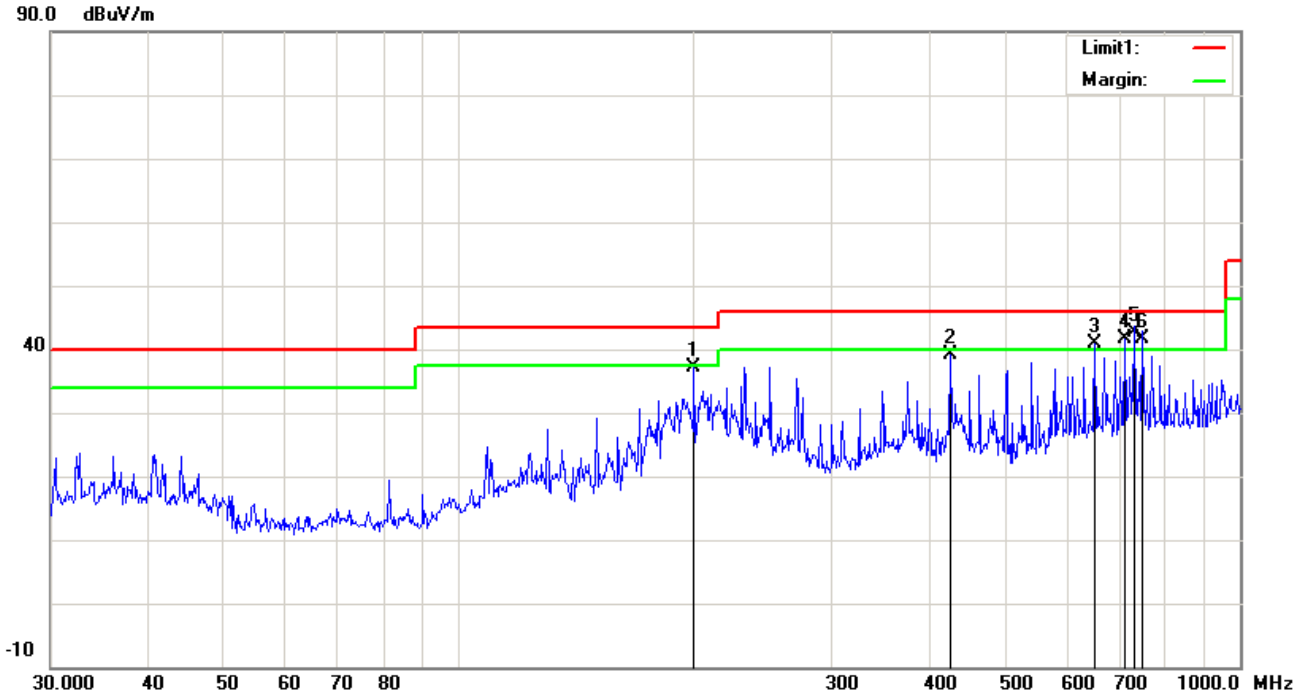


Vertical Polarity Plot @3m

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)
1	199.9856	66.81	QP	14.85	47.34	2.26	36.58	43.50	-6.92	100	215
2	425.0280	68.20	peak	16.58	49.09	3.31	39.00	46.00	-7.00	100	250
3	651.9417	62.11	peak	21.47	48.15	4.10	39.53	46.00	-6.47	100	160
4	711.6734	58.31	QP	22.47	45.60	4.29	39.47	46.00	-6.53	100	259
5	731.9203	59.07	QP	22.26	45.38	4.34	40.29	46.00	-5.71	100	254
6	750.1083	58.02	peak	22.07	45.02	4.40	39.47	46.00	-6.53	100	256

Test Mode:	Transmitting WIFI Mode (802.11b Middle Channel)

Below 1GHz



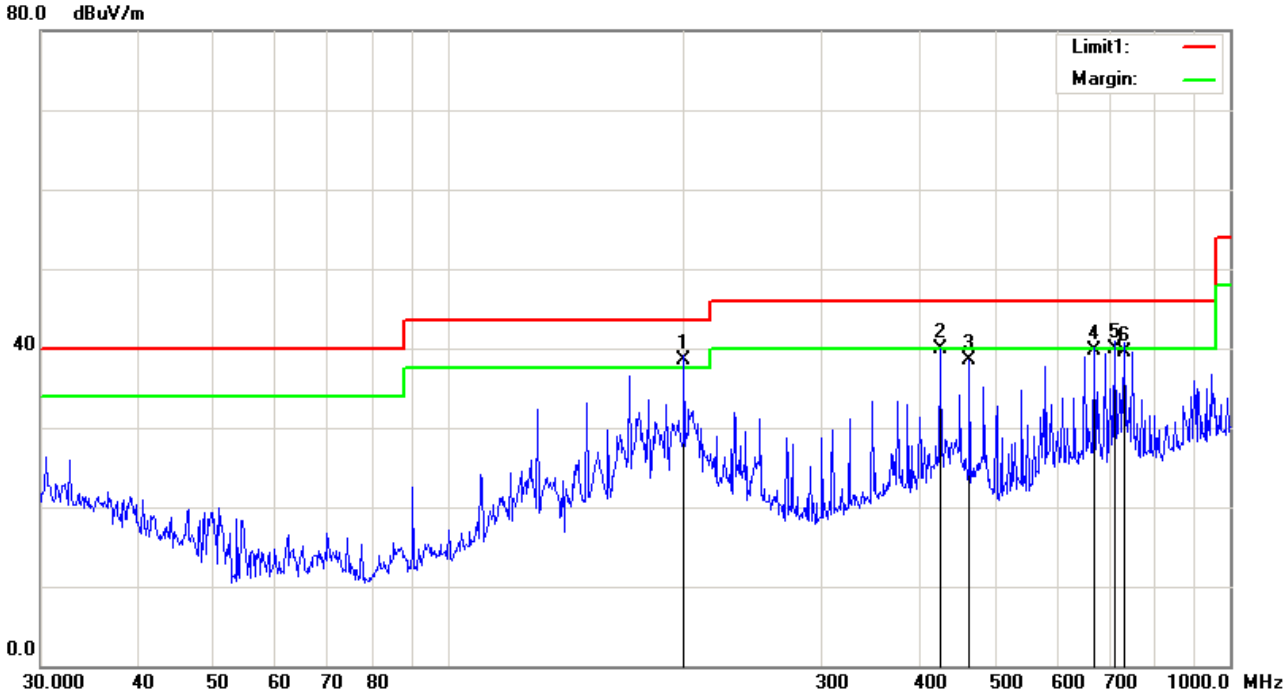
Test Data

Horizontal Polarity Plot @3m

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)
1	199.9856	68.87	peak	13.39	47.34	2.26	37.18	43.50	-6.32	200	241
2	425.0280	69.00	peak	16.00	49.09	3.31	39.22	46.00	-6.78	300	266
3	651.9417	62.99	QP	21.85	48.15	4.10	40.79	46.00	-5.21	300	248
4	711.6734	60.38	QP	22.47	45.60	4.29	41.54	46.00	-4.46	200	209
5	731.9203	61.13	QP	22.59	45.38	4.34	42.68	46.00	-3.32	200	196
6	750.1083	59.49	QP	22.70	45.02	4.40	41.57	46.00	-4.43	200	213

Test Mode:	Transmitting WIFI Mode (8021.11b Middle Channel)

Below 1GHz

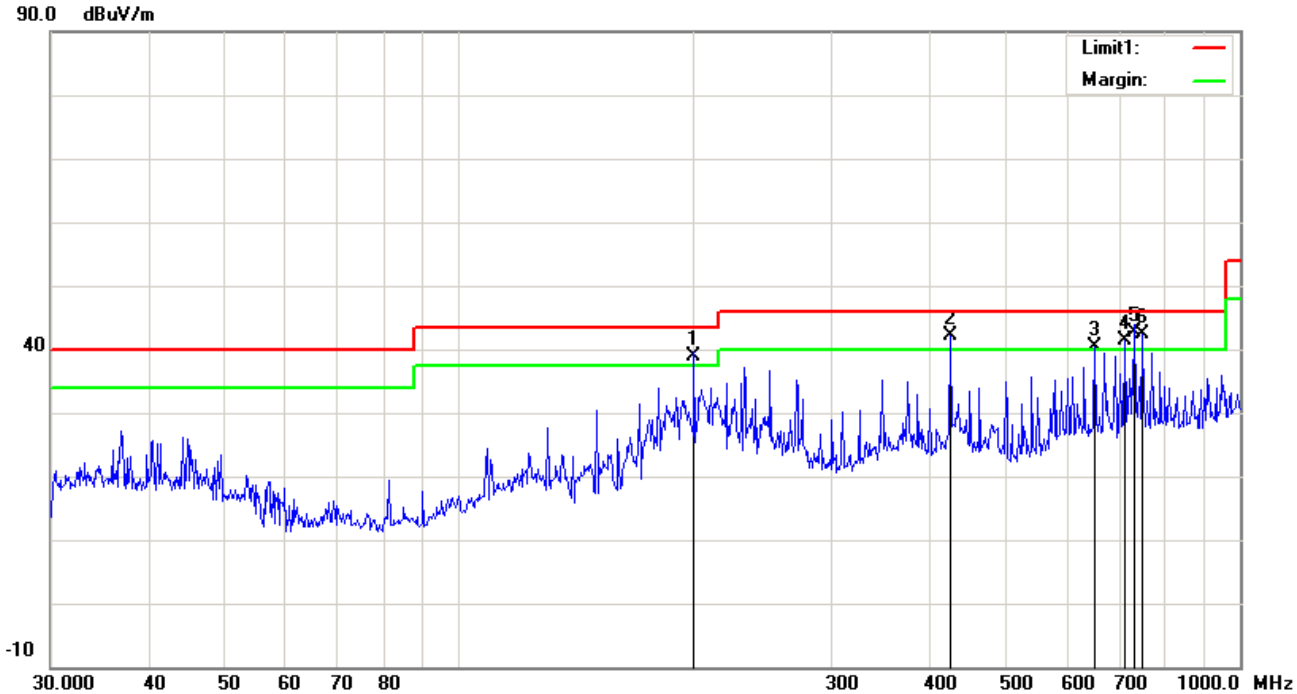


Vertical Polarity Plot @3m

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)
1	199.9856	68.64	QP	14.85	47.34	2.26	38.41	43.50	-5.09	100	190
2	425.0280	69.01	peak	16.58	49.09	3.31	39.81	46.00	-6.19	200	356
3	463.9696	68.33	peak	15.93	49.19	3.44	38.51	46.00	-7.49	171	360
4	670.4893	61.55	QP	21.90	47.86	4.16	39.75	46.00	-6.25	100	264
5	711.6734	58.71	QP	22.47	45.60	4.29	39.87	46.00	-6.13	100	240
6	731.9203	58.20	QP	22.26	45.38	4.34	39.42	46.00	-6.58	100	242

Test Mode:	Transmitting WIFI Mode (802.11b High Channel)

Below 1GHz



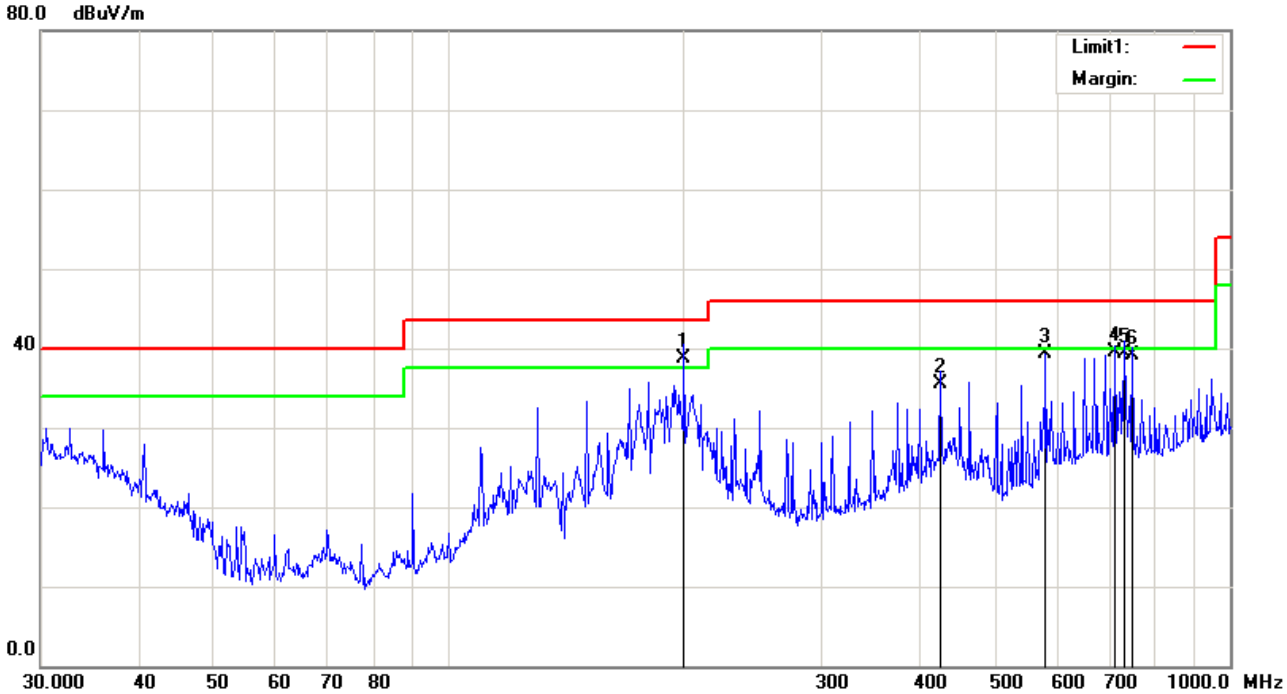
Test Data

Horizontal Polarity Plot @3m

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)
1	199.9856	70.48	QP	13.39	47.34	2.26	38.79	43.50	-4.71	201	249
2	425.0280	71.85	QP	16.00	49.09	3.31	42.07	46.00	-3.93	201	209
3	651.9417	62.61	QP	21.85	48.15	4.10	40.41	46.00	-5.59	300	240
4	711.6734	60.26	QP	22.47	45.60	4.29	41.42	46.00	-4.58	201	202
5	731.9203	61.03	QP	22.59	45.38	4.34	42.58	46.00	-3.42	201	205
6	750.1083	60.33	QP	22.70	45.02	4.40	42.41	46.00	-3.59	201	238

Test Mode:	Transmitting WIFI Mode (802.11b High Channel)

Below 1GHz



Vertical Polarity Plot @3m

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)
1	199.9856	69.00	QP	14.85	47.34	2.26	38.77	43.50	-4.73	100	197
2	426.5210	64.70	peak	16.55	49.09	3.32	35.48	46.00	-10.52	200	66
3	580.7026	64.73	peak	19.31	48.64	3.86	39.26	46.00	-6.74	100	91
4	711.6734	58.32	QP	22.47	45.60	4.29	39.48	46.00	-6.52	100	252
5	731.9203	58.07	QP	22.26	45.38	4.34	39.29	46.00	-6.71	100	242
6	750.1083	57.71	QP	22.07	45.02	4.40	39.16	46.00	-6.84	100	245

Above 1GHz

Test Mode:	Transmitting Mode (802.11b Low Channel)

Vertical

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)
1	4826.000	56.28	peak	33.22	53.43	6.08	42.15	74	-31.85	100	0
2	6354.000	55.41	peak	33.97	52.38	5.84	42.84	74	-31.16	100	65
3	8637.000	54.39	peak	34.55	54.02	8.29	43.21	74	-30.79	100	126
4	11057.000	51.24	peak	38.42	53.22	9.56	46	74	-28	100	0
5	13909.000	53.21	peak	42	52.11	9.11	52.21	74	-21.79	100	144
6	15562.000	56.38	peak	39.33	50.28	10.21	55.64	74	-18.36	100	256

Horizontal

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)
1	4915.000	65.19	peak	33.4	53.81	5.96	50.74	74	-23.26	100	338
2	7392.000	58.14	peak	34.93	54.94	7.25	45.38	74	-28.62	100	344
3	10520.000	54.28	peak	38.59	53.04	9.36	49.19	74	-24.81	100	353
4	12951.000	53.47	peak	40.43	51.91	9.64	51.63	74	-22.37	100	114
5	13937.000	54.33	peak	42.04	52.12	9.09	53.34	74	-20.66	100	156
6	15518.000	51.26	peak	39.46	50.08	10.18	50.82	74	-23.18	100	181

Test Mode:	Transmitting Mode (802.11b Middle Channel)

Vertical

No.	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	4847.000	57.26	peak	33.25	53.51	6.05	43.05	74	-30.95	100	30
2	7975.000	56.39	peak	36.51	54.74	7.82	45.98	74	-28.02	100	157
3	10383.000	53.24	peak	38.63	53.39	9.31	47.79	74	-26.21	100	142
4	13114.000	52.49	peak	40.73	51.84	9.6	50.98	74	-23.02	100	151
5	14338.000	55.67	peak	41.58	52.44	9.27	54.08	74	-19.92	100	308
6	15532.000	54.17	peak	39.42	50.15	10.19	53.63	74	-20.37	100	63

Horizontal

No.	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	4874.000	56.86	peak	33.33	53.66	6	42.53	74	-31.47	100	318
2	7475.000	54.17	peak	35.06	54.82	7.38	41.79	74	-32.21	100	345
3	10694.000	53.69	peak	38.52	53.11	9.41	48.51	74	-25.49	100	321
4	13102.000	53.32	peak	40.73	51.84	9.6	51.81	74	-22.19	100	360
5	15708.000	53.47	peak	39.01	50.82	10.28	51.94	74	-22.06	100	333
6	17036.000	53.18	peak	40.19	57.17	11.21	47.41	74	-26.59	100	336

Test Mode:	Transmitting Mode (802.11b High Channel)

Vertical

No.	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	3005.000	59.48	peak	31.55	52.81	4.45	42.67	74	-31.33	100	115
2	4703.000	57.27	peak	32.95	52.9	6.13	43.45	74	-30.55	100	12
3	5927.000	55.15	peak	33.41	51.52	5.91	42.95	74	-31.05	200	11
4	7947.000	55.36	peak	36.56	54.74	7.84	45.02	74	-28.98	100	318
5	11050.000	55.98	peak	38.41	53.22	9.54	50.71	74	-23.29	100	24
6	13846.000	55.47	peak	41.99	52.11	9.12	54.47	74	-19.53	100	291

Horizontal

No.	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	5994.000	56.12	peak	33.4	51.29	5.85	44.08	74	-29.92	100	359
2	8083.000	54.39	peak	36.16	54.56	7.95	43.94	74	-30.06	100	63
3	10141.000	53.28	peak	38.67	53.79	9.27	47.43	74	-26.57	100	269
4	11577.000	54.26	peak	38.59	53.24	10.08	49.69	74	-24.31	100	157
5	13780.000	53.87	peak	41.88	52.08	9.2	52.87	74	-21.13	100	93
6	15635.000	52.49	peak	39.17	50.55	10.25	51.36	74	-22.64	100	257

Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Due	In use
AC Line Conducted Emissions					
R&S EMI Test Receiver	ESPI3	101216	05/03/2017	05/02/2018	☒
V-LISN	ESH3-Z5	838979/005	03/30/2017	03/29/2018	☒
INFOMW Antenna (1 ~18GHz)	JXTXLB-10180	J2031081120092	10/08/2016	10/07/2017	☒
SIEMIC Labview Conducted Emissions software	V1.0	N/A	N/A	N/A	☒
RF conducted test					
R&S EMI Receiver	ESPI3	101216	05/03/2017	05/02/2018	☒
Power Splitter	1#	1#	02/02/2017	02/01/2018	☒
Spectrum Analyzer	N9010A	MY47191130	03/30/2017	03/29/2018	☒
Radiated Emissions					
Spectrum Analyzer	N9010A	MY47191130	05/03/2017	05/02/2018	☒
R&S EMI Receiver	ESPI3	101216	05/03/2017	05/02/2018	☒
Antenna (30MHz~6GHz)	JB6	A121411	10/31/2016	10/31/2017	☒
EMCO Horn Antenna (1 ~18GHz)	3115	N/A	11/15/2016	11/14/2017	☒
INFOMW Antenna (1 ~18GHz)	JXTXLB-10180	J2031081120092	10/09/2016	10/08/2017	☒
Hp Pre-Amplifier	8447F	1937A01160	10/31/2016	10/30/2017	☒
Agilent Pre-Amplifier	8449B	N/A	10/31/2016	10/30/2017	☒
SIEMIC Labview Radiated Emissions software	V1.0	N/A	N/A	N/A	☒

Annex B. EUT and Test Setup Photographs

Annex B.i. Photograph: EUT External Photo

The Whole of EUT - Front View

Adapter - Front View

Adapter – Right View

EUT - Top View

EUT - Bottom View

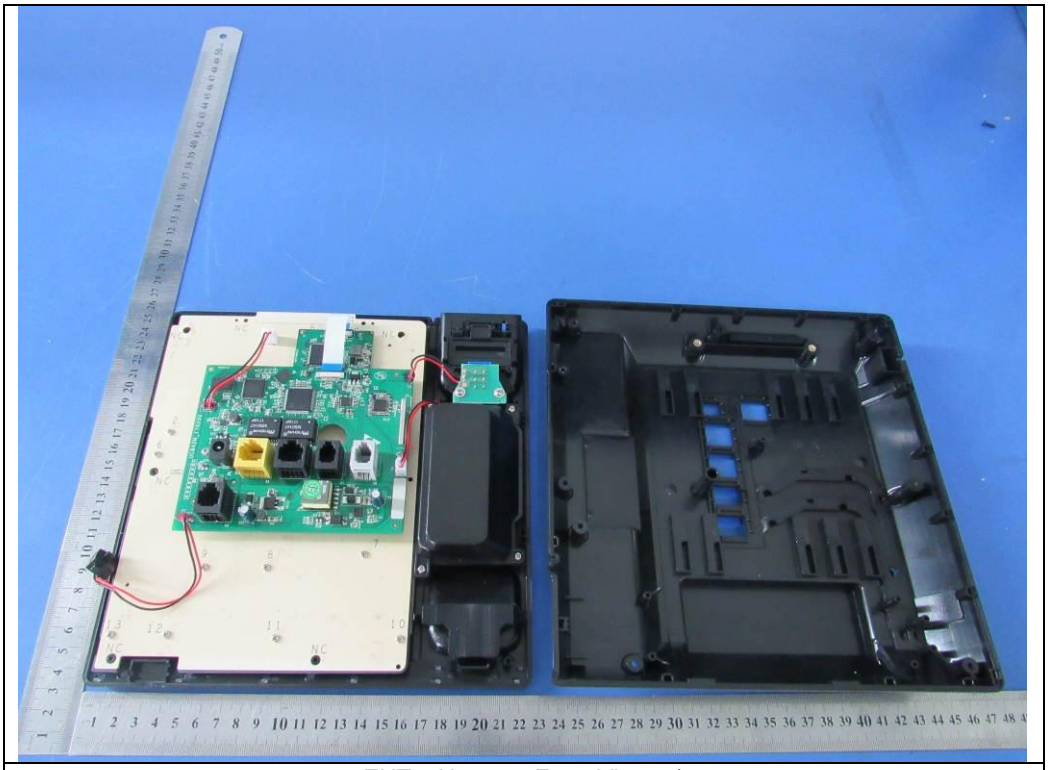
EUT - Front View

EUT - Rear View

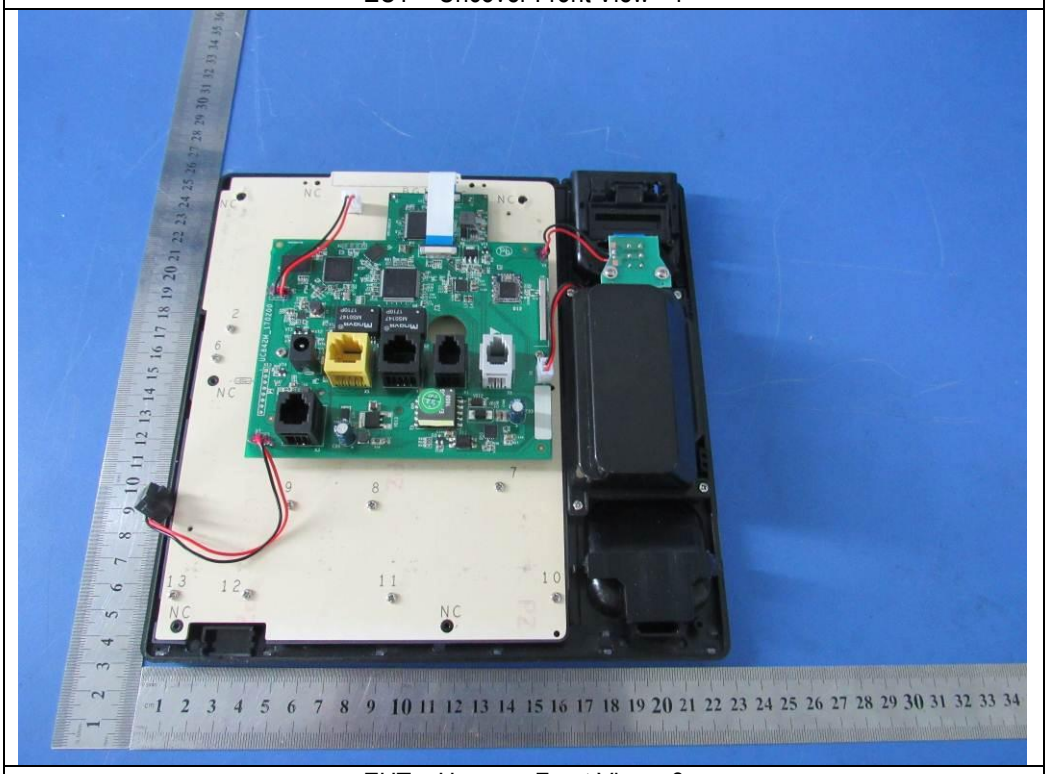
EUT - Left View

EUT - Right View

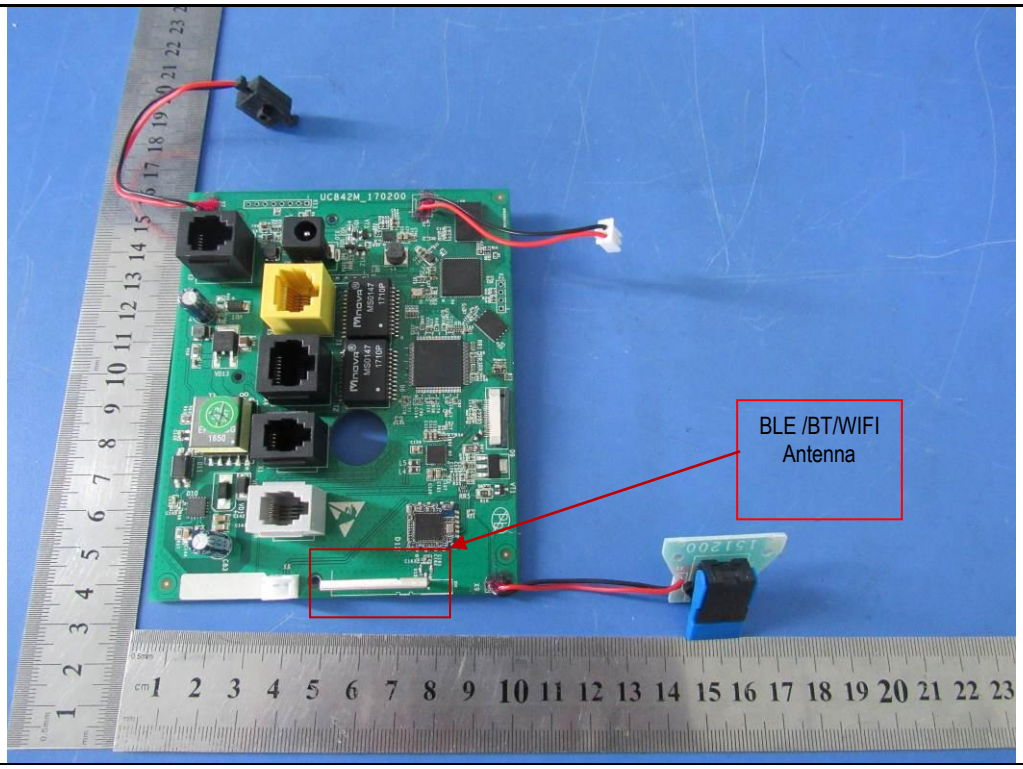
Annex B.ii. Photograph: EUT Internal Photo



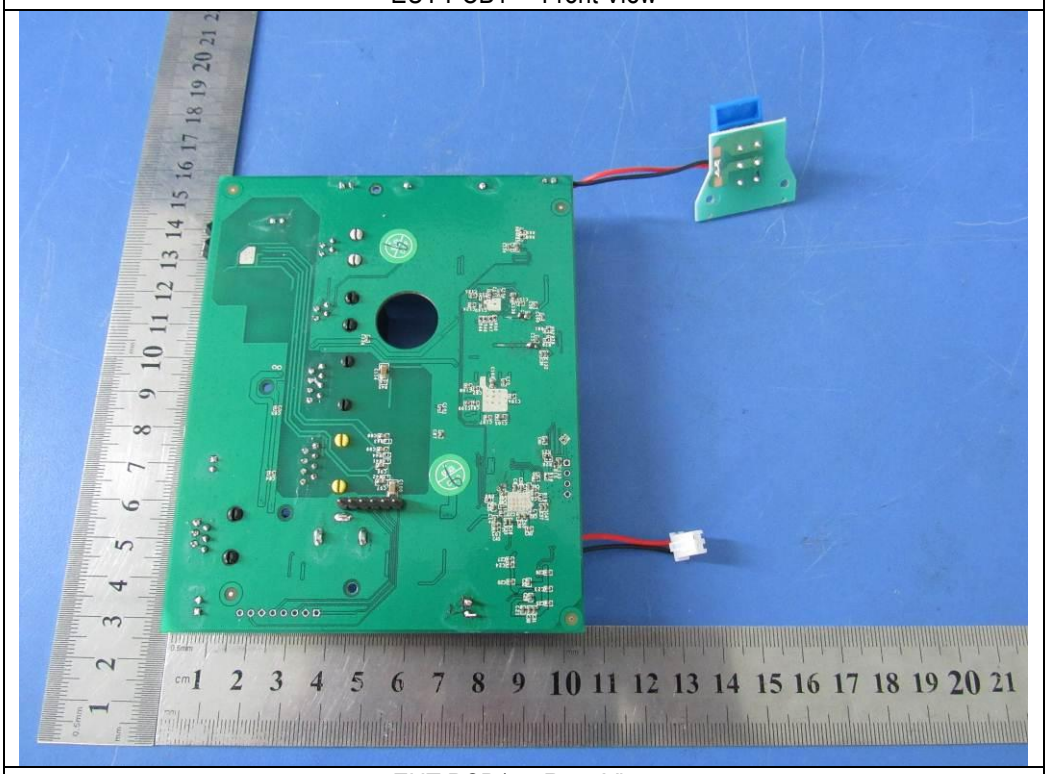
EUT – Uncover Front View - 1



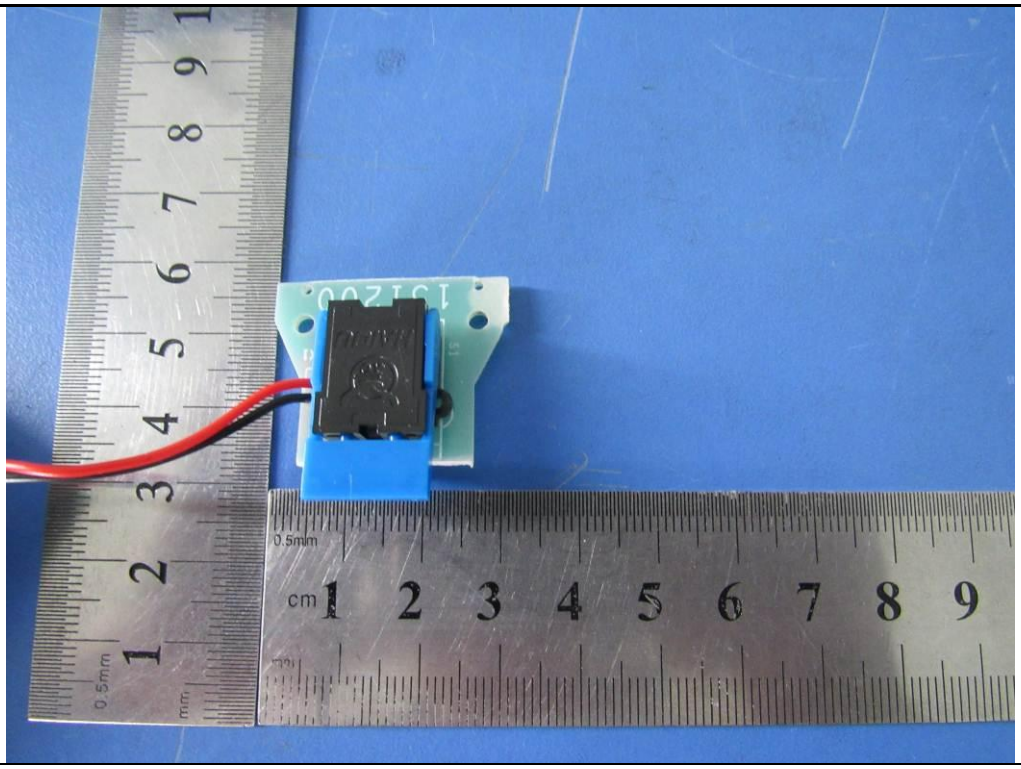
EUT – Uncover Front View - 2



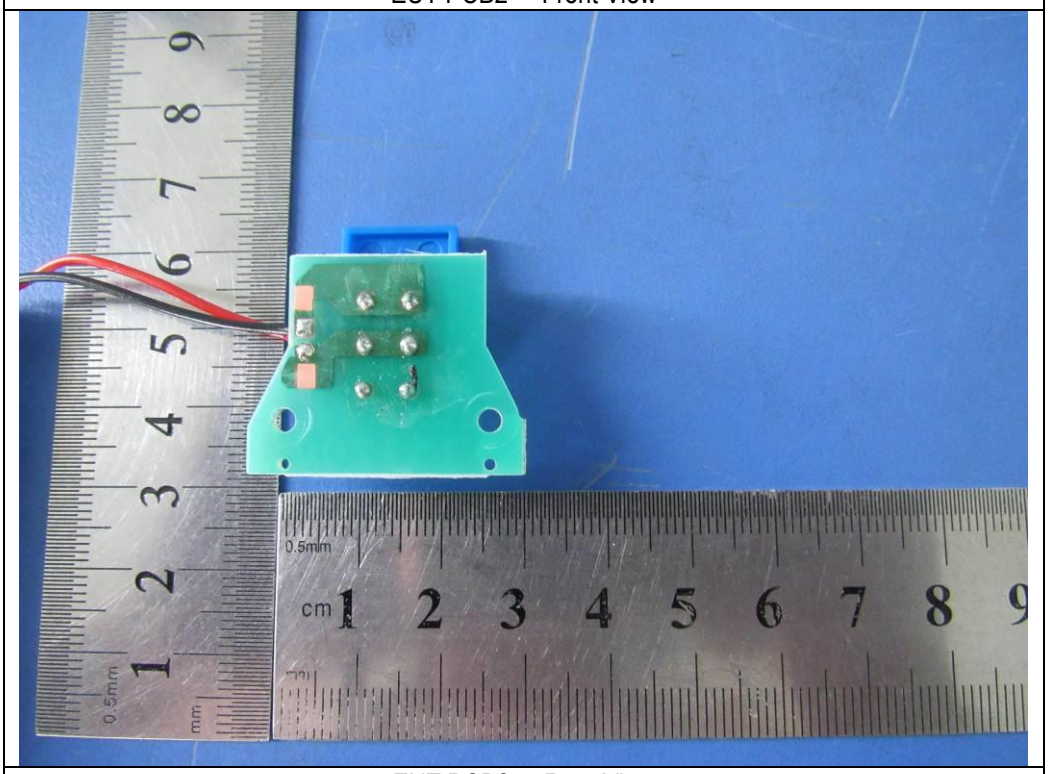
EUT PCB1 – Front View



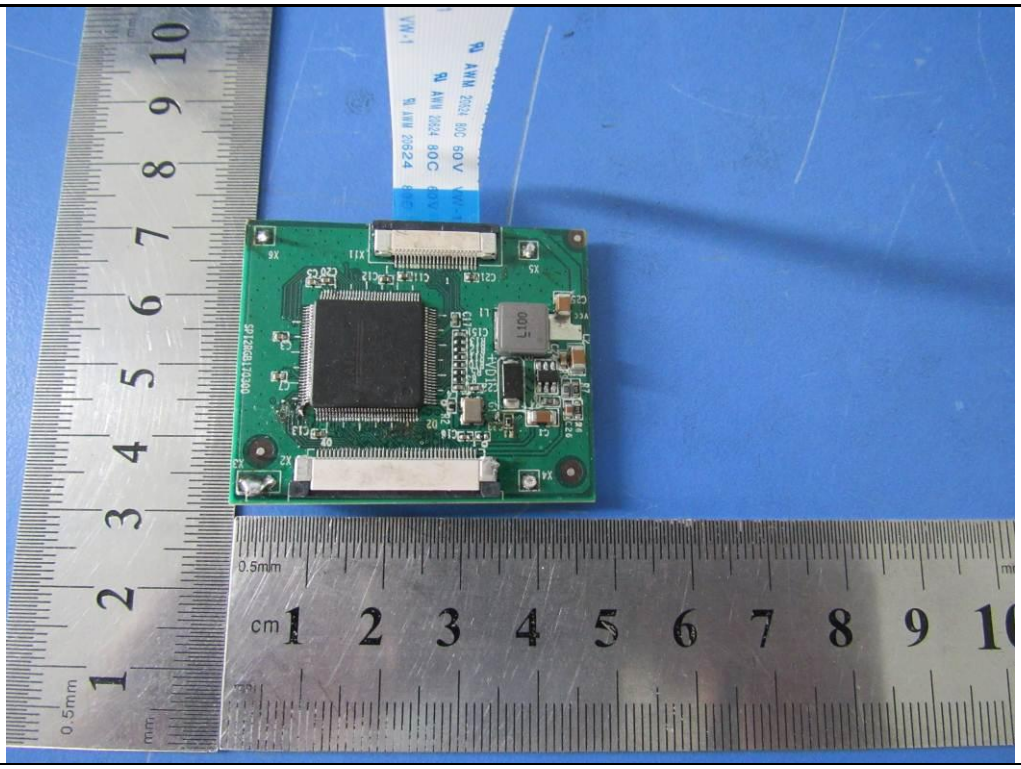
EUT PCB1 – Rear View



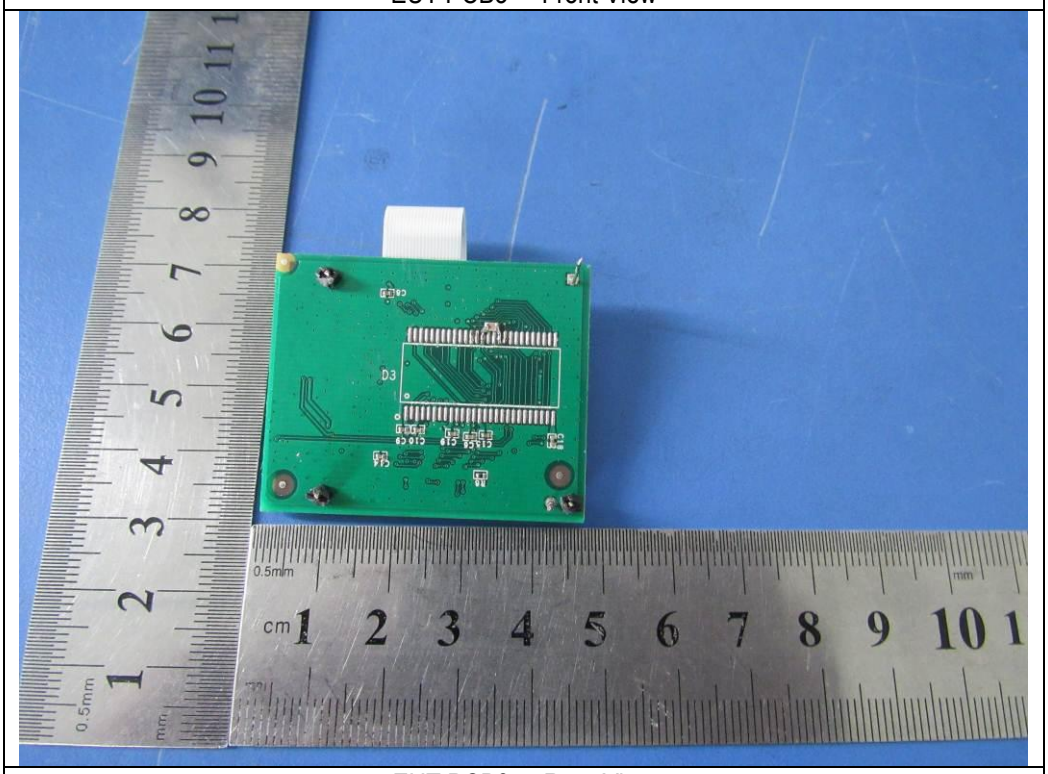
EUT PCB2 – Front View



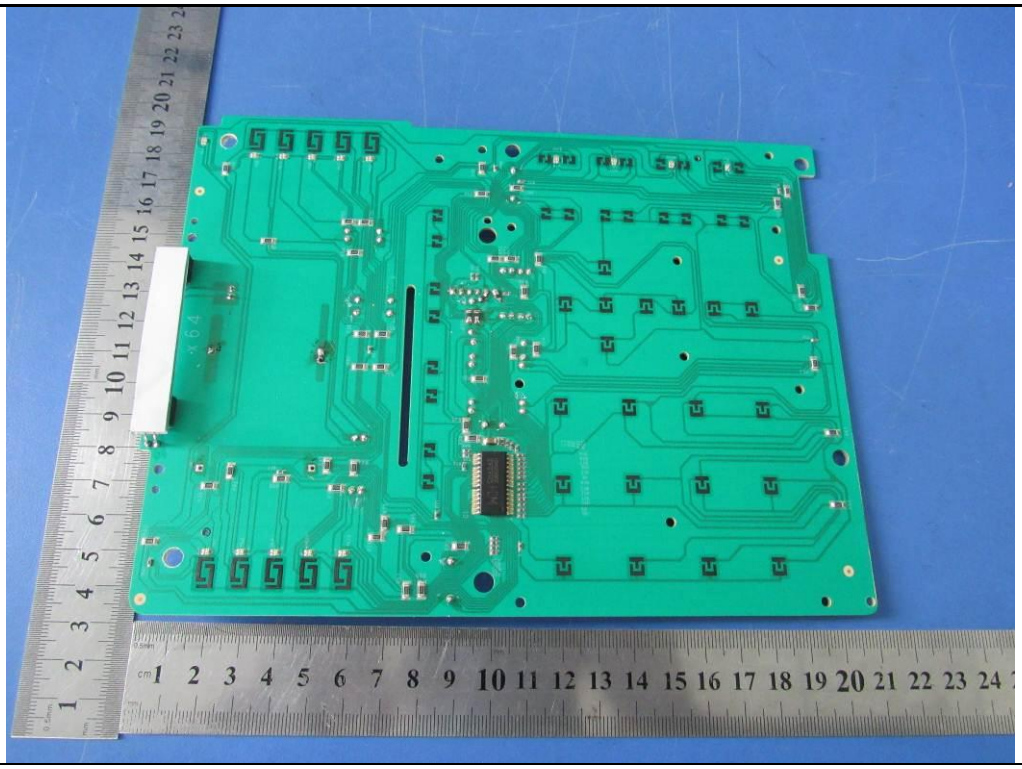
EUT PCB2 – Rear View



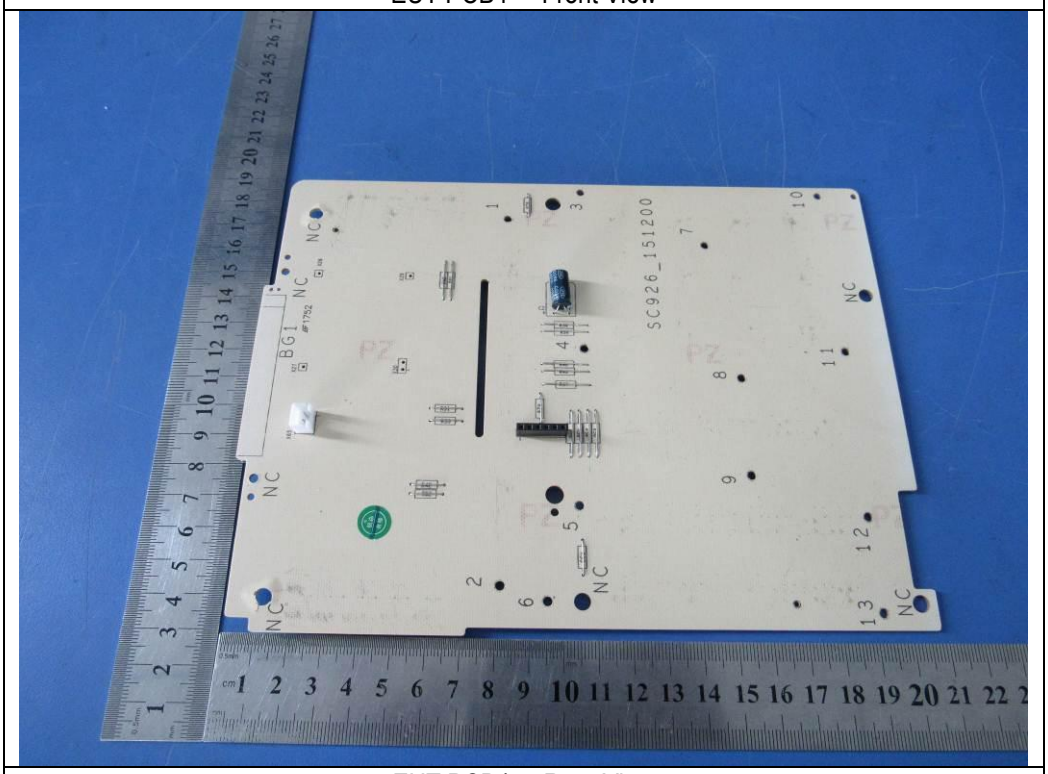
EUT PCB3 – Front View



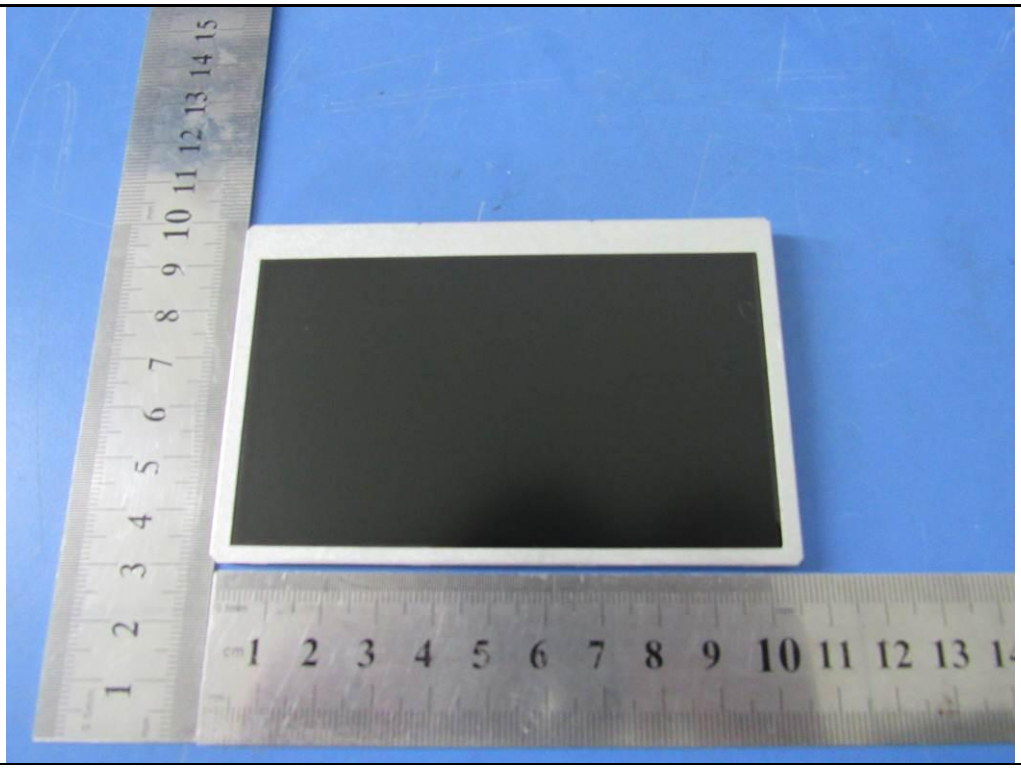
EUT PCB3 – Rear View



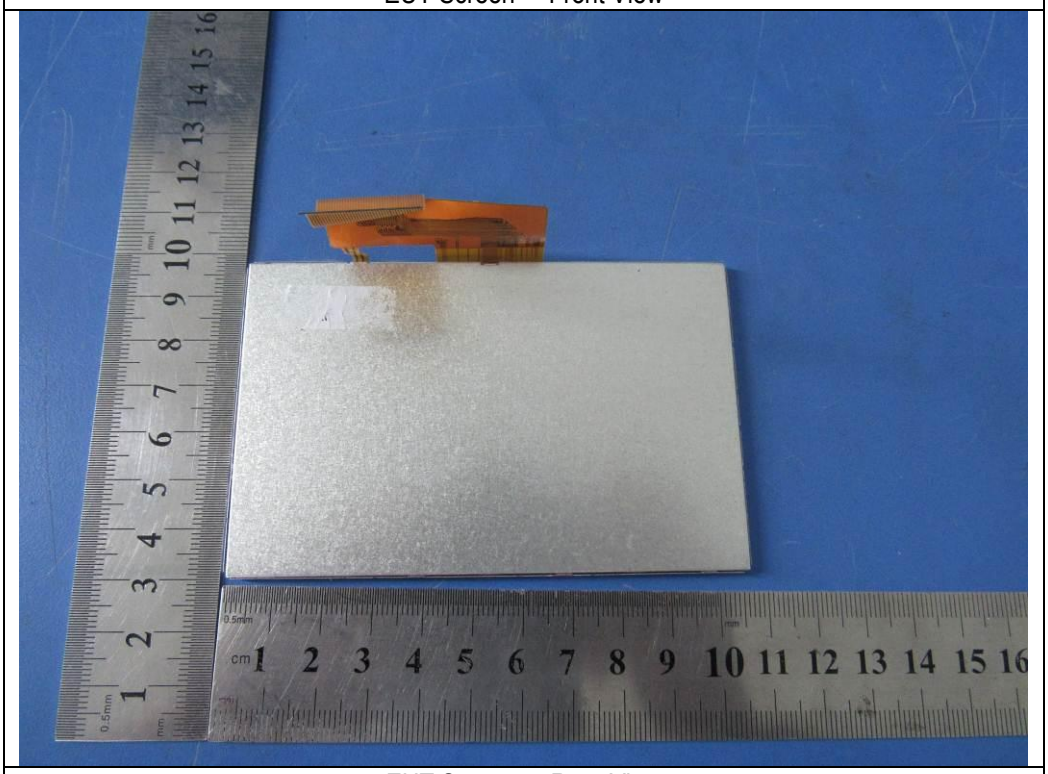
EUT PCB4 – Front View



EUT PCB4 – Rear View



EUT Screen – Front View

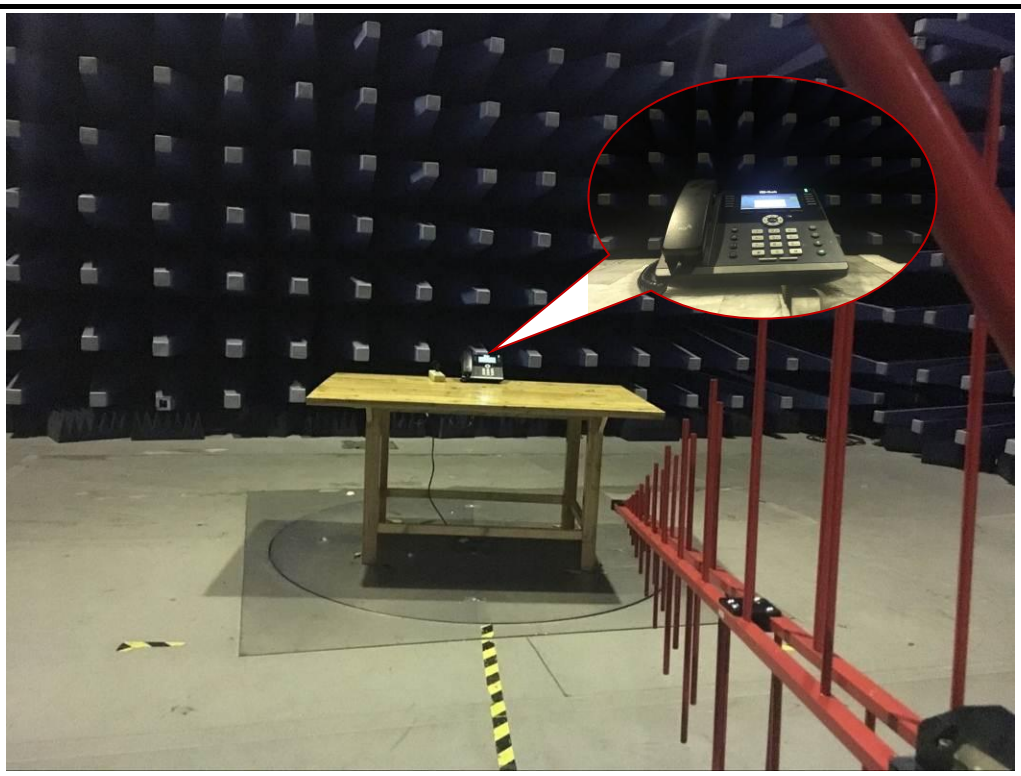


EUT Screen – Rear View

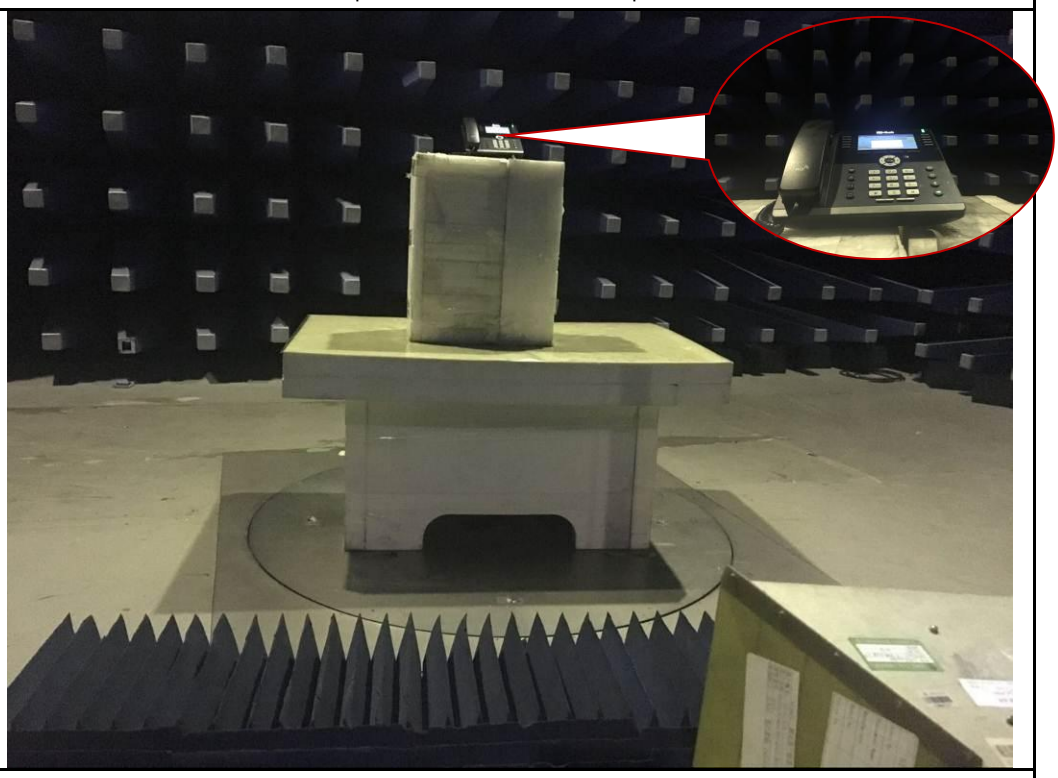
Annex B.iii. Photograph: Test Setup Photo

Conducted Emissions Test Setup Front View

Conducted Emissions Test Setup Side View



Radiated Spurious Emissions Test Setup Below 1GHz

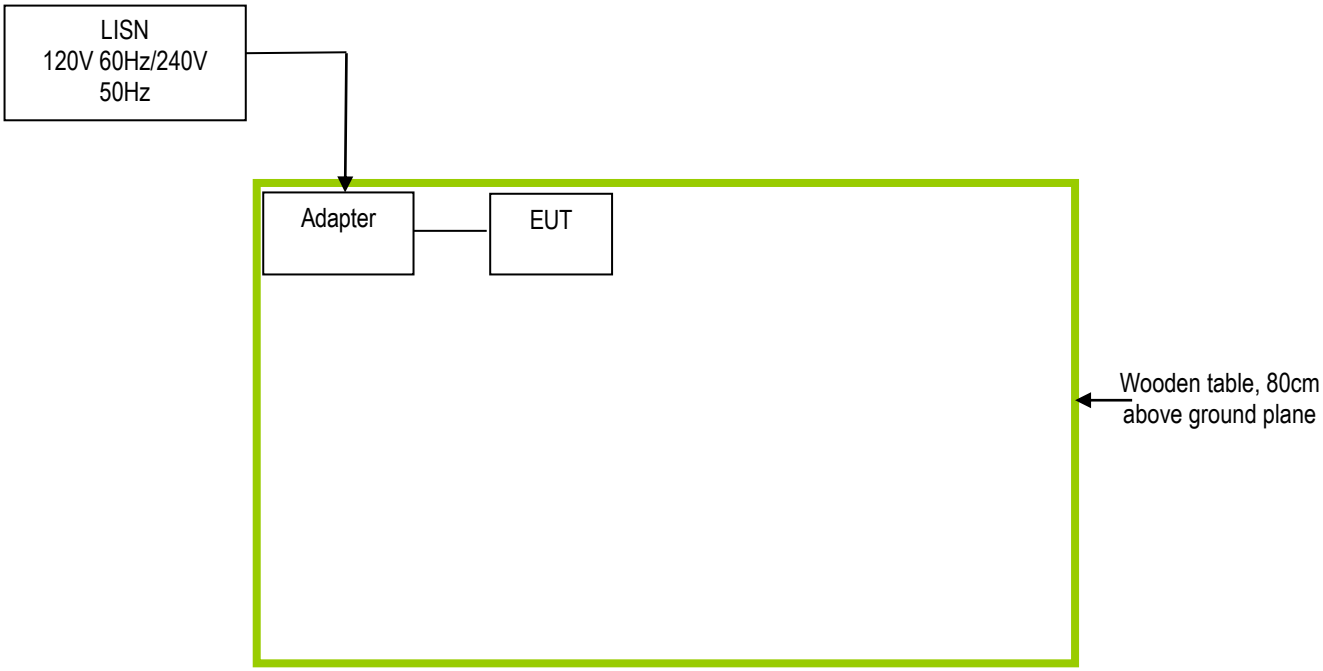


Radiated Spurious Emissions Test Setup Above 1GHz

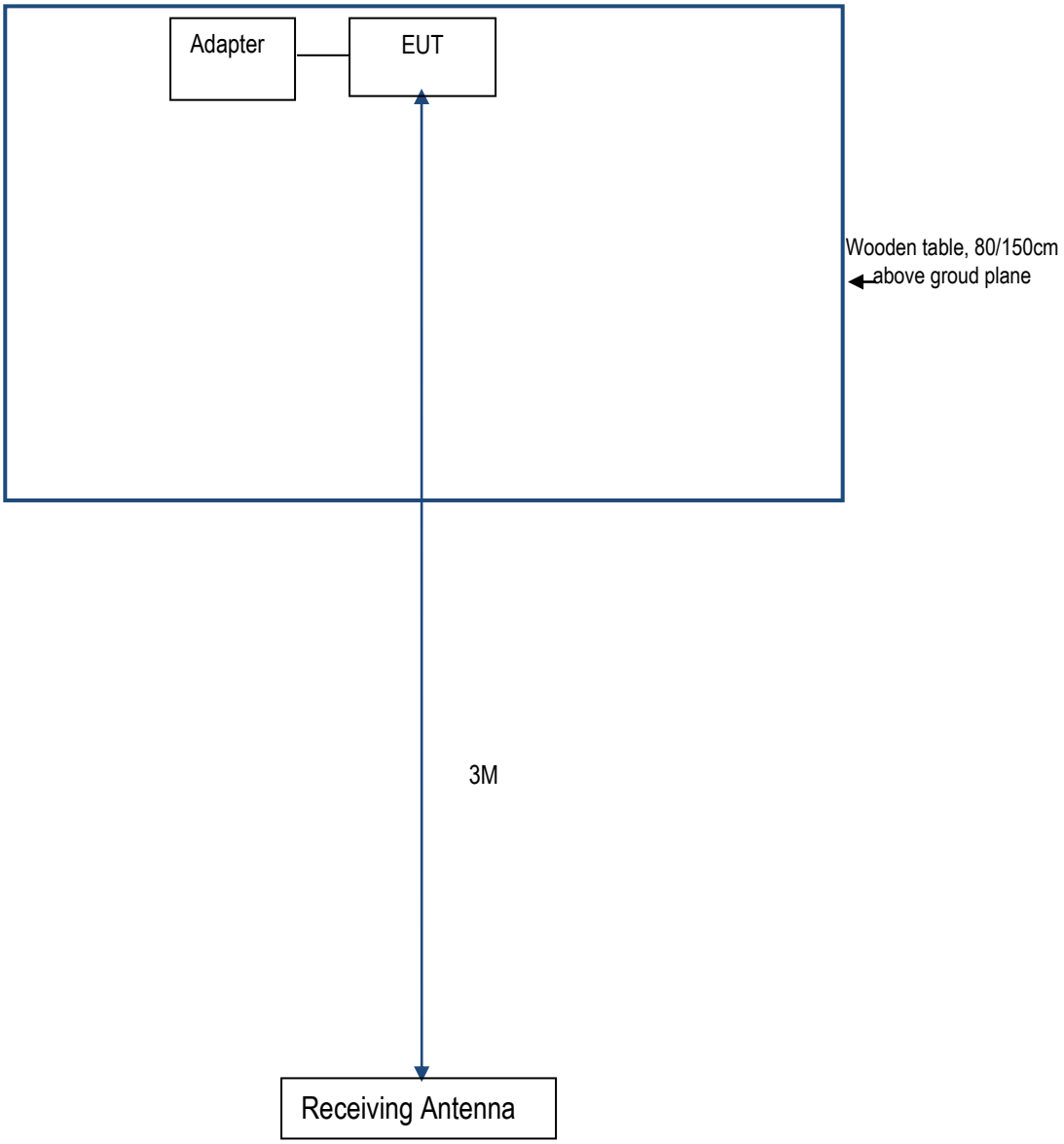
Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

Annex C.ii. TEST SET UP BLOCK

Block Configuration Diagram for Conducted Emissions



Block Configuration Diagram for Radiated Spurious Emissions



Annex C. il. SUPPORTING EQUIPMENT DESCRIPTION

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

Manufacturer	Equipment Description	Model	Calibration Date	Calibration Due Date
N/A	N/A	N/A	N/A	N/A

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

Please see attachment

Annex E. DECLARATION OF SIMILARITY

Nanjing Hanlong Technology Co., Ltd.

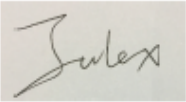
Statement

Model number: UC926E，UC924E

FCC ID: 2ACUGUC926ESERIAL

We hereby state that UC926E，UC924E are identical in interior structure, electrical circuits and components, and just model names 、the number of account keys and screen sizes are different.

Your assistance on this matter is highly appreciated.
Sincerely,

Signature: 
Name : Julex
Title: Marketing Director
Company Name: Nanjing Hanlong Technology Co.,Ltd.
Address: 5th Floor, 1st Building, Huashen Tech Park,10 Huashen Temple, Yuhuatai Dis, Nanjing China
Telephone: 025-84658050
E-mail: Julex@hanlongtek.com