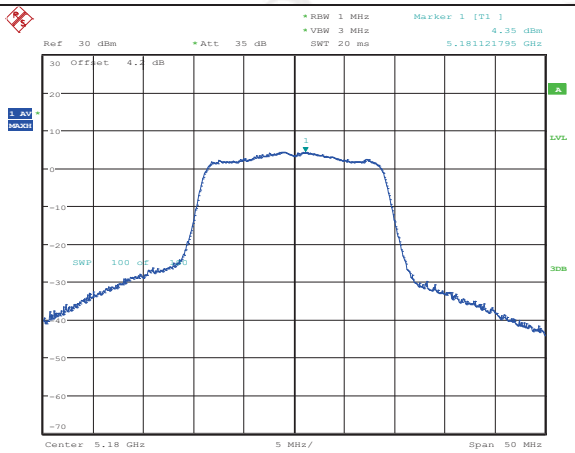

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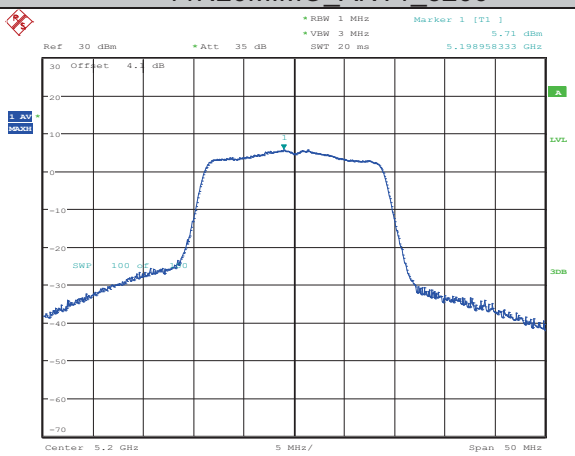
11N20MIMO_ANT1_5200



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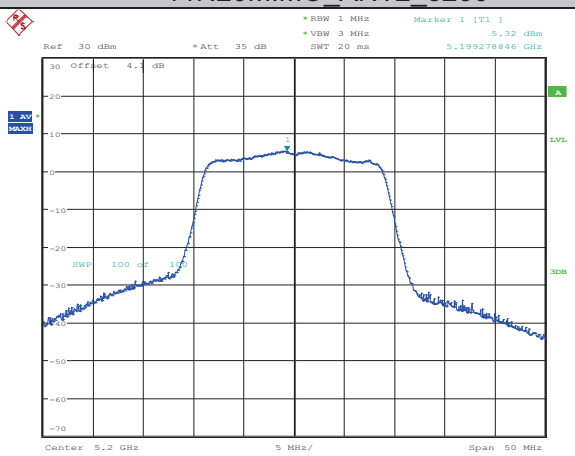

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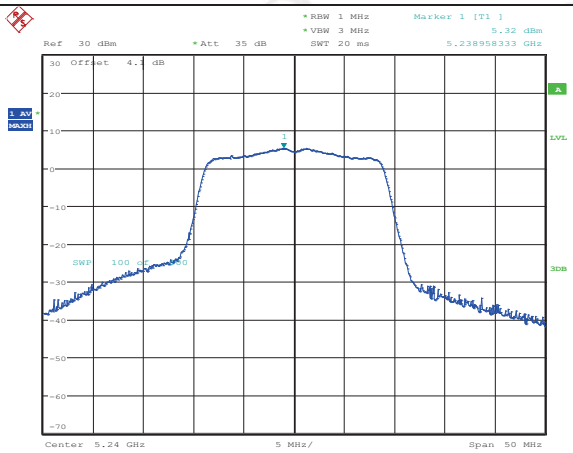
11N20MIMO_ANT1_5240



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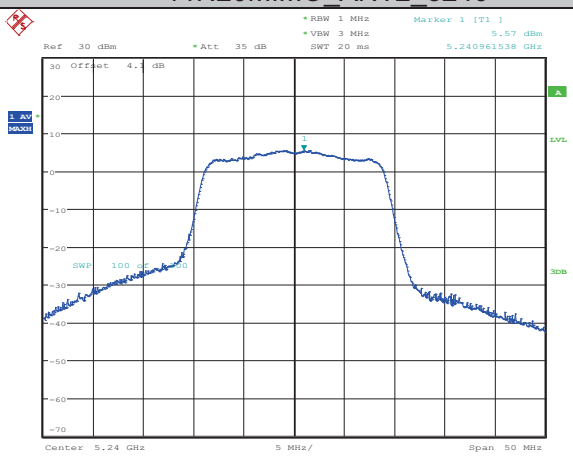
11N20MIMO_ANT2_5240



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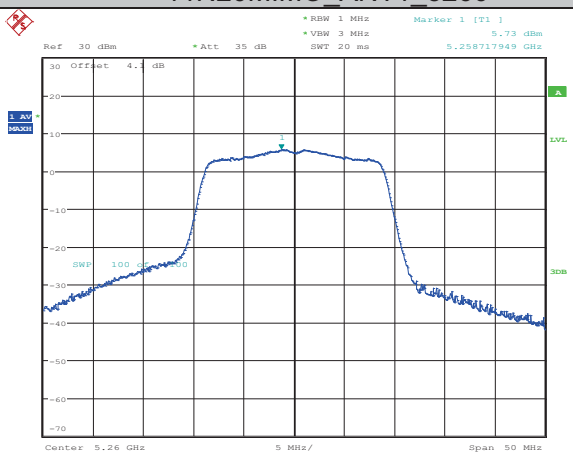
11N20MIMO_ANT1_5260



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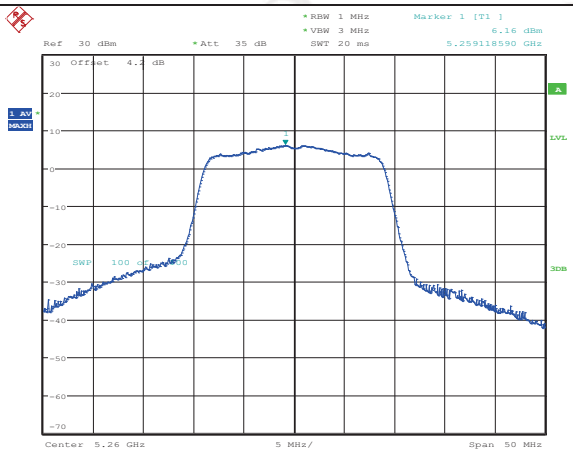

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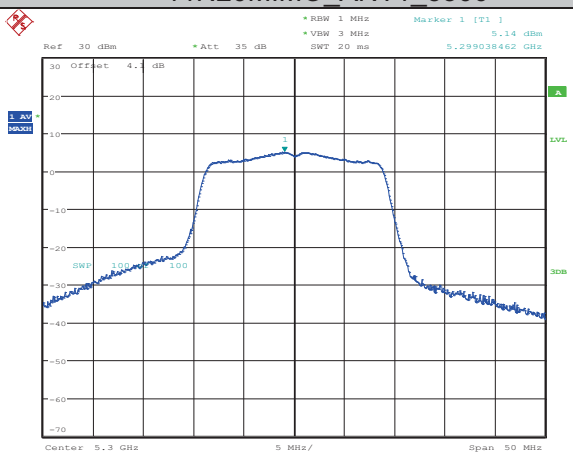

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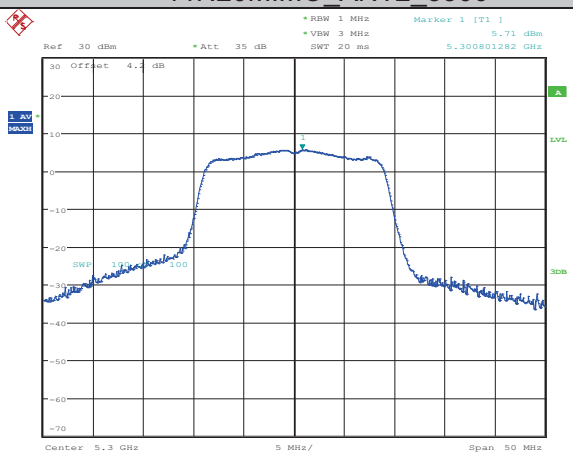

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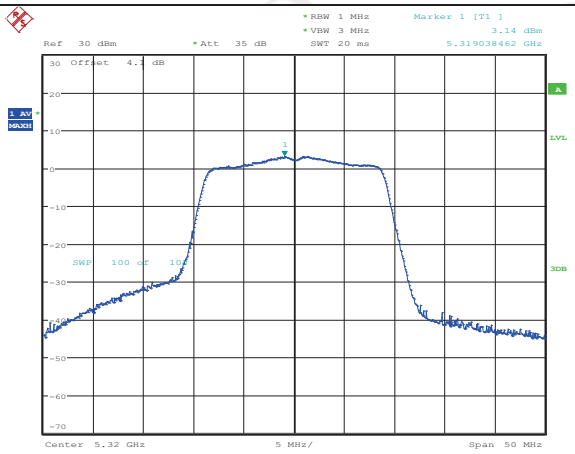

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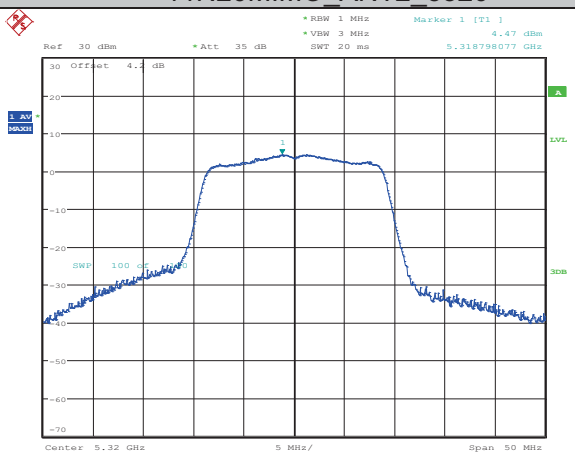

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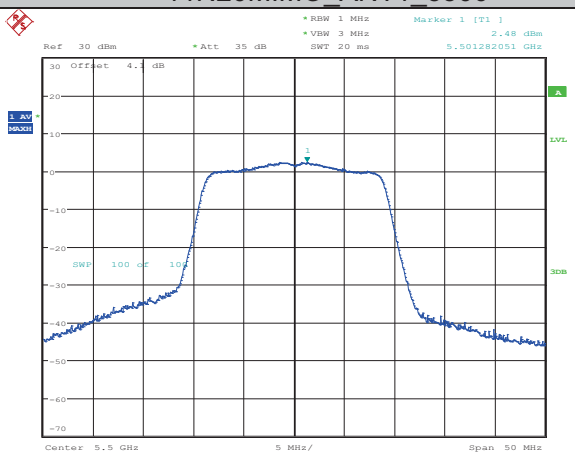

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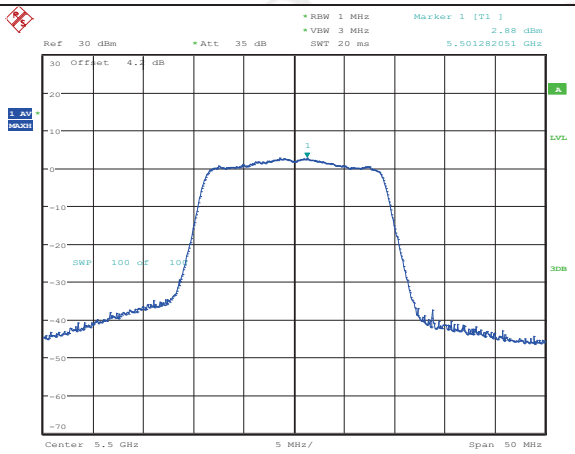

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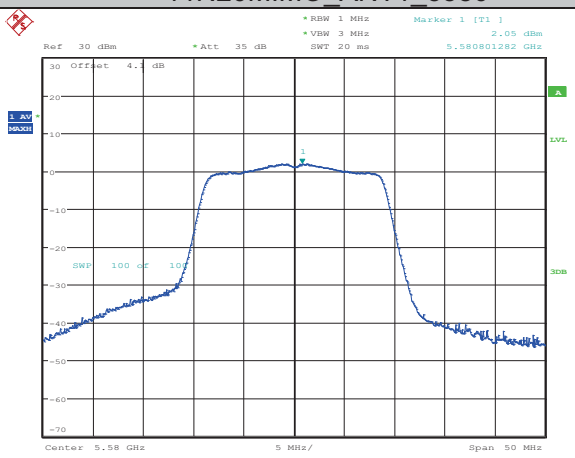
11N20MIMO_ANT1_5580



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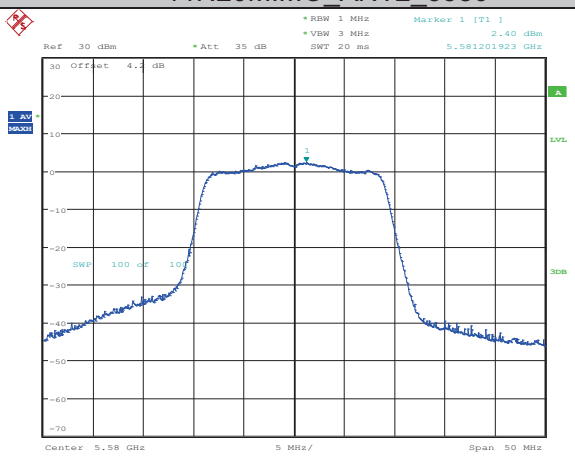

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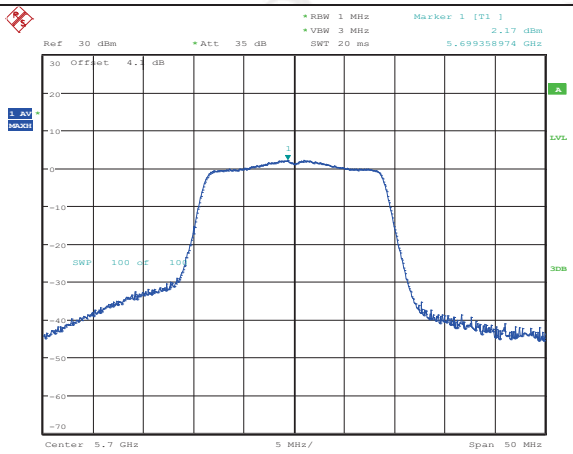

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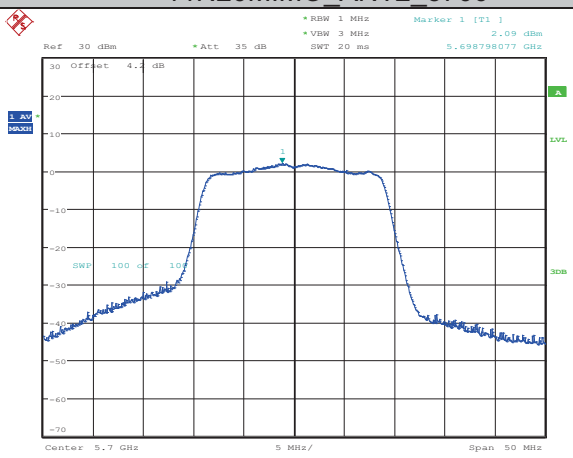

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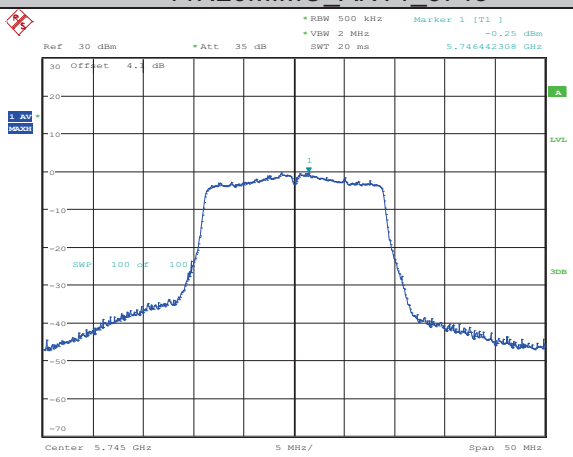

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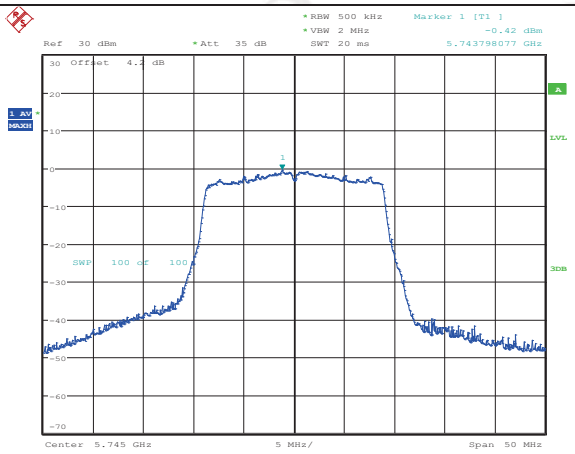

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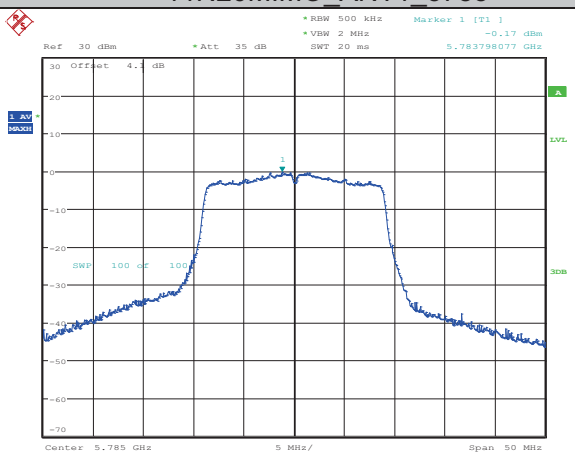

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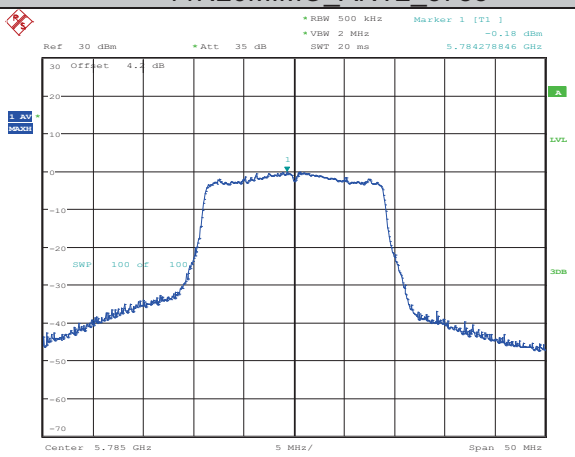

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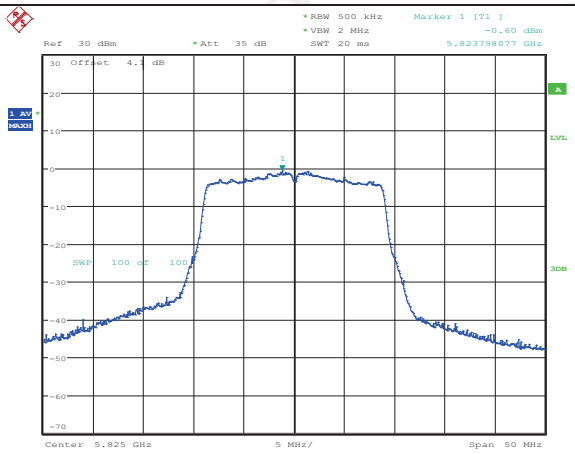

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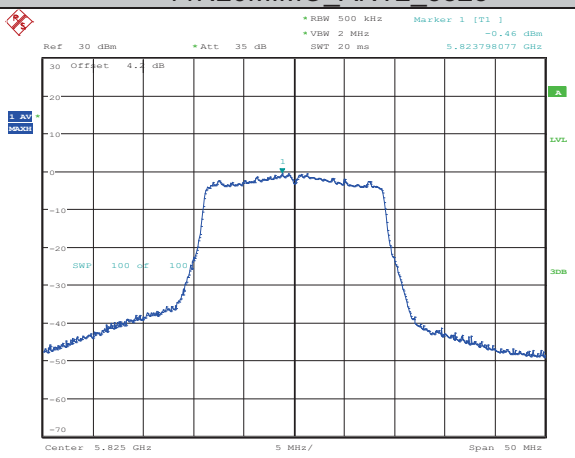

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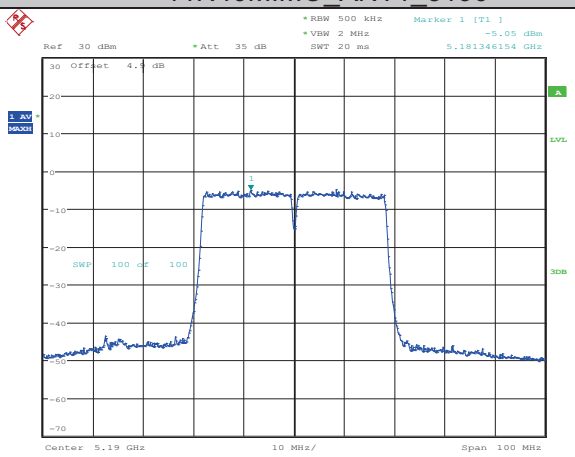

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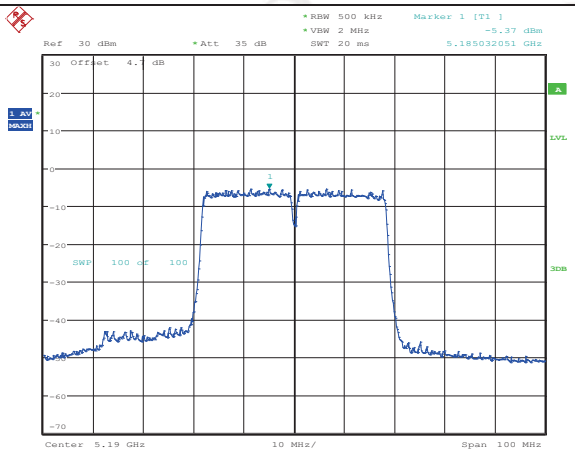

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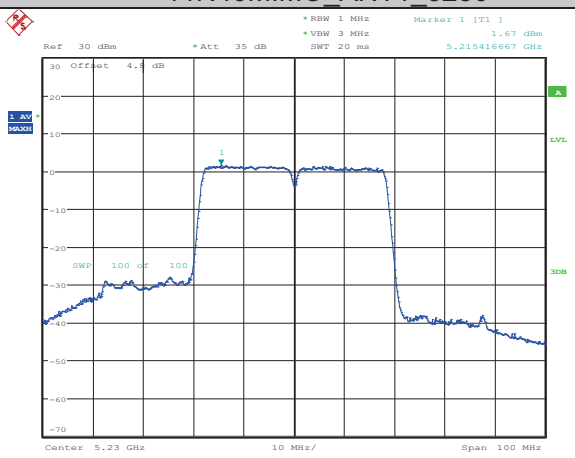

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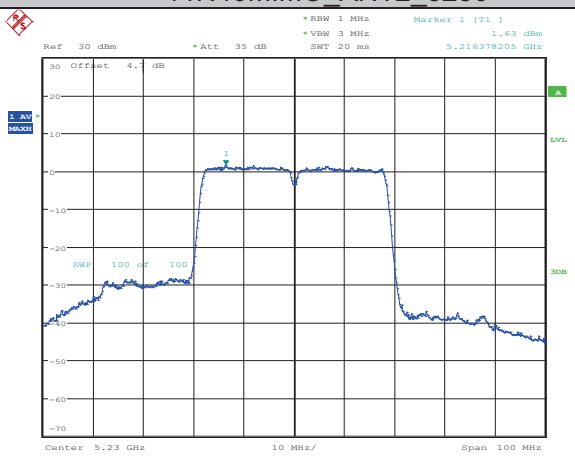

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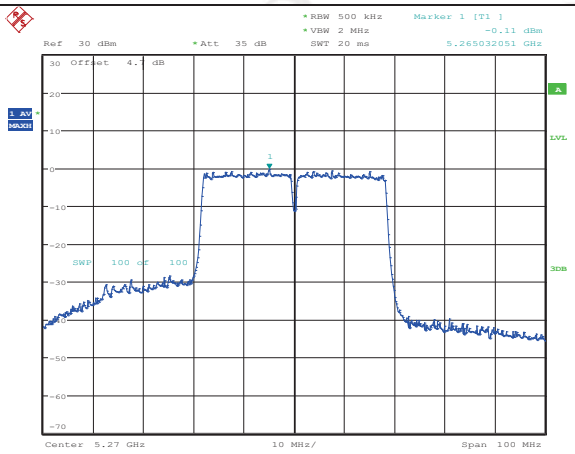

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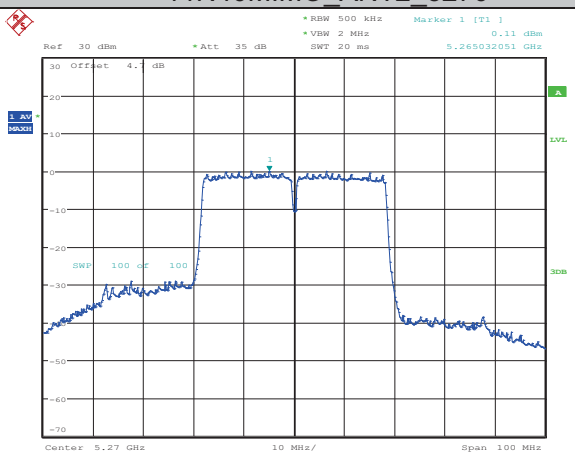

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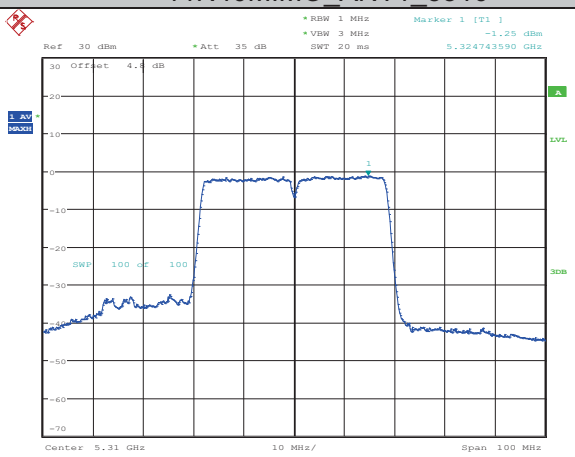

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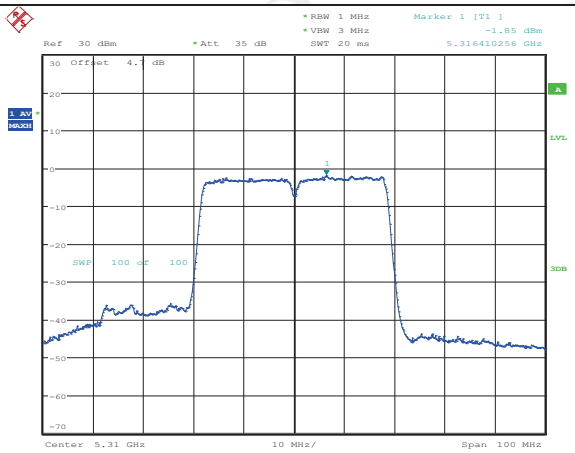

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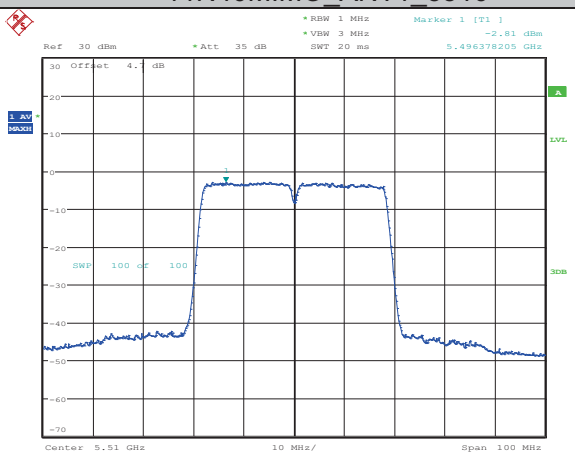

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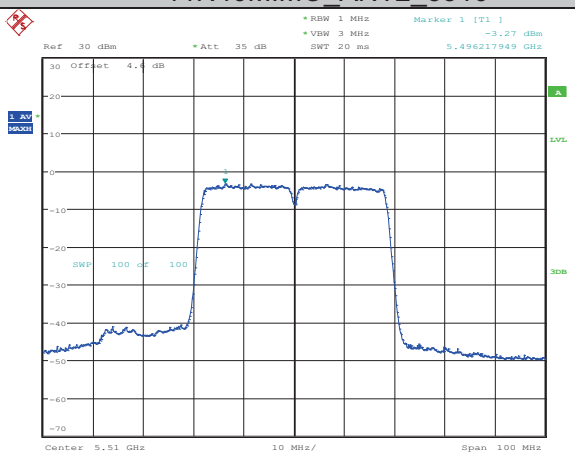

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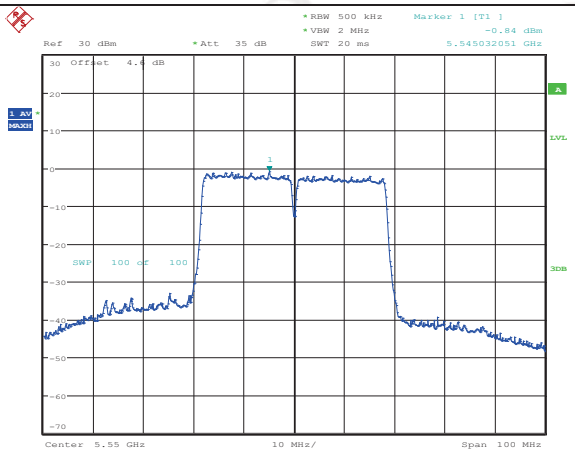

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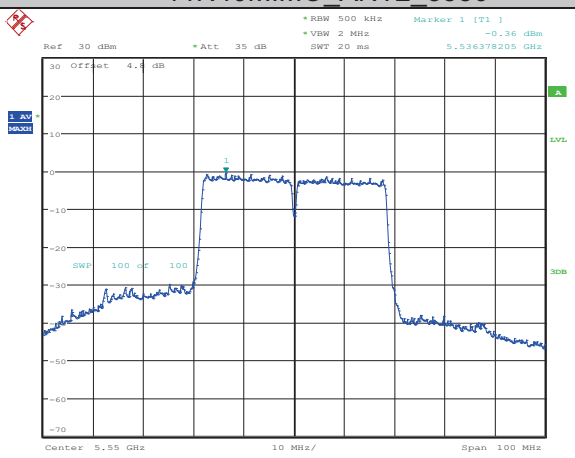

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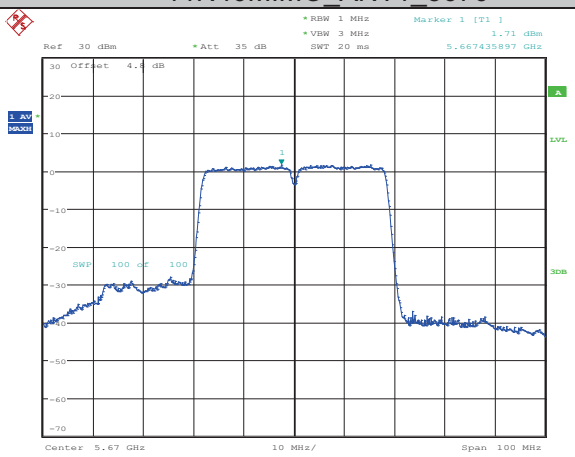

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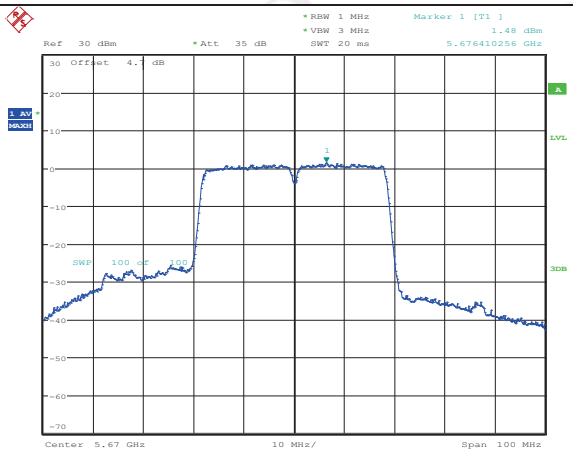

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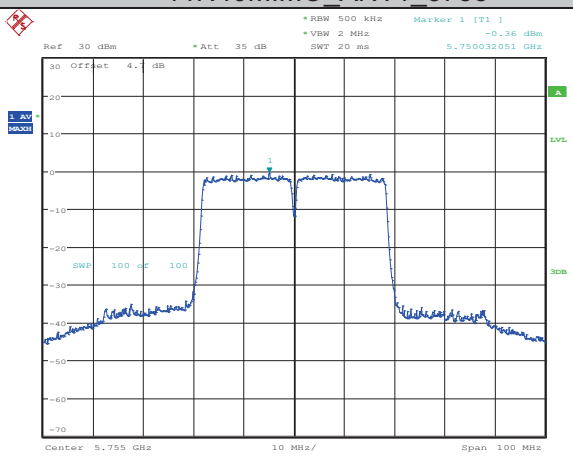

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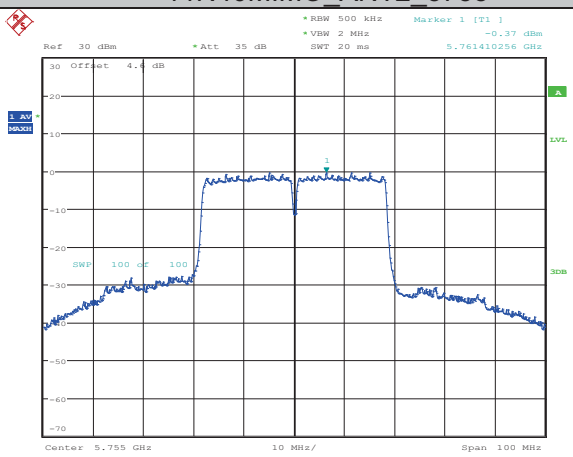

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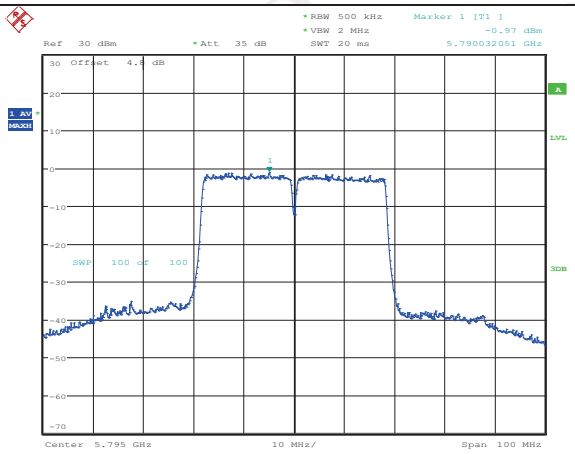

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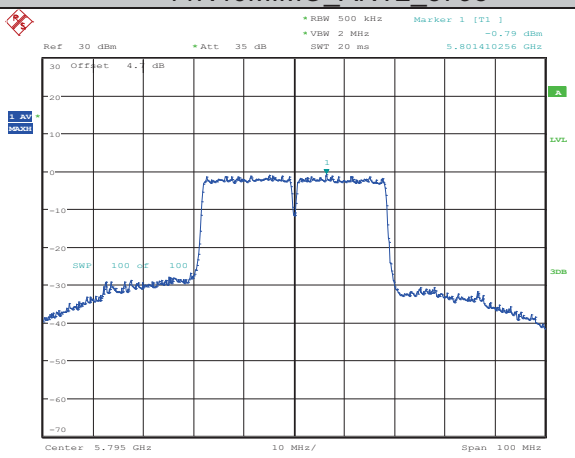

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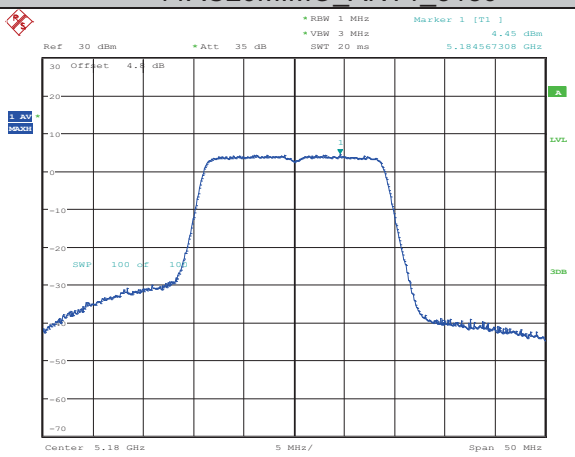

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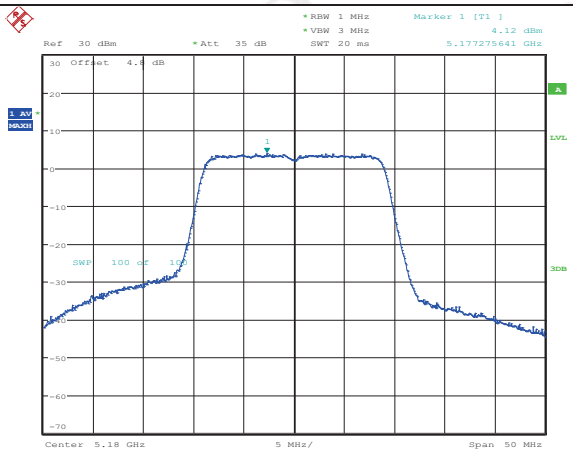

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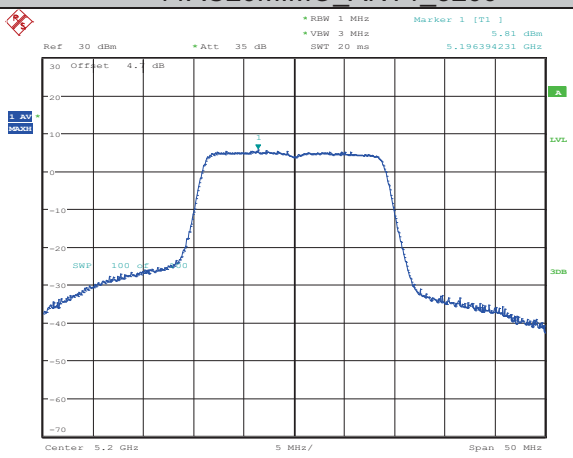

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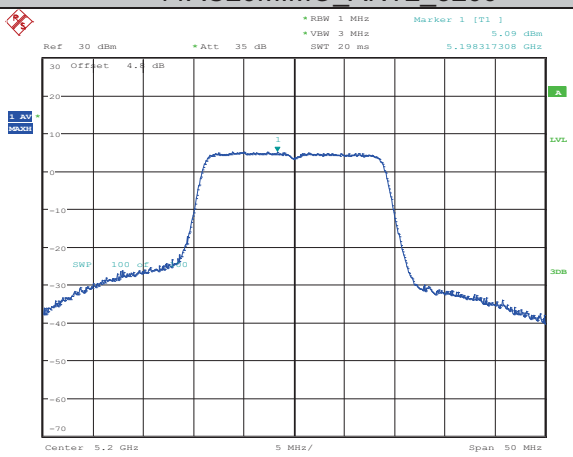

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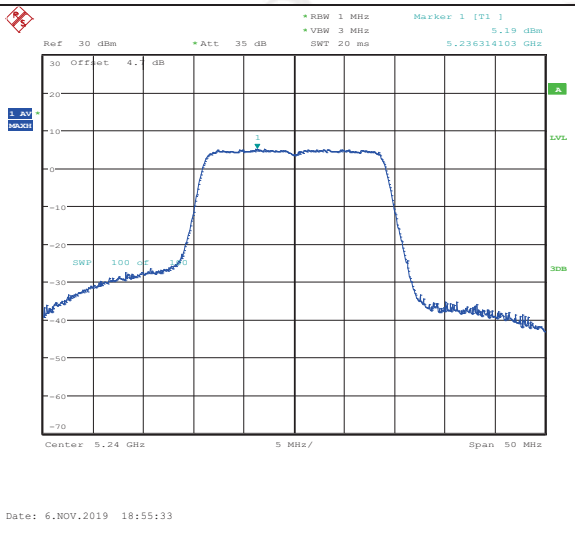

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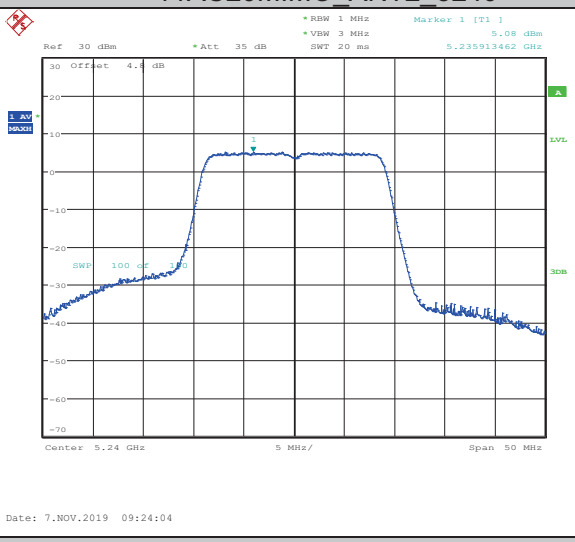

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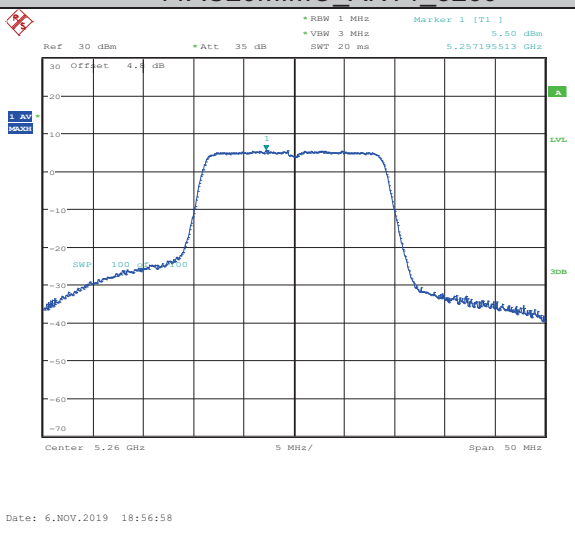

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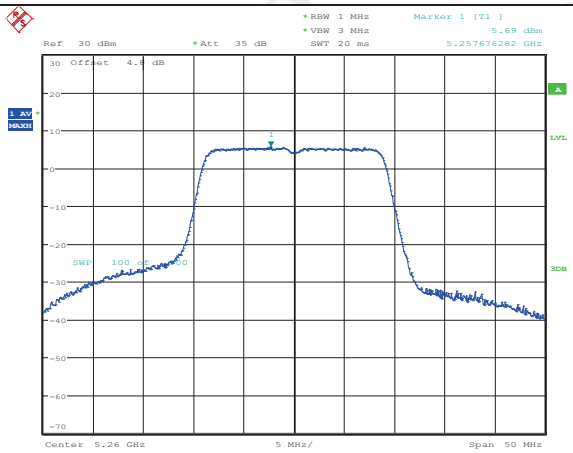

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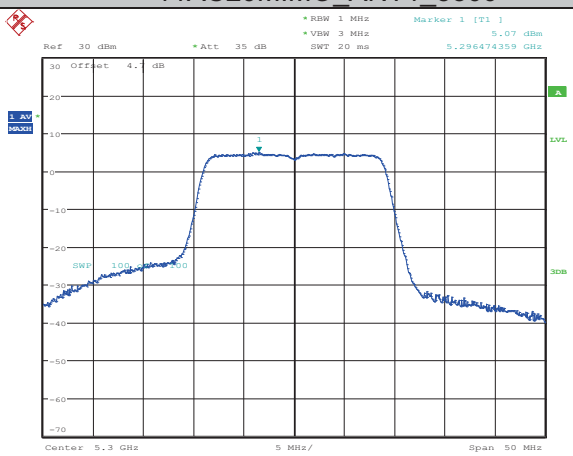
11AC20MIMO_ANT1_5300



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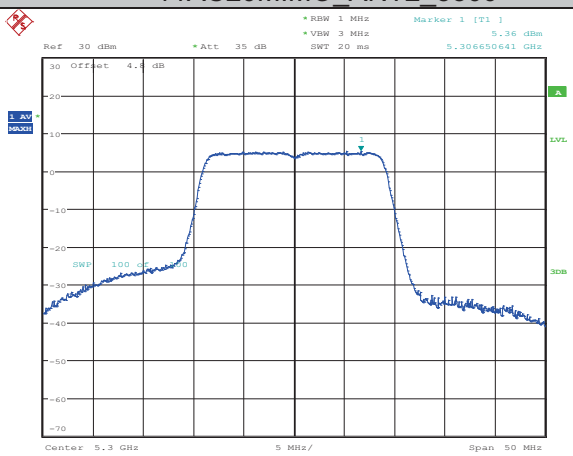

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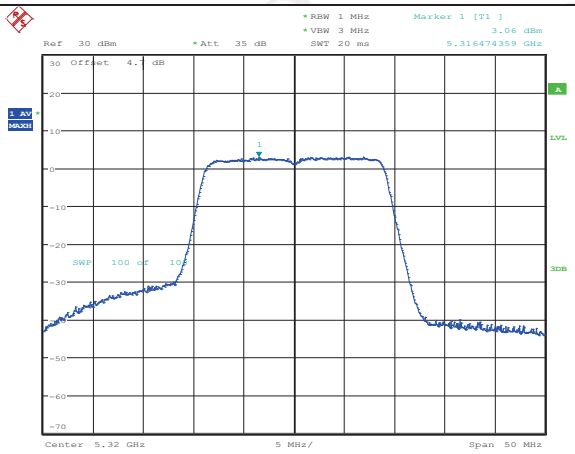

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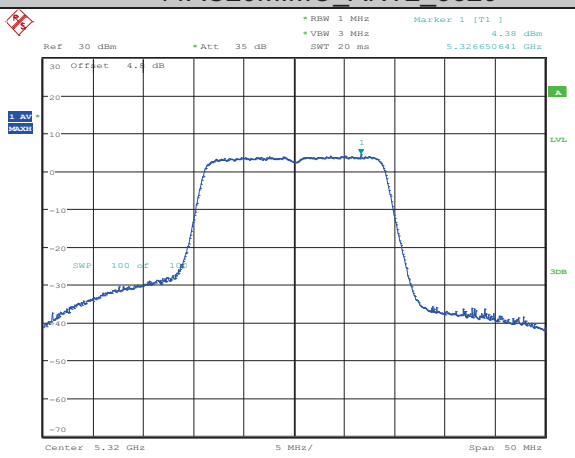

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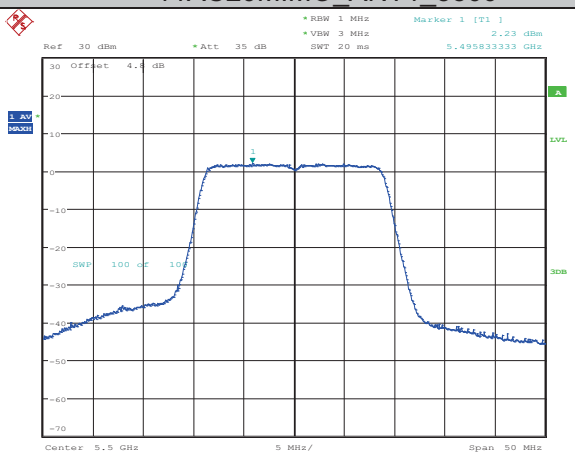

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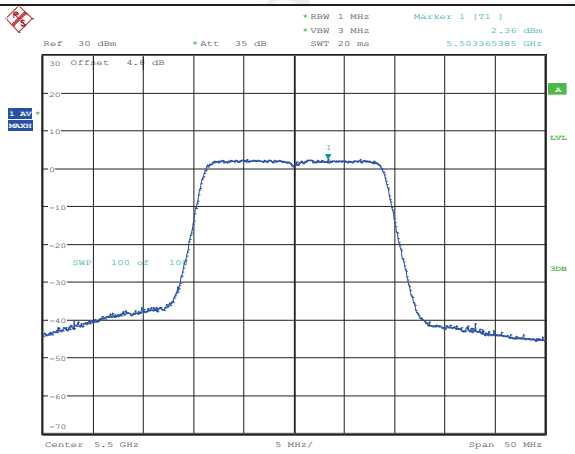

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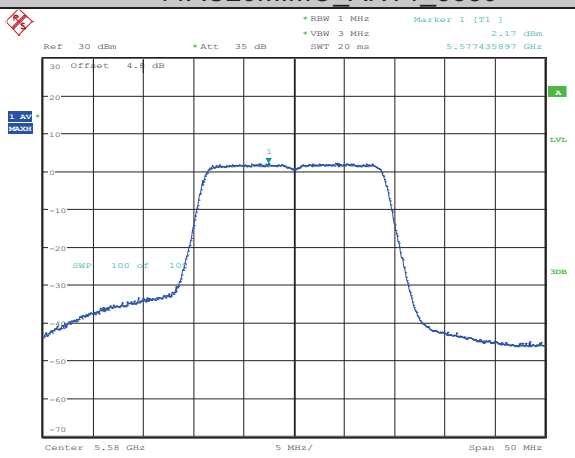

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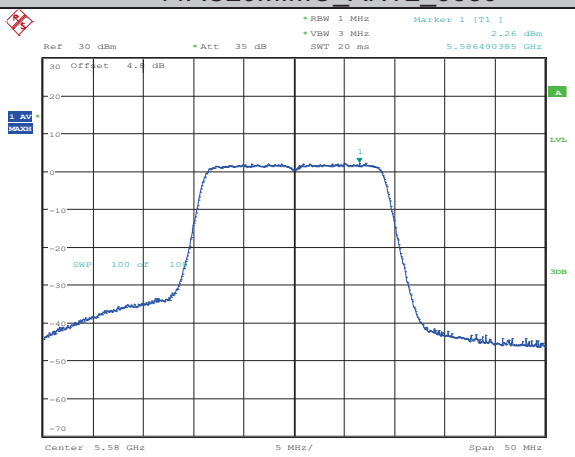

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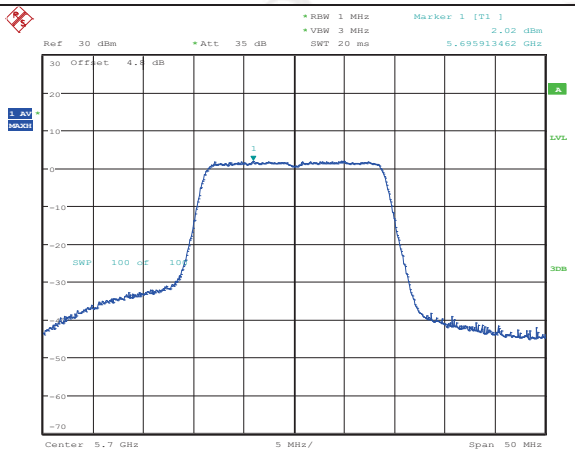

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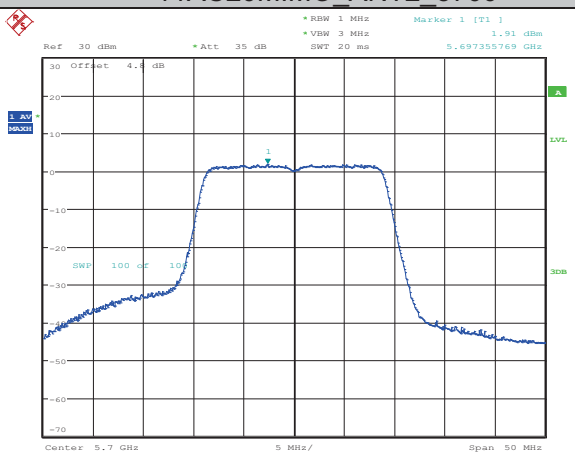

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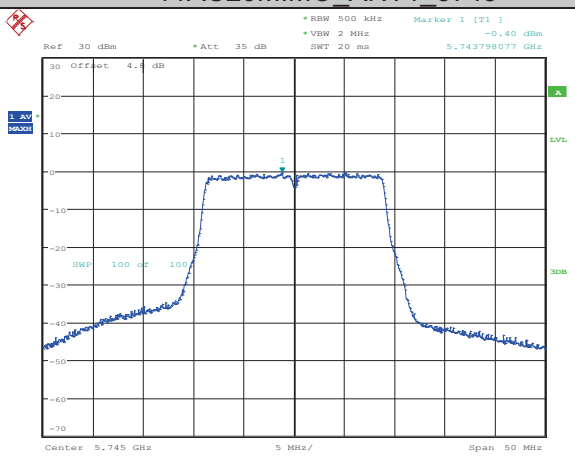

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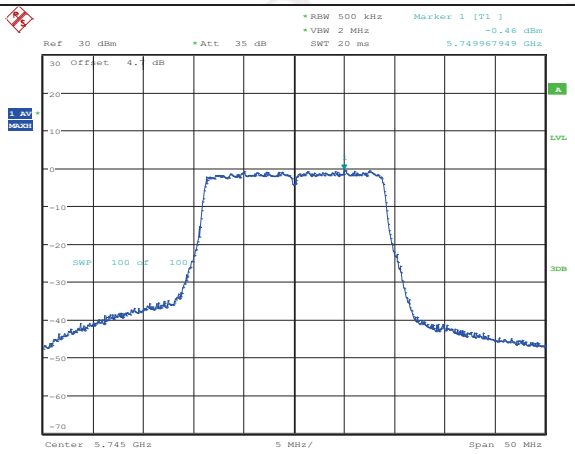

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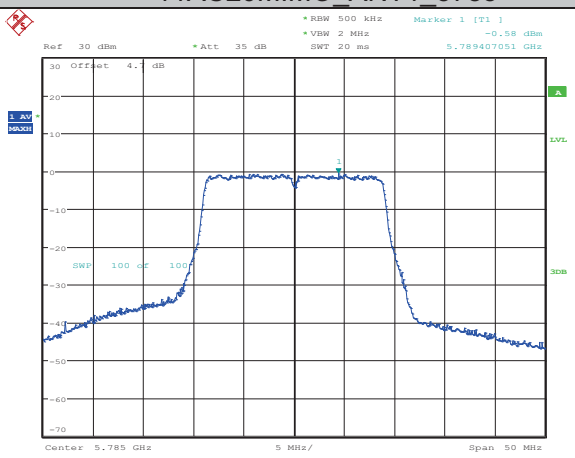

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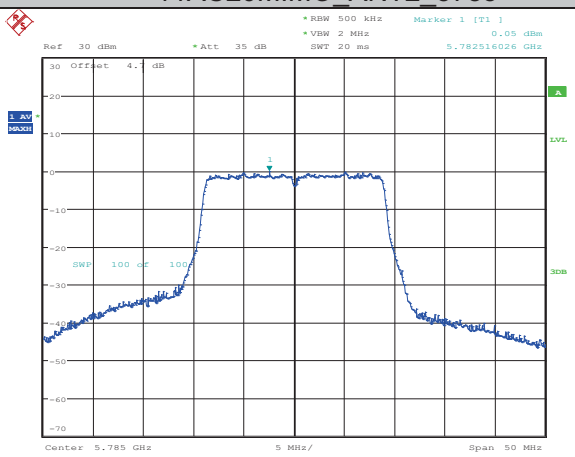

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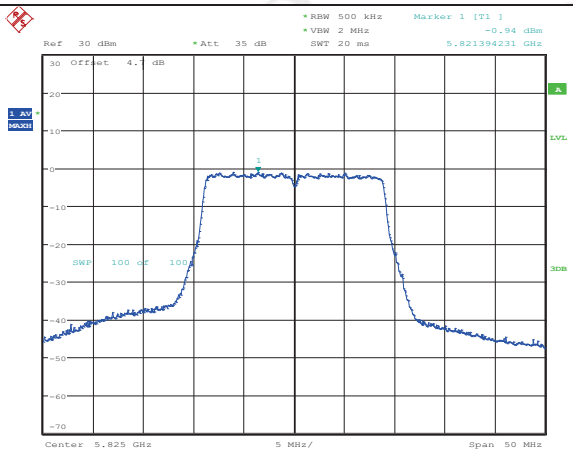

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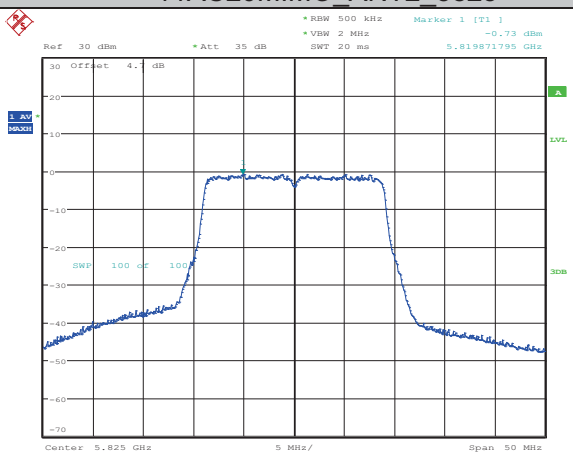

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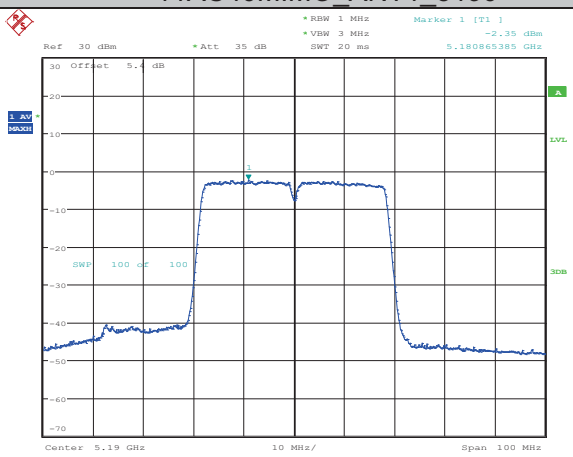

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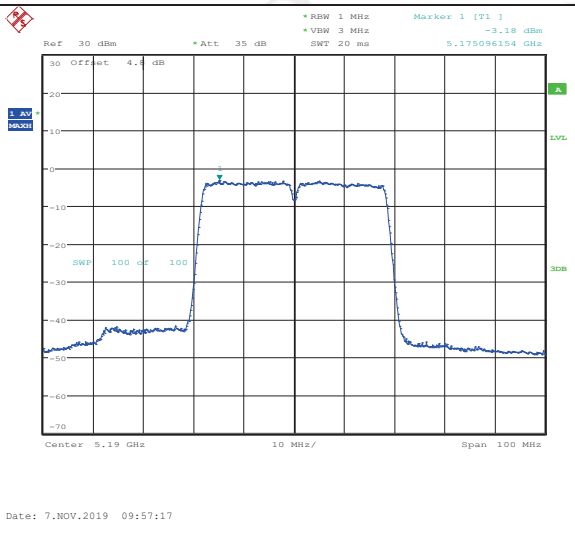

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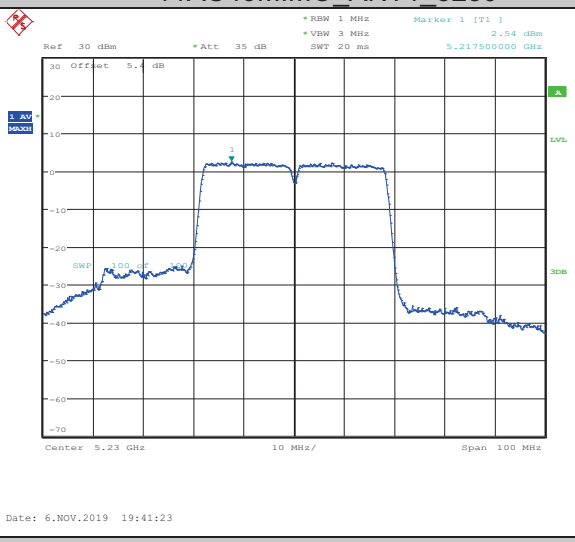

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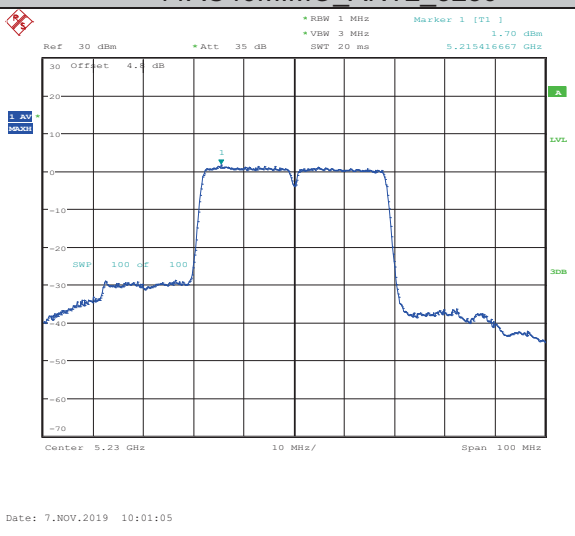

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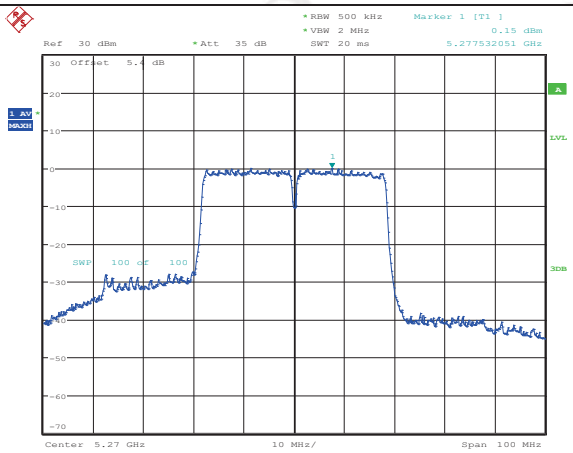

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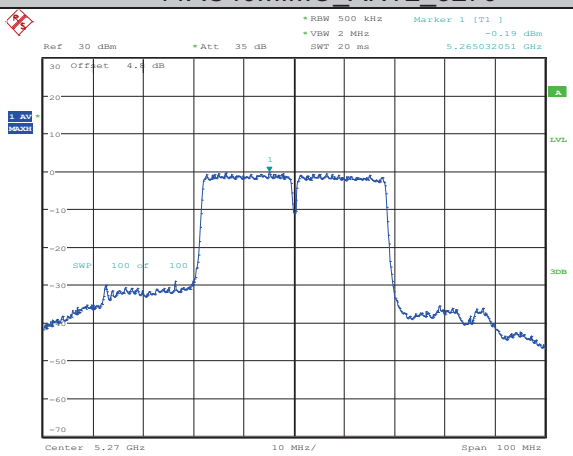

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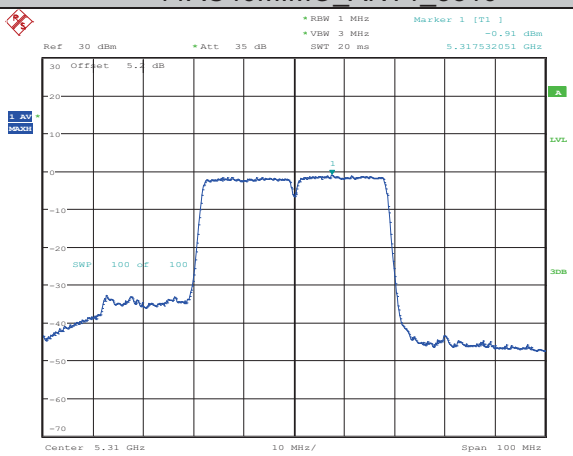

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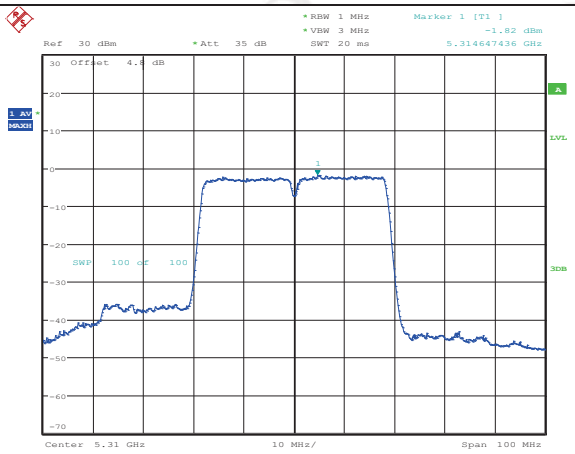

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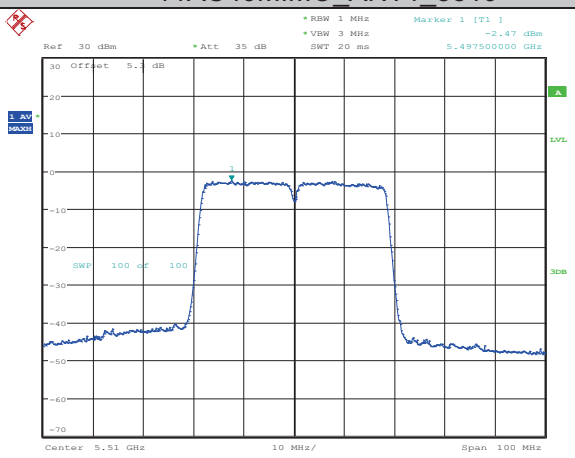

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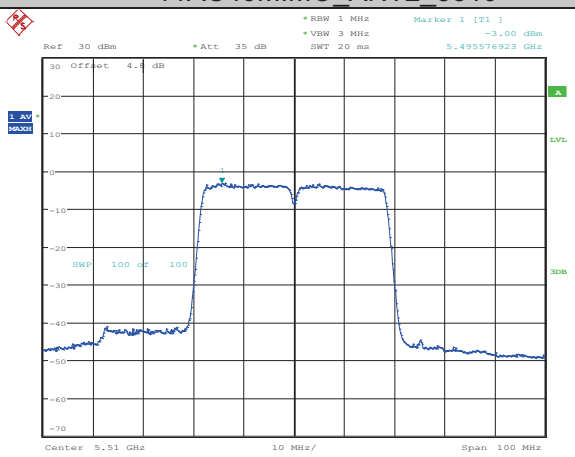

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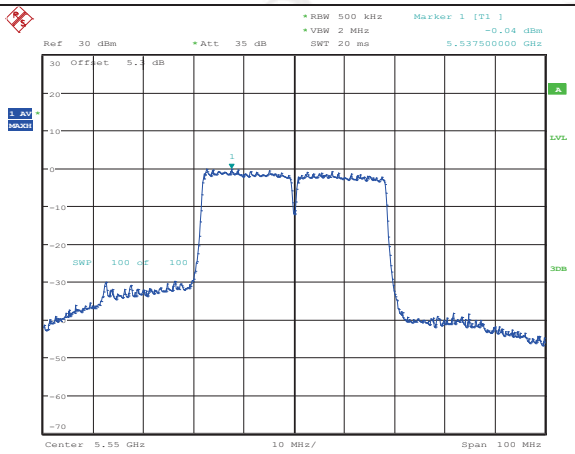

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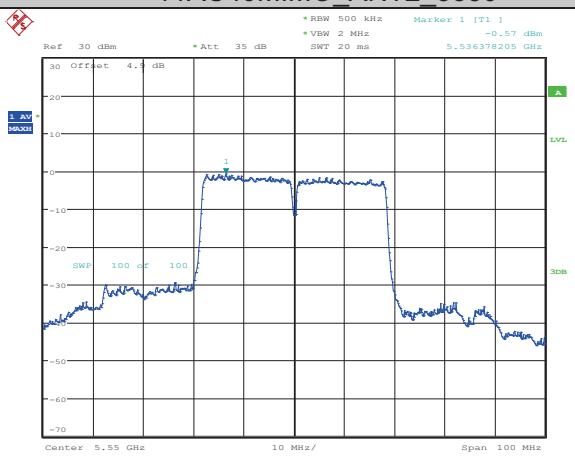

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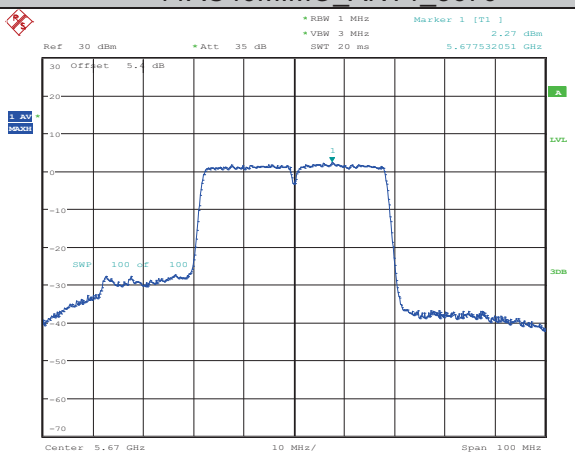

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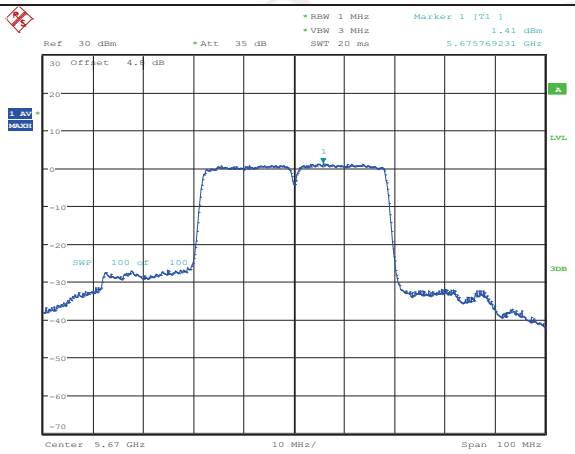

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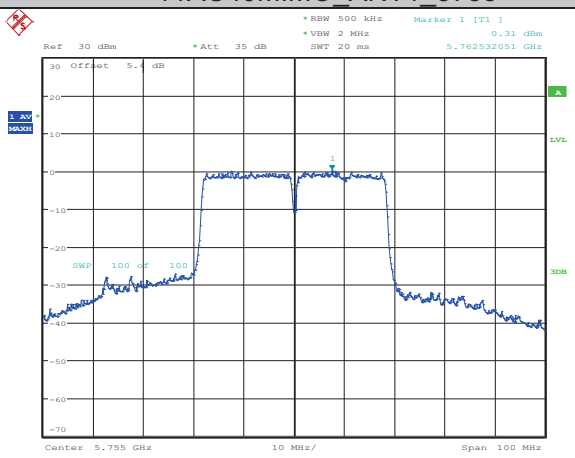

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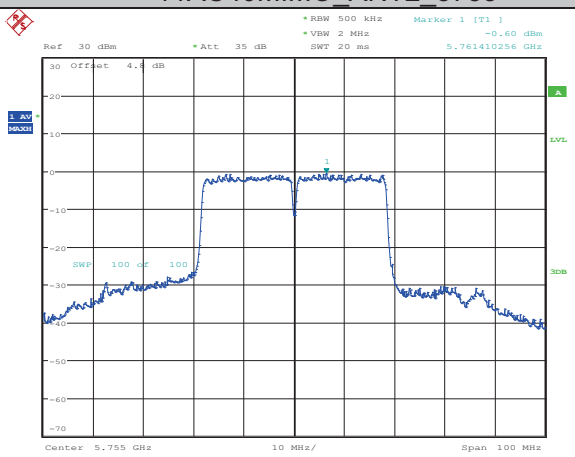

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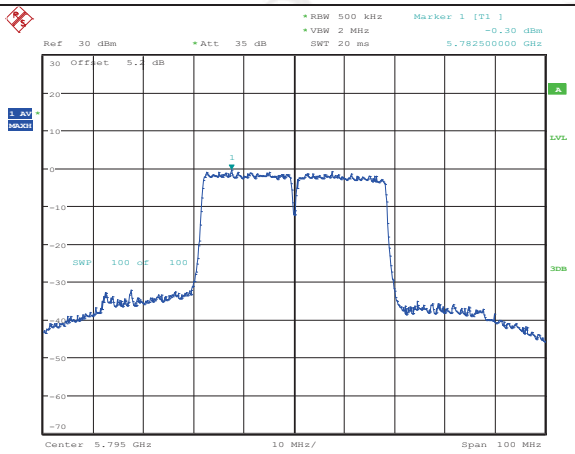

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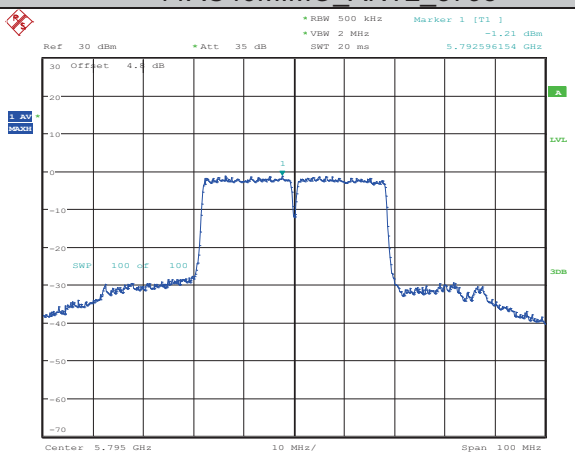

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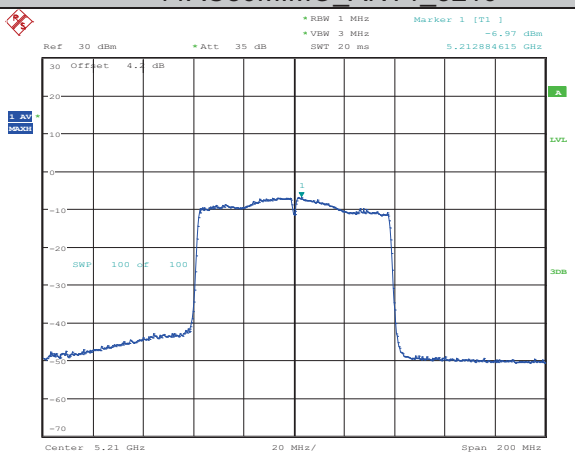

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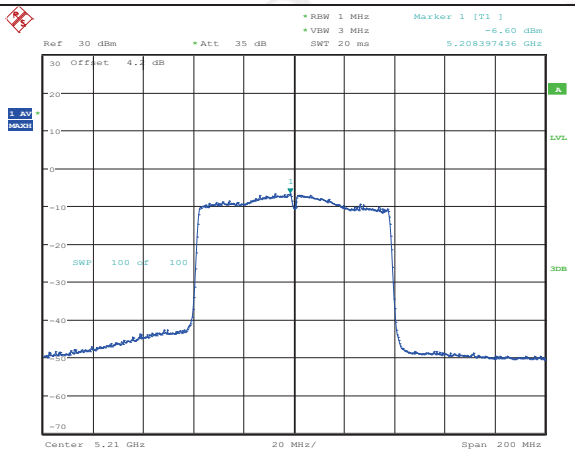

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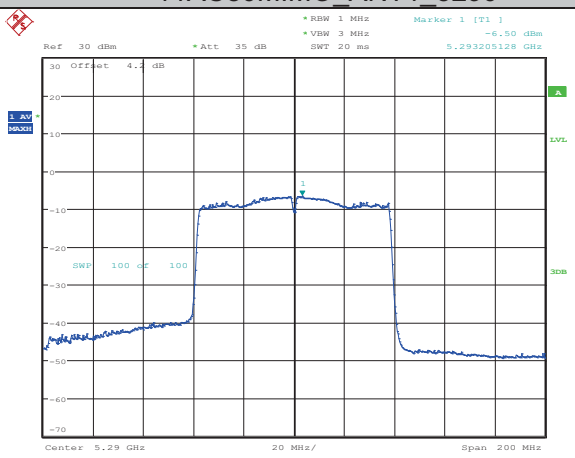

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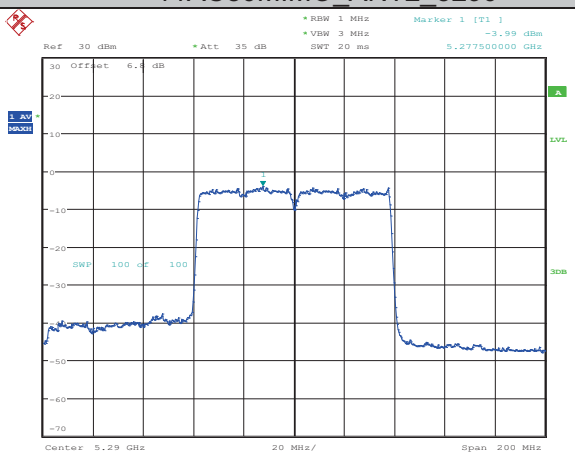

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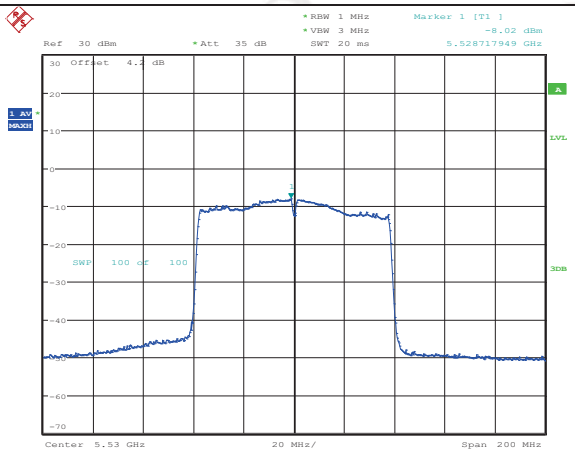

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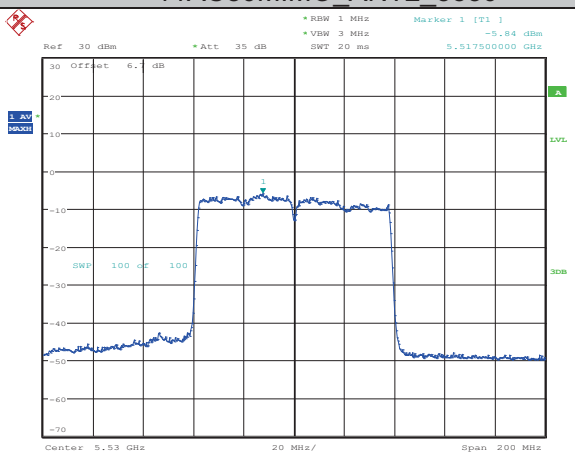

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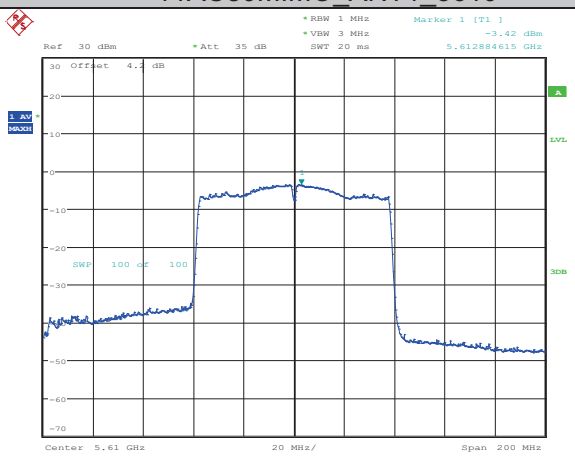

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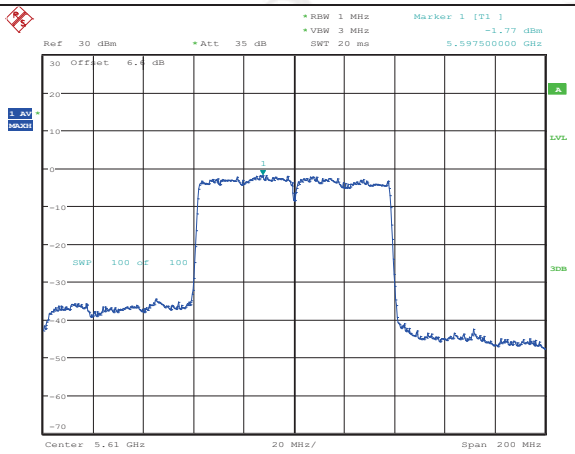

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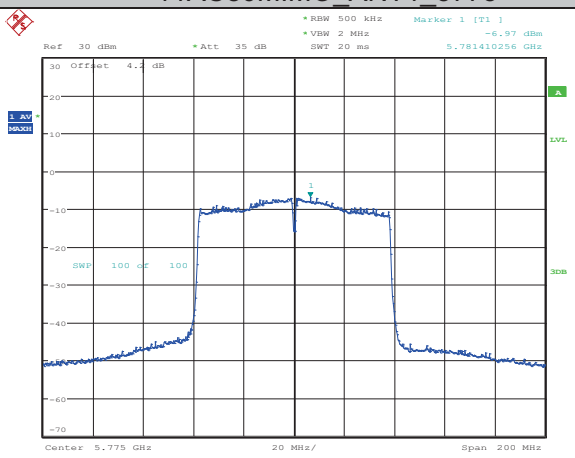

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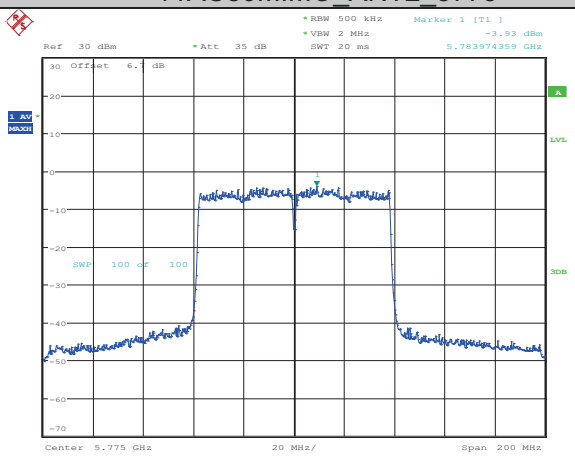

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7. Frequency Stability Measurement

7.1. 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.

7.2. Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

7.3. 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.

7.4. Test Setup

7.5. Test Result

Voltage								
TestMode	Antenna	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	ANT1	5180	NV	NT	3000	0.579151	20	PASS
11A	ANT1	5180	LV	NT	3000	0.579151	20	PASS
11A	ANT1	5180	HV	NT	3200	0.617761	20	PASS
11A	ANT2	5180	NV	NT	58200	11.235521	20	PASS
11A	ANT2	5180	LV	NT	58000	11.196911	20	PASS
11A	ANT2	5180	HV	NT	57800	11.158301	20	PASS
11A	ANT1	5190	NV	NT	8000	1.541426	20	PASS
11A	ANT1	5190	LV	NT	8600	1.657033	20	PASS
11A	ANT1	5190	HV	NT	9200	1.77264	20	PASS
11A	ANT2	5190	NV	NT	65600	12.639692	20	PASS
11A	ANT2	5190	LV	NT	65800	12.678227	20	PASS
11A	ANT2	5190	HV	NT	65800	12.678227	20	PASS
11A	ANT1	5200	NV	NT	11800	2.269231	20	PASS
11A	ANT1	5200	LV	NT	12400	2.384615	20	PASS
11A	ANT1	5200	HV	NT	13200	2.538462	20	PASS

11A	ANT2	5200	NV	NT	54400	10.461538	20	PASS
11A	ANT2	5200	LV	NT	54600	10.5	20	PASS
11A	ANT2	5200	HV	NT	54600	10.5	20	PASS
11A	ANT1	5210	NV	NT	42800	8.214971	20	PASS
11A	ANT1	5210	LV	NT	42000	8.06142	20	PASS
11A	ANT1	5210	HV	NT	41800	8.023033	20	PASS
11A	ANT2	5210	NV	NT	19800	3.800384	20	PASS
11A	ANT2	5210	LV	NT	23000	4.414587	20	PASS
11A	ANT2	5210	HV	NT	25800	4.952015	20	PASS
11A	ANT1	5230	NV	NT	16400	3.135755	20	PASS
11A	ANT1	5230	LV	NT	16800	3.212237	20	PASS
11A	ANT1	5230	HV	NT	17000	3.250478	20	PASS
11A	ANT2	5230	NV	NT	64600	12.351816	20	PASS
11A	ANT2	5230	LV	NT	64200	12.275335	20	PASS
11A	ANT2	5230	HV	NT	63800	12.198853	20	PASS
11A	ANT1	5240	NV	NT	24000	4.580153	20	PASS
11A	ANT1	5240	LV	NT	24400	4.656489	20	PASS
11A	ANT1	5240	HV	NT	24400	4.656489	20	PASS
11A	ANT2	5240	NV	NT	51600	9.847328	20	PASS
11A	ANT2	5240	LV	NT	51600	9.847328	20	PASS
11A	ANT2	5240	HV	NT	51400	9.80916	20	PASS
11A	ANT1	5260	NV	NT	25400	4.828897	20	PASS
11A	ANT1	5260	LV	NT	25800	4.904943	20	PASS
11A	ANT1	5260	HV	NT	26200	4.980989	20	PASS
11A	ANT2	5260	NV	NT	47400	9.011407	20	PASS
11A	ANT2	5260	LV	NT	48000	9.125475	20	PASS
11A	ANT2	5260	HV	NT	48200	9.163498	20	PASS
11A	ANT1	5270	NV	NT	23800	4.516129	20	PASS
11A	ANT1	5270	LV	NT	21200	4.02277	20	PASS
11A	ANT1	5270	HV	NT	19400	3.681214	20	PASS
11A	ANT2	5270	NV	NT	59200	11.233397	20	PASS
11A	ANT2	5270	LV	NT	59800	11.347249	20	PASS
11A	ANT2	5270	HV	NT	60000	11.385199	20	PASS
11A	ANT1	5290	NV	NT	36800	6.956522	20	PASS
11A	ANT1	5290	LV	NT	37000	6.994329	20	PASS
11A	ANT1	5290	HV	NT	37000	6.994329	20	PASS
11A	ANT2	5290	NV	NT	45600	8.620038	20	PASS
11A	ANT2	5290	LV	NT	46000	8.695652	20	PASS
11A	ANT2	5290	HV	NT	46400	8.771267	20	PASS
11A	ANT1	5300	NV	NT	27600	5.207547	20	PASS
11A	ANT1	5300	LV	NT	28200	5.320755	20	PASS
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11A	ANT2	5300	LV	NT	47400	8.943396	20	PASS
11A	ANT2	5300	HV	NT	47600	8.981132	20	PASS
11A	ANT1	5310	NV	NT	6400	1.205273	20	PASS
11A	ANT1	5310	LV	NT	4400	0.828625	20	PASS
11A	ANT1	5310	HV	NT	3400	0.640301	20	PASS
11A	ANT2	5310	NV	NT	58200	10.960452	20	PASS
11A	ANT2	5310	LV	NT	59200	11.148776	20	PASS
11A	ANT2	5310	HV	NT	59600	11.224105	20	PASS

11A	ANT1	5320	NV	NT	30600	5.75188	20	PASS
11A	ANT1	5320	LV	NT	31400	5.902256	20	PASS
11A	ANT1	5320	HV	NT	32000	6.015038	20	PASS
11A	ANT2	5320	NV	NT	50400	9.473684	20	PASS
11A	ANT2	5320	LV	NT	51400	9.661654	20	PASS
11A	ANT2	5320	HV	NT	52000	9.774436	20	PASS
11A	ANT1	5500	NV	NT	38000	6.909091	20	PASS
11A	ANT1	5500	LV	NT	40600	7.381818	20	PASS
11A	ANT1	5500	HV	NT	42800	7.781818	20	PASS
11A	ANT2	5500	NV	NT	56000	10.181818	20	PASS
11A	ANT2	5500	LV	NT	59400	10.8	20	PASS
11A	ANT2	5500	HV	NT	62000	11.272727	20	PASS
11A	ANT1	5510	NV	NT	2800	0.508167	20	PASS
11A	ANT1	5510	LV	NT	3600	0.653358	20	PASS
11A	ANT1	5510	HV	NT	4200	0.76225	20	PASS
11A	ANT2	5510	NV	NT	9400	1.705989	20	PASS
11A	ANT2	5510	LV	NT	10400	1.887477	20	PASS
11A	ANT2	5510	HV	NT	11000	1.99637	20	PASS
11A	ANT1	5530	NV	NT	37600	6.799277	20	PASS
11A	ANT1	5530	LV	NT	39600	7.16094	20	PASS
11A	ANT1	5530	HV	NT	41200	7.450271	20	PASS
11A	ANT2	5530	NV	NT	53400	9.65642	20	PASS
11A	ANT2	5530	LV	NT	56600	10.235081	20	PASS
11A	ANT2	5530	HV	NT	59200	10.705244	20	PASS
11A	ANT1	5550	NV	NT	14600	2.630631	20	PASS
11A	ANT1	5550	LV	NT	15200	2.738739	20	PASS
11A	ANT1	5550	HV	NT	15800	2.846847	20	PASS
11A	ANT2	5550	NV	NT	18200	3.279279	20	PASS
11A	ANT2	5550	LV	NT	22200	4	20	PASS
11A	ANT2	5550	HV	NT	25800	4.648649	20	PASS
11A	ANT1	5580	NV	NT	54600	9.784946	20	PASS
11A	ANT1	5580	LV	NT	54400	9.749104	20	PASS
11A	ANT1	5580	HV	NT	54400	9.749104	20	PASS
11A	ANT2	5580	NV	NT	74200	13.297491	20	PASS
11A	ANT2	5580	LV	NT	72800	13.046595	20	PASS
11A	ANT2	5580	HV	NT	72000	12.903226	20	PASS
11A	ANT1	5610	NV	NT	47800	8.520499	20	PASS
11A	ANT1	5610	LV	NT	47600	8.484848	20	PASS
11A	ANT1	5610	HV	NT	47400	8.449198	20	PASS
11A	ANT2	5610	NV	NT	10800	1.925134	20	PASS
11A	ANT2	5610	LV	NT	12000	2.139037	20	PASS
11A	ANT2	5610	HV	NT	13200	2.352941	20	PASS
11A	ANT1	5670	NV	NT	22400	3.950617	20	PASS
11A	ANT1	5670	LV	NT	23000	4.056437	20	PASS
11A	ANT1	5670	HV	NT	23400	4.126984	20	PASS
11A	ANT2	5670	NV	NT	56600	9.982363	20	PASS
11A	ANT2	5670	LV	NT	57000	10.05291	20	PASS
11A	ANT2	5670	HV	NT	57200	10.088183	20	PASS
11A	ANT1	5700	NV	NT	54400	9.54386	20	PASS
11A	ANT1	5700	LV	NT	55600	9.754386	20	PASS
11A	ANT1	5700	HV	NT	56200	9.859649	20	PASS

11A	ANT2	5700	NV	NT	66800	11.719298	20	PASS
11A	ANT2	5700	LV	NT	68400	12	20	PASS
11A	ANT2	5700	HV	NT	69600	12.210526	20	PASS
11A	ANT1	5745	NV	NT	64200	11.174935	20	PASS
11A	ANT1	5745	LV	NT	67400	11.731941	20	PASS
11A	ANT1	5745	HV	NT	70000	12.184508	20	PASS
11A	ANT2	5745	NV	NT	10600	1.845083	20	PASS
11A	ANT2	5745	LV	NT	11600	2.019147	20	PASS
11A	ANT2	5745	HV	NT	12400	2.158399	20	PASS
11A	ANT1	5755	NV	NT	29400	5.108601	20	PASS
11A	ANT1	5755	LV	NT	31400	5.456125	20	PASS
11A	ANT1	5755	HV	NT	33200	5.768897	20	PASS
11A	ANT2	5755	NV	NT	62800	10.91225	20	PASS
11A	ANT2	5755	LV	NT	66400	11.537793	20	PASS
11A	ANT2	5755	HV	NT	69000	11.989574	20	PASS
11A	ANT1	5775	NV	NT	47000	8.138528	20	PASS
11A	ANT1	5775	LV	NT	49600	8.588745	20	PASS
11A	ANT1	5775	HV	NT	51800	8.969697	20	PASS
11A	ANT2	5775	NV	NT	24400	4.225108	20	PASS
11A	ANT2	5775	LV	NT	28400	4.917749	20	PASS
11A	ANT2	5775	HV	NT	31800	5.506494	20	PASS
11A	ANT1	5785	NV	NT	25800	4.45981	20	PASS
11A	ANT1	5785	LV	NT	22000	3.802939	20	PASS
11A	ANT1	5785	HV	NT	19400	3.3535	20	PASS
11A	ANT2	5785	NV	NT	18800	3.249784	20	PASS
11A	ANT2	5785	LV	NT	22800	3.941227	20	PASS
11A	ANT2	5785	HV	NT	26600	4.598099	20	PASS
11A	ANT1	5795	NV	NT	43400	7.489215	20	PASS
11A	ANT1	5795	LV	NT	44200	7.627265	20	PASS
11A	ANT1	5795	HV	NT	44800	7.730802	20	PASS
11A	ANT2	5795	NV	NT	11600	2.001726	20	PASS
11A	ANT2	5795	LV	NT	13000	2.243313	20	PASS
11A	ANT2	5795	HV	NT	14200	2.450388	20	PASS
11A	ANT1	5825	NV	NT	3800	0.652361	20	PASS
11A	ANT1	5825	LV	NT	2600	0.446352	20	PASS
11A	ANT1	5825	HV	NT	2000	0.343348	20	PASS
11A	ANT2	5825	NV	NT	55600	9.545064	20	PASS
11A	ANT2	5825	LV	NT	57800	9.922747	20	PASS
11A	ANT2	5825	HV	NT	59800	10.266094	20	PASS

Temperature								
TestMode	Antenna	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	ANT1	5180	NV	-30	3800	0.733591	20	PASS
11A	ANT1	5180	NV	-20	4000	0.772201	20	PASS
11A	ANT1	5180	NV	-10	4800	0.926641	20	PASS
11A	ANT1	5180	NV	0	5200	1.003861	20	PASS
11A	ANT1	5180	NV	10	6000	1.158301	20	PASS
11A	ANT1	5180	NV	20	6400	1.235521	20	PASS
11A	ANT1	5180	NV	30	7200	1.389961	20	PASS
11A	ANT1	5180	NV	40	7800	1.505792	20	PASS
11A	ANT1	5180	NV	50	8600	1.660232	20	PASS

11A	ANT2	5180	NV	-30	57600	11.119691	20	PASS
11A	ANT2	5180	NV	-20	57400	11.081081	20	PASS
11A	ANT2	5180	NV	-10	57200	11.042471	20	PASS
11A	ANT2	5180	NV	0	57200	11.042471	20	PASS
11A	ANT2	5180	NV	10	57000	11.003861	20	PASS
11A	ANT2	5180	NV	20	57000	11.003861	20	PASS
11A	ANT2	5180	NV	30	56800	10.965251	20	PASS
11A	ANT2	5180	NV	40	56800	10.965251	20	PASS
11A	ANT2	5180	NV	50	56800	10.965251	20	PASS
11A	ANT1	5190	NV	-30	9800	1.888247	20	PASS
11A	ANT1	5190	NV	-20	10400	2.003854	20	PASS
11A	ANT1	5190	NV	-10	10800	2.080925	20	PASS
11A	ANT1	5190	NV	0	11400	2.196532	20	PASS
11A	ANT1	5190	NV	10	12000	2.312139	20	PASS
11A	ANT1	5190	NV	20	12400	2.38921	20	PASS
11A	ANT1	5190	NV	30	13000	2.504817	20	PASS
11A	ANT1	5190	NV	40	13600	2.620424	20	PASS
11A	ANT1	5190	NV	50	14000	2.697495	20	PASS
11A	ANT2	5190	NV	-30	66000	12.716763	20	PASS
11A	ANT2	5190	NV	-20	66200	12.755299	20	PASS
11A	ANT2	5190	NV	-10	66400	12.793834	20	PASS
11A	ANT2	5190	NV	0	66400	12.793834	20	PASS
11A	ANT2	5190	NV	10	66600	12.83237	20	PASS
11A	ANT2	5190	NV	20	67000	12.909441	20	PASS
11A	ANT2	5190	NV	30	67200	12.947977	20	PASS
11A	ANT2	5190	NV	40	67400	12.986513	20	PASS
11A	ANT2	5190	NV	50	67600	13.025048	20	PASS
11A	ANT1	5200	NV	-30	13800	2.653846	20	PASS
11A	ANT1	5200	NV	-20	14600	2.807692	20	PASS
11A	ANT1	5200	NV	-10	15200	2.923077	20	PASS
11A	ANT1	5200	NV	0	15800	3.038462	20	PASS
11A	ANT1	5200	NV	10	16400	3.153846	20	PASS
11A	ANT1	5200	NV	20	17000	3.269231	20	PASS
11A	ANT1	5200	NV	30	17600	3.384615	20	PASS
11A	ANT1	5200	NV	40	18200	3.5	20	PASS
11A	ANT1	5200	NV	50	18800	3.615385	20	PASS
11A	ANT2	5200	NV	-30	54600	10.5	20	PASS
11A	ANT2	5200	NV	-20	54600	10.5	20	PASS
11A	ANT2	5200	NV	-10	54600	10.5	20	PASS
11A	ANT2	5200	NV	0	54600	10.5	20	PASS
11A	ANT2	5200	NV	10	54600	10.5	20	PASS
11A	ANT2	5200	NV	20	54600	10.5	20	PASS
11A	ANT2	5200	NV	30	54600	10.5	20	PASS
11A	ANT2	5200	NV	40	54400	10.461538	20	PASS
11A	ANT2	5200	NV	50	54400	10.461538	20	PASS
11A	ANT1	5210	NV	-30	41200	7.907869	20	PASS
11A	ANT1	5210	NV	-20	40800	7.831094	20	PASS
11A	ANT1	5210	NV	-10	40400	7.754319	20	PASS
11A	ANT1	5210	NV	0	40200	7.715931	20	PASS
11A	ANT1	5210	NV	10	40200	7.715931	20	PASS
11A	ANT1	5210	NV	20	39800	7.639155	20	PASS

11A	ANT1	5210	NV	30	39800	7.639155	20	PASS
11A	ANT1	5210	NV	40	39600	7.600768	20	PASS
11A	ANT1	5210	NV	50	39600	7.600768	20	PASS
11A	ANT2	5210	NV	-30	28200	5.412668	20	PASS
11A	ANT2	5210	NV	-20	30600	5.873321	20	PASS
11A	ANT2	5210	NV	-10	32600	6.257198	20	PASS
11A	ANT2	5210	NV	0	34400	6.602687	20	PASS
11A	ANT2	5210	NV	10	36400	6.986564	20	PASS
11A	ANT2	5210	NV	20	37600	7.216891	20	PASS
11A	ANT2	5210	NV	30	39200	7.523992	20	PASS
11A	ANT2	5210	NV	40	40800	7.831094	20	PASS
11A	ANT2	5210	NV	50	42200	8.099808	20	PASS
11A	ANT1	5230	NV	-30	17400	3.32696	20	PASS
11A	ANT1	5230	NV	-20	17600	3.365201	20	PASS
11A	ANT1	5230	NV	-10	18000	3.441683	20	PASS
11A	ANT1	5230	NV	0	18200	3.479924	20	PASS
11A	ANT1	5230	NV	10	18400	3.518164	20	PASS
11A	ANT1	5230	NV	20	18800	3.594646	20	PASS
11A	ANT1	5230	NV	30	19000	3.632887	20	PASS
11A	ANT1	5230	NV	40	19200	3.671128	20	PASS
11A	ANT1	5230	NV	50	19600	3.74761	20	PASS
11A	ANT2	5230	NV	-30	63600	12.160612	20	PASS
11A	ANT2	5230	NV	-20	63400	12.122371	20	PASS
11A	ANT2	5230	NV	-10	63200	12.08413	20	PASS
11A	ANT2	5230	NV	0	63000	12.045889	20	PASS
11A	ANT2	5230	NV	10	62800	12.007648	20	PASS
11A	ANT2	5230	NV	20	62800	12.007648	20	PASS
11A	ANT2	5230	NV	30	62600	11.969407	20	PASS
11A	ANT2	5230	NV	40	62600	11.969407	20	PASS
11A	ANT2	5230	NV	50	62400	11.931166	20	PASS
11A	ANT1	5240	NV	-30	24600	4.694656	20	PASS
11A	ANT1	5240	NV	-20	24600	4.694656	20	PASS
11A	ANT1	5240	NV	-10	25000	4.770992	20	PASS
11A	ANT1	5240	NV	0	25200	4.80916	20	PASS
11A	ANT1	5240	NV	10	25200	4.80916	20	PASS
11A	ANT1	5240	NV	20	25400	4.847328	20	PASS
11A	ANT1	5240	NV	30	25800	4.923664	20	PASS
11A	ANT1	5240	NV	40	26000	4.961832	20	PASS
11A	ANT1	5240	NV	50	26200	5	20	PASS
11A	ANT2	5240	NV	-30	51200	9.770992	20	PASS
11A	ANT2	5240	NV	-20	51000	9.732824	20	PASS
11A	ANT2	5240	NV	-10	51000	9.732824	20	PASS
11A	ANT2	5240	NV	0	50800	9.694656	20	PASS
11A	ANT2	5240	NV	10	50600	9.656489	20	PASS
11A	ANT2	5240	NV	20	50400	9.618321	20	PASS
11A	ANT2	5240	NV	30	50400	9.618321	20	PASS
11A	ANT2	5240	NV	40	50200	9.580153	20	PASS
11A	ANT2	5240	NV	50	50200	9.580153	20	PASS
11A	ANT1	5260	NV	-30	26600	5.057034	20	PASS
11A	ANT1	5260	NV	-20	26800	5.095057	20	PASS
11A	ANT1	5260	NV	-10	27200	5.171103	20	PASS

11A	ANT1	5260	NV	0	27400	5.209125	20	PASS
11A	ANT1	5260	NV	10	27400	5.209125	20	PASS
11A	ANT1	5260	NV	20	27800	5.285171	20	PASS
11A	ANT1	5260	NV	30	28000	5.323194	20	PASS
11A	ANT1	5260	NV	40	28200	5.361217	20	PASS
11A	ANT1	5260	NV	50	28400	5.39924	20	PASS
11A	ANT2	5260	NV	-30	48400	9.201521	20	PASS
11A	ANT2	5260	NV	-20	48400	9.201521	20	PASS
11A	ANT2	5260	NV	-10	48400	9.201521	20	PASS
11A	ANT2	5260	NV	0	48600	9.239544	20	PASS
11A	ANT2	5260	NV	10	48600	9.239544	20	PASS
11A	ANT2	5260	NV	20	48600	9.239544	20	PASS
11A	ANT2	5260	NV	30	48800	9.277567	20	PASS
11A	ANT2	5260	NV	40	48600	9.239544	20	PASS
11A	ANT2	5260	NV	50	48600	9.239544	20	PASS
11A	ANT1	5270	NV	-30	17800	3.377609	20	PASS
11A	ANT1	5270	NV	-20	16400	3.111954	20	PASS
11A	ANT1	5270	NV	-10	15000	2.8463	20	PASS
11A	ANT1	5270	NV	0	14200	2.694497	20	PASS
11A	ANT1	5270	NV	10	13200	2.504744	20	PASS
11A	ANT1	5270	NV	20	12400	2.352941	20	PASS
11A	ANT1	5270	NV	30	11600	2.201139	20	PASS
11A	ANT1	5270	NV	40	11000	2.087287	20	PASS
11A	ANT1	5270	NV	50	10400	1.973435	20	PASS
11A	ANT2	5270	NV	-30	60000	11.385199	20	PASS
11A	ANT2	5270	NV	-20	60200	11.42315	20	PASS
11A	ANT2	5270	NV	-10	60200	11.42315	20	PASS
11A	ANT2	5270	NV	0	60200	11.42315	20	PASS
11A	ANT2	5270	NV	10	60200	11.42315	20	PASS
11A	ANT2	5270	NV	20	60200	11.42315	20	PASS
11A	ANT2	5270	NV	30	60400	11.461101	20	PASS
11A	ANT2	5270	NV	40	60200	11.42315	20	PASS
11A	ANT2	5270	NV	50	60400	11.461101	20	PASS
11A	ANT1	5290	NV	-30	37000	6.994329	20	PASS
11A	ANT1	5290	NV	-20	37000	6.994329	20	PASS
11A	ANT1	5290	NV	-10	37000	6.994329	20	PASS
11A	ANT1	5290	NV	0	37000	6.994329	20	PASS
11A	ANT1	5290	NV	10	36800	6.956522	20	PASS
11A	ANT1	5290	NV	20	36800	6.956522	20	PASS
11A	ANT1	5290	NV	30	36800	6.956522	20	PASS
11A	ANT1	5290	NV	40	36800	6.956522	20	PASS
11A	ANT1	5290	NV	50	36800	6.956522	20	PASS
11A	ANT2	5290	NV	-30	46800	8.846881	20	PASS
11A	ANT2	5290	NV	-20	47000	8.884688	20	PASS
11A	ANT2	5290	NV	-10	47600	8.99811	20	PASS
11A	ANT2	5290	NV	0	48000	9.073724	20	PASS
11A	ANT2	5290	NV	10	48200	9.111531	20	PASS
11A	ANT2	5290	NV	20	48600	9.187146	20	PASS
11A	ANT2	5290	NV	30	49000	9.26276	20	PASS
11A	ANT2	5290	NV	40	49200	9.300567	20	PASS
11A	ANT2	5290	NV	50	49800	9.413989	20	PASS

11A	ANT1	5300	NV	-30	29200	5.509434	20	PASS
11A	ANT1	5300	NV	-20	29600	5.584906	20	PASS
11A	ANT1	5300	NV	-10	29800	5.622642	20	PASS
11A	ANT1	5300	NV	0	30000	5.660377	20	PASS
11A	ANT1	5300	NV	10	30400	5.735849	20	PASS
11A	ANT1	5300	NV	20	30800	5.811321	20	PASS
11A	ANT1	5300	NV	30	31000	5.849057	20	PASS
11A	ANT1	5300	NV	40	31200	5.886792	20	PASS
11A	ANT1	5300	NV	50	31400	5.924528	20	PASS
11A	ANT2	5300	NV	-30	48000	9.056604	20	PASS
11A	ANT2	5300	NV	-20	48200	9.09434	20	PASS
11A	ANT2	5300	NV	-10	48400	9.132075	20	PASS
11A	ANT2	5300	NV	0	48400	9.132075	20	PASS
11A	ANT2	5300	NV	10	48600	9.169811	20	PASS
11A	ANT2	5300	NV	20	48800	9.207547	20	PASS
11A	ANT2	5300	NV	30	48800	9.207547	20	PASS
11A	ANT2	5300	NV	40	48800	9.207547	20	PASS
11A	ANT2	5300	NV	50	49000	9.245283	20	PASS
11A	ANT1	5310	NV	-30	2400	0.451977	20	PASS
11A	ANT1	5310	NV	-20	1800	0.338983	20	PASS
11A	ANT1	5310	NV	-10	1400	0.263653	20	PASS
11A	ANT1	5310	NV	0	1200	0.225989	20	PASS
11A	ANT1	5310	NV	10	1000	0.188324	20	PASS
11A	ANT1	5310	NV	20	1000	0.188324	20	PASS
11A	ANT1	5310	NV	30	1000	0.188324	20	PASS
11A	ANT1	5310	NV	40	1000	0.188324	20	PASS
11A	ANT1	5310	NV	50	1200	0.225989	20	PASS
11A	ANT2	5310	NV	-30	60000	11.299435	20	PASS
11A	ANT2	5310	NV	-20	60200	11.3371	20	PASS
11A	ANT2	5310	NV	-10	60400	11.374765	20	PASS
11A	ANT2	5310	NV	0	60600	11.412429	20	PASS
11A	ANT2	5310	NV	10	60800	11.450094	20	PASS
11A	ANT2	5310	NV	20	61000	11.487759	20	PASS
11A	ANT2	5310	NV	30	61000	11.487759	20	PASS
11A	ANT2	5310	NV	40	61200	11.525424	20	PASS
11A	ANT2	5310	NV	50	61200	11.525424	20	PASS
11A	ANT1	5320	NV	-30	32600	6.12782	20	PASS
11A	ANT1	5320	NV	-20	32800	6.165414	20	PASS
11A	ANT1	5320	NV	-10	33400	6.278195	20	PASS
11A	ANT1	5320	NV	0	33600	6.315789	20	PASS
11A	ANT1	5320	NV	10	34000	6.390977	20	PASS
11A	ANT1	5320	NV	20	34200	6.428571	20	PASS
11A	ANT1	5320	NV	30	34400	6.466165	20	PASS
11A	ANT1	5320	NV	40	34800	6.541353	20	PASS
11A	ANT1	5320	NV	50	35000	6.578947	20	PASS
11A	ANT2	5320	NV	-30	52400	9.849624	20	PASS
11A	ANT2	5320	NV	-20	52800	9.924812	20	PASS
11A	ANT2	5320	NV	-10	53200	10	20	PASS
11A	ANT2	5320	NV	0	53400	10.037594	20	PASS
11A	ANT2	5320	NV	10	53600	10.075188	20	PASS
11A	ANT2	5320	NV	20	54000	10.150376	20	PASS

11A	ANT2	5320	NV	30	54000	10.150376	20	PASS
11A	ANT2	5320	NV	40	54400	10.225564	20	PASS
11A	ANT2	5320	NV	50	54400	10.225564	20	PASS
11A	ANT1	5500	NV	-30	44600	8.109091	20	PASS
11A	ANT1	5500	NV	-20	46200	8.4	20	PASS
11A	ANT1	5500	NV	-10	47600	8.654545	20	PASS
11A	ANT1	5500	NV	0	49000	8.909091	20	PASS
11A	ANT1	5500	NV	10	50200	9.127273	20	PASS
11A	ANT1	5500	NV	20	51200	9.309091	20	PASS
11A	ANT1	5500	NV	30	52400	9.527273	20	PASS
11A	ANT1	5500	NV	40	53200	9.672727	20	PASS
11A	ANT1	5500	NV	50	54200	9.854545	20	PASS
11A	ANT2	5500	NV	-30	63800	11.6	20	PASS
11A	ANT2	5500	NV	-20	65800	11.963636	20	PASS
11A	ANT2	5500	NV	-10	67400	12.254545	20	PASS
11A	ANT2	5500	NV	0	68800	12.509091	20	PASS
11A	ANT2	5500	NV	10	69800	12.690909	20	PASS
11A	ANT2	5500	NV	20	71200	12.945455	20	PASS
11A	ANT2	5500	NV	30	72200	13.127273	20	PASS
11A	ANT2	5500	NV	40	73000	13.272727	20	PASS
11A	ANT2	5500	NV	50	74000	13.454545	20	PASS
11A	ANT1	5510	NV	-30	5000	0.907441	20	PASS
11A	ANT1	5510	NV	-20	5800	1.052632	20	PASS
11A	ANT1	5510	NV	-10	6600	1.197822	20	PASS
11A	ANT1	5510	NV	0	7400	1.343013	20	PASS
11A	ANT1	5510	NV	10	8200	1.488203	20	PASS
11A	ANT1	5510	NV	20	9000	1.633394	20	PASS
11A	ANT1	5510	NV	30	9600	1.742287	20	PASS
11A	ANT1	5510	NV	40	10400	1.887477	20	PASS
11A	ANT1	5510	NV	50	11200	2.032668	20	PASS
11A	ANT2	5510	NV	-30	11800	2.141561	20	PASS
11A	ANT2	5510	NV	-20	12400	2.250454	20	PASS
11A	ANT2	5510	NV	-10	13000	2.359347	20	PASS
11A	ANT2	5510	NV	0	13600	2.46824	20	PASS
11A	ANT2	5510	NV	10	14000	2.540835	20	PASS
11A	ANT2	5510	NV	20	14400	2.61343	20	PASS
11A	ANT2	5510	NV	30	14800	2.686025	20	PASS
11A	ANT2	5510	NV	40	15200	2.758621	20	PASS
11A	ANT2	5510	NV	50	15600	2.831216	20	PASS
11A	ANT1	5530	NV	-30	42600	7.703436	20	PASS
11A	ANT1	5530	NV	-20	43600	7.884268	20	PASS
11A	ANT1	5530	NV	-10	44600	8.065099	20	PASS
11A	ANT1	5530	NV	0	45200	8.173599	20	PASS
11A	ANT1	5530	NV	10	46200	8.35443	20	PASS
11A	ANT1	5530	NV	20	46800	8.462929	20	PASS
11A	ANT1	5530	NV	30	47600	8.607595	20	PASS
11A	ANT1	5530	NV	40	48000	8.679928	20	PASS
11A	ANT1	5530	NV	50	48800	8.824593	20	PASS
11A	ANT2	5530	NV	-30	61400	11.103074	20	PASS
11A	ANT2	5530	NV	-20	63200	11.428571	20	PASS
11A	ANT2	5530	NV	-10	65000	11.754069	20	PASS

11A	ANT2	5530	NV	0	66600	12.0434	20	PASS
11A	ANT2	5530	NV	10	68200	12.332731	20	PASS
11A	ANT2	5530	NV	20	69400	12.549729	20	PASS
11A	ANT2	5530	NV	30	70600	12.766727	20	PASS
11A	ANT2	5530	NV	40	71800	12.983725	20	PASS
11A	ANT2	5530	NV	50	72800	13.164557	20	PASS
11A	ANT1	5550	NV	-30	16400	2.954955	20	PASS
11A	ANT1	5550	NV	-20	17000	3.063063	20	PASS
11A	ANT1	5550	NV	-10	17400	3.135135	20	PASS
11A	ANT1	5550	NV	0	18000	3.243243	20	PASS
11A	ANT1	5550	NV	10	18600	3.351351	20	PASS
11A	ANT1	5550	NV	20	19200	3.459459	20	PASS
11A	ANT1	5550	NV	30	19600	3.531532	20	PASS
11A	ANT1	5550	NV	40	20200	3.63964	20	PASS
11A	ANT1	5550	NV	50	20600	3.711712	20	PASS
11A	ANT2	5550	NV	-30	29200	5.261261	20	PASS
11A	ANT2	5550	NV	-20	32200	5.801802	20	PASS
11A	ANT2	5550	NV	-10	35000	6.306306	20	PASS
11A	ANT2	5550	NV	0	37600	6.774775	20	PASS
11A	ANT2	5550	NV	10	40000	7.207207	20	PASS
11A	ANT2	5550	NV	20	42200	7.603604	20	PASS
11A	ANT2	5550	NV	30	44400	8	20	PASS
11A	ANT2	5550	NV	40	46600	8.396396	20	PASS
11A	ANT2	5550	NV	50	48400	8.720721	20	PASS
11A	ANT1	5580	NV	-30	54200	9.713262	20	PASS
11A	ANT1	5580	NV	-20	54200	9.713262	20	PASS
11A	ANT1	5580	NV	-10	54200	9.713262	20	PASS
11A	ANT1	5580	NV	0	54200	9.713262	20	PASS
11A	ANT1	5580	NV	10	54200	9.713262	20	PASS
11A	ANT1	5580	NV	20	54200	9.713262	20	PASS
11A	ANT1	5580	NV	30	54200	9.713262	20	PASS
11A	ANT1	5580	NV	40	54400	9.749104	20	PASS
11A	ANT1	5580	NV	50	54400	9.749104	20	PASS
11A	ANT2	5580	NV	-30	71200	12.759857	20	PASS
11A	ANT2	5580	NV	-20	70800	12.688172	20	PASS
11A	ANT2	5580	NV	-10	70200	12.580645	20	PASS
11A	ANT2	5580	NV	0	69800	12.508961	20	PASS
11A	ANT2	5580	NV	10	69600	12.473118	20	PASS
11A	ANT2	5580	NV	20	69200	12.401434	20	PASS
11A	ANT2	5580	NV	30	69000	12.365591	20	PASS
11A	ANT2	5580	NV	40	68800	12.329749	20	PASS
11A	ANT2	5580	NV	50	68600	12.293907	20	PASS
11A	ANT1	5610	NV	-30	47200	8.413547	20	PASS
11A	ANT1	5610	NV	-20	47000	8.377897	20	PASS
11A	ANT1	5610	NV	-10	47000	8.377897	20	PASS
11A	ANT1	5610	NV	0	47000	8.377897	20	PASS
11A	ANT1	5610	NV	10	46800	8.342246	20	PASS
11A	ANT1	5610	NV	20	46800	8.342246	20	PASS
11A	ANT1	5610	NV	30	46800	8.342246	20	PASS
11A	ANT1	5610	NV	40	46800	8.342246	20	PASS
11A	ANT1	5610	NV	50	46800	8.342246	20	PASS

11A	ANT2	5610	NV	-30	13800	2.459893	20	PASS
11A	ANT2	5610	NV	-20	14800	2.638146	20	PASS
11A	ANT2	5610	NV	-10	15400	2.745098	20	PASS
11A	ANT2	5610	NV	0	16000	2.85205	20	PASS
11A	ANT2	5610	NV	10	16600	2.959002	20	PASS
11A	ANT2	5610	NV	20	17000	3.030303	20	PASS
11A	ANT2	5610	NV	30	17400	3.101604	20	PASS
11A	ANT2	5610	NV	40	17800	3.172906	20	PASS
11A	ANT2	5610	NV	50	18200	3.244207	20	PASS
11A	ANT1	5670	NV	-30	24000	4.232804	20	PASS
11A	ANT1	5670	NV	-20	24400	4.303351	20	PASS
11A	ANT1	5670	NV	-10	24800	4.373898	20	PASS
11A	ANT1	5670	NV	0	25000	4.409171	20	PASS
11A	ANT1	5670	NV	10	25800	4.550265	20	PASS
11A	ANT1	5670	NV	20	26000	4.585538	20	PASS
11A	ANT1	5670	NV	30	26400	4.656085	20	PASS
11A	ANT1	5670	NV	40	26800	4.726631	20	PASS
11A	ANT1	5670	NV	50	27200	4.797178	20	PASS
11A	ANT2	5670	NV	-30	57800	10.194004	20	PASS
11A	ANT2	5670	NV	-20	58000	10.229277	20	PASS
11A	ANT2	5670	NV	-10	58600	10.335097	20	PASS
11A	ANT2	5670	NV	0	59000	10.405644	20	PASS
11A	ANT2	5670	NV	10	59600	10.511464	20	PASS
11A	ANT2	5670	NV	20	59800	10.546737	20	PASS
11A	ANT2	5670	NV	30	60400	10.652557	20	PASS
11A	ANT2	5670	NV	40	61000	10.758377	20	PASS
11A	ANT2	5670	NV	50	61400	10.828924	20	PASS
11A	ANT1	5700	NV	-30	57000	10	20	PASS
11A	ANT1	5700	NV	-20	57600	10.105263	20	PASS
11A	ANT1	5700	NV	-10	58200	10.210526	20	PASS
11A	ANT1	5700	NV	0	58800	10.315789	20	PASS
11A	ANT1	5700	NV	10	59200	10.385965	20	PASS
11A	ANT1	5700	NV	20	59800	10.491228	20	PASS
11A	ANT1	5700	NV	30	60200	10.561404	20	PASS
11A	ANT1	5700	NV	40	60600	10.631579	20	PASS
11A	ANT1	5700	NV	50	61000	10.701754	20	PASS
11A	ANT2	5700	NV	-30	70600	12.385965	20	PASS
11A	ANT2	5700	NV	-20	71000	12.45614	20	PASS
11A	ANT2	5700	NV	-10	71600	12.561404	20	PASS
11A	ANT2	5700	NV	0	72200	12.666667	20	PASS
11A	ANT2	5700	NV	10	72600	12.736842	20	PASS
11A	ANT2	5700	NV	20	72800	12.77193	20	PASS
11A	ANT2	5700	NV	30	73200	12.842105	20	PASS
11A	ANT2	5700	NV	40	73600	12.912281	20	PASS
11A	ANT2	5700	NV	50	73800	12.947368	20	PASS
11A	ANT1	5745	NV	-30	72000	12.532637	20	PASS
11A	ANT1	5745	NV	-20	73800	12.845953	20	PASS
11A	ANT1	5745	NV	-10	75200	13.089643	20	PASS
11A	ANT1	5745	NV	0	76600	13.333333	20	PASS
11A	ANT1	5745	NV	10	78200	13.611836	20	PASS
11A	ANT1	5745	NV	20	79000	13.751088	20	PASS

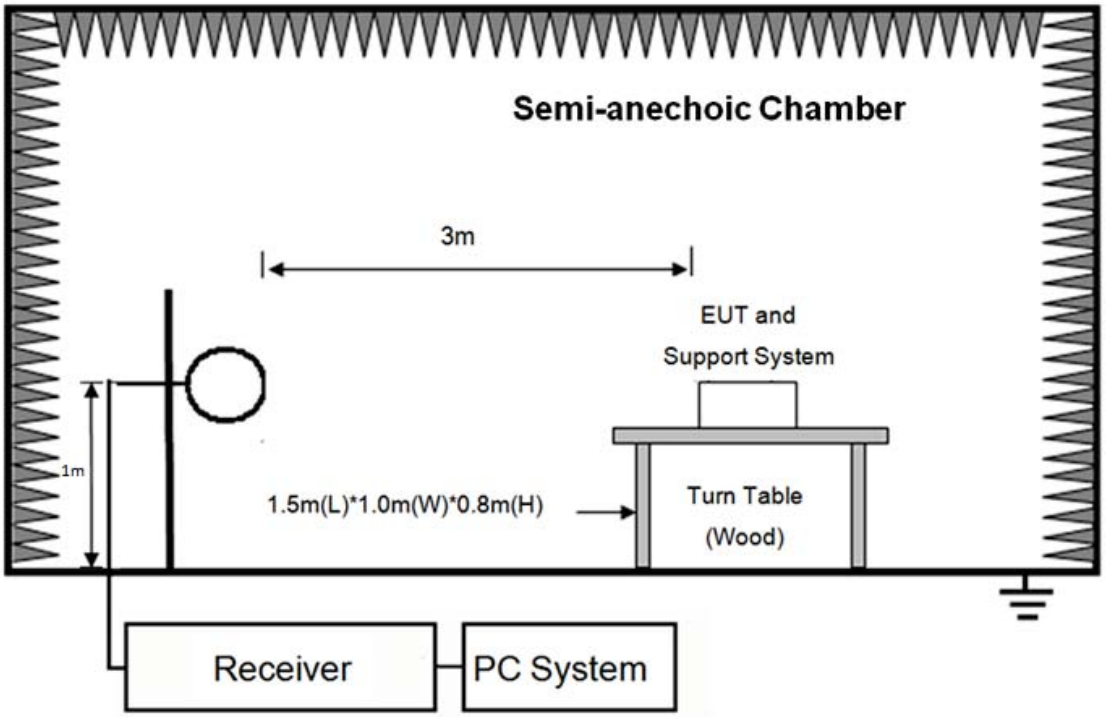
11A	ANT1	5745	NV	30	80000	13.925152	20	PASS
11A	ANT1	5745	NV	40	81000	14.099217	20	PASS
11A	ANT1	5745	NV	50	82000	14.273281	20	PASS
11A	ANT2	5745	NV	-30	13200	2.29765	20	PASS
11A	ANT2	5745	NV	-20	14000	2.436902	20	PASS
11A	ANT2	5745	NV	-10	14400	2.506527	20	PASS
11A	ANT2	5745	NV	0	15000	2.610966	20	PASS
11A	ANT2	5745	NV	10	15600	2.715405	20	PASS
11A	ANT2	5745	NV	20	16000	2.78503	20	PASS
11A	ANT2	5745	NV	30	16400	2.854656	20	PASS
11A	ANT2	5745	NV	40	16600	2.889469	20	PASS
11A	ANT2	5745	NV	50	16800	2.924282	20	PASS
11A	ANT1	5755	NV	-30	34600	6.012163	20	PASS
11A	ANT1	5755	NV	-20	35800	6.220678	20	PASS
11A	ANT1	5755	NV	-10	37200	6.463944	20	PASS
11A	ANT1	5755	NV	0	38000	6.602954	20	PASS
11A	ANT1	5755	NV	10	39000	6.776716	20	PASS
11A	ANT1	5755	NV	20	39800	6.915725	20	PASS
11A	ANT1	5755	NV	30	40800	7.089487	20	PASS
11A	ANT1	5755	NV	40	41600	7.228497	20	PASS
11A	ANT1	5755	NV	50	42200	7.332754	20	PASS
11A	ANT2	5755	NV	-30	71400	12.406603	20	PASS
11A	ANT2	5755	NV	-20	73400	12.754127	20	PASS
11A	ANT2	5755	NV	-10	75200	13.066898	20	PASS
11A	ANT2	5755	NV	0	77600	13.483927	20	PASS
11A	ANT2	5755	NV	10	78600	13.657689	20	PASS
11A	ANT2	5755	NV	20	80000	13.900956	20	PASS
11A	ANT2	5755	NV	30	81600	14.178975	20	PASS
11A	ANT2	5755	NV	40	83000	14.422242	20	PASS
11A	ANT2	5755	NV	50	84200	14.630756	20	PASS
11A	ANT1	5775	NV	-30	53600	9.281385	20	PASS
11A	ANT1	5775	NV	-20	55000	9.52381	20	PASS
11A	ANT1	5775	NV	-10	56200	9.731602	20	PASS
11A	ANT1	5775	NV	0	57400	9.939394	20	PASS
11A	ANT1	5775	NV	10	58600	10.147186	20	PASS
11A	ANT1	5775	NV	20	59600	10.320346	20	PASS
11A	ANT1	5775	NV	30	60600	10.493506	20	PASS
11A	ANT1	5775	NV	40	61400	10.632035	20	PASS
11A	ANT1	5775	NV	50	62200	10.770563	20	PASS
11A	ANT2	5775	NV	-30	35200	6.095238	20	PASS
11A	ANT2	5775	NV	-20	38400	6.649351	20	PASS
11A	ANT2	5775	NV	-10	41200	7.134199	20	PASS
11A	ANT2	5775	NV	0	43800	7.584416	20	PASS
11A	ANT2	5775	NV	10	46200	8	20	PASS
11A	ANT2	5775	NV	20	48600	8.415584	20	PASS
11A	ANT2	5775	NV	30	50800	8.796537	20	PASS
11A	ANT2	5775	NV	40	52800	9.142857	20	PASS
11A	ANT2	5775	NV	50	55000	9.52381	20	PASS
11A	ANT1	5785	NV	-30	17600	3.042351	20	PASS
11A	ANT1	5785	NV	-20	16000	2.765774	20	PASS
11A	ANT1	5785	NV	-10	14600	2.523768	20	PASS

11A	ANT1	5785	NV	0	13600	2.350908	20	PASS
11A	ANT1	5785	NV	10	12600	2.178047	20	PASS
11A	ANT1	5785	NV	20	11600	2.005186	20	PASS
11A	ANT1	5785	NV	30	10800	1.866897	20	PASS
11A	ANT1	5785	NV	40	10200	1.763181	20	PASS
11A	ANT1	5785	NV	50	9600	1.659464	20	PASS
11A	ANT2	5785	NV	-30	30000	5.185825	20	PASS
11A	ANT2	5785	NV	-20	33200	5.73898	20	PASS
11A	ANT2	5785	NV	-10	35800	6.188418	20	PASS
11A	ANT2	5785	NV	0	38800	6.707001	20	PASS
11A	ANT2	5785	NV	10	41000	7.087295	20	PASS
11A	ANT2	5785	NV	20	43400	7.502161	20	PASS
11A	ANT2	5785	NV	30	45600	7.882455	20	PASS
11A	ANT2	5785	NV	40	47600	8.228176	20	PASS
11A	ANT2	5785	NV	50	49600	8.573898	20	PASS
11A	ANT1	5795	NV	-30	45200	7.799827	20	PASS
11A	ANT1	5795	NV	-20	45800	7.903365	20	PASS
11A	ANT1	5795	NV	-10	46200	7.97239	20	PASS
11A	ANT1	5795	NV	0	46600	8.041415	20	PASS
11A	ANT1	5795	NV	10	47200	8.144953	20	PASS
11A	ANT1	5795	NV	20	47600	8.213978	20	PASS
11A	ANT1	5795	NV	30	48000	8.283003	20	PASS
11A	ANT1	5795	NV	40	48400	8.352028	20	PASS
11A	ANT1	5795	NV	50	48800	8.421053	20	PASS
11A	ANT2	5795	NV	-30	15200	2.622951	20	PASS
11A	ANT2	5795	NV	-20	16000	2.761001	20	PASS
11A	ANT2	5795	NV	-10	16800	2.899051	20	PASS
11A	ANT2	5795	NV	0	17600	3.037101	20	PASS
11A	ANT2	5795	NV	10	18000	3.106126	20	PASS
11A	ANT2	5795	NV	20	18600	3.209664	20	PASS
11A	ANT2	5795	NV	30	19200	3.313201	20	PASS
11A	ANT2	5795	NV	40	19400	3.347714	20	PASS
11A	ANT2	5795	NV	50	19800	3.416739	20	PASS
11A	ANT1	5825	NV	-30	1800	0.309013	20	PASS
11A	ANT1	5825	NV	-20	2000	0.343348	20	PASS
11A	ANT1	5825	NV	-10	2200	0.377682	20	PASS
11A	ANT1	5825	NV	0	2600	0.446352	20	PASS
11A	ANT1	5825	NV	10	3000	0.515021	20	PASS
11A	ANT1	5825	NV	20	3600	0.618026	20	PASS
11A	ANT1	5825	NV	30	4200	0.72103	20	PASS
11A	ANT1	5825	NV	40	4800	0.824034	20	PASS
11A	ANT1	5825	NV	50	5600	0.961373	20	PASS
11A	ANT2	5825	NV	-30	61600	10.575107	20	PASS
11A	ANT2	5825	NV	-20	63000	10.815451	20	PASS
11A	ANT2	5825	NV	-10	64800	11.124464	20	PASS
11A	ANT2	5825	NV	0	66200	11.364807	20	PASS
11A	ANT2	5825	NV	10	67600	11.60515	20	PASS
11A	ANT2	5825	NV	20	68800	11.811159	20	PASS
11A	ANT2	5825	NV	30	70000	12.017167	20	PASS
11A	ANT2	5825	NV	40	71600	12.291845	20	PASS
11A	ANT2	5825	NV	50	72200	12.39485	20	PASS

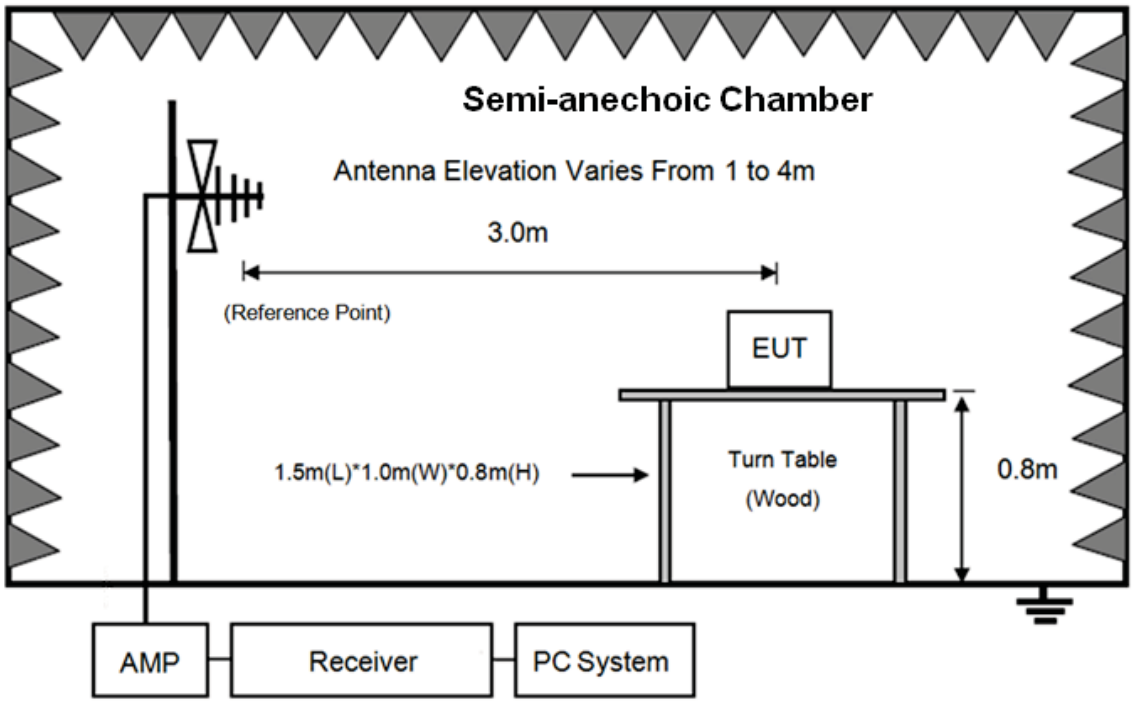
8. Emissions in restricted frequency bands

8.1. Block diagram of test setup

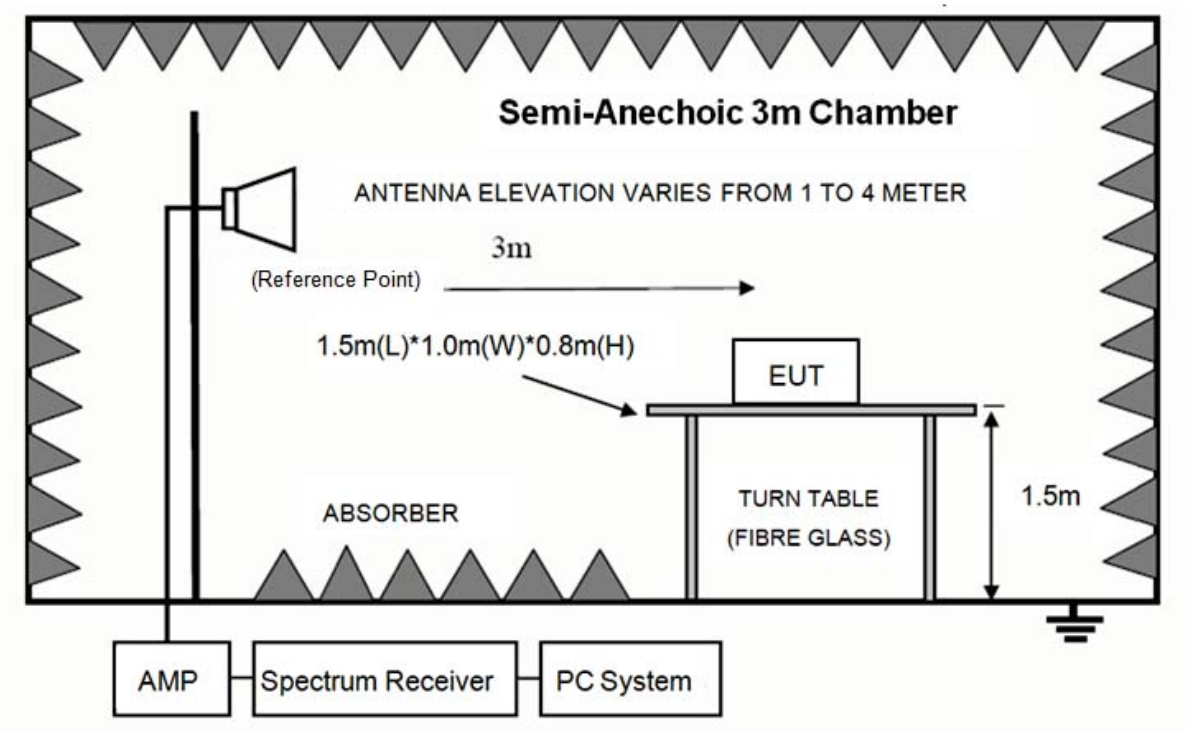
In 3m Anechoic Chamber Test Setup Diagram for 9kHz-30MHz



In 3m Anechoic Chamber Test Setup Diagram for 30MHz-1GHz



In 3m Anechoic Chamber Test Setup Diagram for frequency above 1GHz



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

8.2. Limit

8.3.1 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
10.495-0.505	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			

8.3.2 FCC 15.209 Limit.

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/m
0.009 ~ 0.490	300	2400/F(kHz)	67.6-20log(F)
0.490 ~ 1.705	30	24000/F(kHz)	87.6-20log(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 dB(μV)/m (Peak) 54.0 dB(μV)/m (Average)	

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:

$$Limit_{3m}(dBuV/m) = Limit_{30m}(dBuV/m) + 40Log(30m/3m)$$

8.3.3 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.

8.3. Test Procedure

(1) EUT height should be 0.8 m for below 1 GHz at a semi‐anechoic chamber while EUT height should be 1.5 m for above 1GHz at full chamber or semi‐anechoic chamber ground with absorbers

(2) Setup EUT and assistant system according clause 2.3 and 8.2

(3) Test antenna was located 3m from the EUT on an adjustable mast, and the antenna used as below table.

Test frequency range	Test antenna used	Test distance
9 kHz-30 MHz	Active Loop antenna	3 m
30 MHz-1 GHz	Trilog Broadband Antenna	3 m
1 GHz-18 GHz	Double Ridged Horn Antenna(1GHz-18GHz)	3 m
18 GHz-40 GHz	Horn Antenna(18GHz-40GHz)	1 m

According ANSI C63.10:2013 clause 6.4.4.2 and 6,5.3, for measurements below 30 MHz, the loop antenna was positioned with its plane vertical from the EUT and rotated about its vertical axis for maximum response at each azimuth position around the EUT. And the loop antenna also

be positioned with its plane horizontal at the specified distance from the EUT. The center of the loop is 1 m above the ground. for measurement above 30 MHz, the Trilog Broadband Antenna or Horn Antenna was located 3m from EUT, Measurements were made with the antenna positioned in both the horizontal and vertical planes of Polarization, and the measurement antenna was varied from 1 m to 4 m. in height above the reference ground plane to obtain the maximum signal strength.

(4) Below pre-scan procedure was first performed in order to find prominent frequency spectrum radiated emissions from 9 kHz to 40 GHz:

(a) Scanning the peak frequency spectrum with the antenna specified in step (3), and the EUT was rotated 360 degree, the antenna height was varied from 1 m to 4 m (Except loop antenna, it's fixed 1m above ground.)

(b) Change work frequency or channel of device if practicable.

(c) Change modulation type of device if practicable.

(d) Change power supply range from 85% to 115% of the rated supply voltage

(e) Rotated EUT though three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions.

Spectrum frequency from 9 kHz to 40 GHz (tenth harmonic of fundamental frequency) was investigated, and no any obvious emission were detected from 9 kHz to 30 MHz and 18 GHz to 40 GHz, so below final test was performed with frequency range from 30 MHz to 18 GHz.

(5) For final emissions measurements at each frequency of interest, the EUT was rotated and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.10:2013 on Radiated Emission test.

(6) The emissions from 9 kHz to 1 GHz were measured based on CISPR QP detector except for the frequency bands 9-90 kHz, 110-490 kHz, for emissions from 9 kHz-90kHz,110kHz-490kHz and above 1GHz were measured based on average detector, for emissions above 1 GHz, peak emissions also be measured and need comply with Peak limit.

(7) The emissions from 9 kHz to 1 GHz, QP or average values were measured with EMI receiver with below RBW

Frequency band	RBW
9 kHz-150 kHz	200 Hz
150 kHz-30 MHz	9 kHz
30 MHz-1 GHz	120 kHz

(8) For emissions above 1 GHz, both Peak and Average level were measured with Spectrum Analyzer, and the RBW is set at 1 MHz, VBW is set at 3MHz for Peak measure, the RBW is set at 1 MHz, VBW is set at 10 Hz for AV value.

8.4. 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 no any obvious emission was 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 11a mode.

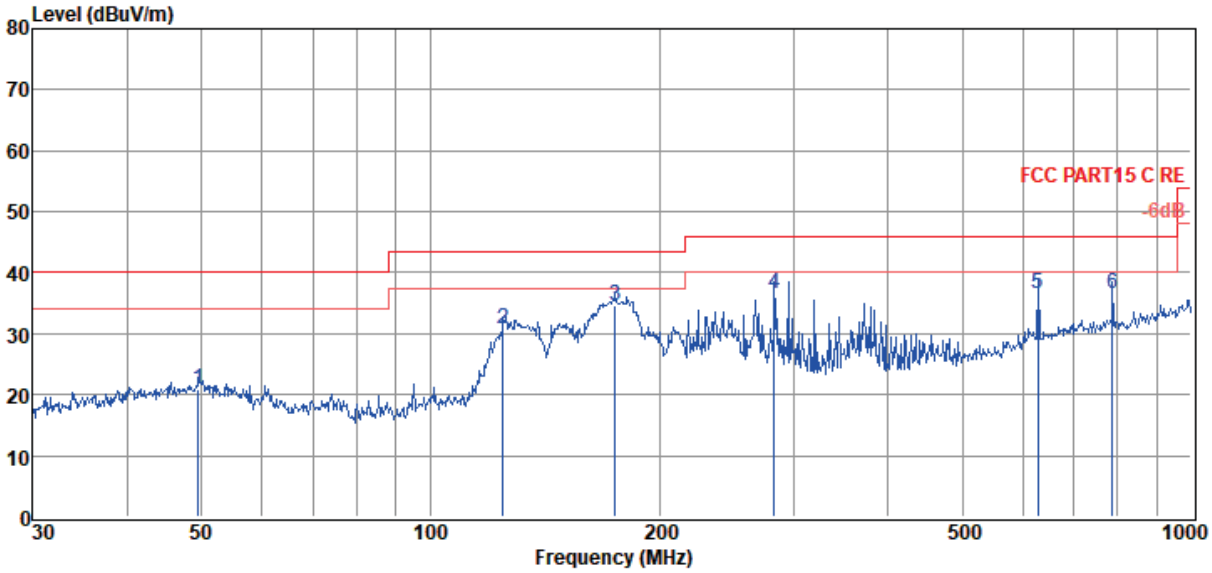
Note3: For below test data, when the limit tabular marked "/" means this frequency point is the fundamental emission and no need comply with this limit.

Radiated Emission test (below 1GHz)

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC BELOW1G.EM6	
Test Date	: 2019-10-24	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:101.4kPa	**Antenna/Distance**	: 2018 VULB 9163 1#/3m/HORIZONTAL
Memo	:		

Data: 7



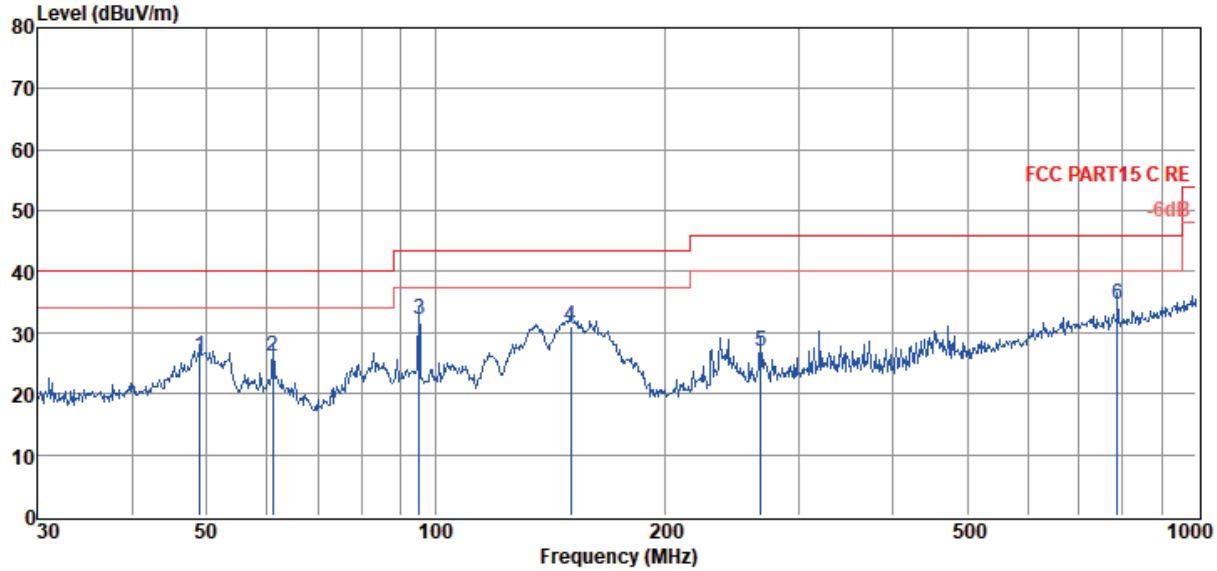
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	49.53	2.42	14.55	3.86	20.83	40.00	-19.17	QP	HORIZONTAL
2	124.57	16.89	9.61	4.33	30.83	43.50	-12.67	QP	HORIZONTAL
3	175.04	20.69	9.31	4.70	34.70	43.50	-8.80	QP	HORIZONTAL
4	282.99	17.84	13.63	5.12	36.59	46.00	-9.41	QP	HORIZONTAL
5	629.48	11.47	19.00	6.18	36.65	46.00	-9.35	QP	HORIZONTAL
6	787.85	9.28	20.63	6.58	36.49	46.00	-9.51	QP	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss.
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC BELOW1G.EM6	
Test Date	: 2019-10-24	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:101.4kPa	**Antenna/Distance**	: 2018 VULB 9163 1#/3m/VERTICAL
Memo	:		

Data: 8



Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	49.01	7.74	14.49	3.86	26.09	40.00	-13.91	QP	VERTICAL
2	61.13	11.11	11.17	3.96	26.24	40.00	-13.76	QP	VERTICAL
3	95.09	16.98	10.89	4.18	32.05	43.50	-11.45	QP	VERTICAL
4	150.54	18.24	8.42	4.52	31.18	43.50	-12.32	QP	VERTICAL
5	267.55	8.72	13.27	5.07	27.06	46.00	-18.94	QP	VERTICAL
6	787.85	7.34	20.63	6.58	34.55	46.00	-11.45	QP	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss.
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

Radiated Emission test (above 1GHz)

Freq (MHz)	Read level (dBμV)	Antenna Factor (dB/m)	PRM Factor(dB)	Cable Loss (dB)	Result Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector type	Polarization
11a CH36									
9041.00	43.17	36.83	42.26	7.95	45.69	74.00	-28.31	Peak	HORIZONTAL
10809.00	43.91	37.58	41.81	8.95	48.63	74.00	-25.37	Peak	HORIZONTAL
11880.00	44.91	38.14	42.64	9.09	49.50	74.00	-24.50	Peak	HORIZONTAL
12679.00	44.49	38.17	42.92	10.19	49.93	74.00	-24.07	Peak	HORIZONTAL
13070.00	43.88	38.40	42.75	10.74	50.27	74.00	-23.73	Peak	HORIZONTAL
15093.00	41.82	40.66	41.77	11.13	51.84	74.00	-22.16	Peak	HORIZONTAL
7919.00	45.14	36.24	43.19	7.24	45.43	74.00	-28.57	Peak	VERTICAL
10129.00	45.15	37.48	43.07	8.77	48.33	74.00	-25.67	Peak	VERTICAL
11404.00	44.71	38.39	42.31	9.04	49.83	74.00	-24.17	Peak	VERTICAL
12050.00	46.43	38.01	42.70	9.18	50.92	74.00	-23.08	Peak	VERTICAL
13529.00	44.50	39.07	42.26	10.92	52.23	74.00	-21.77	Peak	VERTICAL
16045.00	43.65	41.27	42.54	10.25	52.63	74.00	-21.37	Peak	VERTICAL
11a CH40									
8565.00	43.55	36.80	42.16	7.67	45.86	74.00	-28.14	Peak	HORIZONTAL
10316.00	43.61	37.59	42.81	8.82	47.21	74.00	-26.79	Peak	HORIZONTAL
11370.00	44.97	38.32	42.23	9.04	50.10	74.00	-23.90	Peak	HORIZONTAL
13104.00	43.83	38.45	42.72	10.75	50.31	74.00	-23.69	Peak	HORIZONTAL
14634.00	43.14	40.41	41.72	11.18	53.01	74.00	-20.99	Peak	HORIZONTAL
15909.00	42.86	41.07	42.47	10.31	51.77	74.00	-22.23	Peak	HORIZONTAL
7970.00	44.96	36.28	43.17	7.30	45.37	74.00	-28.63	Peak	VERTICAL
9789.00	44.80	37.28	43.15	8.57	47.50	74.00	-26.50	Peak	VERTICAL
11880.00	44.34	38.14	42.64	9.09	48.93	74.00	-25.07	Peak	VERTICAL
13019.00	43.70	38.33	42.81	10.72	49.94	74.00	-24.06	Peak	VERTICAL
14600.00	43.31	40.38	41.72	11.17	53.14	74.00	-20.86	Peak	VERTICAL
15246.00	43.12	40.60	41.88	10.97	52.81	74.00	-21.19	Peak	VERTICAL
11a CH48									
8990.00	42.68	36.80	42.19	7.91	45.20	74.00	-28.80	Peak	HORIZONTAL
11336.00	44.49	38.24	42.15	9.03	49.61	74.00	-24.39	Peak	HORIZONTAL
12050.00	44.75	38.01	42.70	9.18	49.24	74.00	-24.76	Peak	HORIZONTAL
13410.00	43.37	38.88	42.39	10.87	50.73	74.00	-23.27	Peak	HORIZONTAL
15161.00	43.08	40.63	41.82	11.06	52.95	74.00	-21.05	Peak	HORIZONTAL
16861.00	41.78	42.80	42.07	10.70	53.21	74.00	-20.79	Peak	HORIZONTAL
8021.00	44.98	36.32	43.12	7.35	45.53	74.00	-28.47	Peak	VERTICAL
9959.00	43.90	37.38	43.23	8.71	46.76	74.00	-27.24	Peak	VERTICAL
11319.00	44.67	38.21	42.11	9.03	49.80	74.00	-24.20	Peak	VERTICAL
12016.00	44.71	38.00	42.68	9.13	49.16	74.00	-24.84	Peak	VERTICAL
14651.00	42.52	40.42	41.72	11.18	52.40	74.00	-21.60	Peak	VERTICAL
15535.00	43.39	40.55	42.10	10.69	52.53	74.00	-21.47	Peak	VERTICAL

Freq (MHz)	Read level (dBμV)	Antenna Factor (dB/m)	PRM Factor(dB)	Cable Loss (dB)	Result Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector type	Polarization
11a CH52									
8089.00	44.70	36.39	42.98	7.39	45.50	74.00	-28.50	Peak	HORIZONTAL
10537.00	43.05	37.68	42.46	8.88	47.15	74.00	-26.85	Peak	HORIZONTAL
11404.00	44.73	38.39	42.31	9.04	49.85	74.00	-24.15	Peak	HORIZONTAL
13189.00	44.75	38.57	42.63	10.78	51.47	74.00	-22.53	Peak	HORIZONTAL
14651.00	43.51	40.42	41.72	11.18	53.39	74.00	-20.61	Peak	HORIZONTAL
15246.00	43.03	40.60	41.88	10.97	52.72	74.00	-21.28	Peak	HORIZONTAL
7919.00	44.95	36.24	43.19	7.24	45.24	74.00	-28.76	Peak	VERTICAL
9755.00	45.17	37.26	43.14	8.54	47.83	74.00	-26.17	Peak	VERTICAL
11285.00	45.50	38.13	42.03	9.03	50.63	74.00	-23.37	Peak	VERTICAL
13291.00	44.31	38.71	42.52	10.82	51.32	74.00	-22.68	Peak	VERTICAL
14855.00	41.90	40.59	41.71	11.20	51.98	74.00	-22.02	Peak	VERTICAL
15909.00	43.18	41.07	42.47	10.31	52.09	74.00	-21.91	Peak	VERTICAL
11a CH56									
9449.00	43.54	37.08	42.94	8.29	45.97	74.00	-28.03	Peak	HORIZONTAL
11744.00	45.57	38.30	42.60	9.07	50.34	74.00	-23.66	Peak	HORIZONTAL
12696.00	43.81	38.18	42.92	10.22	49.29	74.00	-24.71	Peak	HORIZONTAL
13920.00	42.83	40.01	41.84	11.07	52.07	74.00	-21.93	Peak	HORIZONTAL
15144.00	43.02	40.64	41.80	11.08	52.94	74.00	-21.06	Peak	HORIZONTAL
16181.00	43.24	41.49	42.49	10.32	52.56	74.00	-21.44	Peak	HORIZONTAL
8514.00	43.27	36.80	42.16	7.64	45.55	74.00	-28.45	Peak	VERTICAL
9874.00	44.22	37.33	43.19	8.64	47.00	74.00	-27.00	Peak	VERTICAL
11880.00	45.16	38.14	42.64	9.09	49.75	74.00	-24.25	Peak	VERTICAL
12849.00	44.71	38.24	42.87	10.47	50.55	74.00	-23.45	Peak	VERTICAL
14651.00	43.06	40.42	41.72	11.18	52.94	74.00	-21.06	Peak	VERTICAL
15569.00	42.89	40.60	42.13	10.65	52.01	74.00	-21.99	Peak	VERTICAL
11a CH64									
9704.00	43.98	37.23	43.11	8.50	46.60	74.00	-27.40	Peak	HORIZONTAL
11336.00	44.11	38.24	42.15	9.03	49.23	74.00	-24.77	Peak	HORIZONTAL
12764.00	44.14	38.21	42.90	10.33	49.78	74.00	-24.22	Peak	HORIZONTAL
13954.00	43.29	40.09	41.81	11.08	52.65	74.00	-21.35	Peak	HORIZONTAL
15025.00	42.38	40.69	41.72	11.20	52.55	74.00	-21.45	Peak	HORIZONTAL
15994.00	43.28	41.19	42.55	10.23	52.15	74.00	-21.85	Peak	HORIZONTAL
10486.00	43.68	37.69	42.57	8.87	47.67	74.00	-26.33	Peak	VERTICAL
12050.00	45.56	38.01	42.70	9.18	50.05	74.00	-23.95	Peak	VERTICAL
13529.00	44.20	39.07	42.26	10.92	51.93	74.00	-22.07	Peak	VERTICAL
14906.00	43.47	40.63	41.71	11.21	53.60	74.00	-20.40	Peak	VERTICAL
15620.00	43.73	40.67	42.18	10.60	52.82	74.00	-21.18	Peak	VERTICAL
16181.00	43.25	41.49	42.49	10.32	52.57	74.00	-21.43	Peak	VERTICAL
Conclusion: Pass									

Freq (MHz)	Read level (dBμV)	Antenna Factor (dB/m)	PRM Factor(dB)	Cable Loss (dB)	Result Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector type	Polarization
11a CH110									
10554.00	44.03	37.68	42.42	8.88	48.17	74.00	-25.83	Peak	HORIZONTAL
11880.00	45.23	38.14	42.64	9.09	49.82	74.00	-24.18	Peak	HORIZONTAL
13614.00	43.29	39.28	42.17	10.95	51.35	74.00	-22.65	Peak	HORIZONTAL
14226.00	43.24	40.25	41.75	11.13	52.87	74.00	-21.13	Peak	HORIZONTAL
15076.00	42.86	40.67	41.75	11.14	52.92	74.00	-21.08	Peak	HORIZONTAL
16181.00	43.03	41.49	42.49	10.32	52.35	74.00	-21.65	Peak	HORIZONTAL
9755.00	46.06	37.26	43.14	8.54	48.72	74.00	-25.28	Peak	VERTICAL
12679.00	44.22	38.17	42.92	10.19	49.66	74.00	-24.34	Peak	VERTICAL
13614.00	44.07	39.28	42.17	10.95	52.13	74.00	-21.87	Peak	VERTICAL
15059.00	43.28	40.68	41.74	11.16	53.38	74.00	-20.62	Peak	VERTICAL
15569.00	43.28	40.60	42.13	10.65	52.40	74.00	-21.60	Peak	VERTICAL
16606.00	41.87	42.24	42.29	10.56	52.38	74.00	-21.62	Peak	VERTICAL
11a CH116									
9874.00	44.83	37.33	43.19	8.64	47.61	74.00	-26.39	Peak	HORIZONTAL
10945.00	44.71	37.52	41.49	8.99	49.73	74.00	-24.27	Peak	HORIZONTAL
13070.00	44.35	38.40	42.75	10.74	50.74	74.00	-23.26	Peak	HORIZONTAL
13971.00	44.34	40.13	41.79	11.09	53.77	74.00	-20.23	Peak	HORIZONTAL
15144.00	42.62	40.64	41.80	11.08	52.54	74.00	-21.46	Peak	HORIZONTAL
16334.00	42.61	41.74	42.44	10.41	52.32	74.00	-21.68	Peak	HORIZONTAL
9806.00	44.71	37.29	43.16	8.58	47.42	74.00	-26.58	Peak	VERTICAL
11336.00	44.56	38.24	42.15	9.03	49.68	74.00	-24.32	Peak	VERTICAL
11744.00	44.23	38.30	42.60	9.07	49.00	74.00	-25.00	Peak	VERTICAL
14209.00	43.01	40.24	41.75	11.13	52.63	74.00	-21.37	Peak	VERTICAL
14736.00	42.96	40.49	41.72	11.19	52.92	74.00	-21.08	Peak	VERTICAL
16011.00	43.93	41.22	42.56	10.23	52.82	74.00	-21.18	Peak	VERTICAL
11a CH140									
9364.00	43.44	37.03	42.79	8.22	45.90	74.00	-28.10	Peak	HORIZONTAL
12050.00	45.74	38.01	42.70	9.18	50.23	74.00	-23.77	Peak	HORIZONTAL
14090.00	43.08	40.22	41.75	11.11	52.66	74.00	-21.34	Peak	HORIZONTAL
14515.00	42.89	40.31	41.73	11.16	52.63	74.00	-21.37	Peak	HORIZONTAL
14821.00	42.56	40.56	41.71	11.20	52.61	74.00	-21.39	Peak	HORIZONTAL
15960.00	44.10	41.14	42.52	10.26	52.98	74.00	-21.02	Peak	HORIZONTAL
10350.00	44.63	37.61	42.76	8.83	48.31	74.00	-25.69	Peak	VERTICAL
11234.00	44.15	38.02	41.91	9.02	49.28	74.00	-24.72	Peak	VERTICAL
13444.00	44.59	38.92	42.35	10.88	52.04	74.00	-21.96	Peak	VERTICAL
14226.00	42.92	40.25	41.75	11.13	52.55	74.00	-21.45	Peak	VERTICAL
15076.00	42.08	40.67	41.75	11.14	52.14	74.00	-21.86	Peak	VERTICAL
16470.00	42.23	41.95	42.39	10.48	52.27	74.00	-21.73	Peak	VERTICAL

Freq (MHz)	Read level (dBμV)	Antenna Factor (dB/m)	PRM Factor(dB)	Cable Loss (dB)	Result Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector type	Polarization
11a CH149									
9670.00	44.07	37.21	43.10	8.47	46.65	74.00	-27.35	Peak	HORIZONTAL
11336.00	44.92	38.24	42.15	9.03	50.04	74.00	-23.96	Peak	HORIZONTAL
13019.00	44.03	38.33	42.81	10.72	50.27	74.00	-23.73	Peak	HORIZONTAL
14651.00	43.20	40.42	41.72	11.18	53.08	74.00	-20.92	Peak	HORIZONTAL
15790.00	43.37	40.91	42.35	10.43	52.36	74.00	-21.64	Peak	HORIZONTAL
16589.00	42.79	42.20	42.30	10.55	53.24	74.00	-20.76	Peak	HORIZONTAL
10214.00	45.45	37.53	42.95	8.80	48.83	74.00	-25.17	Peak	VERTICAL
12050.00	45.36	38.01	42.70	9.18	49.85	74.00	-24.15	Peak	VERTICAL
13529.00	42.87	39.07	42.26	10.92	50.60	74.00	-23.40	Peak	VERTICAL
14719.00	43.10	40.48	41.72	11.19	53.05	74.00	-20.95	Peak	VERTICAL
15195.00	43.40	40.62	41.84	11.03	53.21	74.00	-20.79	Peak	VERTICAL
15790.00	43.21	40.91	42.35	10.43	52.20	74.00	-21.80	Peak	VERTICAL
11a CH157									
10214.00	44.21	37.53	42.95	8.80	47.59	74.00	-26.41	Peak	HORIZONTAL
11880.00	45.55	38.14	42.64	9.09	50.14	74.00	-23.86	Peak	HORIZONTAL
13631.00	44.55	39.32	42.15	10.96	52.68	74.00	-21.32	Peak	HORIZONTAL
14566.00	43.36	40.35	41.73	11.17	53.15	74.00	-20.85	Peak	HORIZONTAL
15399.00	44.04	40.54	41.99	10.82	53.41	74.00	-20.59	Peak	HORIZONTAL
16181.00	43.87	41.49	42.49	10.32	53.19	74.00	-20.81	Peak	HORIZONTAL
9585.00	44.79	37.16	43.06	8.40	47.29	74.00	-26.71	Peak	VERTICAL
11489.00	44.41	38.58	42.50	9.05	49.54	74.00	-24.46	Peak	VERTICAL
13495.00	43.82	38.99	42.30	10.90	51.41	74.00	-22.59	Peak	VERTICAL
14379.00	43.57	40.28	41.74	11.15	53.26	74.00	-20.74	Peak	VERTICAL
15076.00	42.26	40.67	41.75	11.14	52.32	74.00	-21.68	Peak	VERTICAL
16181.00	43.14	41.49	42.49	10.32	52.46	74.00	-21.54	Peak	VERTICAL
11a CH165									
10316.00	43.99	37.59	42.81	8.82	47.59	74.00	-26.41	Peak	HORIZONTAL
11319.00	44.72	38.21	42.11	9.03	49.85	74.00	-24.15	Peak	HORIZONTAL
13070.00	44.23	38.40	42.75	10.74	50.62	74.00	-23.38	Peak	HORIZONTAL
13954.00	44.20	40.09	41.81	11.08	53.56	74.00	-20.44	Peak	HORIZONTAL
14566.00	43.21	40.35	41.73	11.17	53.00	74.00	-21.00	Peak	HORIZONTAL
15569.00	42.97	40.60	42.13	10.65	52.09	74.00	-21.91	Peak	HORIZONTAL
9755.00	44.26	37.26	43.14	8.54	46.92	74.00	-27.08	Peak	VERTICAL
11336.00	44.48	38.24	42.15	9.03	49.60	74.00	-24.40	Peak	VERTICAL
12016.00	45.75	38.00	42.68	9.13	50.20	74.00	-23.80	Peak	VERTICAL
13376.00	44.44	38.83	42.42	10.86	51.71	74.00	-22.29	Peak	VERTICAL
14481.00	43.47	40.30	41.73	11.16	53.20	74.00	-20.80	Peak	VERTICAL
15484.00	43.12	40.51	42.05	10.74	52.32	74.00	-21.68	Peak	VERTICAL

Conclusion: Pass

Note: -27 dBm/MHz Limit=95.2+EIRP[dBm]=95.2-27=68.2 dBμV/m
For transmitters operating in the 5150MHz-5250MHz, 5250MHz-5350MHz, 5470MHz-5725MHz, 5725MHz-5850MHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.

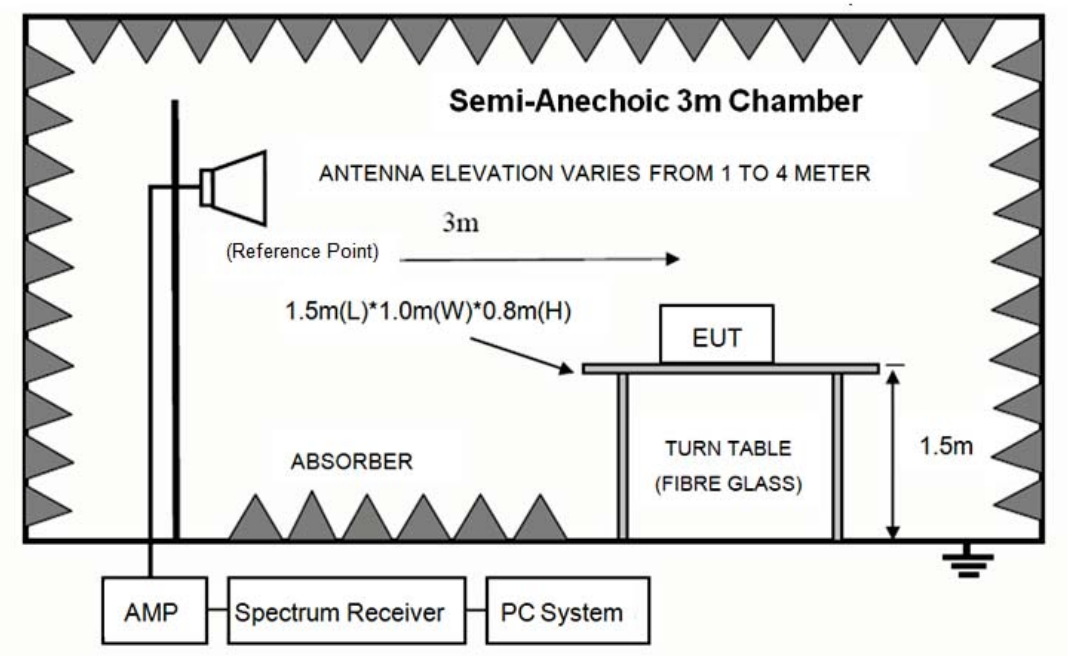
Note: 1. 30MHz~40GHz: (11a, 11n20, n40, 11ac20, 11ac40,11ac80 mode all have been tested, only 11a mode is the worst case and reported.)

2. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

9. Band Edge Compliance

9.1. Block diagram of test setup



9.2. Limit

For transmitters operating in the 5.15-5.25 GHz and 5.725-5.85 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.
-27 dBm/MHz Limit=95.2+EIRP[dBm]=95.2-27=68.2 dBμV/m

9.3. Test Procedure

Same with clause 8.3 except change investigated frequency range from 5.15-5.25 GHz, 5250-5350 GHz, 5470-5725 GHz, 5.725-5.85 GHz.
Remark: All restriction band have been tested, and only the worst case is shown in report.

9.4. Test result

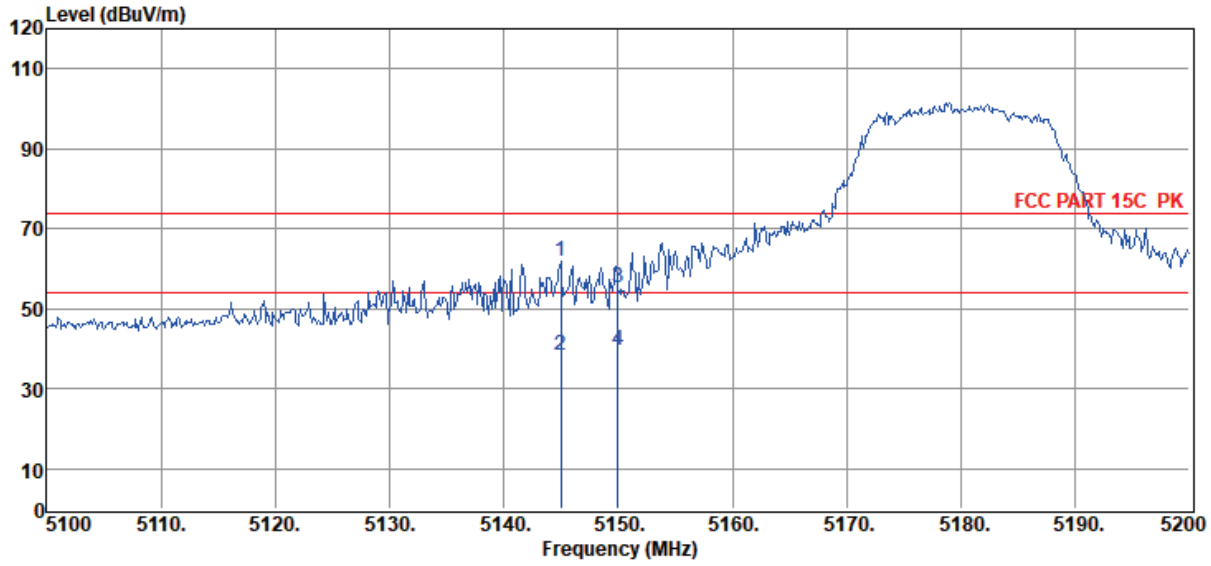
PASS. (See below detailed test result)

Note1: 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
Note2: 11a, 11n20, n40, 11ac20, 11ac40, 11ac80 mode all have been tested, only 11a mode of ANT 2, 11n20, n40, 11ac20, 11ac40, 11ac80 mode of MIMO mode is worse case and reported

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/HORIZONTAL
Memo	: 11A 5180		

Data: 25



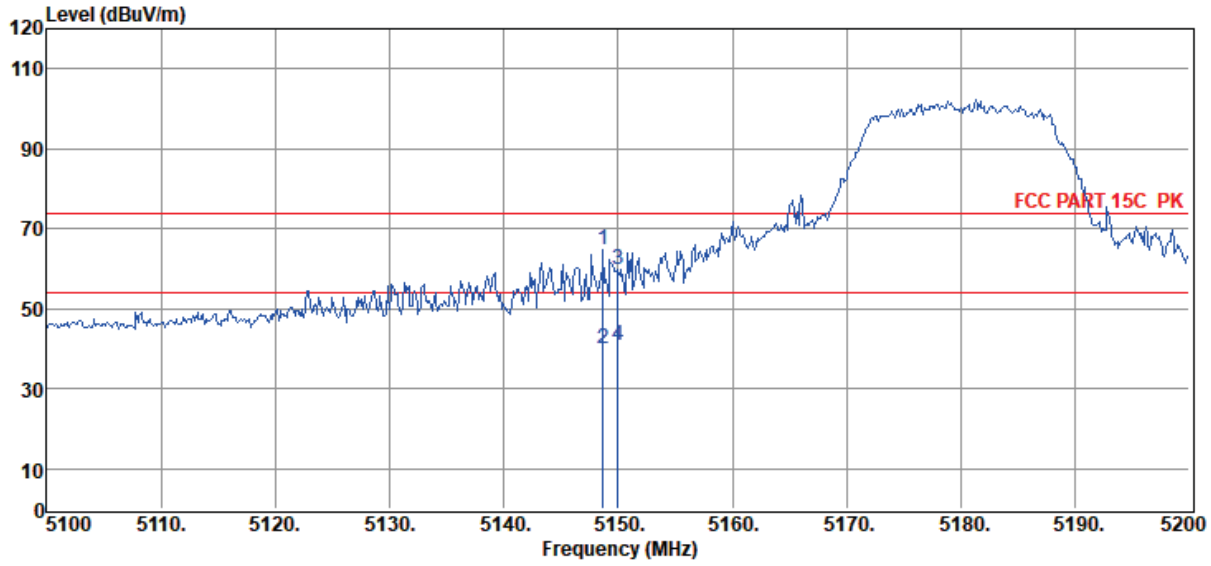
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5145.00	65.80	34.02	43.53	5.73	62.02	74.00	-11.98	Peak	HORIZONTAL
2	5145.00	41.96	34.02	43.53	5.73	38.18	54.00	-15.82	Average	HORIZONTAL
3	5150.00	58.91	34.02	43.53	5.73	55.13	74.00	-18.87	Peak	HORIZONTAL
4	5150.00	43.36	34.02	43.53	5.73	39.58	54.00	-14.42	Average	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/VERTICAL
Memo	: 11A 5180		

Data: 26



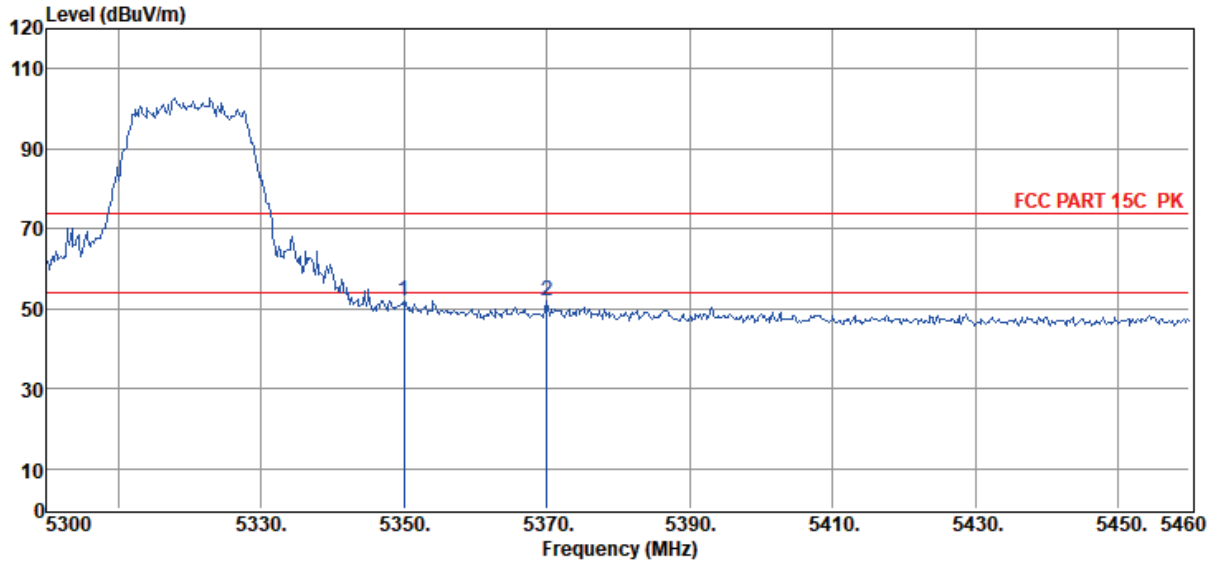
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5148.70	68.32	34.02	43.53	5.73	64.54	74.00	-9.46	Peak	VERTICAL
2	5148.70	43.88	34.02	43.53	5.73	40.10	54.00	-13.90	Average	VERTICAL
3	5150.00	63.50	34.02	43.53	5.73	59.72	74.00	-14.28	Peak	VERTICAL
4	5150.00	44.51	34.02	43.53	5.73	40.73	54.00	-13.27	Average	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/VERTICAL
Memo	: 11A 5530		

Data: 27



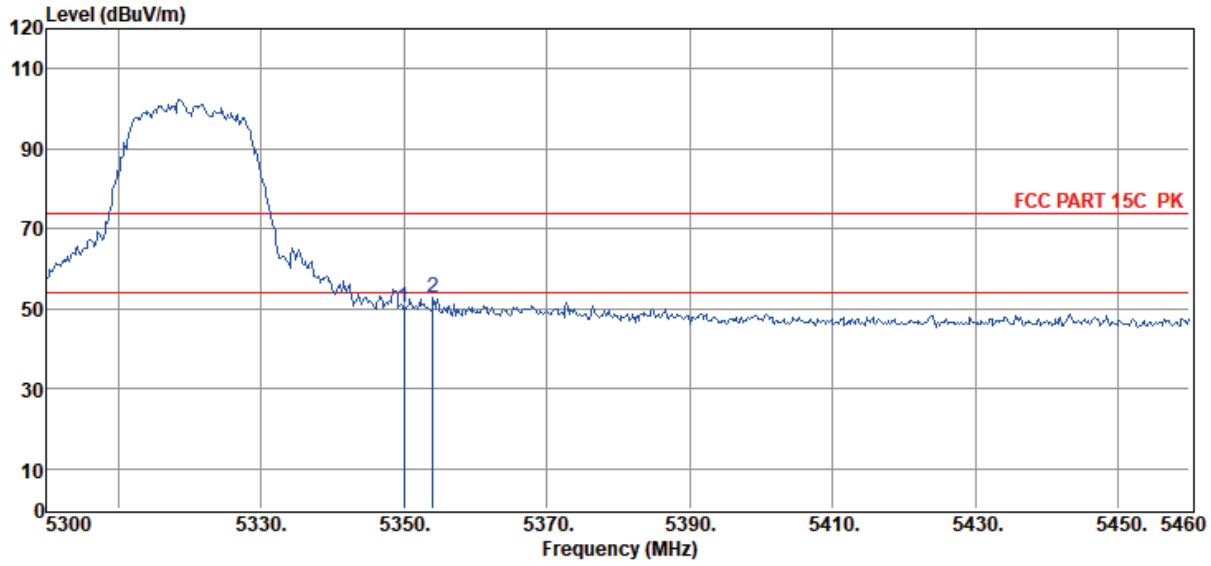
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	55.15	34.18	43.34	5.94	51.93	74.00	-22.07	Peak	VERTICAL
2	5370.08	55.11	34.20	43.32	5.96	51.95	74.00	-22.05	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/HORIZONTAL
Memo	: 11A 5530		

Data: 28



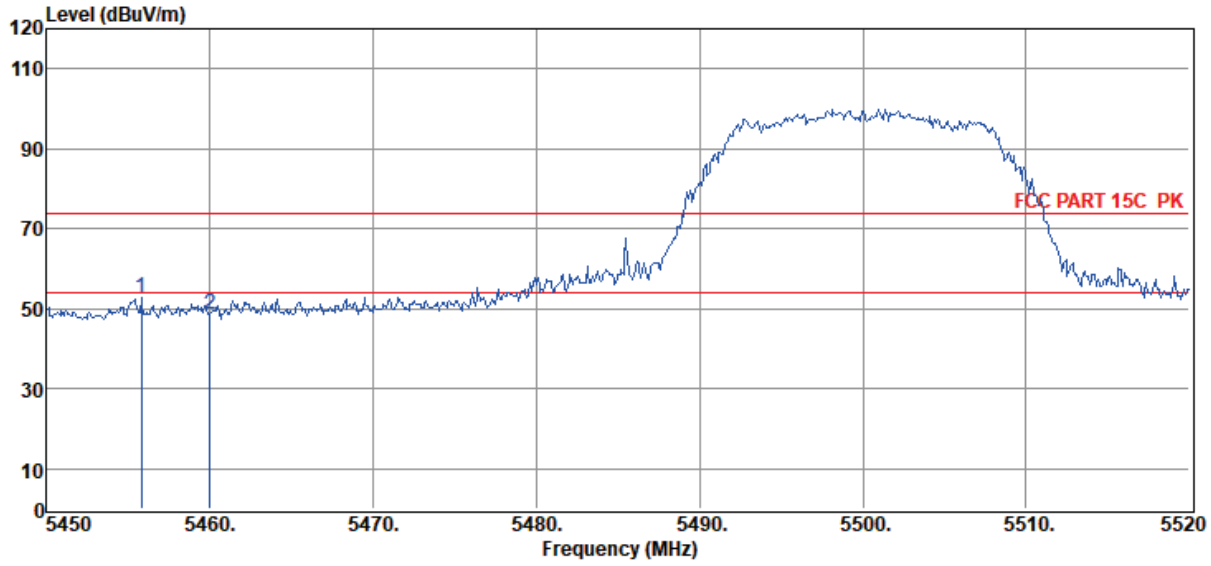
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	53.47	34.18	43.34	5.94	50.25	74.00	-23.75	Peak	HORIZONTAL
2	5354.08	55.88	34.19	43.34	5.94	52.67	74.00	-21.33	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/HORIZONTAL
Memo	: 11A 5500		

Data: 29



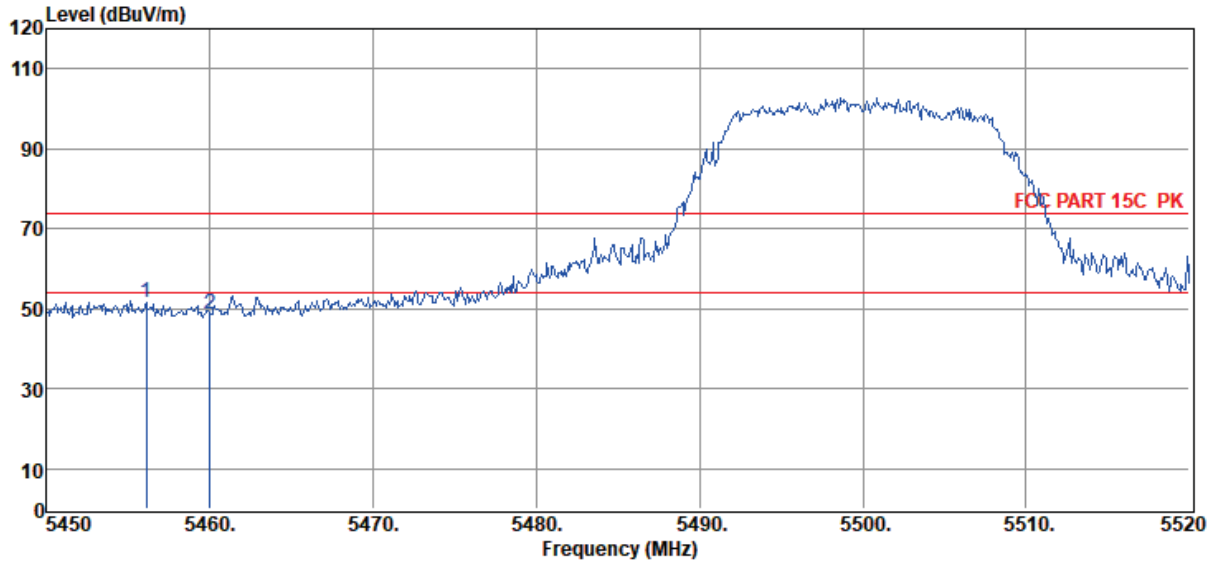
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5455.81	55.59	34.27	43.25	6.05	52.66	74.00	-21.34	Peak	HORIZONTAL
2	5460.00	51.74	34.27	43.25	6.05	48.81	74.00	-25.19	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/VERTICAL
Memo	: 11A 5500		

Data: 30



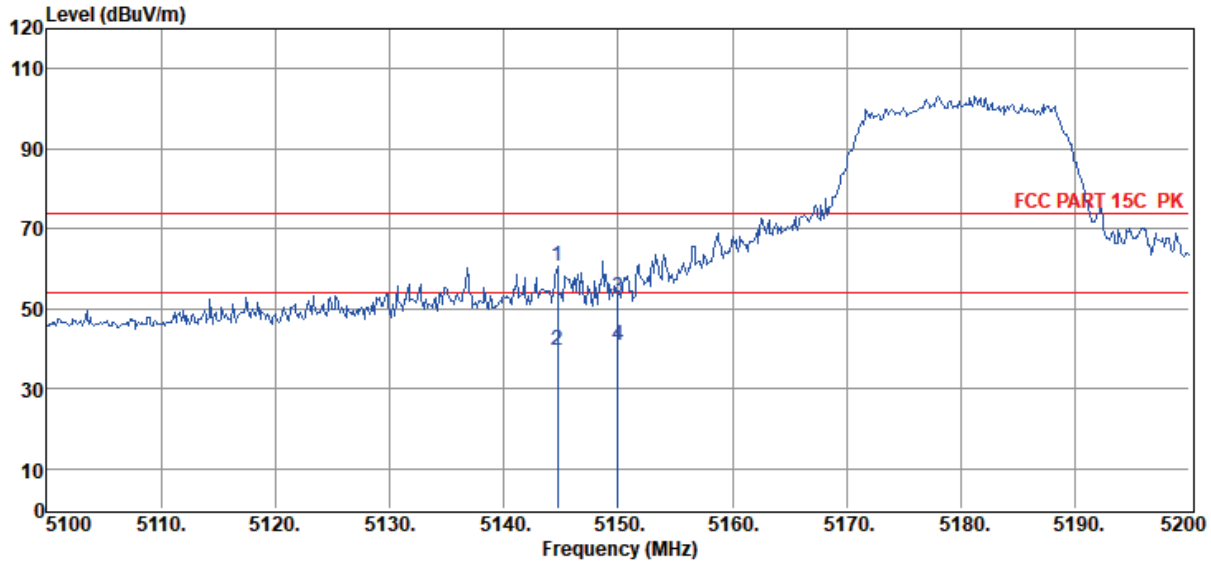
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5456.09	54.36	34.27	43.25	6.05	51.43	74.00	-22.57	Peak	VERTICAL
2	5460.00	51.69	34.27	43.25	6.05	48.76	74.00	-25.24	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/HORIZONTAL
Memo	: 11N20 5180		

Data: 31



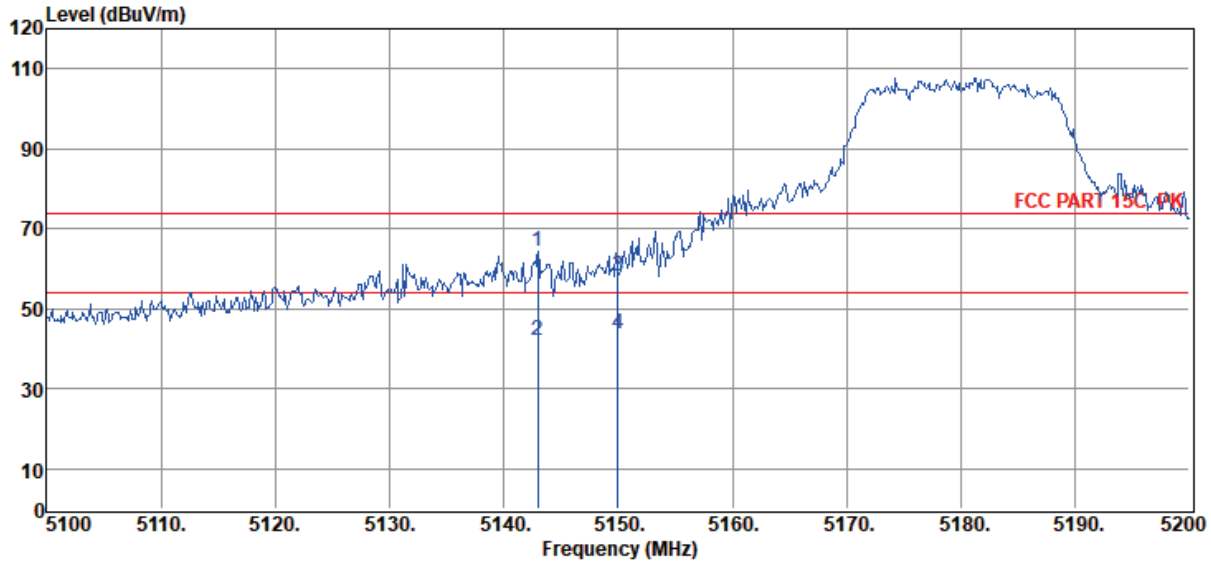
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5144.70	64.50	34.02	43.54	5.73	60.71	74.00	-13.29	Peak	HORIZONTAL
2	5144.70	43.31	34.02	43.54	5.73	39.52	54.00	-14.48	Average	HORIZONTAL
3	5150.00	56.76	34.02	43.53	5.73	52.98	74.00	-21.02	Peak	HORIZONTAL
4	5150.00	44.65	34.02	43.53	5.73	40.87	54.00	-13.13	Average	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/VERTICAL
Memo	: 11N20 5180		

Data: 32



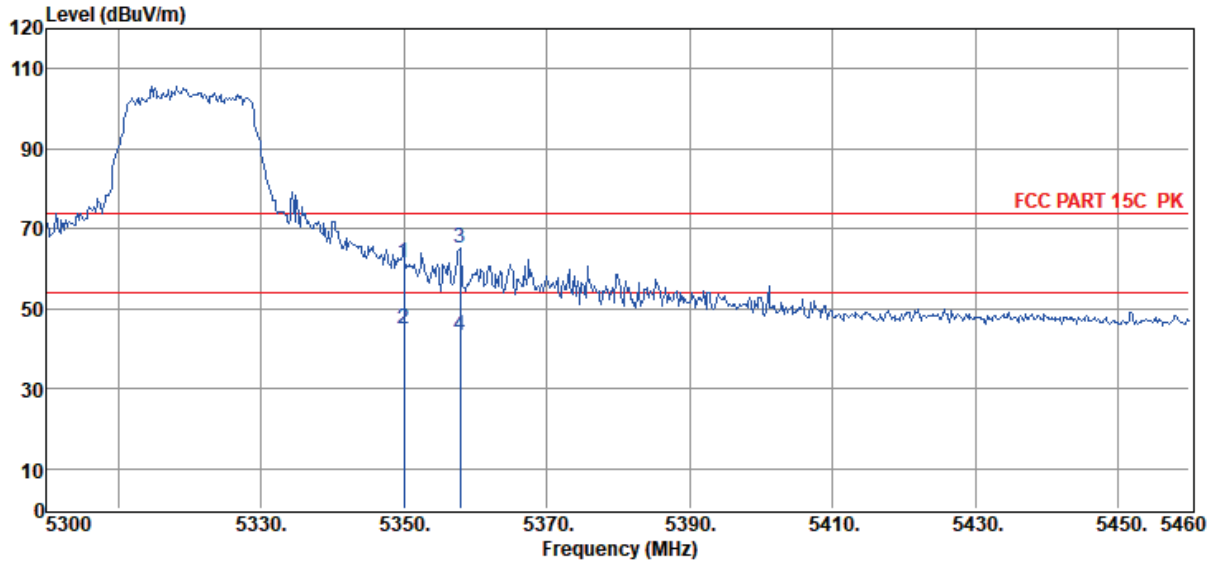
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5143.00	67.99	34.02	43.54	5.73	64.20	74.00	-9.80	Peak	VERTICAL
2	5143.00	45.91	34.02	43.54	5.73	42.12	54.00	-11.88	Average	VERTICAL
3	5150.00	61.86	34.02	43.53	5.73	58.08	74.00	-15.92	Peak	VERTICAL
4	5150.00	47.68	34.02	43.53	5.73	43.90	54.00	-10.10	Average	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/VERTICAL
Memo	: 11N20 5320		

Data: 33



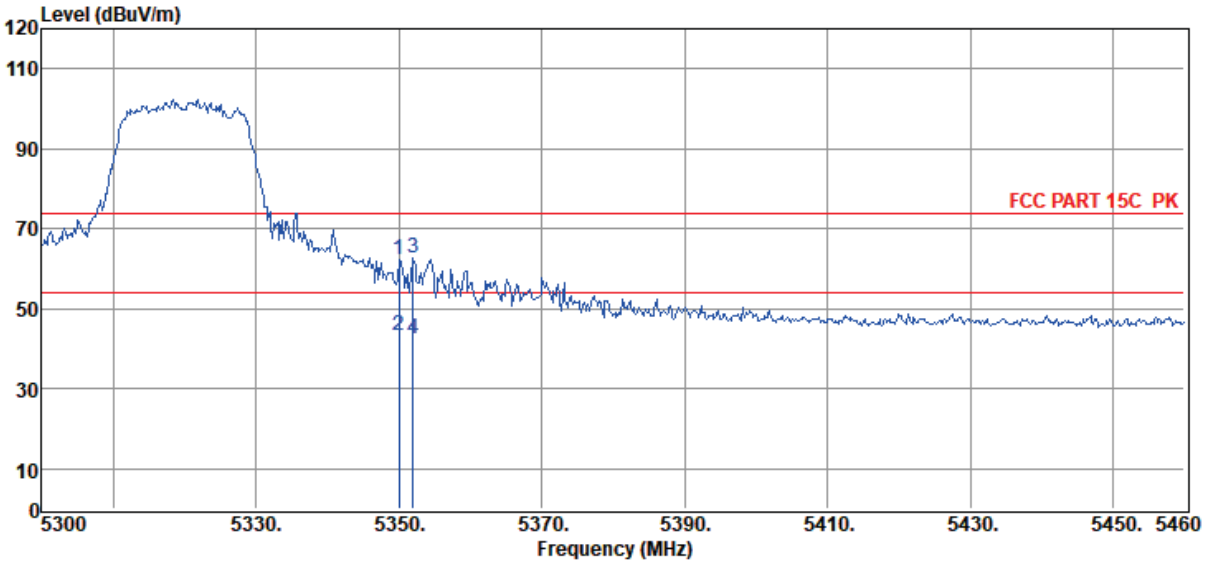
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	64.53	34.18	43.34	5.94	61.31	74.00	-12.69	Peak	VERTICAL
2	5350.00	48.23	34.18	43.34	5.94	45.01	54.00	-8.99	Average	VERTICAL
3	5357.92	68.28	34.19	43.34	5.95	65.08	74.00	-8.92	Peak	VERTICAL
4	5357.92	46.52	34.19	43.34	5.95	43.32	54.00	-10.68	Average	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/HORIZONTAL
Memo	: 11N20 5320		

Data: 34



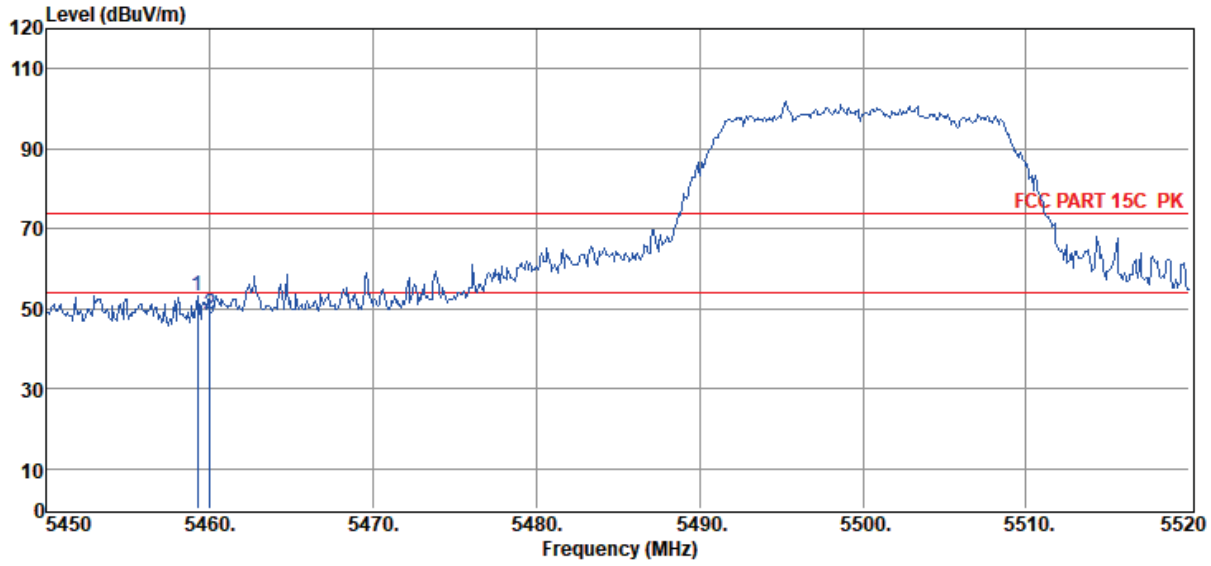
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	65.69	34.18	43.34	5.94	62.47	74.00	-11.53	Peak	HORIZONTAL
2	5350.00	46.57	34.18	43.34	5.94	43.35	54.00	-10.65	Average	HORIZONTAL
3	5352.00	66.06	34.19	43.34	5.94	62.85	74.00	-11.15	Peak	HORIZONTAL
4	5352.00	45.74	34.19	43.34	5.94	42.53	54.00	-11.47	Average	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/HORIZONTAL
Memo	: 11N20 5500		

Data: 35



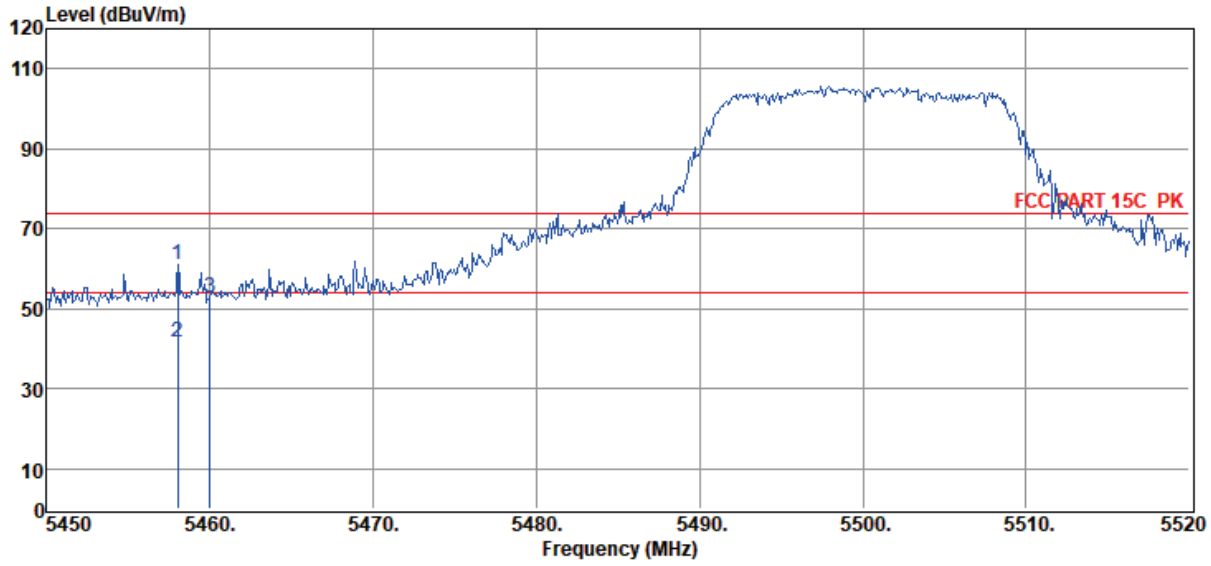
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5459.24	55.95	34.27	43.25	6.05	53.02	74.00	-20.98	Peak	HORIZONTAL
2	5460.01	51.56	34.27	43.25	6.05	48.63	74.00	-25.37	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/VERTICAL
Memo	: 11N20 5500		

Data: 36



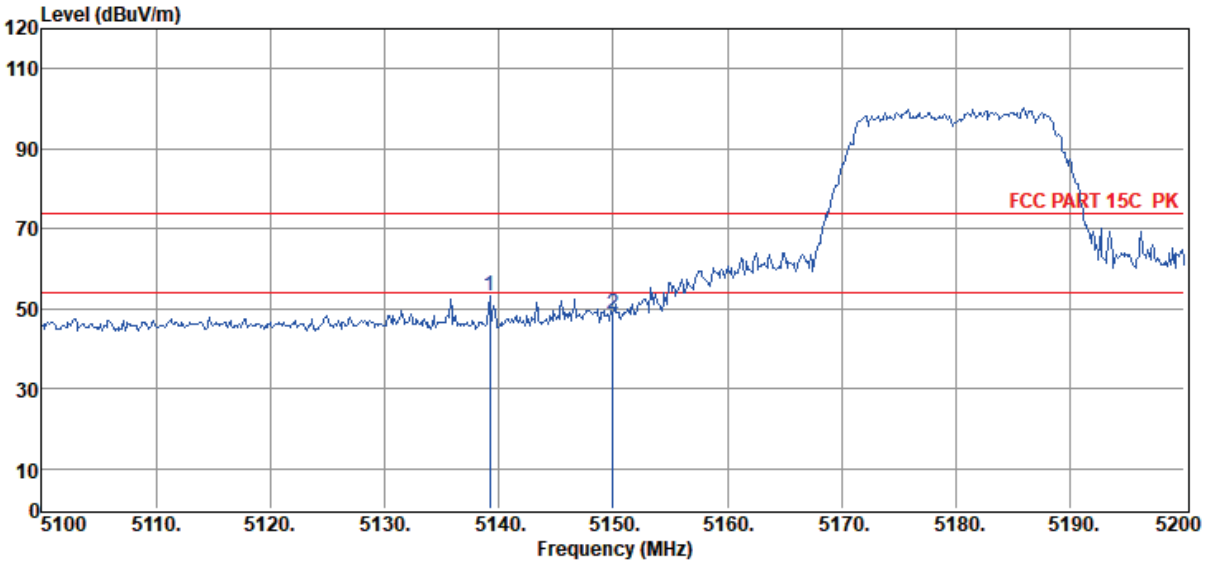
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5458.05	63.81	34.27	43.25	6.05	60.88	74.00	-13.12	Peak	VERTICAL
2	5458.05	44.54	34.27	43.25	6.05	41.61	54.00	-12.39	Average	VERTICAL
3	5460.01	55.71	34.27	43.25	6.05	52.78	74.00	-21.22	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/HORIZONTAL
Memo	: 11AC20 5180		

Data: 37



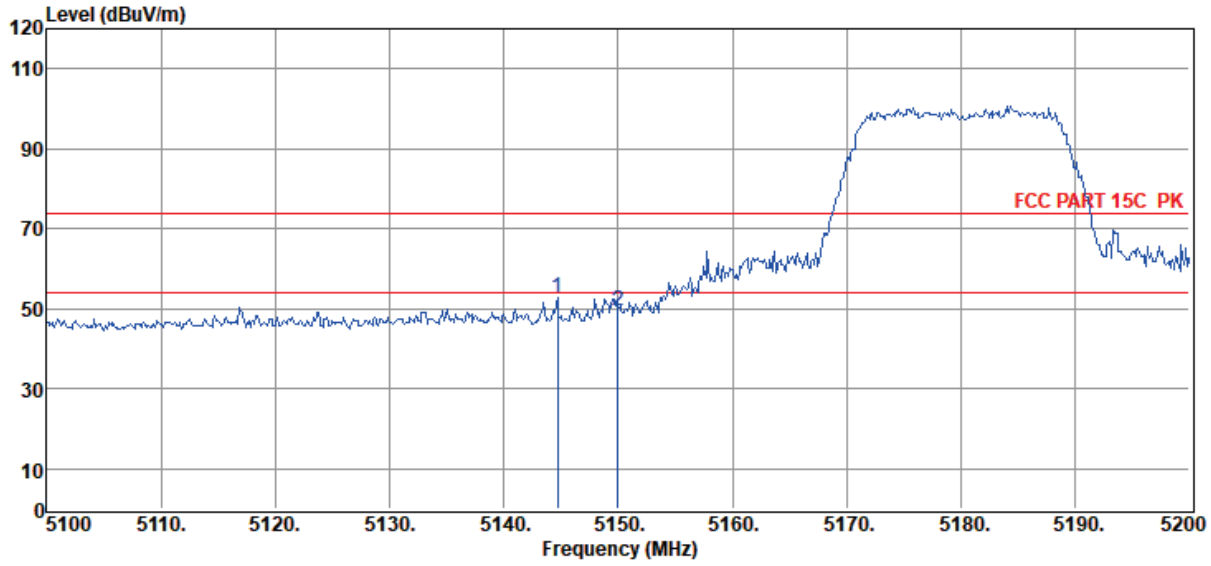
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5139.20	56.84	34.02	43.54	5.72	53.04	74.00	-20.96	Peak	HORIZONTAL
2	5150.00	52.52	34.02	43.53	5.73	48.74	74.00	-25.26	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/VERTICAL
Memo	: 11AC20 5180		

Data: 38



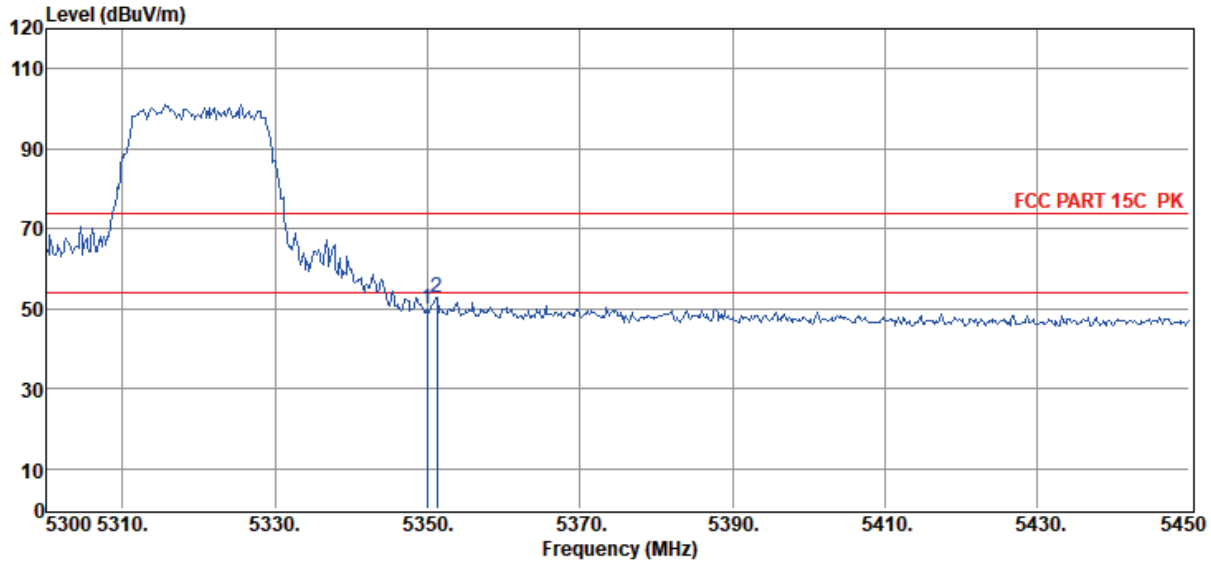
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5144.70	56.69	34.02	43.54	5.73	52.90	74.00	-21.10	Peak	VERTICAL
2	5150.00	53.34	34.02	43.53	5.73	49.56	74.00	-24.44	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/VERTICAL
Memo	: 11AC20 5320		

Data: 39



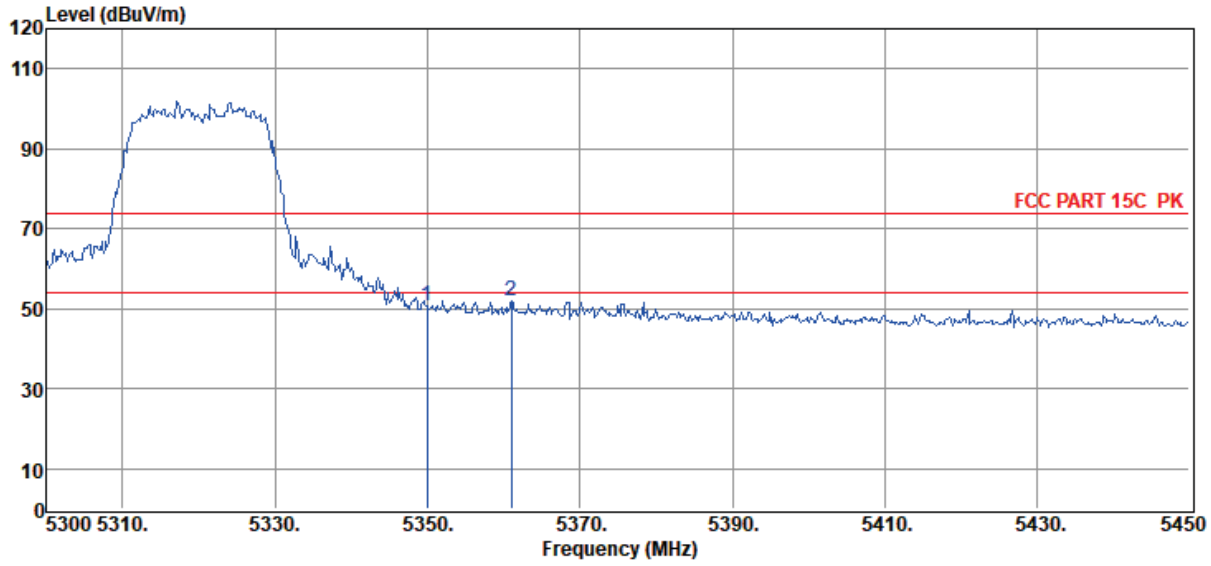
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	53.23	34.18	43.34	5.94	50.01	74.00	-23.99	Peak	VERTICAL
2	5351.30	56.12	34.18	43.34	5.94	52.90	74.00	-21.10	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/HORIZONTAL
Memo	: 11AC20 5320		

Data: 40



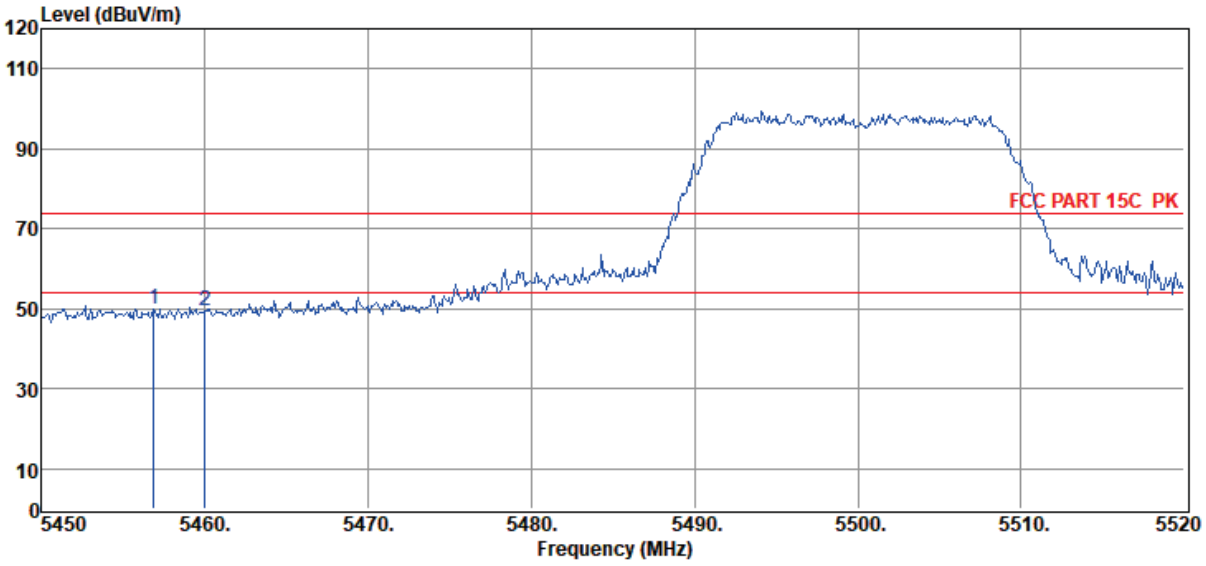
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	54.05	34.18	43.34	5.94	50.83	74.00	-23.17	Peak	HORIZONTAL
2	5361.05	55.03	34.19	43.33	5.95	51.84	74.00	-22.16	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/HORIZONTAL
Memo	: 11AC20 5500		

Data: 41



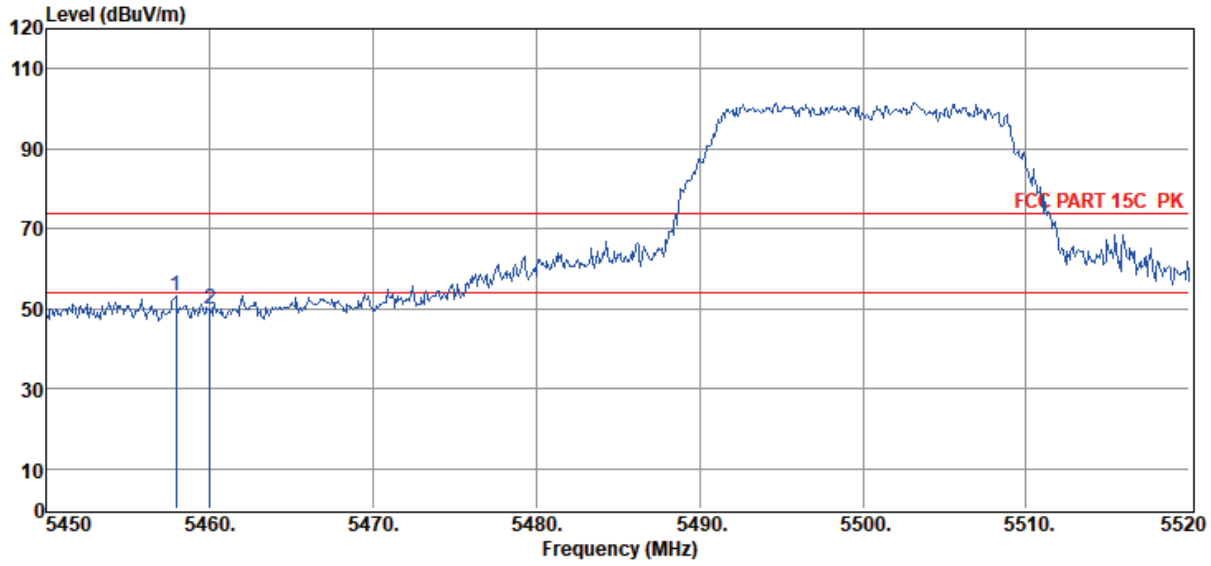
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5456.86	52.97	34.27	43.25	6.05	50.04	74.00	-23.96	Peak	HORIZONTAL
2	5460.00	52.53	34.27	43.25	6.05	49.60	74.00	-24.40	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/VERTICAL
Memo	: 11AC20 5500		

Data: 42



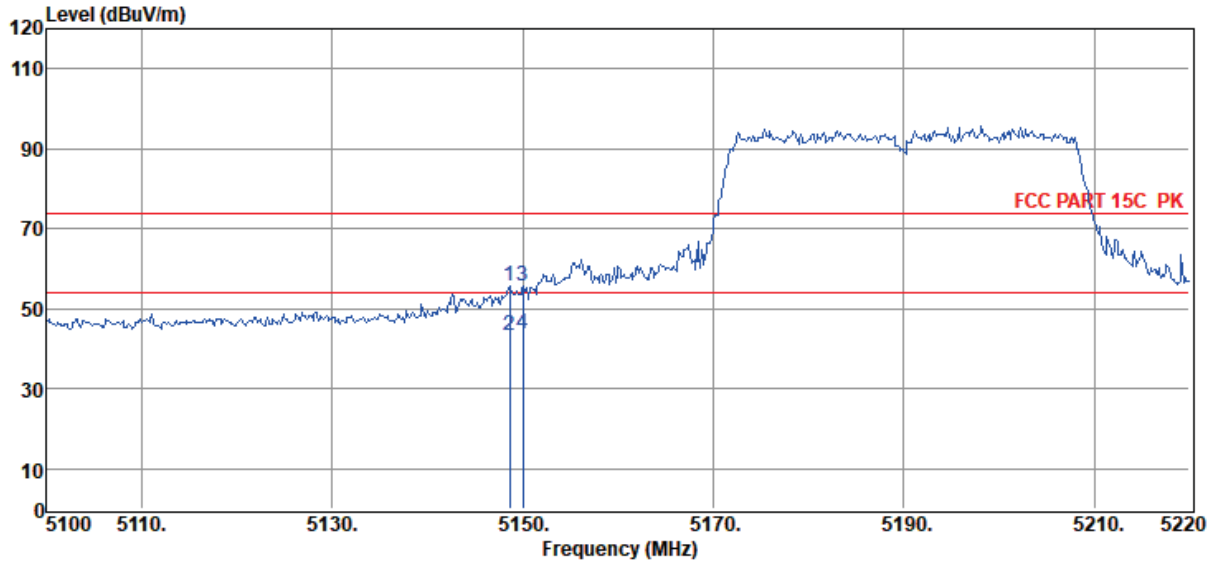
Item (Mark)	Freq. (MHz)	Read Level (dBµV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBµV/m)	Limit Line (dBµV/m)	Over Limit (dB)	Detector	Polarization
1	5457.91	56.03	34.27	43.25	6.05	53.10	74.00	-20.90	Peak	VERTICAL
2	5460.00	52.79	34.27	43.25	6.05	49.86	74.00	-24.14	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/HORIZONTAL
Memo	: 11N40 5190		

Data: 43



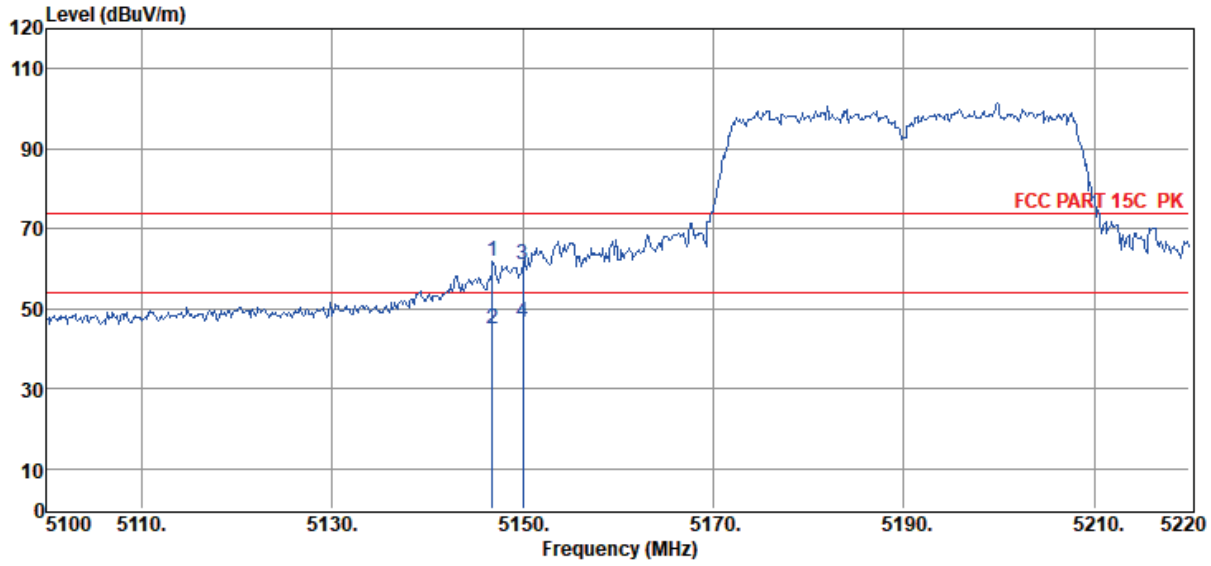
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5148.60	59.39	34.02	43.53	5.73	55.61	74.00	-18.39	Peak	HORIZONTAL
2	5148.60	47.10	34.02	43.53	5.73	43.32	54.00	-10.68	Average	HORIZONTAL
3	5150.00	59.45	34.02	43.53	5.73	55.67	74.00	-18.33	Peak	HORIZONTAL
4	5150.00	47.56	34.02	43.53	5.73	43.78	54.00	-10.22	Average	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/VERTICAL
Memo	: 11N40 5190		

Data: 44



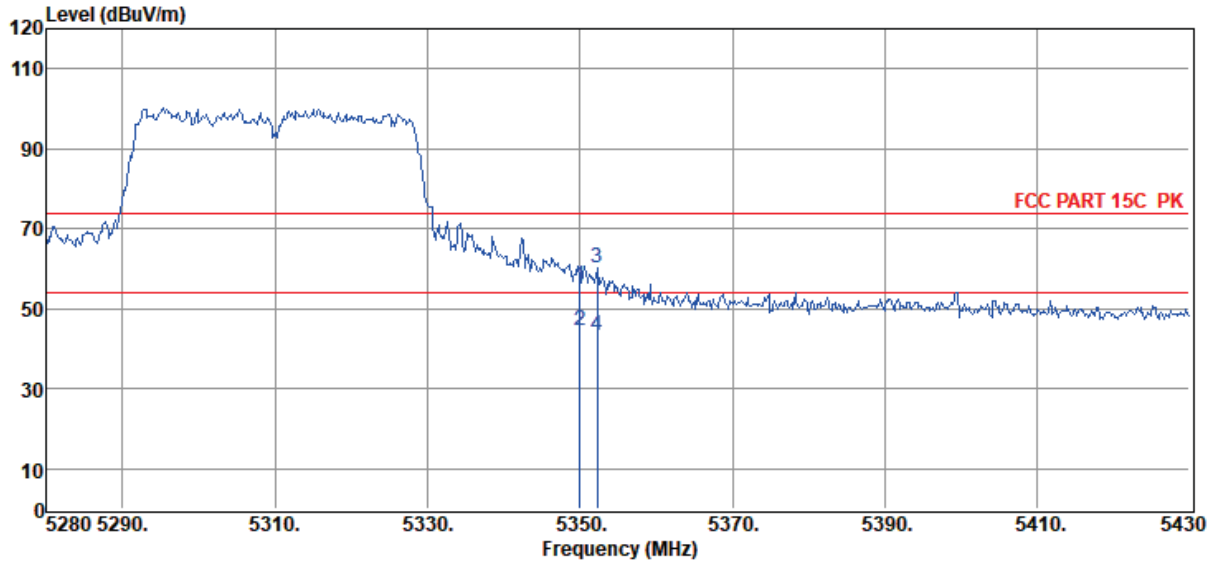
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5146.80	65.55	34.02	43.53	5.73	61.77	74.00	-12.23	Peak	VERTICAL
2	5146.80	48.66	34.02	43.53	5.73	44.88	54.00	-9.12	Average	VERTICAL
3	5150.00	64.72	34.02	43.53	5.73	60.94	74.00	-13.06	Peak	VERTICAL
4	5150.00	50.45	34.02	43.53	5.73	46.67	54.00	-7.33	Average	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/VERTICAL
Memo	: 11N40 5310		

Data: 45



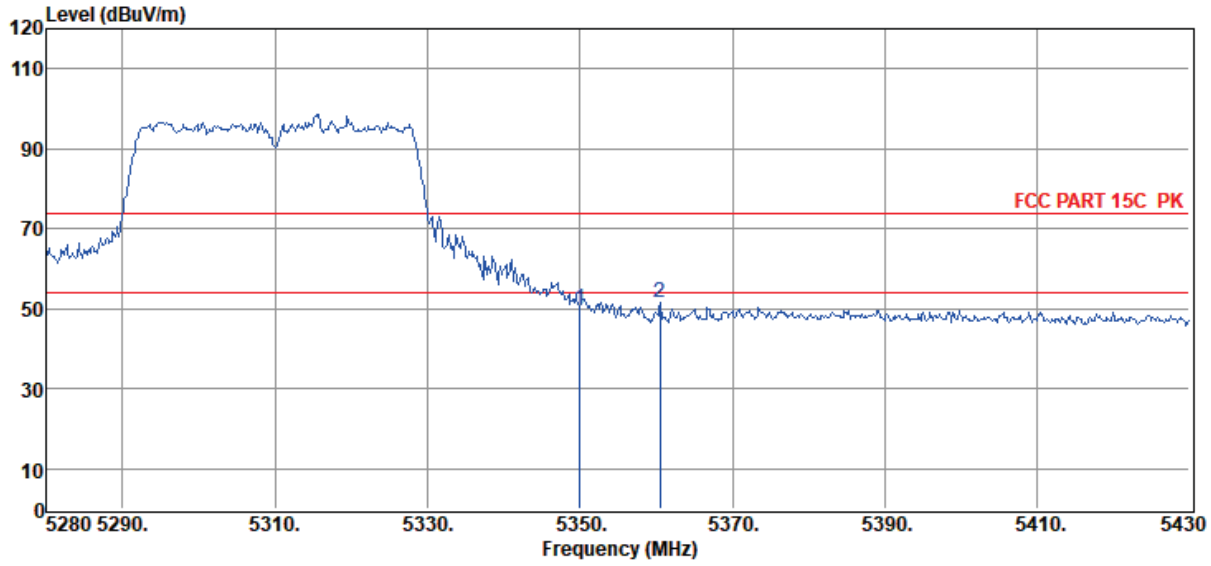
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	58.82	34.18	43.34	5.94	55.60	74.00	-18.40	Peak	VERTICAL
2	5350.00	47.71	34.18	43.34	5.94	44.49	54.00	-9.51	Average	VERTICAL
3	5352.30	63.38	34.19	43.34	5.94	60.17	74.00	-13.83	Peak	VERTICAL
4	5352.30	46.32	34.19	43.34	5.94	43.11	54.00	-10.89	Average	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/HORIZONTAL
Memo	: 11N40 5310		

Data: 46



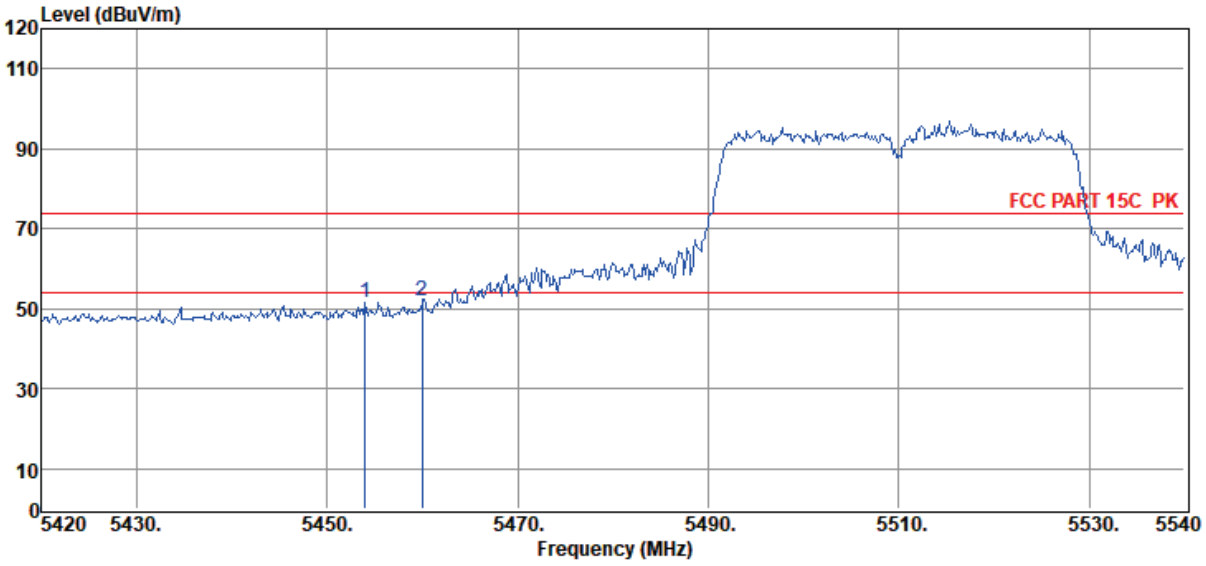
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	53.25	34.18	43.34	5.94	50.03	74.00	-23.97	Peak	HORIZONTAL
2	5360.55	54.66	34.19	43.33	5.95	51.47	74.00	-22.53	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/HORIZONTAL
Memo	: 11N40 5510		

Data: 47



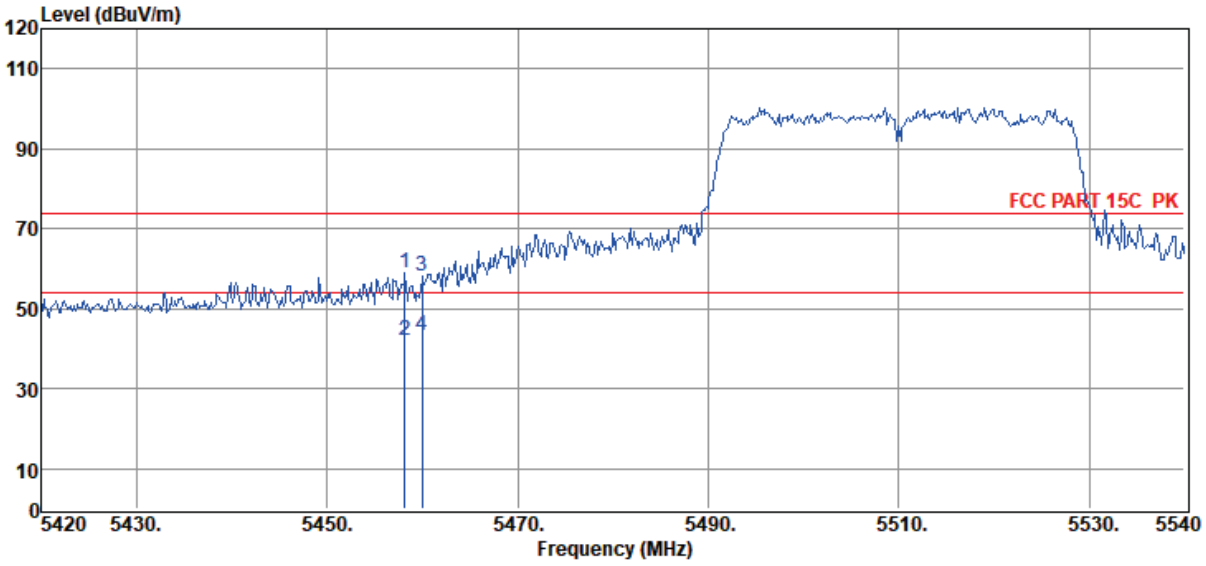
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5453.96	54.36	34.26	43.25	6.05	51.42	74.00	-22.58	Peak	HORIZONTAL
2	5460.00	55.00	34.27	43.25	6.05	52.07	74.00	-21.93	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/VERTICAL
Memo	: 11N40 5510		

Data: 48



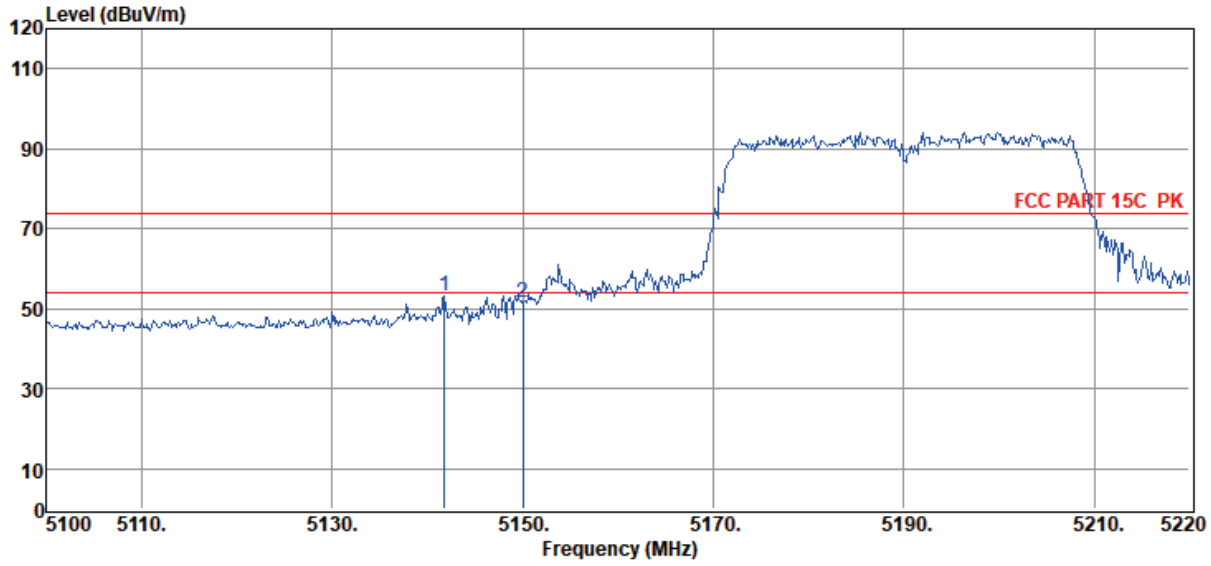
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5458.16	61.99	34.27	43.25	6.05	59.06	74.00	-14.94	Peak	VERTICAL
2	5458.16	45.12	34.27	43.25	6.05	42.19	54.00	-11.81	Average	VERTICAL
3	5460.00	61.11	34.27	43.25	6.05	58.18	74.00	-15.82	Peak	VERTICAL
4	5460.00	46.22	34.27	43.25	6.05	43.29	54.00	-10.71	Average	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/VERTICAL
Memo	: 11AC40 5190		

Data: 49



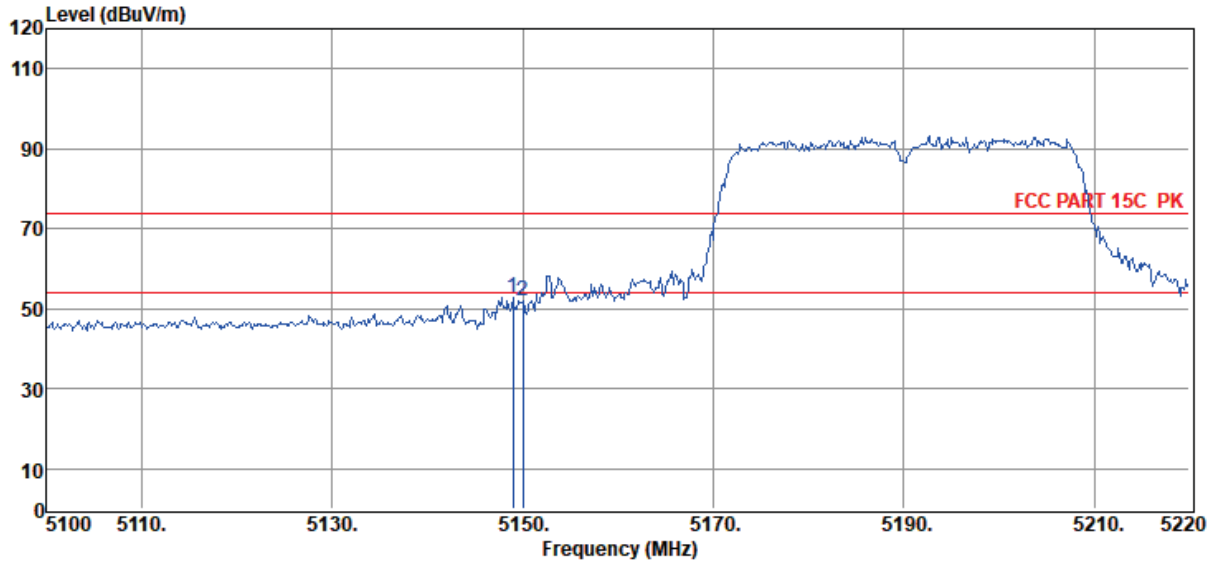
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5141.76	57.05	34.02	43.54	5.73	53.26	74.00	-20.74	Peak	VERTICAL
2	5150.00	55.48	34.02	43.53	5.73	51.70	74.00	-22.30	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/HORIZONTAL
Memo	: 11AC40 5190		

Data: 50



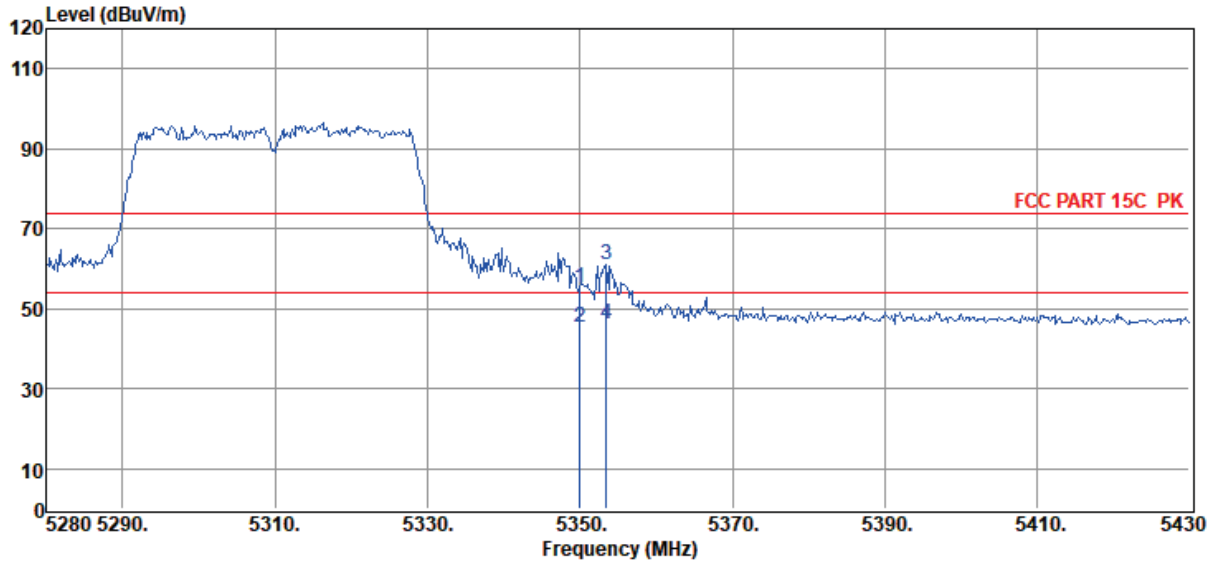
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5148.96	56.60	34.02	43.53	5.73	52.82	74.00	-21.18	Peak	HORIZONTAL
2	5150.00	55.67	34.02	43.53	5.73	51.89	74.00	-22.11	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/HORIZONTAL
Memo	: 11AC40 5310		

Data: 51



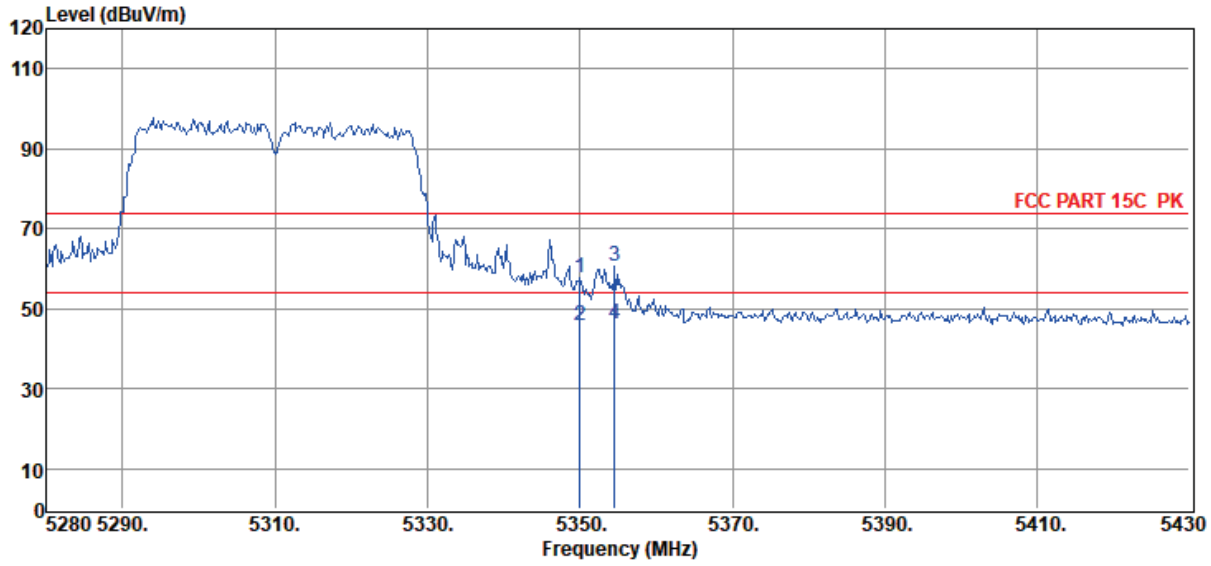
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	58.48	34.18	43.34	5.94	55.26	74.00	-18.74	Peak	HORIZONTAL
2	5350.00	48.52	34.18	43.34	5.94	45.30	54.00	-8.70	Average	HORIZONTAL
3	5353.50	64.20	34.19	43.34	5.94	60.99	74.00	-13.01	Peak	HORIZONTAL
4	5353.50	49.22	34.19	43.34	5.94	46.01	54.00	-7.99	Average	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/VERTICAL
Memo	: 11AC40 5310		

Data: 52



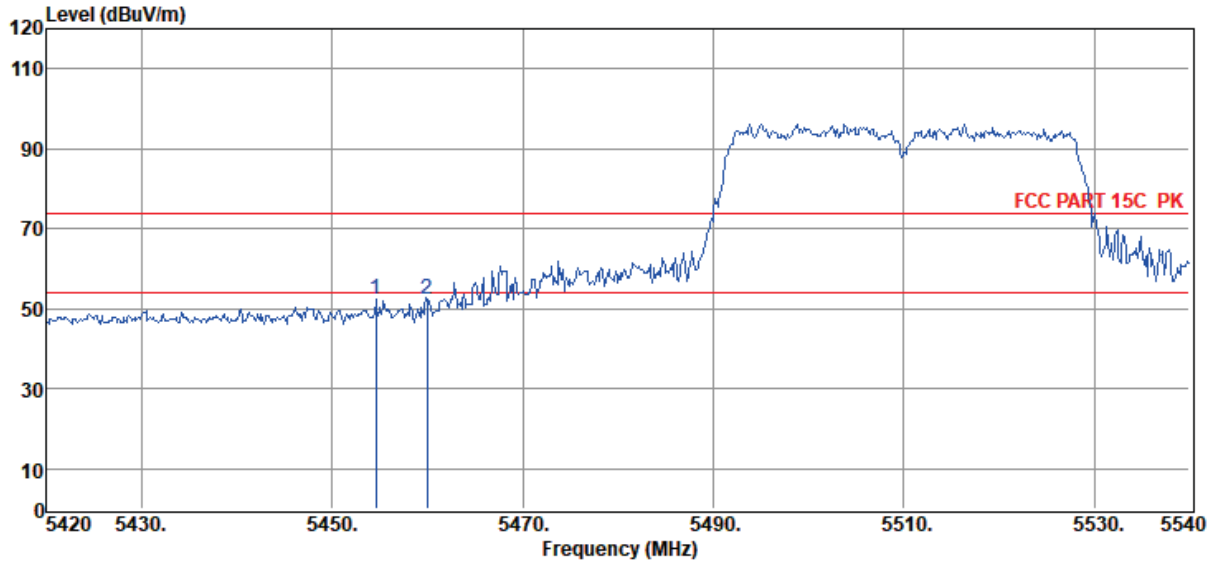
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	60.75	34.18	43.34	5.94	57.53	74.00	-16.47	Peak	VERTICAL
2	5350.00	49.12	34.18	43.34	5.94	45.90	54.00	-8.10	Average	VERTICAL
3	5354.55	63.96	34.19	43.34	5.95	60.76	74.00	-13.24	Peak	VERTICAL
4	5354.55	49.46	34.19	43.34	5.95	46.26	54.00	-7.74	Average	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/VERTICAL
Memo	: 11AC40 5510		

Data: 53



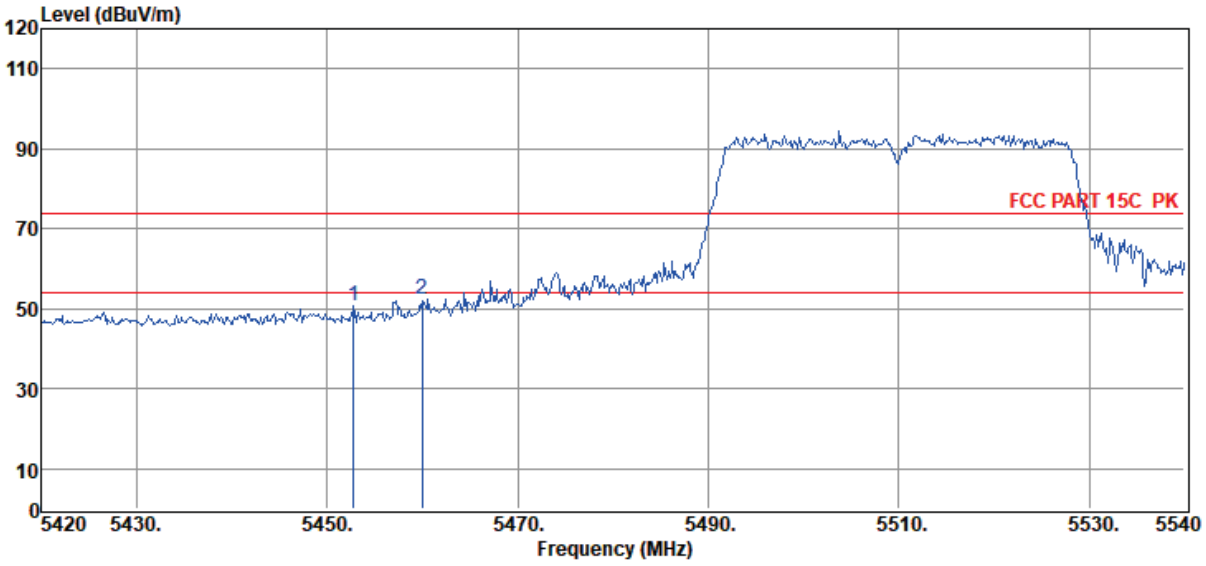
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5454.56	55.14	34.27	43.25	6.05	52.21	74.00	-21.79	Peak	VERTICAL
2	5460.00	55.45	34.27	43.25	6.05	52.52	74.00	-21.48	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/HORIZONTAL
Memo	: 11AC40 5510		

Data: 54



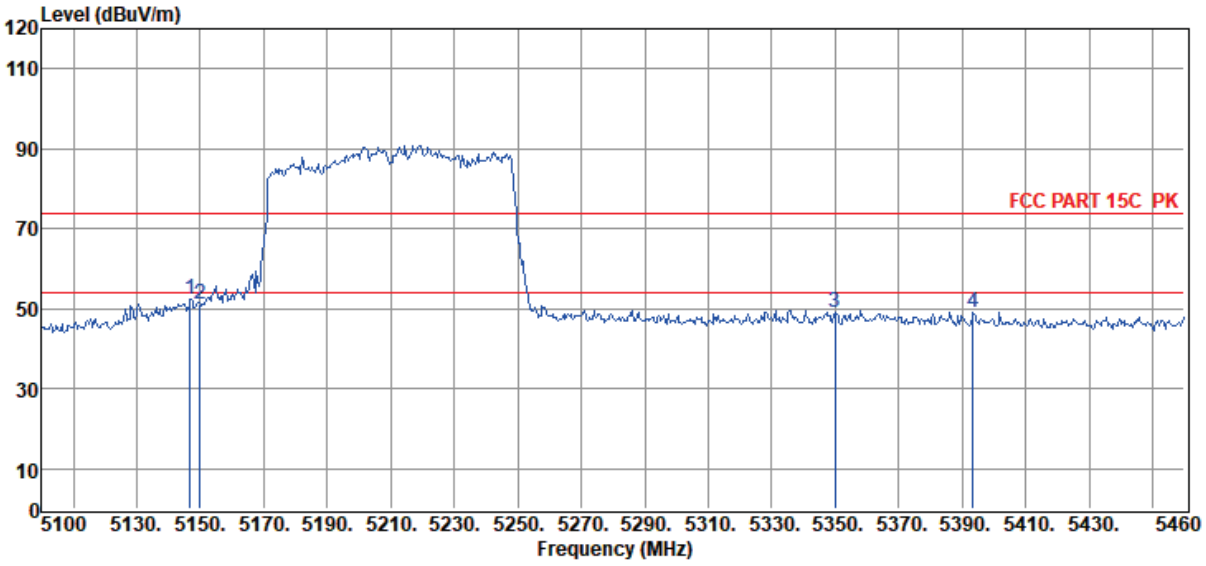
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5452.76	53.69	34.26	43.25	6.05	50.75	74.00	-23.25	Peak	HORIZONTAL
2	5460.00	55.49	34.27	43.25	6.05	52.56	74.00	-21.44	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/HORIZONTAL
Memo	: 11AC80 5210		

Data: 55



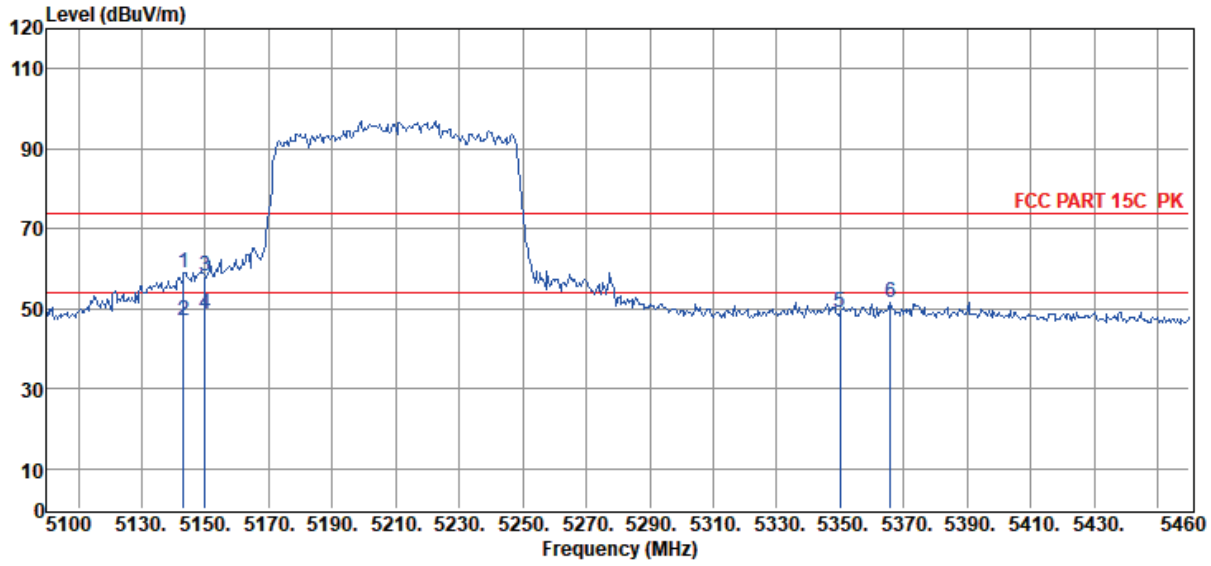
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5146.80	56.32	34.02	43.53	5.73	52.54	74.00	-21.46	Peak	HORIZONTAL
2	5150.00	54.81	34.02	43.53	5.73	51.03	74.00	-22.97	Peak	HORIZONTAL
3	5350.00	52.18	34.18	43.34	5.94	48.96	74.00	-25.04	Peak	HORIZONTAL
4	5393.40	52.36	34.22	43.30	5.99	49.27	74.00	-24.73	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/VERTICAL
Memo	: 11AC80 5210		

Data: 56



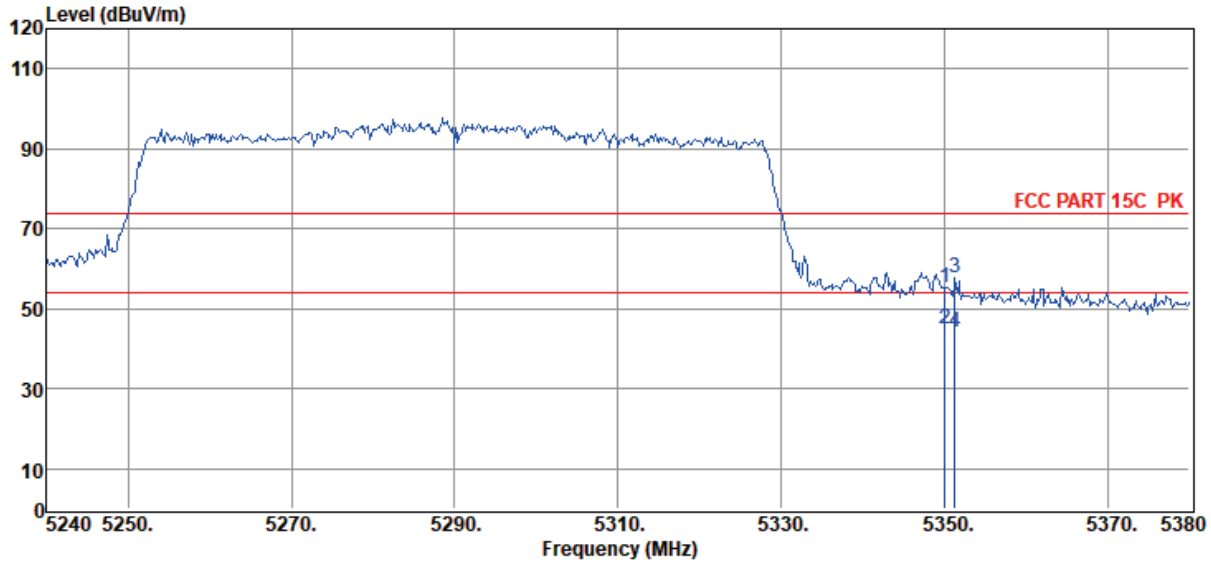
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5143.20	62.65	34.02	43.54	5.73	58.86	74.00	-15.14	Peak	VERTICAL
2	5143.20	50.93	34.02	43.54	5.73	47.14	54.00	-6.86	Average	VERTICAL
3	5150.00	61.94	34.02	43.53	5.73	58.16	74.00	-15.84	Peak	VERTICAL
4	5150.00	52.46	34.02	43.53	5.73	48.68	54.00	-5.32	Average	VERTICAL
5	5350.00	52.15	34.18	43.34	5.94	48.93	74.00	-25.07	Peak	VERTICAL
6	5365.68	54.53	34.20	43.33	5.96	51.36	74.00	-22.64	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/VERTICAL
Memo	: 11AC80 5290		

Data: 57



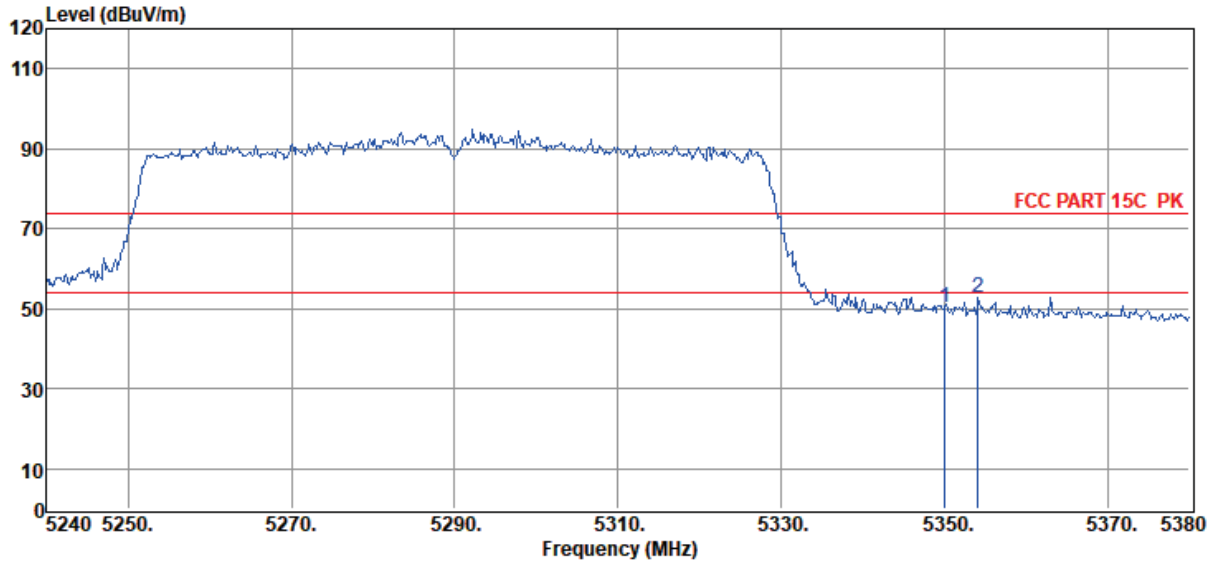
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	58.48	34.18	43.34	5.94	55.26	74.00	-18.74	Peak	VERTICAL
2	5350.00	48.25	34.18	43.34	5.94	45.03	54.00	-8.97	Average	VERTICAL
3	5351.30	60.97	34.18	43.34	5.94	57.75	74.00	-16.25	Peak	VERTICAL
4	5351.30	47.37	34.18	43.34	5.94	44.15	54.00	-9.85	Average	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/HORIZONTAL
Memo	: 11AC80 5290		

Data: 58



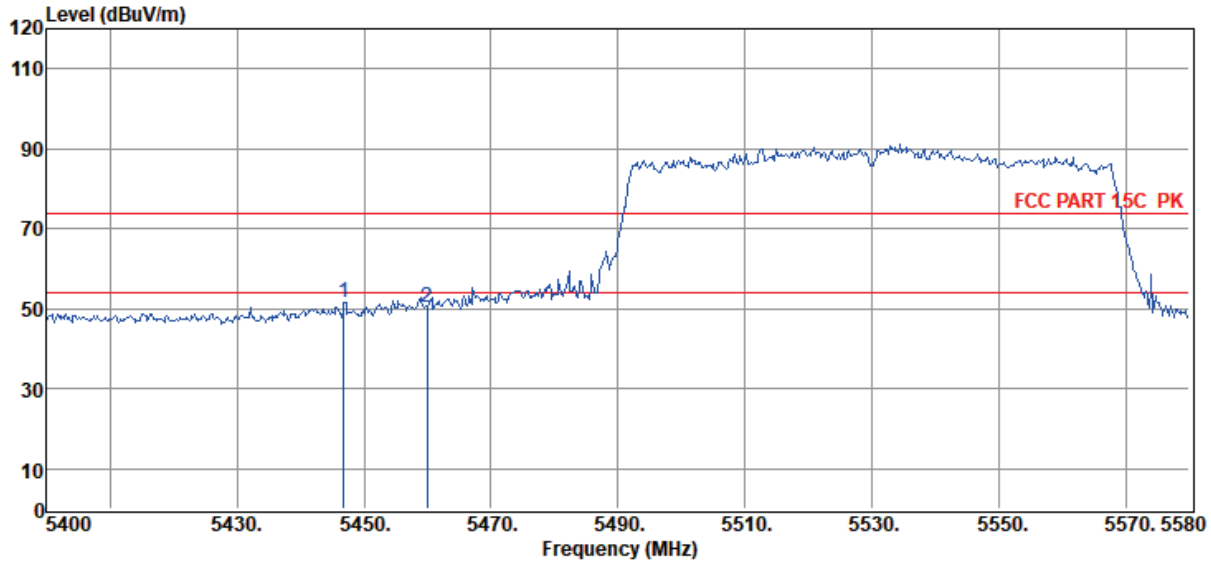
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	53.34	34.18	43.34	5.94	50.12	74.00	-23.88	Peak	HORIZONTAL
2	5354.10	55.81	34.19	43.34	5.94	52.60	74.00	-21.40	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/HORIZONTAL
Memo	: 11AC80 5530		

Data: 59



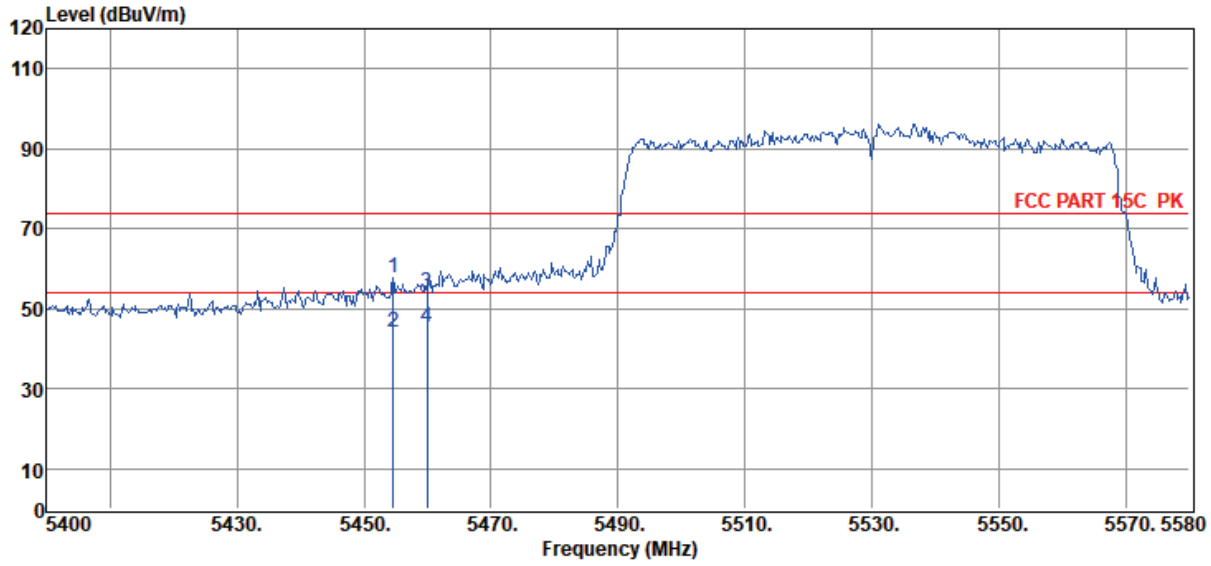
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5446.80	54.47	34.26	43.26	6.04	51.51	74.00	-22.49	Peak	HORIZONTAL
2	5460.00	53.04	34.27	43.25	6.05	50.11	74.00	-23.89	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site	: DDT 3m Chamber 1#	D:\2019 RE1# Report Data\Q19080710-1E CITATION MULTIBEAM 700\FCC ABOVE1G 5G.EM6	
Test Date	: 2019-11-10	**Tested By**	: Talent
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 240V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24.5'C,Humi:55%,Press:100.1kPa	**Antenna/Distance**	: 2018 HF 907/3m/VERTICAL
Memo	: 11AC80 5530		

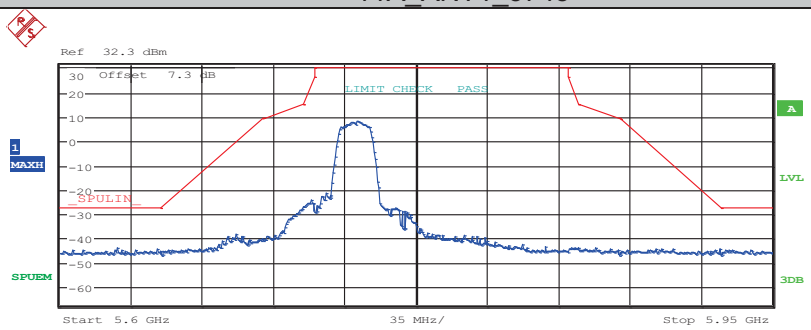
Data: 60



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5454.54	60.69	34.27	43.25	6.05	57.76	74.00	-16.24	Peak	VERTICAL
2	5454.54	46.90	34.27	43.25	6.05	43.97	54.00	-10.03	Average	VERTICAL
3	5460.00	56.89	34.27	43.25	6.05	53.96	74.00	-20.04	Peak	VERTICAL
4	5460.00	48.15	34.27	43.25	6.05	45.22	54.00	-8.78	Average	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

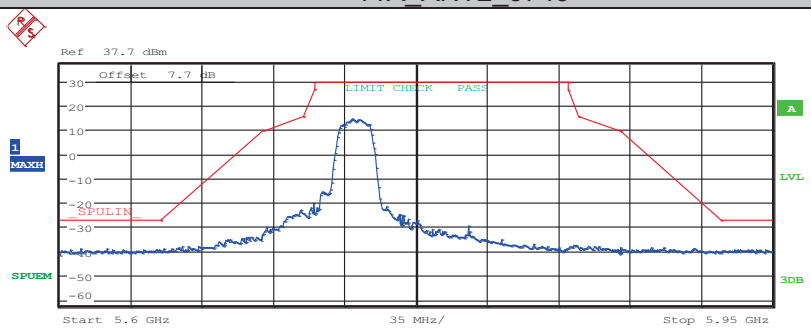
11A_ANT1_5745



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.627750 G	-44.13	-17.13
5.650 G	5.700 G	1.00 M	5.650406 G	-45.18	-18.48
5.700 G	5.720 G	1.00 M	5.719700 G	-27.25	-42.77
5.720 G	5.725 G	1.00 M	5.720119 G	-27.04	-42.91
5.725 G	5.850 G	1.00 M	5.746562 G	7.95	-22.05
5.850 G	5.855 G	1.00 M	5.854944 G	-44.89	-60.62
5.855 G	5.875 G	1.00 M	5.874638 G	-45.15	-55.25
5.875 G	5.925 G	1.00 M	5.924969 G	-44.82	-17.85
5.925 G	5.950 G	1.00 M	5.928391 G	-44.78	-17.78

Date: 12.NOV.2019 16:30:00

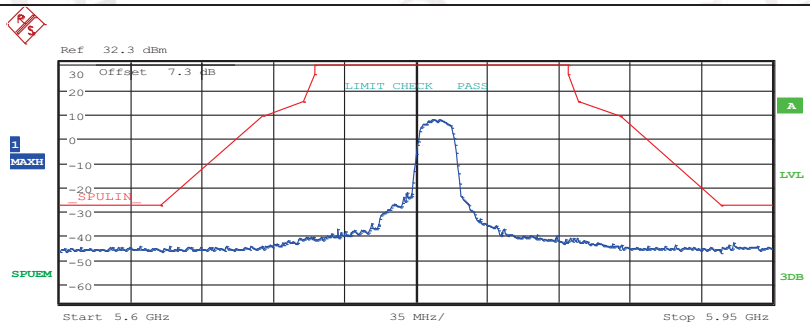
11A_ANT2_5745



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.610094 G	-39.20	-12.20
5.650 G	5.700 G	1.00 M	5.651031 G	-39.25	-13.01
5.700 G	5.720 G	1.00 M	5.718475 G	-23.22	-38.39
5.720 G	5.725 G	1.00 M	5.720078 G	-25.06	-40.84
5.725 G	5.850 G	1.00 M	5.743594 G	14.24	-15.76
5.850 G	5.855 G	1.00 M	5.854884 G	-38.58	-54.44
5.855 G	5.875 G	1.00 M	5.873613 G	-39.15	-49.54
5.875 G	5.925 G	1.00 M	5.924844 G	-40.76	-13.88
5.925 G	5.950 G	1.00 M	5.939609 G	-39.36	-12.36

Date: 12.NOV.2019 18:25:31

11A_ANT1_5785



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.639094 G	-44.64	-17.64
5.650 G	5.700 G	1.00 M	5.650844 G	-45.42	-19.04
5.700 G	5.720 G	1.00 M	5.700925 G	-44.47	-54.73
5.720 G	5.725 G	1.00 M	5.720066 G	-41.47	-57.22
5.725 G	5.850 G	1.00 M	5.786328 G	7.78	-22.22
5.850 G	5.855 G	1.00 M	5.854916 G	-42.28	-58.07
5.855 G	5.875 G	1.00 M	5.874837 G	-44.35	-54.39
5.875 G	5.925 G	1.00 M	5.925000 G	-45.67	-18.67
5.925 G	5.950 G	1.00 M	5.931156 G	-43.00	-16.00

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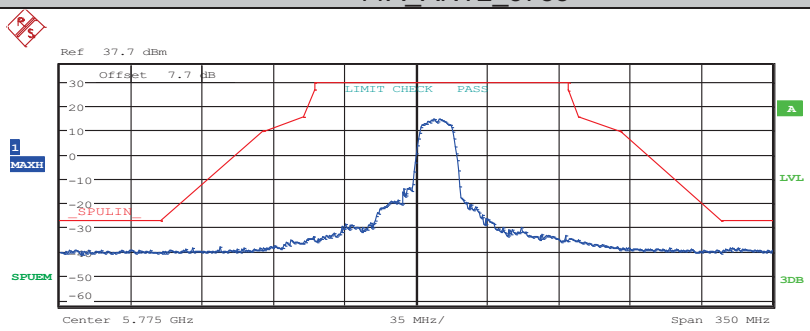
11A_ANT2_5785



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.634906 G	-39.34	-12.34
5.650 G	5.700 G	1.00 M	5.650563 G	-40.21	-13.62
5.700 G	5.720 G	1.00 M	5.700100 G	-38.81	-48.84
5.720 G	5.725 G	1.00 M	5.720187 G	-35.95	-51.97
5.725 G	5.850 G	1.00 M	5.786328 G	14.43	-15.57
5.850 G	5.855 G	1.00 M	5.854700 G	-35.36	-51.65
5.855 G	5.875 G	1.00 M	5.873450 G	-38.25	-48.68
5.875 G	5.925 G	1.00 M	5.924906 G	-40.45	-13.52
5.925 G	5.950 G	1.00 M	5.929094 G	-38.41	-11.41

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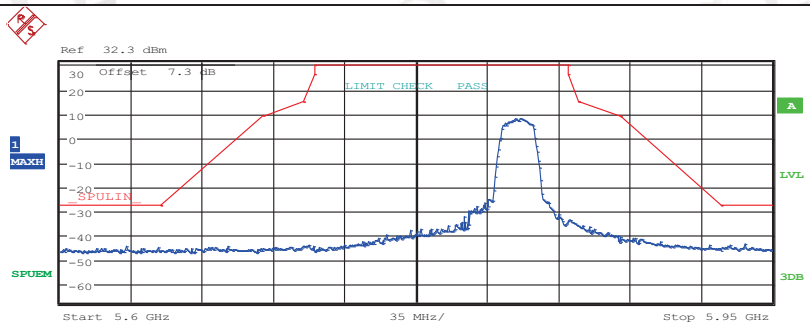
11A_ANT1_5825



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.632344 G	-44.36	-17.36
5.650 G	5.700 G	1.00 M	5.650094 G	-46.55	-19.62
5.700 G	5.720 G	1.00 M	5.700025 G	-45.56	-55.57
5.720 G	5.725 G	1.00 M	5.720094 G	-44.62	-60.43
5.725 G	5.850 G	1.00 M	5.826328 G	8.20	-21.80
5.850 G	5.855 G	1.00 M	5.854444 G	-35.81	-52.67
5.855 G	5.875 G	1.00 M	5.869075 G	-38.17	-49.83
5.875 G	5.925 G	1.00 M	5.924875 G	-45.24	-18.34
5.925 G	5.950 G	1.00 M	5.936781 G	-43.60	-16.60

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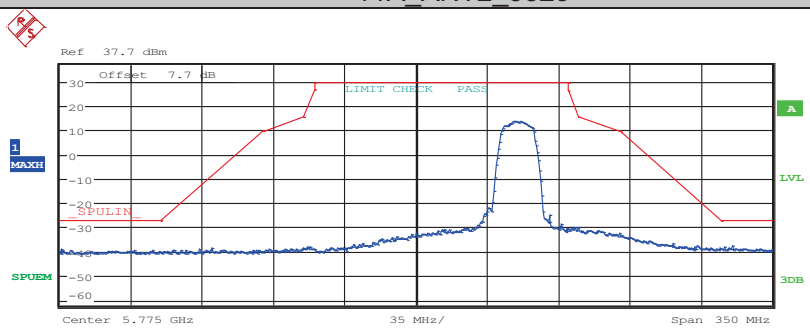
11A_ANT2_5825



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.600438 G	-39.08	-12.08
5.650 G	5.700 G	1.00 M	5.650000 G	-40.91	-13.91
5.700 G	5.720 G	1.00 M	5.701363 G	-39.48	-49.86
5.720 G	5.725 G	1.00 M	5.720097 G	-39.26	-55.08
5.725 G	5.850 G	1.00 M	5.823672 G	13.57	-16.43
5.850 G	5.855 G	1.00 M	5.854662 G	-30.27	-46.64
5.855 G	5.875 G	1.00 M	5.873638 G	-32.57	-42.96
5.875 G	5.925 G	1.00 M	5.925000 G	-38.77	-11.77
5.925 G	5.950 G	1.00 M	5.930125 G	-37.58	-10.58

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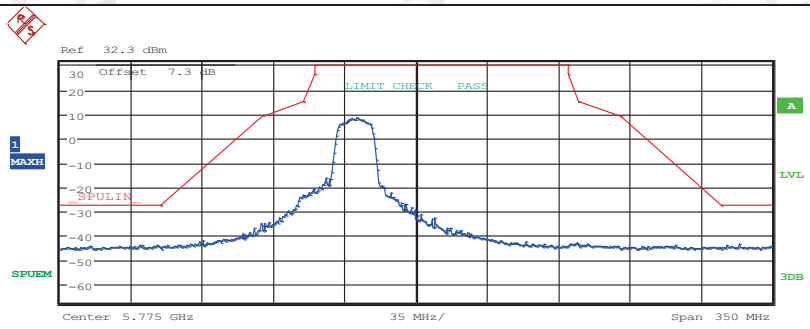
11N20_ANT1_5745



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.647531 G	-43.91	-16.91
5.650 G	5.700 G	1.00 M	5.650563 G	-44.46	-17.88
5.700 G	5.720 G	1.00 M	5.719837 G	-23.11	-38.66
5.720 G	5.725 G	1.00 M	5.720091 G	-24.56	-40.37
5.725 G	5.850 G	1.00 M	5.746016 G	8.36	-21.64
5.850 G	5.855 G	1.00 M	5.854803 G	-43.67	-59.72
5.855 G	5.875 G	1.00 M	5.874975 G	-44.59	-54.60
5.875 G	5.925 G	1.00 M	5.924219 G	-44.73	-18.30
5.925 G	5.950 G	1.00 M	5.933719 G	-43.59	-16.59

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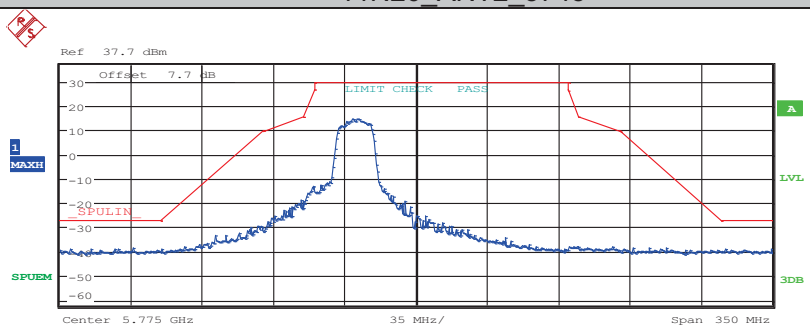
11N20_ANT2_5745



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.635625 G	-38.77	-11.77
5.650 G	5.700 G	1.00 M	5.650156 G	-39.27	-12.38
5.700 G	5.720 G	1.00 M	5.718225 G	-18.89	-33.99
5.720 G	5.725 G	1.00 M	5.721541 G	-16.07	-35.19
5.725 G	5.850 G	1.00 M	5.746250 G	14.55	-15.45
5.850 G	5.855 G	1.00 M	5.854966 G	-39.03	-54.71
5.855 G	5.875 G	1.00 M	5.871450 G	-38.13	-49.13
5.875 G	5.925 G	1.00 M	5.924563 G	-39.97	-13.30
5.925 G	5.950 G	1.00 M	5.926922 G	-39.15	-12.15

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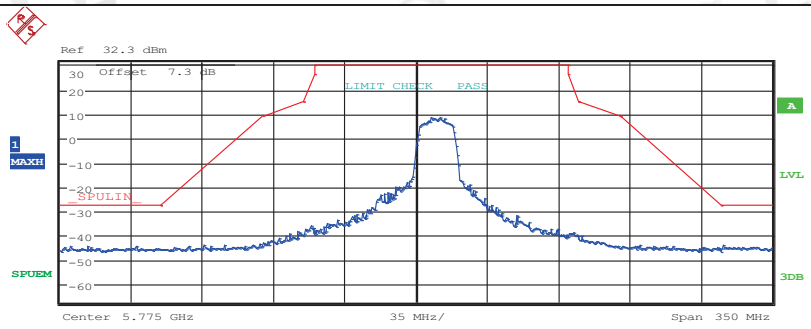
11N20_ANT1_5785



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.637406 G	-44.41	-17.41
5.650 G	5.700 G	1.00 M	5.650062 G	-46.02	-19.06
5.700 G	5.720 G	1.00 M	5.703975 G	-41.93	-53.04
5.720 G	5.725 G	1.00 M	5.720063 G	-39.07	-54.81
5.725 G	5.850 G	1.00 M	5.786562 G	8.48	-21.52
5.850 G	5.855 G	1.00 M	5.854934 G	-40.67	-56.42
5.855 G	5.875 G	1.00 M	5.874962 G	-44.46	-54.47
5.875 G	5.925 G	1.00 M	5.924938 G	-45.95	-19.00
5.925 G	5.950 G	1.00 M	5.925656 G	-44.20	-17.20

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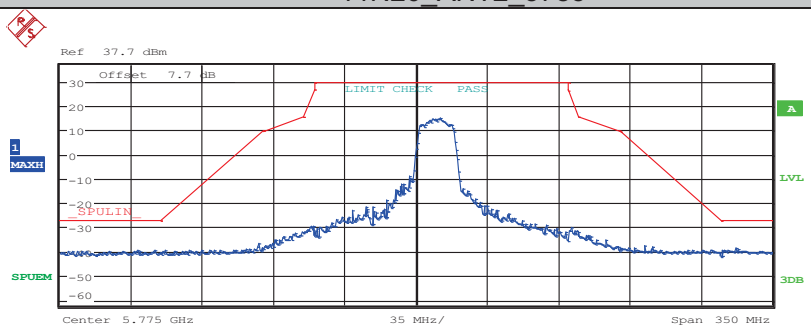
11N20_ANT2_5785



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.638125 G	-39.40	-12.40
5.650 G	5.700 G	1.00 M	5.650437 G	-40.20	-13.52
5.700 G	5.720 G	1.00 M	5.709750 G	-33.70	-46.43
5.720 G	5.725 G	1.00 M	5.720094 G	-32.19	-48.00
5.725 G	5.850 G	1.00 M	5.786719 G	14.76	-15.24
5.850 G	5.855 G	1.00 M	5.854819 G	-32.05	-48.07
5.855 G	5.875 G	1.00 M	5.868375 G	-35.21	-47.06
5.875 G	5.925 G	1.00 M	5.924906 G	-40.85	-13.92
5.925 G	5.950 G	1.00 M	5.932250 G	-38.81	-11.81

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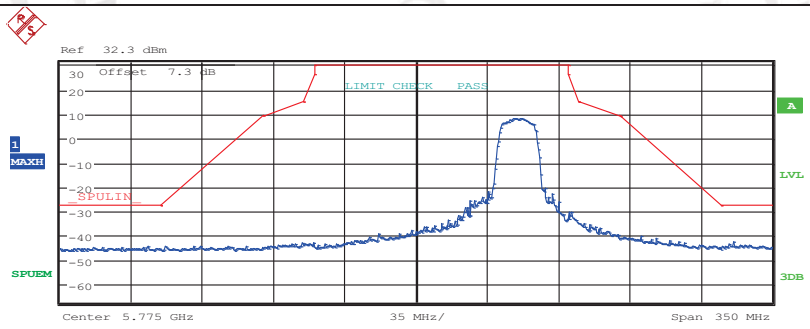
11N20_ANT1_5825



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.643313 G	-44.69	-17.69
5.650 G	5.700 G	1.00 M	5.651469 G	-44.49	-18.58
5.700 G	5.720 G	1.00 M	5.702038 G	-44.31	-54.88
5.720 G	5.725 G	1.00 M	5.720050 G	-43.75	-59.46
5.725 G	5.850 G	1.00 M	5.823516 G	8.36	-21.64
5.850 G	5.855 G	1.00 M	5.854300 G	-33.38	-50.58
5.855 G	5.875 G	1.00 M	5.865250 G	-36.75	-49.48
5.875 G	5.925 G	1.00 M	5.924469 G	-44.94	-18.33
5.925 G	5.950 G	1.00 M	5.930703 G	-42.72	-15.72

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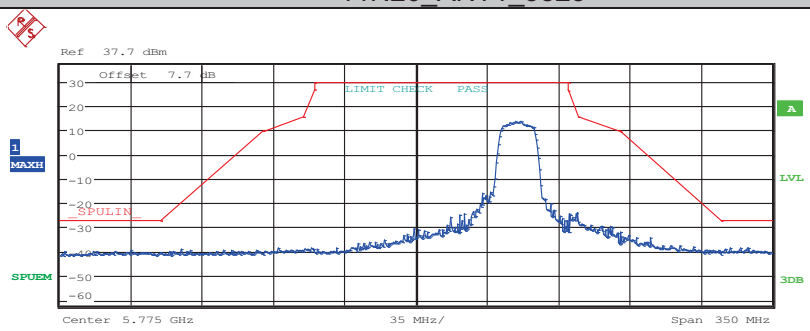
11N20_ANT1_5825



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.634875 G	-39.60	-12.60
5.650 G	5.700 G	1.00 M	5.650125 G	-41.07	-14.17
5.700 G	5.720 G	1.00 M	5.701212 G	-39.93	-50.27
5.720 G	5.725 G	1.00 M	5.720184 G	-39.29	-55.31
5.725 G	5.850 G	1.00 M	5.825938 G	13.68	-16.32
5.850 G	5.855 G	1.00 M	5.853919 G	-23.91	-41.97
5.855 G	5.875 G	1.00 M	5.870463 G	-29.55	-40.82
5.875 G	5.925 G	1.00 M	5.924938 G	-40.17	-13.22
5.925 G	5.950 G	1.00 M	5.934125 G	-38.42	-11.42

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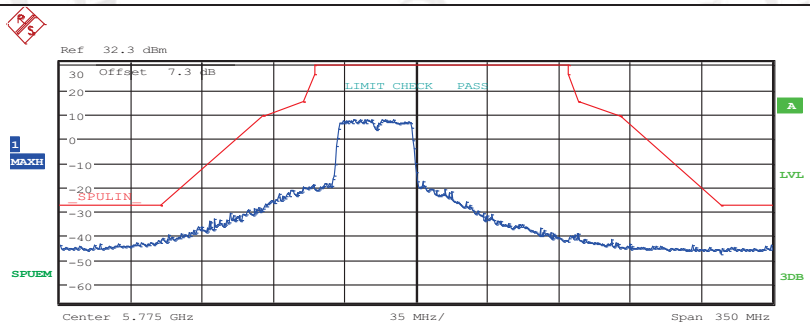
11N40_ANT1_5755



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.648063 G	-41.96	-14.96
5.650 G	5.700 G	1.00 M	5.650469 G	-41.25	-14.59
5.700 G	5.720 G	1.00 M	5.707725 G	-22.67	-34.83
5.720 G	5.725 G	1.00 M	5.720159 G	-20.88	-36.85
5.725 G	5.850 G	1.00 M	5.750859 G	7.84	-22.16
5.850 G	5.855 G	1.00 M	5.854928 G	-39.50	-55.27
5.855 G	5.875 G	1.00 M	5.870950 G	-41.50	-52.63
5.875 G	5.925 G	1.00 M	5.924188 G	-46.11	-19.72
5.925 G	5.950 G	1.00 M	5.949641 G	-44.12	-17.12

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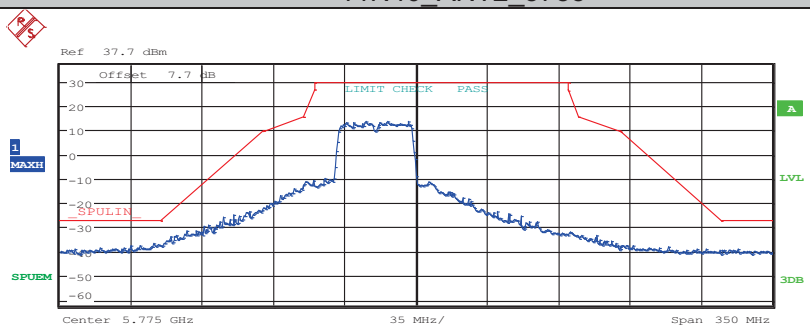
11N40_ANT2_5755



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.645906 G	-36.94	-9.94
5.650 G	5.700 G	1.00 M	5.654594 G	-33.79	-10.19
5.700 G	5.720 G	1.00 M	5.719963 G	-12.86	-28.45
5.720 G	5.725 G	1.00 M	5.720216 G	-12.13	-28.22
5.725 G	5.850 G	1.00 M	5.760703 G	13.62	-16.38
5.850 G	5.855 G	1.00 M	5.854966 G	-33.96	-49.64
5.855 G	5.875 G	1.00 M	5.863487 G	-33.52	-46.74
5.875 G	5.925 G	1.00 M	5.924656 G	-39.58	-12.83
5.925 G	5.950 G	1.00 M	5.933031 G	-39.19	-12.19

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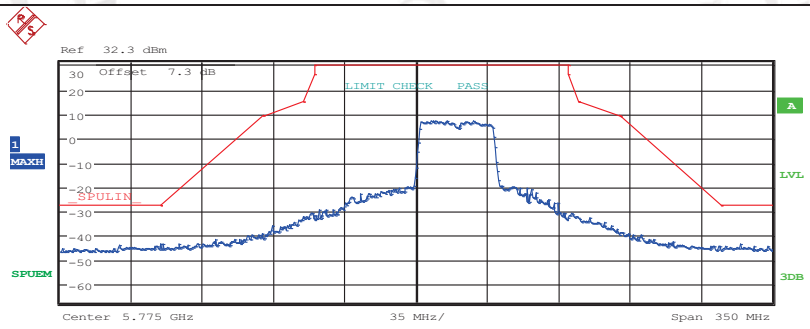
11N40_ANT1_5795



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.649375 G	-43.61	-16.61
5.650 G	5.700 G	1.00 M	5.650344 G	-43.86	-17.11
5.700 G	5.720 G	1.00 M	5.704313 G	-36.06	-47.27
5.720 G	5.725 G	1.00 M	5.720122 G	-33.01	-48.88
5.725 G	5.850 G	1.00 M	5.783516 G	7.37	-22.63
5.850 G	5.855 G	1.00 M	5.854984 G	-33.44	-49.07
5.855 G	5.875 G	1.00 M	5.867488 G	-34.81	-46.92
5.875 G	5.925 G	1.00 M	5.924344 G	-44.52	-18.01
5.925 G	5.950 G	1.00 M	5.934328 G	-43.42	-16.42

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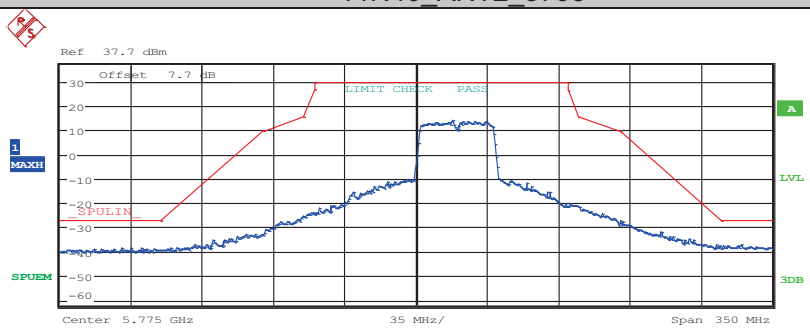
11N40_ANT2_5795



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.640000 G	-38.59	-11.59
5.650 G	5.700 G	1.00 M	5.650000 G	-39.60	-12.60
5.700 G	5.720 G	1.00 M	5.708437 G	-28.02	-40.38
5.720 G	5.725 G	1.00 M	5.720003 G	-26.10	-41.70
5.725 G	5.850 G	1.00 M	5.793047 G	13.88	-16.12
5.850 G	5.855 G	1.00 M	5.854975 G	-21.84	-37.50
5.855 G	5.875 G	1.00 M	5.872450 G	-25.94	-36.65
5.875 G	5.925 G	1.00 M	5.924812 G	-37.87	-11.01
5.925 G	5.950 G	1.00 M	5.935109 G	-37.34	-10.34

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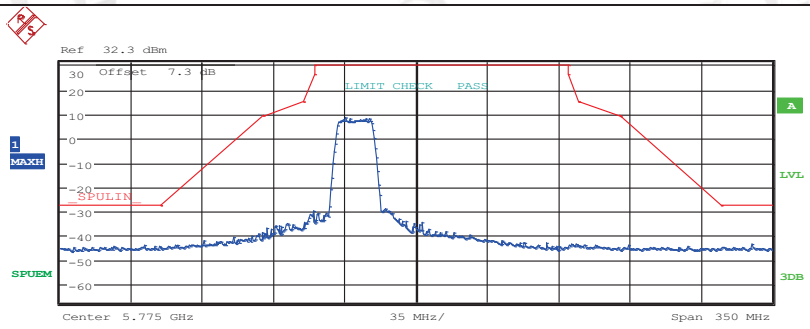
11AC20_ANT1_5745



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.641281 G	-44.20	-17.20
5.650 G	5.700 G	1.00 M	5.650062 G	-45.78	-18.82
5.700 G	5.720 G	1.00 M	5.705762 G	-35.85	-47.47
5.720 G	5.725 G	1.00 M	5.720128 G	-34.57	-50.46
5.725 G	5.850 G	1.00 M	5.740312 G	8.73	-21.27
5.850 G	5.855 G	1.00 M	5.854994 G	-43.97	-59.58
5.855 G	5.875 G	1.00 M	5.874675 G	-44.71	-54.80
5.875 G	5.925 G	1.00 M	5.924844 G	-46.34	-19.46
5.925 G	5.950 G	1.00 M	5.940031 G	-43.61	-16.61

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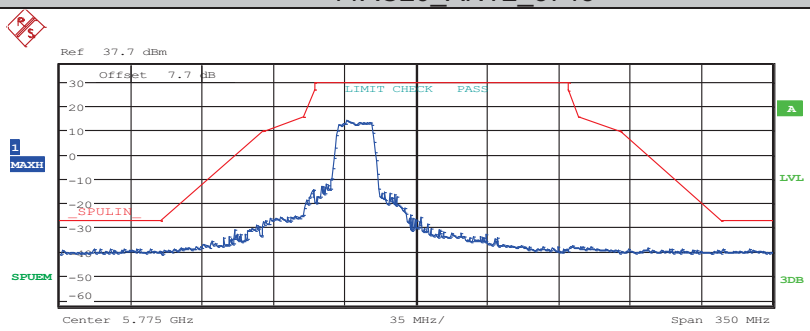
11AC20_ANT2_5745



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.619781 G	-38.86	-11.86
5.650 G	5.700 G	1.00 M	5.651094 G	-39.62	-13.43
5.700 G	5.720 G	1.00 M	5.703012 G	-26.30	-37.14
5.720 G	5.725 G	1.00 M	5.721094 G	-18.73	-36.83
5.725 G	5.850 G	1.00 M	5.740781 G	13.77	-16.23
5.850 G	5.855 G	1.00 M	5.854813 G	-38.71	-54.74
5.855 G	5.875 G	1.00 M	5.874813 G	-39.64	-49.69
5.875 G	5.925 G	1.00 M	5.924812 G	-40.12	-13.26
5.925 G	5.950 G	1.00 M	5.925969 G	-38.93	-11.93

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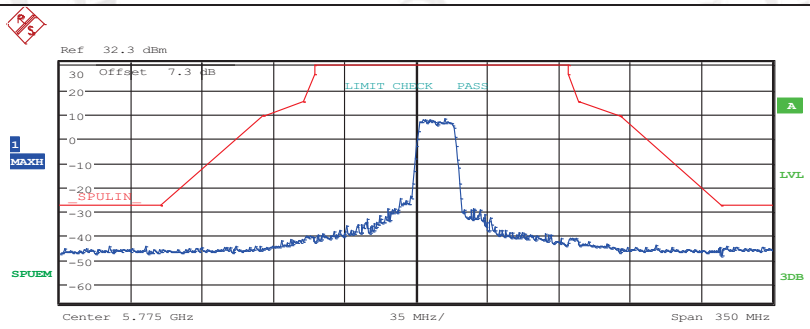
11AC20_ANT1_5785



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.641844 G	-44.39	-17.39
5.650 G	5.700 G	1.00 M	5.650688 G	-45.91	-19.42
5.700 G	5.720 G	1.00 M	5.708650 G	-42.21	-54.64
5.720 G	5.725 G	1.00 M	5.720147 G	-41.51	-57.44
5.725 G	5.850 G	1.00 M	5.789063 G	7.90	-22.10
5.850 G	5.855 G	1.00 M	5.854850 G	-42.73	-58.67
5.855 G	5.875 G	1.00 M	5.873975 G	-44.99	-55.27
5.875 G	5.925 G	1.00 M	5.924969 G	-45.08	-18.11
5.925 G	5.950 G	1.00 M	5.927500 G	-44.36	-17.36

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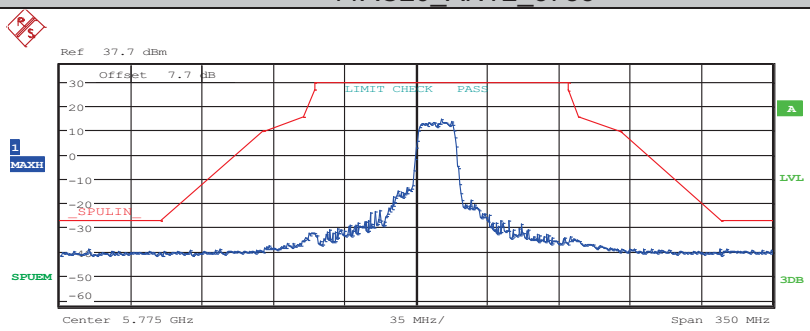
11AC20_ANT2_5785



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.613969 G	-38.86	-11.86
5.650 G	5.700 G	1.00 M	5.650844 G	-40.03	-13.66
5.700 G	5.720 G	1.00 M	5.701638 G	-37.92	-48.38
5.720 G	5.725 G	1.00 M	5.720441 G	-34.50	-51.10
5.725 G	5.850 G	1.00 M	5.787109 G	14.32	-15.68
5.850 G	5.855 G	1.00 M	5.854988 G	-35.97	-51.60
5.855 G	5.875 G	1.00 M	5.873437 G	-38.90	-49.33
5.875 G	5.925 G	1.00 M	5.924812 G	-39.00	-12.13
5.925 G	5.950 G	1.00 M	5.927797 G	-38.90	-11.90

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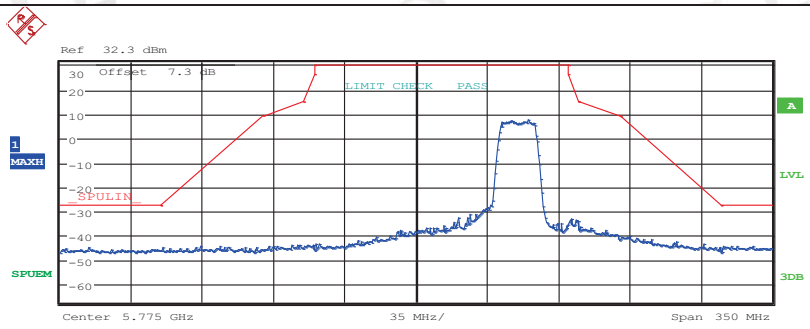
11AC20_ANT1_5825



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.614031 G	-44.72	-17.72
5.650 G	5.700 G	1.00 M	5.650406 G	-45.12	-18.42
5.700 G	5.720 G	1.00 M	5.702463 G	-44.28	-54.97
5.720 G	5.725 G	1.00 M	5.720034 G	-44.89	-60.56
5.725 G	5.850 G	1.00 M	5.829688 G	7.47	-22.53
5.850 G	5.855 G	1.00 M	5.854597 G	-34.17	-50.69
5.855 G	5.875 G	1.00 M	5.873450 G	-39.20	-49.63
5.875 G	5.925 G	1.00 M	5.924938 G	-45.20	-18.24
5.925 G	5.950 G	1.00 M	5.926141 G	-44.29	-17.29

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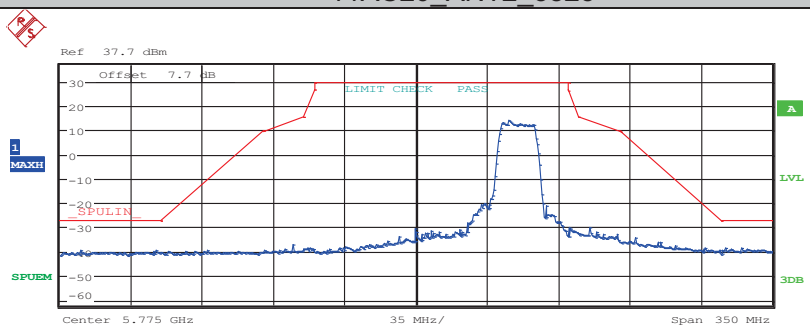
11AC20_ANT2_5825



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.609844 G	-39.70	-12.70
5.650 G	5.700 G	1.00 M	5.650000 G	-40.42	-13.42
5.700 G	5.720 G	1.00 M	5.700450 G	-39.76	-49.89
5.720 G	5.725 G	1.00 M	5.720009 G	-39.25	-54.87
5.725 G	5.850 G	1.00 M	5.820547 G	13.94	-16.06
5.850 G	5.855 G	1.00 M	5.854888 G	-32.44	-48.30
5.855 G	5.875 G	1.00 M	5.873913 G	-32.87	-43.18
5.875 G	5.925 G	1.00 M	5.924563 G	-39.72	-13.04
5.925 G	5.950 G	1.00 M	5.934859 G	-38.61	-11.61

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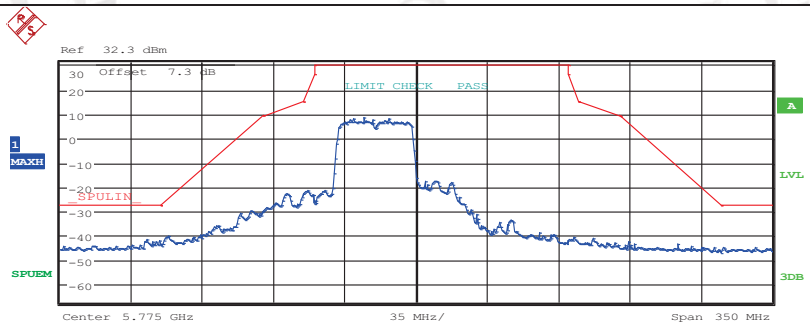
11AC40_ANT1_5755



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.642437 G	-41.82	-14.82
5.650 G	5.700 G	1.00 M	5.652094 G	-40.80	-15.35
5.700 G	5.720 G	1.00 M	5.711500 G	-23.01	-36.23
5.720 G	5.725 G	1.00 M	5.720038 G	-22.63	-38.31
5.725 G	5.850 G	1.00 M	5.749219 G	8.67	-21.33
5.850 G	5.855 G	1.00 M	5.854944 G	-43.40	-59.13
5.855 G	5.875 G	1.00 M	5.872700 G	-43.02	-53.67
5.875 G	5.925 G	1.00 M	5.924844 G	-46.53	-19.65
5.925 G	5.950 G	1.00 M	5.941484 G	-44.82	-17.82

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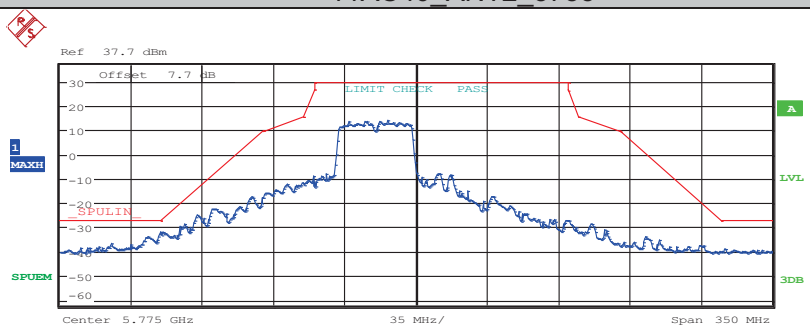
11AC40_ANT2_5755



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.649125 G	-32.22	-5.22
5.650 G	5.700 G	1.00 M	5.650188 G	-32.21	-5.35
5.700 G	5.720 G	1.00 M	5.711613 G	-12.52	-25.77
5.720 G	5.725 G	1.00 M	5.720331 G	-11.90	-28.25
5.725 G	5.850 G	1.00 M	5.760859 G	13.99	-16.01
5.850 G	5.855 G	1.00 M	5.854291 G	-31.50	-48.72
5.855 G	5.875 G	1.00 M	5.861325 G	-28.90	-42.73
5.875 G	5.925 G	1.00 M	5.924531 G	-39.84	-13.18
5.925 G	5.950 G	1.00 M	5.927062 G	-39.05	-12.05

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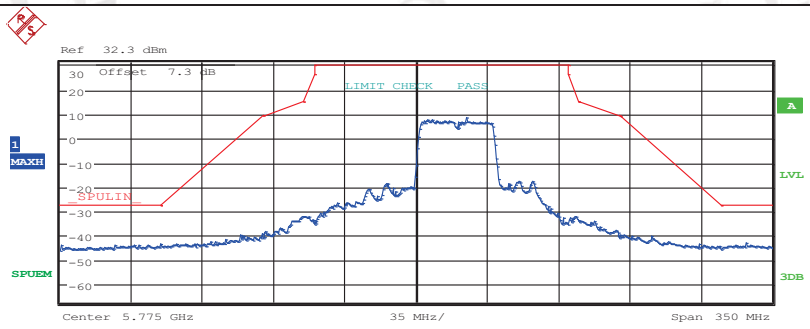
11AC40_ANT1_5795



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.649906 G	-43.36	-16.36
5.650 G	5.700 G	1.00 M	5.650000 G	-44.05	-17.05
5.700 G	5.720 G	1.00 M	5.719700 G	-32.08	-47.60
5.720 G	5.725 G	1.00 M	5.720034 G	-32.64	-48.32
5.725 G	5.850 G	1.00 M	5.799609 G	8.82	-21.18
5.850 G	5.855 G	1.00 M	5.854913 G	-33.74	-49.54
5.855 G	5.875 G	1.00 M	5.862262 G	-34.36	-47.93
5.875 G	5.925 G	1.00 M	5.924750 G	-44.26	-17.44
5.925 G	5.950 G	1.00 M	5.937250 G	-43.24	-16.24

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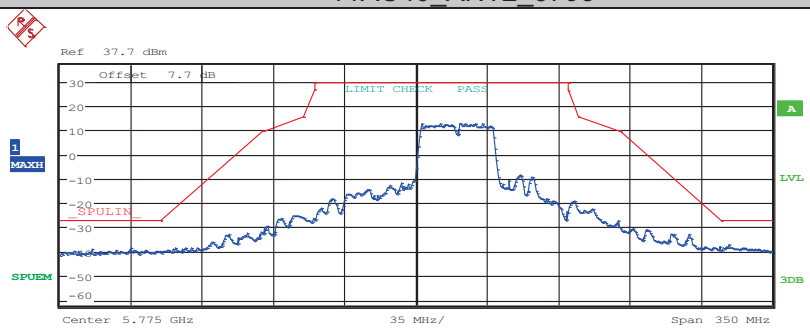
11AC40_ANT2_5795



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.634781 G	-38.79	-11.79
5.650 G	5.700 G	1.00 M	5.650812 G	-39.81	-13.41
5.700 G	5.720 G	1.00 M	5.707725 G	-26.66	-38.83
5.720 G	5.725 G	1.00 M	5.720050 G	-26.87	-42.58
5.725 G	5.850 G	1.00 M	5.807656 G	12.72	-17.28
5.850 G	5.855 G	1.00 M	5.854897 G	-23.12	-38.95
5.855 G	5.875 G	1.00 M	5.861650 G	-22.77	-36.50
5.875 G	5.925 G	1.00 M	5.924812 G	-38.19	-11.33
5.925 G	5.950 G	1.00 M	5.928609 G	-37.32	-10.32

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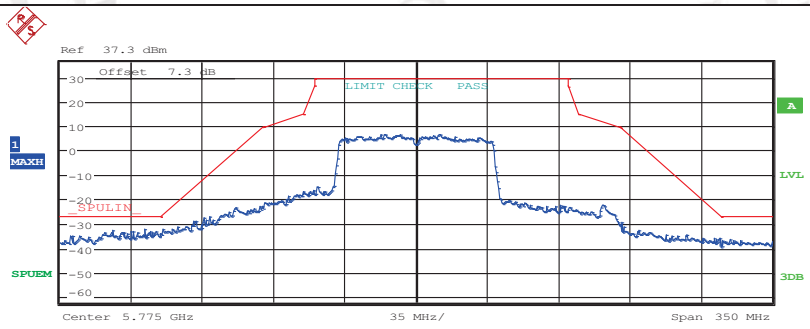
11AC80_ANT1_5775



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.641563 G	-32.46	-5.46
5.650 G	5.700 G	1.00 M	5.650594 G	-32.44	-5.88
5.700 G	5.720 G	1.00 M	5.700613 G	-21.65	-31.82
5.720 G	5.725 G	1.00 M	5.720278 G	-17.96	-34.20
5.725 G	5.850 G	1.00 M	5.766953 G	6.76	-23.24
5.850 G	5.855 G	1.00 M	5.854984 G	-25.45	-41.08
5.855 G	5.875 G	1.00 M	5.866837 G	-22.43	-34.71
5.875 G	5.925 G	1.00 M	5.924750 G	-36.18	-9.37
5.925 G	5.950 G	1.00 M	5.929172 G	-36.70	-9.70

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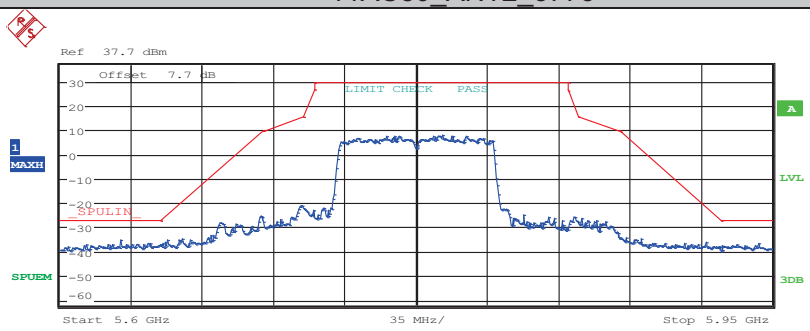
11AC80_ANT2_5775



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	Δ Limit [dB]
5.600 G	5.650 G	1.00 M	5.629531 G	-35.53	-8.53
5.650 G	5.700 G	1.00 M	5.650281 G	-36.93	-10.13
5.700 G	5.720 G	1.00 M	5.718775 G	-21.10	-36.36
5.720 G	5.725 G	1.00 M	5.720006 G	-22.80	-38.41
5.725 G	5.850 G	1.00 M	5.788047 G	7.69	-22.31
5.850 G	5.855 G	1.00 M	5.854756 G	-27.77	-43.92
5.855 G	5.875 G	1.00 M	5.867963 G	-27.96	-39.93
5.875 G	5.925 G	1.00 M	5.924188 G	-38.00	-11.60
5.925 G	5.950 G	1.00 M	5.943234 G	-36.62	-9.62

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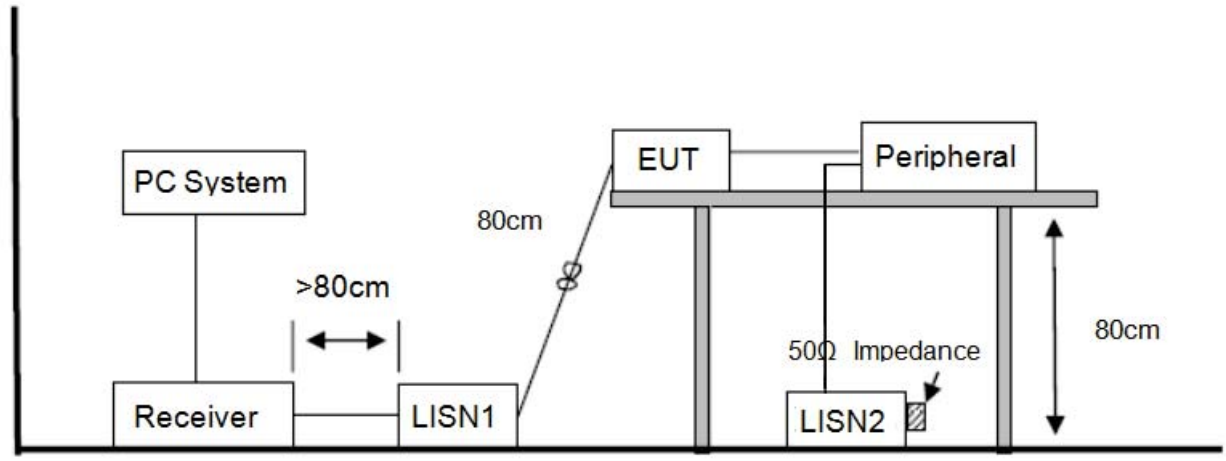
10. Power Line Conducted Emission

10.1. Block diagram of test setup



10.2. Power Line Conducted Emission Limits (Class B)

Frequency	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150 kHz ~ 500 kHz	66 ~ 56*	56 ~ 46*
500 kHz ~ 5 MHz	56	46
5 MHz ~ 30 MHz	60	50

Note 1: * Decreasing linearly with logarithm of frequency.

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

10.3. 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 2.3 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 C63.4.

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 30MHz 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 2.3 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.

10.4. Test Result

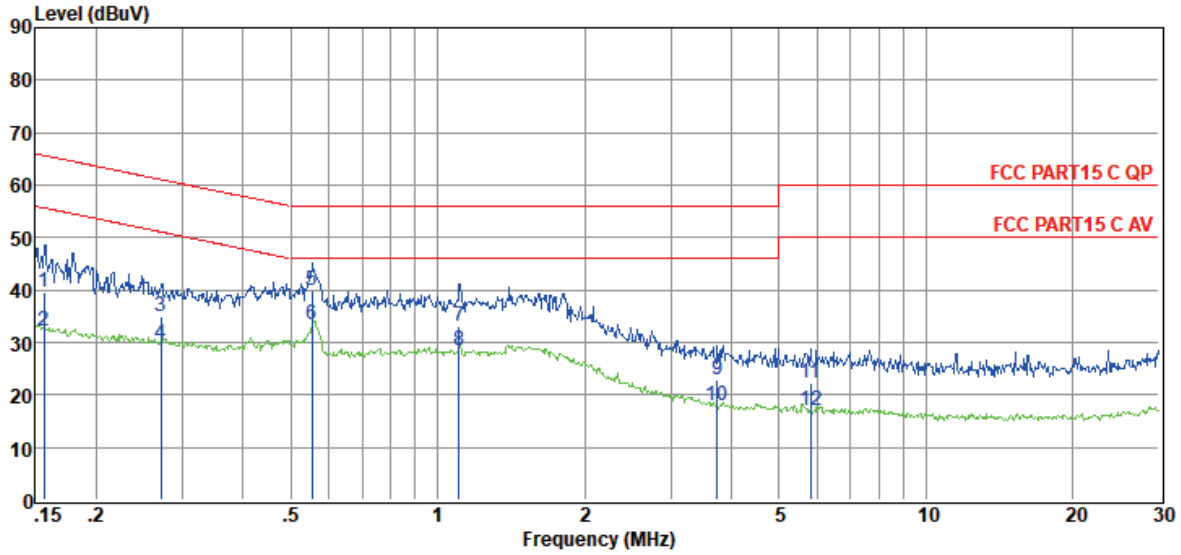
PASS. (See below detailed test result)

Note1: All emissions not reported below are too low against the prescribed limits.
Note2: "-----" means peak detection; "-----" means average detection
Note3: Pre-test AC conducted emission at both voltage AC 120V/60Hz and AC 240V/60Hz, recorded worse case.

TR-4-E-010 Conducted Emission Test Result

Test Site	: DDT 1# Shield Room	D:\2019 CE report data\Q19080710-1E\RF.EM6	
Test Date	: 2019-11-29	**Tested By**	: Lori
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 120V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24'C,Humi:60%,Press:101.4KPa	**LISN**	: 2018 ENV216/LINE
Memo	:		

Data: 18



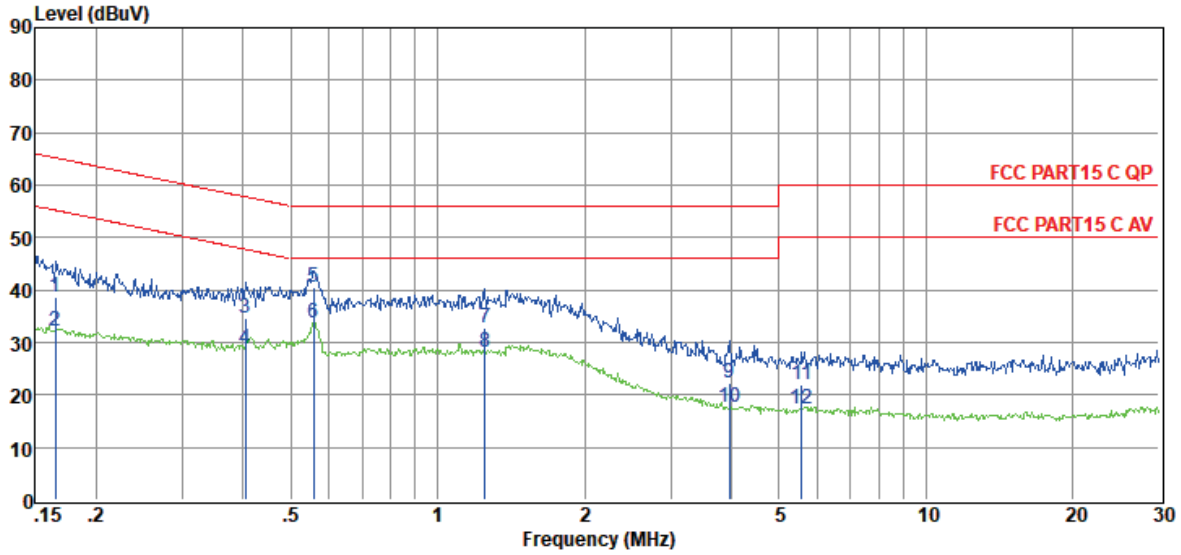
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	LISN Factor (dB)	Cable Loss (dB)	Pulse Limiter Factor (dB)	Result Level (dBμV)	Limit Line (dBμV)	Over Limit (dB)	Detector	Phase
1	0.16	20.12	9.63	0.02	9.86	39.63	65.65	-26.02	QP	LINE
2	0.16	12.81	9.63	0.02	9.86	32.32	55.65	-23.33	Average	LINE
3	0.27	15.32	9.63	0.02	9.86	34.83	61.07	-26.24	QP	LINE
4	0.27	10.31	9.63	0.02	9.86	29.82	51.07	-21.25	Average	LINE
5	0.55	20.31	9.64	0.02	9.86	39.83	56.00	-16.17	QP	LINE
6	0.55	13.94	9.64	0.02	9.86	33.46	46.00	-12.54	Average	LINE
7	1.11	13.40	9.64	0.09	9.87	33.00	56.00	-23.00	QP	LINE
8	1.11	8.75	9.64	0.09	9.87	28.35	46.00	-17.65	Average	LINE
9	3.74	3.31	9.68	0.06	9.87	22.92	56.00	-33.08	QP	LINE
10	3.74	-1.57	9.68	0.06	9.87	18.04	46.00	-27.96	Average	LINE
11	5.81	2.57	9.70	0.07	9.88	22.22	60.00	-37.78	QP	LINE
12	5.81	-2.59	9.70	0.07	9.88	17.06	50.00	-32.94	Average	LINE

Note: 1. Result Level = Read Level +LISN Factor + Pulse Limiter Factor + Cable loss.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).
4. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

TR-4-E-010 Conducted Emission Test Result

Test Site	: DDT 1# Shield Room	D:\2019 CE report data\Q19080710-1E\RF.EM6	
Test Date	: 2019-11-29	**Tested By**	: Lori
EUT	: Wireless Multi-Channel Soundbar	**Model Number**	: CITATION MULTIBEAM 700
Power Supply	: AC 120V/60Hz	**Test Mode**	: Tx mode
Condition	: Temp:24'C,Humi:60%,Press:101.4KPa	**LISN**	: 2018 ENV216/NEUTRAL
Memo	:		

Data: 20



Item (Mark)	Freq. (MHz)	Read Level (dBµV)	LISN Factor (dB)	Cable Loss (dB)	Pulse Limiter Factor (dB)	Result Level (dBµV)	Limit Line (dBµV)	Over Limit (dB)	Detector	Phase
1	0.17	19.29	9.64	0.02	9.86	38.81	65.21	-26.40	QP	NEUTRAL
2	0.17	12.71	9.64	0.02	9.86	32.23	55.21	-22.98	Average	NEUTRAL
3	0.40	15.03	9.64	0.02	9.86	34.55	57.77	-23.22	QP	NEUTRAL
4	0.40	9.32	9.64	0.02	9.86	28.84	47.77	-18.93	Average	NEUTRAL
5	0.56	20.84	9.64	0.03	9.86	40.37	56.00	-15.63	QP	NEUTRAL
6	0.56	14.06	9.64	0.03	9.86	33.59	46.00	-12.41	Average	NEUTRAL
7	1.25	13.25	9.65	0.09	9.87	32.86	56.00	-23.14	QP	NEUTRAL
8	1.25	8.67	9.65	0.09	9.87	28.28	46.00	-17.72	Average	NEUTRAL
9	3.96	2.78	9.69	0.06	9.88	22.41	56.00	-33.59	QP	NEUTRAL
10	3.96	-2.10	9.69	0.06	9.88	17.53	46.00	-28.47	Average	NEUTRAL
11	5.56	2.24	9.71	0.07	9.88	21.90	60.00	-38.10	QP	NEUTRAL
12	5.56	-2.47	9.71	0.07	9.88	17.19	50.00	-32.81	Average	NEUTRAL

Note: 1. Result Level = Read Level +LISN Factor + Pulse Limiter Factor + Cable loss.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).
4. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

11. Antenna Requirements

11.1. Limit

For intentional device, according to FCC 47 CFR Section 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. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

11.2. Result

The device support 2T2R MIMO, the antennas both used for this product are External FPC antennas and other than that furnished by the responsible party shall be used with the device, maximum antenna gain is 3.24 dBi for antenna 1, 3.68 dBi for antenna 2.

12. Dynamic Frequency Selection

12.1. Applicability of DFS requirements

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.		

12.2. 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 ≥ 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.	

12.3. 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	$\text{Roundup}\left\{\left(\frac{1}{360}\right)\cdot\left(\frac{19\cdot10^6}{\text{PRI}_{\mu\text{sec}}}\right)\right\}$	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

12.4. Calibration of radar waveform

Radar Waveform Calibration Procedure:

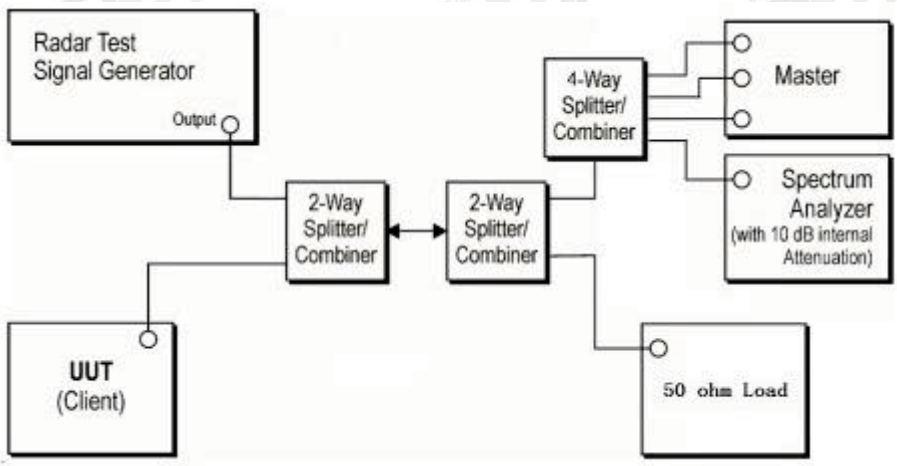
(1) A 50 ohm load is connected in place of the spectrum analyzer, and the spectrum analyzer is connected to place of the master

(2) The interference Radar Detection Threshold Level is -62dBm + 0dBi +1dB = -61dBm that had been taken into account the output power range and antenna gain.

(3) 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.

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

Conducted Calibration Setup:

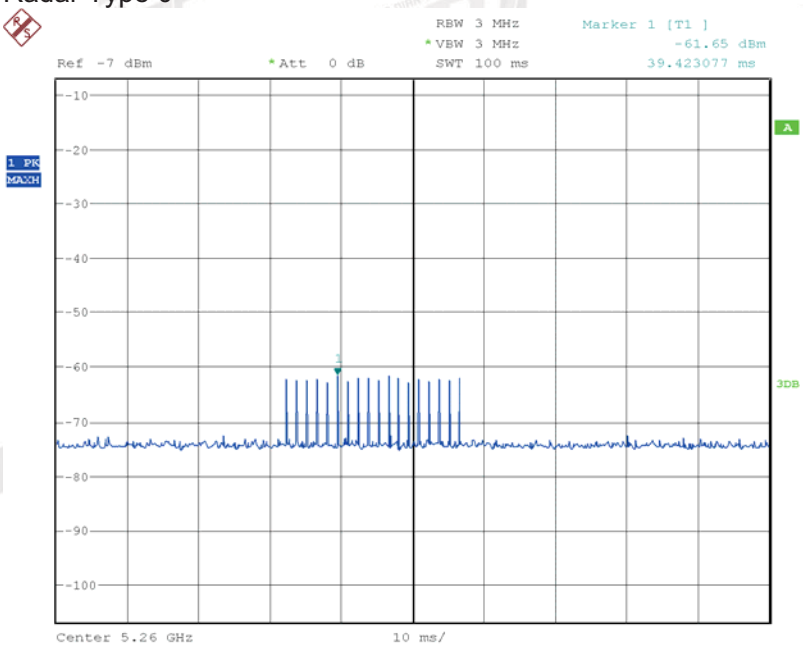


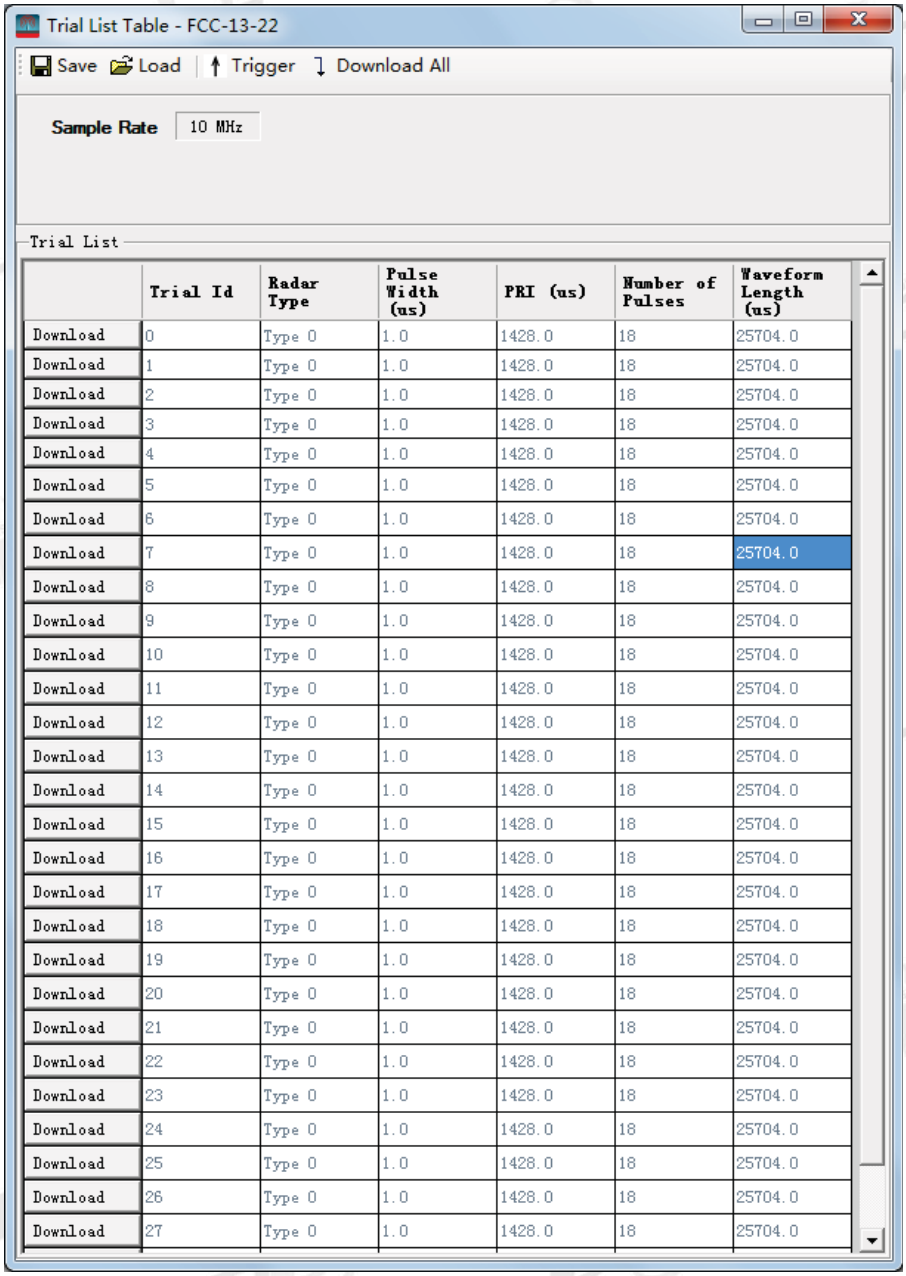
Note: 1. Use the software "Web" to set the frequency channel.

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

Radar Waveform Calibration Result:

Radar Type 0





Trial List Table - FCC-13-22

Save Load Trigger Download All

Sample Rate 10 MHz

Trial List

	Trial Id	Radar Type	Pulse Width (us)	PRI (us)	Number of Pulses	Waveform Length (us)
Download	0	Type 0	1.0	1428.0	18	25704.0
Download	1	Type 0	1.0	1428.0	18	25704.0
Download	2	Type 0	1.0	1428.0	18	25704.0
Download	3	Type 0	1.0	1428.0	18	25704.0
Download	4	Type 0	1.0	1428.0	18	25704.0
Download	5	Type 0	1.0	1428.0	18	25704.0
Download	6	Type 0	1.0	1428.0	18	25704.0
Download	7	Type 0	1.0	1428.0	18	25704.0
Download	8	Type 0	1.0	1428.0	18	25704.0
Download	9	Type 0	1.0	1428.0	18	25704.0
Download	10	Type 0	1.0	1428.0	18	25704.0
Download	11	Type 0	1.0	1428.0	18	25704.0
Download	12	Type 0	1.0	1428.0	18	25704.0
Download	13	Type 0	1.0	1428.0	18	25704.0
Download	14	Type 0	1.0	1428.0	18	25704.0
Download	15	Type 0	1.0	1428.0	18	25704.0
Download	16	Type 0	1.0	1428.0	18	25704.0
Download	17	Type 0	1.0	1428.0	18	25704.0
Download	18	Type 0	1.0	1428.0	18	25704.0
Download	19	Type 0	1.0	1428.0	18	25704.0
Download	20	Type 0	1.0	1428.0	18	25704.0
Download	21	Type 0	1.0	1428.0	18	25704.0
Download	22	Type 0	1.0	1428.0	18	25704.0
Download	23	Type 0	1.0	1428.0	18	25704.0
Download	24	Type 0	1.0	1428.0	18	25704.0
Download	25	Type 0	1.0	1428.0	18	25704.0
Download	26	Type 0	1.0	1428.0	18	25704.0
Download	27	Type 0	1.0	1428.0	18	25704.0

12.5. Channel closing transmission time, channel move time and non-occupancy period

Block diagram of test setup Test Procedure:

(1) 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.

(2) 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.

(3) 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.

(4) 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.

(5) 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.

(6) 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.

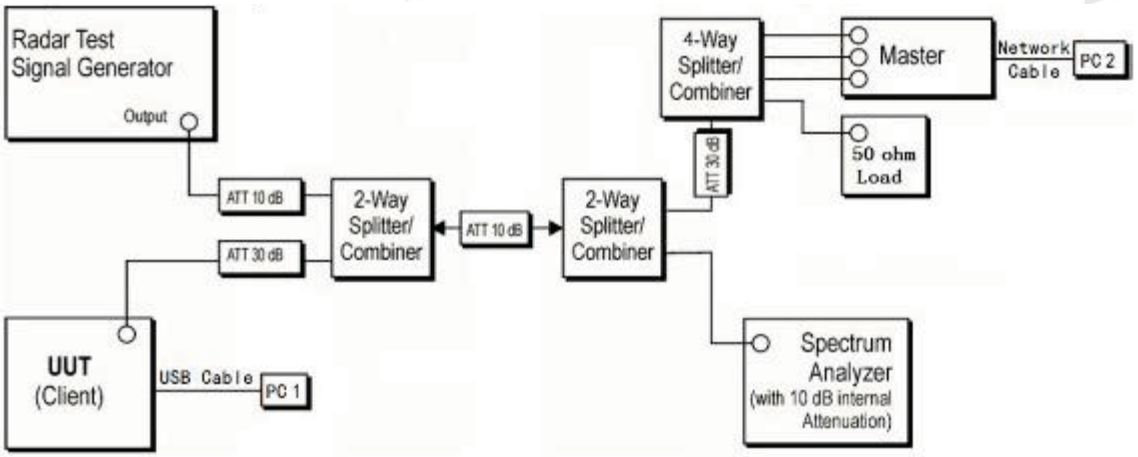
(7) Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the

(8) 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 X 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.

12.6. Test setup

Setup for Client with injection at the Master

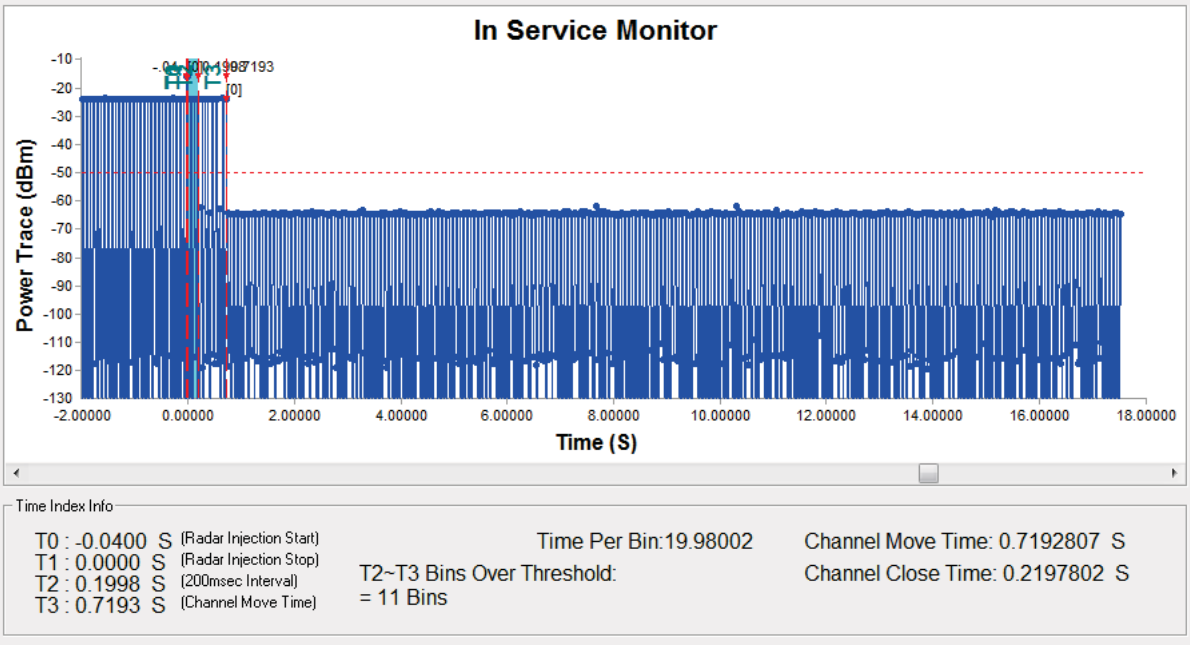


12.7. Test result

BW/Channel	Test Item	Test Result	Limit	Results
20M/5260MHz	Channel Move Time	0.719s	＜10s	pass
	Channel Closing Transmission Time	0.22s	＜0.26s	pass
20M/5500MHz	Channel Move Time	0.799s	＜10s	pass
	Channel Closing Transmission Time	0.24s	＜0.26s	pass
80M/5290MHz	Channel Move Time	0.759s	＜10s	pass
	Channel Closing Transmission Time	0.22s	＜0.26s	pass
80M/5530MHz	Channel Move Time	0.639s	＜10s	pass
	Channel Closing Transmission Time	0.2s	＜0.26s	pass

Test plots as follows:

Channel Move Time & Channel Closing Transmission Time

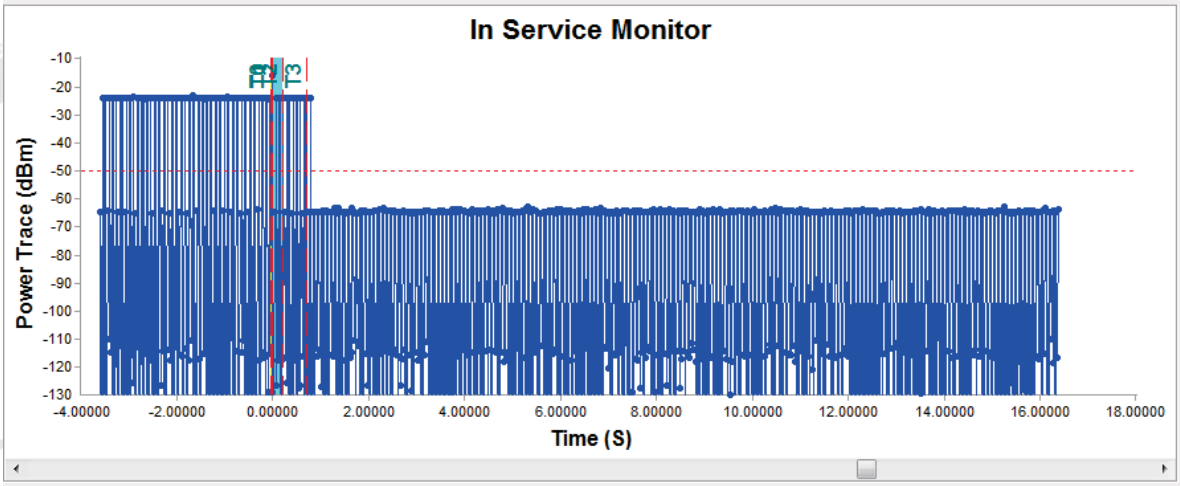


Time Index Info

T0 : -0.0400 S (Radar Injection Start)
T1 : 0.0000 S (Radar Injection Stop)
T2 : 0.1998 S (200msec Interval)
T3 : 0.7193 S (Channel Move Time)

Time Per Bin:19.98002
T2~T3 Bins Over Threshold:
= 11 Bins

Channel Move Time: 0.7192807 S
Channel Close Time: 0.2197802 S

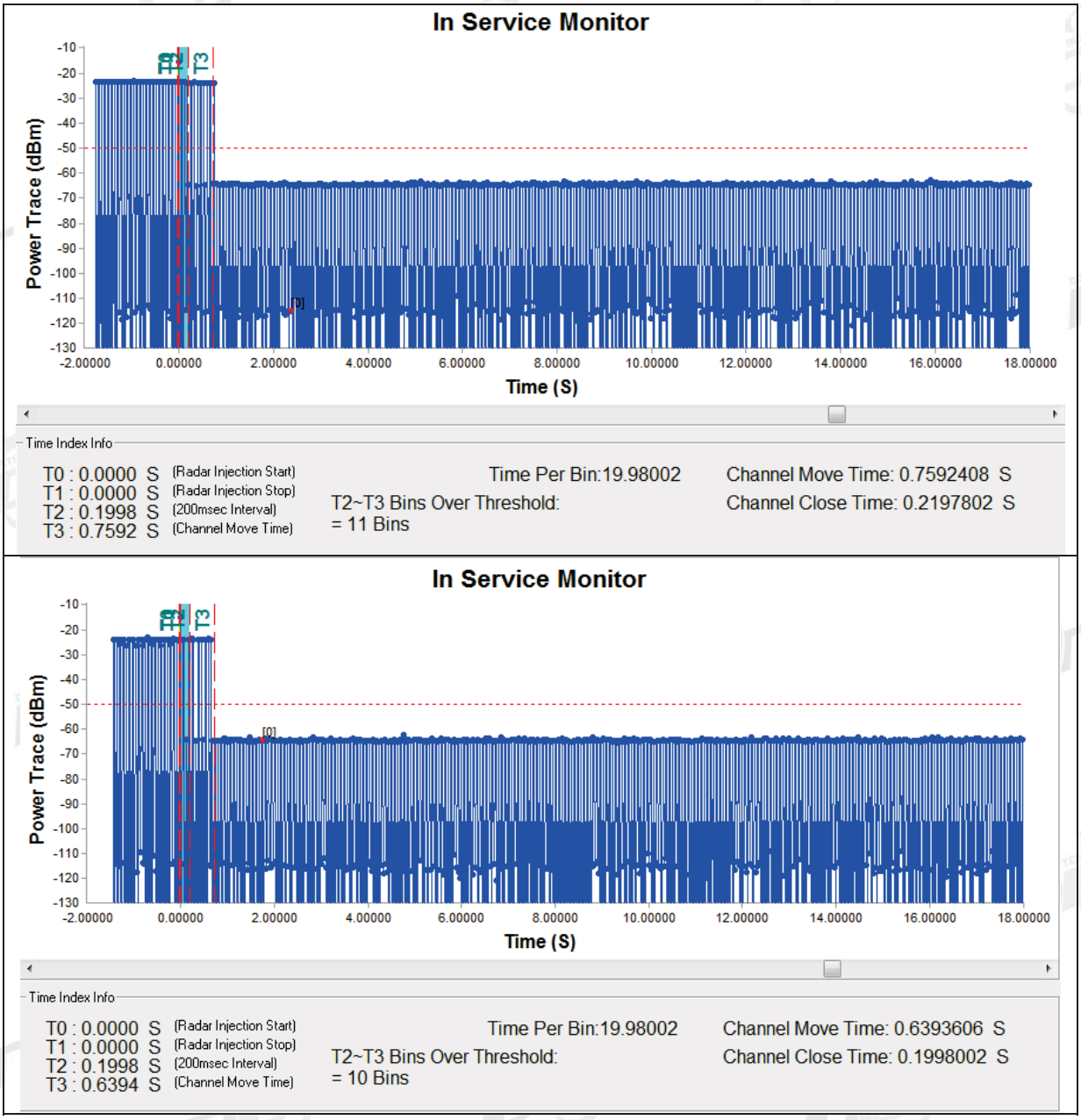


Time Index Info

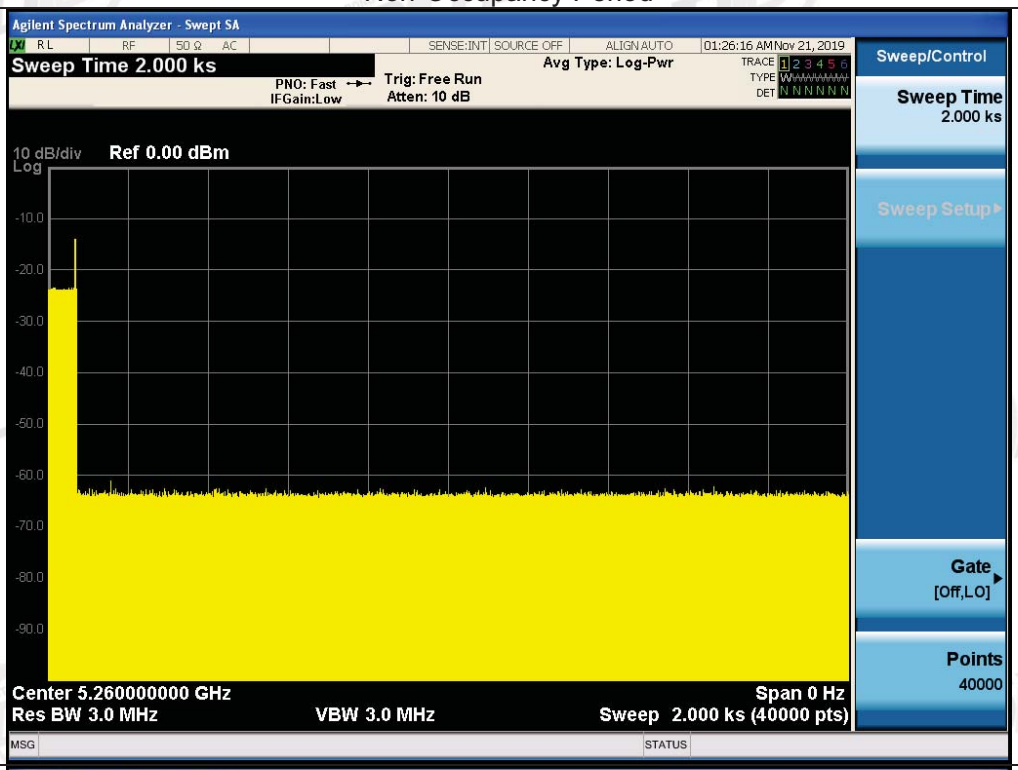
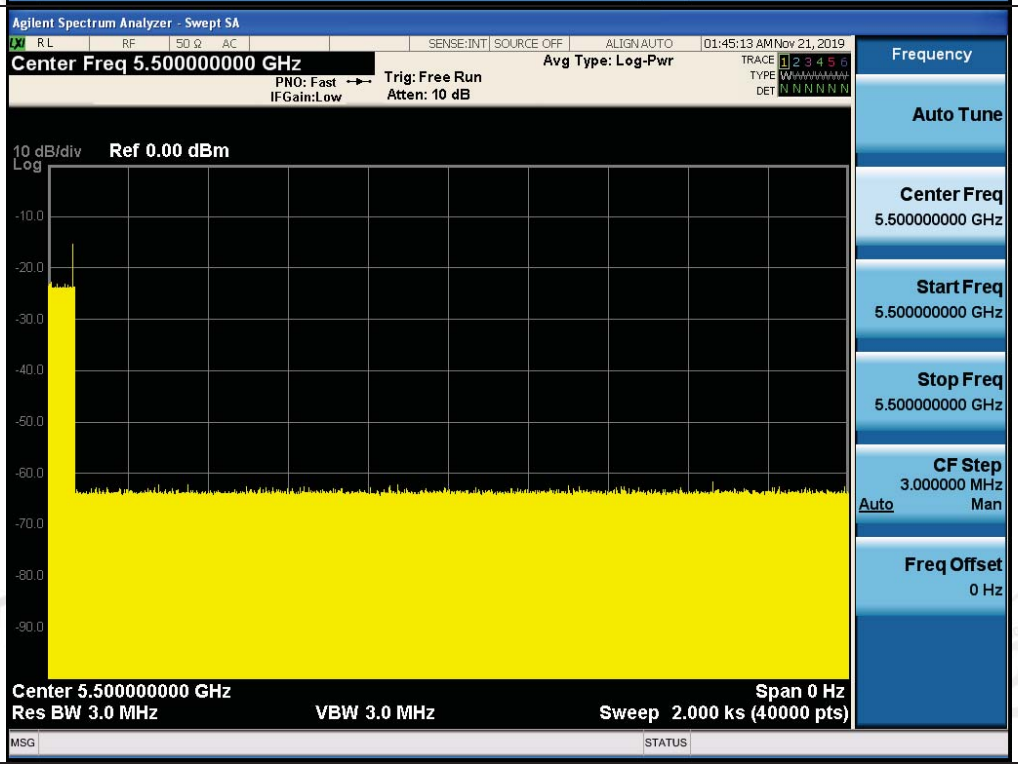
T0 : 0.0000 S (Radar Injection Start)
T1 : 0.0000 S (Radar Injection Stop)
T2 : 0.1998 S (200msec Interval)
T3 : 0.7992 S (Channel Move Time)

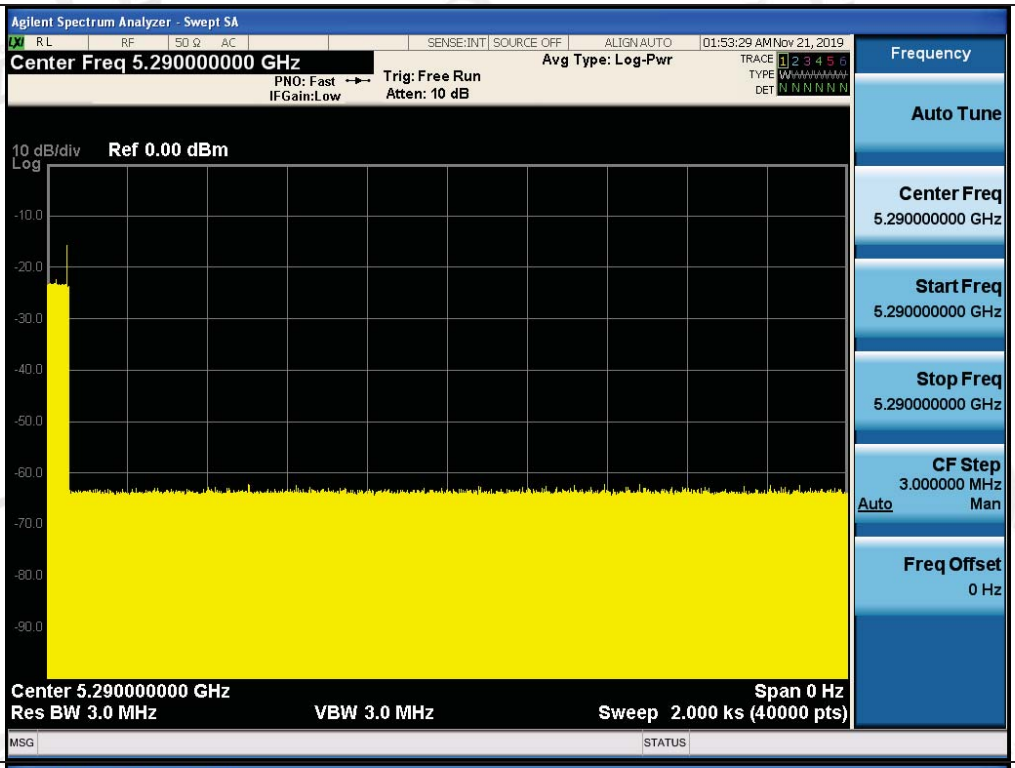
Time Per Bin:19.98002
T2~T3 Bins Over Threshold:
= 12 Bins

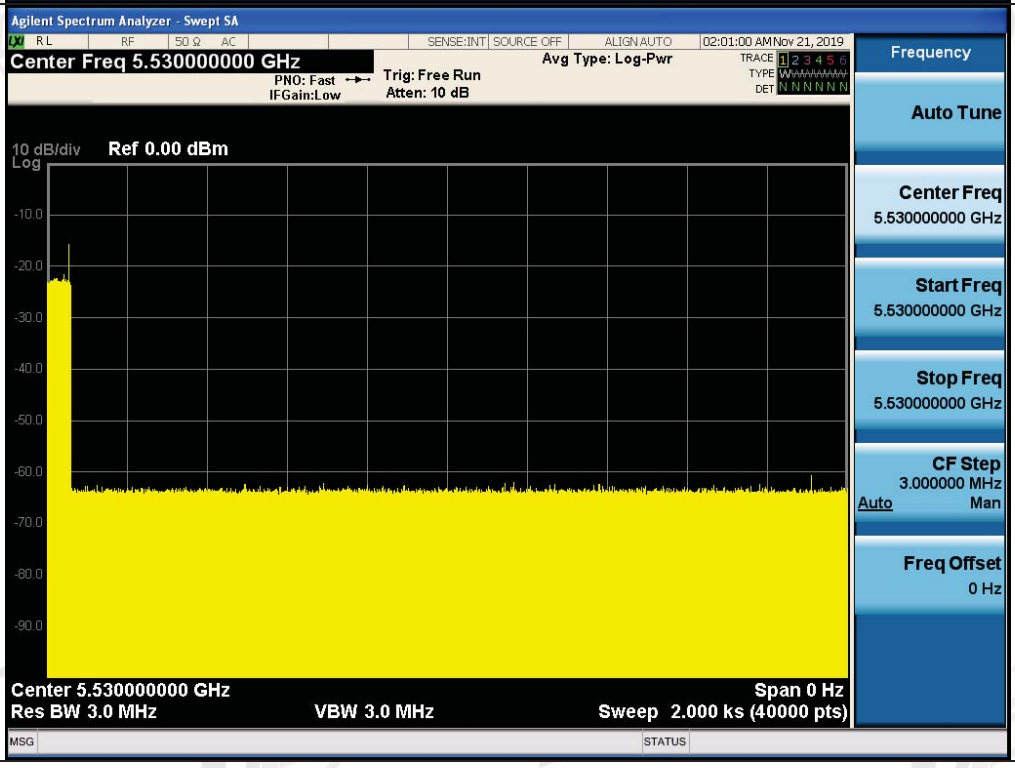
Channel Move Time: 0.7992008 S
Channel Close Time: 0.2397602 S



BW/Channel	Test Item	Test Result	Limit	Results
20M/5260MHz	Non-Occupancy Period	>30min	30min	pass
20M/5500MHz	Non-Occupancy Period	>30min	30min	pass
80M/5290MHz	Non-Occupancy Period	>30min	30min	pass
80M/5530MHz	Non-Occupancy Period	>30min	30min	pass

Non-Occupancy Period







END OF REPORT