

5. Maximum Output Power

5.1. Block diagram of test setup

Same as section 4.1

5.2. Limits

FCC Part15, Subpart E/ RSS-247		
Test Item	Limit	Frequency Range (MHz)
Conducted Output Power	For FCC client devices: 250 mW (24 dBm)	5150-5250
	For RSS: e.i.r.p. power: not exceed 200 mW (23 dBm) or $10 + 10 \log_{10} B$, whichever is less	
	For FCC: 250 mW (24 dBm) or $11 + 10 \log_{10} B$, whichever is lower	5250-5350
	For RSS: e.i.r.p. power: not exceed 1.0 W (30 dBm) or $17 + 10 \log_{10} B$, whichever is less	
	For FCC: 250 mW (24 dBm) or $11 + 10 \log_{10} B$, whichever is lower	For FCC:5470-5725 For IC:5470-5600 5650-5725
	For RSS: e.i.r.p. power: not exceed 1.0 W (30 dBm) or $17 + 10 \log_{10} B$, whichever is less	
	1 Watt (30 dBm)	5725-5850
Note: 1. For FCC: B=26 bandwidth; For ISSED: B=99% bandwidth. 2. For 802.11n and 802.11ac, the EUT incorporates a MIMO function. The Antenna directional gain is 6.51 dBi. The Output Power limit is the above limits-(6.51-6) (For ISSED e.i.r.p. power only for 5725-5850 Band)		

5.3. Test Procedure

Connect each EUT's antenna output to power sensor by RF cable and attenuator

Measure the output power of each antenna port by power sensor.

5.4. Test Result

Test Mode	Ant	Test Channel	Output Power [dBm]	EIRP [dBm]	FCC LIMIT	ISED LIMIT
11A	ANT1	5180	11.85	12.20	24	22.32
11A	ANT2	5180	12.87	14.42	24	22.32
11A	ANT1	5200	12.27	12.62	24	22.32
11A	ANT2	5200	13.01	14.56	24	22.32
11A	ANT1	5240	13.05	13.4	24	22.32
11A	ANT2	5240	12.79	14.34	24	22.32
11A	ANT1	5260	13.16	13.51	24	29.31
11A	ANT2	5260	12.42	13.97	24	29.31
11A	ANT1	5280	13.47	13.82	24	29.31
11A	ANT2	5280	12.15	13.7	24	29.31
11A	ANT1	5320	14.13	14.48	24	29.31
11A	ANT2	5320	12.19	13.74	24	29.31
11A	ANT1	5500	13.15	13.5	24	29.30
11A	ANT2	5500	12.36	13.91	24	29.30
11A	ANT1	5580	12.71	13.06	24	29.30
11A	ANT2	5580	13.56	15.11	24	29.30
11A	ANT1	5700	12.71	13.06	24	29.30
11A	ANT2	5700	12.09	13.64	24	29.30
11A	ANT1	5745	12.90	13.25	30	30
11A	ANT2	5745	11.69	13.24	30	30
11A	ANT1	5785	13.72	14.07	30	30
11A	ANT2	5785	11.72	13.27	30	30
11A	ANT1	5825	14.03	14.38	30	30
11A	ANT2	5825	10.51	12.06	30	30
11N20MIMO	ANT1	5180	11.64	13.66	24	22.57
11N20MIMO	ANT2	5180	12.81	15.89	24	22.57
11N20MIMO	total	5180	15.27	20.85	24	22.57
11N20MIMO	ANT1	5200	12.31	12.66	24	22.57
11N20MIMO	ANT2	5200	13.04	14.59	24	22.57
11N20MIMO	total	5200	15.70	19.68	24	22.57
11N20MIMO	ANT1	5240	12.87	13.22	24	22.57
11N20MIMO	ANT2	5240	13.42	14.97	24	22.57
11N20MIMO	total	5240	16.16	20.14	24	22.57
11N20MIMO	ANT1	5260	13.01	13.36	24	29.53

11N20MIMO	ANT2	5260	12.32	13.87	24	29.53
11N20MIMO	total	5260	15.69	19.67	24	29.53
11N20MIMO	ANT1	5280	13.50	13.85	24	29.53
11N20MIMO	ANT2	5280	12.12	13.67	24	29.53
11N20MIMO	total	5280	15.87	19.85	24	29.53
11N20MIMO	ANT1	5320	13.94	14.29	24	29.53
11N20MIMO	ANT2	5320	12.06	13.61	24	29.53
11N20MIMO	total	5320	16.11	20.09	24	29.53
11N20MIMO	ANT1	5500	12.95	13.3	24	29.53
11N20MIMO	ANT2	5500	12.38	13.93	24	29.53
11N20MIMO	total	5500	15.68	19.66	24	29.53
11N20MIMO	ANT1	5580	12.55	12.9	24	29.53
11N20MIMO	ANT2	5580	13.59	15.14	24	29.53
11N20MIMO	total	5580	16.11	20.09	24	29.53
11N20MIMO	ANT1	5700	12.56	12.91	24	29.53
11N20MIMO	ANT2	5700	11.98	13.53	24	29.53
11N20MIMO	total	5700	15.29	19.27	24	29.53
11N20MIMO	ANT1	5745	12.85	13.2	30	30
11N20MIMO	ANT2	5745	11.58	13.13	30	30
11N20MIMO	total	5745	15.27	19.25	30	30
11N20MIMO	ANT1	5785	13.62	13.97	30	30
11N20MIMO	ANT2	5785	11.61	13.16	30	30
11N20MIMO	total	5785	15.74	19.72	30	30
11N20MIMO	ANT1	5825	13.83	14.18	30	30
11N20MIMO	ANT2	5825	10.36	11.91	30	30
11N20MIMO	total	5825	15.44	19.42	30	30
11N40MIMO	ANT1	5190	5.71	6.06	24	23
11N40MIMO	ANT2	5190	6.65	8.2	24	23
11N40MIMO	total	5190	9.22	13.2	24	23
11N40MIMO	ANT1	5230	6.44	6.79	24	23
11N40MIMO	ANT2	5230	6.73	8.28	24	23
11N40MIMO	total	5230	9.60	13.58	24	23
11N40MIMO	ANT1	5270	6.98	7.33	24	30
11N40MIMO	ANT2	5270	6.20	7.75	24	30
11N40MIMO	total	5270	9.62	13.6	24	30
11N40MIMO	ANT1	5310	7.58	7.93	24	30
11N40MIMO	ANT2	5310	5.83	7.38	24	30
11N40MIMO	total	5310	9.80	13.78	24	30

11N40MIMO	ANT1	5510	6.57	6.92	24	30
11N40MIMO	ANT2	5510	6.34	7.89	24	30
11N40MIMO	total	5510	9.47	13.45	24	30
11N40MIMO	ANT1	5550	6.20	6.55	24	30
11N40MIMO	ANT2	5550	7.07	8.62	24	30
11N40MIMO	total	5550	9.67	13.65	24	30
11N40MIMO	ANT1	5670	5.84	6.19	24	30
11N40MIMO	ANT2	5670	6.44	7.99	24	30
11N40MIMO	total	5670	9.16	13.14	24	30
11N40MIMO	ANT1	5755	6.67	7.02	30	30
11N40MIMO	ANT2	5755	5.38	6.93	30	30
11N40MIMO	total	5755	9.08	13.06	30	30
11N40MIMO	ANT1	5795	7.51	7.86	30	30
11N40MIMO	ANT2	5795	5.17	6.72	30	30
11N40MIMO	total	5795	9.51	13.49	30	30
11AC20MIMO	ANT1	5180	11.79	12.14	24	22.57
11AC20MIMO	ANT2	5180	12.97	14.52	24	22.57
11AC20MIMO	total	5180	15.43	19.41	24	22.57
11AC20MIMO	ANT1	5200	12.08	12.43	24	22.57
11AC20MIMO	ANT2	5200	12.90	14.45	24	22.57
11AC20MIMO	total	5200	15.52	19.5	24	22.57
11AC20MIMO	ANT1	5240	13.00	13.35	24	22.57
11AC20MIMO	ANT2	5240	15.41	16.96	24	22.57
11AC20MIMO	total	5240	18.47	22.45	24	22.57
11AC20MIMO	ANT1	5260	13.14	13.49	24	29.58
11AC20MIMO	ANT2	5260	12.29	13.84	24	29.58
11AC20MIMO	total	5260	15.75	19.73	24	29.58
11AC20MIMO	ANT1	5280	13.40	13.75	24	29.58
11AC20MIMO	ANT2	5280	11.99	13.54	24	29.58
11AC20MIMO	total	5280	15.76	19.74	24	29.58
11AC20MIMO	ANT1	5320	14.05	14.4	24	29.58
11AC20MIMO	ANT2	5320	12.04	13.59	24	29.58
11AC20MIMO	total	5320	16.17	20.15	24	29.58
11AC20MIMO	ANT1	5500	13.08	13.43	24	29.57
11AC20MIMO	ANT2	5500	12.36	13.91	24	29.57
11AC20MIMO	total	5500	15.75	19.73	24	29.57
11AC20MIMO	ANT1	5580	12.85	13.2	24	29.57
11AC20MIMO	ANT2	5580	13.72	15.27	24	29.57

11AC20MIMO	total	5580	16.32	20.3	24	29.57
11AC20MIMO	ANT1	5700	12.83	13.18	24	29.57
11AC20MIMO	ANT2	5700	12.25	13.8	24	29.57
11AC20MIMO	total	5700	15.56	19.54	24	29.57
11AC20MIMO	ANT1	5745	12.97	13.32	30	30
11AC20MIMO	ANT2	5745	11.67	13.22	30	30
11AC20MIMO	total	5745	15.38	19.36	30	30
11AC20MIMO	ANT1	5785	13.77	14.12	30	30
11AC20MIMO	ANT2	5785	11.54	13.09	30	30
11AC20MIMO	total	5785	15.81	19.79	30	30
11AC20MIMO	ANT1	5825	14.09	14.44	30	30
11AC20MIMO	ANT2	5825	10.45	12	30	30
11AC20MIMO	total	5825	15.65	19.63	30	30
11AC40MIMO	ANT1	5190	5.86	6.21	24	23
11AC40MIMO	ANT2	5190	6.79	8.34	24	23
11AC40MIMO	total	5190	9.36	13.34	24	23
11AC40MIMO	ANT1	5230	6.39	6.74	24	23
11AC40MIMO	ANT2	5230	6.90	8.45	24	23
11AC40MIMO	total	5230	9.66	13.64	24	23
11AC40MIMO	ANT1	5270	7.22	7.57	24	30
11AC40MIMO	ANT2	5270	6.16	7.71	24	30
11AC40MIMO	total	5270	9.73	13.71	24	30
11AC40MIMO	ANT1	5310	7.72	8.07	24	30
11AC40MIMO	ANT2	5310	5.97	7.52	24	30
11AC40MIMO	total	5310	9.94	13.92	24	30
11AC40MIMO	ANT1	5510	6.75	7.1	24	30
11AC40MIMO	ANT2	5510	6.72	8.27	24	30
11AC40MIMO	total	5510	9.75	13.73	24	30
11AC40MIMO	ANT1	5550	6.39	6.74	24	30
11AC40MIMO	ANT2	5550	7.34	8.89	24	30
11AC40MIMO	total	5550	9.90	13.88	24	30
11AC40MIMO	ANT1	5670	6.18	6.53	24	30
11AC40MIMO	ANT2	5670	6.40	7.95	24	30
11AC40MIMO	total	5670	9.30	13.28	24	30
11AC40MIMO	ANT1	5755	7.21	7.56	30	30
11AC40MIMO	ANT2	5755	5.79	7.34	30	30
11AC40MIMO	total	5755	9.57	13.55	30	30
11AC40MIMO	ANT1	5795	7.49	7.84	30	30

11AC40MIMO	ANT2	5795	5.29	6.84	30	30
11AC40MIMO	total	5795	9.54	13.52	30	30
11AC80MIMO	ANT1	5210	6.44	6.79	24	23
11AC80MIMO	ANT2	5210	7.19	8.74	24	23
11AC80MIMO	total	5210	9.84	13.82	24	23
11AC80MIMO	ANT1	5290	7.74	8.09	24	30
11AC80MIMO	ANT2	5290	6.14	7.69	24	30
11AC80MIMO	total	5290	10.02	14	24	30
11AC80MIMO	ANT1	5530	6.48	6.83	24	30
11AC80MIMO	ANT2	5530	7.04	8.59	24	30
11AC80MIMO	total	5530	9.78	13.76	24	30
11AC80MIMO	ANT1	5610	6.19	6.54	24	30
11AC80MIMO	ANT2	5610	7.38	8.93	24	30
11AC80MIMO	total	5610	9.84	13.82	24	30
11AC80MIMO	ANT1	5775	7.13	7.48	30	30
11AC80MIMO	ANT2	5775	5.41	6.96	30	30
11AC80MIMO	total	5775	9.36	13.34	30	30

6. Power Spectral Density

6.1. Block diagram of test setup

Same with 4.1

6.2. Limits

FCC Part15, Subpart E/ RSS-247		
Test Item	Limit	Frequency Range (MHz)
Power Spectral Density	For FCC: Other than Mobile and portable:17 dBm/MHz Mobile and portable client devices:11 dBm/MHz	5150-5250
	For RSS eirp:10 dBm/MHz	
	11 dBm/MHz	5250-5350
	11 dBm/MHz	For FCC:5470-5725 For IC:5470-5600 5650-5725
	30 dBm/500 kHz	5725-5850
Note: For 802.11n and 802.11ac, the EUT incorporates a MIMO function. The Antenna directional gain is 3.98 dBi. The Power Spectral Density limit is the above limits-(6.51-6)		

6.3. Test Procedure

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

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

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

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

5725 MHz-5850 MHz

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

6.4. Test Result**(5150-5250)**

Test Mode	Ant	Test Channel	PSD [dBm/MHz]	PSD eirp [dBm/MHz]	FCC Limit [dBm/MHz]	ISED Limit [dBm/MHz]
11A	ANT1	5180	1.14	8.17	11	10
11A	ANT2	5180	1.91	8.65	11	10
11A	ANT1	5200	1.21	6.68	11	10
11A	ANT2	5200	1.81	8.34	11	10
11A	ANT1	5240	1.88	6.82	11	10
11A	ANT2	5240	1.34	8.43	11	10
11N20MIMO	ANT1	5180	1.14	2.57	11	10
11N20MIMO	ANT2	5180	1.91	4.06	11	10
11N20MIMO	total	5180	1.21	6.39	11	10
11N20MIMO	ANT1	5200	1.81	2.89	11	10
11N20MIMO	ANT2	5200	1.88	3.86	11	10
11N20MIMO	total	5200	1.34	6.41	11	10
11N20MIMO	ANT1	5240	1.14	3.04	11	10
11N20MIMO	ANT2	5240	1.91	3.66	11	10
11N20MIMO	total	5240	1.21	6.37	11	10
11N40MIMO	ANT1	5190	-7.25	1.25	11	10
11N40MIMO	ANT2	5190	-6.54	2.55	11	10
11N40MIMO	total	5190	-3.87	4.96	11	10
11N40MIMO	ANT1	5230	-7	0.9	11	10
11N40MIMO	ANT2	5230	-7.15	2.11	11	10
11N40MIMO	total	5230	-4.06	4.56	11	10
11AC20MIMO	ANT1	5180	0.96	3.15	11	10
11AC20MIMO	ANT2	5180	1.93	4.33	11	10
11AC20MIMO	total	5180	4.48	6.79	11	10
11AC20MIMO	ANT1	5200	1.07	3.24	11	10
11AC20MIMO	ANT2	5200	1.7	4.19	11	10
11AC20MIMO	total	5200	4.41	6.75	11	10
11AC20MIMO	ANT1	5240	-0.15	3.00	11	10
11AC20MIMO	ANT2	5240	1.28	4.22	11	10
11AC20MIMO	total	5240	1.28	6.66	11	10
11AC40MIMO	ANT1	5190	-7.43	1.91	11	10
11AC40MIMO	ANT2	5190	-6.87	2.48	11	10
11AC40MIMO	total	5190	-4.13	5.21	11	10

11AC40MIMO	ANT1	5230	-7.28	0.77	11	10
11AC40MIMO	ANT2	5230	-7.37	2.09	11	10
11AC40MIMO	total	5230	-4.31	4.49	11	10
11AC80MIMO	ANT1	5210	-9.6	-3.64	11	10
11AC80MIMO	ANT2	5210	-9.58	-3.05	11	10
11AC80MIMO	total	5210	-6.58	-0.32	11	10

(5250-5350, 5470-5725)

Test Mode	Ant	Test Channel	PSD [dBm/MHz]	Limit [dBm/MHz]	Verdict
11A	ANT1	5260	2.39	11	PASS
11A	ANT2	5260	1.37	11	PASS
11A	ANT1	5280	2.97	11	PASS
11A	ANT2	5280	1.25	11	PASS
11A	ANT1	5320	3.73	11	PASS
11A	ANT2	5320	1.66	11	PASS
11A	ANT1	5500	2.26	11	PASS
11A	ANT2	5500	1.58	11	PASS
11A	ANT1	5580	1.76	11	PASS
11A	ANT2	5580	2.43	11	PASS
11A	ANT1	5700	1.59	11	PASS
11A	ANT2	5700	0.93	11	PASS
11N20MIMO	ANT1	5260	5.04	11	PASS
11N20MIMO	ANT2	5260	2.21	11	PASS
11N20MIMO	total	5260	1.49	11	PASS
11N20MIMO	ANT1	5280	4.88	11	PASS
11N20MIMO	ANT2	5280	2.76	11	PASS
11N20MIMO	total	5280	1.72	11	PASS
11N20MIMO	ANT1	5320	5.28	11	PASS
11N20MIMO	ANT2	5320	3.65	11	PASS
11N20MIMO	total	5320	1.95	11	PASS
11N20MIMO	ANT1	5500	5.89	11	PASS
11N20MIMO	ANT2	5500	2.17	11	PASS
11N20MIMO	total	5500	1.7	11	PASS
11N20MIMO	ANT1	5580	4.95	11	PASS
11N20MIMO	ANT2	5580	1.52	11	PASS
11N20MIMO	total	5580	2.82	11	PASS
11N20MIMO	ANT1	5700	5.23	11	PASS
11N20MIMO	ANT2	5700	1.39	11	PASS

11N20MIMO	total	5700	0.93	11	PASS
11N40MIMO	ANT1	5270	-5.92	11	PASS
11N40MIMO	ANT2	5270	-7.28	11	PASS
11N40MIMO	total	5270	-3.54	11	PASS
11N40MIMO	ANT1	5310	-5.34	11	PASS
11N40MIMO	ANT2	5310	-6.95	11	PASS
11N40MIMO	total	5310	-3.06	11	PASS
11N40MIMO	ANT1	5510	-7.02	11	PASS
11N40MIMO	ANT2	5510	-6.71	11	PASS
11N40MIMO	total	5510	-3.85	11	PASS
11N40MIMO	ANT1	5550	-6.97	11	PASS
11N40MIMO	ANT2	5550	-5.82	11	PASS
11N40MIMO	total	5550	-3.35	11	PASS
11N40MIMO	ANT1	5670	-7.74	11	PASS
11N40MIMO	ANT2	5670	-6.58	11	PASS
11N40MIMO	total	5670	-4.11	11	PASS
11AC20MIMO	ANT1	5260	2.19	11	PASS
11AC20MIMO	ANT2	5260	1.13	11	PASS
11AC20MIMO	total	5260	4.70	11	PASS
11AC20MIMO	ANT1	5280	2.76	11	PASS
11AC20MIMO	ANT2	5280	1.08	11	PASS
11AC20MIMO	total	5280	5.01	11	PASS
11AC20MIMO	ANT1	5320	3.72	11	PASS
11AC20MIMO	ANT2	5320	1.54	11	PASS
11AC20MIMO	total	5320	5.78	11	PASS
11AC20MIMO	ANT1	5500	2.14	11	PASS
11AC20MIMO	ANT2	5500	1.38	11	PASS
11AC20MIMO	total	5500	4.79	11	PASS
11AC20MIMO	ANT1	5580	1.96	11	PASS
11AC20MIMO	ANT2	5580	2.75	11	PASS
11AC20MIMO	total	5580	5.38	11	PASS
11AC20MIMO	ANT1	5700	1.59	11	PASS
11AC20MIMO	ANT2	5700	1	11	PASS
11AC20MIMO	total	5700	4.32	11	PASS
11AC40MIMO	ANT1	5270	-6.22	11	PASS
11AC40MIMO	ANT2	5270	-7.51	11	PASS
11AC40MIMO	total	5270	-3.81	11	PASS
11AC40MIMO	ANT1	5310	-5.28	11	PASS

11AC40MIMO	ANT2	5310	-7.31	11	PASS
11AC40MIMO	total	5310	-3.17	11	PASS
11AC40MIMO	ANT1	5510	-7.14	11	PASS
11AC40MIMO	ANT2	5510	-7.15	11	PASS
11AC40MIMO	total	5510	-4.13	11	PASS
11AC40MIMO	ANT1	5550	-7.21	11	PASS
11AC40MIMO	ANT2	5550	-5.97	11	PASS
11AC40MIMO	total	5550	-3.54	11	PASS
11AC40MIMO	ANT1	5670	-7.66	11	PASS
11AC40MIMO	ANT2	5670	-7.26	11	PASS
11AC40MIMO	total	5670	-4.45	11	PASS
11AC80MIMO	ANT1	5290	-7.9	11	PASS
11AC80MIMO	ANT2	5290	-9.71	11	PASS
11AC80MIMO	total	5290	-5.70	11	PASS
11AC80MIMO	ANT1	5530	-9.65	11	PASS
11AC80MIMO	ANT2	5530	-8.89	11	PASS
11AC80MIMO	total	5530	-6.24	11	PASS
11AC80MIMO	ANT1	5610	-10.54	11	PASS
11AC80MIMO	ANT2	5610	-9.29	11	PASS
11AC80MIMO	total	5610	-6.86	11	PASS

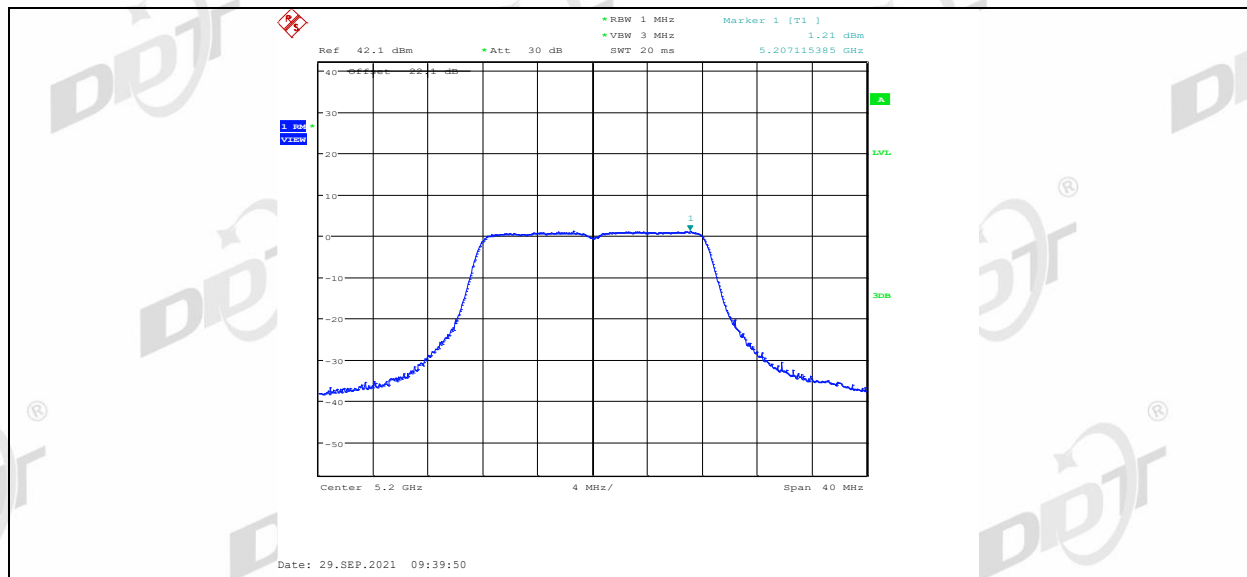
(5725-5850)

Test Mode	Test Channel	Ant	PSD [dBm/500kHz]	Limit [dBm/500kHz]	Verdict
11A	ANT1	5745	-0.36	30	PASS
11A	ANT2	5745	-1.86	30	PASS
11A	ANT1	5785	0.72	30	PASS
11A	ANT2	5785	-1.3	30	PASS
11A	ANT1	5825	0.68	30	PASS
11A	ANT2	5825	-2.47	30	PASS
11N20MIMO	ANT1	5745	-0.05	30	PASS
11N20MIMO	ANT2	5745	-1.64	30	PASS
11N20MIMO	total	5745	2.24	30	PASS
11N20MIMO	ANT1	5785	1.18	30	PASS
11N20MIMO	ANT2	5785	-1.13	30	PASS
11N20MIMO	total	5785	3.19	30	PASS
11N20MIMO	ANT1	5825	1.07	30	PASS
11N20MIMO	ANT2	5825	-2.37	30	PASS
11N20MIMO	total	5825	2.69	30	PASS

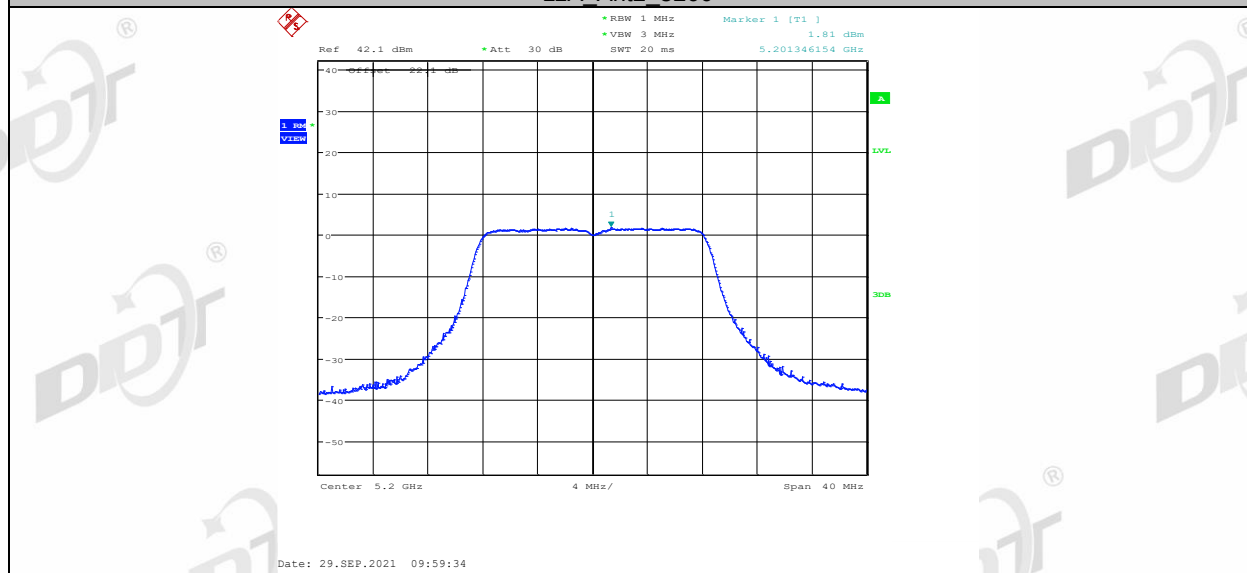
11N40MIMO	ANT1	5755	-8.69	30	PASS
11N40MIMO	ANT2	5755	-9.67	30	PASS
11N40MIMO	total	5755	-6.14	30	PASS
11N40MIMO	ANT1	5795	-7.78	30	PASS
11N40MIMO	ANT2	5795	-10.3	30	PASS
11N40MIMO	total	5795	-5.85	30	PASS
11AC20MIMO	ANT1	5745	-0.4	30	PASS
11AC20MIMO	ANT2	5745	-1.27	30	PASS
11AC20MIMO	total	5745	2.20	30	PASS
11AC20MIMO	ANT1	5785	1.15	30	PASS
11AC20MIMO	ANT2	5785	-0.9	30	PASS
11AC20MIMO	total	5785	3.26	30	PASS
11AC20MIMO	ANT1	5825	1.14	30	PASS
11AC20MIMO	ANT2	5825	-1.99	30	PASS
11AC20MIMO	total	5825	2.86	30	PASS
11AC40MIMO	ANT1	5755	-9.14	30	PASS
11AC40MIMO	ANT2	5755	-10.13	30	PASS
11AC40MIMO	total	5755	-6.60	30	PASS
11AC40MIMO	ANT1	5795	-8.09	30	PASS
11AC40MIMO	ANT2	5795	-10.45	30	PASS
11AC40MIMO	total	5795	-6.10	30	PASS
11AC80MIMO	ANT1	5775	-11.33	30	PASS
11AC80MIMO	ANT2	5775	-13.31	30	PASS
11AC80MIMO	total	5775	-9.20	30	PASS

6.5. Original test data

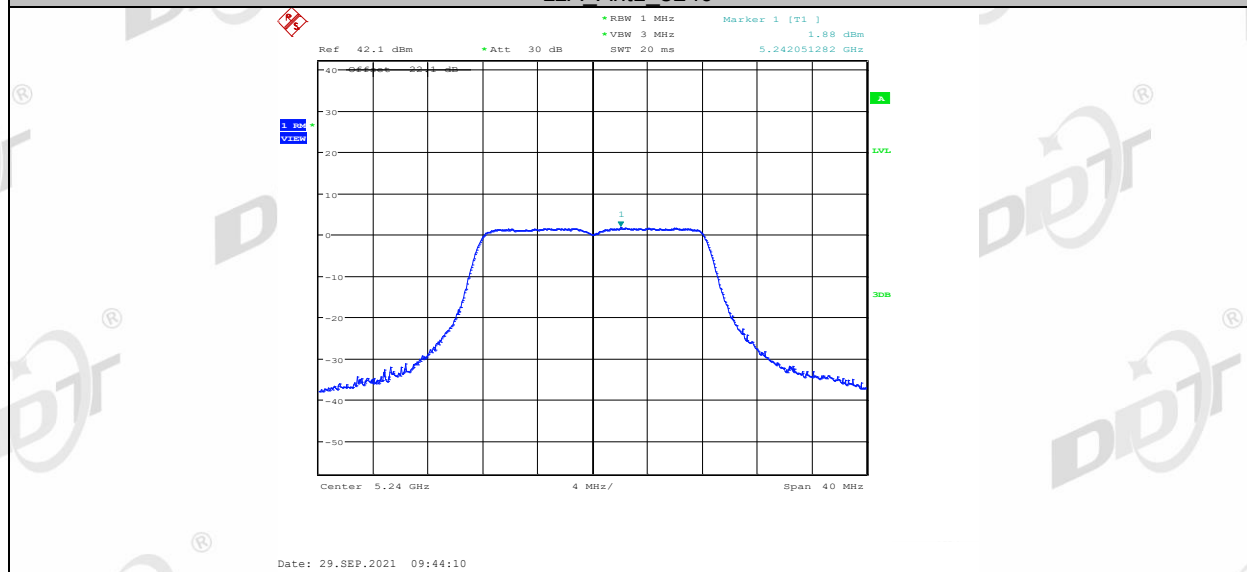




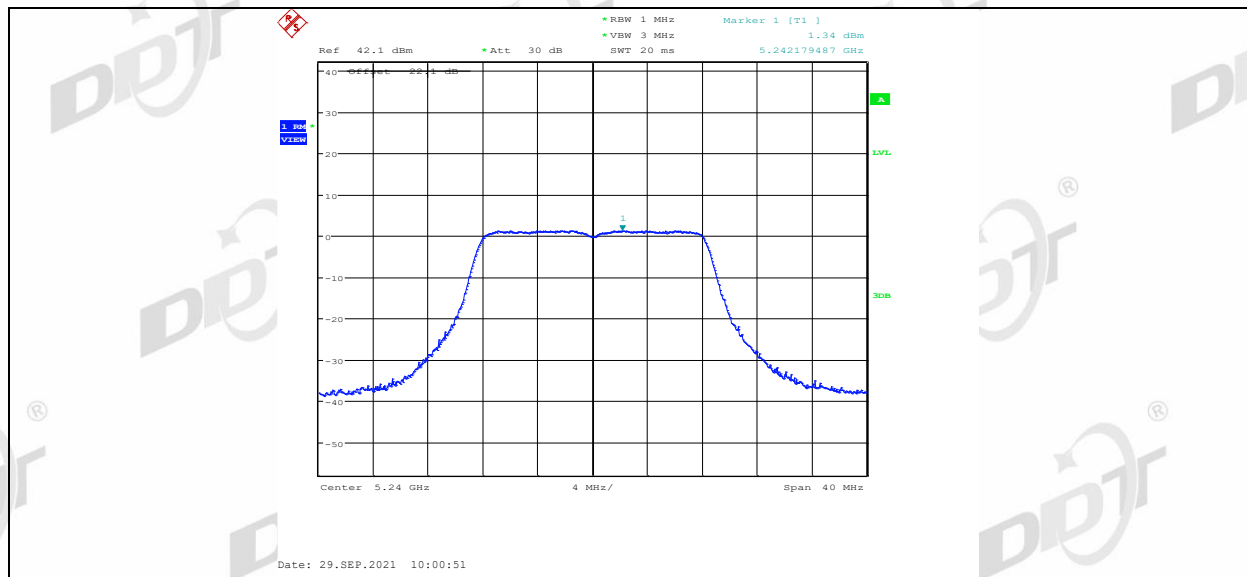
11A Ant2 5200



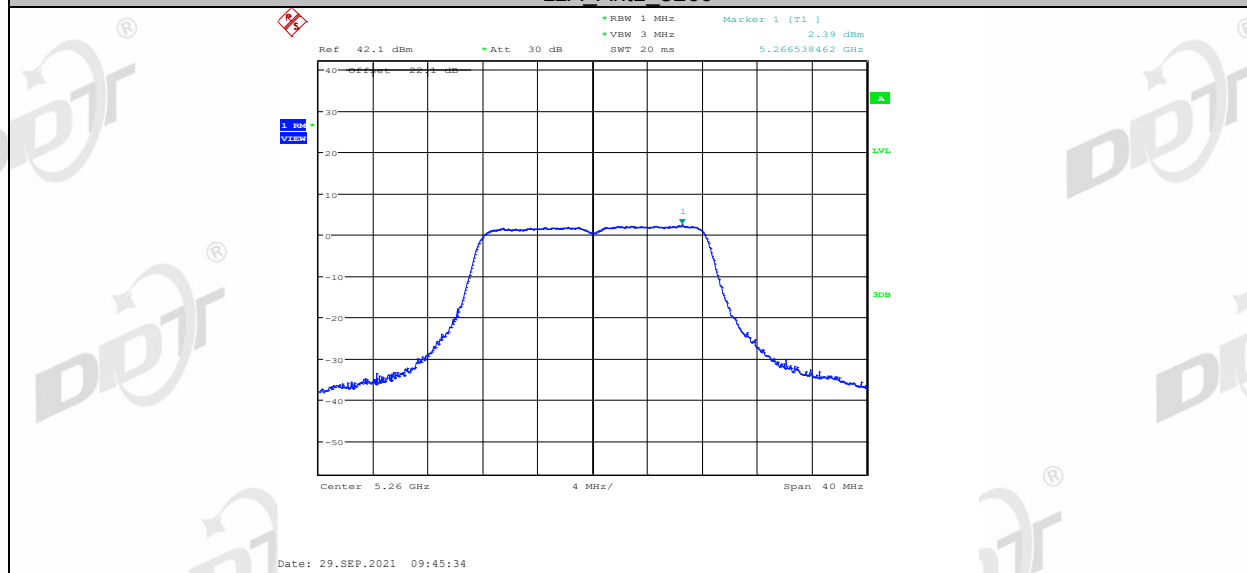
11A Ant1 5240



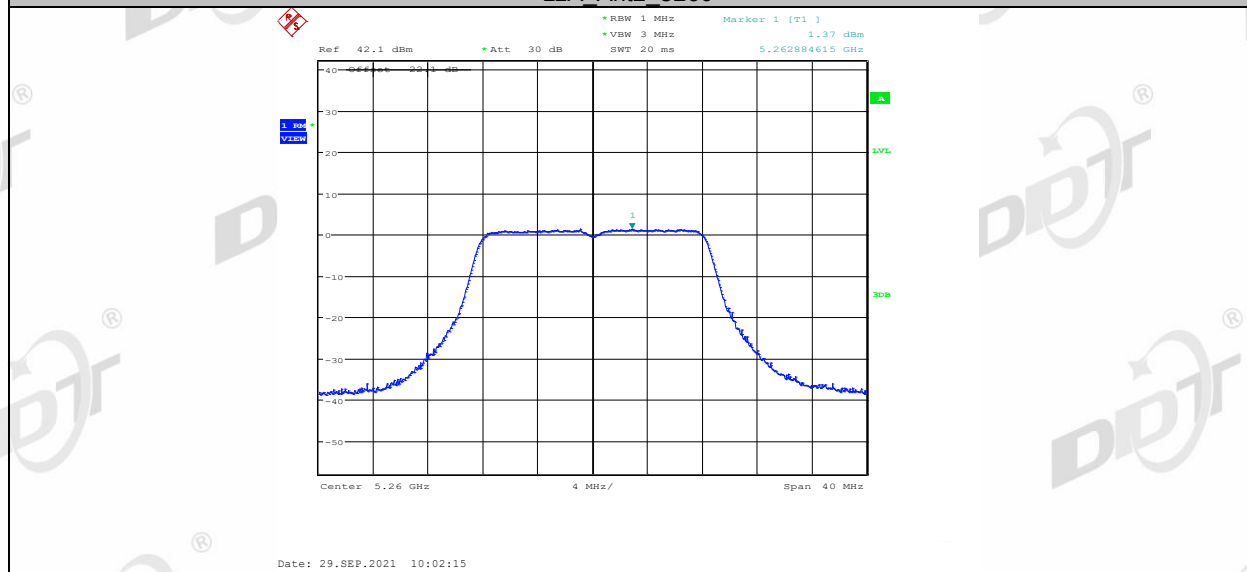
11A Ant2 5240



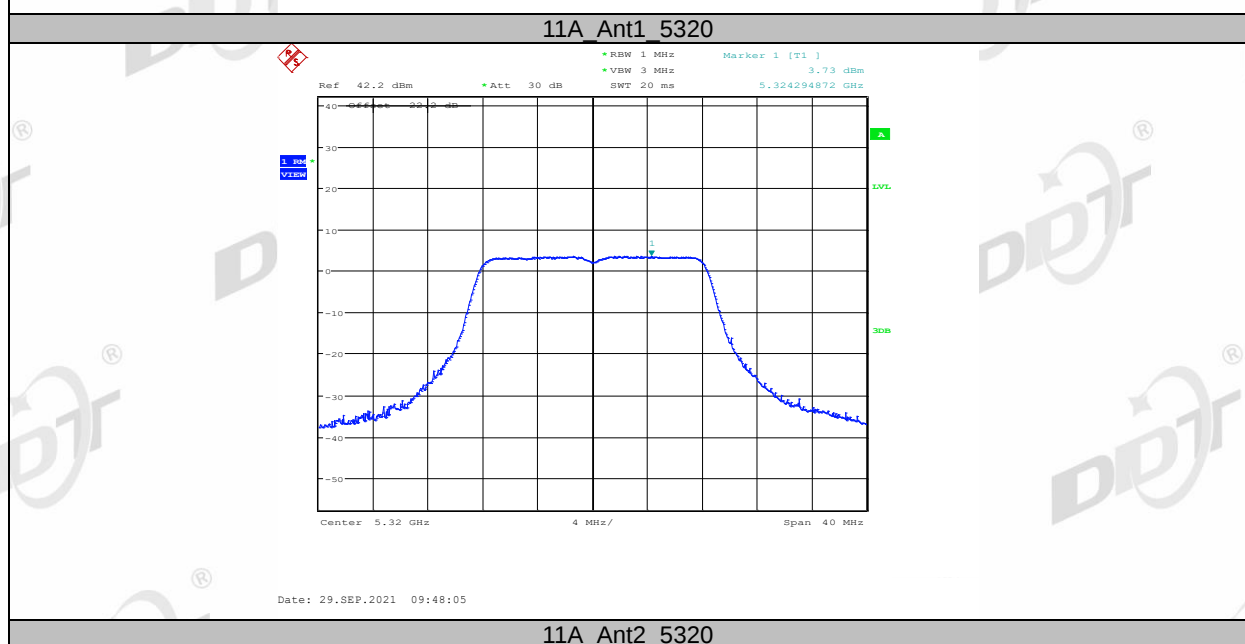
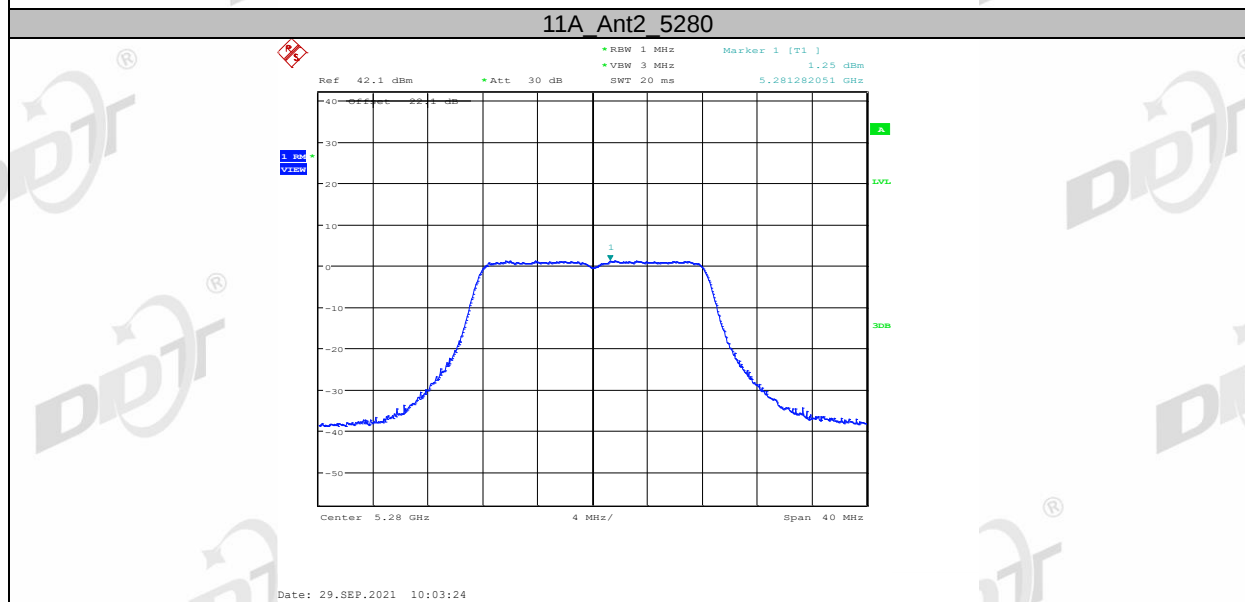
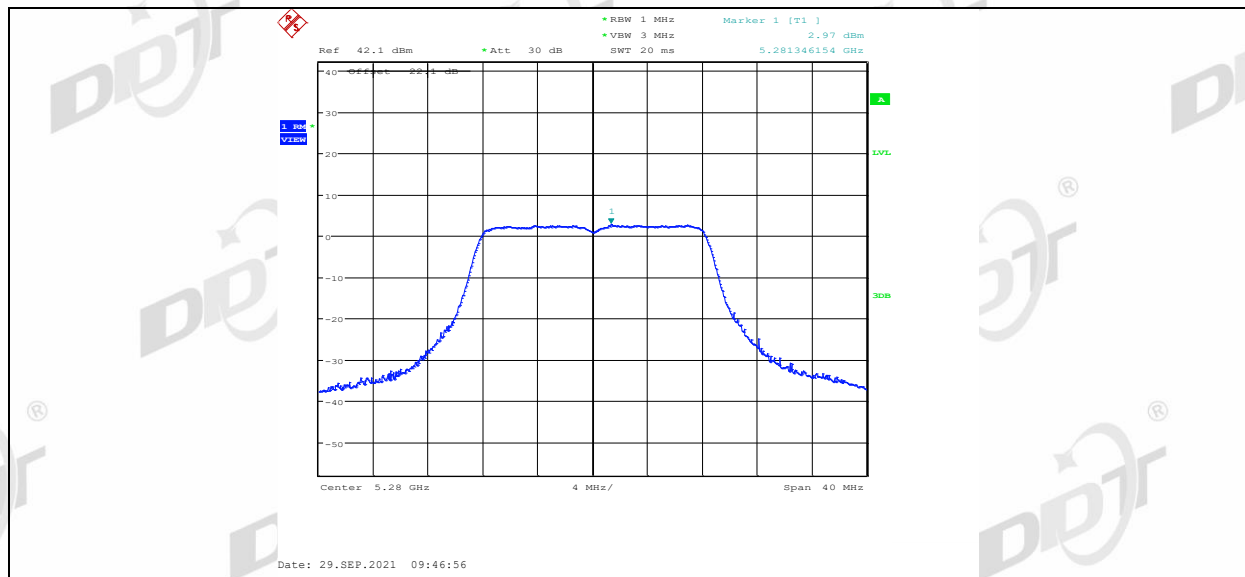
11A Ant1 5260

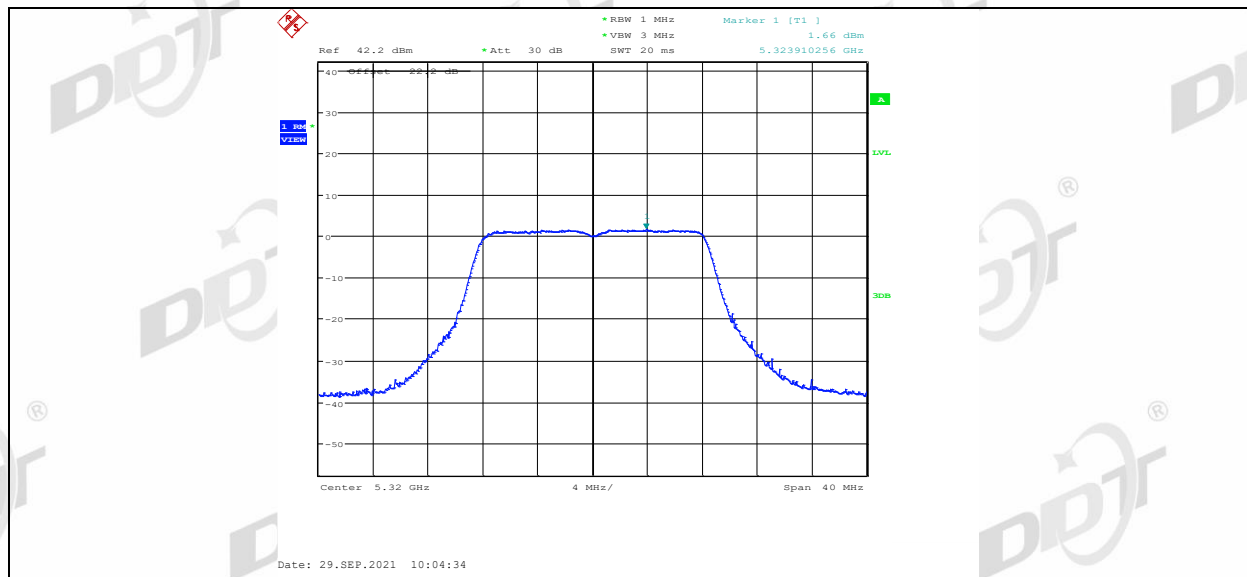


11A Ant2 5260

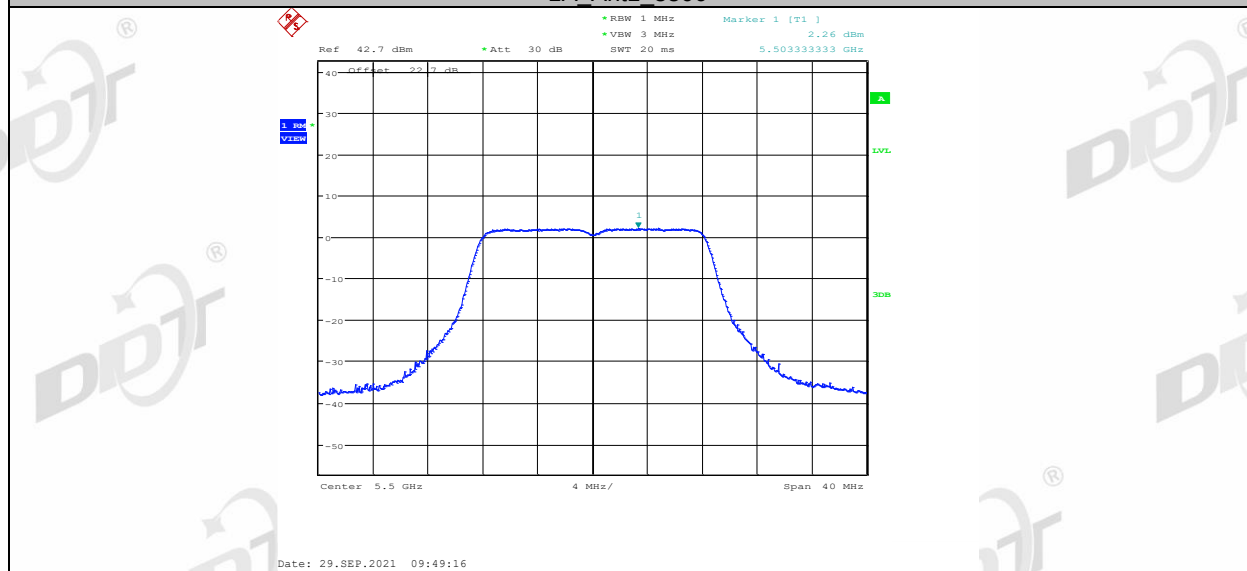


11A Ant1 5280

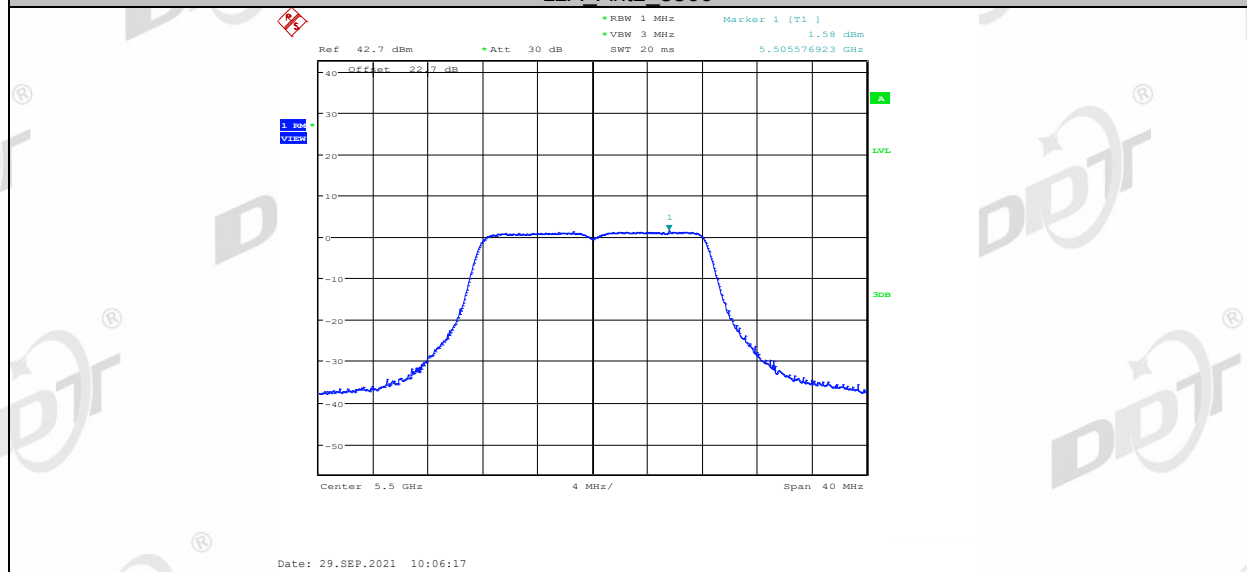




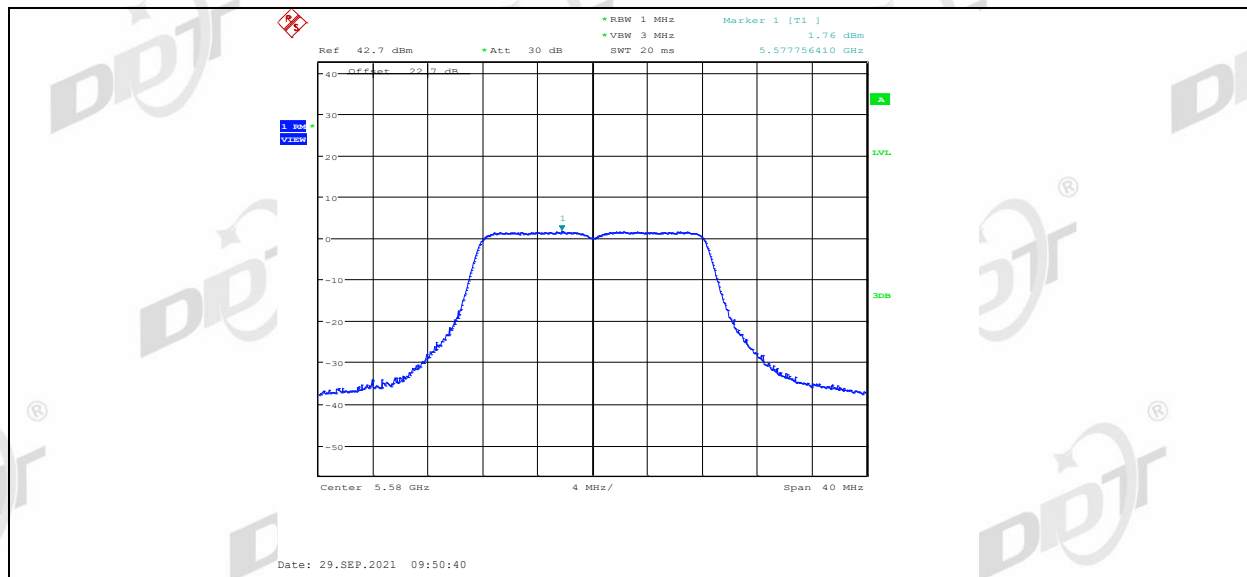
1A_Ant1_5500



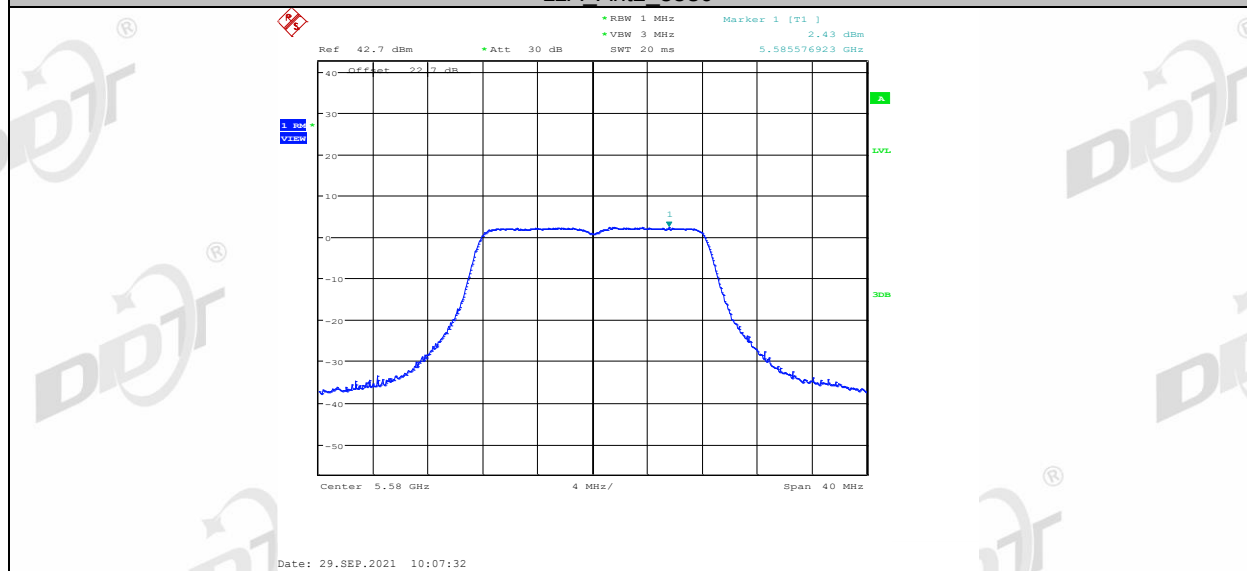
11A_Ant2_5500



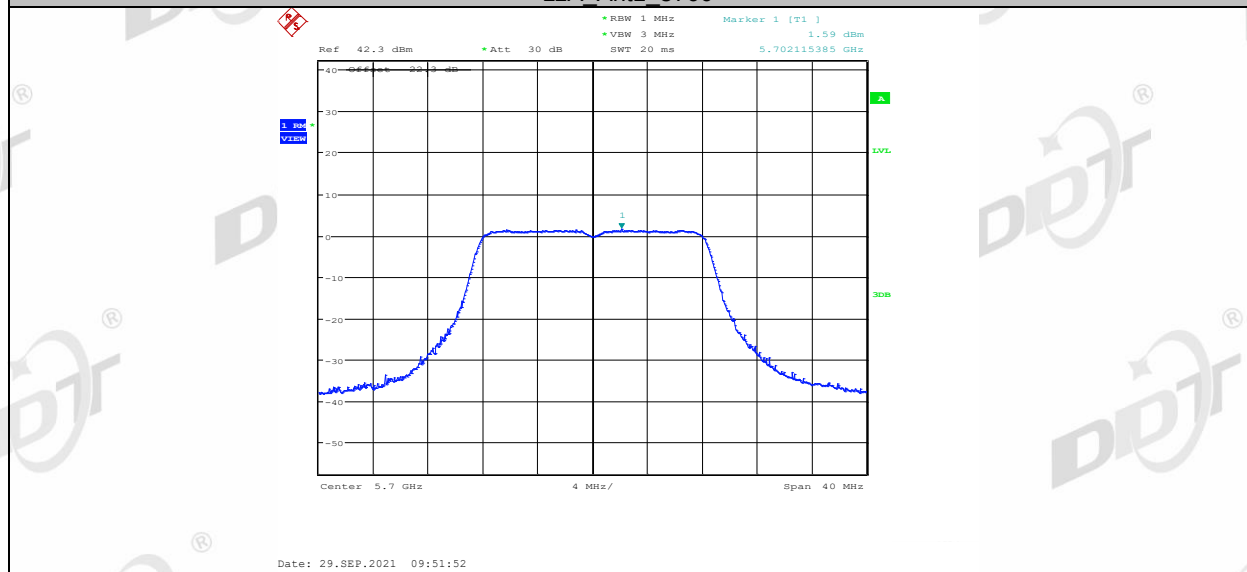
11A_Ant1_5580



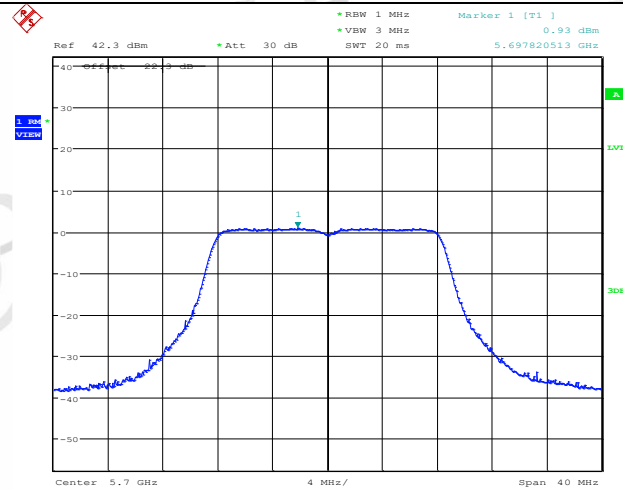
11A Ant2 5580



11A Ant1 5700

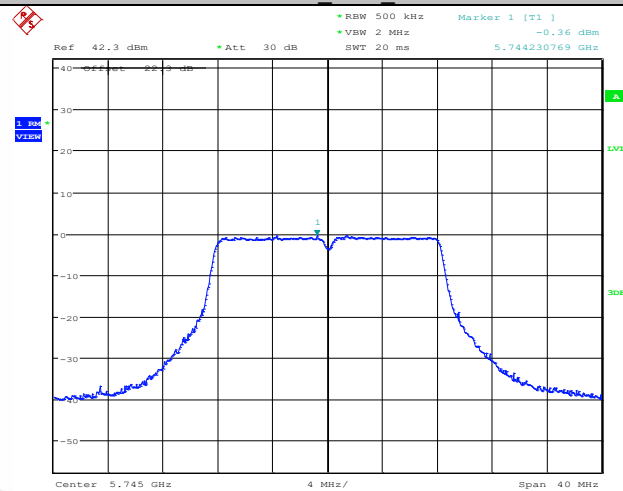


11A Ant2 5700



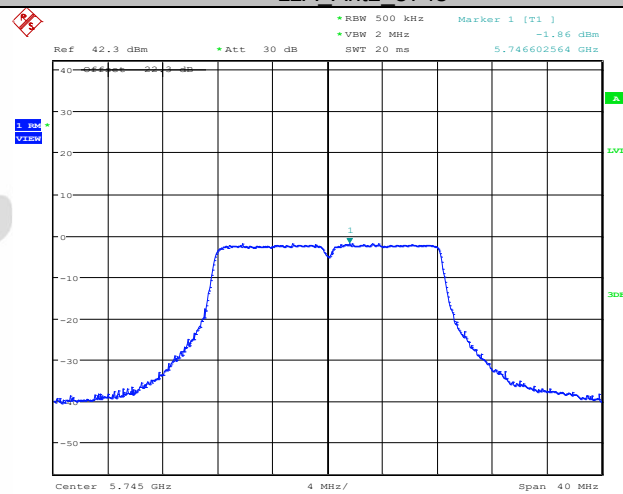
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11A Ant1 5745



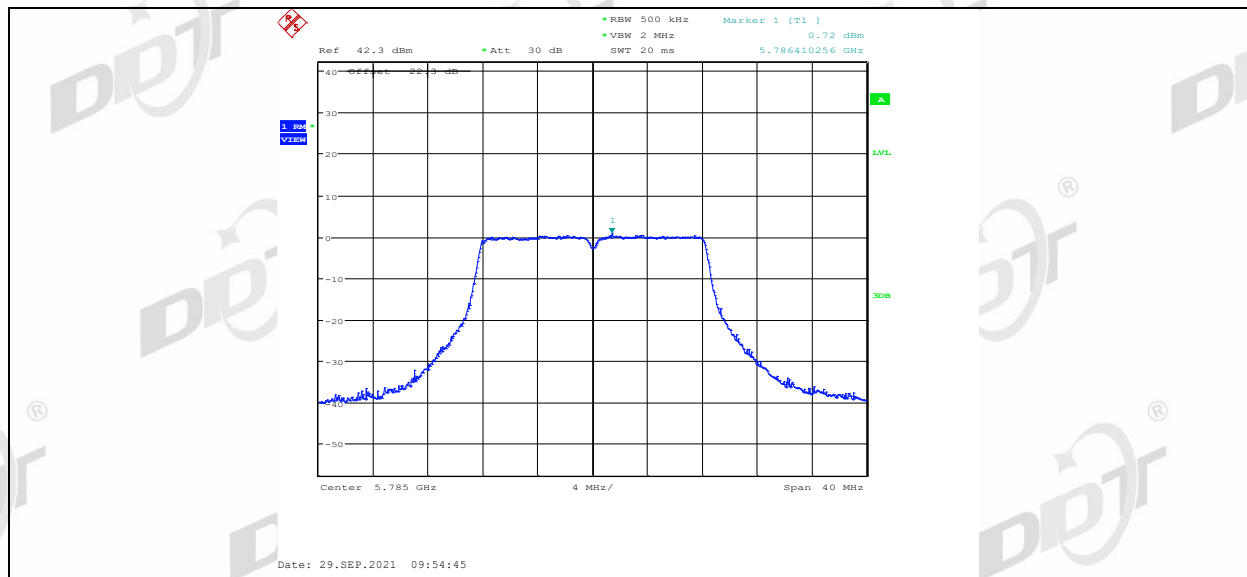
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11A Ant2 5745

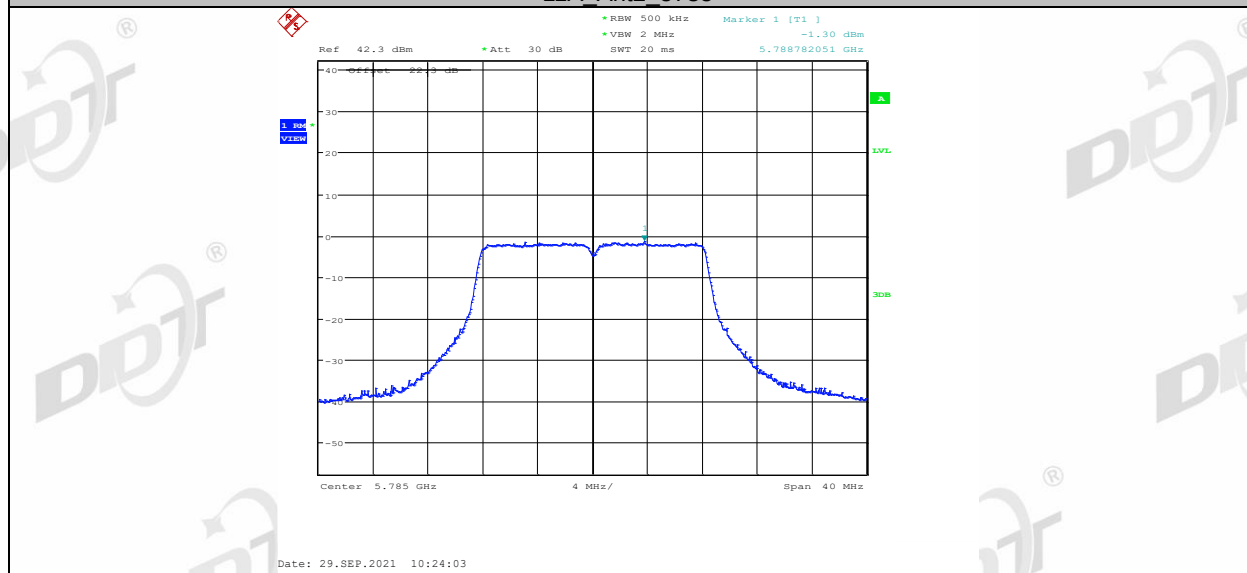


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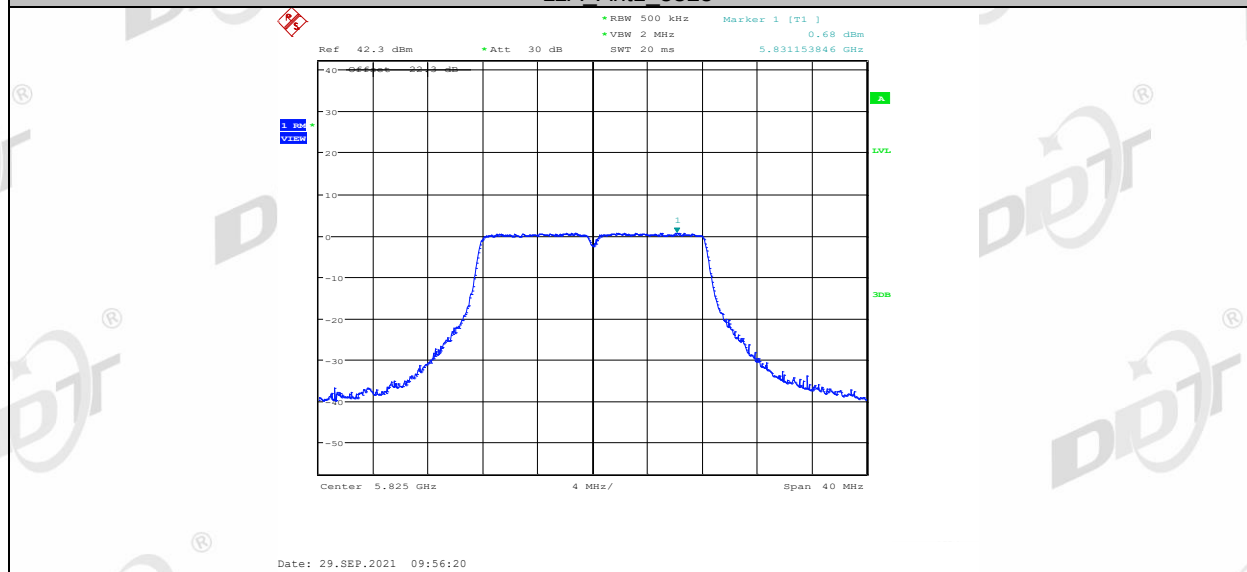
11A Ant1 5785



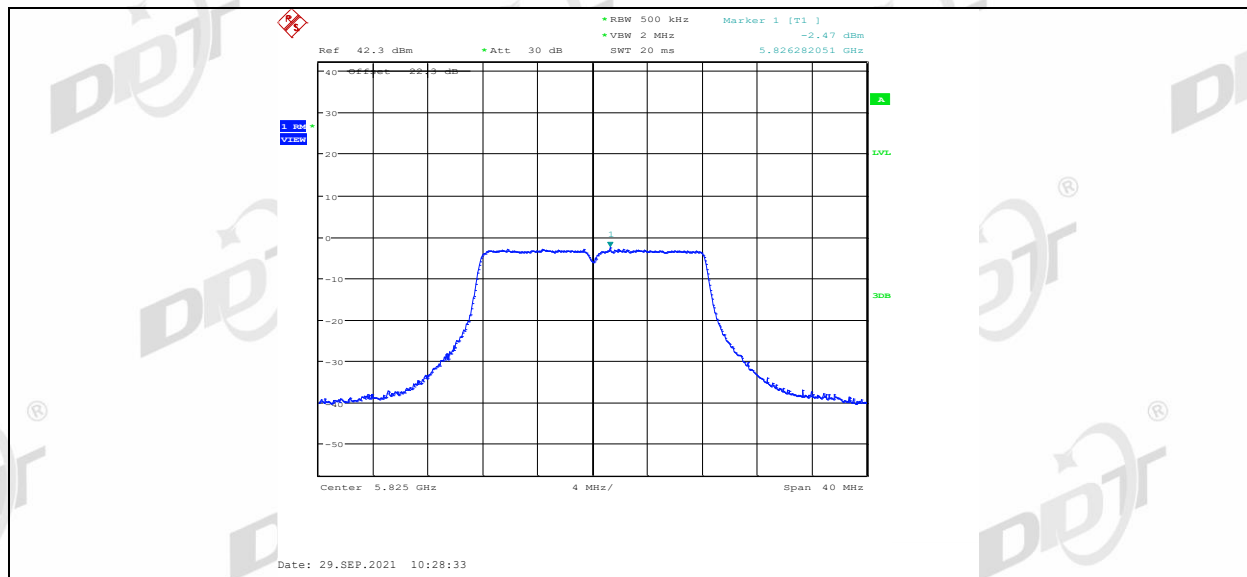
11A Ant2 5785



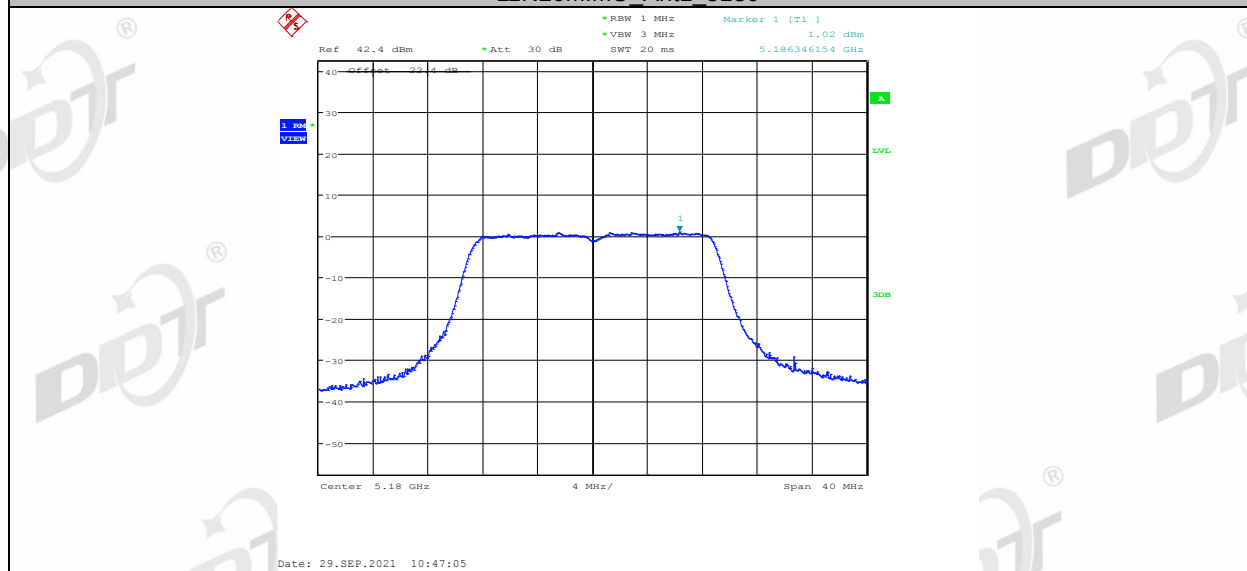
11A Ant1 5825



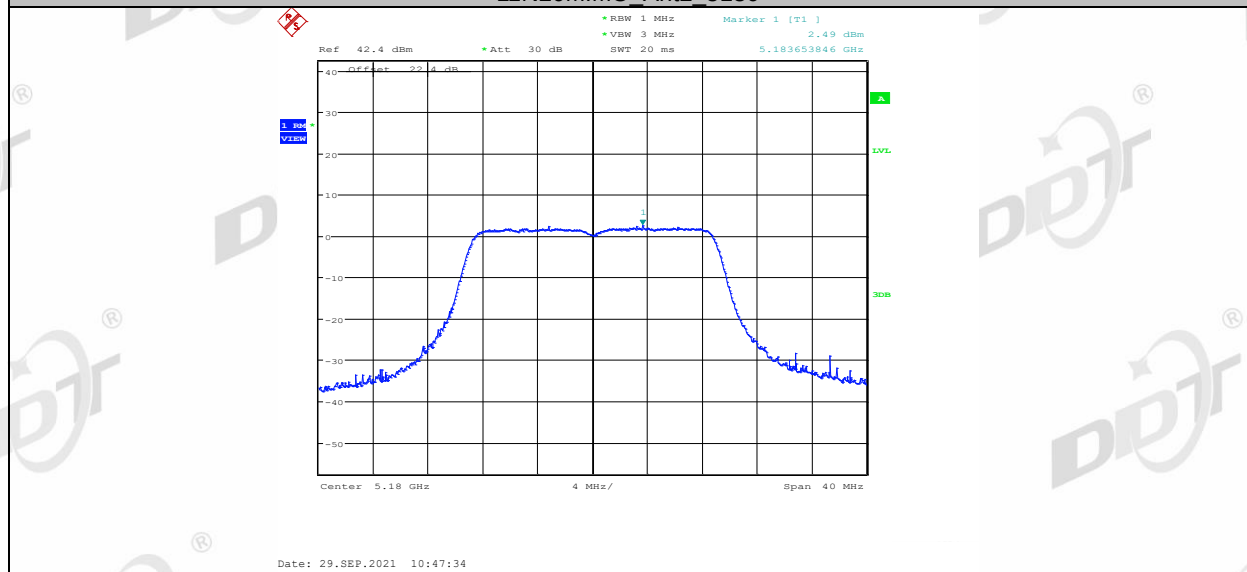
11A Ant2 5825



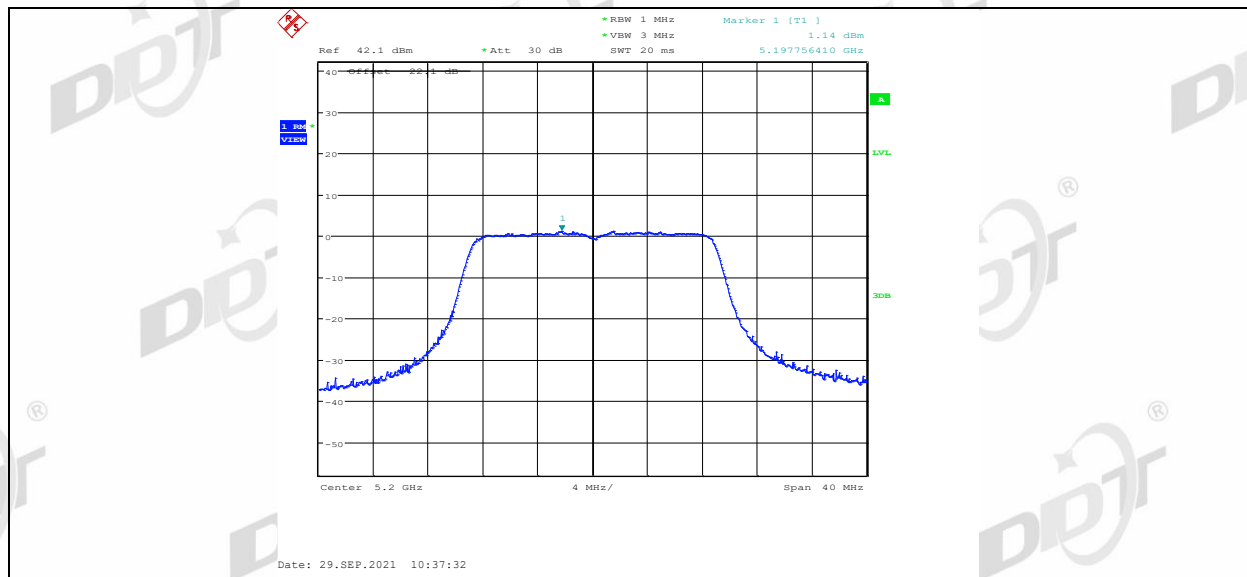
11N20MIMO_Ant1_5180



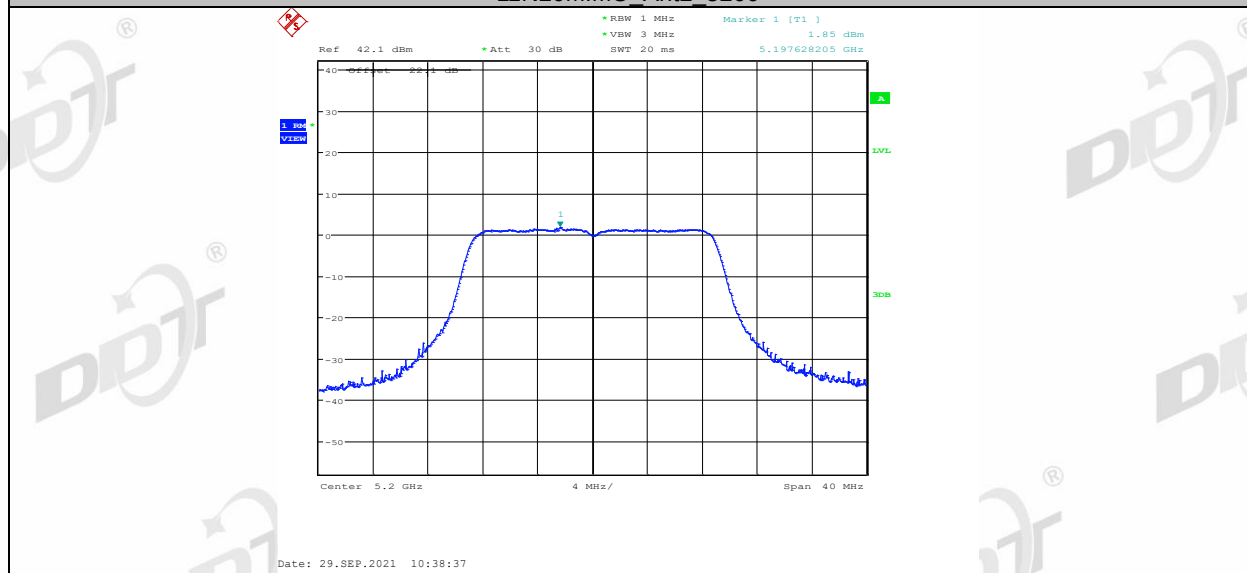
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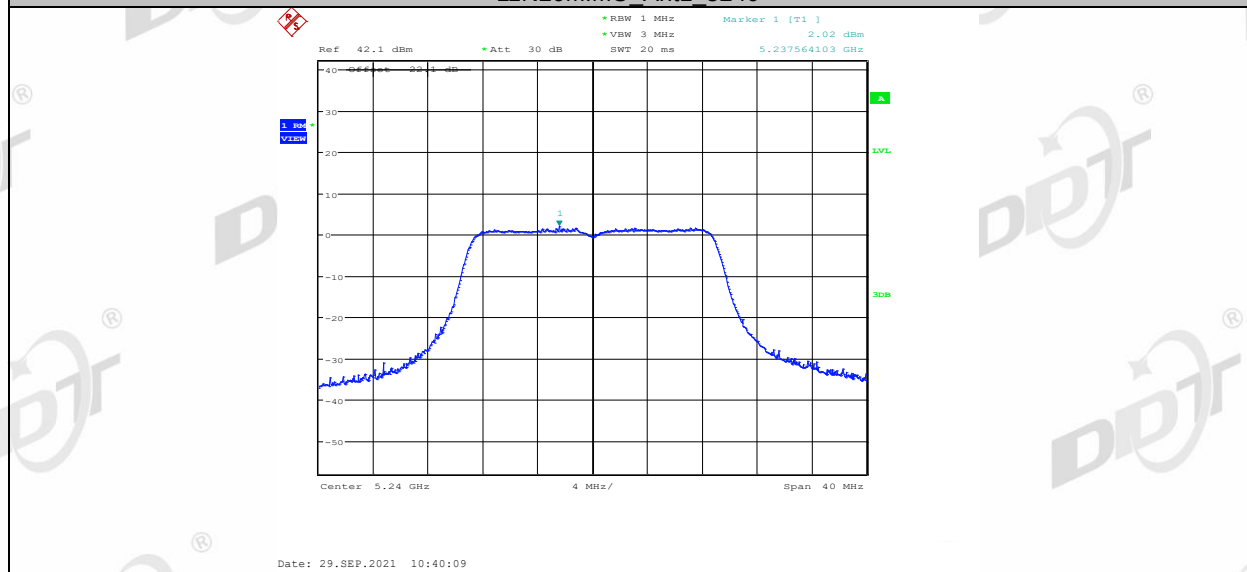
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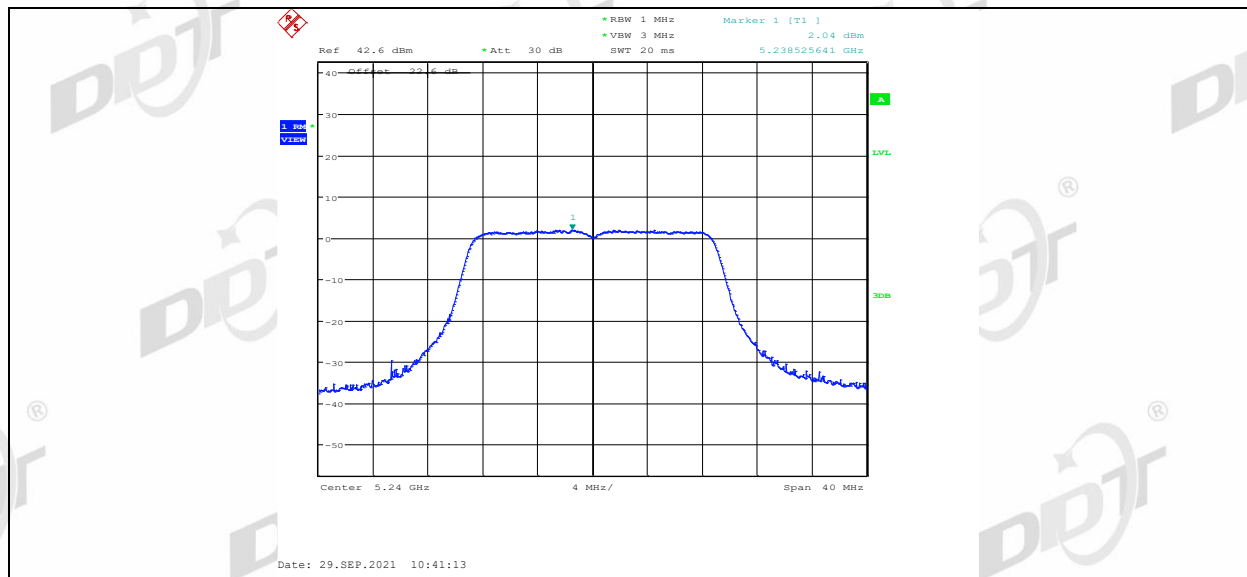
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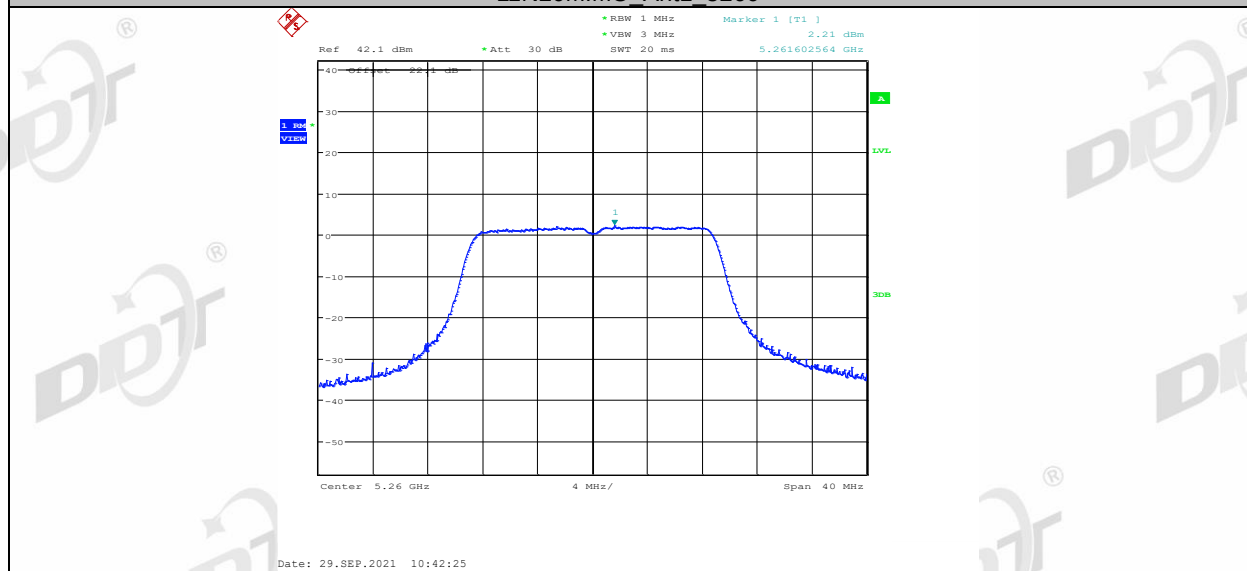
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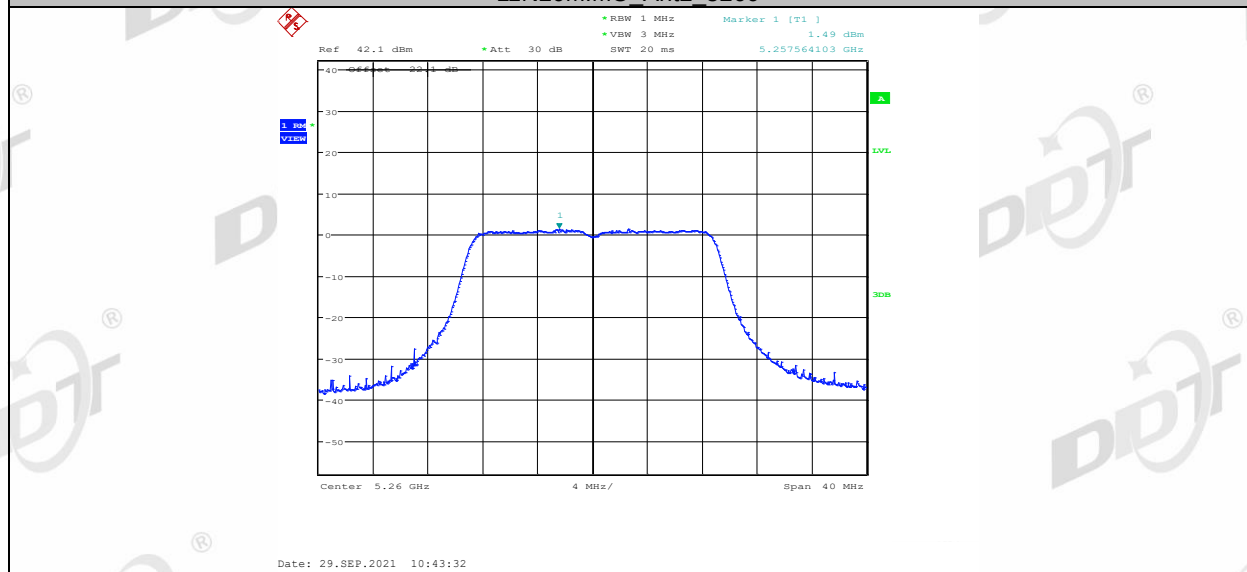
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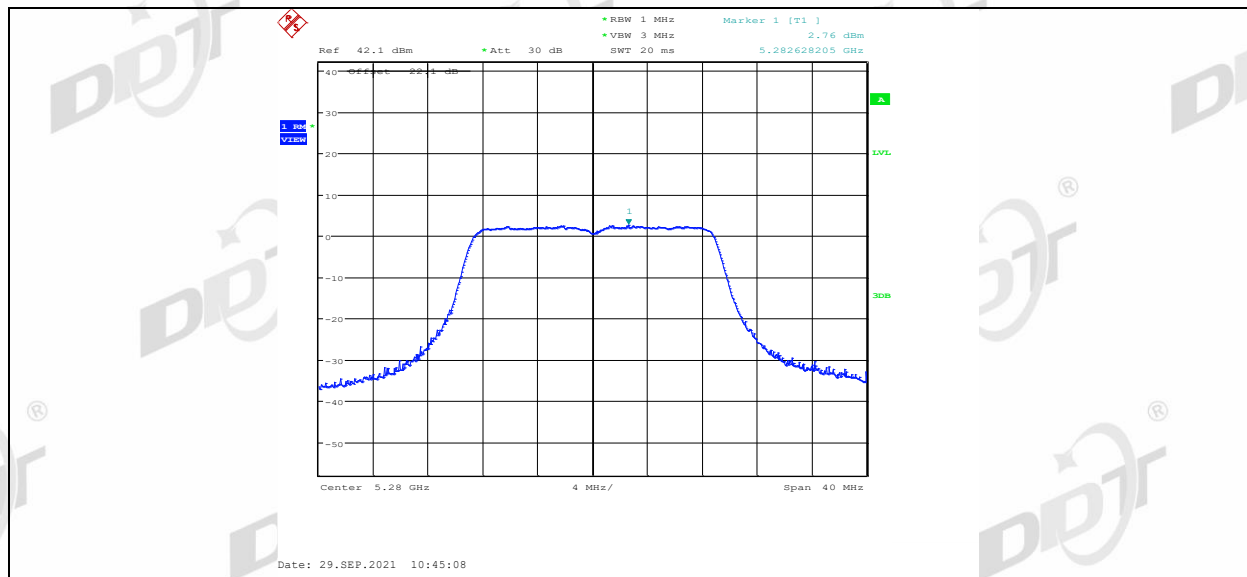
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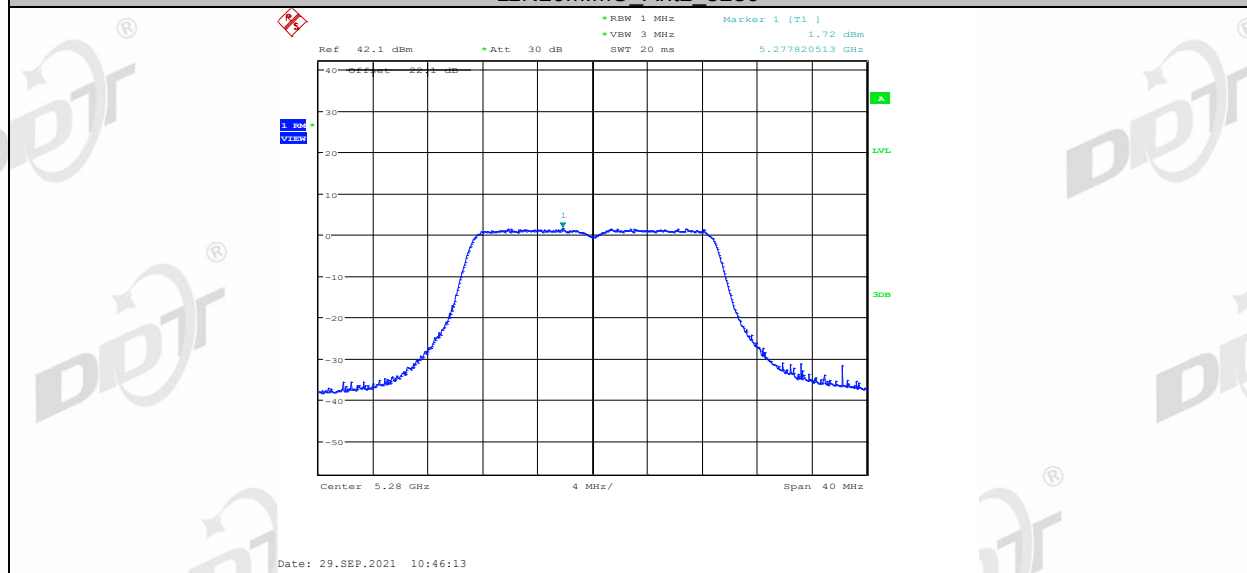
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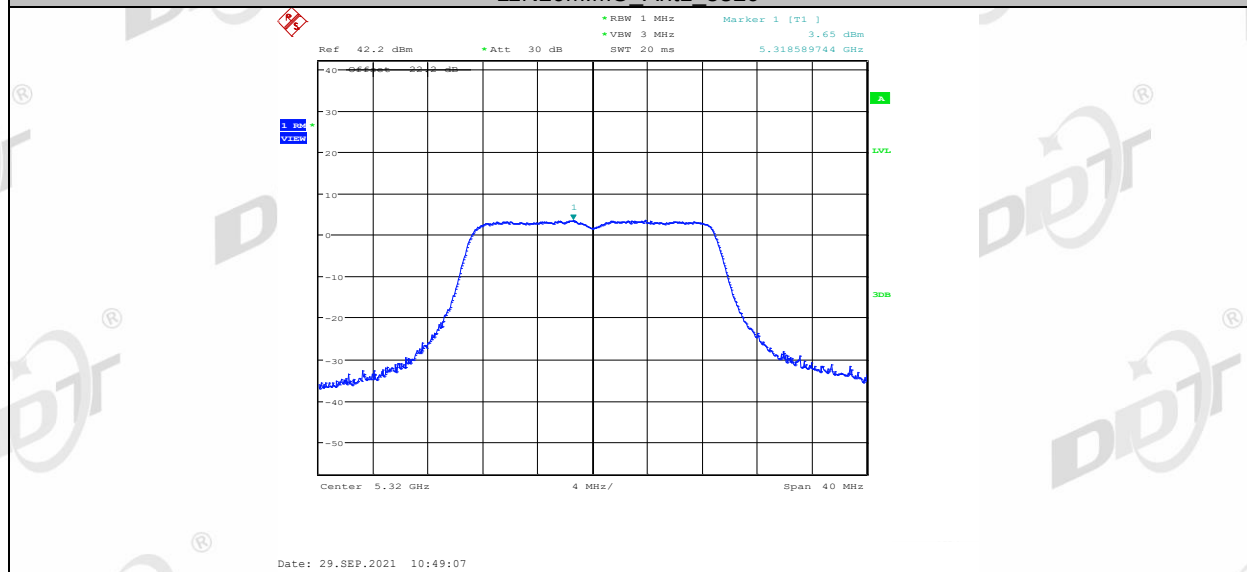
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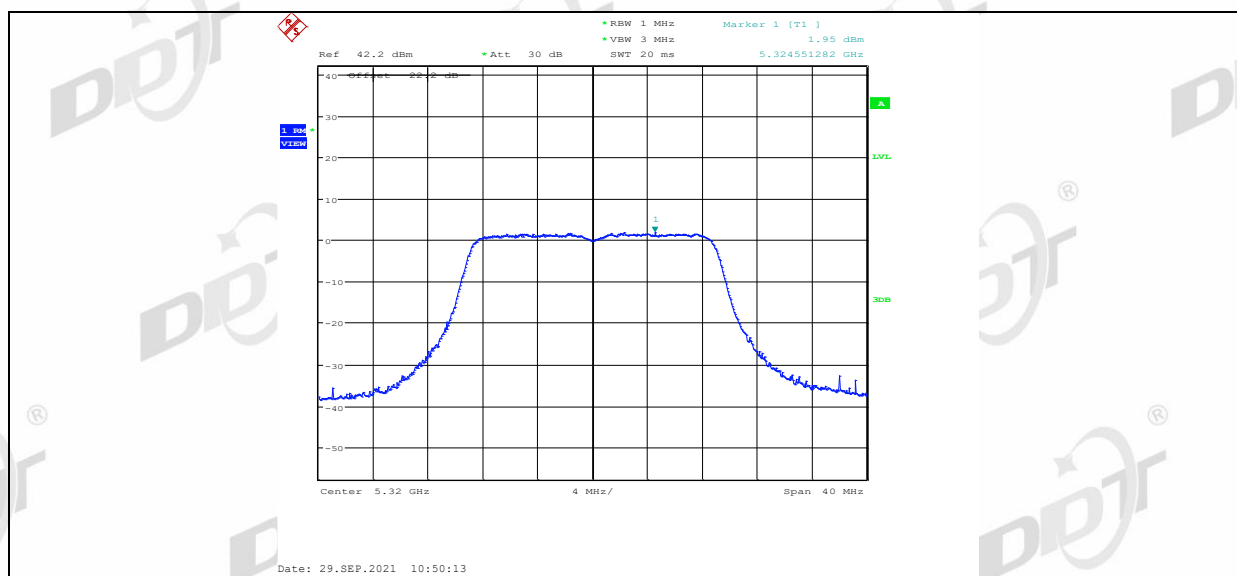
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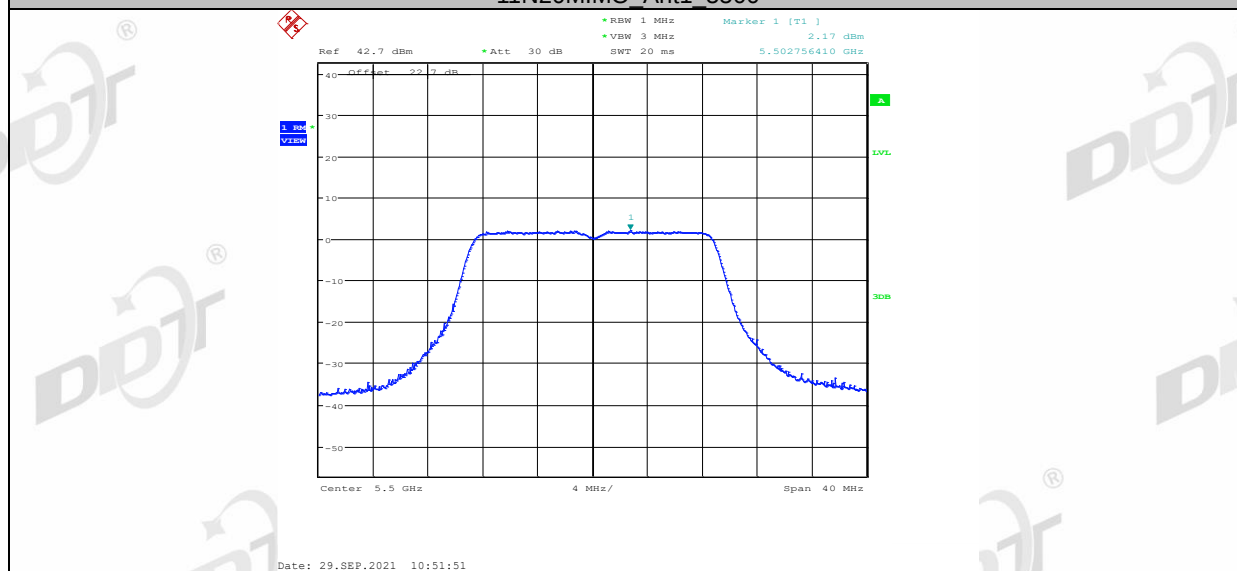
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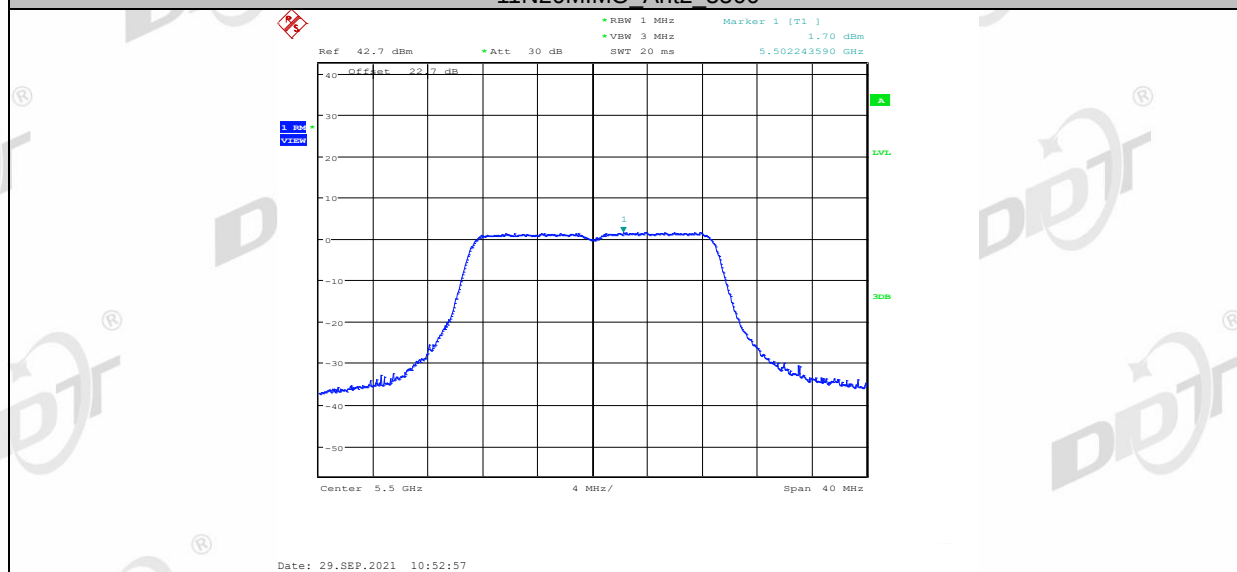
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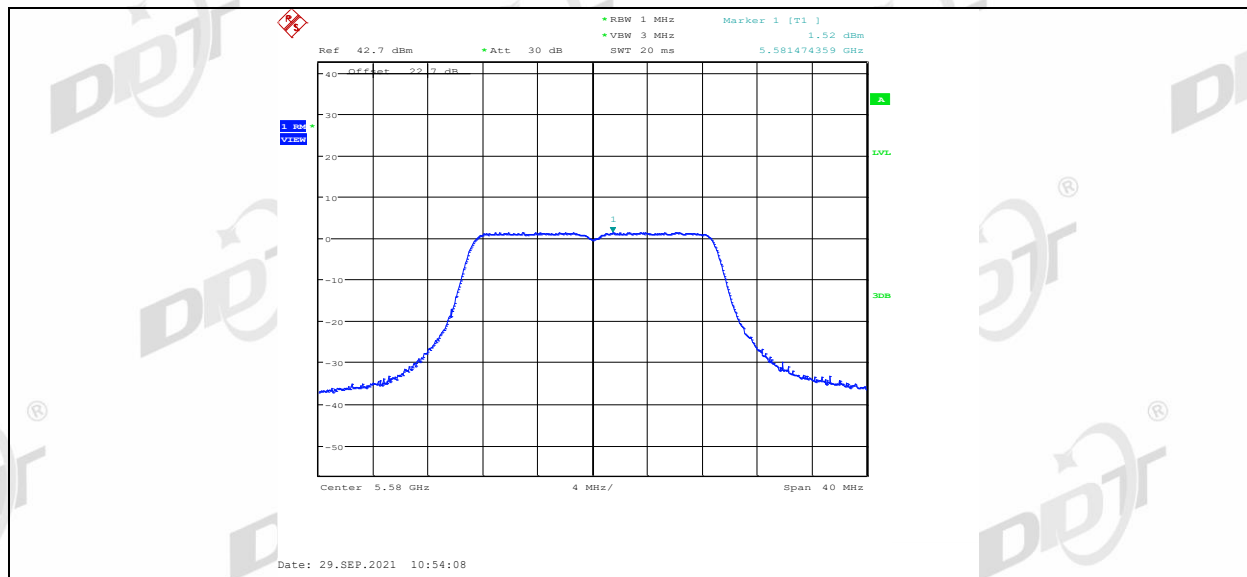
11N20MIMO_Ant1_5500



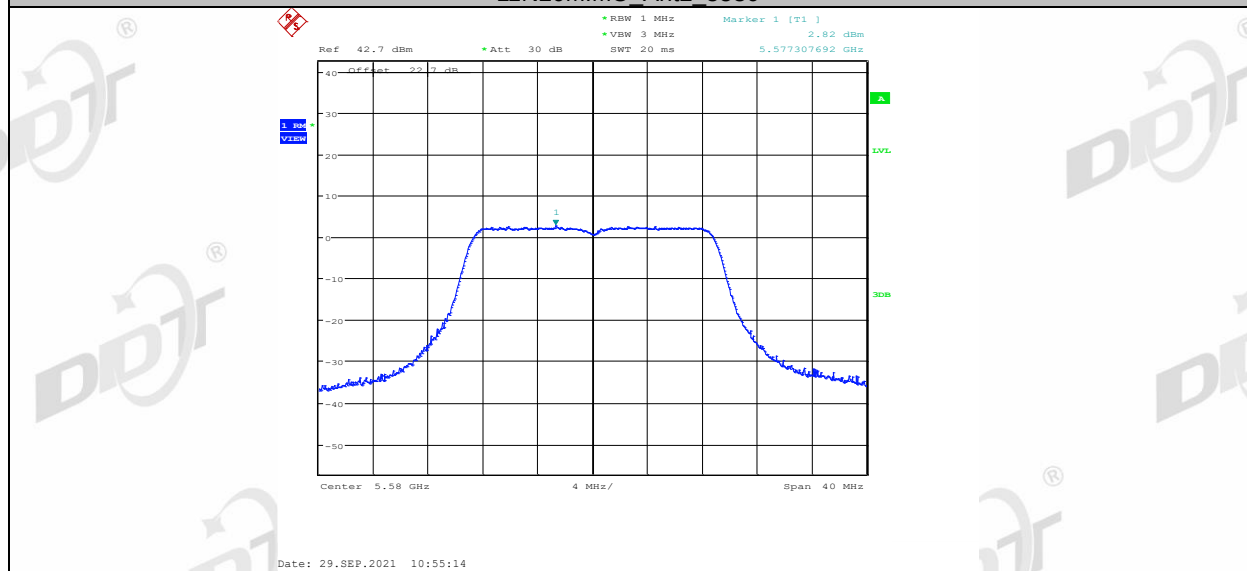
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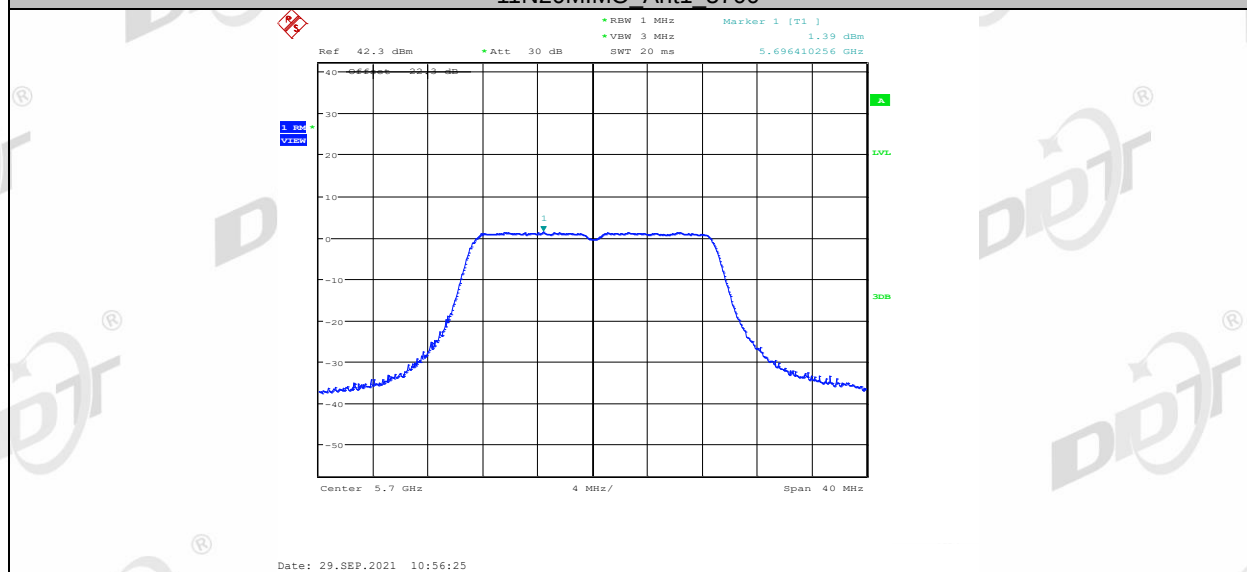
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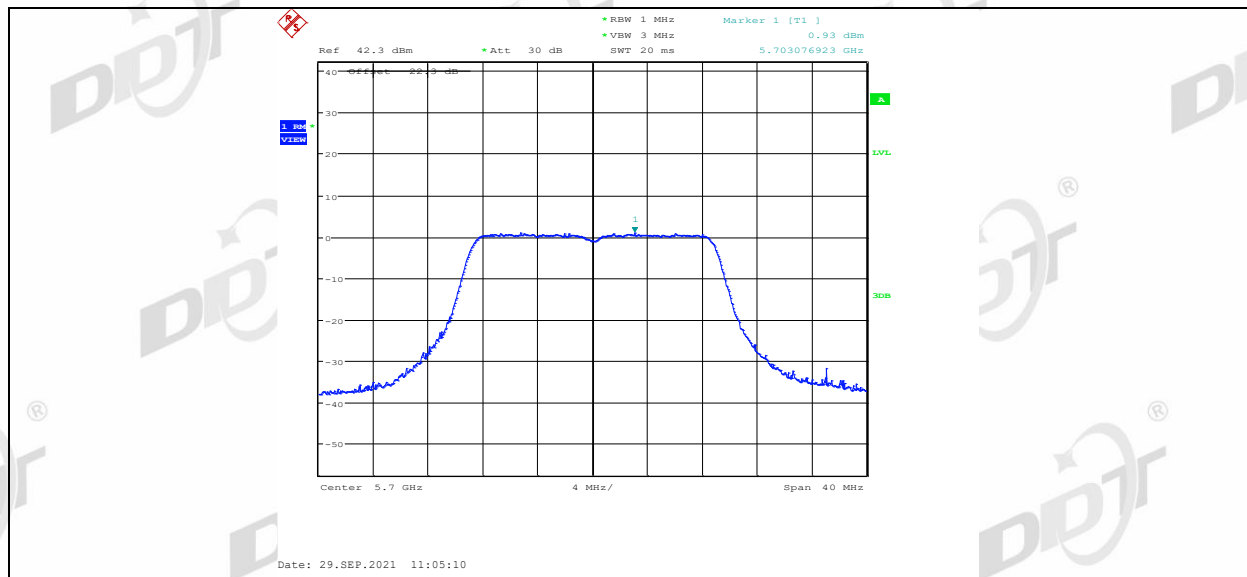
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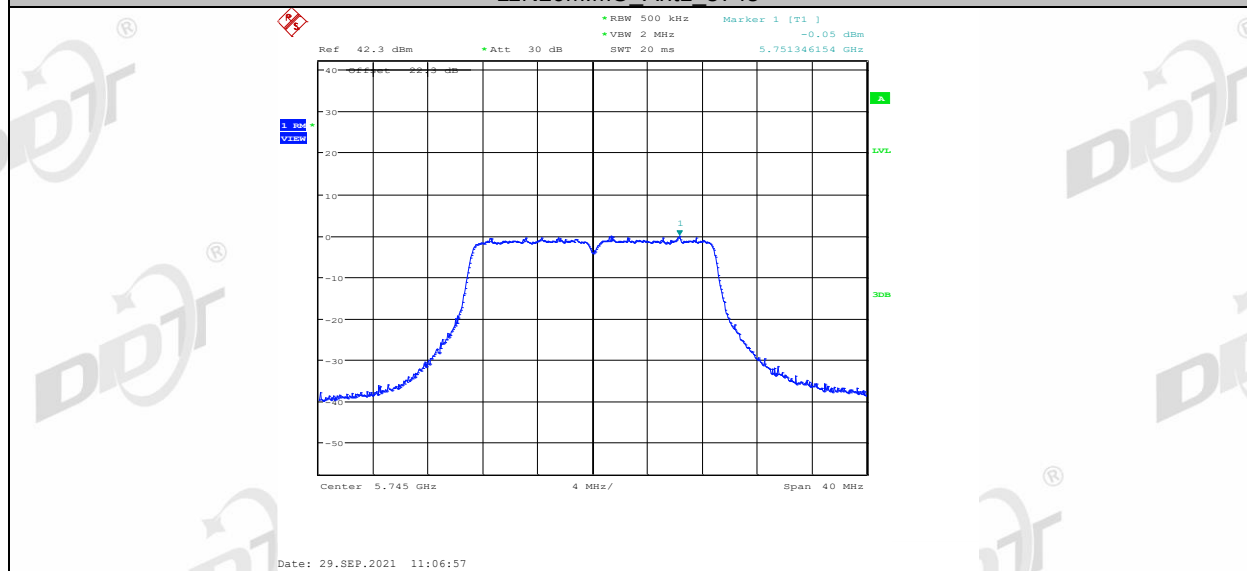
11N20MIMO_Ant1_5700



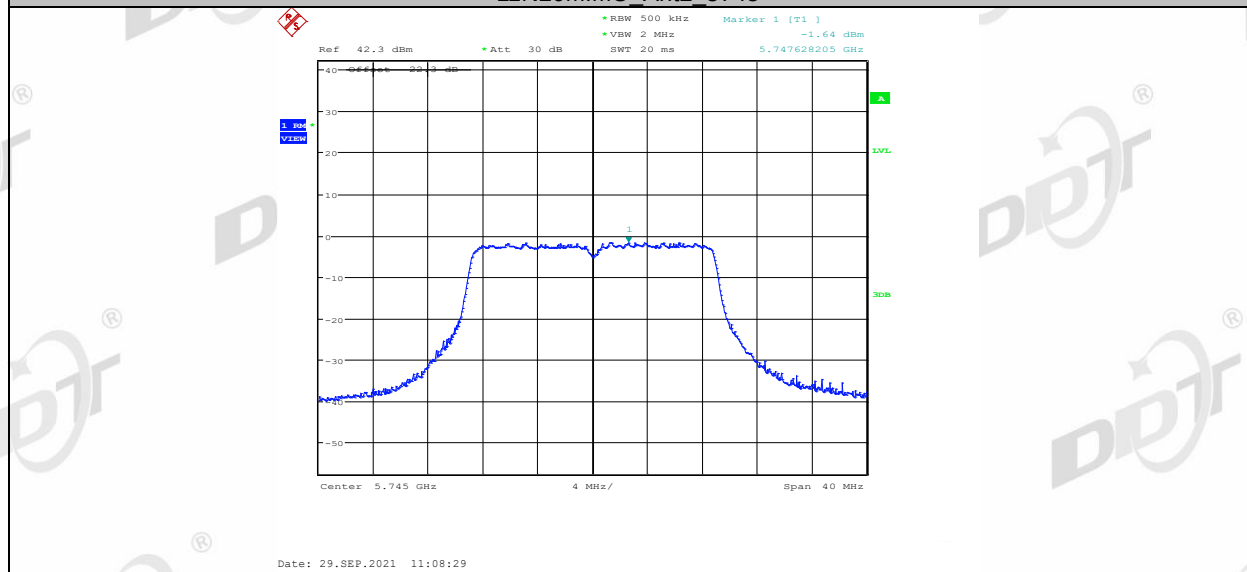
11N20MIMO_Ant2_5700



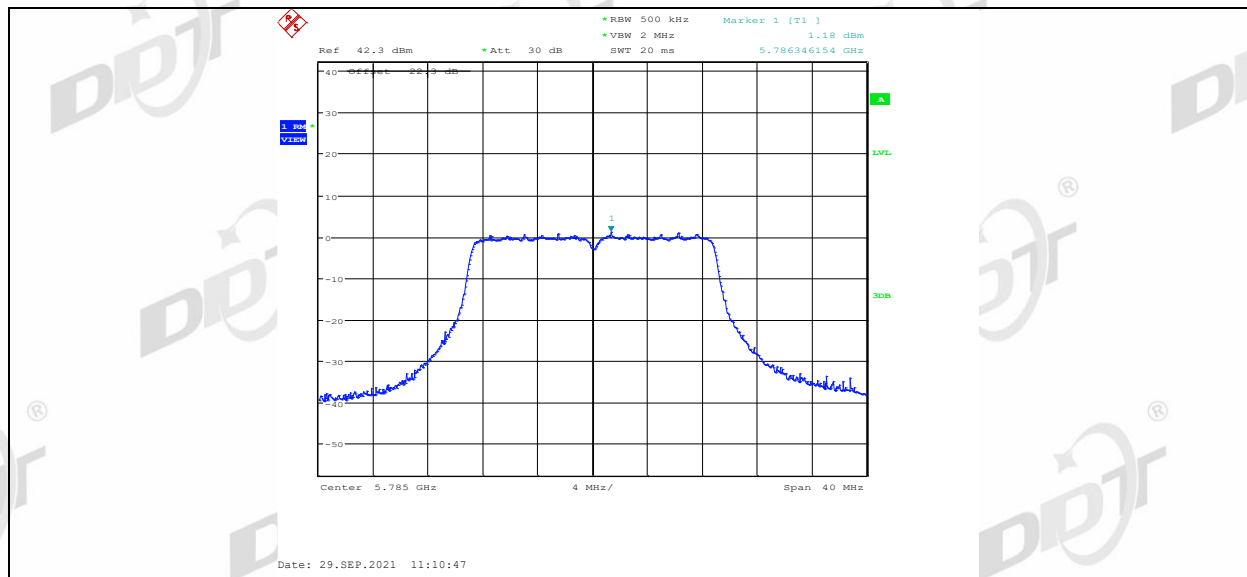
11N20MIMO Ant1 5745



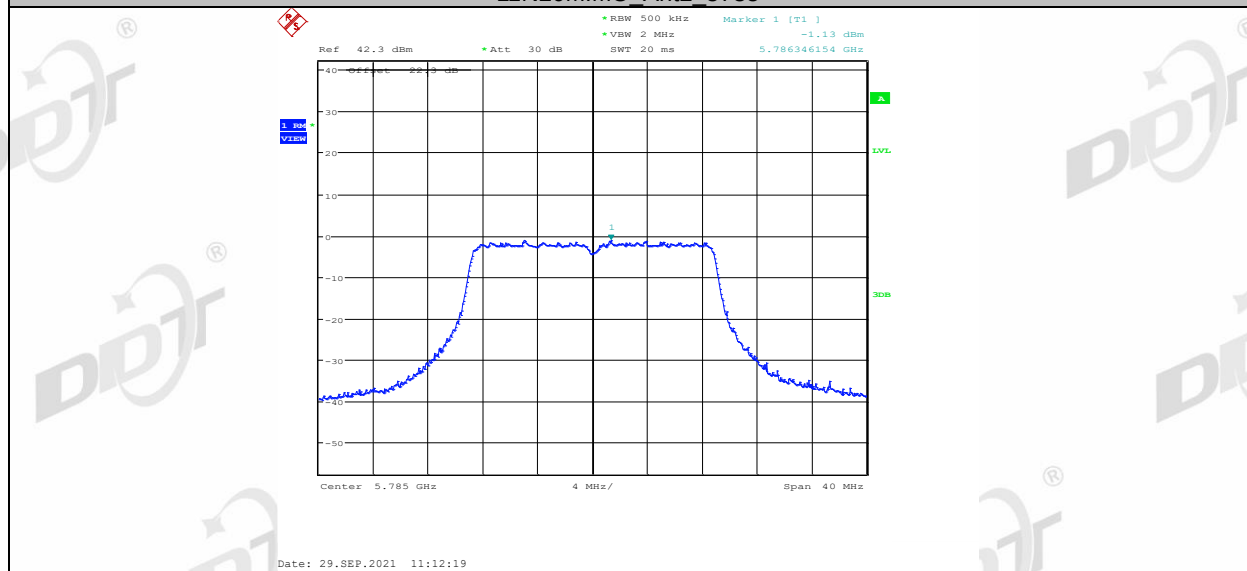
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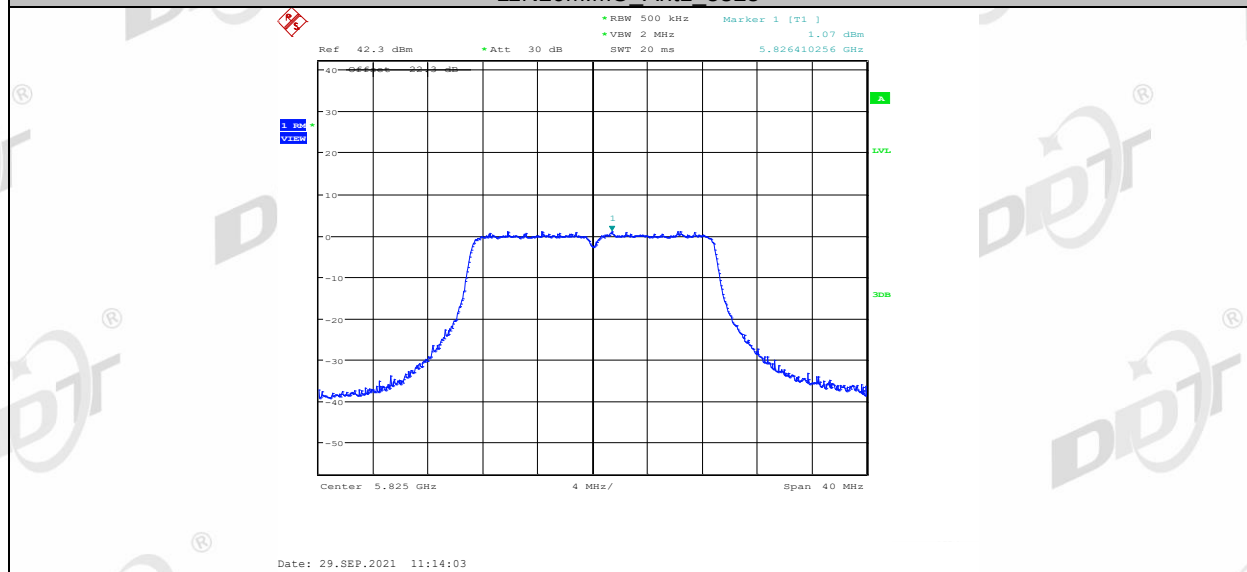
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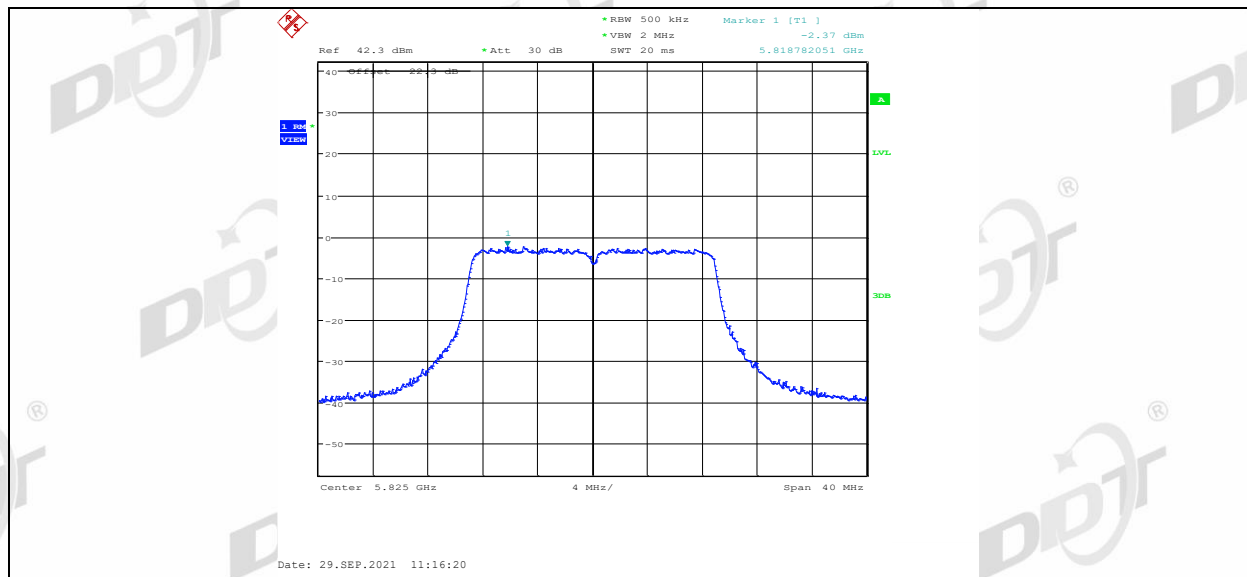
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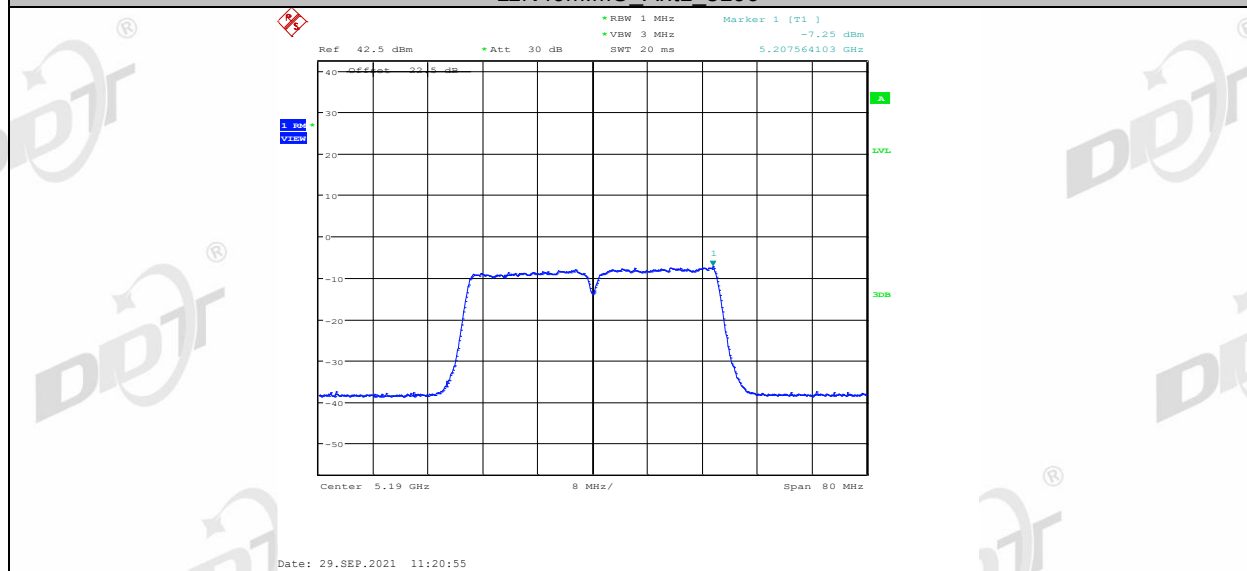
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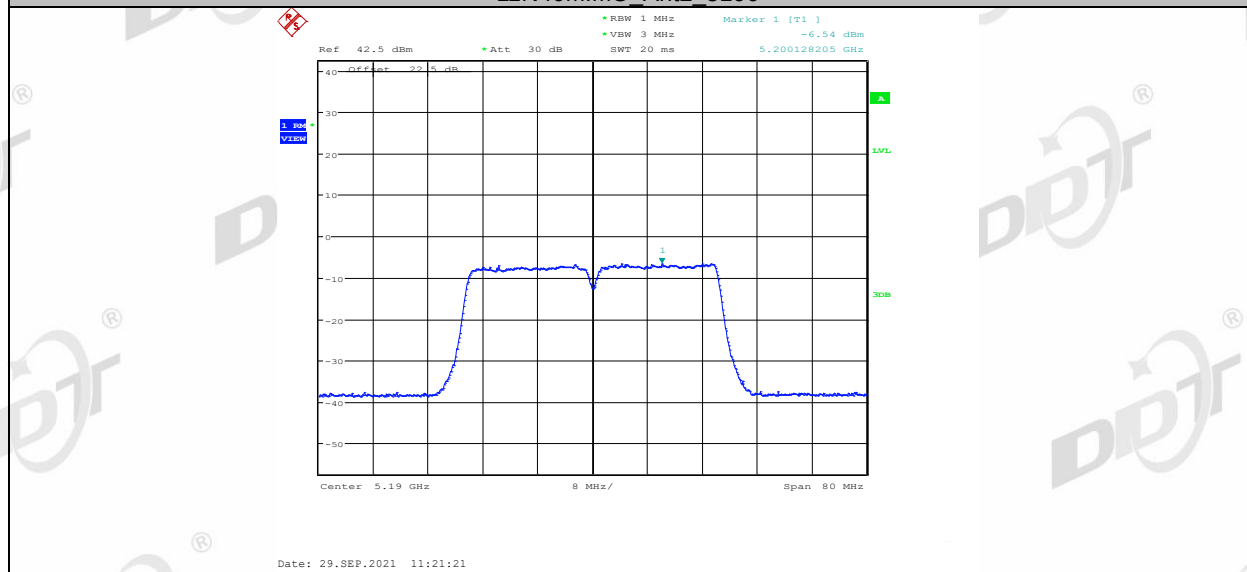
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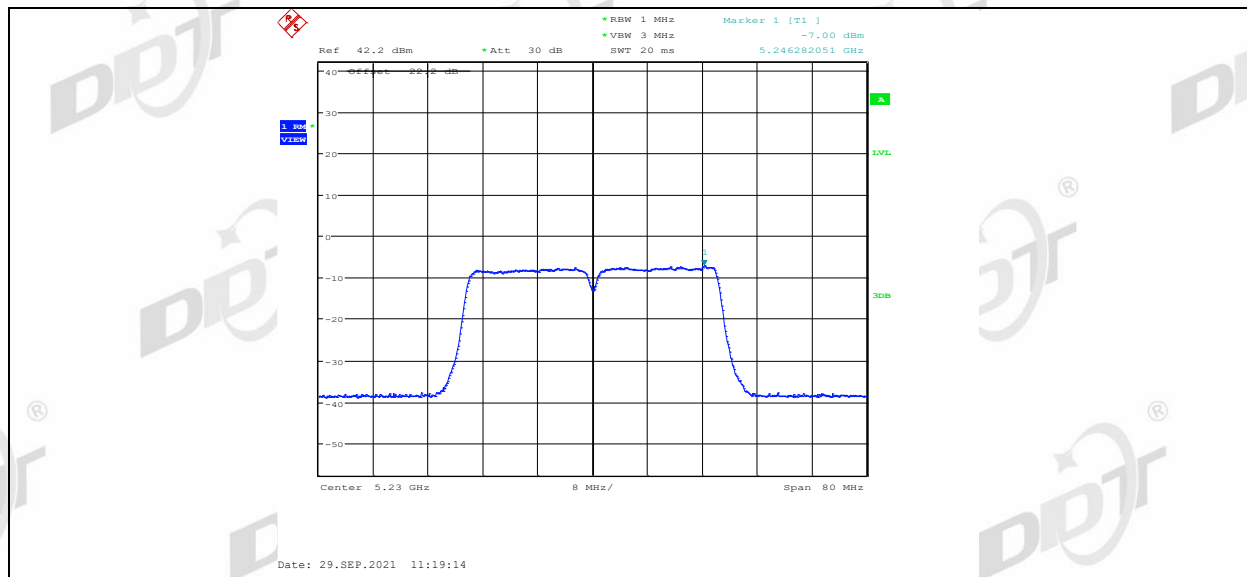
11N40MIMO_Ant1_5190



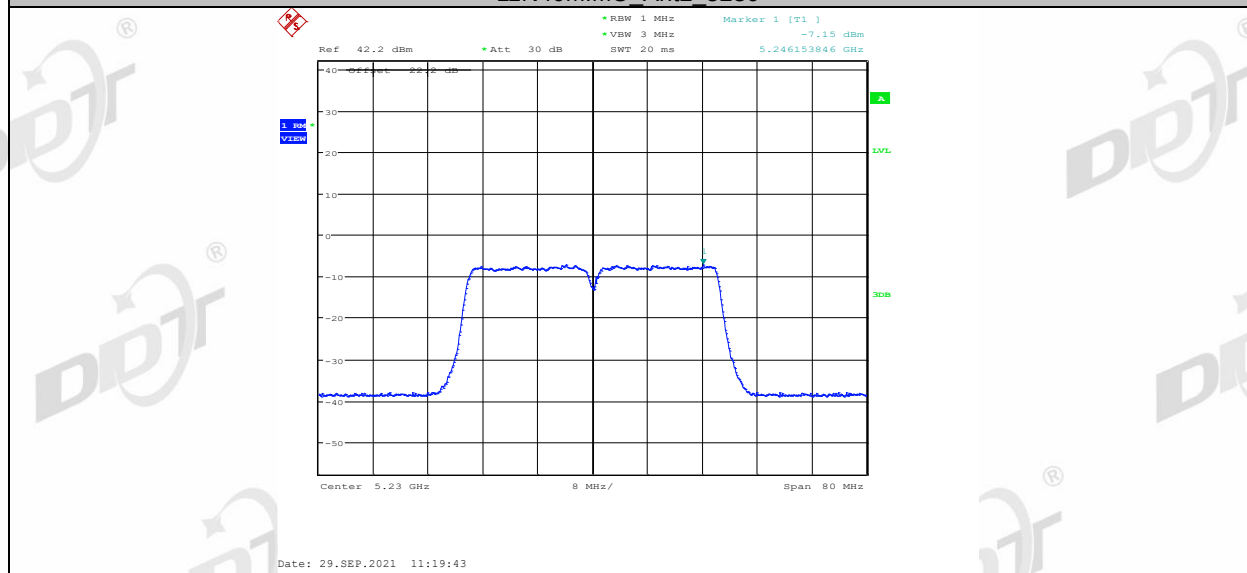
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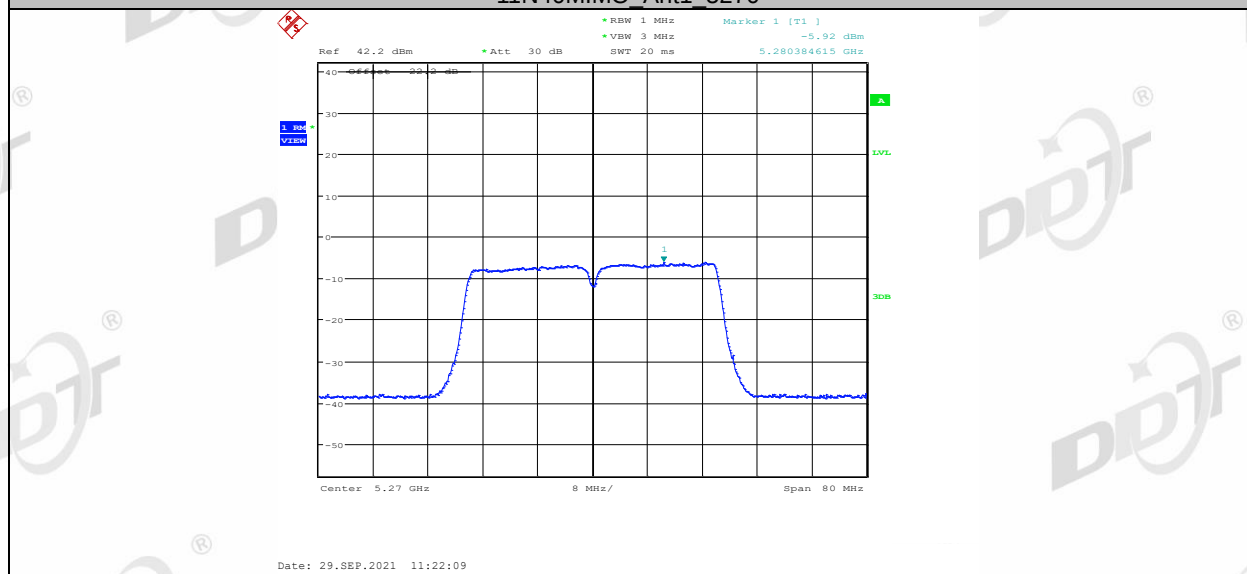
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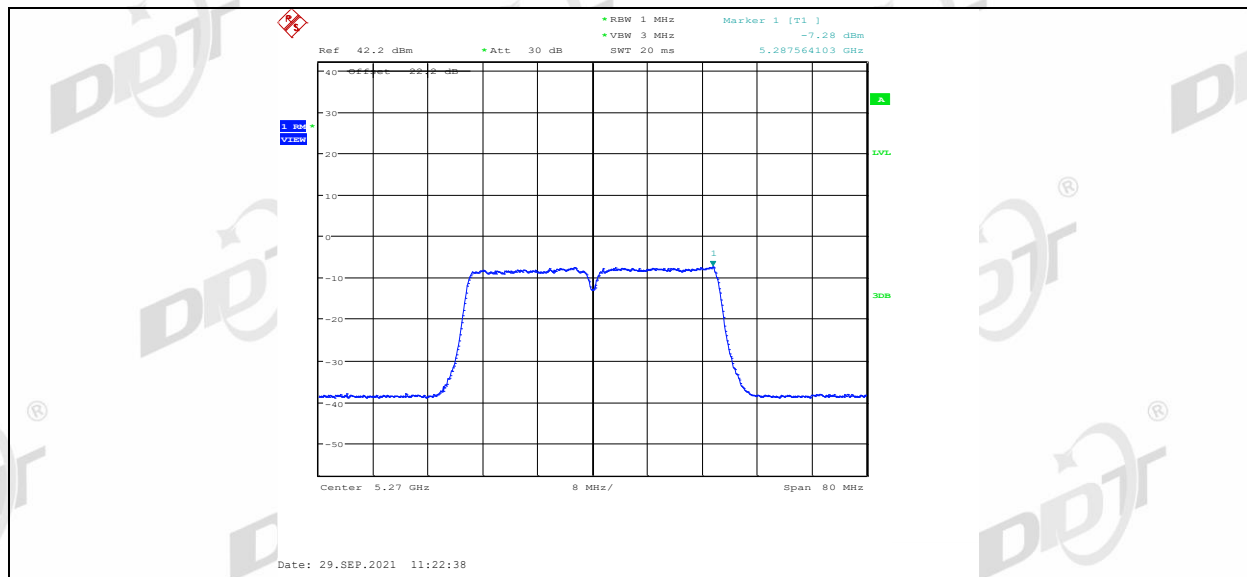
11N40MIMO_Ant2_5230



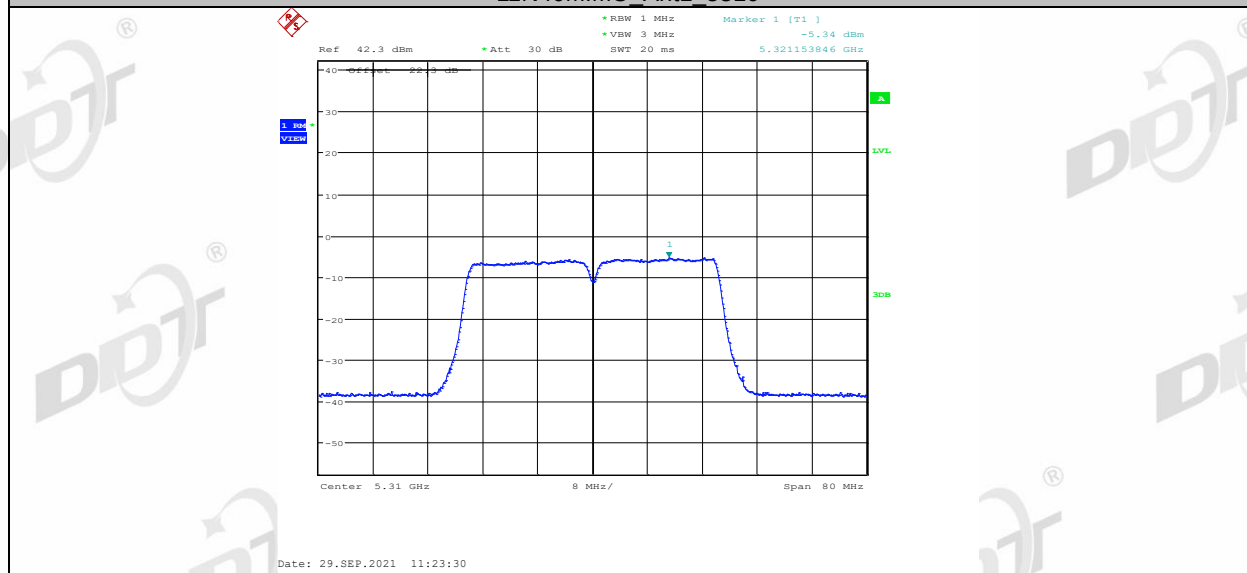
11N40MIMO_Ant1_5270



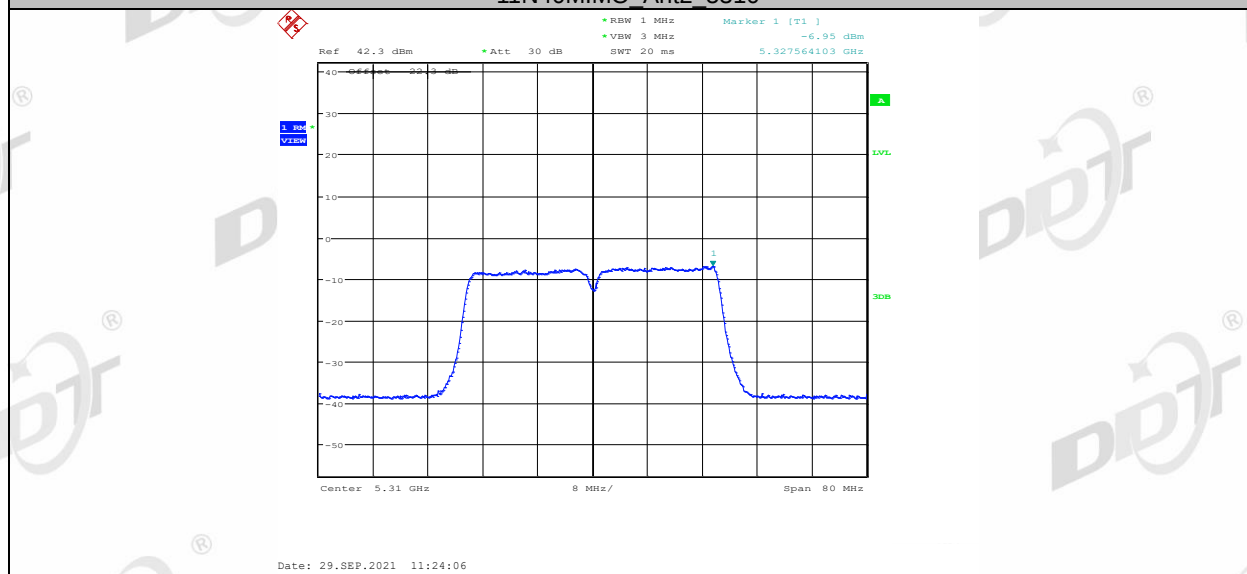
11N40MIMO_Ant2_5270



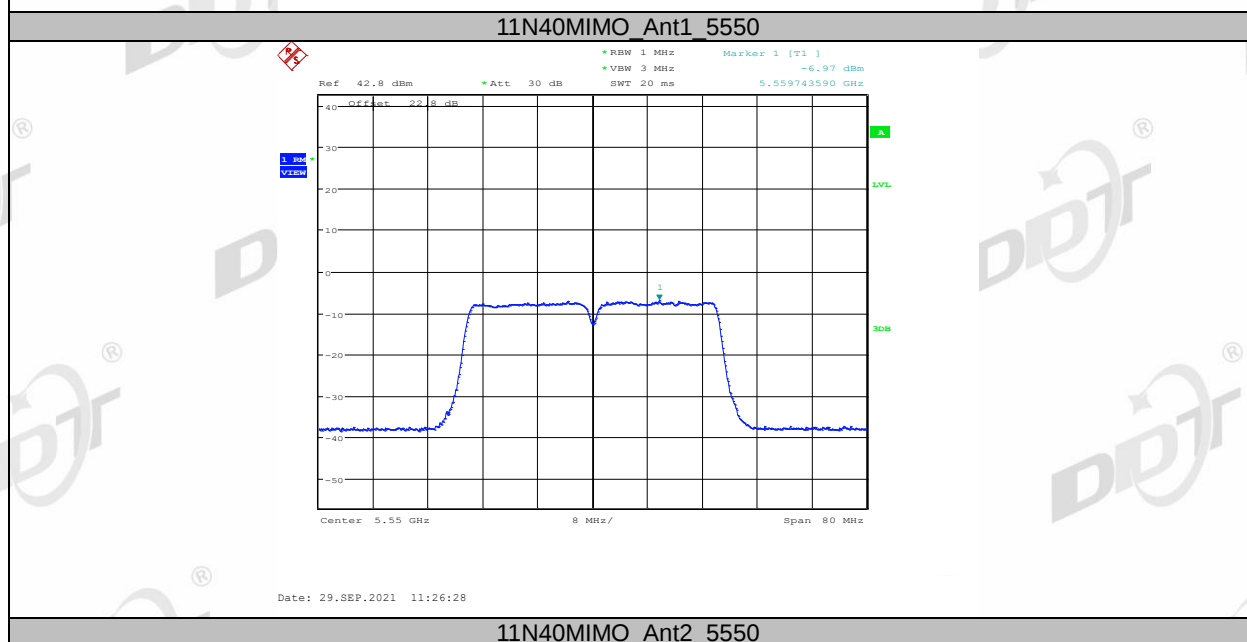
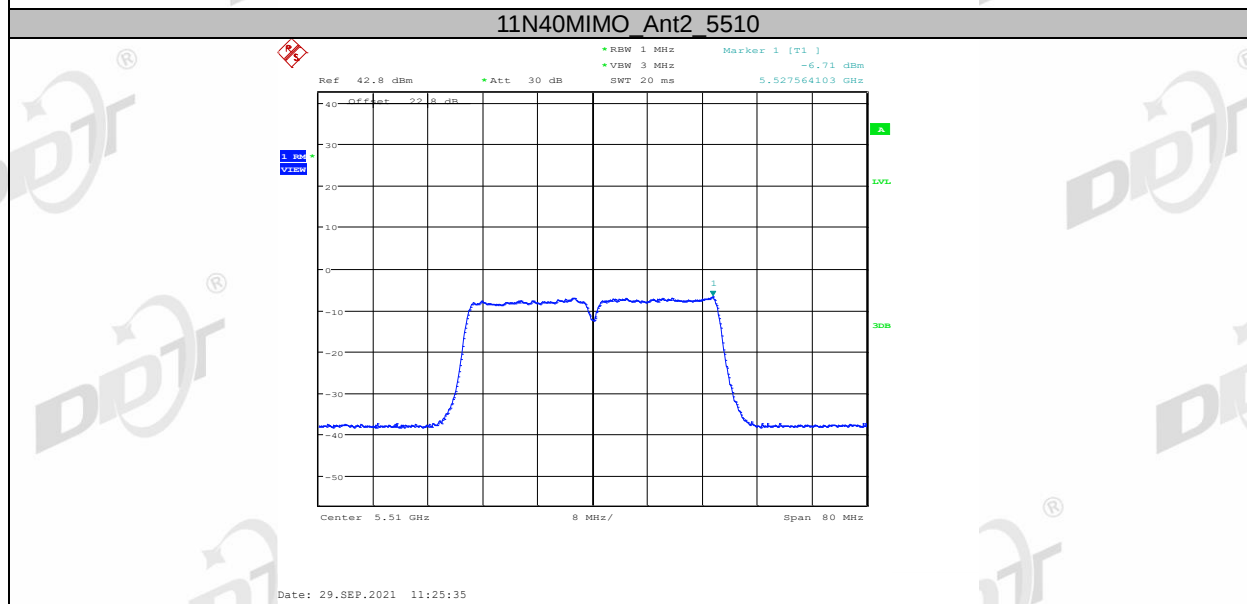
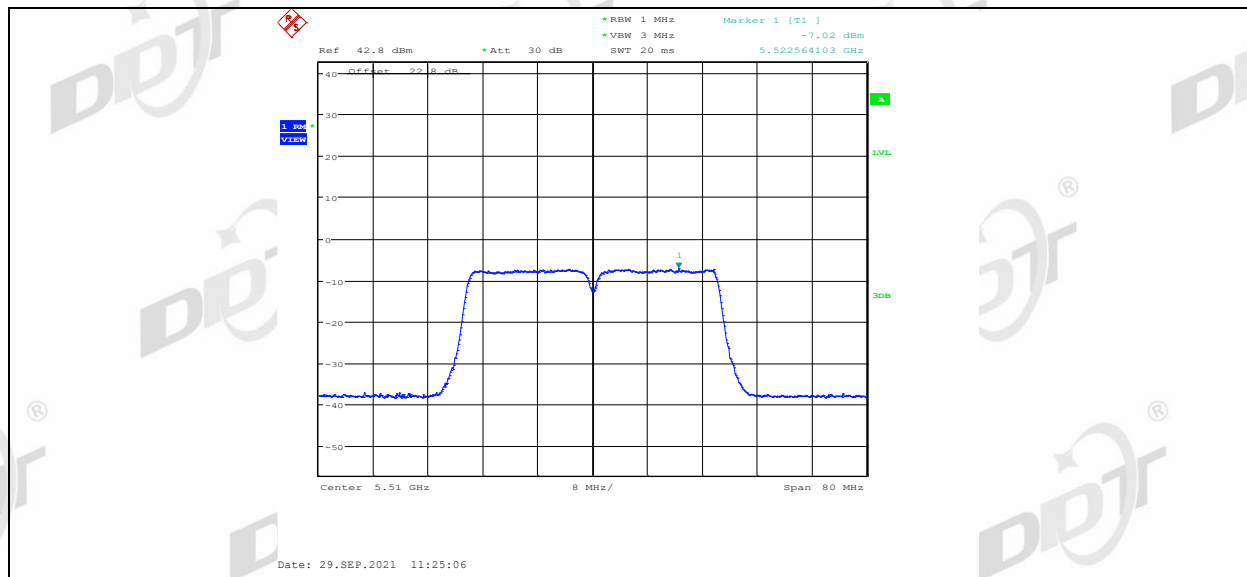
11N40MIMO_Ant1_5310

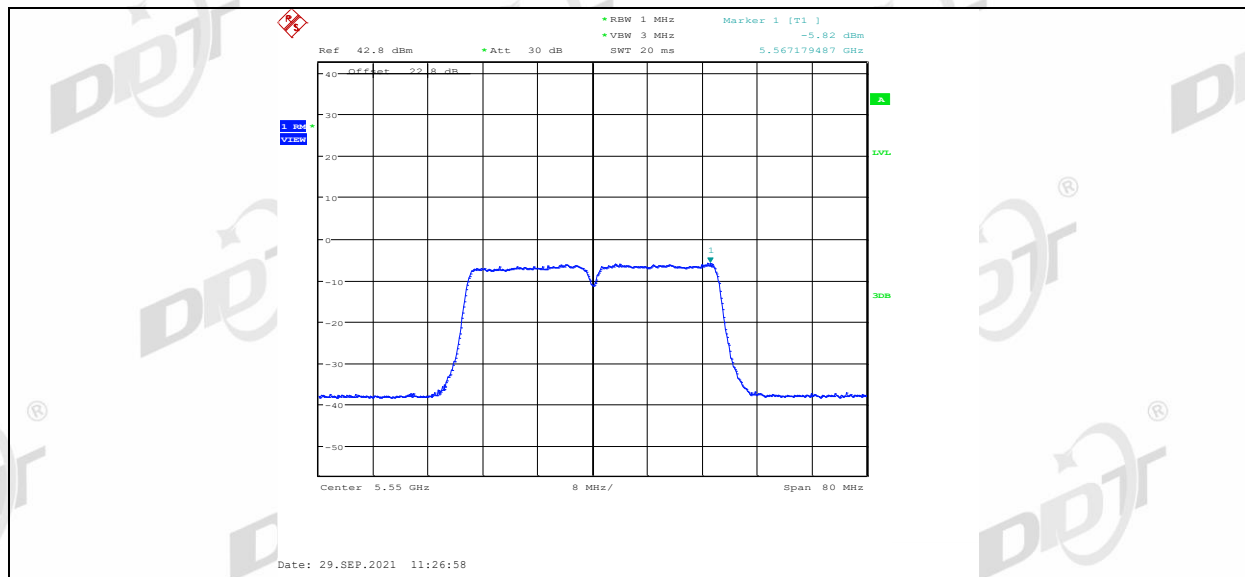


11N40MIMO_Ant2_5310

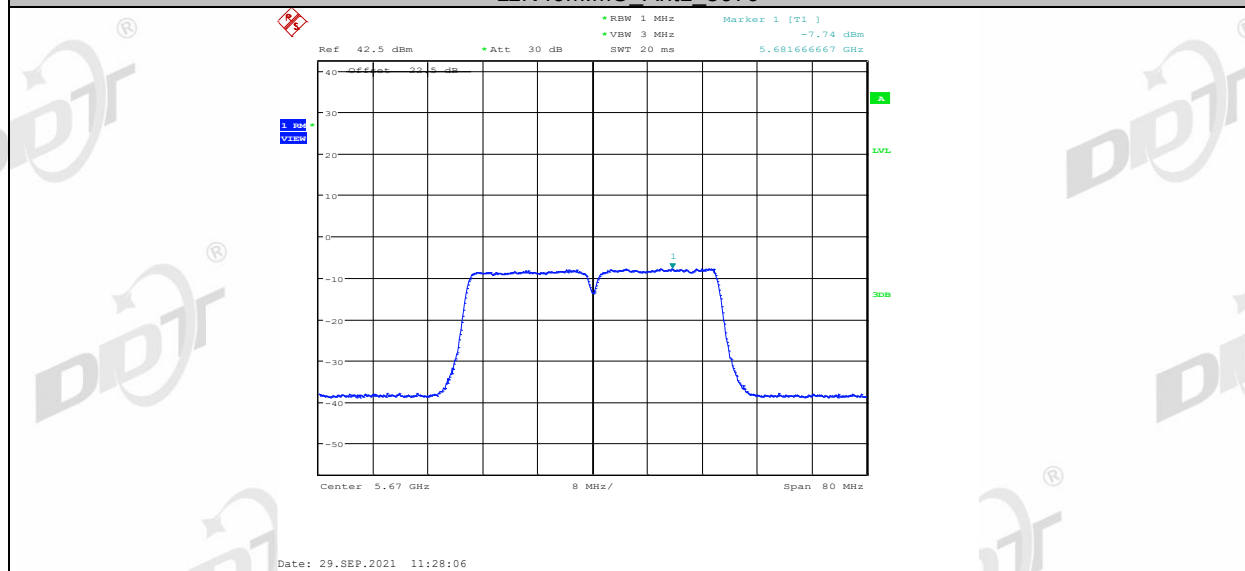


11N40MIMO_Ant1_5510

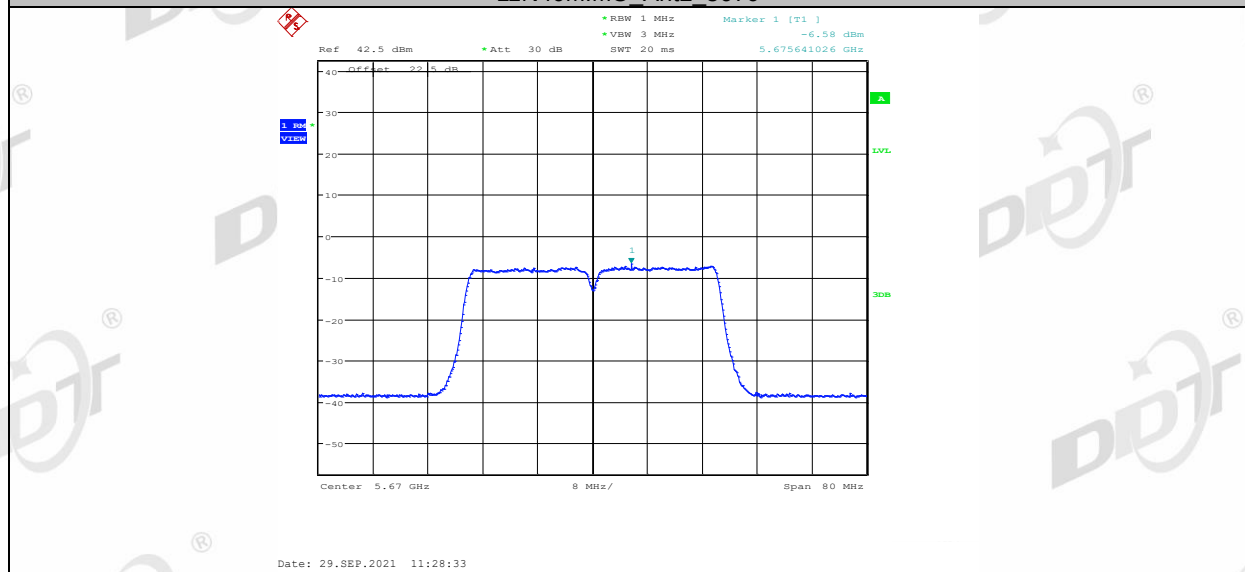




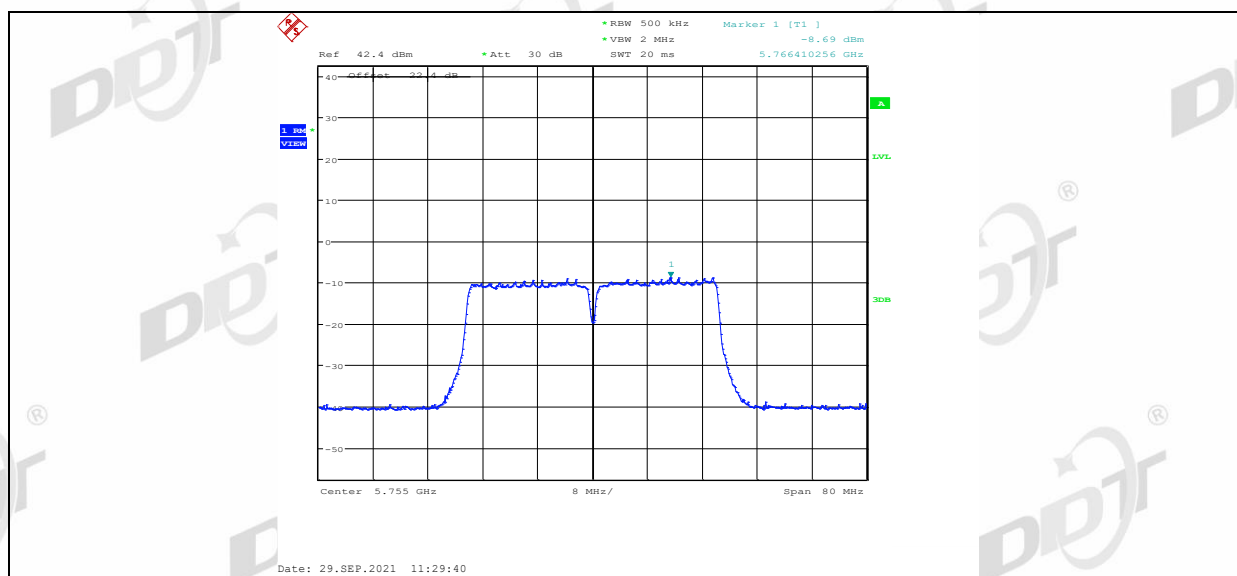
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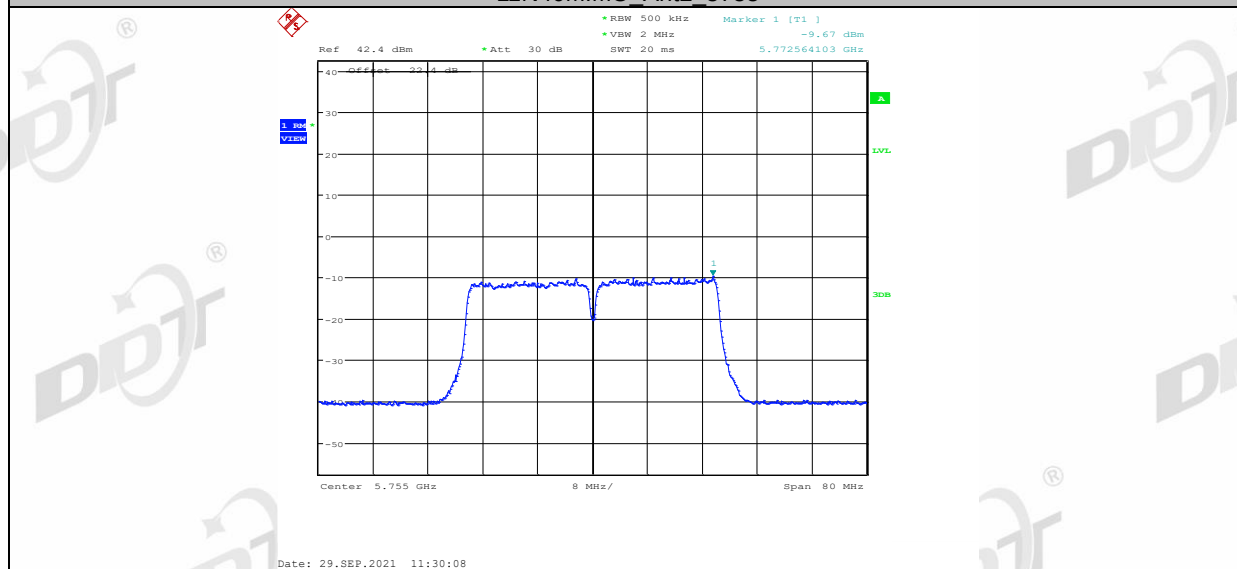
11N40MIMO_Ant2_5670



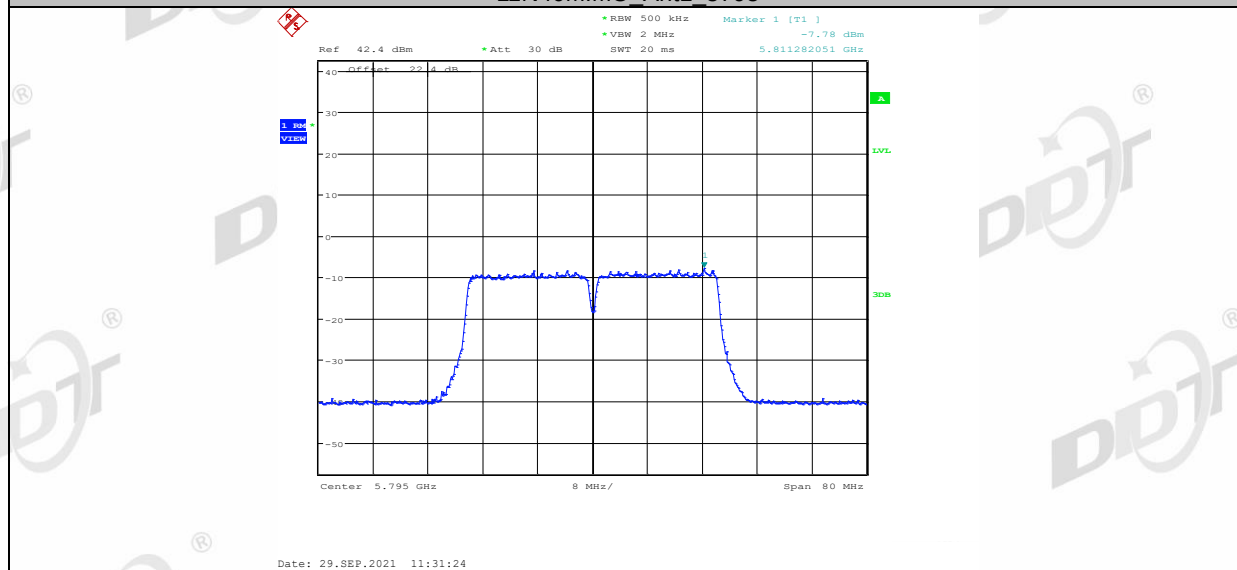
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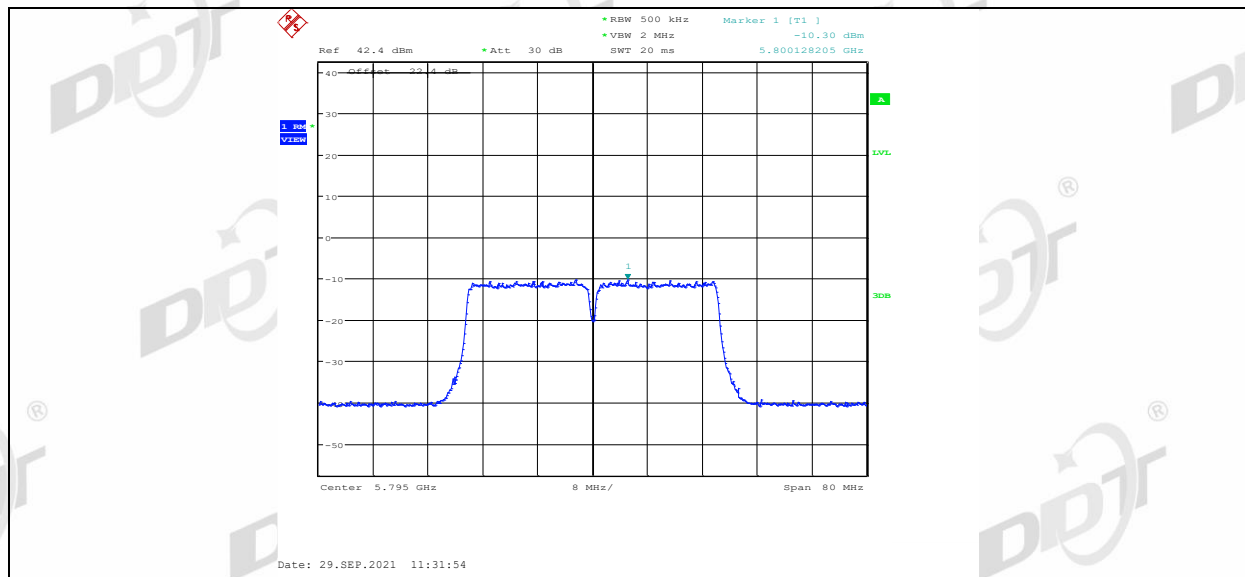
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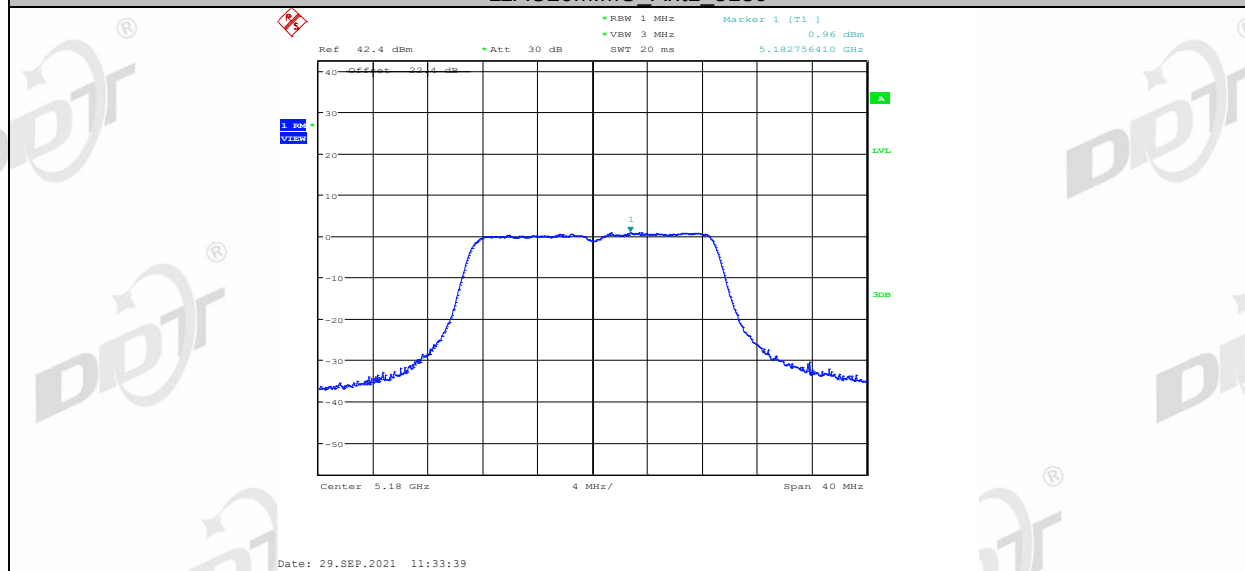
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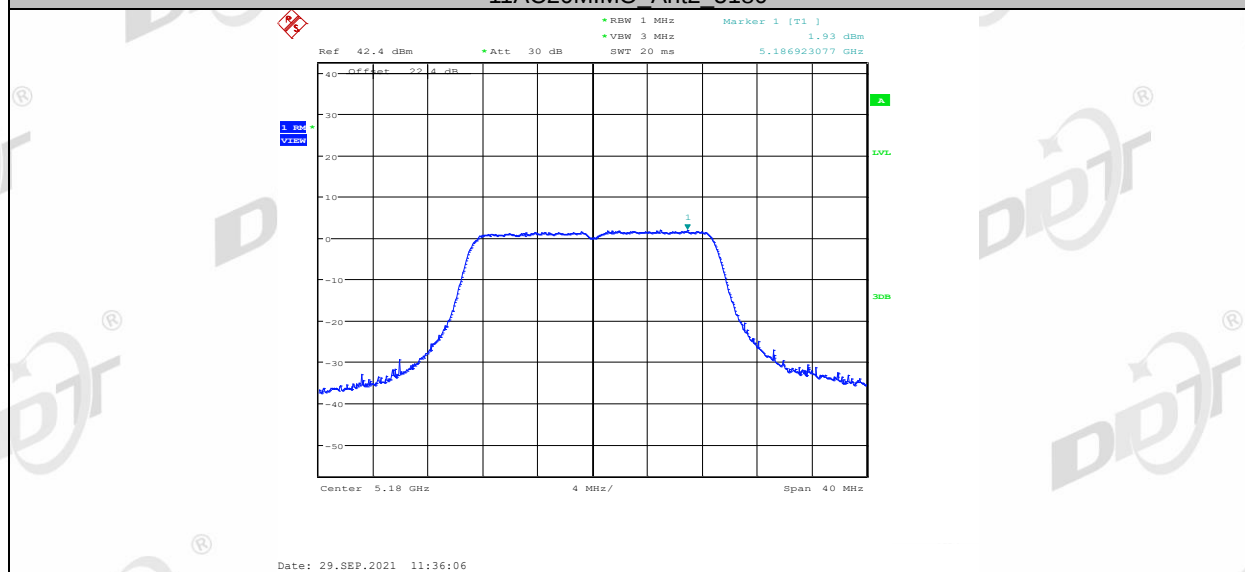
11N40MIMO_Ant2_5795



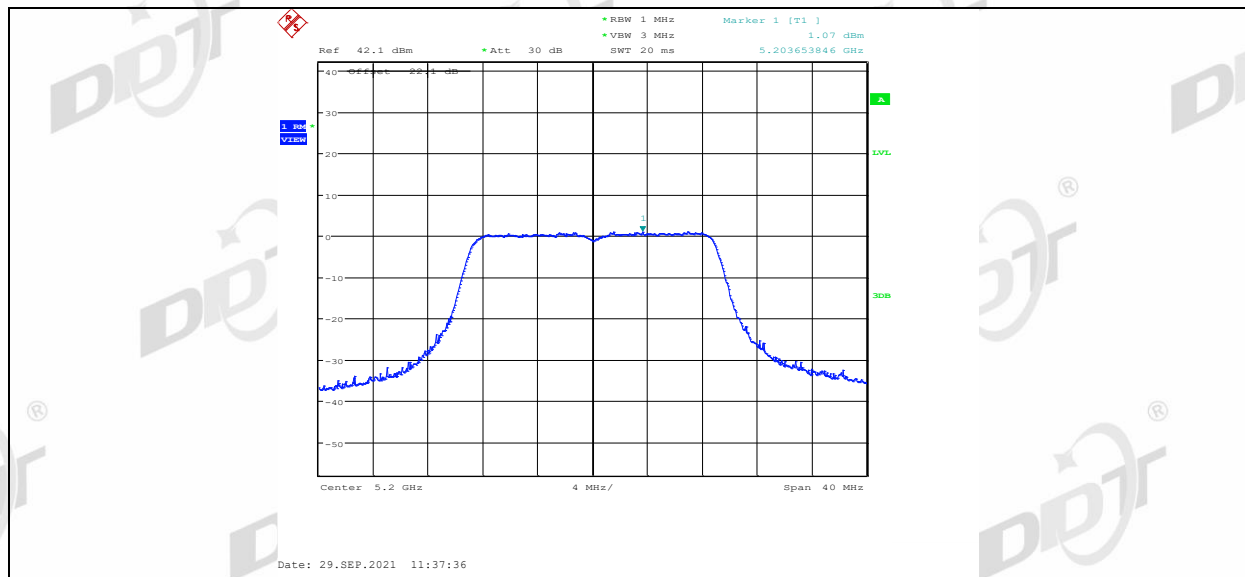
11AC20MIMO_Ant1_5180



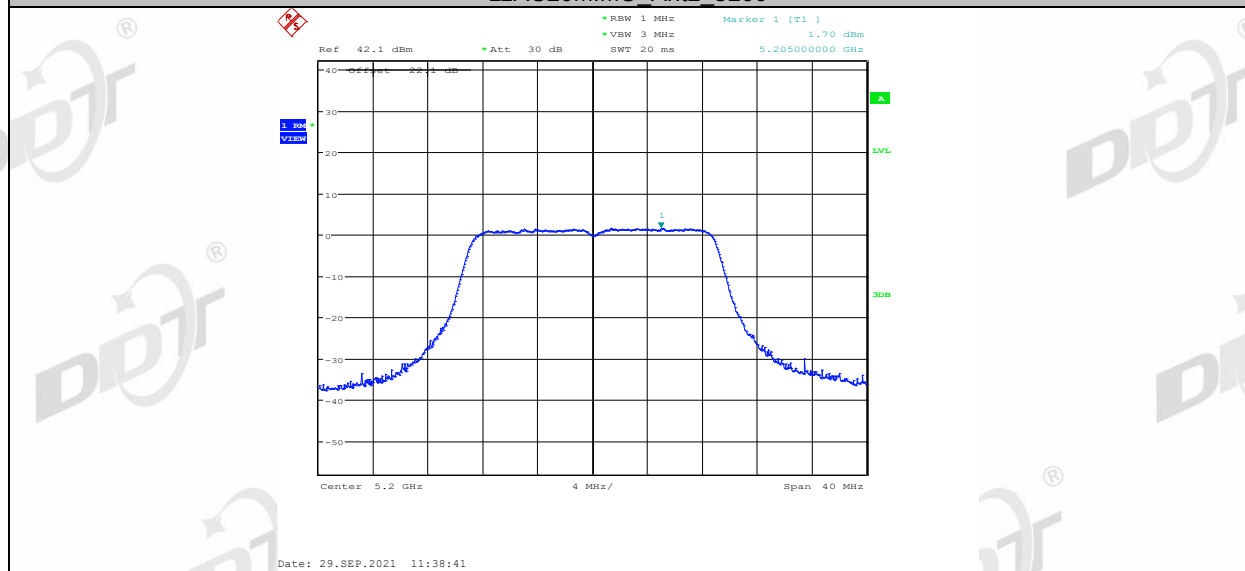
11AC20MIMO_Ant2_5180



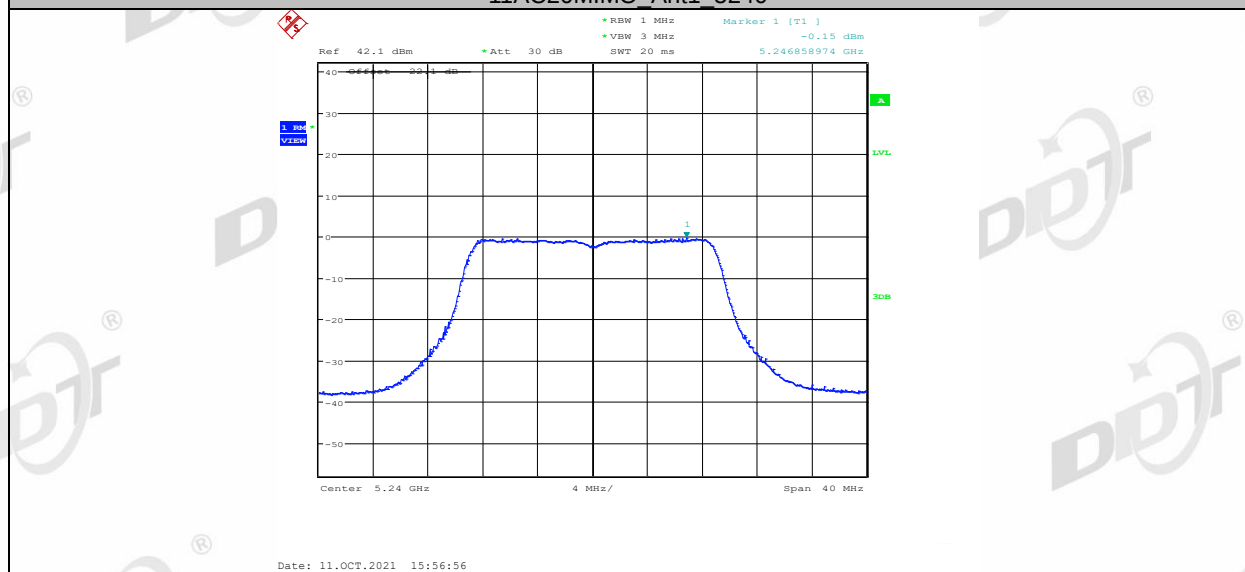
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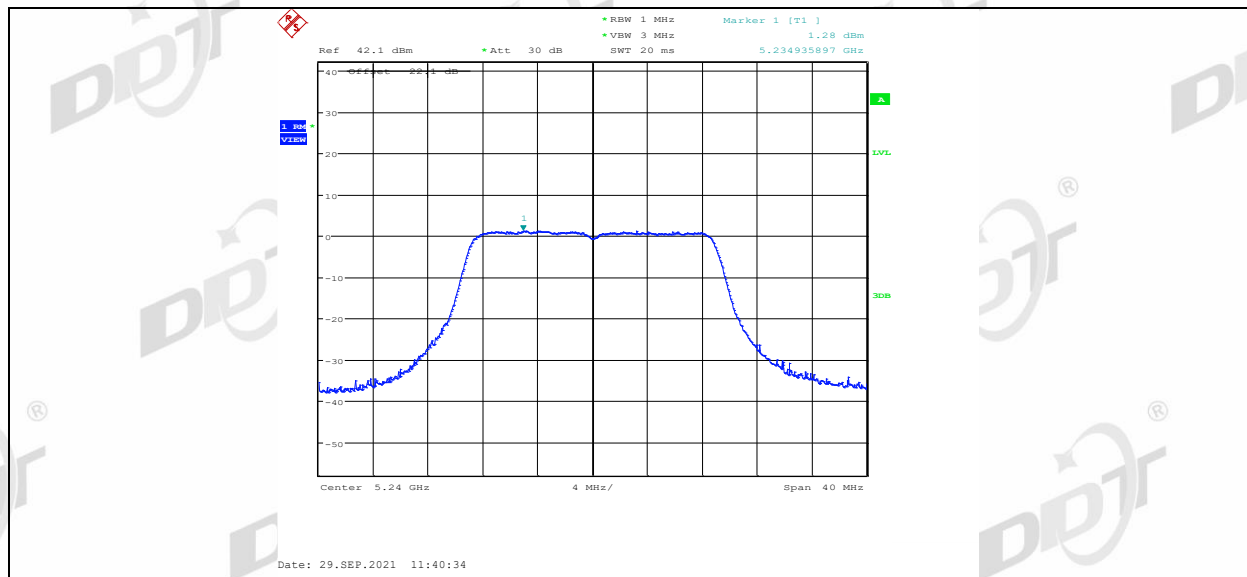
11AC20MIMO_Ant2_5200



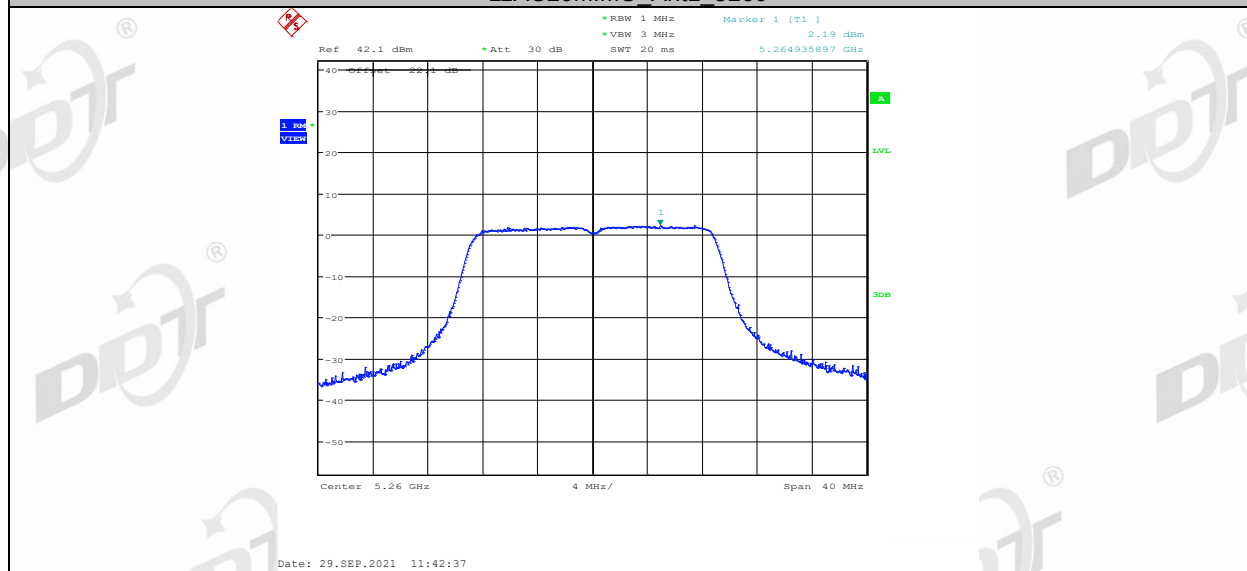
11AC20MIMO_Ant1_5240



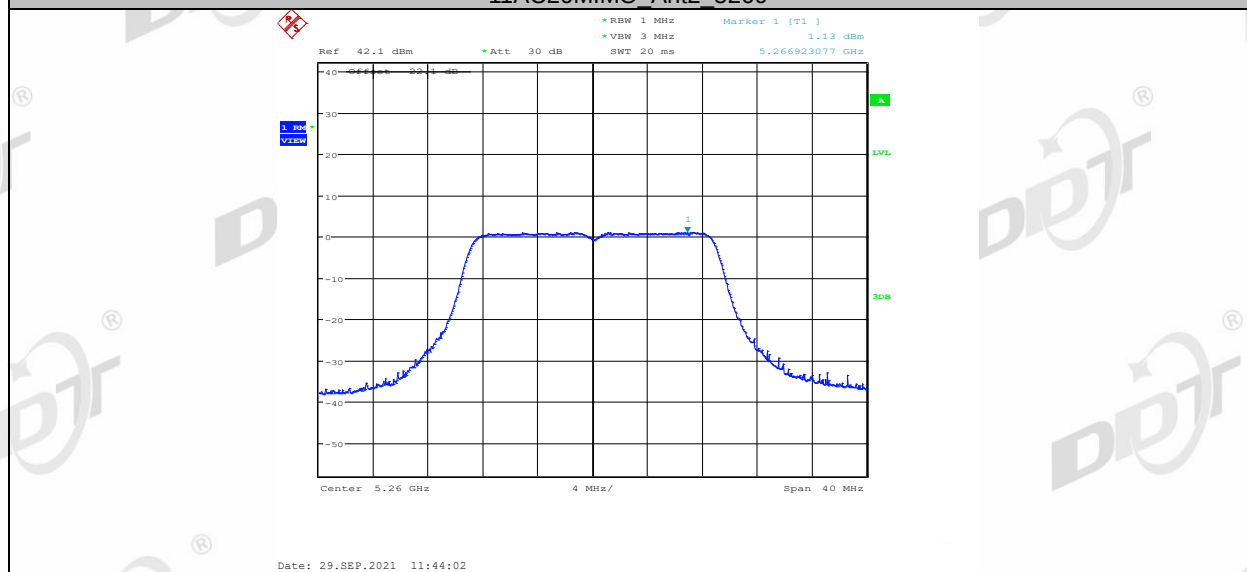
11AC20MIMO_Ant2_5240



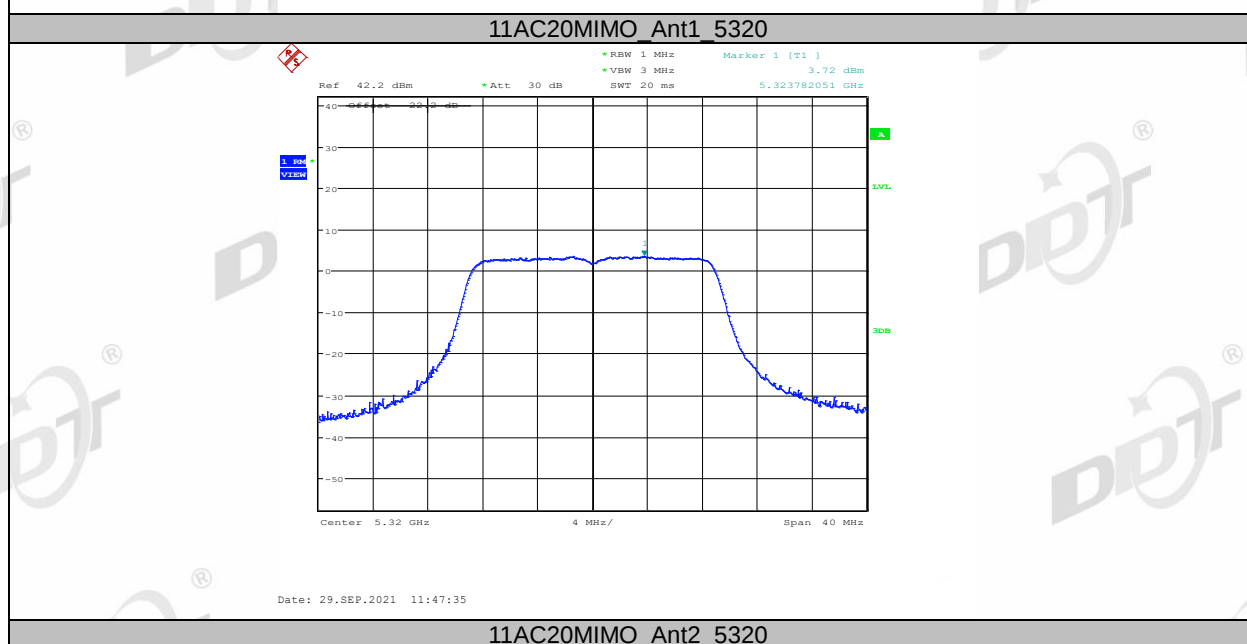
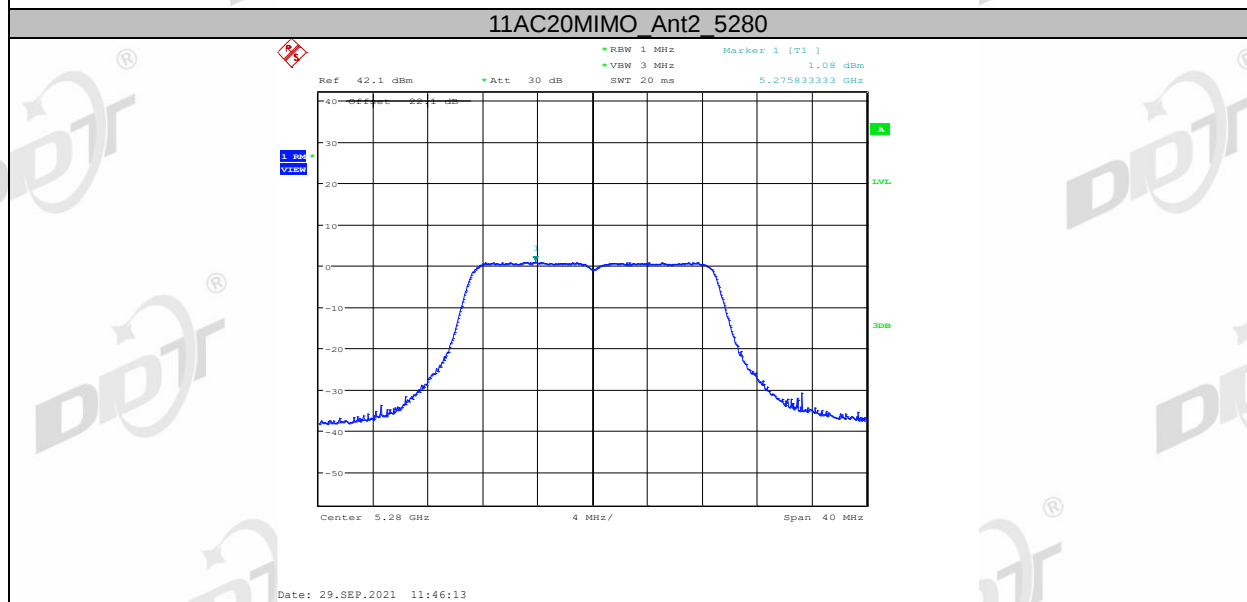
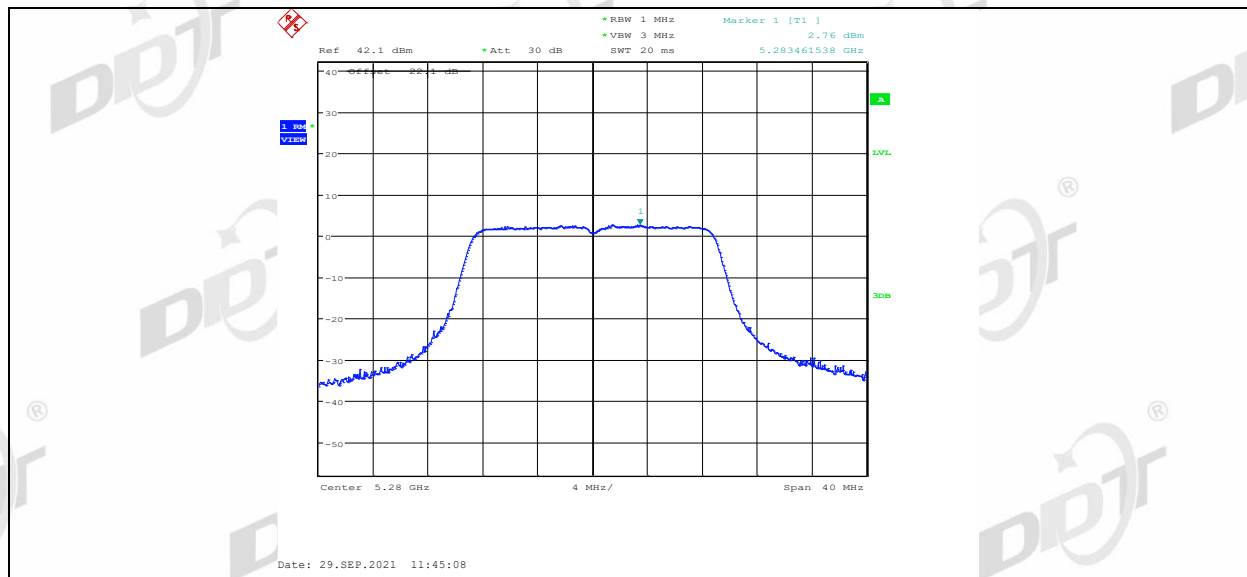
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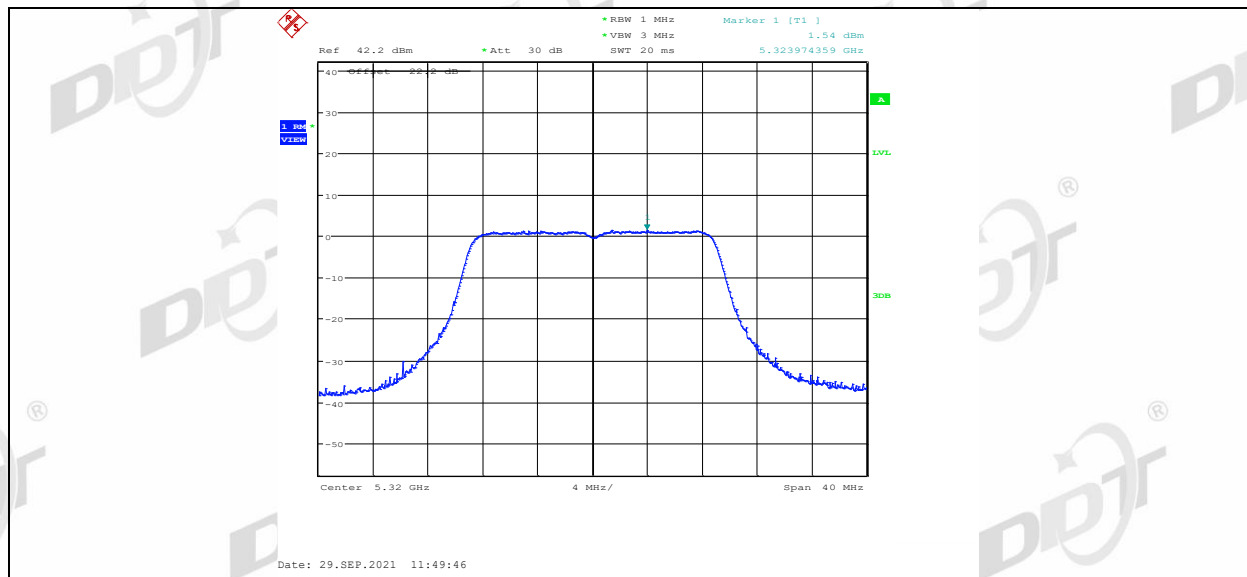


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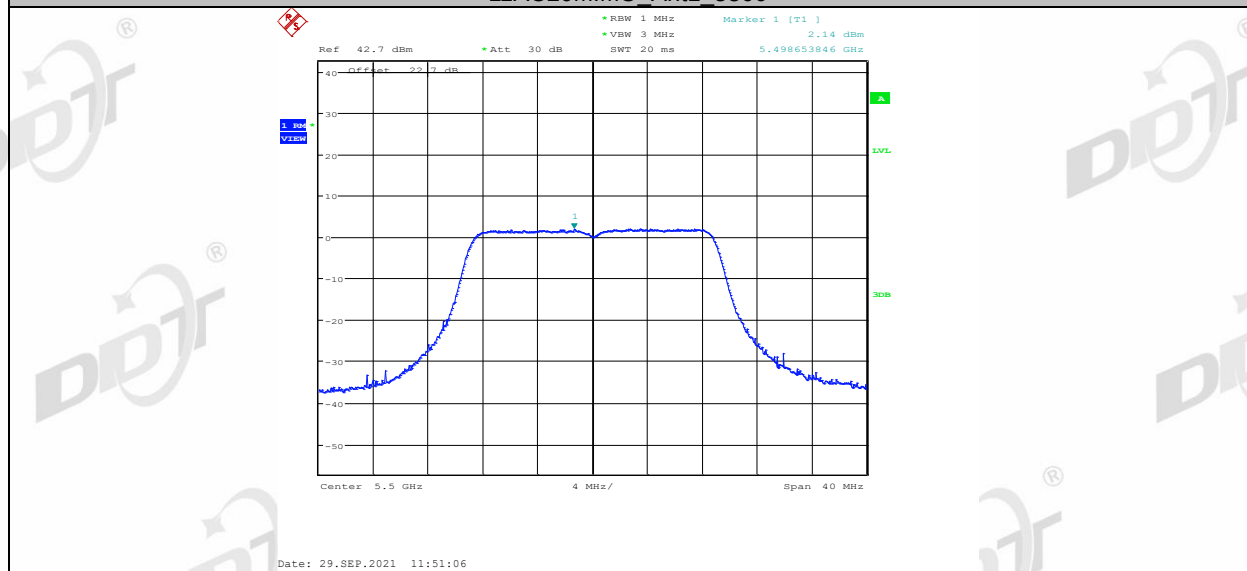


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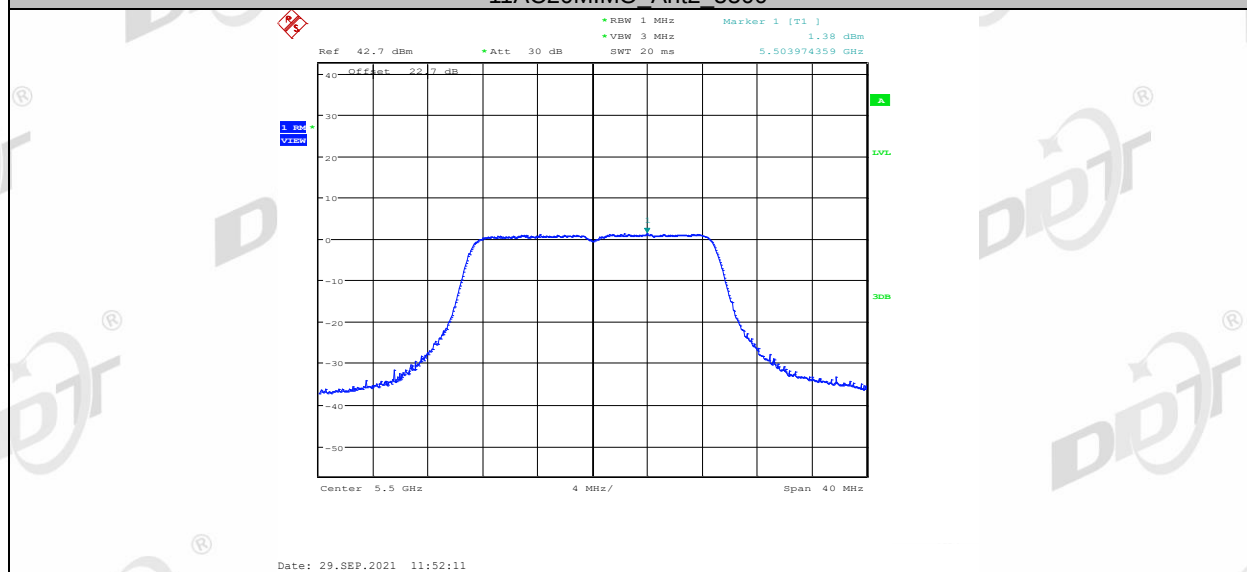




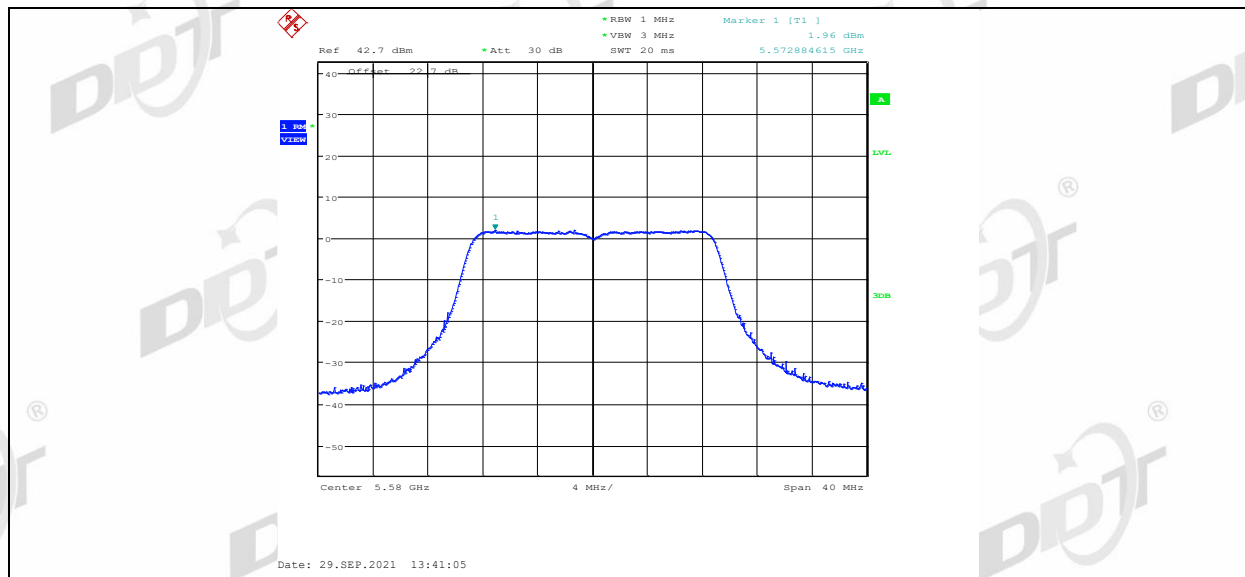
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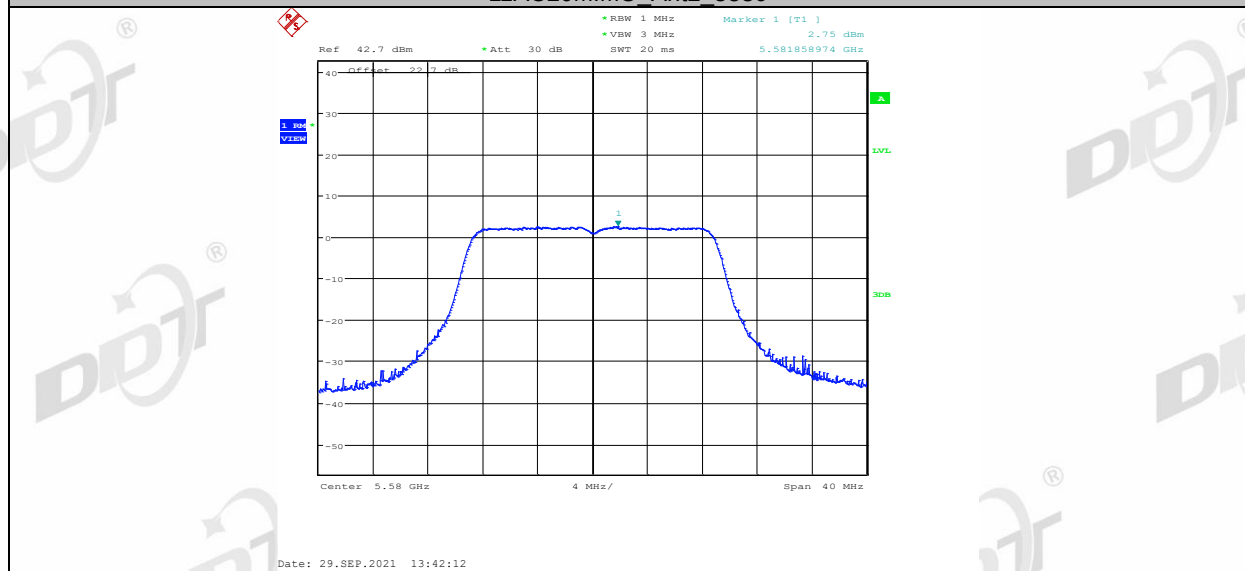
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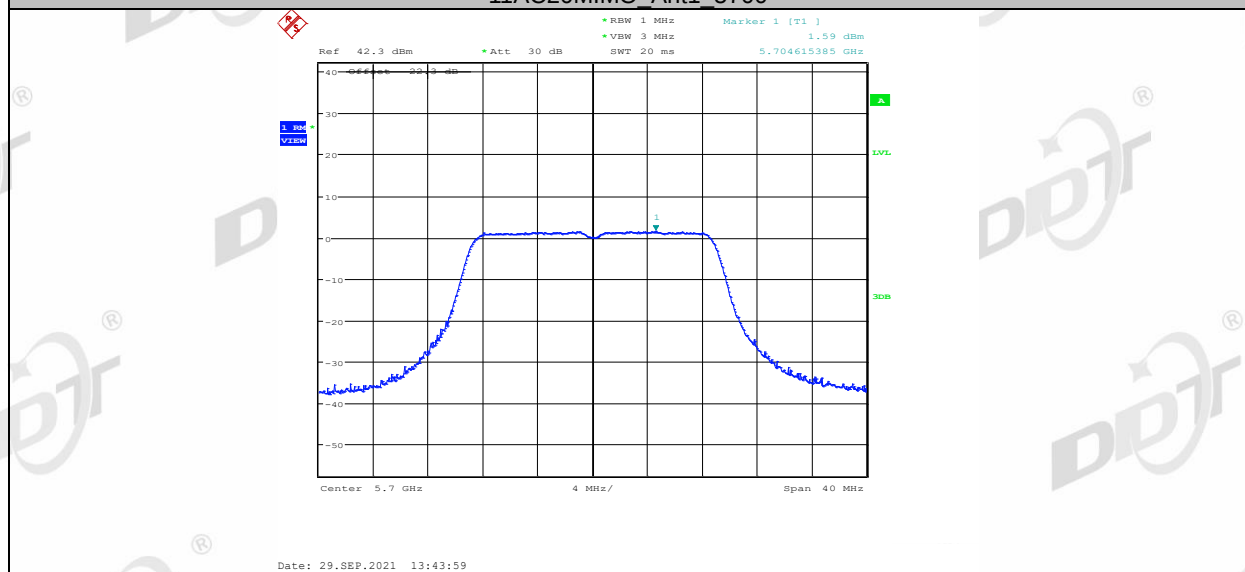
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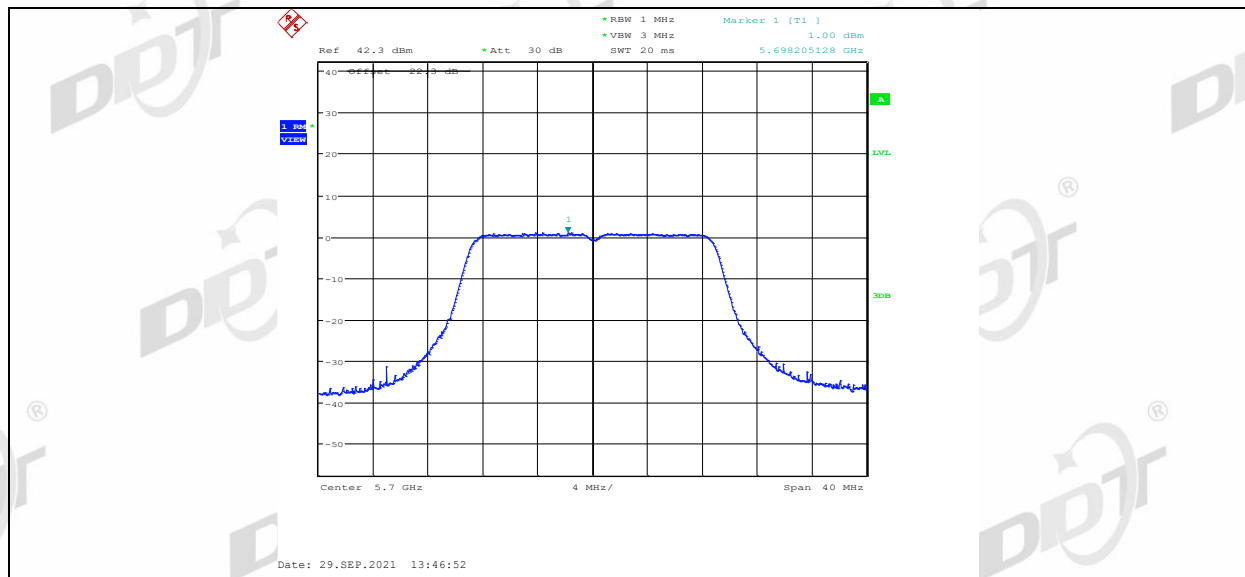
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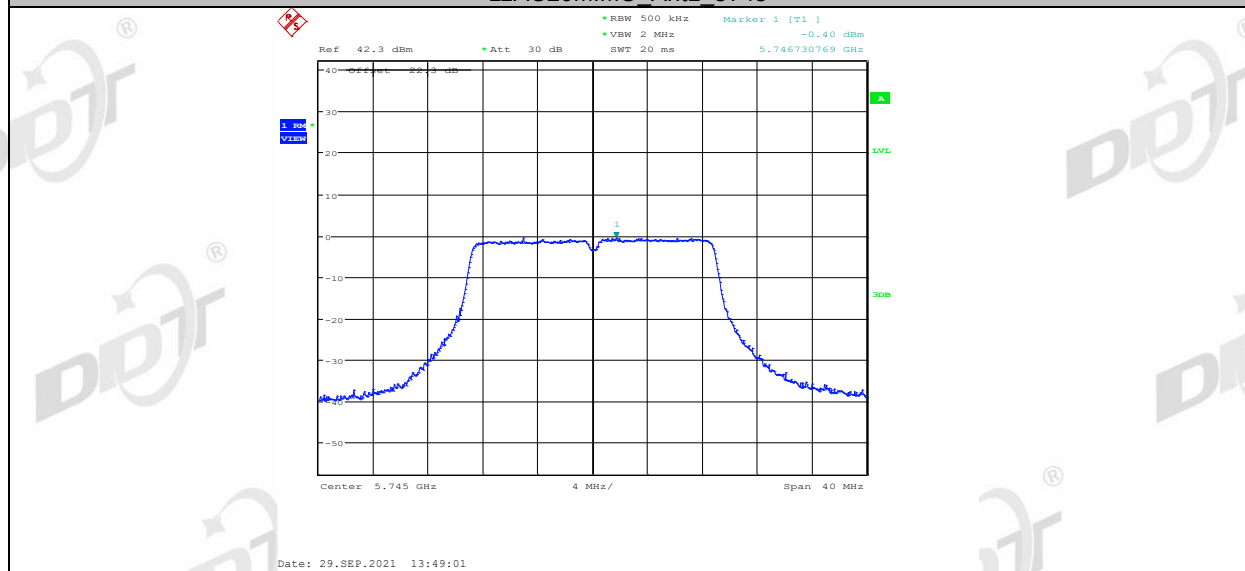
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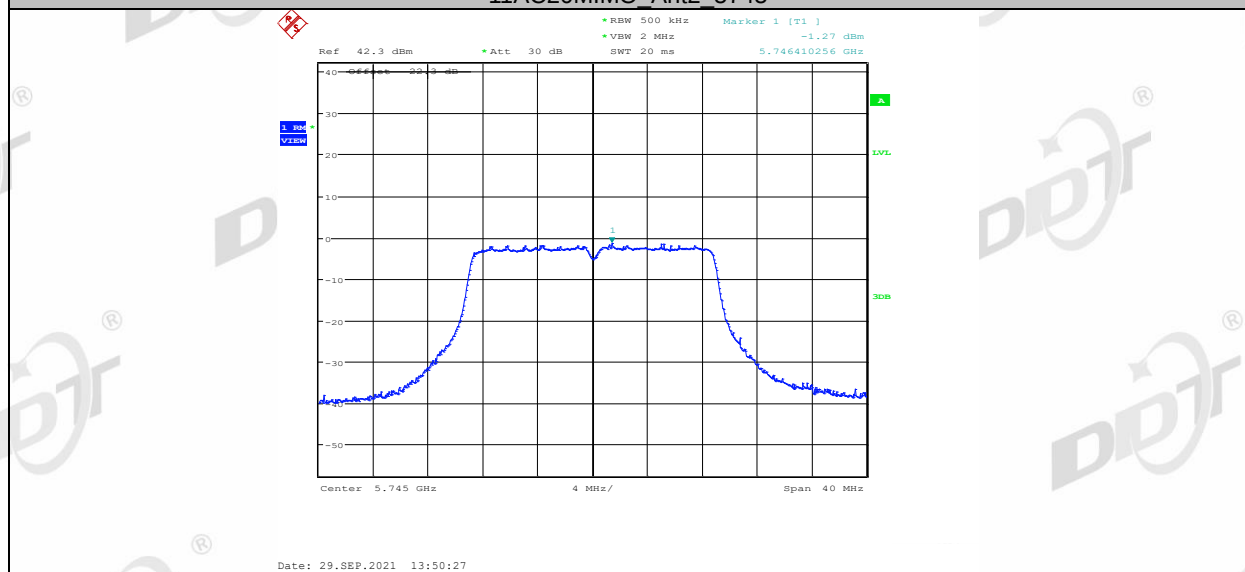
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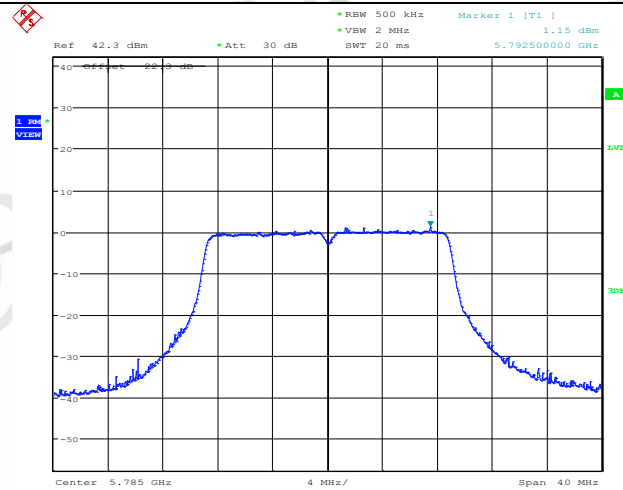
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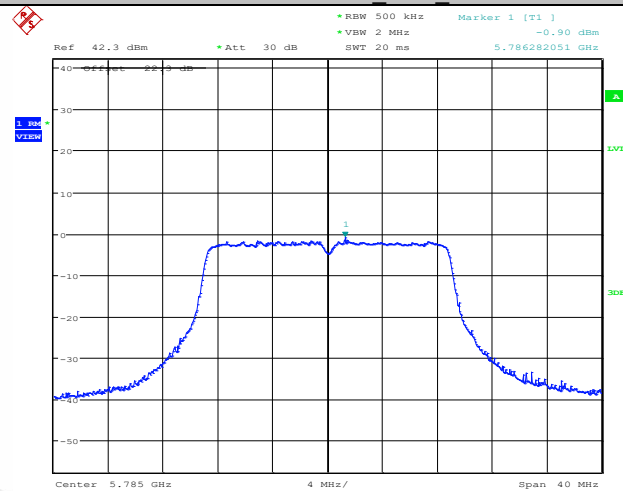


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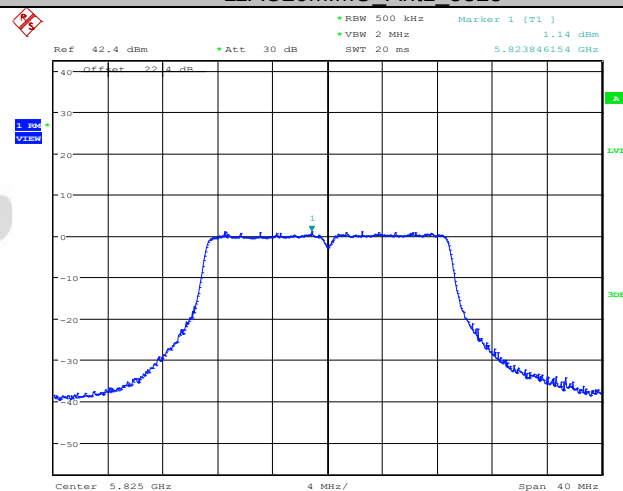
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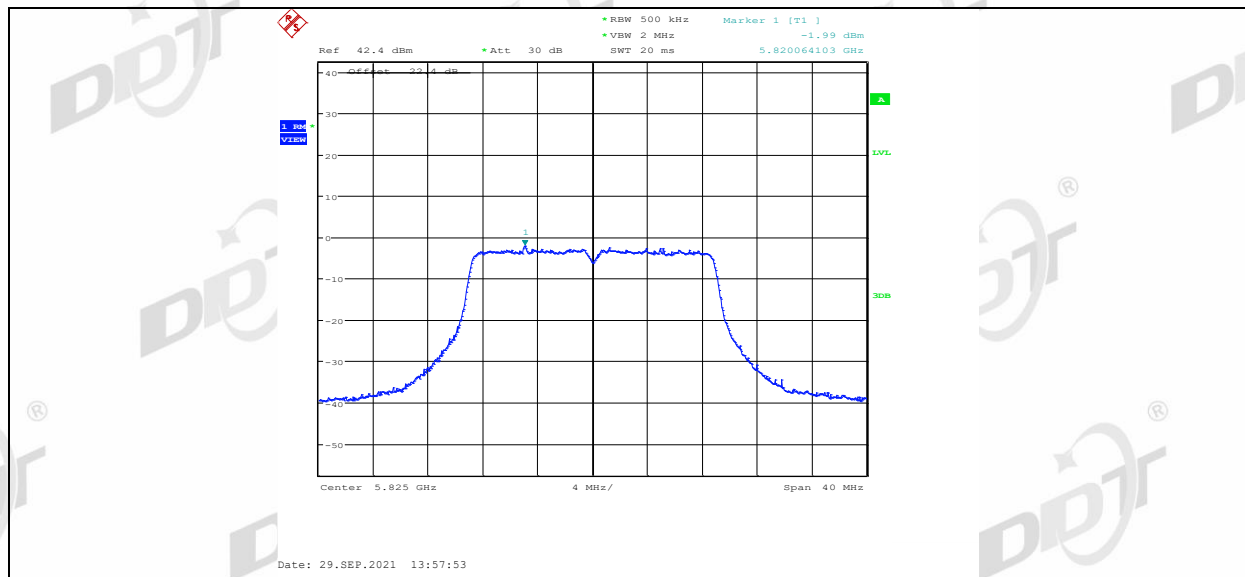
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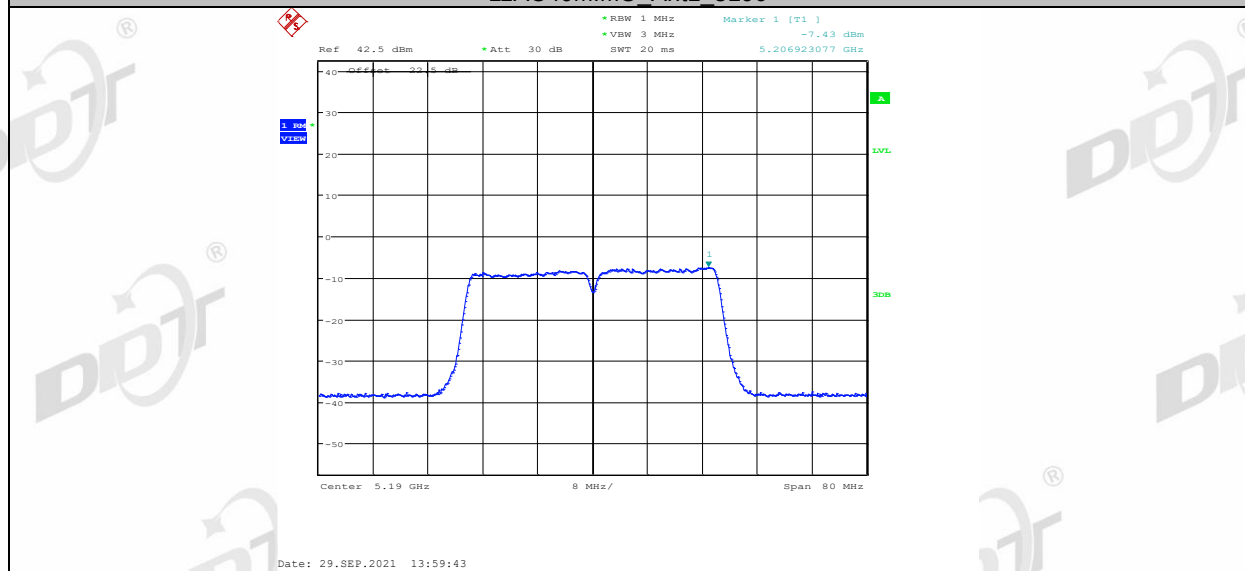


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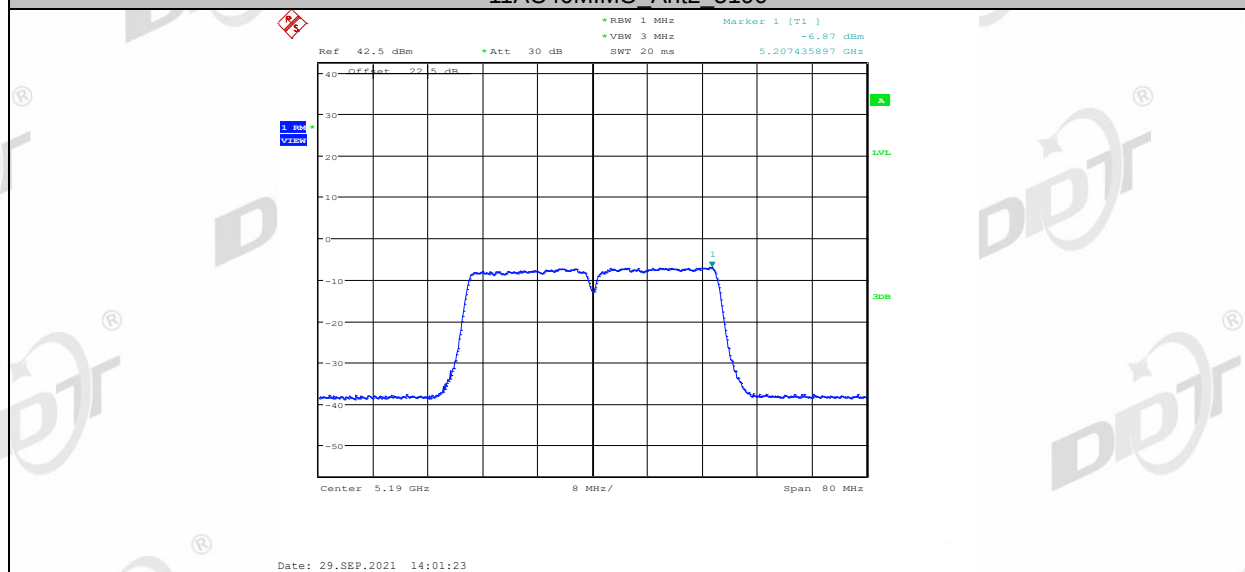
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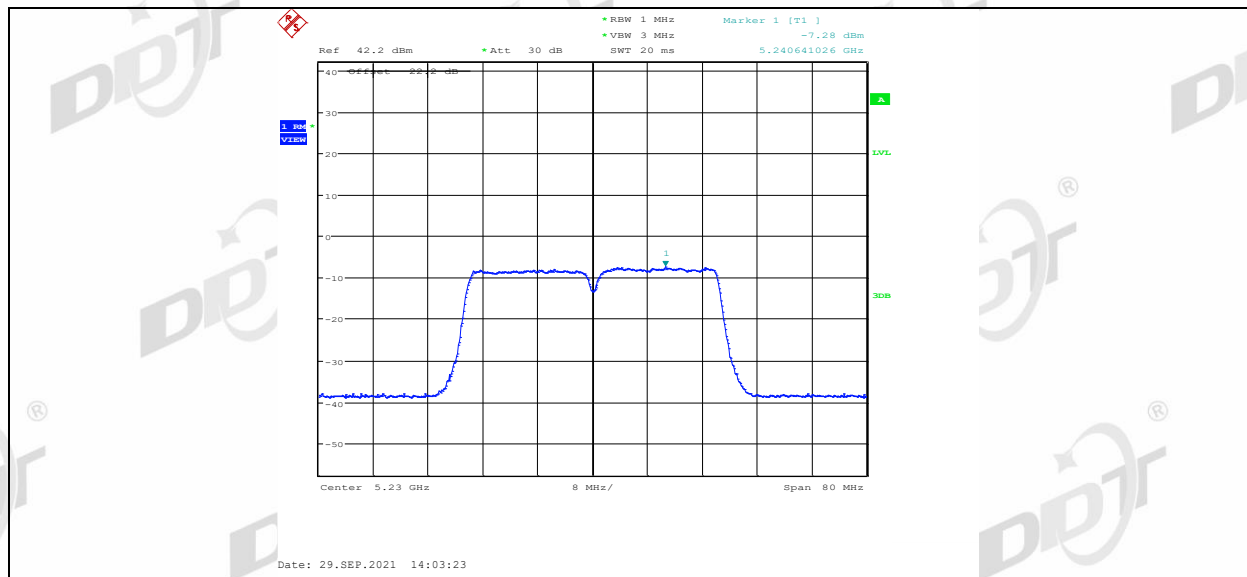
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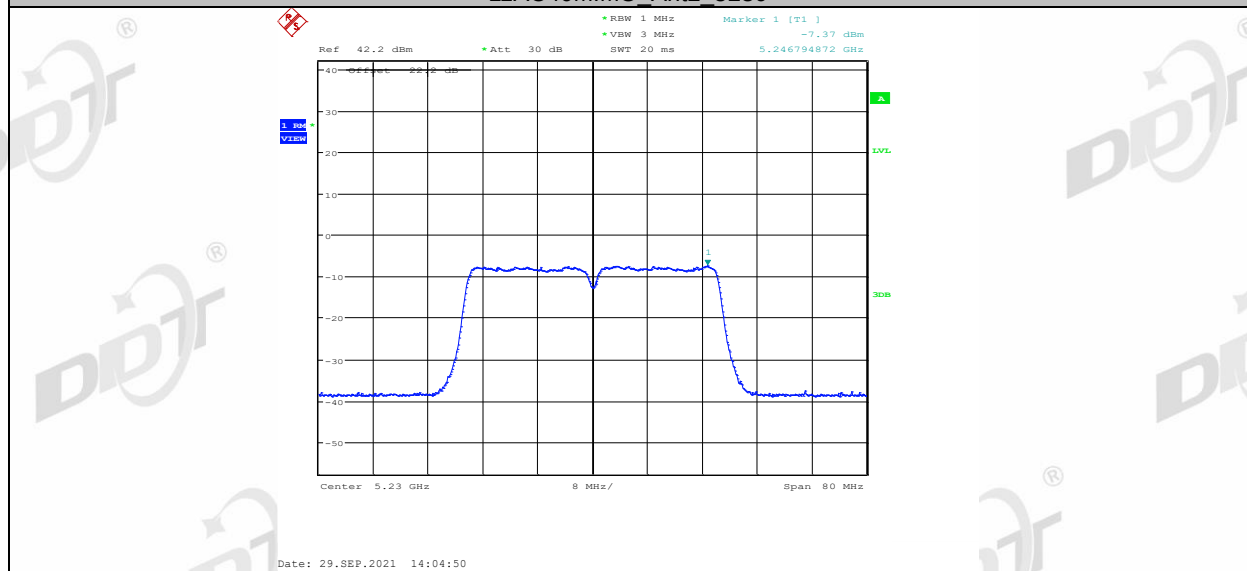
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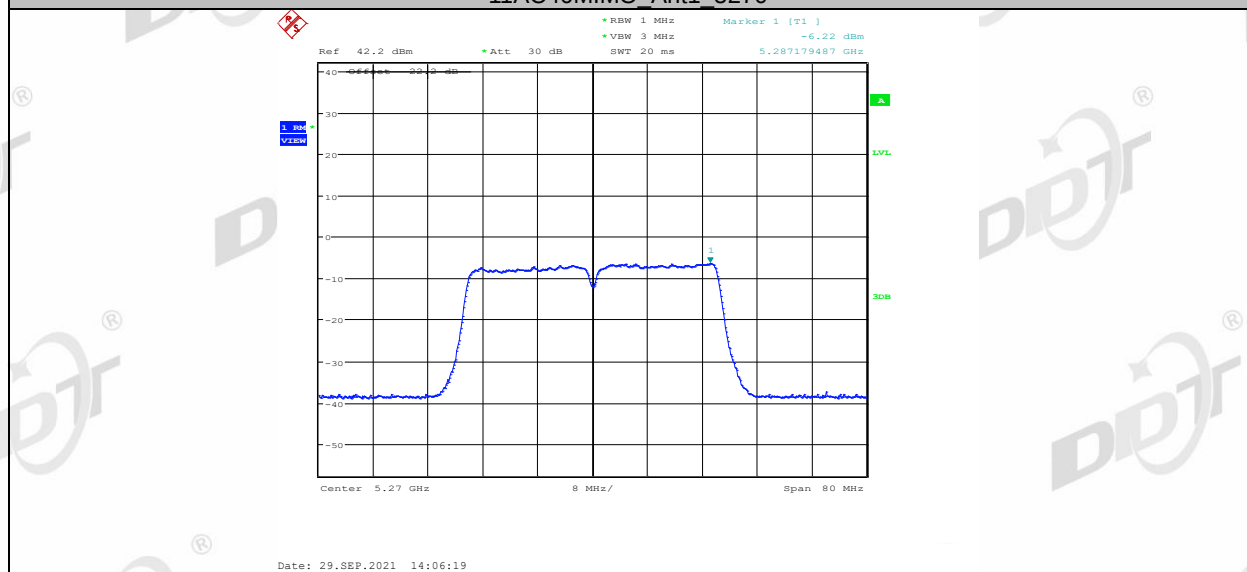
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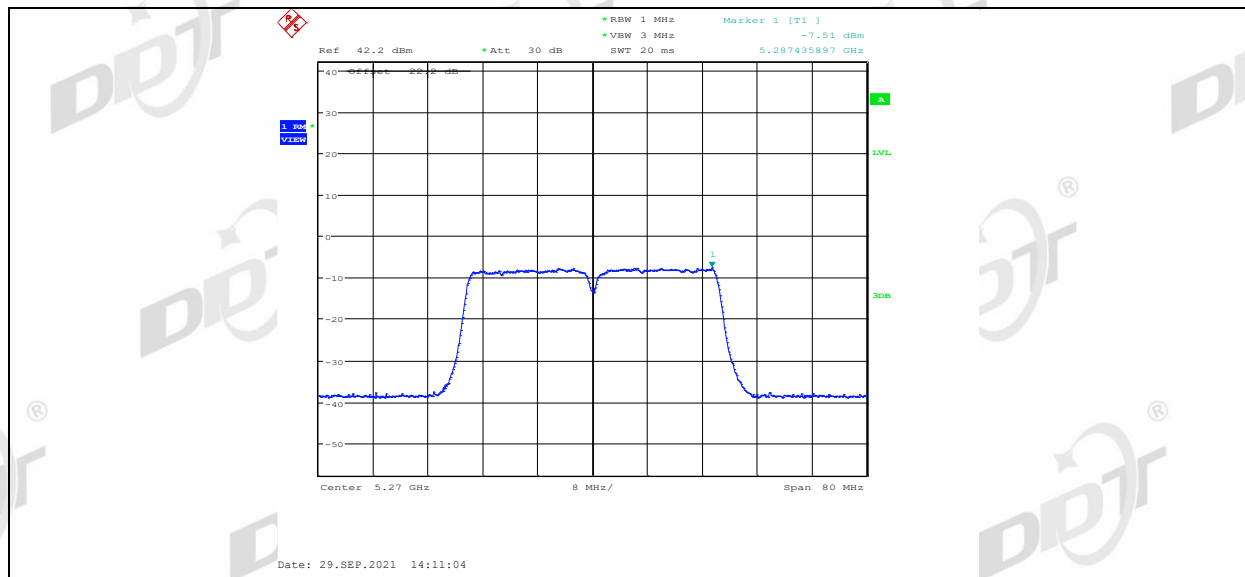
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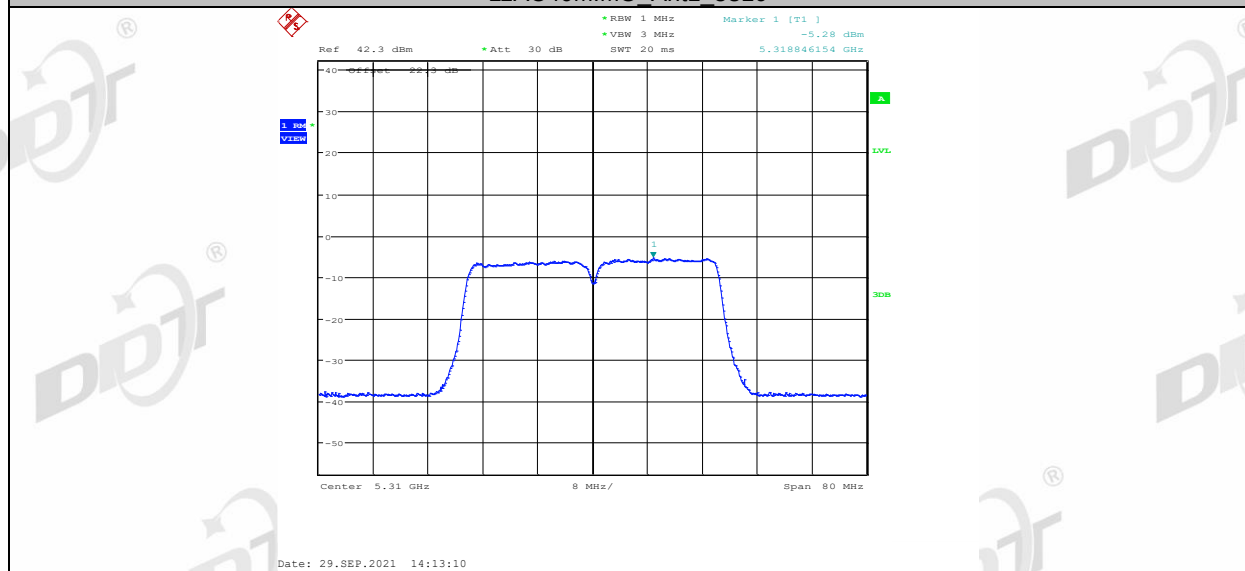
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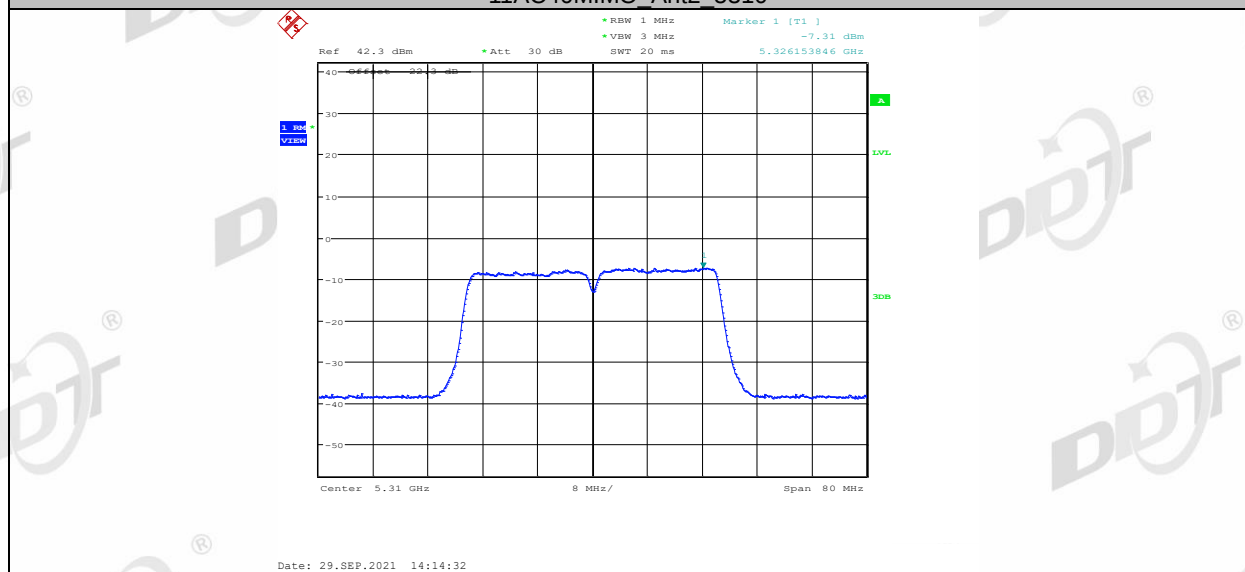
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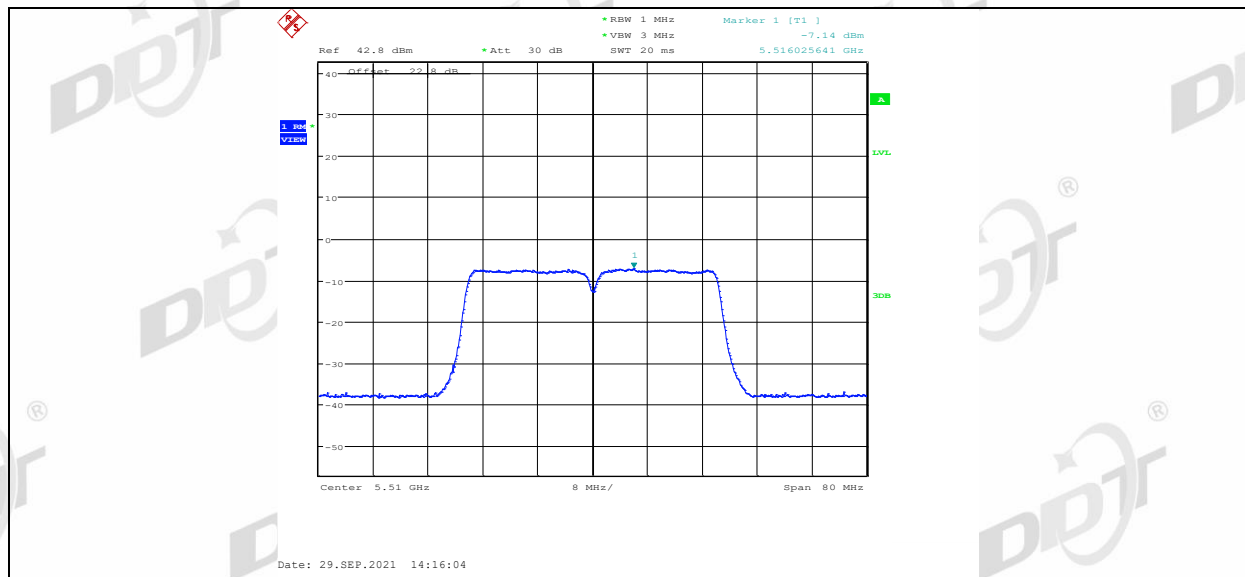
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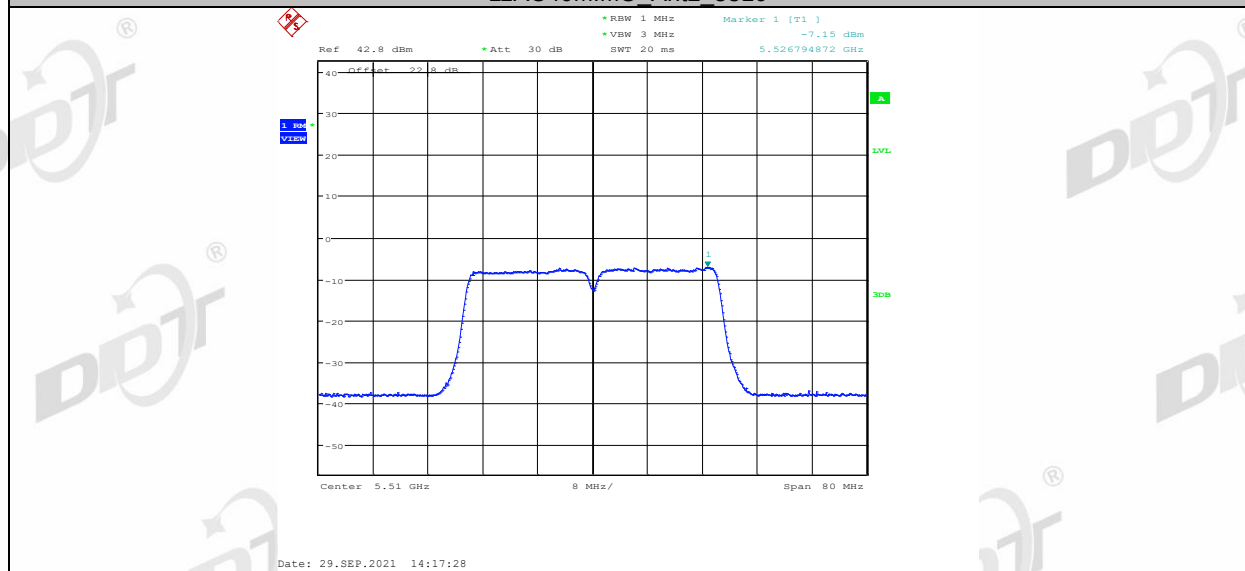
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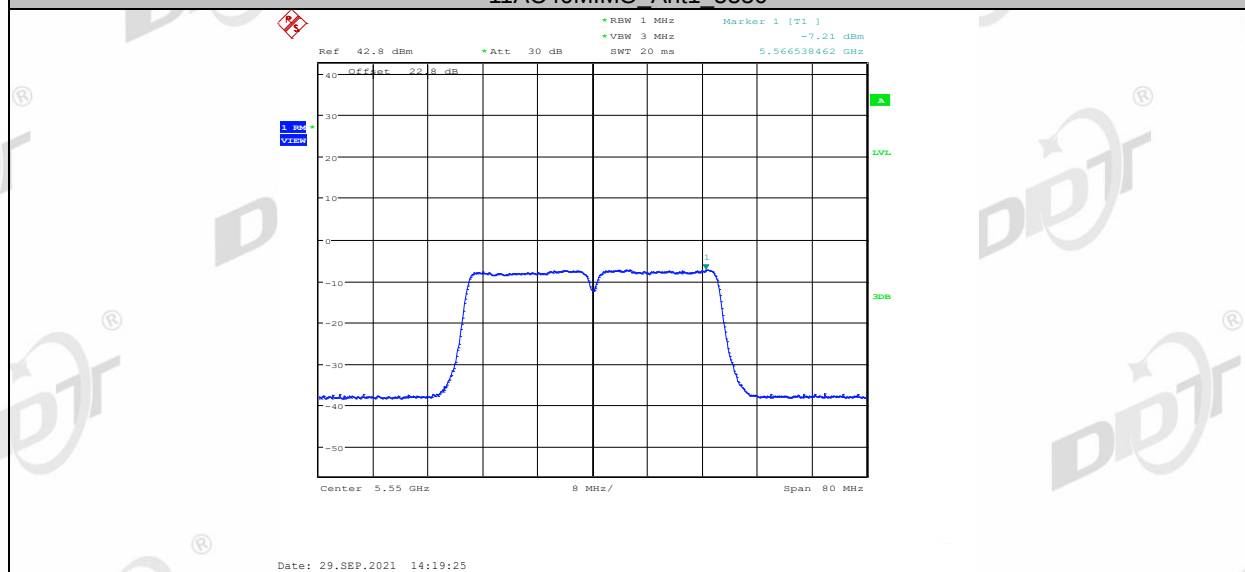
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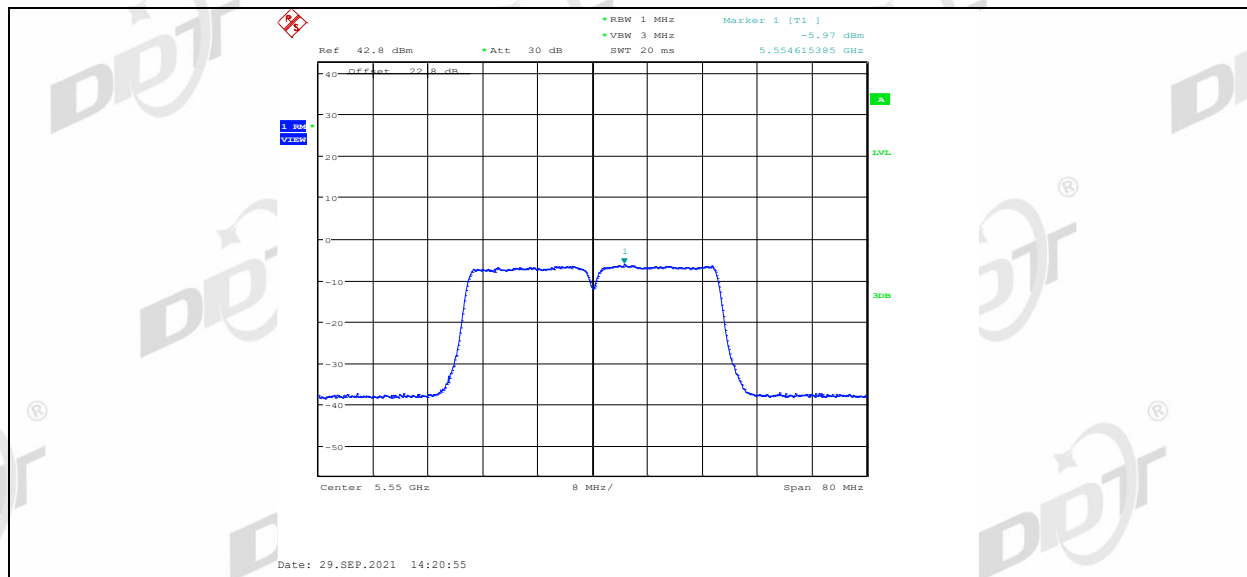
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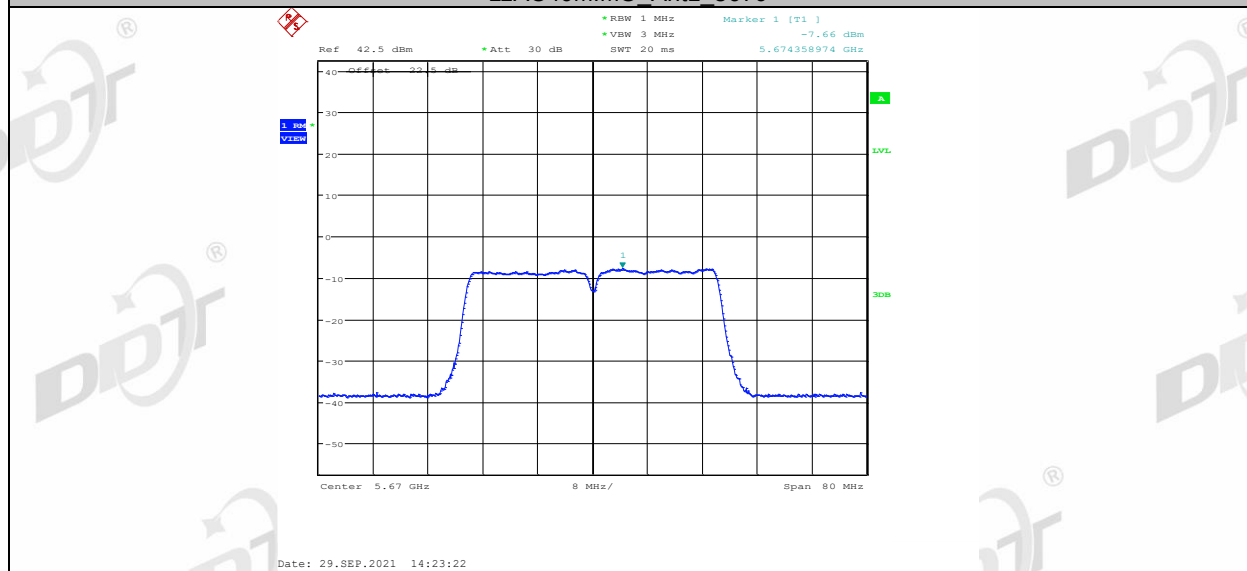
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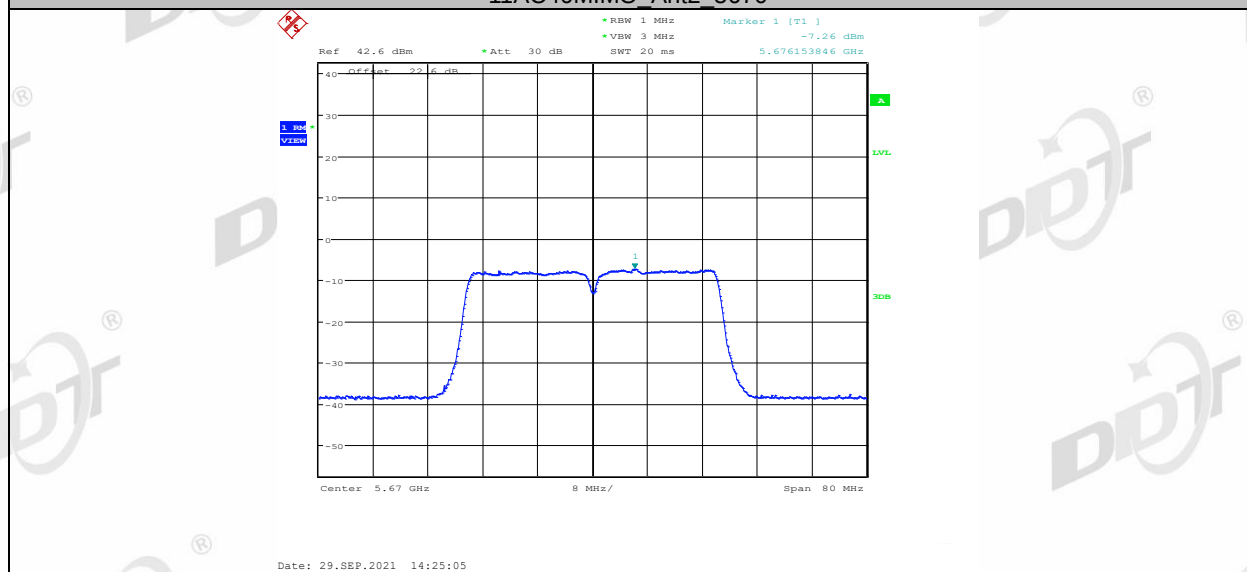
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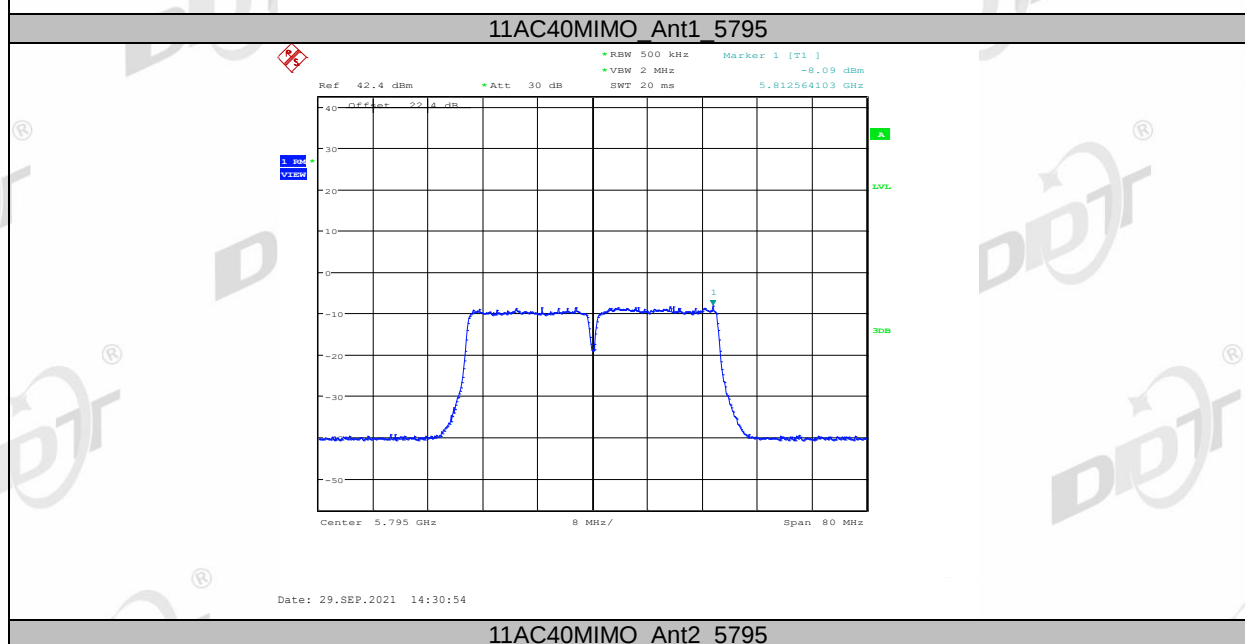
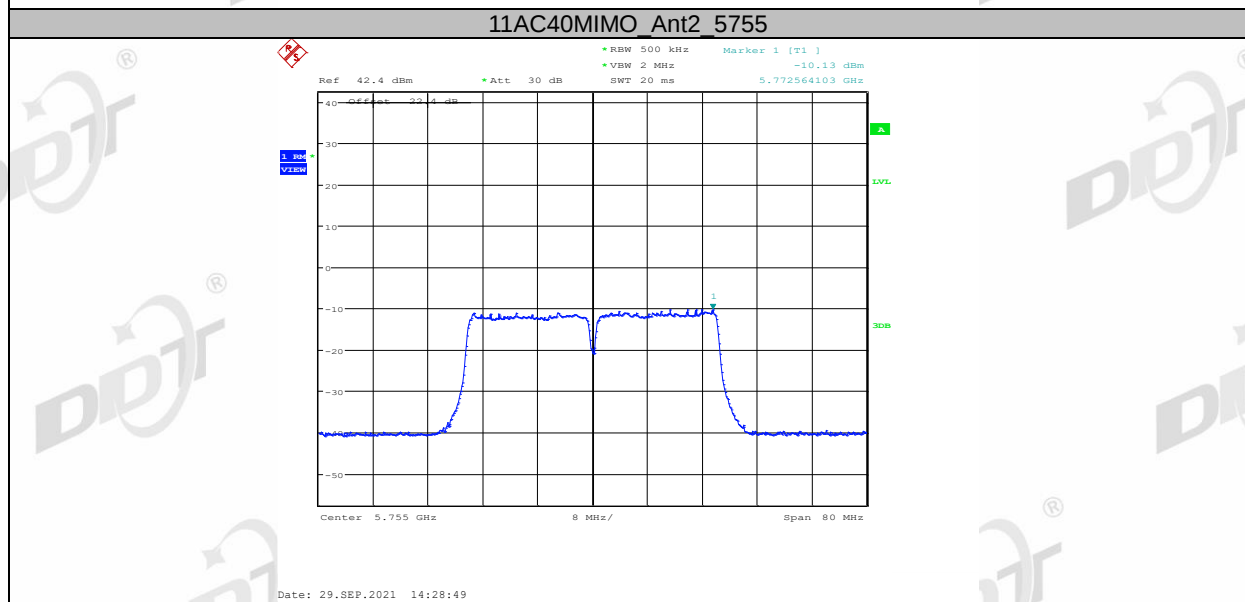
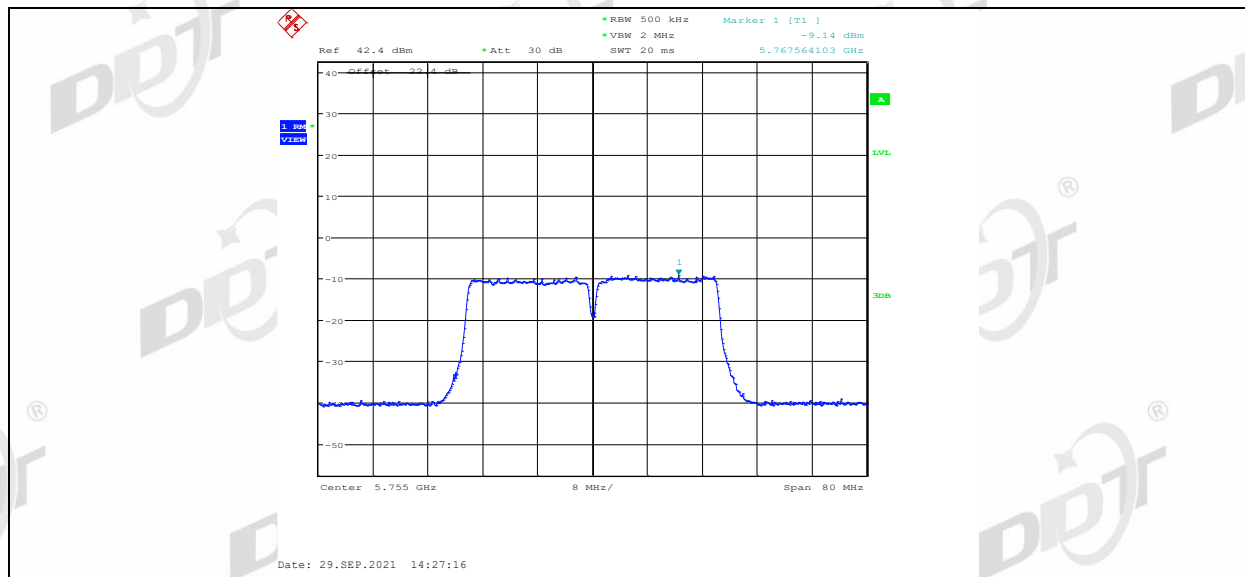
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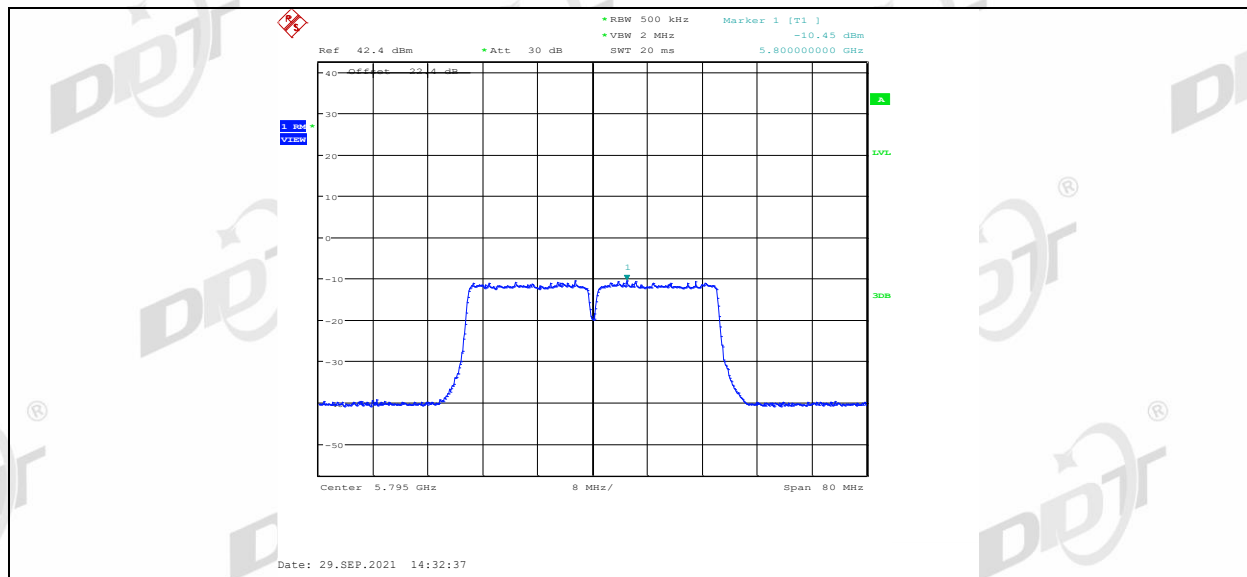


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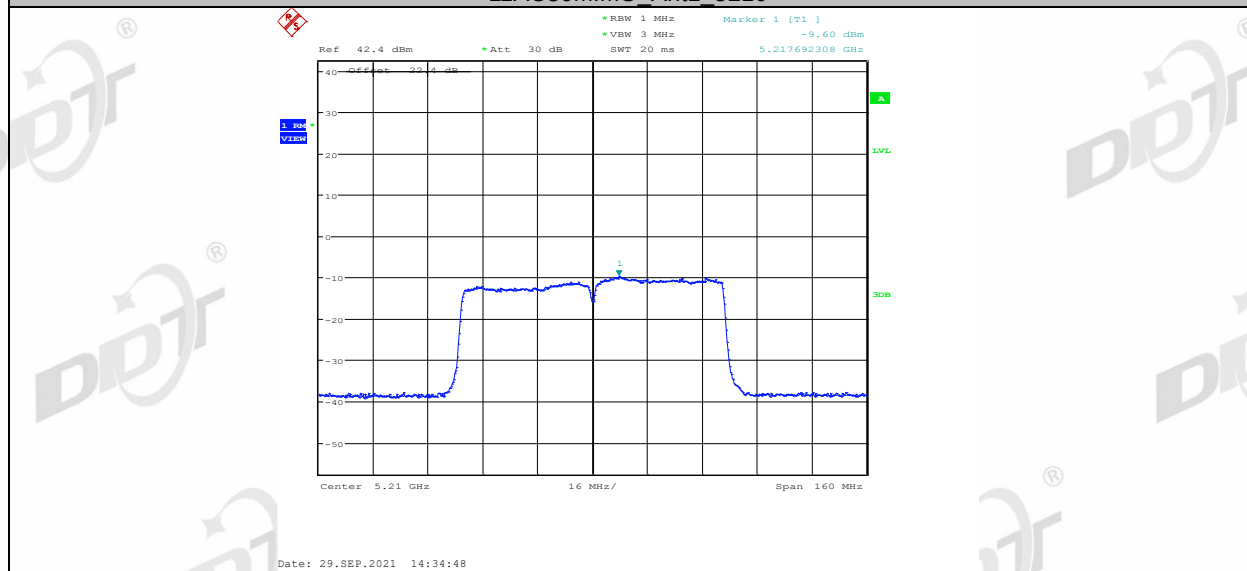


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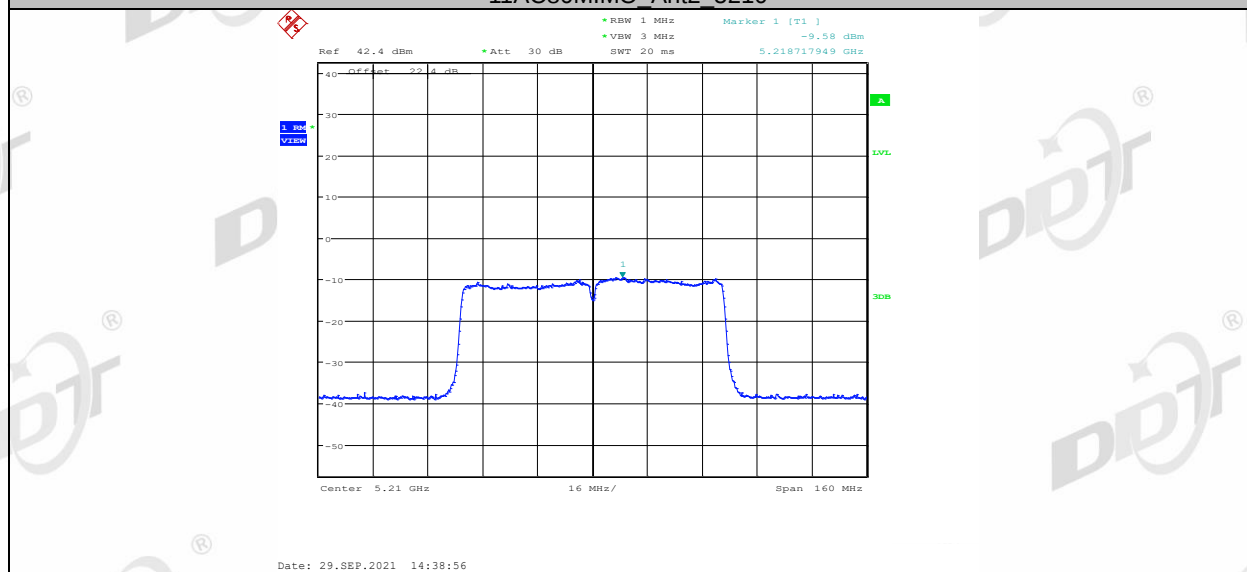




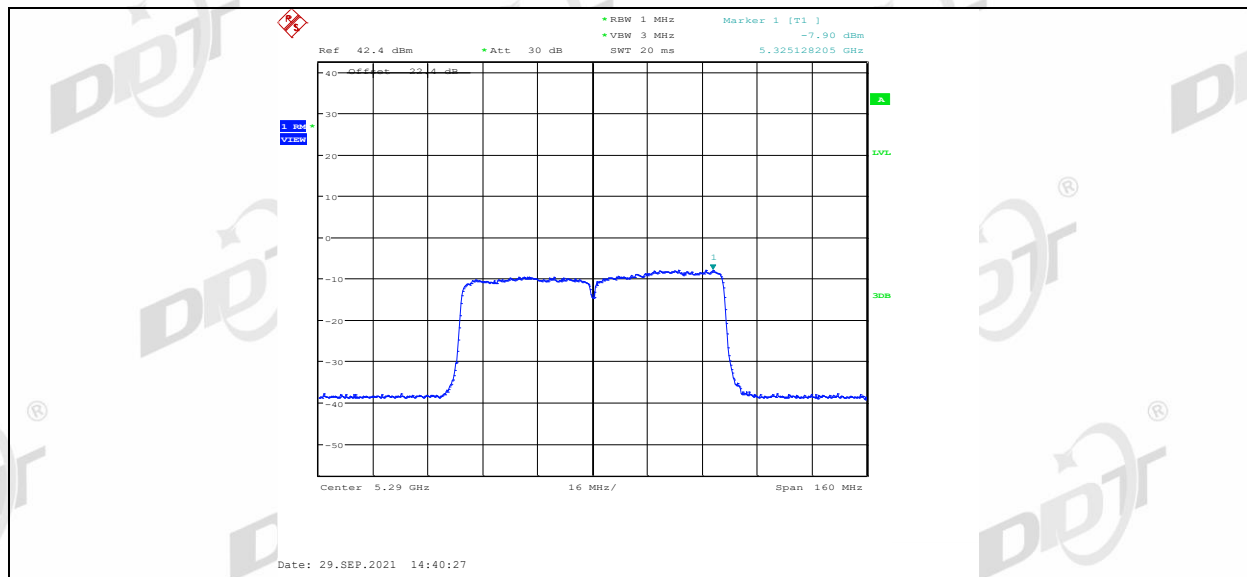
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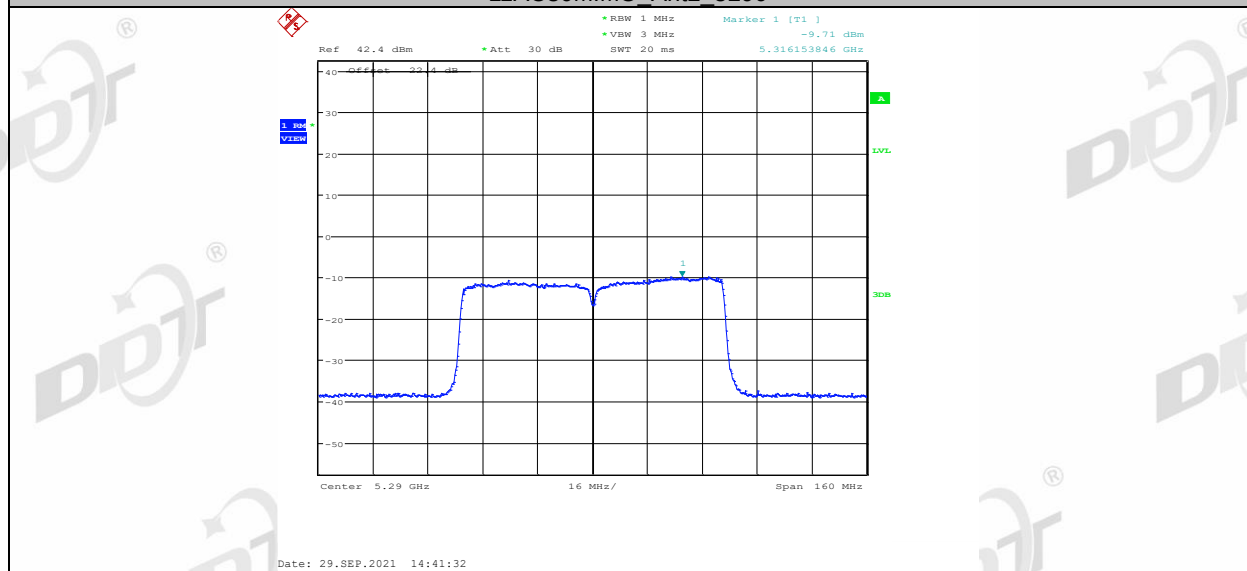
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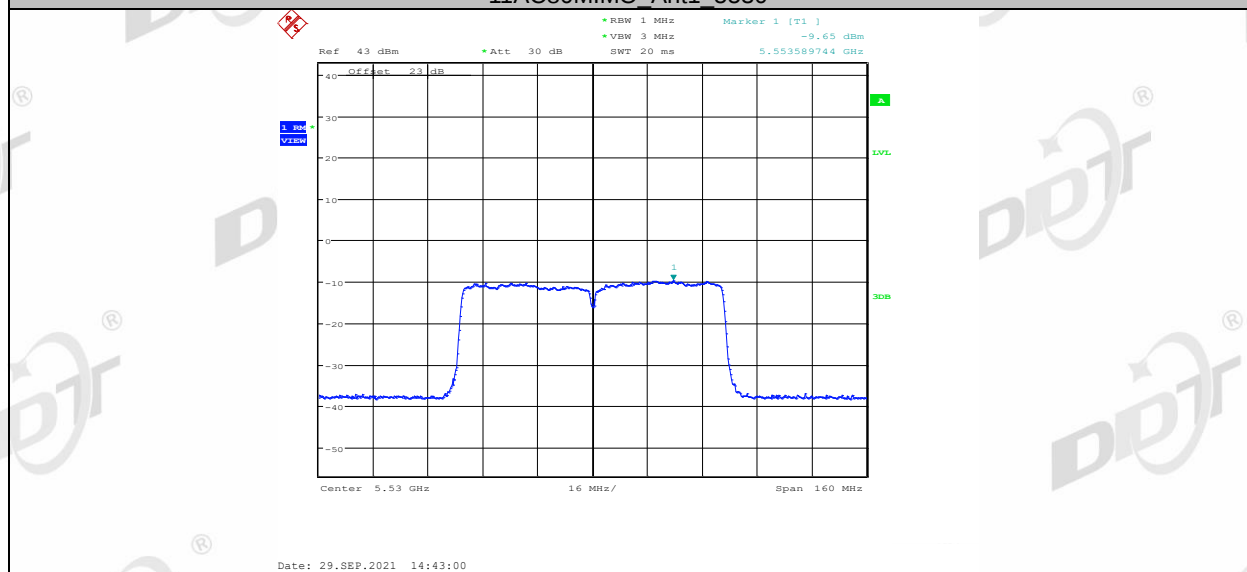
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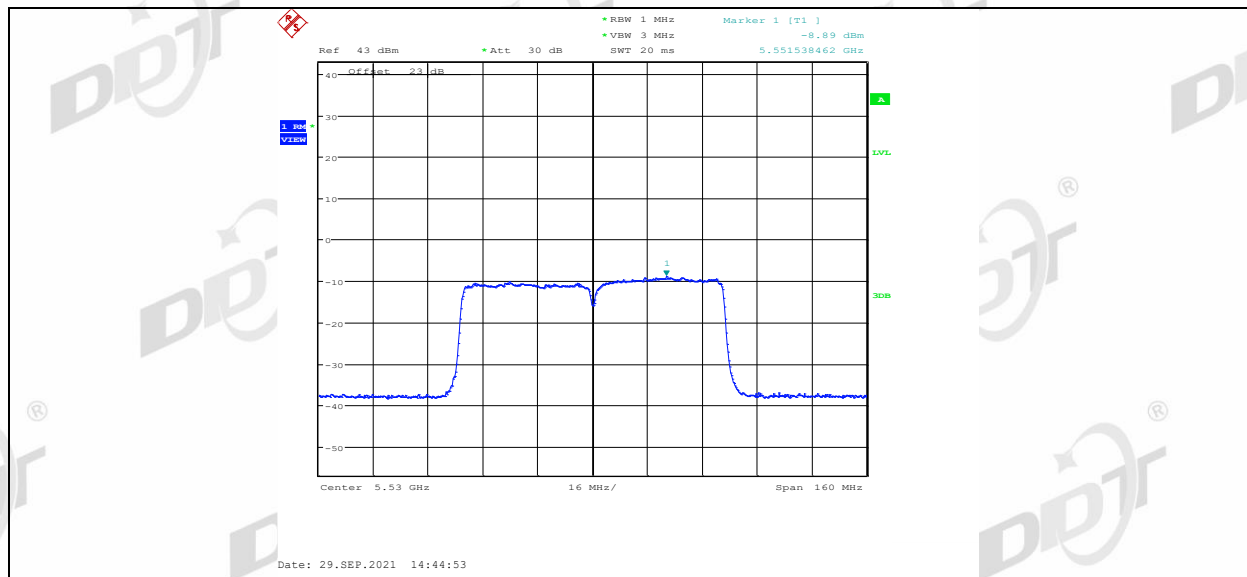
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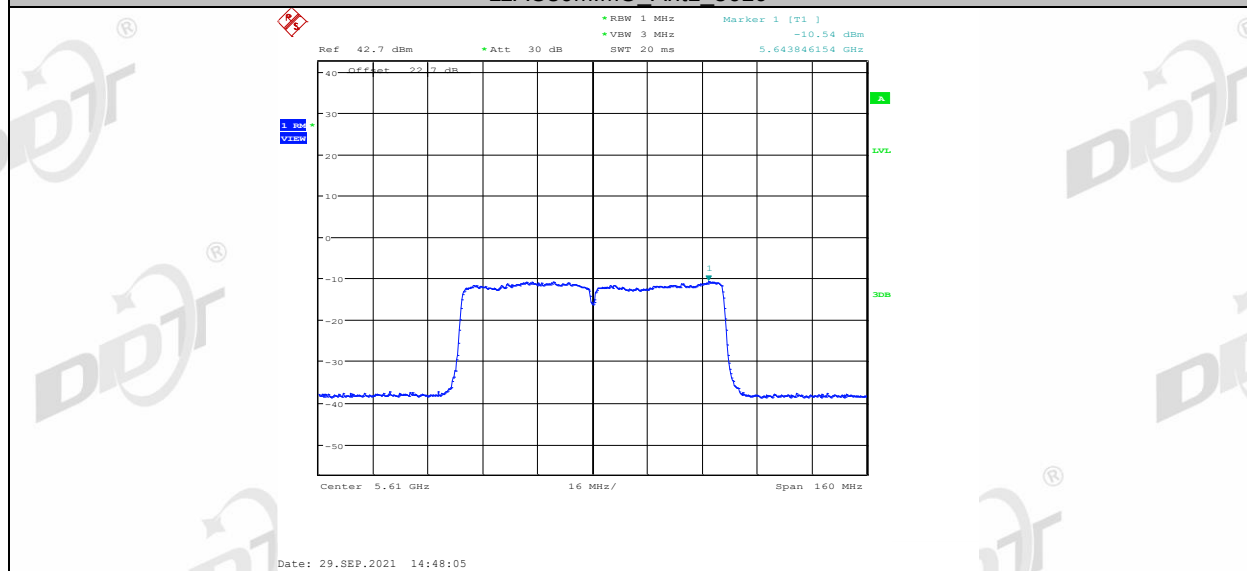
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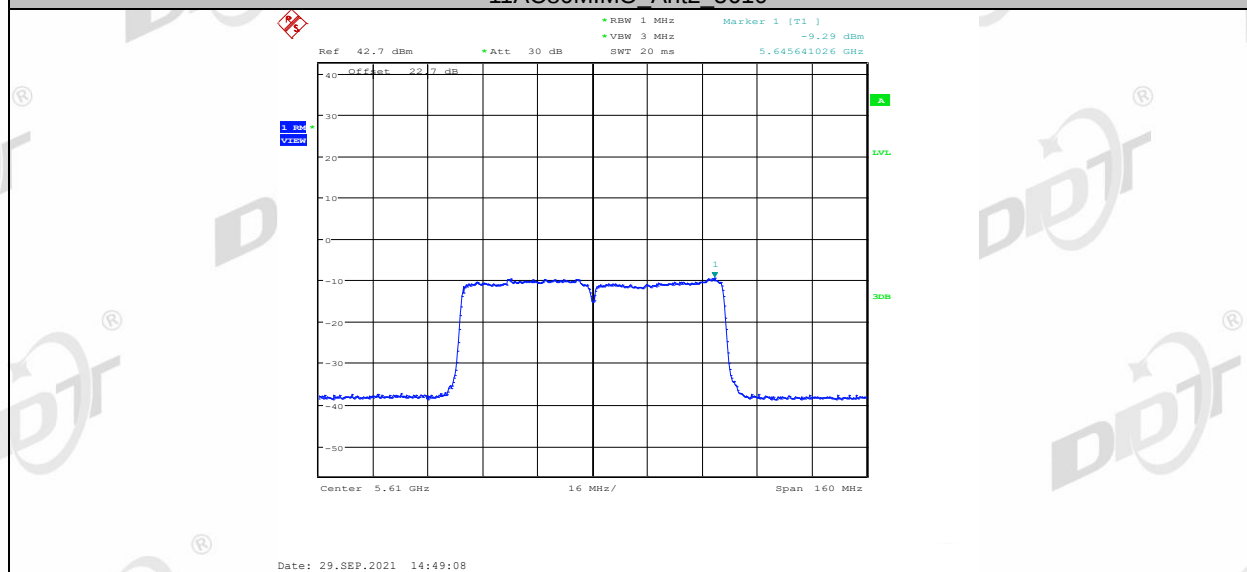
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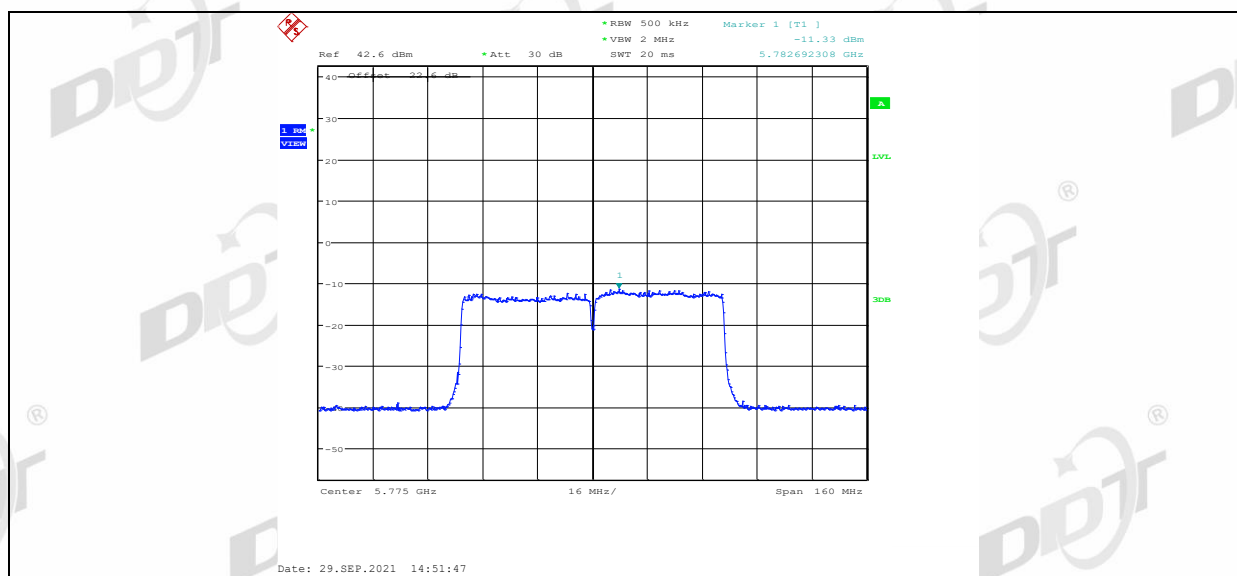
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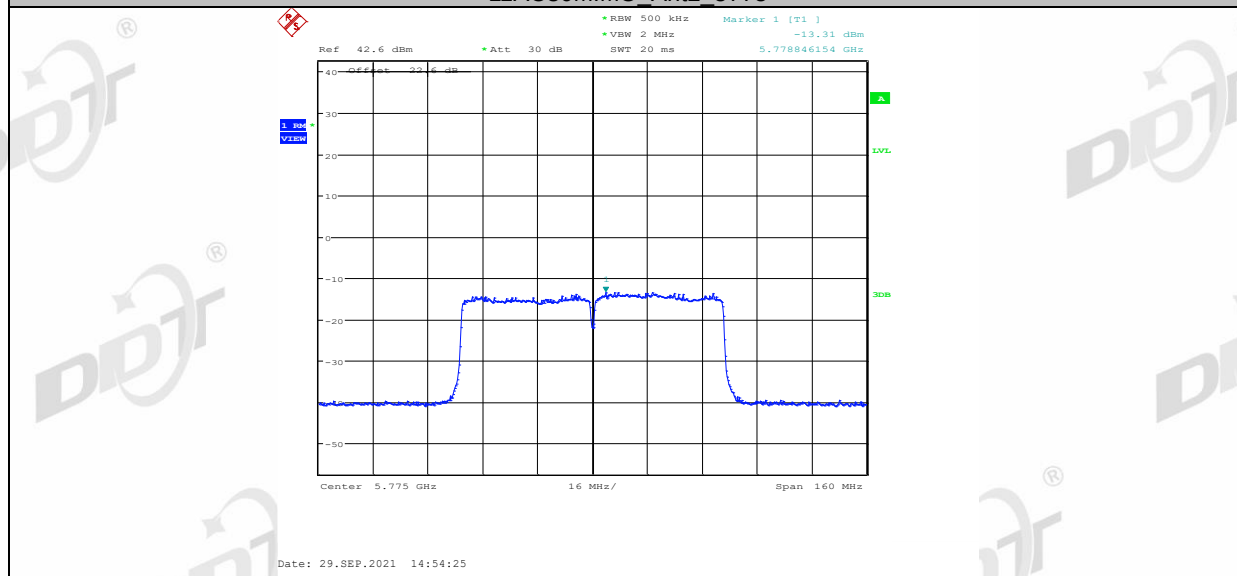
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11AC80MIMO_Ant1_5775



11AC80MIMO_Ant2_5775



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.

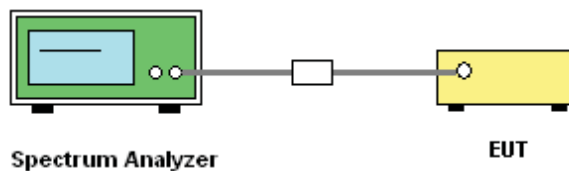
7.3. Test Procedures

(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								
Test Mode	Antenna	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	Ant1	5180	NV	NT	-5000	-0.965251	20	PASS
			LV	NT	-4000	-0.772201	20	PASS
			HV	NT	-4000	-0.772201	20	PASS
	Ant2	5180	NV	NT	-4000	-0.772201	20	PASS
			LV	NT	-4000	-0.772201	20	PASS
			HV	NT	-4000	-0.772201	20	PASS
	Ant1	5200	NV	NT	-4000	-0.772201	20	PASS
			LV	NT	-4000	-0.772201	20	PASS
			HV	NT	-4000	-0.772201	20	PASS
	Ant2	5200	NV	NT	-9000	-1.737452	20	PASS
			LV	NT	-9000	-1.737452	20	PASS
			HV	NT	-8000	-1.544402	20	PASS
	Ant1	5240	NV	NT	-7000	-1.351351	20	PASS
			LV	NT	-7000	-1.351351	20	PASS
			HV	NT	-6000	-1.158301	20	PASS

Ant2	5240	NV	NT	-6000	-1.158301	20	PASS
		LV	NT	-5000	-0.965251	20	PASS
		HV	NT	-5000	-0.965251	20	PASS
Ant1	5260	NV	NT	-12000	-2.307692	20	PASS
		LV	NT	-11000	-2.115385	20	PASS
		HV	NT	-10000	-1.923077	20	PASS
Ant2	5260	NV	NT	-10000	-1.923077	20	PASS
		LV	NT	-9000	-1.730769	20	PASS
		HV	NT	-8000	-1.538462	20	PASS
Ant1	5280	NV	NT	-8000	-1.538462	20	PASS
		LV	NT	-7000	-1.346154	20	PASS
		HV	NT	-7000	-1.346154	20	PASS
Ant2	5280	NV	NT	-11000	-2.115385	20	PASS
		LV	NT	-10000	-1.923077	20	PASS
		HV	NT	-9000	-1.730769	20	PASS
Ant1	5320	NV	NT	-9000	-1.730769	20	PASS
		LV	NT	-8000	-1.538462	20	PASS
		HV	NT	-7000	-1.346154	20	PASS
Ant2	5320	NV	NT	-7000	-1.346154	20	PASS
		LV	NT	-6000	-1.153846	20	PASS
		HV	NT	-6000	-1.153846	20	PASS
Ant1	5500	NV	NT	-13000	-2.480916	20	PASS
		LV	NT	-12000	-2.290076	20	PASS
		HV	NT	-11000	-2.099237	20	PASS
Ant2	5500	NV	NT	-11000	-2.099237	20	PASS
		LV	NT	-10000	-1.908397	20	PASS
		HV	NT	-10000	-1.908397	20	PASS
Ant1	5580	NV	NT	-9000	-1.717557	20	PASS
		LV	NT	-9000	-1.717557	20	PASS
		HV	NT	-7000	-1.335878	20	PASS
Ant2	5580	NV	NT	-11000	-2.099237	20	PASS
		LV	NT	-10000	-1.908397	20	PASS
		HV	NT	-10000	-1.908397	20	PASS
Ant1	5700	NV	NT	-9000	-1.717557	20	PASS
		LV	NT	-8000	-1.526718	20	PASS
		HV	NT	-8000	-1.526718	20	PASS
Ant2	5700	NV	NT	-7000	-1.335878	20	PASS
		LV	NT	-7000	-1.335878	20	PASS
		HV	NT	-6000	-1.145038	20	PASS
Ant1	5745	NV	NT	-5000	-0.95057	20	PASS
		LV	NT	-5000	-0.95057	20	PASS
		HV	NT	-5000	-0.95057	20	PASS
Ant2	5745	NV	NT	-5000	-0.95057	20	PASS
		LV	NT	-4000	-0.760456	20	PASS
		HV	NT	-4000	-0.760456	20	PASS
Ant1	5785	NV	NT	-4000	-0.760456	20	PASS
		LV	NT	-4000	-0.760456	20	PASS
		HV	NT	-4000	-0.760456	20	PASS
Ant2	5785	NV	NT	-13000	-2.471483	20	PASS
		LV	NT	-12000	-2.281369	20	PASS
		HV	NT	-11000	-2.091255	20	PASS

	Ant1	5825	NV	NT	-11000	-2.091255	20	PASS
			LV	NT	-10000	-1.901141	20	PASS
			HV	NT	-10000	-1.901141	20	PASS
	Ant2	5825	NV	NT	-10000	-1.901141	20	PASS
			LV	NT	-9000	-1.711027	20	PASS
			HV	NT	-9000	-1.711027	20	PASS
11N20MIMO	Ant1	5180	NV	NT	-6000	-1.136364	20	PASS
			LV	NT	-5000	-0.94697	20	PASS
			HV	NT	-5000	-0.94697	20	PASS
	Ant2	5180	NV	NT	-5000	-0.94697	20	PASS
			LV	NT	-5000	-0.94697	20	PASS
			HV	NT	-4000	-0.757576	20	PASS
	Ant1	5200	NV	NT	-4000	-0.757576	20	PASS
			LV	NT	-4000	-0.757576	20	PASS
			HV	NT	-4000	-0.757576	20	PASS
	Ant2	5200	NV	NT	-13000	-2.462121	20	PASS
			LV	NT	-12000	-2.272727	20	PASS
			HV	NT	-11000	-2.083333	20	PASS
	Ant1	5240	NV	NT	-11000	-2.083333	20	PASS
			LV	NT	-10000	-1.893939	20	PASS
			HV	NT	-10000	-1.893939	20	PASS
	Ant2	5240	NV	NT	-9000	-1.704545	20	PASS
			LV	NT	-9000	-1.704545	20	PASS
			HV	NT	-9000	-1.704545	20	PASS
	Ant1	5260	NV	NT	-12000	-2.255639	20	PASS
			LV	NT	-11000	-2.067669	20	PASS
			HV	NT	-11000	-2.067669	20	PASS
	Ant2	5260	NV	NT	-10000	-1.879699	20	PASS
			LV	NT	-9000	-1.691729	20	PASS
			HV	NT	-9000	-1.691729	20	PASS
	Ant1	5280	NV	NT	-9000	-1.691729	20	PASS
			LV	NT	-8000	-1.503759	20	PASS
			HV	NT	-8000	-1.503759	20	PASS
	Ant2	5280	NV	NT	-13000	-2.443609	20	PASS
			LV	NT	-12000	-2.255639	20	PASS
			HV	NT	-11000	-2.067669	20	PASS
	Ant1	5320	NV	NT	-11000	-2.067669	20	PASS
			LV	NT	-10000	-1.879699	20	PASS
			HV	NT	-10000	-1.879699	20	PASS
	Ant2	5320	NV	NT	-10000	-1.879699	20	PASS
			LV	NT	-9000	-1.691729	20	PASS
			HV	NT	-9000	-1.691729	20	PASS
	Ant1	5500	NV	NT	-12000	-2.181818	20	PASS
			LV	NT	-11000	-2	20	PASS
			HV	NT	-10000	-1.818182	20	PASS
	Ant2	5500	NV	NT	-9000	-1.636364	20	PASS
			LV	NT	-9000	-1.636364	20	PASS
			HV	NT	-8000	-1.454545	20	PASS
	Ant1	5580	NV	NT	-8000	-1.454545	20	PASS
			LV	NT	-7000	-1.272727	20	PASS
			HV	NT	-7000	-1.272727	20	PASS

	Ant2	5580	NV	NT	-12000	-2.181818	20	PASS
			LV	NT	-11000	-2	20	PASS
			HV	NT	-10000	-1.818182	20	PASS
	Ant1	5700	NV	NT	-10000	-1.818182	20	PASS
			LV	NT	-9000	-1.636364	20	PASS
			HV	NT	-9000	-1.636364	20	PASS
	Ant2	5700	NV	NT	-8000	-1.454545	20	PASS
			LV	NT	-8000	-1.454545	20	PASS
			HV	NT	-7000	-1.272727	20	PASS
	Ant1	5745	NV	NT	-11000	-1.971326	20	PASS
			LV	NT	-10000	-1.792115	20	PASS
			HV	NT	-9000	-1.612903	20	PASS
	Ant2	5745	NV	NT	-9000	-1.612903	20	PASS
			LV	NT	-8000	-1.433692	20	PASS
			HV	NT	-8000	-1.433692	20	PASS
	Ant1	5785	NV	NT	-7000	-1.25448	20	PASS
			LV	NT	-6000	-1.075269	20	PASS
			HV	NT	-6000	-1.075269	20	PASS
	Ant2	5785	NV	NT	-12000	-2.150538	20	PASS
			LV	NT	-11000	-1.971326	20	PASS
			HV	NT	-10000	-1.792115	20	PASS
	Ant1	5825	NV	NT	-9000	-1.612903	20	PASS
			LV	NT	-9000	-1.612903	20	PASS
			HV	NT	-8000	-1.433692	20	PASS
	Ant2	5825	NV	NT	-8000	-1.433692	20	PASS
			LV	NT	-7000	-1.25448	20	PASS
			HV	NT	-7000	-1.25448	20	PASS
11N40MIMO	Ant1	5190	NV	NT	-13000	-2.280702	20	PASS
			LV	NT	-12000	-2.105263	20	PASS
			HV	NT	-11000	-1.929825	20	PASS
	Ant2	5190	NV	NT	-10000	-1.754386	20	PASS
			LV	NT	-10000	-1.754386	20	PASS
			HV	NT	-9000	-1.578947	20	PASS
	Ant1	5230	NV	NT	-8000	-1.403509	20	PASS
			LV	NT	-8000	-1.403509	20	PASS
			HV	NT	-8000	-1.403509	20	PASS
	Ant2	5230	NV	NT	-11000	-1.929825	20	PASS
			LV	NT	-10000	-1.754386	20	PASS
			HV	NT	-10000	-1.754386	20	PASS
	Ant1	5270	NV	NT	-9000	-1.578947	20	PASS
			LV	NT	-8000	-1.403509	20	PASS
			HV	NT	-8000	-1.403509	20	PASS
	Ant2	5270	NV	NT	-7000	-1.22807	20	PASS
			LV	NT	-7000	-1.22807	20	PASS
			HV	NT	-6000	-1.052632	20	PASS
	Ant1	5310	NV	NT	-16000	-2.78503	20	PASS
			LV	NT	-16000	-2.78503	20	PASS
			HV	NT	-15000	-2.610966	20	PASS
	Ant2	5310	NV	NT	-14000	-2.436902	20	PASS
			LV	NT	-14000	-2.436902	20	PASS
			HV	NT	-13000	-2.262837	20	PASS

	Ant1	5510	NV	NT	-12000	-2.088773	20	PASS
			LV	NT	-12000	-2.088773	20	PASS
			HV	NT	-11000	-1.914708	20	PASS
	Ant2	5510	NV	NT	-9000	-1.56658	20	PASS
			LV	NT	-8000	-1.392515	20	PASS
			HV	NT	-7000	-1.218451	20	PASS
	Ant1	5550	NV	NT	-7000	-1.218451	20	PASS
			LV	NT	-6000	-1.044386	20	PASS
			HV	NT	-6000	-1.044386	20	PASS
	Ant2	5550	NV	NT	-5000	-0.870322	20	PASS
			LV	NT	-5000	-0.870322	20	PASS
			HV	NT	-5000	-0.870322	20	PASS
	Ant1	5670	NV	NT	-12000	-2.07433	20	PASS
			LV	NT	-11000	-1.901469	20	PASS
			HV	NT	-10000	-1.728608	20	PASS
	Ant2	5670	NV	NT	-9000	-1.555748	20	PASS
			LV	NT	-8000	-1.382887	20	PASS
			HV	NT	-7000	-1.210026	20	PASS
	Ant1	5755	NV	NT	-7000	-1.210026	20	PASS
			LV	NT	-6000	-1.037165	20	PASS
			HV	NT	-6000	-1.037165	20	PASS
	Ant2	5755	NV	NT	-12000	-2.07433	20	PASS
			LV	NT	-11000	-1.901469	20	PASS
			HV	NT	-10000	-1.728608	20	PASS
	Ant1	5795	NV	NT	-9000	-1.555748	20	PASS
			LV	NT	-8000	-1.382887	20	PASS
			HV	NT	-7000	-1.210026	20	PASS
	Ant2	5795	NV	NT	-7000	-1.210026	20	PASS
			LV	NT	-6000	-1.037165	20	PASS
			HV	NT	-5000	-0.864304	20	PASS
11AC20MIMO	Ant1	5180	NV	NT	-11000	-1.888412	20	PASS
			LV	NT	-10000	-1.716738	20	PASS
			HV	NT	-9000	-1.545064	20	PASS
	Ant2	5180	NV	NT	0	0	20	PASS
			LV	NT	0	0	20	PASS
			HV	NT	1000	0.171674	20	PASS
	Ant1	5200	NV	NT	1000	0.171674	20	PASS
			LV	NT	1000	0.171674	20	PASS
			HV	NT	1000	0.171674	20	PASS
	Ant2	5200	NV	NT	-11000	-1.888412	20	PASS
			LV	NT	-10000	-1.716738	20	PASS
			HV	NT	-8000	-1.373391	20	PASS
	Ant1	5240	NV	NT	-8000	-1.373391	20	PASS
			LV	NT	-7000	-1.201717	20	PASS
			HV	NT	-6000	-1.030043	20	PASS
	Ant2	5240	NV	NT	-5000	-0.858369	20	PASS
			LV	NT	-4000	-0.686695	20	PASS
			HV	NT	-4000	-0.686695	20	PASS
	Ant1	5260	NV	NT	0	0	20	PASS
			LV	NT	1000	0.19305	20	PASS
			HV	NT	3000	0.579151	20	PASS

	Ant2	5260	NV	NT	3000	0.579151	20	PASS
			LV	NT	4000	0.772201	20	PASS
			HV	NT	5000	0.965251	20	PASS
	Ant1	5280	NV	NT	6000	1.158301	20	PASS
			LV	NT	6000	1.158301	20	PASS
			HV	NT	7000	1.351351	20	PASS
	Ant2	5280	NV	NT	1000	0.19305	20	PASS
			LV	NT	3000	0.579151	20	PASS
			HV	NT	4000	0.772201	20	PASS
	Ant1	5320	NV	NT	5000	0.965251	20	PASS
			LV	NT	6000	1.158301	20	PASS
			HV	NT	7000	1.351351	20	PASS
	Ant2	5320	NV	NT	8000	1.544402	20	PASS
			LV	NT	8000	1.544402	20	PASS
			HV	NT	9000	1.737452	20	PASS
	Ant1	5500	NV	NT	-13000	-2.5	20	PASS
			LV	NT	-12000	-2.307692	20	PASS
			HV	NT	-11000	-2.115385	20	PASS
	Ant2	5500	NV	NT	-10000	-1.923077	20	PASS
			LV	NT	-8000	-1.538462	20	PASS
			HV	NT	-7000	-1.346154	20	PASS
	Ant1	5580	NV	NT	-7000	-1.346154	20	PASS
			LV	NT	-5000	-0.961538	20	PASS
			HV	NT	-5000	-0.961538	20	PASS
	Ant2	5580	NV	NT	-3000	-0.576923	20	PASS
			LV	NT	-1000	-0.192308	20	PASS
			HV	NT	0	0	20	PASS
	Ant1	5700	NV	NT	2000	0.384615	20	PASS
			LV	NT	3000	0.576923	20	PASS
			HV	NT	4000	0.769231	20	PASS
	Ant2	5700	NV	NT	5000	0.961538	20	PASS
			LV	NT	6000	1.153846	20	PASS
			HV	NT	7000	1.346154	20	PASS
	Ant1	5745	NV	NT	-3000	-0.572519	20	PASS
			LV	NT	-1000	-0.19084	20	PASS
			HV	NT	0	0	20	PASS
	Ant2	5745	NV	NT	1000	0.19084	20	PASS
			LV	NT	2000	0.381679	20	PASS
			HV	NT	3000	0.572519	20	PASS
	Ant1	5785	NV	NT	4000	0.763359	20	PASS
			LV	NT	5000	0.954198	20	PASS
			HV	NT	6000	1.145038	20	PASS
	Ant2	5785	NV	NT	-2000	-0.381679	20	PASS
			LV	NT	-1000	-0.19084	20	PASS
			HV	NT	1000	0.19084	20	PASS
	Ant1	5825	NV	NT	2000	0.381679	20	PASS
			LV	NT	4000	0.763359	20	PASS
			HV	NT	5000	0.954198	20	PASS
	Ant2	5825	NV	NT	6000	1.145038	20	PASS
			LV	NT	6000	1.145038	20	PASS
			HV	NT	7000	1.335878	20	PASS

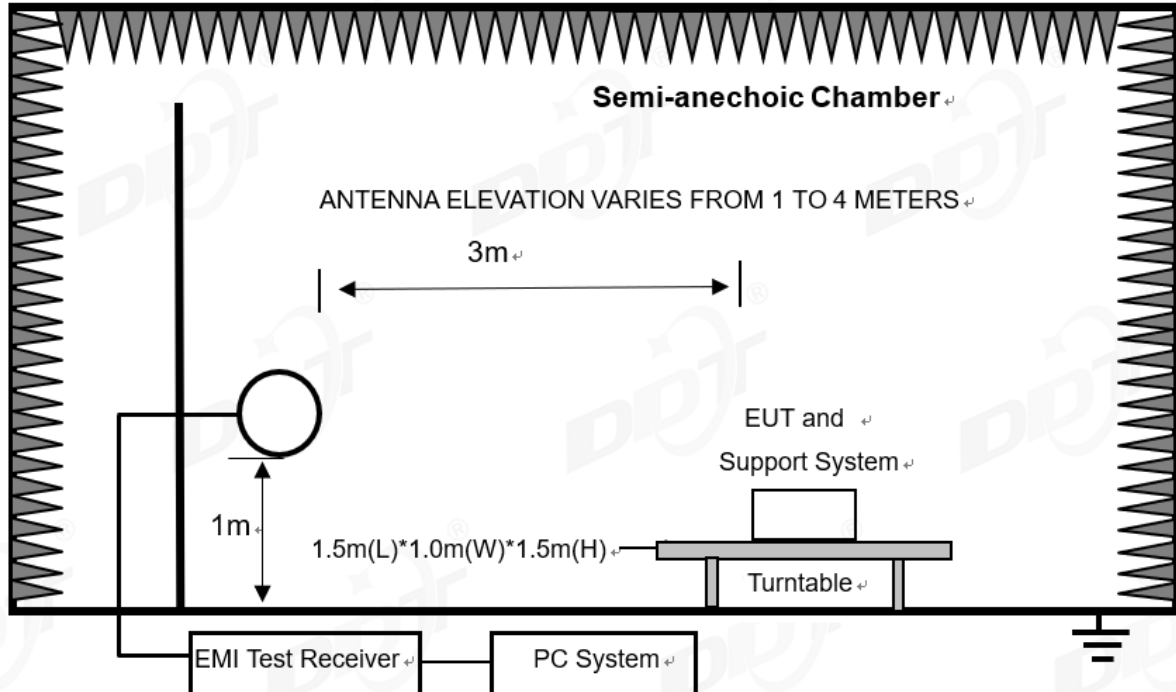
11AC40MIMO	Ant1	5190	NV	NT	-6000	-1.140684	20	PASS
			LV	NT	-4000	-0.760456	20	PASS
			HV	NT	-3000	-0.570342	20	PASS
	Ant2	5190	NV	NT	-1000	-0.190114	20	PASS
			LV	NT	0	0	20	PASS
			HV	NT	1000	0.190114	20	PASS
	Ant1	5230	NV	NT	2000	0.380228	20	PASS
			LV	NT	2000	0.380228	20	PASS
			HV	NT	3000	0.570342	20	PASS
	Ant2	5230	NV	NT	-6000	-1.140684	20	PASS
			LV	NT	-4000	-0.760456	20	PASS
			HV	NT	-3000	-0.570342	20	PASS
	Ant1	5270	NV	NT	-2000	-0.380228	20	PASS
			LV	NT	0	0	20	PASS
			HV	NT	1000	0.190114	20	PASS
	Ant2	5270	NV	NT	2000	0.380228	20	PASS
			LV	NT	2000	0.380228	20	PASS
			HV	NT	3000	0.570342	20	PASS
	Ant1	5310	NV	NT	-6000	-1.136364	20	PASS
			LV	NT	-4000	-0.757576	20	PASS
			HV	NT	-3000	-0.568182	20	PASS
	Ant2	5310	NV	NT	-2000	-0.378788	20	PASS
			LV	NT	0	0	20	PASS
			HV	NT	1000	0.189394	20	PASS
	Ant1	5510	NV	NT	2000	0.378788	20	PASS
			LV	NT	2000	0.378788	20	PASS
			HV	NT	3000	0.568182	20	PASS
	Ant2	5510	NV	NT	-4000	-0.757576	20	PASS
			LV	NT	-2000	-0.378788	20	PASS
			HV	NT	-1000	-0.189394	20	PASS
	Ant1	5550	NV	NT	0	0	20	PASS
			LV	NT	1000	0.189394	20	PASS
			HV	NT	2000	0.378788	20	PASS
	Ant2	5550	NV	NT	4000	0.757576	20	PASS
			LV	NT	4000	0.757576	20	PASS
			HV	NT	5000	0.94697	20	PASS
	Ant1	5670	NV	NT	-11000	-2.067669	20	PASS
			LV	NT	-11000	-2.067669	20	PASS
			HV	NT	-10000	-1.879699	20	PASS
	Ant2	5670	NV	NT	-9000	-1.691729	20	PASS
			LV	NT	-9000	-1.691729	20	PASS
			HV	NT	-8000	-1.503759	20	PASS
	Ant1	5755	NV	NT	-8000	-1.503759	20	PASS
			LV	NT	-7000	-1.315789	20	PASS
			HV	NT	-7000	-1.315789	20	PASS
	Ant2	5755	NV	NT	-9000	-1.691729	20	PASS
			LV	NT	-8000	-1.503759	20	PASS
			HV	NT	-8000	-1.503759	20	PASS
	Ant1	5795	NV	NT	-7000	-1.315789	20	PASS
			LV	NT	-6000	-1.12782	20	PASS
			HV	NT	-6000	-1.12782	20	PASS

11AC80MIMO	Ant2	5795	NV	NT	-5000	-0.93985	20	PASS
			LV	NT	-5000	-0.93985	20	PASS
			HV	NT	-4000	-0.75188	20	PASS
	Ant1	5210	NV	NT	-7000	-1.272727	20	PASS
			LV	NT	-6000	-1.090909	20	PASS
			HV	NT	-4000	-0.727273	20	PASS
	Ant2	5210	NV	NT	-3000	-0.545455	20	PASS
			LV	NT	-2000	-0.363636	20	PASS
			HV	NT	-1000	-0.181818	20	PASS
	Ant1	5290	NV	NT	0	0	20	PASS
			LV	NT	0	0	20	PASS
			HV	NT	0	0	20	PASS
	Ant2	5290	NV	NT	-9000	-1.636364	20	PASS
			LV	NT	-8000	-1.454545	20	PASS
			HV	NT	-7000	-1.272727	20	PASS
	Ant1	5530	NV	NT	-6000	-1.090909	20	PASS
			LV	NT	-5000	-0.909091	20	PASS
			HV	NT	-4000	-0.727273	20	PASS
	Ant2	5530	NV	NT	-4000	-0.727273	20	PASS
			LV	NT	-3000	-0.545455	20	PASS
			HV	NT	-2000	-0.363636	20	PASS
	Ant1	5610	NV	NT	-4000	-0.716846	20	PASS
			LV	NT	-2000	-0.358423	20	PASS
			HV	NT	-1000	-0.179211	20	PASS
	Ant2	5610	NV	NT	1000	0.179211	20	PASS
			LV	NT	2000	0.358423	20	PASS
			HV	NT	3000	0.537634	20	PASS
	Ant1	5775	NV	NT	4000	0.716846	20	PASS
			LV	NT	5000	0.896057	20	PASS
			HV	NT	6000	1.075269	20	PASS
	Ant2	5775	NV	NT	1000	0.179211	20	PASS
			LV	NT	3000	0.537634	20	PASS
			HV	NT	5000	0.896057	20	PASS

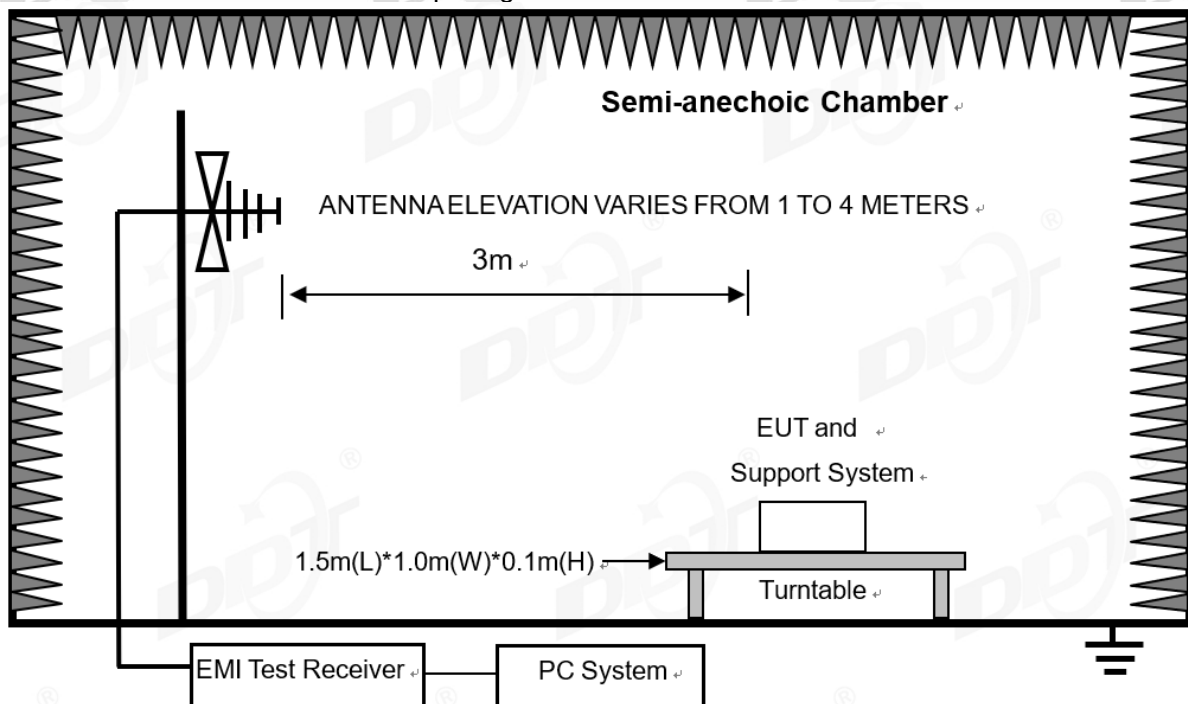
8. Emissions in restricted frequency bands

8.1. Block diagram of test setup

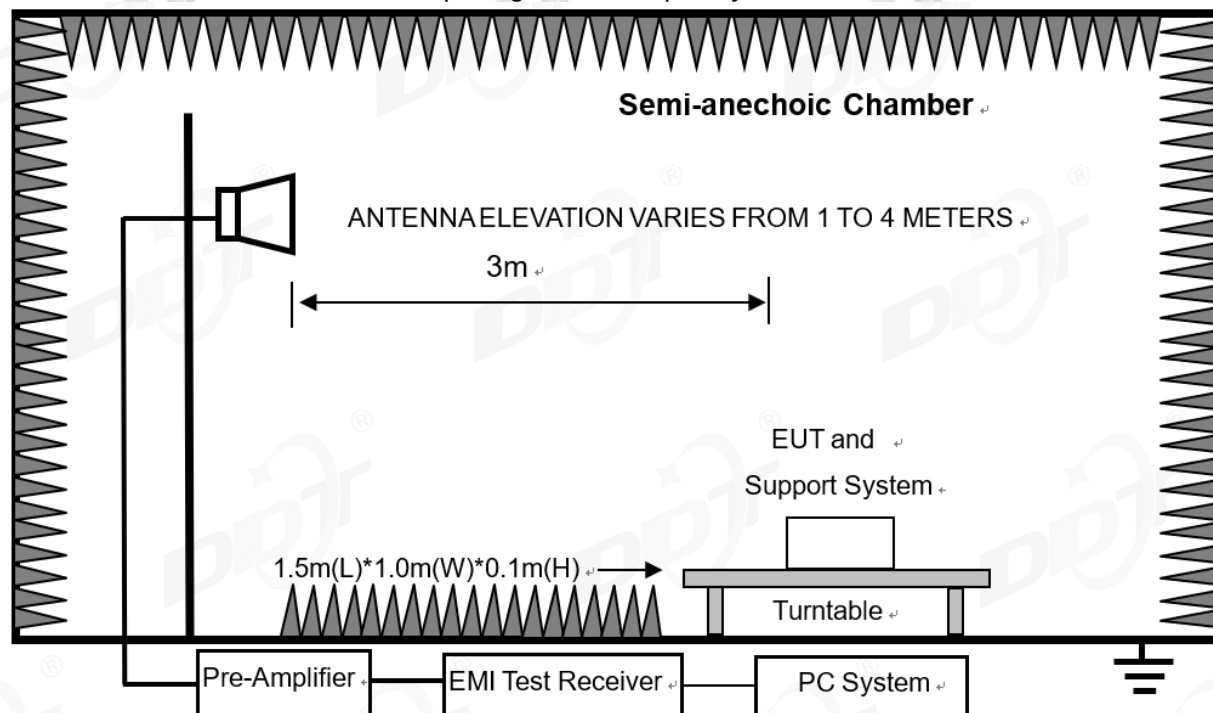
In 3m Anechoic Chamber Test Setup Diagram for 9kHz-30MHz



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

(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			

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

²Above 38.6

RSS-Gen section 8.10 Restricted frequency bands*

MHz	MHz	MHz	GHz
0.090-0.110	12.51975-12.52025	240-285	3500-4400
0.495-0.505	12.57675-12.57725	322-335.4	4.5-5.15
2.1735-2.1905	13.36-13.41	399.9-410	5.35-5.46
3.020-3.026	16.42-16.423	608-614	7.25-7.75
4.125-4.128	16.69475-16.69525	960-1427	8.025-8.5
4.1772&4.17775	16.80425-16.80475	1435-1626.5	9.0-9.2
4.2072&4.20775	25.5-25.67	1645.5-1646.5	9.3-9.5
5.677-5.683	37.5-38.25	1660-1710	10.6-12.7
6.215-6.218	73-74.6	1718.8-1722.2	13.25-13.4
6.26775-6.26825	74.8-75.2	2200-2300	14.47-14.5
6.31175-6.31225	108-138	2310-2390	15.35-16.2
8.291-8.294	149.9-150.05	2483.5-2500	17.7-21.4
8.362-8.366	156.52475-156.52525	2655-2900	22.01-23.12
8.37625-8.38675	156.7-156.9	3260-3267	23.6-24.0
8.41425-8.41475	162.0125-167.17	3332-3339	31.2-31.8
12.29-12.293	167.72-173.2	3345.8-3358	36.43-36.5
			Above 38.6

* Certain frequency bands listed in table 7 and in bands above 38.6 GHz are designated for licence-exempt applications. These frequency bands and the requirements that apply to related devices are set out in the 200 and 300 series of RSSs.

(2) FCC 15.209 Limit & RSS-Gen section 8.9 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:

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

(3) Limit for this EUT

The emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, and the emissions appearing within RSS-Gen section 8.10 Restricted frequency bands shall not exceed the limits shown in RSS-Gen section 8.9, all the other emissions shall be at least 20 dB below the fundamental emissions or comply with 15.209 limits and RSS-Gen section 8.9 limits.

8.3. Test Procedure

- (1) EUT height should be 0 m for below 1 GHz at a semi - anechoic chamber while EUT height should be 0 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 9 kHz to 25 GHz were comply with 15.209 limits and RSS-Gen section 8.9 limits.

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 3#

D:\2021 report data\ZCB\FCC BELOW 1G\FCC BELOW 1G_00009.EMI

Test Date : 2021-09-24

Tested By : Kennys

EUT : AI Delivery Robot

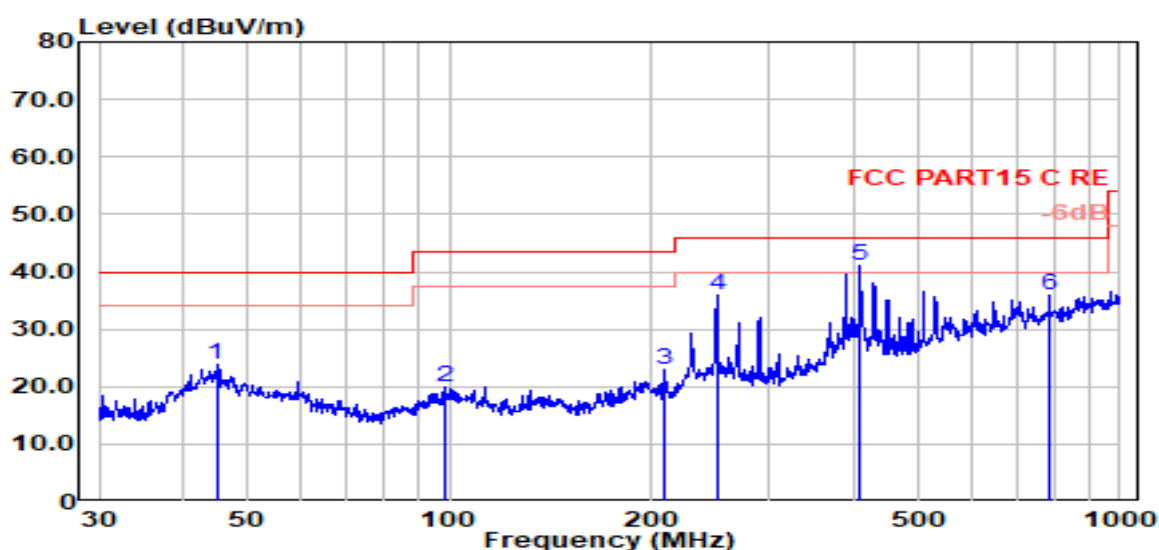
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : Tx mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa Antenna/Distance : VLUB 9163 3#/3m/VERTICAL

Memo : 5GWIFI



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	44.90	5.07	15.09	3.66	23.83	40.00	-16.17	QP	VERTICAL
2	98.14	4.64	11.50	3.88	20.02	43.50	-23.48	QP	VERTICAL
3	210.05	7.77	10.90	4.38	23.05	43.50	-20.45	QP	VERTICAL
4	250.30	18.88	12.51	4.52	35.91	46.00	-10.09	QP	VERTICAL
5	410.38	20.20	15.81	5.08	41.09	46.00	-4.91	QP	VERTICAL
6	785.09	9.14	20.60	6.13	35.87	46.00	-10.13	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.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\2021 report data\ZCB\FCC BELOW 1G\FCC BELOW 1G_00010.EMI

Test Date : 2021-09-24

Tested By : Kennys

EUT : AI Delivery Robot

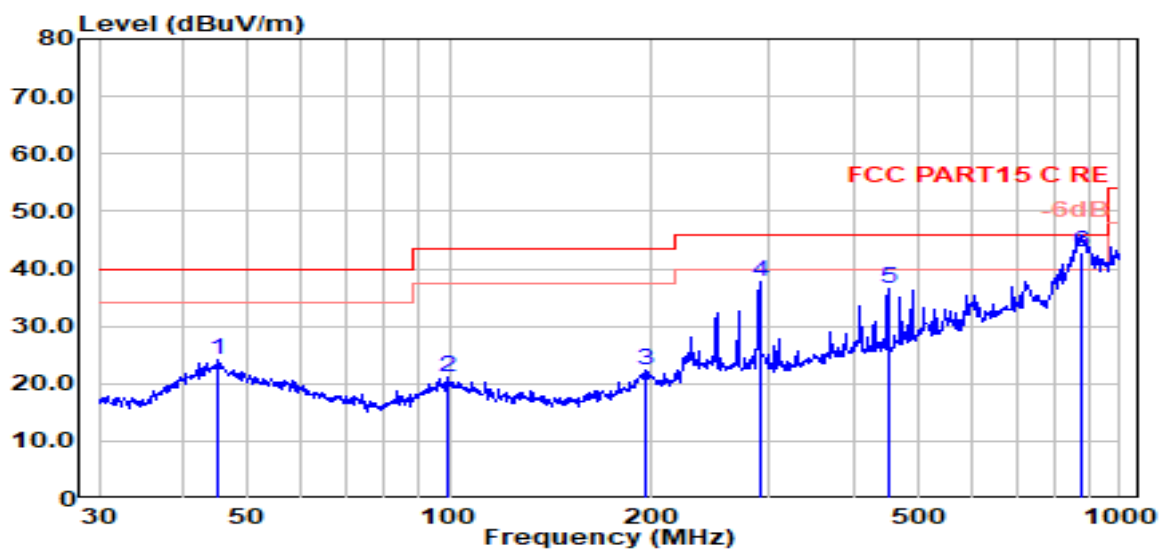
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : Tx mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa Antenna/Distance : VLUB 9163 3#/3m/HORIZONTAL

Memo : 5GWIFI



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	45.22	5.63	14.99	3.67	24.29	40.00	-15.71	QP	HORIZONTAL
2	99.18	5.76	11.50	3.89	21.14	43.50	-22.36	QP	HORIZONTAL
3	195.82	6.34	11.78	4.33	22.44	43.50	-21.06	QP	HORIZONTAL
4	290.02	19.95	13.00	4.67	37.62	46.00	-8.38	QP	HORIZONTAL
5	451.14	15.57	15.80	5.21	36.58	46.00	-9.42	QP	HORIZONTAL
6	875.25	14.93	21.60	6.33	42.86	46.00	-3.14	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.

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
CH36									
9347.00	46.52	38.42	3.68	40.14	48.48	74.00	-25.52	Peak	HORIZONTAL
11268.00	45.99	39.95	4.08	40.17	49.84	74.00	-24.16	Peak	HORIZONTAL
12883.00	46.27	38.85	4.38	40.36	49.14	74.00	-24.86	Peak	HORIZONTAL
14464.00	45.75	41.74	4.61	39.65	52.44	74.00	-21.56	Peak	HORIZONTAL
16470.00	44.25	38.83	4.89	39.99	47.97	74.00	-26.03	Peak	HORIZONTAL
17966.00	35.82	48.74	5.08	40.68	48.96	54.00	-5.04	Average	HORIZONTAL
17966.00	41.82	48.74	5.08	40.68	54.96	74.00	-19.04	Peak	HORIZONTAL
9517.00	46.81	38.70	3.69	40.26	48.94	74.00	-25.06	Peak	VERTICAL
11676.00	46.32	39.69	4.19	40.13	50.07	74.00	-23.93	Peak	VERTICAL
13665.00	45.38	40.30	4.44	39.93	50.18	74.00	-23.82	Peak	VERTICAL
16300.00	44.71	38.42	4.85	39.96	48.02	74.00	-25.98	Peak	VERTICAL
17116.00	44.63	40.94	4.95	40.17	50.35	74.00	-23.65	Peak	VERTICAL
17932.00	35.45	48.28	5.07	40.66	48.14	54.00	-5.86	Average	VERTICAL
17932.00	42.45	48.28	5.07	40.66	55.14	74.00	-18.86	Peak	VERTICAL
CH40									
8242.00	46.92	37.05	3.55	39.82	47.70	74.00	-26.30	Peak	HORIZONTAL
11387.00	47.43	39.92	4.11	40.16	51.29	74.00	-22.71	Peak	HORIZONTAL
13784.00	44.45	40.51	4.48	39.85	49.59	74.00	-24.41	Peak	HORIZONTAL
15314.00	44.30	39.28	4.55	39.69	48.44	74.00	-25.56	Peak	HORIZONTAL
17235.00	43.37	41.39	4.95	40.24	49.47	74.00	-24.53	Peak	HORIZONTAL
17932.00	35.57	48.28	5.07	40.66	48.26	54.00	-5.74	Average	HORIZONTAL
17932.00	43.57	48.28	5.07	40.66	56.26	74.00	-17.74	Peak	HORIZONTAL
9891.00	46.23	38.78	3.78	40.52	48.26	74.00	-25.74	Peak	VERTICAL
11795.00	47.38	39.55	4.24	40.12	51.04	74.00	-22.96	Peak	VERTICAL
13274.00	46.00	39.50	4.40	40.21	49.70	74.00	-24.30	Peak	VERTICAL
14787.00	44.46	41.11	4.68	39.62	50.63	74.00	-23.37	Peak	VERTICAL
16997.00	46.55	40.49	4.96	40.10	51.90	74.00	-22.10	Peak	VERTICAL
17813.00	37.67	46.66	5.03	40.59	48.77	54.00	-5.23	Average	VERTICAL
17813.00	45.67	46.66	5.03	40.59	56.77	74.00	-17.23	Peak	VERTICAL
CH48									
10010.00	46.82	38.82	3.80	40.60	48.85	74.00	-25.15	Peak	HORIZONTAL
11710.00	46.84	39.65	4.21	40.13	50.56	74.00	-23.44	Peak	HORIZONTAL
13580.00	45.70	40.14	4.42	39.99	50.27	74.00	-23.73	Peak	HORIZONTAL
14600.00	45.43	41.56	4.63	39.64	51.99	74.00	-22.01	Peak	HORIZONTAL
17014.00	43.53	40.55	4.96	40.11	48.93	74.00	-25.07	Peak	HORIZONTAL
17966.00	35.09	48.74	5.08	40.68	48.23	54.00	-5.77	Average	HORIZONTAL
17966.00	42.09	48.74	5.08	40.68	55.23	74.00	-18.77	Peak	HORIZONTAL
9602.00	44.88	38.72	3.71	40.32	46.99	74.00	-27.01	Peak	VERTICAL
11676.00	47.31	39.69	4.19	40.13	51.06	74.00	-22.94	Peak	VERTICAL
14549.00	45.39	41.68	4.62	39.65	52.05	74.00	-21.95	Peak	VERTICAL
16623.00	44.69	39.29	4.91	40.02	48.87	74.00	-25.13	Peak	VERTICAL
17320.00	45.85	41.72	4.94	40.29	52.22	74.00	-21.78	Peak	VERTICAL
17949.00	35.44	48.51	5.07	40.67	48.35	54.00	-5.65	Average	VERTICAL

17949.00	43.44	48.51	5.07	40.67	56.35	74.00	-17.65	Peak	VERTICAL
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Conclusion: Pass

Note: $-27 \text{ dBm/MHz Limit} = 95.2 + \text{EIRP}[\text{dBm}] = 95.2 - 27 = 68.2 \text{ dB}\mu\text{V/m}$

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 11n20 MIMO 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.

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
CH52									
9517.00	46.12	38.70	3.69	40.26	48.25	74.00	-25.75	Peak	HORIZONTAL
11693.00	47.04	39.67	4.20	40.13	50.77	74.00	-23.23	Peak	HORIZONTAL
13631.00	45.45	40.24	4.43	39.96	50.15	74.00	-23.85	Peak	HORIZONTAL
14600.00	44.83	41.56	4.63	39.64	51.38	74.00	-22.62	Peak	HORIZONTAL
17218.00	44.14	41.33	4.95	40.23	50.18	74.00	-23.82	Peak	HORIZONTAL
17915.00	35.72	48.04	5.06	40.65	48.18	54.00	-5.82	Average	HORIZONTAL
17915.00	42.72	48.04	5.06	40.65	55.18	74.00	-18.82	Peak	HORIZONTAL
9432.00	45.81	38.58	3.69	40.20	47.87	74.00	-26.13	Peak	VERTICAL
11387.00	46.53	39.92	4.11	40.16	50.40	74.00	-23.60	Peak	VERTICAL
14668.00	45.05	41.40	4.65	39.63	51.47	74.00	-22.53	Peak	VERTICAL
16419.00	44.35	38.71	4.88	39.98	47.96	74.00	-26.04	Peak	VERTICAL
17422.00	43.44	42.10	4.93	40.35	50.12	74.00	-23.88	Peak	VERTICAL
17966.00	34.89	48.74	5.08	40.68	48.03	54.00	-5.97	Average	VERTICAL
17966.00	41.89	48.74	5.08	40.68	55.03	74.00	-18.97	Peak	VERTICAL
CH56									
10095.00	47.08	39.01	3.84	40.56	49.37	74.00	-24.63	Peak	HORIZONTAL
11795.00	46.02	39.55	4.24	40.12	49.68	74.00	-24.32	Peak	HORIZONTAL
14481.00	44.44	41.77	4.61	39.65	51.16	74.00	-22.84	Peak	HORIZONTAL
15365.00	45.18	39.07	4.53	39.71	49.07	74.00	-24.93	Peak	HORIZONTAL
16827.00	43.75	39.95	4.94	40.07	48.57	74.00	-25.43	Peak	HORIZONTAL
17949.00	35.38	48.51	5.07	40.67	48.29	54.00	-5.71	Average	HORIZONTAL
17949.00	42.38	48.51	5.07	40.67	55.29	74.00	-18.71	Peak	HORIZONTAL
9636.00	46.27	38.73	3.72	40.35	48.37	74.00	-25.63	Peak	VERTICAL
11795.00	46.68	39.55	4.24	40.12	50.34	74.00	-23.66	Peak	VERTICAL
13818.00	45.49	40.57	4.49	39.83	50.72	74.00	-23.28	Peak	VERTICAL
15467.00	45.03	38.64	4.47	39.74	48.40	74.00	-25.60	Peak	VERTICAL
16827.00	44.05	39.95	4.94	40.07	48.87	74.00	-25.13	Peak	VERTICAL
17932.00	35.84	48.28	5.07	40.66	48.52	54.00	-5.48	Average	VERTICAL
17932.00	41.84	48.28	5.07	40.66	54.52	74.00	-19.48	Peak	VERTICAL
CH64									
8667.00	46.34	37.20	3.61	39.87	47.28	74.00	-26.72	Peak	HORIZONTAL
10809.00	46.02	39.96	4.02	40.28	49.73	74.00	-24.27	Peak	HORIZONTAL
13614.00	45.69	40.21	4.43	39.97	50.35	74.00	-23.65	Peak	HORIZONTAL
16385.00	45.27	38.62	4.87	39.98	48.79	74.00	-25.21	Peak	HORIZONTAL
17133.00	43.61	41.01	4.95	40.18	49.39	74.00	-24.61	Peak	HORIZONTAL
17898.00	35.82	47.81	5.06	40.64	48.05	54.00	-5.95	Average	HORIZONTAL
17898.00	43.82	47.81	5.06	40.64	56.05	74.00	-17.95	Peak	HORIZONTAL
9364.00	46.07	38.46	3.68	40.15	48.05	74.00	-25.95	Peak	VERTICAL
11693.00	46.86	39.67	4.20	40.13	50.60	74.00	-23.40	Peak	VERTICAL
13512.00	45.78	40.02	4.39	40.04	50.16	74.00	-23.84	Peak	VERTICAL
14685.00	41.27	41.36	4.65	39.63	47.65	54.00	-6.35	Average	VERTICAL
14685.00	46.27	41.36	4.65	39.63	52.65	74.00	-21.35	Peak	VERTICAL
16623.00	44.67	39.29	4.91	40.02	48.85	74.00	-25.15	Peak	VERTICAL

17966.00	35.72	48.74	5.08	40.68	48.85	54.00	-5.15	Average	VERTICAL
17966.00	42.72	48.74	5.08	40.68	55.85	74.00	-18.15	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 11n20 MIMO 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.

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
CH100									
9228.00	46.08	38.21	3.67	40.06	47.90	74.00	-26.10	Peak	HORIZONTAL
11370.00	45.39	39.93	4.10	40.16	49.25	74.00	-24.75	Peak	HORIZONTAL
13580.00	45.70	40.14	4.42	39.99	50.27	74.00	-23.73	Peak	HORIZONTAL
16181.00	44.53	38.13	4.82	39.94	47.55	74.00	-26.45	Peak	HORIZONTAL
17014.00	43.53	40.55	4.96	40.11	48.93	74.00	-25.07	Peak	HORIZONTAL
17932.00	36.20	48.28	5.07	40.66	48.89	54.00	-5.11	Average	HORIZONTAL
17932.00	42.20	48.28	5.07	40.66	54.89	74.00	-19.11	Peak	HORIZONTAL
8871.00	45.34	37.57	3.64	39.89	46.66	74.00	-27.34	Peak	VERTICAL
10299.00	47.14	39.46	3.94	40.48	50.05	74.00	-23.95	Peak	VERTICAL
11999.00	46.25	39.30	4.31	40.10	49.76	74.00	-24.24	Peak	VERTICAL
14549.00	45.39	41.68	4.62	39.65	52.05	74.00	-21.95	Peak	VERTICAL
16453.00	44.80	38.79	4.89	39.99	48.49	74.00	-25.51	Peak	VERTICAL
17915.00	36.49	48.04	5.06	40.65	48.95	54.00	-5.05	Average	VERTICAL
17915.00	42.49	48.04	5.06	40.65	54.95	74.00	-19.05	Peak	VERTICAL
CH116									
9449.00	46.29	38.61	3.69	40.21	48.37	74.00	-25.63	Peak	HORIZONTAL
11591.00	46.49	39.79	4.16	40.14	50.30	74.00	-23.70	Peak	HORIZONTAL
13852.00	45.62	40.63	4.50	39.80	50.96	74.00	-23.04	Peak	HORIZONTAL
16385.00	45.27	38.62	4.87	39.98	48.79	74.00	-25.21	Peak	HORIZONTAL
17133.00	43.61	41.01	4.95	40.18	49.39	74.00	-24.61	Peak	HORIZONTAL
17898.00	35.82	47.81	5.06	40.64	48.05	54.00	-5.95	Average	HORIZONTAL
17898.00	43.82	47.81	5.06	40.64	56.05	74.00	-17.95	Peak	HORIZONTAL
9364.00	46.07	38.46	3.68	40.15	48.05	74.00	-25.95	Peak	VERTICAL
11472.00	45.73	39.91	4.12	40.15	49.60	74.00	-24.40	Peak	VERTICAL
13512.00	45.78	40.02	4.39	40.04	50.16	74.00	-23.84	Peak	VERTICAL
14974.00	44.66	40.66	4.72	39.60	50.44	74.00	-23.56	Peak	VERTICAL
16623.00	44.67	39.29	4.91	40.02	48.85	74.00	-25.15	Peak	VERTICAL
17949.00	35.30	48.51	5.07	40.67	48.21	54.00	-5.79	Average	VERTICAL
17949.00	42.30	48.51	5.07	40.67	55.21	74.00	-18.79	Peak	VERTICAL
CH140									
8514.00	46.64	36.93	3.58	39.85	47.29	74.00	-26.71	Peak	HORIZONTAL
10792.00	46.53	39.96	4.02	40.28	50.23	74.00	-23.77	Peak	HORIZONTAL
12390.00	45.99	38.83	4.27	40.22	48.88	74.00	-25.12	Peak	HORIZONTAL
14600.00	44.83	41.56	4.63	39.64	51.38	74.00	-22.62	Peak	HORIZONTAL
16895.00	43.85	40.16	4.95	40.08	48.88	74.00	-25.12	Peak	HORIZONTAL
17983.00	35.39	48.97	5.08	40.69	48.75	54.00	-5.25	Average	HORIZONTAL
17983.00	42.39	48.97	5.08	40.69	55.75	74.00	-18.25	Peak	HORIZONTAL
9058.00	45.71	37.90	3.66	39.94	47.34	74.00	-26.66	Peak	VERTICAL
11387.00	46.53	39.92	4.11	40.16	50.40	74.00	-23.60	Peak	VERTICAL
13070.00	47.57	39.05	4.42	40.35	50.69	74.00	-23.31	Peak	VERTICAL
14957.00	44.09	40.70	4.72	39.60	49.91	74.00	-24.09	Peak	VERTICAL
17201.00	44.04	41.26	4.95	40.22	50.03	74.00	-23.97	Peak	VERTICAL
17932.00	35.96	48.28	5.07	40.66	48.64	54.00	-5.36	Average	VERTICAL

17932.00	41.96	48.28	5.07	40.66	54.64	74.00	-19.36	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 11n20 MIMO 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.

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
CH149									
9500.00	46.88	38.70	3.69	40.25	49.02	74.00	-24.98	Peak	HORIZONTAL
11642.00	46.22	39.73	4.18	40.14	50.00	74.00	-24.00	Peak	HORIZONTAL
13665.00	44.97	40.30	4.44	39.93	49.77	74.00	-24.23	Peak	HORIZONTAL
16147.00	44.54	38.05	4.82	39.93	47.48	74.00	-26.52	Peak	HORIZONTAL
17201.00	43.48	41.26	4.95	40.22	49.47	74.00	-24.53	Peak	HORIZONTAL
17881.00	36.26	47.58	5.05	40.63	48.27	54.00	-5.73	Average	HORIZONTAL
17881.00	43.26	47.58	5.05	40.63	55.27	74.00	-18.73	Peak	HORIZONTAL
9296.00	46.20	38.33	3.68	40.11	48.10	74.00	-25.90	Peak	VERTICAL
11115.00	46.12	39.98	4.05	40.19	49.95	74.00	-24.05	Peak	VERTICAL
13291.00	45.52	39.54	4.40	40.20	49.27	74.00	-24.73	Peak	VERTICAL
15535.00	44.60	38.44	4.47	39.76	47.76	74.00	-26.24	Peak	VERTICAL
16929.00	44.05	40.27	4.95	40.09	49.19	74.00	-24.81	Peak	VERTICAL
17966.00	35.05	48.74	5.08	40.68	48.18	54.00	-5.82	Average	VERTICAL
17966.00	42.05	48.74	5.08	40.68	55.18	74.00	-18.82	Peak	VERTICAL
CH157									
9449.00	46.29	38.61	3.69	40.21	48.37	74.00	-25.63	Peak	HORIZONTAL
11778.00	46.70	39.57	4.23	40.12	50.37	74.00	-23.63	Peak	HORIZONTAL
13852.00	45.62	40.63	4.50	39.80	50.96	74.00	-23.04	Peak	HORIZONTAL
16385.00	45.27	38.62	4.87	39.98	48.79	74.00	-25.21	Peak	HORIZONTAL
17524.00	42.70	42.73	4.94	40.41	49.95	74.00	-24.05	Peak	HORIZONTAL
17898.00	35.82	47.81	5.06	40.64	48.05	54.00	-5.95	Average	HORIZONTAL
17898.00	43.82	47.81	5.06	40.64	56.05	74.00	-17.95	Peak	HORIZONTAL
9364.00	46.07	38.46	3.68	40.15	48.05	74.00	-25.95	Peak	VERTICAL
11676.00	45.99	39.69	4.19	40.13	49.74	74.00	-24.26	Peak	VERTICAL
14192.00	45.13	41.25	4.57	39.68	51.27	74.00	-22.73	Peak	VERTICAL
16351.00	44.32	38.54	4.86	39.97	47.76	74.00	-26.24	Peak	VERTICAL
16946.00	44.07	40.33	4.95	40.09	49.26	74.00	-24.74	Peak	VERTICAL
17949.00	35.30	48.51	5.07	40.67	48.21	54.00	-5.79	Average	VERTICAL
17949.00	42.30	48.51	5.07	40.67	55.21	74.00	-18.79	Peak	VERTICAL
CH165									
9432.00	46.84	38.58	3.69	40.20	48.90	74.00	-25.10	Peak	HORIZONTAL
10809.00	45.98	39.96	4.02	40.28	49.69	74.00	-24.31	Peak	HORIZONTAL
12696.00	46.51	38.78	4.32	40.31	49.31	74.00	-24.69	Peak	HORIZONTAL
14481.00	44.39	41.77	4.61	39.65	51.11	74.00	-22.89	Peak	HORIZONTAL
16997.00	44.68	40.49	4.96	40.10	50.03	74.00	-23.97	Peak	HORIZONTAL
17932.00	36.25	48.28	5.07	40.66	48.93	54.00	-5.07	Average	HORIZONTAL
17932.00	42.25	48.28	5.07	40.66	54.93	74.00	-19.07	Peak	HORIZONTAL
9364.00	46.17	38.46	3.68	40.15	48.15	74.00	-25.85	Peak	VERTICAL
11183.00	45.48	39.96	4.06	40.18	49.32	74.00	-24.68	Peak	VERTICAL
13240.00	45.45	39.43	4.41	40.23	49.05	74.00	-24.95	Peak	VERTICAL
14464.00	44.49	41.74	4.61	39.65	51.17	74.00	-22.83	Peak	VERTICAL
16759.00	43.43	39.73	4.93	40.05	48.03	74.00	-25.97	Peak	VERTICAL
17932.00	35.51	48.28	5.07	40.66	48.19	54.00	-5.81	Average	VERTICAL

17932.00	42.51	48.28	5.07	40.66	55.19	74.00	-18.81	Peak	VERTICAL
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Conclusion: Pass

Note: $-27 \text{ dBm/MHz Limit} = 95.2 + \text{EIRP}[\text{dBm}] = 95.2 - 27 = 68.2 \text{ dB}\mu\text{V/m}$

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 .

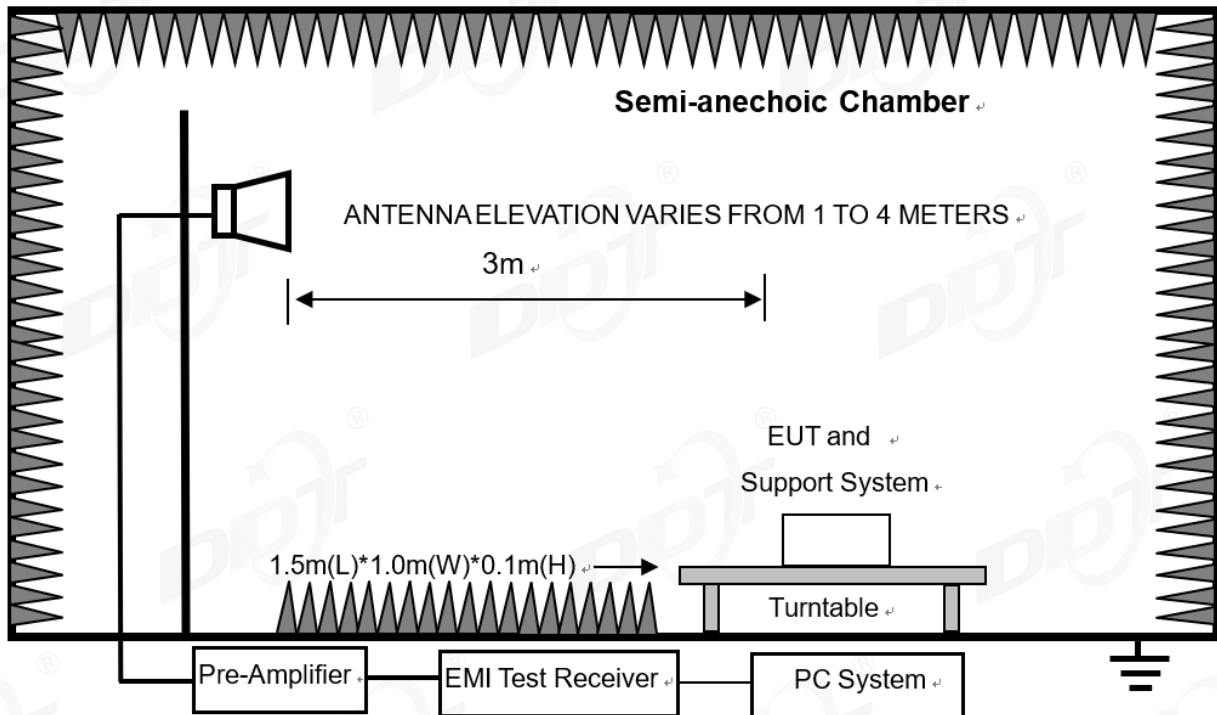
Note: 1. 30MHz~40GHz: (11a, 11n20, n40, 11ac20, 11ac40, 11ac80 mode all have been tested, only 11n20 MIMO mode is the worst case and reported.)

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.

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

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)

Note: 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

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00041.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

Model Number : OS-R-DR01

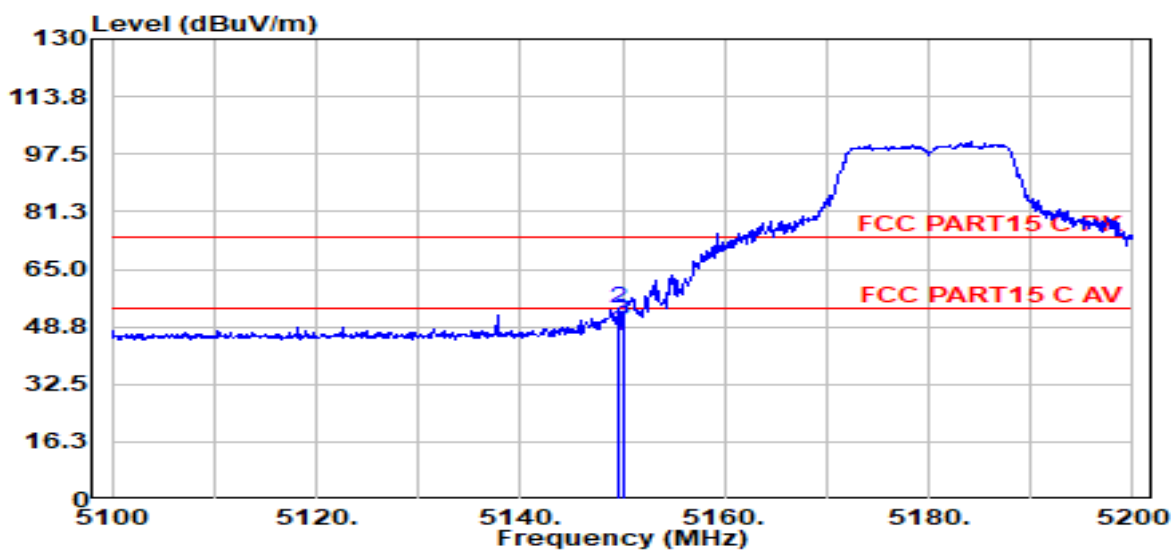
Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°, Humi:55%, Press:100.1kPa

Antenna/Distance : 2020 BBHA
9120D/3m/HORIZONTAL

Memo : 11A 5180 ANT1



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5149.70	51.66	31.80	2.85	40.41	45.89	54.00	-8.11	Average	HORIZONTAL
2	5149.70	59.62	31.80	2.85	40.41	53.85	74.00	-20.15	Peak	HORIZONTAL
3	5150.00	56.38	31.80	2.85	40.42	50.62	74.00	-23.38	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

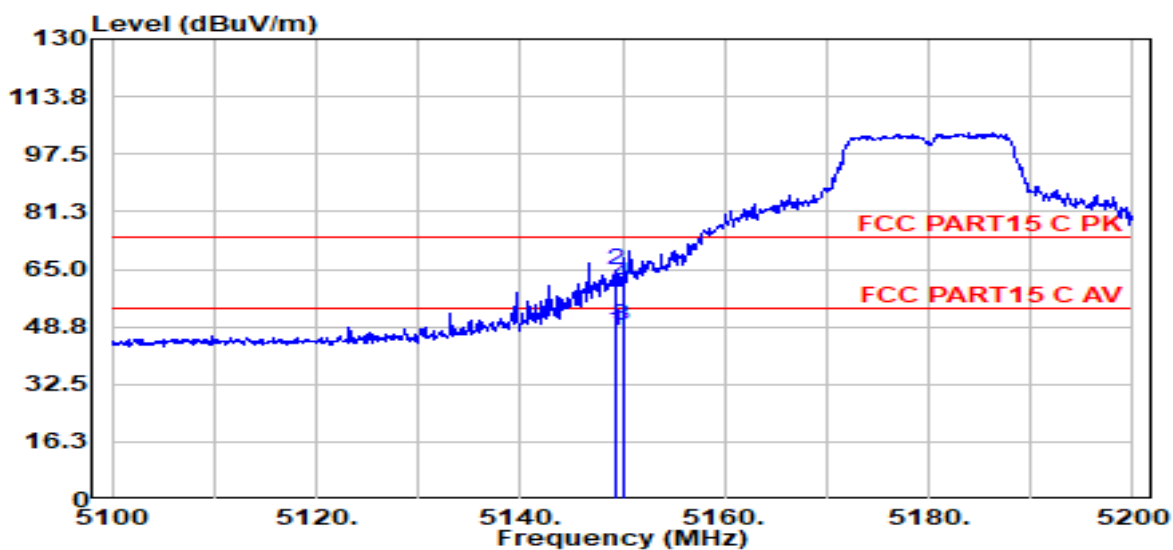
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

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 3#
Test Date : 2021-09-28
EUT : AI Delivery Robot
Power Supply : AC 120V/60Hz
Condition : Temp:24.5°, Humi:55%, Press:100.1kPa
Memo : 11A 5180 ANT1

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00040.EMI
Tested By : Kennys
Model Number : OS-R-DR01
Test Mode : TX mode
Antenna/Distance : 2020 BBHA 9120D/3m/VERTICAL



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5149.40	53.21	31.80	2.85	40.41	47.44	54.00	-6.56	Average	VERTICAL
2	5149.40	70.35	31.80	2.85	40.41	64.58	74.00	-9.42	Peak	VERTICAL
3	5150.00	54.77	31.80	2.85	40.42	49.00	54.00	-5.00	Average	VERTICAL
4	5150.00	66.47	31.80	2.85	40.42	60.70	74.00	-13.30	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00049.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

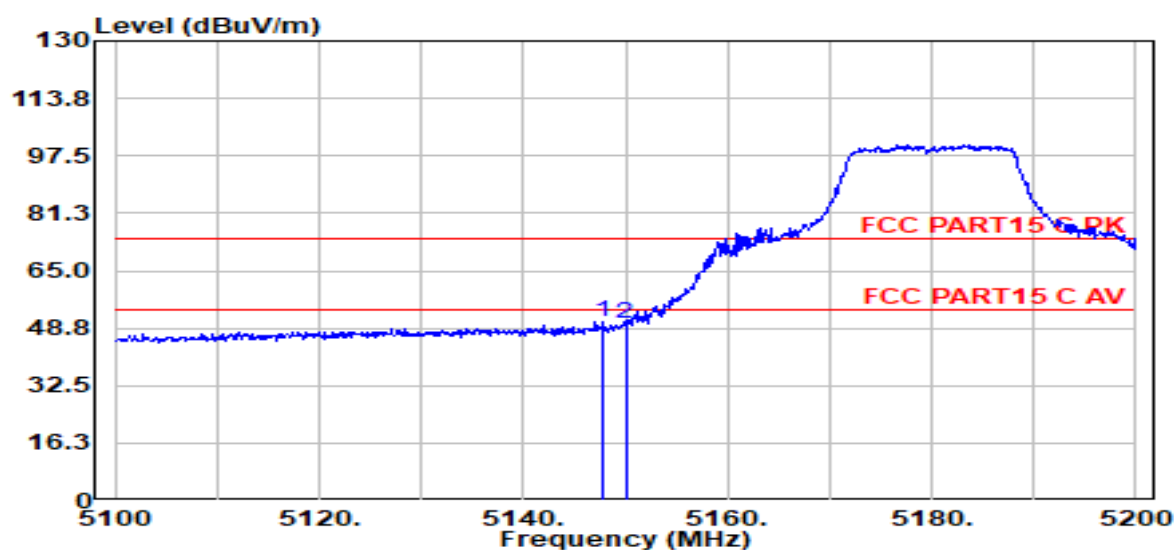
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA
9120D/3m/HORIZONTAL

Memo : 11A 5180 ANT2



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5147.90	56.48	31.80	2.85	40.41	50.71	74.00	-23.29	Peak	HORIZONTAL
2	5150.00	55.86	31.80	2.85	40.42	50.09	74.00	-23.91	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00048.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

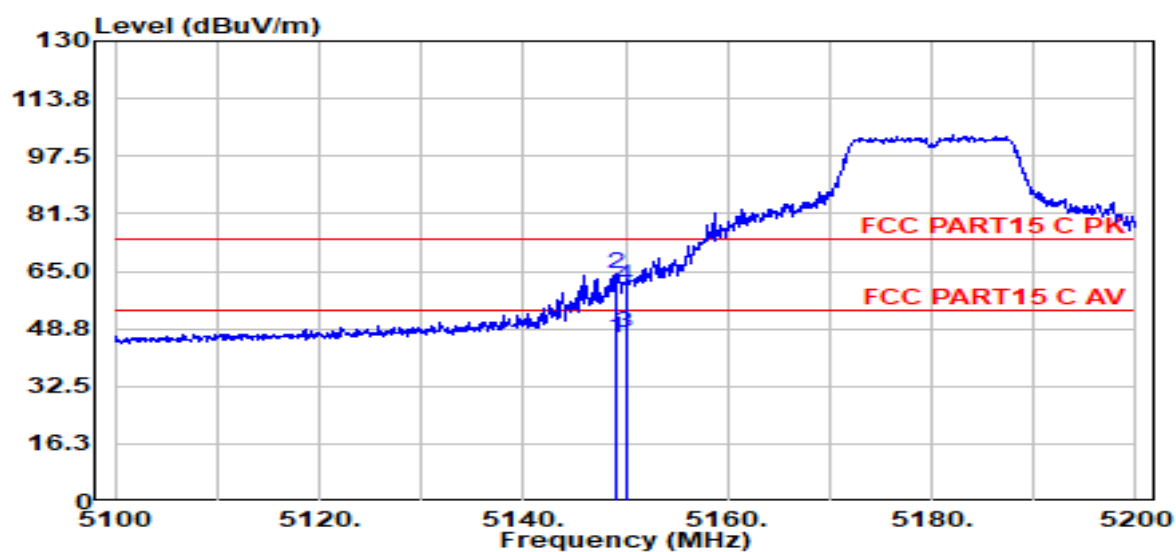
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°, Humi:55%, Press:100.1kPa Antenna/Distance : 2020 BBHA 9120D/3m/VERTICAL

Memo : 11A 5180 ANT2



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5149.10	51.71	31.80	2.85	40.41	45.94	54.00	-8.06	Average	VERTICAL
2	5149.10	70.13	31.80	2.85	40.41	64.36	74.00	-9.64	Peak	VERTICAL
3	5150.00	53.19	31.80	2.85	40.42	47.42	54.00	-6.58	Average	VERTICAL
4	5150.00	66.63	31.80	2.85	40.42	60.86	74.00	-13.14	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00042.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

Model Number : OS-R-DR01

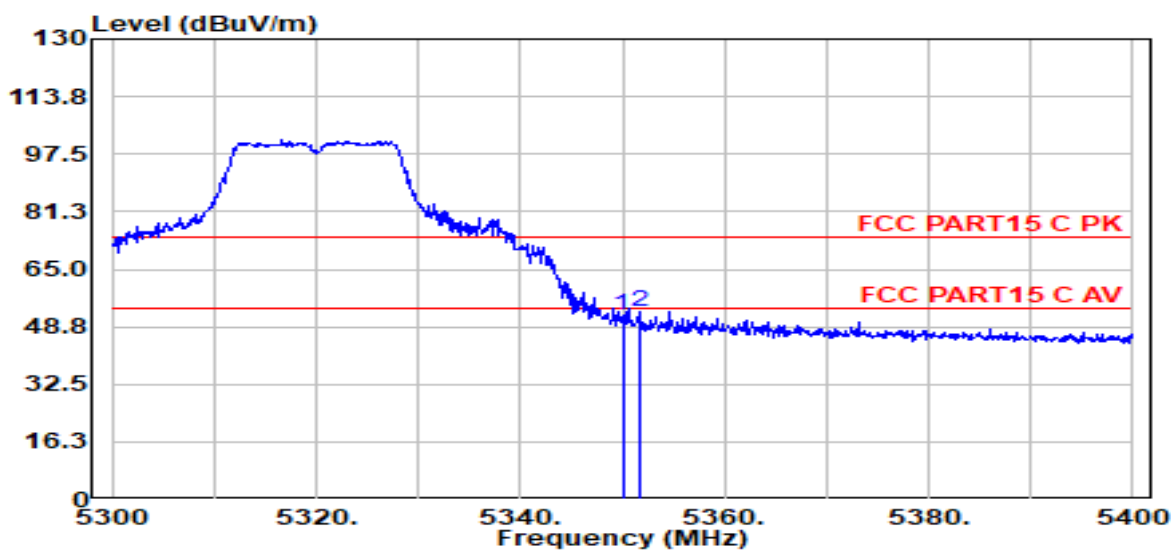
Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°, Humi:55%, Press:100.1kPa

Antenna/Distance : 2020 BBHA
9120D/3m/HORIZONTAL

Memo : 11A 5320 ANT1



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	57.64	31.80	2.89	40.44	51.90	74.00	-22.10	Peak	HORIZONTAL
2	5351.60	58.82	31.80	2.89	40.44	53.08	74.00	-20.92	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC
ABOVE 1G\FCC ABOVE 1G_00043.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

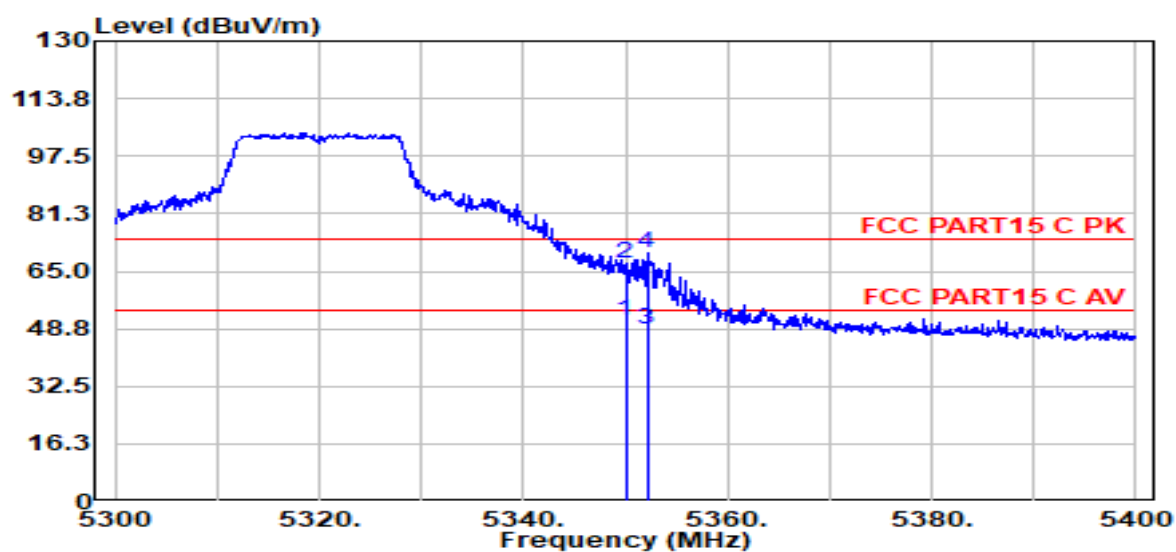
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°, Humi:55%, Press:100.1kPa Antenna/Distance : 2020 BBHA 9120D/3m/VERTICAL

Memo : 11A 5320 ANT1



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	56.72	31.80	2.89	40.44	50.98	54.00	-3.02	Average	VERTICAL
2	5350.00	72.88	31.80	2.89	40.44	67.13	74.00	-6.87	Peak	VERTICAL
3	5352.10	54.15	31.80	2.89	40.44	48.41	54.00	-5.59	Average	VERTICAL
4	5352.10	76.11	31.80	2.89	40.44	70.37	74.00	-3.63	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00050.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

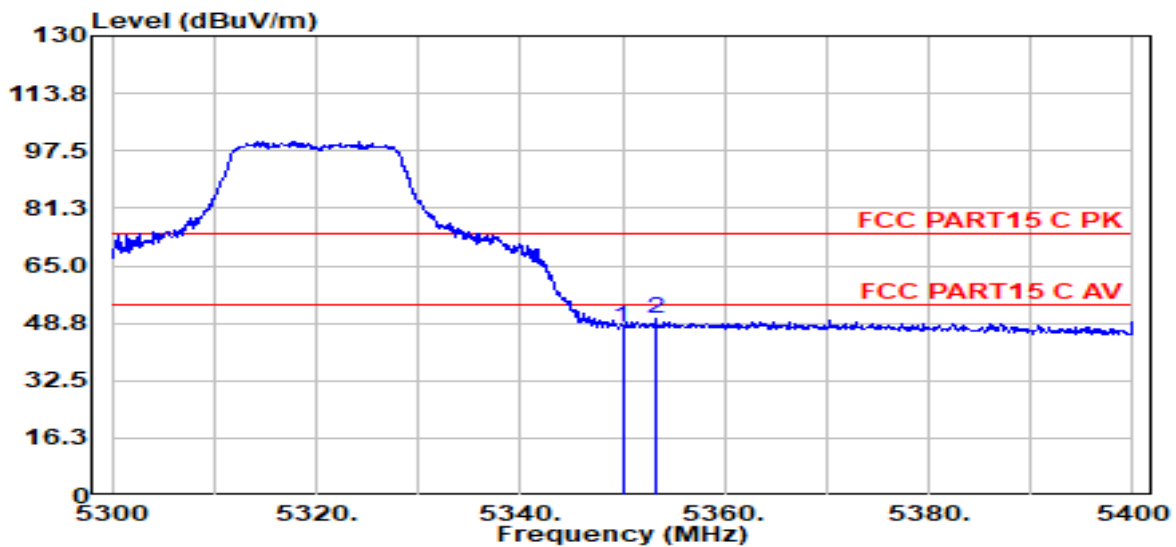
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA
9120D/3m/HORIZONTAL

Memo : 11A 5320 ANT2



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	53.22	31.80	2.89	40.44	47.47	74.00	-26.53	Peak	HORIZONTAL
2	5353.30	56.00	31.80	2.89	40.44	50.26	74.00	-23.74	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00051.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

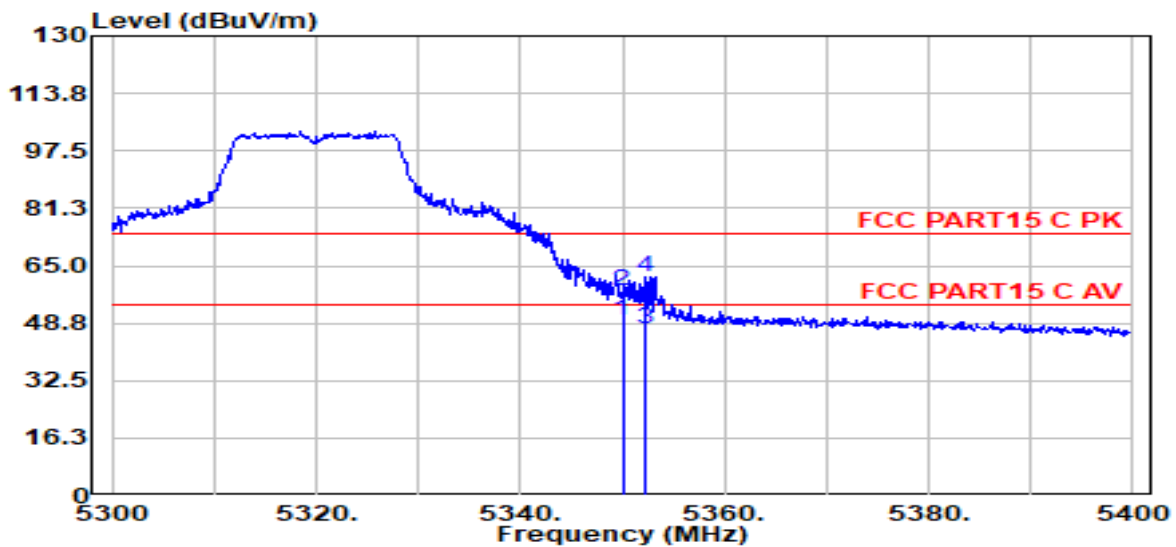
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA 9120D/3m/VERTICAL

Memo : 11A 5320 ANT2



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	55.22	31.80	2.89	40.44	49.48	54.00	-4.52	Average	VERTICAL
2	5350.00	63.81	31.80	2.89	40.44	58.07	74.00	-15.93	Peak	VERTICAL
3	5352.20	52.67	31.80	2.89	40.44	46.93	54.00	-7.07	Average	VERTICAL
4	5352.20	67.68	31.80	2.89	40.44	61.94	74.00	-12.06	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00045.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

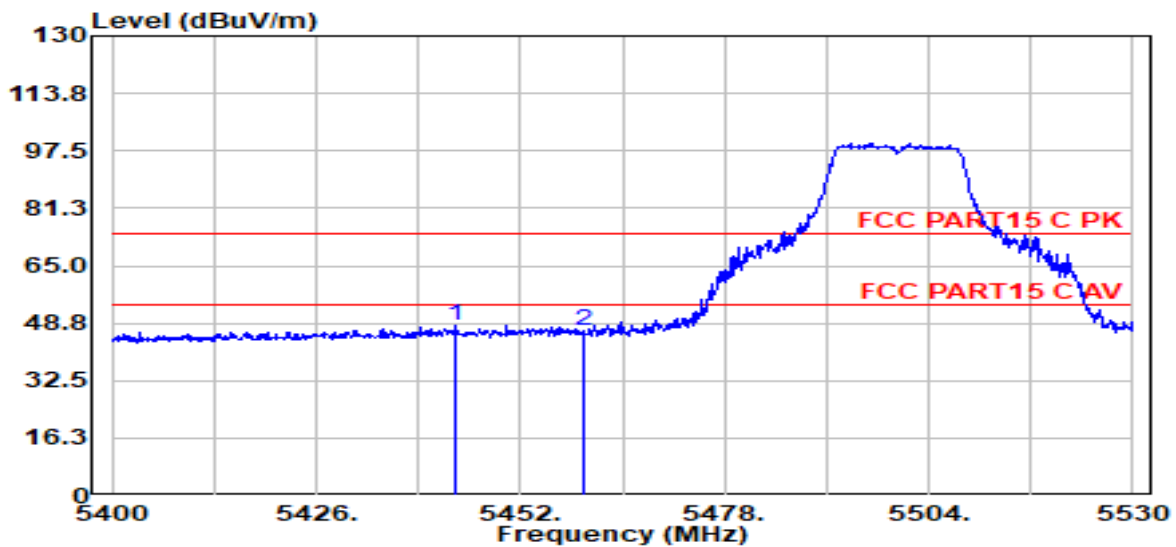
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA
9120D/3m/HORIZONTAL

Memo : 11A 5500 ANT1



Item (Mark)	Freq. (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Detector	Polarization
1	5443.81	53.89	31.80	2.92	40.44	48.17	74.00	-25.83	Peak	HORIZONTAL
2	5460.06	52.11	31.80	2.92	40.45	46.38	74.00	-27.62	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00044.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

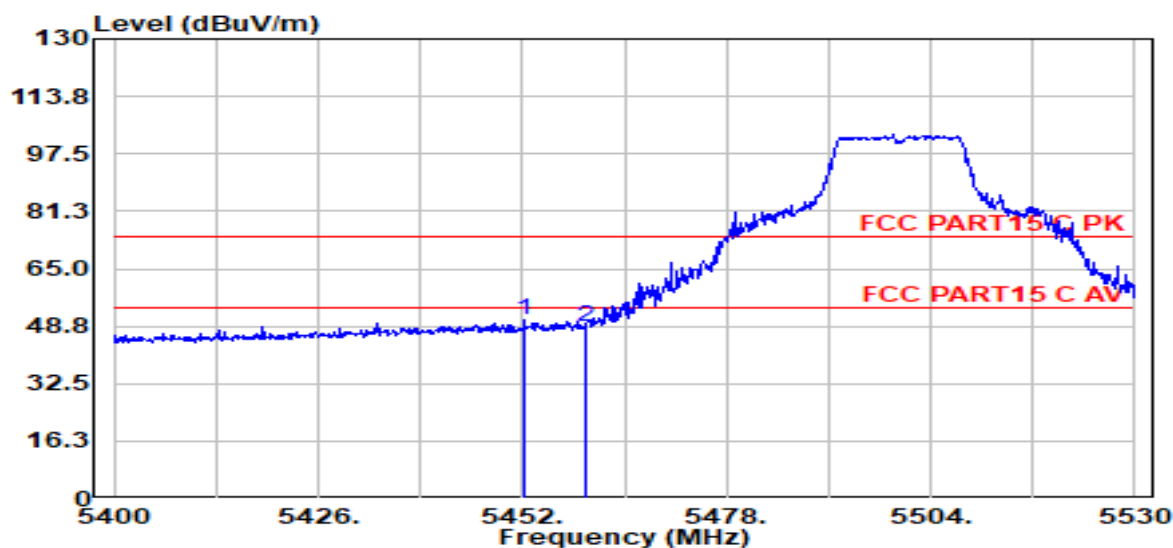
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA 9120D/3m/VERTICAL

Memo : 11A 5500 ANT1



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5452.26	56.25	31.80	2.92	40.45	50.52	74.00	-23.48	Peak	VERTICAL
2	5460.06	54.24	31.80	2.92	40.45	48.51	74.00	-25.49	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00053.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

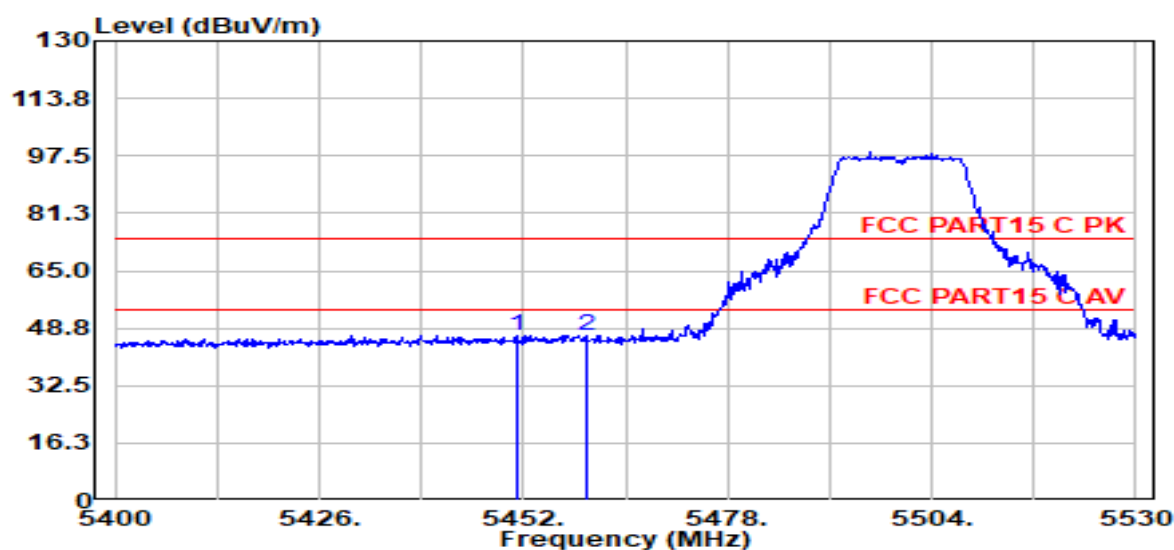
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°, Humi:55%, Press:100.1kPa **Antenna/Distance** : 2020 BBHA
9120D/3m/HORIZONTAL

Memo : 11A 5500 ANT2



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5451.35	52.37	31.80	2.92	40.45	46.64	74.00	-27.36	Peak	HORIZONTAL
2	5460.06	52.09	31.80	2.92	40.45	46.37	74.00	-27.63	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00052.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

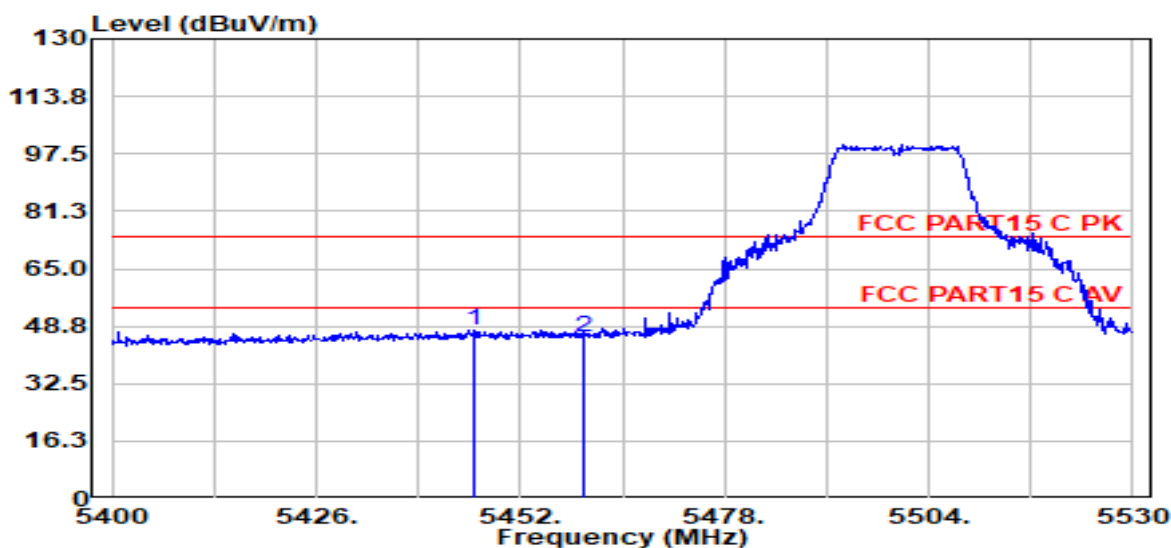
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA 9120D/3m/VERTICAL

Memo : 11A 5500 ANT2



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5446.15	53.35	31.80	2.92	40.44	47.62	74.00	-26.38	Peak	VERTICAL
2	5460.06	51.51	31.80	2.92	40.45	45.78	74.00	-28.22	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00046.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

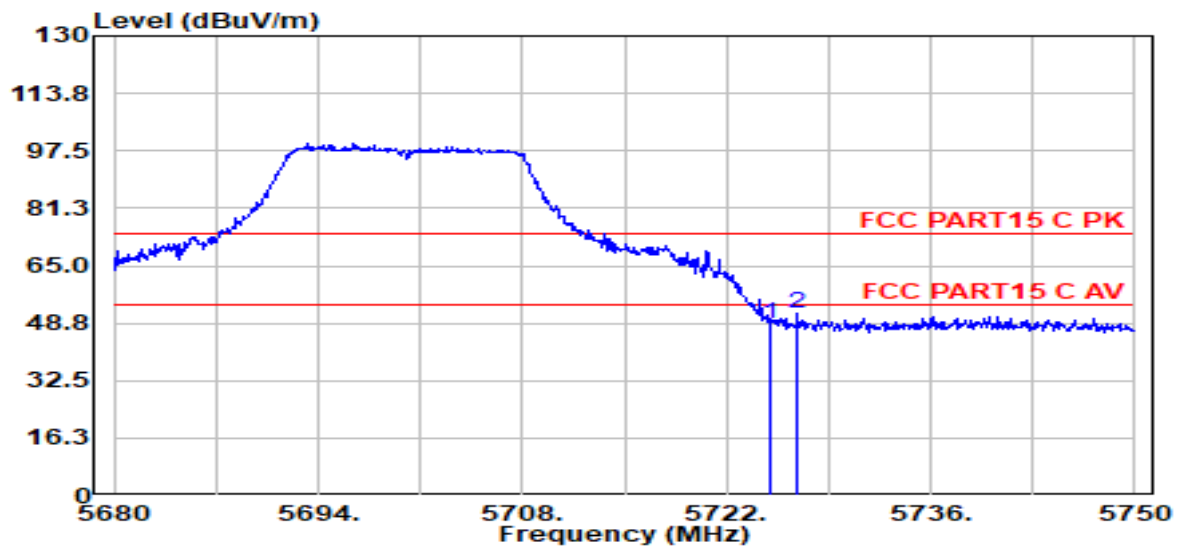
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA
9120D/3m/HORIZONTAL

Memo : 11A 5700 ANT1



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5725.01	53.75	32.12	3.04	40.47	48.44	74.00	-25.56	Peak	HORIZONTAL
2	5726.90	56.76	32.12	3.04	40.47	51.45	74.00	-22.55	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00047.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

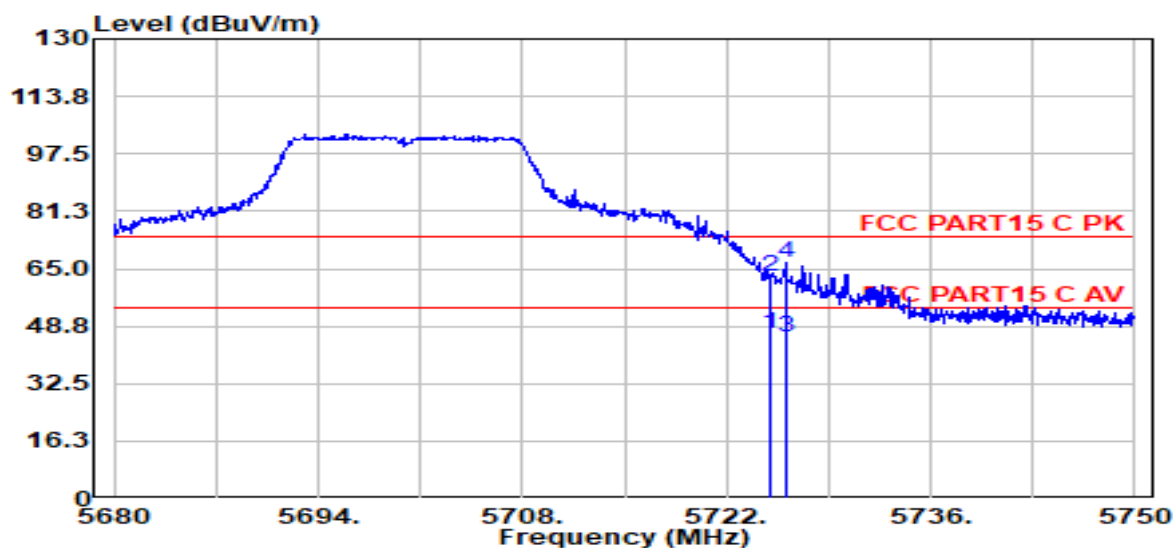
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA 9120D/3m/VERTICAL

Memo : 11A 5700 ANT1



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5725.01	52.03	32.12	3.04	40.47	46.72	54.00	-7.28	Average	VERTICAL
2	5725.01	68.33	32.12	3.04	40.47	63.01	74.00	-10.99	Peak	VERTICAL
3	5726.06	51.02	32.12	3.04	40.47	45.71	54.00	-8.29	Average	VERTICAL
4	5726.06	71.89	32.12	3.04	40.47	66.57	74.00	-7.43	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00054.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

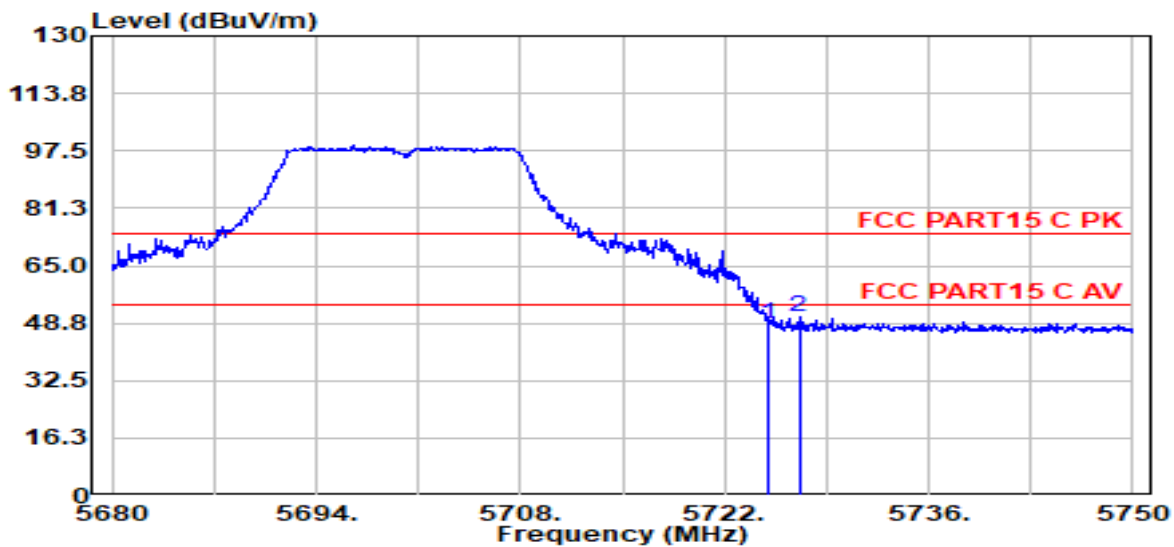
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°, Humi:55%, Press:100.1kPa **Antenna/Distance** : 2020 BBHA
9120D/3m/HORIZONTAL

Memo : 11A 5700 ANT2



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5725.01	53.87	32.12	3.04	40.47	48.56	74.00	-25.44	Peak	HORIZONTAL
2	5727.11	55.72	32.12	3.04	40.47	50.40	74.00	-23.60	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00055.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

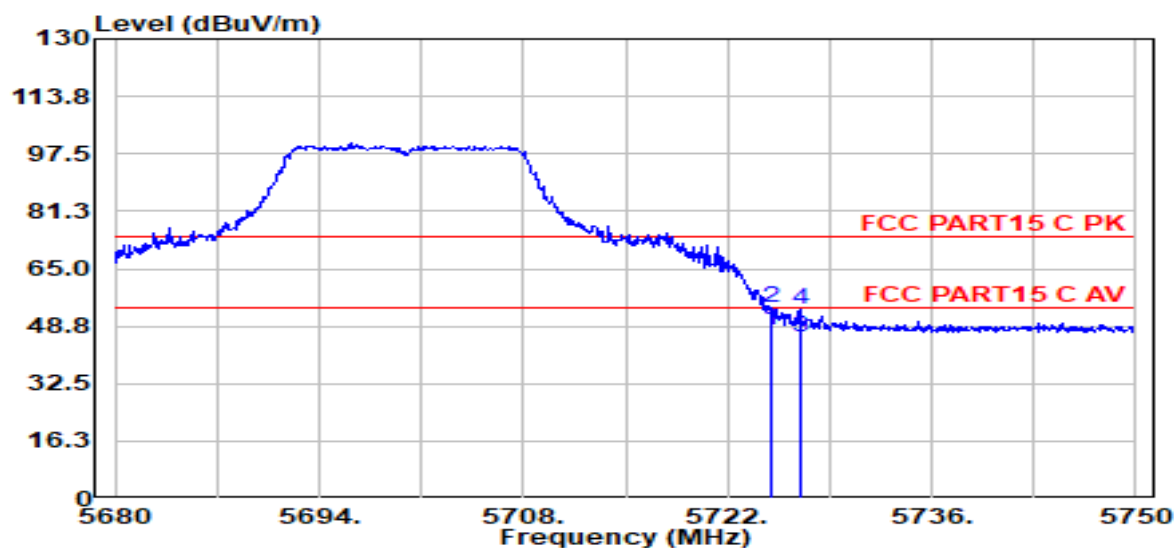
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA 9120D/3m/VERTICAL

Memo : 11A 5700 ANT2



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5725.01	52.68	32.12	3.04	40.47	47.37	54.00	-6.63	Average	VERTICAL
2	5725.01	59.09	32.12	3.04	40.47	53.77	74.00	-20.23	Peak	VERTICAL
3	5726.97	50.87	32.12	3.04	40.47	45.56	54.00	-8.44	Average	VERTICAL
4	5726.97	58.76	32.12	3.04	40.47	53.45	74.00	-20.55	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00057.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

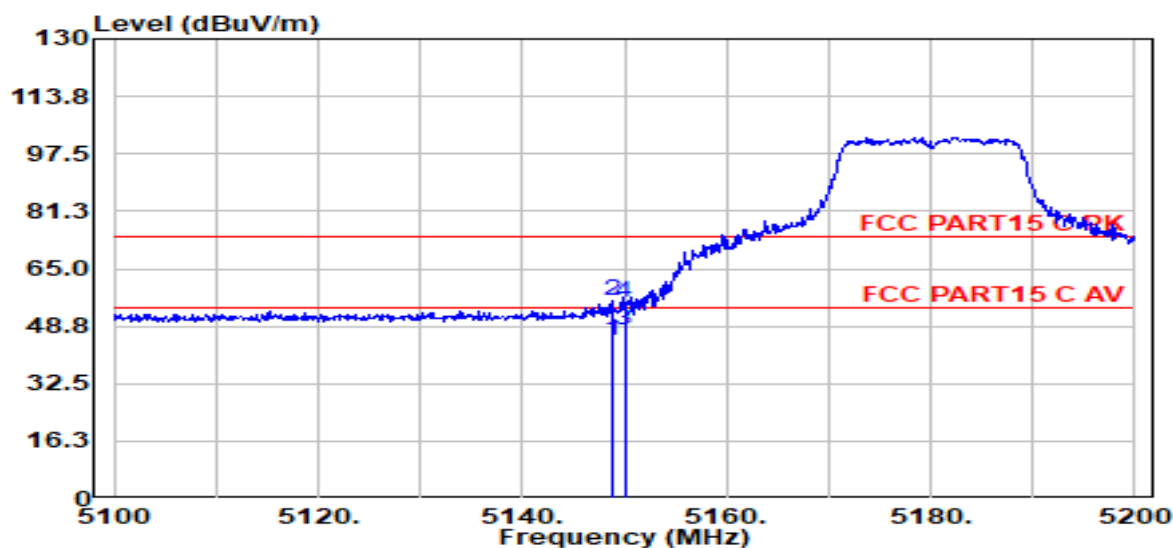
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°, Humi:55%, Press:100.1kPa Antenna/Distance : 2020 BBHA 9120D/3m/HORIZONTAL

Memo : 11N20 5180 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5148.80	50.32	31.80	2.85	40.41	44.55	54.00	-9.45	Average	HORIZONTAL
2	5148.80	61.71	31.80	2.85	40.41	55.94	74.00	-18.06	Peak	HORIZONTAL
3	5150.00	53.11	31.80	2.85	40.42	47.34	54.00	-6.66	Average	HORIZONTAL
4	5150.00	61.08	31.80	2.85	40.42	55.31	74.00	-18.69	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00056.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

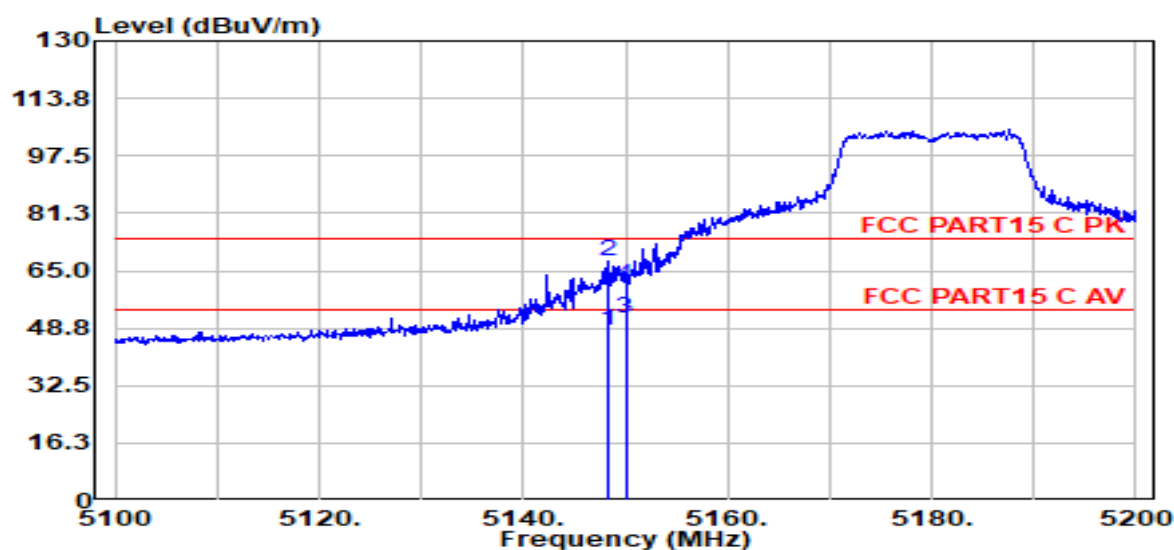
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA 9120D/3m/VERTICAL

Memo : 11N20 5180 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5148.20	53.94	31.80	2.85	40.41	48.17	54.00	-5.83	Average	VERTICAL
2	5148.20	73.43	31.80	2.85	40.41	67.66	74.00	-6.34	Peak	VERTICAL
3	5150.00	57.13	31.80	2.85	40.42	51.36	54.00	-2.64	Average	VERTICAL
4	5150.00	66.47	31.80	2.85	40.42	60.70	74.00	-13.30	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00058.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

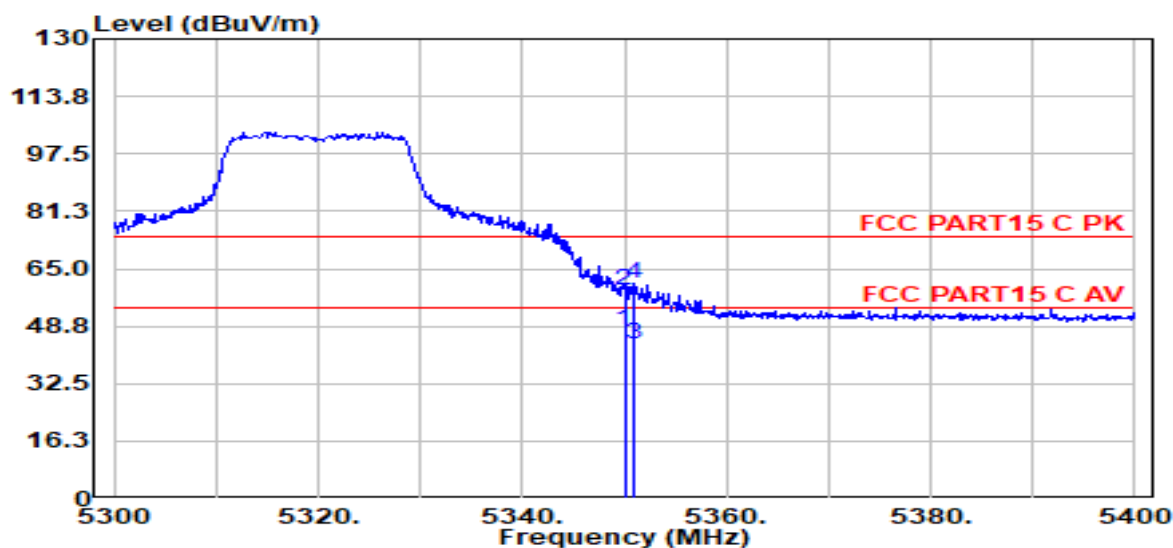
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°, Humi:55%, Press:100.1kPa Antenna/Distance : 2020 BBHA 9120D/3m/HORIZONTAL

Memo : 11N20 5320 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	53.18	31.80	2.89	40.44	47.44	54.00	-6.56	Average	HORIZONTAL
2	5350.00	64.49	31.80	2.89	40.44	58.74	74.00	-15.26	Peak	HORIZONTAL
3	5351.00	49.28	31.80	2.89	40.44	43.54	54.00	-10.46	Average	HORIZONTAL
4	5351.00	66.35	31.80	2.89	40.44	60.61	74.00	-13.39	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00078.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

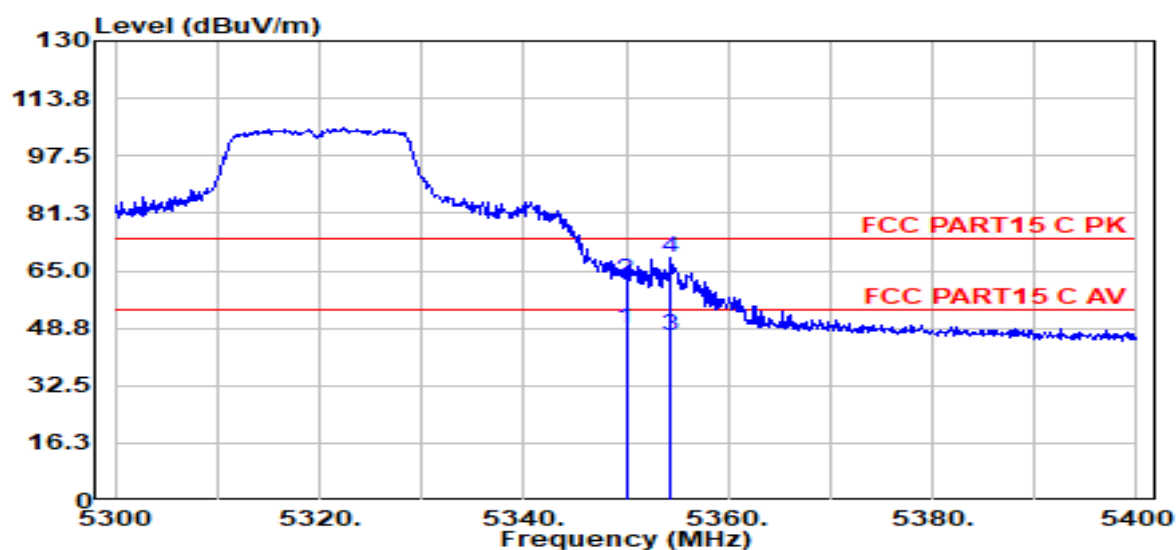
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA 9120D/3m/VERTICAL

Memo : 11AC20 5320 power 14



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	54.24	31.80	2.89	40.44	48.50	54.00	-5.50	Average	VERTICAL
2	5350.00	67.91	31.80	2.89	40.44	62.17	74.00	-11.83	Peak	VERTICAL
3	5354.30	52.18	31.80	2.90	40.44	46.44	54.00	-7.56	Average	VERTICAL
4	5354.30	74.60	31.80	2.90	40.44	68.86	74.00	-5.14	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

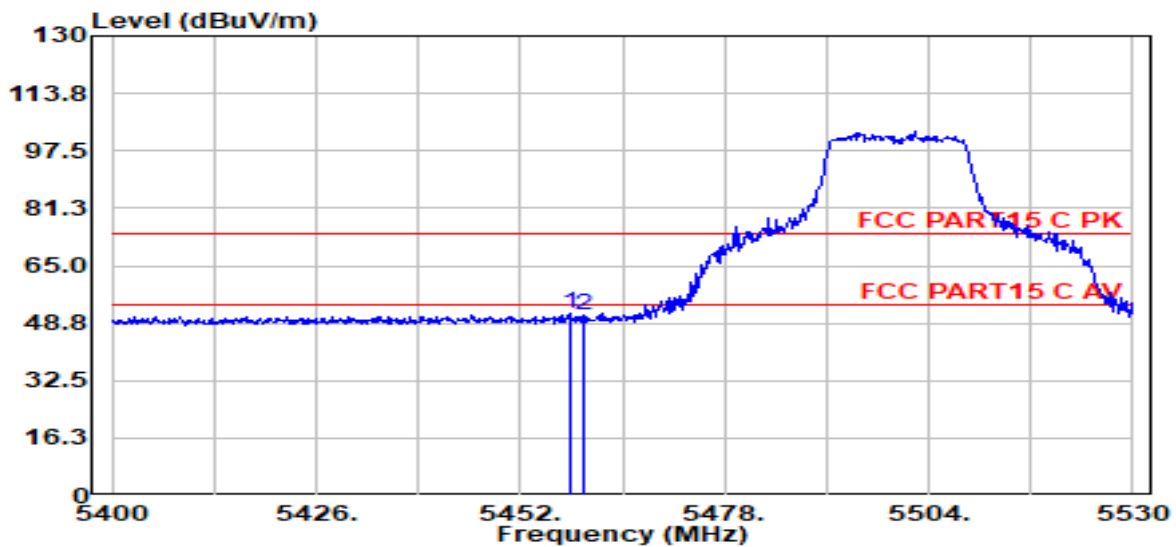
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00061.EMI

Test Date : 2021-09-28**Tested By** : Kennys**EUT** : AI Delivery Robot**Model Number** : OS-R-DR01**Power Supply** : AC 120V/60Hz**Test Mode** : TX mode**Condition** : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA
9120D/3m/HORIZONTAL**Memo** : 11N20 5500 MIMO

Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5458.24	57.26	31.80	2.92	40.45	51.53	74.00	-22.47	Peak	HORIZONTAL
2	5460.06	56.55	31.80	2.92	40.45	50.83	74.00	-23.17	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00060.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

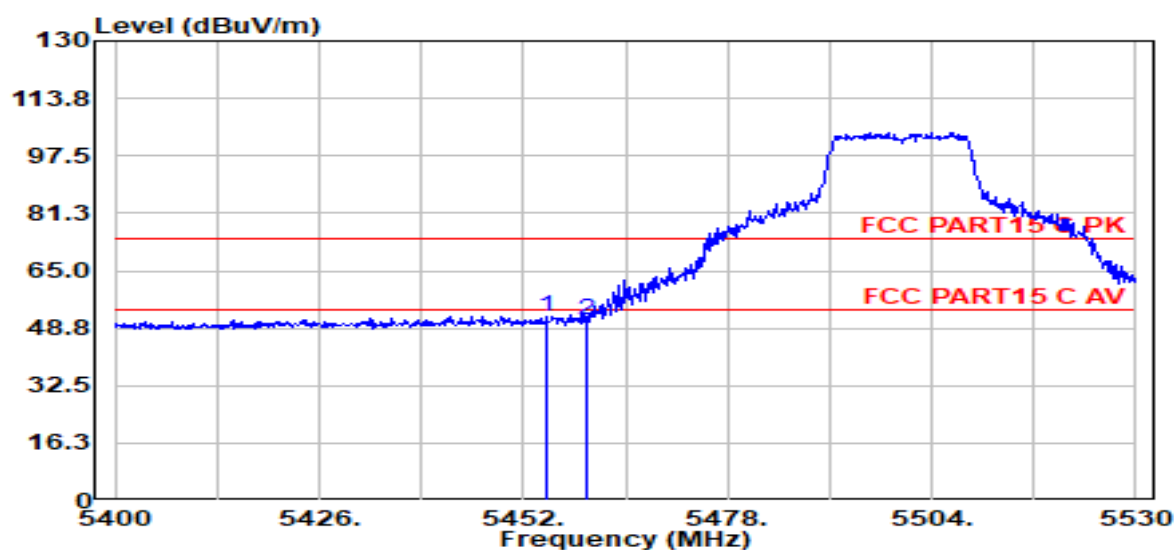
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA 9120D/3m/VERTICAL

Memo : 11N20 5500 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5454.99	57.85	31.80	2.92	40.45	52.13	74.00	-21.87	Peak	VERTICAL
2	5460.06	56.54	31.80	2.92	40.45	50.82	74.00	-23.18	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00062.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

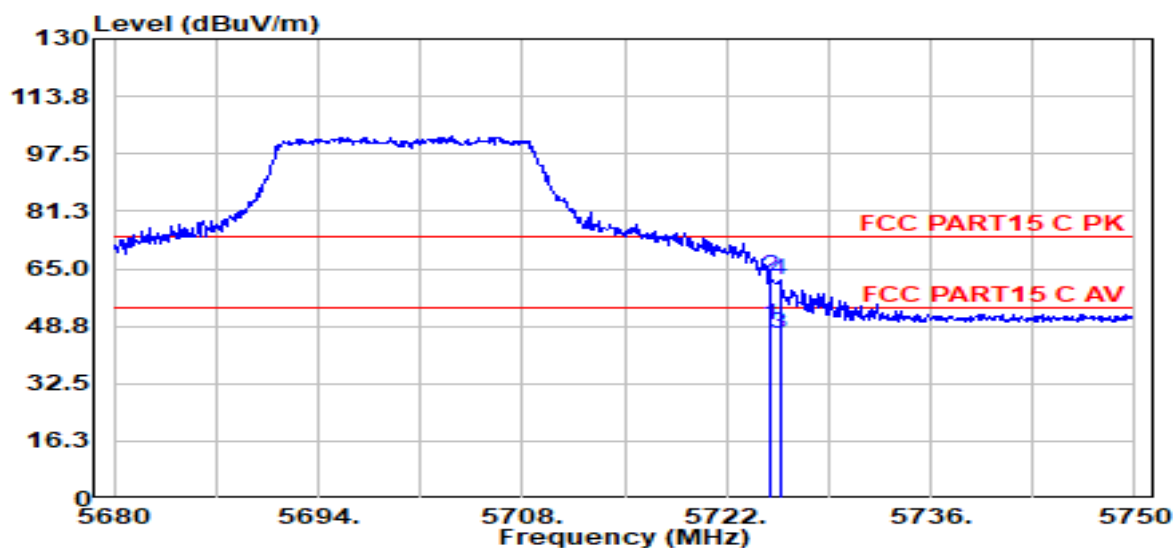
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°, Humi:55%, Press:100.1kPa **Antenna/Distance** : 2020 BBHA
9120D/3m/HORIZONTAL

Memo : 11N20 5700 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5725.01	54.18	32.12	3.04	40.47	48.87	54.00	-5.13	Average	HORIZONTAL
2	5725.01	67.87	32.12	3.04	40.47	62.55	74.00	-11.45	Peak	HORIZONTAL
3	5725.64	51.88	32.12	3.04	40.47	46.57	54.00	-7.43	Average	HORIZONTAL
4	5725.64	66.93	32.12	3.04	40.47	61.61	74.00	-12.39	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00064.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

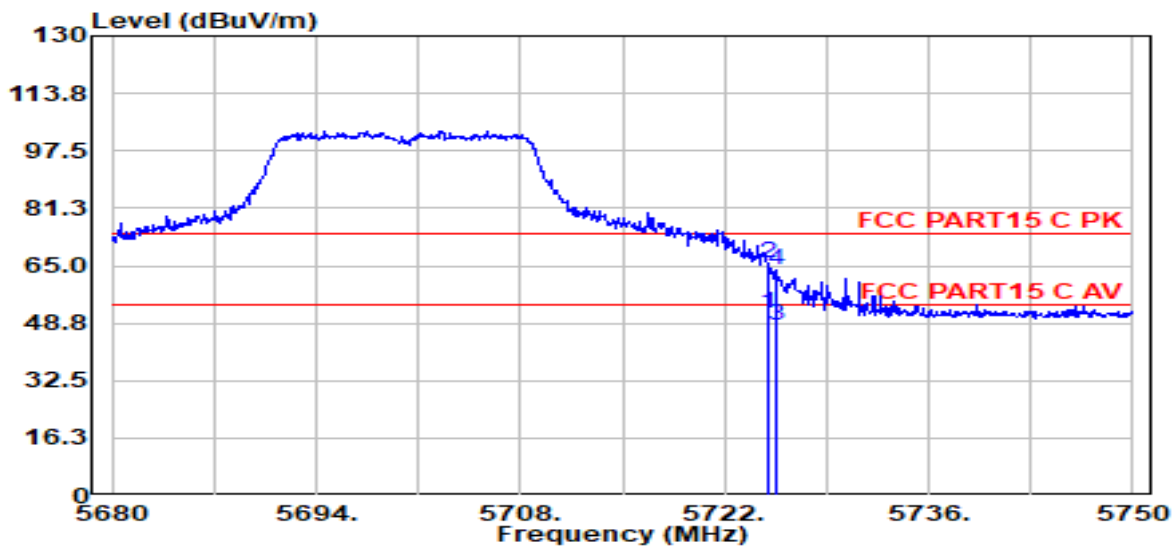
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA 9120D/3m/VERTICAL

Memo : 11N20 5700 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5725.01	56.84	32.12	3.04	40.47	51.53	54.00	-2.47	Average	VERTICAL
2	5725.01	71.04	32.12	3.04	40.47	65.73	74.00	-8.27	Peak	VERTICAL
3	5725.50	53.47	32.12	3.04	40.47	48.16	54.00	-5.84	Average	VERTICAL
4	5725.50	69.11	32.12	3.04	40.47	63.80	74.00	-10.20	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00076.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

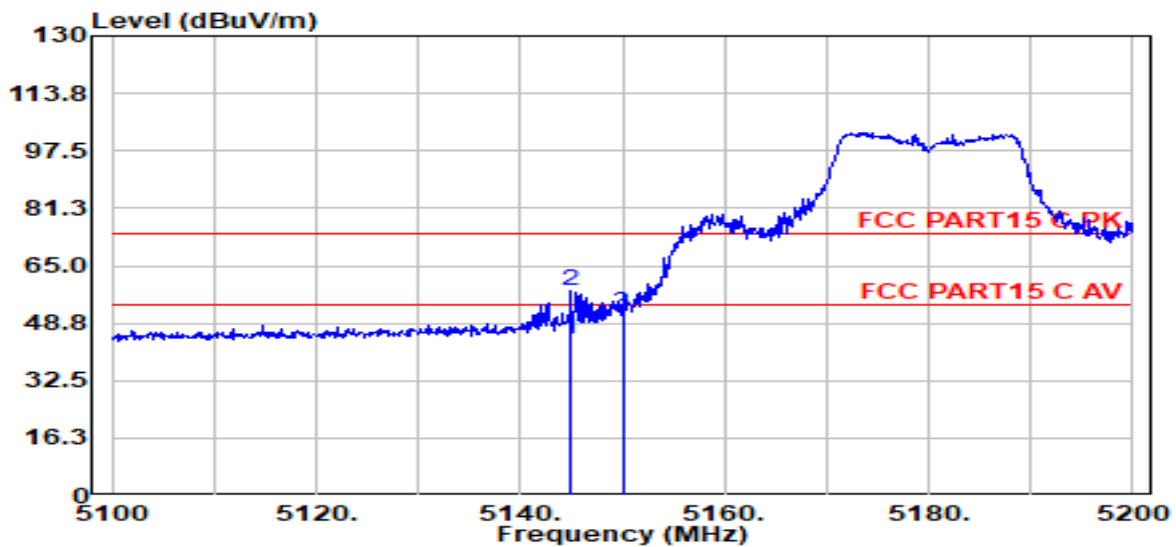
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA
9120D/3m/HORIZONTAL

Memo : 11AC20 5180 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5145.00	50.11	31.80	2.84	40.41	44.34	54.00	-9.66	Average	HORIZONTAL
2	5145.00	63.46	31.80	2.84	40.41	57.69	74.00	-16.31	Peak	HORIZONTAL
3	5150.00	57.29	31.80	2.85	40.42	51.52	74.00	-22.48	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00075.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

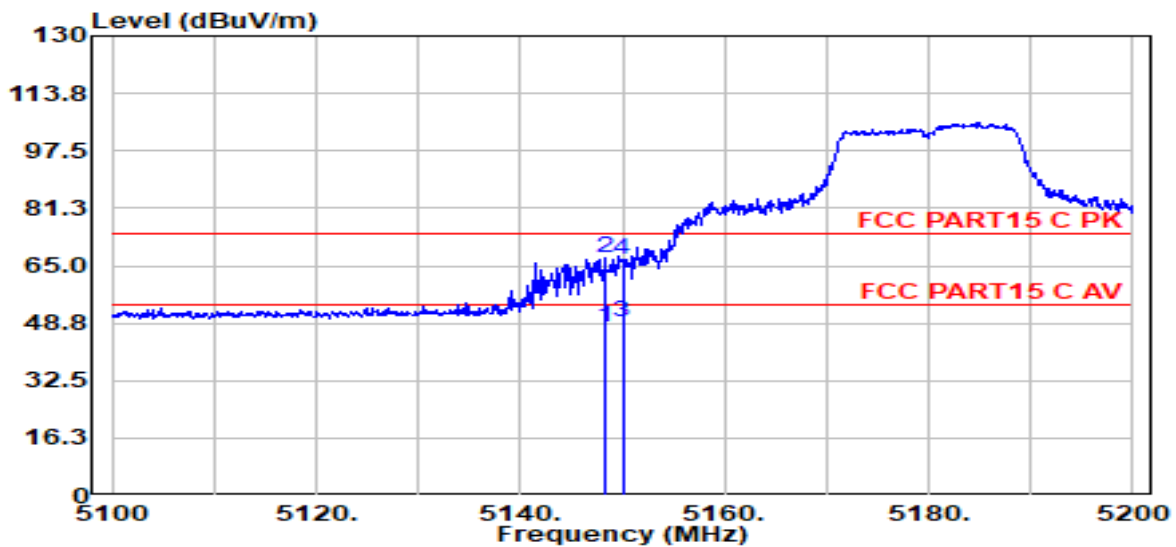
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA 9120D/3m/VERTICAL

Memo : 11AC20 5180 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5148.30	53.42	31.80	2.85	40.41	47.65	54.00	-6.35	Average	VERTICAL
2	5148.30	72.79	31.80	2.85	40.41	67.02	74.00	-6.98	Peak	VERTICAL
3	5150.00	54.59	31.80	2.85	40.42	48.82	54.00	-5.18	Average	VERTICAL
4	5150.00	72.60	31.80	2.85	40.42	66.84	74.00	-7.16	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00077.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

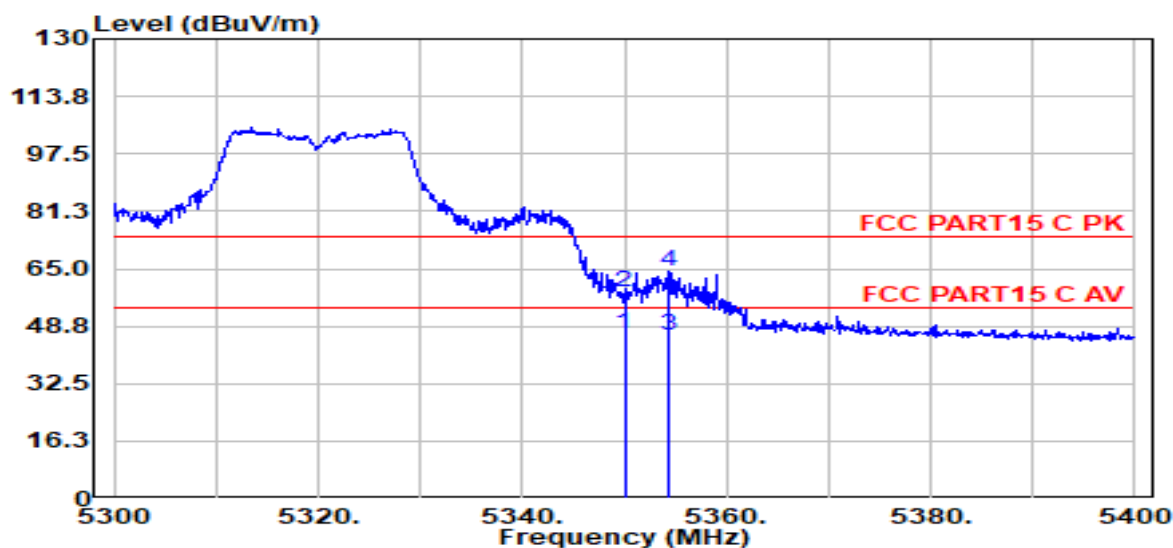
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA
9120D/3m/HORIZONTAL

Memo : 11AC20 5320 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	52.11	31.80	2.89	40.44	46.37	54.00	-7.63	Average	HORIZONTAL
2	5350.00	64.20	31.80	2.89	40.44	58.46	74.00	-15.54	Peak	HORIZONTAL
3	5354.30	51.98	31.80	2.90	40.44	46.24	54.00	-7.76	Average	HORIZONTAL
4	5354.30	70.12	31.80	2.90	40.44	64.38	74.00	-9.62	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00078.EMI

Test Date : 2021-10-15

Tested By : Kennys

EUT : AI Delivery Robot

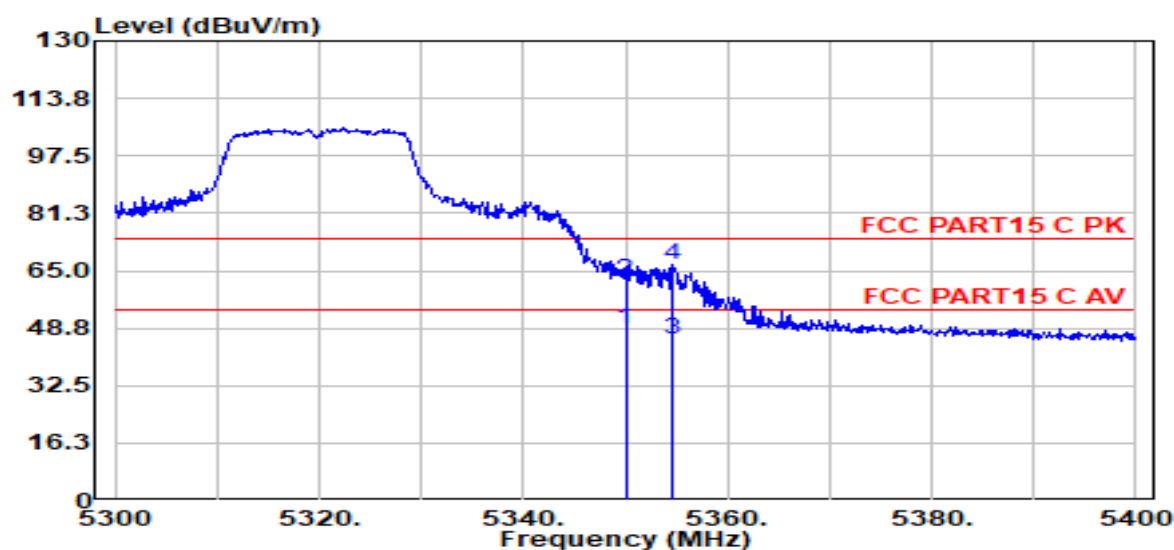
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA 9120D/3m/VERTICAL

Memo : 11AC20 5320



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	54.24	31.80	2.89	40.44	48.50	54.00	-5.50	Average	VERTICAL
2	5350.00	67.91	31.80	2.89	40.44	62.17	74.00	-11.83	Peak	VERTICAL
3	5354.70	51.46	31.80	2.90	40.44	45.72	54.00	-8.28	Average	VERTICAL
4	5354.70	72.46	31.80	2.90	40.44	66.72	74.00	-7.28	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00080.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

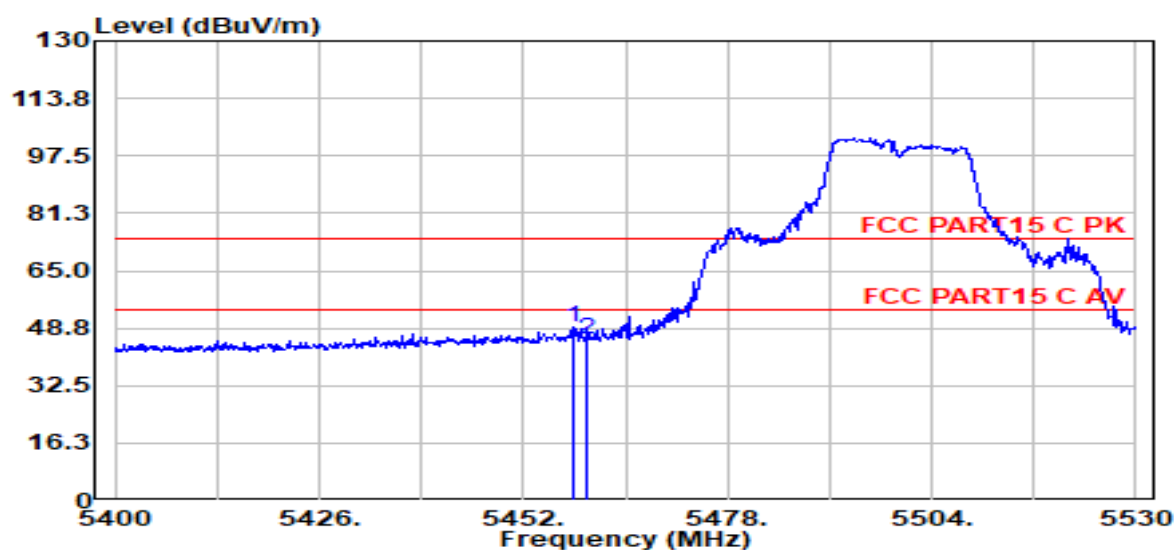
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA
9120D/3m/HORIZONTAL

Memo : 11AC20 5500 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5458.24	54.62	31.80	2.92	40.45	48.89	74.00	-25.11	Peak	HORIZONTAL
2	5460.06	51.20	31.80	2.92	40.45	45.47	74.00	-28.53	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00079.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

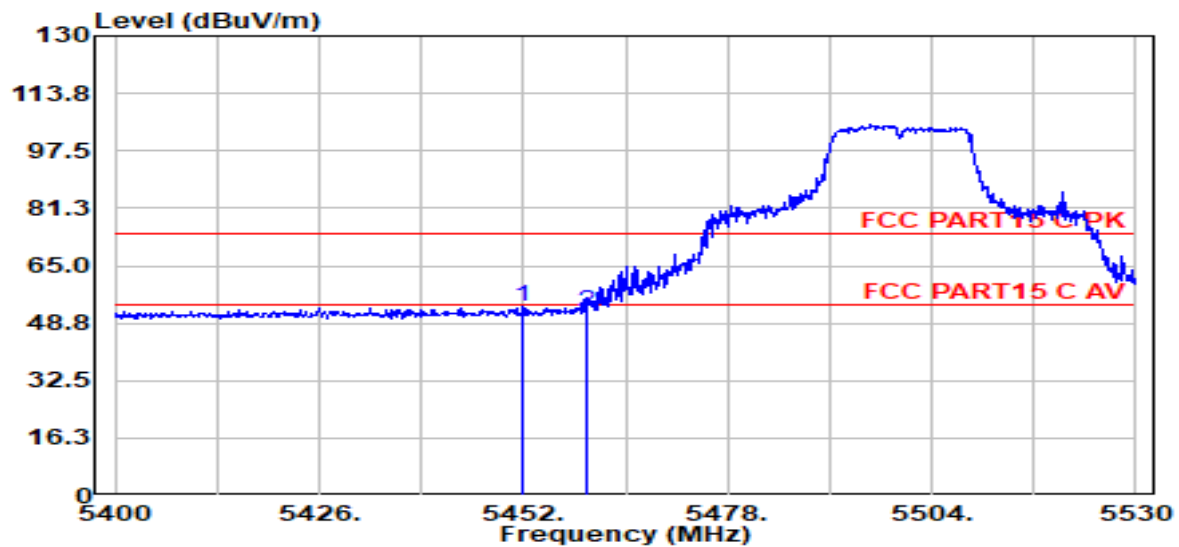
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA 9120D/3m/VERTICAL

Memo : 11AC20 5500 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5451.87	59.23	31.80	2.92	40.45	53.50	74.00	-20.50	Peak	VERTICAL
2	5460.06	57.74	31.80	2.92	40.45	52.02	74.00	-21.98	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00081.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

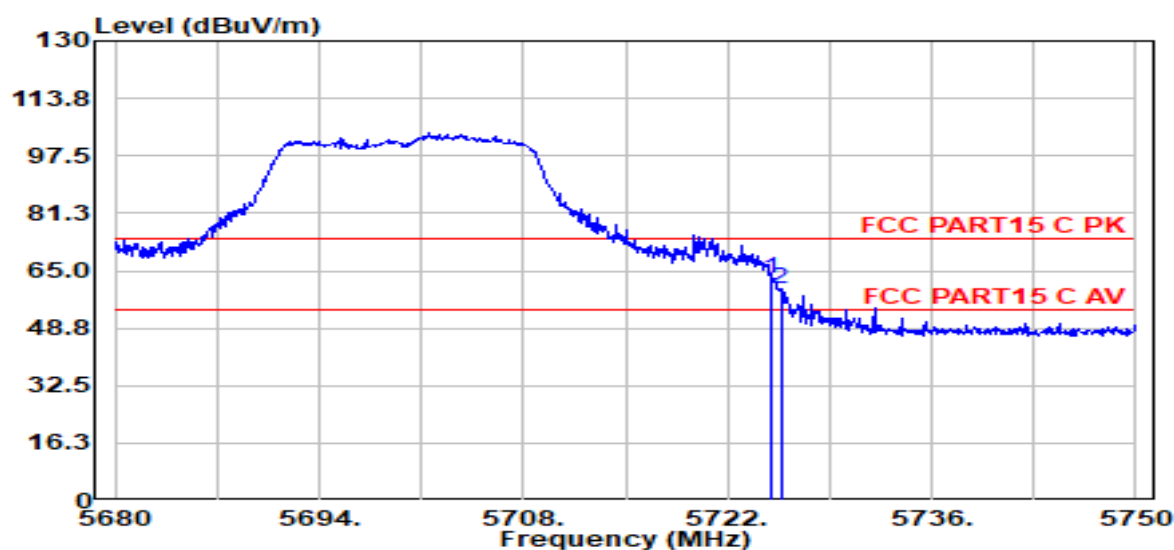
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA
9120D/3m/HORIZONTAL

Memo : 11AC20 5700 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5725.01	68.15	32.12	3.04	40.47	62.83	74.00	-11.17	Peak	HORIZONTAL
2	5725.64	64.93	32.12	3.04	40.47	59.61	74.00	-14.39	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00083.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

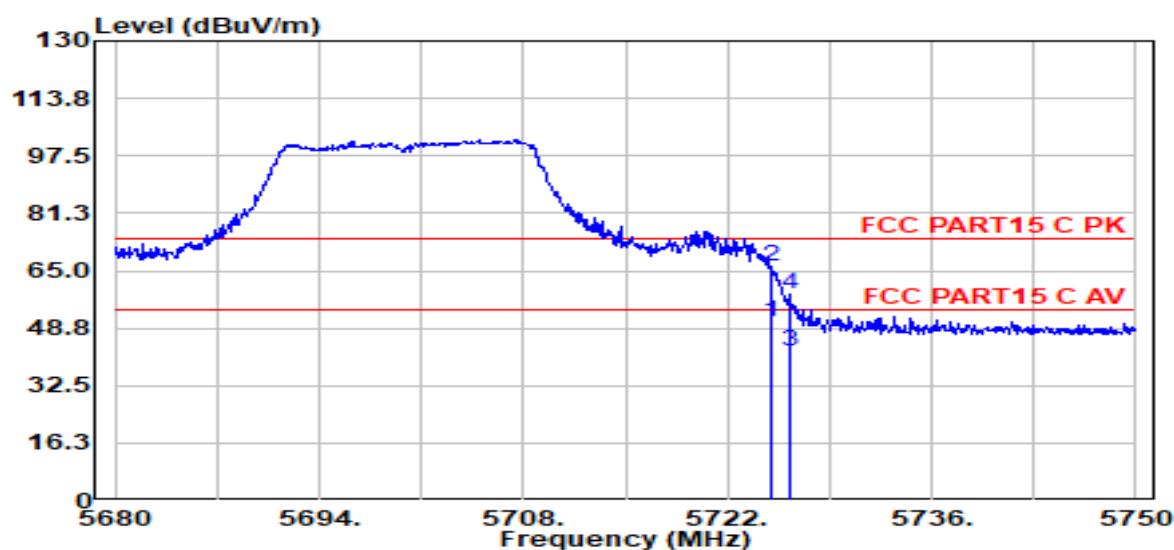
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA 9120D/3m/VERTICAL

Memo : 11AC20 5700 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5725.01	55.78	32.12	3.04	40.47	50.47	54.00	-3.53	Average	VERTICAL
2	5725.01	71.42	32.12	3.04	40.47	66.10	74.00	-7.90	Peak	VERTICAL
3	5726.20	47.66	32.12	3.04	40.47	42.35	54.00	-11.65	Average	VERTICAL
4	5726.20	63.69	32.12	3.04	40.47	58.38	74.00	-15.62	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00066.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

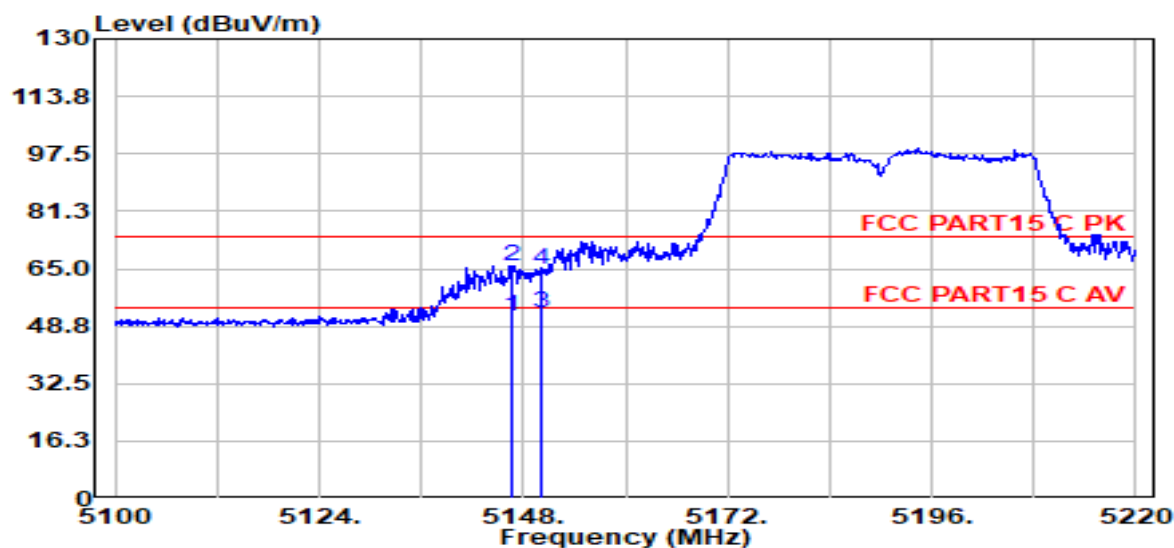
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA 9120D/3m/VERTICAL

Memo : 11N40 5190 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5146.68	57.26	31.80	2.85	40.41	51.49	54.00	-2.51	Average	VERTICAL
2	5146.68	71.72	31.80	2.85	40.41	65.95	74.00	-8.05	Peak	VERTICAL
3	5150.04	58.16	31.80	2.85	40.42	52.39	54.00	-1.61	Average	VERTICAL
4	5150.04	70.67	31.80	2.85	40.42	64.90	74.00	-9.10	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00067.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

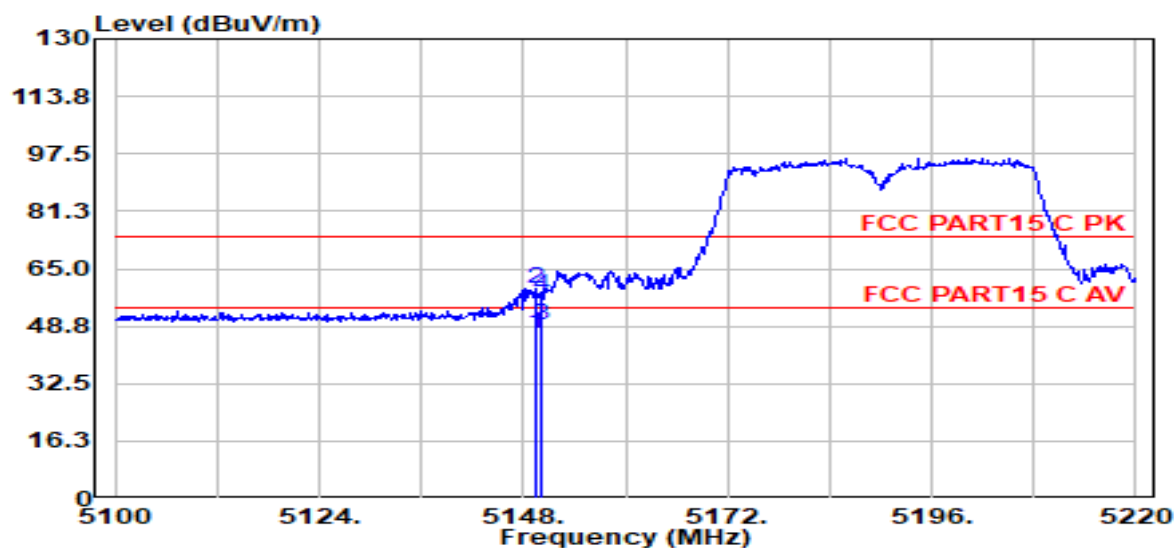
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°, Humi:55%, Press:100.1kPa **Antenna/Distance** : 2020 BBHA
9120D/3m/HORIZONTAL

Memo : 11N40 5190 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Detector	Polarization
1	5149.44	52.24	31.80	2.85	40.41	46.47	54.00	-7.53	Average	HORIZONTAL
2	5149.44	65.23	31.80	2.85	40.41	59.46	74.00	-14.54	Peak	HORIZONTAL
3	5150.04	54.67	31.80	2.85	40.42	48.90	54.00	-5.10	Average	HORIZONTAL
4	5150.04	63.36	31.80	2.85	40.42	57.59	74.00	-16.41	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00068.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

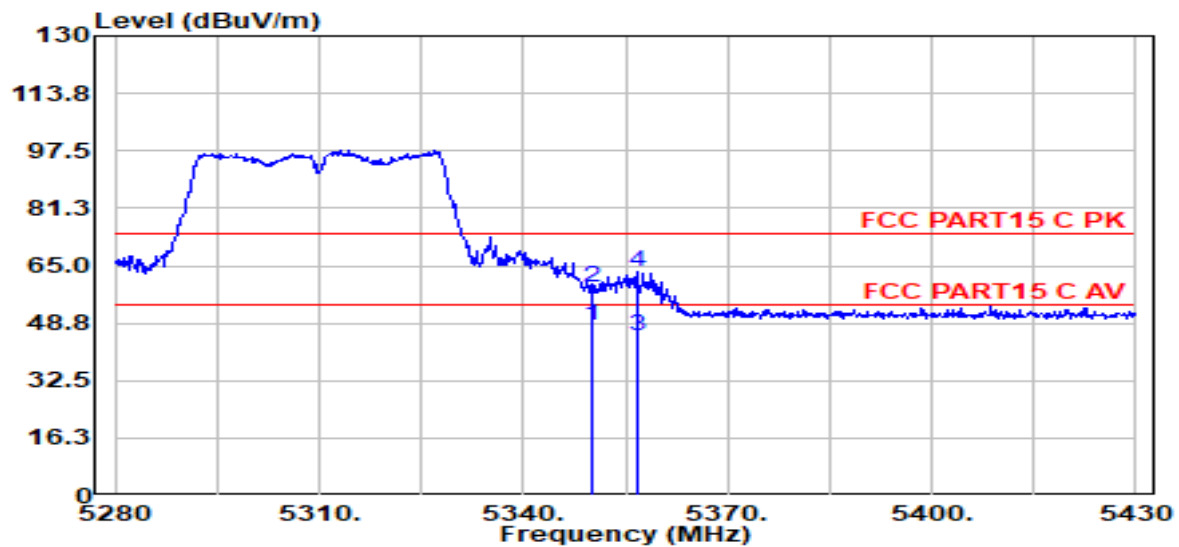
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA
9120D/3m/HORIZONTAL

Memo : 11N40 5310 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.05	53.84	31.80	2.89	40.44	48.10	54.00	-5.90	Average	HORIZONTAL
2	5350.05	64.76	31.80	2.89	40.44	59.02	74.00	-14.98	Peak	HORIZONTAL
3	5356.65	51.11	31.80	2.90	40.44	45.37	54.00	-8.63	Average	HORIZONTAL
4	5356.65	68.96	31.80	2.90	40.44	63.22	74.00	-10.78	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00070.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

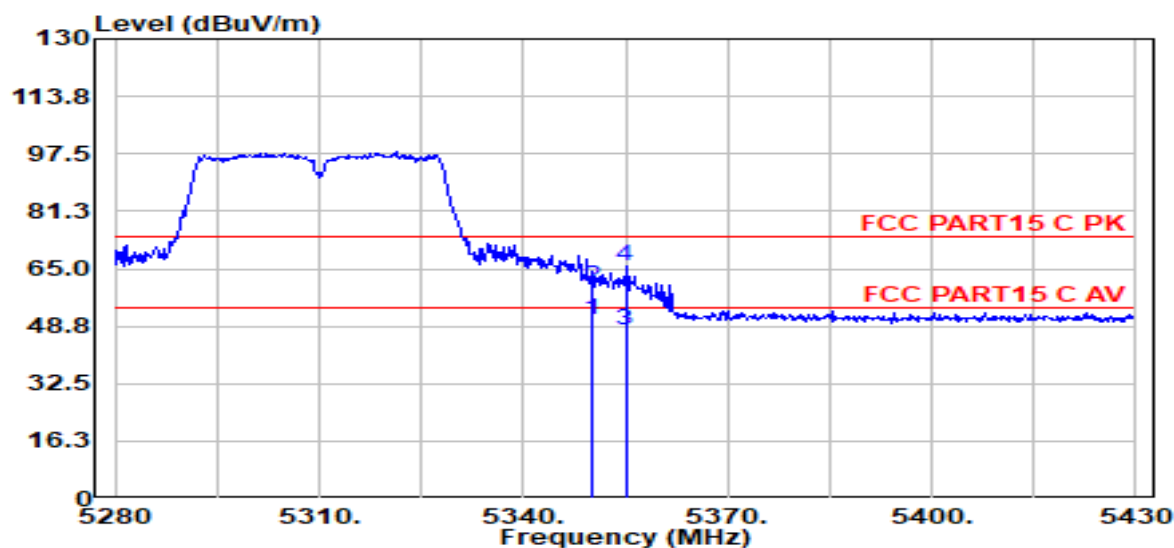
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA 9120D/3m/VERTICAL

Memo : 11N40 5310 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.05	56.50	31.80	2.89	40.44	50.76	54.00	-3.24	Average	VERTICAL
2	5350.05	65.80	31.80	2.89	40.44	60.06	74.00	-13.94	Peak	VERTICAL
3	5355.00	53.16	31.80	2.90	40.44	47.42	54.00	-6.58	Average	VERTICAL
4	5355.00	71.55	31.80	2.90	40.44	65.81	74.00	-8.19	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00072.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

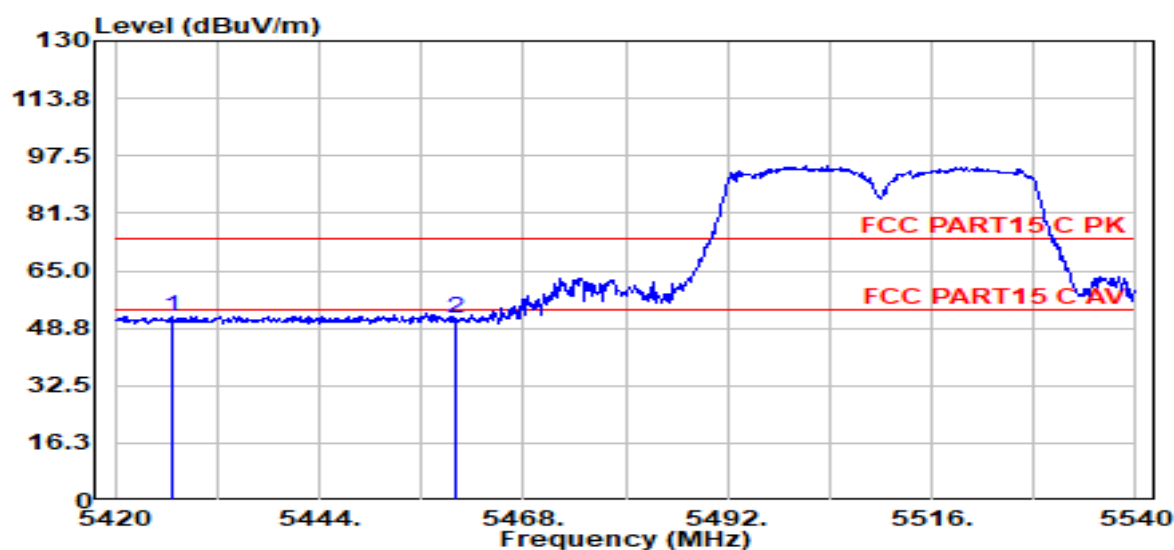
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA
9120D/3m/HORIZONTAL

Memo : 11N40 5510 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5426.84	57.92	31.80	2.91	40.44	52.19	74.00	-21.81	Peak	HORIZONTAL
2	5459.96	57.48	31.80	2.92	40.45	51.75	74.00	-22.25	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00071.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

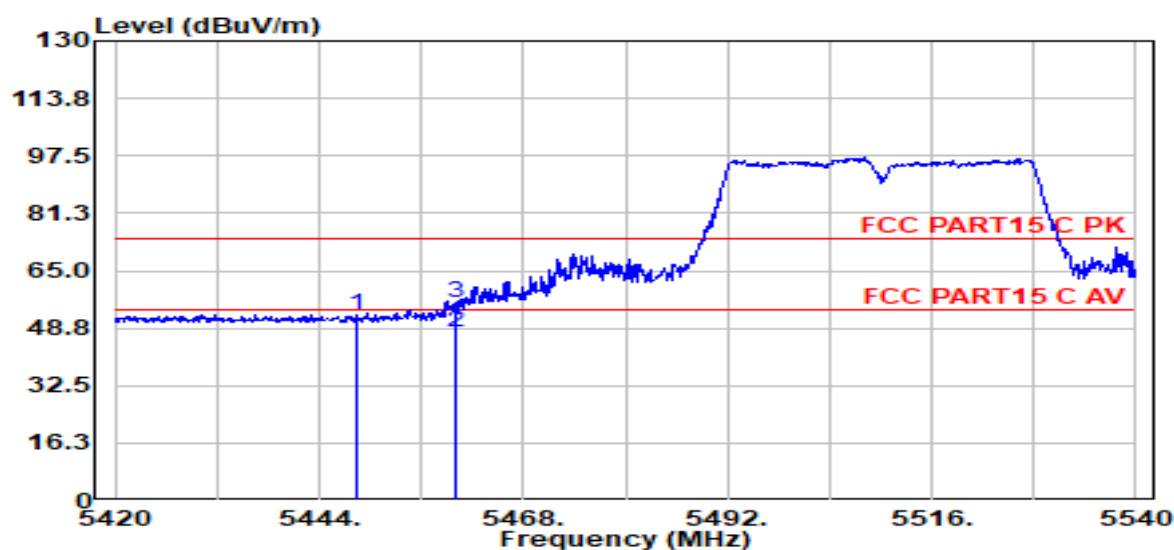
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA 9120D/3m/VERTICAL

Memo : 11N40 5510 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5448.44	58.43	31.80	2.92	40.44	52.71	74.00	-21.29	Peak	VERTICAL
2	5459.96	53.24	31.80	2.92	40.45	47.51	54.00	-6.49	Average	VERTICAL
3	5459.96	61.68	31.80	2.92	40.45	55.95	74.00	-18.05	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: au

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00073.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

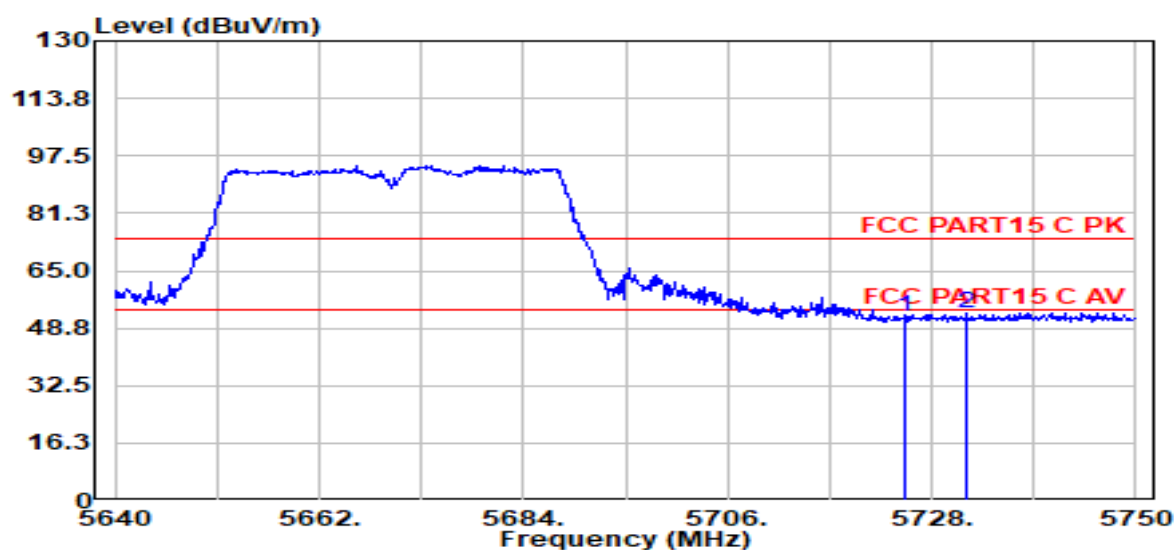
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA
9120D/3m/HORIZONTAL

Memo : 11N40 5670 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5725.03	57.45	32.12	3.04	40.47	52.13	74.00	-21.87	Peak	HORIZONTAL
2	5731.85	58.53	32.12	3.05	40.47	53.22	74.00	-20.78	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

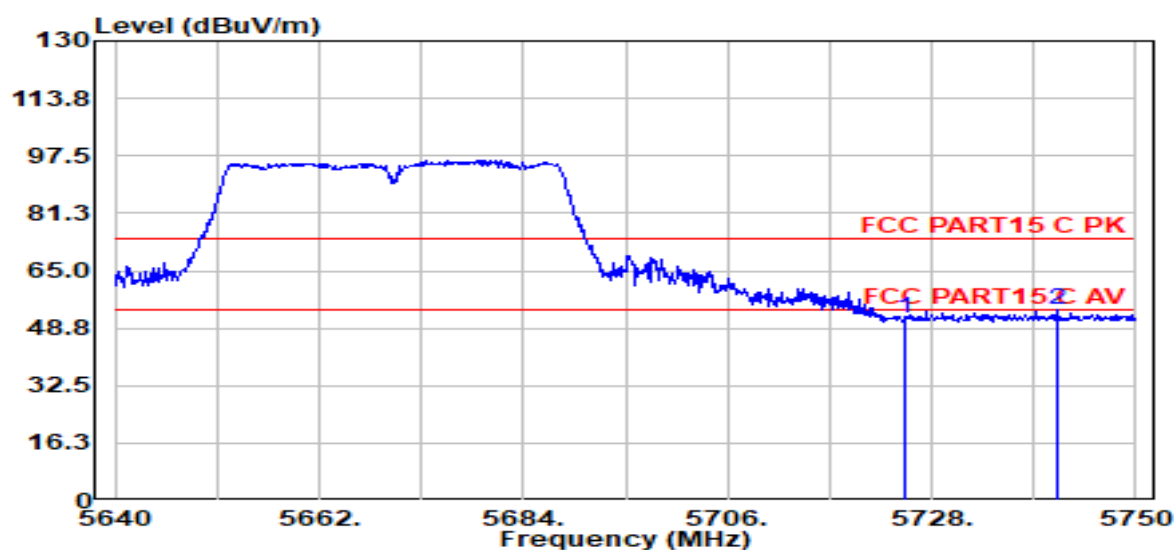
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

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 3#
Test Date : 2021-09-28
EUT : AI Delivery Robot
Power Supply : AC 120V/60Hz
Condition : Temp:24.5°, Humi:55%, Press:100.1kPa
Memo : 11N40 5670 MIMO

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00074.EMI
Tested By : Kennys
Model Number : OS-R-DR01
Test Mode : TX mode
Antenna/Distance : 2020 BBHA 9120D/3m/VERTICAL



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5725.03	56.67	32.12	3.04	40.47	51.36	74.00	-22.64	Peak	VERTICAL
2	5741.42	59.02	32.14	3.05	40.47	53.73	74.00	-20.27	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00085.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

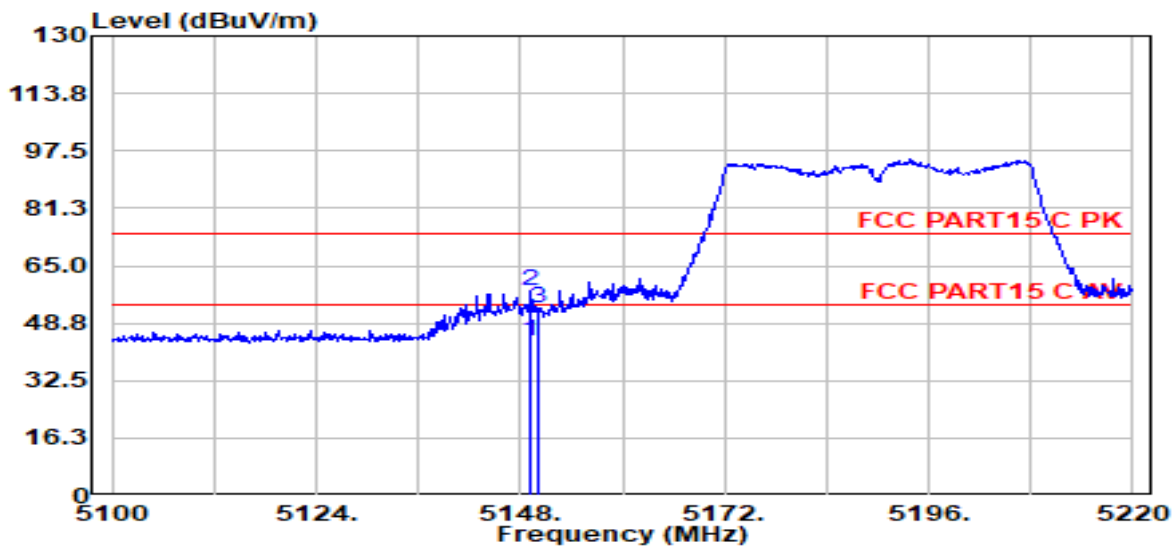
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA
9120D/3m/HORIZONTAL

Memo : 11AC40 5190 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5149.20	49.21	31.80	2.85	40.41	43.44	54.00	-10.56	Average	HORIZONTAL
2	5149.20	63.68	31.80	2.85	40.41	57.91	74.00	-16.09	Peak	HORIZONTAL
3	5150.04	58.74	31.80	2.85	40.42	52.97	74.00	-21.03	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00086.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

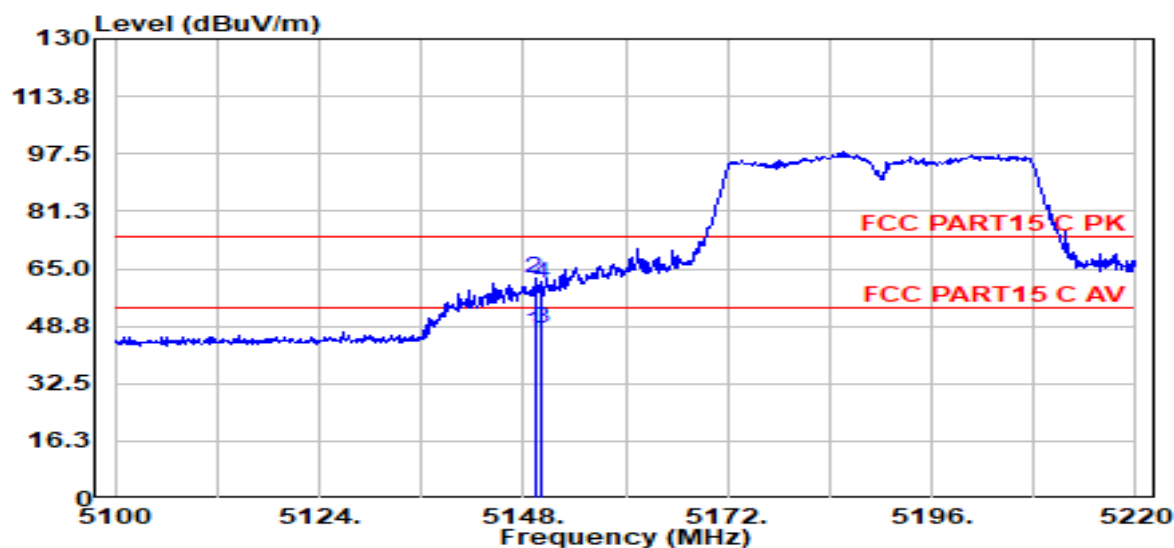
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa Antenna/Distance : 2020 BBHA 9120D/3m/VERTICAL

Memo : 11AC40 5190 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5149.32	53.04	31.80	2.85	40.41	47.27	54.00	-6.73	Average	VERTICAL
2	5149.32	68.17	31.80	2.85	40.41	62.40	74.00	-11.60	Peak	VERTICAL
3	5150.04	53.67	31.80	2.85	40.42	47.90	54.00	-6.10	Average	VERTICAL
4	5150.04	66.67	31.80	2.85	40.42	60.90	74.00	-13.10	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00088.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

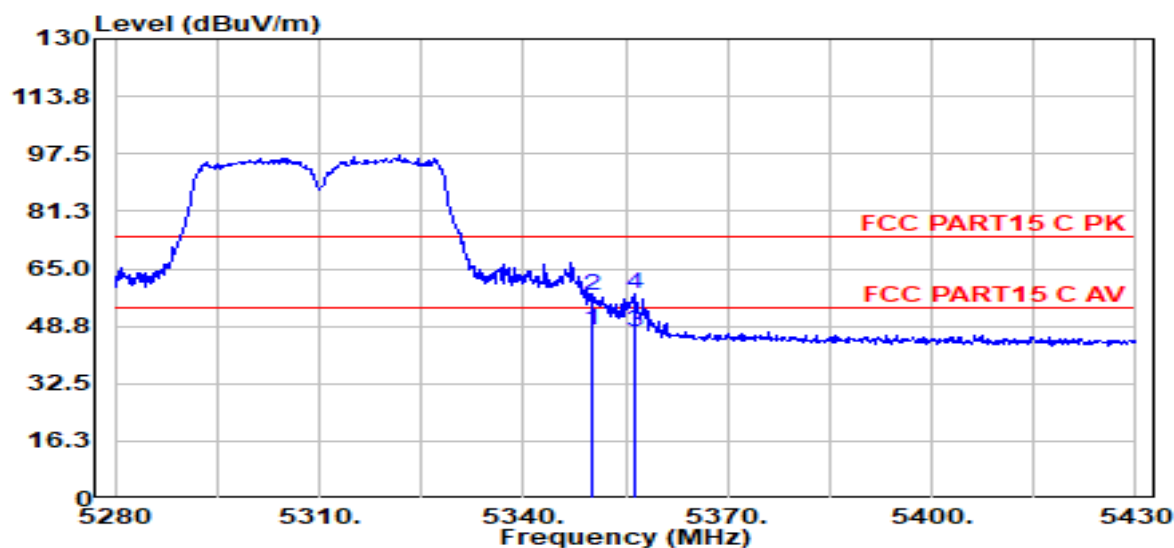
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA
9120D/3m/HORIZONTAL

Memo : 11AC40 5310 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.05	53.48	31.80	2.89	40.44	47.74	54.00	-6.26	Average	HORIZONTAL
2	5350.05	62.92	31.80	2.89	40.44	57.18	74.00	-16.82	Peak	HORIZONTAL
3	5356.50	52.84	31.80	2.90	40.44	47.10	54.00	-6.90	Average	HORIZONTAL
4	5356.50	63.45	31.80	2.90	40.44	57.71	74.00	-16.29	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

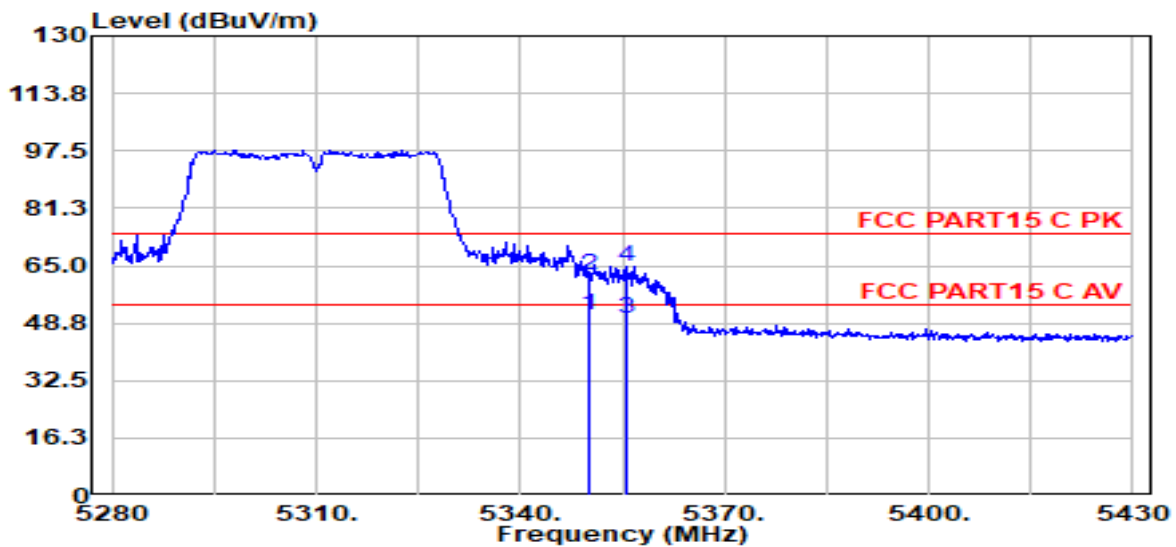
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

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 3#
Test Date : 2021-09-28
EUT : AI Delivery Robot
Power Supply : AC 120V/60Hz
Condition : Temp:24.5°, Humi:55%, Press:100.1kPa
Memo : 11AC40 5310 MIMO

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00087.EMI
Tested By : Kennys
Model Number : OS-R-DR01
Test Mode : TX mode
Antenna/Distance : 2020 BBHA 9120D/3m/VERTICAL



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.05	56.62	31.80	2.89	40.44	50.88	54.00	-3.12	Average	VERTICAL
2	5350.05	67.93	31.80	2.89	40.44	62.19	74.00	-11.81	Peak	VERTICAL
3	5355.75	55.65	31.80	2.90	40.44	49.91	54.00	-4.09	Average	VERTICAL
4	5355.75	70.70	31.80	2.90	40.44	64.96	74.00	-9.04	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00089.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

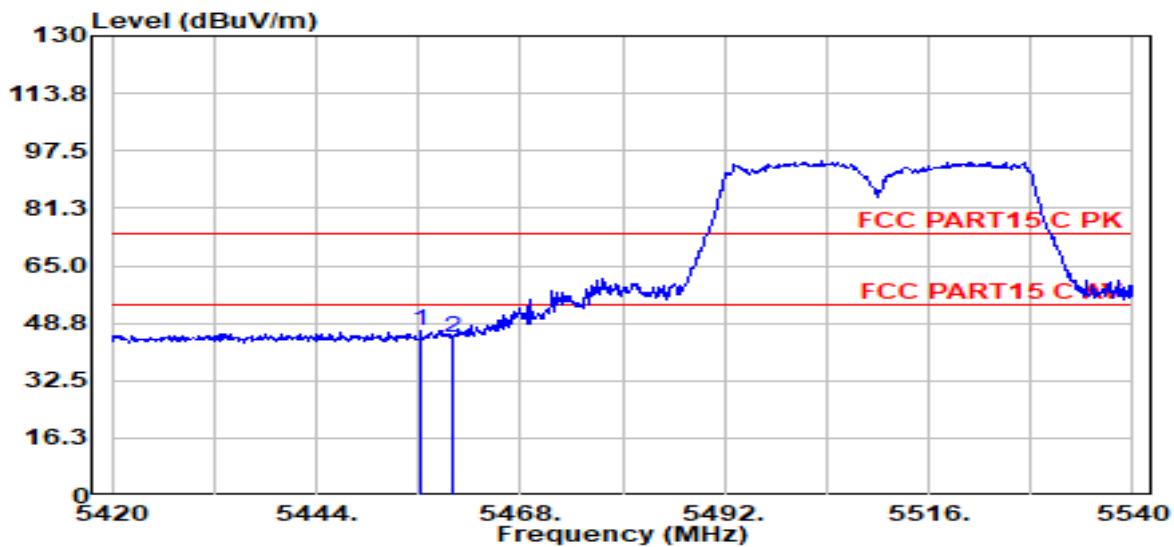
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA
9120D/3m/HORIZONTAL

Memo : 11AC40 5510 MIMIO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5456.24	52.45	31.80	2.92	40.45	46.72	74.00	-27.28	Peak	HORIZONTAL
2	5459.96	50.14	31.80	2.92	40.45	44.41	74.00	-29.59	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00090.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

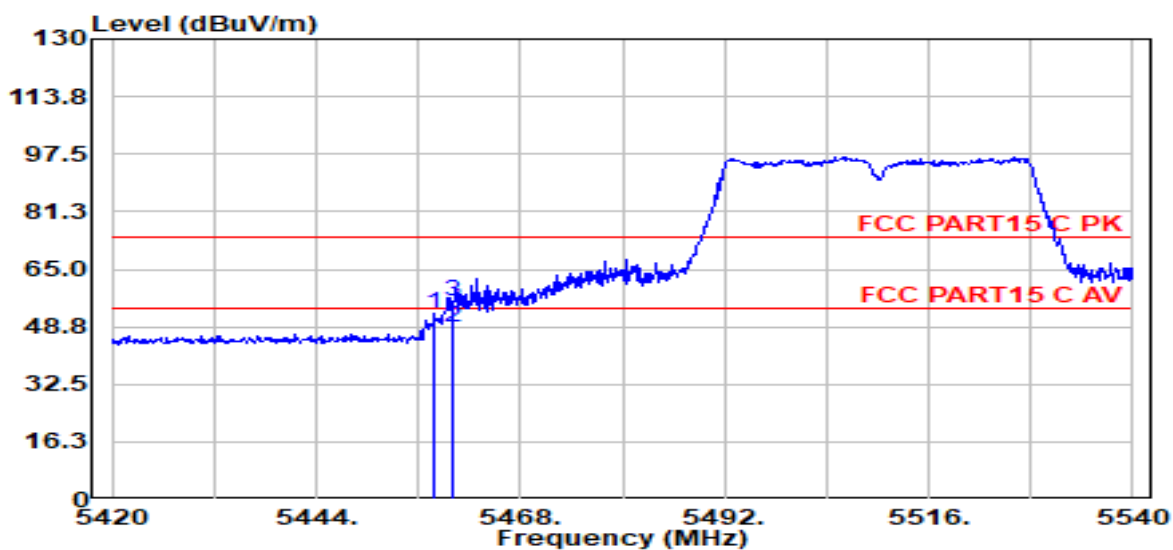
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°, Humi:55%, Press:100.1kPa Antenna/Distance : 2020 BBHA 9120D/3m/VERTICAL

Memo : 11AC40 5510 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBUV/m)	Limit Line (dBUV/m)	Over Limit (dB)	Detector	Polarization
1	5457.92	58.37	31.80	2.92	40.45	52.64	74.00	-21.36	Peak	VERTICAL
2	5459.96	54.48	31.80	2.92	40.45	48.75	54.00	-5.25	Average	VERTICAL
3	5459.96	61.68	31.80	2.92	40.45	55.95	74.00	-18.05	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00092.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

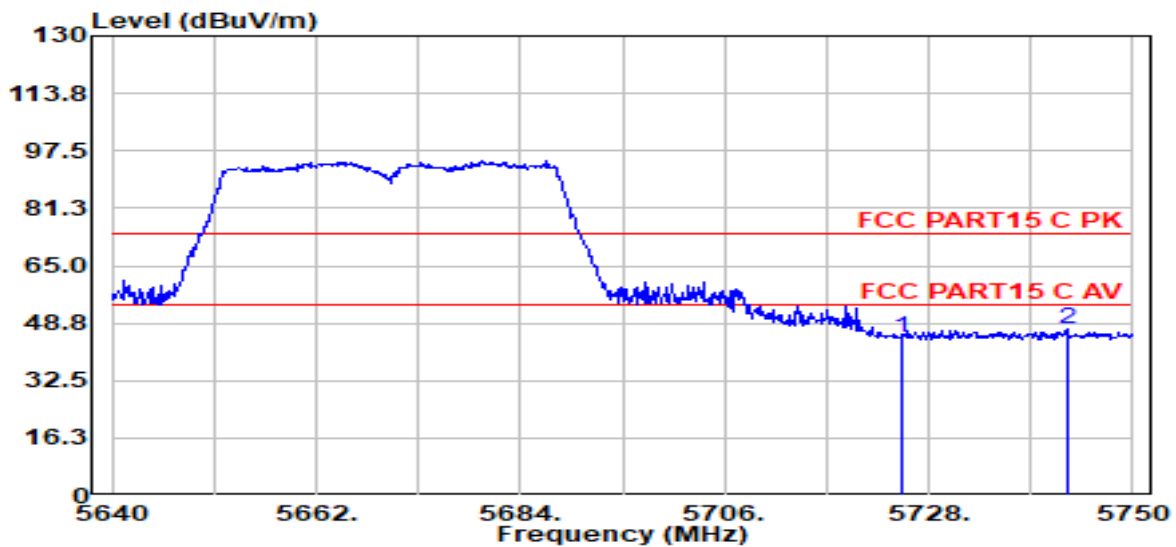
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA
9120D/3m/HORIZONTAL

Memo : 11AC40 5670 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5725.03	49.81	32.12	3.04	40.47	44.50	74.00	-29.50	Peak	HORIZONTAL
2	5742.85	52.47	32.14	3.05	40.47	47.18	74.00	-26.82	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00091.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

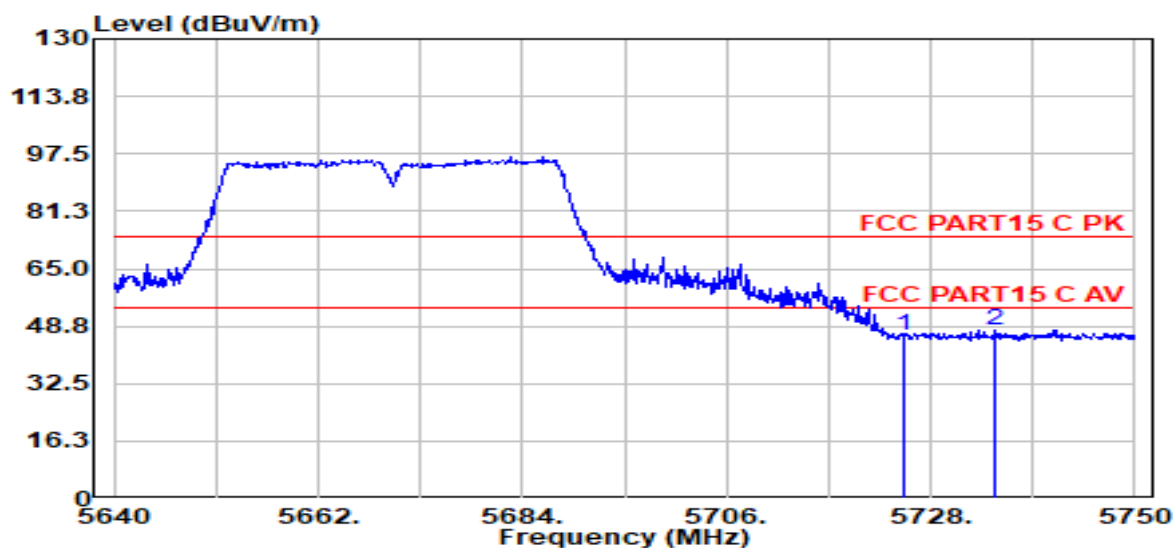
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA 9120D/3m/VERTICAL

Memo : 11AC40 5670 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5725.03	51.37	32.12	3.04	40.47	46.05	74.00	-27.95	Peak	VERTICAL
2	5735.04	52.83	32.13	3.05	40.47	47.53	74.00	-26.47	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00093.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

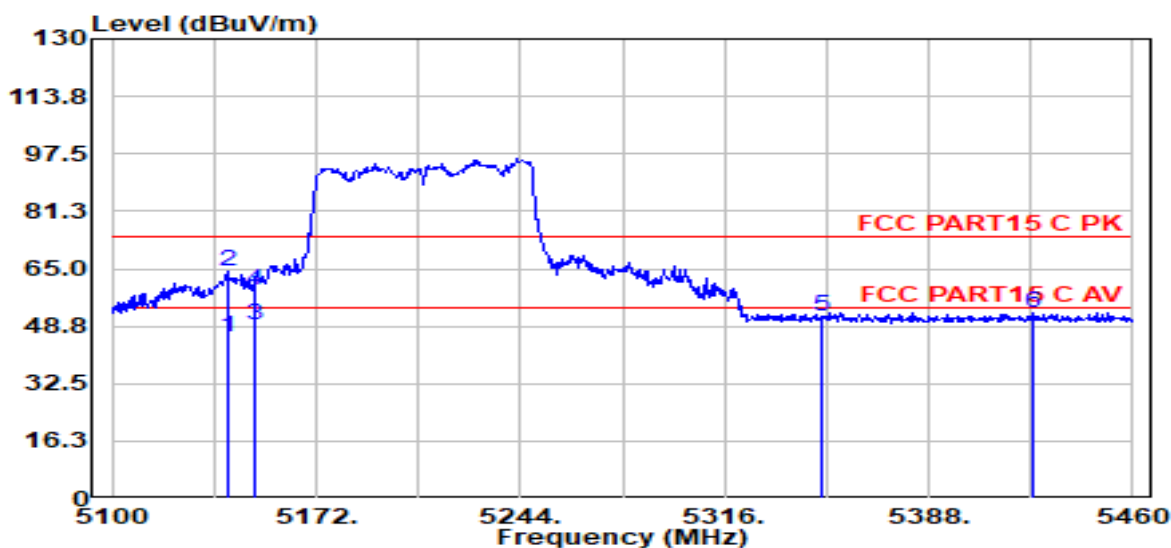
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA
9120D/3m/HORIZONTAL

Memo : 11AC80 5210 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5140.68	51.28	31.80	2.84	40.41	45.51	54.00	-8.49	Average	HORIZONTAL
2	5140.68	69.91	31.80	2.84	40.41	64.14	74.00	-9.86	Peak	HORIZONTAL
3	5150.04	54.93	31.80	2.85	40.42	49.16	54.00	-4.84	Average	HORIZONTAL
4	5150.04	64.66	31.80	2.85	40.42	58.89	74.00	-15.11	Peak	HORIZONTAL
5	5349.84	57.20	31.80	2.89	40.43	51.46	74.00	-22.54	Peak	HORIZONTAL
6	5424.36	58.46	31.80	2.91	40.44	52.73	74.00	-21.27	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00095.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

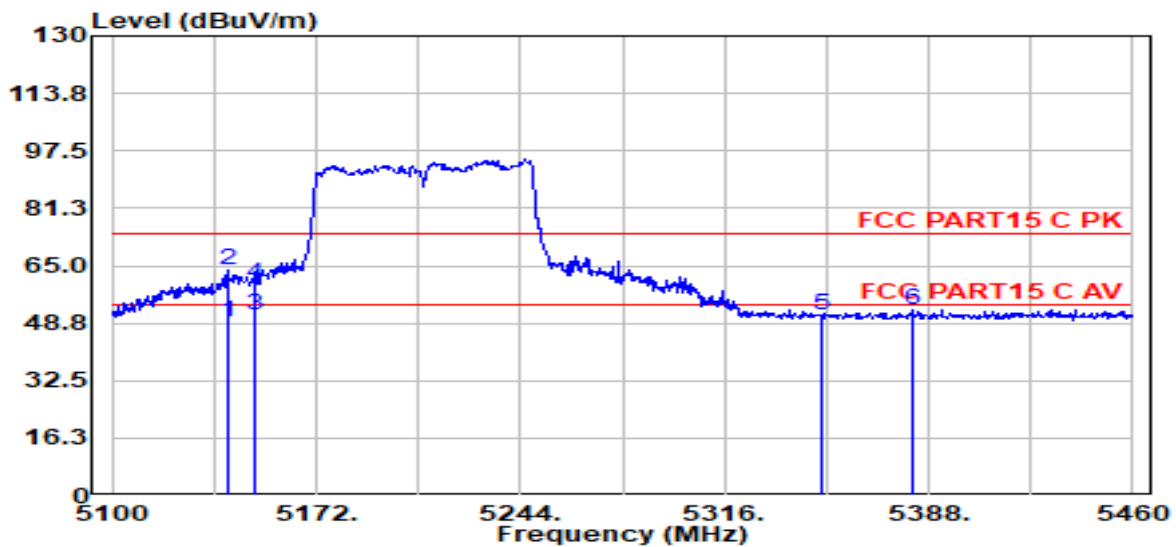
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA 9120D/3m/VERTICAL

Memo : 11AC80 5210 power 8



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5140.68	54.81	31.80	2.84	40.41	49.04	54.00	-4.96	Average	VERTICAL
2	5140.68	69.34	31.80	2.84	40.41	63.57	74.00	-10.43	Peak	VERTICAL
3	5150.04	56.76	31.80	2.85	40.42	50.99	54.00	-3.01	Average	VERTICAL
4	5150.04	65.75	31.80	2.85	40.42	59.98	74.00	-14.02	Peak	VERTICAL
5	5350.00	56.81	31.80	2.89	40.44	51.07	74.00	-22.93	Peak	VERTICAL
6	5382.60	58.47	31.80	2.90	40.44	52.73	74.00	-21.27	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00115.EMI

Test Date : 2021-10-15

Tested By : Kennys

EUT : AI Delivery Robot

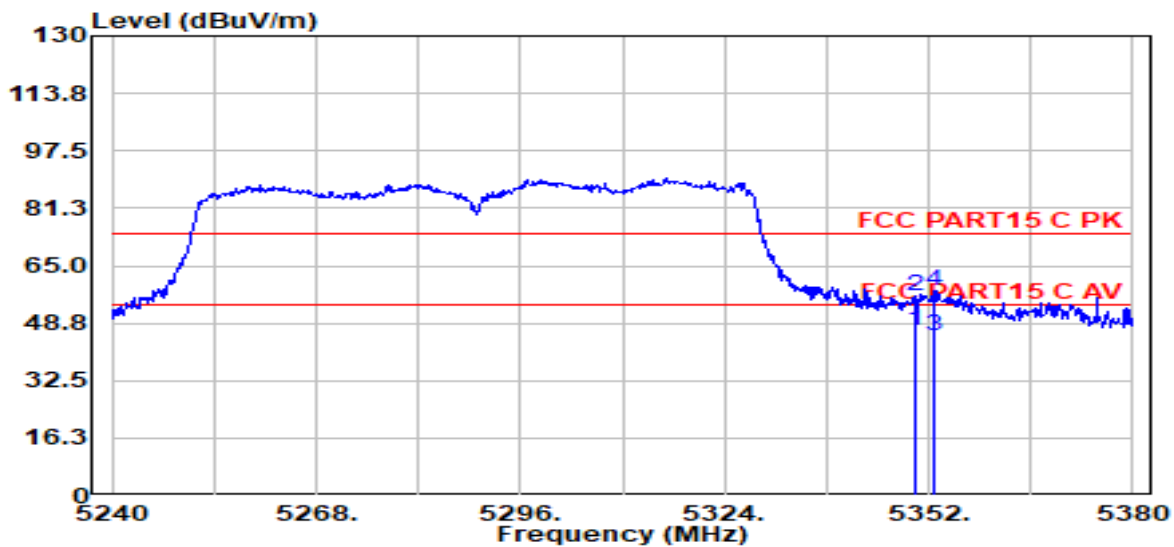
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA
9120D/3m/HORIZONTAL

Memo : 11AC80 5290 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.04	52.11	31.80	2.89	40.44	46.37	54.00	-7.63	Average	HORIZONTAL
2	5350.04	62.26	31.80	2.89	40.44	56.52	74.00	-17.48	Peak	HORIZONTAL
3	5352.70	50.67	31.80	2.89	40.44	44.93	54.00	-9.07	Average	HORIZONTAL
4	5352.70	63.69	31.80	2.89	40.44	57.95	74.00	-16.05	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00114.EMI

Test Date : 2021-10-15

Tested By : Kennys

EUT : AI Delivery Robot

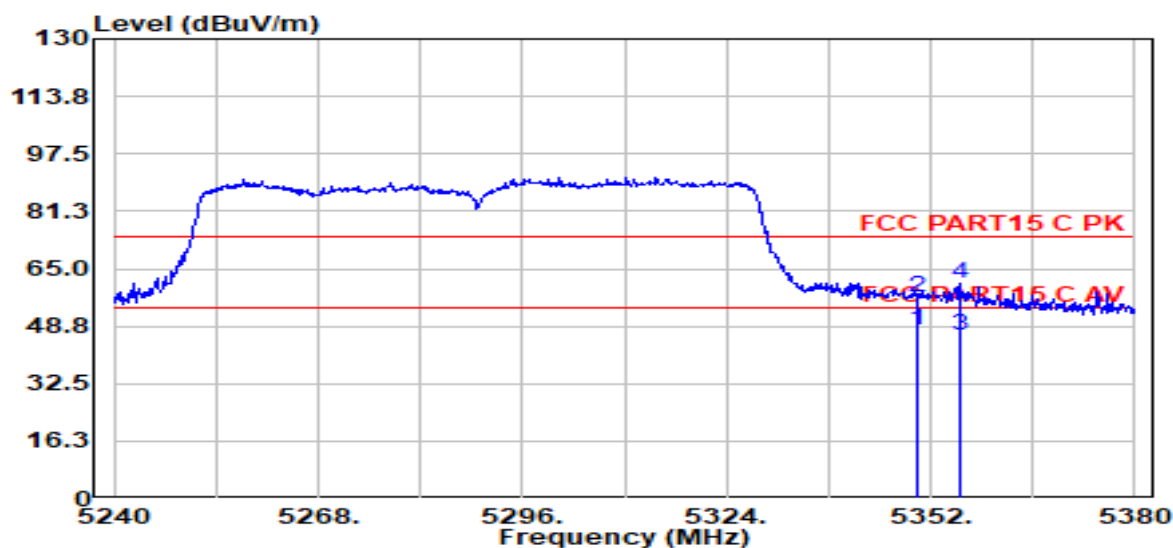
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA 9120D/3m/VERTICAL

Memo : 11AC80 5290 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.04	53.48	31.80	2.89	40.44	47.74	54.00	-6.26	Average	VERTICAL
2	5350.04	62.87	31.80	2.89	40.44	57.13	74.00	-16.87	Peak	VERTICAL
3	5355.92	51.86	31.80	2.90	40.44	46.12	54.00	-7.88	Average	VERTICAL
4	5355.92	66.33	31.80	2.90	40.44	60.59	74.00	-13.41	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00097.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

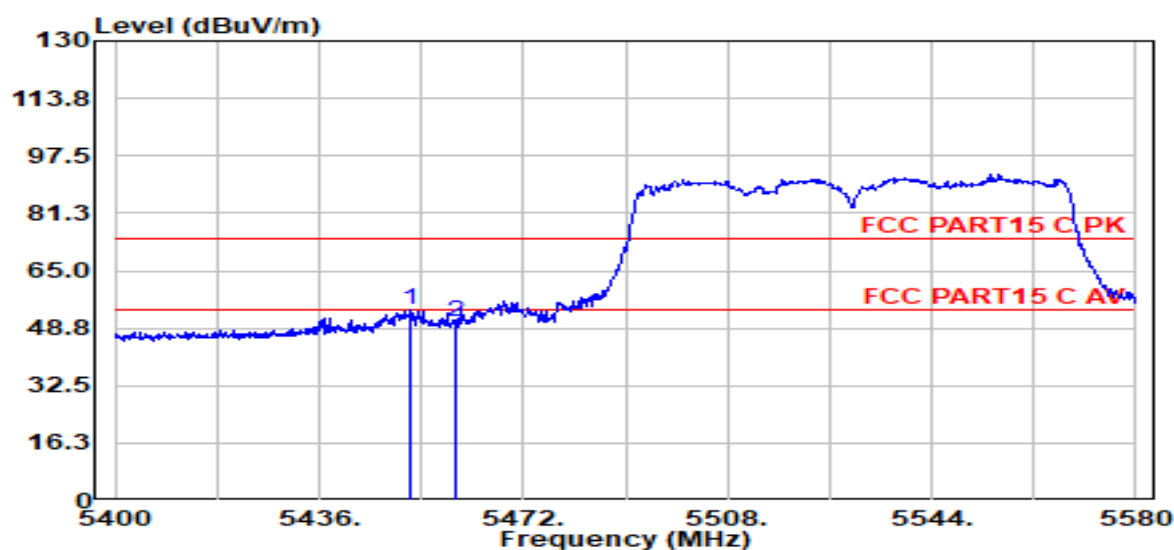
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA
9120D/3m/HORIZONTAL

Memo : 11AC80 5530 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5452.02	59.46	31.80	2.92	40.45	53.73	74.00	-20.27	Peak	HORIZONTAL
2	5459.94	56.05	31.80	2.92	40.45	50.32	74.00	-23.68	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00096.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

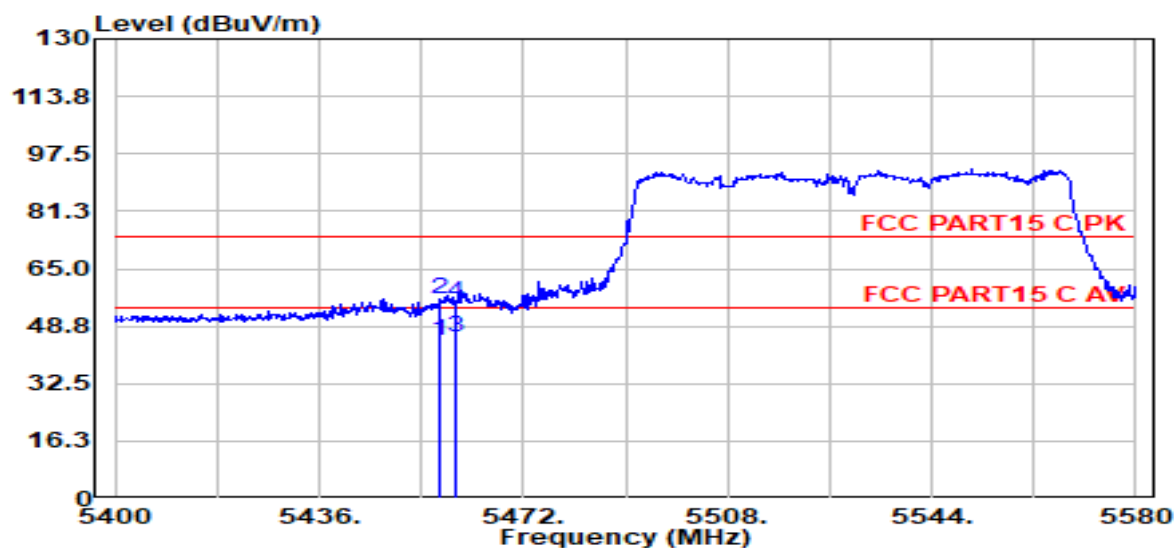
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA 9120D/3m/VERTICAL

Memo : 11AC80 5530 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5457.42	50.18	31.80	2.92	40.45	44.45	54.00	-9.55	Average	VERTICAL
2	5457.42	62.33	31.80	2.92	40.45	56.60	74.00	-17.40	Peak	VERTICAL
3	5459.94	51.28	31.80	2.92	40.45	45.55	54.00	-8.45	Average	VERTICAL
4	5459.94	61.39	31.80	2.92	40.45	55.66	74.00	-18.34	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 3#

D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00098.EMI

Test Date : 2021-09-28

Tested By : Kennys

EUT : AI Delivery Robot

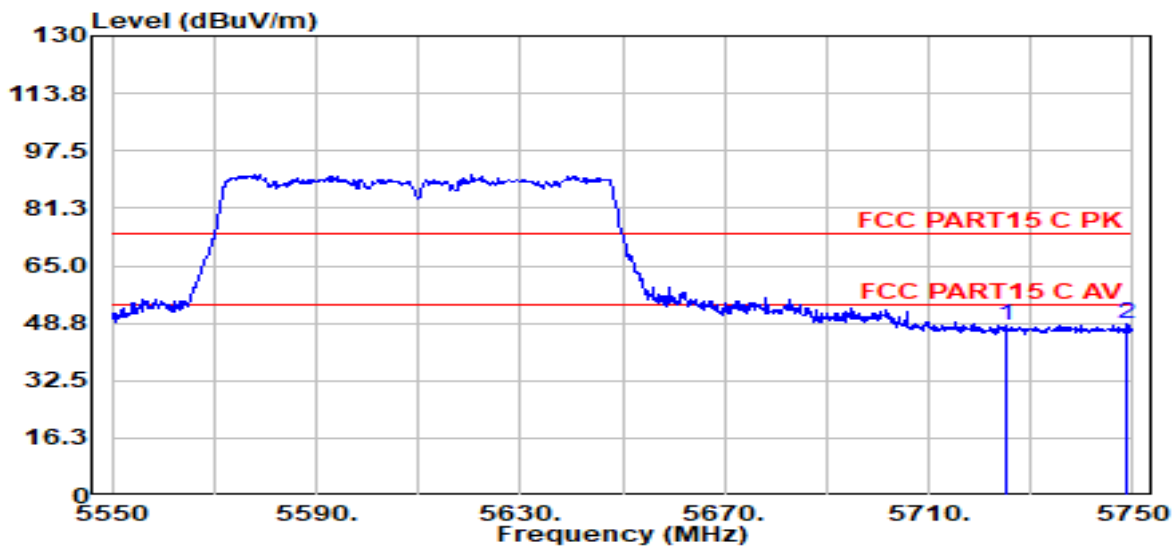
Model Number : OS-R-DR01

Power Supply : AC 120V/60Hz

Test Mode : TX mode

Condition : Temp:24.5°,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA
9120D/3m/HORIZONTAL

Memo : 11AC80 5610 MIMO



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5725.00	53.59	32.12	3.04	40.47	48.28	74.00	-25.72	Peak	HORIZONTAL
2	5748.80	53.85	32.15	3.05	40.47	48.58	74.00	-25.42	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

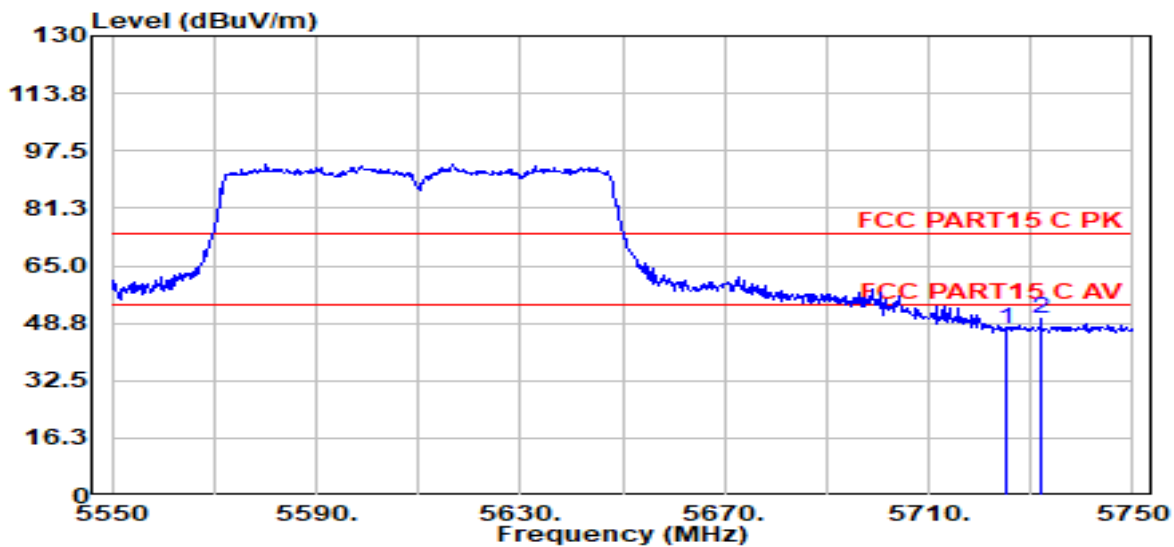
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

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 3#
Test Date : 2021-09-28
EUT : AI Delivery Robot
Power Supply : AC 120V/60Hz
Condition : Temp:24.5°,Humi:55%,Press:100.1kPa
Memo : 11AC80 5610 MIMO

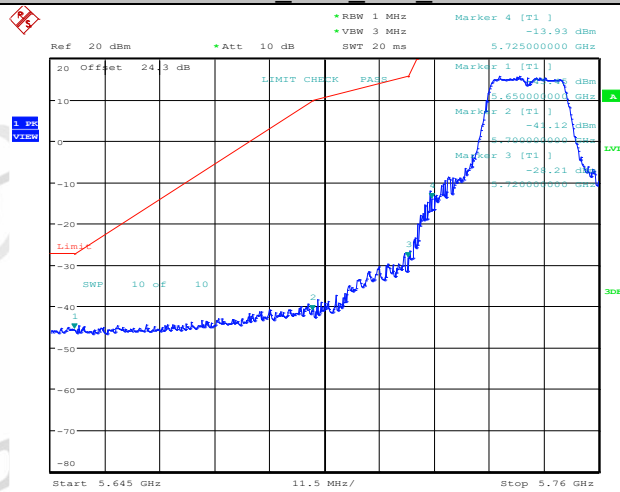
D:\2021 report data\Q21091301-1R OS-R-DR01\FCC ABOVE 1G\FCC ABOVE 1G_00099.EMI
Tested By : Kennys
Model Number : OS-R-DR01
Test Mode : TX mode
Antenna/Distance : 2020 BBHA 9120D/3m/VERTICAL



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	PRM Factor (dB)	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5725.00	52.21	32.12	3.04	40.47	46.90	74.00	-27.10	Peak	VERTICAL
2	5732.00	55.17	32.12	3.05	40.47	49.87	74.00	-24.13	Peak	VERTICAL

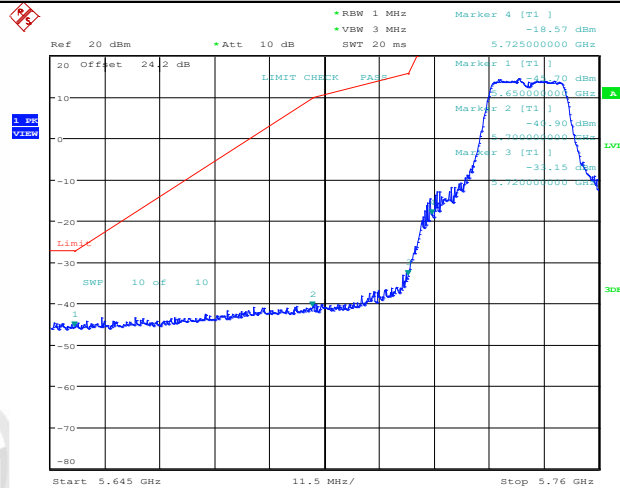
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

11A_Ant1_Low_5745



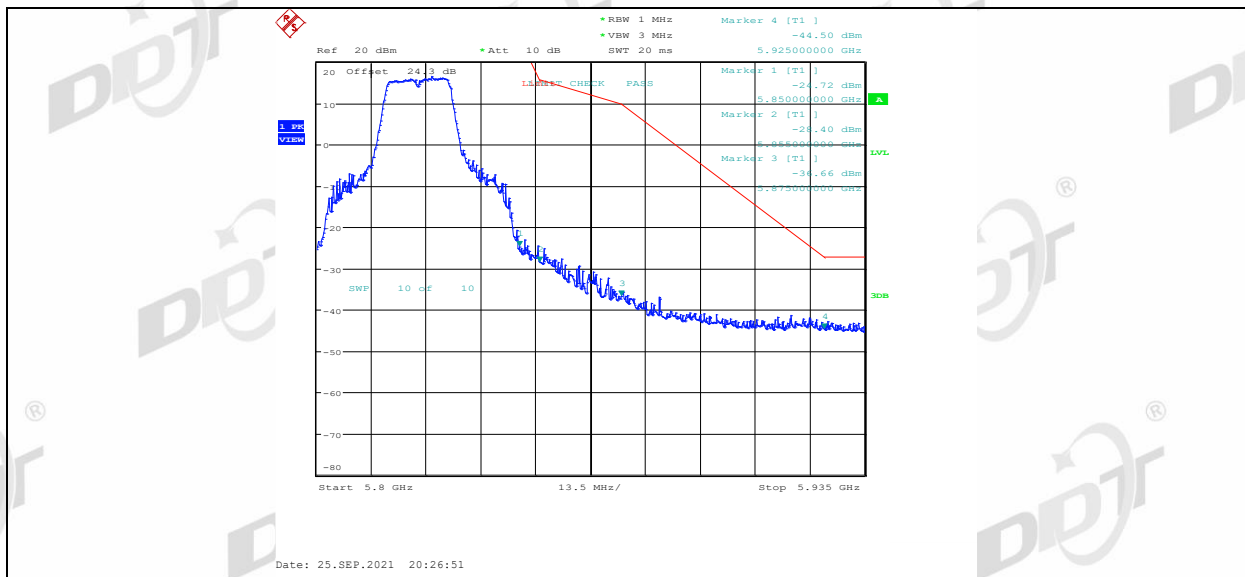
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11A_Ant2_Low_5745

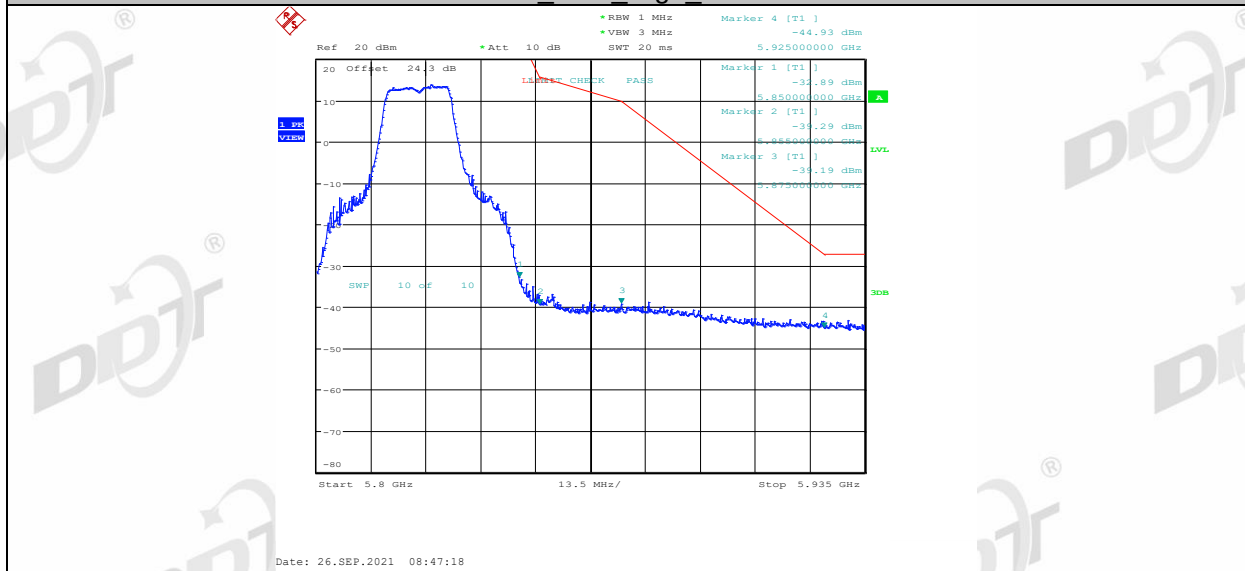


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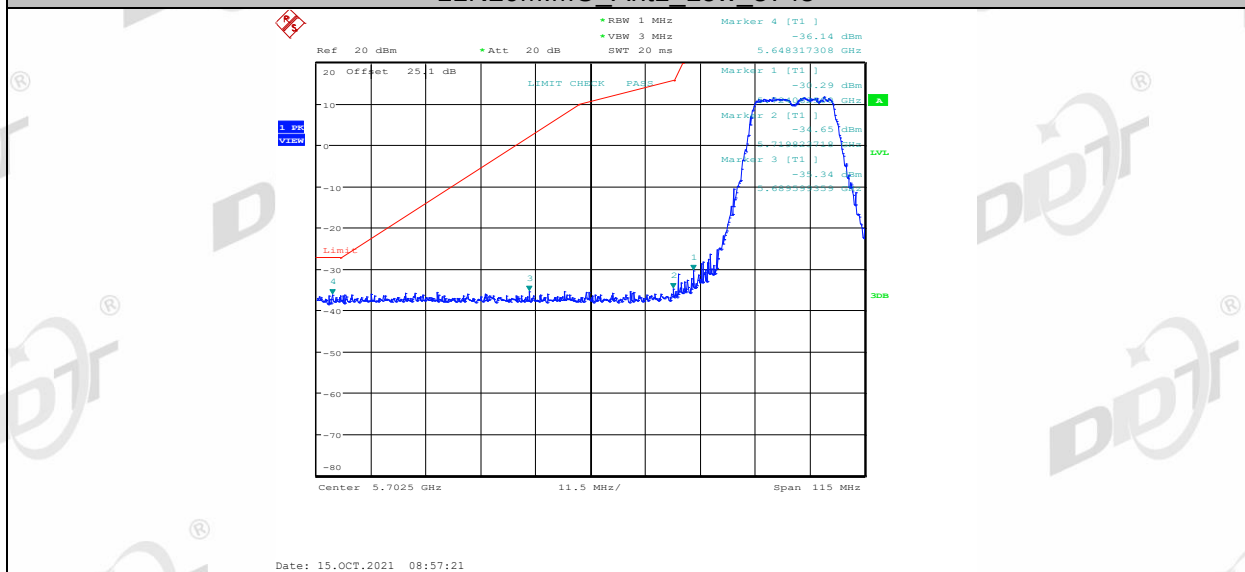
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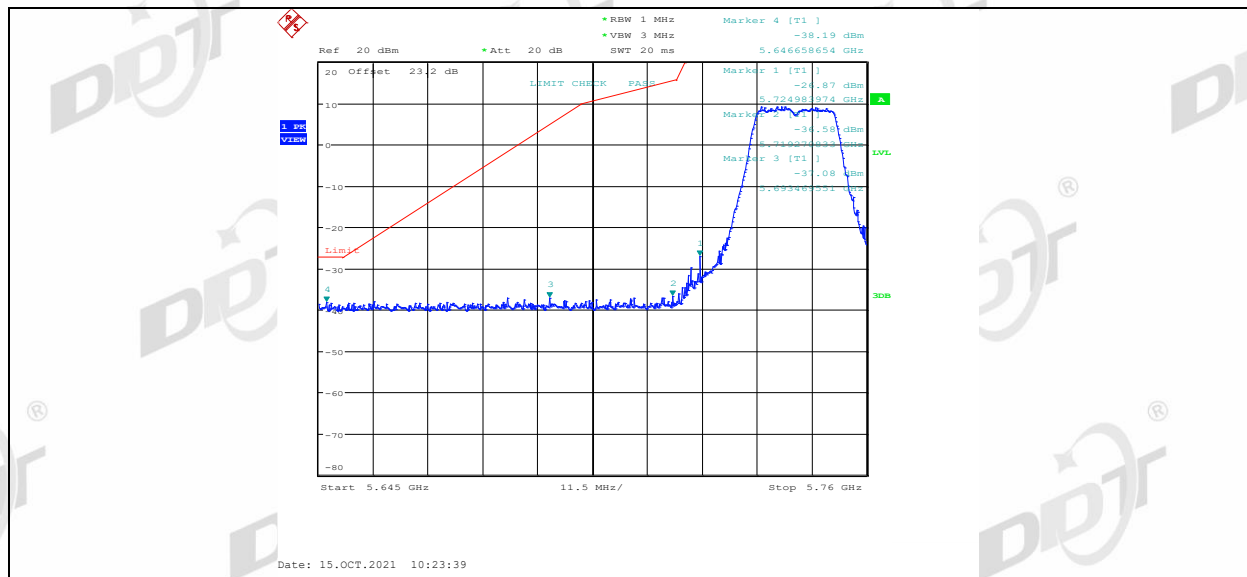
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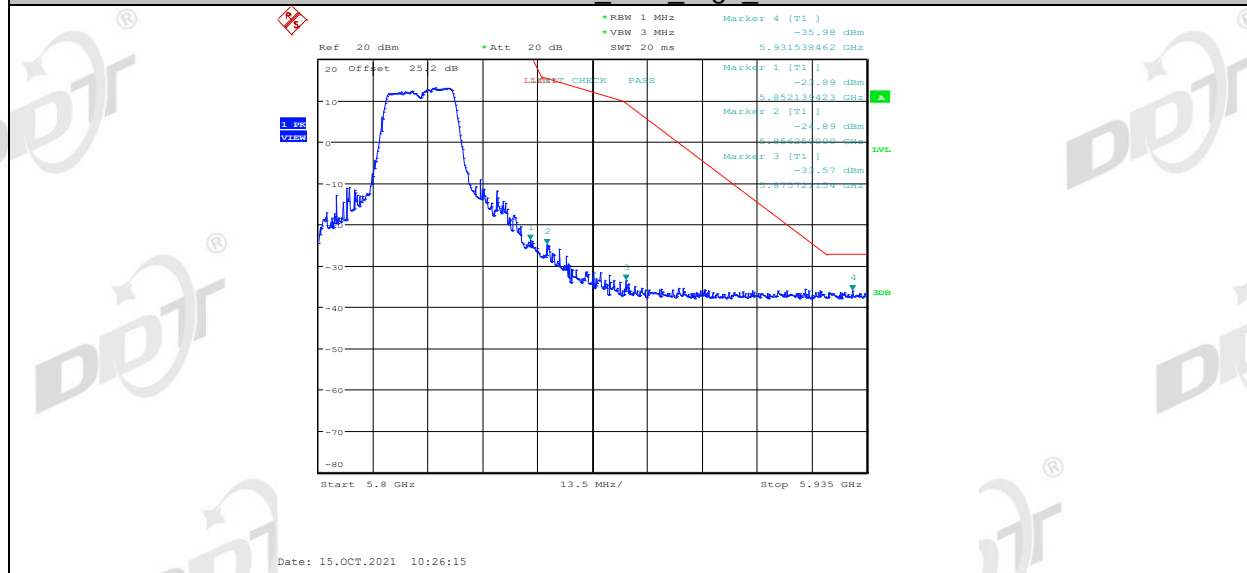
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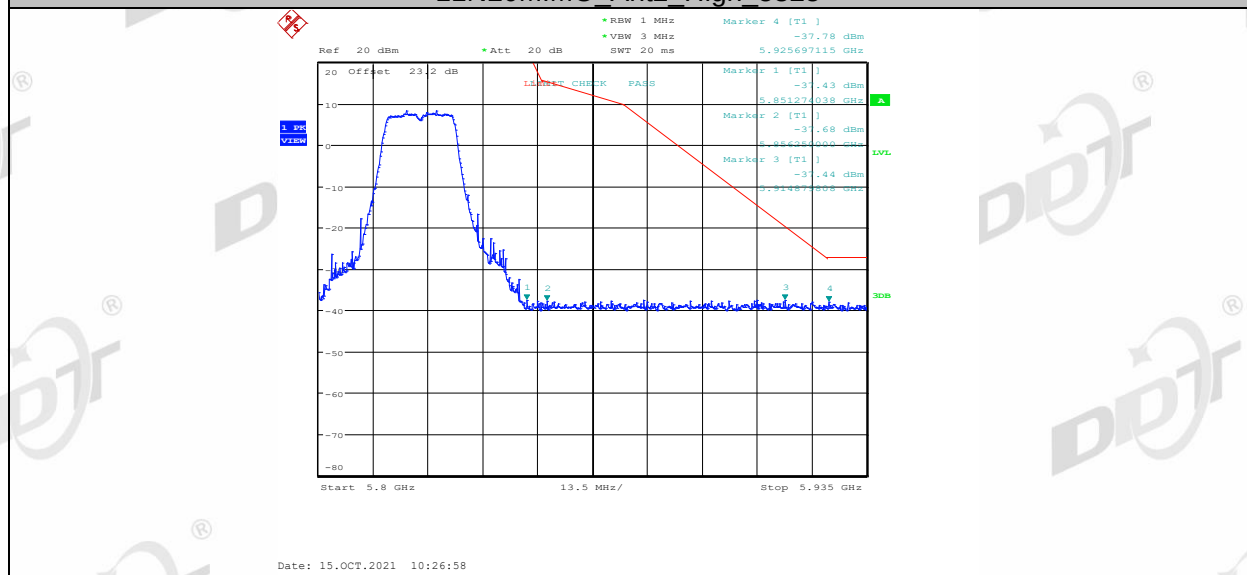
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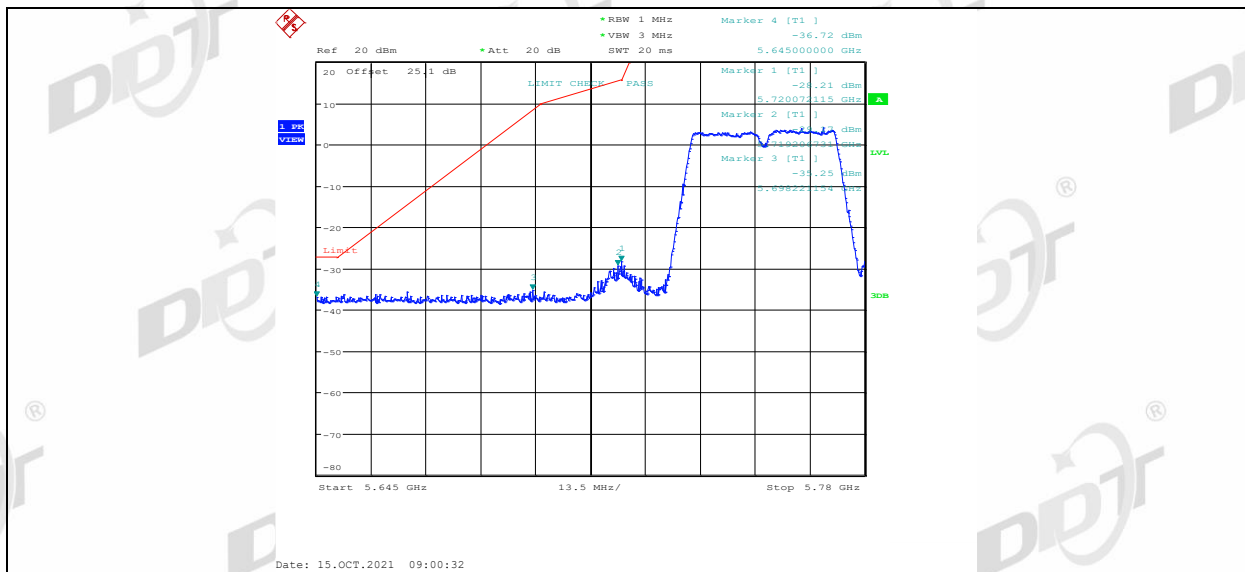
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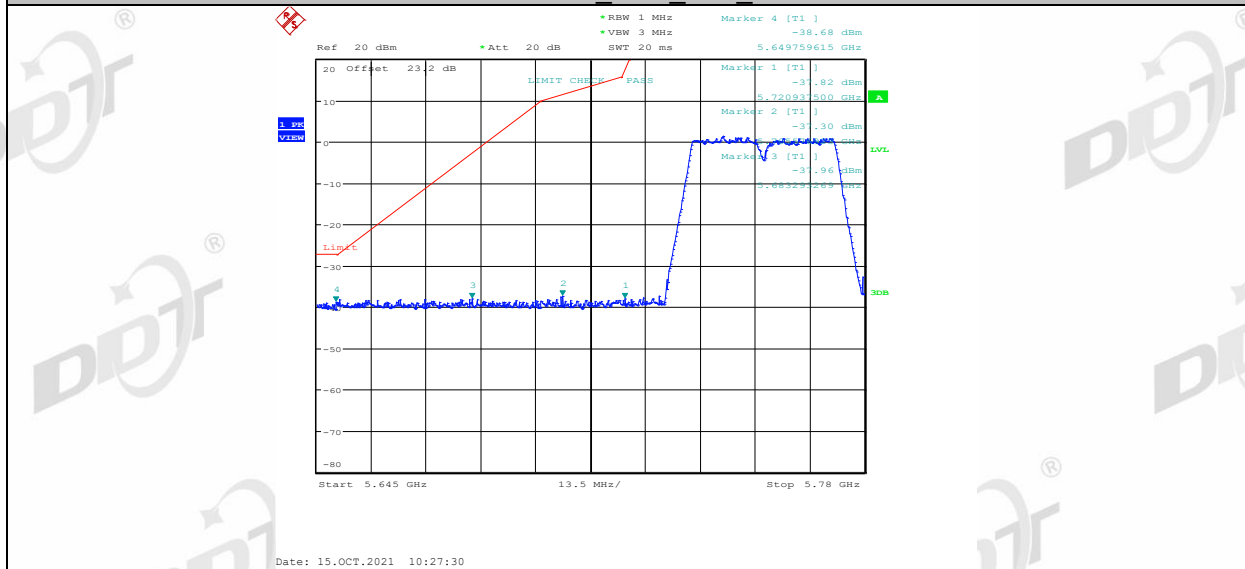
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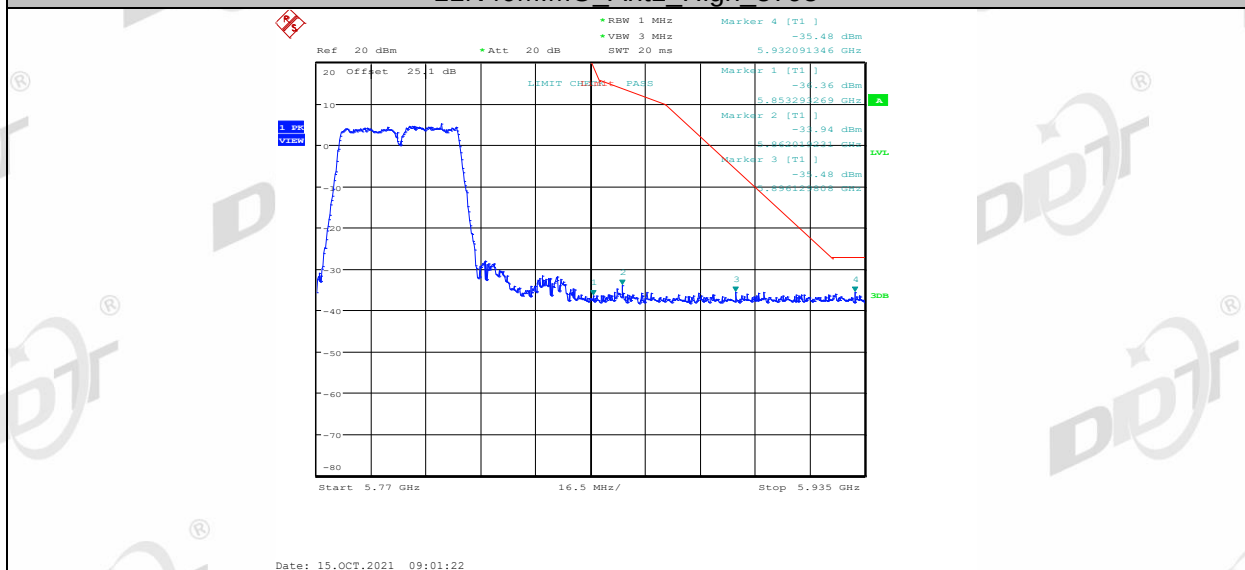
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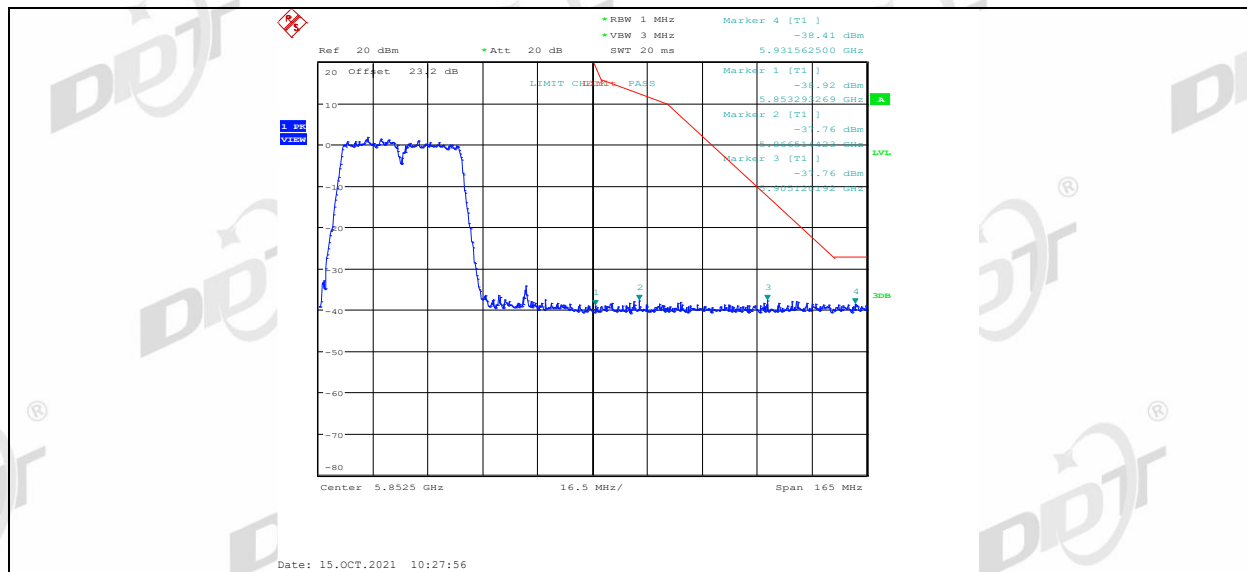
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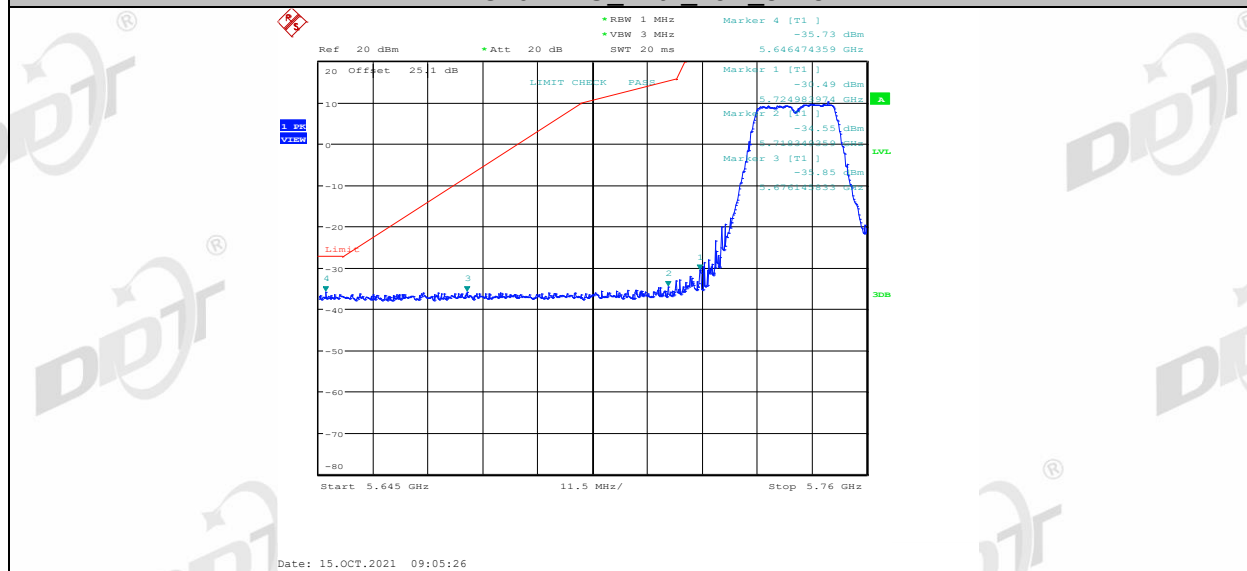
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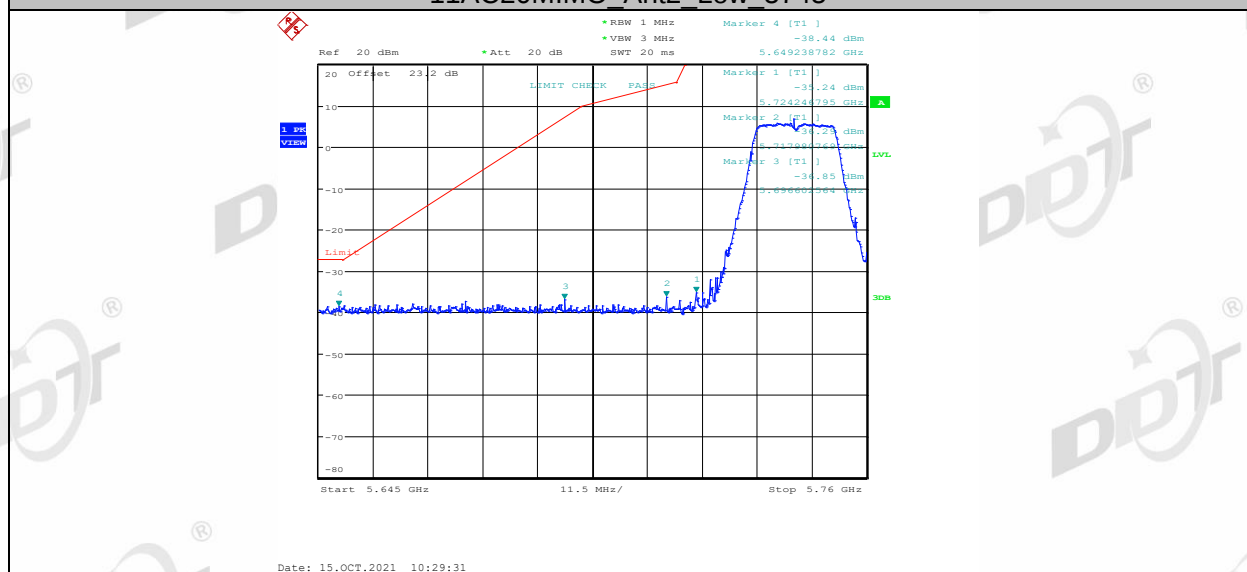
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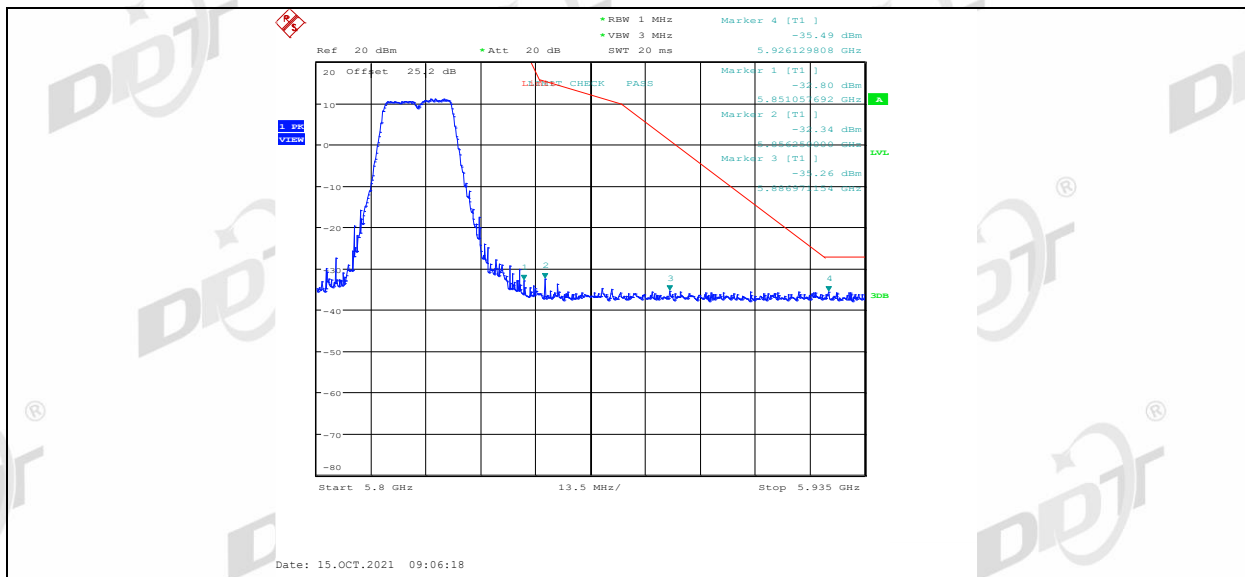
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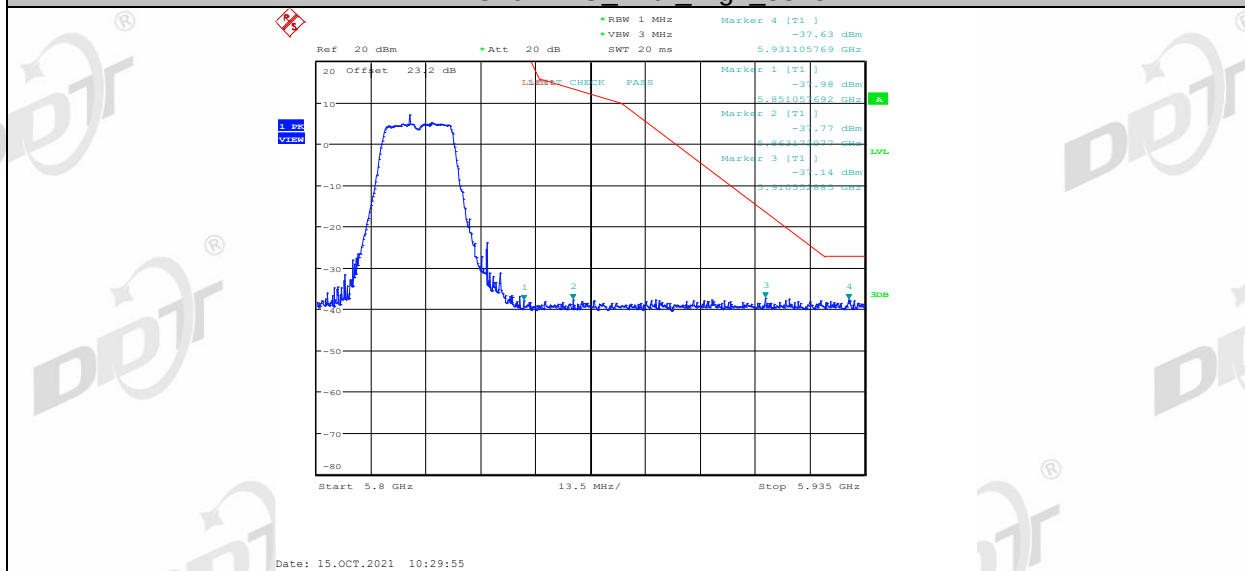
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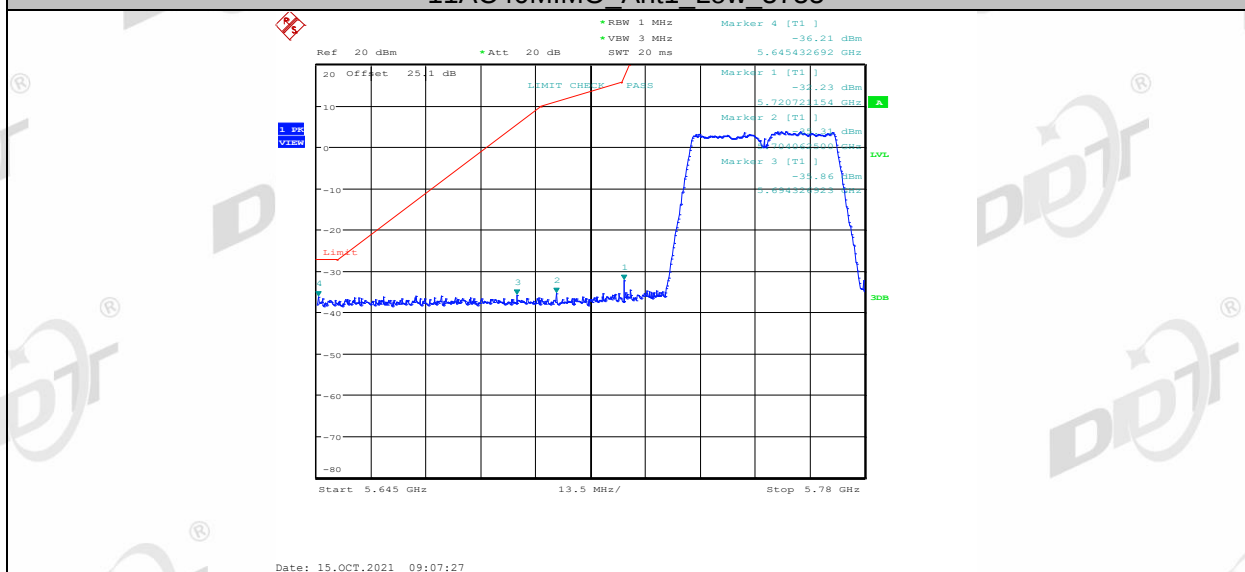
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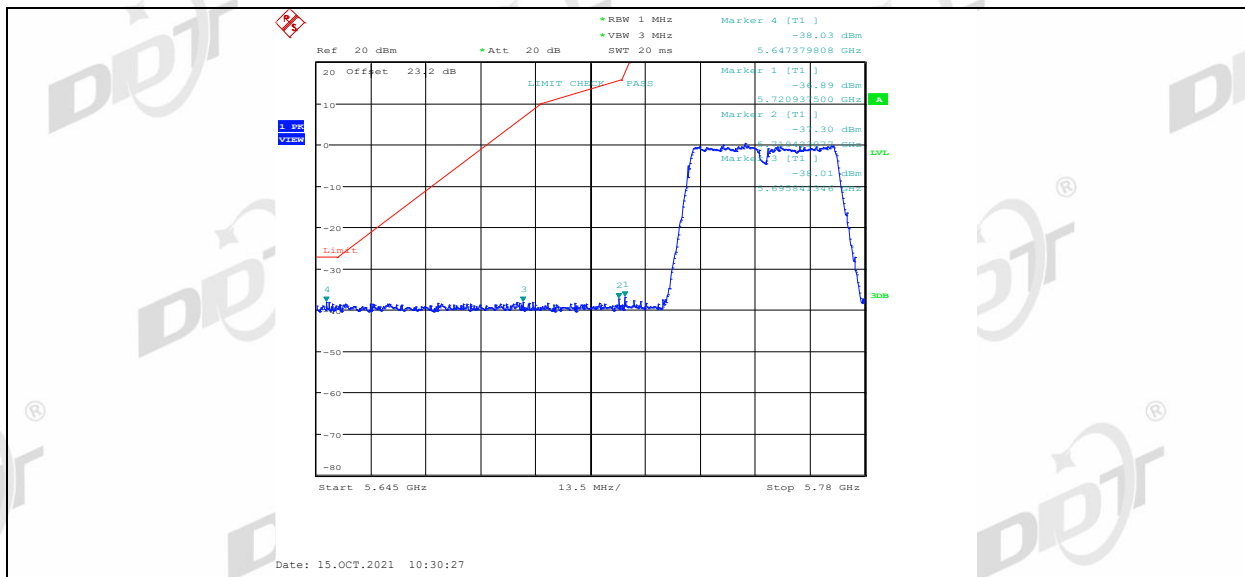
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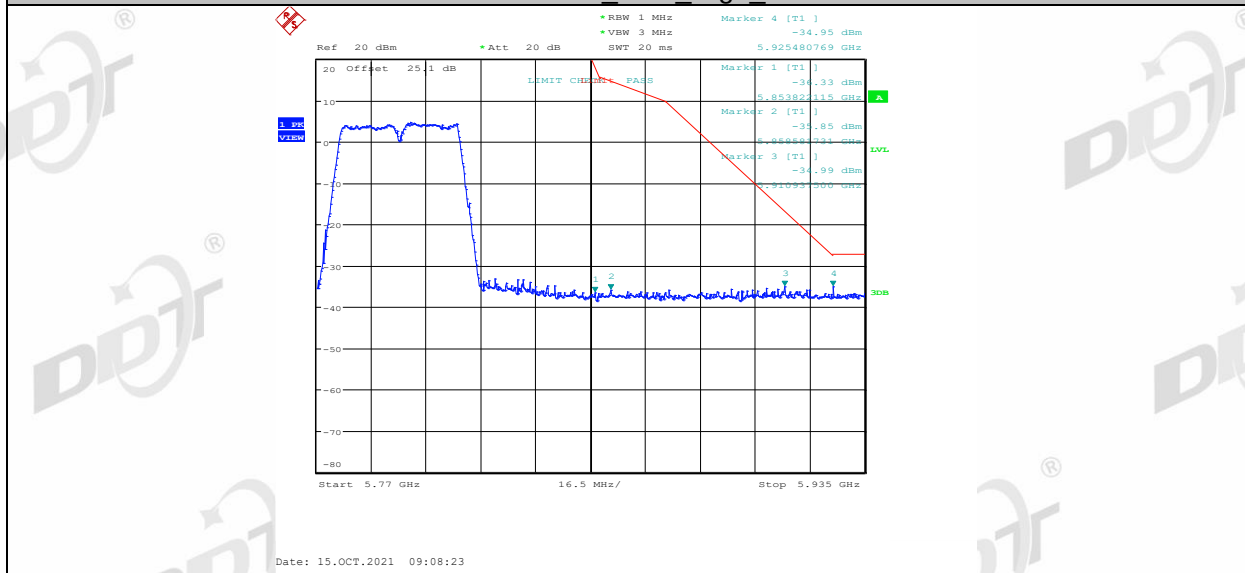
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11AC40MIMO Ant2 Low 5755



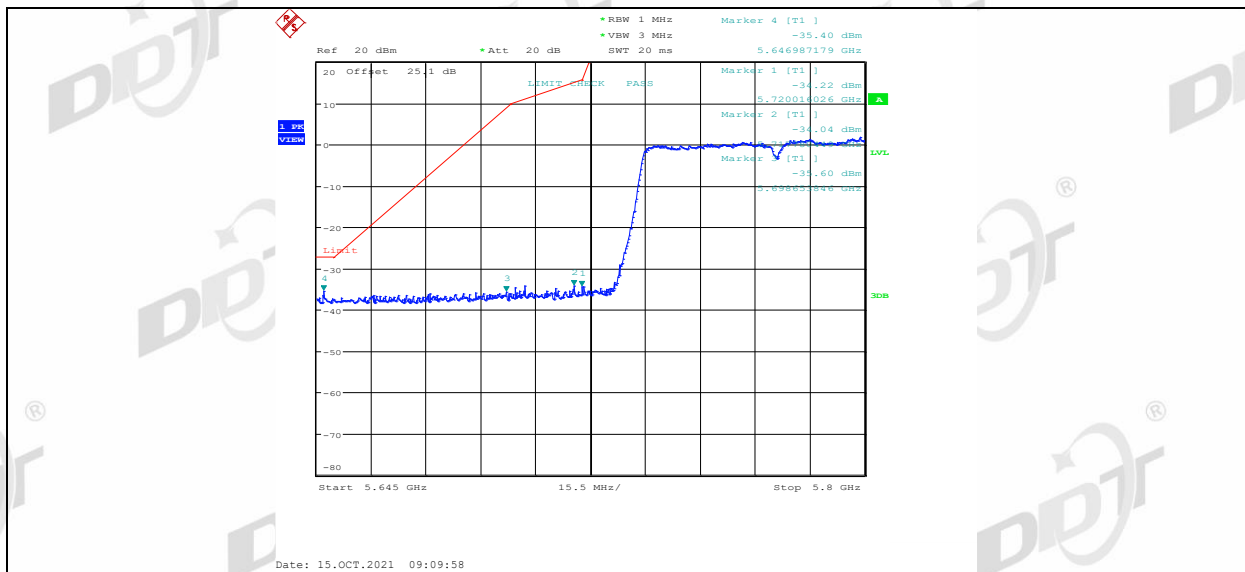
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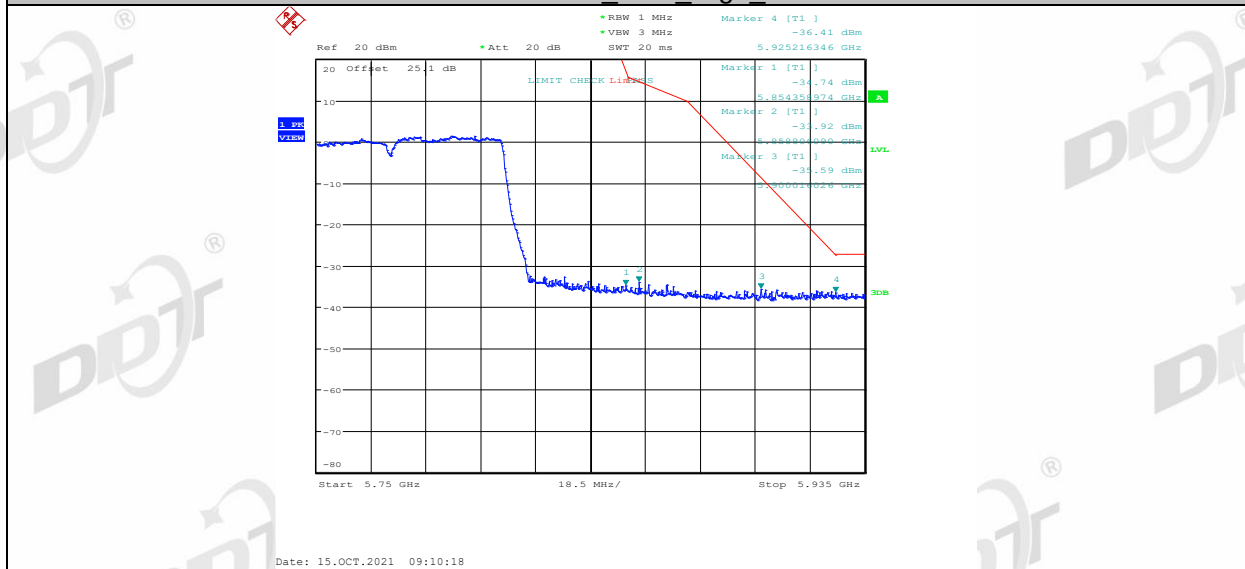
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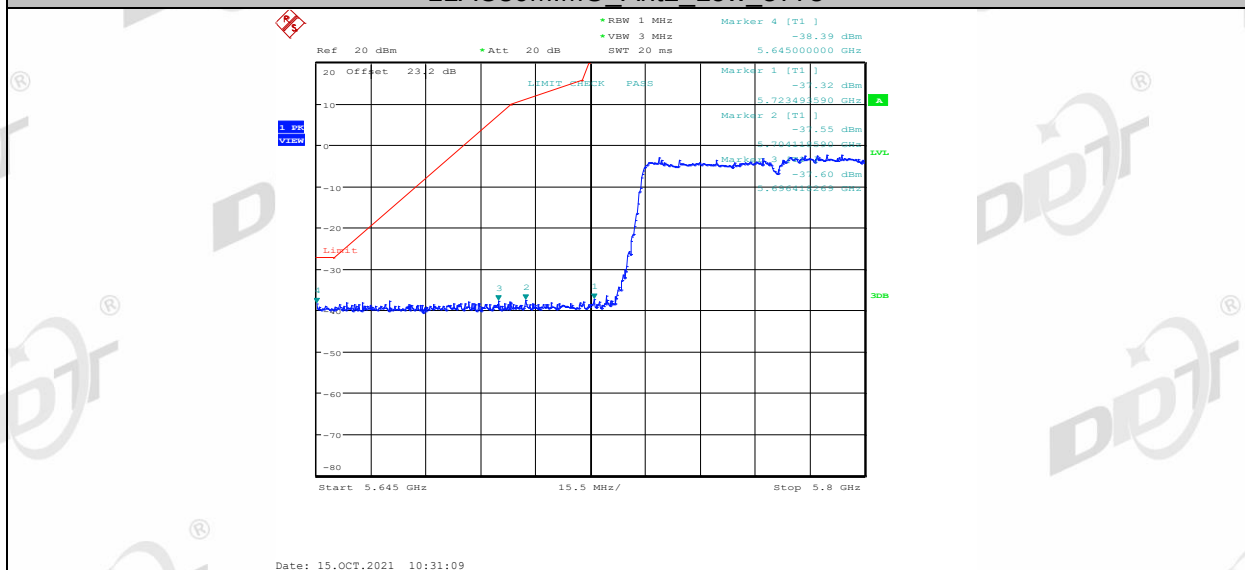
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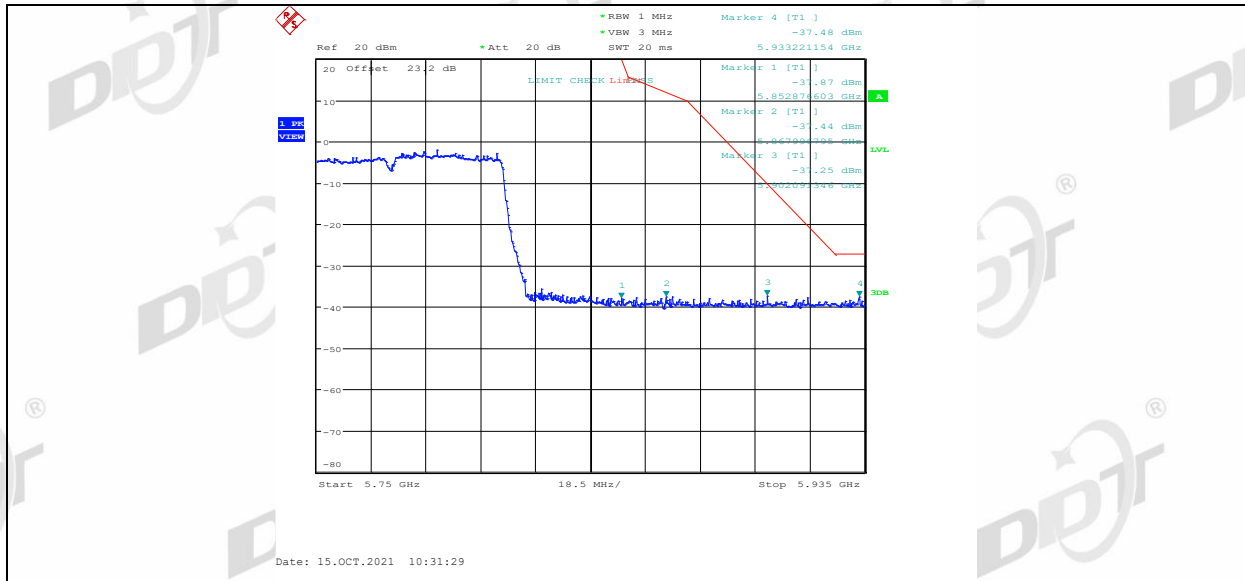
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11AC80MIMO Ant2 Low 5775

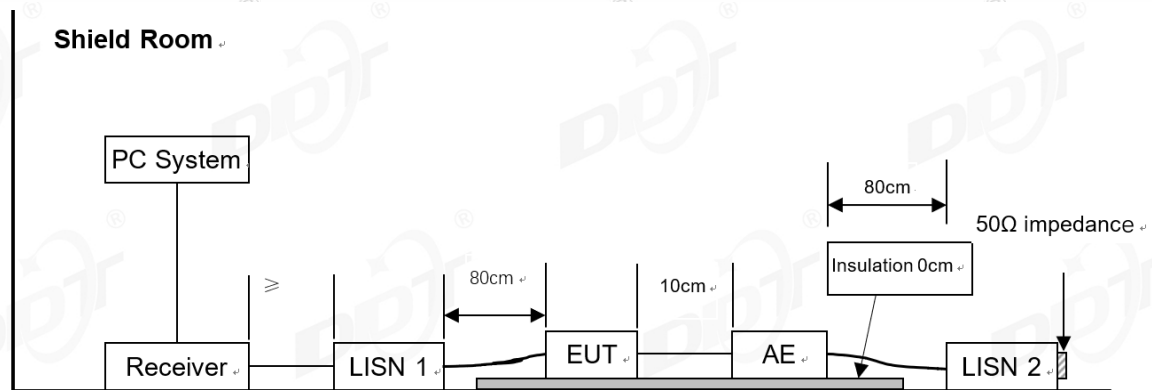


11AC80MIMO Ant2 High 5775



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.

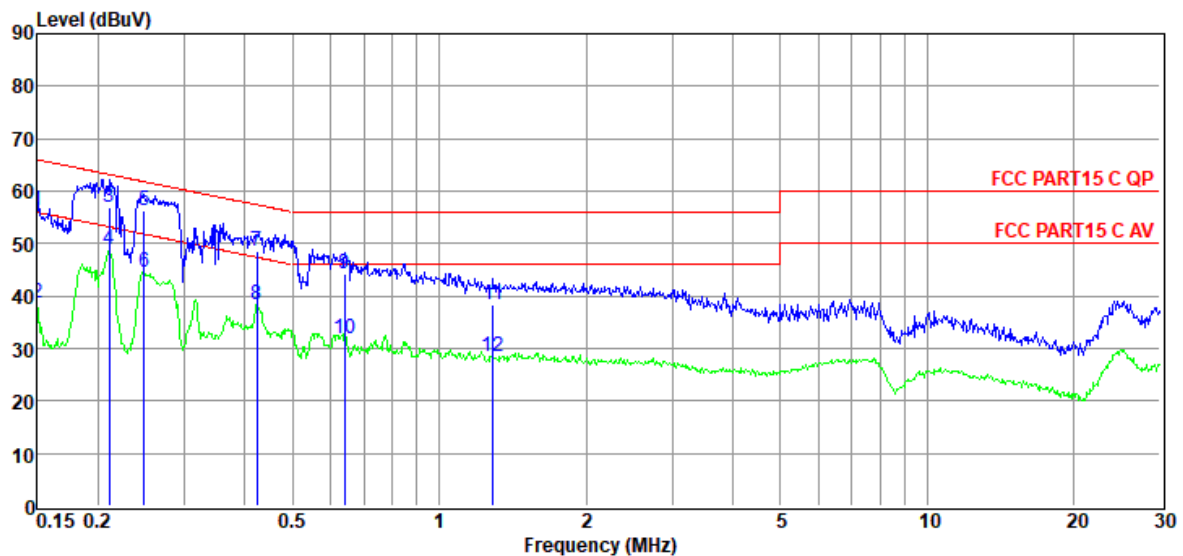
Note2: “---” means peak detection; “---” means average detection

Note3: Pre-test AC conducted emission at both voltage AC 120V/60Hz and AC 240V/50Hz, recorded worse case (AC 120V/60Hz).

TR-4-E-010 Conducted Emission Test Result

Test Site : DDT 5# Shield Room
Test Date : 2021-09-15
EUT : AI Delivery Robot
Power Supply : AC 120V/60Hz
Condition : Temp:24.5°C,Humi:55.5%,Press:101.4kPa
Memo : 5GWIFI

D:\2021 report data\Q21091301-1E\CE.EM6
Tested By : Kennys
Model Number : OS-R-DR01
Test Mode : Tx mode
LISN : 2020 ENV 216 2#/NEUTRAL



Item	Freq.	Read Level	LISN Factor	Cable Loss	Pulse Limiter Factor	Result Level	Limit Line	Over Limit	Detector	Phase
(Mark)	(MHz)	(dBμV)	(dB)	(dB)	(dB)	(dBμV)	(dBμV)	(dB)		
1	0.15	36.90	9.38	0.04	10.01	56.33	66.00	-9.67	QP	NEUTRAL
2	0.15	19.14	9.38	0.04	10.01	38.57	56.00	-17.43	Average	NEUTRAL
3	0.21	37.52	9.39	0.04	10.01	56.96	63.18	-6.22	QP	NEUTRAL
4	0.21	29.35	9.39	0.04	10.01	48.79	53.18	-4.39	Average	NEUTRAL
5	0.25	36.90	9.39	0.04	10.01	56.34	61.82	-5.48	QP	NEUTRAL
6	0.25	25.05	9.39	0.04	10.01	44.49	51.82	-7.33	Average	NEUTRAL
7	0.42	29.08	9.40	0.05	10.01	48.54	57.37	-8.83	QP	NEUTRAL
8	0.42	19.01	9.40	0.05	10.01	38.47	47.37	-8.90	Average	NEUTRAL
9	0.64	24.76	9.40	0.06	10.01	44.23	56.00	-11.77	QP	NEUTRAL
10	0.64	12.46	9.40	0.06	10.01	31.93	46.00	-14.07	Average	NEUTRAL
11	1.29	18.73	9.41	0.08	10.01	38.23	56.00	-17.77	QP	NEUTRAL
12	1.29	8.87	9.41	0.08	10.01	28.37	46.00	-17.63	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.

TR-4-E-010 Conducted Emission Test Result

Test Site : DDT 5# Shield Room

D:\2021 report data\Q21091301-1E\CE.EM6

Test Date : 2021-09-15

Tested By : Kennys

EUT : AI Delivery Robot

Model Number : OS-R-DR01

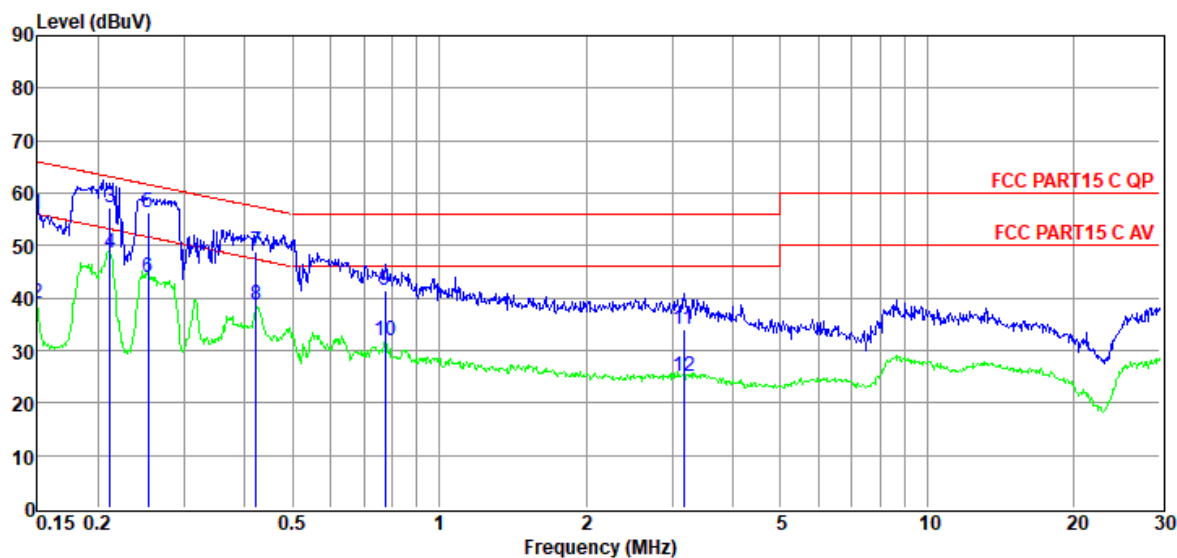
Power Supply : AC 120V/60Hz

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55.5%,Press:101.4kPa

LISN : 2020 ENV 216 2#/LINE

Memo : 5GWIFI



Item	Freq.	Read Level	LISN Factor	Cable Loss	Pulse Limiter Factor	Result Level	Limit Line	Over Limit	Detector	Phase
(Mark)	(MHz)	(dBμV)	(dB)	(dB)	(dB)	(dBμV)	(dBμV)	(dB)		
1	0.15	36.39	9.41	0.04	10.01	55.85	66.00	-10.15	QP	LINE
2	0.15	19.49	9.41	0.04	10.01	38.95	56.00	-17.05	Average	LINE
3	0.21	37.75	9.42	0.04	10.01	57.22	63.14	-5.92	QP	LINE
4	0.21	29.21	9.42	0.04	10.01	48.68	53.14	-4.46	Average	LINE
5	0.25	36.89	9.43	0.04	10.01	56.37	61.64	-5.27	QP	LINE
6	0.25	24.58	9.43	0.04	10.01	44.06	51.64	-7.58	Average	LINE
7	0.42	29.46	9.45	0.05	10.01	48.97	57.42	-8.45	QP	LINE
8	0.42	19.22	9.45	0.05	10.01	38.73	47.42	-8.69	Average	LINE
9	0.78	21.81	9.44	0.07	10.01	41.33	56.00	-14.67	QP	LINE
10	0.78	12.35	9.44	0.07	10.01	31.87	46.00	-14.13	Average	LINE
11	3.17	14.41	9.45	0.09	10.01	33.96	56.00	-22.04	QP	LINE
12	3.17	5.63	9.45	0.09	10.01	25.18	46.00	-20.82	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.

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.

For intentional device, according to RSS-Gen issue 5 section 6.8.

The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list.

11.2. Result

The device support 2T2R MIMO, the antennas both used for this product is furnished by the responsible party shall be used with the device, maximum antenna gain is 2.88 dBi for antenna 1, 1.55 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 $\geq$ 200 milliwatt	-64 dBm
EIRP $<$ 200 milliwatt and power spectral density $<$ 10 dBm/MHz	-62 dBm
EIRP $<$ 200 milliwatt that do not meet the power spectral density requirement	-64 dBm

Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.

Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.

Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.

(2) DFS Response Requirements

Table 4: DFS Response Requirement Values

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

Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.

Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required facilitating a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.

Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

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

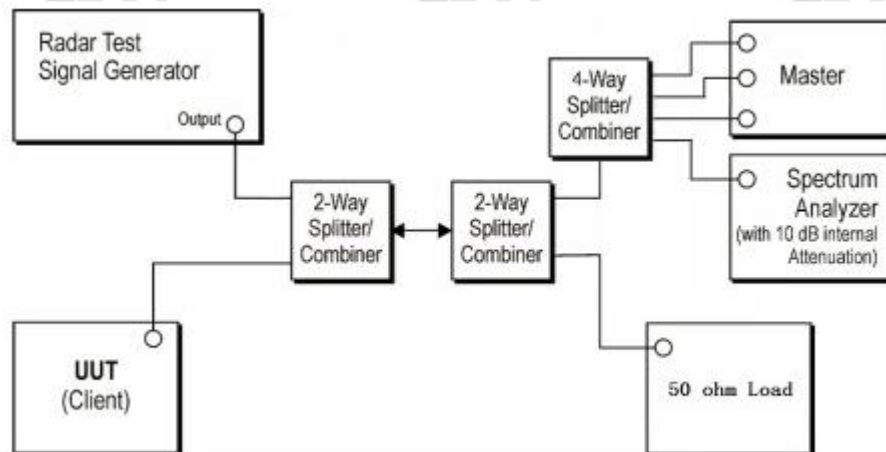
A minimum of 30 unique waveforms are required for each of the Short Pulse Radar Types 2 through 4. If more than 30 waveforms are used for Short Pulse Radar Types 2 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms. If more than 30 waveforms are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

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 $-62\text{dBm} + 0\text{dBi} + 1\text{dB} = -61\text{dBm}$ that had been taken into account the output power range and antenna gain.
- (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 $-62\text{dBm} + 0\text{dBi} + 1\text{dB} = -61\text{dBm}$. Capture the spectrum analyzer plots on short pulse radar waveform.

Conducted Calibration Setup:

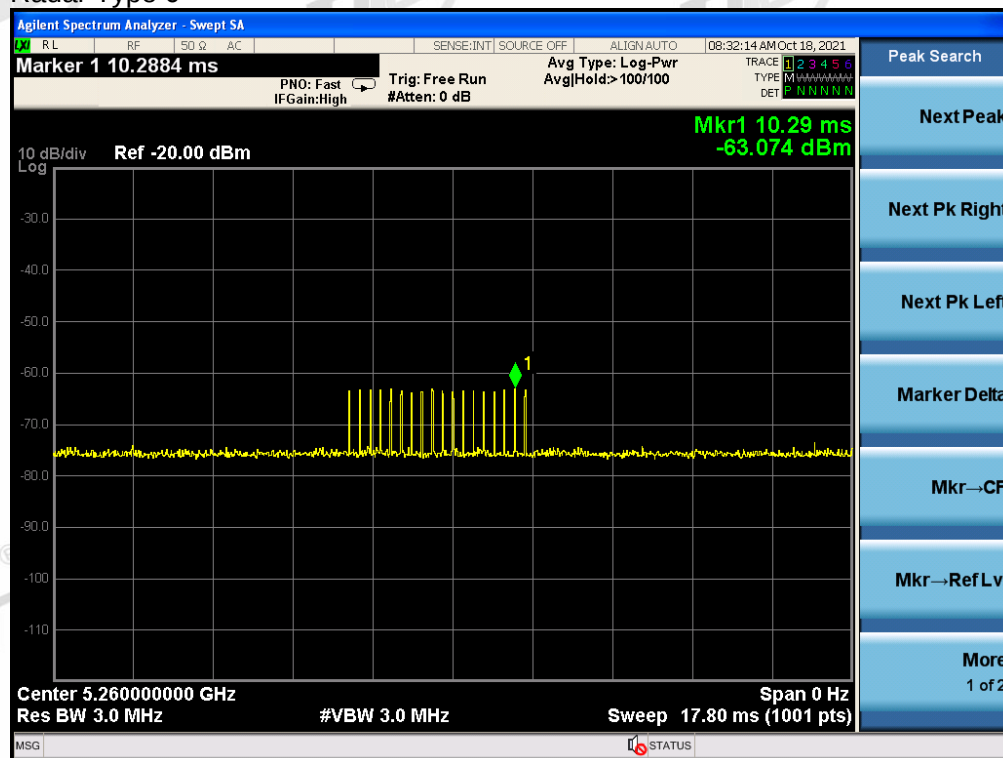


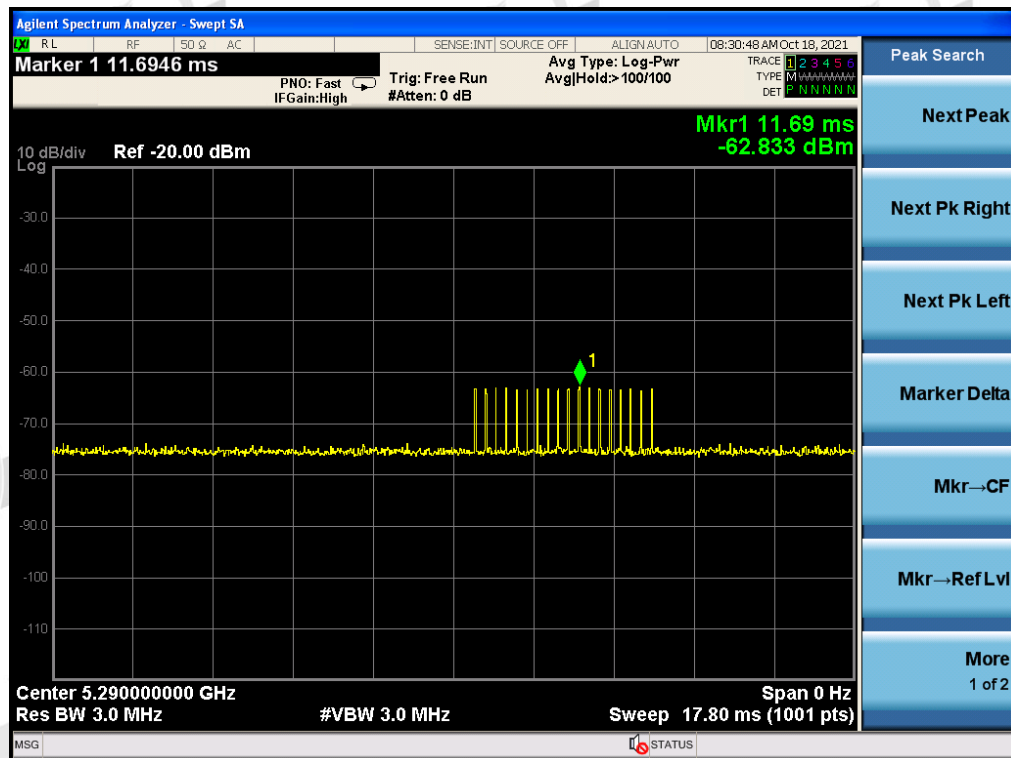
Note: 1. Use the software "Web" to set the frequency channel.

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

Radar Waveform Calibration Result:

Radar Type 0





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
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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

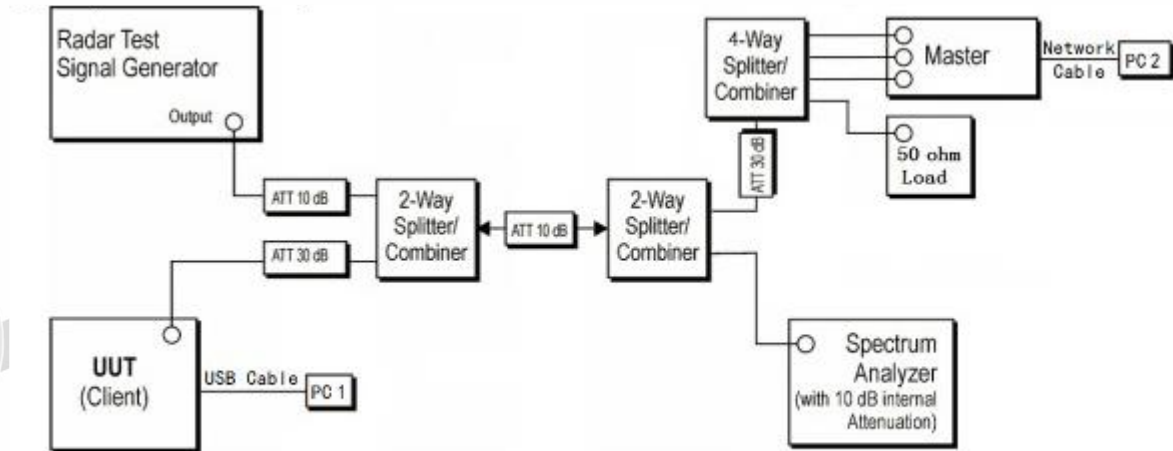
Block diagram of test setup Test Procedure:

- (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: $C (ms) = N \times Dwell (0.3ms)$; where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.

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

12.6. Test setup

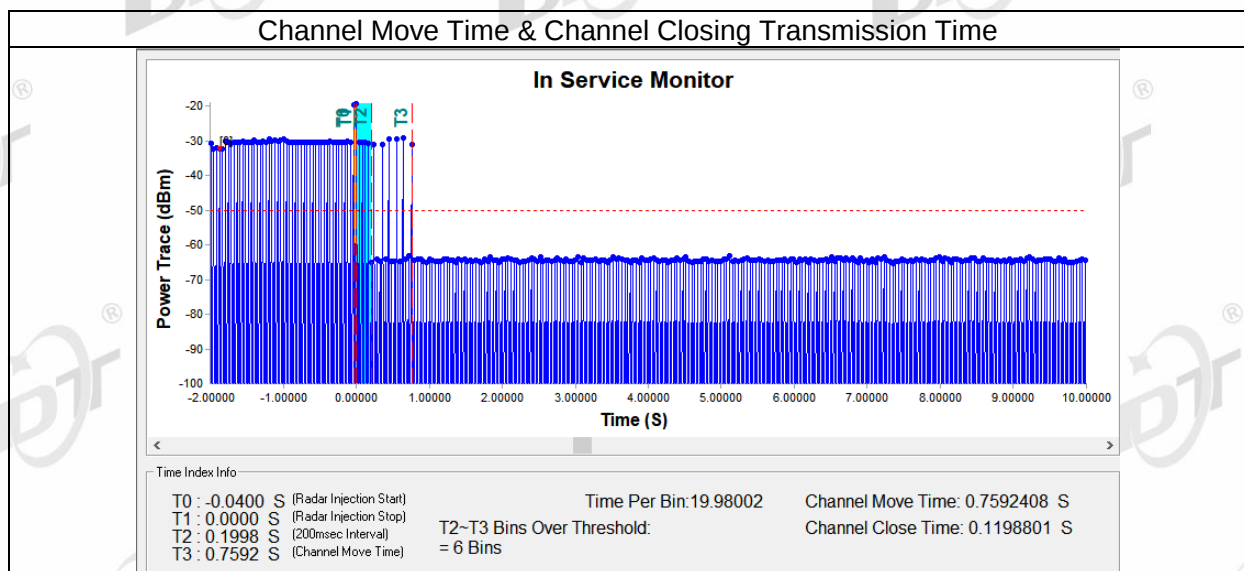
Setup for Client with injection at the Master

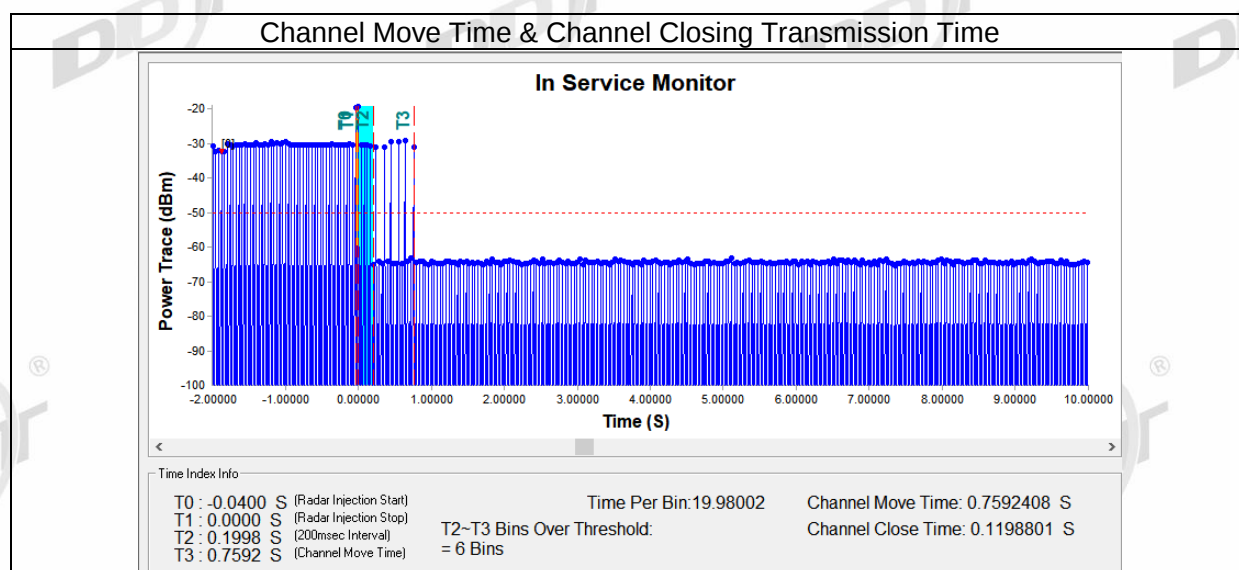


12.7. Test result

BW/Channel	Test Item	Test Result	Limit	Results
20M/5260MHz	Channel Move Time	0.724s	<10s	pass
	Channel Closing Transmission Time	0.006s	<0.26s	pass
80M/5290MHz	Channel Move Time	0.627s	<10s	pass
	Channel Closing Transmission Time	0.009s	<0.26s	pass

Test plots as follows:





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

