

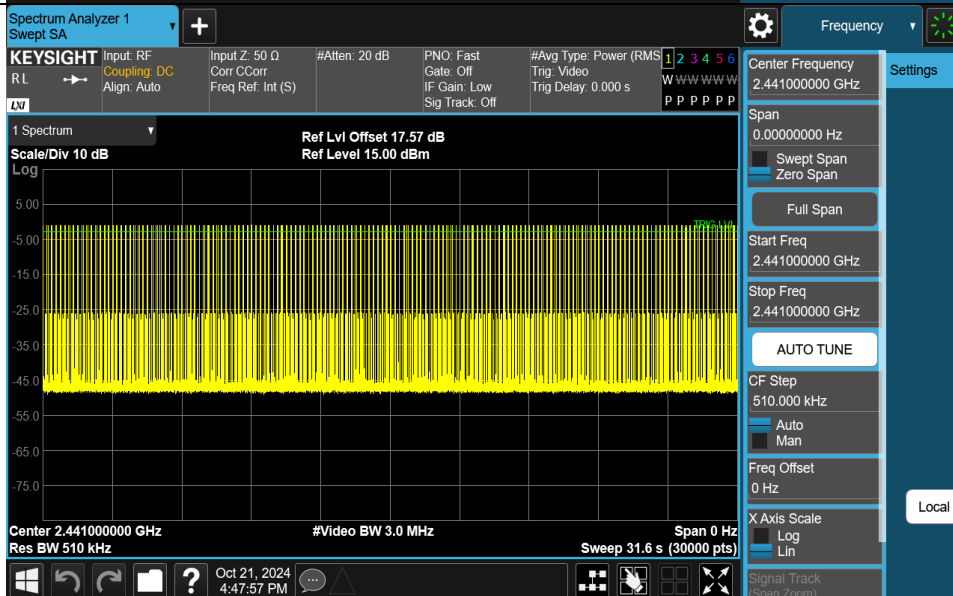
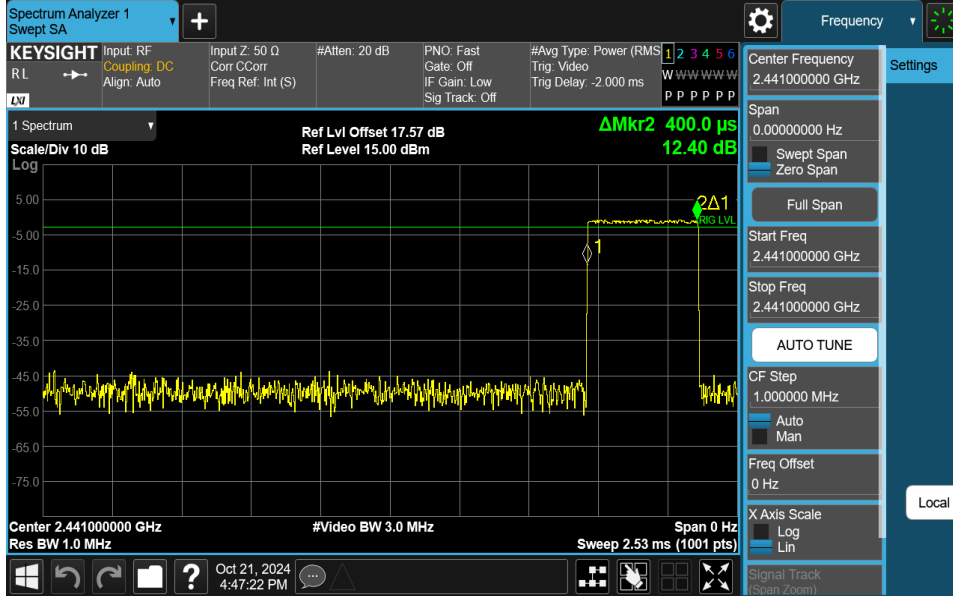
Appendix D: Time of occupancy

Test Result

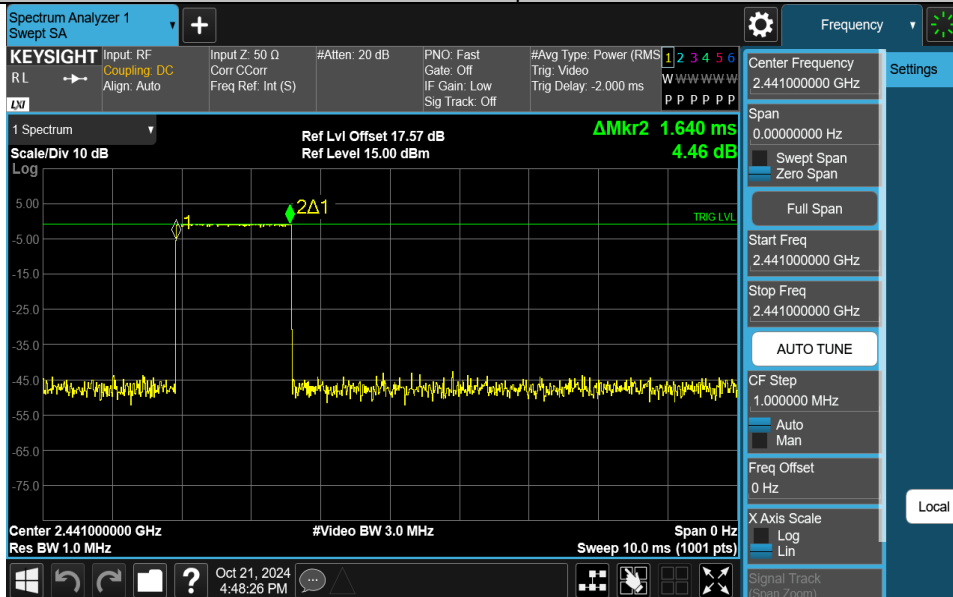
Test Mode	Antenna	Frequency[MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.400	317	0.127	≤0.4	PASS
DH3	Ant1	Hop	1.640	161	0.264	≤0.4	PASS
DH5	Ant1	Hop	2.890	111	0.321	≤0.4	PASS
2DH1	Ant1	Hop	0.410	316	0.13	≤0.4	PASS
2DH3	Ant1	Hop	1.650	159	0.262	≤0.4	PASS
2DH5	Ant1	Hop	2.900	107	0.31	≤0.4	PASS
3DH1	Ant1	Hop	0.415	316	0.131	≤0.4	PASS
3DH3	Ant1	Hop	1.650	160	0.264	≤0.4	PASS
3DH5	Ant1	Hop	2.900	105	0.305	≤0.4	PASS

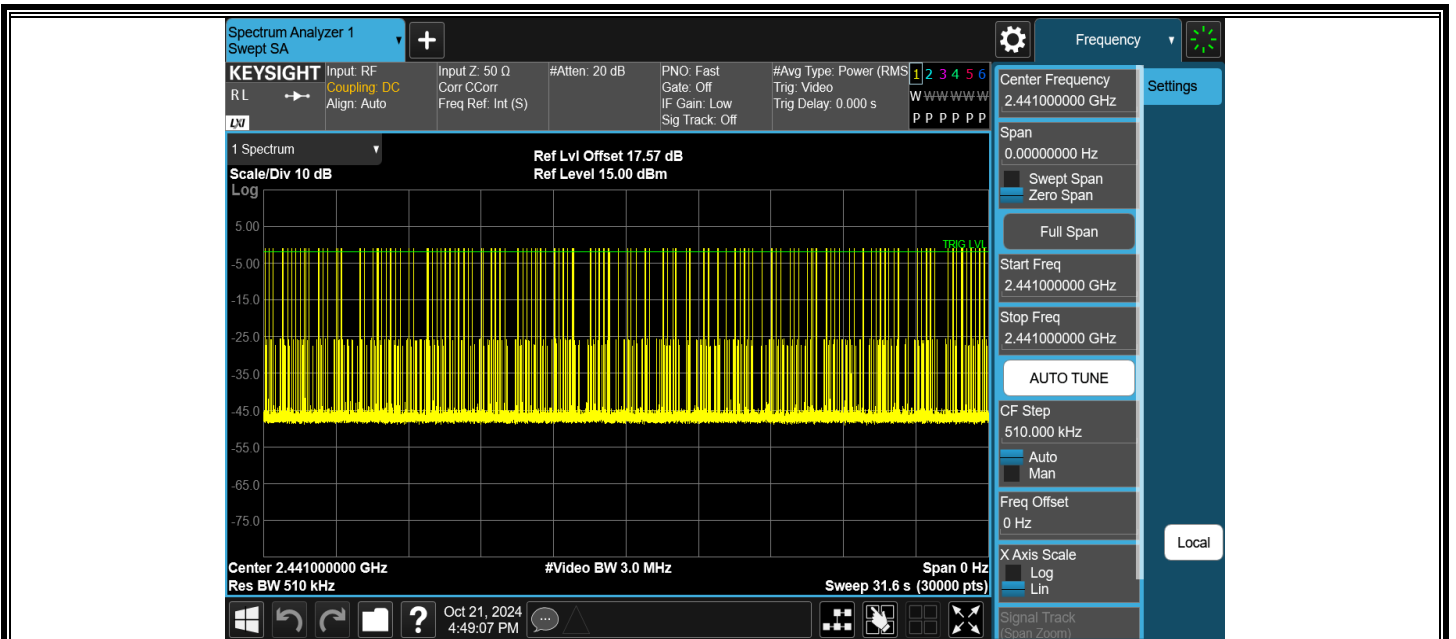
Test Graphs

DH1-Ant1-Hop-PASS

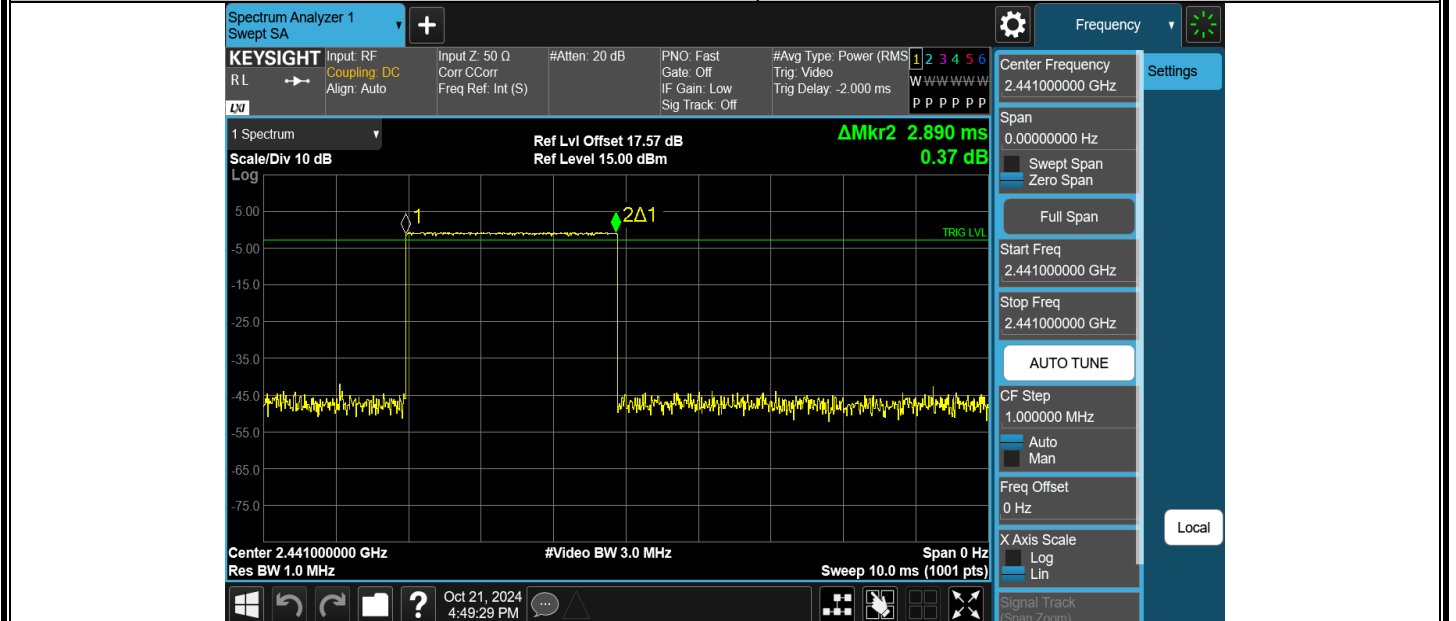


DH3-Ant1-Hop-PASS

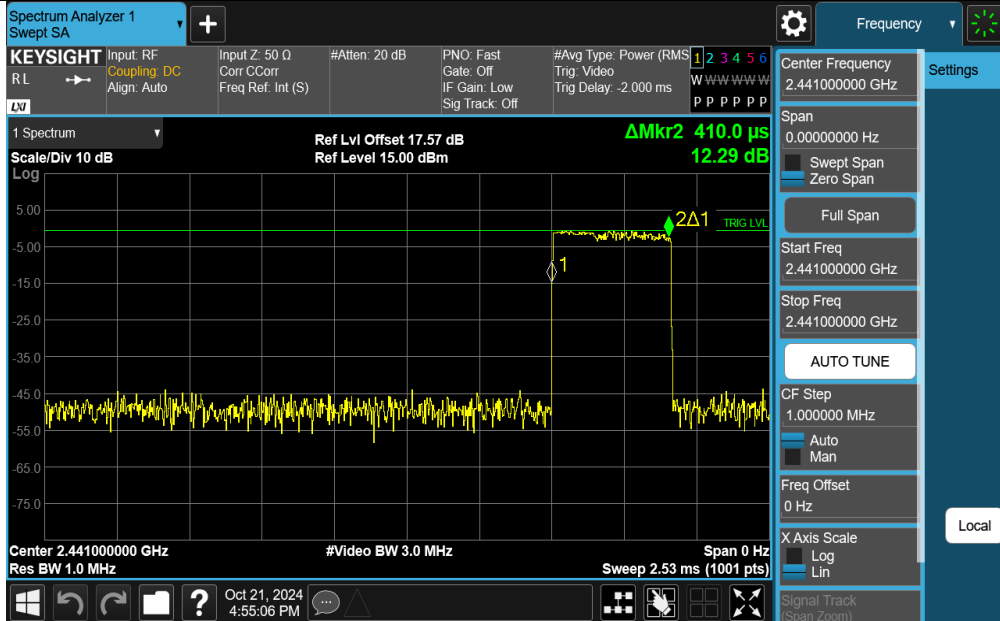




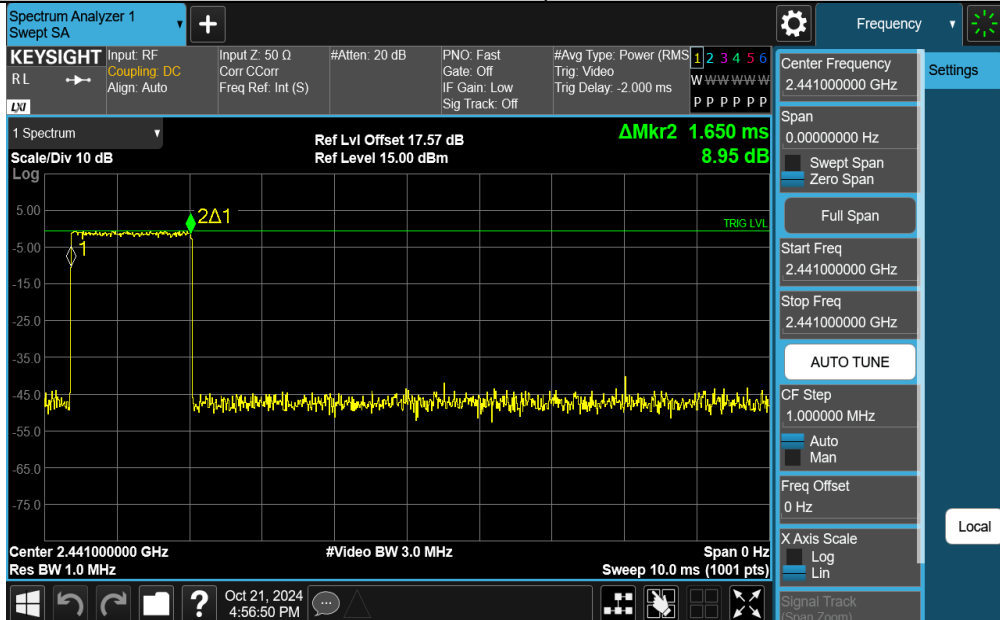
DH5-Ant1-Hop-PASS

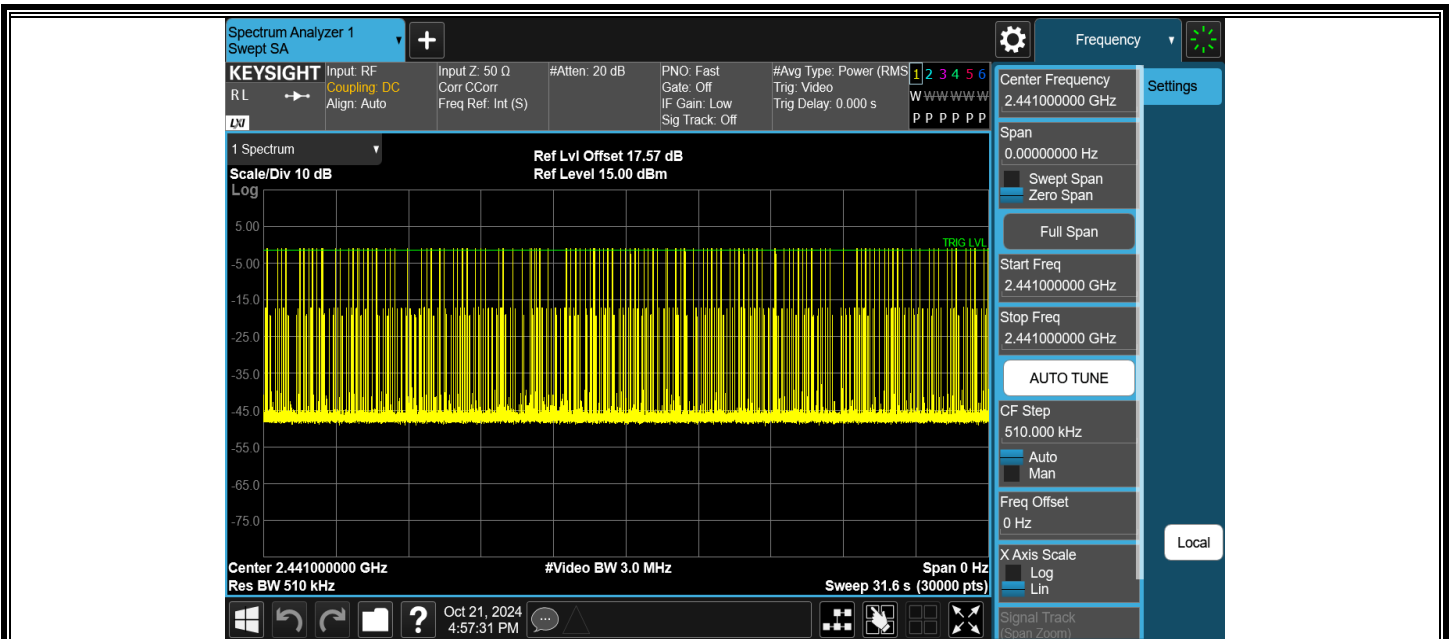


2DH1-Ant1-Hop-PASS

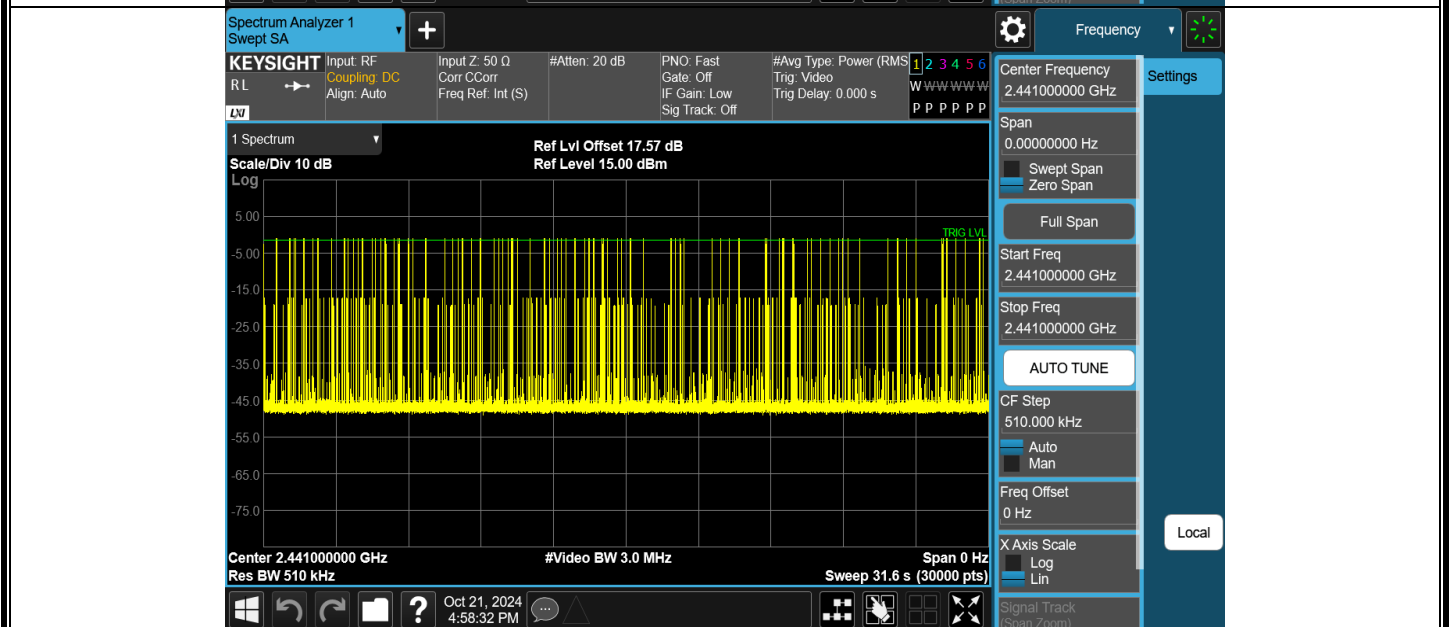
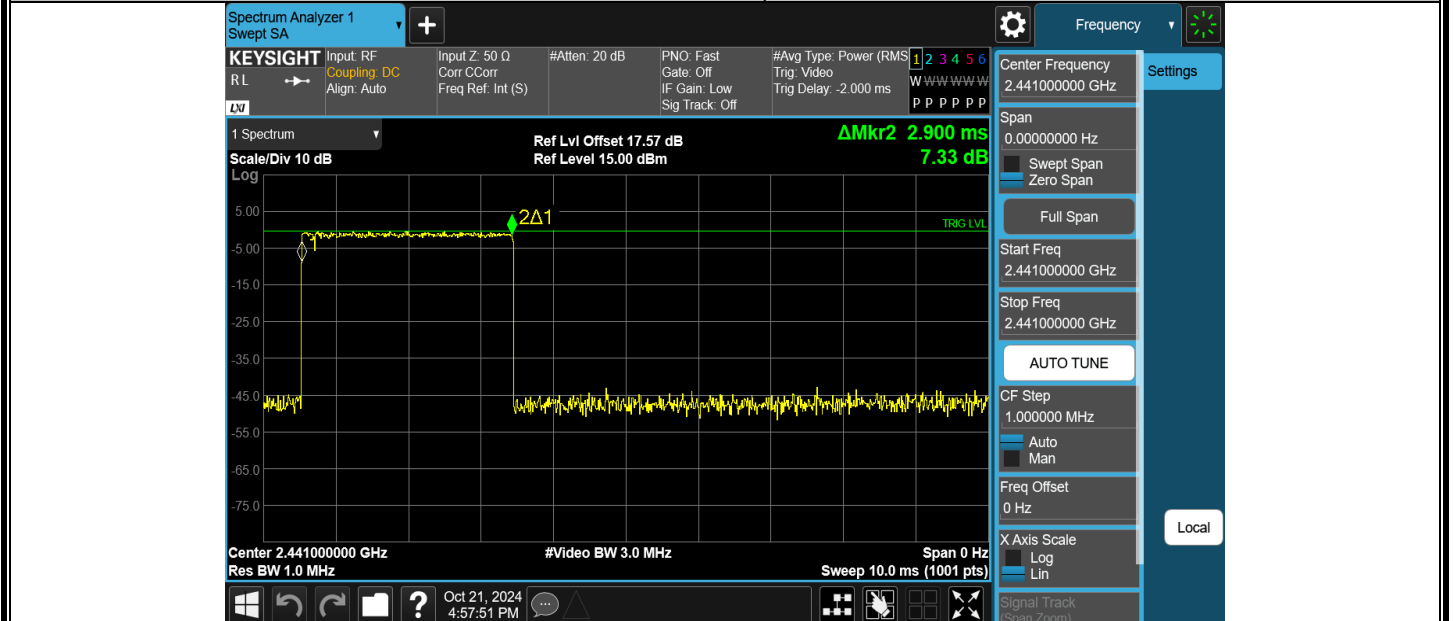


2DH3-Ant1-Hop-PASS

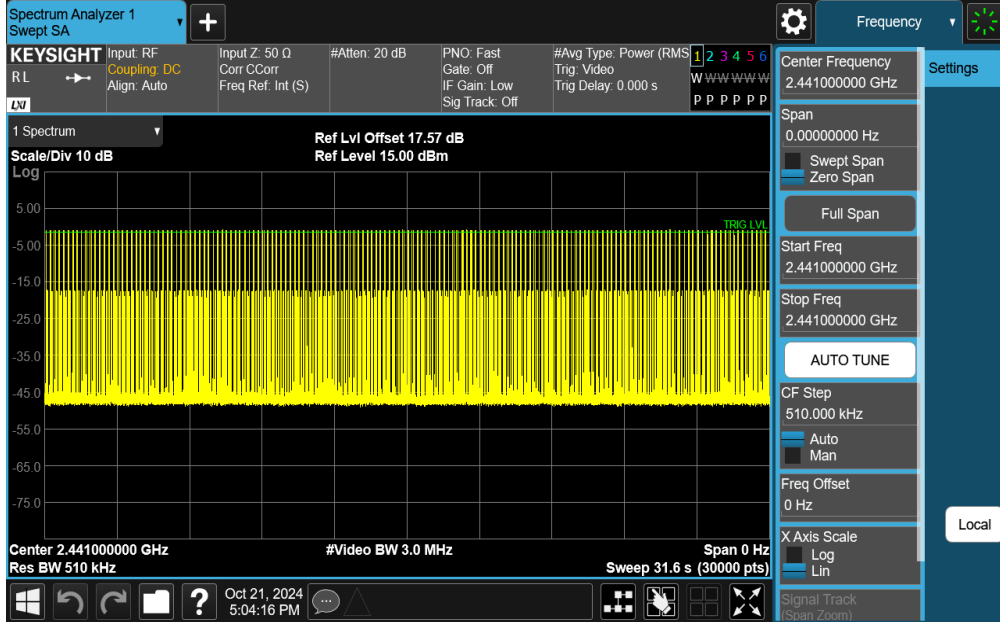
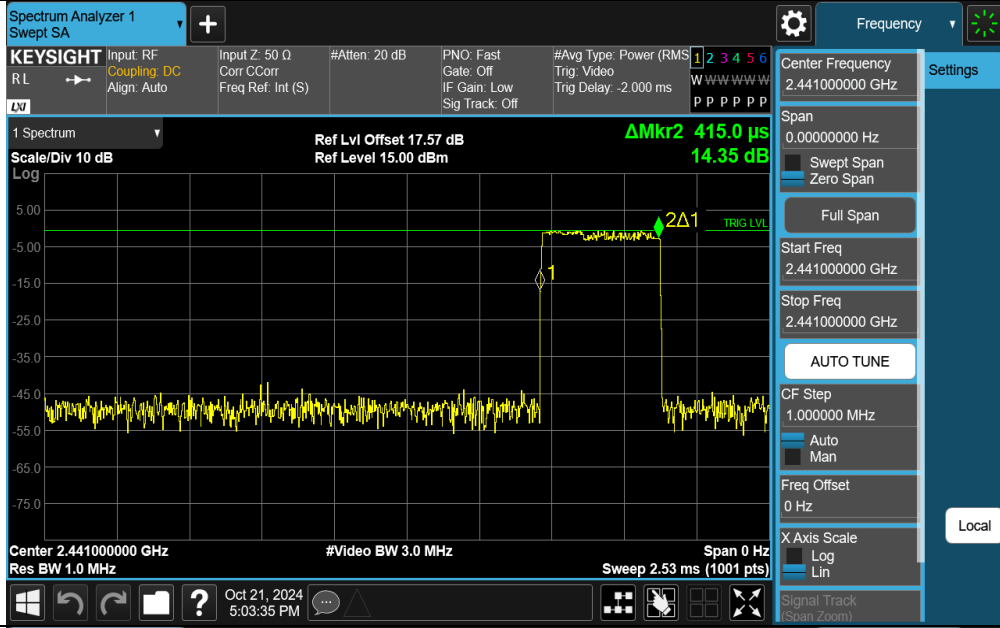




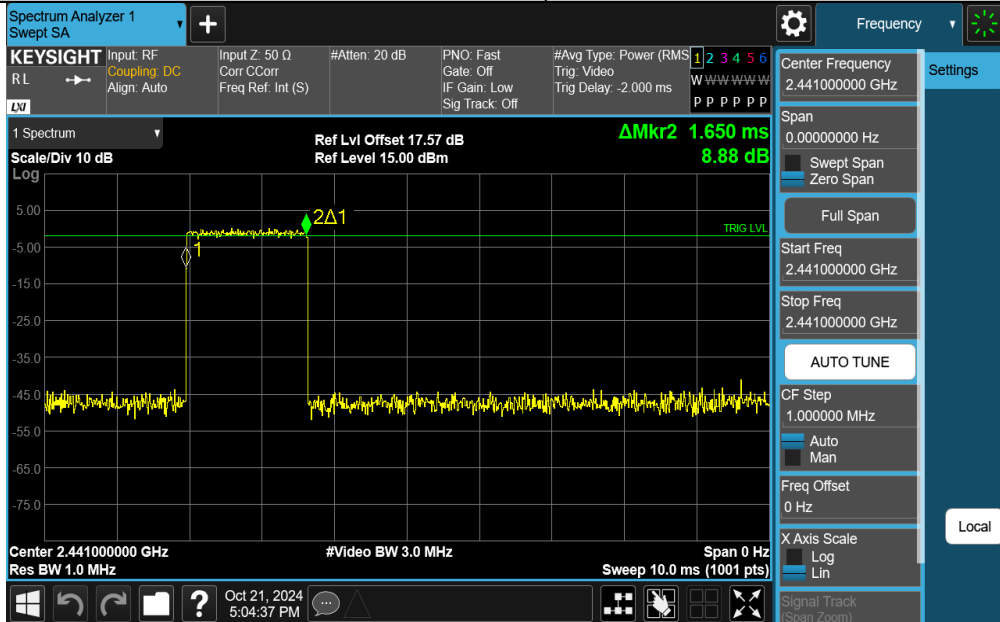
2DH5-Ant1-Hop-PASS

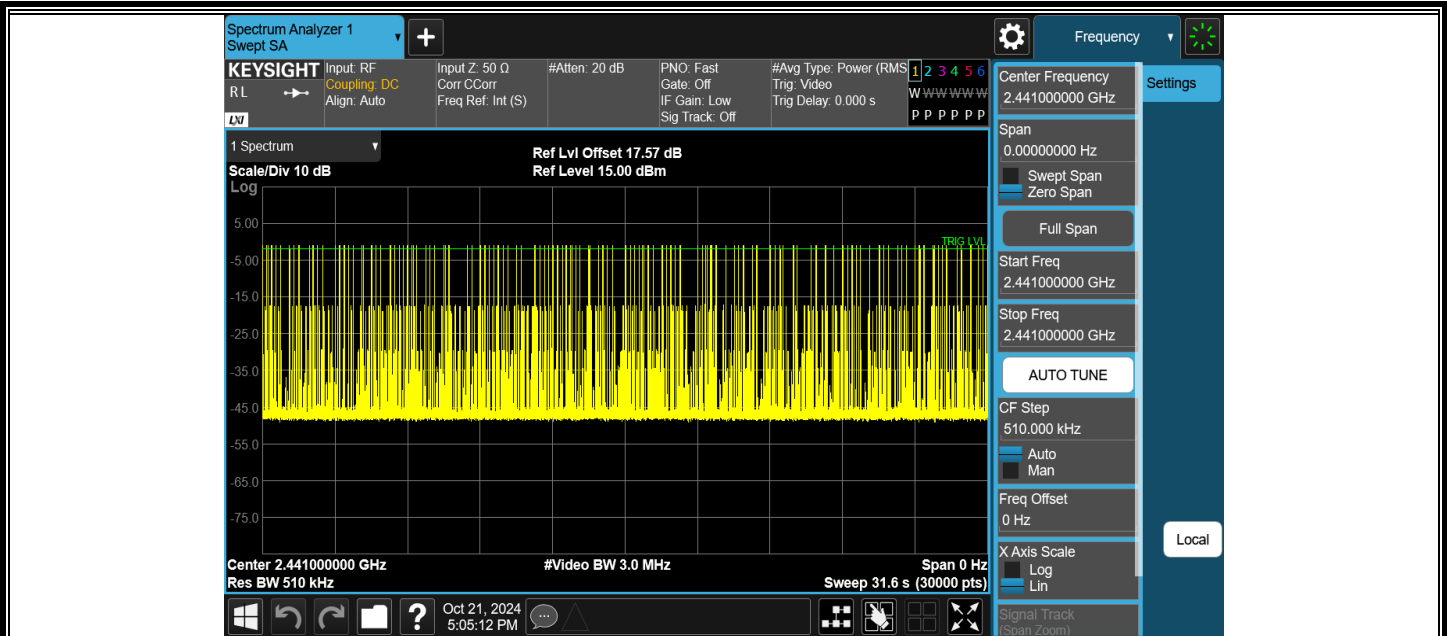


3DH1-Ant1-Hop-PASS

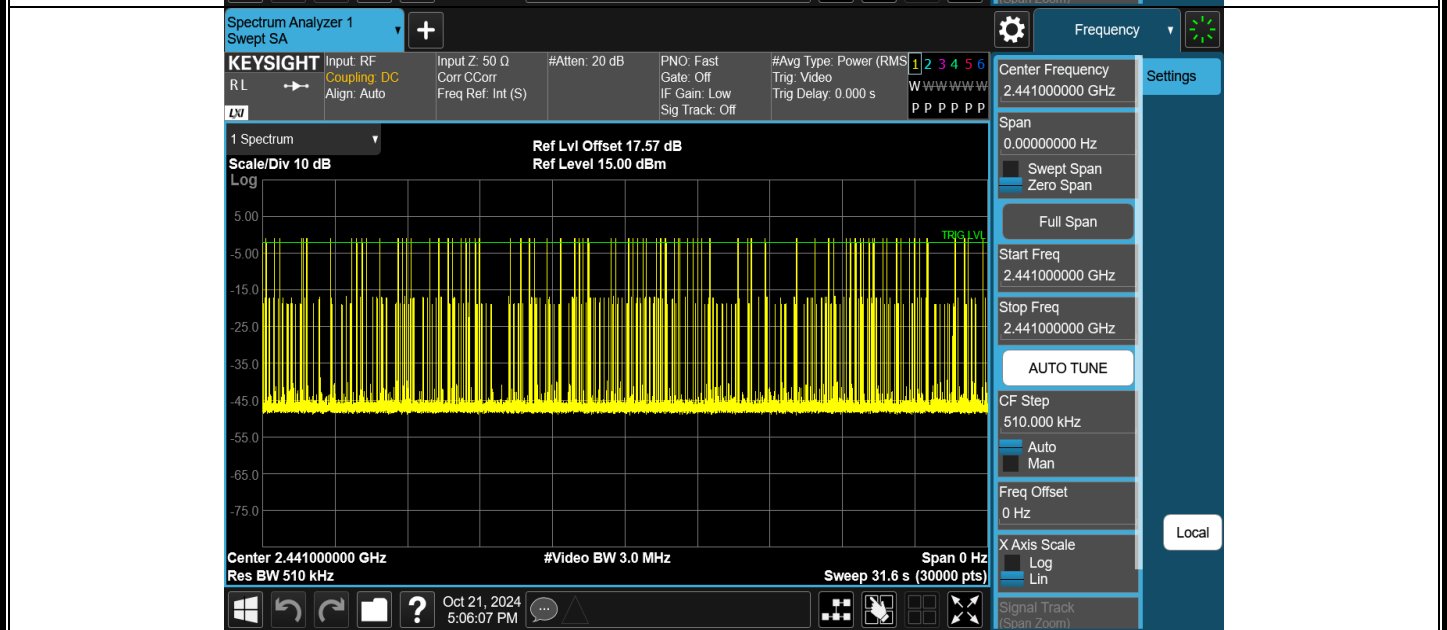
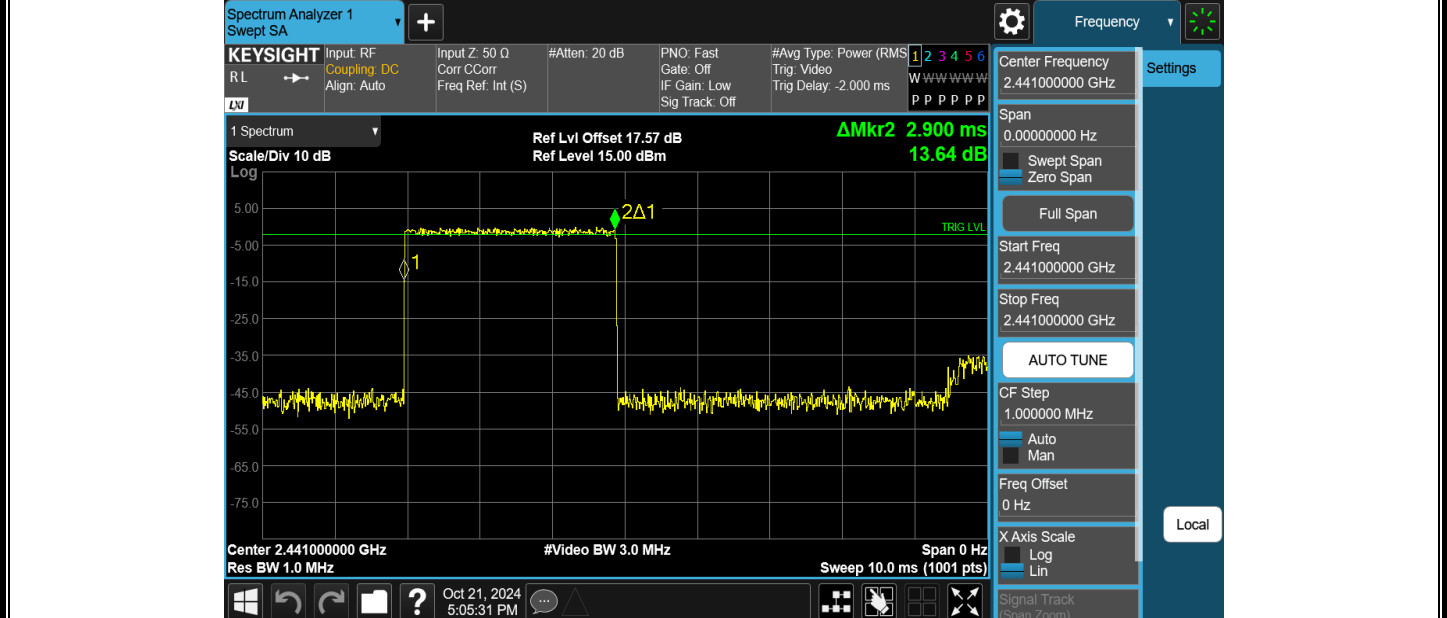


3DH3-Ant1-Hop-PASS





3DH5-Ant1-Hop-PASS



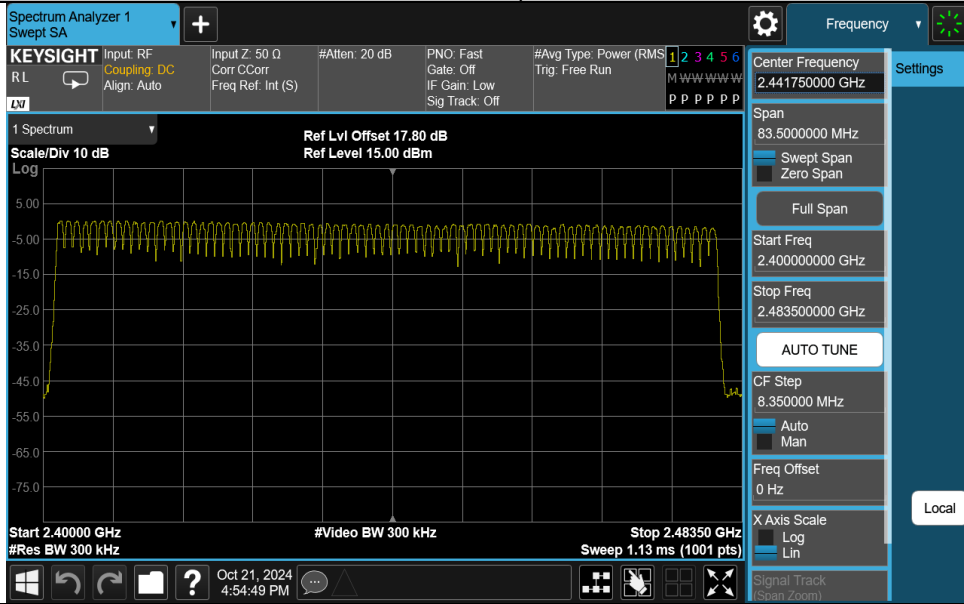
Appendix E: Number of hopping channels

Test Result

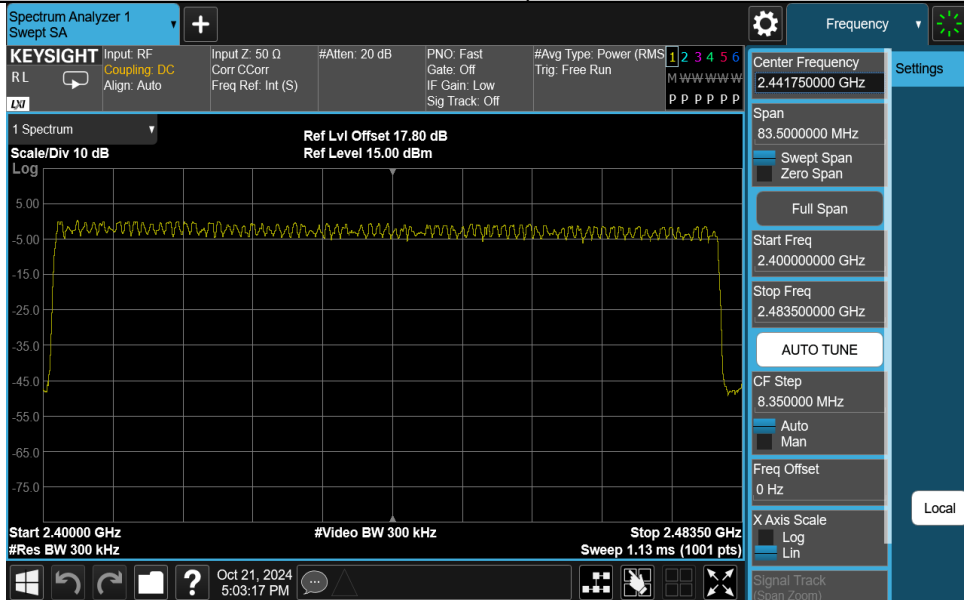
Test Mode	Antenna	Frequency[MHz]	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥ 15	PASS
2DH5	Ant1	Hop	79	≥ 15	PASS
3DH5	Ant1	Hop	79	≥ 15	PASS

Test Graphs

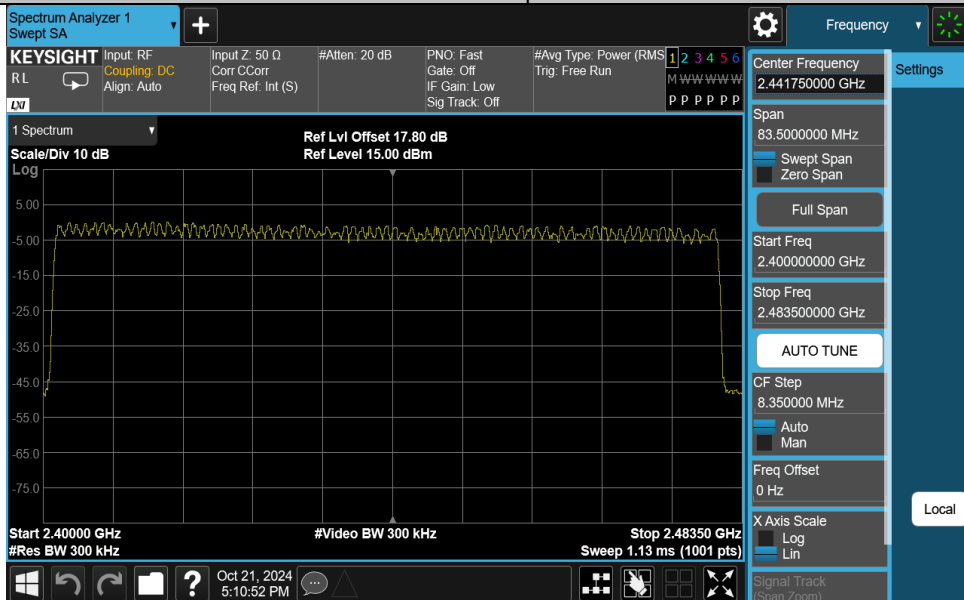
DH5-Ant1-Hop-PASS



2DH5-Ant1-Hop-PASS



3DH5-Ant1-Hop-PASS



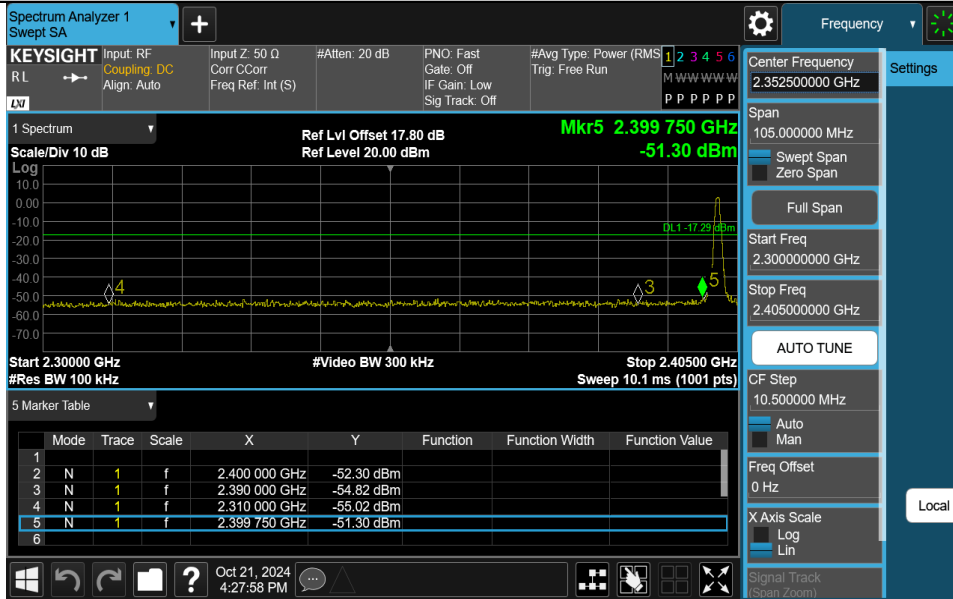
Appendix F: Band edge measurements

Test Result

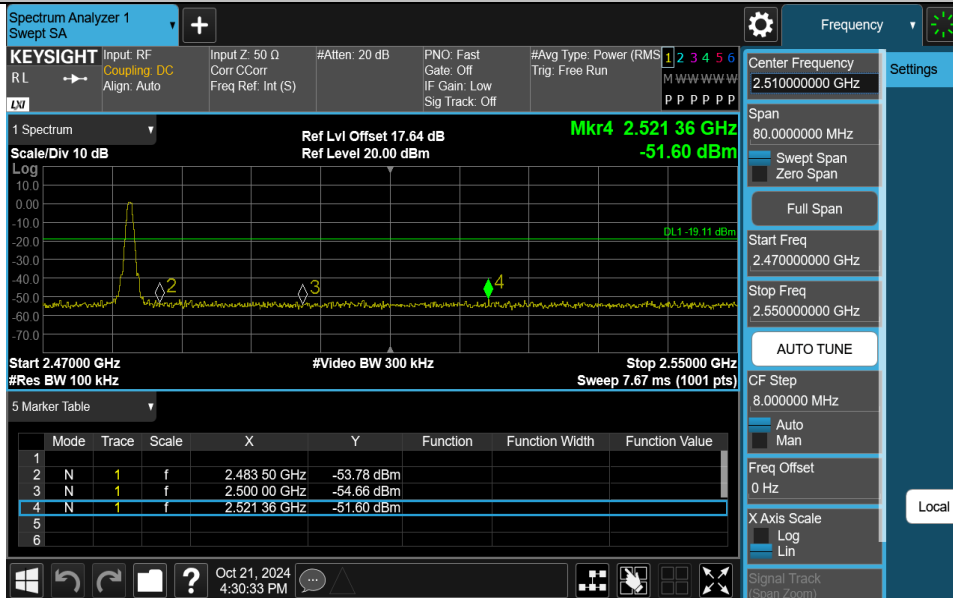
Test Mode	Antenna	ChName	Frequency[MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	2.71	-51.3	≤-17.29	PASS
DH5	Ant1	High	2480	0.89	-51.6	≤-19.11	PASS
DH5	Ant1	Low	Hop_2402	-0.96	-51.34	≤-20.96	PASS
DH5	Ant1	High	Hop_2480	-1.69	-49.64	≤-21.69	PASS
2DH5	Ant1	Low	2402	-0.54	-49.93	≤-20.54	PASS
2DH5	Ant1	High	2480	-3.35	-51.29	≤-23.35	PASS
2DH5	Ant1	Low	Hop_2402	-1.75	-50.87	≤-21.75	PASS
2DH5	Ant1	High	Hop_2480	-2.64	-49.92	≤-22.64	PASS
3DH5	Ant1	Low	2402	-0.89	-51.36	≤-20.89	PASS
3DH5	Ant1	High	2480	-3.05	-50.84	≤-23.05	PASS
3DH5	Ant1	Low	Hop_2402	-0.66	-50.33	≤-20.66	PASS
3DH5	Ant1	High	Hop_2480	-3.69	-51.02	≤-23.69	PASS

Test Graphs

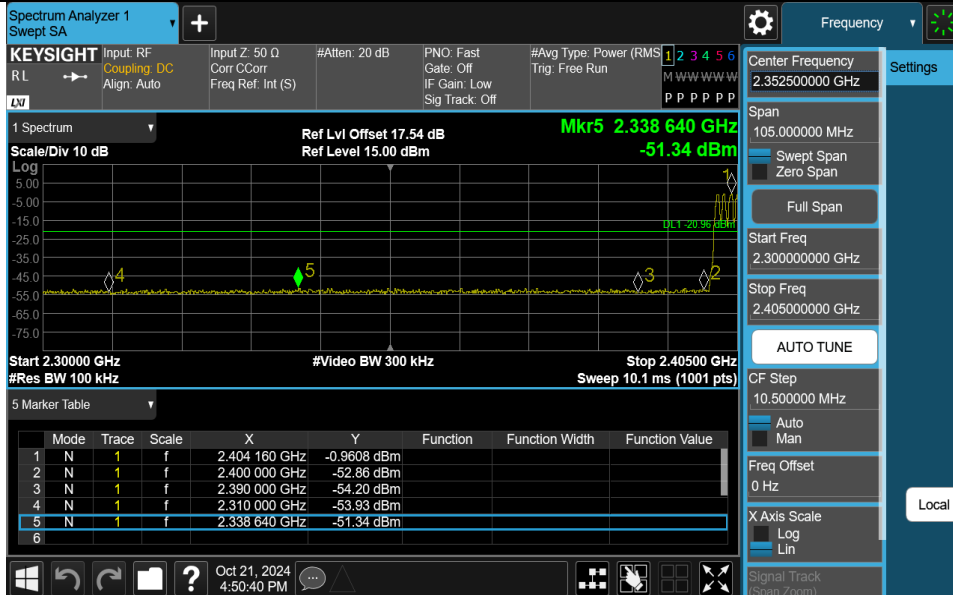
DH5-Ant1-2402-PASS



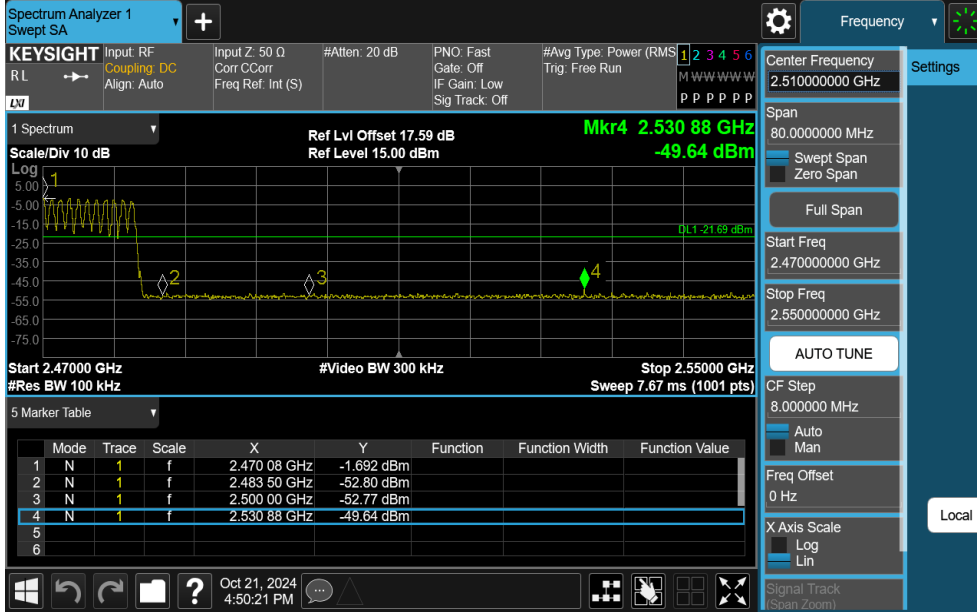
DH5-Ant1-2480-PASS



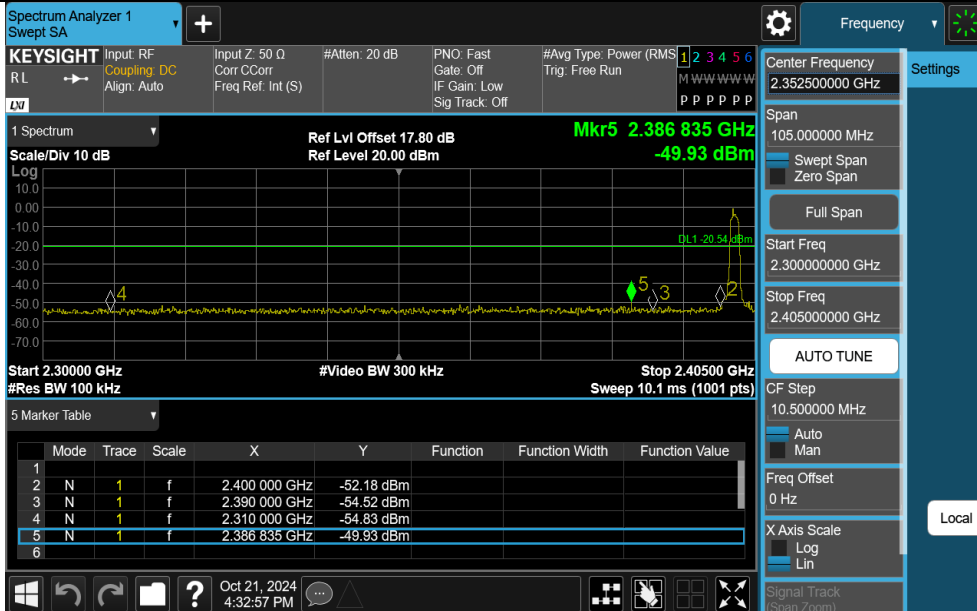
DH5-Ant1-Hop_2402-PASS



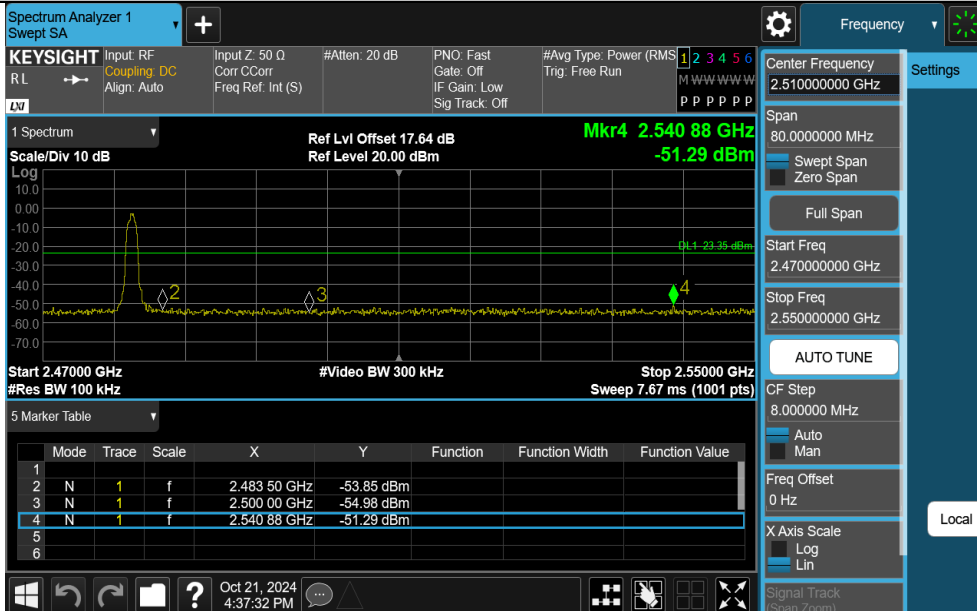
DH5-Ant1-Hop_2480-PASS



2DH5-Ant1-2402-PASS



2DH5-Ant1-2480-PASS



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)

Scale/Div 10 dB

Ref Lvl Offset 17.54 dB

Ref Level 15.00 dBm

Mkr5 2.353 235 GHz -50.87 dBm

DL1 -21.75 dBm

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

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.403 110 GHz	-1.747 dBm		
2	N	1	f	2.400 000 GHz	-53.14 dBm		
3	N	1	f	2.390 000 GHz	-52.75 dBm		
4	N	1	f	2.310 000 GHz	-53.01 dBm		
5	N	1	f	2.353 235 GHz	-50.87 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)

Scale/Div 10 dB

Ref Lvl Offset 17.59 dB

Ref Level 15.00 dBm

Mkr4 2.536 56 GHz -49.92 dBm

DL1 -22.64 dBm

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

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.479 84 GHz	-2.639 dBm		
2	N	1	f	2.483 50 GHz	-52.92 dBm		
3	N	1	f	2.500 00 GHz	-54.19 dBm		
4	N	1	f	2.536 56 GHz	-49.92 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)

Scale/Div 10 dB

Ref Lvl Offset 17.80 dB

Ref Level 20.00 dBm

Mkr5 2.359 955 GHz -51.36 dBm

DL1 -20.89 dBm

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

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1							
2	N	1	f	2.400 000 GHz	-53.01 dBm		
3	N	1	f	2.390 000 GHz	-54.02 dBm		
4	N	1	f	2.310 000 GHz	-52.35 dBm		
5	N	1	f	2.359 955 GHz	-51.36 dBm		
6							

Oct 21, 2024 4:41:11 PM

3DH5-Ant1-2480-PASS

Spectrum Analyzer 1
Swept SA

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

Center Frequency: 2.510000000 GHz
 Span: 80.0000000 MHz
 Start Freq: 2.470000000 GHz
 Stop Freq: 2.550000000 GHz
 #Res BW: 100 kHz #Video BW: 300 kHz Sweep: 7.67 ms (1001 pts)

Scale/Div: 10 dB
 Ref Lvl Offset: 17.64 dB
 Ref Level: 20.00 dBm
Mkr4 2.499 44 GHz -50.84 dBm

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	2.483 50 GHz	-55.83 dBm			
2	N	1	2.500 00 GHz	-55.46 dBm			
3	N	1	2.499 44 GHz	-50.84 dBm			
4	N	1					
5	N	1					
6	N	1					

Oct 21, 2024 4:43:41 PM

3DH5-Ant1-Hop_2402-PASS

Spectrum Analyzer 1
Swept SA

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

Center Frequency: 2.352500000 GHz
 Span: 105.0000000 MHz
 Start Freq: 2.300000000 GHz
 Stop Freq: 2.405000000 GHz
 #Res BW: 100 kHz #Video BW: 300 kHz Sweep: 10.1 ms (1001 pts)

Scale/Div: 10 dB
 Ref Lvl Offset: 17.54 dB
 Ref Level: 15.00 dBm
Mkr5 2.362 895 GHz -50.33 dBm

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	2.405 000 GHz	-0.6545 dBm			
2	N	1	2.400 000 GHz	-53.66 dBm			
3	N	1	2.380 000 GHz	-52.85 dBm			
4	N	1	2.310 000 GHz	-53.30 dBm			
5	N	1	2.362 895 GHz	-50.33 dBm			
6	N	1					

Oct 21, 2024 5:07:03 PM

3DH5-Ant1-Hop_2480-PASS

Spectrum Analyzer 1
Swept SA

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

Center Frequency: 2.510000000 GHz
 Span: 80.0000000 MHz
 Start Freq: 2.470000000 GHz
 Stop Freq: 2.550000000 GHz
 #Res BW: 100 kHz #Video BW: 300 kHz Sweep: 7.67 ms (1001 pts)

Scale/Div: 10 dB
 Ref Lvl Offset: 17.59 dB
 Ref Level: 15.00 dBm
Mkr4 2.516 80 GHz -51.02 dBm

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	2.477 04 GHz	-3.693 dBm			
2	N	1	2.483 50 GHz	-54.26 dBm			
3	N	1	2.500 00 GHz	-52.30 dBm			
4	N	1	2.516 80 GHz	-51.02 dBm			
5	N	1					
6	N	1					

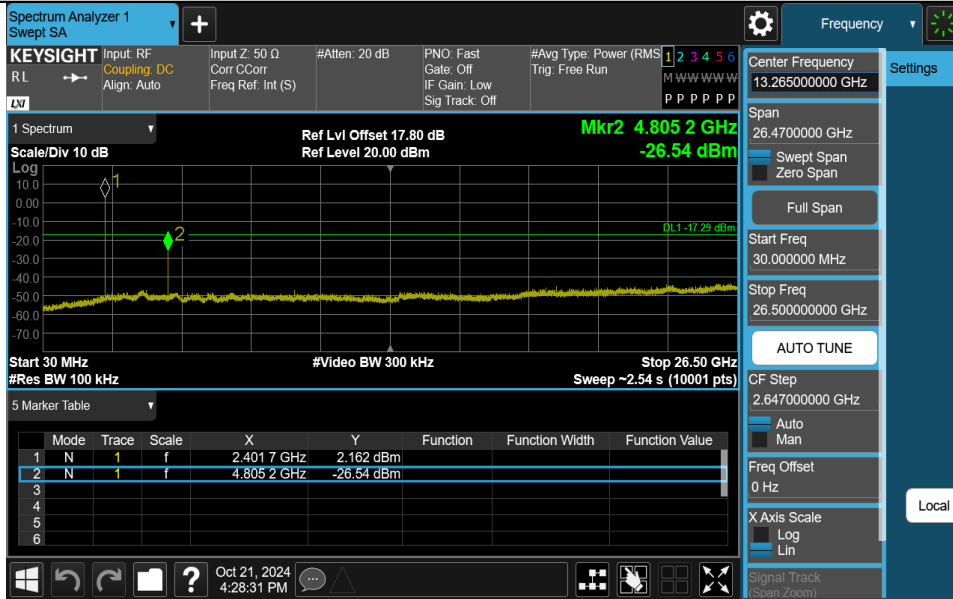
Oct 21, 2024 5:06:44 PM

Appendix G: Conducted Spurious Emission Test Result

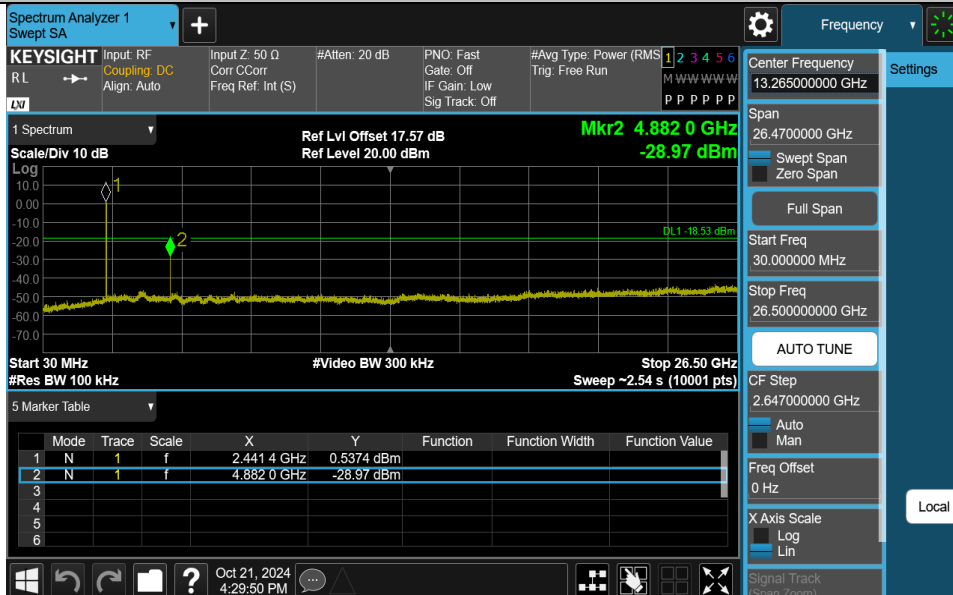
Test Mode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	30~26500	2.71	-26.55	≤-17.29	PASS
DH5	Ant1	2441	30~26500	1.47	-28.97	≤-18.53	PASS
DH5	Ant1	2480	30~26500	0.89	-30.99	≤-19.11	PASS
2DH5	Ant1	2402	30~26500	-0.54	-32.22	≤-20.54	PASS
2DH5	Ant1	2441	30~26500	-2.43	-38.73	≤-22.43	PASS
2DH5	Ant1	2480	30~26500	-3.35	-40.24	≤-23.35	PASS
3DH5	Ant1	2402	30~26500	-0.89	-34.19	≤-20.89	PASS
3DH5	Ant1	2441	30~26500	-2.19	-36.02	≤-22.19	PASS
3DH5	Ant1	2480	30~26500	-3.05	-36.49	≤-23.05	PASS

Test Graphs

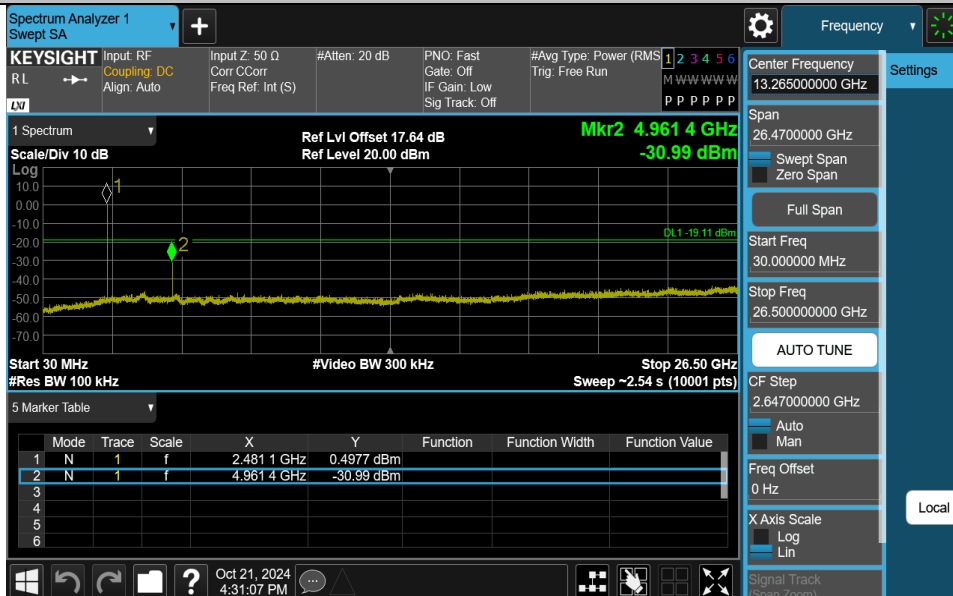
DH5-Ant1-2402-30~26500-PASS

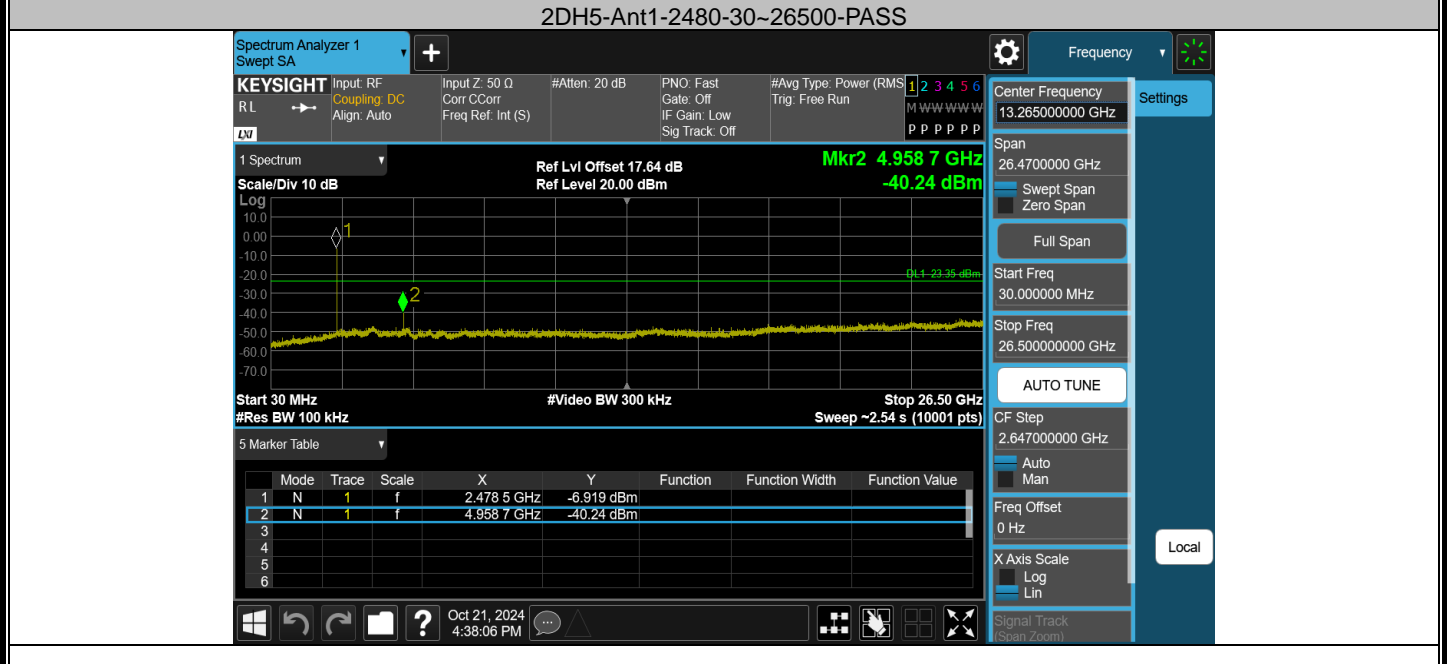
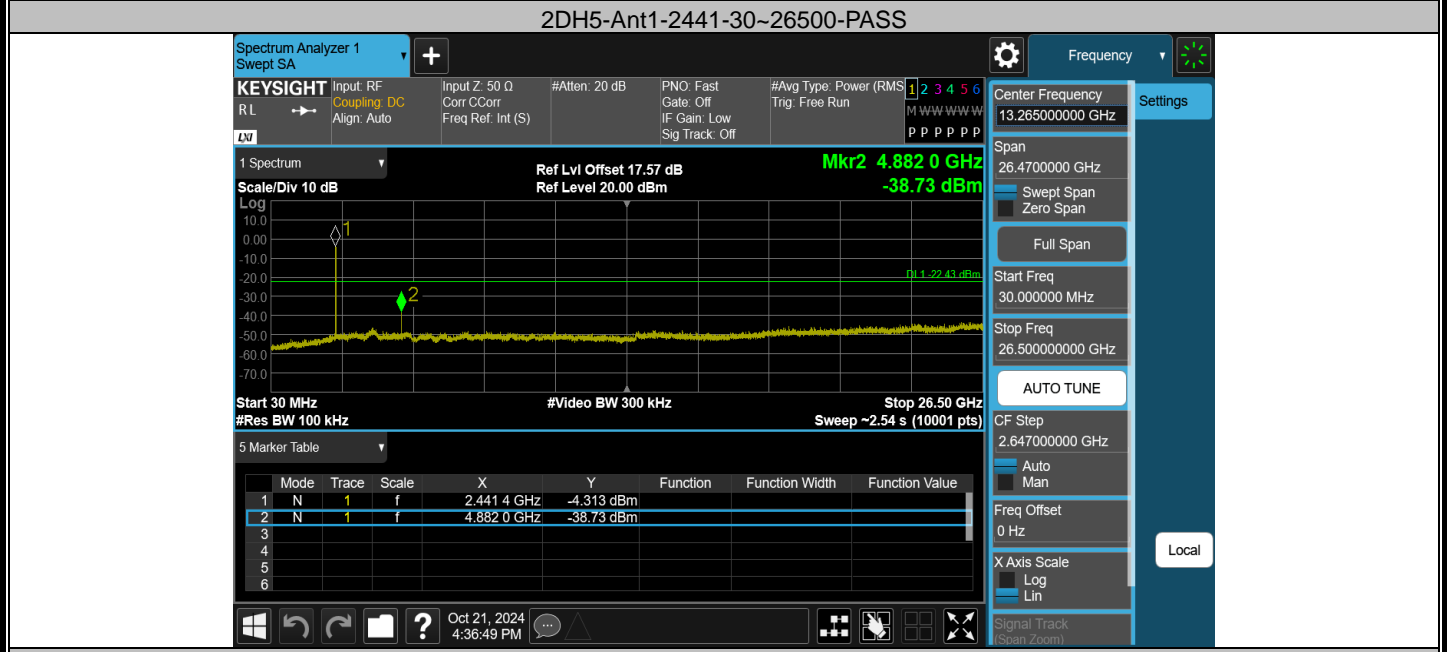
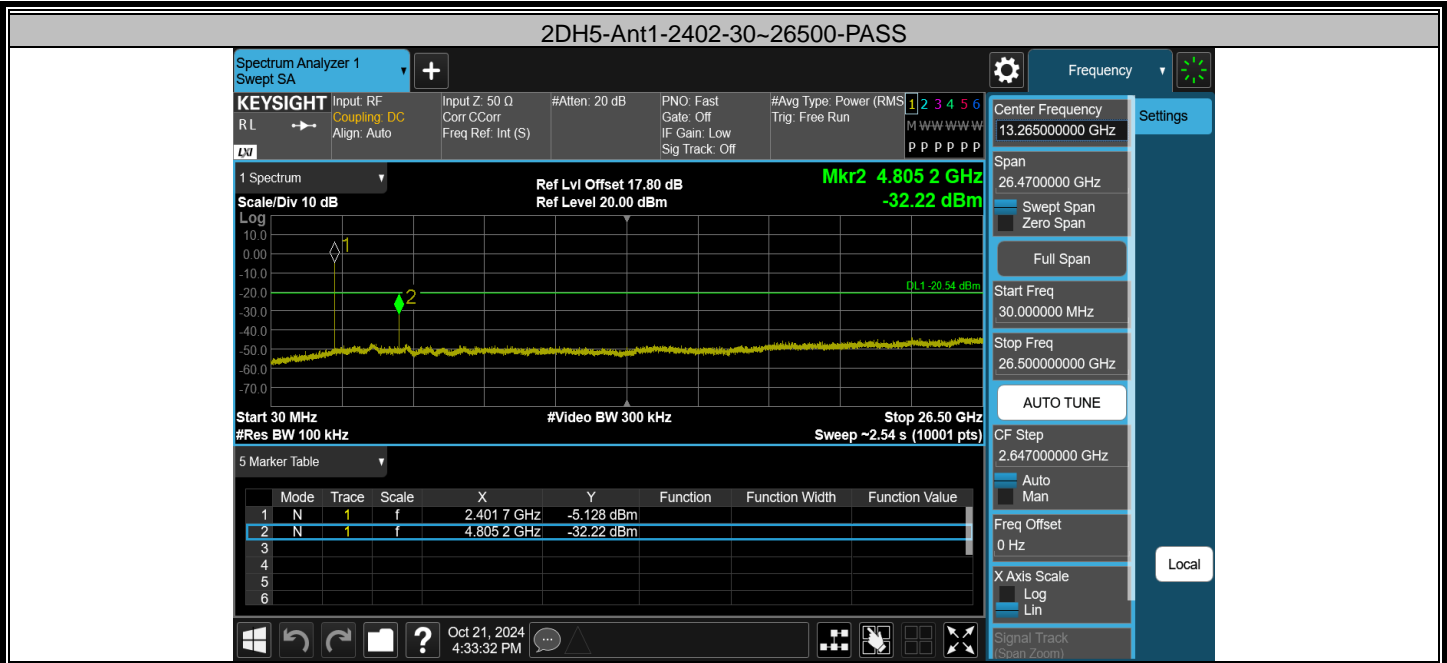


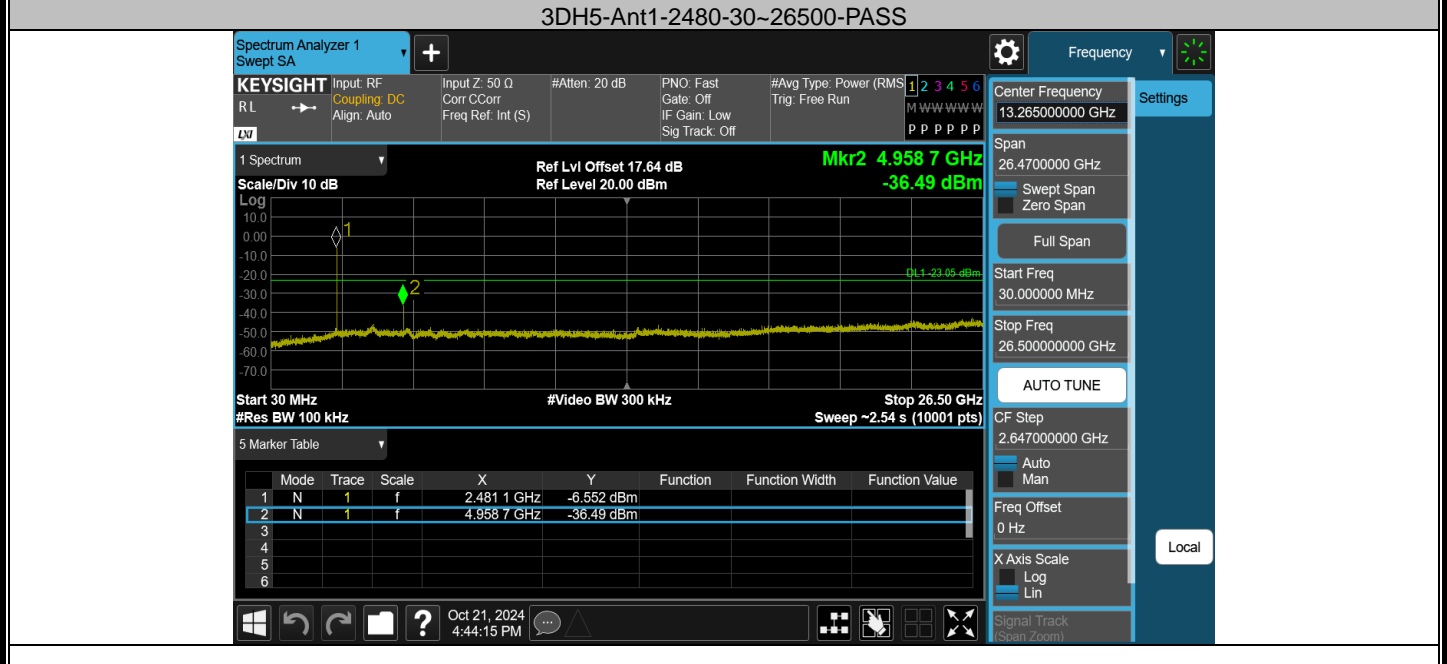
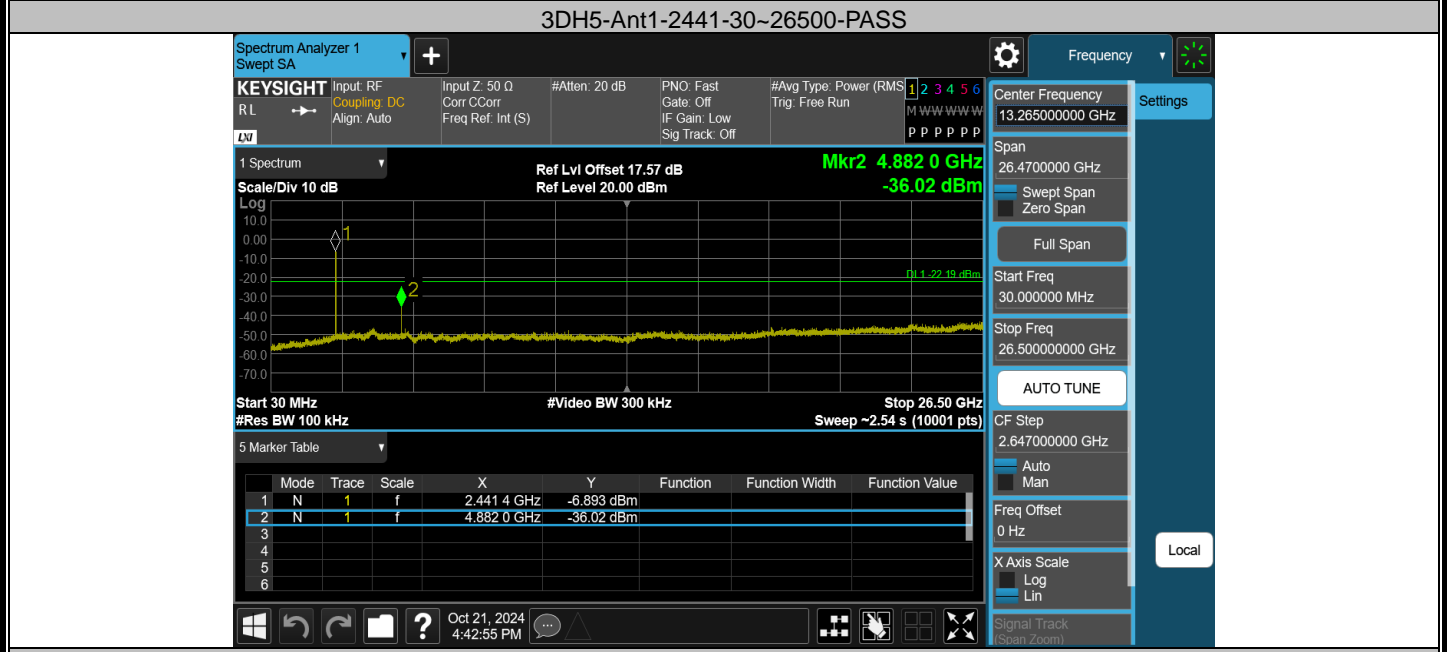
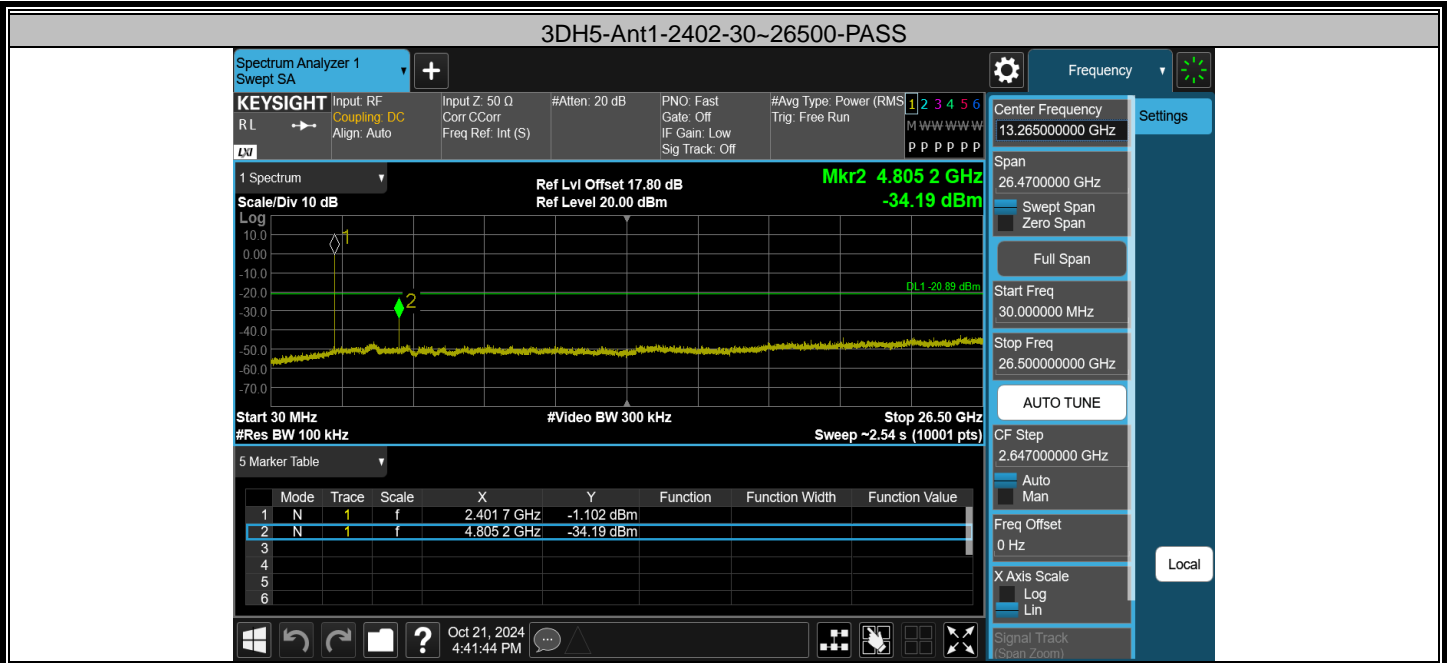
DH5-Ant1-2441-30~26500-PASS



DH5-Ant1-2480-30~26500-PASS







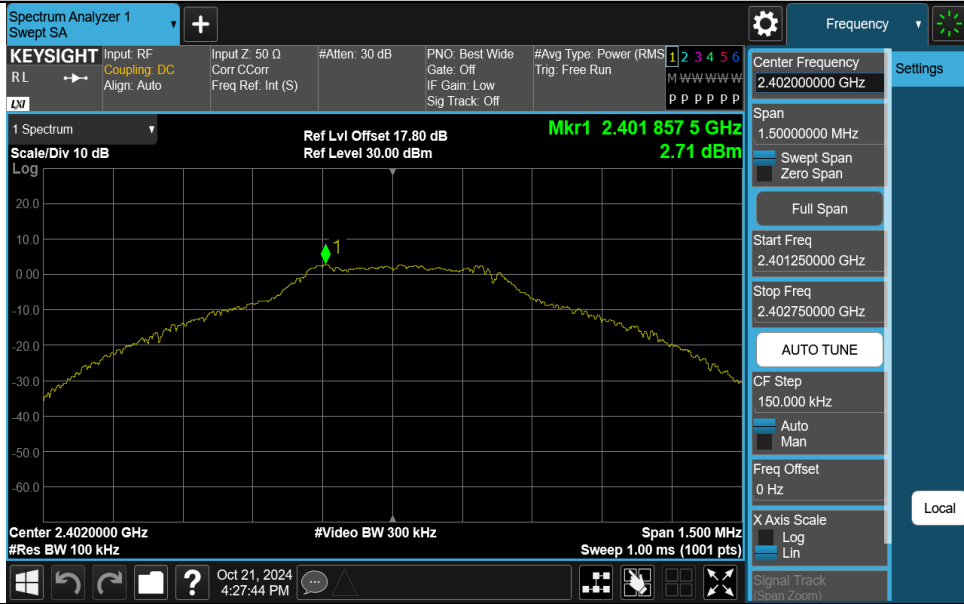
Appendix H: Reference level measurement

Test Result

Test Mode	Antenna	Freq(MHz)	Max.Point[MHz]	Result[dBm]
DH5	Ant1	2402	2401.86	2.71
DH5	Ant1	2441	2441.02	1.47
DH5	Ant1	2480	2479.86	0.89
2DH5	Ant1	2402	2402.04	-0.54
2DH5	Ant1	2441	2440.83	-2.43
2DH5	Ant1	2480	2480.16	-3.35
3DH5	Ant1	2402	2402.20	-0.89
3DH5	Ant1	2441	2440.85	-2.19
3DH5	Ant1	2480	2479.88	-3.05

Test Graphs

DH5-Ant1-2402-PASS



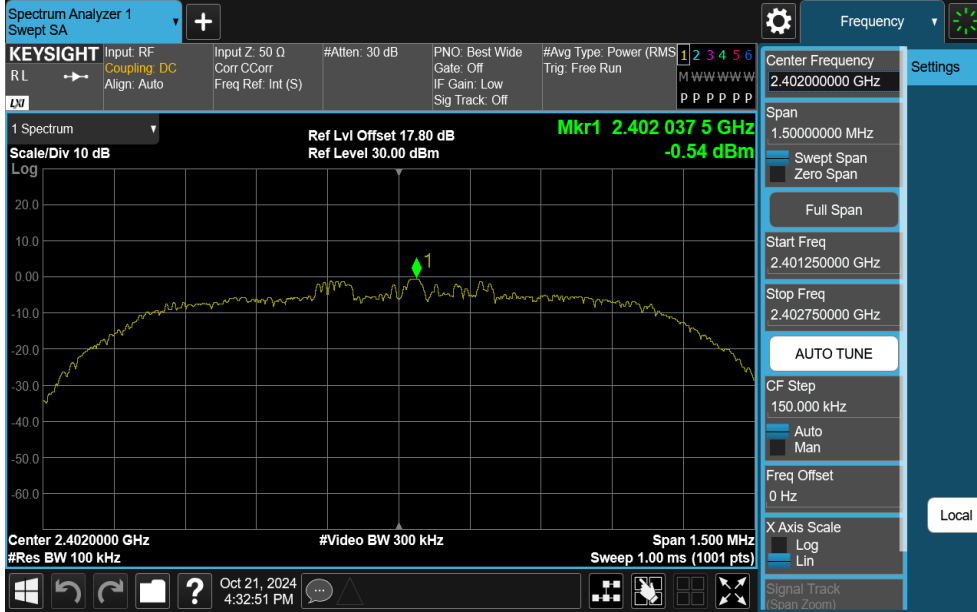
DH5-Ant1-2441-PASS



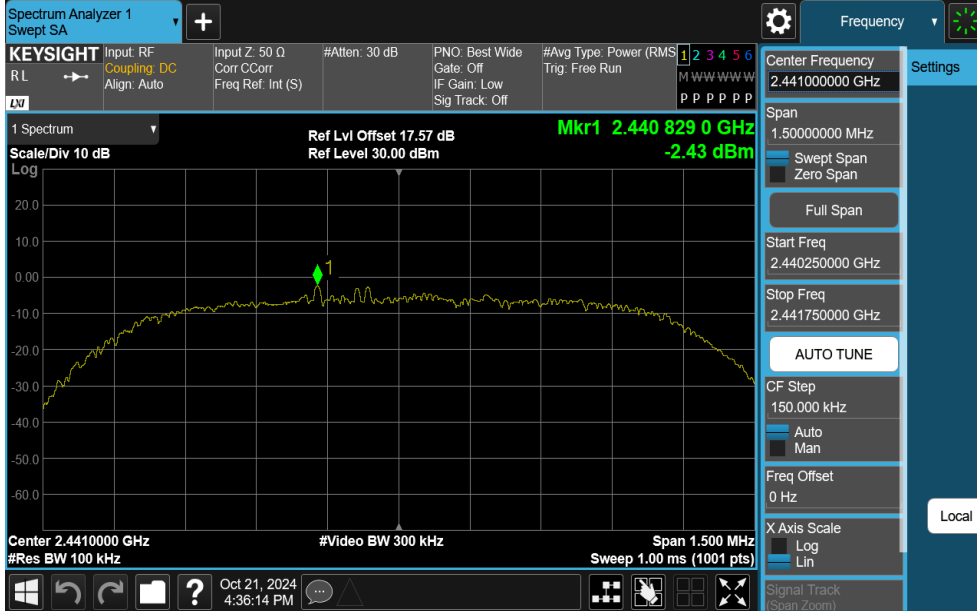
DH5-Ant1-2480-PASS



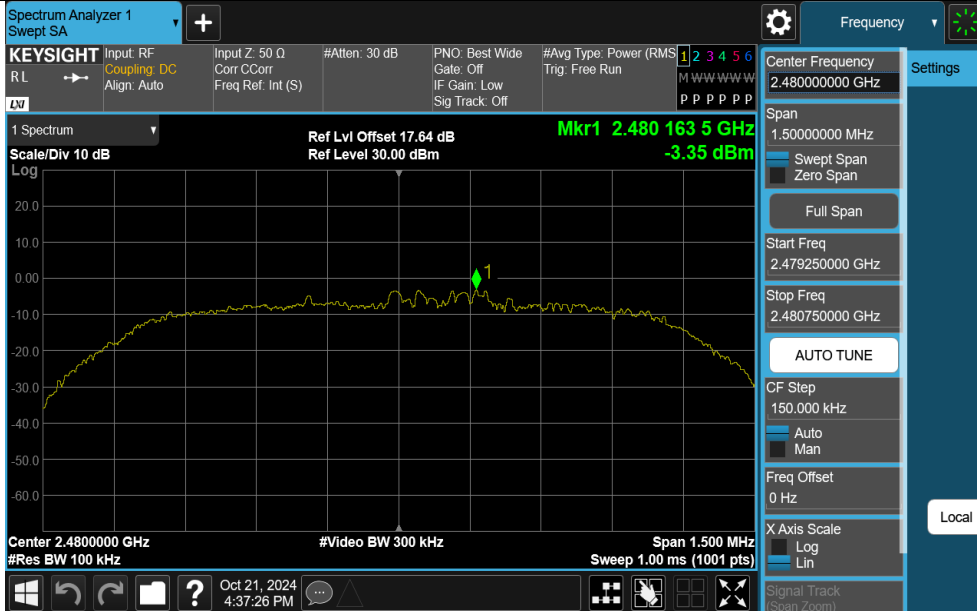
2DH5-Ant1-2402-PASS



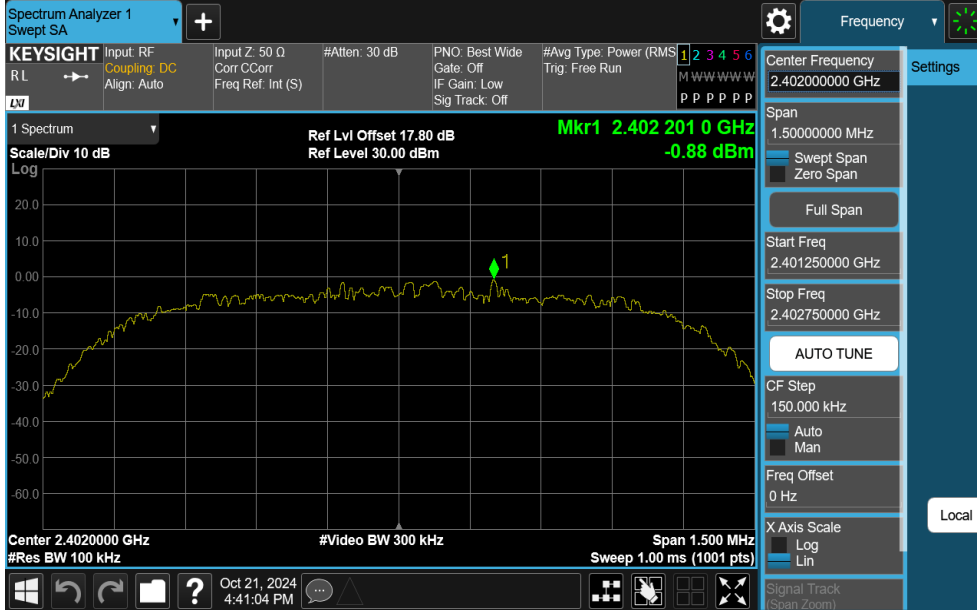
2DH5-Ant1-2441-PASS



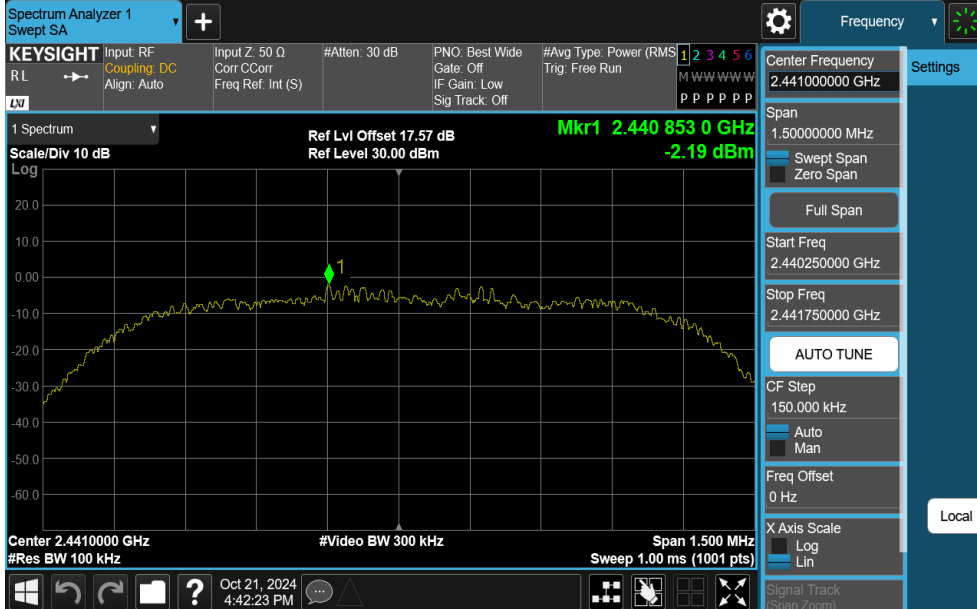
2DH5-Ant1-2480-PASS



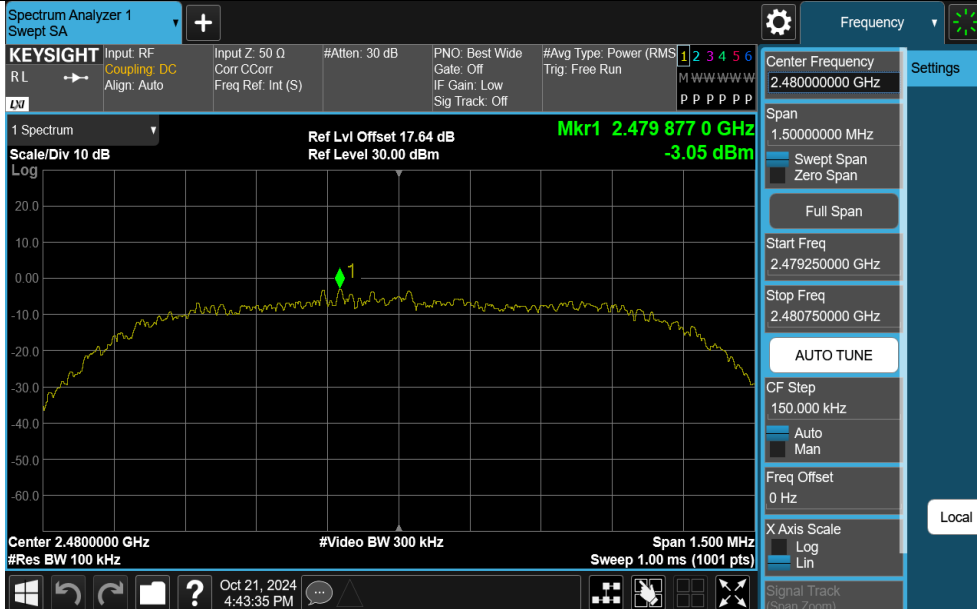
3DH5-Ant1-2402-PASS



3DH5-Ant1-2441-PASS

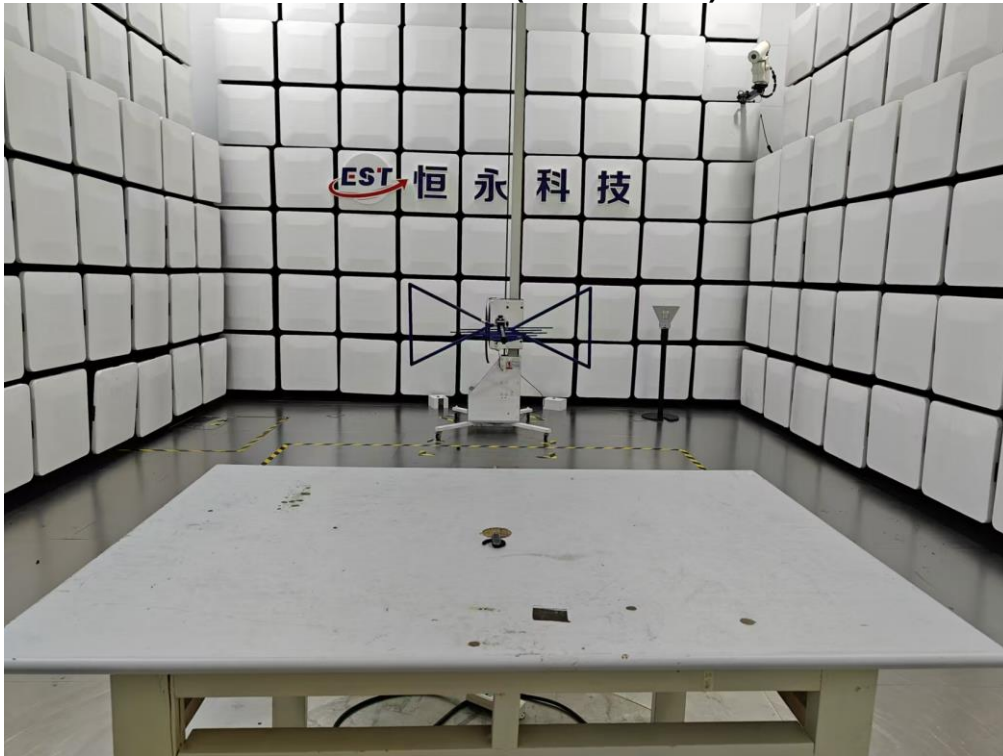


3DH5-Ant1-2480-PASS



13. TEST SETUP PHOTO

Radiated Test (Below 1GHz)



Radiated Test (Above 1GHz)

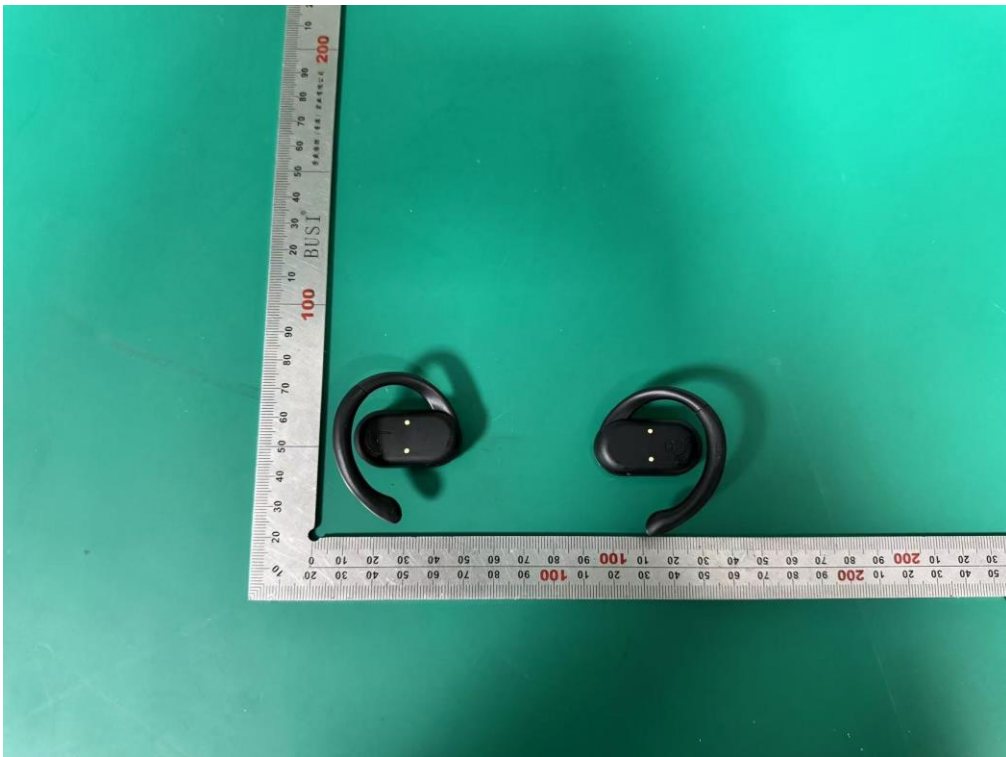
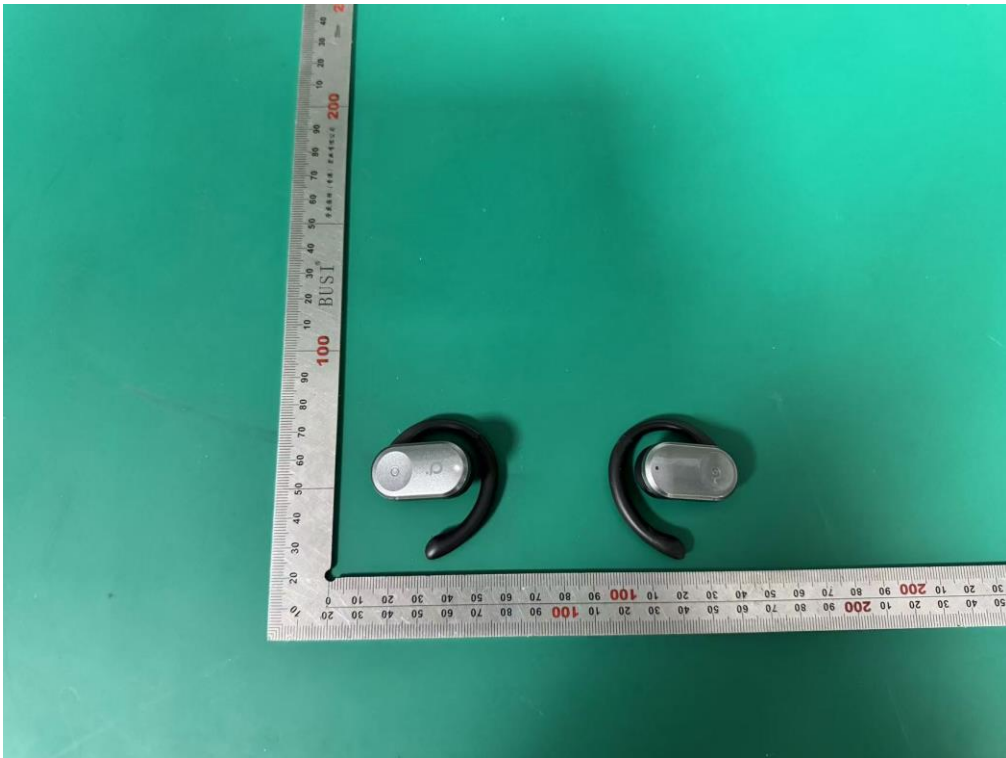


14. EUT PHOTO

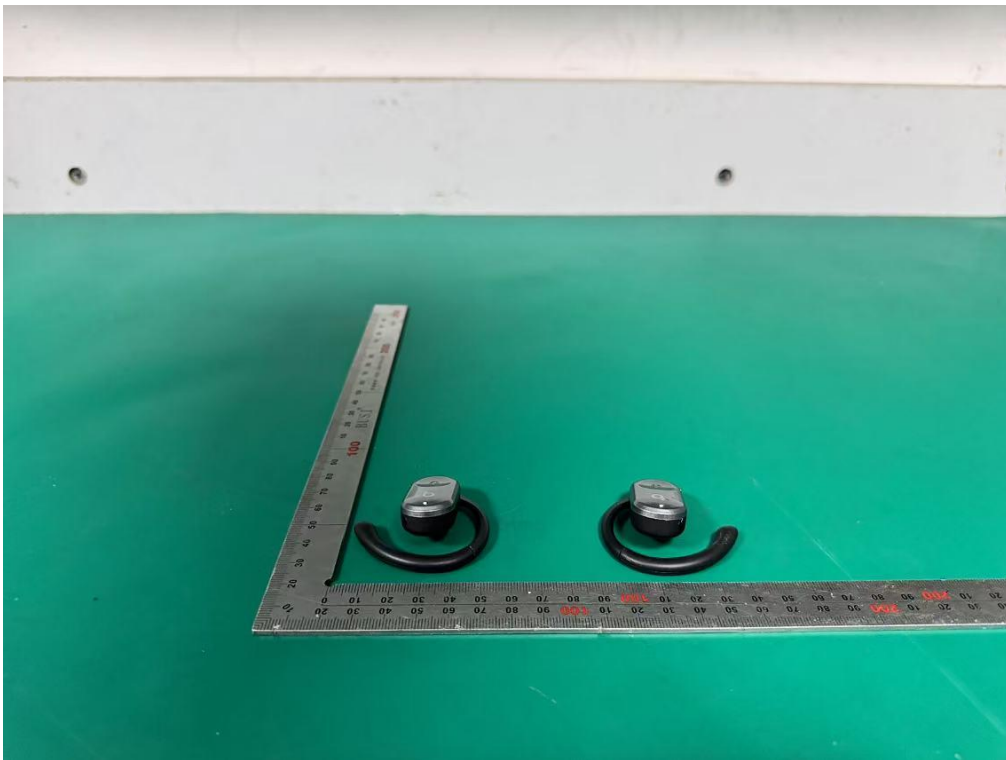
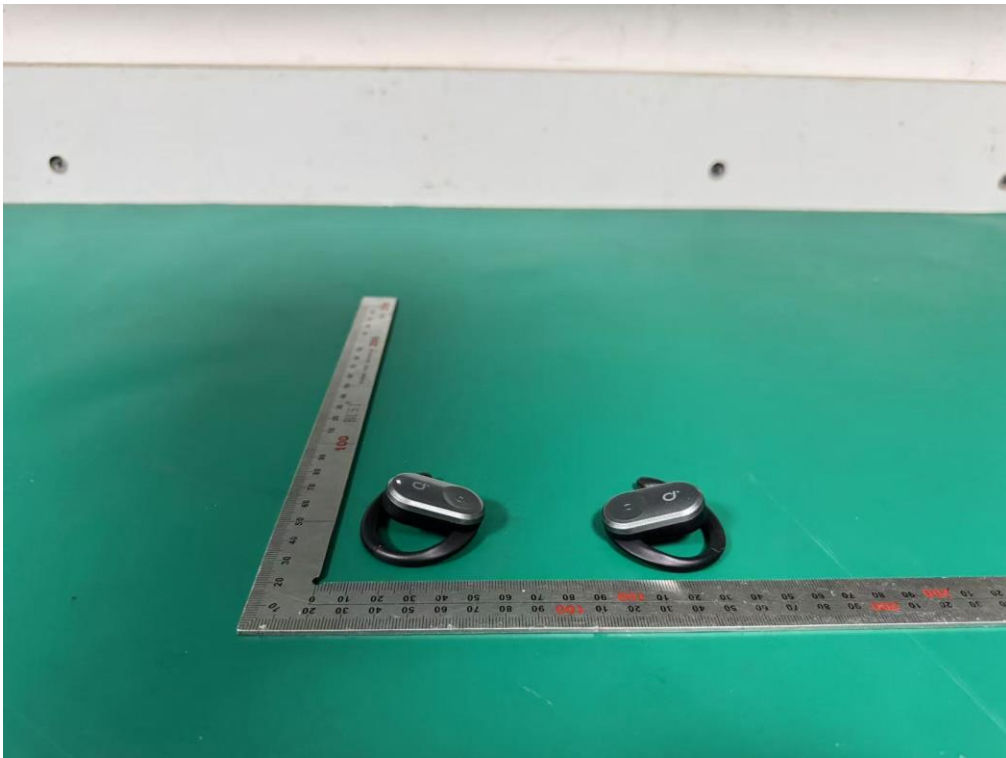
External Photos
M/N: 11384PG



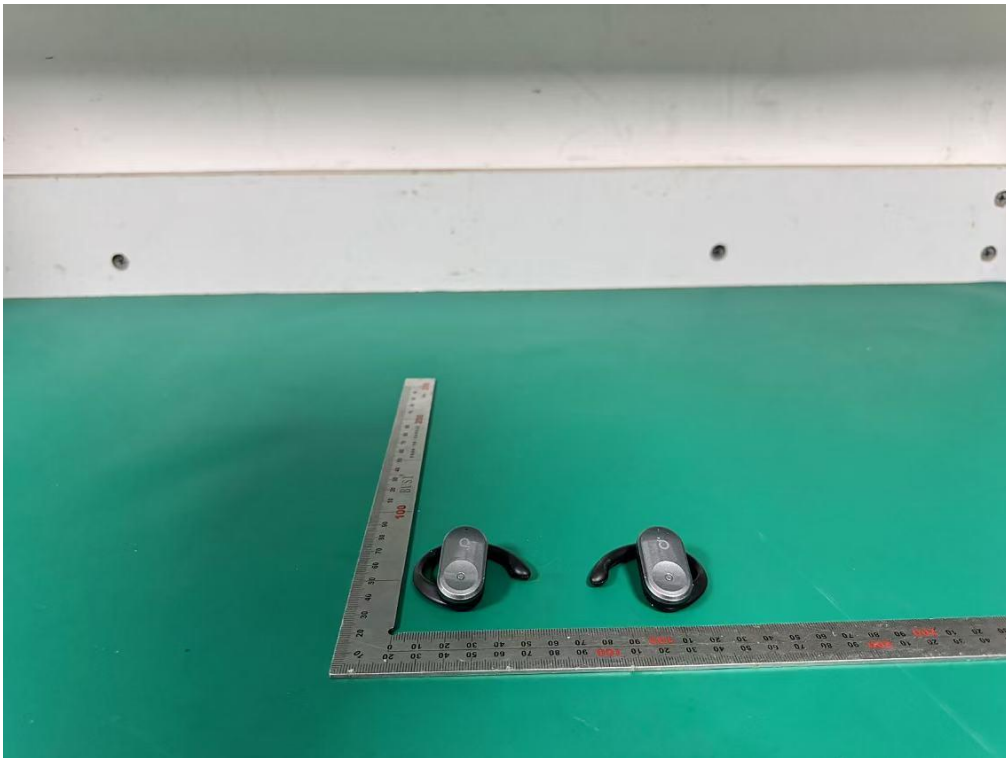
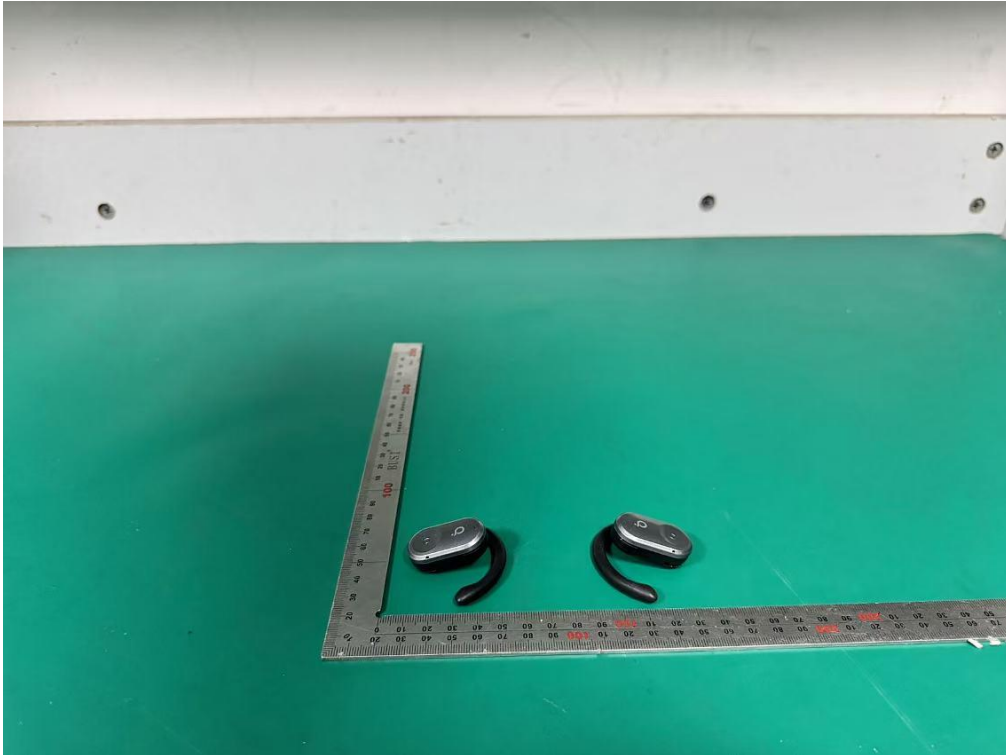
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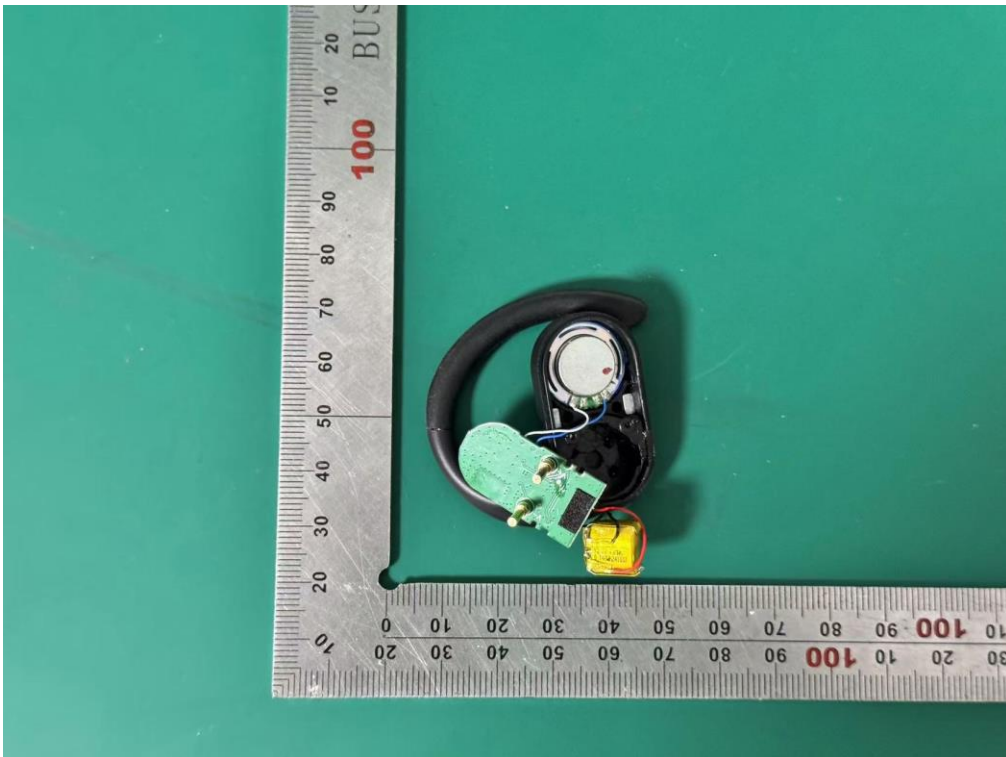
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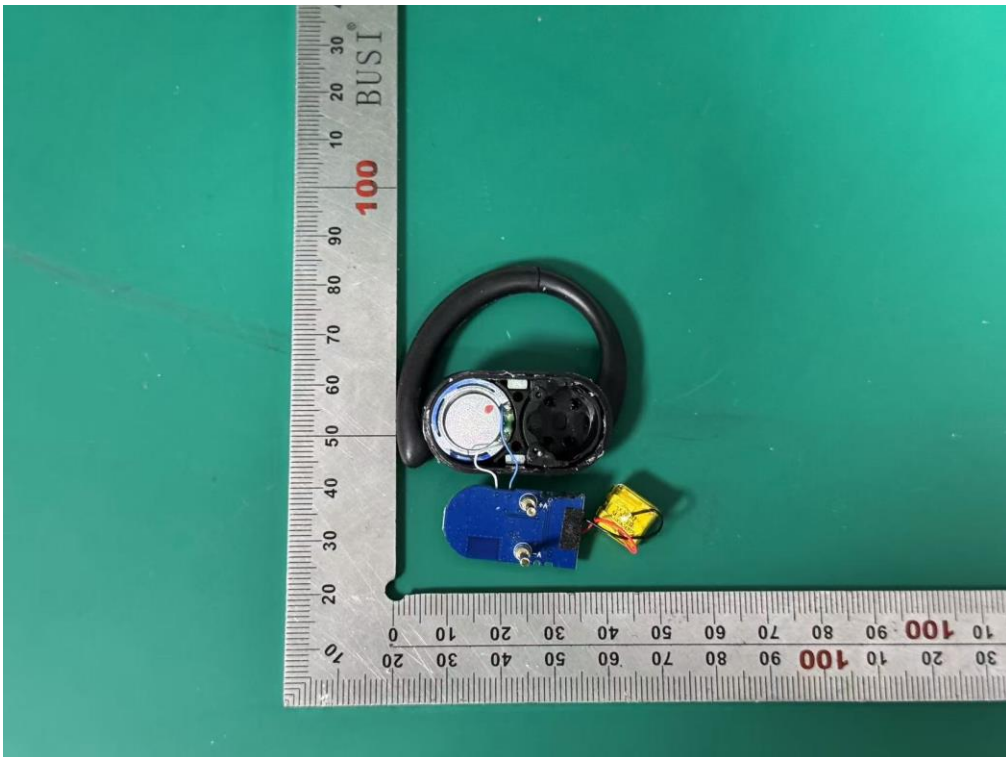
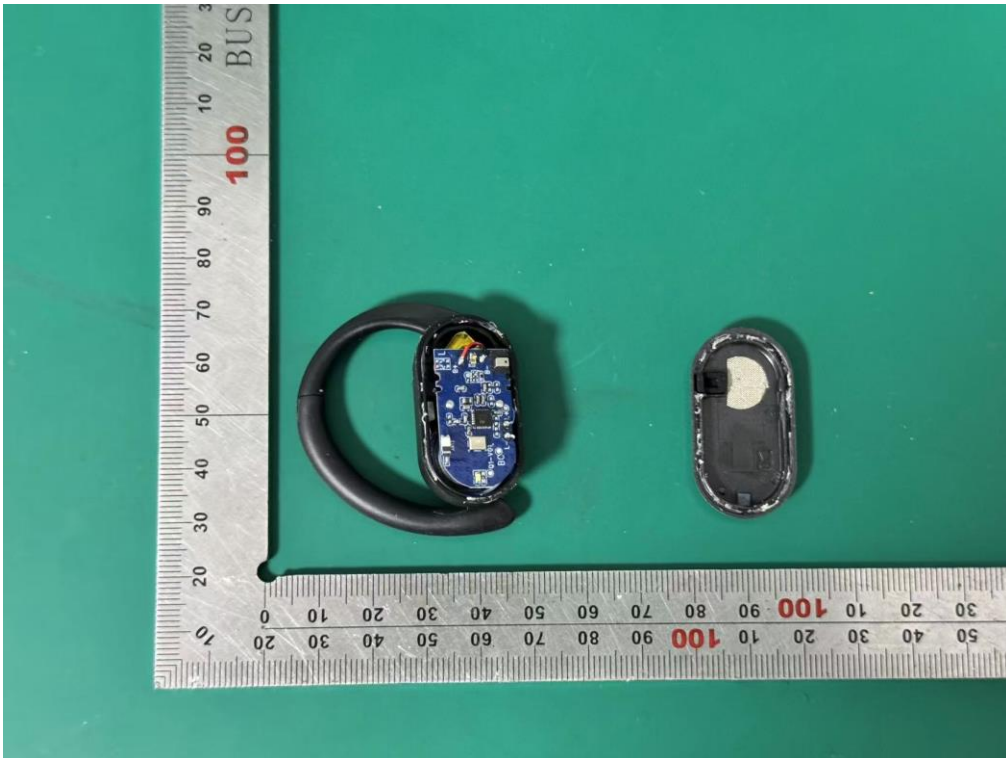
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M/N: 11384PG



Internal Photos
M/N: 11384PG



Internal Photos
M/N: 11384PG



Internal Photos

M/N: 11384PG

Bluetooth
Antenna



End of Test Report