

FCC Appendix RF Test Data for 5.2GWIFI

Product Name: Automotive Diagnostic Tool

Test Model: VD700

Environmental Conditions

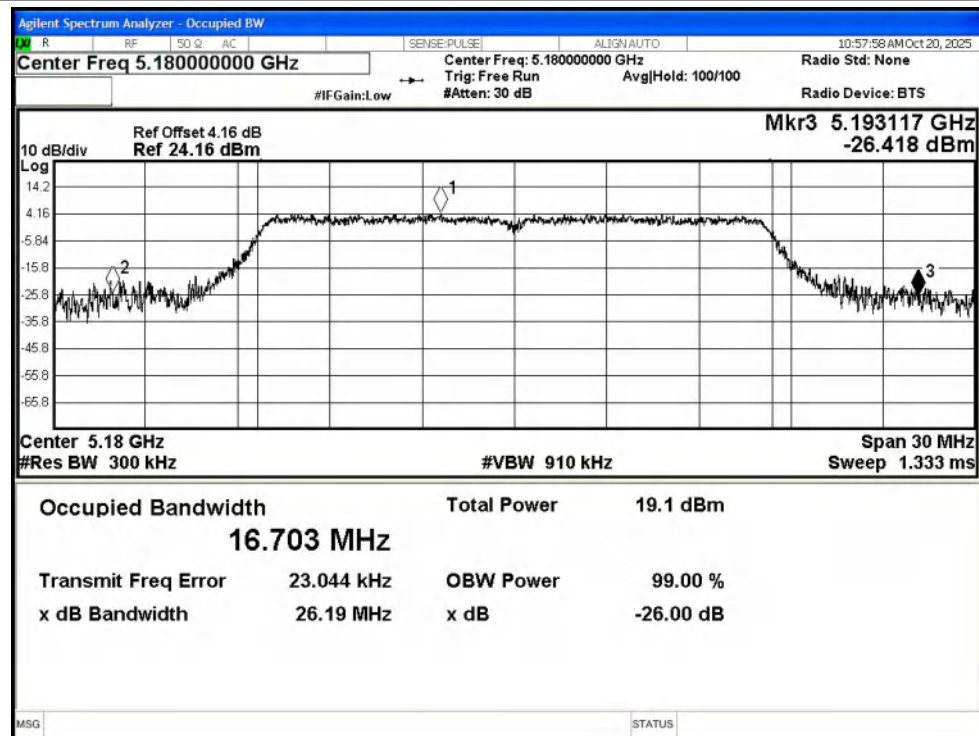
Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Zoey Cao
Supervised by:	Eric Wang

1. -26dB Bandwidth

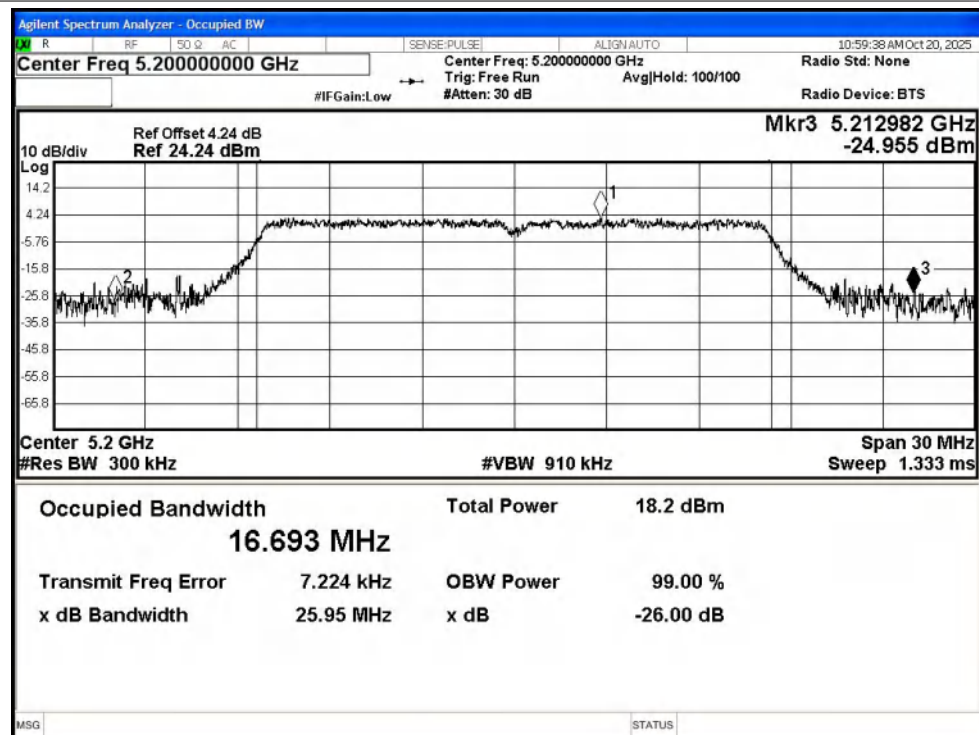
Condition	Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)	Limit -26 dB Bandwidth (MHz)	Verdict
NVNT	a	5180	Ant1	26.188	---	Pass
NVNT	a	5200	Ant1	25.95	---	Pass
NVNT	a	5240	Ant1	26.86	---	Pass
NVNT	n20	5180	Ant1	28.927	---	Pass
NVNT	n20	5200	Ant1	28.981	---	Pass
NVNT	n20	5240	Ant1	27.519	---	Pass
NVNT	n40	5190	Ant1	47.547	---	Pass
NVNT	n40	5230	Ant1	51.343	---	Pass
NVNT	ac20	5180	Ant1	28.522	---	Pass
NVNT	ac20	5200	Ant1	27.858	---	Pass
NVNT	ac20	5240	Ant1	27.122	---	Pass
NVNT	ac40	5190	Ant1	43.526	---	Pass
NVNT	ac40	5230	Ant1	47.423	---	Pass
NVNT	ac80	5210	Ant1	84.077	---	Pass

Test Graphs

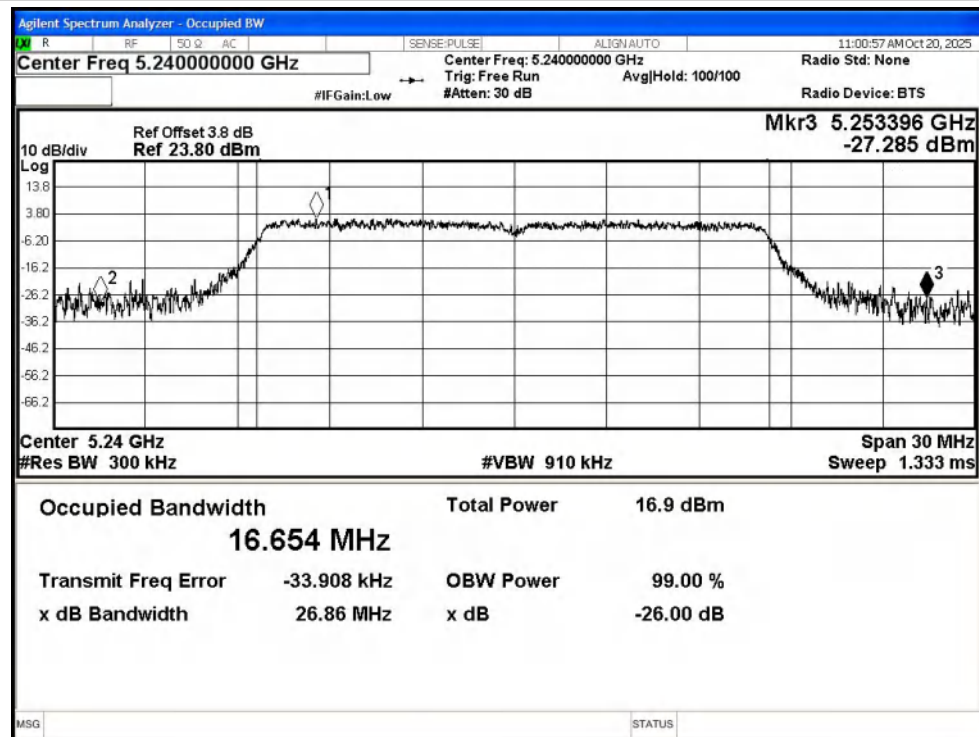
-26dB Bandwidth NVNT a 5180MHz Ant1



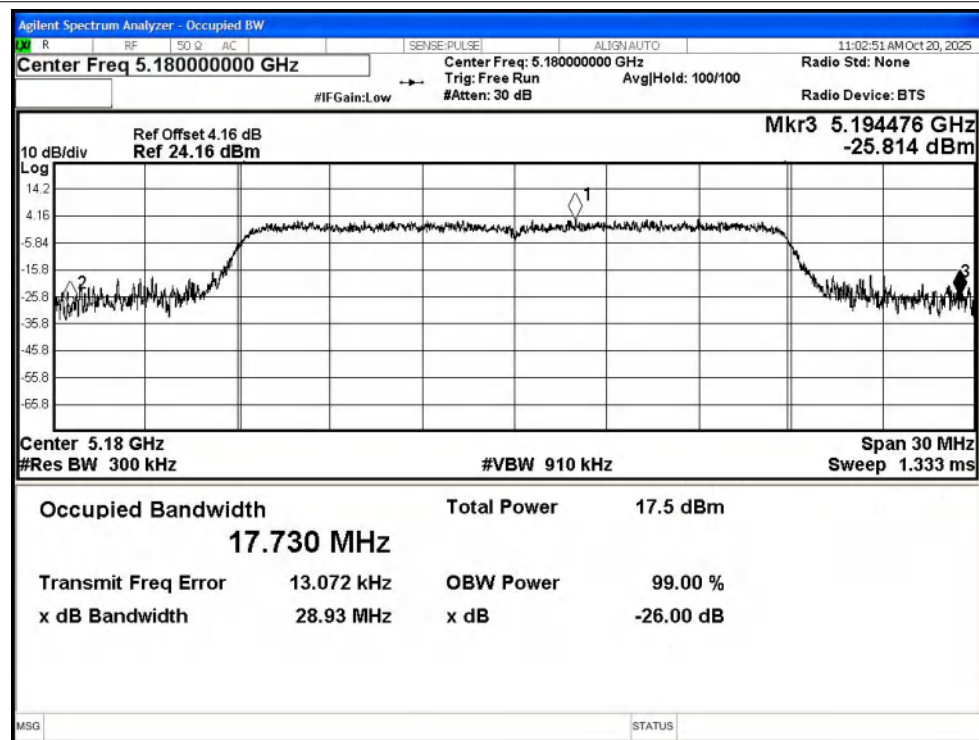
-26dB Bandwidth NVNT a 5200MHz Ant1



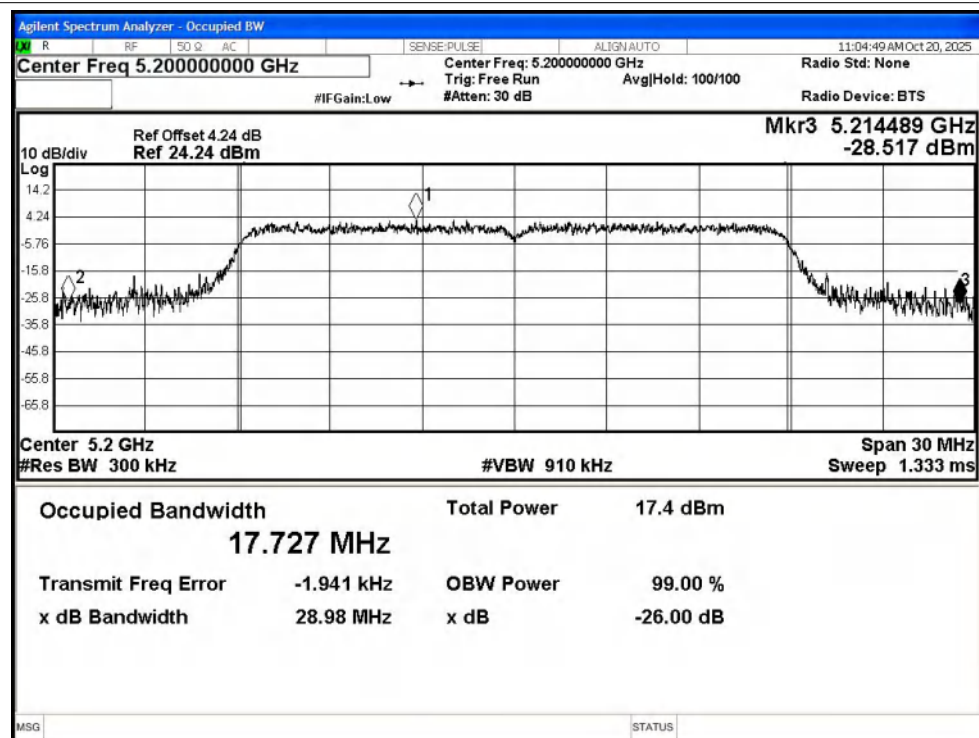
-26dB Bandwidth NVNT a 5240MHz Ant1



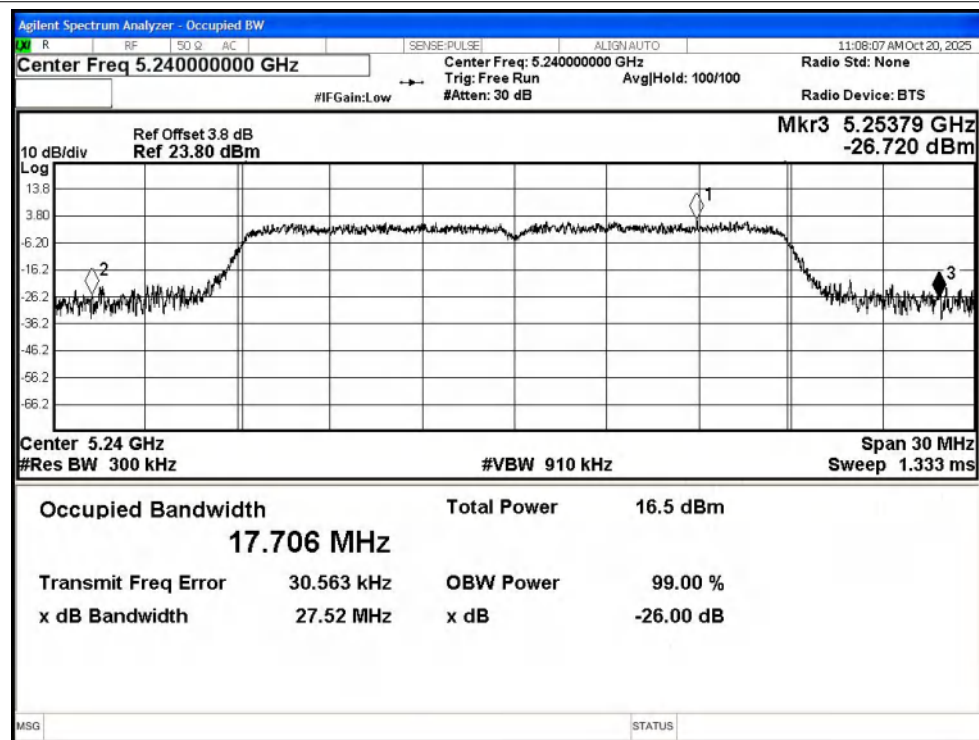
-26dB Bandwidth NVNT n20 5180MHz Ant1



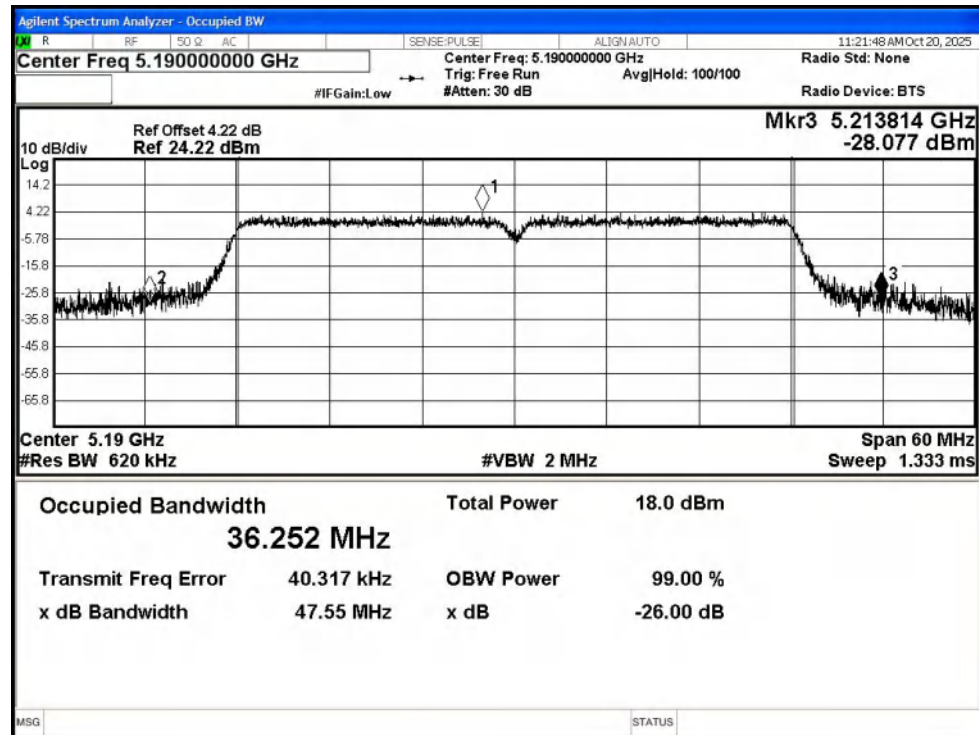
-26dB Bandwidth NVNT n20 5200MHz Ant1



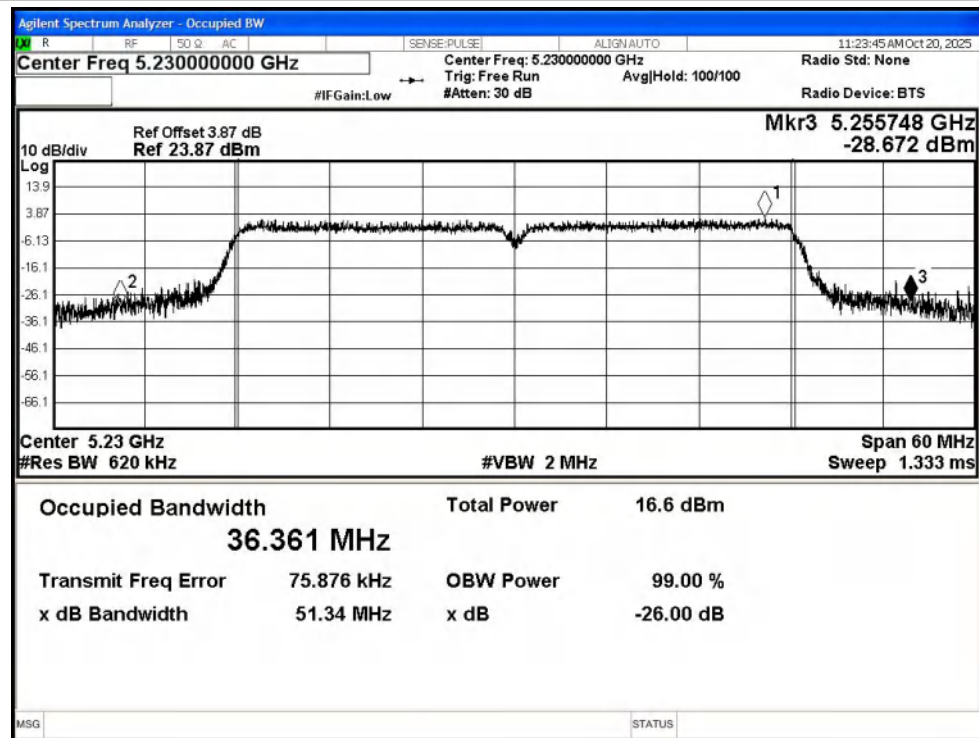
-26dB Bandwidth NVNT n20 5240MHz Ant1



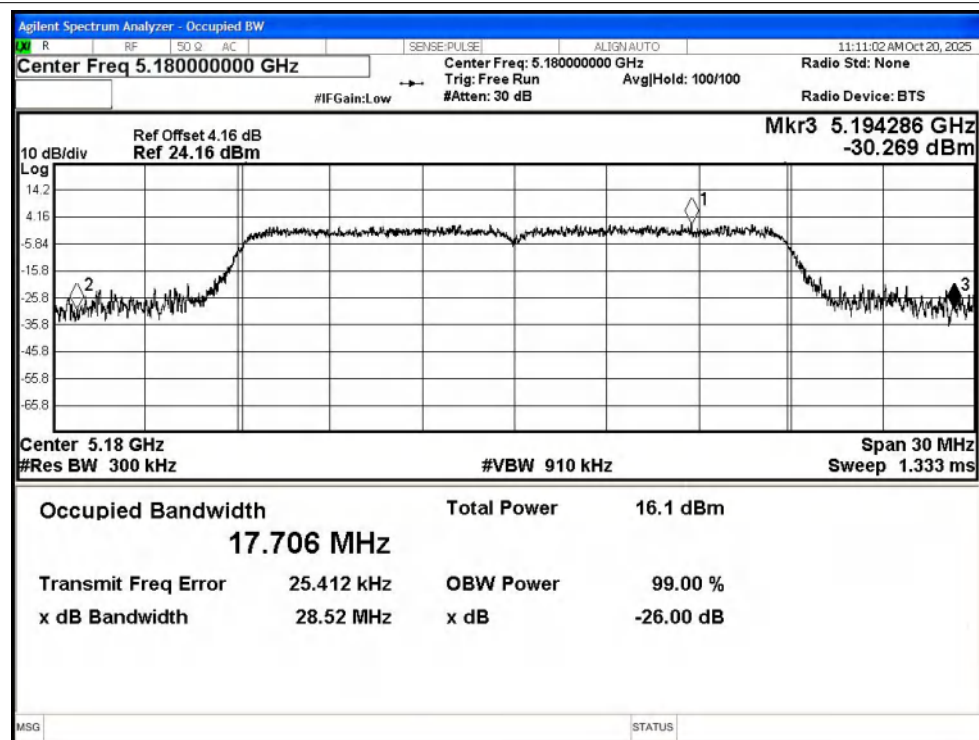
-26dB Bandwidth NVNT n40 5190MHz Ant1



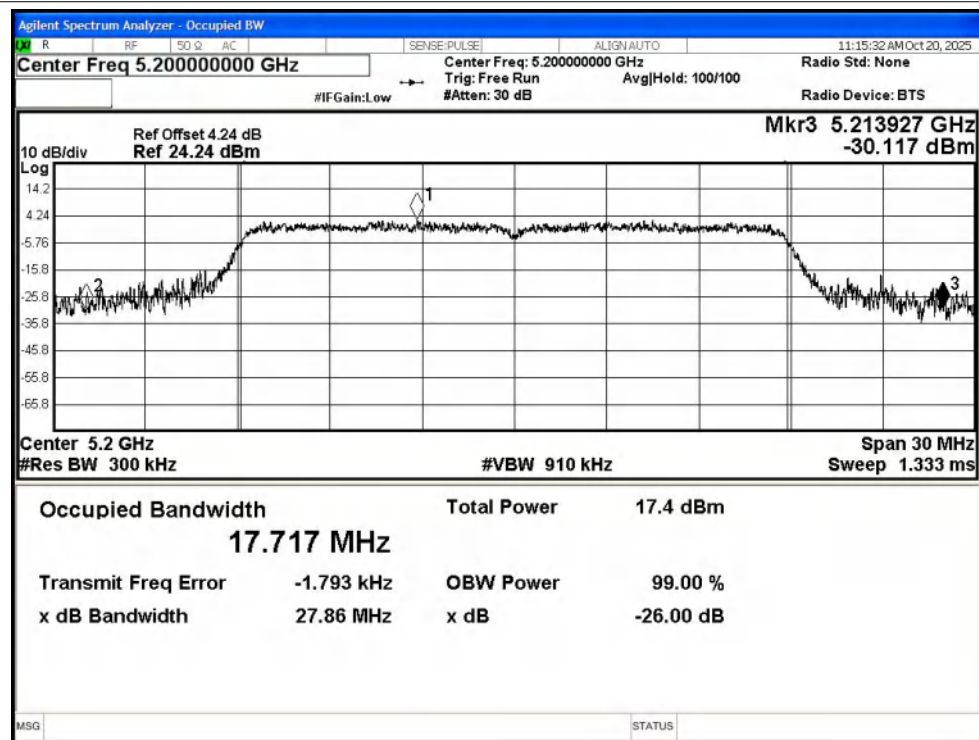
-26dB Bandwidth NVNT n40 5230MHz Ant1



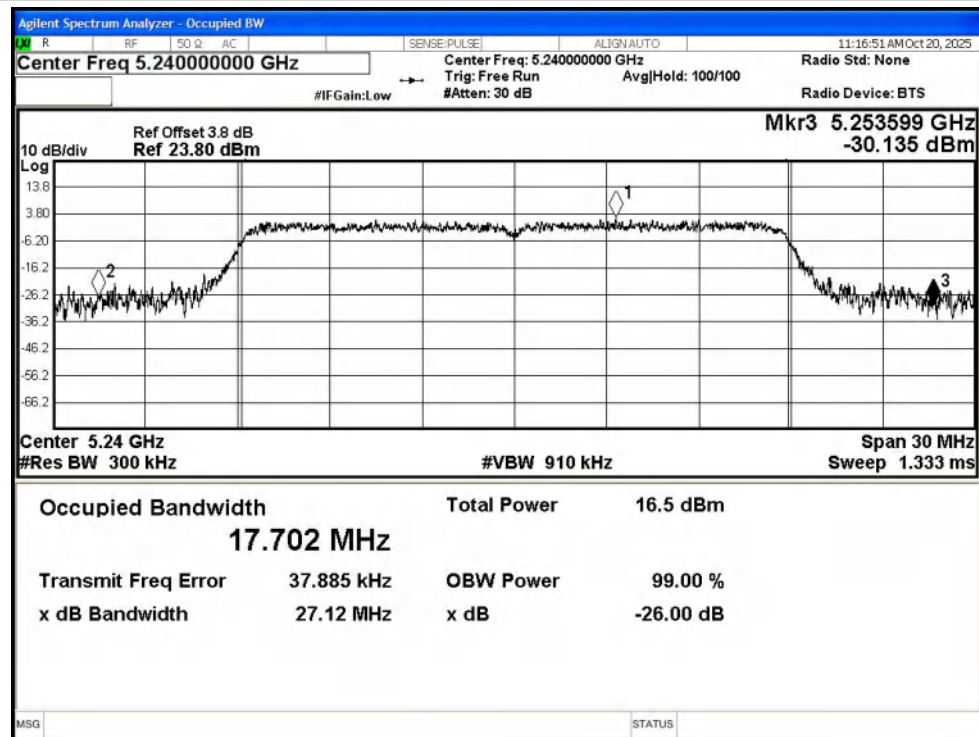
-26dB Bandwidth NVNT ac20 5180MHz Ant1



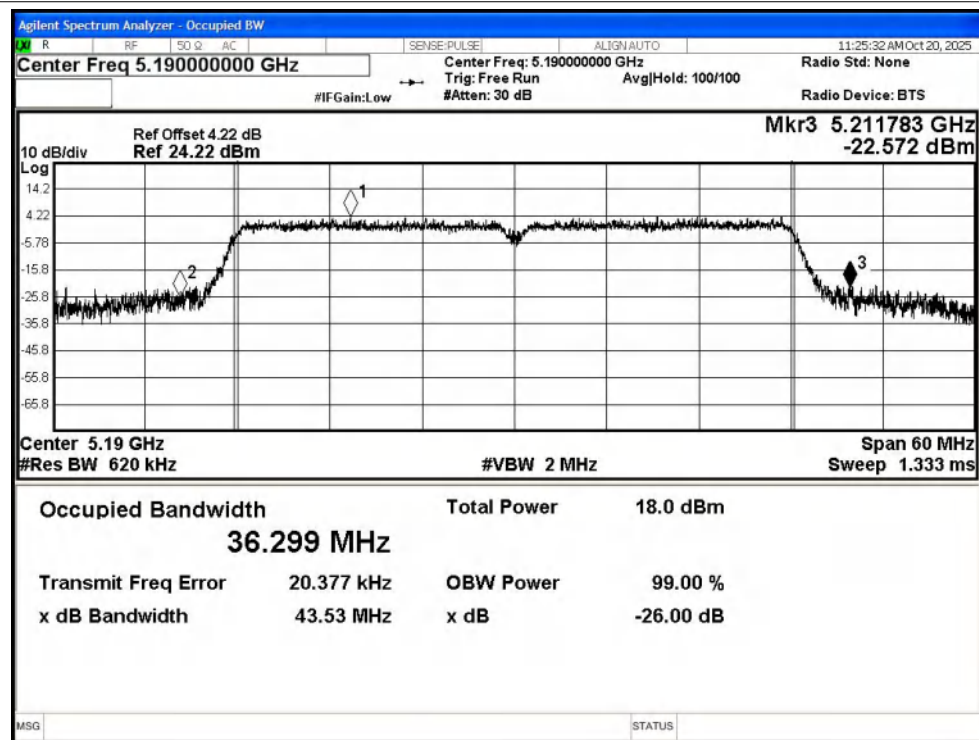
-26dB Bandwidth NVNT ac20 5200MHz Ant1



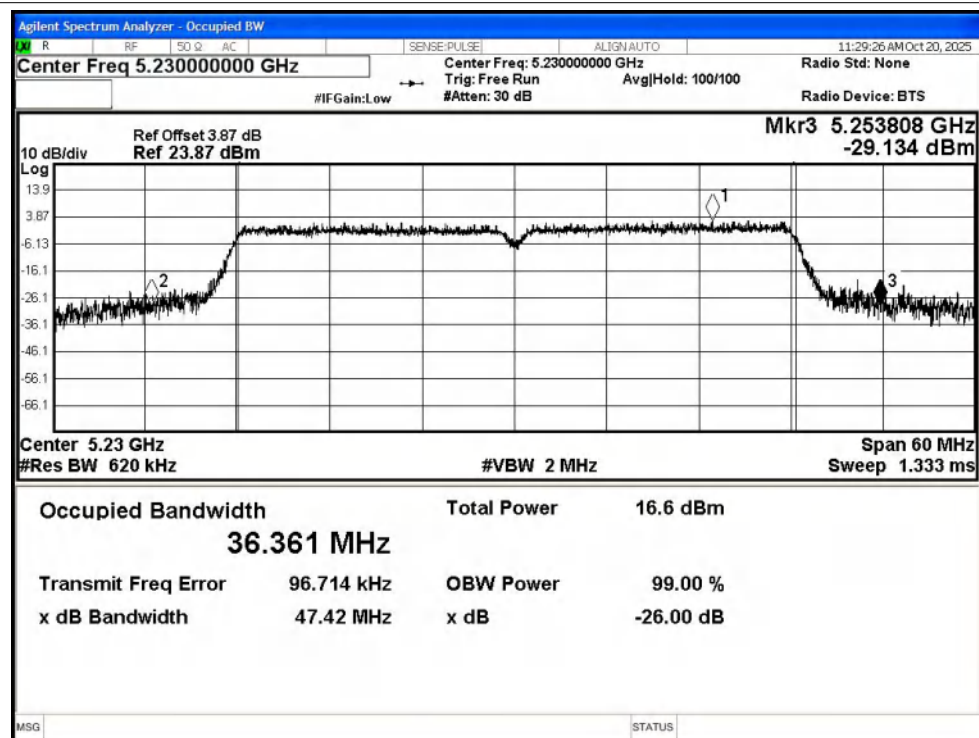
-26dB Bandwidth NVNT ac20 5240MHz Ant1



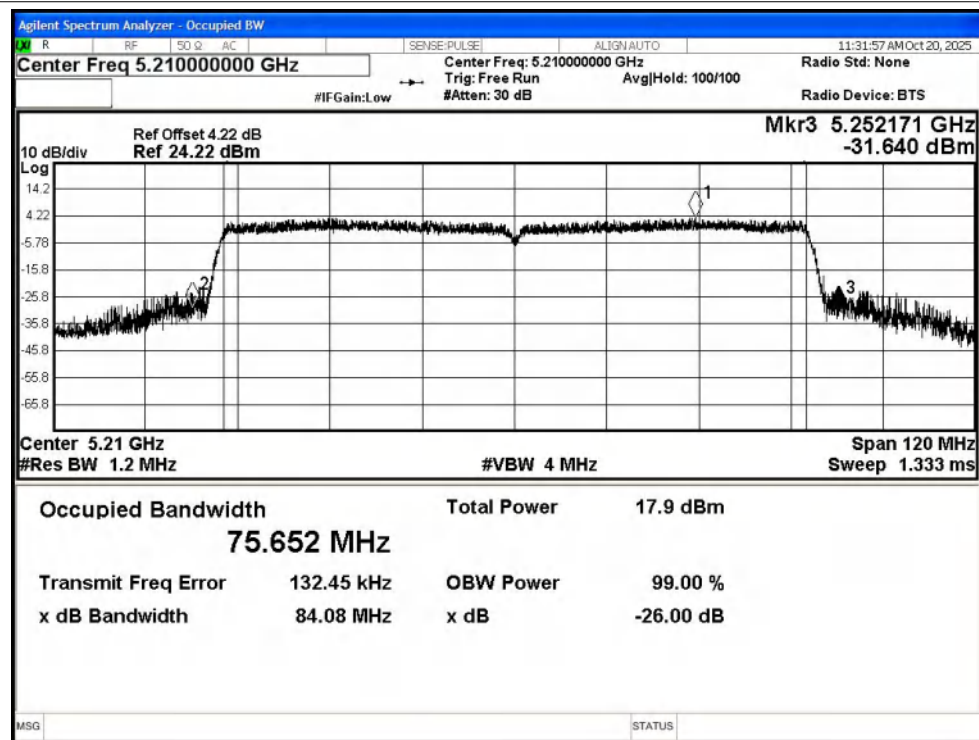
-26dB Bandwidth NVNT ac40 5190MHz Ant1



-26dB Bandwidth NVNT ac40 5230MHz Ant1



-26dB Bandwidth NVNT ac80 5210MHz Ant1



2. Maximum Conducted Output Power

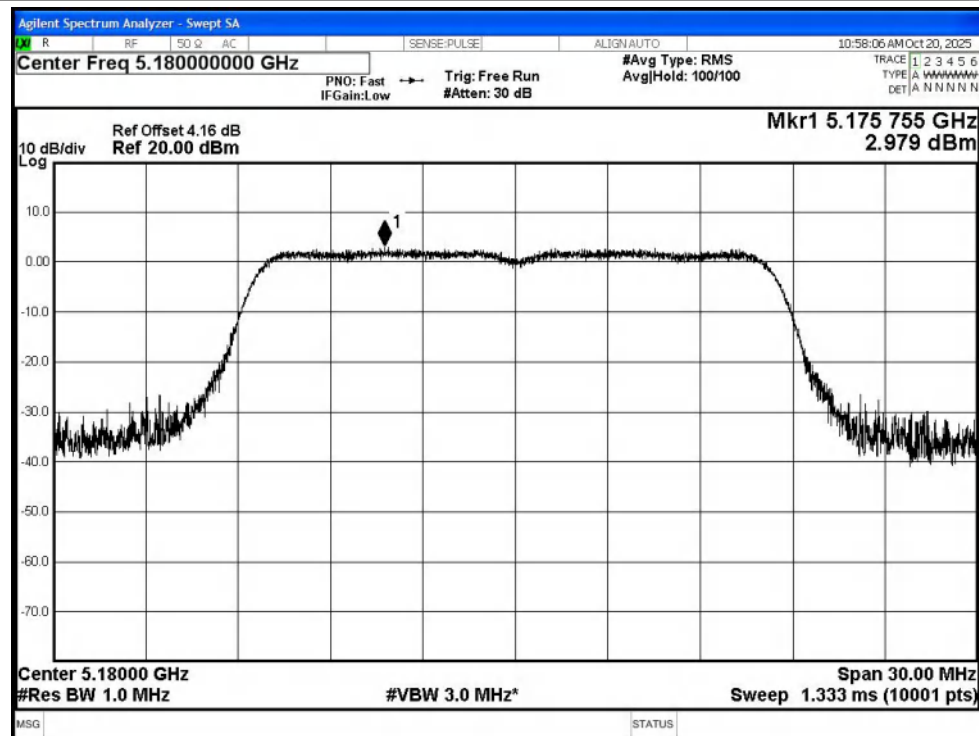
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	13.53	0.24	13.77	24	Pass
NVNT	a	5200	Ant1	12.47	0.24	12.71	24	Pass
NVNT	a	5240	Ant1	11.08	0.24	11.32	24	Pass
NVNT	n20	5180	Ant1	11.95	0.12	12.07	24	Pass
NVNT	n20	5200	Ant1	11.91	0.12	12.03	24	Pass
NVNT	n20	5240	Ant1	10.95	0.12	11.07	24	Pass
NVNT	n40	5190	Ant1	11.68	0.24	11.92	24	Pass
NVNT	n40	5230	Ant1	10.18	0.24	10.42	24	Pass
NVNT	ac20	5180	Ant1	11.99	0.12	12.11	24	Pass
NVNT	ac20	5200	Ant1	11.93	0.12	12.05	24	Pass
NVNT	ac20	5240	Ant1	10.88	0.12	11	24	Pass
NVNT	ac40	5190	Ant1	11.66	0.24	11.9	24	Pass
NVNT	ac40	5230	Ant1	10.08	0.24	10.32	24	Pass
NVNT	ac80	5210	Ant1	10.78	0.47	11.25	24	Pass

3. Maximum Power Spectral Density Level

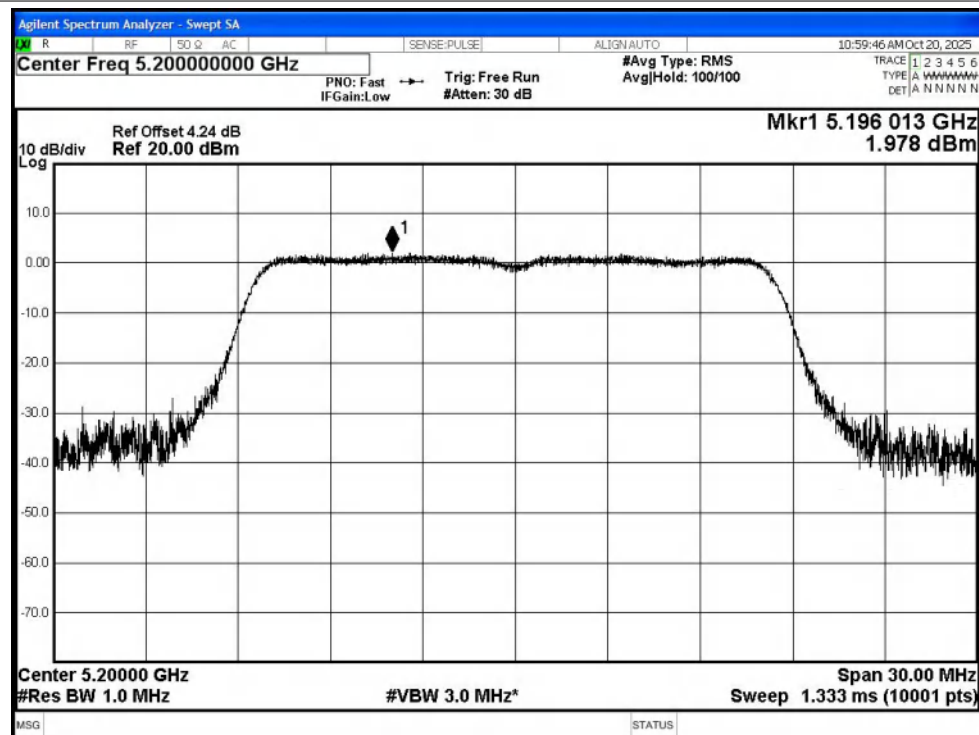
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/MHz)	Duty Factor (dB)	Total PSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
NVNT	a	5180	Ant1	2.98	0.24	3.22	11	Pass
NVNT	a	5200	Ant1	1.98	0.24	2.22	11	Pass
NVNT	a	5240	Ant1	0.43	0.24	0.67	11	Pass
NVNT	n20	5180	Ant1	1.23	0.12	1.35	11	Pass
NVNT	n20	5200	Ant1	0.94	0.12	1.06	11	Pass
NVNT	n20	5240	Ant1	0.17	0.12	0.29	11	Pass
NVNT	n40	5190	Ant1	-2.1	0.24	-1.86	11	Pass
NVNT	n40	5230	Ant1	-2.85	0.24	-2.61	11	Pass
NVNT	ac20	5180	Ant1	-0.12	0.12	0	11	Pass
NVNT	ac20	5200	Ant1	0.95	0.12	1.07	11	Pass
NVNT	ac20	5240	Ant1	0.19	0.12	0.31	11	Pass
NVNT	ac40	5190	Ant1	-2.16	0.24	-1.92	11	Pass
NVNT	ac40	5230	Ant1	-3.34	0.24	-3.1	11	Pass
NVNT	ac80	5210	Ant1	-5.95	0.47	-5.48	11	Pass

Test Graphs

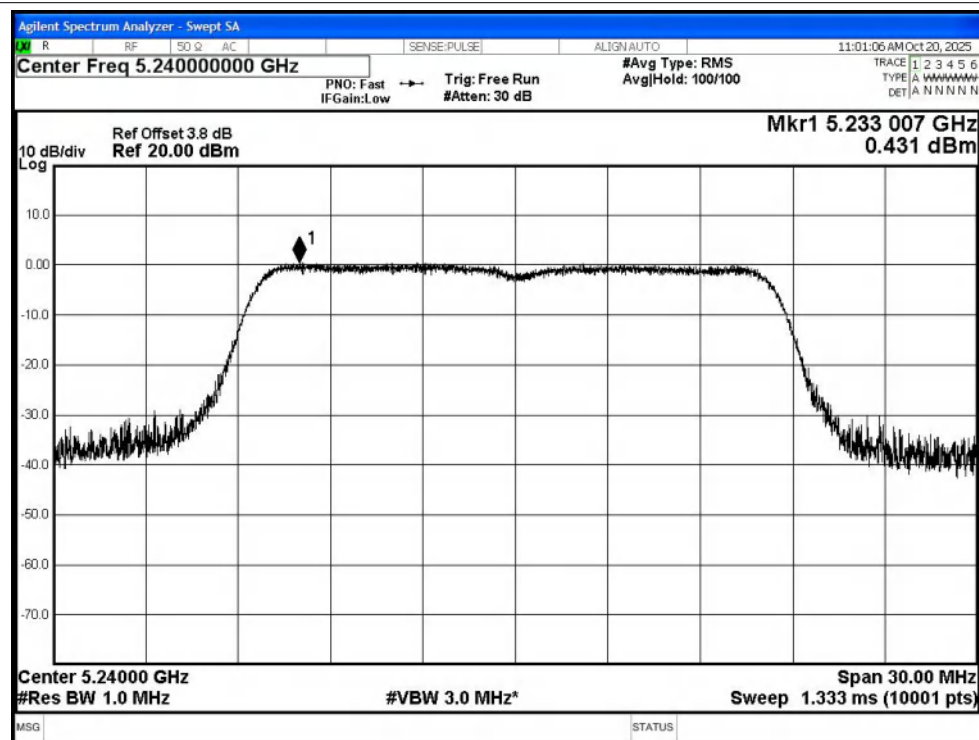
PSD NVNT a 5180MHz Ant1



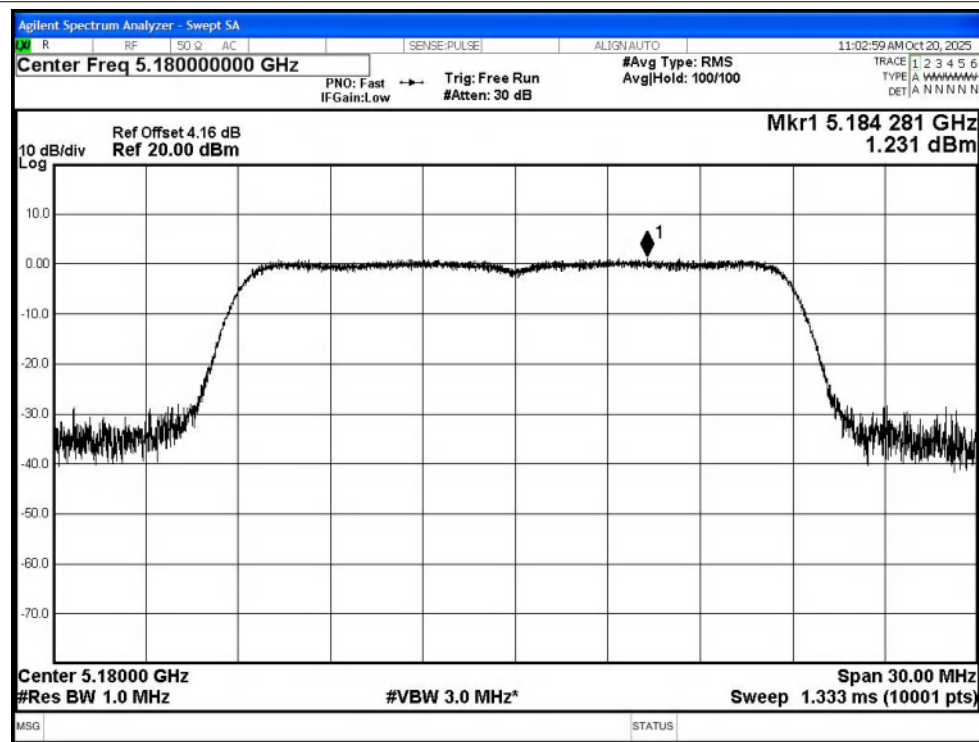
PSD NVNT a 5200MHz Ant1



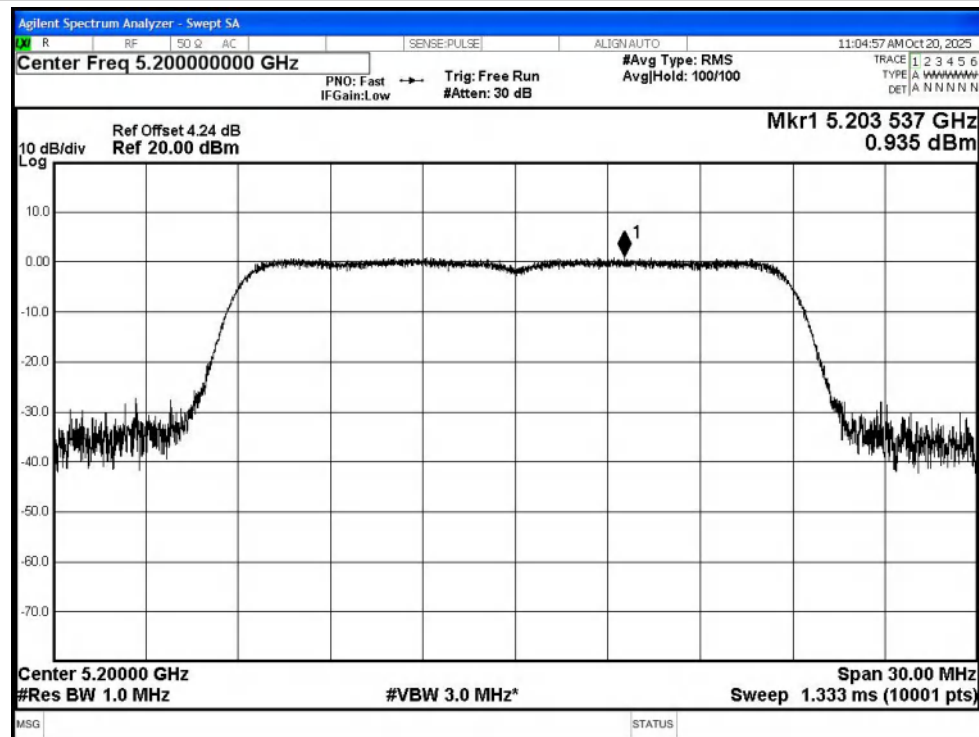
PSD NVNT a 5240MHz Ant1



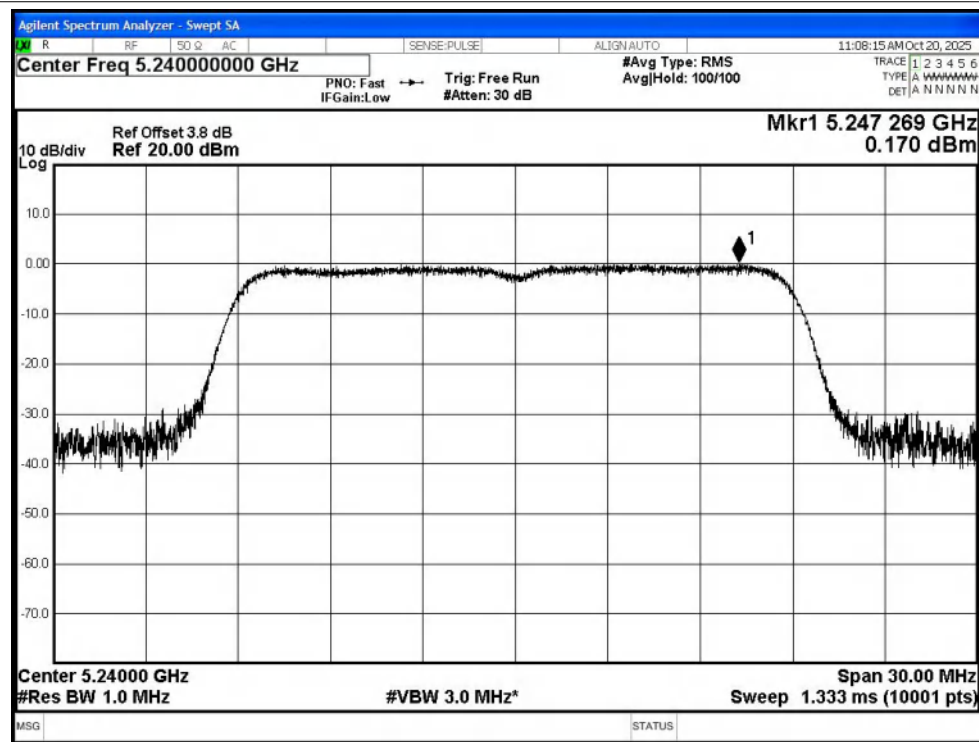
PSD NVNT n20 5180MHz Ant1



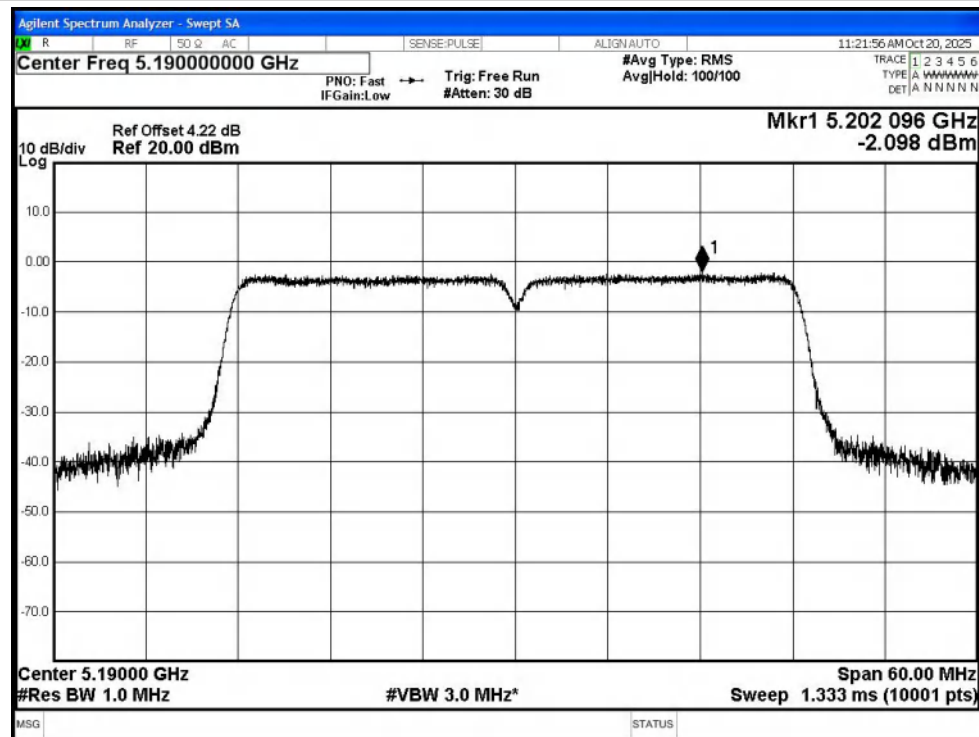
PSD NVNT n20 5200MHz Ant1



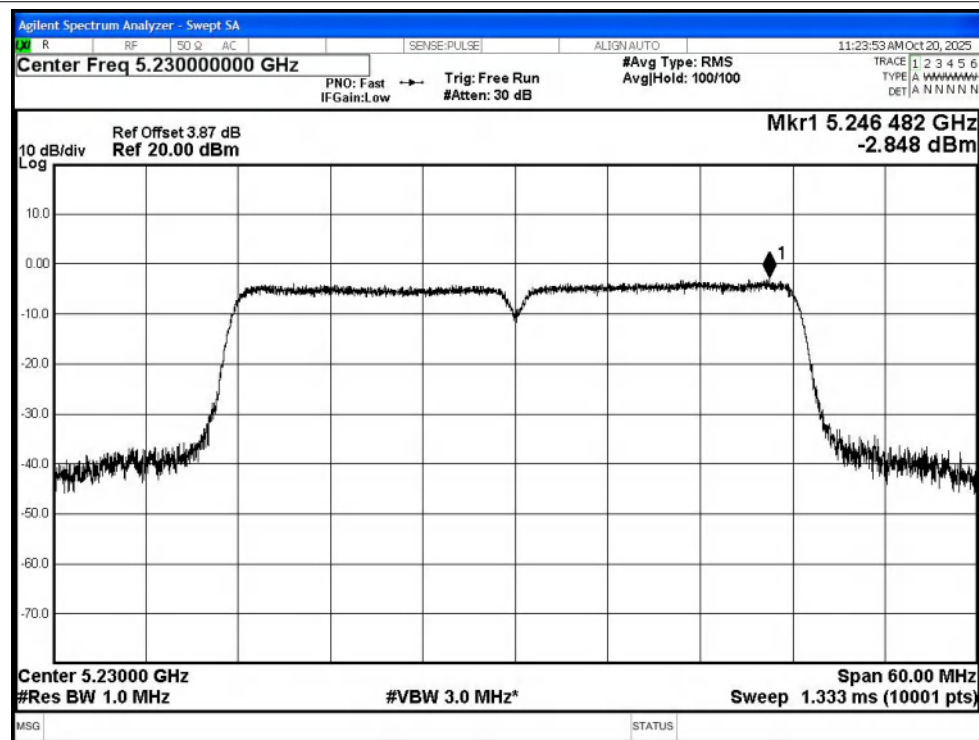
PSD NVNT n20 5240MHz Ant1



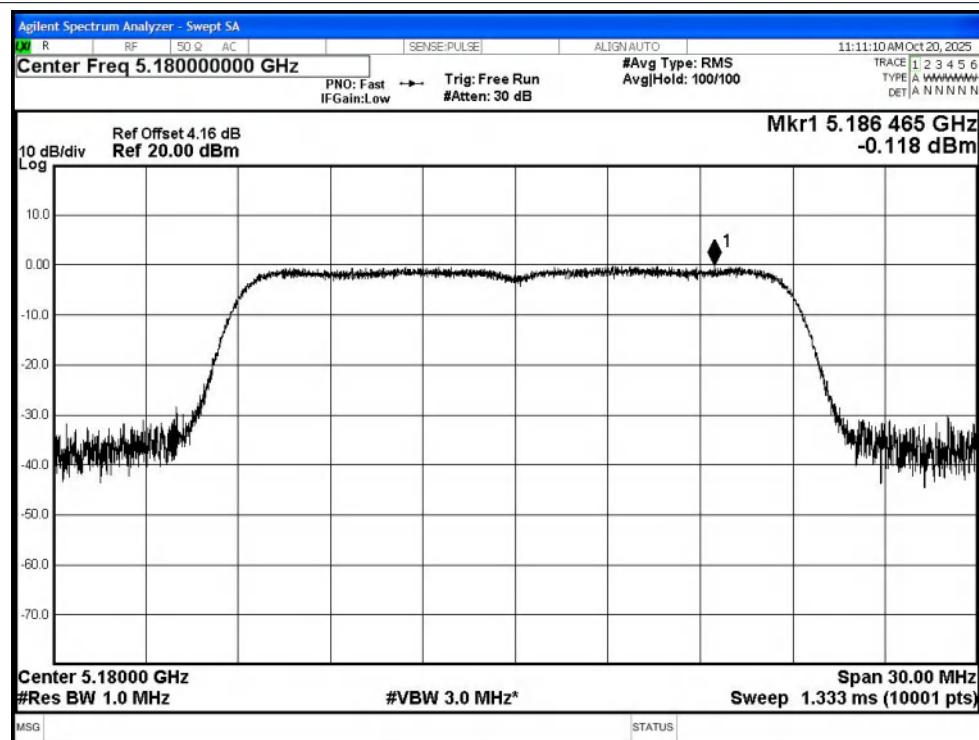
PSD NVNT n40 5190MHz Ant1



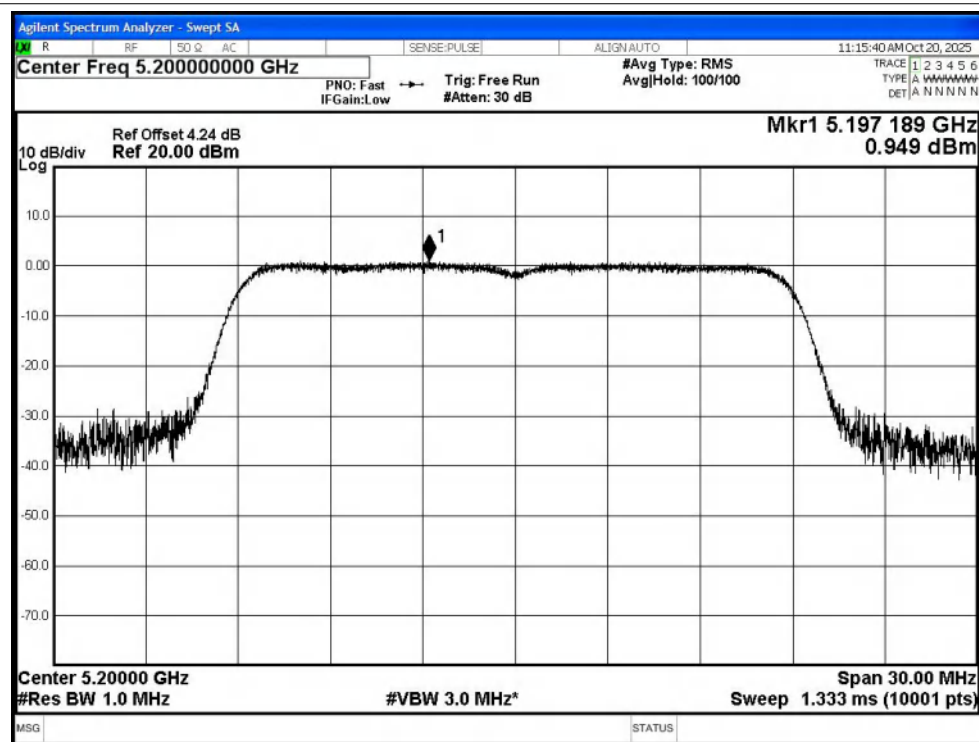
PSD NVNT n40 5230MHz Ant1



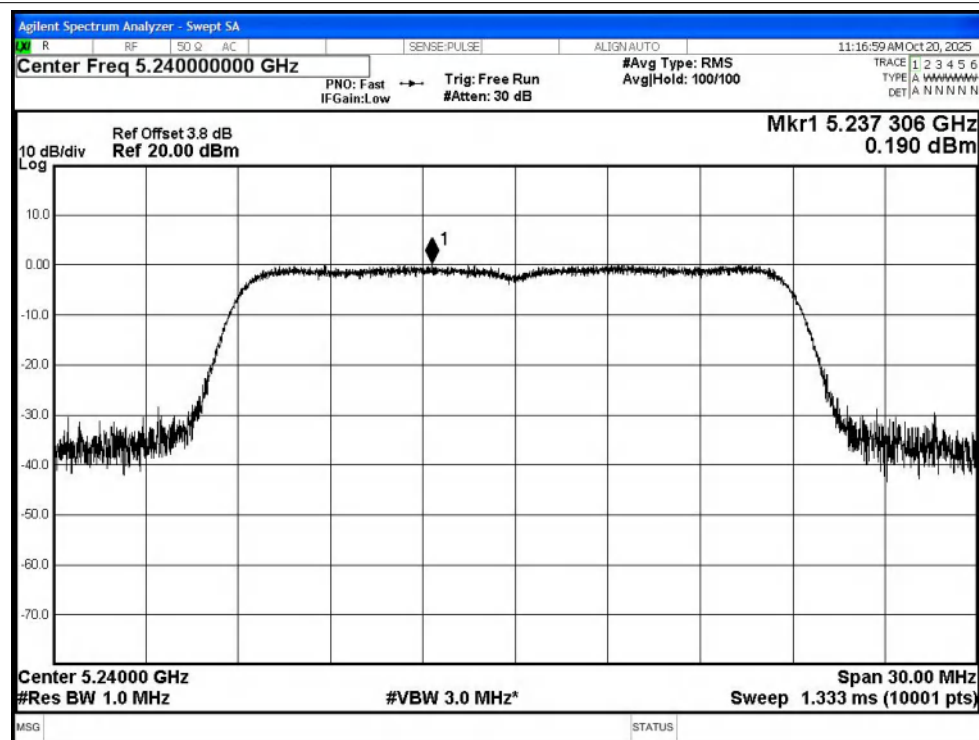
PSD NVNT ac20 5180MHz Ant1



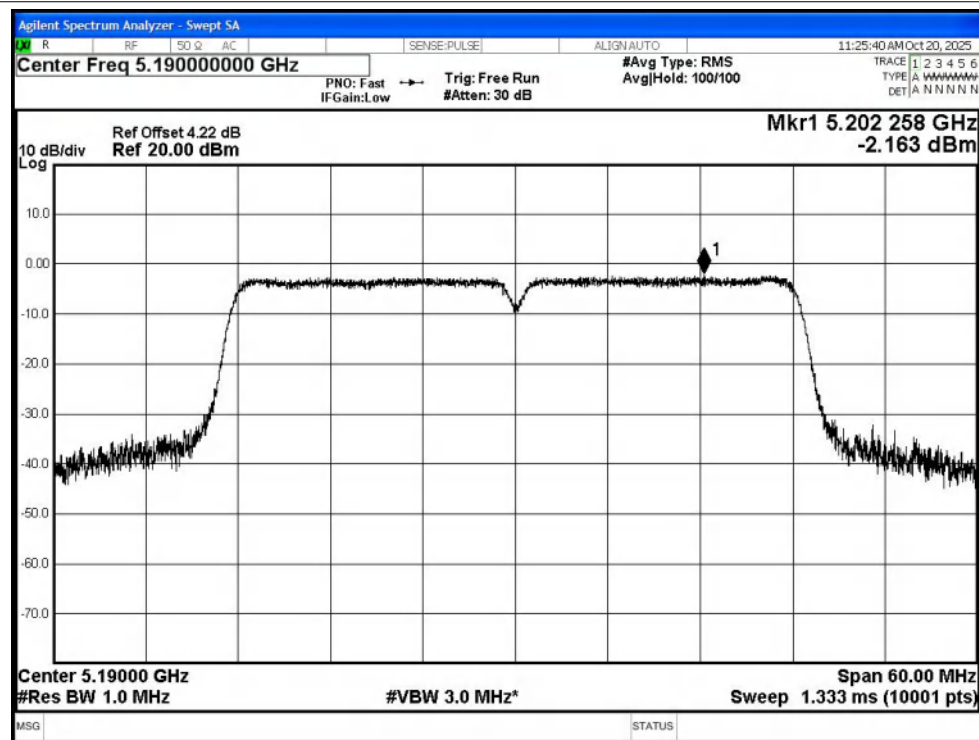
PSD NVNT ac20 5200MHz Ant1



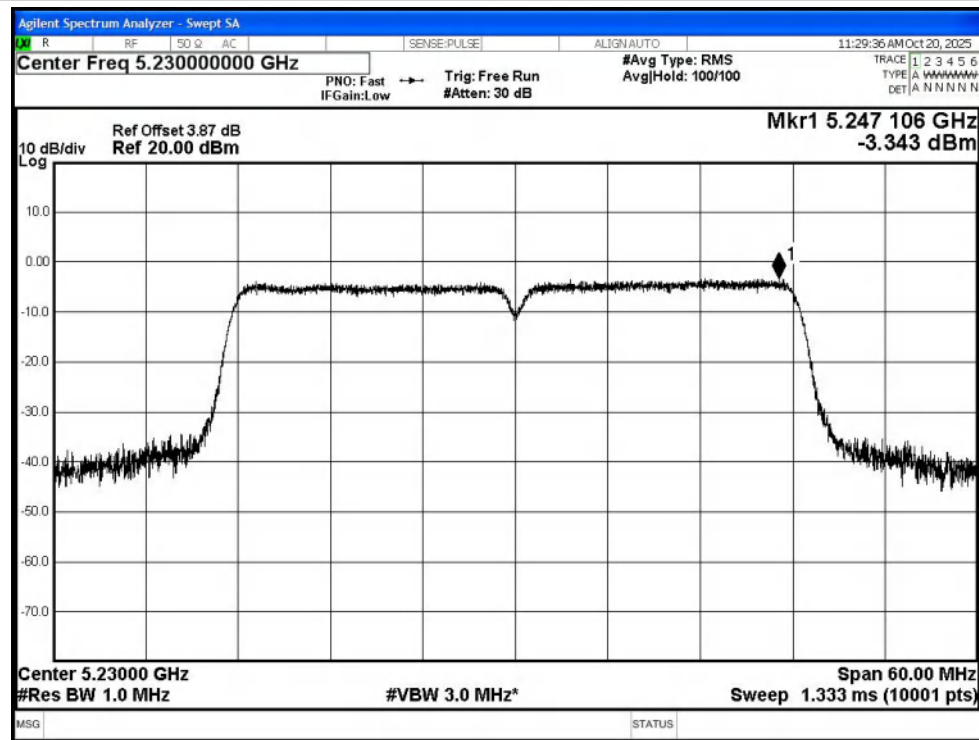
PSD NVNT ac20 5240MHz Ant1



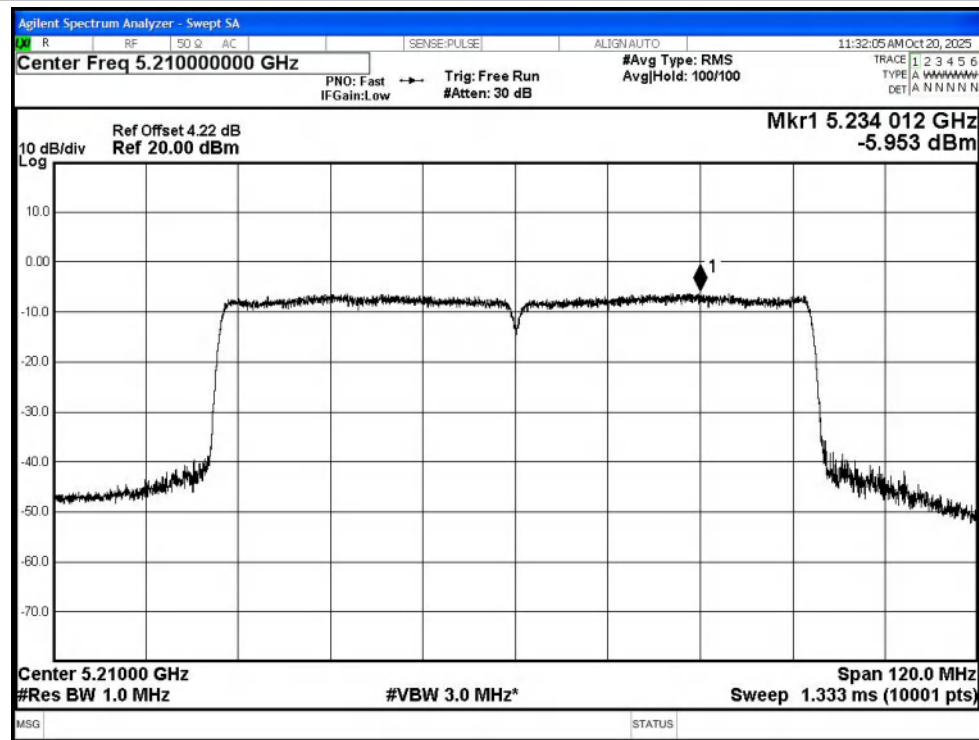
PSD NVNT ac40 5190MHz Ant1



PSD NVNT ac40 5230MHz Ant1



PSD NVNT ac80 5210MHz Ant1



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	-50.71	2.24	-	46.76	Peak	68.2	Pass
NVNT	a	5180	Ant1	4500	-57.87	2.24	0.24	39.84	Average	54	Pass
NVNT	a	5180	Ant1	5120.9	-44.77	2.24	-	52.70	Peak	68.2	Pass
NVNT	a	5180	Ant1	5148.9	-54.77	2.24	0.24	42.94	Average	54	Pass
NVNT	a	5180	Ant1	5150	-45.84	2.24	-	51.63	Peak	68.2	Pass
NVNT	a	5180	Ant1	5150	-54.78	2.24	0.24	42.93	Average	54	Pass
NVNT	a	5240	Ant1	5350	-49.85	2.24	-	47.62	Peak	68.2	Pass
NVNT	a	5240	Ant1	5350	-57.13	2.24	0.24	40.58	Average	54	Pass
NVNT	a	5240	Ant1	5419.92	-46.55	2.24	-	50.92	Peak	68.2	Pass
NVNT	a	5240	Ant1	5372.88	-56.46	2.24	0.24	41.25	Average	54	Pass
NVNT	a	5240	Ant1	5460	-48.84	2.24	-	48.63	Peak	68.2	Pass
NVNT	a	5240	Ant1	5460	-57.49	2.24	0.24	40.22	Average	54	Pass
NVNT	n20	5180	Ant1	4500	-48.74	2.24	-	48.73	Peak	68.2	Pass
NVNT	n20	5180	Ant1	4500	-57.59	2.24	0.12	40.00	Average	54	Pass
NVNT	n20	5180	Ant1	5147.5	-44.2	2.24	-	53.27	Peak	68.2	Pass
NVNT	n20	5180	Ant1	5148.9	-54.32	2.24	0.12	43.27	Average	54	Pass
NVNT	n20	5180	Ant1	5150	-46.86	2.24	-	50.61	Peak	68.2	Pass
NVNT	n20	5180	Ant1	5150	-54.65	2.24	0.12	42.94	Average	54	Pass
NVNT	n20	5240	Ant1	5350	-49.18	2.24	-	48.29	Peak	68.2	Pass
NVNT	n20	5240	Ant1	5350	-56.83	2.24	0.12	40.76	Average	54	Pass
NVNT	n20	5240	Ant1	5368.8	-46.6	2.24	-	50.87	Peak	68.2	Pass
NVNT	n20	5240	Ant1	5370	-56.55	2.24	0.12	41.04	Average	54	Pass
NVNT	n20	5240	Ant1	5460	-48.15	2.24	-	49.32	Peak	68.2	Pass
NVNT	n20	5240	Ant1	5460	-57.36	2.24	0.12	40.23	Average	54	Pass
NVNT	n40	5190	Ant1	4500	-50.1	2.24	-	47.37	Peak	68.2	Pass
NVNT	n40	5190	Ant1	4500	-57.38	2.24	0.24	40.33	Average	54	Pass
NVNT	n40	5190	Ant1	5146.78	-43.32	2.24	-	54.15	Peak	68.2	Pass
NVNT	n40	5190	Ant1	5149.7	-53.29	2.24	0.24	44.42	Average	54	Pass
NVNT	n40	5190	Ant1	5150	-44.61	2.24	-	52.86	Peak	68.2	Pass
NVNT	n40	5190	Ant1	5150	-53.29	2.24	0.24	44.42	Average	54	Pass
NVNT	n40	5230	Ant1	5350	-48.61	2.24	-	48.86	Peak	68.2	Pass
NVNT	n40	5230	Ant1	5350	-56.87	2.24	0.24	40.84	Average	54	Pass
NVNT	n40	5230	Ant1	5420.04	-46.02	2.24	-	51.45	Peak	68.2	Pass
NVNT	n40	5230	Ant1	5354.97	-56.49	2.24	0.24	41.22	Average	54	Pass
NVNT	n40	5230	Ant1	5460	-49.64	2.24	-	47.83	Peak	68.2	Pass
NVNT	n40	5230	Ant1	5460	-57.49	2.24	0.24	40.22	Average	54	Pass
NVNT	ac20	5180	Ant1	4500	-47.83	2.24	-	49.64	Peak	68.2	Pass
NVNT	ac20	5180	Ant1	4500	-57.81	2.24	0.12	39.78	Average	54	Pass
NVNT	ac20	5180	Ant1	5149.6	-43.67	2.24	-	53.80	Peak	68.2	Pass

NVNT	ac20	5180	Ant1	5149.6	-54.7	2.24	0.12	42.89	Average	54	Pass
NVNT	ac20	5180	Ant1	5150	-42.19	2.24	-	55.28	Peak	68.2	Pass
NVNT	ac20	5180	Ant1	5150	-55.08	2.24	0.12	42.51	Average	54	Pass
NVNT	ac20	5240	Ant1	5350	-48.37	2.24	-	49.10	Peak	68.2	Pass
NVNT	ac20	5240	Ant1	5350	-56.68	2.24	0.12	40.91	Average	54	Pass
NVNT	ac20	5240	Ant1	5383.2	-46.45	2.24	-	51.02	Peak	68.2	Pass
NVNT	ac20	5240	Ant1	5400.72	-56.45	2.24	0.12	41.14	Average	54	Pass
NVNT	ac20	5240	Ant1	5460	-49.3	2.24	-	48.17	Peak	68.2	Pass
NVNT	ac20	5240	Ant1	5460	-57.89	2.24	0.12	39.70	Average	54	Pass
NVNT	ac40	5190	Ant1	4500	-48.47	2.24	-	49.00	Peak	68.2	Pass
NVNT	ac40	5190	Ant1	4500	-57.83	2.24	0.24	39.88	Average	54	Pass
NVNT	ac40	5190	Ant1	5147.51	-45.03	2.24	-	52.44	Peak	68.2	Pass
NVNT	ac40	5190	Ant1	5148.97	-54.17	2.24	0.24	43.54	Average	54	Pass
NVNT	ac40	5190	Ant1	5150	-46.03	2.24	-	51.44	Peak	68.2	Pass
NVNT	ac40	5190	Ant1	5150	-54.39	2.24	0.24	43.32	Average	54	Pass
NVNT	ac40	5230	Ant1	5350	-49.6	2.24	-	47.87	Peak	68.2	Pass
NVNT	ac40	5230	Ant1	5350	-57.12	2.24	0.24	40.59	Average	54	Pass
NVNT	ac40	5230	Ant1	5365.5	-46.26	2.24	-	51.21	Peak	68.2	Pass
NVNT	ac40	5230	Ant1	5356.86	-56.32	2.24	0.24	41.39	Average	54	Pass
NVNT	ac40	5230	Ant1	5460	-47.93	2.24	-	49.54	Peak	68.2	Pass
NVNT	ac40	5230	Ant1	5460	-57.18	2.24	0.24	40.53	Average	54	Pass
NVNT	ac80	5210	Ant1	5350	-48.15	2.24	-	49.32	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5350	-55.82	2.24	0.47	42.12	Average	54	Pass
NVNT	ac80	5210	Ant1	5365.29	-44.84	2.24	-	52.63	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5366.94	-55.46	2.24	0.47	42.48	Average	54	Pass
NVNT	ac80	5210	Ant1	5460	-47.23	2.24	-	50.24	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5460	-56.17	2.24	0.47	41.77	Average	54	Pass
NVNT	ac80	5210	Ant1	4500	-49.73	2.24	-	47.74	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	4500	-57.62	2.24	0.47	40.32	Average	54	Pass
NVNT	ac80	5210	Ant1	5148.59	-41.59	2.24	-	55.88	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5148.59	-54.42	2.24	0.47	43.52	Average	54	Pass
NVNT	ac80	5210	Ant1	5150	-44.55	2.24	-	52.92	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5150	-53.67	2.24	0.47	44.27	Average	54	Pass

[illegible]

M/R	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N		f	5.176 2 GHz	0.753 dBm			
2	N		f	4.500 0 GHz	-48.742 dBm			
3	N		f	5.150 0 GHz	-46.857 dBm			
4	N		f	5.147 5 GHz	-44.195 dBm			
5								
6								
7								
8								
9								
10								
11								

[illegible]

Agilent Spectrum Analyzer - Swept SA

Center Freq 5.34000000 GHz

Ref Offset 3.8 dB
Ref 20.00 dBm

10 dB/div
Log

Mkr1 5.236 08 GHz
-1.053 dBm

Start 5.2200 GHz
#Res BW 1.0 MHz

#VBW 3.0 MHz

Stop 5.4600 GHz
Sweep 1.000 ms (1001 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N		f	5.236 08 GHz	-1.053 dBm			
2	N		f	5.350 00 GHz	-49.184 dBm			
3	N		f	5.460 00 GHz	-48.147 dBm			
4	N		f	5.368 80 GHz	-46.597 dBm			

[illegible]

[illegible][illegible]

Agilent Spectrum Analyzer - Swept SA

Center Freq 5.32500000 GHz

Ref Offset 3.87 dB
Ref 20.00 dBm

10 dB/div
Log

Mkr1 5.227 80 GHz
-2.318 dBm

Start 5.1900 GHz
#Res BW 1.0 MHz

#VBW 3.0 MHz

Stop 5.4600 GHz
Sweep 1.000 ms (1001 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N		f	5.227 80 GHz	-2.318 dBm			
2	N		f	5.350 00 GHz	-48.611 dBm			
3	N		f	5.460 00 GHz	-49.639 dBm			
4	N		f	5.420 04 GHz	-46.019 dBm			

Agilent Spectrum Analyzer - Swept SA

R RF SO Q AC SENSE-PULSE ALIGN AUTO 11:24:40 AM Oct 20, 2025

Center Freq 5.325000000 GHz

PNO: Fast IFGain: Low Trig: Free Run #Atten: 30 dB #Avg Type: RMS Avg|Hold: 100/100

TRACE 1 2 3 4 5 6
TYPE A WWWWWW
DET A NNNN

MKR MODE TRC SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1 N f	5.228 07 GHz	-11.582 dBm			
2 N f	5.350 00 GHz	-56.867 dBm			
3 N f	5.460 00 GHz	-57.485 dBm			
4 N f	5.354 97 GHz	-56.486 dBm			
5					
6					
7					
8					
9					
10					
11					

[illegible][illegible]

Agilent Spectrum Analyzer - Swept SA

Center Freq 5.32500000 GHz

Ref Offset 3.87 dB
Ref 20.00 dBm

10 dB/div
Log

Start 5.1900 GHz
#Res BW 1.0 MHz

Stop 5.4600 GHz
Sweep 1.000 ms (1001 pts)

#VBW 3.0 MHz

Mkr1 5.223 48 GHz
-3.265 dBm

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N		f	5.223 48 GHz	-3.265 dBm			
2	N		f	5.350 00 GHz	-49.598 dBm			
3	N		f	5.460 00 GHz	-47.933 dBm			
4	N		f	5.365 50 GHz	-46.256 dBm			

Restrict Band NVNT ac40 5230MHz Ant1 Average

Agilent Spectrum Analyzer - Swept SA

Center Freq 5.325000000 GHz

Ref Offset 3.87 dB
Ref 20.00 dBm

Mkr1 5.234 01 GHz
-11.769 dBm

Start 5.1900 GHz
#Res BW 1.0 MHz

Stop 5.4600 GHz
Sweep 1.000 ms (1001 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N		f	5.234 01 GHz	-11.769 dBm			
2	N		f	5.350 00 GHz	-57.117 dBm			
3	N		f	5.460 00 GHz	-57.178 dBm			
4	N		f	5.356 86 GHz	-56.315 dBm			

[illegible][illegible]

5. Frequency Stability

Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	a	5180	Ant1	5180	0	0	25	Pass
NVNT	a	5200	Ant1	5200	0	0	25	Pass
NVNT	a	5240	Ant1	5240	0	0	25	Pass
NVNT	n20	5180	Ant1	5179.98	-20000	-3.86	25	Pass
NVNT	n20	5200	Ant1	5200	0	0	25	Pass
NVNT	n20	5240	Ant1	5240.02	20000	3.82	25	Pass
NVNT	n40	5190	Ant1	5189.96	-40000	-7.71	25	Pass
NVNT	n40	5230	Ant1	5230	0	0	25	Pass
NVNT	ac20	5180	Ant1	5179.98	-20000	-3.86	25	Pass
NVNT	ac20	5200	Ant1	5199.98	-20000	-3.85	25	Pass
NVNT	ac20	5240	Ant1	5239.98	-20000	-3.82	25	Pass
NVNT	ac40	5190	Ant1	5190	0	0	25	Pass
NVNT	ac40	5230	Ant1	5230	0	0	25	Pass
NVNT	ac80	5210	Ant1	5210	0	0	25	Pass

[illegible][illegible]

Agilent Spectrum Analyzer - Swept SA

Center Freq 5.20000000 GHz

Ref Offset 4.24 dB
Ref 20.00 dBm

Mkr1 5.200 00 GHz
-21.623 dBm

Span 40.00 MHz
Sweep 382.3 ms (1001 pts)

#VBW 30 kHz

#Res BW 10 kHz

MSG

STATUS

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N		f	5.200 00 GHz	-21.623 dBm			
2	N		f	5.191 12 GHz	-14.917 dBm			
3	N		f	5.208 88 GHz	-17.853 dBm			
4								
5								
6								
7								
8								
9								
10								
11								

[illegible]

[illegible][illegible]

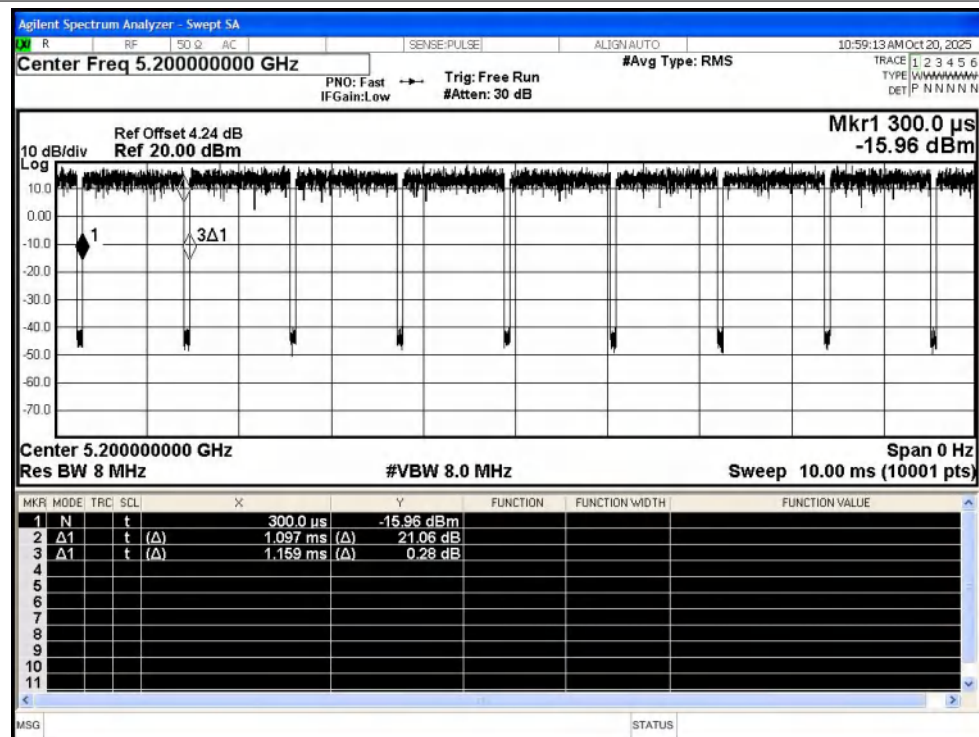
[illegible][illegible]

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[illegible][illegible]

6. Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5180	Ant1	94.56	0.24	0.91
NVNT	a	5200	Ant1	94.65	0.24	0.91
NVNT	a	5240	Ant1	94.56	0.24	0.91
NVNT	n20	5180	Ant1	97.29	0.12	0.44
NVNT	n20	5200	Ant1	97.29	0.12	0.44
NVNT	n20	5240	Ant1	97.29	0.12	0.44
NVNT	n40	5190	Ant1	94.71	0.24	0.9
NVNT	n40	5230	Ant1	94.71	0.24	0.9
NVNT	ac20	5180	Ant1	97.3	0.12	0.44
NVNT	ac20	5200	Ant1	97.34	0.12	0.44
NVNT	ac20	5240	Ant1	97.34	0.12	0.44
NVNT	ac40	5190	Ant1	94.72	0.24	0.9
NVNT	ac40	5230	Ant1	94.72	0.24	0.9
NVNT	ac80	5210	Ant1	89.82	0.47	1.86



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Duty Cycle NVNT n20 5180MHz Ant1

Agilent Spectrum Analyzer - Sweep SA
R RF 50 Ω AC SENSE-PULSE ALIGN-AUTO 11:02:26 AM Oct 20, 2025
Center Freq 5.18000000 GHz #Avg Type: RMS
PNO: Fast IFGain: Low Trig: Free Run #Atten: 30 dB
TRACE 1 2 3 4 5 6
TYPE W W W W W W W W
DET P N N N N N N

Ref Offset 4.16 dB
Ref 20.00 dBm

Mkr1 233.0 μs
13.77 dBm

Center 5.18000000 GHz Span 0 Hz
Res BW 8 MHz #VBW 8.0 MHz Sweep 10.00 ms (10001 pts)

MKR MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1 N	t		233.0 μs	13.77 dBm			
2 Δf	t	(Δ)	2.261 ms	-6.42 dB			
3 Δt	t	(Δ)	2.324 ms	-0.53 dB			
4							
5							
6							
7							
8							
9							
10							
11							

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[illegible][illegible]

[illegible][illegible]