

FCC ID: 2A64B-DEX68
IC: 28593-DEX68

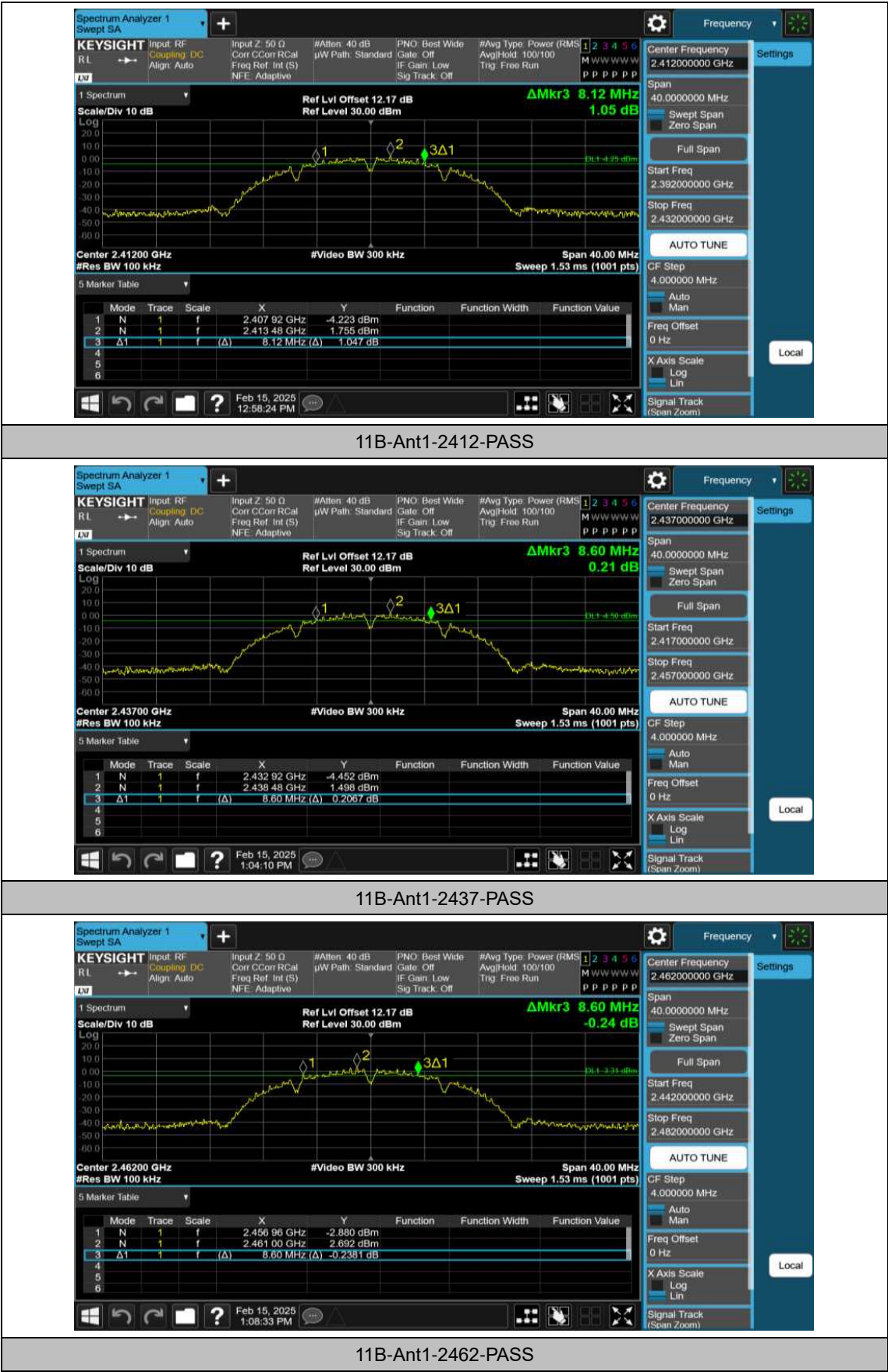
Appendix A of report 2501B0803SHA-001

DTS Bandwidth

Test Result

TestMode	Antenna	Frequency [MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit [MHz]	Verdict
11B	Ant1	2412	8.120	2407.920	2416.040	0.5	PASS
11B	Ant1	2437	8.600	2432.920	2441.520	0.5	PASS
11B	Ant1	2462	8.600	2456.960	2465.560	0.5	PASS
11G	Ant1	2412	16.280	2403.840	2420.120	0.5	PASS
11G	Ant1	2437	16.320	2428.840	2445.160	0.5	PASS
11G	Ant1	2462	16.320	2453.840	2470.160	0.5	PASS
11N20SISO	Ant1	2412	16.560	2403.600	2420.160	0.5	PASS
11N20SISO	Ant1	2437	17.280	2428.480	2445.760	0.5	PASS
11N20SISO	Ant1	2462	17.520	2453.240	2470.760	0.5	PASS
11N40SISO	Ant1	2422	35.440	2404.400	2439.840	0.5	PASS
11N40SISO	Ant1	2437	33.840	2420.680	2454.520	0.5	PASS
11N40SISO	Ant1	2452	34.400	2435.120	2469.520	0.5	PASS

Test Graphs



11B-Ant1-2412-PASS

Spectrum Analyzer 1

Swept SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCorr RCal

Freq Ref: Int (S)

NFE: Adaptive

#Atten: 40 dB

μ W Path: Standard

Gate: Off

IF Gain: Low

Sig Track: Off

PNO: Best Wide

#Avg Type: Power (RMS)

Avg/Hold: 100/100

Trig: Free Run

1 2 3 4 5 6

M W W W W W

P P P P P P

Center Frequency

2.437000000 GHz

Span

40.0000000 MHz

Swept Span

Zero Span

Full Span

Start Freq

2.417000000 GHz

Stop Freq

2.457000000 GHz

AUTO TUNE

CF Step

4.000000 MHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

(Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Log

Ref Lvl Offset 12.17 dB

Ref Level 30.00 dBm

Δ Mkr3 8.60 MHz

0.21 dB

Center 2.43700 GHz

#Res BW 100 kHz

#Video BW 300 kHz

Span 40.00 MHz

Sweep 1.53 ms (1001 pts)

5 Marker Table

	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.432 92 GHz	-4.452 dBm			
2	N	1	f	2.438 48 GHz	1.498 dBm			
3	Δ 1	1	f	(Δ) 8.60 MHz (Δ)	0.2067 dB			
4								
5								
6								

Feb 15, 2025

1:04:10 PM

11B-Ant1-2437-PASS

Spectrum Analyzer 1

Swept SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCorr RCal

Freq Ref: Int (S)

NFE: Adaptive

#Atten: 40 dB

μ W Path: Standard

Gate: Off

IF Gain: Low

Sig Track: Off

PNO: Best Wide

#Avg Type: Power (RMS)

Avg/Hold: 100/100

Trig: Free Run

1 2 3 4 5 6

M W W W W W

P P P P P P

Center Frequency

2.462000000 GHz

Span

40.0000000 MHz

Swept Span

Zero Span

Full Span

Start Freq

2.442000000 GHz

Stop Freq

2.482000000 GHz

AUTO TUNE

CF Step

4.000000 MHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

(Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Log

Ref Lvl Offset 12.17 dB

Ref Level 30.00 dBm

Δ Mkr3 8.60 MHz

-0.24 dB

Center 2.46200 GHz

#Res BW 100 kHz

#Video BW 300 kHz

Span 40.00 MHz

Sweep 1.53 ms (1001 pts)

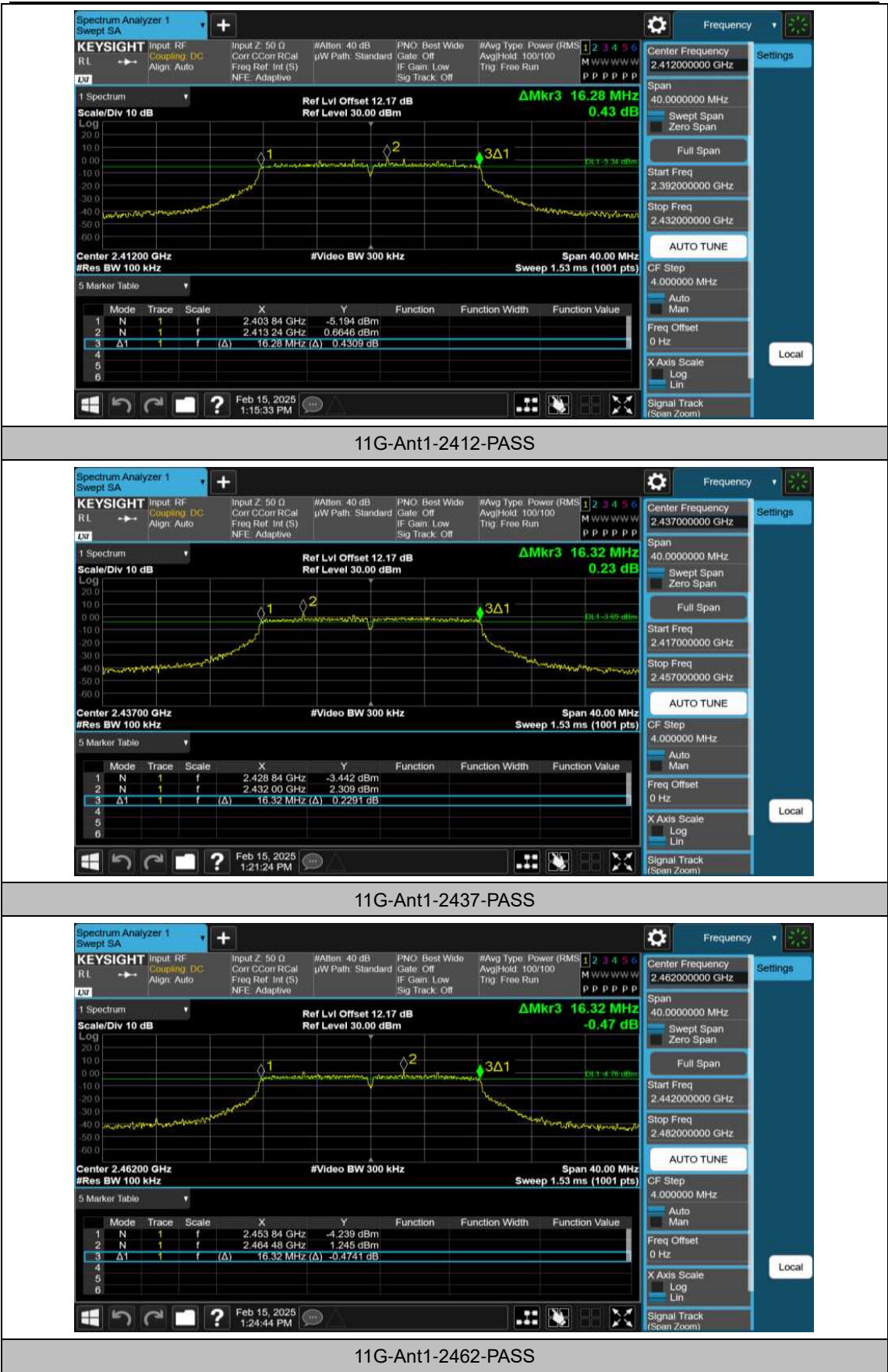
5 Marker Table

	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.456 96 GHz	-2.880 dBm			
2	N	1	f	2.461 00 GHz	2.692 dBm			
3	Δ 1	1	f	(Δ) 8.60 MHz (Δ)	-0.2361 dB			
4								
5								
6								

Feb 15, 2025

1:08:33 PM

11B-Ant1-2462-PASS



11G-Ant1-2412-PASS

Spectrum Analyzer 1

Sweep SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCorr

RCal

Freq Ref: Int (S)

NFE: Adaptive

#Atten: 40 dB

μ W Path: Standard

PNO: Best Wide

Gate: Off

IF Gain: Low

Sig Track: Off

#Avg Type: Power (RMS)

Avg/Hold: 100/100

Trig: Free Run

1 2 3 4 5 6

M W W W W W

P P P P P P

Center Frequency

2.437000000 GHz

Span

40.000000 MHz

Swept Span

Zero Span

Full Span

Start Freq

2.417000000 GHz

Stop Freq

2.457000000 GHz

AUTO TUNE

CF Step

4.000000 MHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

(Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Ref Lvl Offset 12.17 dB

Ref Level 30.00 dBm

Δ Mkr3 16.32 MHz

0.23 dB

Center 2.43700 GHz

#Video BW 300 kHz

Span 40.00 MHz

#Res BW 100 kHz

Sweep 1.53 ms (1001 pts)

5 Marker Table

	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.428 84 GHz	-3.442 dBm			
2	N	1	f	2.432 00 GHz	2.309 dBm			
3	Δ 1	1	f (Δ)	16.32 MHz (Δ)	0.2291 dB			
4								
5								
6								

Feb 15, 2025

1:21:24 PM

11G-Ant1-2437-PASS

Spectrum Analyzer 1

Sweep SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCorr

RCal

Freq Ref: Int (S)

NFE: Adaptive

#Atten: 40 dB

μ W Path: Standard

PNO: Best Wide

Gate: Off

IF Gain: Low

Sig Track: Off

#Avg Type: Power (RMS)

Avg/Hold: 100/100

Trig: Free Run

1 2 3 4 5 6

M W W W W W

P P P P P P

Center Frequency

2.462000000 GHz

Span

40.000000 MHz

Swept Span

Zero Span

Full Span

Start Freq

2.442000000 GHz

Stop Freq

2.482000000 GHz

AUTO TUNE

CF Step

4.000000 MHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

(Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Ref Lvl Offset 12.17 dB

Ref Level 30.00 dBm

Δ Mkr3 16.32 MHz

-0.47 dB

Center 2.46200 GHz

#Video BW 300 kHz

Span 40.00 MHz

#Res BW 100 kHz

Sweep 1.53 ms (1001 pts)

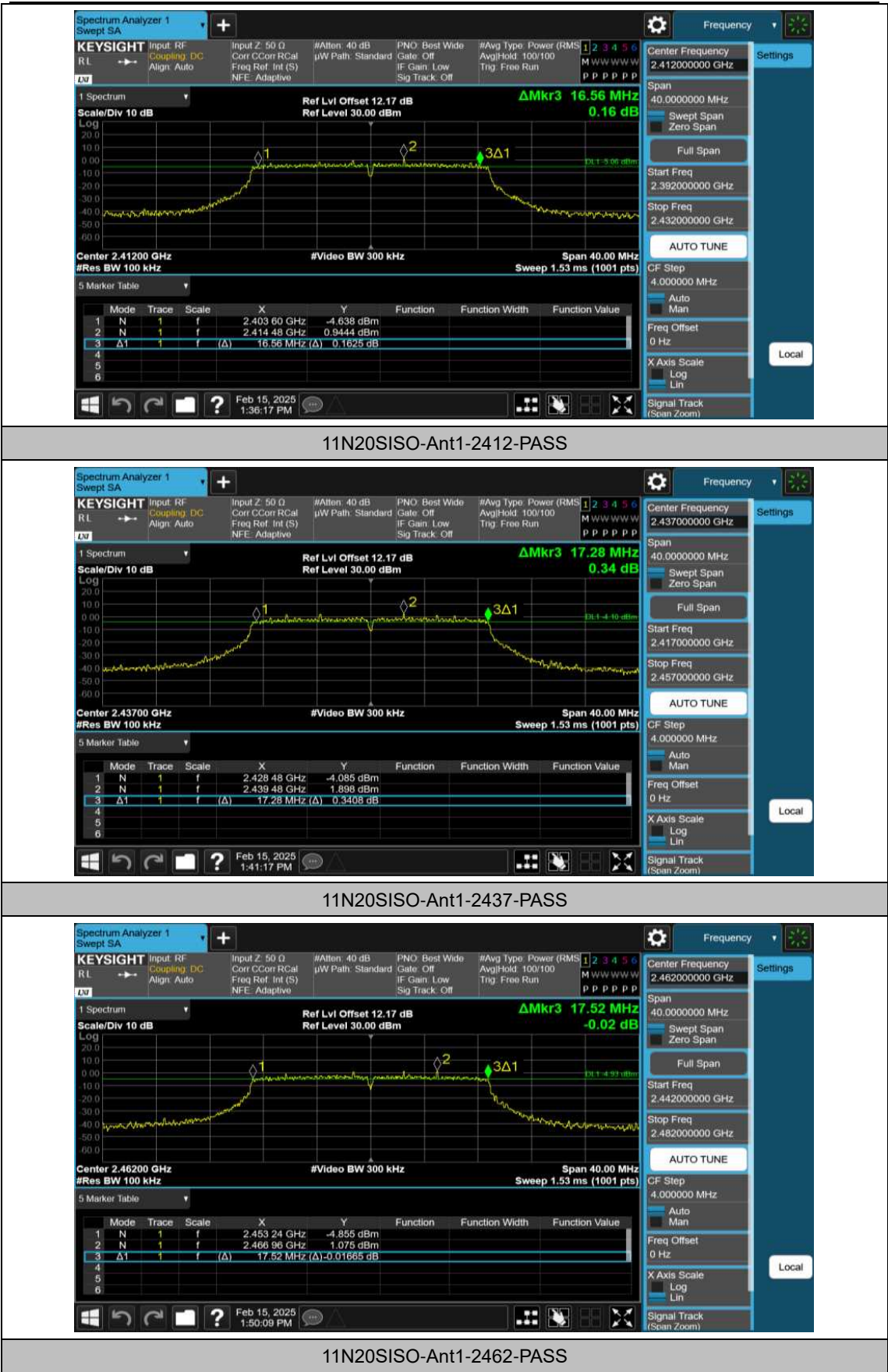
5 Marker Table

	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.453 84 GHz	-4.239 dBm			
2	N	1	f	2.464 48 GHz	1.245 dBm			
3	Δ 1	1	f (Δ)	16.32 MHz (Δ)	-0.4741 dB			
4								
5								
6								

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1:24:44 PM

11G-Ant1-2462-PASS



11N20SISO-Ant1-2412-PASS

Spectrum Analyzer 1

Sweep SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCor

RCal

Freq Ref: Int (S)

NFE: Adaptive

#Atten: 40 dB

μ W Path: Standard

PNO: Best Wide

Gate: Off

IF Gain: Low

Sig Track: Off

#Avg Type: Power (RMS)

Avg/Hold: 100/100

Trig: Free Run

1 2 3 4 5 6

M W W W W W

P P P P P P

Center Frequency

2.437000000 GHz

Span

40.000000 MHz

Swept Span

Zero Span

Full Span

Start Freq

2.417000000 GHz

Stop Freq

2.457000000 GHz

AUTO TUNE

CF Step

4.000000 MHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

(Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Ref Lvl Offset 12.17 dB

Ref Level 30.00 dBm

Δ Mkr3 17.28 MHz

0.34 dB

Center 2.43700 GHz

#Video BW 300 kHz

Span 40.00 MHz

#Res BW 100 kHz

Sweep 1.53 ms (1001 pts)

5 Marker Table

	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.428 48 GHz	-4.085 dBm			
2	N	1	f	2.439 48 GHz	1.898 dBm			
3	Δ 1	1	f (Δ)	17.28 MHz (Δ)	0.3408 dB			
4								
5								
6								

Feb 15, 2025

1:41:17 PM

11N20SISO-Ant1-2437-PASS

Spectrum Analyzer 1

Sweep SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCor

RCal

Freq Ref: Int (S)

NFE: Adaptive

#Atten: 40 dB

μ W Path: Standard

PNO: Best Wide

Gate: Off

IF Gain: Low

Sig Track: Off

#Avg Type: Power (RMS)

Avg/Hold: 100/100

Trig: Free Run

1 2 3 4 5 6

M W W W W W

P P P P P P

Center Frequency

2.462000000 GHz

Span

40.000000 MHz

Swept Span

Zero Span

Full Span

Start Freq

2.442000000 GHz

Stop Freq

2.482000000 GHz

AUTO TUNE

CF Step

4.000000 MHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

(Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Ref Lvl Offset 12.17 dB

Ref Level 30.00 dBm

Δ Mkr3 17.52 MHz

-0.02 dB

Center 2.46200 GHz

#Video BW 300 kHz

Span 40.00 MHz

#Res BW 100 kHz

Sweep 1.53 ms (1001 pts)

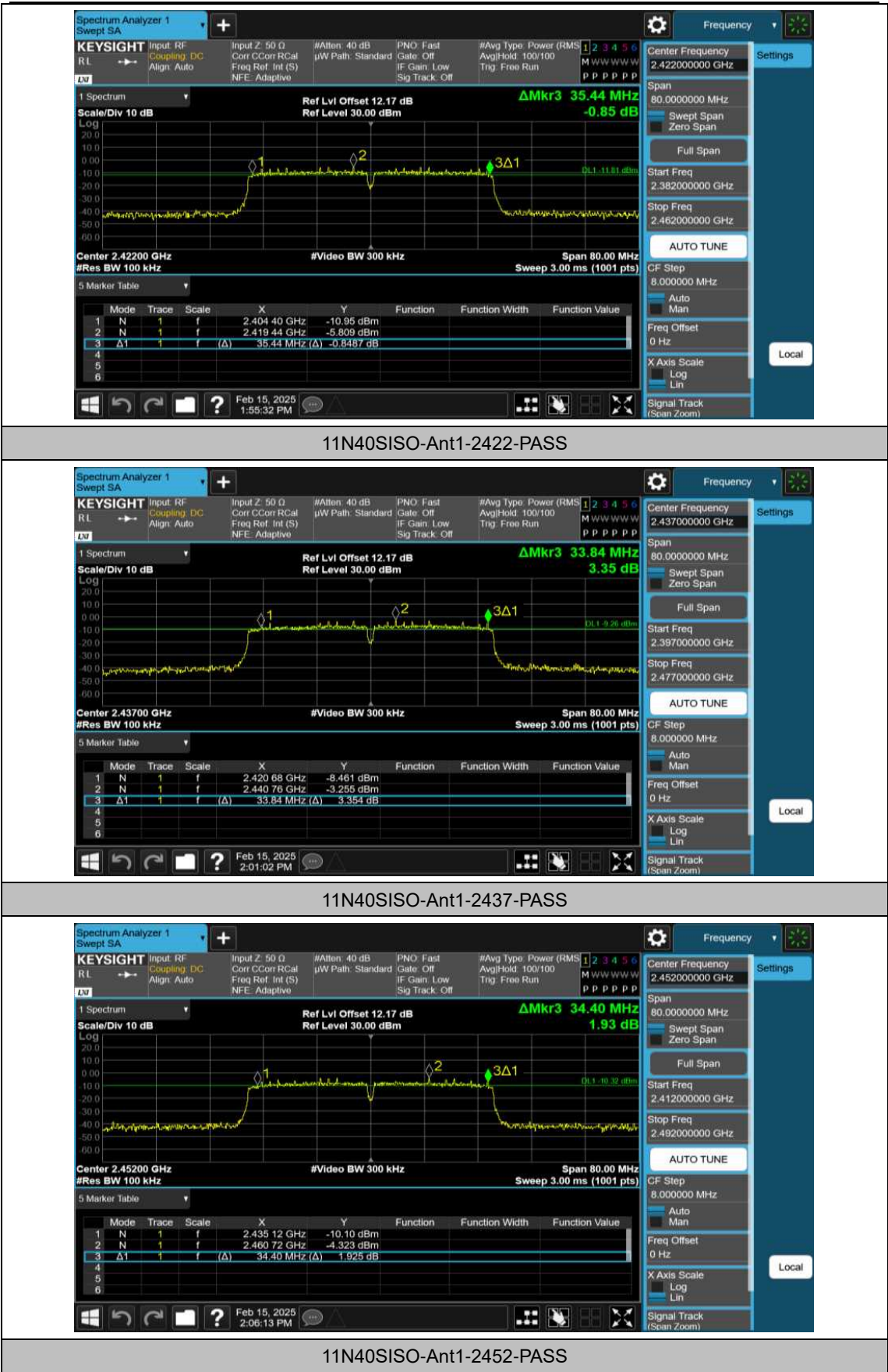
5 Marker Table

	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.453 24 GHz	-4.855 dBm			
2	N	1	f	2.466 96 GHz	1.075 dBm			
3	Δ 1	1	f (Δ)	17.52 MHz (Δ)	-0.01665 dB			
4								
5								
6								

Feb 15, 2025

1:50:09 PM

11N20SISO-Ant1-2462-PASS



11N40SISO-Ant1-2422-PASS

Spectrum Analyzer 1

Swept SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCorr

RCal

Freq Ref: Int (S)

NFE: Adaptive

#Atten: 40 dB

μ W Path: Standard

PNO: Fast

Gate: Off

IF Gain: Low

Sig Track: Off

#Avg Type: Power (RMS)

Avg/Hold: 100/100

Trig: Free Run

1 2 3 4 5 6

M W W W W W

P P P P P P

Center Frequency

2.437000000 GHz

Span

80.000000 MHz

Swept Span

Zero Span

Full Span

Start Freq

2.397000000 GHz

Stop Freq

2.477000000 GHz

AUTO TUNE

CF Step

8.000000 MHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

(Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Ref Lvl Offset 12.17 dB

Ref Level 30.00 dBm

Δ Mkr3 33.84 MHz

3.35 dB

OL1 -9.26 dBm

Center 2.43700 GHz

#Res BW 100 kHz

#Video BW 300 kHz

Span 80.00 MHz

Sweep 3.00 ms (1001 pts)

5 Marker Table

	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.420 68 GHz	-8.461 dBm			
2	N	1	f	2.440 76 GHz	-3.255 dBm			
3	Δ 1	1	f	(Δ) 33.84 MHz (Δ)	3.354 dB			
4								
5								
6								

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11N40SISO-Ant1-2437-PASS

Spectrum Analyzer 1

Swept SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCorr

RCal

Freq Ref: Int (S)

NFE: Adaptive

#Atten: 40 dB

μ W Path: Standard

PNO: Fast

Gate: Off

IF Gain: Low

Sig Track: Off

#Avg Type: Power (RMS)

Avg/Hold: 100/100

Trig: Free Run

1 2 3 4 5 6

M W W W W W

P P P P P P

Center Frequency

2.452000000 GHz

Span

80.000000 MHz

Swept Span

Zero Span

Full Span

Start Freq

2.412000000 GHz

Stop Freq

2.492000000 GHz

AUTO TUNE

CF Step

8.000000 MHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

(Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Ref Lvl Offset 12.17 dB

Ref Level 30.00 dBm

Δ Mkr3 34.40 MHz

1.93 dB

OL1 -10.32 dBm

Center 2.45200 GHz

#Res BW 100 kHz

#Video BW 300 kHz

Span 80.00 MHz

Sweep 3.00 ms (1001 pts)

5 Marker Table

	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.435 12 GHz	-10.10 dBm			
2	N	1	f	2.460 72 GHz	-4.323 dBm			
3	Δ 1	1	f	(Δ) 34.40 MHz (Δ)	1.925 dB			
4								
5								
6								

Feb 15, 2025 2:06:13 PM

11N40SISO-Ant1-2452-PASS

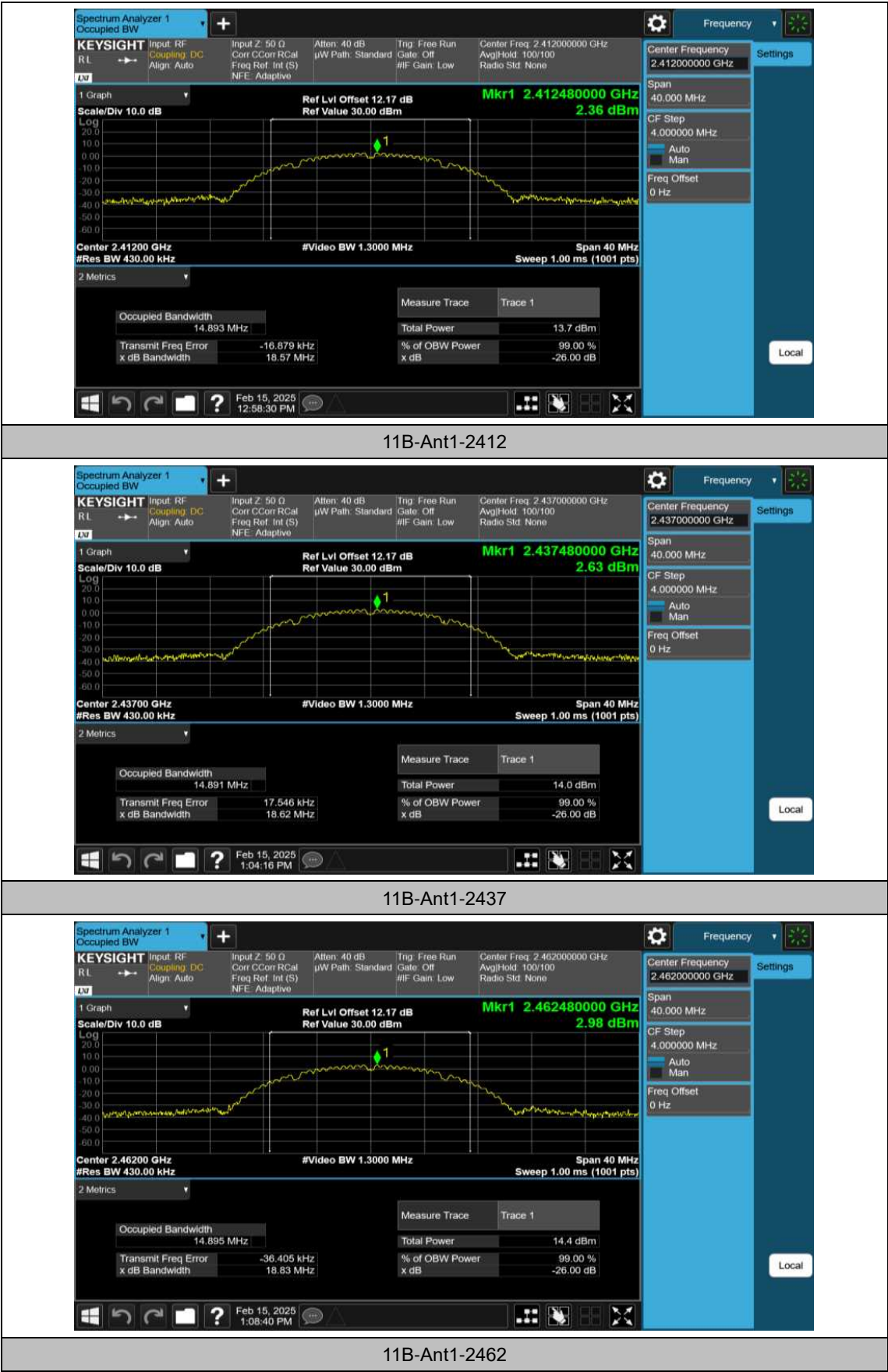
FCC ID: 2A64B-DEX68
IC: 28593-DEX68

Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Channel Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit [MHz]	Verdict
11B	Ant1	2412	14.893	2404.5366	2419.4296	---	---
11B	Ant1	2437	14.891	2429.5721	2444.4631	---	---
11B	Ant1	2462	14.895	2454.5161	2469.4111	---	---
11G	Ant1	2412	17.074	2403.4300	2420.5040	---	---
11G	Ant1	2437	16.962	2428.4985	2445.4605	---	---
11G	Ant1	2462	17.026	2453.4762	2470.5022	---	---
11N20SISO	Ant1	2412	17.995	2403.0004	2420.9954	---	---
11N20SISO	Ant1	2437	18.058	2428.0047	2446.0627	---	---
11N20SISO	Ant1	2462	17.971	2452.9669	2470.9379	---	---
11N40SISO	Ant1	2422	35.934	2404.0375	2439.9715	---	---
11N40SISO	Ant1	2437	35.886	2419.0725	2454.9585	---	---
11N40SISO	Ant1	2452	35.857	2434.0616	2469.9186	---	---

Test Graphs

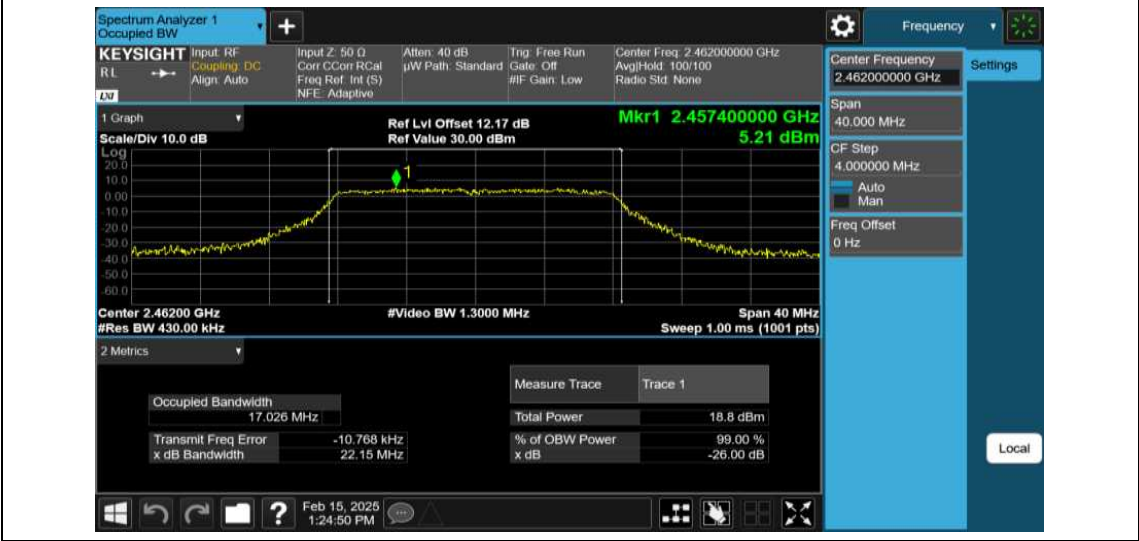




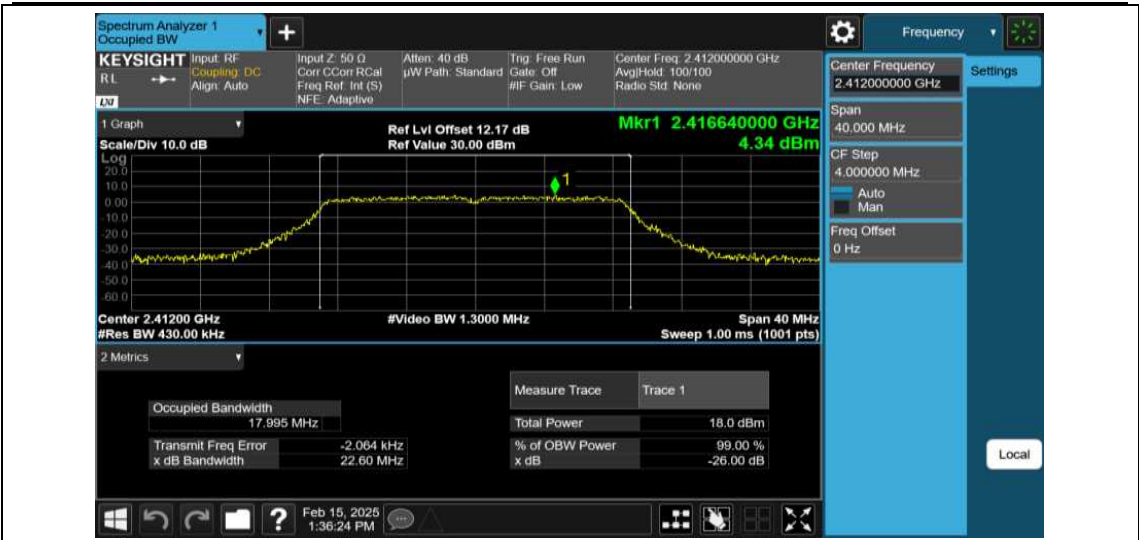
11G-Ant1-2412



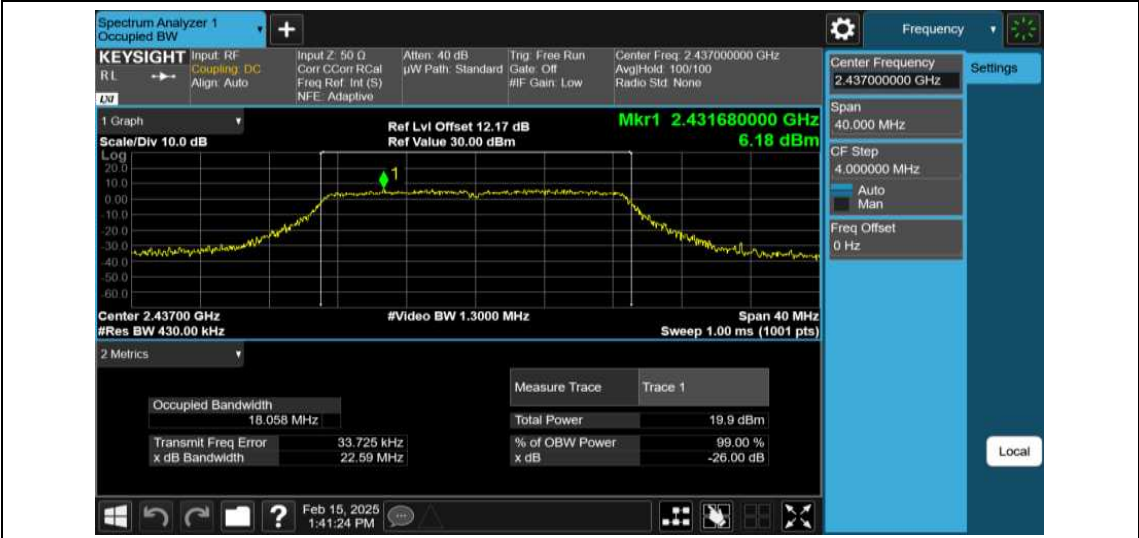
11G-Ant1-2437



11G-Ant1-2462



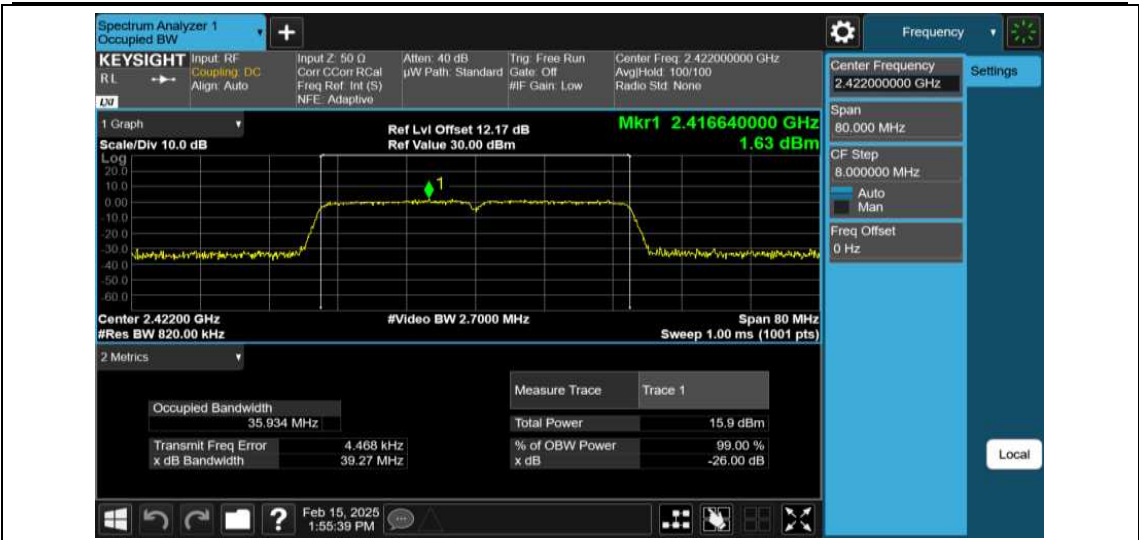
11N20SISO-Ant1-2412



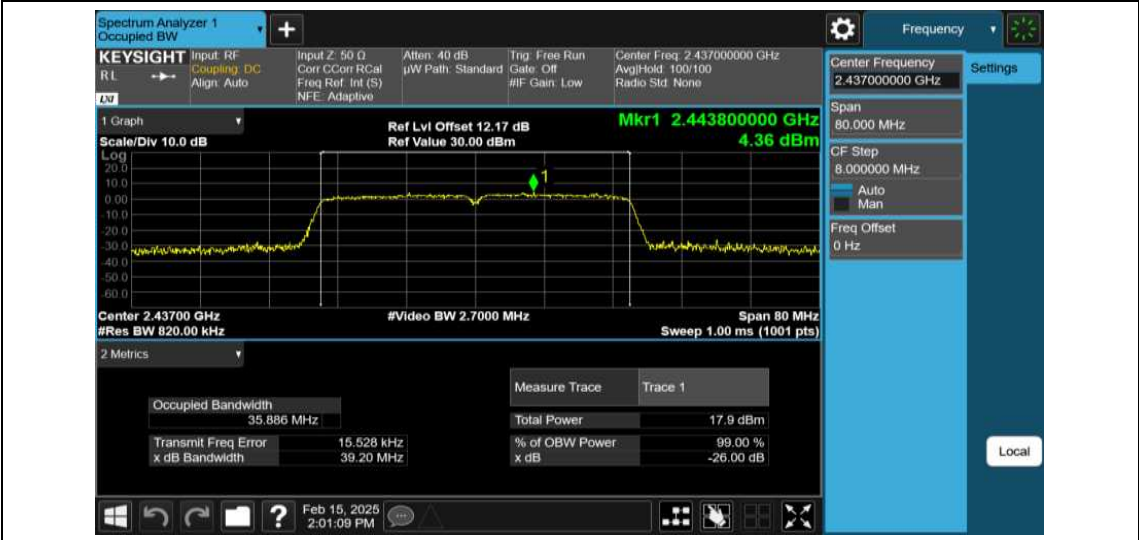
11N20SISO-Ant1-2437



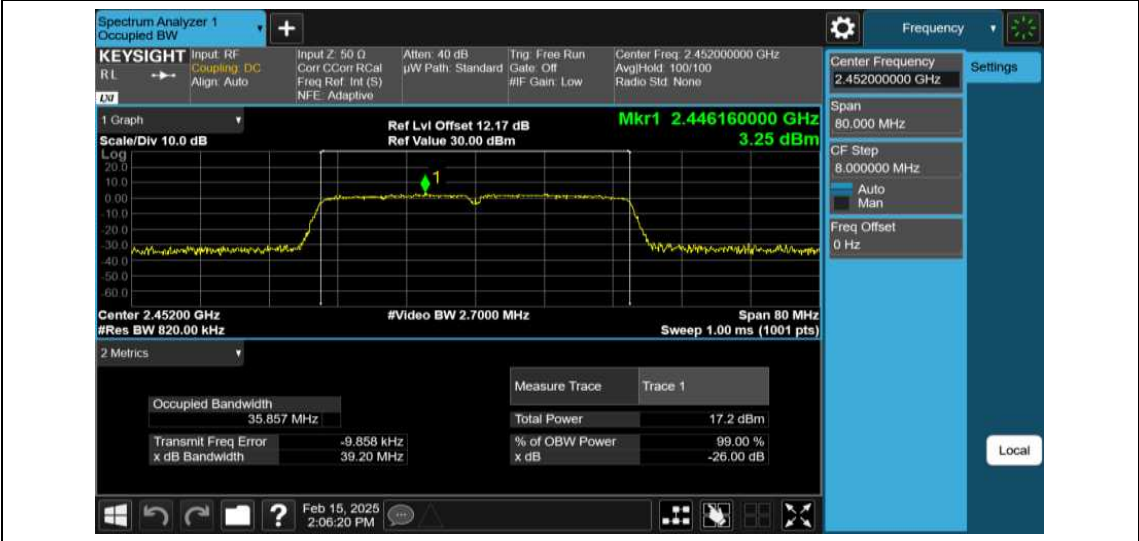
11N20SISO-Ant1-2462



11N40SISO-Ant1-2422



11N40SISO-Ant1-2437



11N40SISO-Ant1-2452

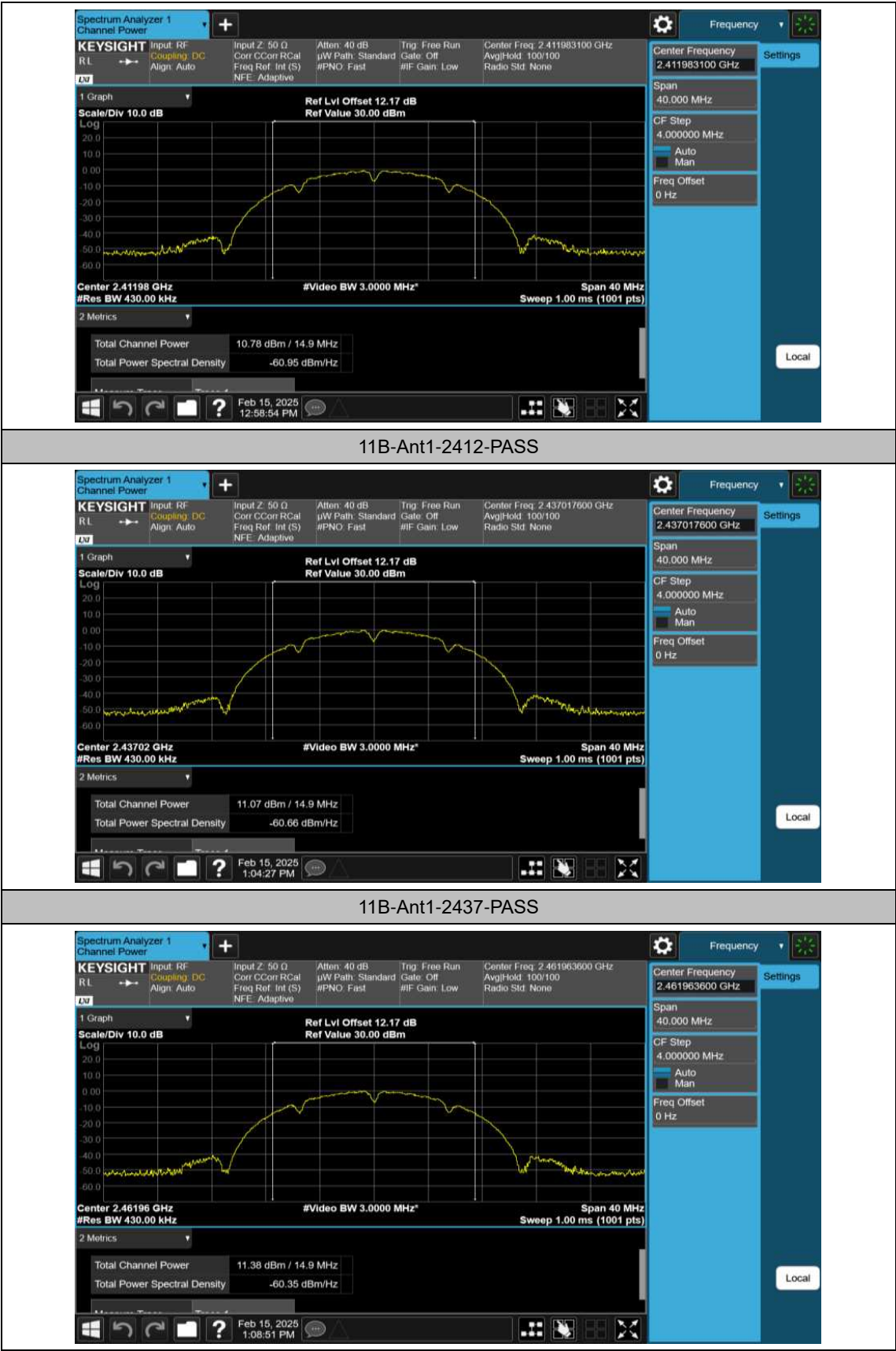
FCC ID: 2A64B-DEX68
IC: 28593-DEX68

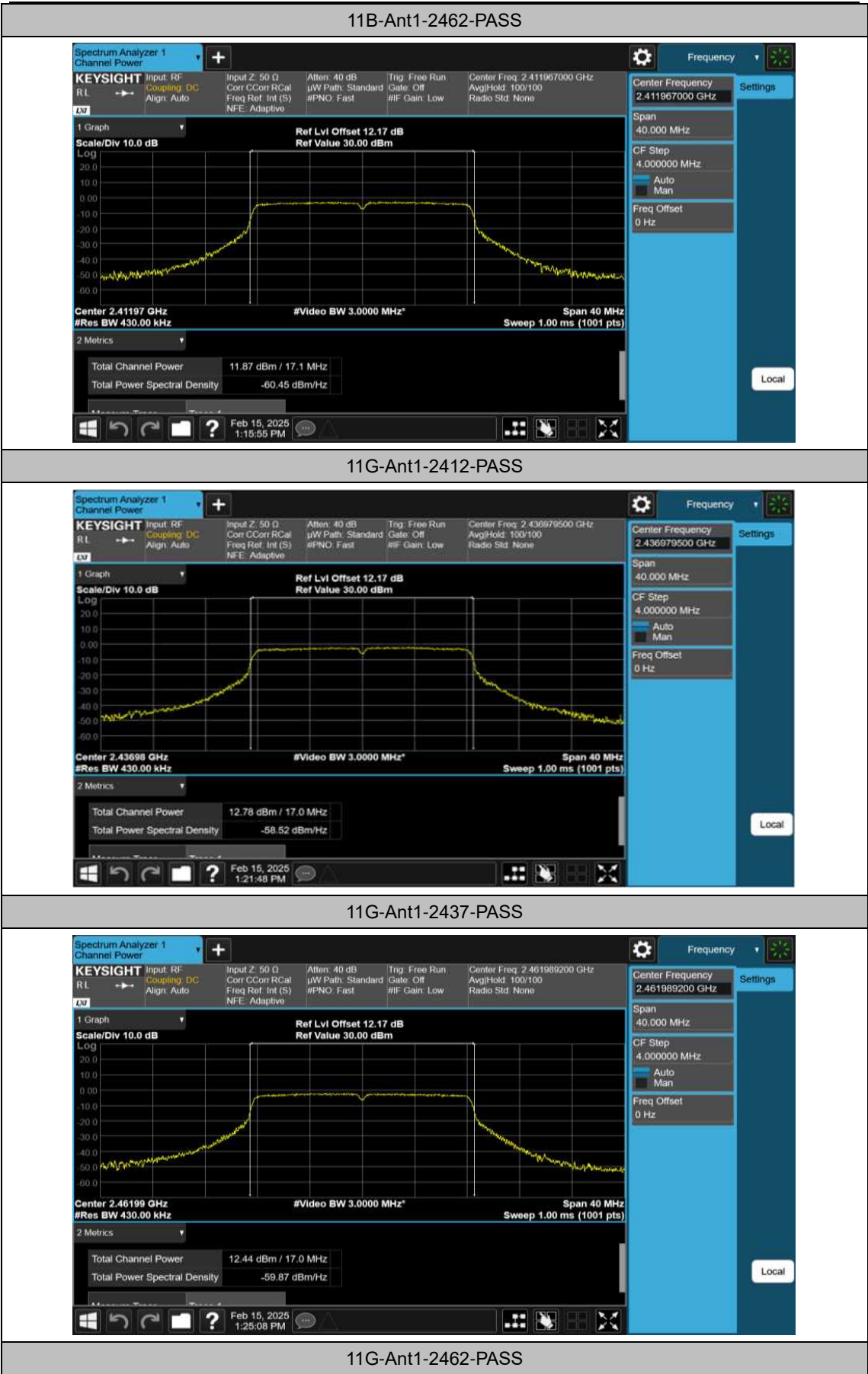
Maximum conducted output power

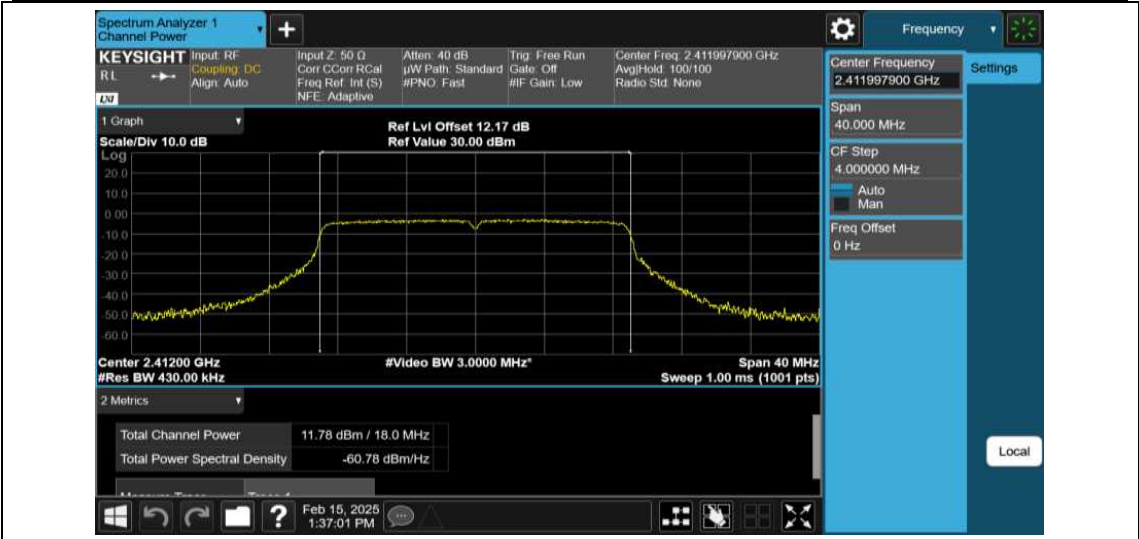
Test Result Average

Test Mode	Antenna	Frequency [MHz]	Average power [dBm]	Duty Cycle [%]	DC Factor [dBm]	Result [dBm]	Limit [dBm]	Gain [dBi]	EIRP [dBm]	EIRP Limit [dBm]	Verdict
11B	Ant1	2412	10.78	99.52	0.02	10.80	≤30.00	2.48	13.28	≤36.00	PASS
11B	Ant1	2437	11.07	99.52	0.02	11.09	≤30.00	2.48	13.57	≤36.00	PASS
11B	Ant1	2462	11.38	98.49	0.07	11.45	≤30.00	2.48	13.93	≤36.00	PASS
11G	Ant1	2412	11.87	100.00	0.00	11.87	≤30.00	2.48	14.35	≤36.00	PASS
11G	Ant1	2437	12.78	93.24	0.30	13.08	≤30.00	2.48	15.56	≤36.00	PASS
11G	Ant1	2462	12.44	100.00	0.00	12.44	≤30.00	2.48	14.92	≤36.00	PASS
11N20SISO	Ant1	2412	11.78	92.75	0.33	12.11	≤30.00	2.48	14.59	≤36.00	PASS
11N20SISO	Ant1	2437	12.68	94.58	0.24	12.92	≤30.00	2.48	15.40	≤36.00	PASS
11N20SISO	Ant1	2462	12.32	94.58	0.24	12.56	≤30.00	2.48	15.04	≤36.00	PASS
11N40SISO	Ant1	2422	9.32	90.38	0.44	9.76	≤30.00	2.48	12.24	≤36.00	PASS
11N40SISO	Ant1	2437	10.58	90.38	0.44	11.02	≤30.00	2.48	13.50	≤36.00	PASS
11N40SISO	Ant1	2452	9.73	93.14	0.31	10.04	≤30.00	2.48	12.52	≤36.00	PASS

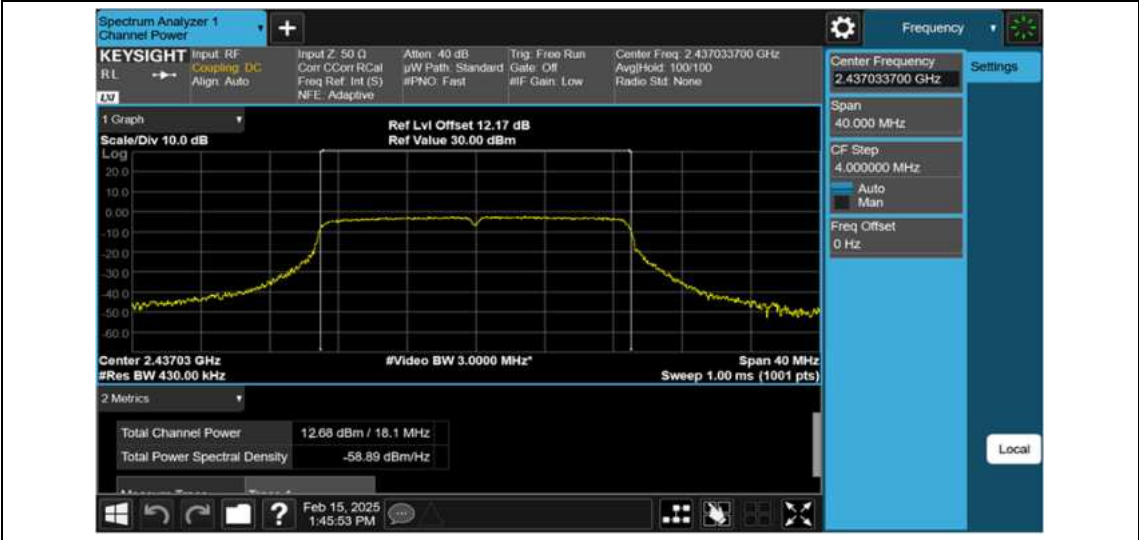
Test Graphs Average



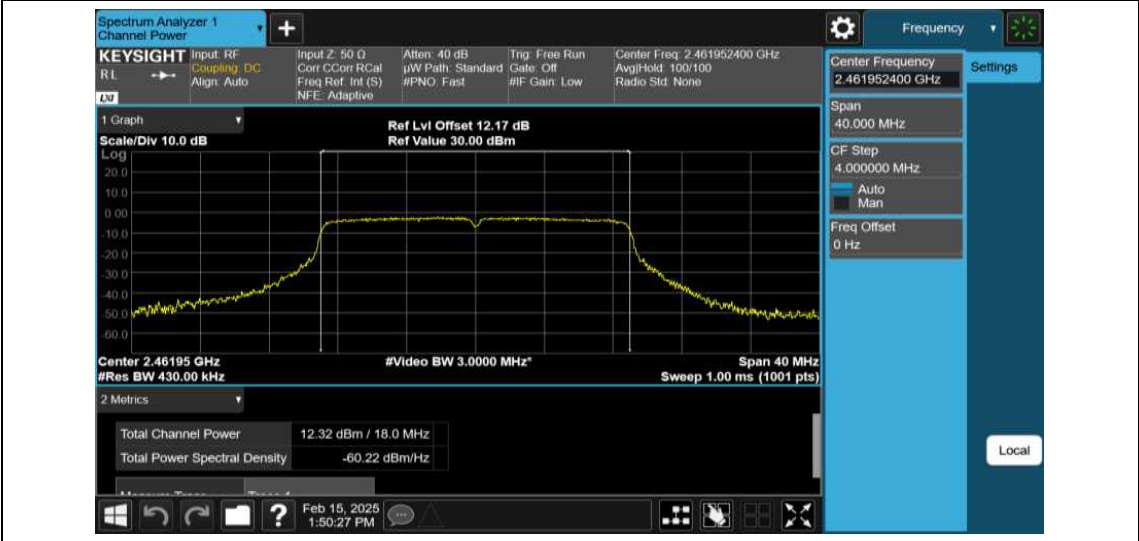




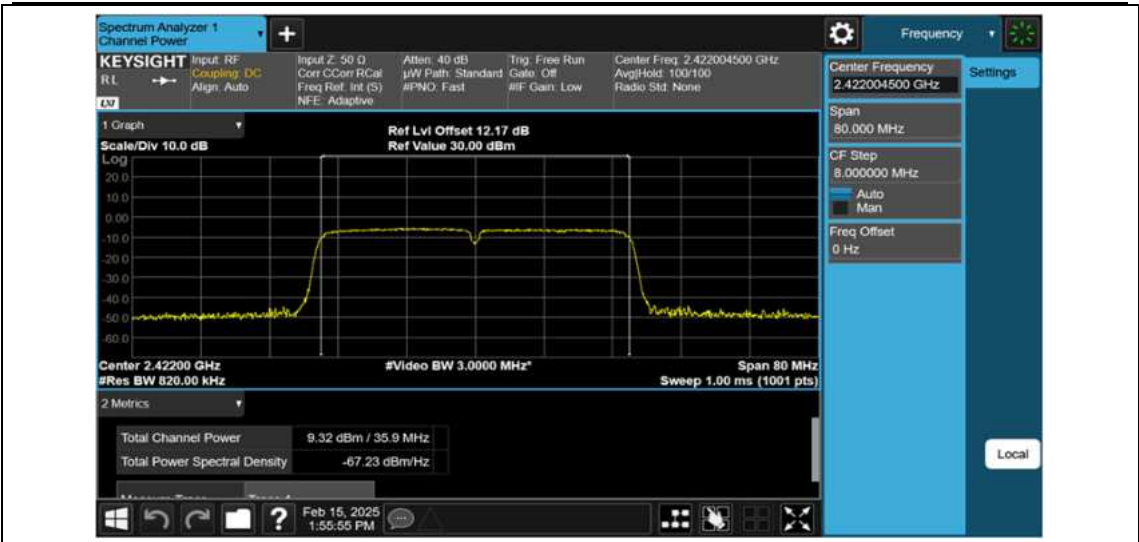
11N20SISO-Ant1-2412-PASS



11N20SISO-Ant1-2437-PASS



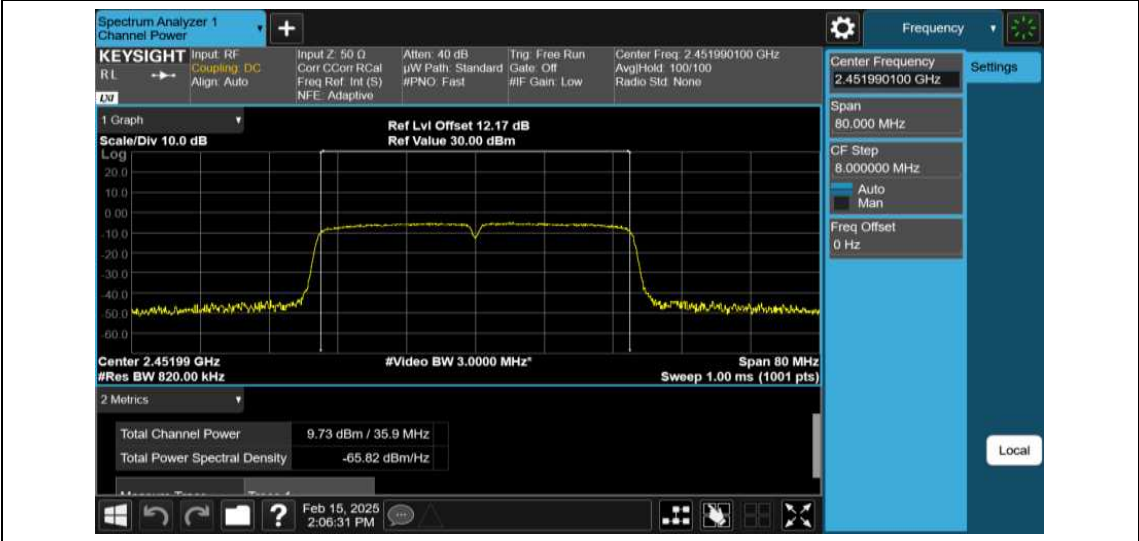
11N20SISO-Ant1-2462-PASS



11N40SISO-Ant1-2422-PASS



11N40SISO-Ant1-2437-PASS



11N40SISO-Ant1-2452-PASS

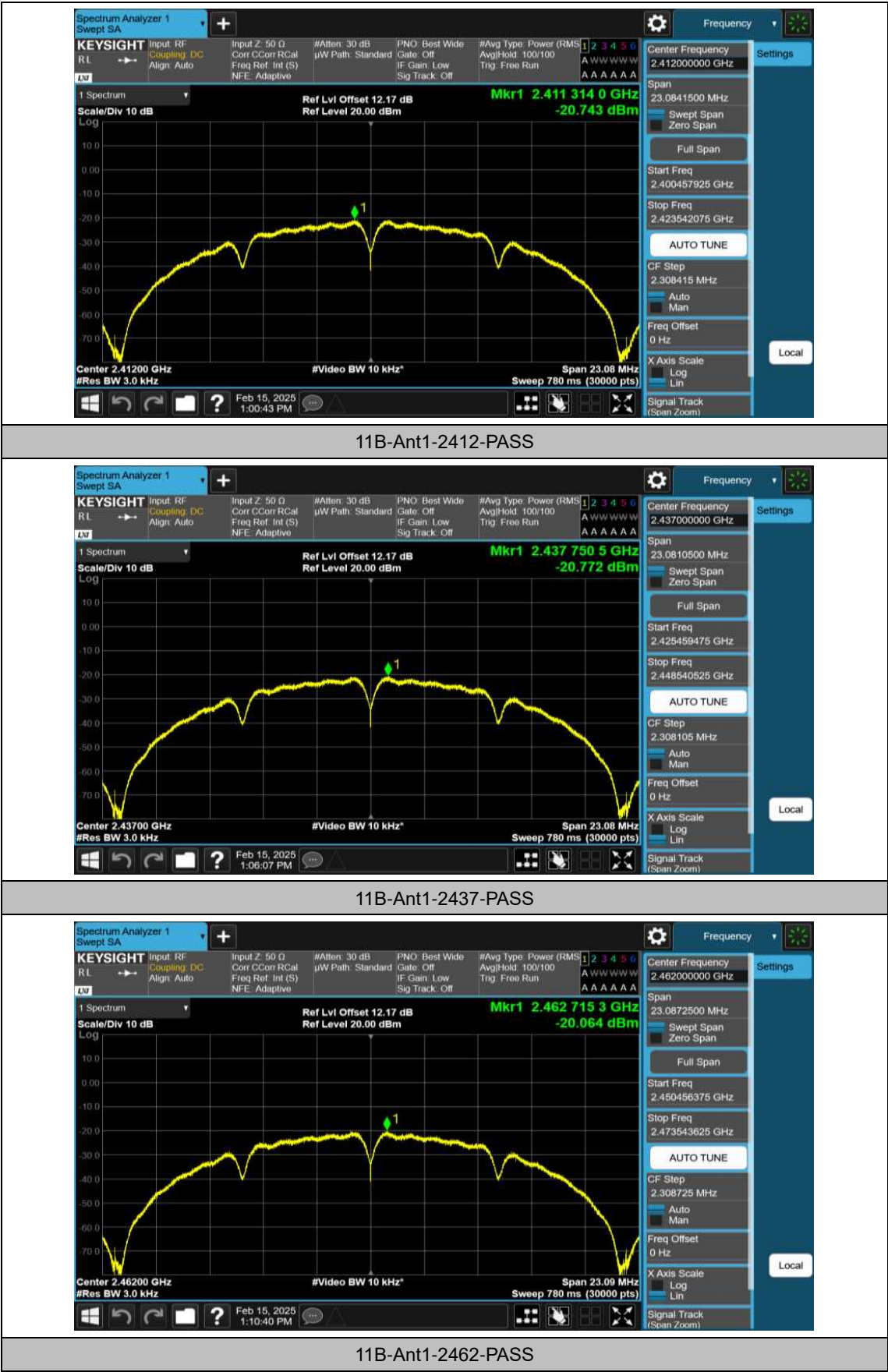
FCC ID: 2A64B-DEX68
IC: 28593-DEX68

Maximum power spectral density

Test Result

TestMode	Antenna	Frequency [MHz]	Result [dBm/3-100kHz]	Limit [dBm/3kHz]	Verdict
11B	Ant1	2412	-20.72	≤8.00	PASS
11B	Ant1	2437	-20.75	≤8.00	PASS
11B	Ant1	2462	-19.99	≤8.00	PASS
11G	Ant1	2412	-19.26	≤8.00	PASS
11G	Ant1	2437	-17.55	≤8.00	PASS
11G	Ant1	2462	-19.47	≤8.00	PASS
11N20SISO	Ant1	2412	-18.71	≤8.00	PASS
11N20SISO	Ant1	2437	-18.11	≤8.00	PASS
11N20SISO	Ant1	2462	-17.40	≤8.00	PASS
11N40SISO	Ant1	2422	-24.30	≤8.00	PASS
11N40SISO	Ant1	2437	-23.05	≤8.00	PASS
11N40SISO	Ant1	2452	-23.21	≤8.00	PASS

Test Graphs



11B-Ant1-2412-PASS

Spectrum Analyzer 1

Swept SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCor: RCal

Freq Ref: Int (S)

NFE: Adaptive

#Atten: 30 dB

μ W Path: Standard

Gate: Off

IF Gain: Low

Sig Track: Off

PNO: Best Wide

#Avg Type: Power (RMS)

Avg/Hold: 100/100

Trig: Free Run

1 2 3 4 5 6

A W W W W W

A A A A A A

Center Frequency

2.437000000 GHz

Span

23.0810500 MHz

Swept Span

Zero Span

Full Span

Start Freq

2.425459475 GHz

Stop Freq

2.448540525 GHz

AUTO TUNE

CF Step

2.308105 MHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

(Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Log

Ref Lvl Offset 12.17 dB

Ref Level 20.00 dBm

Mkr1 2.437 750 5 GHz

-20.772 dBm

Center 2.43700 GHz

#Res BW 3.0 kHz

#Video BW 10 kHz

Span 23.08 MHz

Sweep 780 ms (30000 pts)

Feb 15, 2025

1:06:07 PM

11B-Ant1-2437-PASS

Spectrum Analyzer 1

Swept SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCor: RCal

Freq Ref: Int (S)

NFE: Adaptive

#Atten: 30 dB

μ W Path: Standard

Gate: Off

IF Gain: Low

Sig Track: Off

PNO: Best Wide

#Avg Type: Power (RMS)

Avg/Hold: 100/100

Trig: Free Run

1 2 3 4 5 6

A W W W W W

A A A A A A

Center Frequency

2.462000000 GHz

Span

23.0872500 MHz

Swept Span

Zero Span

Full Span

Start Freq

2.450456375 GHz

Stop Freq

2.473543625 GHz

AUTO TUNE

CF Step

2.308725 MHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

(Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Log

Ref Lvl Offset 12.17 dB

Ref Level 20.00 dBm

Mkr1 2.462 715 3 GHz

-20.064 dBm

Center 2.46200 GHz

#Res BW 3.0 kHz

#Video BW 10 kHz

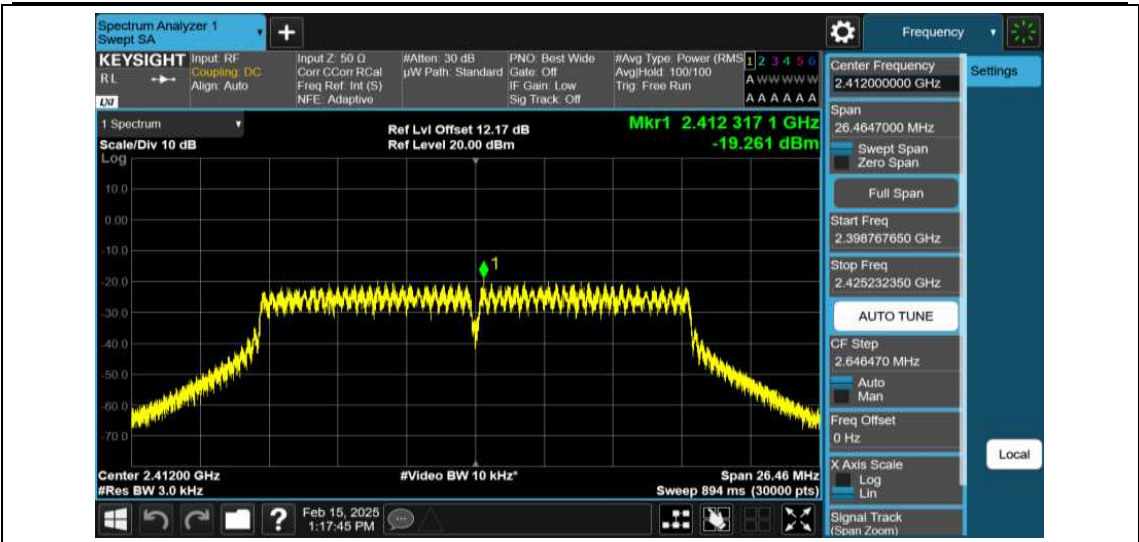
Span 23.09 MHz

Sweep 780 ms (30000 pts)

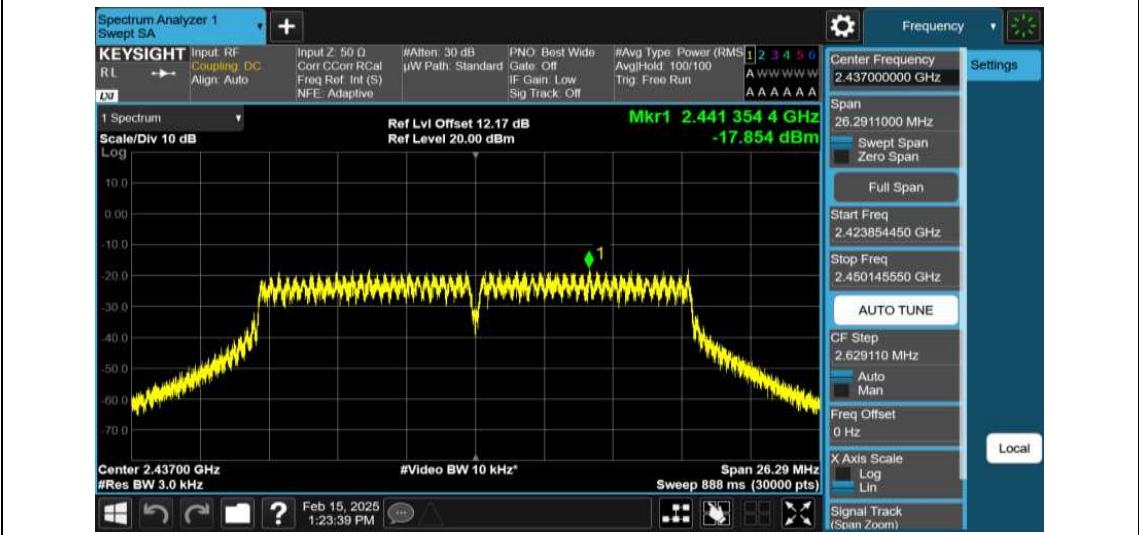
Feb 15, 2025

1:10:40 PM

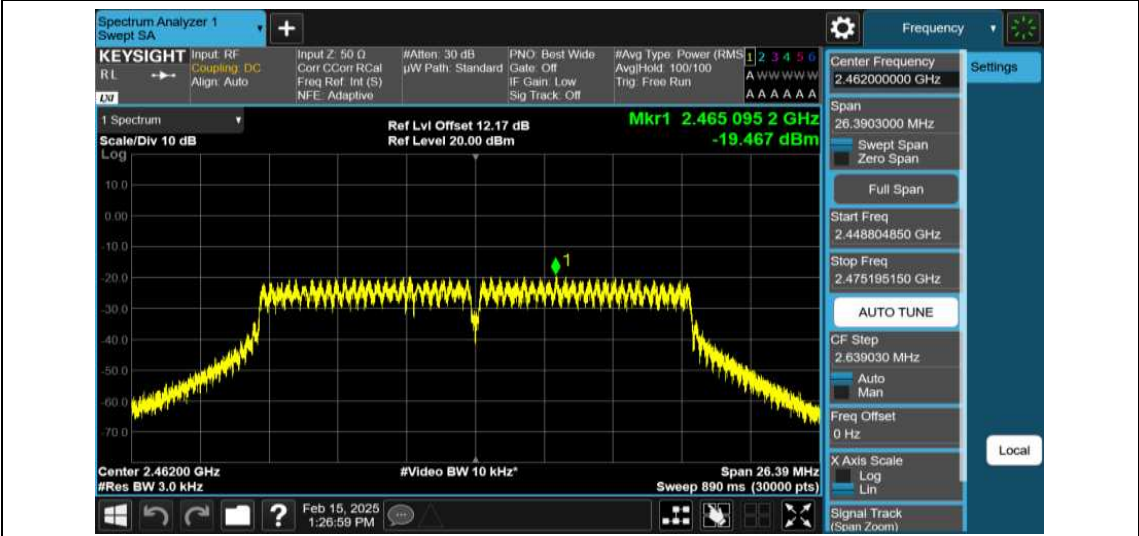
11B-Ant1-2462-PASS



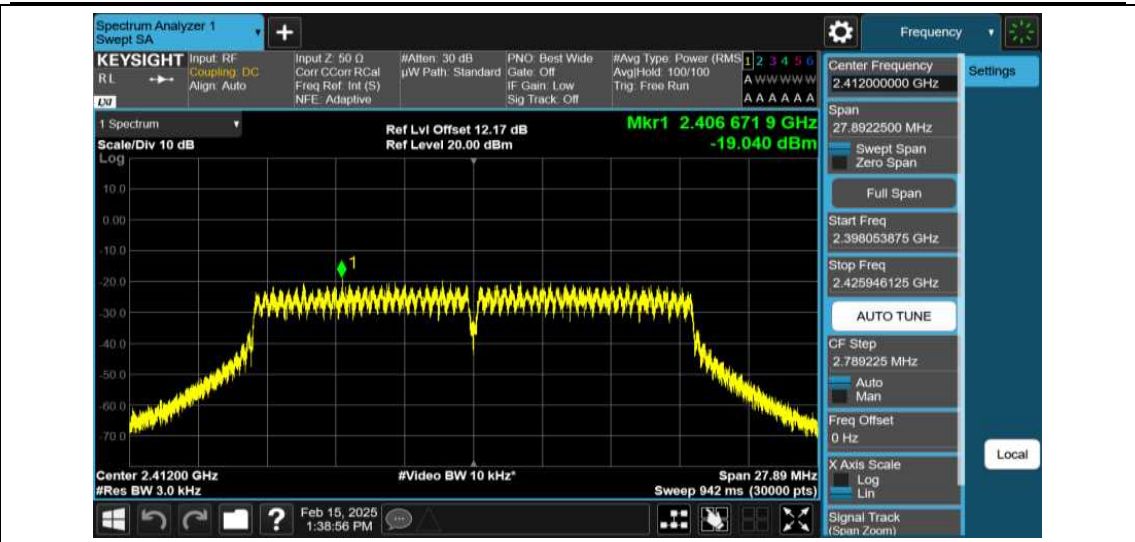
11G-Ant1-2412-PASS



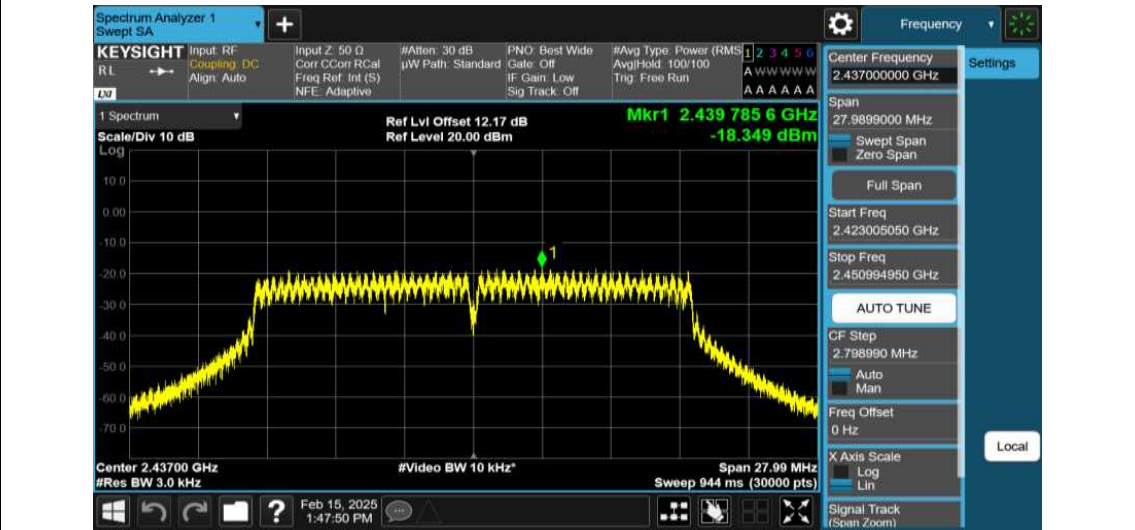
11G-Ant1-2437-PASS



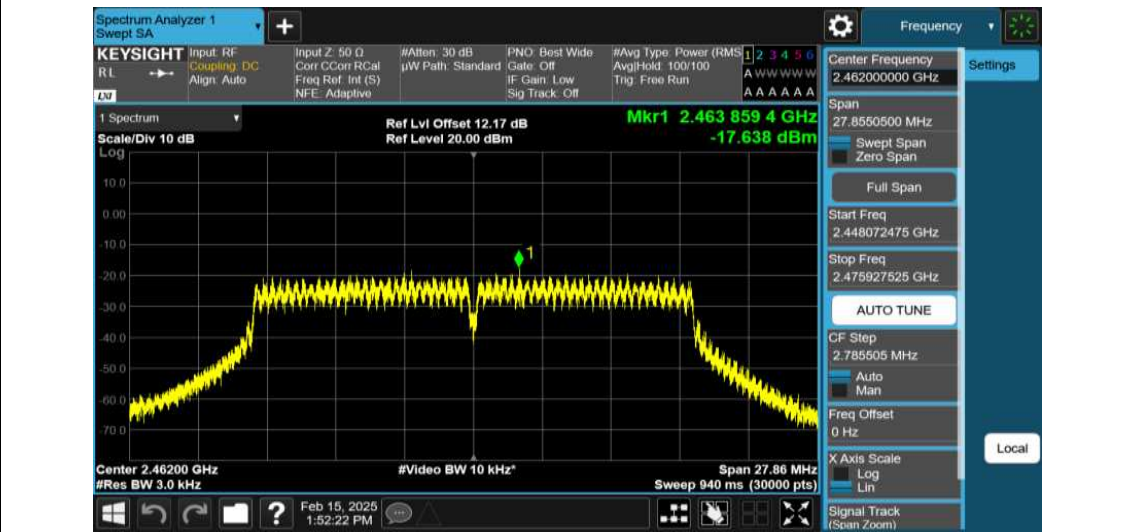
11G-Ant1-2462-PASS



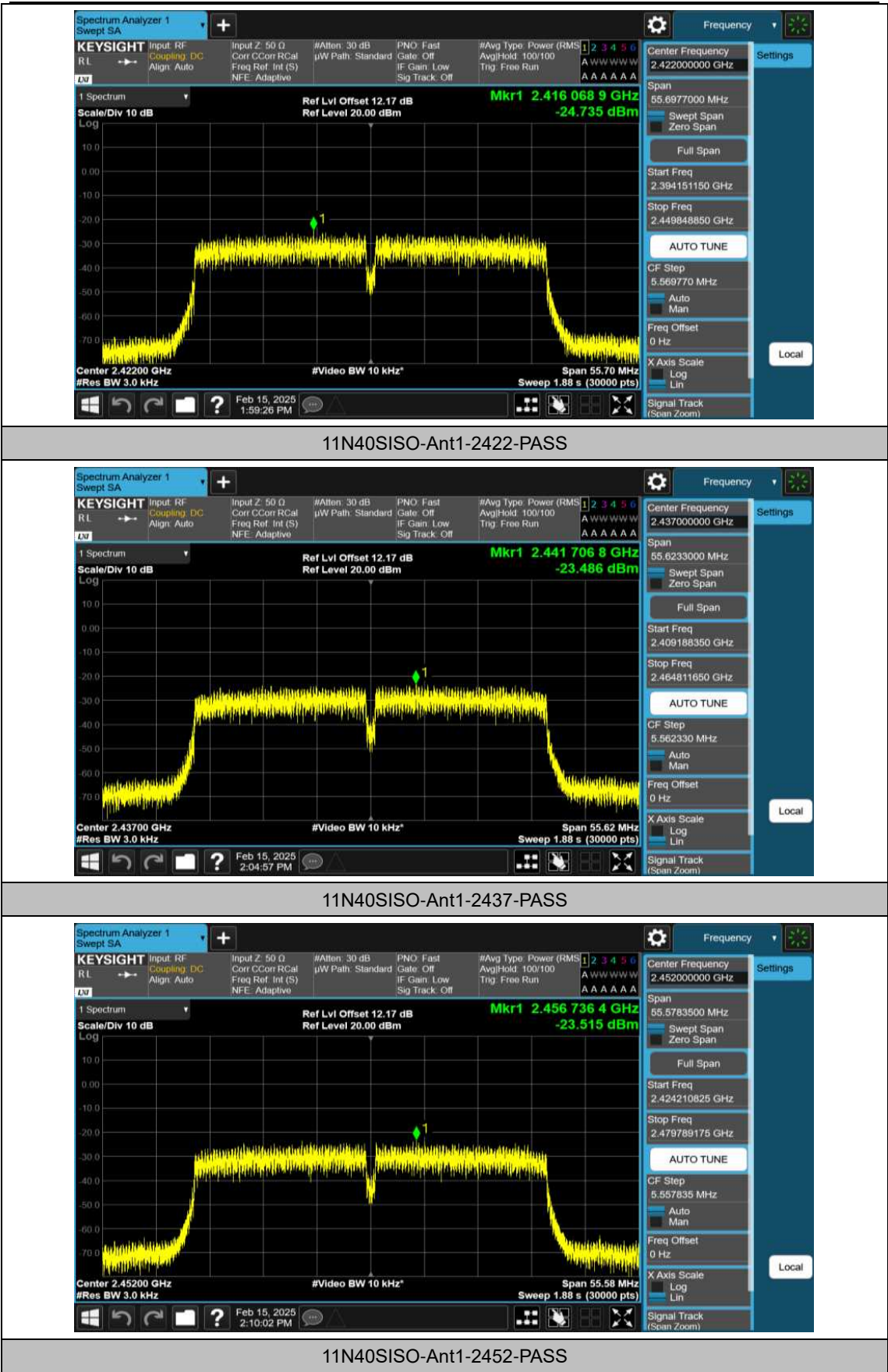
11N20SISO-Ant1-2412-PASS



11N20SISO-Ant1-2437-PASS



11N20SISO-Ant1-2462-PASS



11N40SISO-Ant1-2422-PASS

Spectrum Analyzer 1

Swept SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCor: RCal

Freq Ref: Int (S)

NFE: Adaptive

#Atten: 30 dB

μW Path: Standard

PNO: Fast

Gate: Off

IF Gain: Low

Sig Track: Off

#Avg Type: Power (RMS)

Avg/Hold: 100/100

Trig: Free Run

1 2 3 4 5 6

A W W W W W

A A A A A A

Center Frequency

2.437000000 GHz

Span

55.6233000 MHz

Swept Span

Zero Span

Full Span

Start Freq

2.409188350 GHz

Stop Freq

2.464811650 GHz

AUTO TUNE

CF Step

5.562330 MHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

(Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Ref Lvl Offset 12.17 dB

Ref Level 20.00 dBm

Mkr1 2.441 706 8 GHz

-23.486 dBm

Center 2.43700 GHz

#Res BW 3.0 kHz

#Video BW 10 kHz*

Span 55.62 MHz

Sweep 1.88 s (30000 pts)

Feb 15, 2025

2:04:57 PM

11N40SISO-Ant1-2437-PASS

Spectrum Analyzer 1

Swept SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCor: RCal

Freq Ref: Int (S)

NFE: Adaptive

#Atten: 30 dB

μW Path: Standard

PNO: Fast

Gate: Off

IF Gain: Low

Sig Track: Off

#Avg Type: Power (RMS)

Avg/Hold: 100/100

Trig: Free Run

1 2 3 4 5 6

A W W W W W

A A A A A A

Center Frequency

2.452000000 GHz

Span

55.5783500 MHz

Swept Span

Zero Span

Full Span

Start Freq

2.424210825 GHz

Stop Freq

2.479789175 GHz

AUTO TUNE

CF Step

5.557835 MHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

(Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Ref Lvl Offset 12.17 dB

Ref Level 20.00 dBm

Mkr1 2.456 736 4 GHz

-23.515 dBm

Center 2.45200 GHz

#Res BW 3.0 kHz

#Video BW 10 kHz*

Span 55.58 MHz

Sweep 1.88 s (30000 pts)

Feb 15, 2025

2:10:02 PM

11N40SISO-Ant1-2452-PASS

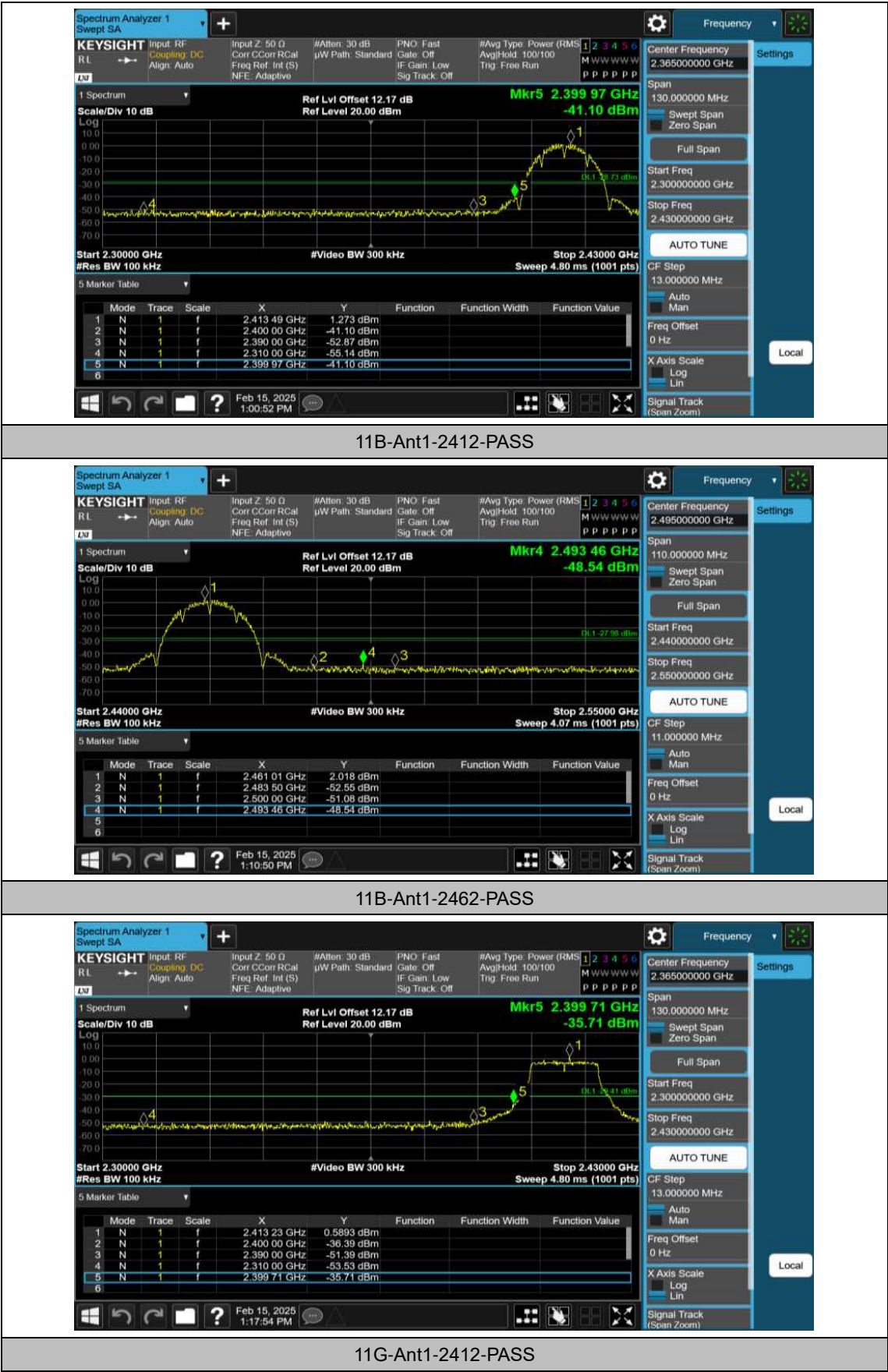
FCC ID: 2A64B-DEX68
IC: 28593-DEX68

Band edge measurements

Test Result

TestMode	Antenna	ChName	Frequency [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	Low	2412	1.27	-41.1	≤-28.73	PASS
11B	Ant1	High	2462	2.02	-48.54	≤-27.98	PASS
11G	Ant1	Low	2412	0.59	-35.71	≤-29.41	PASS
11G	Ant1	High	2462	1.36	-48.07	≤-28.64	PASS
11N20SISO	Ant1	Low	2412	0.03	-35.41	≤-29.98	PASS
11N20SISO	Ant1	High	2462	1.18	-47.82	≤-28.82	PASS
11N40SISO	Ant1	Low	2422	-5.25	-46.32	≤-35.25	PASS
11N40SISO	Ant1	High	2452	-3.99	-43.94	≤-33.99	PASS

Test Graphs



11B-Ant1-2412-PASS

Spectrum Analyzer 1

Swept SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCorr RCal

Freq Ref: Int (S)

NFE: Adaptive

#Atten: 30 dB

μ W Path: Standard

PNO: Fast

Gate: Off

IF Gain: Low

Sig Track: Off

#Avg Type: Power (RMS)

Avg/Hold: 100/100

Trig: Free Run

1 2 3 4 5 6

M W W W W W

P P P P P P

Center Frequency

2.495000000 GHz

Span

110.000000 MHz

Swept Span

Zero Span

Full Span

Start Freq

2.440000000 GHz

Stop Freq

2.550000000 GHz

AUTO TUNE

CF Step

11.000000 MHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

(Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Log

Ref Lvl Offset 12.17 dB

Ref Level 20.00 dBm

Mkr4 2.493 46 GHz

-48.54 dBm

Start 2.440000 GHz

#Res BW 100 kHz

#Video BW 300 kHz

Stop 2.550000 GHz

Sweep 4.07 ms (1001 pts)

5 Marker Table

	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.461 01 GHz	2.018 dBm			
2	N	1	f	2.483 50 GHz	-52.55 dBm			
3	N	1	f	2.500 00 GHz	-51.08 dBm			
4	N	1	f	2.493 46 GHz	-48.54 dBm			
5								
6								

Feb 15, 2025

1:10:50 PM

11B-Ant1-2462-PASS

Spectrum Analyzer 1

Swept SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCorr RCal

Freq Ref: Int (S)

NFE: Adaptive

#Atten: 30 dB

μ W Path: Standard

PNO: Fast

Gate: Off

IF Gain: Low

Sig Track: Off

#Avg Type: Power (RMS)

Avg/Hold: 100/100

Trig: Free Run

1 2 3 4 5 6

M W W W W W

P P P P P P

Center Frequency

2.365000000 GHz

Span

130.000000 MHz

Swept Span

Zero Span

Full Span

Start Freq

2.300000000 GHz

Stop Freq

2.430000000 GHz

AUTO TUNE

CF Step

13.000000 MHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

(Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Log

Ref Lvl Offset 12.17 dB

Ref Level 20.00 dBm

Mkr5 2.399 71 GHz

-35.71 dBm

Start 2.300000 GHz

#Res BW 100 kHz

#Video BW 300 kHz

Stop 2.430000 GHz

Sweep 4.80 ms (1001 pts)

5 Marker Table

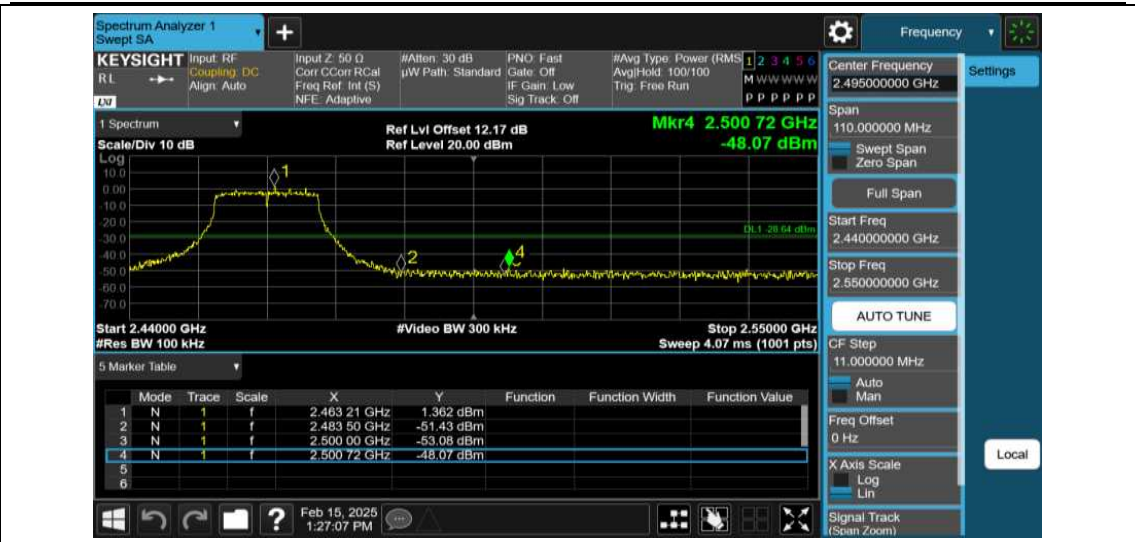
	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.413 23 GHz	0.5893 dBm			
2	N	1	f	2.400 00 GHz	-36.39 dBm			
3	N	1	f	2.390 00 GHz	-51.39 dBm			
4	N	1	f	2.310 00 GHz	-53.63 dBm			
5	N	1	f	2.399 71 GHz	-35.71 dBm			
6								

Feb 15, 2025

1:17:54 PM

11G-Ant1-2412-PASS

FCC ID: 2A64B-DEX68
IC: 28593-DEX68



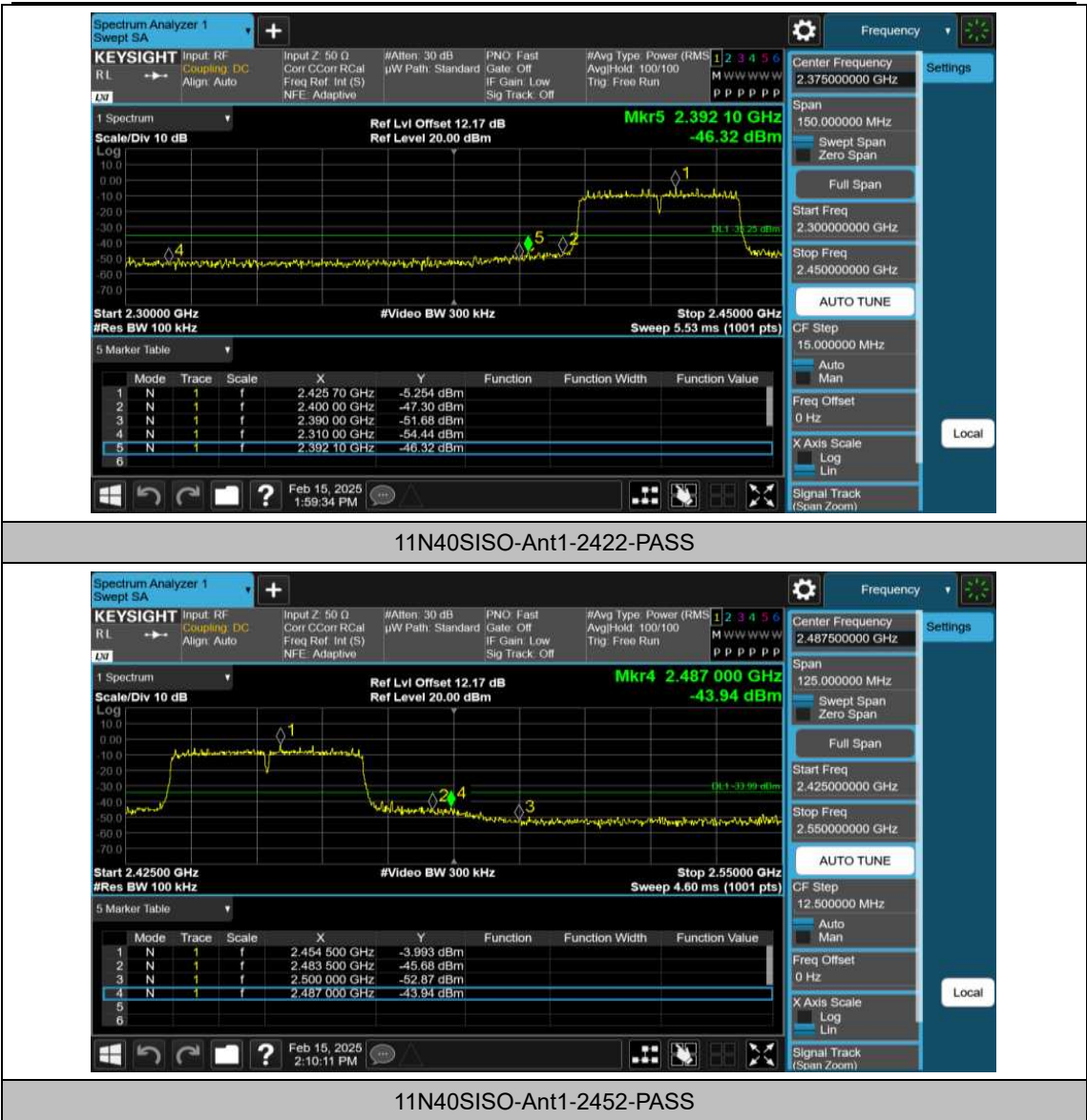
11G-Ant1-2462-PASS



11N20SISO-Ant1-2412-PASS



11N20SISO-Ant1-2462-PASS



11N40SISO-Ant1-2422-PASS

Spectrum Analyzer 1

Swept SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCorr

RCal: Freq Ref

Int (S): NFE: Adaptive

#Atten: 30 dB

μW Path: Standard

PNO: Fast

Gate: Off

IF Gain: Low

Sig Track: Off

#Avg Type: Power (RMS)

Avg/Hold: 100/100

Trig: Free Run

1 2 3 4 5 6

M W W W W W

p p p p p p

Center Frequency

2.487500000 GHz

Span

125.000000 MHz

Swept Span

Zero Span

Full Span

Start Freq

2.425000000 GHz

Stop Freq

2.550000000 GHz

AUTO TUNE

CF Step

12.500000 MHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

(Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Ref Lvl Offset 12.17 dB

Ref Level 20.00 dBm

Mkr4 2.487 000 GHz

-43.94 dBm

Start 2.42500 GHz

#Res BW 100 kHz

#Video BW 300 kHz

Stop 2.55000 GHz

Sweep 4.60 ms (1001 pts)

5 Marker Table

	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.454 500 GHz	-3.993 dBm			
2	N	1	f	2.483 500 GHz	-45.68 dBm			
3	N	1	f	2.500 000 GHz	-52.87 dBm			
4	N	1	f	2.487 000 GHz	-43.94 dBm			
5								
6								

Feb 15, 2025

2:10:11 PM

11N40SISO-Ant1-2452-PASS

FCC ID: 2A64B-DEX68

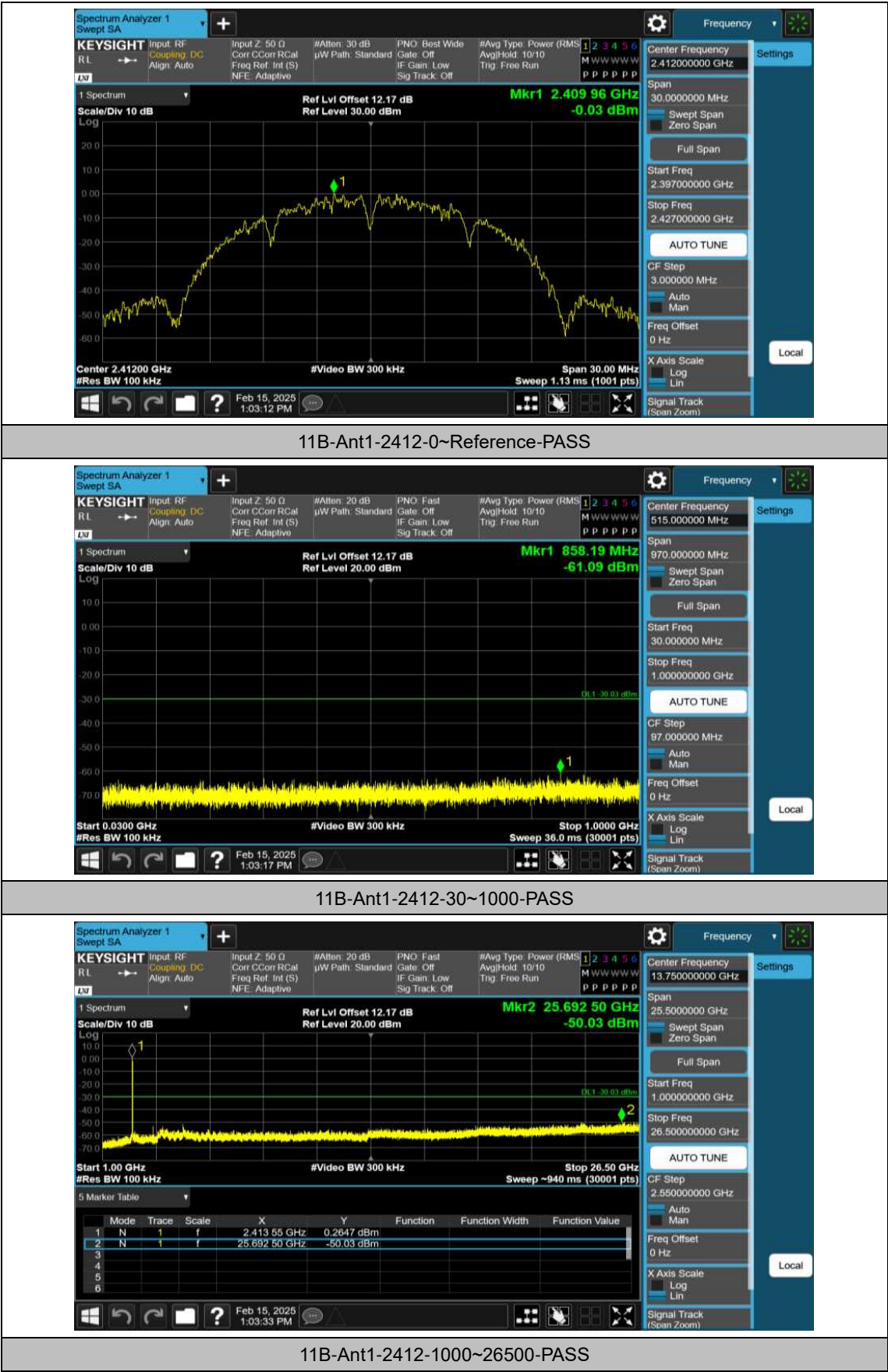
IC: 28593-DEX68

Conducted Spurious Emission

Test Result

TestMode	Antenna	Frequency [MHz]	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	0~Reference	-0.03	-0.03	---	PASS
11B	Ant1	2412	30~1000	-0.03	-61.09	≤-30.03	PASS
11B	Ant1	2412	1000~26500	-0.03	-50.03	≤-30.03	PASS
11B	Ant1	2437	0~Reference	0.43	0.43	---	PASS
11B	Ant1	2437	30~1000	0.43	-61.29	≤-29.57	PASS
11B	Ant1	2437	1000~26500	0.43	-50.25	≤-29.57	PASS
11B	Ant1	2462	0~Reference	2.10	2.10	---	PASS
11B	Ant1	2462	30~1000	2.10	-62.21	≤-27.9	PASS
11B	Ant1	2462	1000~26500	2.10	-48.1	≤-27.9	PASS
11G	Ant1	2412	0~Reference	-2.56	-2.56	---	PASS
11G	Ant1	2412	30~1000	-2.56	-61.99	≤-32.56	PASS
11G	Ant1	2412	1000~26500	-2.56	-49.82	≤-32.56	PASS
11G	Ant1	2437	0~Reference	1.05	1.05	---	PASS
11G	Ant1	2437	30~1000	1.05	-61.78	≤-28.95	PASS
11G	Ant1	2437	1000~26500	1.05	-50.5	≤-28.95	PASS
11G	Ant1	2462	0~Reference	-2.20	-2.20	---	PASS
11G	Ant1	2462	30~1000	-2.20	-61.53	≤-32.2	PASS
11G	Ant1	2462	1000~26500	-2.20	-49.9	≤-32.2	PASS
11N20SISO	Ant1	2412	0~Reference	-2.96	-2.96	---	PASS
11N20SISO	Ant1	2412	30~1000	-2.96	-60.53	≤-32.96	PASS
11N20SISO	Ant1	2412	1000~26500	-2.96	-49.68	≤-32.96	PASS
11N20SISO	Ant1	2437	0~Reference	2.32	2.32	---	PASS
11N20SISO	Ant1	2437	30~1000	2.32	-61.55	≤-27.68	PASS
11N20SISO	Ant1	2437	1000~26500	2.32	-49.9	≤-27.68	PASS
11N20SISO	Ant1	2462	0~Reference	-2.11	-2.11	---	PASS
11N20SISO	Ant1	2462	30~1000	-2.11	-61.34	≤-32.11	PASS
11N20SISO	Ant1	2462	1000~26500	-2.11	-50.5	≤-32.11	PASS
11N40SISO	Ant1	2422	0~Reference	-6.03	-6.03	---	PASS
11N40SISO	Ant1	2422	30~1000	-6.03	-61.42	≤-36.03	PASS
11N40SISO	Ant1	2422	1000~26500	-6.03	-50.38	≤-36.03	PASS
11N40SISO	Ant1	2437	0~Reference	-5.42	-5.42	---	PASS
11N40SISO	Ant1	2437	30~1000	-5.42	-60.61	≤-35.42	PASS
11N40SISO	Ant1	2437	1000~26500	-5.42	-49.84	≤-35.42	PASS
11N40SISO	Ant1	2452	0~Reference	-3.68	-3.68	---	PASS
11N40SISO	Ant1	2452	30~1000	-3.68	-61.14	≤-33.68	PASS
11N40SISO	Ant1	2452	1000~26500	-3.68	-50.1	≤-33.68	PASS

Test Graphs



11B-Ant1-2412-0~Reference-PASS

Spectrum Analyzer 1

Swept SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCorr RCal

Freq Ref: Int (S)

NFE: Adaptive

#Atten: 20 dB

μW Path: Standard

Gate: Off

IF Gain: Low

Sig Track: Off

PNO: Fast

#Avg Type: Power (RMS)

Avg/Hold: 10/10

Trig: Free Run

1 2 3 4 5 6

M W W W W W

p p p p p p

Center Frequency

515.000000 MHz

Span

970.000000 MHz

Swept Span

Zero Span

Full Span

Start Freq

30.0000000 MHz

Stop Freq

1.000000000 GHz

AUTO TUNE

CF Step

97.0000000 MHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

(Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Log

Ref Lvl Offset 12.17 dB

Ref Level 20.00 dBm

Mkr1 858.19 MHz

-61.09 dBm

Start 0.0300 GHz

#Res BW 100 kHz

#Video BW 300 kHz

Stop 1.0000 GHz

Sweep 36.0 ms (30001 pts)

Feb 15, 2025 1:03:17 PM

11B-Ant1-2412-30~1000-PASS

Spectrum Analyzer 1

Swept SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCorr RCal

Freq Ref: Int (S)

NFE: Adaptive

#Atten: 20 dB

μW Path: Standard

Gate: Off

IF Gain: Low

Sig Track: Off

PNO: Fast

#Avg Type: Power (RMS)

Avg/Hold: 10/10

Trig: Free Run

1 2 3 4 5 6

M W W W W W

p p p p p p

Center Frequency

13.75000000 GHz

Span

25.5000000 GHz

Swept Span

Zero Span

Full Span

Start Freq

1.000000000 GHz

Stop Freq

26.500000000 GHz

AUTO TUNE

CF Step

2.550000000 GHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

(Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Log

Ref Lvl Offset 12.17 dB

Ref Level 20.00 dBm

Mkr2 25.692 50 GHz

-50.03 dBm

Start 1.00 GHz

#Res BW 100 kHz

#Video BW 300 kHz

Stop 26.50 GHz

Sweep ~940 ms (30001 pts)

Feb 15, 2025 1:03:33 PM

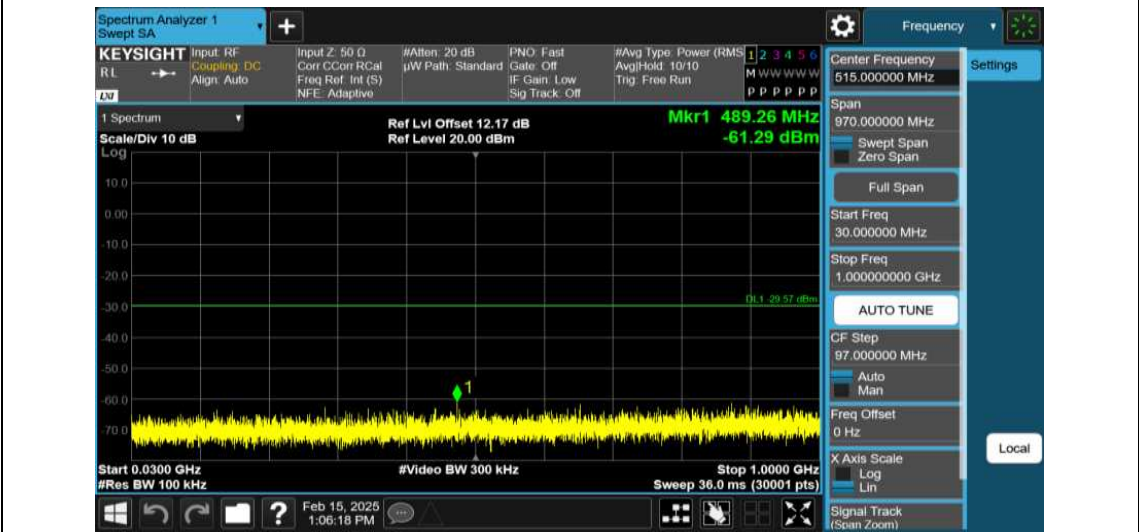
5 Marker Table

	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.413 55 GHz	0.2647 dBm			
2	N	1	f	25.692 50 GHz	-50.03 dBm			
3								
4								
5								
6								

11B-Ant1-2412-1000~26500-PASS



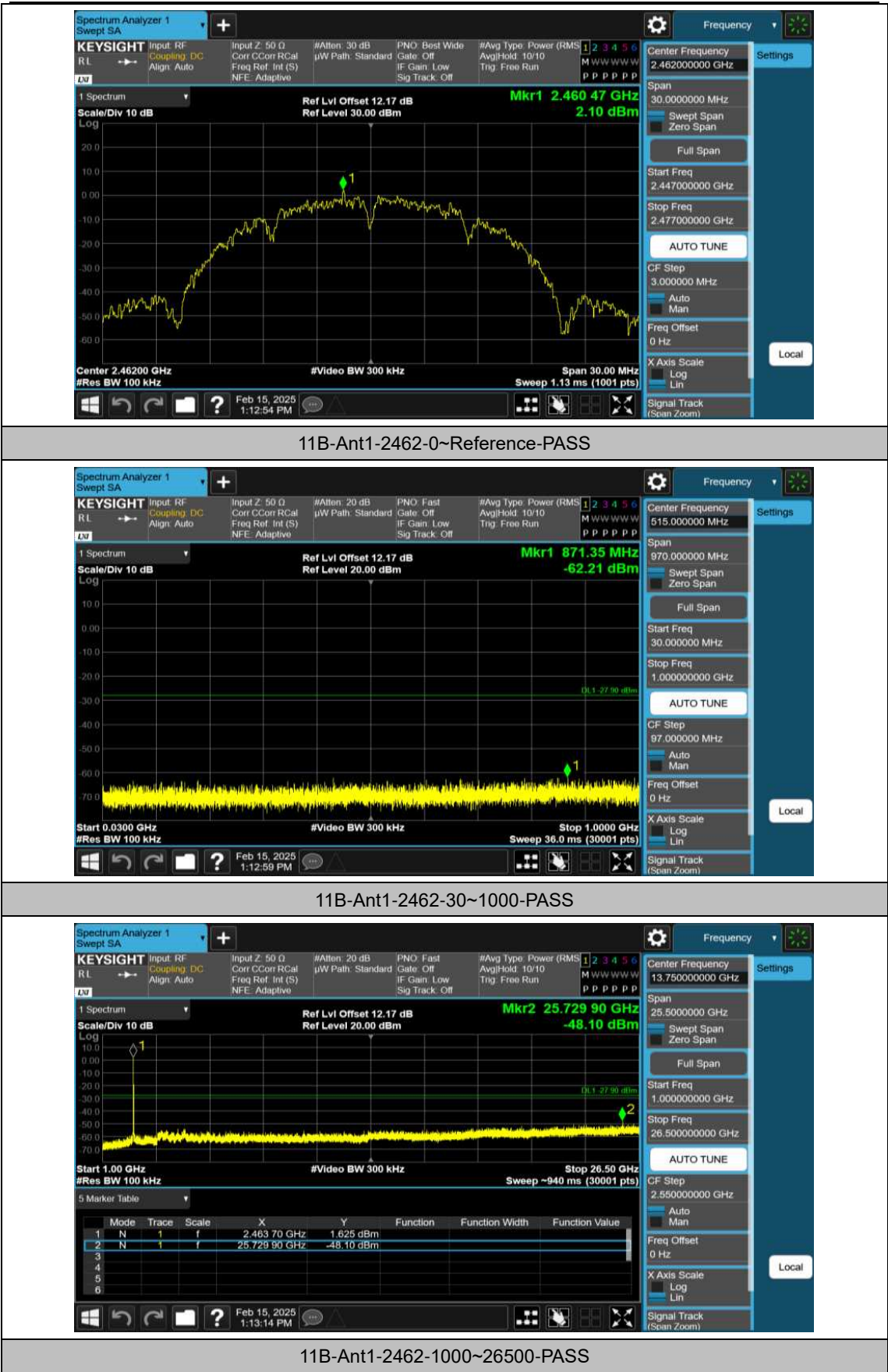
11B-Ant1-2437-0-Reference-PASS



11B-Ant1-2437-30~1000-PASS



11B-Ant1-2437-1000~26500-PASS



11B-Ant1-2462-0~Reference-PASS

Spectrum Analyzer 1

Swept SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCorr

RCal: Freq Ref

Int (S): NFE: Adaptive

#Atten: 20 dB

μW Path: Standard

PNO: Fast

Gate: Off

IF Gain: Low

Sig Track: Off

#Avg Type: Power (RMS)

Avg/Hold: 10/10

Trig: Free Run

1 2 3 4 5 6

M W W W W W

P P P P P P

Center Frequency

515.000000 MHz

Span

970.000000 MHz

Swept Span

Zero Span

Full Span

Start Freq

30.0000000 MHz

Stop Freq

1.000000000 GHz

AUTO TUNE

CF Step

97.000000 MHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

(Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Ref Lvl Offset 12.17 dB

Ref Level 20.00 dBm

Mkr1 871.35 MHz

-62.21 dBm

Start 0.0300 GHz

#Res BW 100 kHz

#Video BW 300 kHz

Stop 1.0000 GHz

Sweep 36.0 ms (30001 pts)

Feb 15, 2025

1:12:59 PM

11B-Ant1-2462-30~1000-PASS

Spectrum Analyzer 1

Swept SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCorr

RCal: Freq Ref

Int (S): NFE: Adaptive

#Atten: 20 dB

μW Path: Standard

PNO: Fast

Gate: Off

IF Gain: Low

Sig Track: Off

#Avg Type: Power (RMS)

Avg/Hold: 10/10

Trig: Free Run

1 2 3 4 5 6

M W W W W W

P P P P P P

Center Frequency

13.75000000 GHz

Span

25.5000000 GHz

Swept Span

Zero Span

Full Span

Start Freq

1.000000000 GHz

Stop Freq

26.500000000 GHz

AUTO TUNE

CF Step

2.550000000 GHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

(Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Ref Lvl Offset 12.17 dB

Ref Level 20.00 dBm

Mkr2 25.729 90 GHz

-48.10 dBm

Start 1.00 GHz

#Res BW 100 kHz

#Video BW 300 kHz

Stop 26.50 GHz

Sweep ~940 ms (30001 pts)

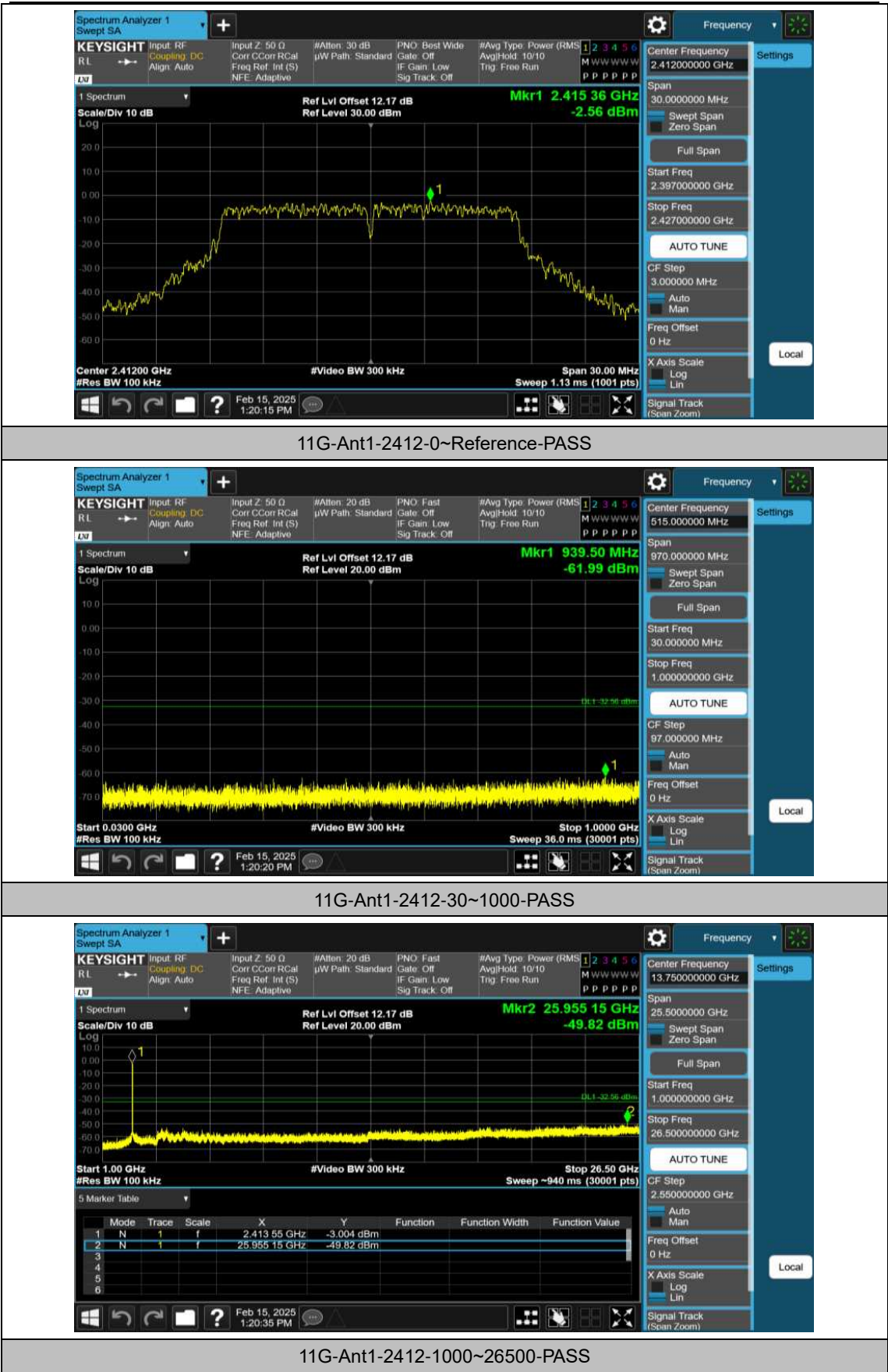
5 Marker Table

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.463 70 GHz	1.625 dBm		
2	N	1	f	25.729 90 GHz	-48.10 dBm		
3							
4							
5							
6							

Feb 15, 2025

1:13:14 PM

11B-Ant1-2462-1000~26500-PASS



11G-Ant1-2412-0~Reference-PASS

Spectrum Analyzer 1

Swept SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCorr

RCal

Freq Ref: Int (S)

NFE: Adaptive

#Atten: 20 dB

μW Path: Standard

PNO: Fast

Gate: Off

IF Gain: Low

Sig Track: Off

#Avg Type: Power (RMS)

Avg/Hold: 10/10

Trig: Free Run

1 2 3 4 5 6

M W W W W W

P P P P P P

Center Frequency

515.000000 MHz

Span

970.000000 MHz

Swept Span

Zero Span

Full Span

Start Freq

30.0000000 MHz

Stop Freq

1.000000000 GHz

AUTO TUNE

CF Step

97.000000 MHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

(Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Ref Lvl Offset 12.17 dB

Ref Level 20.00 dBm

Mkr1 939.50 MHz

-61.99 dBm

Start 0.0300 GHz

#Res BW 100 kHz

#Video BW 300 kHz

Stop 1.0000 GHz

Sweep 36.0 ms (30001 pts)

Feb 15, 2025

1:20:20 PM

11G-Ant1-2412-30~1000-PASS

Spectrum Analyzer 1

Swept SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCorr

RCal

Freq Ref: Int (S)

NFE: Adaptive

#Atten: 20 dB

μW Path: Standard

PNO: Fast

Gate: Off

IF Gain: Low

Sig Track: Off

#Avg Type: Power (RMS)

Avg/Hold: 10/10

Trig: Free Run

1 2 3 4 5 6

M W W W W W

P P P P P P

Center Frequency

13.75000000 GHz

Span

25.5000000 GHz

Swept Span

Zero Span

Full Span

Start Freq

1.000000000 GHz

Stop Freq

26.500000000 GHz

AUTO TUNE

CF Step

2.550000000 GHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

(Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Ref Lvl Offset 12.17 dB

Ref Level 20.00 dBm

Mkr2 25.955 15 GHz

-49.82 dBm

Start 1.00 GHz

#Res BW 100 kHz

#Video BW 300 kHz

Stop 26.50 GHz

Sweep ~940 ms (30001 pts)

5 Marker Table

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.413 55 GHz	-3.004 dBm		
2	N	1	f	25.955 15 GHz	-49.82 dBm		
3							
4							
5							
6							

Feb 15, 2025

1:20:35 PM

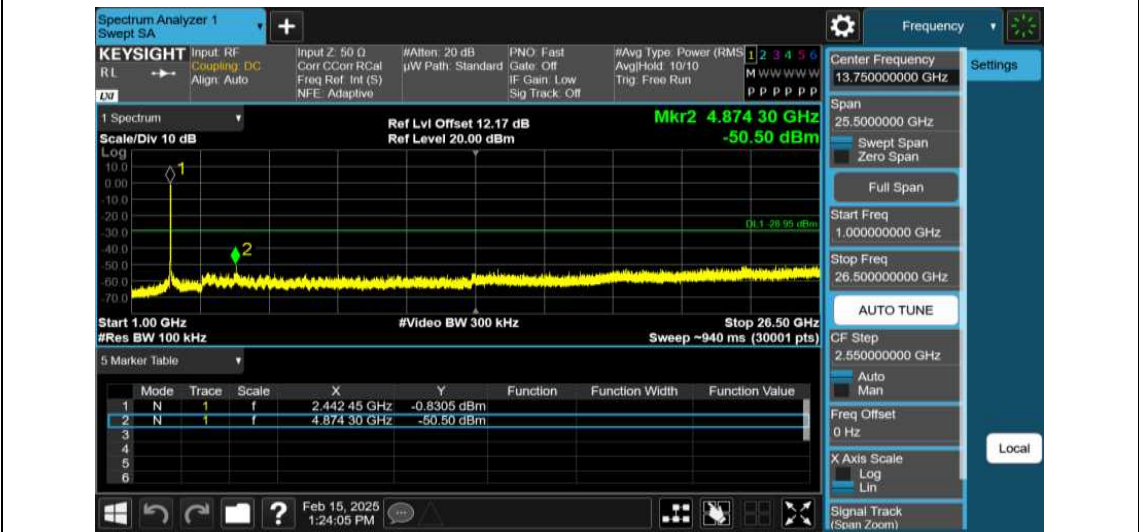
11G-Ant1-2412-1000~26500-PASS



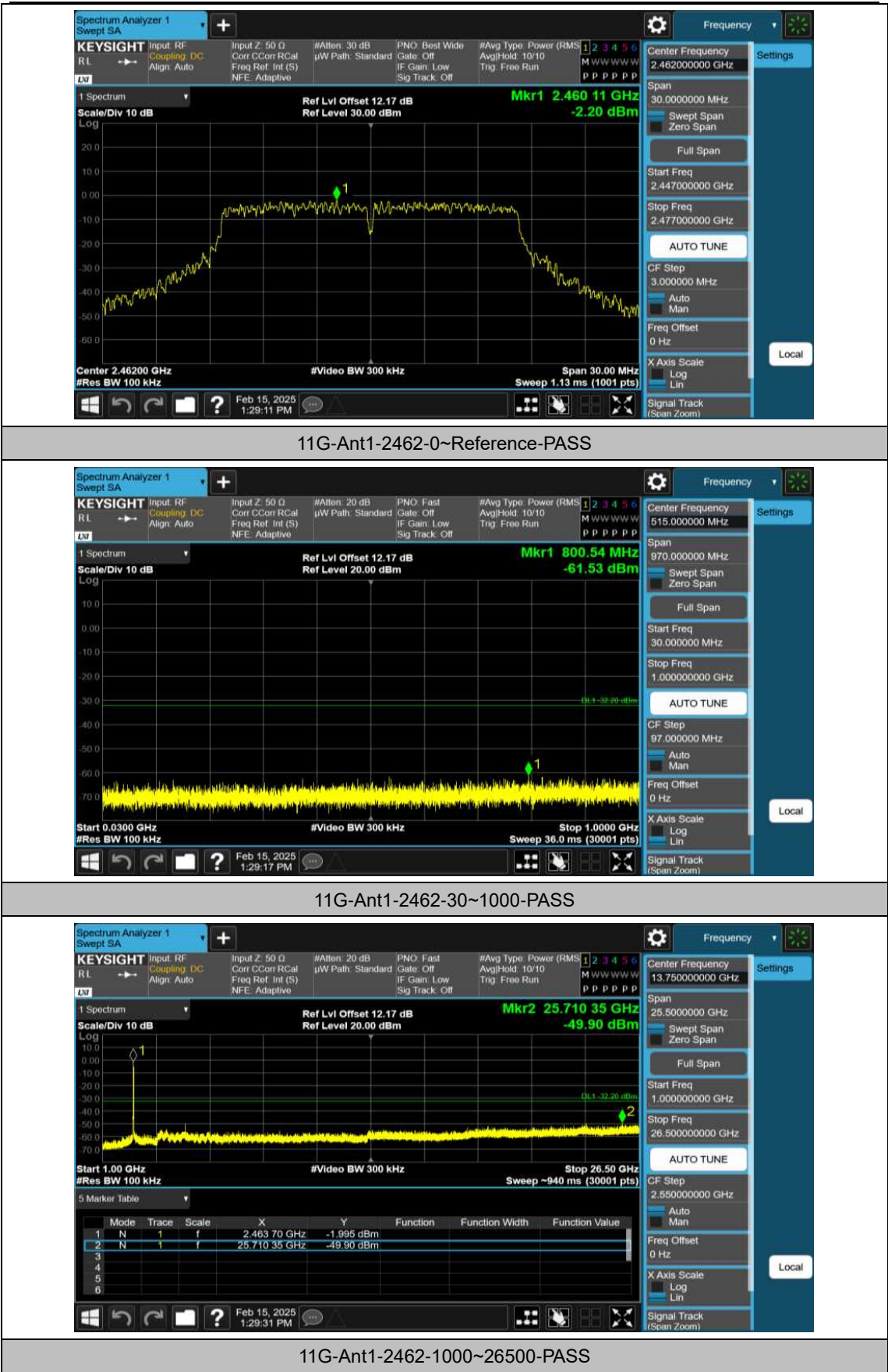
11G-Ant1-2437-0~Reference-PASS



11G-Ant1-2437-30~1000-PASS



11G-Ant1-2437-1000~26500-PASS



11G-Ant1-2462-0~Reference-PASS

Spectrum Analyzer 1

Swept SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCor: RCal

Freq Ref: Int (S)

NFE: Adaptive

#Atten: 20 dB

μW Path: Standard

IF Gain: Low

Sig Track: Off

PNO: Fast

Gate: Off

IF Gain: Low

Sig Track: Off

#Avg Type: Power (RMS)

Avg/Hold: 10/10

Trig: Free Run

1 2 3 4 5 6

M W W W W W

P P P P P P

Center Frequency

515.000000 MHz

Span

970.000000 MHz

Swept Span

Zero Span

Full Span

Start Freq

30.0000000 MHz

Stop Freq

1.000000000 GHz

AUTO TUNE

CF Step

97.000000 MHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

(Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Ref Lvl Offset 12.17 dB

Ref Level 20.00 dBm

Mkr1 800.54 MHz

-61.53 dBm

Start 0.0300 GHz

#Res BW 100 kHz

#Video BW 300 kHz

Stop 1.0000 GHz

Sweep 36.0 ms (30001 pts)

Feb 15, 2025

1:29:17 PM

11G-Ant1-2462-30~1000-PASS

Spectrum Analyzer 1

Swept SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCor: RCal

Freq Ref: Int (S)

NFE: Adaptive

#Atten: 20 dB

μW Path: Standard

IF Gain: Low

Sig Track: Off

PNO: Fast

Gate: Off

IF Gain: Low

Sig Track: Off

#Avg Type: Power (RMS)

Avg/Hold: 10/10

Trig: Free Run

1 2 3 4 5 6

M W W W W W

P P P P P P

Center Frequency

13.75000000 GHz

Span

25.5000000 GHz

Swept Span

Zero Span

Full Span

Start Freq

1.000000000 GHz

Stop Freq

26.500000000 GHz

AUTO TUNE

CF Step

2.550000000 GHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

(Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Ref Lvl Offset 12.17 dB

Ref Level 20.00 dBm

Mkr2 25.710 35 GHz

-49.90 dBm

Start 1.00 GHz

#Res BW 100 kHz

#Video BW 300 kHz

Stop 26.50 GHz

Sweep ~940 ms (30001 pts)

5 Marker Table

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.463 70 GHz	-1.995 dBm		
2	N	1	f	25.710 35 GHz	-49.90 dBm		
3							
4							
5							
6							

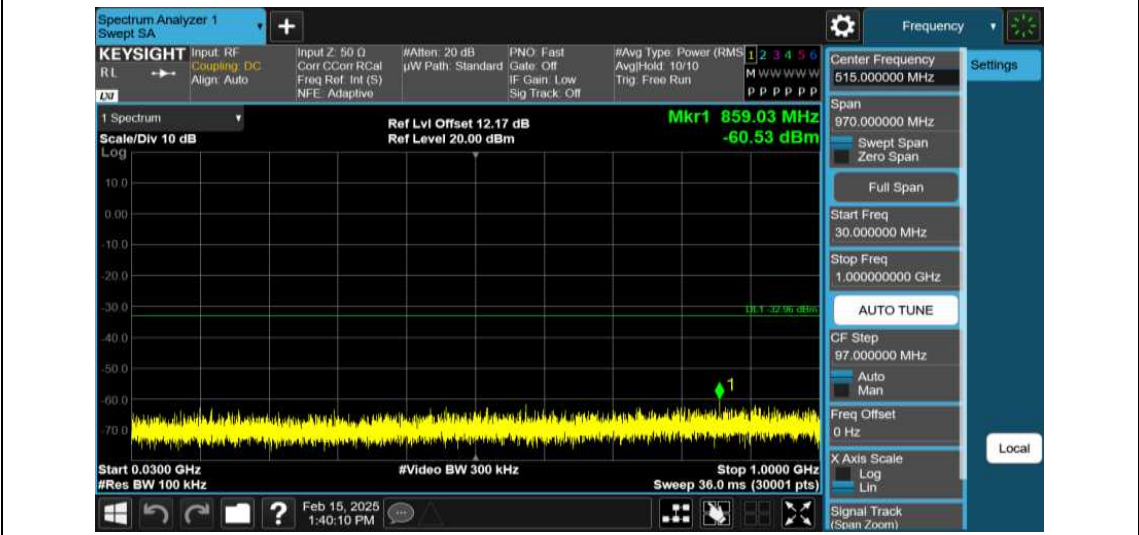
Feb 15, 2025

1:29:31 PM

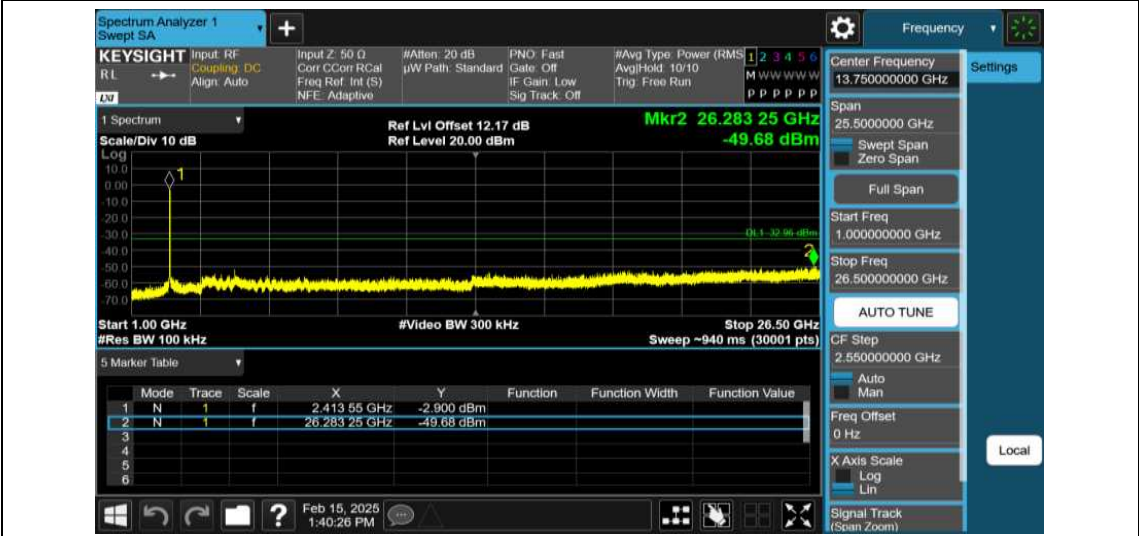
11G-Ant1-2462-1000~26500-PASS



11N20SISO-Ant1-2412-0~Reference-PASS



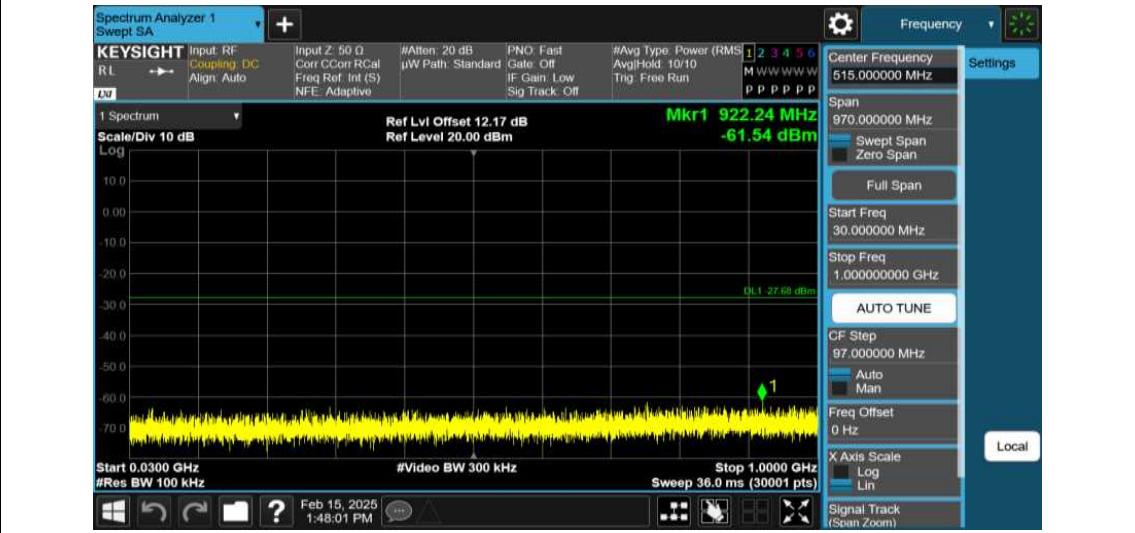
11N20SISO-Ant1-2412-30~1000-PASS



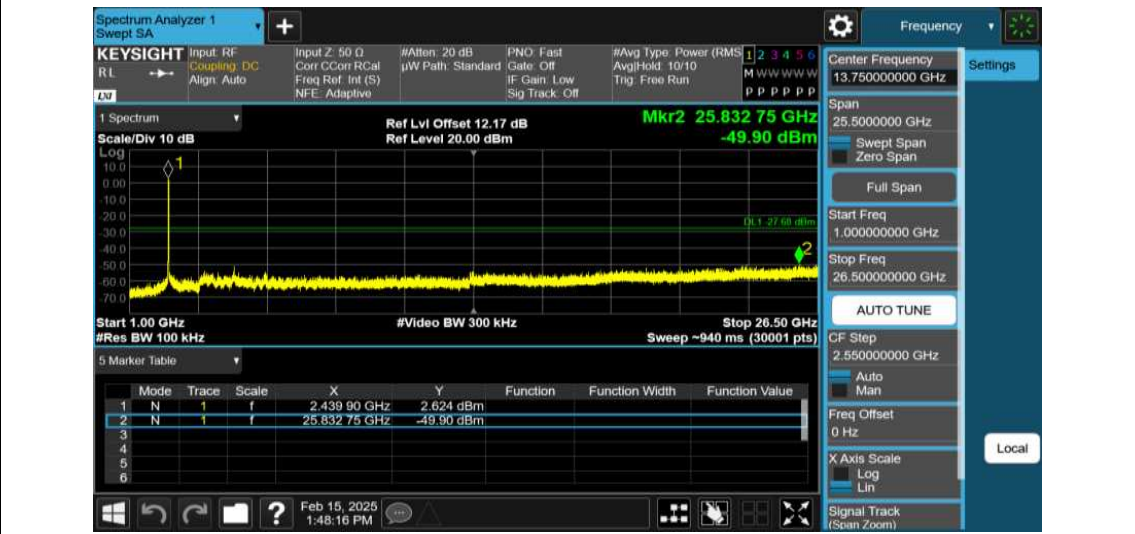
11N20SISO-Ant1-2412-1000~26500-PASS



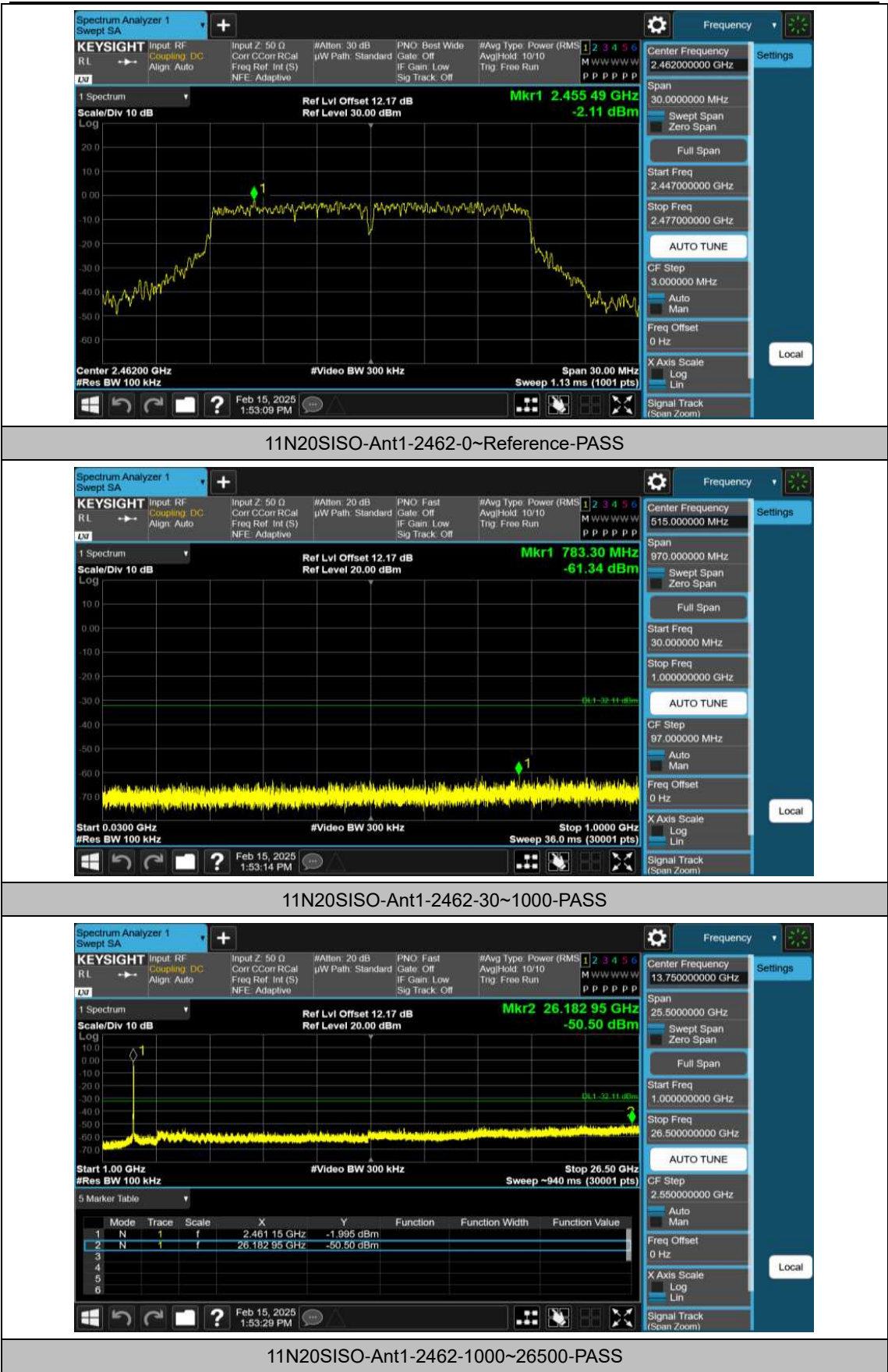
11N20SISO-Ant1-2437-0~Reference-PASS



11N20SISO-Ant1-2437-30~1000-PASS



11N20SISO-Ant1-2437-1000~26500-PASS



11N20SISO-Ant1-2462-0~Reference-PASS

Spectrum Analyzer 1

Swept SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCorr

RCal: Freq Ref

Int (S): NFE: Adaptive

#Atten: 20 dB

μW Path: Standard

Gate: Off

IF Gain: Low

Sig Track: Off

PNO: Fast

#Avg Type: Power (RMS)

Avg/Hold: 10/10

Trig: Free Run

1 2 3 4 5 6

M W W W W W

P P P P P P

Center Frequency

515.000000 MHz

Span

970.000000 MHz

Swept Span

Zero Span

Full Span

Start Freq

30.0000000 MHz

Stop Freq

1.000000000 GHz

AUTO TUNE

CF Step

97.000000 MHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

(Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Ref Lvl Offset 12.17 dB

Ref Level 20.00 dBm

Mkr1 783.30 MHz

-61.34 dBm

Start 0.0300 GHz

#Res BW 100 kHz

#Video BW 300 kHz

Stop 1.0000 GHz

Sweep 36.0 ms (30001 pts)

Feb 15, 2025

1:53:14 PM

11N20SISO-Ant1-2462-30~1000-PASS

Spectrum Analyzer 1

Swept SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCorr

RCal: Freq Ref

Int (S): NFE: Adaptive

#Atten: 20 dB

μW Path: Standard

Gate: Off

IF Gain: Low

Sig Track: Off

PNO: Fast

#Avg Type: Power (RMS)

Avg/Hold: 10/10

Trig: Free Run

1 2 3 4 5 6

M W W W W W

P P P P P P

Center Frequency

13.75000000 GHz

Span

25.5000000 GHz

Swept Span

Zero Span

Full Span

Start Freq

1.000000000 GHz

Stop Freq

26.500000000 GHz

AUTO TUNE

CF Step

2.550000000 GHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

(Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Ref Lvl Offset 12.17 dB

Ref Level 20.00 dBm

Mkr2 26.182 95 GHz

-50.50 dBm

Start 1.00 GHz

#Res BW 100 kHz

#Video BW 300 kHz

Stop 26.50 GHz

Sweep ~940 ms (30001 pts)

5 Marker Table

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.461 15 GHz	-1.995 dBm		
2	N	1	f	26.182 95 GHz	-50.50 dBm		
3							
4							
5							
6							

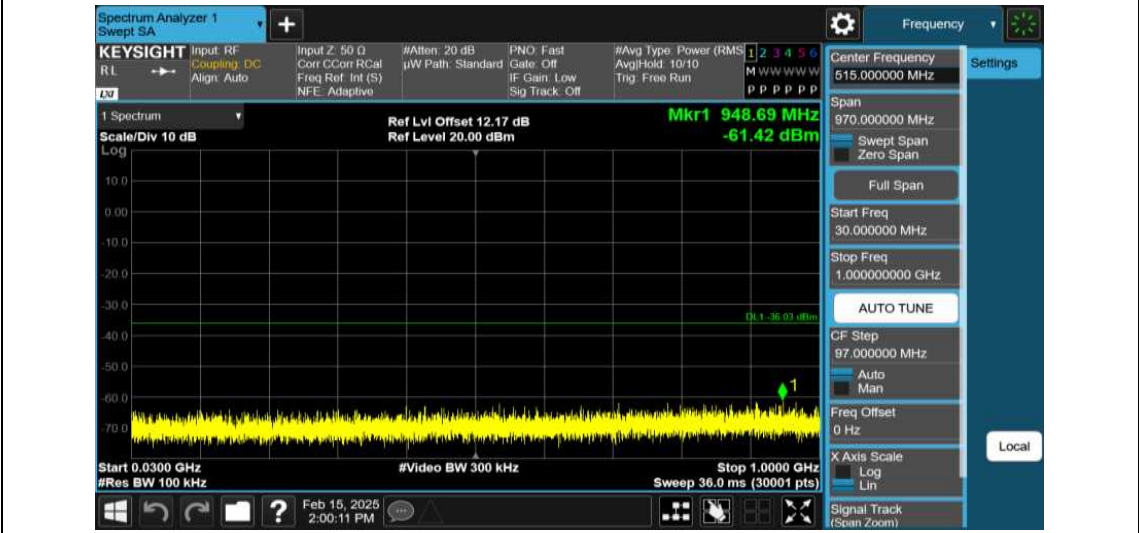
Feb 15, 2025

1:53:29 PM

11N20SISO-Ant1-2462-1000~26500-PASS



11N40SISO-Ant1-2422-0~Reference-PASS



11N40SISO-Ant1-2422-30~1000-PASS



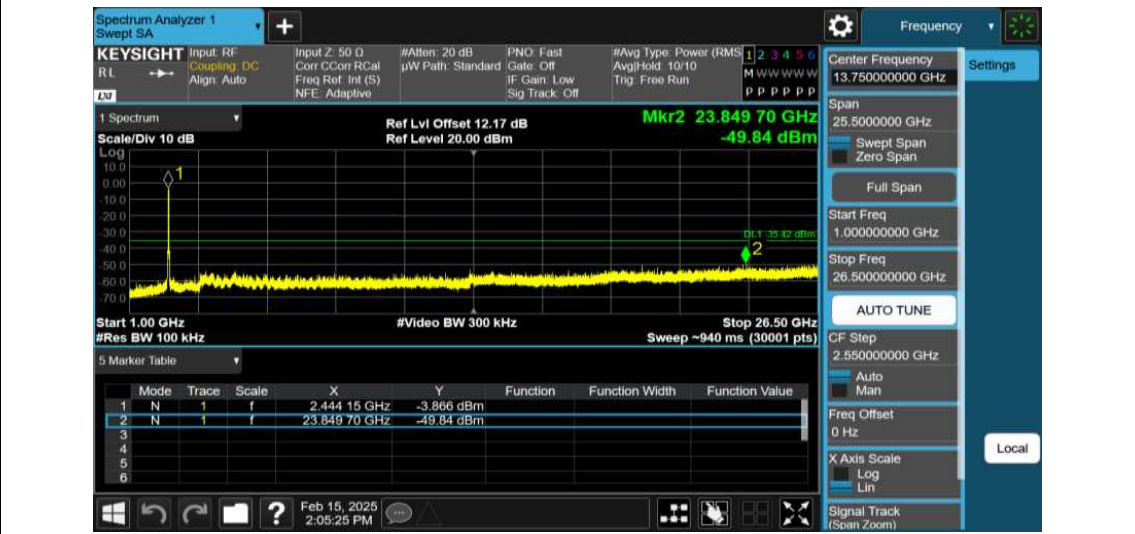
11N40SISO-Ant1-2422-1000~26500-PASS



11N40SISO-Ant1-2437-0~Reference-PASS



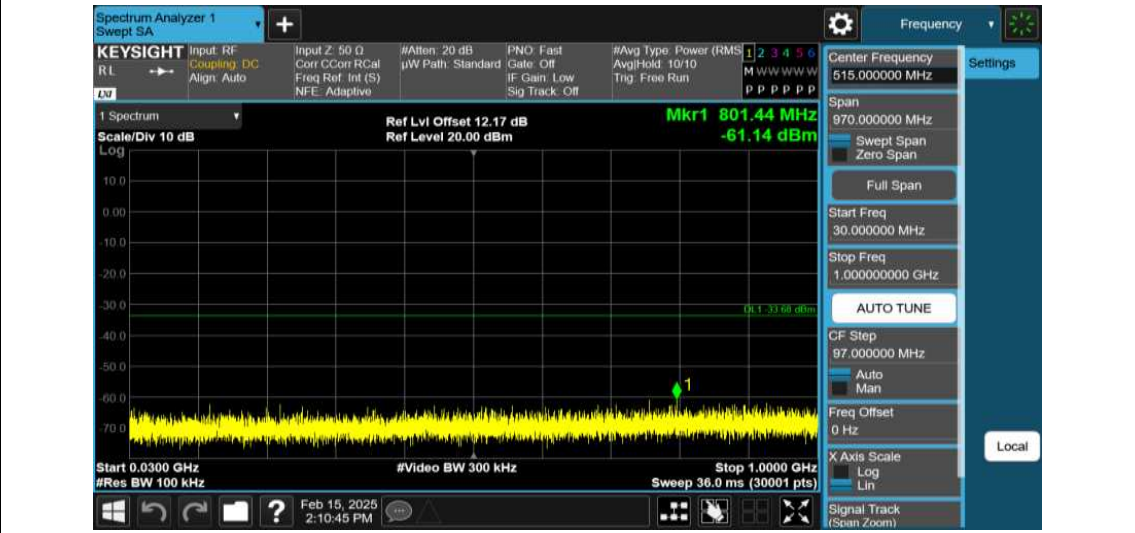
11N40SISO-Ant1-2437-30~1000-PASS



11N40SISO-Ant1-2437-1000~26500-PASS



11N40SISO-Ant1-2452-0~Reference-PASS



11N40SISO-Ant1-2452-30~1000-PASS



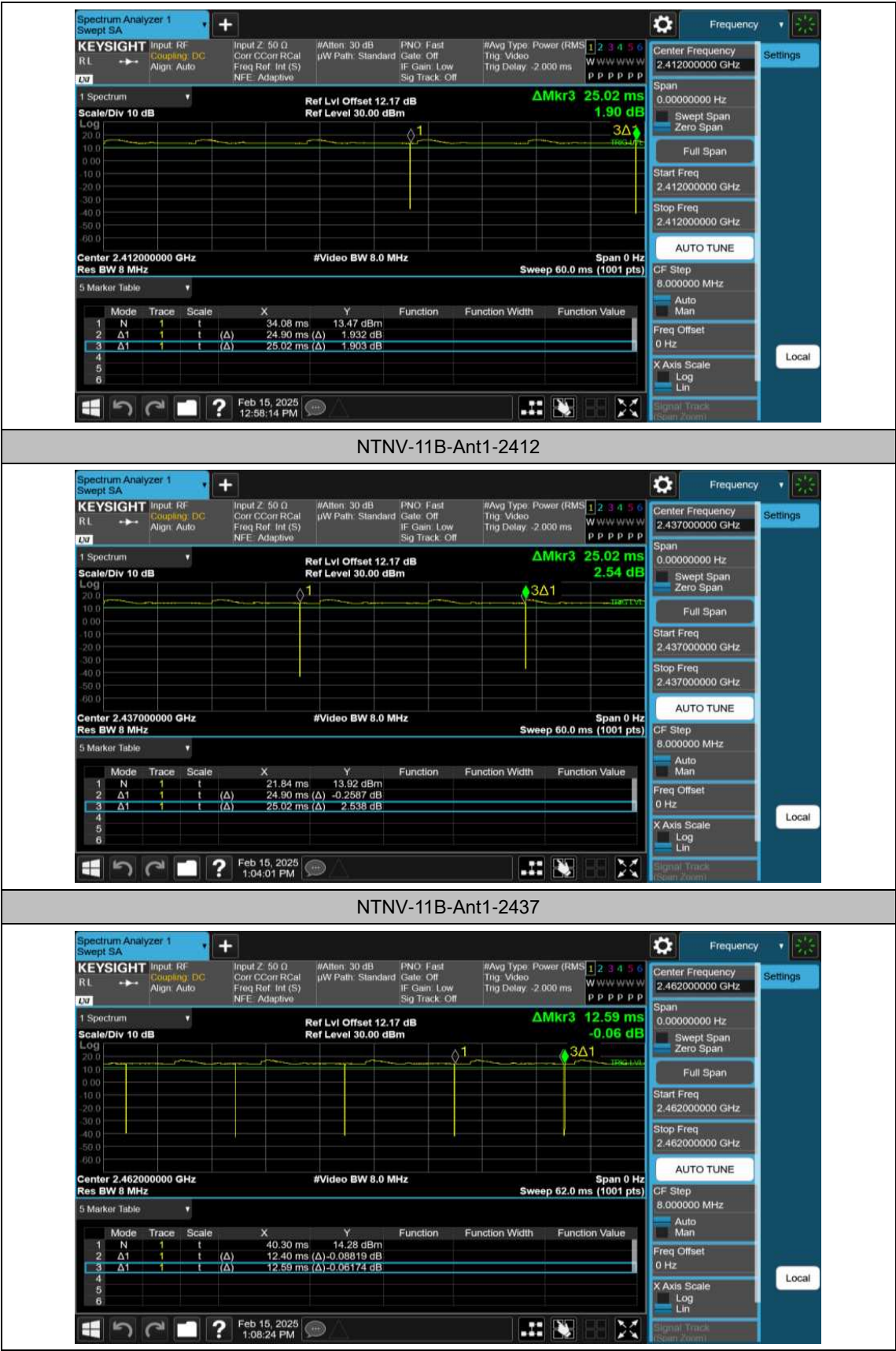
11N40SISO-Ant1-2452-1000~26500-PASS

Duty Cycle

Test Result

TestMode	Antenna	Frequency [MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Factor
11B	Ant1	2412	24.90	25.02	99.52	0.02
11B	Ant1	2437	24.90	25.02	99.52	0.02
11B	Ant1	2462	12.40	12.59	98.49	0.07
11G	Ant1	2412	0.00	0.00	100	NaN
11G	Ant1	2437	2.07	2.22	93.24	0.30
11G	Ant1	2462	0.00	0.00	100	NaN
11N20SISO	Ant1	2412	1.92	2.07	92.75	0.33
11N20SISO	Ant1	2437	1.92	2.03	94.58	0.24
11N20SISO	Ant1	2462	1.92	2.03	94.58	0.24
11N40SISO	Ant1	2422	0.94	1.04	90.38	0.44
11N40SISO	Ant1	2437	0.94	1.04	90.38	0.44
11N40SISO	Ant1	2452	0.95	1.02	93.14	0.31

Test Graphs



NTNV-11B-Ant1-2412

Spectrum Analyzer 1

Swept SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCorr RCal

Freq Ref: Int (S)

NFE: Adaptive

#Atten: 30 dB

μ W Path: Standard

PNO: Fast

Gate: Off

IF Gain: Low

Sig Track: Off

#Avg Type: Power (RMS)

Trig: Video

Trig Delay: -2.000 ms

1 2 3 4 5 6

W W W W W W

P P P P P P

Center Frequency

2.437000000 GHz

Span

0.00000000 Hz

Swept Span

Zero Span

Full Span

Start Freq

2.437000000 GHz

Stop Freq

2.437000000 GHz

AUTO TUNE

CF Step

8.000000 MHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

None Zoom

Local

1 Spectrum

Scale/Div 10 dB

Ref Lvl Offset 12.17 dB

Ref Level 30.00 dBm

Δ Mkr3 25.02 ms

2.54 dB

3 Δ 1

Center 2.437000000 GHz

#Video BW 8.0 MHz

Span 0 Hz

Res BW 8 MHz

Sweep 60.0 ms (1001 pts)

5 Marker Table

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	t	21.84 ms	13.92 dBm		
2	Δ 1	1	t	(Δ) 24.90 ms (Δ)	-0.2587 dB		
3	Δ 1	1	t	(Δ) 25.02 ms (Δ)	2.538 dB		
4							
5							
6							

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1:04:01 PM

NTNV-11B-Ant1-2437

Spectrum Analyzer 1

Swept SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCorr RCal

Freq Ref: Int (S)

NFE: Adaptive

#Atten: 30 dB

μ W Path: Standard

PNO: Fast

Gate: Off

IF Gain: Low

Sig Track: Off

#Avg Type: Power (RMS)

Trig: Video

Trig Delay: -2.000 ms

1 2 3 4 5 6

W W W W W W

P P P P P P

Center Frequency

2.462000000 GHz

Span

0.00000000 Hz

Swept Span

Zero Span

Full Span

Start Freq

2.462000000 GHz

Stop Freq

2.462000000 GHz

AUTO TUNE

CF Step

8.000000 MHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

None Zoom

Local

1 Spectrum

Scale/Div 10 dB

Ref Lvl Offset 12.17 dB

Ref Level 30.00 dBm

Δ Mkr3 12.59 ms

-0.06 dB

3 Δ 1

Center 2.462000000 GHz

#Video BW 8.0 MHz

Span 0 Hz

Res BW 8 MHz

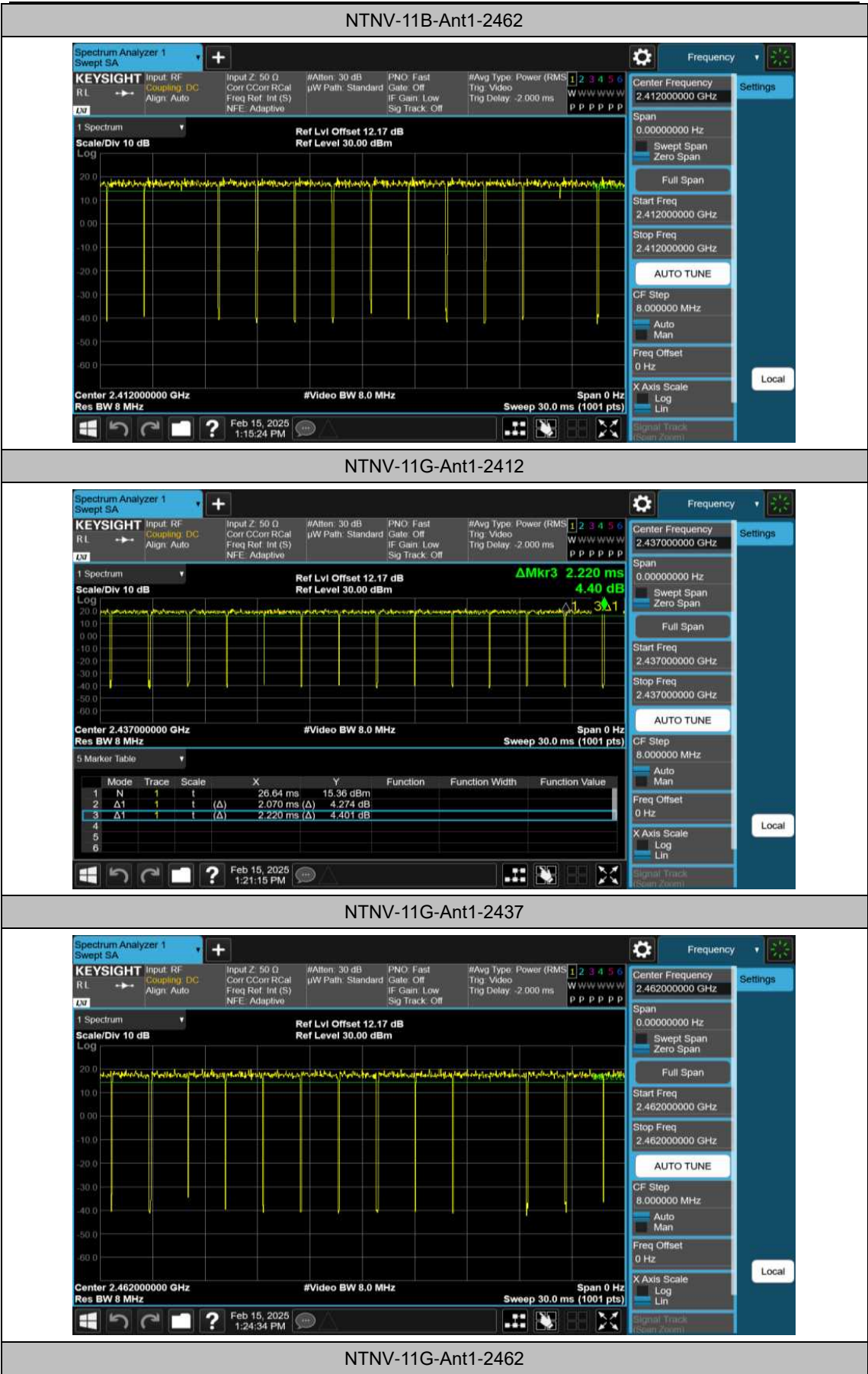
Sweep 62.0 ms (1001 pts)

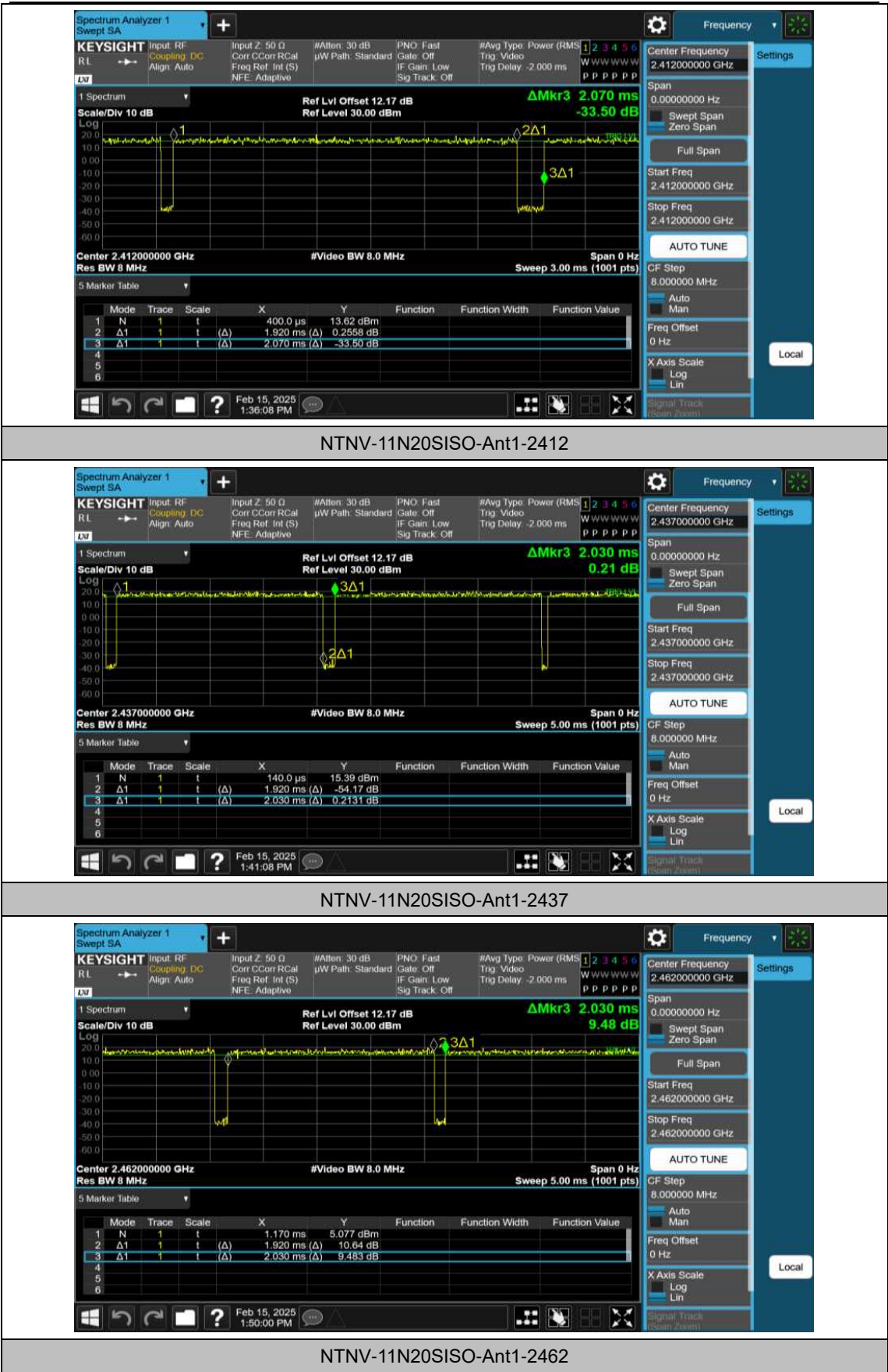
5 Marker Table

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	t	40.30 ms	14.28 dBm		
2	Δ 1	1	t	(Δ) 12.40 ms (Δ)	-0.08819 dB		
3	Δ 1	1	t	(Δ) 12.59 ms (Δ)	-0.06174 dB		
4							
5							
6							

Feb 15, 2025

1:08:24 PM





NTNV-11N20SISO-Ant1-2412

Spectrum Analyzer 1

Swept SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCor: RCal

Freq Ref: Int (S)

NFE: Adaptive

#Atten: 30 dB

μ W Path: Standard

PNO: Fast

Gate: Off

IF Gain: Low

Sig Track: Off

#Avg Type: Power (RMS)

Trig: Video

Trig Delay: -2.000 ms

1 2 3 4 5 6

W W W W W W

P P P P P P

Center Frequency

2.437000000 GHz

Span

0.00000000 Hz

Swept Span

Zero Span

Full Span

Start Freq

2.437000000 GHz

Stop Freq

2.437000000 GHz

AUTO TUNE

CF Step

8.000000 MHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

None (Zero)

Local

1 Spectrum

Scale/Div 10 dB

Ref Lvl Offset 12.17 dB

Ref Level 30.00 dBm

Δ Mkr3 2.030 ms

0.21 dB

Center 2.437000000 GHz

#Video BW 8.0 MHz

Span 0 Hz

Res BW 8 MHz

Sweep 5.00 ms (1001 pts)

5 Marker Table

	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	t	140.0 μ s	15.39 dBm			
2	Δ 1	1	t	(Δ) 1.920 ms	(Δ) -54.17 dB			
3	Δ 1	1	t	(Δ) 2.030 ms	(Δ) 0.2131 dB			
4								
5								
6								

Feb 15, 2025

1:41:08 PM

NTNV-11N20SISO-Ant1-2437

Spectrum Analyzer 1

Swept SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCor: RCal

Freq Ref: Int (S)

NFE: Adaptive

#Atten: 30 dB

μ W Path: Standard

PNO: Fast

Gate: Off

IF Gain: Low

Sig Track: Off

#Avg Type: Power (RMS)

Trig: Video

Trig Delay: -2.000 ms

1 2 3 4 5 6

W W W W W W

P P P P P P

Center Frequency

2.462000000 GHz

Span

0.00000000 Hz

Swept Span

Zero Span

Full Span

Start Freq

2.462000000 GHz

Stop Freq

2.462000000 GHz

AUTO TUNE

CF Step

8.000000 MHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

None (Zero)

Local

1 Spectrum

Scale/Div 10 dB

Ref Lvl Offset 12.17 dB

Ref Level 30.00 dBm

Δ Mkr3 2.030 ms

9.48 dB

Center 2.462000000 GHz

#Video BW 8.0 MHz

Span 0 Hz

Res BW 8 MHz

Sweep 5.00 ms (1001 pts)

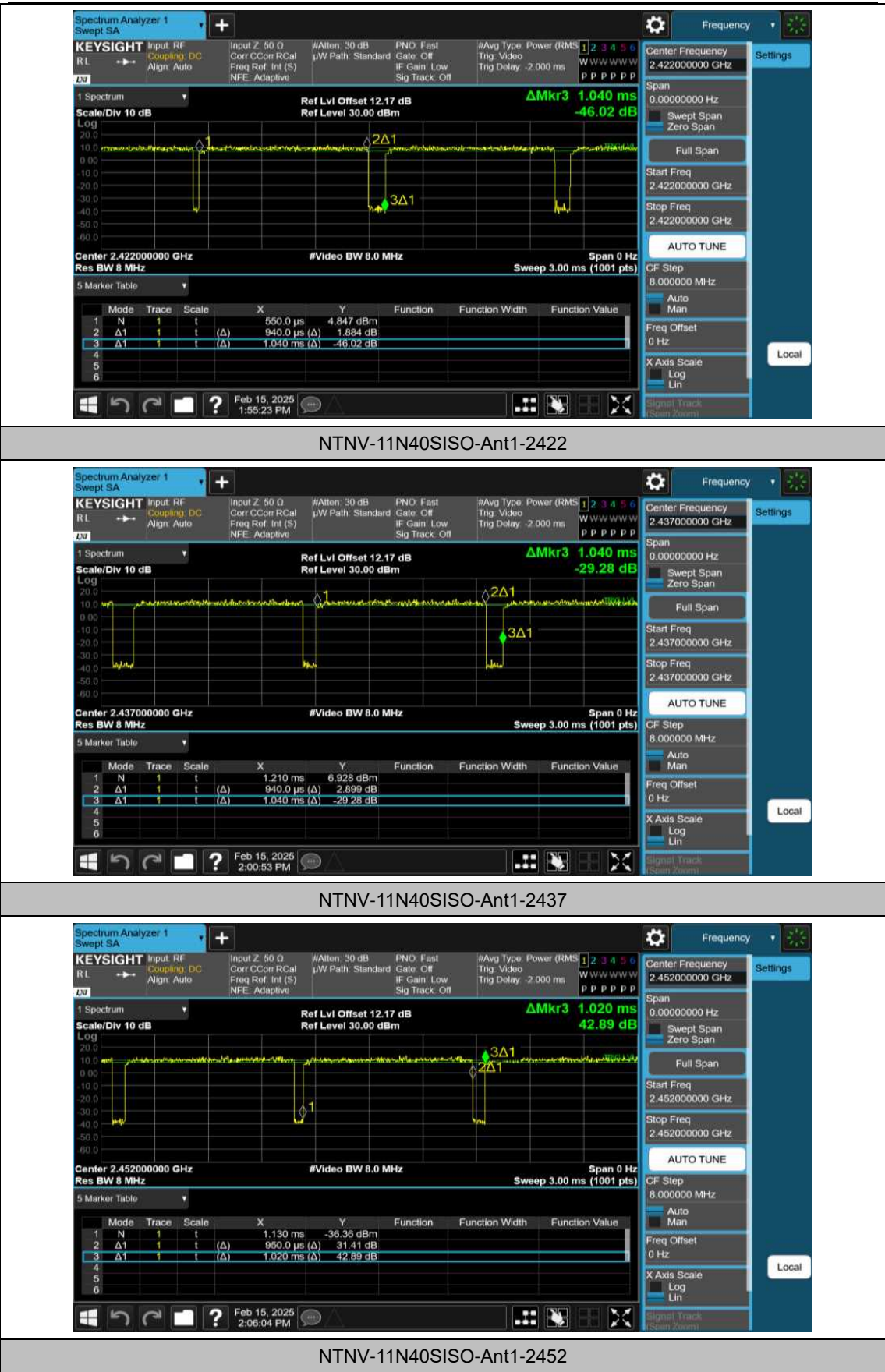
5 Marker Table

	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	t	1.170 ms	5.077 dBm			
2	Δ 1	1	t	(Δ) 1.920 ms	(Δ) 10.64 dB			
3	Δ 1	1	t	(Δ) 2.030 ms	(Δ) 9.483 dB			
4								
5								
6								

Feb 15, 2025

1:50:00 PM

NTNV-11N20SISO-Ant1-2462



NTNV-11N40SISO-Ant1-2422

Spectrum Analyzer 1

Sweep SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCor

RCal

Freq Ref: Int (S)

NFE: Adaptive

#Atten: 30 dB

μ W Path: Standard

PNO: Fast

Gate: Off

IF Gain: Low

Sig Track: Off

#Avg Type: Power (RMS)

Trig: Video

Trig Delay: -2.000 ms

1 2 3 4 5 6

W W W W W W

P P P P P P

Center Frequency

2.437000000 GHz

Span

0.00000000 Hz

Swept Span

Zero Span

Full Span

Start Freq

2.437000000 GHz

Stop Freq

2.437000000 GHz

AUTO TUNE

CF Step

8.000000 MHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

Root (Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Ref Lvl Offset 12.17 dB

Ref Level 30.00 dBm

Δ Mkr3 1.040 ms

-29.28 dB

Center 2.437000000 GHz

#Video BW 8.0 MHz

Span 0 Hz

Res BW 8 MHz

Sweep 3.00 ms (1001 pts)

5 Marker Table

	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	t	1.210 ms	6.928 dBm			
2	Δ 1	1	t	(Δ) 940.0 μ s (Δ)	2.899 dB			
3	Δ 1	1	t	(Δ) 1.040 ms (Δ)	-29.28 dB			
4								
5								
6								

Feb 15, 2025

2:00:53 PM

NTNV-11N40SISO-Ant1-2437

Spectrum Analyzer 1

Sweep SA

KEYSIGHT

Input: RF

Coupling: DC

Align: Auto

Input Z: 50 Ω

Corr: CCor

RCal

Freq Ref: Int (S)

NFE: Adaptive

#Atten: 30 dB

μ W Path: Standard

PNO: Fast

Gate: Off

IF Gain: Low

Sig Track: Off

#Avg Type: Power (RMS)

Trig: Video

Trig Delay: -2.000 ms

1 2 3 4 5 6

W W W W W W

P P P P P P

Center Frequency

2.452000000 GHz

Span

0.00000000 Hz

Swept Span

Zero Span

Full Span

Start Freq

2.452000000 GHz

Stop Freq

2.452000000 GHz

AUTO TUNE

CF Step

8.000000 MHz

Auto

Man

Freq Offset

0 Hz

X Axis Scale

Log

Lin

Signal Track

Root (Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Ref Lvl Offset 12.17 dB

Ref Level 30.00 dBm

Δ Mkr3 1.020 ms

42.89 dB

Center 2.452000000 GHz

#Video BW 8.0 MHz

Span 0 Hz

Res BW 8 MHz

Sweep 3.00 ms (1001 pts)

5 Marker Table

	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	t	1.130 ms	-36.36 dBm			
2	Δ 1	1	t	(Δ) 950.0 μ s (Δ)	31.41 dB			
3	Δ 1	1	t	(Δ) 1.020 ms (Δ)	42.89 dB			
4								
5								
6								

Feb 15, 2025

2:06:04 PM

NTNV-11N40SISO-Ant1-2452