



11AC20SISO_Ant1_5785



11AC20SISO_Ant1_5825



11AC40SISO_Ant1_5190



11AC40SISO_Ant1_5230



11AC40SISO_Ant1_5270



11AC40SISO_Ant1_5310



11AC40SISO_Ant1_5510



11AC40SISO_Ant1_5550



11AC40SISO_Ant1_5670



11AC40SISO Ant1_5755



11AC40SISO Ant1_5795



11AC80SISO Ant1_5210



11AC80SISO_Ant1_5290



11AC80SISO_Ant1_5530



11AC80SISO_Ant1_5610



6dB Bandwidth:

11A_Ant1_5745



11A_Ant1_5785



11A_Ant1_5825



11N20SISO_Ant1_5745



11N20SISO_Ant1_5785



11N20SISO_Ant1_5825



11N40SISO_Ant1_5755



11N40SISO_Ant1_5795



11AC20SISO_Ant1_5745



11AC20SISO_Ant1_5785



11AC20SISO_Ant1_5825



11AC40SISO_Ant1_5755



11AC40SISO_Ant1_5795



10. Maximum Output Power

10.1. Block diagram of test setup

Same as section 8.1

10.2. Limits

FCC Part15, Subpart E		
Test Item	Limit	Frequency Range (MHz)
Conducted Output Power	☐ Outdoor Access Point: 1 W (30 dBm)	5150-5250
	☐ Indoor Access Point: 1 W (30 dBm)	
	☐ Fixed Point-To-Point Access Points: 1 W (30 dBm)	
	☒ Client Devices: 250 mW (24 dBm)	
	Shall not exceed the lesser of 250 mW (24dBm) or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz.	5250-5350 5470-5725
	Shall not exceed 1 Watt (30 dBm).	5725-5850

Note: The above limits are based upon the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in db that the directional gain of the antenna exceeds 6 dBi.

10.3. Test Procedure

- (1) Connect each EUT's antenna output to power meter by RF cable and attenuator
- (2) Add each antenna port' s results to get the total output power of EUT.

10.4. Test Result

Test Mode	Ant.	Freq. (MHz)	Channel Power (dBm)	DC Factor (dBm)	Result (dBm)	Limit (dBm)	Verdict
11A	Ant1	5180	7.74	0.15	7.89	≤23.98	PASS
		5220	7.42	0.12	7.54	≤23.98	PASS
		5240	7.60	0.12	7.72	≤23.98	PASS
		5260	7.65	0.12	7.77	≤23.90	PASS
		5300	7.27	0.12	7.39	≤23.95	PASS
		5320	7.16	0.15	7.31	≤23.98	PASS
		5500	4.53	0.12	4.65	≤23.98	PASS
		5580	4.84	0.15	4.99	≤23.98	PASS
		5700	4.93	0.15	5.08	≤23.91	PASS
		5745	6.85	0.15	7.00	≤30.00	PASS
		5785	6.92	0.15	7.07	≤30.00	PASS
11N20SIS O	Ant1	5825	6.22	0.15	6.37	≤30.00	PASS
		5180	7.50	0.13	7.63	≤23.98	PASS
		5220	7.27	0.13	7.40	≤23.98	PASS
		5240	7.35	0.13	7.48	≤23.98	PASS
		5260	7.52	0.13	7.65	≤23.98	PASS
		5300	7.09	0.16	7.25	≤23.98	PASS
		5320	6.97	0.13	7.10	≤23.98	PASS
		5500	4.39	0.16	4.55	≤23.98	PASS
		5580	4.68	0.16	4.84	≤23.98	PASS
		5700	4.77	0.13	4.90	≤23.98	PASS
		5745	6.71	0.13	6.84	≤30.00	PASS
11N40SIS O	Ant1	5785	6.89	0.16	7.05	≤30.00	PASS
		5825	6.09	0.13	6.22	≤30.00	PASS
		5190	8.02	0.26	8.28	≤23.98	PASS
		5230	7.56	0.33	7.89	≤23.98	PASS
		5270	7.45	0.33	7.78	≤23.98	PASS
		5310	7.10	0.26	7.36	≤23.98	PASS
		5510	4.20	0.26	4.46	≤23.98	PASS
		5550	4.29	0.26	4.55	≤23.98	PASS
		5670	4.98	0.26	5.24	≤23.98	PASS
		5755	6.80	0.33	7.13	≤30.00	PASS
		5795	6.92	0.26	7.18	≤30.00	PASS
11AC20SI SO	Ant1	5180	7.82	0.16	7.98	≤23.98	PASS
		5220	7.37	0.16	7.53	≤23.98	PASS
		5240	7.63	0.16	7.79	≤23.98	PASS
		5260	7.57	0.13	7.70	≤23.98	PASS
		5300	7.21	0.13	7.34	≤23.98	PASS
		5320	7.11	0.13	7.24	≤23.98	PASS
		5500	4.41	0.13	4.54	≤23.98	PASS
		5580	4.69	0.13	4.82	≤23.98	PASS
		5700	5.06	0.13	5.19	≤23.98	PASS
		5745	6.88	0.16	7.04	≤30.00	PASS
		5785	7.07	0.13	7.20	≤30.00	PASS
11AC40SI SO	Ant1	5825	6.39	0.13	6.52	≤30.00	PASS
		5190	7.83	0.32	8.15	≤23.98	PASS
		5230	7.60	0.26	7.86	≤23.98	PASS
		5270	7.42	0.32	7.74	≤23.98	PASS
		5310	7.24	0.32	7.56	≤23.98	PASS
		5510	4.28	0.32	4.60	≤23.98	PASS
		5550	4.34	0.26	4.60	≤23.98	PASS
		5670	5.04	0.26	5.30	≤23.98	PASS
		5755	6.83	0.32	7.15	≤30.00	PASS
		5795	6.91	0.26	7.17	≤30.00	PASS
11AC80SI SO	Ant1	5210	7.63	0.63	8.26	≤23.98	PASS
		5290	7.18	0.63	7.81	≤23.98	PASS
		5530	4.36	0.63	4.99	≤23.98	PASS
		5610	4.88	0.63	5.51	≤23.98	PASS

		5775	6.84	0.63	7.47	≤30.00	PASS
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11. Power Spectral Density

11.1. Block diagram of test setup

Same as section 8.1

11.2. Limits

CFR 47 FCC Part15, Subpart E		
Test Item	Limit	Frequency Range (MHz)
Power Spectral Density	☐ Outdoor Access Point: 17 dBm/MHz ☐ Indoor Access Point: 17 dBm/MHz ☐ Fixed Point-To-Point Access Points: 17 dBm/MHz ☒ Client Devices: 11 dBm/MHz	5150-5250
	11 dBm/MHz	5250-5350 5470-5725
	30 dBm/500 kHz	5725-5850

Transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in db that the directional gain of the antenna exceeds 6 dBi.

11.3. Test Procedure

The transmitter output was connected to a spectrum analyzer. Power density was measured by spectrum analyzer with 1MHz RBW and 3MHz VBW.

Connect the UUT to the spectrum analyser and use the following settings:

5150 MHz~5250 MHz, 5250 MHz~5350 MHz, 5470 MHz~5725 MHz

Center Frequency	The centre frequency of the channel under test
Detector	RMS
RBW	1MHz
VBW	$\geq 3 \times \text{RBW}$
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

5725 MHz-5850 MHz

Center Frequency	The centre frequency of the channel under test
Detector	RMS
RBW	500 kHz
VBW	$\geq 3 \times \text{RBW}$
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

Note:

1. For UNII-3, according to KDB publication 789033 D02 General U-NII Test Procedures New Rules v02r01, section II.F.5., it is acceptable to set RBW at 1 MHz and VBW at 3 MHz if the spectrum analyzer does not have 500 kHz RBW.

2. The value measured with RBW=1MHz is to be added with $10\log(500\text{kHz}/1\text{MHz})$ which is - 3dB. For example, if the measured value is +30 dBm using RBW=500kHz (that is +30 dBm/500kHz), then the converted value will be +33 dBm/1MHz.

3. Allow trace to fully stabilize and use the peak marker function to determine the maximum amplitude level within the RBW.

11.4. Test Result

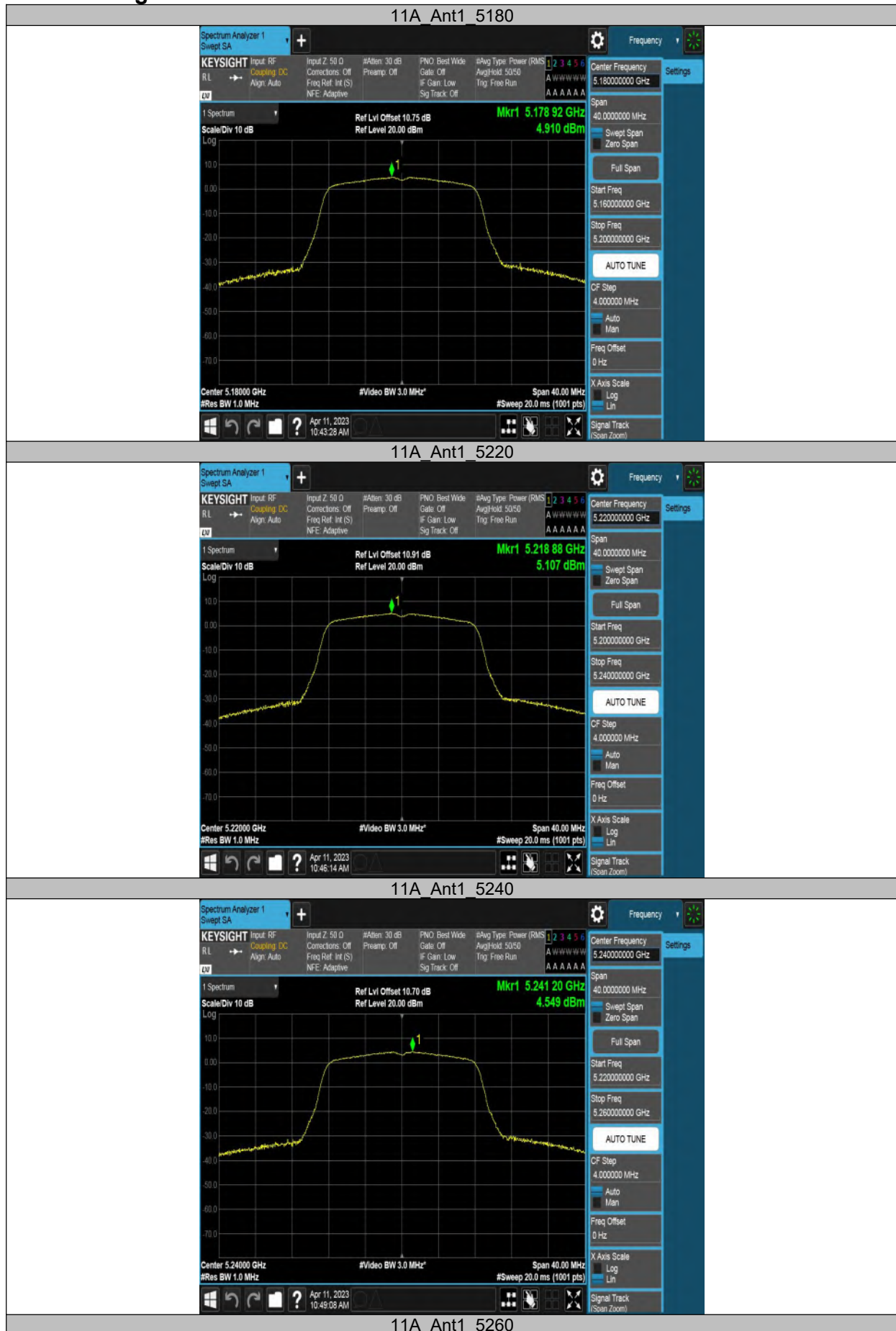
Test Mode	Ant.	Freq. (MHz)	Result (dBm/MHz)	Limit (dBm/MHz)	Verdict
11A	Ant1	5180	4.91	≤ 11.00	PASS
		5220	5.11	≤ 11.00	PASS
		5240	4.55	≤ 11.00	PASS
		5260	4.83	≤ 11.00	PASS
		5300	5.16	≤ 11.00	PASS
		5320	4.94	≤ 11.00	PASS
		5500	3.82	≤ 11.00	PASS
		5580	3.52	≤ 11.00	PASS
		5700	3.79	≤ 11.00	PASS
		5745	2.3	≤ 30.00	PASS
		5785	1.51	≤ 30.00	PASS
		5825	1.11	≤ 30.00	PASS
11N20SISO	Ant1	5180	3.08	≤ 11.00	PASS
		5220	4.94	≤ 11.00	PASS
		5240	4.36	≤ 11.00	PASS
		5260	4.43	≤ 11.00	PASS
		5300	4.56	≤ 11.00	PASS
		5320	3.55	≤ 11.00	PASS

		5500	3.45	≤11.00	PASS
		5580	3.37	≤11.00	PASS
		5700	3.54	≤11.00	PASS
		5745	0.99	≤30.00	PASS
		5785	0.14	≤30.00	PASS
		5825	0.22	≤30.00	PASS
11N40SISO	Ant1	5190	-0.99	≤11.00	PASS
		5230	0.82	≤11.00	PASS
		5270	1.18	≤11.00	PASS
		5310	-1.59	≤11.00	PASS
		5510	0.76	≤11.00	PASS
		5550	0.8	≤11.00	PASS
		5670	0.37	≤11.00	PASS
		5755	-1.54	≤30.00	PASS
		5795	-2.48	≤30.00	PASS
11AC20SISO	Ant1	5180	2.23	≤11.00	PASS
		5220	4.95	≤11.00	PASS
		5240	4.58	≤11.00	PASS
		5260	5.21	≤11.00	PASS
		5300	5.17	≤11.00	PASS
		5320	4.86	≤11.00	PASS
		5500	3.27	≤11.00	PASS
		5580	3.31	≤11.00	PASS
		5700	3.58	≤11.00	PASS
		5745	2.42	≤30.00	PASS
		5785	1.59	≤30.00	PASS
		5825	0.93	≤30.00	PASS
11AC40SISO	Ant1	5190	-2.15	≤11.00	PASS
		5230	1.54	≤11.00	PASS
		5270	2.05	≤11.00	PASS
		5310	0.03	≤11.00	PASS
		5510	0.01	≤11.00	PASS
		5550	0.77	≤11.00	PASS
		5670	0.44	≤11.00	PASS
		5755	-0.84	≤30.00	PASS
		5795	-0.85	≤30.00	PASS
11AC80SISO	Ant1	5210	-6.17	≤11.00	PASS
		5290	-4.97	≤11.00	PASS
		5530	-4.75	≤11.00	PASS
		5610	-1.31	≤11.00	PASS
		5775	-3.5	≤30.00	PASS

Note: 1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.

2.The Duty Cycle Factor and RBW Factor is compensated in the graph.

11.5. Original Test Data





11A_Ant1_5300



11A_Ant1_5320



11A_Ant1_5500



11A_Ant1_5580



11A_Ant1_5700



11A_Ant1_5745



11A Ant1 5785



11A Ant1 5825



11N20SISO_Ant1 5180



11N20SISO_Ant1_5220



11N20SISO_Ant1_5240



11N20SISO_Ant1_5260



11N20SISO_Ant1_5300



11N20SISO_Ant1_5320



11N20SISO Ant1 5500



11N20SISO_Ant1_5580



11N20SISO_Ant1_5700



11N20SISO_Ant1_5745



11N20SISO Ant1 5785



11N20SISO Ant1 5825



11N40SISO Ant1 5190





11N40SISO Ant1 5510



11N40SISO Ant1 5550



11N40SISO Ant1 5670





11AC20SISO_Ant1_5220



11AC20SISO_Ant1_5240



11AC20SISO_Ant1_5260



11AC20SISO_Ant1_5300



11AC20SISO_Ant1_5320



11AC20SISO_Ant1_5500



11AC20SISO Ant1_5580



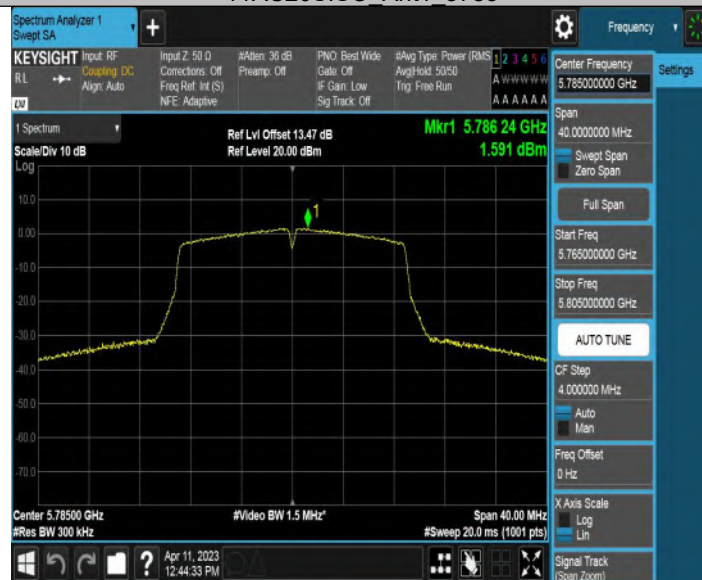
11AC20SISO Ant1_5700



11AC20SISO Ant1_5745



11AC20SISO Ant1_5785



11AC20SISO Ant1_5825



11AC40SISO Ant1_5190



11AC40SISO_Ant1_5230



11AC40SISO_Ant1_5270



11AC40SISO_Ant1_5310



11AC40SISO_Ant1_5510



11AC40SISO_Ant1_5550



11AC40SISO Ant1 5670





11AC80SISO_Ant1_5290



11AC80SISO_Ant1_5530



11AC80SISO_Ant1_5610



12. Frequency Stability Measurement

12.1. Block diagram of test setup

Same as section 8.1

12.2. Limit of Frequency Stability

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

12.3. Test procedures

(1) To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.

(2) The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10 dB lower than the measured peak value.

(3) The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

12.4. Test Result

Voltage								
Test Mode	Ant.	Freq. (MHz)	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11AC20 SISO	Ant1	5180	NV	NT	-3000.00	-0.579151	20	PASS
			LV	NT	-3000.00	-0.579151	20	PASS
			HV	NT	-3000.00	-0.579151	20	PASS
		5220	NV	NT	-3000.00	-0.574713	20	PASS
			LV	NT	-3000.00	-0.574713	20	PASS
			HV	NT	-3000.00	-0.574713	20	PASS
		5240	NV	NT	-3000.00	-0.572519	20	PASS
			LV	NT	-3000.00	-0.572519	20	PASS
			HV	NT	-3000.00	-0.572519	20	PASS
		5260	NV	NT	-3000.00	-0.570342	20	PASS
			LV	NT	-3000.00	-0.570342	20	PASS
			HV	NT	-3000.00	-0.570342	20	PASS
		5300	NV	NT	-3000.00	-0.566038	20	PASS
			LV	NT	-3000.00	-0.566038	20	PASS
			HV	NT	-3000.00	-0.566038	20	PASS
		5320	NV	NT	-3000.00	-0.563910	20	PASS
			LV	NT	-3000.00	-0.563910	20	PASS
			HV	NT	-4000.00	-0.751880	20	PASS
		5500	NV	NT	-3000.00	-0.545455	20	PASS
			LV	NT	-3000.00	-0.545455	20	PASS
			HV	NT	-4000.00	-0.727273	20	PASS
		5580	NV	NT	-4000.00	-0.716846	20	PASS
			LV	NT	-4000.00	-0.716846	20	PASS
			HV	NT	-4000.00	-0.716846	20	PASS
		5700	NV	NT	-4000.00	-0.701754	20	PASS
			LV	NT	-4000.00	-0.701754	20	PASS
			HV	NT	-4000.00	-0.701754	20	PASS
		5745	NV	NT	-4000.00	-0.696258	20	PASS
			LV	NT	-4000.00	-0.696258	20	PASS
			HV	NT	-4000.00	-0.696258	20	PASS
		5785	NV	NT	-4000.00	-0.691443	20	PASS
			LV	NT	-4000.00	-0.691443	20	PASS
			HV	NT	-4000.00	-0.691443	20	PASS

		5825	NV	NT	-4000.00	-0.686695	20	PASS
			LV	NT	-5000.00	-0.858369	20	PASS
			HV	NT	-4000.00	-0.686695	20	PASS
11AC40 SISO	Ant1	5190	NV	NT	-4000.00	-0.770713	20	PASS
			LV	NT	-4000.00	-0.770713	20	PASS
			HV	NT	-4000.00	-0.770713	20	PASS
		5230	NV	NT	-4000.00	-0.764818	20	PASS
			LV	NT	-4000.00	-0.764818	20	PASS
			HV	NT	-4000.00	-0.764818	20	PASS
		5270	NV	NT	-4000.00	-0.759013	20	PASS
			LV	NT	-4000.00	-0.759013	20	PASS
			HV	NT	-4000.00	-0.759013	20	PASS
		5310	NV	NT	-4000.00	-0.753296	20	PASS
			LV	NT	-4000.00	-0.753296	20	PASS
			HV	NT	-3000.00	-0.564972	20	PASS
		5510	NV	NT	-4000.00	-0.725953	20	PASS
			LV	NT	-4000.00	-0.725953	20	PASS
			HV	NT	-4000.00	-0.725953	20	PASS
		5550	NV	NT	-4000.00	-0.720721	20	PASS
			LV	NT	-4000.00	-0.720721	20	PASS
			HV	NT	-4000.00	-0.720721	20	PASS
		5670	NV	NT	-4000.00	-0.705467	20	PASS
			LV	NT	-4000.00	-0.705467	20	PASS
			HV	NT	-4000.00	-0.705467	20	PASS
		5755	NV	NT	-4000.00	-0.695048	20	PASS
			LV	NT	-4000.00	-0.695048	20	PASS
			HV	NT	-4000.00	-0.695048	20	PASS
		5795	NV	NT	-4000.00	-0.690250	20	PASS
			LV	NT	-4000.00	-0.690250	20	PASS
			HV	NT	-4000.00	-0.690250	20	PASS
11AC80 SISO	Ant1	5210	NV	NT	-4000.00	-0.767754	20	PASS
			LV	NT	-4000.00	-0.767754	20	PASS
			HV	NT	-4000.00	-0.767754	20	PASS
		5290	NV	NT	-4000.00	-0.756144	20	PASS
			LV	NT	-4000.00	-0.756144	20	PASS
			HV	NT	-4000.00	-0.756144	20	PASS
		5530	NV	NT	-4000.00	-0.723327	20	PASS
			LV	NT	-4000.00	-0.723327	20	PASS
			HV	NT	-4000.00	-0.723327	20	PASS
		5610	NV	NT	-4000.00	-0.713012	20	PASS
			LV	NT	-4000.00	-0.713012	20	PASS
			HV	NT	-4000.00	-0.713012	20	PASS
		5775	NV	NT	-4000.00	-0.692641	20	PASS
			LV	NT	-4000.00	-0.692641	20	PASS
			HV	NT	-4000.00	-0.692641	20	PASS

Temperature								
Test Mode	Ant.	Freq. (MHz)	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11AC20 SISO	Ant1	5180	NV	-30	-3000.00	-0.579151	20	PASS
			NV	-20	-3000.00	-0.579151	20	PASS
			NV	-10	-3000.00	-0.579151	20	PASS
			NV	0	-3000.00	-0.579151	20	PASS
			NV	10	-3000.00	-0.579151	20	PASS
			NV	20	-3000.00	-0.579151	20	PASS
			NV	30	-3000.00	-0.579151	20	PASS
			NV	40	-3000.00	-0.579151	20	PASS
			NV	50	-3000.00	-0.579151	20	PASS
		5220	NV	-30	-3000.00	-0.574713	20	PASS
			NV	-20	-3000.00	-0.574713	20	PASS

			NV	-10	-3000.00	-0.574713	20	PASS
			NV	0	-3000.00	-0.574713	20	PASS
			NV	10	-3000.00	-0.574713	20	PASS
			NV	20	-3000.00	-0.574713	20	PASS
			NV	30	-3000.00	-0.574713	20	PASS
			NV	40	-3000.00	-0.574713	20	PASS
			NV	50	-3000.00	-0.574713	20	PASS
		5240	NV	-30	-3000.00	-0.572519	20	PASS
			NV	-20	-3000.00	-0.572519	20	PASS
			NV	-10	-3000.00	-0.572519	20	PASS
			NV	0	-3000.00	-0.572519	20	PASS
			NV	10	-4000.00	-0.763359	20	PASS
			NV	20	-3000.00	-0.572519	20	PASS
			NV	30	-3000.00	-0.572519	20	PASS
			NV	40	-3000.00	-0.572519	20	PASS
			NV	50	-3000.00	-0.572519	20	PASS
		5260	NV	-30	-3000.00	-0.570342	20	PASS
			NV	-20	-3000.00	-0.570342	20	PASS
			NV	-10	-3000.00	-0.570342	20	PASS
			NV	0	-4000.00	-0.760456	20	PASS
			NV	10	-3000.00	-0.570342	20	PASS
			NV	20	-3000.00	-0.570342	20	PASS
			NV	30	-3000.00	-0.570342	20	PASS
			NV	40	-4000.00	-0.760456	20	PASS
			NV	50	-3000.00	-0.570342	20	PASS
		5300	NV	-30	-3000.00	-0.566038	20	PASS
			NV	-20	-3000.00	-0.566038	20	PASS
			NV	-10	-3000.00	-0.566038	20	PASS
			NV	0	-3000.00	-0.566038	20	PASS
			NV	10	-3000.00	-0.566038	20	PASS
			NV	20	-3000.00	-0.566038	20	PASS
			NV	30	-3000.00	-0.566038	20	PASS
			NV	40	-3000.00	-0.566038	20	PASS
			NV	50	-3000.00	-0.566038	20	PASS
		5320	NV	-30	-3000.00	-0.563910	20	PASS
			NV	-20	-3000.00	-0.563910	20	PASS
			NV	-10	-3000.00	-0.563910	20	PASS
			NV	0	-3000.00	-0.563910	20	PASS
			NV	10	-3000.00	-0.563910	20	PASS
			NV	20	-3000.00	-0.563910	20	PASS
			NV	30	-3000.00	-0.563910	20	PASS
			NV	40	-4000.00	-0.751880	20	PASS
			NV	50	-4000.00	-0.751880	20	PASS
		5500	NV	-30	-3000.00	-0.545455	20	PASS
			NV	-20	-3000.00	-0.545455	20	PASS
			NV	-10	-3000.00	-0.545455	20	PASS
			NV	0	-3000.00	-0.545455	20	PASS
			NV	10	-4000.00	-0.727273	20	PASS
			NV	20	-3000.00	-0.545455	20	PASS
			NV	30	-3000.00	-0.545455	20	PASS
			NV	40	-4000.00	-0.727273	20	PASS
			NV	50	-3000.00	-0.545455	20	PASS
		5580	NV	-30	-4000.00	-0.716846	20	PASS
			NV	-20	-4000.00	-0.716846	20	PASS
			NV	-10	-4000.00	-0.716846	20	PASS
			NV	0	-4000.00	-0.716846	20	PASS
			NV	10	-4000.00	-0.716846	20	PASS
			NV	20	-3000.00	-0.537634	20	PASS
			NV	30	-3000.00	-0.537634	20	PASS
			NV	40	-4000.00	-0.716846	20	PASS
			NV	50	-4000.00	-0.716846	20	PASS

11AC40 SISO	Ant1	5700	NV	-30	-4000.00	-0.701754	20	PASS
			NV	-20	-4000.00	-0.701754	20	PASS
			NV	-10	-4000.00	-0.701754	20	PASS
			NV	0	-4000.00	-0.701754	20	PASS
			NV	10	-4000.00	-0.701754	20	PASS
			NV	20	-4000.00	-0.701754	20	PASS
			NV	30	-4000.00	-0.701754	20	PASS
			NV	40	-4000.00	-0.701754	20	PASS
			NV	50	-4000.00	-0.701754	20	PASS
		5745	NV	-30	-4000.00	-0.696258	20	PASS
			NV	-20	-4000.00	-0.696258	20	PASS
			NV	-10	-4000.00	-0.696258	20	PASS
			NV	0	-4000.00	-0.696258	20	PASS
			NV	10	-4000.00	-0.696258	20	PASS
			NV	20	-4000.00	-0.696258	20	PASS
			NV	30	-4000.00	-0.696258	20	PASS
			NV	40	-4000.00	-0.696258	20	PASS
			NV	50	-4000.00	-0.696258	20	PASS
		5785	NV	-30	-4000.00	-0.691443	20	PASS
			NV	-20	-4000.00	-0.691443	20	PASS
			NV	-10	-4000.00	-0.691443	20	PASS
			NV	0	-4000.00	-0.691443	20	PASS
			NV	10	-4000.00	-0.691443	20	PASS
			NV	20	-4000.00	-0.691443	20	PASS
			NV	30	-4000.00	-0.691443	20	PASS
			NV	40	-4000.00	-0.691443	20	PASS
			NV	50	-4000.00	-0.691443	20	PASS
		5825	NV	-30	-5000.00	-0.858369	20	PASS
			NV	-20	-5000.00	-0.858369	20	PASS
			NV	-10	-4000.00	-0.686695	20	PASS
			NV	0	-4000.00	-0.686695	20	PASS
			NV	10	-4000.00	-0.686695	20	PASS
			NV	20	-4000.00	-0.686695	20	PASS
			NV	30	-4000.00	-0.686695	20	PASS
			NV	40	-4000.00	-0.686695	20	PASS
			NV	50	-4000.00	-0.686695	20	PASS
11AC40 SISO	Ant1	5190	NV	-30	-4000.00	-0.770713	20	PASS
			NV	-20	-4000.00	-0.770713	20	PASS
			NV	-10	-4000.00	-0.770713	20	PASS
			NV	0	-4000.00	-0.770713	20	PASS
			NV	10	-4000.00	-0.770713	20	PASS
			NV	20	-4000.00	-0.770713	20	PASS
			NV	30	-4000.00	-0.770713	20	PASS
			NV	40	-4000.00	-0.770713	20	PASS
			NV	50	-4000.00	-0.770713	20	PASS
		5230	NV	-30	-4000.00	-0.764818	20	PASS
			NV	-20	-4000.00	-0.764818	20	PASS
			NV	-10	-4000.00	-0.764818	20	PASS
			NV	0	-4000.00	-0.764818	20	PASS
			NV	10	-4000.00	-0.764818	20	PASS
			NV	20	-4000.00	-0.764818	20	PASS
			NV	30	-4000.00	-0.764818	20	PASS
			NV	40	-4000.00	-0.764818	20	PASS
			NV	50	-4000.00	-0.764818	20	PASS
		5270	NV	-30	-4000.00	-0.759013	20	PASS
			NV	-20	-4000.00	-0.759013	20	PASS
			NV	-10	-4000.00	-0.759013	20	PASS
			NV	0	-4000.00	-0.759013	20	PASS
			NV	10	-3000.00	-0.569260	20	PASS
			NV	20	-4000.00	-0.759013	20	PASS
			NV	30	-4000.00	-0.759013	20	PASS

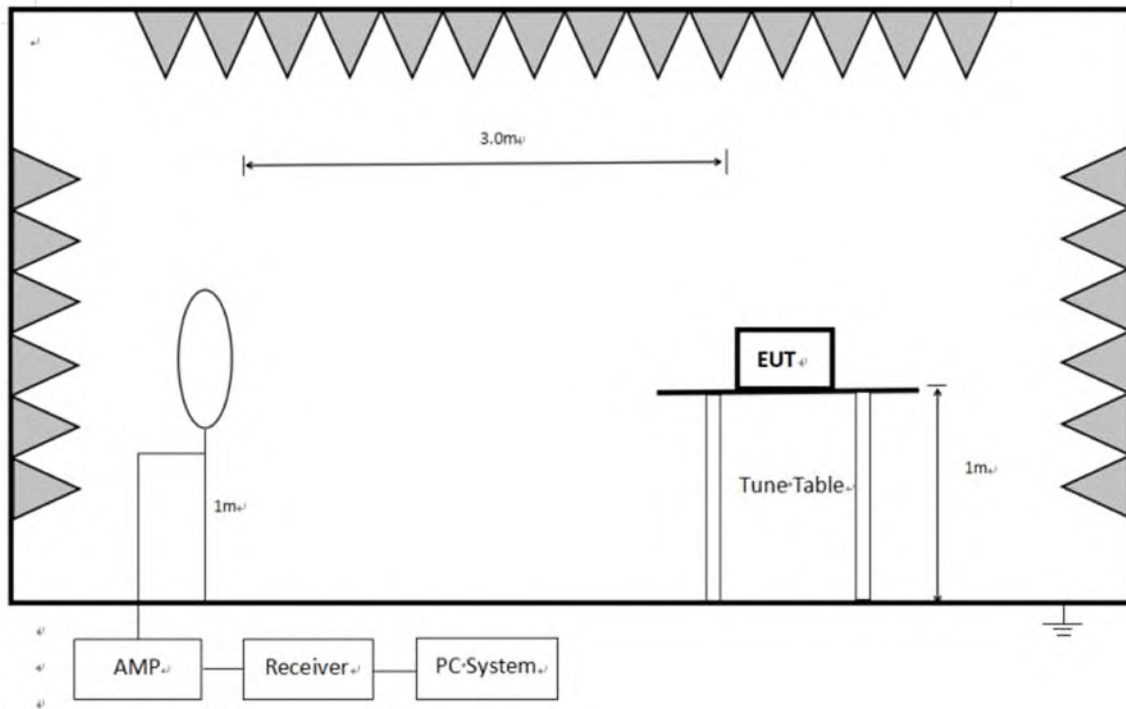
			NV	40	-4000.00	-0.759013	20	PASS
			NV	50	-3000.00	-0.569260	20	PASS
		5310	NV	-30	-4000.00	-0.753296	20	PASS
			NV	-20	-4000.00	-0.753296	20	PASS
			NV	-10	-4000.00	-0.753296	20	PASS
			NV	0	-4000.00	-0.753296	20	PASS
			NV	10	-4000.00	-0.753296	20	PASS
			NV	20	-4000.00	-0.753296	20	PASS
			NV	30	-3000.00	-0.564972	20	PASS
			NV	40	-4000.00	-0.753296	20	PASS
			NV	50	-4000.00	-0.753296	20	PASS
		5510	NV	-30	-4000.00	-0.725953	20	PASS
			NV	-20	-4000.00	-0.725953	20	PASS
			NV	-10	-3000.00	-0.544465	20	PASS
			NV	0	-4000.00	-0.725953	20	PASS
			NV	10	-4000.00	-0.725953	20	PASS
			NV	20	-4000.00	-0.725953	20	PASS
			NV	30	-4000.00	-0.725953	20	PASS
			NV	40	-4000.00	-0.725953	20	PASS
			NV	50	-4000.00	-0.725953	20	PASS
		5550	NV	-30	-4000.00	-0.720721	20	PASS
			NV	-20	-4000.00	-0.720721	20	PASS
			NV	-10	-4000.00	-0.720721	20	PASS
			NV	0	-4000.00	-0.720721	20	PASS
			NV	10	-4000.00	-0.720721	20	PASS
			NV	20	-4000.00	-0.720721	20	PASS
			NV	30	-4000.00	-0.720721	20	PASS
			NV	40	-4000.00	-0.720721	20	PASS
			NV	50	-4000.00	-0.720721	20	PASS
		5670	NV	-30	-4000.00	-0.705467	20	PASS
			NV	-20	-4000.00	-0.705467	20	PASS
			NV	-10	-4000.00	-0.705467	20	PASS
			NV	0	-4000.00	-0.705467	20	PASS
			NV	10	-4000.00	-0.705467	20	PASS
			NV	20	-4000.00	-0.705467	20	PASS
			NV	30	-4000.00	-0.705467	20	PASS
			NV	40	-4000.00	-0.705467	20	PASS
			NV	50	-4000.00	-0.705467	20	PASS
		5755	NV	-30	-4000.00	-0.695048	20	PASS
			NV	-20	-4000.00	-0.695048	20	PASS
			NV	-10	-4000.00	-0.695048	20	PASS
			NV	0	-4000.00	-0.695048	20	PASS
			NV	10	-4000.00	-0.695048	20	PASS
			NV	20	-4000.00	-0.695048	20	PASS
			NV	30	-4000.00	-0.695048	20	PASS
			NV	40	-4000.00	-0.695048	20	PASS
			NV	50	-4000.00	-0.695048	20	PASS
		5795	NV	-30	-4000.00	-0.690250	20	PASS
			NV	-20	-4000.00	-0.690250	20	PASS
			NV	-10	-4000.00	-0.690250	20	PASS
			NV	0	-4000.00	-0.690250	20	PASS
			NV	10	-4000.00	-0.690250	20	PASS
			NV	20	-5000.00	-0.862813	20	PASS
			NV	30	-4000.00	-0.690250	20	PASS
			NV	40	-4000.00	-0.690250	20	PASS
			NV	50	-5000.00	-0.862813	20	PASS
11AC80 SISO	Ant1	5210	NV	-30	-4000.00	-0.767754	20	PASS
			NV	-20	-4000.00	-0.767754	20	PASS
			NV	-10	-4000.00	-0.767754	20	PASS
			NV	0	-4000.00	-0.767754	20	PASS
			NV	10	-4000.00	-0.767754	20	PASS

			NV	20	-4000.00	-0.767754	20	PASS
			NV	30	-4000.00	-0.767754	20	PASS
			NV	40	-3000.00	-0.575816	20	PASS
			NV	50	-3000.00	-0.575816	20	PASS
		5290	NV	-30	-4000.00	-0.756144	20	PASS
			NV	-20	-4000.00	-0.756144	20	PASS
			NV	-10	-4000.00	-0.756144	20	PASS
			NV	0	-4000.00	-0.756144	20	PASS
			NV	10	-4000.00	-0.756144	20	PASS
			NV	20	-4000.00	-0.756144	20	PASS
			NV	30	-4000.00	-0.756144	20	PASS
			NV	40	-4000.00	-0.756144	20	PASS
			NV	50	-4000.00	-0.756144	20	PASS
		5530	NV	-30	-4000.00	-0.723327	20	PASS
			NV	-20	-4000.00	-0.723327	20	PASS
			NV	-10	-4000.00	-0.723327	20	PASS
			NV	0	-4000.00	-0.723327	20	PASS
			NV	10	-4000.00	-0.723327	20	PASS
			NV	20	-4000.00	-0.723327	20	PASS
			NV	30	-4000.00	-0.723327	20	PASS
			NV	40	-4000.00	-0.723327	20	PASS
			NV	50	-4000.00	-0.723327	20	PASS
		5610	NV	-30	-4000.00	-0.713012	20	PASS
			NV	-20	-4000.00	-0.713012	20	PASS
			NV	-10	-4000.00	-0.713012	20	PASS
			NV	0	-4000.00	-0.713012	20	PASS
			NV	10	-4000.00	-0.713012	20	PASS
			NV	20	-4000.00	-0.713012	20	PASS
			NV	30	-4000.00	-0.713012	20	PASS
			NV	40	-4000.00	-0.713012	20	PASS
			NV	50	-4000.00	-0.713012	20	PASS
		5775	NV	-30	-4000.00	-0.692641	20	PASS
			NV	-20	-4000.00	-0.692641	20	PASS
			NV	-10	-4000.00	-0.692641	20	PASS
			NV	0	-4000.00	-0.692641	20	PASS
			NV	10	-5000.00	-0.865801	20	PASS
			NV	20	-5000.00	-0.865801	20	PASS
			NV	30	-4000.00	-0.692641	20	PASS
			NV	40	-4000.00	-0.692641	20	PASS
			NV	50	-4000.00	-0.692641	20	PASS

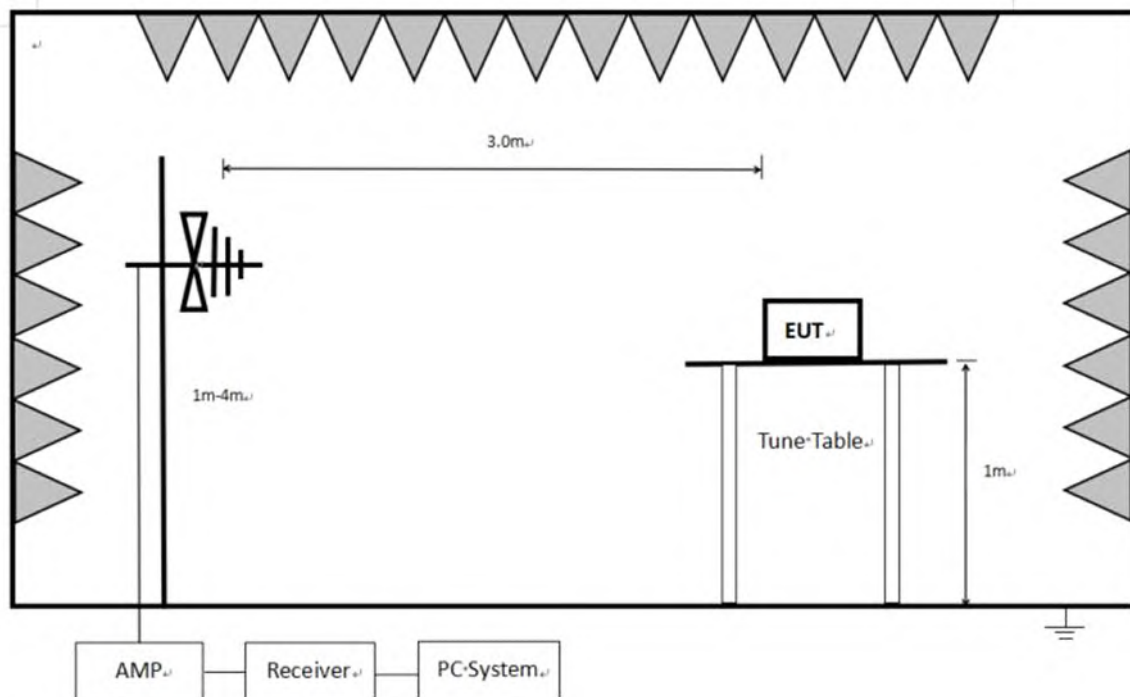
13. Radiated Emission

13.1. Block Diagram of Test Setup

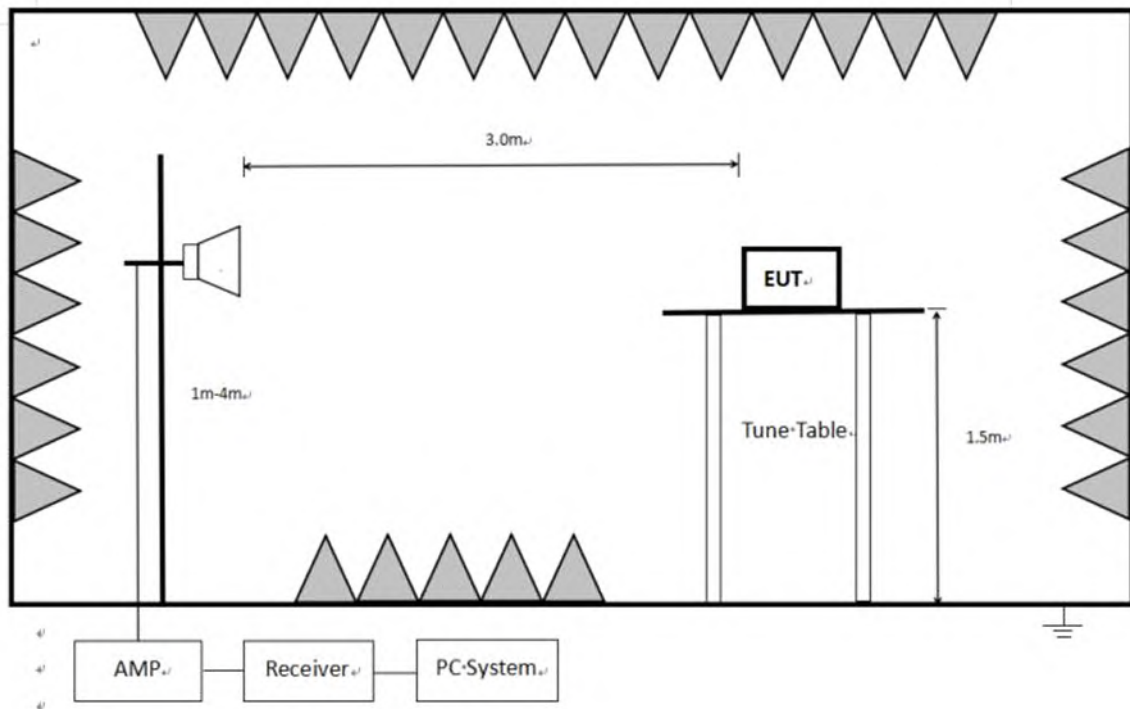
In 3 m Anechoic Chamber, test setup diagram for 9 kHz - 30 MHz:



In 3 m Anechoic Chamber, test setup diagram for 30 MHz - 1 GHz:



In 3 m Anechoic Chamber, test setup diagram for frequency above 1 GHz:



Note: For harmonic emissions test an appropriate high pass filter was inserted in the input port of AMP.

13.2. Limit

(1) FCC 15.205 Restricted frequency band

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.1772&4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.2072&4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(²)
13.36-13.41			

¹Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

²Above 38.6

(2) FCC 15.209 Limit.

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		$\mu\text{V}/\text{m}$	$\text{dB}(\mu\text{V})/\text{m}$
0.009 ~ 0.490	300	$2400/F(\text{kHz})$	$67.6-20\log(F)$
0.490 ~ 1.705	30	$24000/F(\text{kHz})$	$87.6-20\log(F)$
1.705 ~ 30.0	30	30	29.54
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000	3	74.0 $\text{dB}(\mu\text{V})/\text{m}$ (Peak) 54.0 $\text{dB}(\mu\text{V})/\text{m}$ (Average)	

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of $-27 \text{ dBm} / \text{MHz}$.

(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of $-27 \text{ dBm} / \text{MHz}$.

(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of $-27 \text{ dBm} / \text{MHz}$.

(4) For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of $-17 \text{ dBm}/\text{MHz}$; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of $-27 \text{ dBm} / \text{MHz}$.

(5) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.

(6) The provisions of §15.205 apply to intentional radiators operating under this section.

$-27 \text{ dBm}/\text{MHz}$ Limit $= 95.2 + \text{EIRP}(\text{dBm}) = 95.2 - 27 = 68.2 \text{ dB}\mu\text{V}/\text{m}$

Note:

(1) The emission limits shown in the above table are based on measurements employing a CISPR QP detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000MHz. Radiated emissions limits in these three bands are based on measurements employing an average detector.

(2) At frequencies below 30MHz, measurement may be performed at a distance closer than that specified, and the limit at closer measurement distance can be extrapolated by below formula:

$$\text{Limit}_{3\text{m}}(\text{dB}\mu\text{V}/\text{m}) = \text{Limit}_{30\text{m}}(\text{dB}\mu\text{V}/\text{m}) + 40\log(30\text{m}/3\text{m})$$

(3) Limit for this EUT

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions or comply with 15.209 limits.

13.3. Test Procedure

Below 30 MHz:

The setting of the spectrum Analyzer

RBW	200 Hz (From 9 kHz to 0.15 MHz)/ 9 kHz (From 0.15 MHz to 30 MHz)
VBW	200 Hz (From 9 kHz to 0.15 MHz)/ 9 kHz (From 0.15 MHz to 30 MHz)
Sweep	Auto
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013
2. The EUT was arranged to its worst case and then turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both Horizontal, Face-on and Face-off polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 80 cm meter above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of 1 meter height antenna tower.
5. The radiated emission limits are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.
6. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
7. Although these tests were performed other than open field site, adequate comparison measurements were confirmed against 30m open field site. Therefore, sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field site based on KDB 414788.

Below 1 GHz and above 30 MHz:

The setting of the spectrum Analyzer

RBW	120 kHz
VBW	300 kHz
Sweep	Auto
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 80 cm above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. For measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

Above 1 GHz:

RBW	1 MHz
VBW	PEAK: 3 MHz AVG: see note 6
Sweep	Auto
Detector	Peak
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 1.5m above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. For measurement above 1GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.
6. For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T video bandwidth with peak detector for AVG measurements. For the Duty Cycle please refer to clause 8.1.ON TIME AND DUTY CYCLE.
7. Restriction band: Investigated frequency range from 5.15-5.25 GHz, 5250-5350 GHz, 5470-5725 GHz, 5.725-5.85 GHz.

All restriction band should comply with 15.209, other emission should be at least 20 dB below the fundamental.

Note 1: For all radiated test, EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.

Note 2: The EUT does not support simultaneous transmission.

Note 3: The EUT was fully exercised with external accessories during the test. In the case of multiple accessory external ports, an external accessory shall be connected to one of each type of port.

13.4. Test Result

PASS. (See below detailed test result)

All the emissions except fundamental emission from 9kHz to 40GHz were comply with 15.209 limit.

Note1: According exploratory test, the emission levels are 20 dB below the limit detected from 9 kHz to 30 MHz and 18 GHz to 40 GHz, so the final test was performed with frequency range from 30 MHz to 18 GHz and recorded in below.

Note2: For emissions below 1 GHz, according exploratory explorer test, when change Tx mode and channel, have no distinct influence on emissions level, so for emissions below 1 GHz, the final test was only performed with EUT working in 11ac20 mode.

Note3: For below test data, when the limit tabular marked “/” means this frequency point is the fundamental emission and no need comply with this limit.

Note 4: As specified in 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in 15.407(b)(4)). However, an out-of-band emission that complies with both the average and peak limits of 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz peak emission limit

Note 5: For emissions Above 1 GHz, all mode have been tested, 11ac20 mode of is worse case and recorded in report.

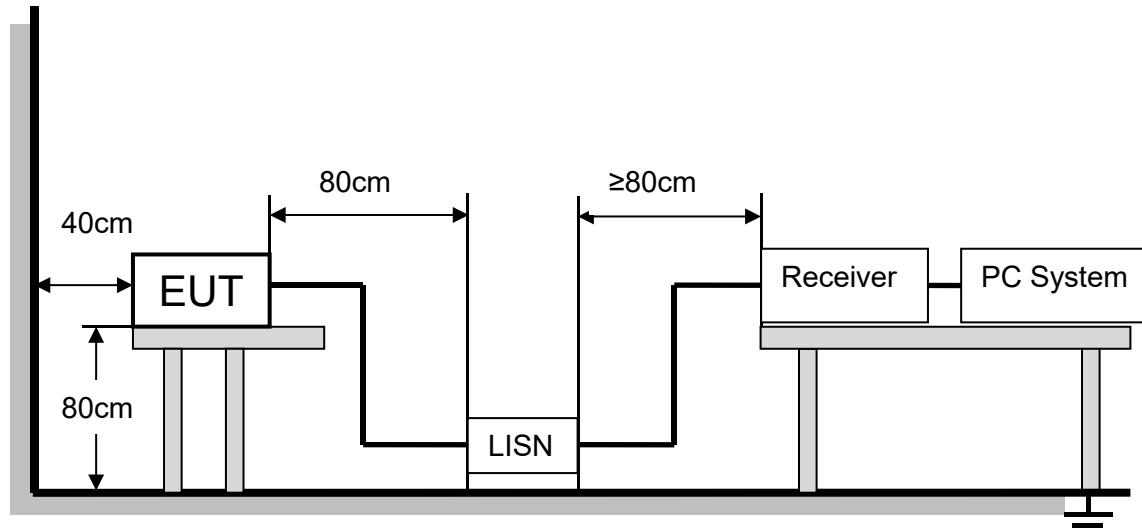
13.5. Original Test Data

Below 1 GHz and above 30 MHz test data Refer to appendix A

Above 1 GHz test data Refer to appendix B

14. AC Power Line Conducted Emissions

14.1. Block diagram of test setup



The EUT is put on a table of non-conducting material that is 80 cm high. The vertical conducting wall of shielding is located 40 cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through an Artificial Mains Network (A.M.N.). A EMI Measurement Receiver (R&S Test Receiver ESR3) is used to test the emissions from both sides of AC line. According to the requirements in Section 6.2 of ANSI C63.10-2013. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode. The bandwidth of EMI test receiver is set at 9 kHz.

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application.

14.2. Limits

Please refer to CFR 47 FCC §15.207 (a).

Frequency (MHz)	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

Note 1: * Decreasing linearly with logarithm of frequency.

Note 2: The lower limit shall apply at the transition frequencies.

14.3. Test procedure

The EUT and Support equipment, if needed, were put placed on a non-metallic table, 80cm above the ground plane.

Configuration EUT to simulate typical usage as described in clause 2.4 and test equipment as described in clause 10.2 of this report.

All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.

All support equipment power received from a second LISN.

Emissions were measured on each current carrying line of the EUT using an EMI Test Receiver connected to the LISN powering the EUT.

The Receiver scanned from 150 kHz to 30 MHz for emissions in each of the test modes.

During the above scans, the emissions were maximized by cable manipulation.

The test mode(s) described in clause 2.4 were scanned during the preliminary test.

After the preliminary scan, we found the test mode producing the highest emission level.

The EUT configuration and worse cable configuration of the above highest emission levels were recorded for reference of the final test.

EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test.

A scan was taken on both power lines, Neutral and Line, recording at least the six highest emissions.

Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit.

The test data of the worst-case condition(s) was recorded.

The bandwidth of test receiver is set at 9 kHz.

14.4. Test result

Pass. (See below detailed test result)

Note1: All emissions not reported below are too low against the prescribed limits.

Note2: Pre-test AC conducted emission at both voltage AC 120V/60Hz and AC 240V/50Hz, recorded worse case.

14.5. Original test data

Refer to appendix C

15. Dynamic Frequency Selection

15.1. Applicability of DFS Requirements

A U-NII network will employ a DFS function to detect signals from radar systems and to avoid co-channel operation with these systems. This applies to the 5250-5350 MHz and/or 5470-5725 MHz bands.

Within the context of the operation of the DFS function, a U-NII device will operate in either Master Mode or Client Mode. U-NII devices operating in Client Mode can only operate in a network controlled by a U-NII device operating in Master Mode.

Table 1: Applicability of DFS Requirements Prior to Use of a Channel

Requirement	Operational Mode		
	☐ Master	☒ Client Without Radar Detection	☐ Client with Radar Detection
Non-Occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
U-NII Detection Bandwidth	Yes	Not required	Yes

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational Mode	
	☐ Master Device or Client with Radar Detection	☒ Client Without Radar Detection
DFS Detection Threshold	Yes	Not required
Channel Closing Transmission Time	Yes	Yes
Channel Move Time	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required

Additional requirements for devices with multiple bandwidth modes	☐ Master Device or Client with Radar Detection	☒ Client Without Radar Detection
U-NII Detection Bandwidth and Statistical Performance Check	All BW modes must be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test using widest BW mode available	Test using the widest BW mode available for the link
All other tests	Any single BW mode	Not required

Note: Frequencies selected for statistical performance check should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.

15.2. Limit

(1) DFS Detection Thresholds

Table 3: DFS Detection Thresholds for Master Devices and Client Devices with Radar Detection

Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP $\geq$ 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64 dBm

Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.
 Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.
 Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.

(2) DFS Response Requirements

Table 4: DFS Response Requirement Values

Parameter	Value
Non-occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds See Note 1.
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.

Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.
 Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required facilitating a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.
 Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

15.3. Parameters of Radar Test Waveforms

This section provides the parameters for required test waveforms, minimum percentage of successful detections, and the minimum number of trials that must be used for determining DFS conformance. Step intervals of 0.1 microsecond for Pulse Width, 1 microsecond for PRI, 1 MHz for chirp width and 1 for the number of pulses will be utilized for the random determination of specific test

Waveforms

Table 5 Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (μsec)	PRI (μsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
0	1	1428	18	See Note 1	See Note 1
1	1	Test A	Roundup $\left\{ \left(\frac{1}{360} \right) \cdot \left(\frac{19 \cdot 10^6}{\text{PRI}_{\mu\text{sec}}} \right) \right\}$	60%	30
		Test B			
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120
Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests. Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a Test B: 15 unique PRI values randomly selected within the range of 518-3066 μsec, with a minimum increment of 1 μsec, excluding PRI values selected in Test A					

A minimum of 30 unique waveforms are required for each of the Short Pulse Radar Types 2 through 4. If more than 30 waveforms are used for Short Pulse Radar Types 2 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms. If more than 30 waveforms are used for Short Pulse Radar Type 1, then each additional waveform is generated with Test B and must also be unique and not repeated from the previous waveforms in Tests A or B. Test aggregate is average of the percentage of successful detections of short pulse radar types 1-4

15.4. Calibration of Radar Waveform

Radar Waveform Calibration Procedure:

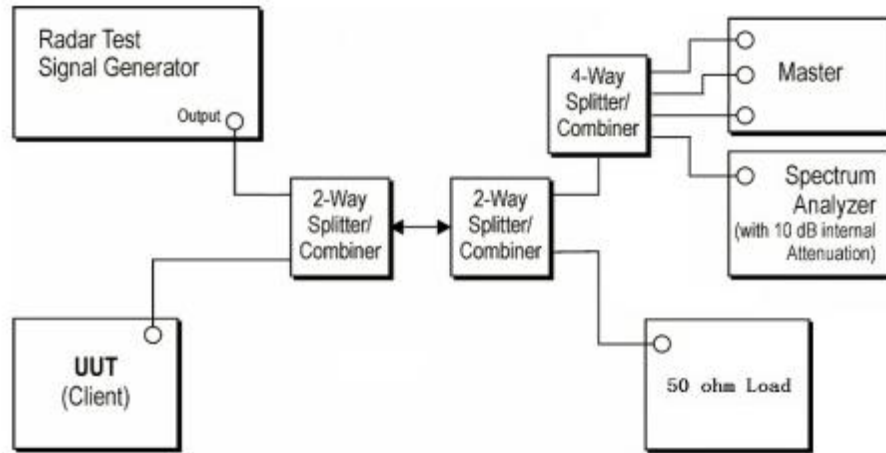
A 50 ohm load is connected in place of the spectrum analyzer, and the spectrum analyzer is connected to place of the master

The interference Radar Detection Threshold Level is $-62\text{dBm} + 0\text{dBi} + 1\text{dB} = -61\text{dBm}$ that had been taken into account the output power range and antenna gain.

The following equipment setup was used to calibrate the conducted radar waveform. A vector signal generator was utilized to establish the test signal level for radar type 0. During this process there were no transmissions by either the master or client device. The spectrum analyzer was switched to the zero spans (time domain) at the frequency of the radar waveform generator. Peak detection was used. The spectrum analyzer resolution bandwidth (RBW) and video bandwidth (VBW) were set to 3 MHz. The spectrum analyzer had offset -1.0dB to compensate RF cable loss 1.0dB.

The vector signal generator amplitude was set so that the power level measured at the spectrum analyzer was $-62\text{dBm} + 0\text{dBi} + 1\text{dB} = -61\text{dBm}$. Capture the spectrum analyzer plots on short pulse radar waveform.

Conducted Calibration Setup:

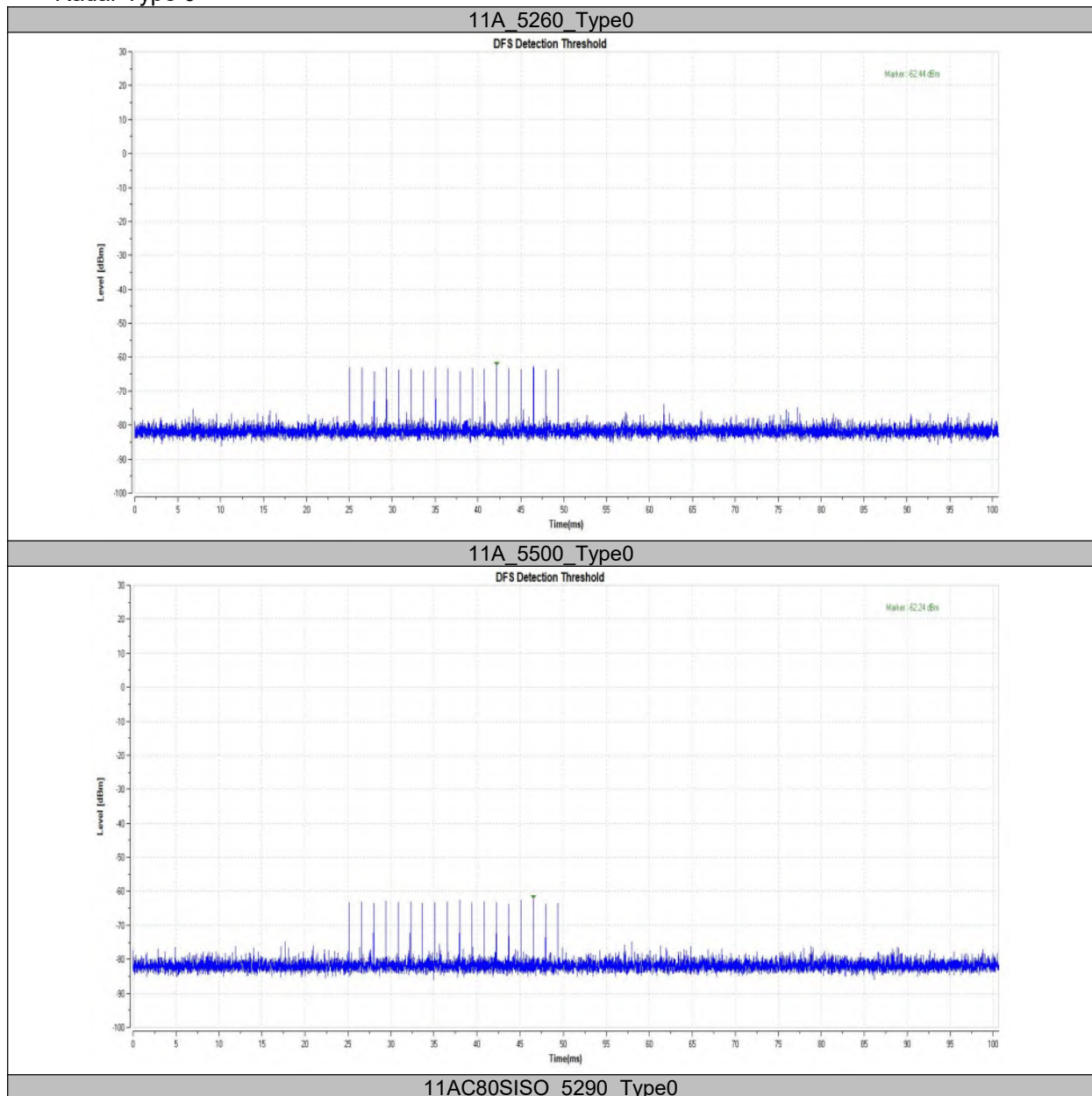


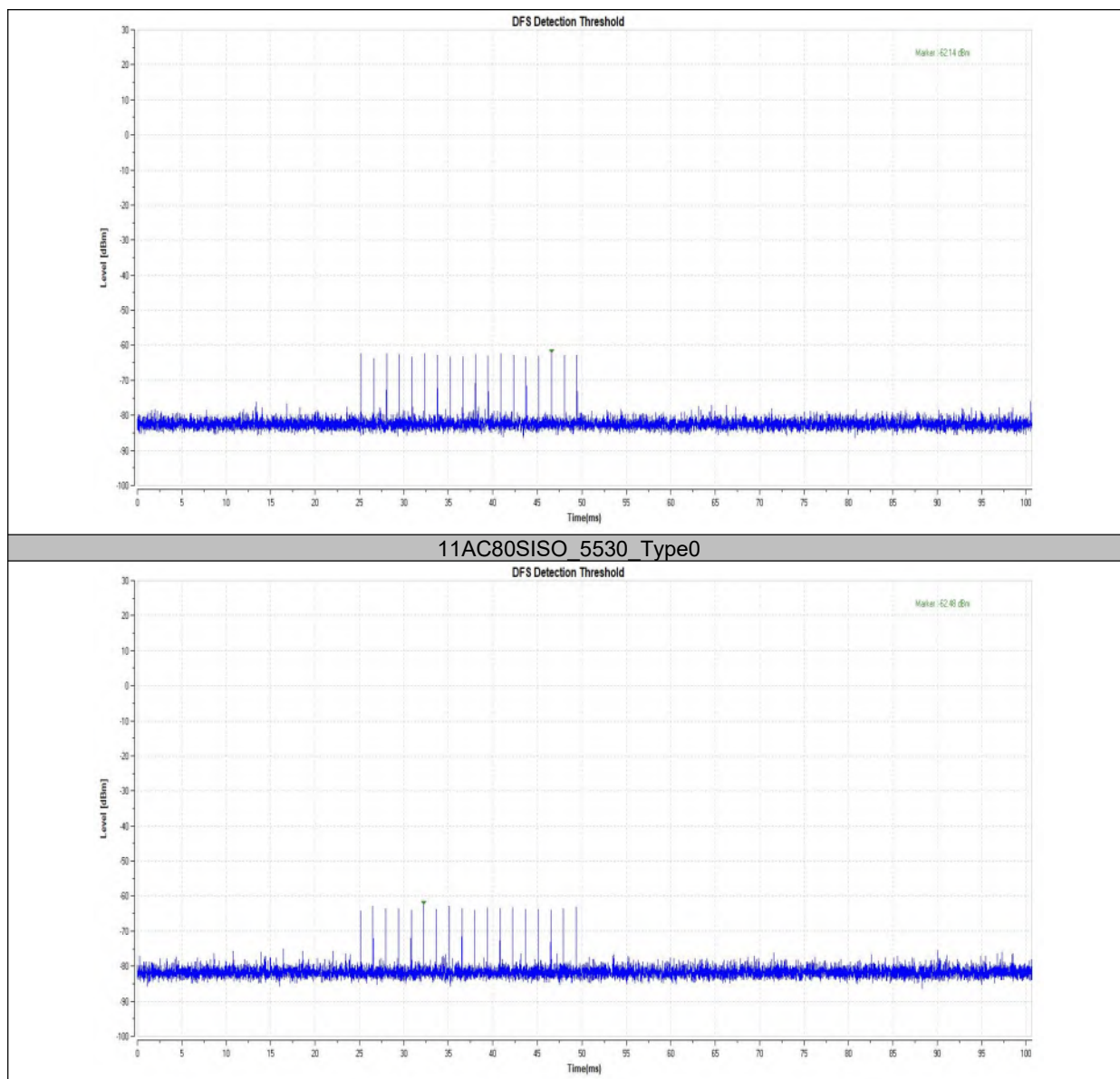
Note: 1. Use the software "Web" to set the frequency channel.

2. EUT is not support TPC and not with Radar detection.

Radar Waveform Calibration Result:

Radar Type 0





15.5. Channel Closing Transmission Time, Channel Move Time And Non-Occupancy Period

Block diagram of test setup Test Procedure:

The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.

The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device.

A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.

EUT will associate with the master at channel. The file “iperf.exe” specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Test Software in order to properly load the network for the entire period of the test.

When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.

Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.

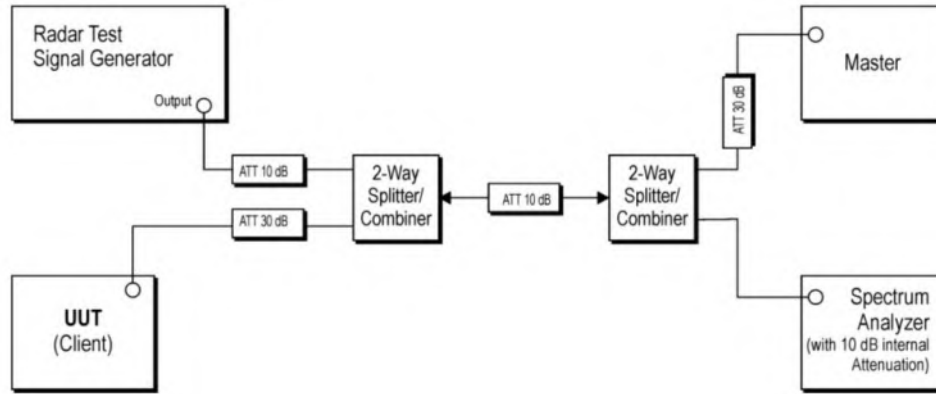
Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the

spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: $Dwell (0.3ms) = S (12000ms) / B (4000)$; where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: $C (ms) = N \times Dwell (0.3ms)$; where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.

Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

15.6. Test Setup

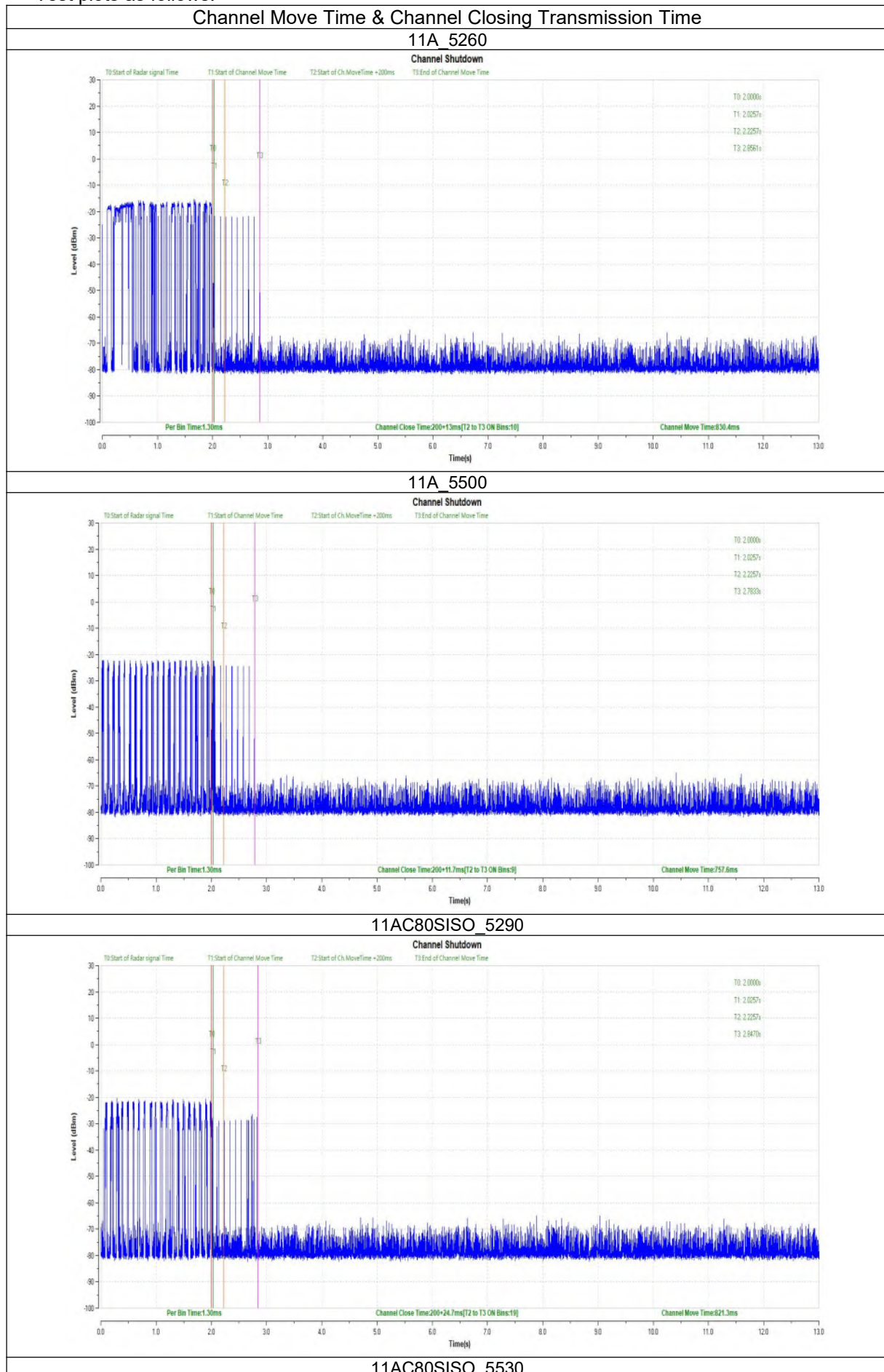
Setup for Client with injection at the Master

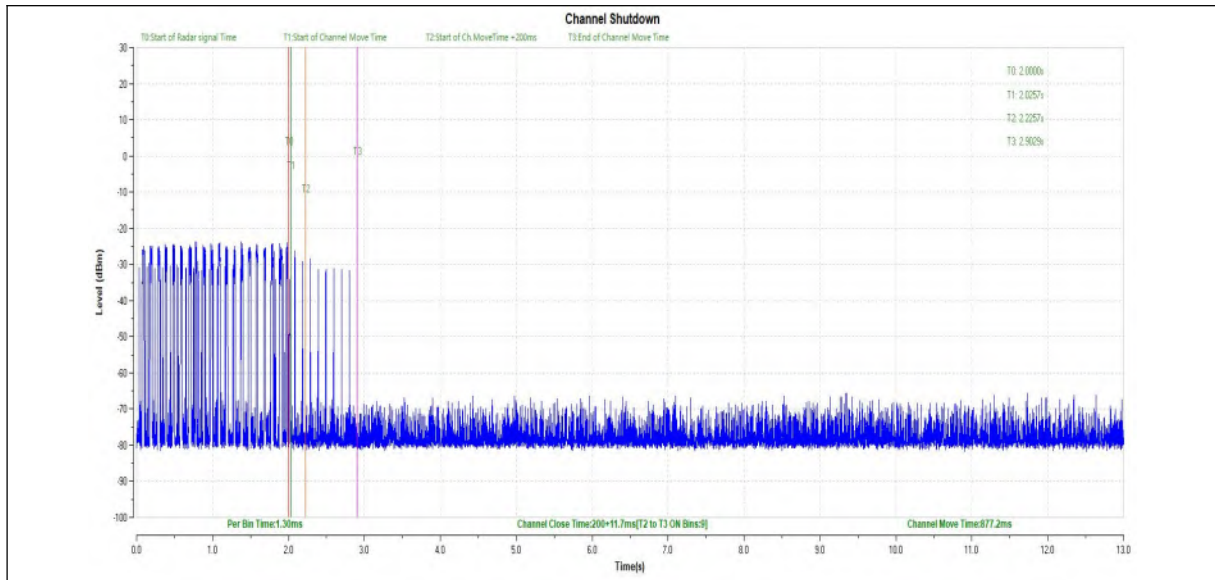


15.7. Test Result

BW/Channel	Test Item	Test Result	Limit	Results
20M/5260MHz	Channel Move Time	0.8304	< 10s	pass
	Channel Closing Transmission Time	0.2130	< 0.26s	pass
20M/5500MHz	Channel Move Time	0.7576	< 10s	pass
	Channel Closing Transmission Time	0.2117	< 0.26s	pass
80M/5290MHz	Channel Move Time	0.8213	< 10s	pass
	Channel Closing Transmission Time	0.2247	< 0.26s	pass
80M/5530MHz	Channel Move Time	0.8772	< 10s	pass
	Channel Closing Transmission Time	0.2117	< 0.26s	pass

Test plots as follows:





16. Antenna Requirements

16.1. Applicable Requirements

Please refer to FCC §15.203

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Please refer to FCC §15.247(b)(4)

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

16.2. Result

The antennas both used for this product are dedicated FPC antennas and other than that furnished by the responsible party shall be used with the device, maximum antenna gain is -3.18 dBi for antenna.

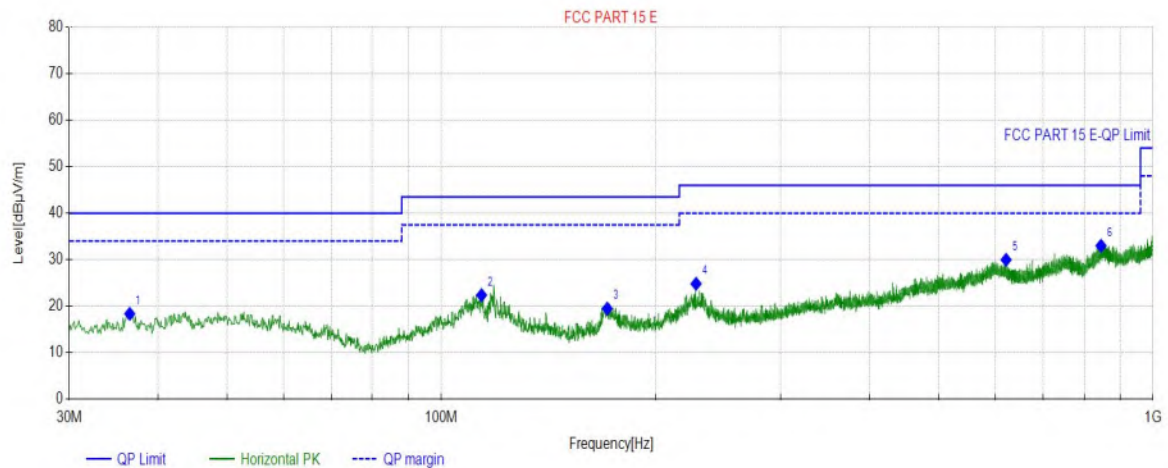
APPENDIX A – Radiated Emission Below 1GHz Test Data

Test Report

Project Information			
EUT:	ePaper	Environment:	21.1℃ 47%
Model:	SN03	SN:	
Mode:	11AC20_5260	Voltage:	DC5V 1.5A
Customer:		Engineer:	Kennys
Remark:	Power Set: 19.5		
Test Standard:			

Start of Test: 2023-04-20 16:29:54

Test Graph



Final Data List

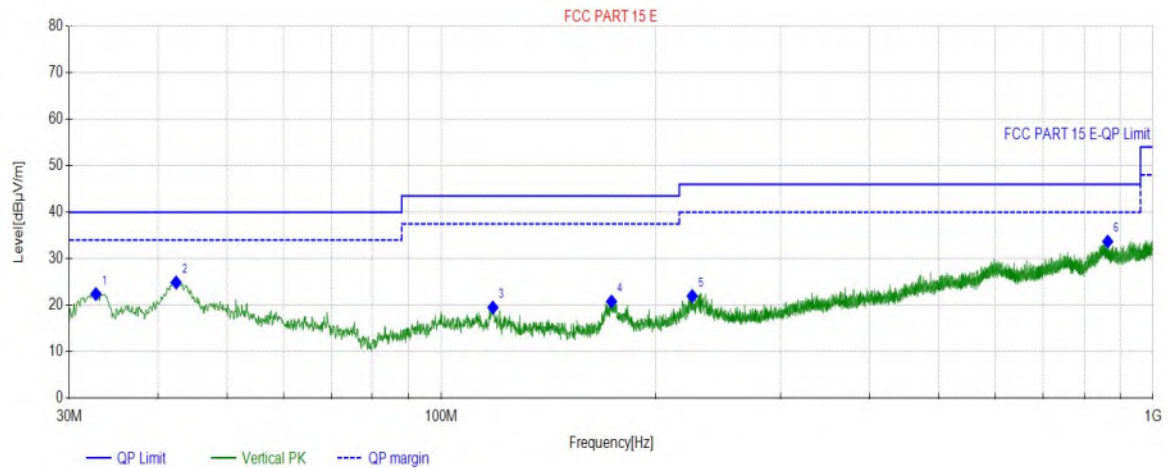
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	36.4997	13.60	18.34	40.00	21.66	150	336	Horizontal
2	113.913	13.61	22.36	43.50	21.14	150	96	Horizontal
3	171.052	12.34	19.47	43.50	24.03	150	72	Horizontal
4	227.996	15.49	24.81	46.00	21.19	150	283	Horizontal
5	621.662	25.19	29.97	46.00	16.03	150	115	Horizontal
6	845.075	29.29	32.99	46.00	13.01	150	349	Horizontal

Test Report

Project Information			
EUT:	ePaper	Environment:	21.1℃ 47%
Model:	SN03	SN:	
Mode:	11AC20_5260	Voltage:	DC5V 1.5A
Customer:		Engineer:	Kennys
Remark:	Power Set: 19.5		
Test Standard:			

Start of Test: 2023-04-20 16:30:45

Test Graph



Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	32.7163	12.75	22.38	40.00	17.62	150	144	Vertical
2	42.4172	14.82	24.86	40.00	15.14	150	78	Vertical
3	118.181	12.94	19.49	43.50	24.01	150	148	Vertical
4	173.477	12.44	20.77	43.50	22.73	150	271	Vertical
5	225.183	15.44	21.95	46.00	24.05	150	120	Vertical
6	863.701	29.01	33.68	46.00	12.32	150	303	Vertical

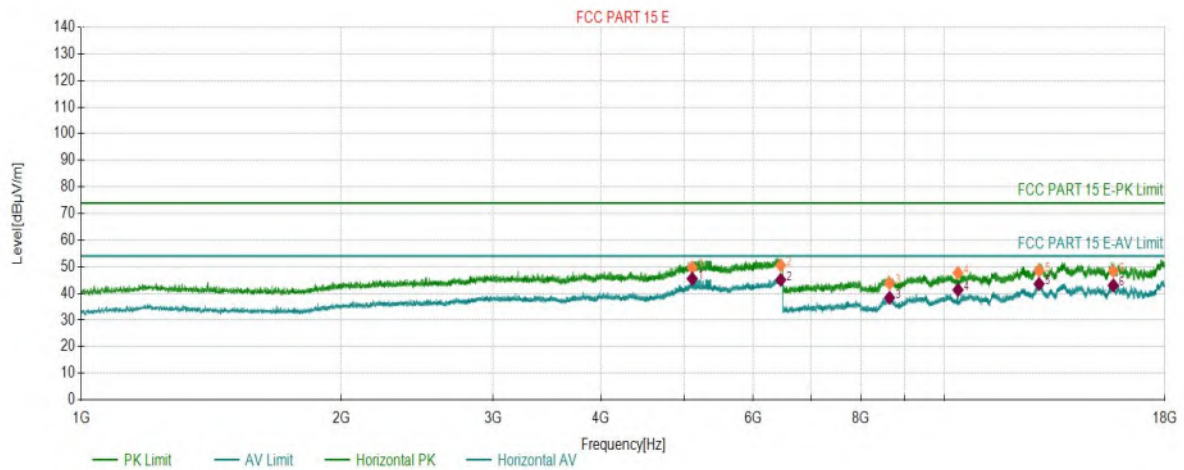
APPENDIX B – Radiated Emission Above 1GHz Test Data

Test Report

Project Information			
Customer:		EUT:	ePaper
Model:	SN03	SN:	
Mode:	11AC20_5180	Voltage:	DC5V 1.5A
Environment:	21.1℃ 47%	Engineer:	Kennys
Remark:	Power Set: 17.5		
Test Standard:			

Start of Test: 2023-04-17 19:54:41

Test Graph



PK Final Data List

NO.	Freq. [MHz]	Factor [dB]	PK Value [dBμV/m]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5101.7602	17.60	49.72	74.00	24.28	200	296	Horizontal
2	6459.8460	21.78	50.55	74.00	23.45	100	345	Horizontal
3	8634.6135	1.89	43.80	74.00	30.20	100	293	Horizontal
4	10363.2363	3.89	47.68	74.00	26.32	100	211	Horizontal
5	12864.7365	10.22	48.51	74.00	25.49	200	355	Horizontal
6	15681.3681	11.53	48.41	74.00	25.59	200	292	Horizontal

AV Final Data List

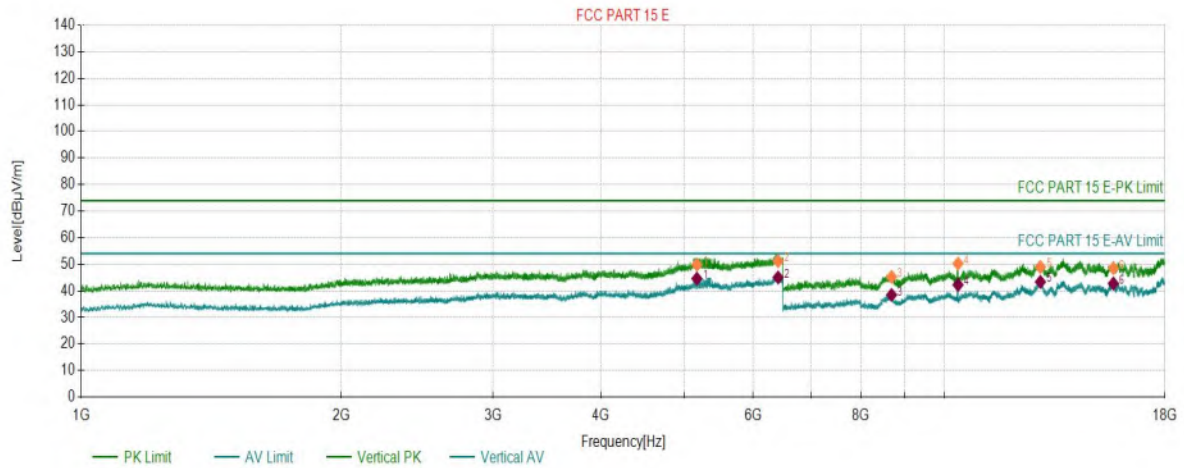
NO.	Freq. [MHz]	Factor [dB]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5101.7602	17.60	45.52	54.00	8.48	200	296	Horizontal
2	6459.8460	21.78	45.09	54.00	8.91	100	345	Horizontal
3	8634.6135	1.89	38.34	54.00	15.66	100	293	Horizontal
4	10363.2363	3.89	41.33	54.00	12.67	100	211	Horizontal
5	12864.7365	10.22	43.56	54.00	10.44	200	355	Horizontal
6	15681.3681	11.53	43.02	54.00	10.98	200	292	Horizontal

Test Report

Project Information			
Customer:		EUT:	ePaper
Model:	SN03	SN:	
Mode:	11AC20_5180	Voltage:	DC5V 1.5A
Environment:	21.1℃ 47%	Engineer:	Kennys
Remark:	Power Set: 17.5		
Test Standard:			

Start of Test: 2023-04-17 19:57:25

Test Graph



PK Final Data List

NO.	Freq. [MHz]	Factor [dB]	PK Value [dBμV/m]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5166.1166	20.77	49.83	74.00	24.17	100	230	Vertical
2	6414.1914	21.82	51.18	74.00	22.82	100	256	Vertical
3	8681.7682	2.01	45.25	74.00	28.75	100	109	Vertical
4	10363.2363	3.89	50.27	74.00	23.73	200	143	Vertical
5	12910.7411	10.72	48.96	74.00	25.04	200	307	Vertical
6	15683.6684	11.53	48.51	74.00	25.49	100	344	Vertical

AV Final Data List

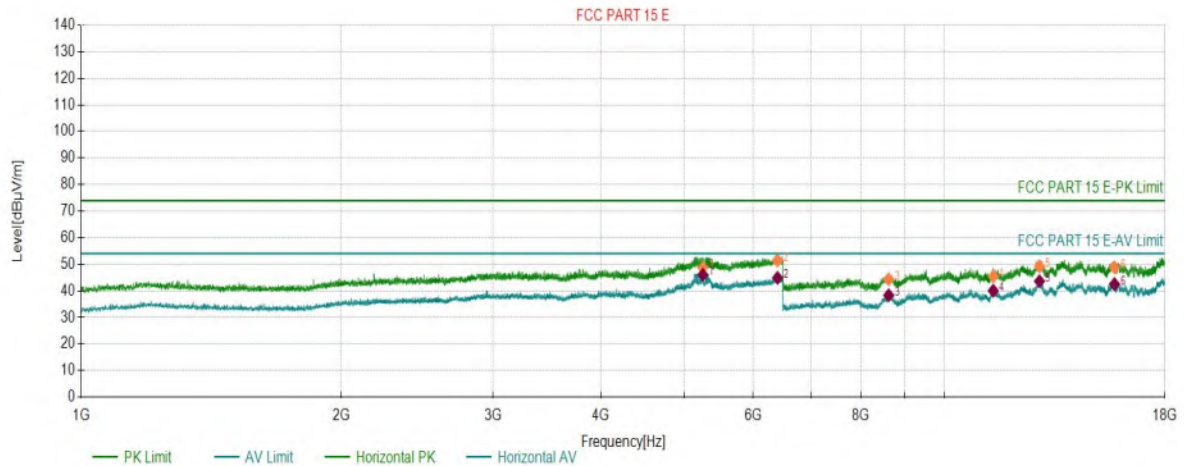
NO.	Freq. [MHz]	Factor [dB]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5166.1166	20.77	44.59	54.00	9.41	100	230	Vertical
2	6414.1914	21.82	45.04	54.00	8.96	100	256	Vertical
3	8681.7682	2.01	38.46	54.00	15.54	100	109	Vertical
4	10363.2363	3.89	42.26	54.00	11.74	200	143	Vertical
5	12910.7411	10.72	43.38	54.00	10.62	200	307	Vertical
6	15683.6684	11.53	42.77	54.00	11.23	100	344	Vertical

Test Report

Project Information			
Customer:		EUT:	ePaper
Model:	SN03	SN:	
Mode:	11AC20_5220	Voltage:	DC5V 1.5A
Environment:	21.1℃ 47%	Engineer:	Kennys
Remark:	Power Set: 19.5		
Test Standard:			

Start of Test: 2023-04-17 20:03:15

Test Graph



PK Final Data List

NO.	Freq. [MHz]	Factor [dB]	PK Value [dBμV/m]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5248.0748	20.85	48.70	74.00	25.30	200	168	Horizontal
2	6404.2904	21.83	51.40	74.00	22.60	200	54	Horizontal
3	8613.9114	1.84	44.37	74.00	29.63	200	164	Horizontal
4	11384.5385	5.49	45.46	74.00	28.54	100	203	Horizontal
5	12878.5379	10.46	49.22	74.00	24.78	100	226	Horizontal
6	15728.5229	11.27	48.81	74.00	25.19	200	315	Horizontal

AV Final Data List

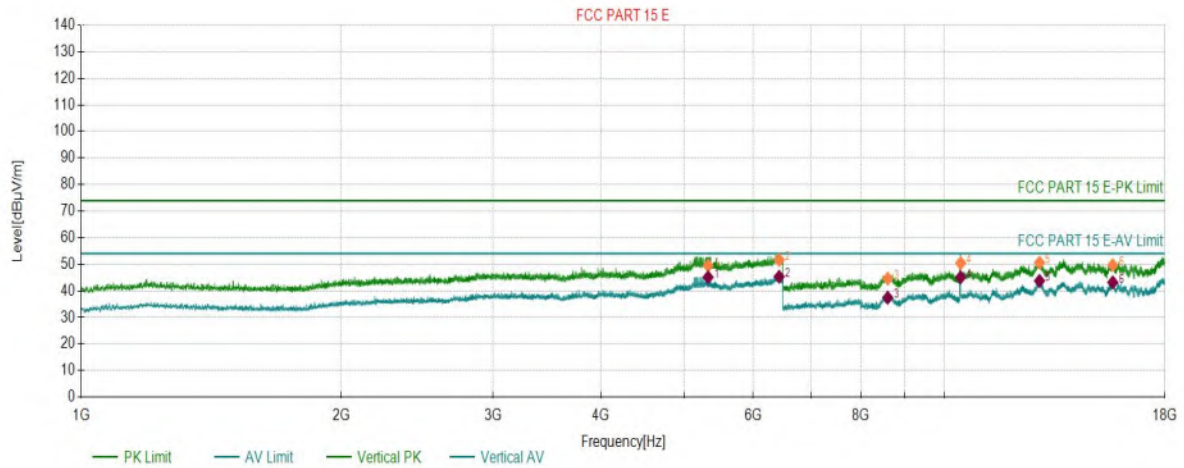
NO.	Freq. [MHz]	Factor [dB]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5248.0748	20.85	46.01	54.00	7.99	200	168	Horizontal
2	6404.2904	21.83	44.89	54.00	9.11	200	54	Horizontal
3	8613.9114	1.84	38.33	54.00	15.67	200	164	Horizontal
4	11384.5385	5.49	40.05	54.00	13.95	100	203	Horizontal
5	12878.5379	10.46	43.61	54.00	10.39	100	226	Horizontal
6	15728.5229	11.27	42.54	54.00	11.46	200	315	Horizontal

Test Report

Project Information			
Customer:		EUT:	ePaper
Model:	SN03	SN:	
Mode:	11AC20_5220	Voltage:	DC5V 1.5A
Environment:	21.1℃ 47%	Engineer:	Kennys
Remark:	Power Set: 19.5		
Test Standard:			

Start of Test: 2023-04-17 20:05:50

Test Graph



PK Final Data List

NO.	Freq. [MHz]	Factor [dB]	PK Value [dBμV/m]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5322.3322	20.98	49.51	74.00	24.49	100	349	Vertical
2	6432.3432	21.80	51.58	74.00	22.42	100	360	Vertical
3	8592.0592	1.78	44.62	74.00	29.38	200	139	Vertical
4	10437.9938	4.20	50.43	74.00	23.57	100	338	Vertical
5	12879.6880	10.48	50.59	74.00	23.41	100	66	Vertical
6	15657.2157	11.57	49.68	74.00	24.32	100	222	Vertical

AV Final Data List

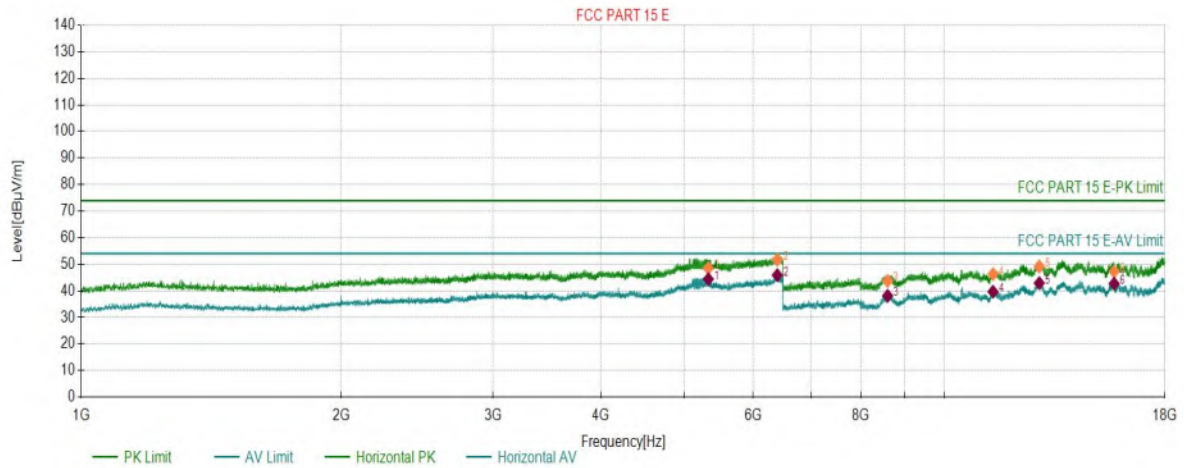
NO.	Freq. [MHz]	Factor [dB]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5322.3322	20.98	45.14	54.00	8.86	100	349	Vertical
2	6432.3432	21.80	45.32	54.00	8.68	100	360	Vertical
3	8592.0592	1.78	37.43	54.00	16.57	200	139	Vertical
4	10437.9938	4.20	45.12	54.00	8.88	100	338	Vertical
5	12879.6880	10.48	43.74	54.00	10.26	100	66	Vertical
6	15657.2157	11.57	43.19	54.00	10.81	100	222	Vertical

Test Report

Project Information			
Customer:		EUT:	ePaper
Model:	SN03	SN:	
Mode:	11AC20_5240	Voltage:	DC5V 1.5A
Environment:	21.1℃ 47%	Engineer:	Kennys
Remark:	Power Set: 19.5		
Test Standard:			

Start of Test: 2023-04-17 20:17:24

Test Graph



PK Final Data List

NO.	Freq. [MHz]	Factor [dB]	PK Value [dBμV/m]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5325.0825	20.99	48.55	74.00	25.45	200	12	Horizontal
2	6401.5402	21.83	51.72	74.00	22.28	200	41	Horizontal
3	8590.9091	1.77	43.75	74.00	30.25	100	158	Horizontal
4	11377.6378	5.46	46.29	74.00	27.71	200	197	Horizontal
5	12871.6372	10.34	49.13	74.00	24.87	100	119	Horizontal
6	15715.8716	11.37	47.26	74.00	26.74	200	360	Horizontal

AV Final Data List

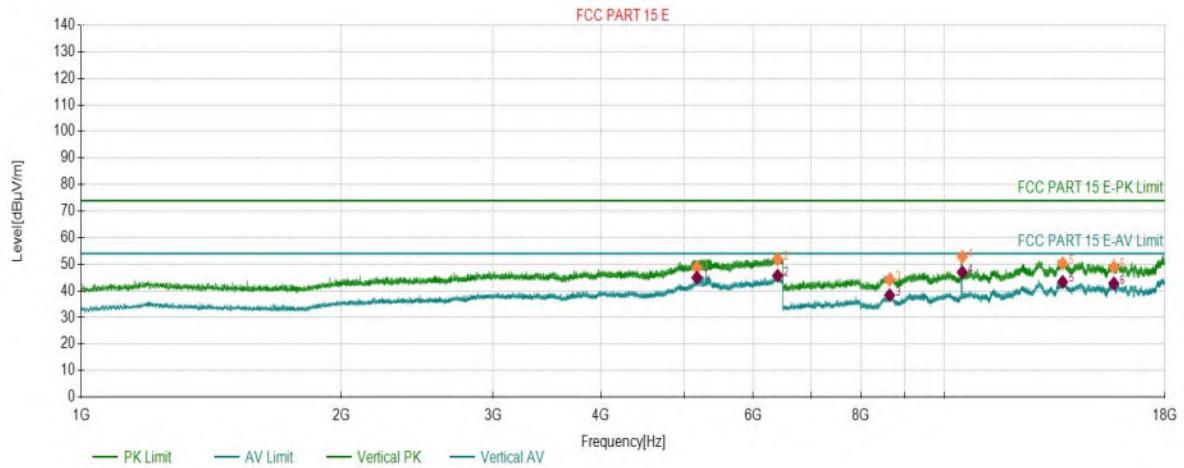
NO.	Freq. [MHz]	Factor [dB]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5325.0825	20.99	44.41	54.00	9.59	200	12	Horizontal
2	6401.5402	21.83	45.89	54.00	8.11	200	41	Horizontal
3	8590.9091	1.77	38.13	54.00	15.87	100	158	Horizontal
4	11377.6378	5.46	39.67	54.00	14.33	200	197	Horizontal
5	12871.6372	10.34	42.92	54.00	11.08	100	119	Horizontal
6	15715.8716	11.37	42.72	54.00	11.28	200	360	Horizontal

Test Report

Project Information			
Customer:		EUT:	ePaper
Model:	SN03	SN:	
Mode:	11AC20_5240	Voltage:	DC5V 1.5A
Environment:	21.1℃ 47%	Engineer:	Kennys
Remark:	Power Set: 19.5		
Test Standard:			

Start of Test: 2023-04-17 20:19:58

Test Graph



PK Final Data List

NO.	Freq. [MHz]	Factor [dB]	PK Value [dBμV/m]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5166.1166	20.77	48.81	74.00	25.19	200	13	Vertical
2	6407.0407	21.82	51.86	74.00	22.14	100	247	Vertical
3	8636.9137	1.90	44.21	74.00	29.79	100	359	Vertical
4	10482.8483	4.66	52.84	74.00	21.16	200	208	Vertical
5	13698.5699	11.82	50.32	74.00	23.68	200	230	Vertical
6	15703.2203	11.47	48.91	74.00	25.09	100	276	Vertical

AV Final Data List

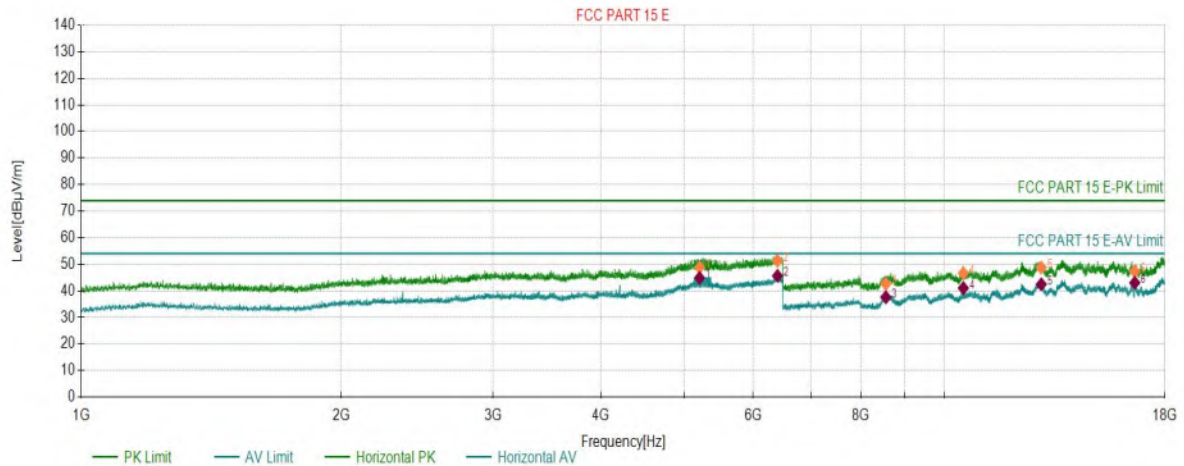
NO.	Freq. [MHz]	Factor [dB]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5166.1166	20.77	44.97	54.00	9.03	200	13	Vertical
2	6407.0407	21.82	45.73	54.00	8.27	100	247	Vertical
3	8636.9137	1.90	38.36	54.00	15.64	100	359	Vertical
4	10482.8483	4.66	46.98	54.00	7.02	200	208	Vertical
5	13698.5699	11.82	43.36	54.00	10.64	200	230	Vertical
6	15703.2203	11.47	42.79	54.00	11.21	100	276	Vertical

Test Report

Project Information			
Customer:		EUT:	ePaper
Model:	SN03	SN:	
Mode:	11AC20_5260	Voltage:	DC5V 1.5A
Environment:	21.1℃ 47%	Engineer:	Kennys
Remark:	Power Set: 19.5		
Test Standard:			

Start of Test: 2023-04-17 20:24:48

Test Graph



PK Final Data List

NO.	Freq. [MHz]	Factor [dB]	PK Value [dBμV/m]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5202.4202	20.76	48.83	74.00	25.17	100	173	Horizontal
2	6404.2904	21.83	51.25	74.00	22.75	200	9	Horizontal
3	8549.5050	1.65	42.63	74.00	31.37	100	360	Horizontal
4	10512.7513	4.83	46.64	74.00	27.36	200	208	Horizontal
5	12940.6441	10.37	48.75	74.00	25.25	200	360	Horizontal
6	16604.9105	10.77	47.33	74.00	26.67	100	140	Horizontal

AV Final Data List

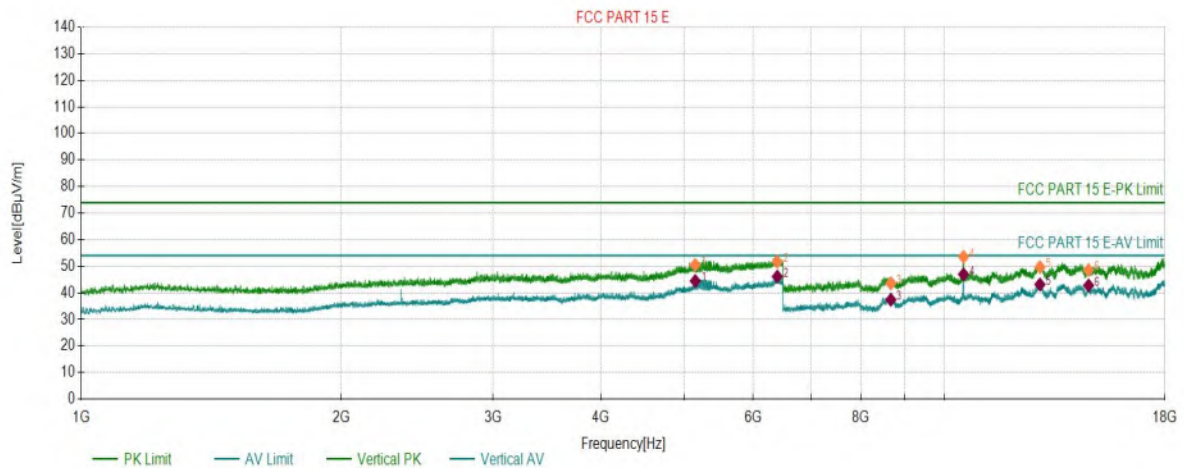
NO.	Freq. [MHz]	Factor [dB]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5202.4202	20.76	44.86	54.00	9.14	100	173	Horizontal
2	6404.2904	21.83	45.63	54.00	8.37	200	9	Horizontal
3	8549.5050	1.65	37.61	54.00	16.39	100	360	Horizontal
4	10512.7513	4.83	41.03	54.00	12.97	200	208	Horizontal
5	12940.6441	10.37	42.46	54.00	11.54	200	360	Horizontal
6	16604.9105	10.77	43.04	54.00	10.96	100	140	Horizontal

Test Report

Project Information			
Customer:		EUT:	ePaper
Model:	SN03	SN:	
Mode:	11AC20_5260	Voltage:	DC5V 1.5A
Environment:	21.1℃ 47%	Engineer:	Kennys
Remark:	Power Set: 19.5		
Test Standard:			

Start of Test: 2023-04-17 20:27:21

Test Graph



PK Final Data List

NO.	Freq. [MHz]	Factor [dB]	PK Value [dBμV/m]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5143.0143	20.77	50.53	74.00	23.47	100	148	Vertical
2	6400.4400	21.83	51.69	74.00	22.31	200	15	Vertical
3	8664.5165	1.97	43.59	74.00	30.41	200	162	Vertical
4	10518.5019	4.82	53.55	74.00	20.45	100	335	Vertical
5	12894.6395	10.75	49.67	74.00	24.33	200	128	Vertical
6	14680.7681	12.38	48.58	74.00	25.42	100	68	Vertical

AV Final Data List

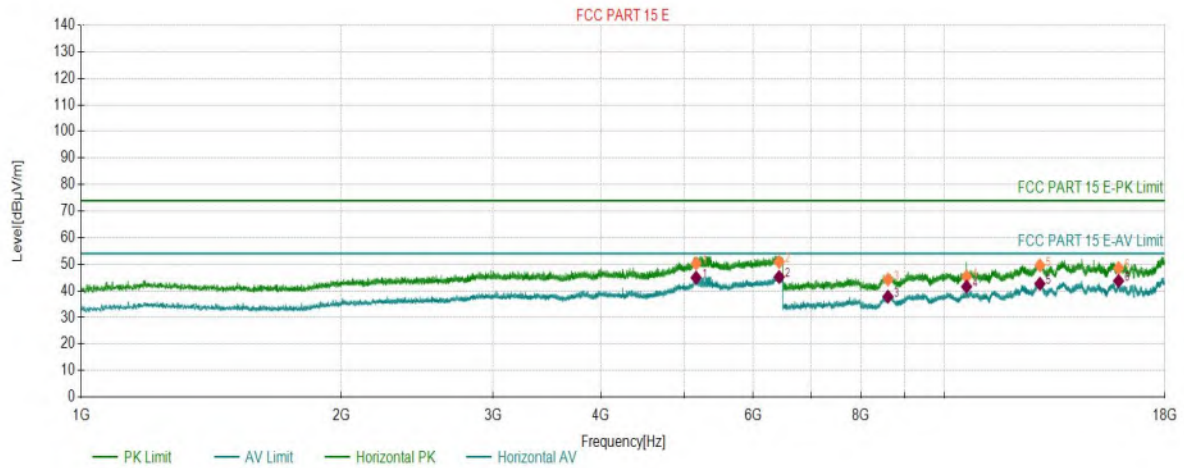
NO.	Freq. [MHz]	Factor [dB]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5143.0143	20.77	44.46	54.00	9.54	100	148	Vertical
2	6400.4400	21.83	46.12	54.00	7.88	200	15	Vertical
3	8664.5165	1.97	37.41	54.00	16.59	200	162	Vertical
4	10518.5019	4.82	46.96	54.00	7.04	100	335	Vertical
5	12894.6395	10.75	43.16	54.00	10.84	200	128	Vertical
6	14680.7681	12.38	42.78	54.00	11.22	100	68	Vertical

Test Report

Project Information			
Customer:		EUT:	ePaper
Model:	SN03	SN:	
Mode:	11AC20_5300	Voltage:	DC5V 1.5A
Environment:	21.1℃ 47%	Engineer:	Kennys
Remark:	Power Set: 19.5		
Test Standard:			

Start of Test: 2023-04-17 20:31:10

Test Graph



PK Final Data List

NO.	Freq. [MHz]	Factor [dB]	PK Value [dBμV/m]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5154.5655	20.77	50.30	74.00	23.70	100	193	Horizontal
2	6432.3432	21.80	50.90	74.00	23.10	200	160	Horizontal
3	8597.8098	1.79	44.23	74.00	29.77	100	316	Horizontal
4	10603.6104	4.75	45.34	74.00	28.66	200	216	Horizontal
5	12894.6395	10.75	49.57	74.00	24.43	200	297	Horizontal
6	15903.3403	11.97	48.58	74.00	25.42	100	284	Horizontal

AV Final Data List

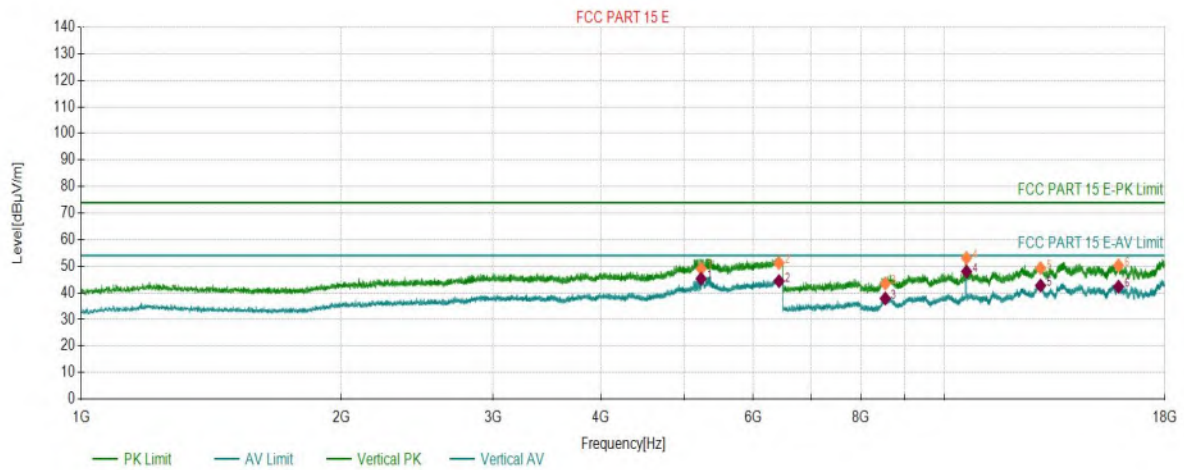
NO.	Freq. [MHz]	Factor [dB]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5154.5655	20.77	44.97	54.00	9.03	100	193	Horizontal
2	6432.3432	21.80	45.22	54.00	8.78	200	160	Horizontal
3	8597.8098	1.79	37.79	54.00	16.21	100	316	Horizontal
4	10603.6104	4.75	41.60	54.00	12.40	200	216	Horizontal
5	12894.6395	10.75	42.68	54.00	11.32	200	297	Horizontal
6	15903.3403	11.97	43.72	54.00	10.28	100	284	Horizontal

Test Report

Project Information			
Customer:		EUT:	ePaper
Model:	SN03	SN:	
Mode:	11AC20_5300	Voltage:	DC5V 1.5A
Environment:	21.1℃ 47%	Engineer:	Kennys
Remark:	Power Set: 19.5		
Test Standard:			

Start of Test: 2023-04-17 20:33:44

Test Graph



PK Final Data List

NO.	Freq. [MHz]	Factor [dB]	PK Value [dBμV/m]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5224.4224	20.80	49.09	74.00	24.91	100	250	Vertical
2	6430.1430	21.81	51.24	74.00	22.76	100	153	Vertical
3	8536.8537	1.61	43.49	74.00	30.51	100	349	Vertical
4	10601.3101	4.74	53.12	74.00	20.88	200	350	Vertical
5	12916.4916	10.65	49.27	74.00	24.73	100	210	Vertical
6	15899.8900	12.02	50.31	74.00	23.69	100	349	Vertical

AV Final Data List

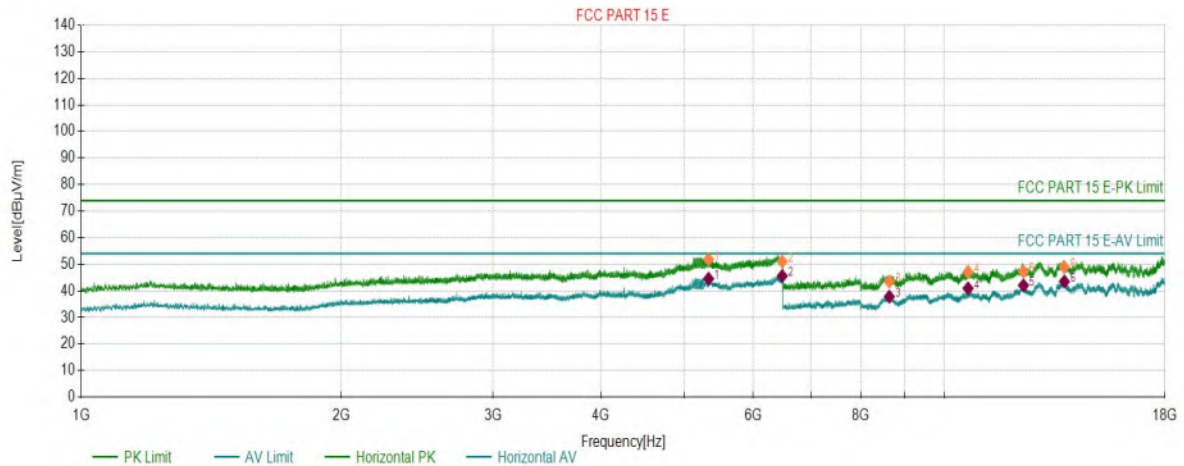
NO.	Freq. [MHz]	Factor [dB]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5224.4224	20.80	45.31	54.00	8.69	100	250	Vertical
2	6430.1430	21.81	44.41	54.00	9.59	100	153	Vertical
3	8536.8537	1.61	37.88	54.00	16.12	100	349	Vertical
4	10601.3101	4.74	48.03	54.00	5.97	200	350	Vertical
5	12916.4916	10.65	42.76	54.00	11.24	100	210	Vertical
6	15899.8900	12.02	42.31	54.00	11.69	100	349	Vertical

Test Report

Project Information			
Customer:		EUT:	ePaper
Model:	SN03	SN:	
Mode:	11AC20_5320	Voltage:	DC5V 1.5A
Environment:	21.1℃ 47%	Engineer:	Kennys
Remark:	Power Set: 19.5		
Test Standard:			

Start of Test: 2023-04-17 20:45:22

Test Graph



PK Final Data List

NO.	Freq. [MHz]	Factor [dB]	PK Value [dBμV/m]	PK Limit [dBμV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5328.3828	20.99	51.82	74.00	22.18	200	297	Horizontal
2	6485.6986	21.76	51.05	74.00	22.95	100	84	Horizontal
3	8628.8629	1.88	43.45	74.00	30.55	200	358	Horizontal
4	10645.0145	4.98	47.14	74.00	26.86	100	187	Horizontal
5	12339.1339	7.49	47.28	74.00	26.72	200	322	Horizontal
6	13761.8262	11.11	48.92	74.00	25.08	200	1	Horizontal

AV Final Data List

NO.	Freq. [MHz]	Factor [dB]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	5328.3828	20.99	44.55	54.00	9.45	200	297	Horizontal
2	6485.6986	21.76	45.61	54.00	8.39	100	84	Horizontal
3	8628.8629	1.88	37.81	54.00	16.19	200	358	Horizontal
4	10645.0145	4.98	40.93	54.00	13.07	100	187	Horizontal
5	12339.1339	7.49	42.05	54.00	11.95	200	322	Horizontal
6	13761.8262	11.11	43.52	54.00	10.48	200	1	Horizontal