

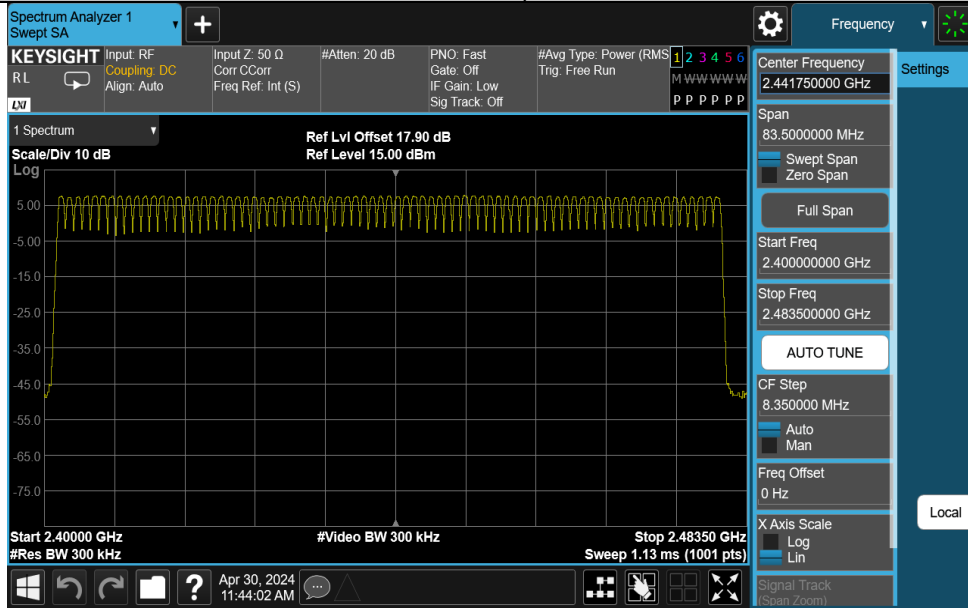


Appendix E: Number of hopping channels
Test Result

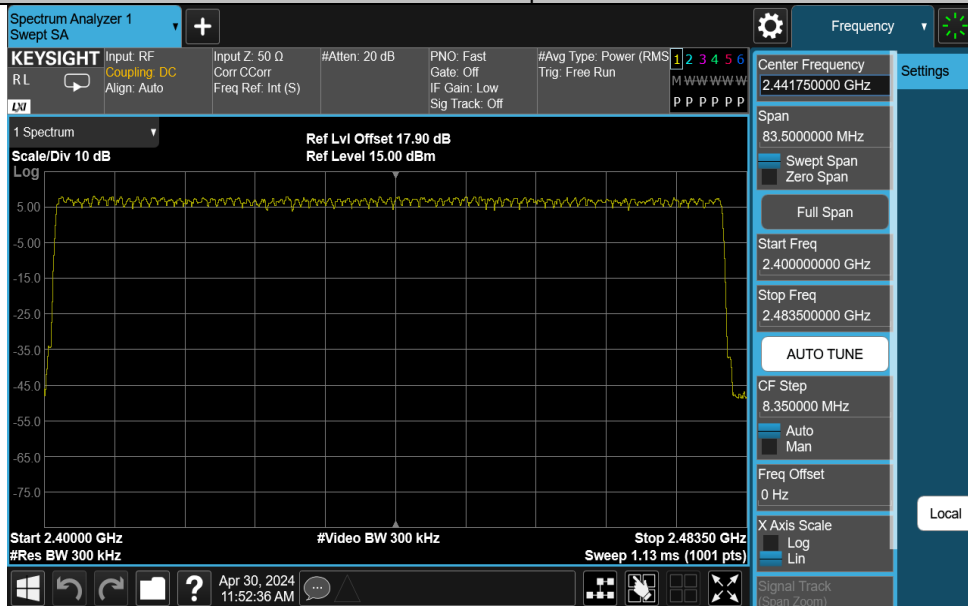
TestMode	Antenna	Frequency[MHz]	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

Test Graphs

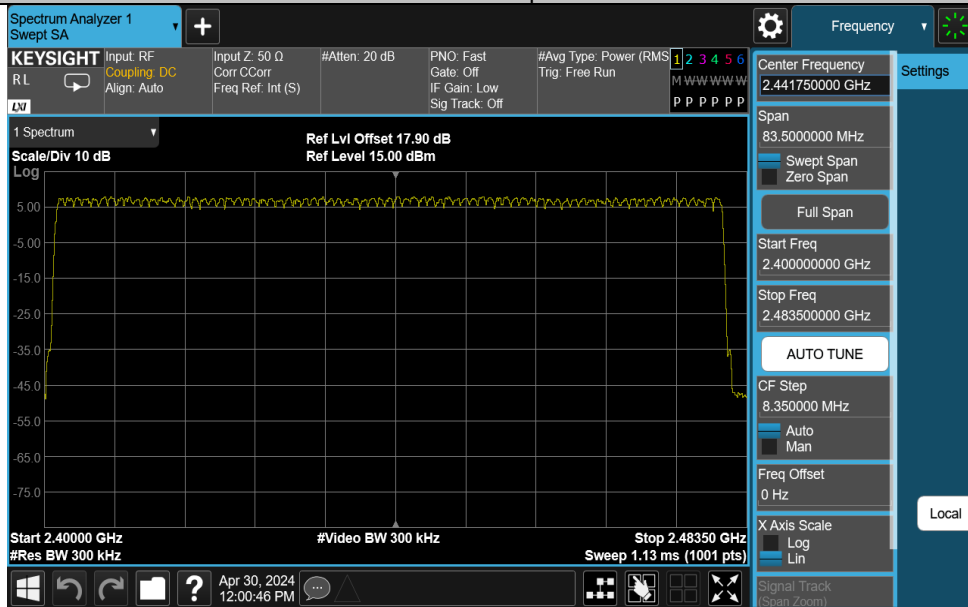
DH5-Ant1-Hop-PASS



2DH5-Ant1-Hop-PASS



3DH5-Ant1-Hop-PASS



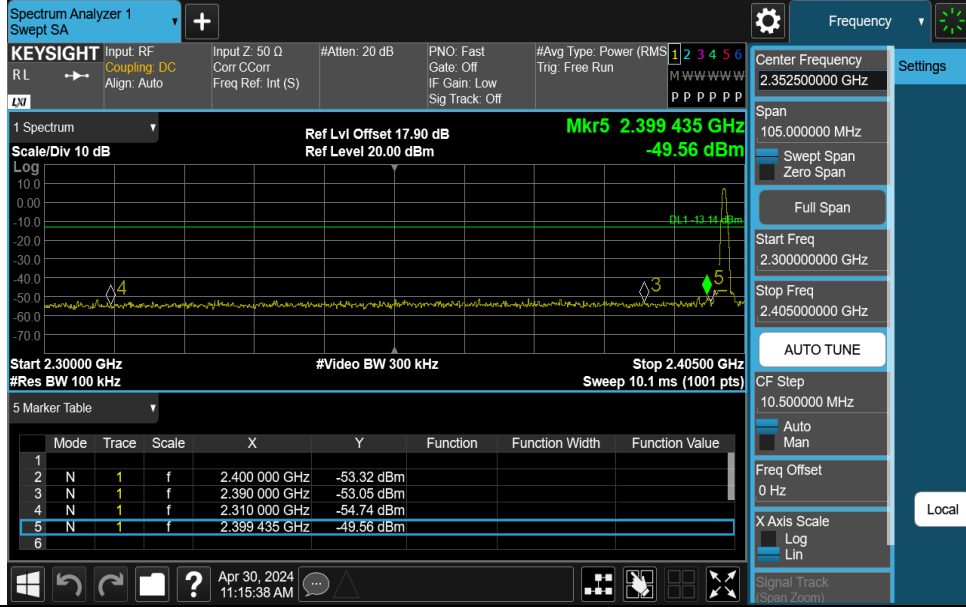
Appendix F: Band edge measurements

Test Result

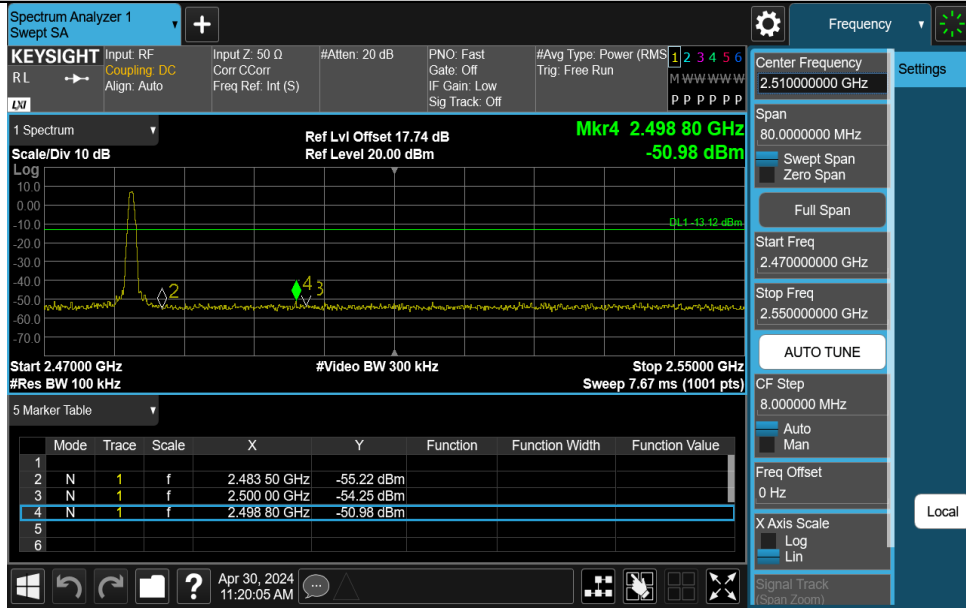
Test Mode	Antenna	ChName	Frequency[MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	6.86	-49.56	≤ -13.14	PASS
DH5	Ant1	High	2480	6.88	-50.98	≤ -13.12	PASS
DH5	Ant1	Low	Hop_2402	6.62	-48.18	≤ -13.38	PASS
DH5	Ant1	High	Hop_2480	6.66	-50.74	≤ -13.34	PASS
2DH5	Ant1	Low	2402	6.50	-50.38	≤ -13.5	PASS
2DH5	Ant1	High	2480	5.43	-51.21	≤ -14.57	PASS
2DH5	Ant1	Low	Hop_2402	5.38	-49.25	≤ -14.62	PASS
2DH5	Ant1	High	Hop_2480	5.41	-50.87	≤ -14.59	PASS
3DH5	Ant1	Low	2402	7.20	-47.23	≤ -12.8	PASS
3DH5	Ant1	High	2480	5.33	-51.48	≤ -14.67	PASS
3DH5	Ant1	Low	Hop_2402	5.26	-50.98	≤ -14.74	PASS
3DH5	Ant1	High	Hop_2480	5.76	-50.72	≤ -14.24	PASS

Test Graphs

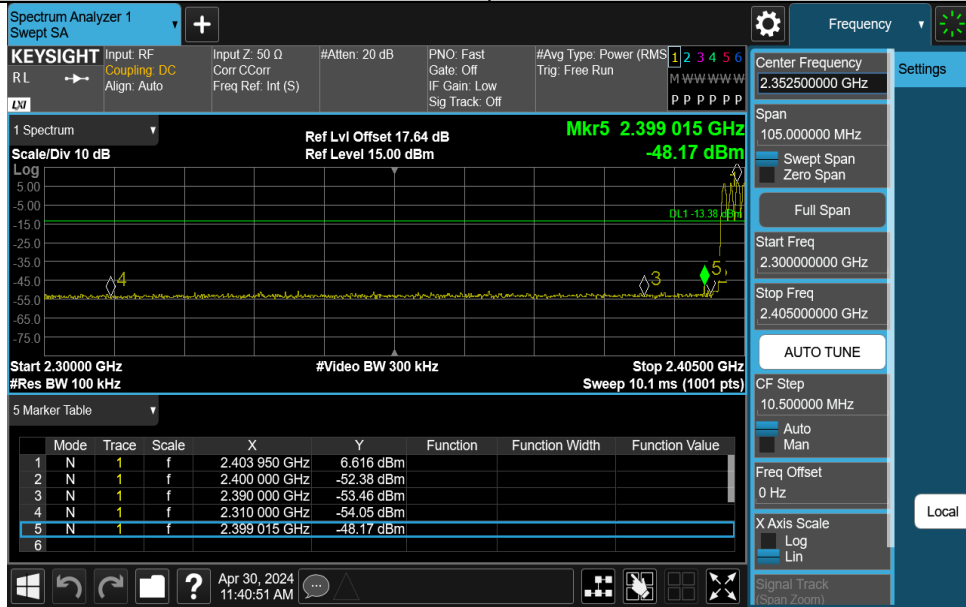
DH5-Ant1-2402-PASS



DH5-Ant1-2480-PASS



DH5-Ant1-Hop_2402-PASS



DH5-Ant1-Hop_2480-PASS

Spectrum Analyzer 1
Swept SA

KEYSIGHT Input: RF Coupling: DC Align: Auto Input Z: 50 Ω Corr: C Corr Freq Ref: Int (S) #Atten: 20 dB PNO: Fast Gate: Off IF Gain: Low Sig Track: Off #Avg Type: Power (RMS) Trig: Free Run

Center Frequency: 2.510000000 GHz
Span: 80.0000000 MHz
Start Freq: 2.470000000 GHz
Stop Freq: 2.550000000 GHz
AUTO TUNE

1 Spectrum
Scale/Div 10 dB
Ref Lvl Offset 17.69 dB
Ref Level 15.00 dBm
Mkr4 2.535 60 GHz
-50.74 dBm

Start 2.47000 GHz #Video BW 300 kHz Stop 2.55000 GHz
#Res BW 100 kHz Sweep 7.67 ms (1001 pts)

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	2.474 16 GHz	6.658 dBm			
2	N	1	2.483 50 GHz	-53.15 dBm			
3	N	1	2.500 00 GHz	-53.07 dBm			
4	N	1	2.535 60 GHz	-50.74 dBm			
5							
6							

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2DH5-Ant1-2402-PASS

Spectrum Analyzer 1
Swept SA

KEYSIGHT Input: RF Coupling: DC Align: Auto Input Z: 50 Ω Corr: C Corr Freq Ref: Int (S) #Atten: 20 dB PNO: Fast Gate: Off IF Gain: Low Sig Track: Off #Avg Type: Power (RMS) Trig: Free Run

Center Frequency: 2.352500000 GHz
Span: 105.0000000 MHz
Start Freq: 2.300000000 GHz
Stop Freq: 2.405000000 GHz
AUTO TUNE

1 Spectrum
Scale/Div 10 dB
Ref Lvl Offset 17.90 dB
Ref Level 20.00 dBm
Mkr5 2.399 435 GHz
-50.38 dBm

Start 2.30000 GHz #Video BW 300 kHz Stop 2.40500 GHz
#Res BW 100 kHz Sweep 10.1 ms (1001 pts)

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1							
2	N	1	2.400 000 GHz	-53.18 dBm			
3	N	1	2.380 000 GHz	-55.12 dBm			
4	N	1	2.310 000 GHz	-54.20 dBm			
5	N	1	2.399 435 GHz	-50.38 dBm			
6							

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2DH5-Ant1-2480-PASS

Spectrum Analyzer 1
Swept SA

KEYSIGHT Input: RF Coupling: DC Align: Auto Input Z: 50 Ω Corr: C Corr Freq Ref: Int (S) #Atten: 20 dB PNO: Fast Gate: Off IF Gain: Low Sig Track: Off #Avg Type: Power (RMS) Trig: Free Run

Center Frequency: 2.510000000 GHz
Span: 80.0000000 MHz
Start Freq: 2.470000000 GHz
Stop Freq: 2.550000000 GHz
AUTO TUNE

1 Spectrum
Scale/Div 10 dB
Ref Lvl Offset 17.74 dB
Ref Level 20.00 dBm
Mkr4 2.524 08 GHz
-51.21 dBm

Start 2.47000 GHz #Video BW 300 kHz Stop 2.55000 GHz
#Res BW 100 kHz Sweep 7.67 ms (1001 pts)

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1							
2	N	1	2.483 50 GHz	-54.12 dBm			
3	N	1	2.500 00 GHz	-55.28 dBm			
4	N	1	2.524 08 GHz	-51.21 dBm			
5							
6							

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2DH5-Ant1-Hop_2402-PASS

Spectrum Analyzer 1
Swept SA

KEYSIGHT Input: RF Coupling: DC Align: Auto Input Z: 50 Ω Corr: C Corr Freq Ref: Int (S) #Atten: 20 dB PNO: Fast Gate: Off IF Gain: Low Sig Track: Off #Avg Type: Power (RMS) Trig: Free Run

Center Frequency: 2.352500000 GHz

Span: 105.0000000 MHz

Start Freq: 2.300000000 GHz

Stop Freq: 2.405000000 GHz

AUTO TUNE

CF Step: 10.5000000 MHz

Freq Offset: 0 Hz

X Axis Scale: Log

Signal Track (Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Ref Lvl Offset 17.64 dB

Ref Level 15.00 dBm

Mkr5 2.396 075 GHz

-49.24 dBm

DL1 -14.62 dBm

Start 2.30000 GHz #Video BW 300 kHz Stop 2.40500 GHz

#Res BW 100 kHz Sweep 10.1 ms (1001 pts)

5 Marker Table

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.402 060 GHz	5.377 dBm		
2	N	1	f	2.400 000 GHz	-52.85 dBm		
3	N	1	f	2.390 000 GHz	-53.58 dBm		
4	N	1	f	2.310 000 GHz	-54.07 dBm		
5	N	1	f	2.396 075 GHz	-49.24 dBm		
6							

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2DH5-Ant1-Hop_2480-PASS

Spectrum Analyzer 1
Swept SA

KEYSIGHT Input: RF Coupling: DC Align: Auto Input Z: 50 Ω Corr: C Corr Freq Ref: Int (S) #Atten: 20 dB PNO: Fast Gate: Off IF Gain: Low Sig Track: Off #Avg Type: Power (RMS) Trig: Free Run

Center Frequency: 2.510000000 GHz

Span: 80.0000000 MHz

Start Freq: 2.470000000 GHz

Stop Freq: 2.550000000 GHz

AUTO TUNE

CF Step: 8.0000000 MHz

Freq Offset: 0 Hz

X Axis Scale: Log

Signal Track (Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Ref Lvl Offset 17.69 dB

Ref Level 15.00 dBm

Mkr4 2.536 56 GHz

-50.87 dBm

DL1 -14.59 dBm

Start 2.47000 GHz #Video BW 300 kHz Stop 2.55000 GHz

#Res BW 100 kHz Sweep 7.67 ms (1001 pts)

5 Marker Table

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.473 04 GHz	5.408 dBm		
2	N	1	f	2.483 50 GHz	-53.64 dBm		
3	N	1	f	2.500 00 GHz	-53.41 dBm		
4	N	1	f	2.536 56 GHz	-50.87 dBm		
5							
6							

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3DH5-Ant1-2402-PASS

Spectrum Analyzer 1
Swept SA

KEYSIGHT Input: RF Coupling: DC Align: Auto Input Z: 50 Ω Corr: C Corr Freq Ref: Int (S) #Atten: 20 dB PNO: Fast Gate: Off IF Gain: Low Sig Track: Off #Avg Type: Power (RMS) Trig: Free Run

Center Frequency: 2.352500000 GHz

Span: 105.0000000 MHz

Start Freq: 2.300000000 GHz

Stop Freq: 2.405000000 GHz

AUTO TUNE

CF Step: 10.5000000 MHz

Freq Offset: 0 Hz

X Axis Scale: Log

Signal Track (Span Zoom)

Local

1 Spectrum

Scale/Div 10 dB

Ref Lvl Offset 17.90 dB

Ref Level 20.00 dBm

Mkr5 2.399 855 GHz

-47.23 dBm

DL1 -12.80 dBm

Start 2.30000 GHz #Video BW 300 kHz Stop 2.40500 GHz

#Res BW 100 kHz Sweep 10.1 ms (1001 pts)

5 Marker Table

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1							
2	N	1	f	2.400 000 GHz	-52.74 dBm		
3	N	1	f	2.390 000 GHz	-54.80 dBm		
4	N	1	f	2.310 000 GHz	-54.92 dBm		
5	N	1	f	2.399 855 GHz	-47.23 dBm		
6							

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3DH5-Ant1-2480-PASS

Spectrum Analyzer 1
Swept SA

KEYSIGHT Input: RF Coupling: DC Align: Auto Input Z: 50 Ω Corr: C Corr Freq Ref: Int (S) #Atten: 20 dB PNO: Fast Gate: Off IF Gain: Low Sig Track: Off #Avg Type: Power (RMS) 1 2 3 4 5 6 Trig: Free Run

Center Frequency: 2.510000000 GHz
Span: 80.0000000 MHz
Start Freq: 2.470000000 GHz
Stop Freq: 2.550000000 GHz
AUTO TUNE

1 Spectrum
Scale/Div 10 dB
Ref Lvl Offset 17.74 dB
Ref Level 20.00 dBm
Mkr4 2.539 52 GHz
-51.48 dBm

Start 2.47000 GHz #Video BW 300 kHz Stop 2.55000 GHz
#Res BW 100 kHz Sweep 7.67 ms (1001 pts)

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.483 50 GHz	-53.39 dBm		
2	N	1	f	2.500 00 GHz	-54.97 dBm		
3	N	1	f	2.539 52 GHz	-51.48 dBm		
4	N	1	f				
5							
6							

5 Marker Table

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3DH5-Ant1-Hop_2402-PASS

Spectrum Analyzer 1
Swept SA

KEYSIGHT Input: RF Coupling: DC Align: Auto Input Z: 50 Ω Corr: C Corr Freq Ref: Int (S) #Atten: 20 dB PNO: Fast Gate: Off IF Gain: Low Sig Track: Off #Avg Type: Power (RMS) 1 2 3 4 5 6 Trig: Free Run

Center Frequency: 2.352500000 GHz
Span: 105.0000000 MHz
Start Freq: 2.300000000 GHz
Stop Freq: 2.405000000 GHz
AUTO TUNE

1 Spectrum
Scale/Div 10 dB
Ref Lvl Offset 17.64 dB
Ref Level 15.00 dBm
Mkr5 2.392 295 GHz
-50.98 dBm

Start 2.30000 GHz #Video BW 300 kHz Stop 2.40500 GHz
#Res BW 100 kHz Sweep 10.1 ms (1001 pts)

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.403 845 GHz	5.256 dBm		
2	N	1	f	2.400 000 GHz	-53.10 dBm		
3	N	1	f	2.380 000 GHz	-53.83 dBm		
4	N	1	f	2.310 000 GHz	-51.48 dBm		
5	N	1	f	2.392 295 GHz	-50.98 dBm		
6							

5 Marker Table

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3DH5-Ant1-Hop_2480-PASS

Spectrum Analyzer 1
Swept SA

KEYSIGHT Input: RF Coupling: DC Align: Auto Input Z: 50 Ω Corr: C Corr Freq Ref: Int (S) #Atten: 20 dB PNO: Fast Gate: Off IF Gain: Low Sig Track: Off #Avg Type: Power (RMS) 1 2 3 4 5 6 Trig: Free Run

Center Frequency: 2.510000000 GHz
Span: 80.0000000 MHz
Start Freq: 2.470000000 GHz
Stop Freq: 2.550000000 GHz
AUTO TUNE

1 Spectrum
Scale/Div 10 dB
Ref Lvl Offset 17.69 dB
Ref Level 15.00 dBm
Mkr4 2.483 76 GHz
-50.72 dBm

Start 2.47000 GHz #Video BW 300 kHz Stop 2.55000 GHz
#Res BW 100 kHz Sweep 7.67 ms (1001 pts)

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.471 92 GHz	5.756 dBm		
2	N	1	f	2.483 50 GHz	-54.02 dBm		
3	N	1	f	2.500 00 GHz	-53.85 dBm		
4	N	1	f	2.483 76 GHz	-50.72 dBm		
5							
6							

5 Marker Table

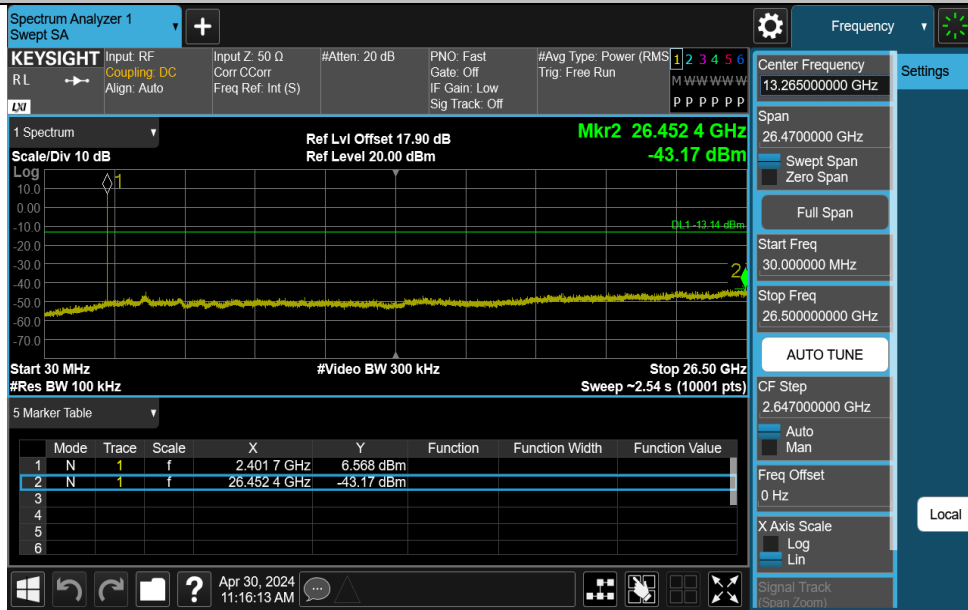
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Appendix G: Conducted Spurious Emission Test Result

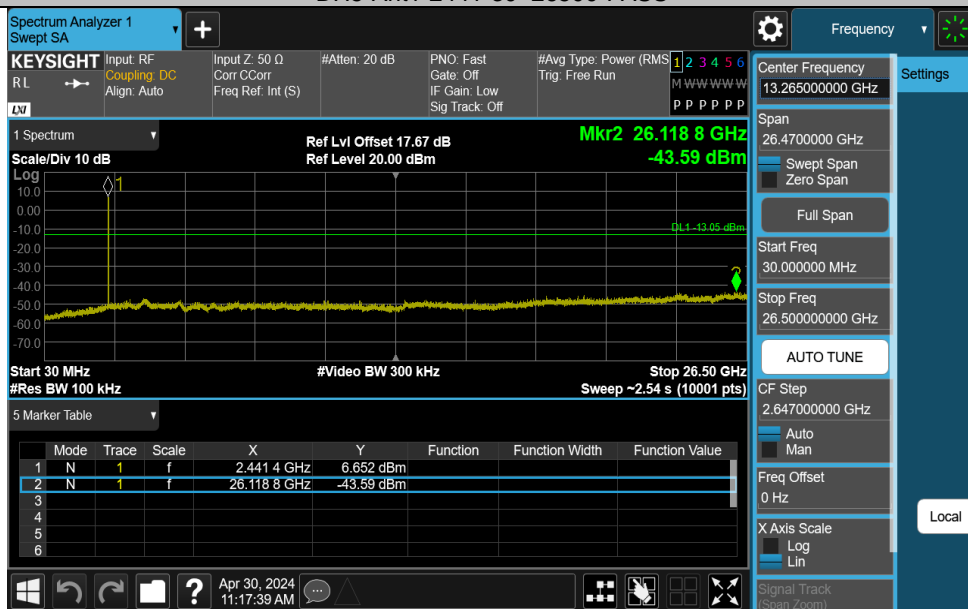
Test Mode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	30~26500	6.86	-43.17	≤-13.14	PASS
DH5	Ant1	2441	30~26500	6.95	-43.59	≤-13.05	PASS
DH5	Ant1	2480	30~26500	6.88	-43.26	≤-13.12	PASS
2DH5	Ant1	2402	30~26500	6.50	-42.11	≤-13.5	PASS
2DH5	Ant1	2441	30~26500	6.24	-43.25	≤-13.76	PASS
2DH5	Ant1	2480	30~26500	5.43	-43.59	≤-14.57	PASS
3DH5	Ant1	2402	30~26500	7.20	-43	≤-12.8	PASS
3DH5	Ant1	2441	30~26500	6.28	-43.17	≤-13.72	PASS
3DH5	Ant1	2480	30~26500	5.33	-42.92	≤-14.67	PASS

Test Graphs

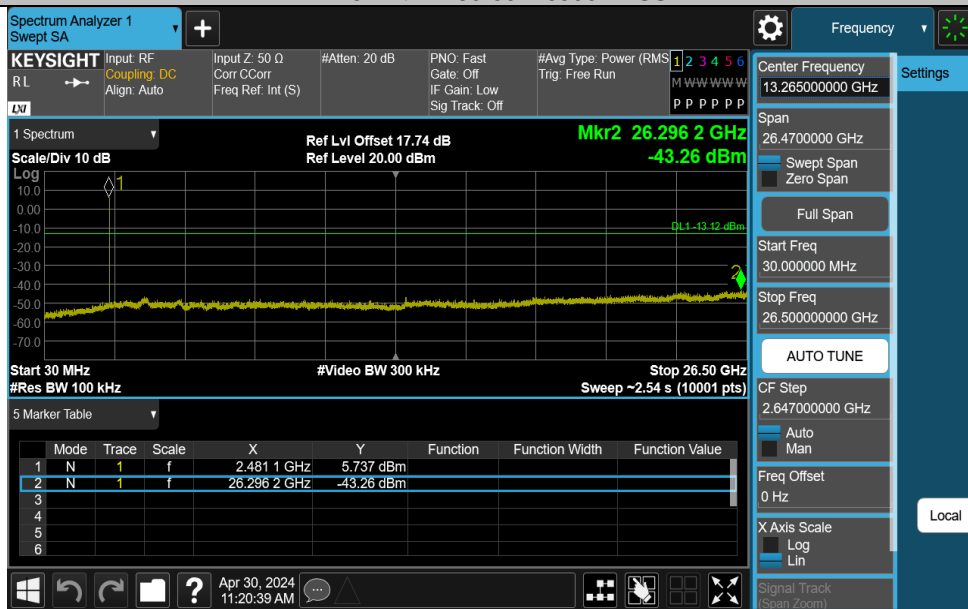
DH5-Ant1-2402-30~26500-PASS

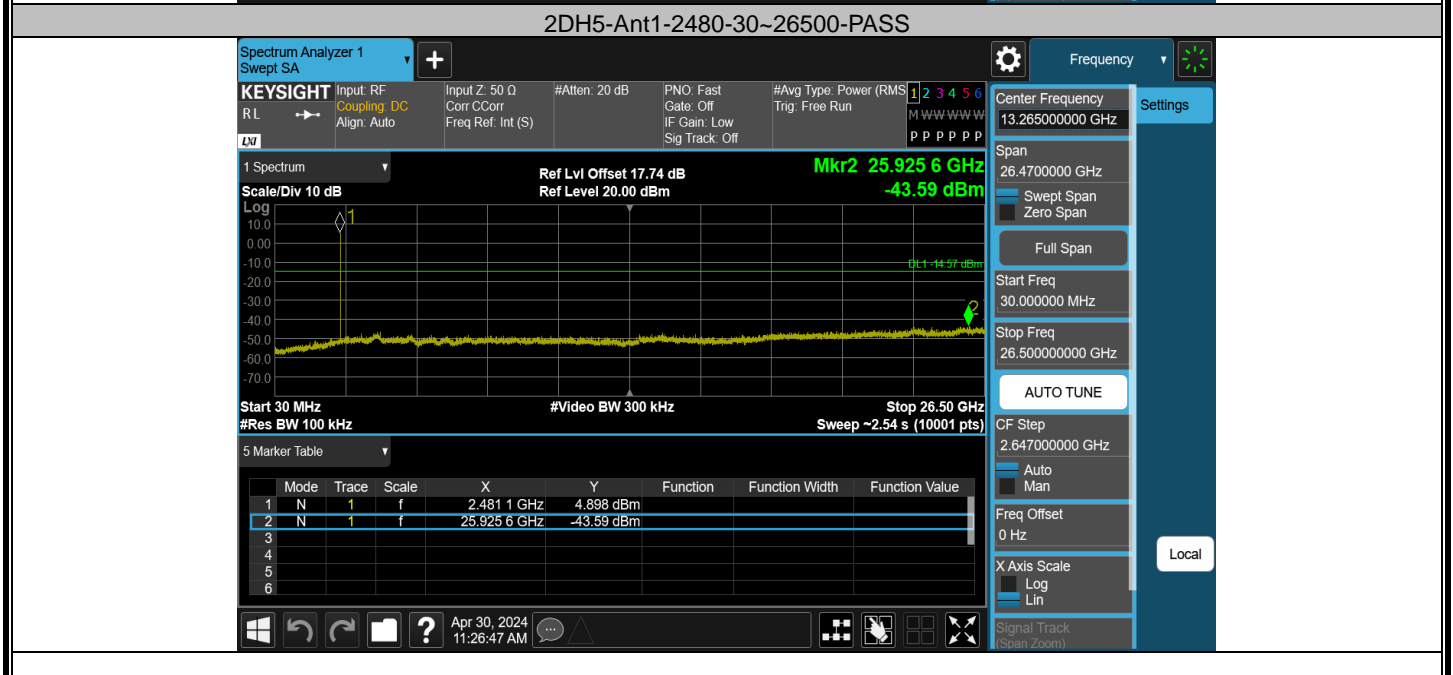
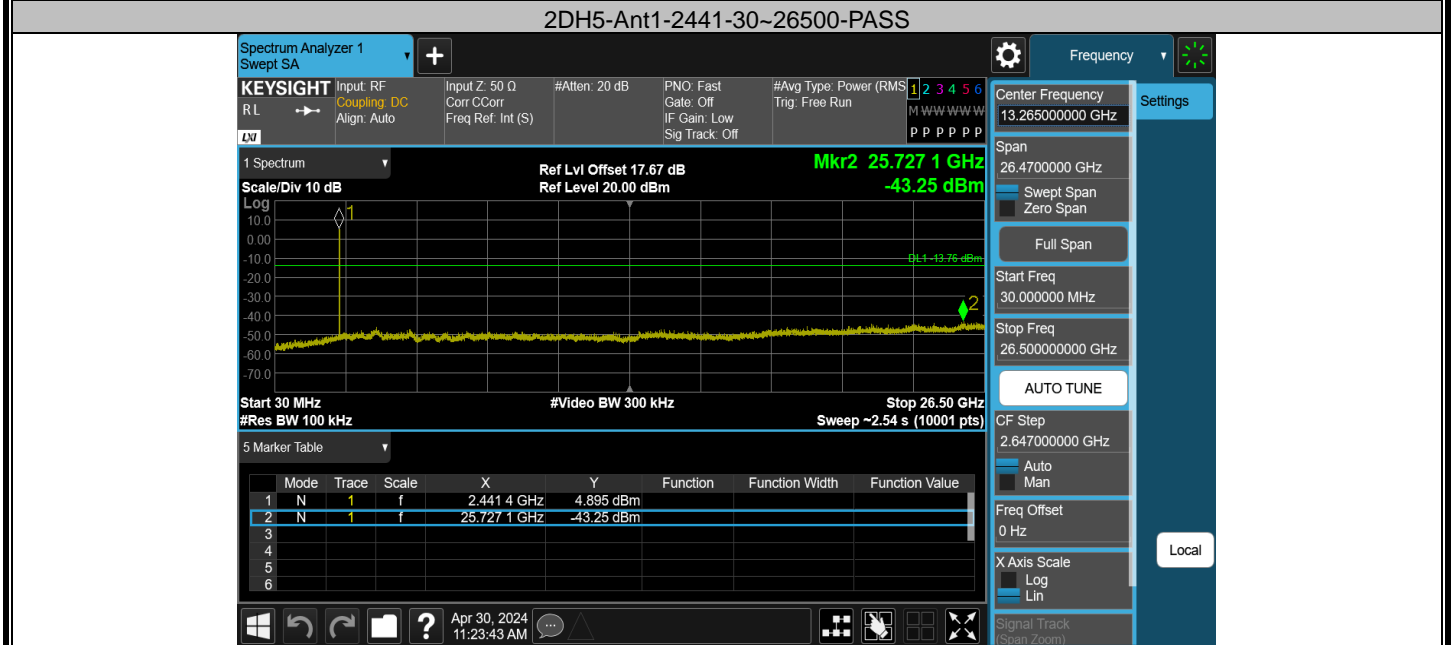
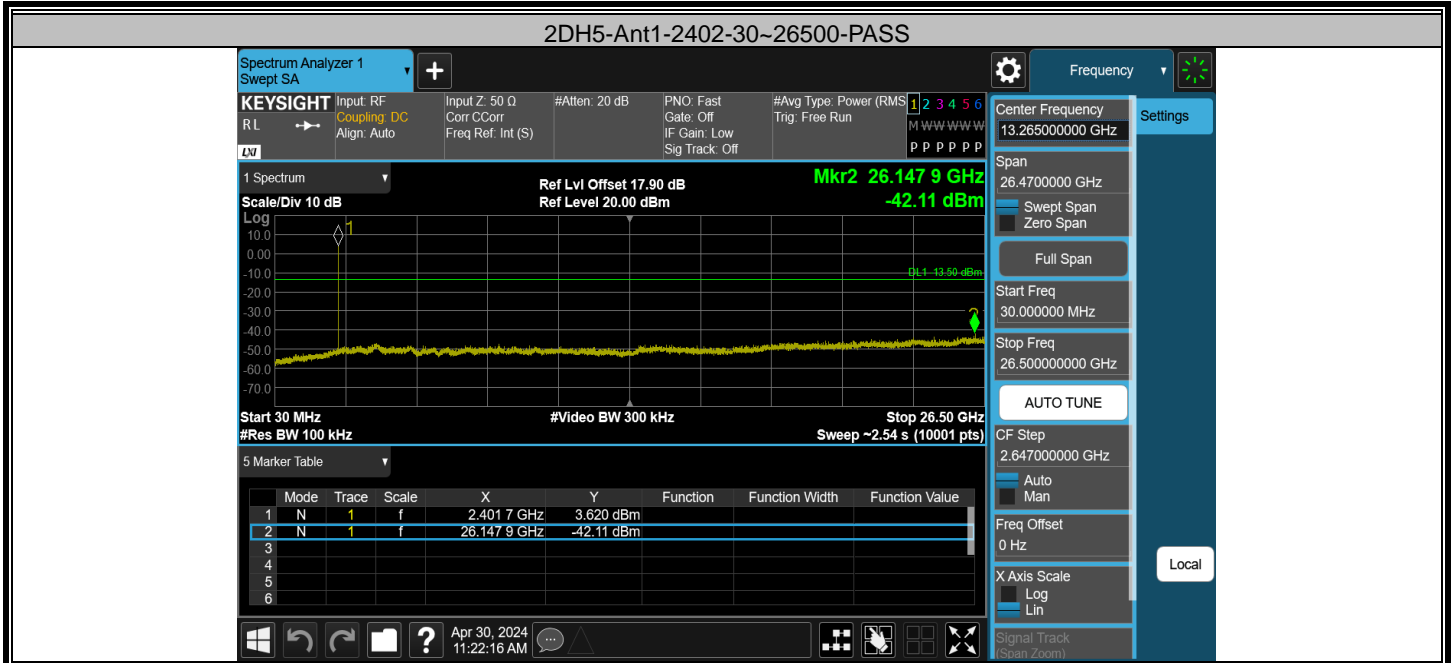


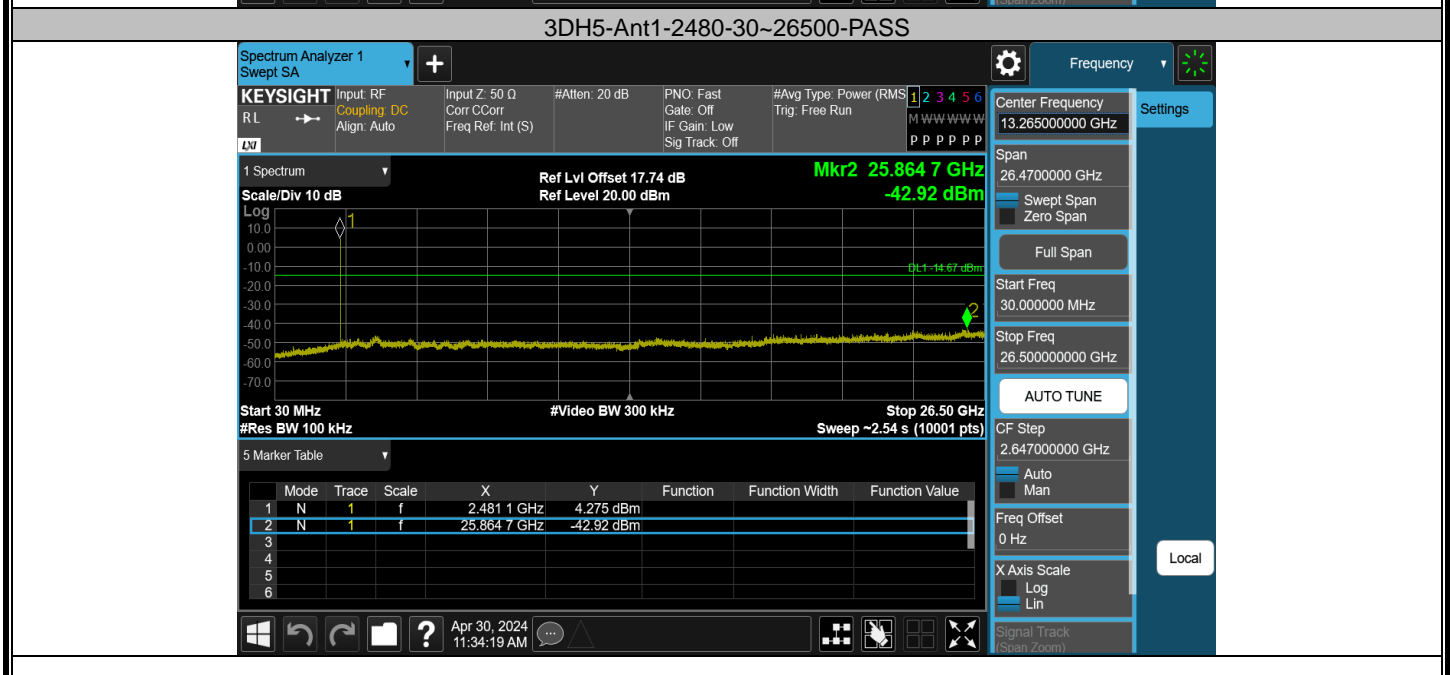
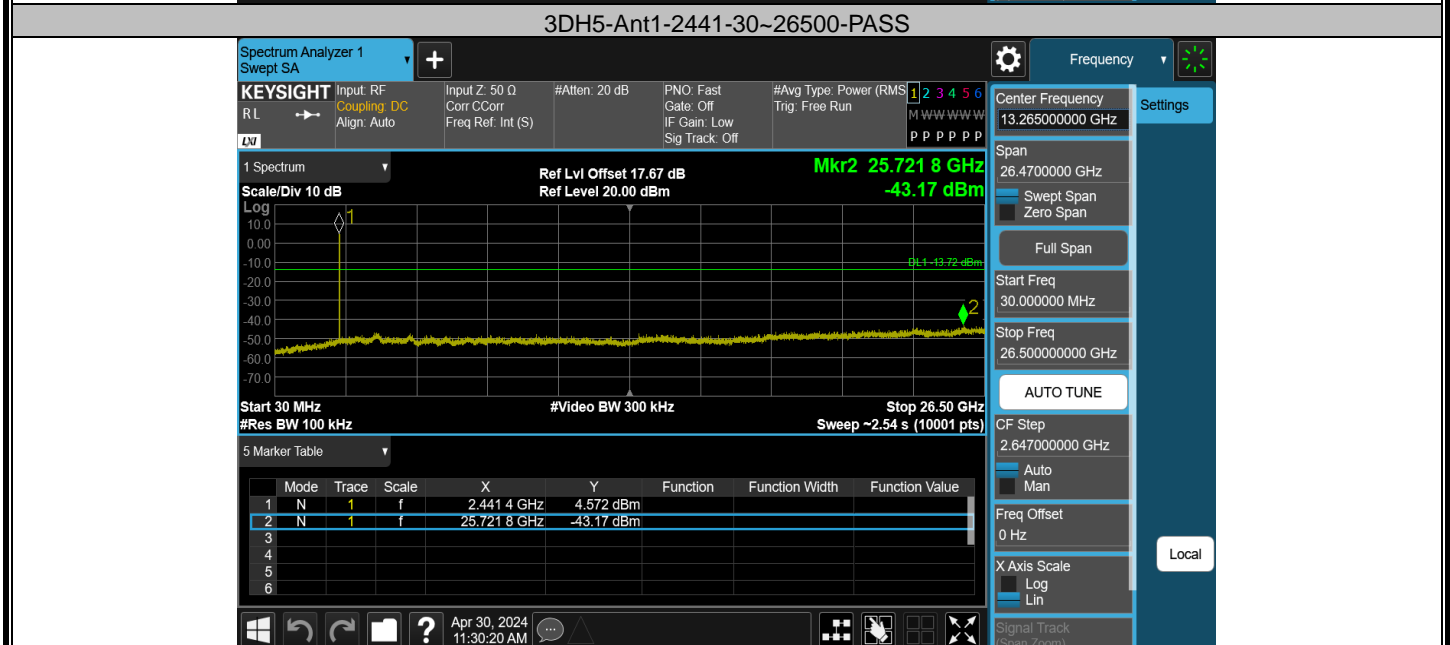
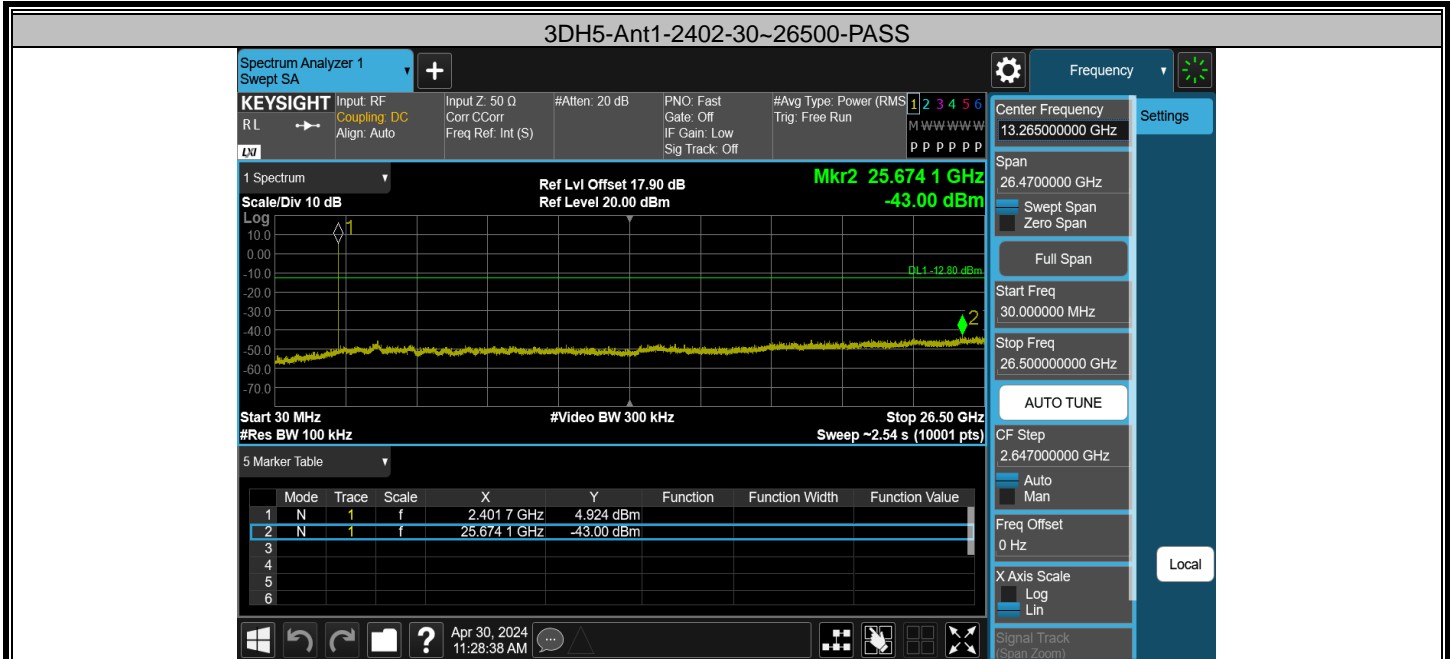
DH5-Ant1-2441-30~26500-PASS



DH5-Ant1-2480-30~26500-PASS







Appendix H: Reference level measurement Test Result

Test Mode	Antenna	Freq(MHz)	Max.Point[MHz]	Result[dBm]
DH5	Ant1	2402	2402.05	6.86
DH5	Ant1	2441	2441.00	6.95
DH5	Ant1	2480	2480.14	6.88
2DH5	Ant1	2402	2401.85	6.50
2DH5	Ant1	2441	2441.14	6.24
2DH5	Ant1	2480	2480.02	5.43
3DH5	Ant1	2402	2402.15	7.20
3DH5	Ant1	2441	2440.81	6.28
3DH5	Ant1	2480	2480.09	5.33

Test Graphs

DH5-Ant1-2402-PASS



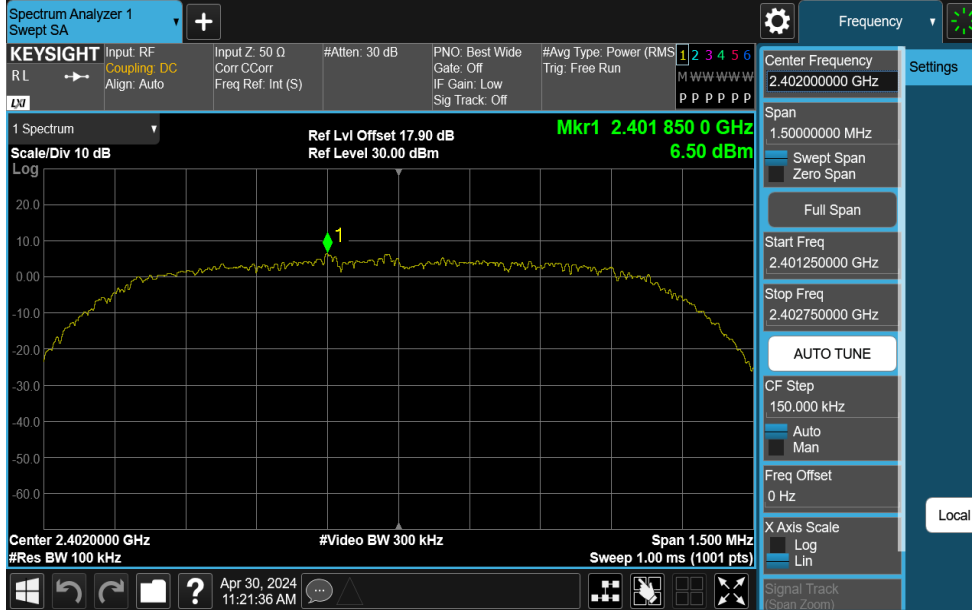
DH5-Ant1-2441-PASS



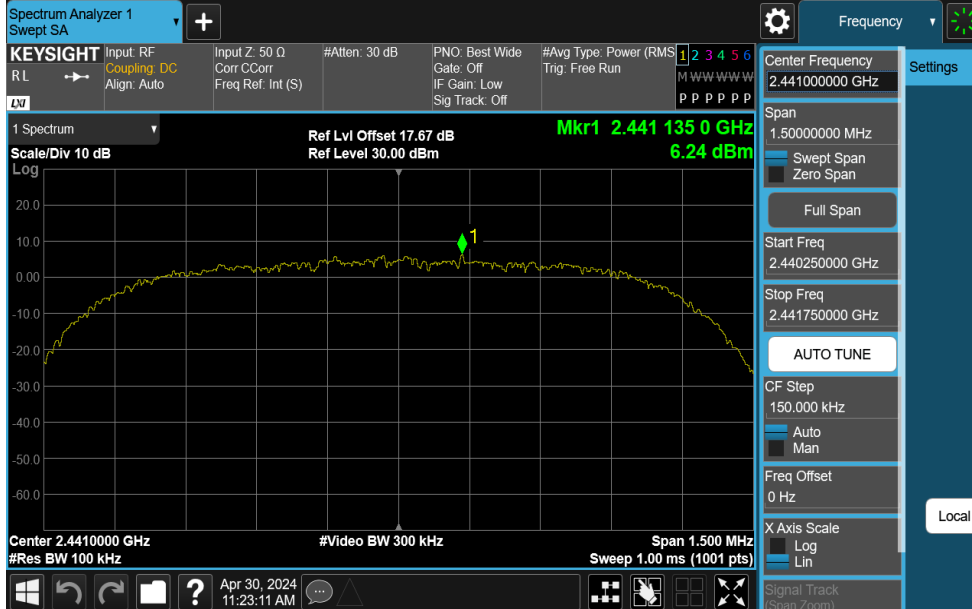
DH5-Ant1-2480-PASS



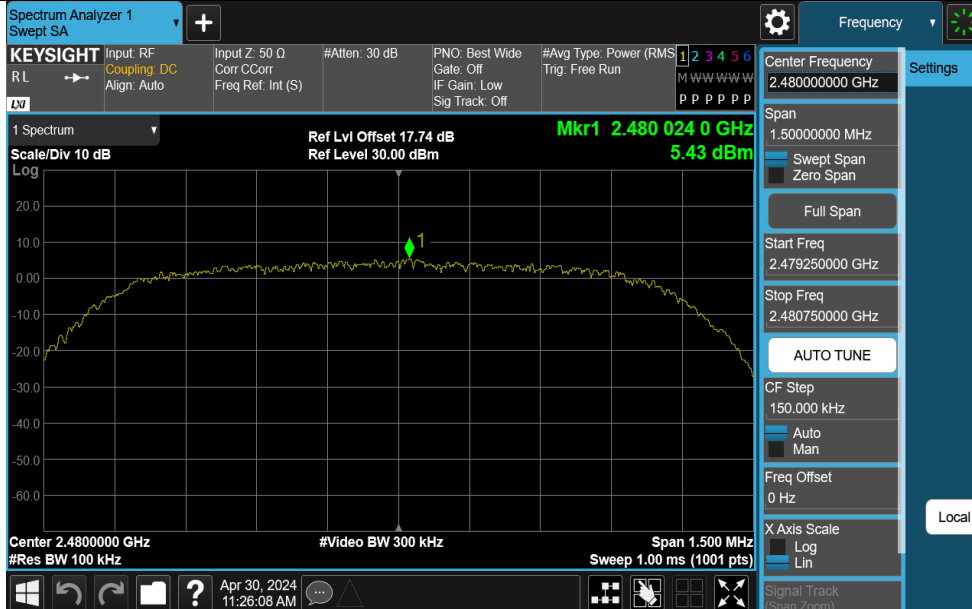
2DH5-Ant1-2402-PASS



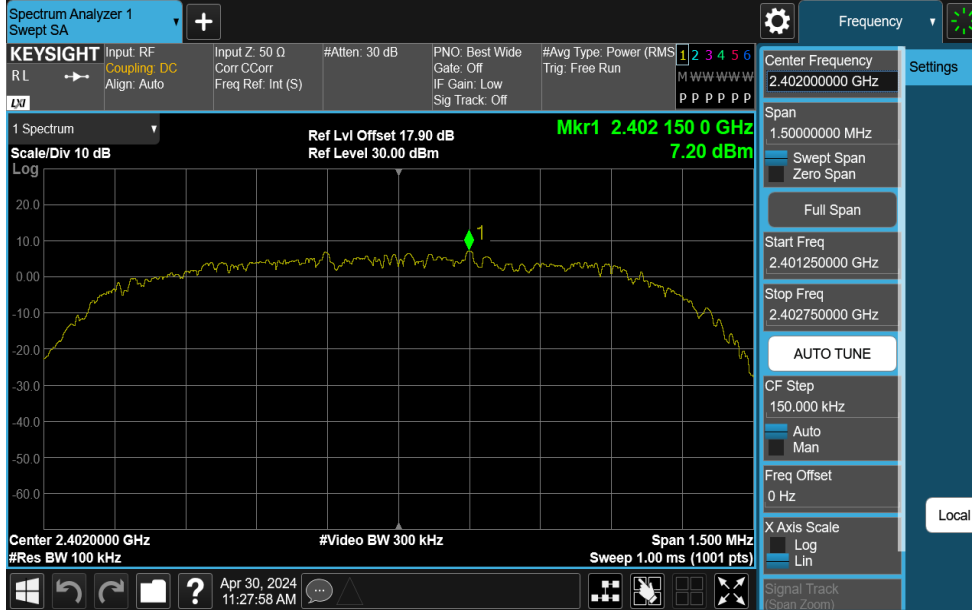
2DH5-Ant1-2441-PASS



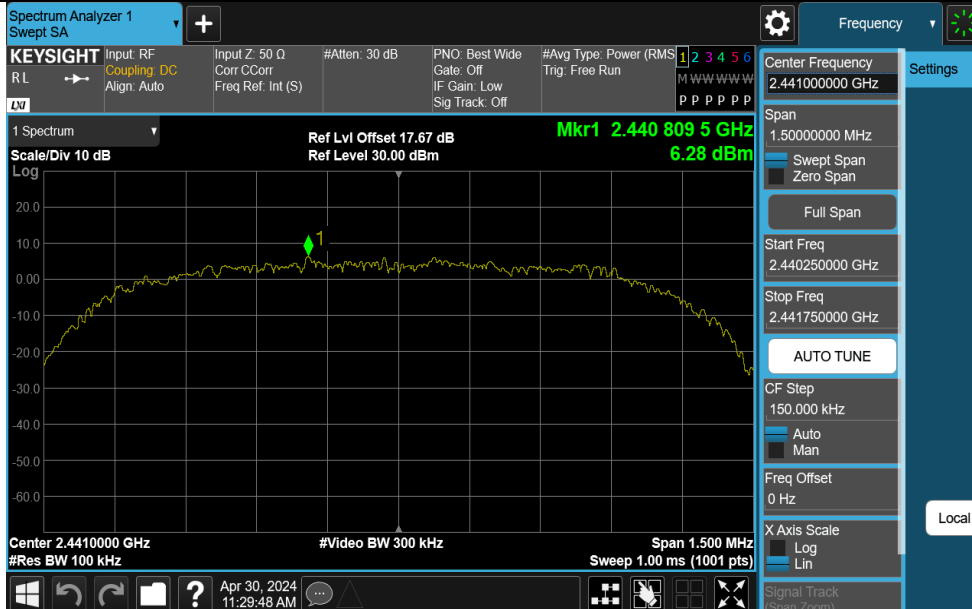
2DH5-Ant1-2480-PASS



3DH5-Ant1-2402-PASS



3DH5-Ant1-2441-PASS



3DH5-Ant1-2480-PASS

