

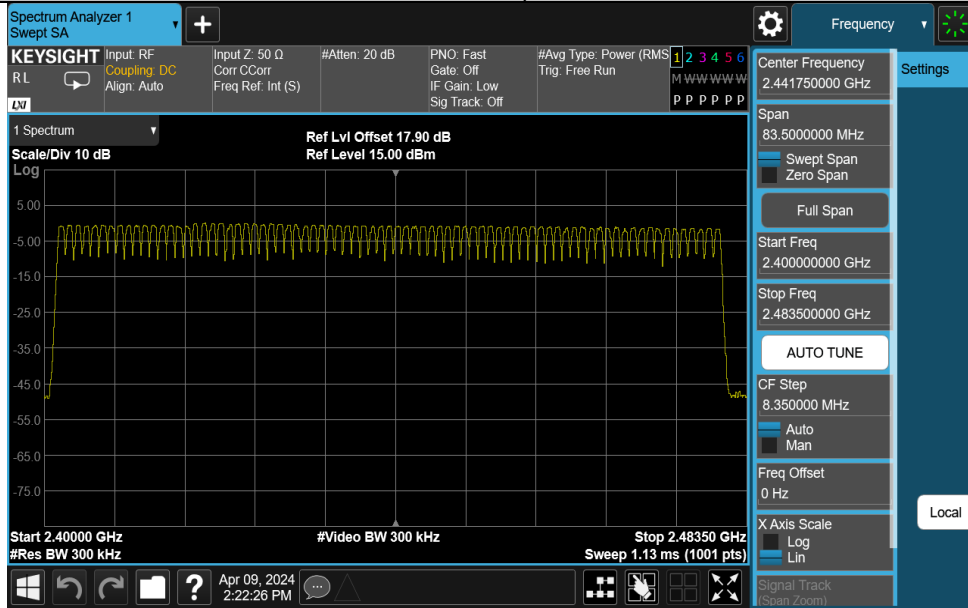
Appendix E: Number of hopping channels

Test Result

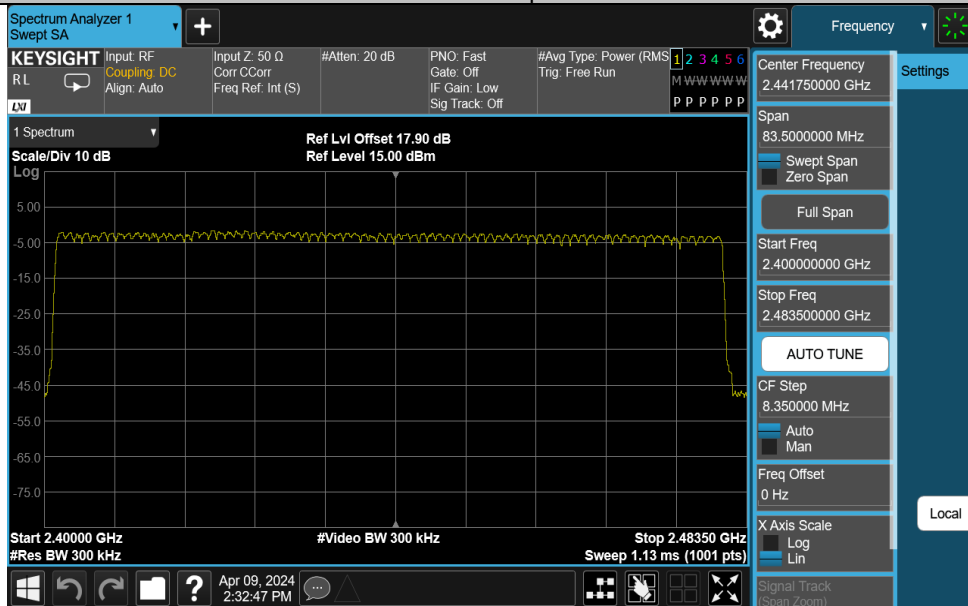
Test Mode	Antenna	Frequency[MHz]	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥ 15	PASS
2DH5	Ant1	Hop	79	≥ 15	PASS
3DH5	Ant1	Hop	79	≥ 15	PASS

Test Graphs

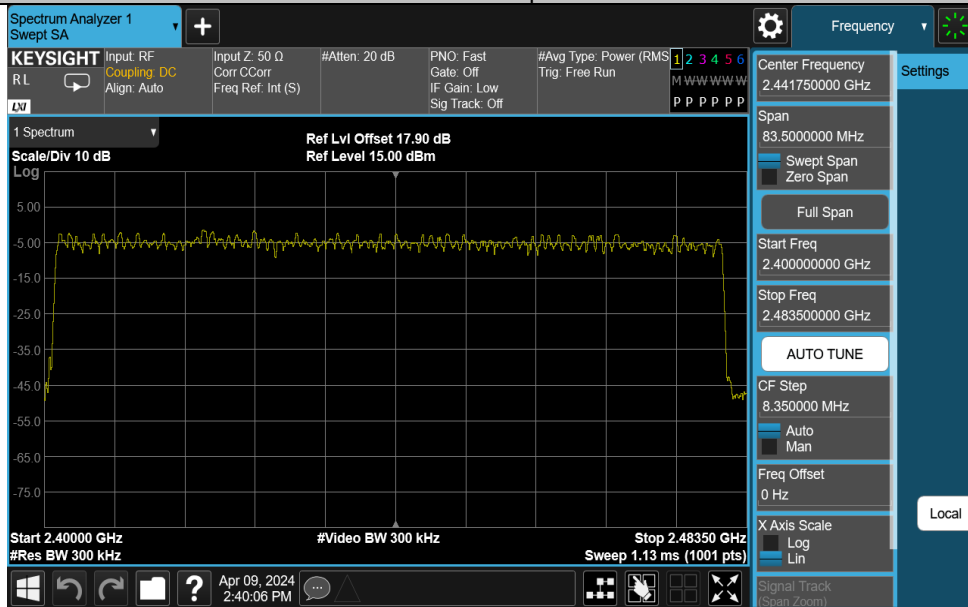
DH5-Ant1-Hop-PASS



2DH5-Ant1-Hop-PASS



3DH5-Ant1-Hop-PASS



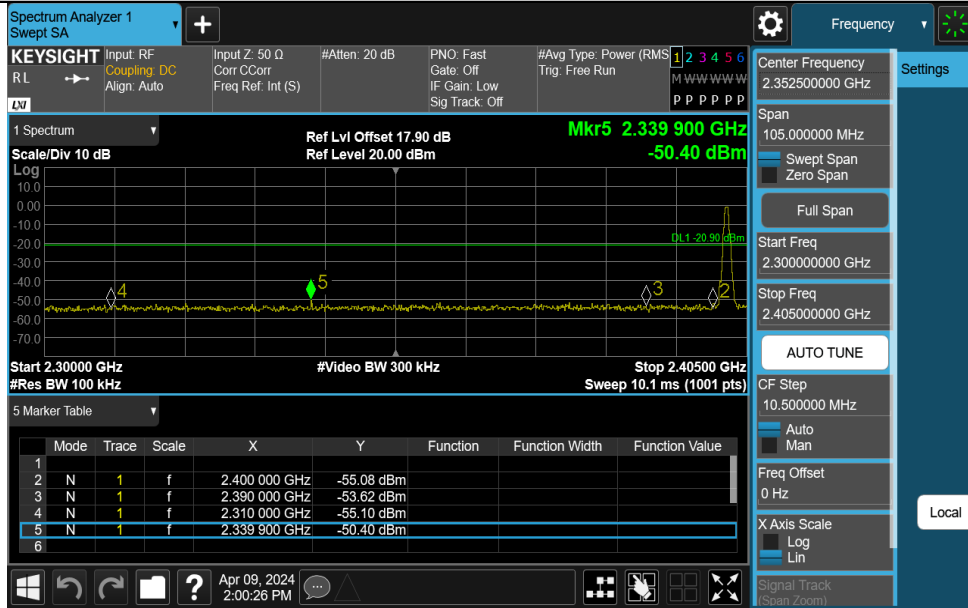
Appendix F: Band edge measurements

Test Result

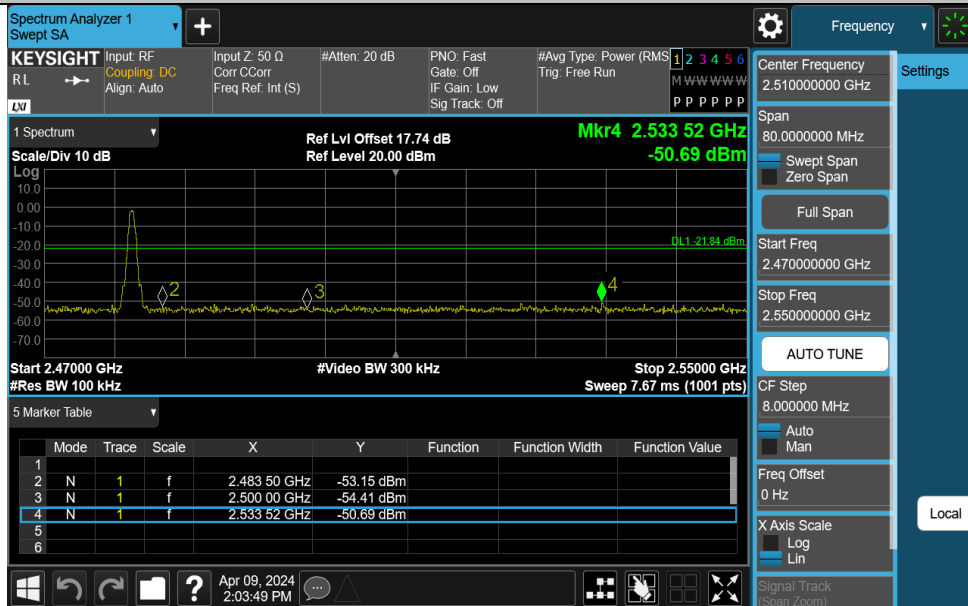
Test Mode	Antenna	ChName	Frequency[MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-0.90	-50.4	≤-20.9	PASS
DH5	Ant1	High	2480	-1.84	-50.69	≤-21.84	PASS
DH5	Ant1	Low	Hop_2402	-1.48	-50.93	≤-21.48	PASS
DH5	Ant1	High	Hop_2480	-2.39	-50.79	≤-22.39	PASS
2DH5	Ant1	Low	2402	-3.97	-51.65	≤-23.97	PASS
2DH5	Ant1	High	2480	-4.54	-51.71	≤-24.54	PASS
2DH5	Ant1	Low	Hop_2402	-4.43	-51.48	≤-24.43	PASS
2DH5	Ant1	High	Hop_2480	-5.24	-50.94	≤-25.24	PASS
3DH5	Ant1	Low	2402	-3.62	-51.13	≤-23.62	PASS
3DH5	Ant1	High	2480	-5.05	-51.09	≤-25.05	PASS
3DH5	Ant1	Low	Hop_2402	-3.30	-51.15	≤-23.3	PASS
3DH5	Ant1	High	Hop_2480	-4.93	-50.79	≤-24.93	PASS

Test Graphs

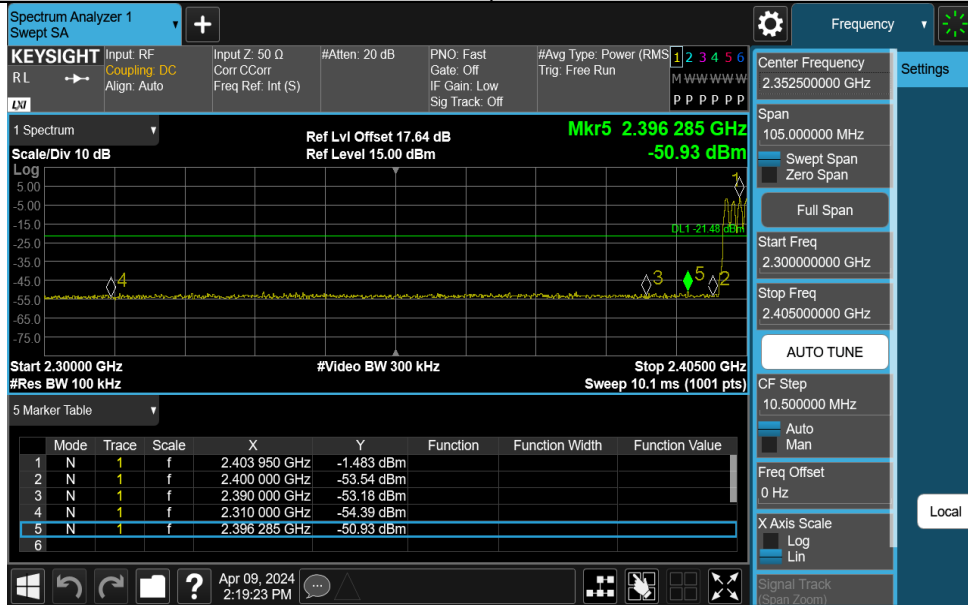
DH5-Ant1-2402-PASS



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: CCorr 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

Scale/Div 10 dB
Ref Lvl Offset 17.69 dB
Ref Level 15.00 dB
Mkr4 2.496 08 GHz
-50.79 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	2.478 96 GHz	-2.385 dBm		
2	N	1	f	2.483 50 GHz	-53.53 dBm		
3	N	1	f	2.500 00 GHz	-53.38 dBm		
4	N	1	f	2.496 08 GHz	-50.79 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: CCorr 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

Scale/Div 10 dB
Ref Lvl Offset 17.90 dB
Ref Level 20.00 dB
Mkr5 2.382 740 GHz
-51.65 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	-52.88 dBm		
3	N	1	f	2.380 000 GHz	-54.80 dBm		
4	N	1	f	2.310 000 GHz	-55.20 dBm		
5	N	1	f	2.382 740 GHz	-51.65 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: CCorr 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

Scale/Div 10 dB
Ref Lvl Offset 17.74 dB
Ref Level 20.00 dB
Mkr4 2.549 52 GHz
-51.71 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							
2	N	1	f	2.483 50 GHz	-54.72 dBm		
3	N	1	f	2.500 00 GHz	-54.75 dBm		
4	N	1	f	2.549 52 GHz	-51.71 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

Scale/Div: 10 dB

Ref Lvl Offset: 17.64 dB

Ref Level: 15.00 dBm

Mkr5: 2.399 540 GHz, -51.48 dBm

DL1: -24.43 dBm

Start: 2.30000 GHz, Stop: 2.40500 GHz

#Res BW: 100 kHz, #Video BW: 300 kHz, Sweep: 10.1 ms (1001 pts)

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.404 265 GHz	-4.426 dBm		
2	N	1	f	2.400 000 GHz	-53.50 dBm		
3	N	1	f	2.390 000 GHz	-51.78 dBm		
4	N	1	f	2.310 000 GHz	-53.11 dBm		
5	N	1	f	2.399 540 GHz	-51.48 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

Scale/Div: 10 dB

Ref Lvl Offset: 17.69 dB

Ref Level: 15.00 dBm

Mkr4: 2.515 44 GHz, -50.94 dBm

DL1: -25.24 dBm

Start: 2.47000 GHz, Stop: 2.55000 GHz

#Res BW: 100 kHz, #Video BW: 300 kHz, Sweep: 7.67 ms (1001 pts)

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.470 16 GHz	-5.240 dBm		
2	N	1	f	2.483 50 GHz	-53.00 dBm		
3	N	1	f	2.500 00 GHz	-51.72 dBm		
4	N	1	f	2.515 44 GHz	-50.94 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

Scale/Div: 10 dB

Ref Lvl Offset: 17.90 dB

Ref Level: 20.00 dBm

Mkr5: 2.359 850 GHz, -51.13 dBm

DL1: -23.62 dBm

Start: 2.30000 GHz, Stop: 2.40500 GHz

#Res BW: 100 kHz, #Video BW: 300 kHz, 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	-54.82 dBm		
3	N	1	f	2.390 000 GHz	-54.15 dBm		
4	N	1	f	2.310 000 GHz	-55.73 dBm		
5	N	1	f	2.359 850 GHz	-51.13 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: CCorr 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

Scale/Div: 10 dB

Ref Lvl Offset: 17.74 dB

Ref Level: 20.00 dBm

Mkr4: 2.532 24 GHz, -51.09 dBm

Start: 2.47000 GHz, Stop: 2.55000 GHz

#Res BW: 100 kHz, #Video BW: 300 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	-53.98 dBm		
2	N	1	f	2.500 00 GHz	-56.06 dBm		
3	N	1	f	2.532 24 GHz	-51.09 dBm		
4	N	1	f				
5	N	1	f				
6	N	1	f				

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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: CCorr 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

Scale/Div: 10 dB

Ref Lvl Offset: 17.64 dB

Ref Level: 15.00 dBm

Mkr5: 2.398 490 GHz, -51.15 dBm

Start: 2.30000 GHz, Stop: 2.40500 GHz

#Res BW: 100 kHz, #Video BW: 300 kHz, Sweep: 10.1 ms (1001 pts)

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.403 110 GHz	-3.297 dBm		
2	N	1	f	2.400 000 GHz	-53.68 dBm		
3	N	1	f	2.380 000 GHz	-53.87 dBm		
4	N	1	f	2.310 000 GHz	-53.69 dBm		
5	N	1	f	2.398 490 GHz	-51.15 dBm		
6	N	1	f				

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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: CCorr 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

Scale/Div: 10 dB

Ref Lvl Offset: 17.69 dB

Ref Level: 15.00 dBm

Mkr4: 2.524 56 GHz, -50.79 dBm

Start: 2.47000 GHz, Stop: 2.55000 GHz

#Res BW: 100 kHz, #Video BW: 300 kHz, Sweep: 7.67 ms (1001 pts)

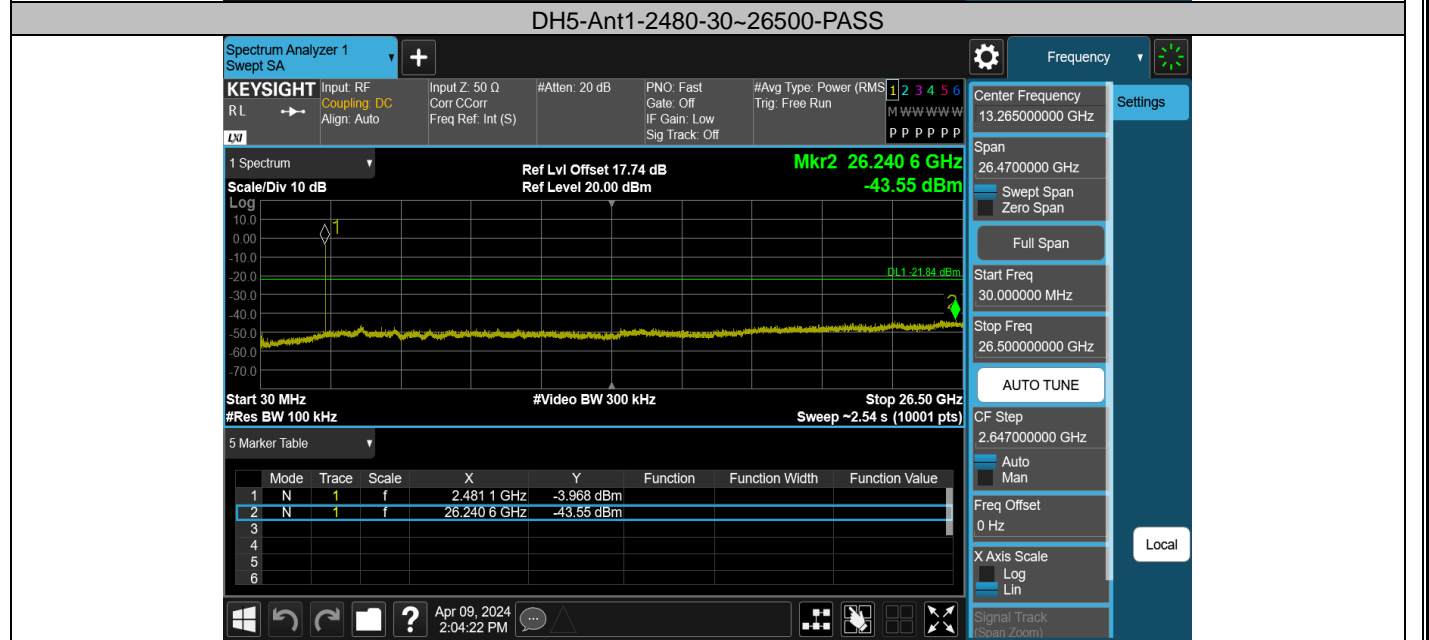
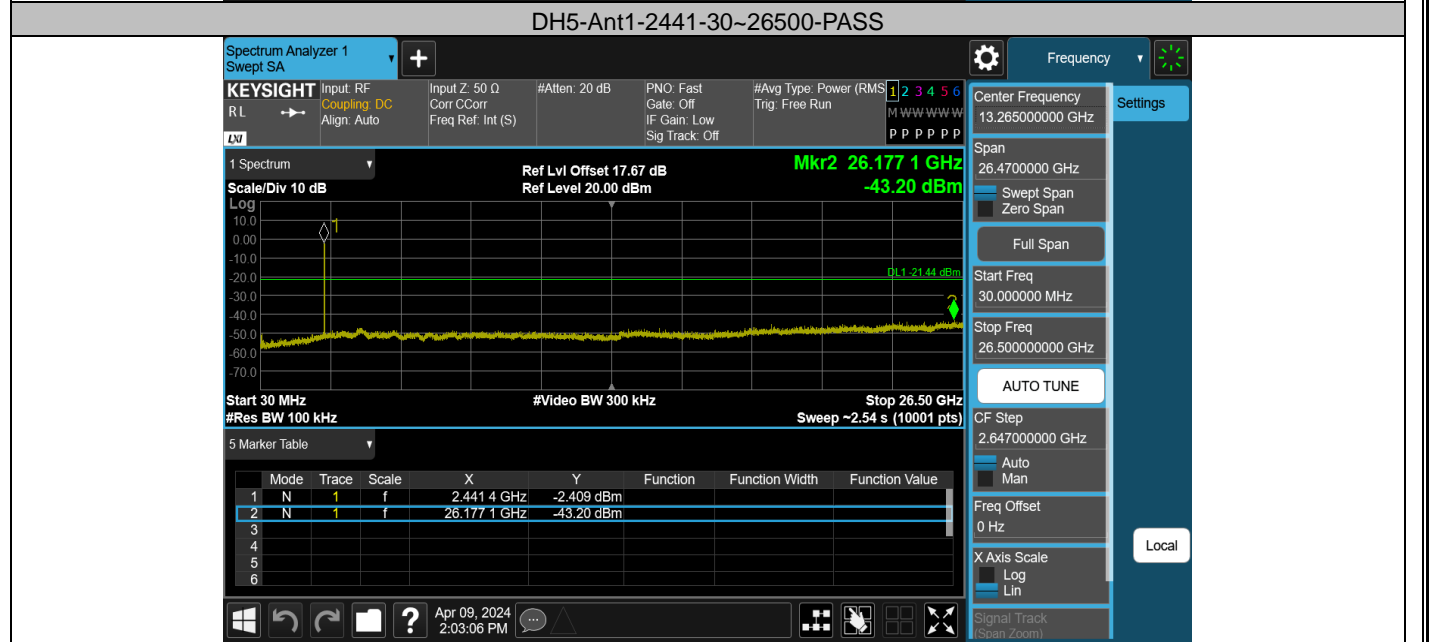
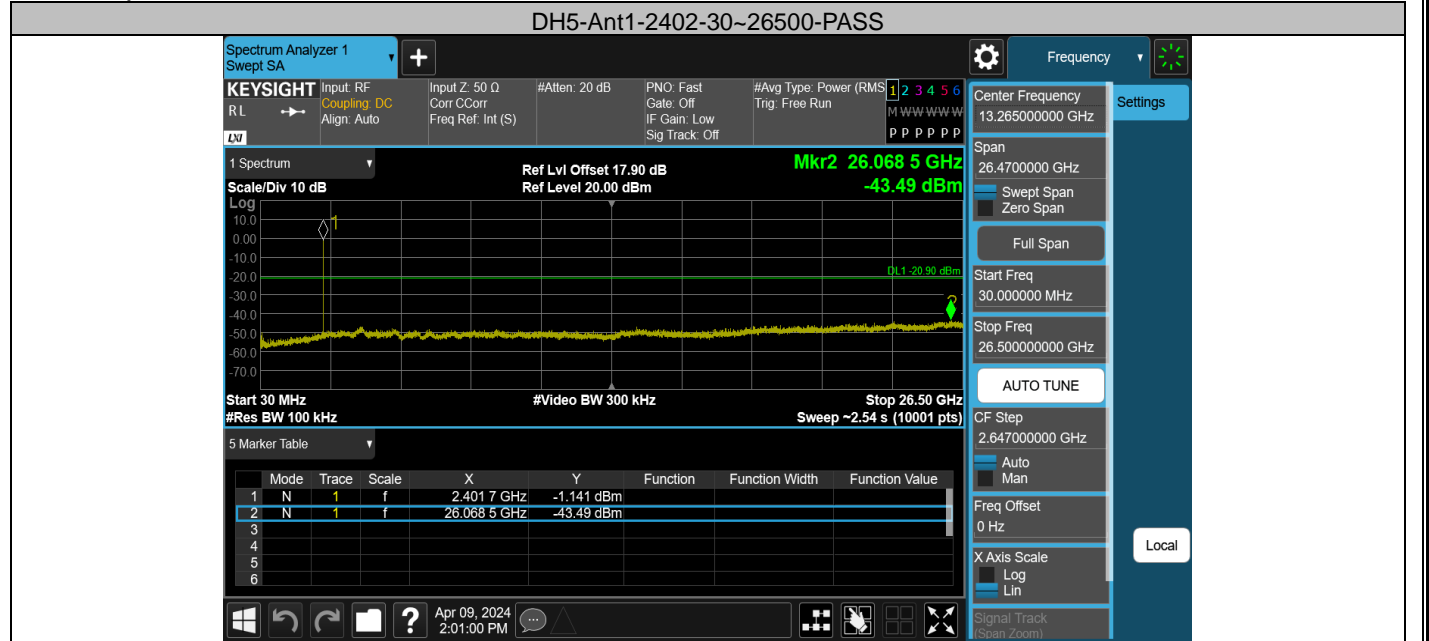
Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.475 84 GHz	-4.933 dBm		
2	N	1	f	2.483 50 GHz	-53.38 dBm		
3	N	1	f	2.500 00 GHz	-52.54 dBm		
4	N	1	f	2.524 56 GHz	-50.79 dBm		
5	N	1	f				
6	N	1	f				

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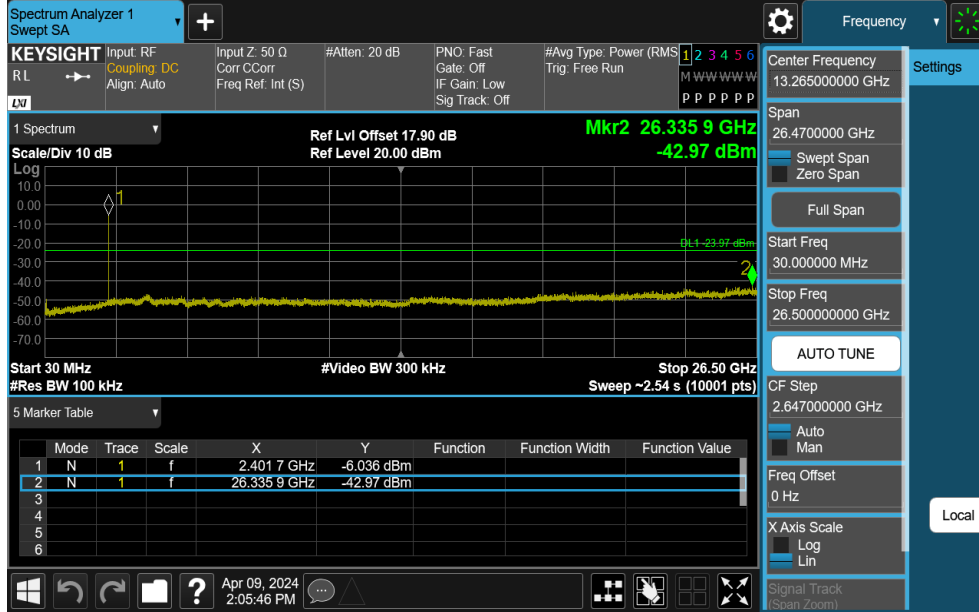
Appendix G: Conducted Spurious Emission Test Result

Test Mode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	30~26500	-0.90	-43.49	≤-20.9	PASS
DH5	Ant1	2441	30~26500	-1.44	-43.2	≤-21.44	PASS
DH5	Ant1	2480	30~26500	-1.84	-43.55	≤-21.84	PASS
2DH5	Ant1	2402	30~26500	-3.97	-42.97	≤-23.97	PASS
2DH5	Ant1	2441	30~26500	-4.32	-43.9	≤-24.32	PASS
2DH5	Ant1	2480	30~26500	-4.54	-43.6	≤-24.54	PASS
3DH5	Ant1	2402	30~26500	-3.62	-43.64	≤-23.62	PASS
3DH5	Ant1	2441	30~26500	-3.93	-43.39	≤-23.93	PASS
3DH5	Ant1	2480	30~26500	-5.05	-43.06	≤-25.05	PASS

Test Graphs



2DH5-Ant1-2402-30~26500-PASS



2DH5-Ant1-2441-30~26500-PASS



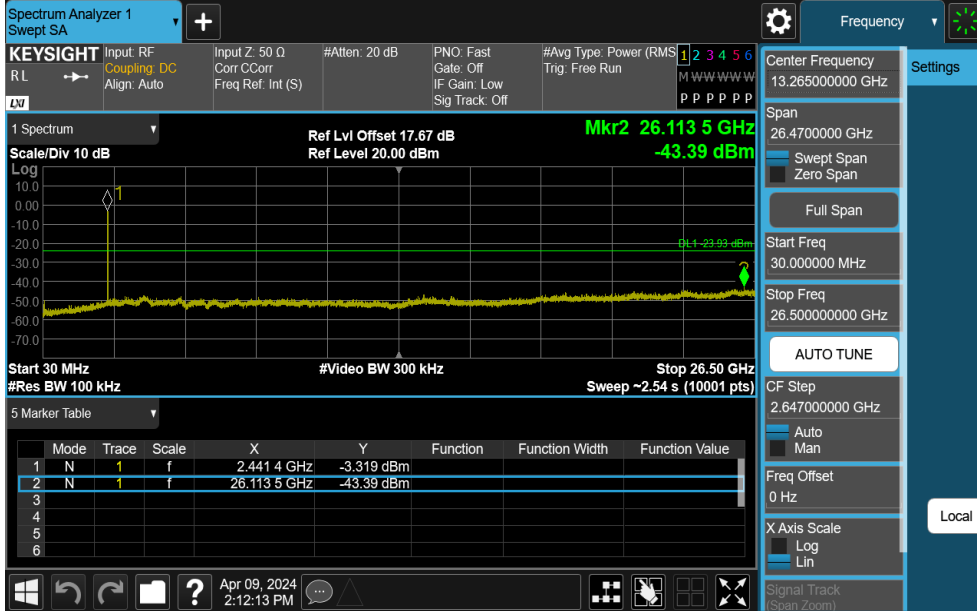
2DH5-Ant1-2480-30~26500-PASS



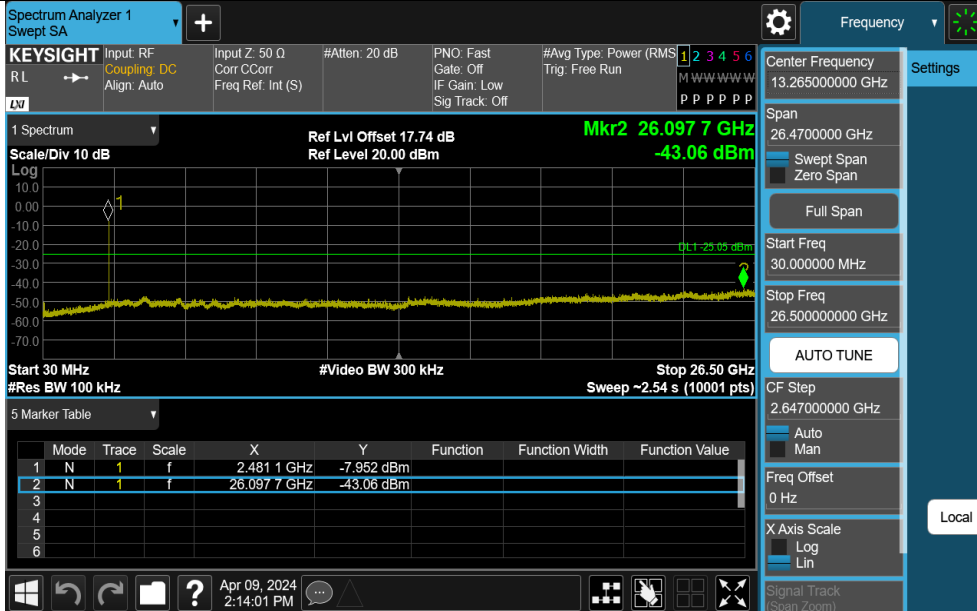
3DH5-Ant1-2402-30~26500-PASS



3DH5-Ant1-2441-30~26500-PASS



3DH5-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	2402.15	-0.90
DH5	Ant1	2441	2440.84	-1.44
DH5	Ant1	2480	2480.16	-1.84
2DH5	Ant1	2402	2402.16	-3.97
2DH5	Ant1	2441	2441.06	-4.32
2DH5	Ant1	2480	2480.17	-4.54
3DH5	Ant1	2402	2401.90	-3.62
3DH5	Ant1	2441	2440.81	-3.93
3DH5	Ant1	2480	2479.96	-5.05

Test Graphs

DH5-Ant1-2402-PASS



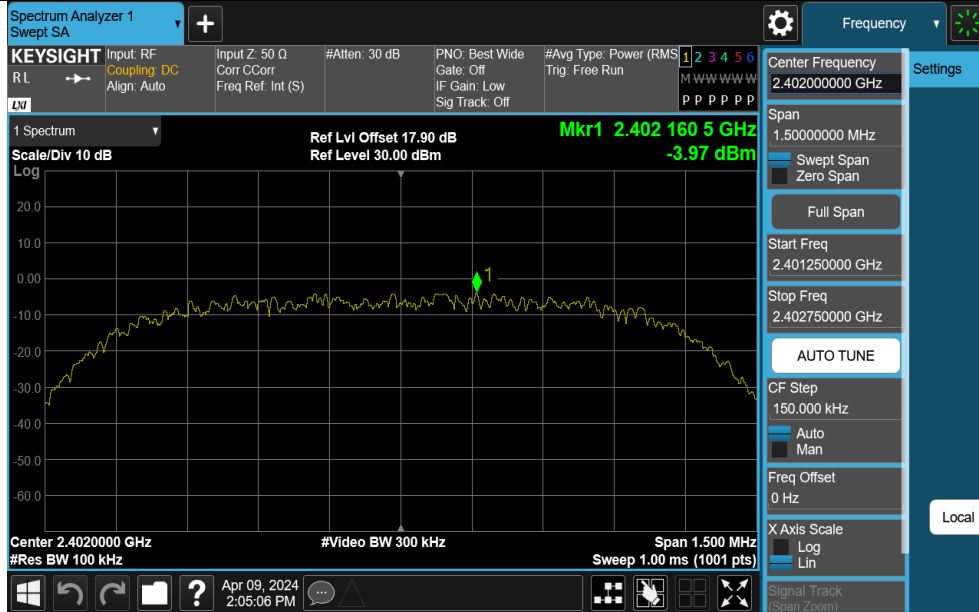
DH5-Ant1-2441-PASS



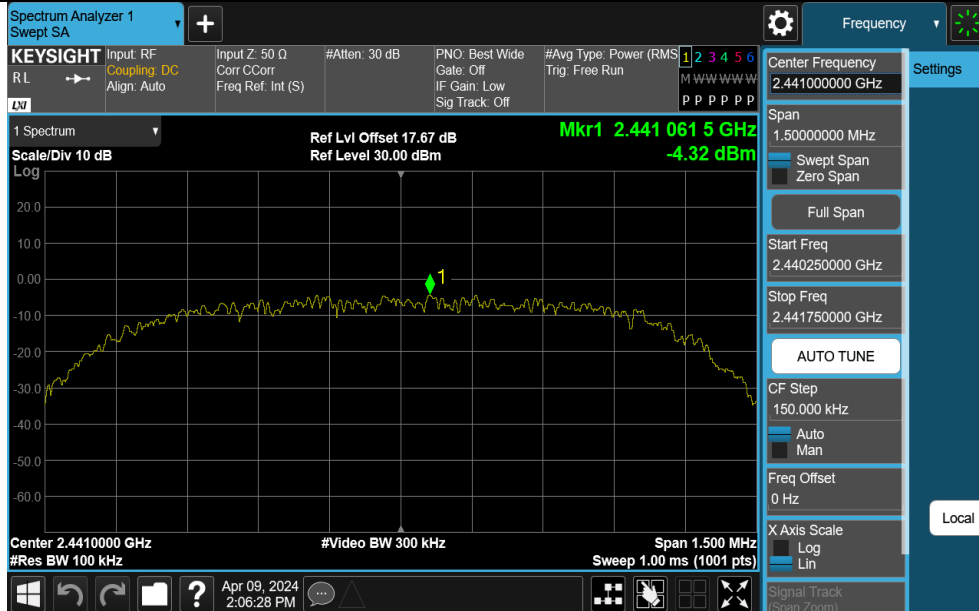
DH5-Ant1-2480-PASS



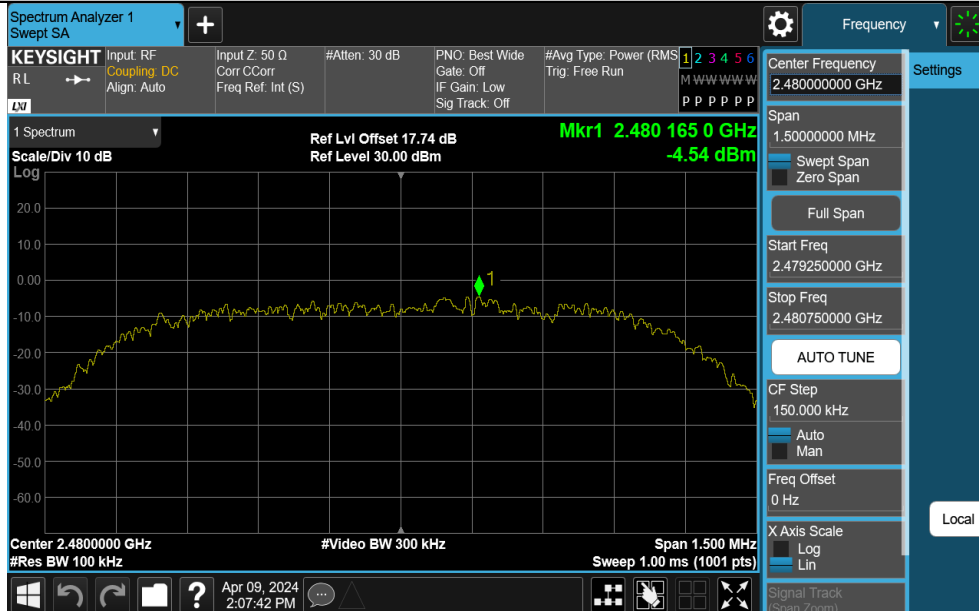
2DH5-Ant1-2402-PASS



2DH5-Ant1-2441-PASS



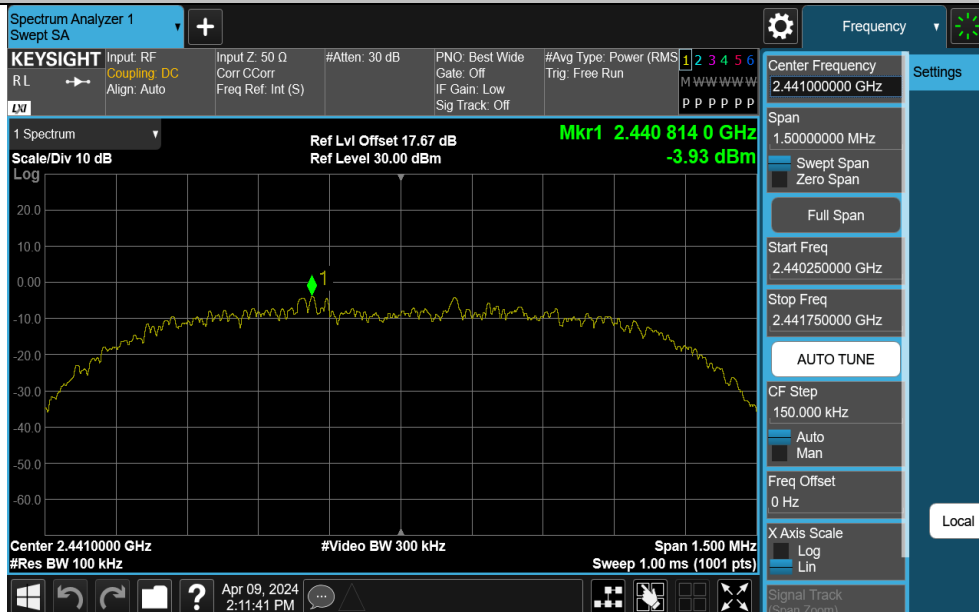
2DH5-Ant1-2480-PASS



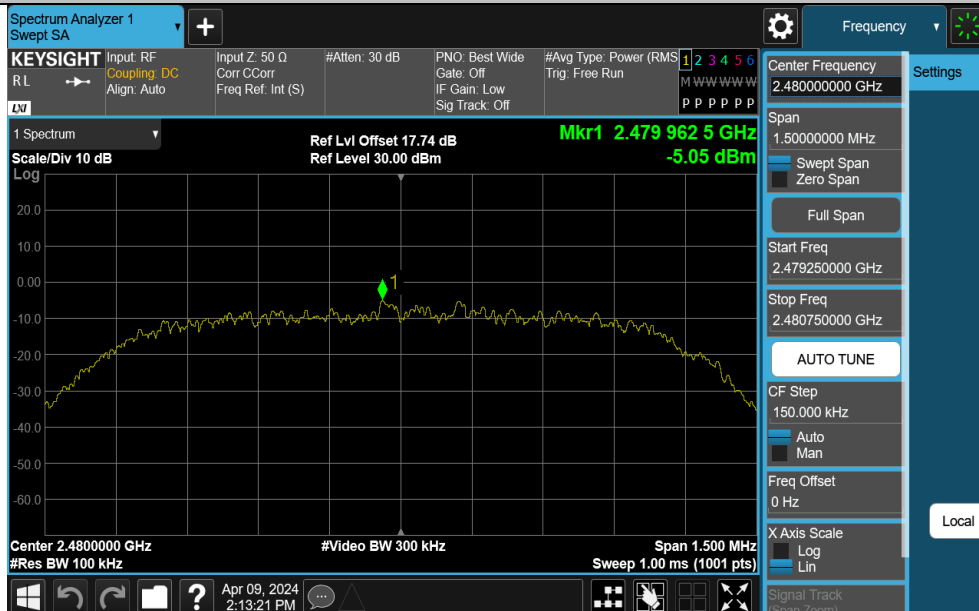
3DH5-Ant1-2402-PASS



3DH5-Ant1-2441-PASS



3DH5-Ant1-2480-PASS



12.2. Test Result For Right Earbud

Appendix A: 20dB Emission Bandwidth Test Result

Test Mode	Antenna	Frequency[MHz]	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.996	2401.460	2402.456	---	---
DH5	Ant1	2441	0.978	2440.508	2441.486	---	---
DH5	Ant1	2480	0.927	2479.517	2480.444	---	---
2DH5	Ant1	2402	1.302	2401.352	2402.654	---	---
2DH5	Ant1	2441	1.338	2440.319	2441.657	---	---
2DH5	Ant1	2480	1.314	2479.340	2480.654	---	---
3DH5	Ant1	2402	1.248	2401.364	2402.612	---	---
3DH5	Ant1	2441	1.266	2440.379	2441.645	---	---
3DH5	Ant1	2480	1.275	2479.364	2480.639	---	---

Test Graphs

DH5-Ant1-2402



DH5-Ant1-2441



DH5-Ant1-2480



2DH5-Ant1-2402

Spectrum Analyzer 1
Swept SA

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

Center Frequency: 2.40200000 GHz
Span: 3.00000000 MHz
Start Freq: 2.400500000 GHz
Stop Freq: 2.403500000 GHz

Ref Lvl Offset 17.90 dB
Ref Level 20.00 dBm
 Δ Mkr3 1.302 MHz
-0.48 dB

Scale/Div 10 dB
Log
#Video BW 100 kHz
Span 3.000 MHz
Sweep 3.20 ms (1001 pts)

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.401352 GHz	-27.15 dBm		
2	N	1	f	2.401928 GHz	-7.824 dBm		
3	Δ 1	1	f	1.302 MHz (Δ)	-0.4787 dB		
4							
5							
6							

5 Marker Table

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2DH5-Ant1-2441

Spectrum Analyzer 1
Swept SA

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

Center Frequency: 2.44100000 GHz
Span: 3.00000000 MHz
Start Freq: 2.439500000 GHz
Stop Freq: 2.442500000 GHz

Ref Lvl Offset 17.67 dB
Ref Level 20.00 dBm
 Δ Mkr3 1.338 MHz
-0.16 dB

Scale/Div 10 dB
Log
#Video BW 100 kHz
Span 3.000 MHz
Sweep 3.20 ms (1001 pts)

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.440319 GHz	-29.73 dBm		
2	N	1	f	2.440988 GHz	-10.02 dBm		
3	Δ 1	1	f	1.338 MHz (Δ)	-0.1623 dB		
4							
5							
6							

5 Marker Table

Apr 10, 2024 11:08:04 AM

2DH5-Ant1-2480

Spectrum Analyzer 1
Swept SA

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

Center Frequency: 2.48000000 GHz
Span: 3.00000000 MHz
Start Freq: 2.478500000 GHz
Stop Freq: 2.481500000 GHz

Ref Lvl Offset 17.74 dB
Ref Level 20.00 dBm
 Δ Mkr3 1.314 MHz
-0.28 dB

Scale/Div 10 dB
Log
#Video BW 100 kHz
Span 3.000 MHz
Sweep 3.20 ms (1001 pts)

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.479340 GHz	-28.73 dBm		
2	N	1	f	2.480036 GHz	-9.609 dBm		
3	Δ 1	1	f	1.314 MHz (Δ)	-0.2763 dB		
4							
5							
6							

5 Marker Table

Apr 10, 2024 11:09:36 AM

3DH5-Ant1-2402



3DH5-Ant1-2441



3DH5-Ant1-2480



Appendix B: Maximum conducted output power
Test Result Peak

Test Mode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	-1.68	≤20.97	PASS
DH5	Ant1	2441	-1.69	≤20.97	PASS
DH5	Ant1	2480	-2.32	≤20.97	PASS
2DH5	Ant1	2402	-1.66	≤20.97	PASS
2DH5	Ant1	2441	-1.71	≤20.97	PASS
2DH5	Ant1	2480	-2.22	≤20.97	PASS
3DH5	Ant1	2402	-2.97	≤20.97	PASS
3DH5	Ant1	2441	-2.92	≤20.97	PASS
3DH5	Ant1	2480	-3.63	≤20.97	PASS

Test Graphs

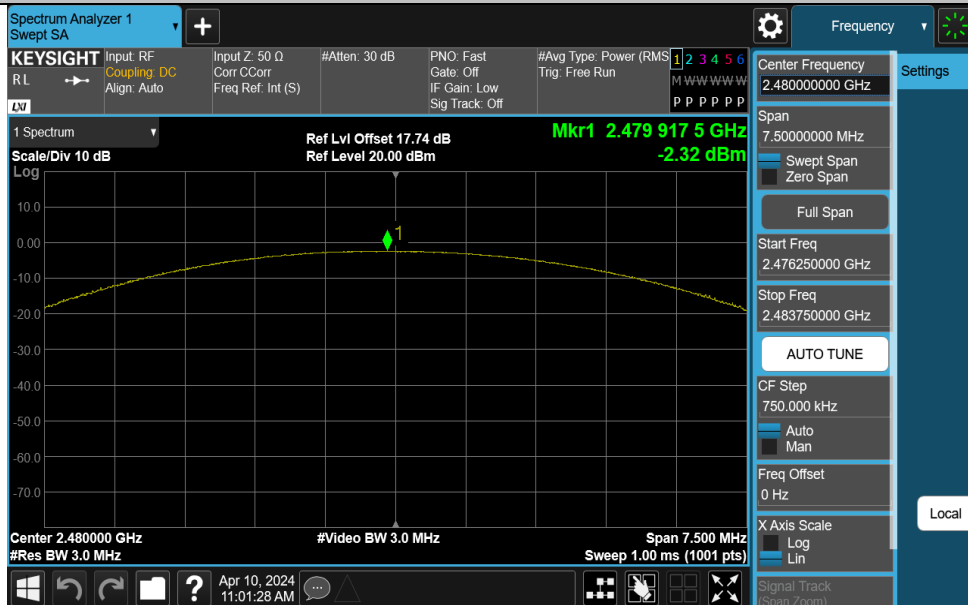
DH5-Ant1-2402-PASS



DH5-Ant1-2441-PASS



DH5-Ant1-2480-PASS



2DH5-Ant1-2402-PASS



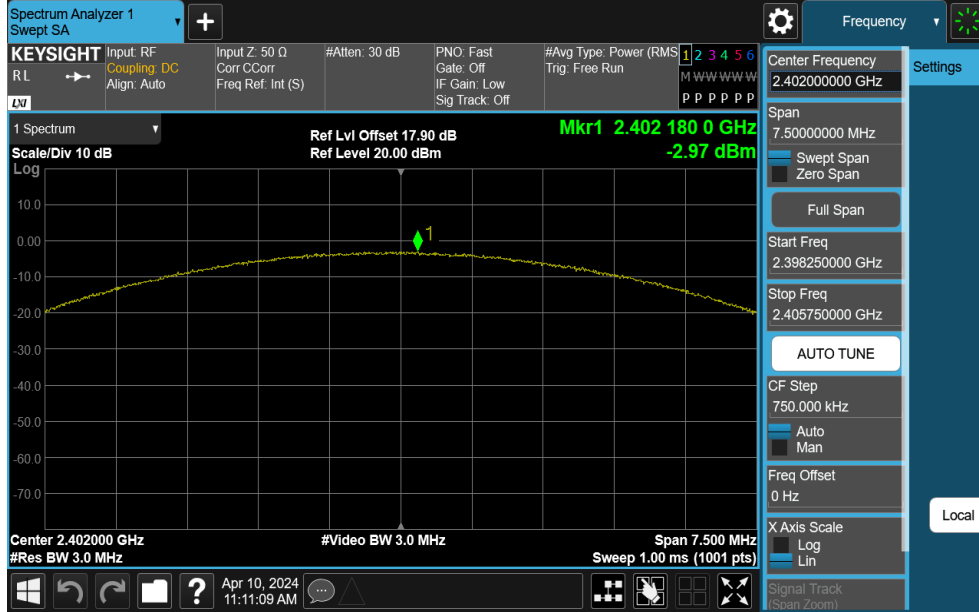
2DH5-Ant1-2441-PASS



2DH5-Ant1-2480-PASS



3DH5-Ant1-2402-PASS



3DH5-Ant1-2441-PASS



3DH5-Ant1-2480-PASS

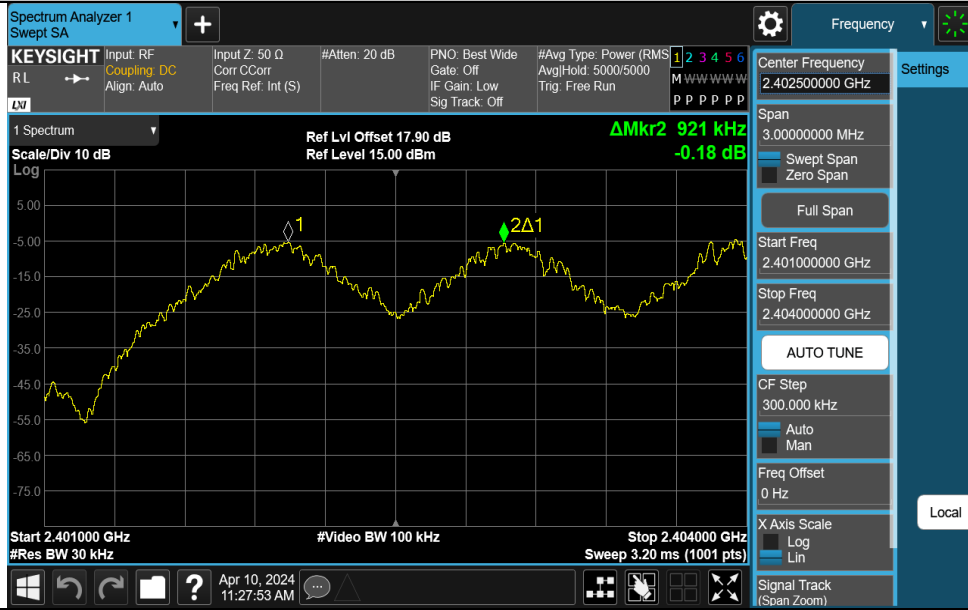


Appendix C: Carrier frequency separation Test Result

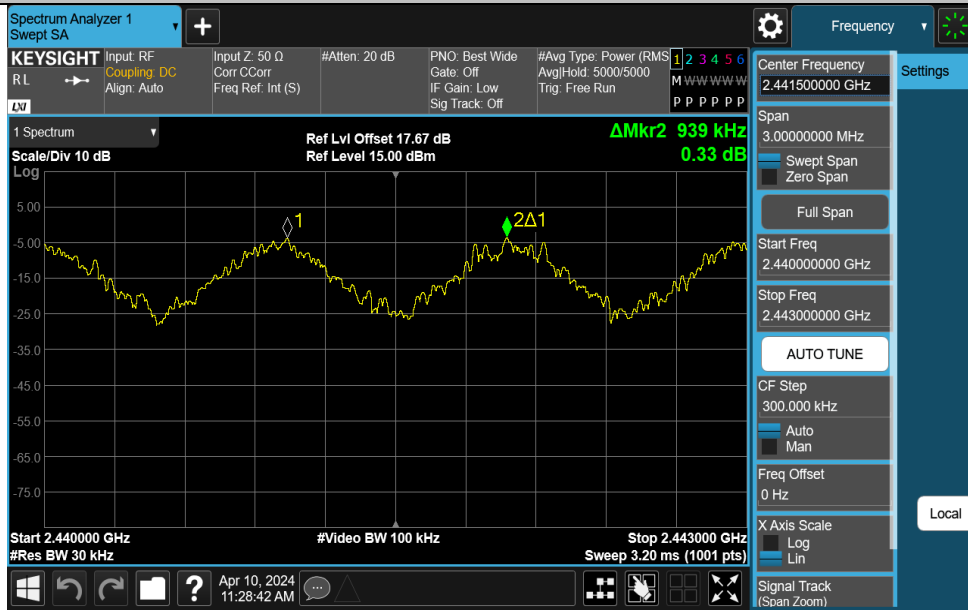
Test Mode	Antenna	Frequency[MHz]	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.921	≥ 0.664	PASS
DH5	Ant1	2441	0.939	≥ 0.664	PASS
DH5	Ant1	2480	1.131	≥ 0.996	PASS
2DH5	Ant1	2402	1.173	≥ 0.892	PASS
2DH5	Ant1	2441	0.954	≥ 0.892	PASS
2DH5	Ant1	2480	1.206	≥ 0.892	PASS
3DH5	Ant1	2402	1.296	≥ 1.275	PASS
3DH5	Ant1	2441	1.116	≥ 0.850	PASS
3DH5	Ant1	2480	1.191	≥ 0.850	PASS

Test Graphs

DH5-Ant1-2402-PASS



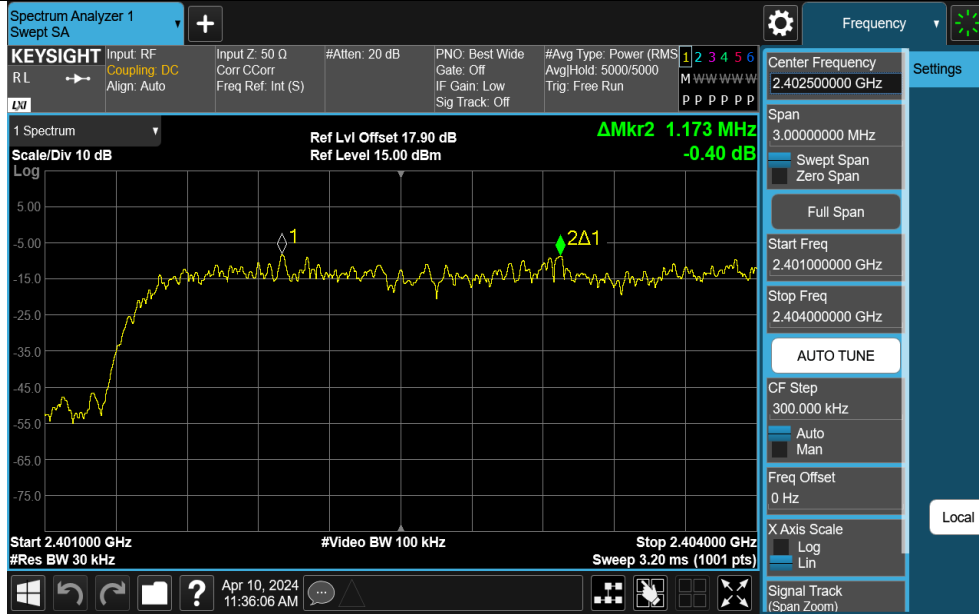
DH5-Ant1-2441-PASS



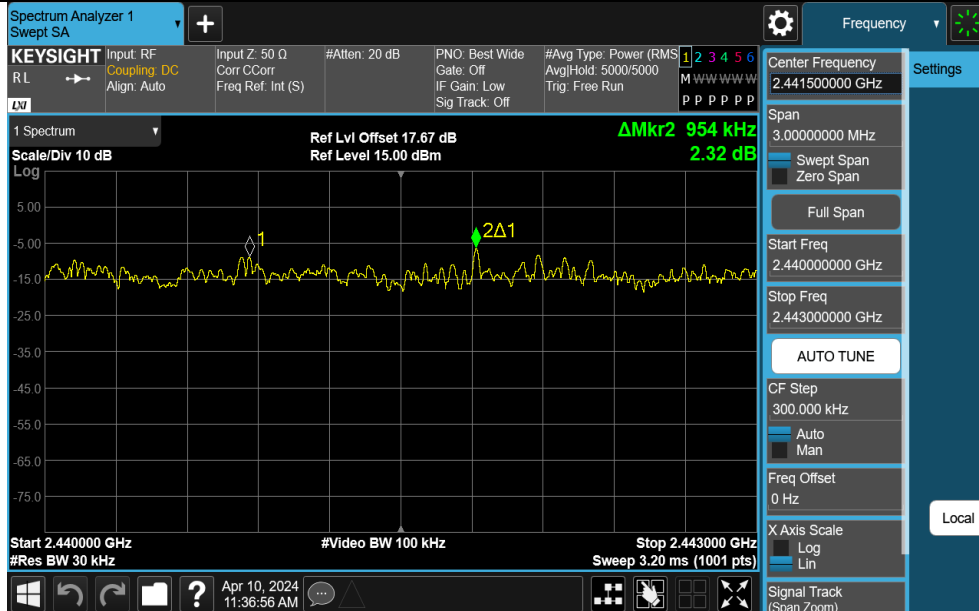
DH5-Ant1-2480-PASS



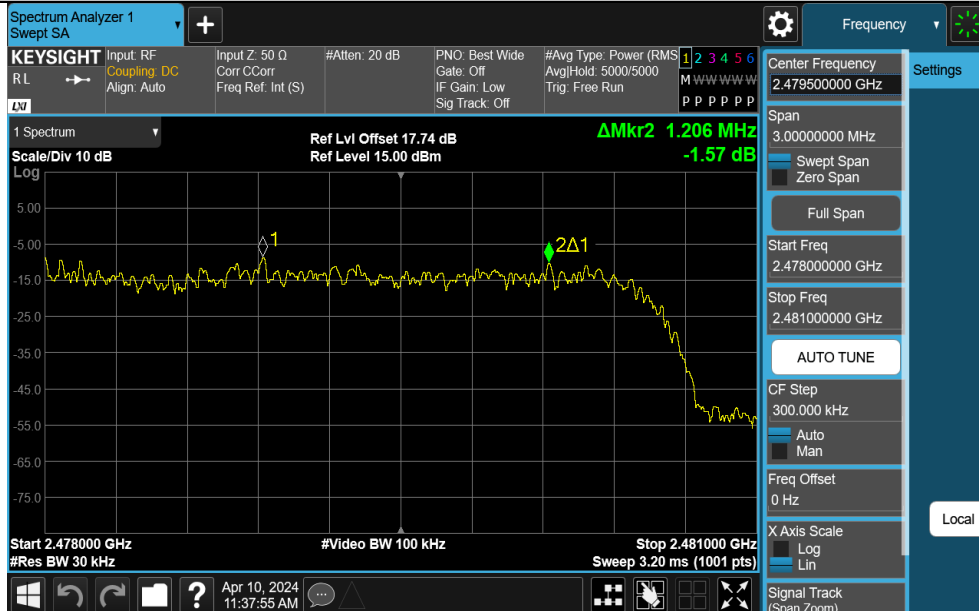
2DH5-Ant1-2402-PASS



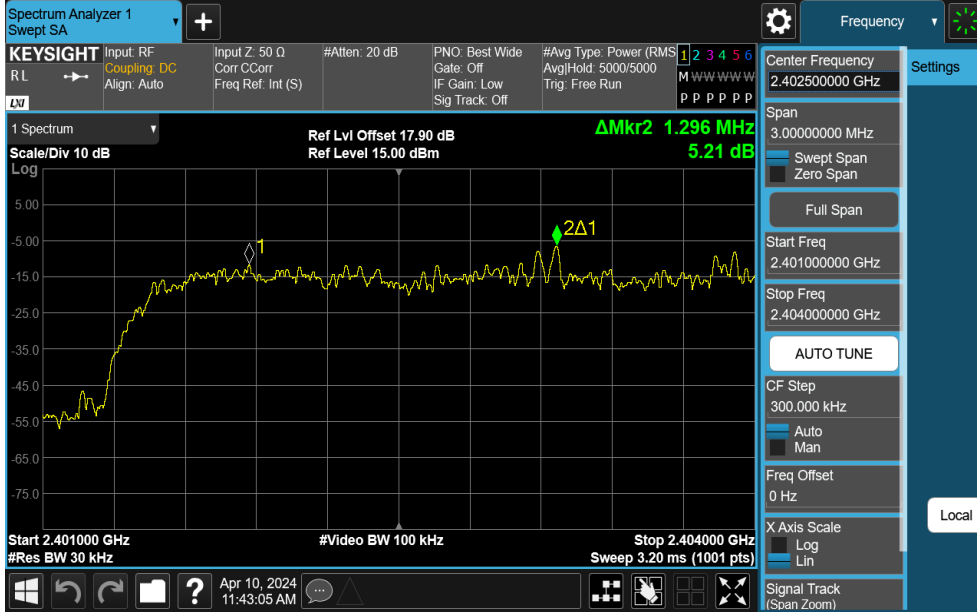
2DH5-Ant1-2441-PASS



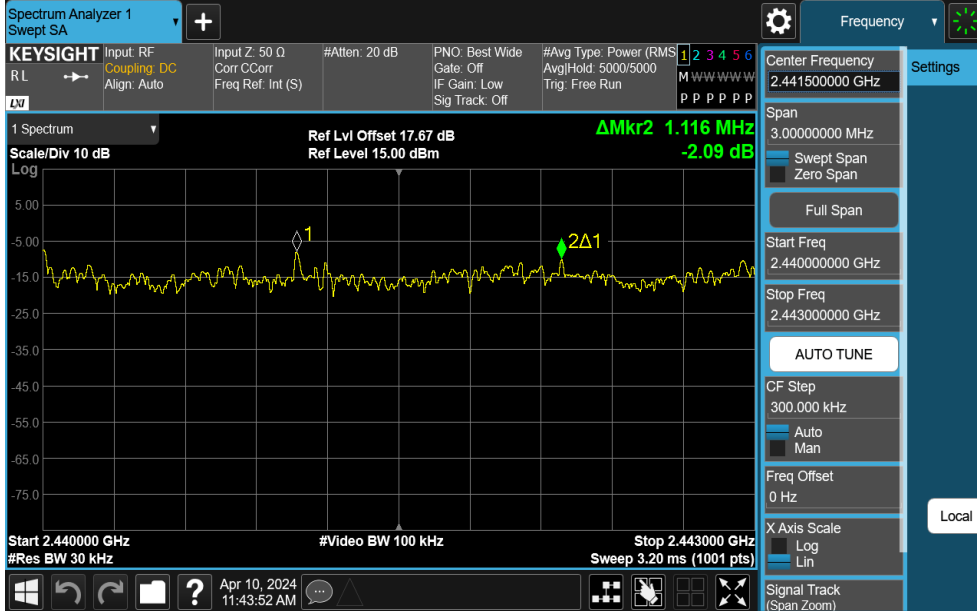
2DH5-Ant1-2480-PASS



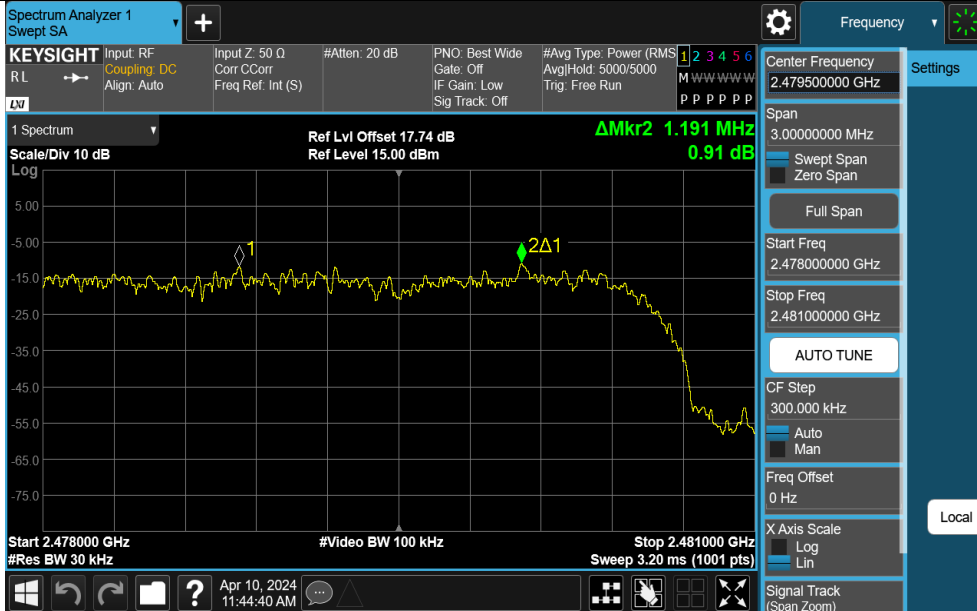
3DH5-Ant1-2402-PASS



3DH5-Ant1-2441-PASS



3DH5-Ant1-2480-PASS



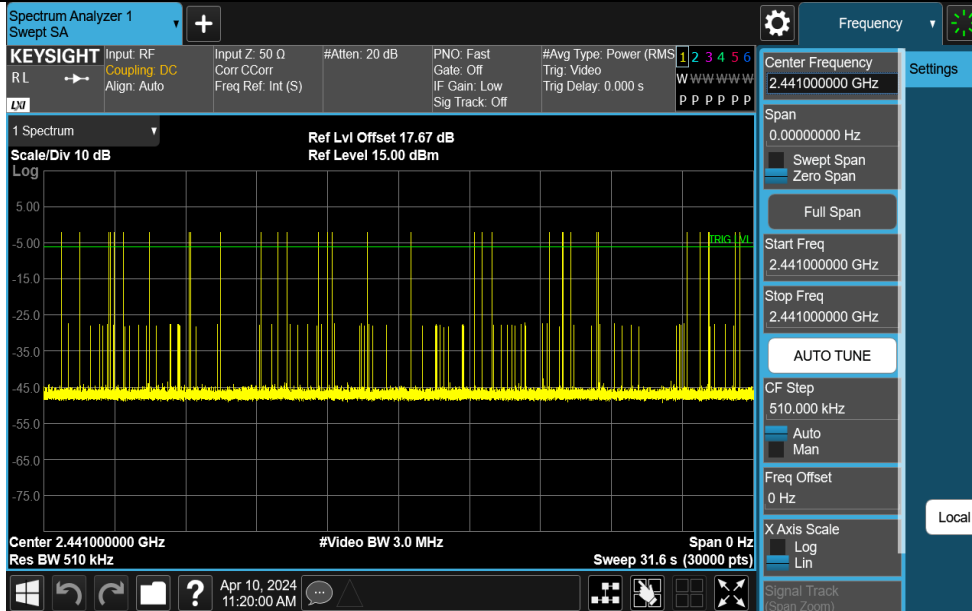
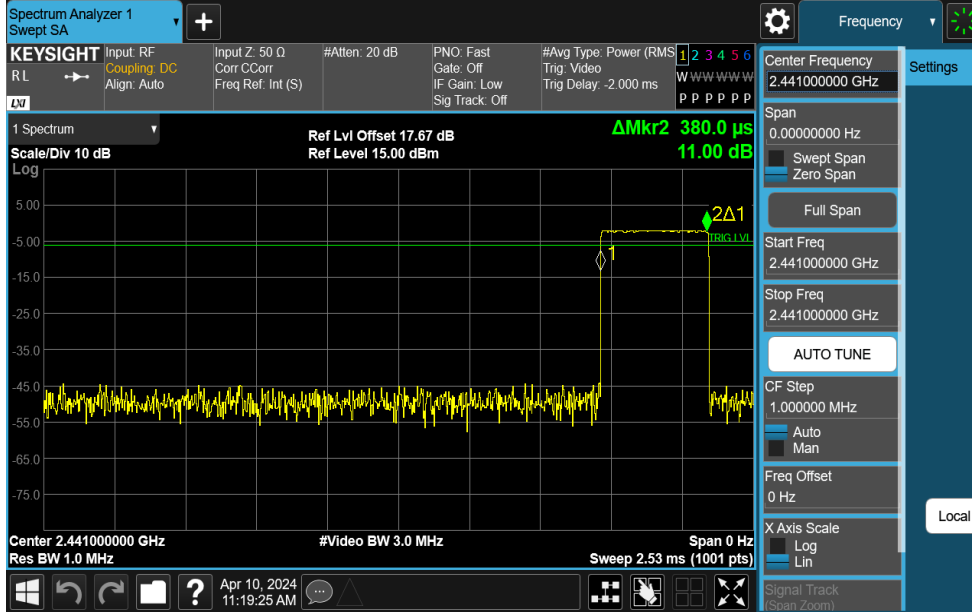


Appendix D: Time of occupancy
Test Result

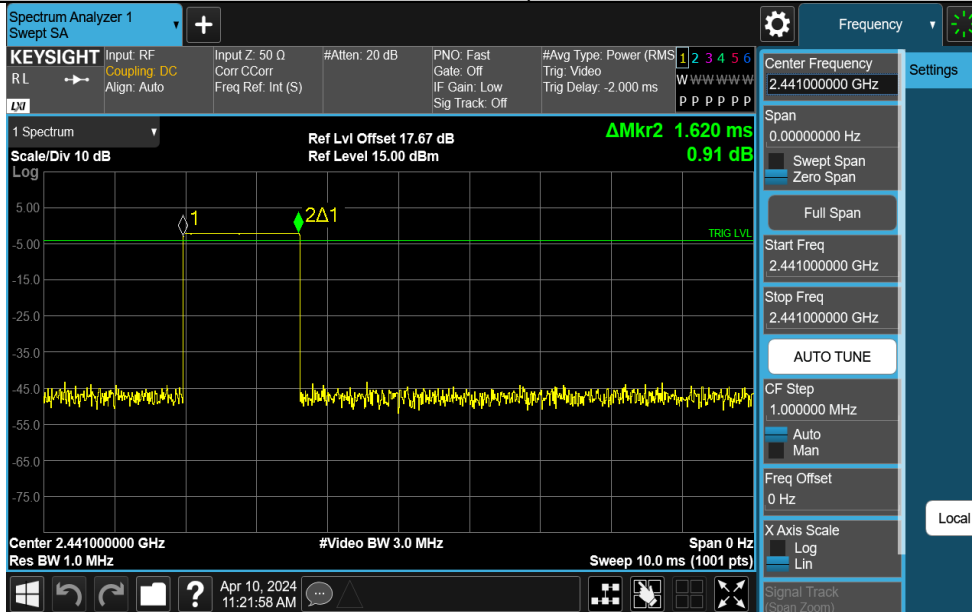
Test Mode	Antenna	Frequency[MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.380	33	0.013	≤0.4	PASS
DH3	Ant1	Hop	1.620	30	0.049	≤0.4	PASS
DH5	Ant1	Hop	2.870	43	0.123	≤0.4	PASS
2DH1	Ant1	Hop	0.388	40	0.016	≤0.4	PASS
2DH3	Ant1	Hop	1.620	40	0.065	≤0.4	PASS
2DH5	Ant1	Hop	2.870	31	0.089	≤0.4	PASS
3DH1	Ant1	Hop	0.390	41	0.016	≤0.4	PASS
3DH3	Ant1	Hop	1.630	49	0.08	≤0.4	PASS
3DH5	Ant1	Hop	2.870	54	0.155	≤0.4	PASS

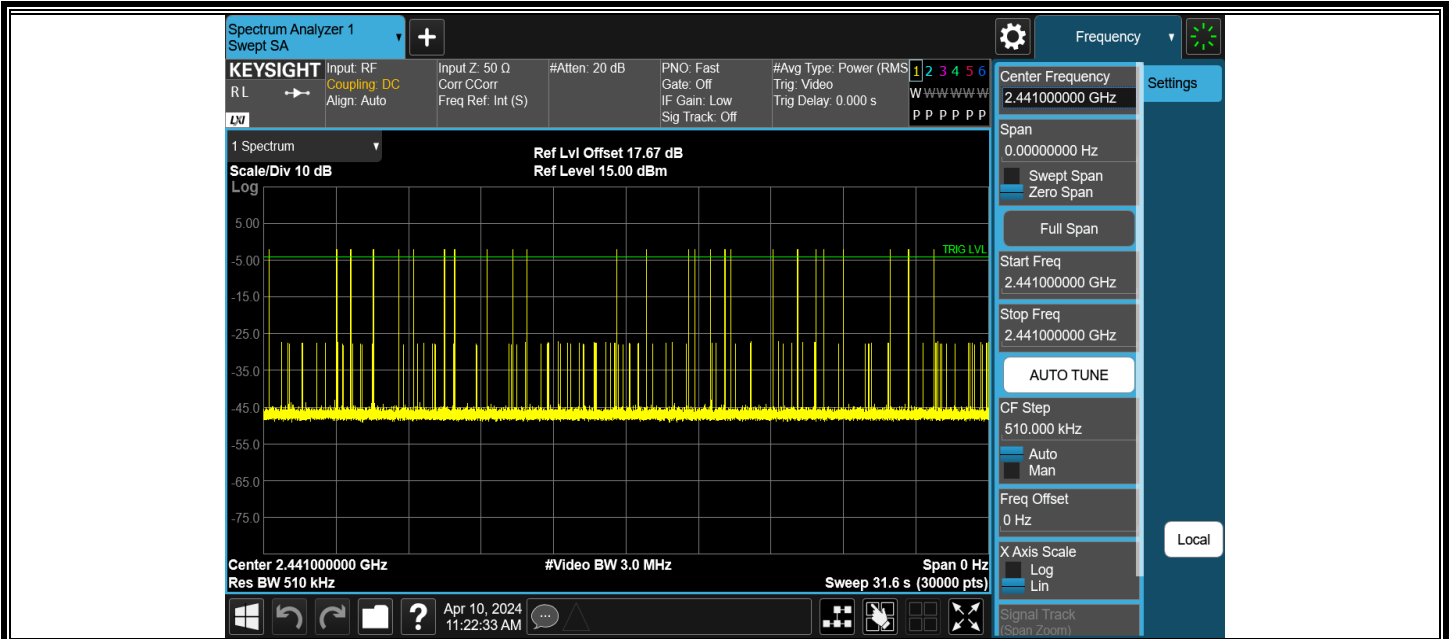
Test Graphs

DH1-Ant1-Hop-PASS



DH3-Ant1-Hop-PASS





DH5-Ant1-Hop-PASS

