



Appendix D

RF Test Data for 5.2GWIFI (Conducted Measurement)

Product Name: Smart Phone

Test Model: HPPH88C

Environmental Conditions

Temperature:	24.2°C
Relative Humidity:	52.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Paddi Chen
Supervised by:	Nick Peng



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D.1 -26dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)	Limit -26 dB Bandwidth (MHz)	Verdict
NVNT	a	5180	Ant1	21.845	---	Pass
NVNT	a	5200	Ant1	21.024	---	Pass
NVNT	a	5240	Ant1	22.541	---	Pass
NVNT	n20	5180	Ant1	22.51	---	Pass
NVNT	n20	5200	Ant1	25.549	---	Pass
NVNT	n20	5240	Ant1	22.532	---	Pass
NVNT	n40	5190	Ant1	50.747	---	Pass
NVNT	n40	5230	Ant1	48.779	---	Pass
NVNT	ac20	5180	Ant1	23.308	---	Pass
NVNT	ac20	5200	Ant1	23.275	---	Pass
NVNT	ac20	5240	Ant1	23.457	---	Pass
NVNT	ac40	5190	Ant1	47.985	---	Pass
NVNT	ac40	5230	Ant1	49.326	---	Pass
NVNT	ac80	5210	Ant1	80.218	---	Pass



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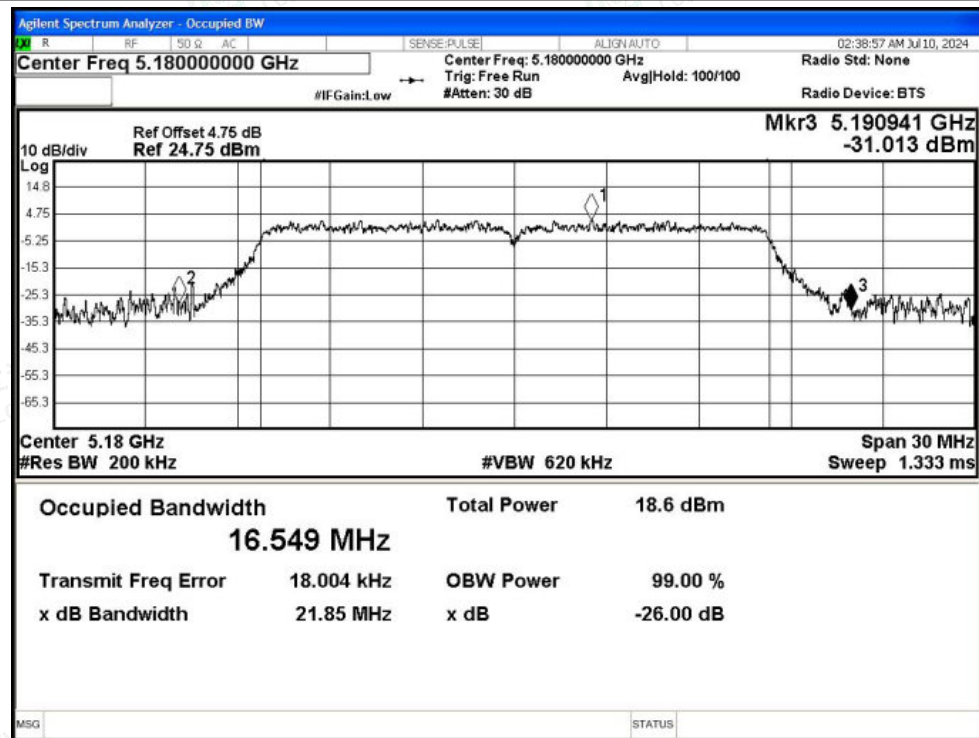
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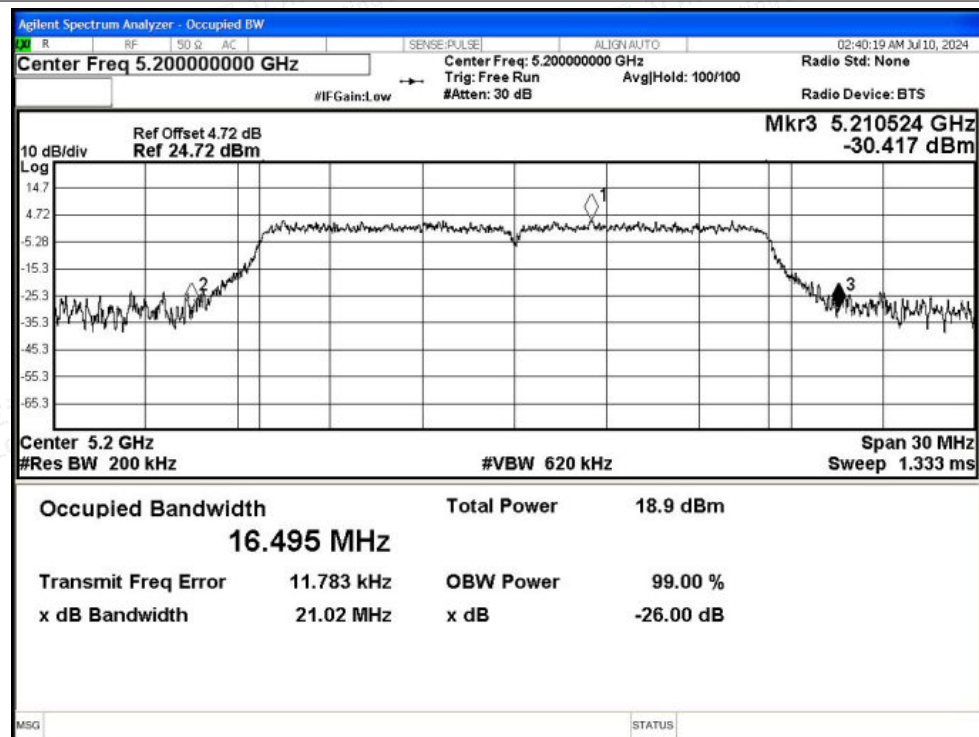


Test Graphs

-26dB Bandwidth NVNT a 5180MHz Ant1

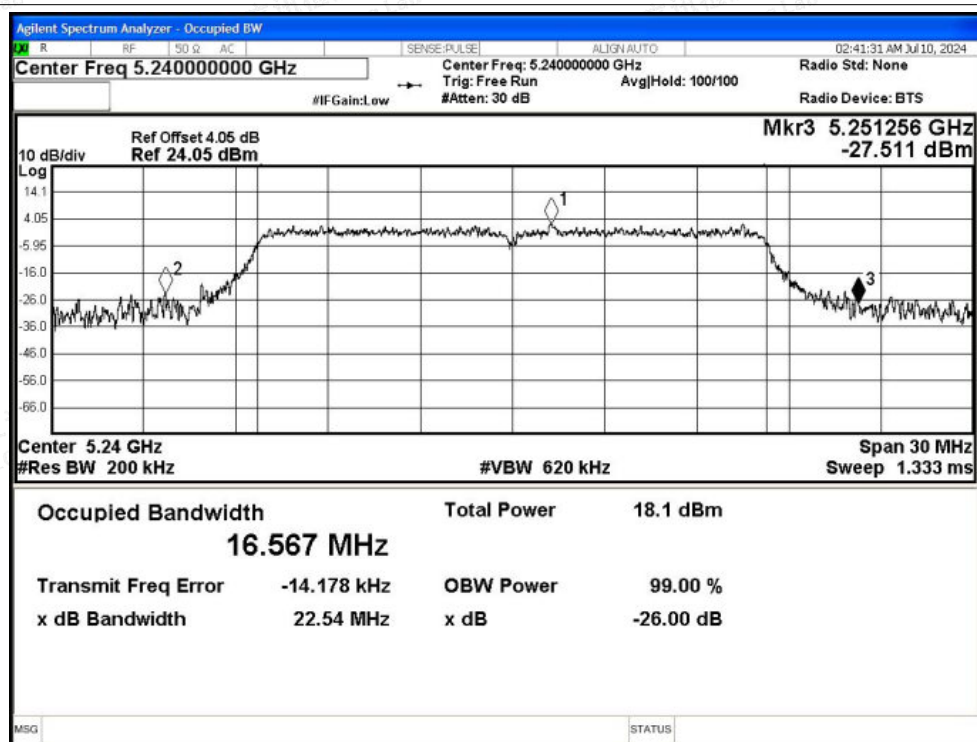


-26dB Bandwidth NVNT a 5200MHz Ant1





-26dB Bandwidth NVNT a 5240MHz Ant1



-26dB Bandwidth NVNT n20 5180MHz Ant1



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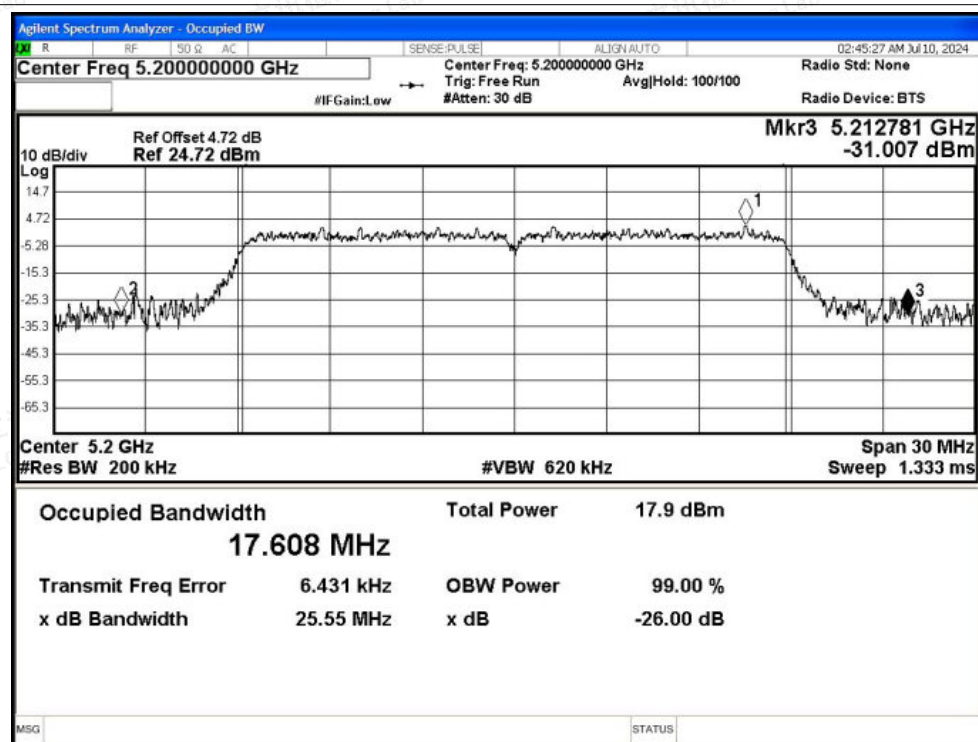
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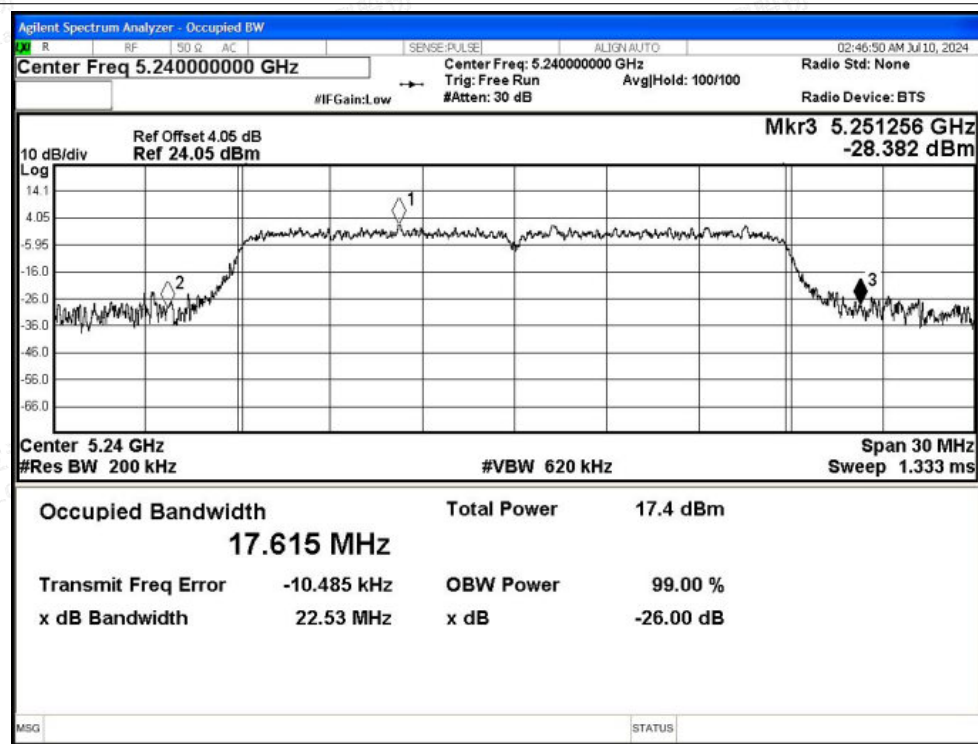
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-26dB Bandwidth NVNT n20 5200MHz Ant1

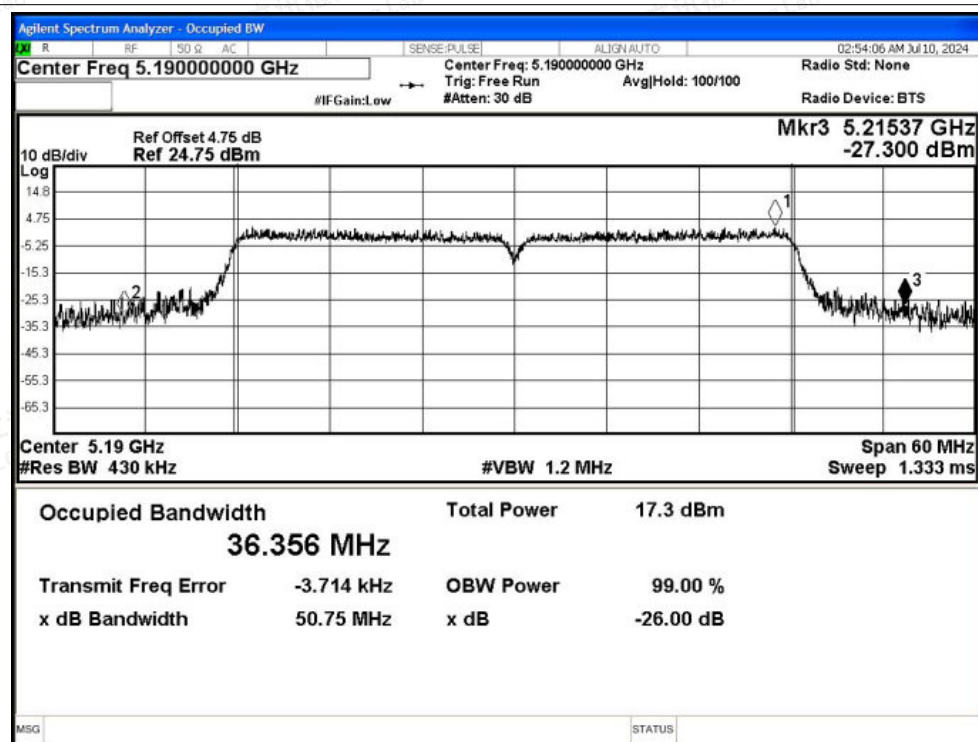


-26dB Bandwidth NVNT n20 5240MHz Ant1

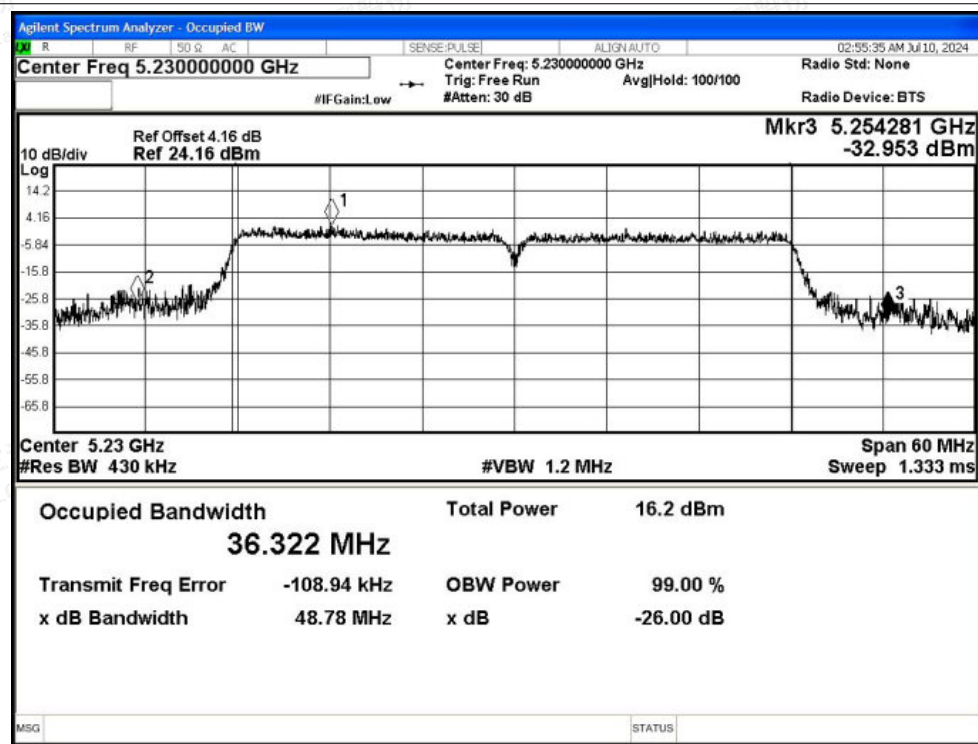




-26dB Bandwidth NVNT n40 5190MHz Ant1



-26dB Bandwidth NVNT n40 5230MHz Ant1



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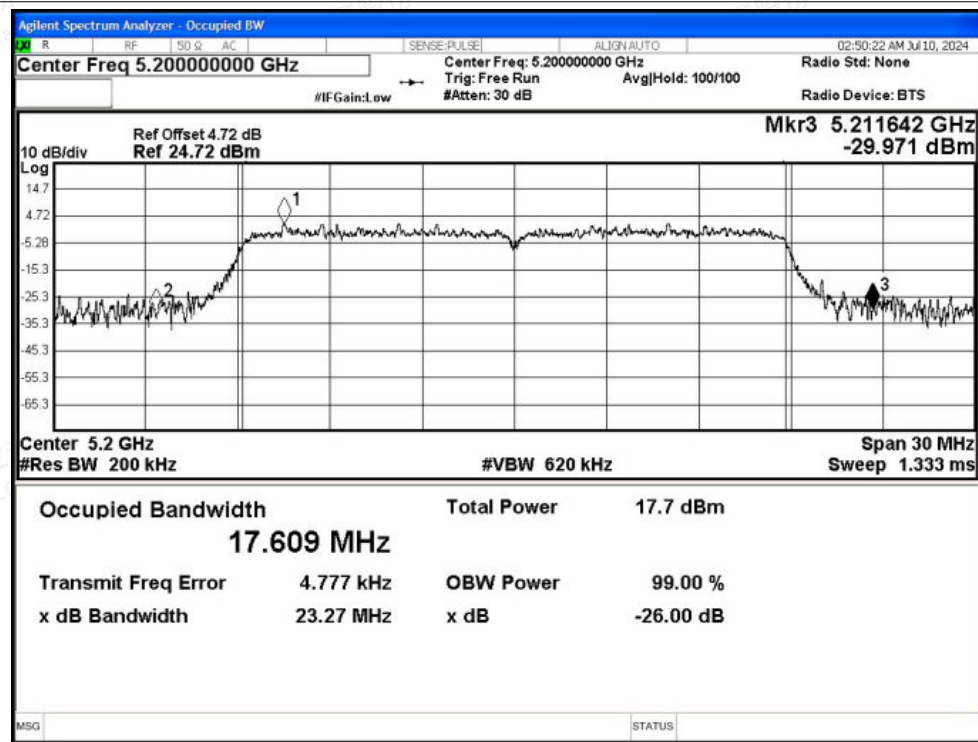
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-26dB Bandwidth NVNT ac20 5180MHz Ant1



-26dB Bandwidth NVNT ac20 5200MHz Ant1

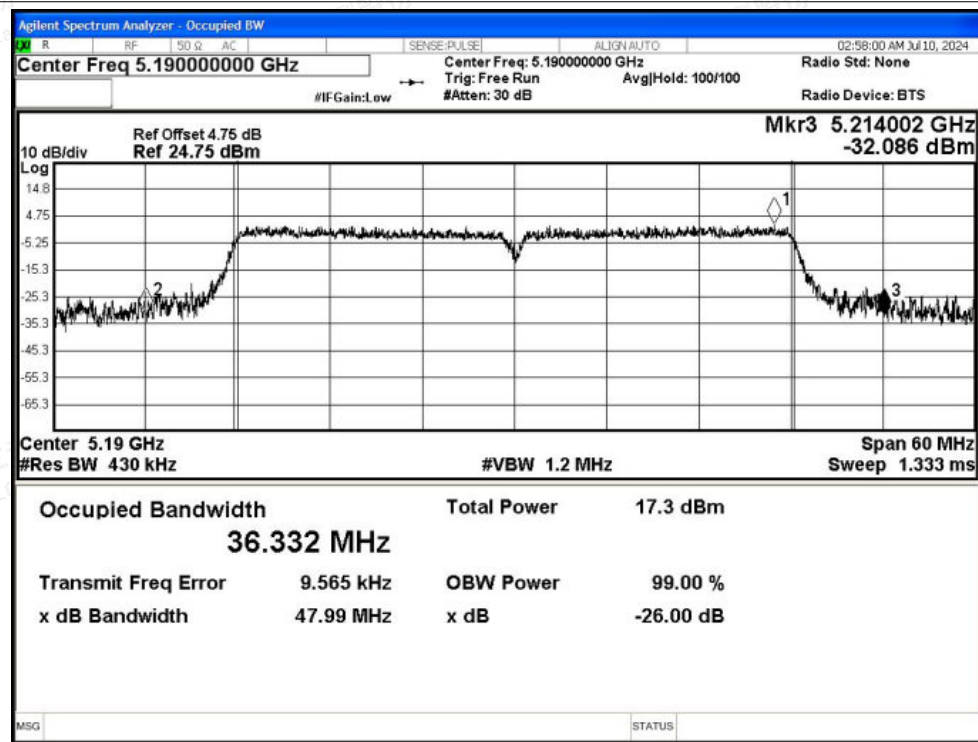




-26dB Bandwidth NVNT ac20 5240MHz Ant1



-26dB Bandwidth NVNT ac40 5190MHz Ant1



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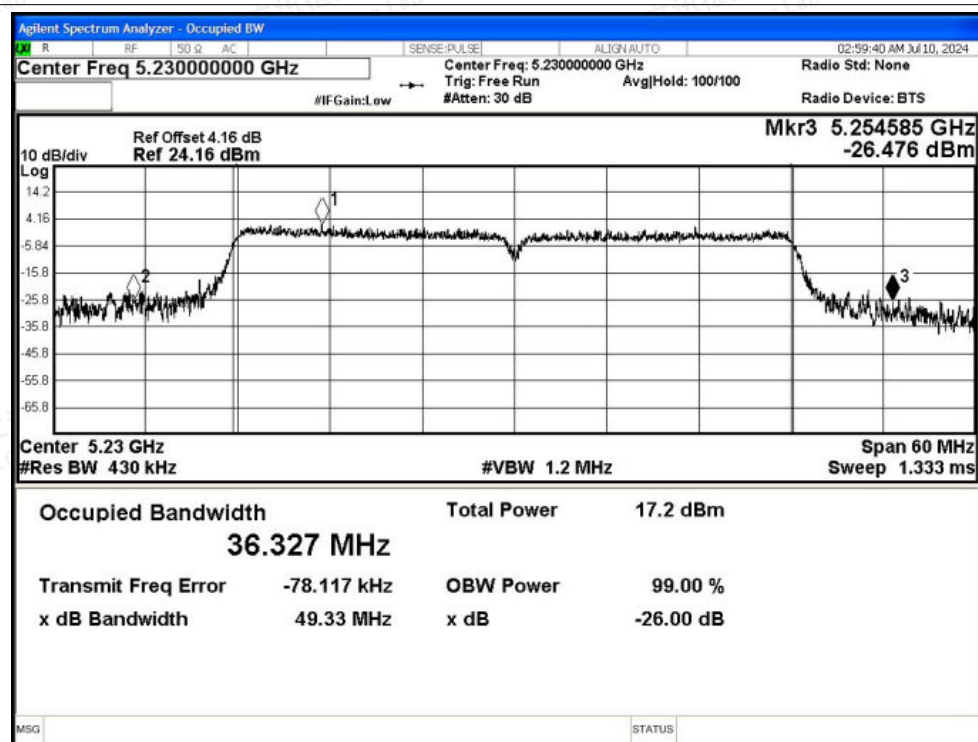
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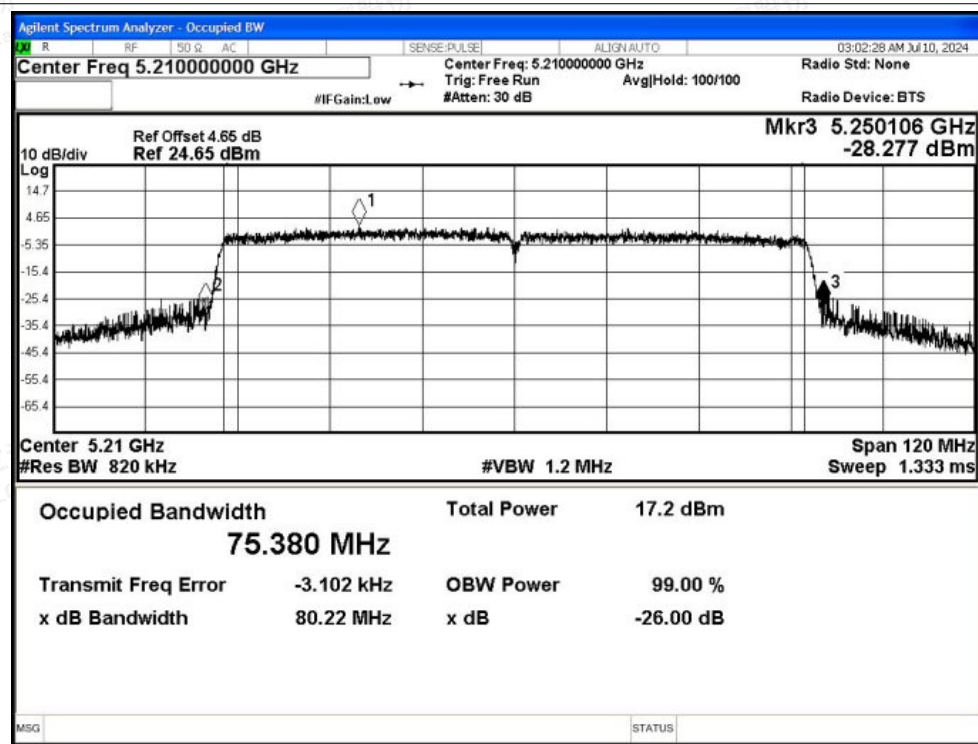
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-26dB Bandwidth NVNT ac40 5230MHz Ant1



-26dB Bandwidth NVNT ac80 5210MHz Ant1





D.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	12.61	0.57	13.18	24	Pass
NVNT	a	5200	Ant1	12.67	0.84	13.51	24	Pass
NVNT	a	5240	Ant1	12.06	0.57	12.63	24	Pass
NVNT	n20	5180	Ant1	11.2	0.66	11.86	24	Pass
NVNT	n20	5200	Ant1	11.68	0.66	12.34	24	Pass
NVNT	n20	5240	Ant1	11.13	0.62	11.75	24	Pass
NVNT	n40	5190	Ant1	10.49	1.14	11.63	24	Pass
NVNT	n40	5230	Ant1	10.63	1.13	11.76	24	Pass
NVNT	ac20	5180	Ant1	11.32	0.66	11.98	24	Pass
NVNT	ac20	5200	Ant1	11.7	0.65	12.35	24	Pass
NVNT	ac20	5240	Ant1	11.32	0.65	11.97	24	Pass
NVNT	ac40	5190	Ant1	10.57	1.28	11.85	24	Pass
NVNT	ac40	5230	Ant1	10.56	1.12	11.68	24	Pass
NVNT	ac80	5210	Ant1	9.36	1.75	11.11	24	Pass



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D.3 Maximum Power Spectral Density Level

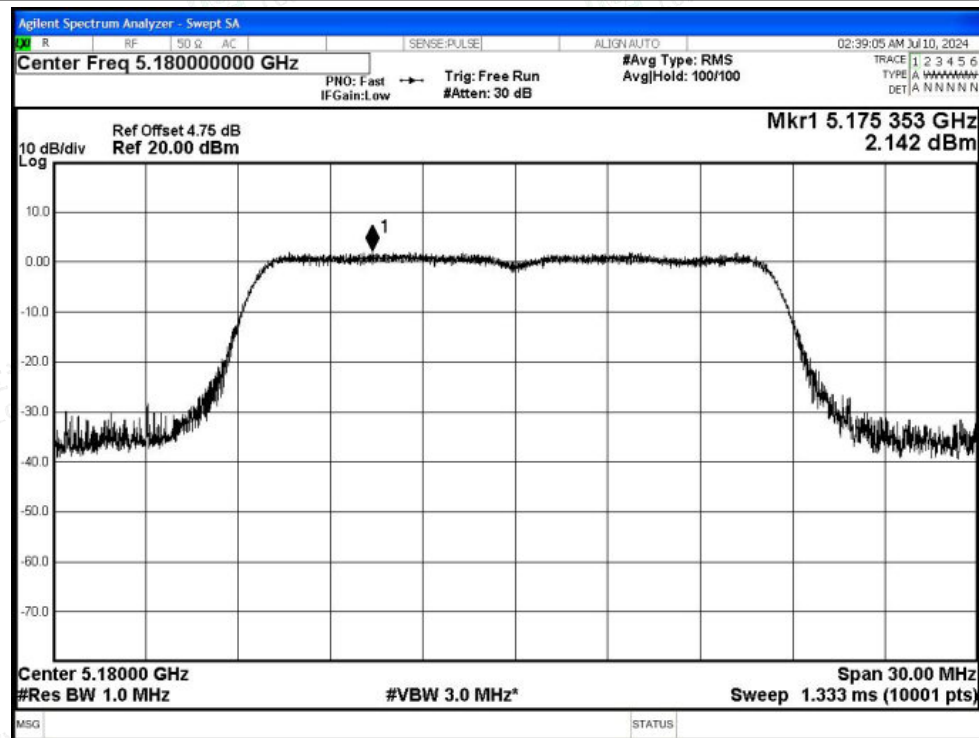
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/MHz)	Duty Factor (dB)	Total PSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
NVNT	a	5180	Ant1	2.14	0.57	2.71	11	Pass
NVNT	a	5200	Ant1	2.52	0.84	3.36	11	Pass
NVNT	a	5240	Ant1	1.69	0.57	2.26	11	Pass
NVNT	n20	5180	Ant1	0.66	0.66	1.32	11	Pass
NVNT	n20	5200	Ant1	1.06	0.66	1.72	11	Pass
NVNT	n20	5240	Ant1	0.77	0.62	1.39	11	Pass
NVNT	n40	5190	Ant1	-3.14	1.14	-2.00	11	Pass
NVNT	n40	5230	Ant1	-3.35	1.13	-2.22	11	Pass
NVNT	ac20	5180	Ant1	0.96	0.66	1.62	11	Pass
NVNT	ac20	5200	Ant1	1.22	0.65	1.87	11	Pass
NVNT	ac20	5240	Ant1	0.47	0.65	1.12	11	Pass
NVNT	ac40	5190	Ant1	-3.09	1.28	-1.81	11	Pass
NVNT	ac40	5230	Ant1	-1.98	1.12	-0.86	11	Pass
NVNT	ac80	5210	Ant1	-7.22	1.75	-5.47	11	Pass



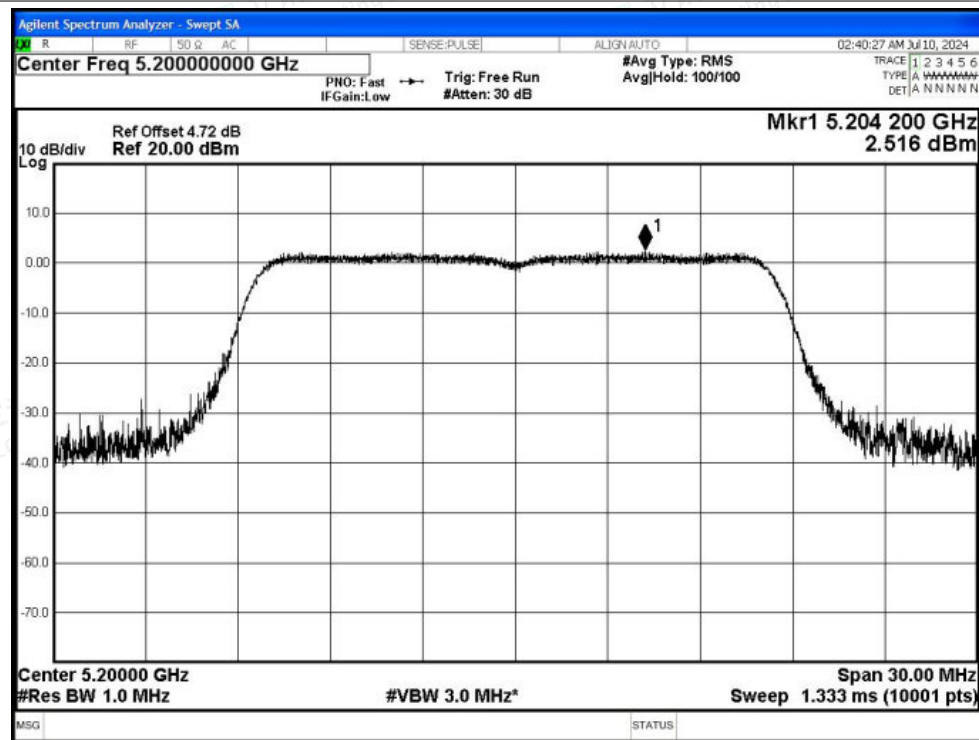


Test Graphs

PSD NVNT a 5180MHz Ant1



PSD NVNT a 5200MHz Ant1



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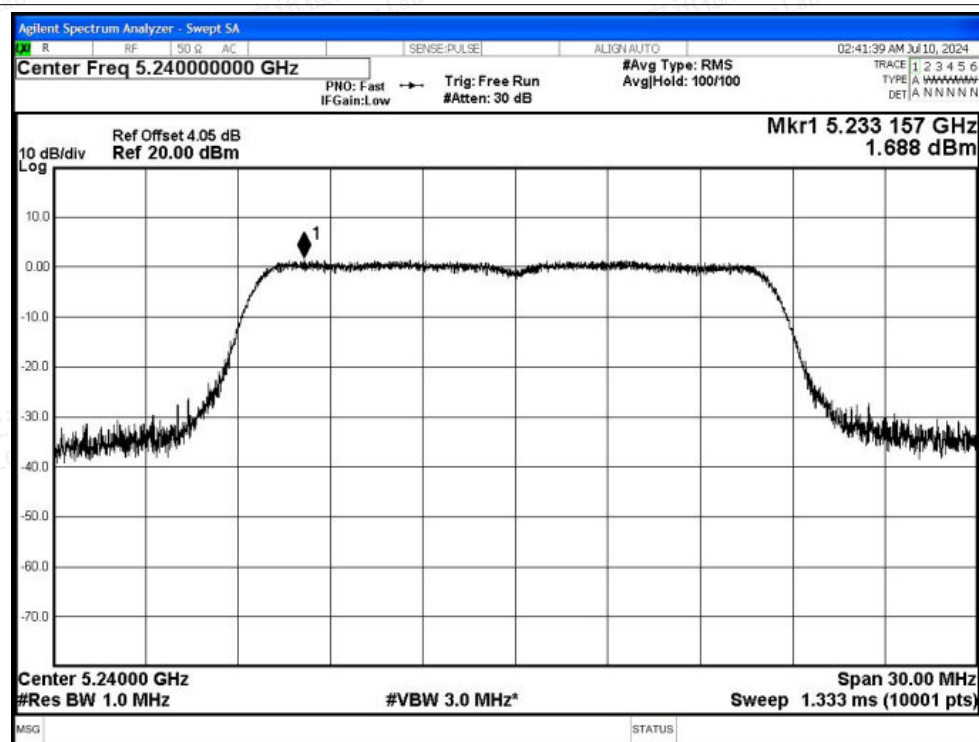
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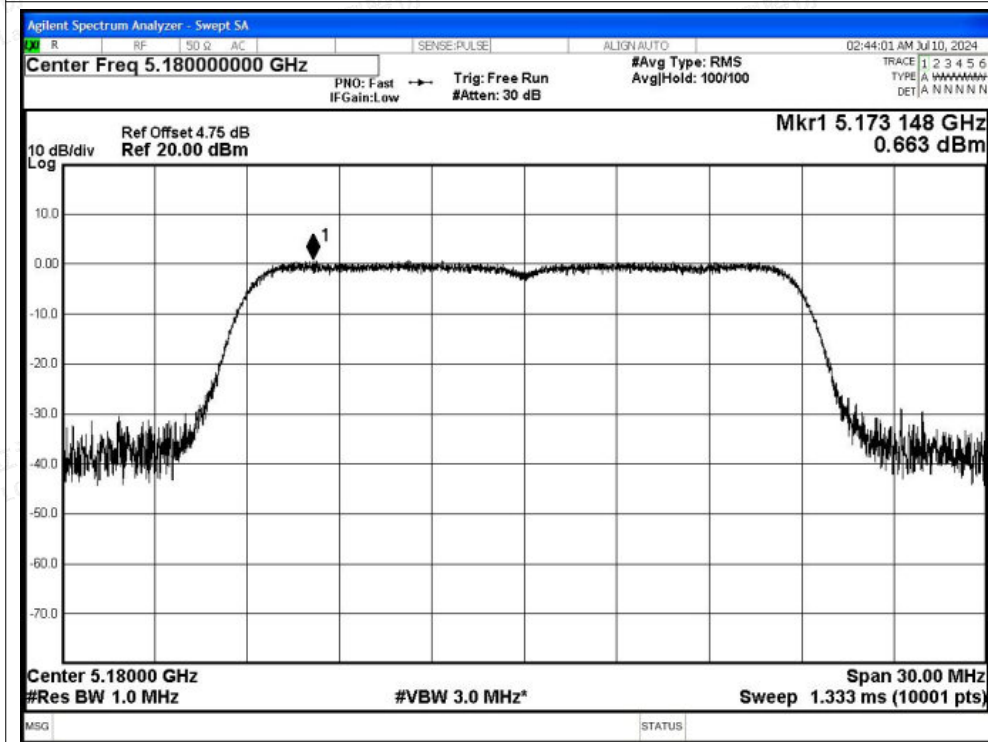
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PSD NVNT a 5240MHz Ant1



PSD NVNT n20 5180MHz Ant1



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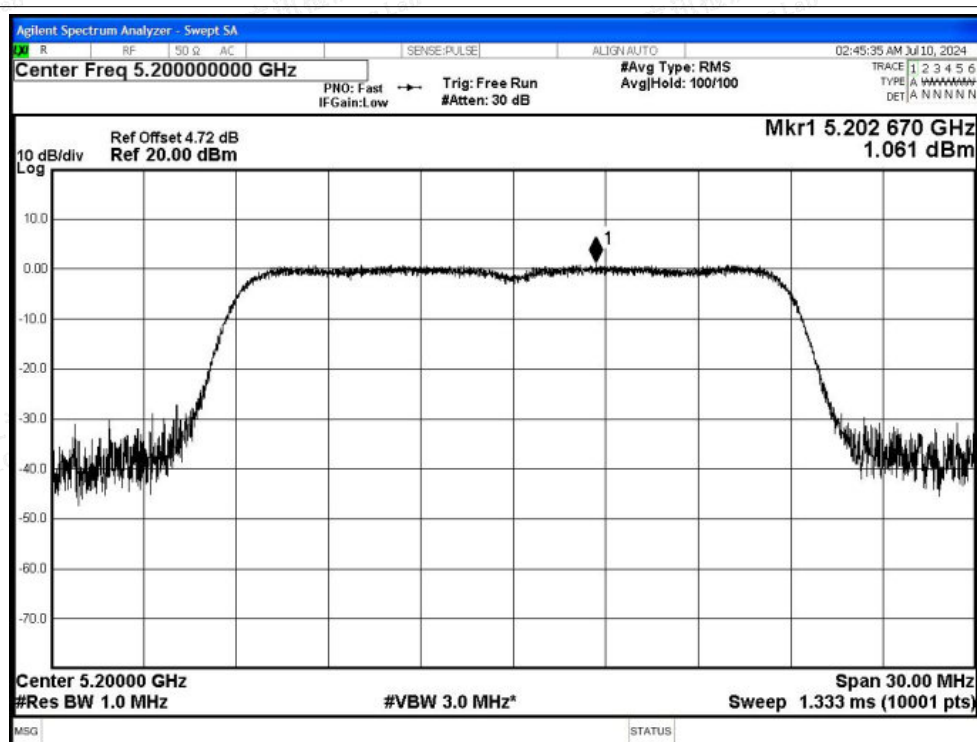
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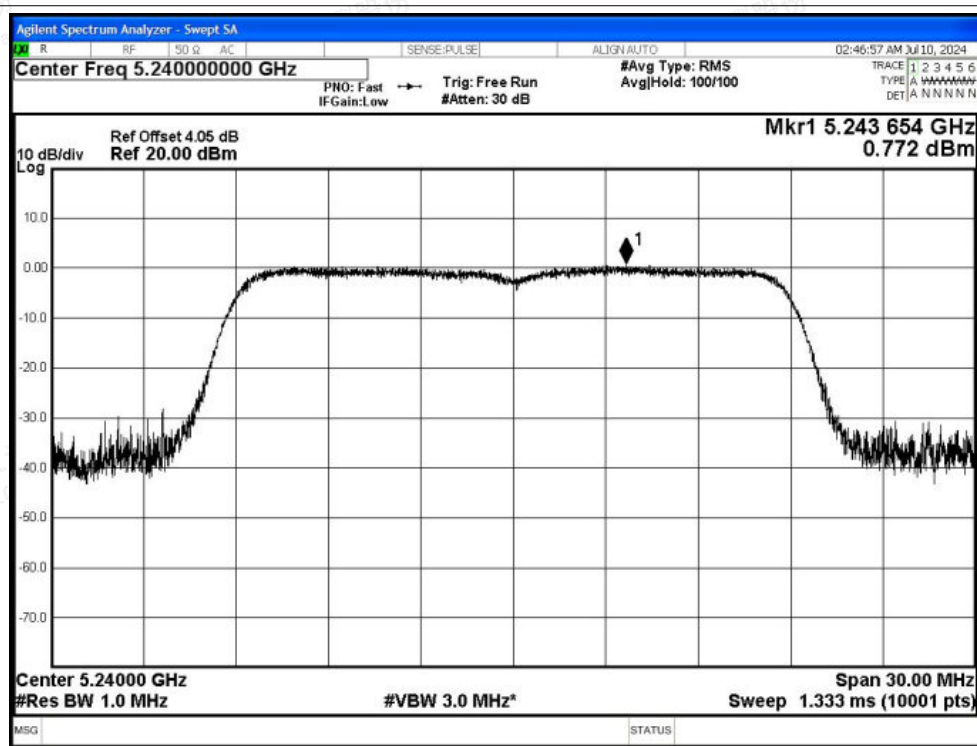
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PSD NVNT n20 5200MHz Ant1



PSD NVNT n20 5240MHz Ant1



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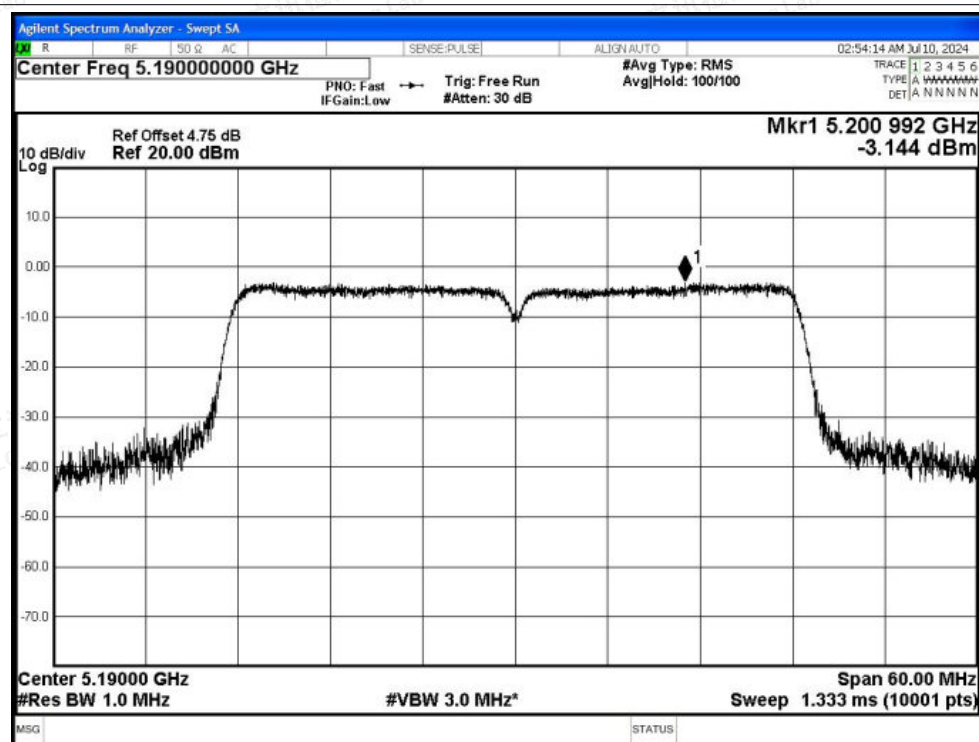
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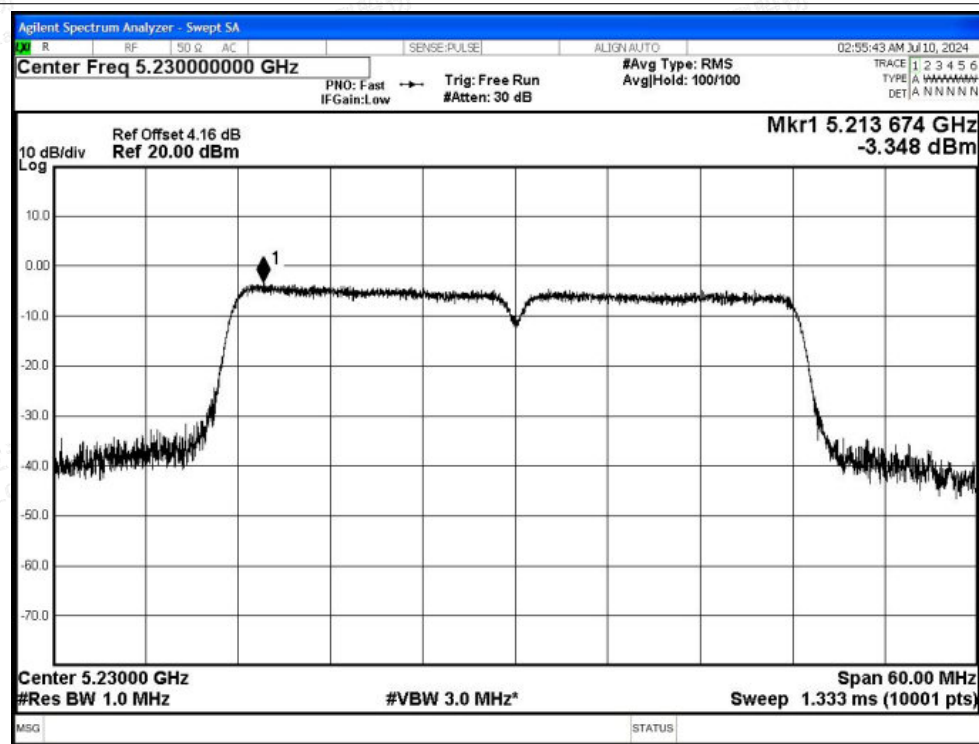
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PSD NVNT n40 5190MHz Ant1

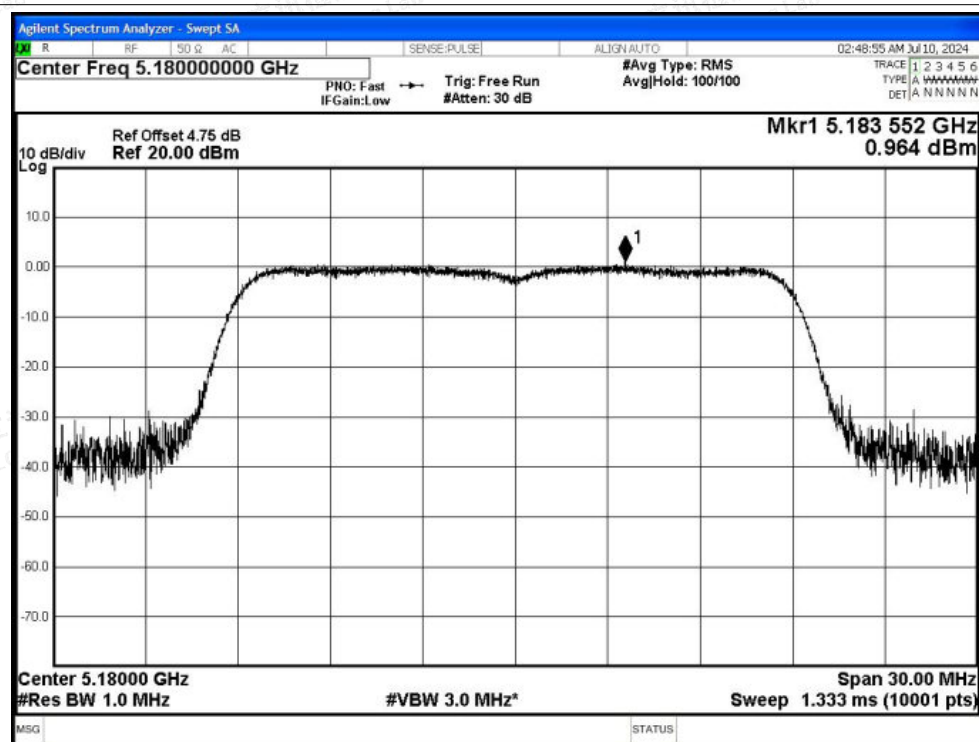


PSD NVNT n40 5230MHz Ant1

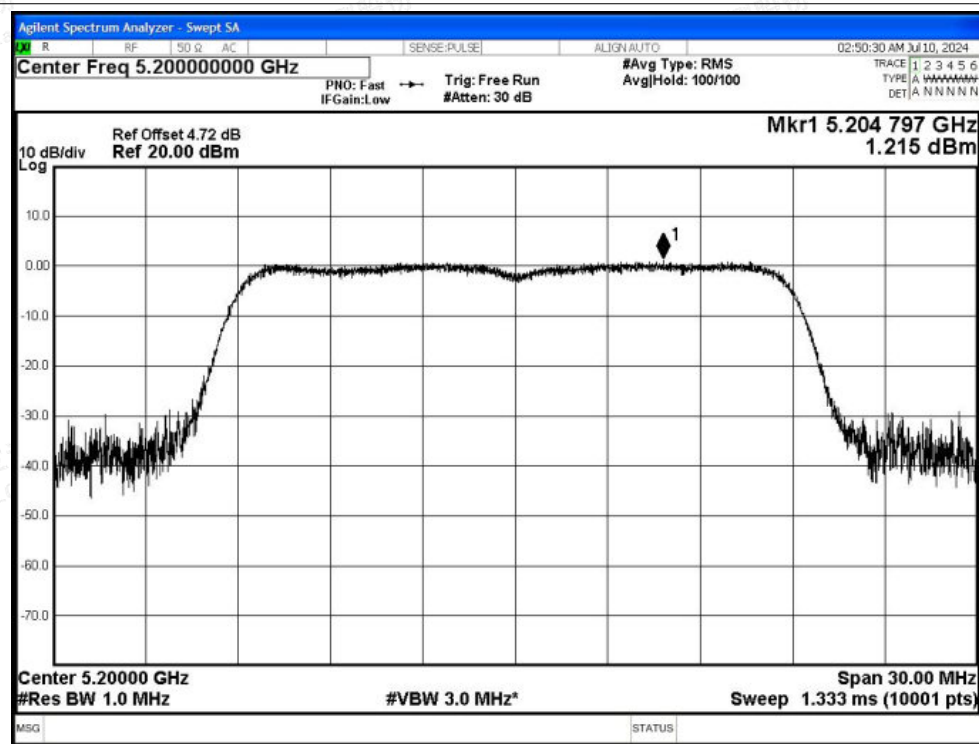




PSD NVNT ac20 5180MHz Ant1



PSD NVNT ac20 5200MHz Ant1



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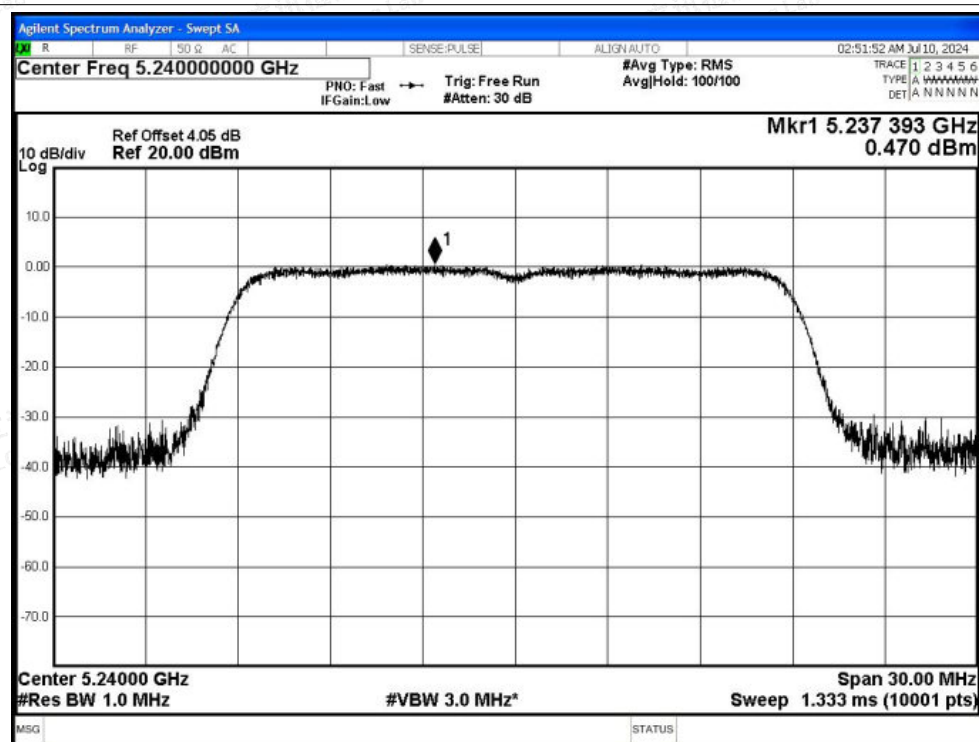
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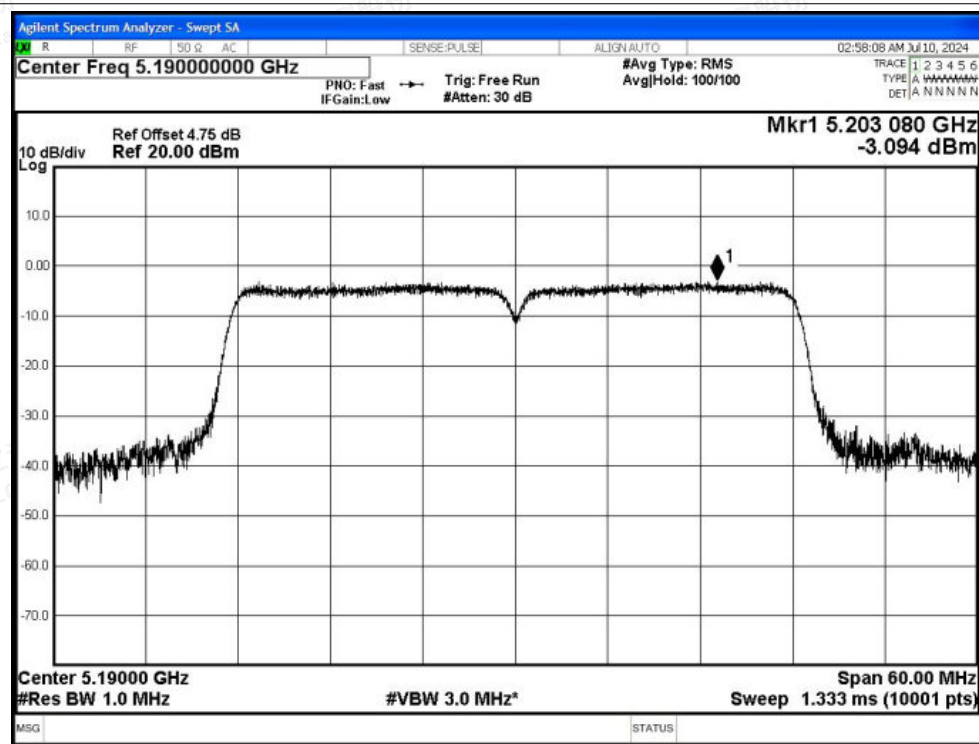
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PSD NVNT ac20 5240MHz Ant1



PSD NVNT ac40 5190MHz Ant1



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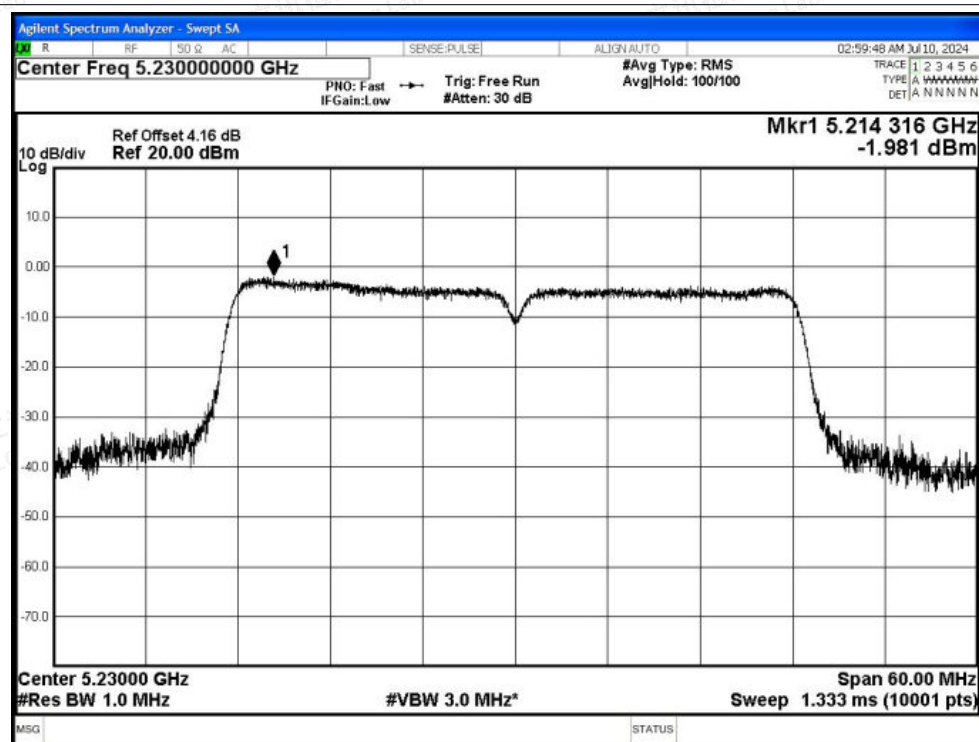
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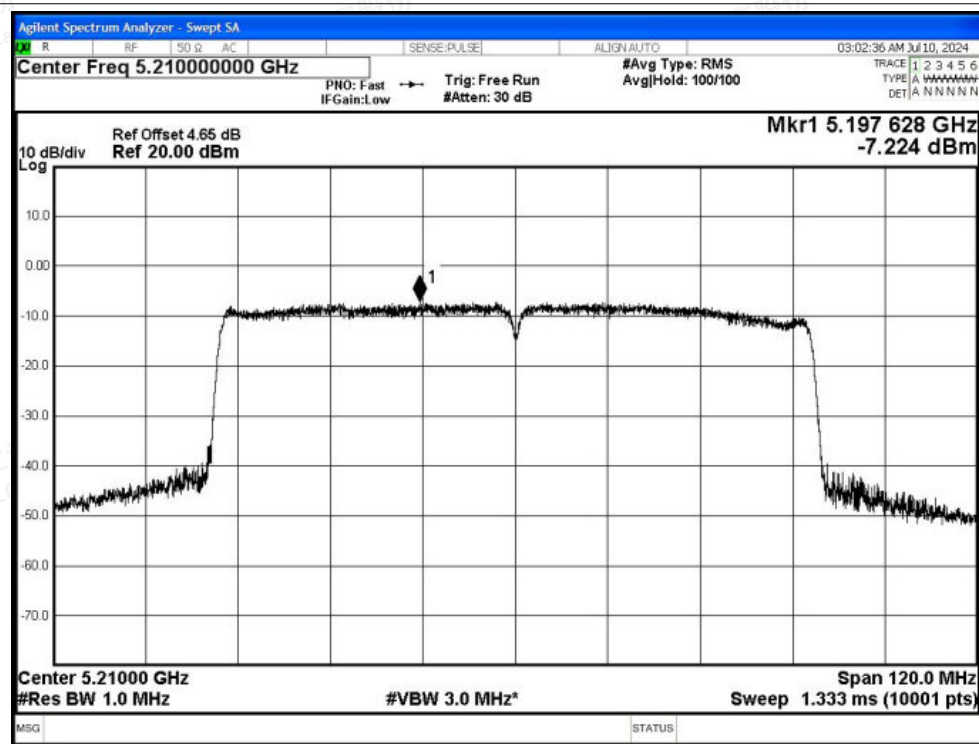
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PSD NVNT ac40 5230MHz Ant1



PSD NVNT ac80 5210MHz Ant1



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D.4 Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	a	5180	Ant1	4500	-50.13	2.3	0	47.40	Peak	68.2	Pass
NVNT	a	5180	Ant1	4500	-56.76	2.3	0.57	41.34	Average	54	Pass
NVNT	a	5180	Ant1	5148.9	-44.65	2.3	0	52.88	Peak	68.2	Pass
NVNT	a	5180	Ant1	5149.6	-54.92	2.3	0.57	43.18	Average	54	Pass
NVNT	a	5180	Ant1	5150	-46.97	2.3	0	50.56	Peak	68.2	Pass
NVNT	a	5180	Ant1	5150	-54.96	2.3	0.57	43.14	Average	54	Pass
NVNT	a	5240	Ant1	5350	-48.58	2.3	0	48.95	Peak	68.2	Pass
NVNT	a	5240	Ant1	5350	-57.52	2.3	0.57	40.58	Average	54	Pass
NVNT	a	5240	Ant1	5401.44	-45.15	2.3	0	52.38	Peak	68.2	Pass
NVNT	a	5240	Ant1	5431.44	-56.27	2.3	0.57	41.83	Average	54	Pass
NVNT	a	5240	Ant1	5460	-48.47	2.3	0	49.06	Peak	68.2	Pass
NVNT	a	5240	Ant1	5460	-57.49	2.3	0.57	40.61	Average	54	Pass
NVNT	n20	5180	Ant1	4500	-49.1	2.3	0	48.43	Peak	68.2	Pass
NVNT	n20	5180	Ant1	4500	-57.43	2.3	0.66	40.76	Average	54	Pass
NVNT	n20	5180	Ant1	5099.9	-44.6	2.3	0	52.93	Peak	68.2	Pass
NVNT	n20	5180	Ant1	5147.5	-54.38	2.3	0.66	43.81	Average	54	Pass
NVNT	n20	5180	Ant1	5150	-44.66	2.3	0	52.87	Peak	68.2	Pass
NVNT	n20	5180	Ant1	5150	-54.21	2.3	0.66	43.98	Average	54	Pass
NVNT	n20	5240	Ant1	5350	-49.01	2.3	0	48.52	Peak	68.2	Pass
NVNT	n20	5240	Ant1	5350	-56.97	2.3	0.62	41.18	Average	54	Pass
NVNT	n20	5240	Ant1	5424.48	-46.31	2.3	0	51.22	Peak	68.2	Pass
NVNT	n20	5240	Ant1	5453.04	-56.33	2.3	0.62	41.82	Average	54	Pass
NVNT	n20	5240	Ant1	5460	-48.67	2.3	0	48.86	Peak	68.2	Pass
NVNT	n20	5240	Ant1	5460	-56.91	2.3	0.62	41.24	Average	54	Pass
NVNT	n40	5190	Ant1	4500	-50.16	2.3	0	47.37	Peak	68.2	Pass
NVNT	n40	5190	Ant1	4500	-57.2	2.3	1.14	41.47	Average	54	Pass
NVNT	n40	5190	Ant1	5145.32	-42.16	2.3	0	55.37	Peak	68.2	Pass
NVNT	n40	5190	Ant1	5149.7	-53.52	2.3	1.14	45.15	Average	54	Pass
NVNT	n40	5190	Ant1	5150	-43.5	2.3	0	54.03	Peak	68.2	Pass
NVNT	n40	5190	Ant1	5150	-53.52	2.3	1.14	45.15	Average	54	Pass
NVNT	n40	5230	Ant1	5350	-47.22	2.3	0	50.31	Peak	68.2	Pass
NVNT	n40	5230	Ant1	5350	-56.45	2.3	1.13	42.21	Average	54	Pass
NVNT	n40	5230	Ant1	5427.33	-45.46	2.3	0	52.07	Peak	68.2	Pass
NVNT	n40	5230	Ant1	5427.87	-56.24	2.3	1.13	42.42	Average	54	Pass
NVNT	n40	5230	Ant1	5460	-49.88	2.3	0	47.65	Peak	68.2	Pass
NVNT	n40	5230	Ant1	5460	-57.24	2.3	1.13	41.42	Average	54	Pass



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NVNT	ac20	5180	Ant1	4500	-48.52	2.3	0	49.01	Peak	68.2	Pass
NVNT	ac20	5180	Ant1	4500	-57.98	2.3	0.66	40.21	Average	54	Pass
NVNT	ac20	5180	Ant1	5147.5	-44.7	2.3	0	52.83	Peak	68.2	Pass
NVNT	ac20	5180	Ant1	5148.2	-54.33	2.3	0.66	43.86	Average	54	Pass
NVNT	ac20	5180	Ant1	5150	-46.5	2.3	0	51.03	Peak	68.2	Pass
NVNT	ac20	5180	Ant1	5150	-54.6	2.3	0.66	43.59	Average	54	Pass
NVNT	ac20	5240	Ant1	5350	-47.13	2.3	0	50.40	Peak	68.2	Pass
NVNT	ac20	5240	Ant1	5350	-56.94	2.3	0.65	41.24	Average	54	Pass
NVNT	ac20	5240	Ant1	5352	-46.66	2.3	0	50.87	Peak	68.2	Pass
NVNT	ac20	5240	Ant1	5375.04	-56.12	2.3	0.65	42.06	Average	54	Pass
NVNT	ac20	5240	Ant1	5460	-49.6	2.3	0	47.93	Peak	68.2	Pass
NVNT	ac20	5240	Ant1	5460	-56.91	2.3	0.65	41.27	Average	54	Pass
NVNT	ac40	5190	Ant1	4500	-49.75	2.3	0	47.78	Peak	68.2	Pass
NVNT	ac40	5190	Ant1	4500	-57.52	2.3	1.28	41.29	Average	54	Pass
NVNT	ac40	5190	Ant1	5149.7	-43.48	2.3	0	54.05	Peak	68.2	Pass
NVNT	ac40	5190	Ant1	5149.7	-53.72	2.3	1.28	45.09	Average	54	Pass
NVNT	ac40	5190	Ant1	5150	-43.48	2.3	0	54.05	Peak	68.2	Pass
NVNT	ac40	5190	Ant1	5150	-53.72	2.3	1.28	45.09	Average	54	Pass
NVNT	ac40	5230	Ant1	5350	-49.35	2.3	0	48.18	Peak	68.2	Pass
NVNT	ac40	5230	Ant1	5350	-57.05	2.3	1.12	41.60	Average	54	Pass
NVNT	ac40	5230	Ant1	5414.91	-44.37	2.3	0	53.16	Peak	68.2	Pass
NVNT	ac40	5230	Ant1	5361.72	-56.28	2.3	1.12	42.37	Average	54	Pass
NVNT	ac40	5230	Ant1	5460	-48.8	2.3	0	48.73	Peak	68.2	Pass
NVNT	ac40	5230	Ant1	5460	-56.77	2.3	1.12	41.88	Average	54	Pass
NVNT	ac80	5210	Ant1	5350	-47.98	2.3	0	49.55	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5350	-56.88	2.3	1.75	42.40	Average	54	Pass
NVNT	ac80	5210	Ant1	5394.33	-45.82	2.3	0	51.71	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5438.22	-55.67	2.3	1.75	43.61	Average	54	Pass
NVNT	ac80	5210	Ant1	5460	-47.55	2.3	0	49.98	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5460	-56.89	2.3	1.75	42.39	Average	54	Pass
NVNT	ac80	5210	Ant1	4500	-48.59	2.3	0	48.94	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	4500	-56.93	2.3	1.75	42.35	Average	54	Pass
NVNT	ac80	5210	Ant1	5149.38	-41.92	2.3	0	55.61	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5148.59	-54.11	2.3	1.75	45.17	Average	54	Pass
NVNT	ac80	5210	Ant1	5150	-44.43	2.3	0	53.10	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5150	-54.36	2.3	1.75	44.92	Average	54	Pass



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Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

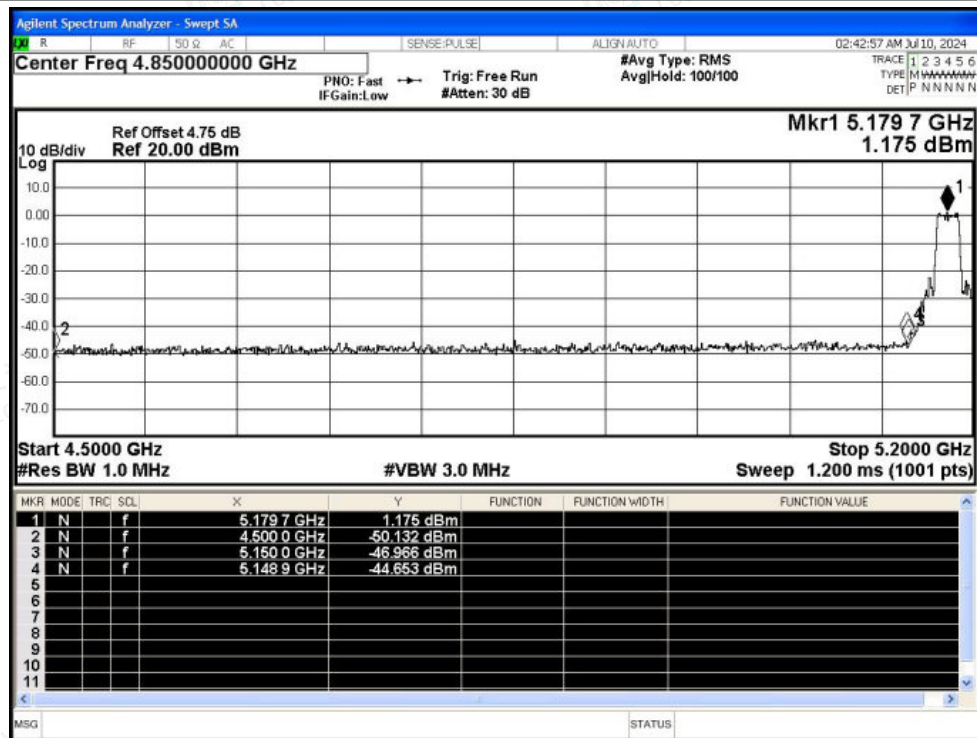
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

Scan code to check authenticity

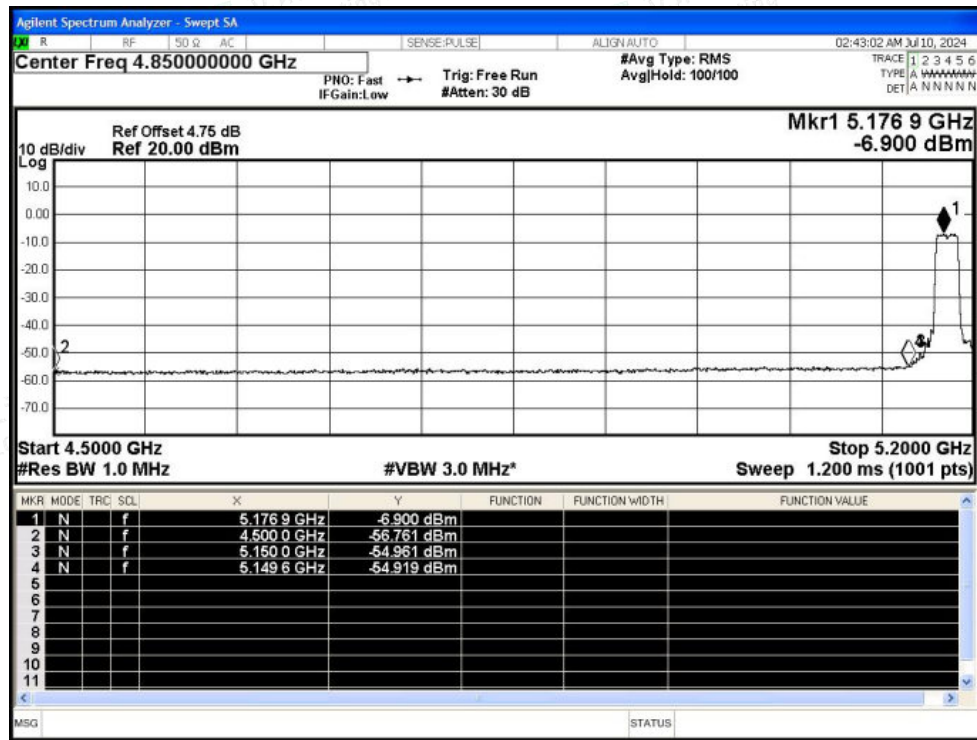


Test Graphs

Restrict Band NVNT a 5180MHz Ant1 Peak



Restrict Band NVNT a 5180MHz Ant1 Average



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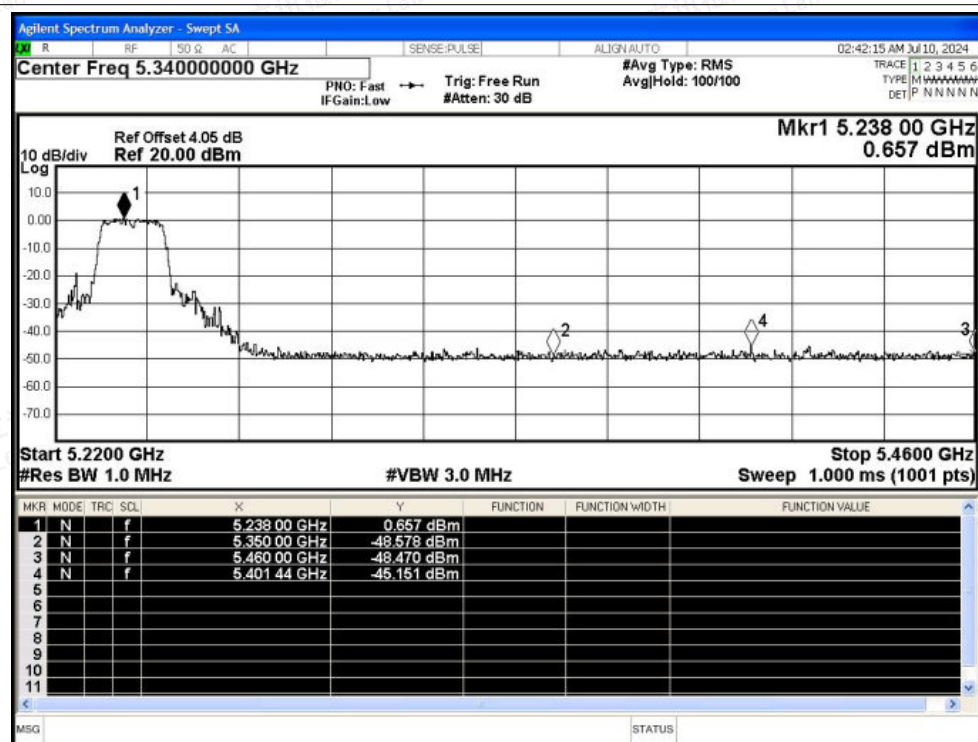
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

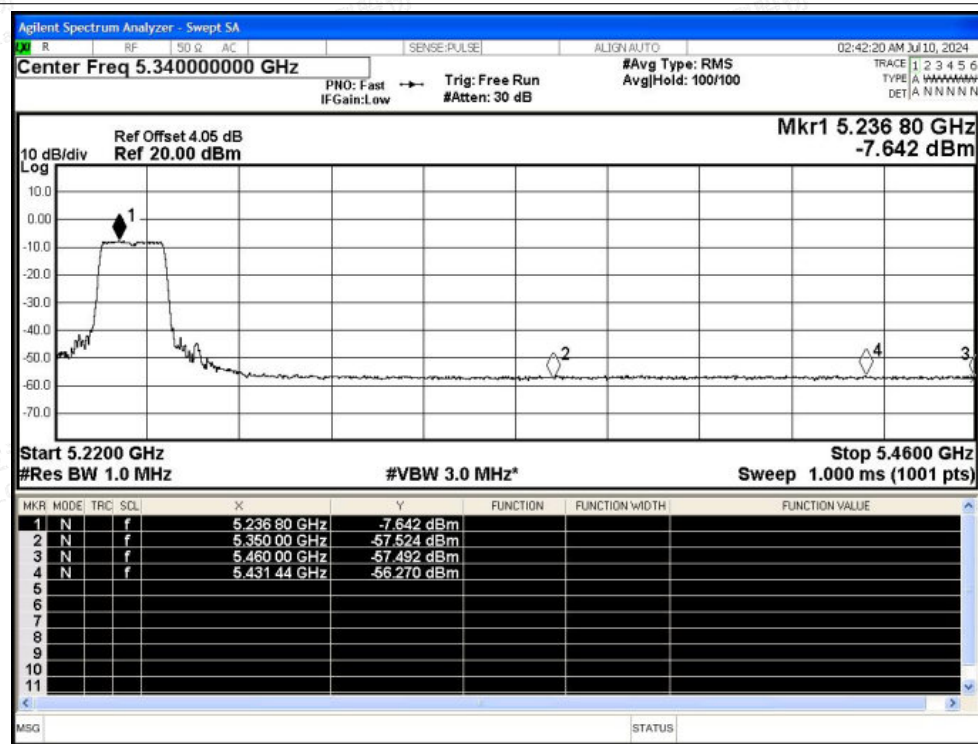
Scan code to check authenticity



Restrict Band NVNT a 5240MHz Ant1 Peak

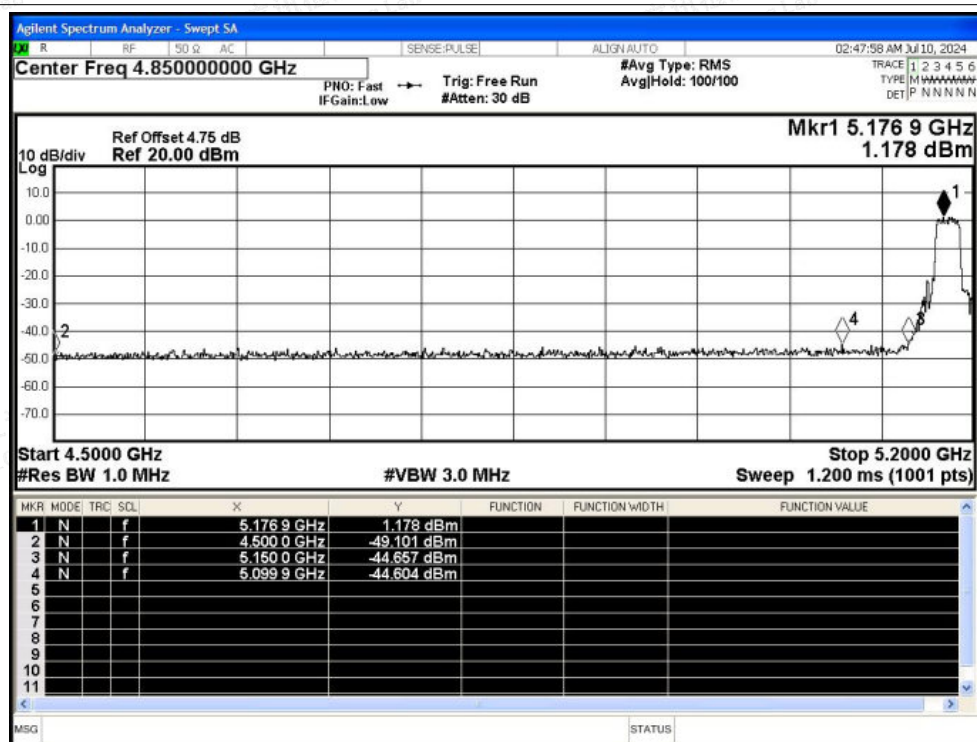


Restrict Band NVNT a 5240MHz Ant1 Average

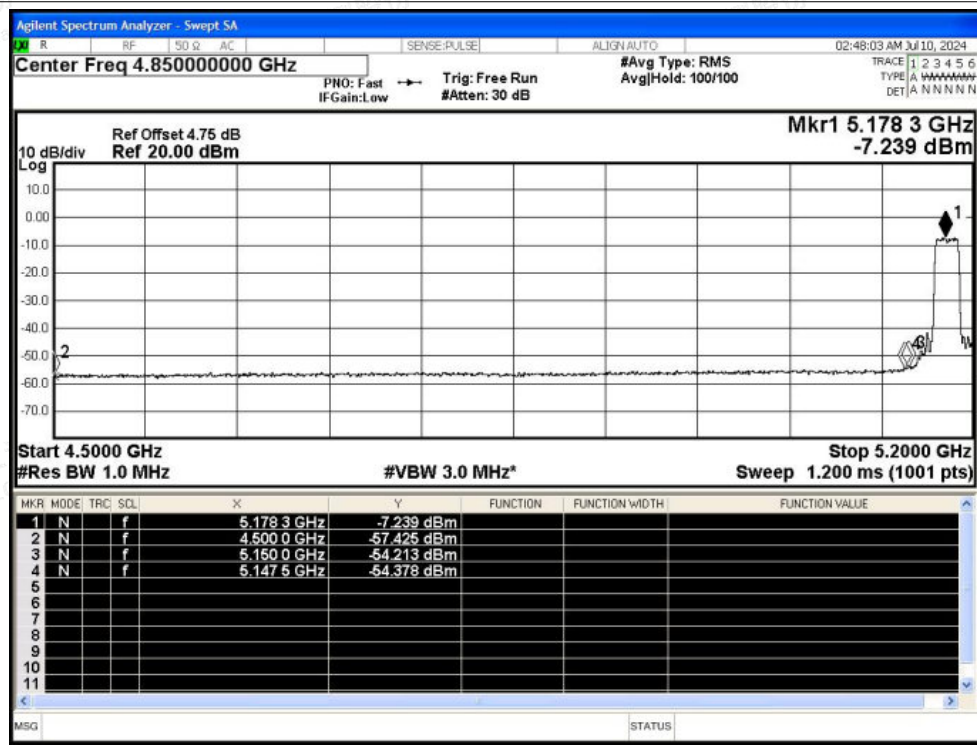




Restrict Band NVNT n20 5180MHz Ant1 Peak



Restrict Band NVNT n20 5180MHz Ant1 Average



Shenzhen LCS Compliance Testing Laboratory Ltd.

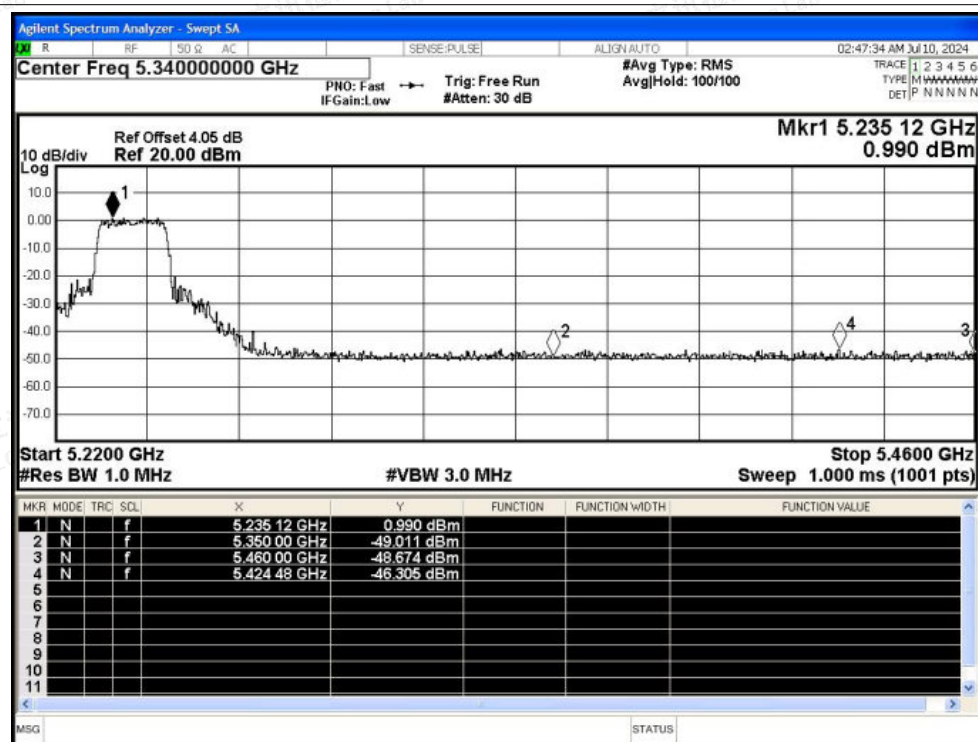
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

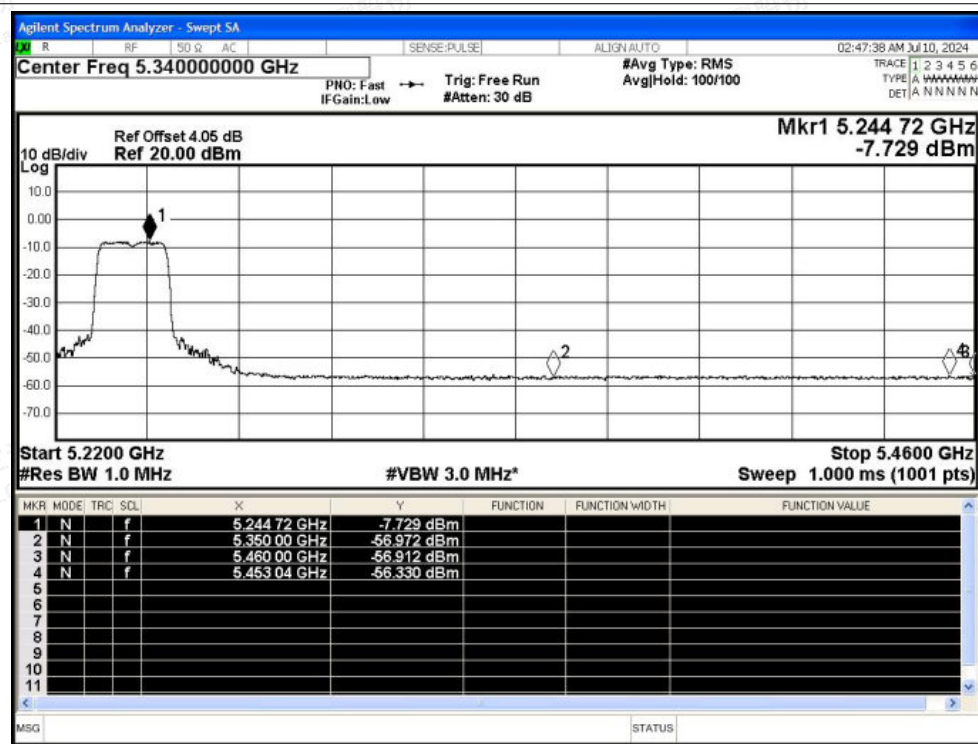
Scan code to check authenticity



Restrict Band NVNT n20 5240MHz Ant1 Peak



Restrict Band NVNT n20 5240MHz Ant1 Average



Shenzhen LCS Compliance Testing Laboratory Ltd.

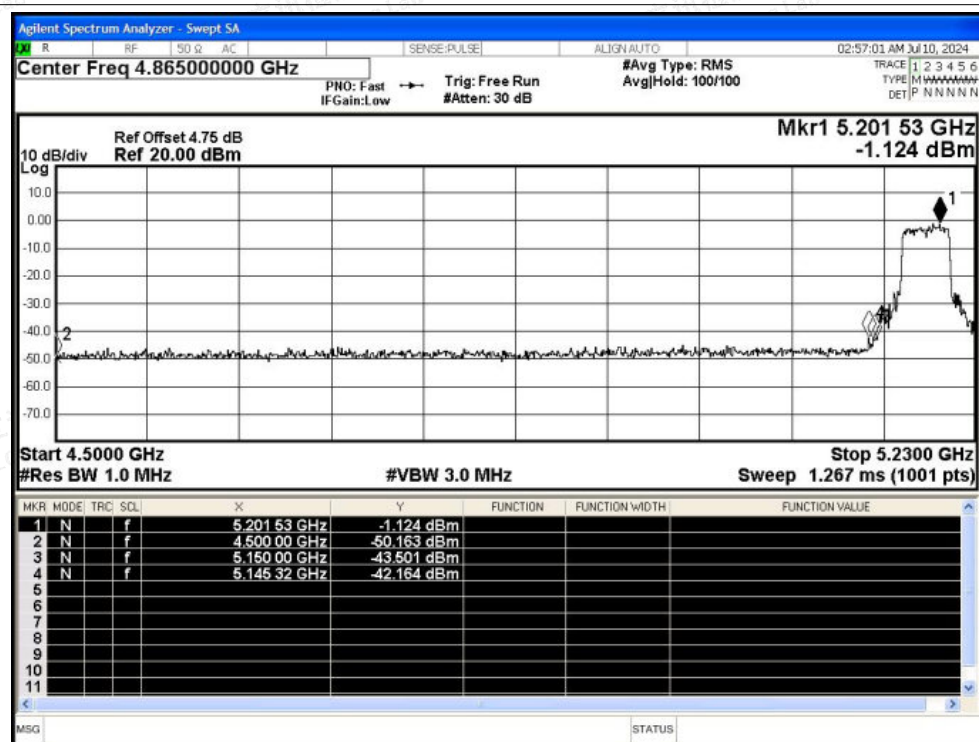
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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Restrict Band NVNT n40 5190MHz Ant1 Peak



Restrict Band NVNT n40 5190MHz Ant1 Average

