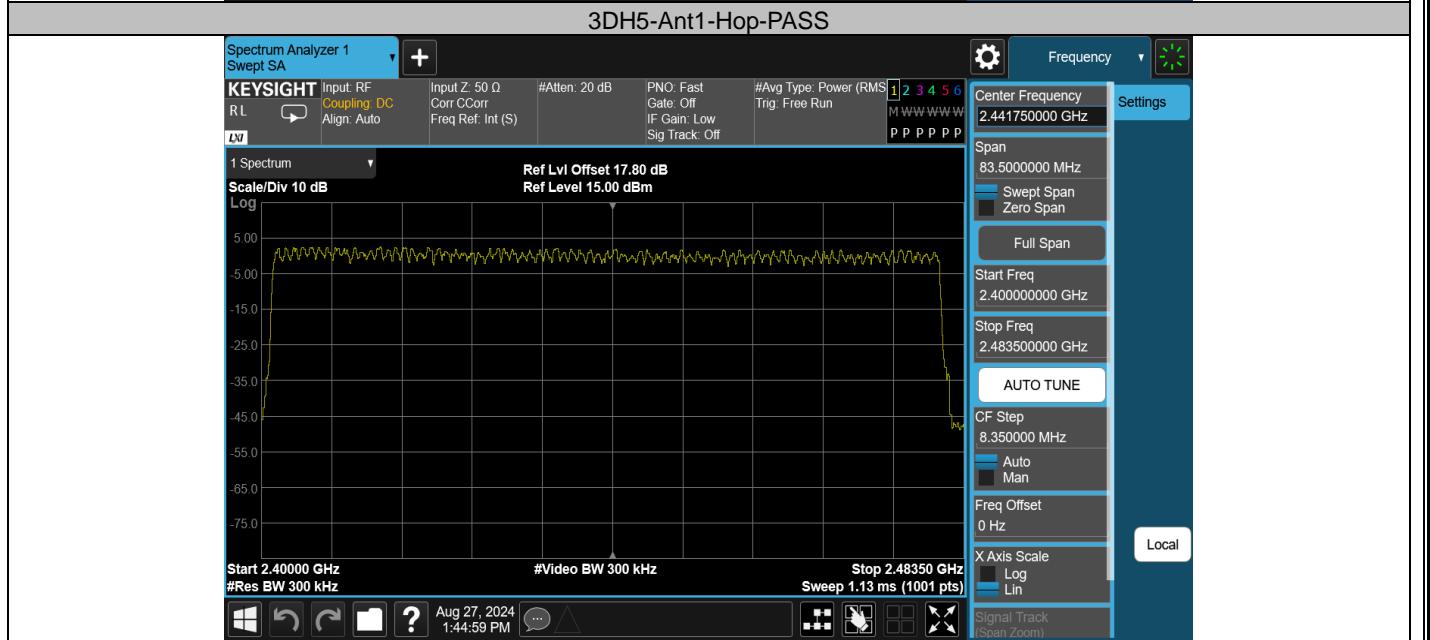
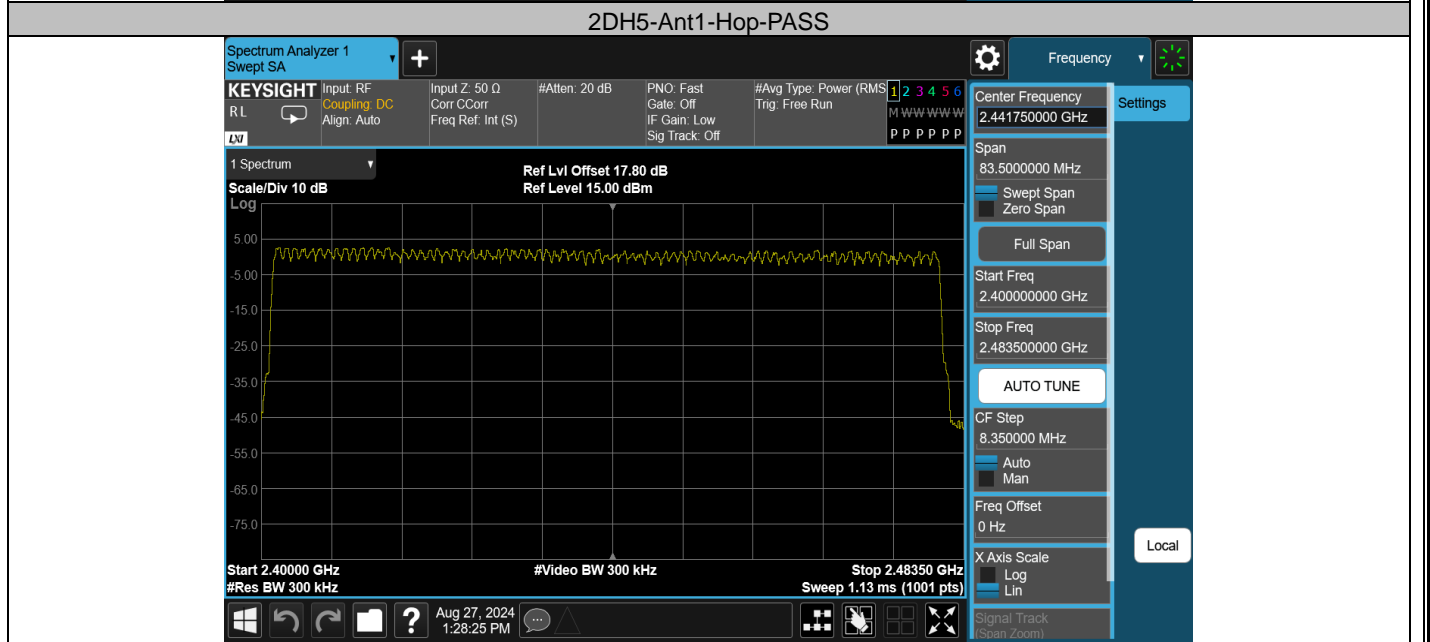
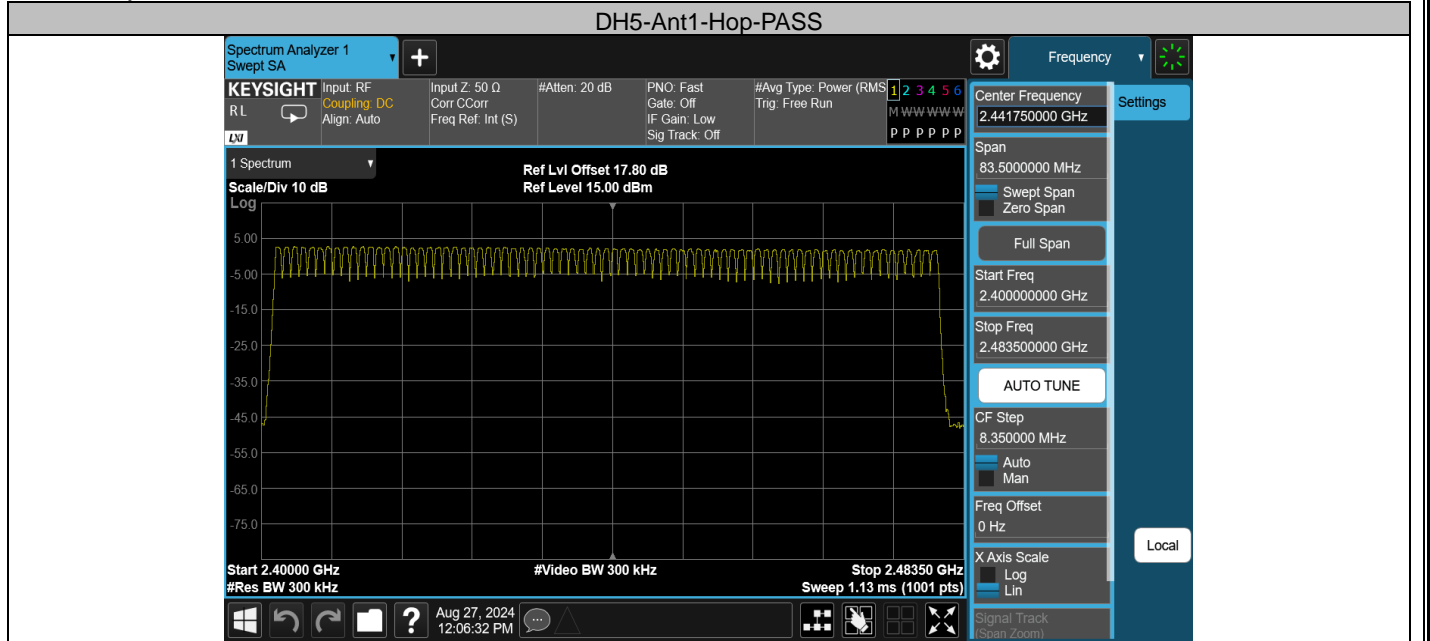


Appendix E: Number of hopping channels

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

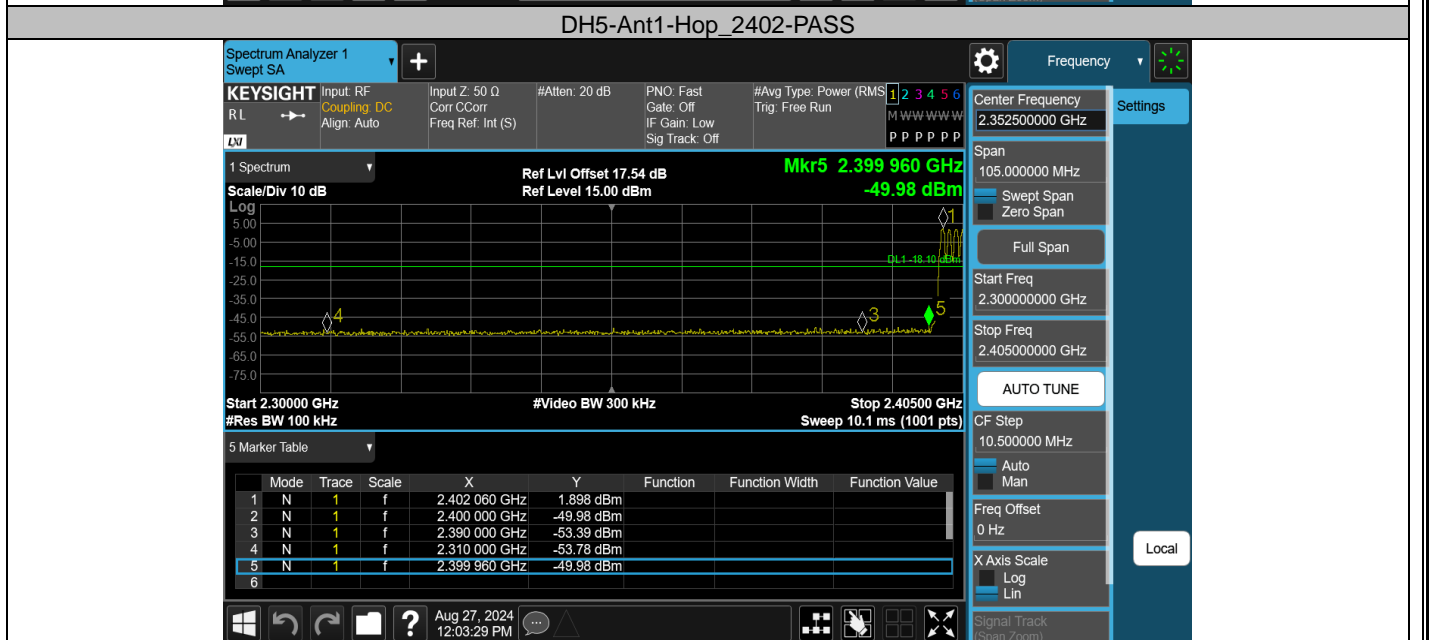
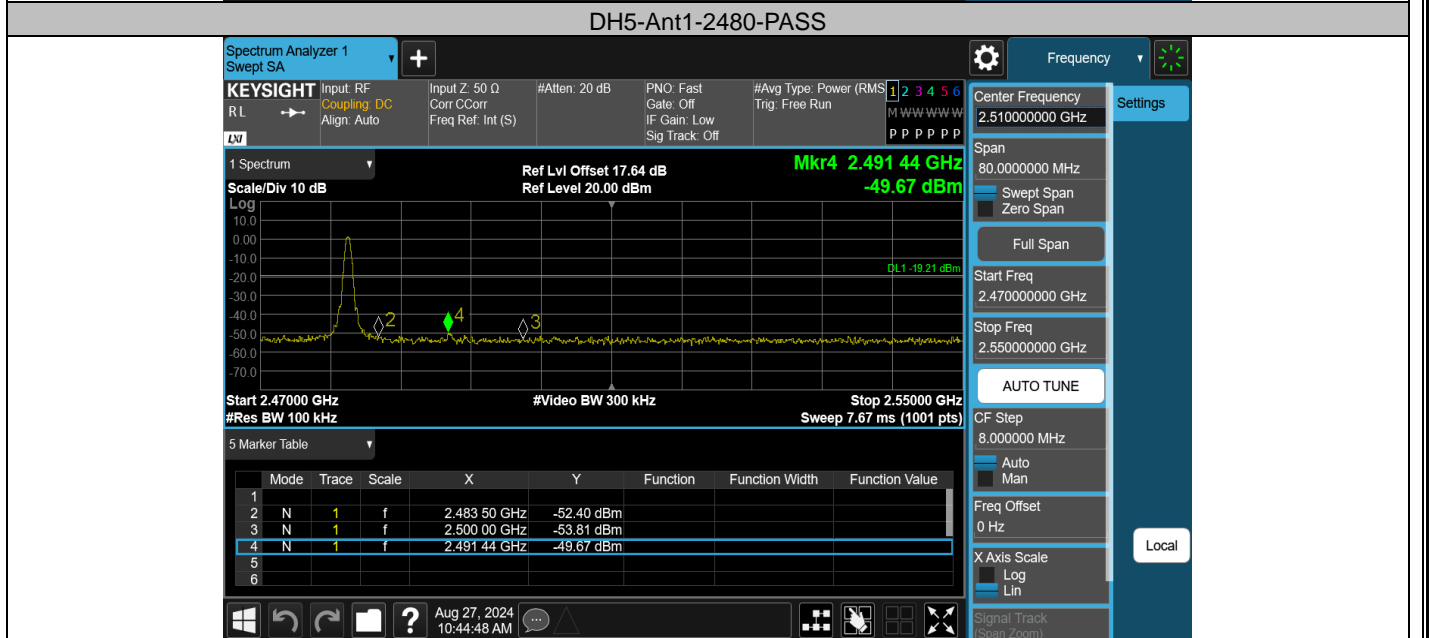
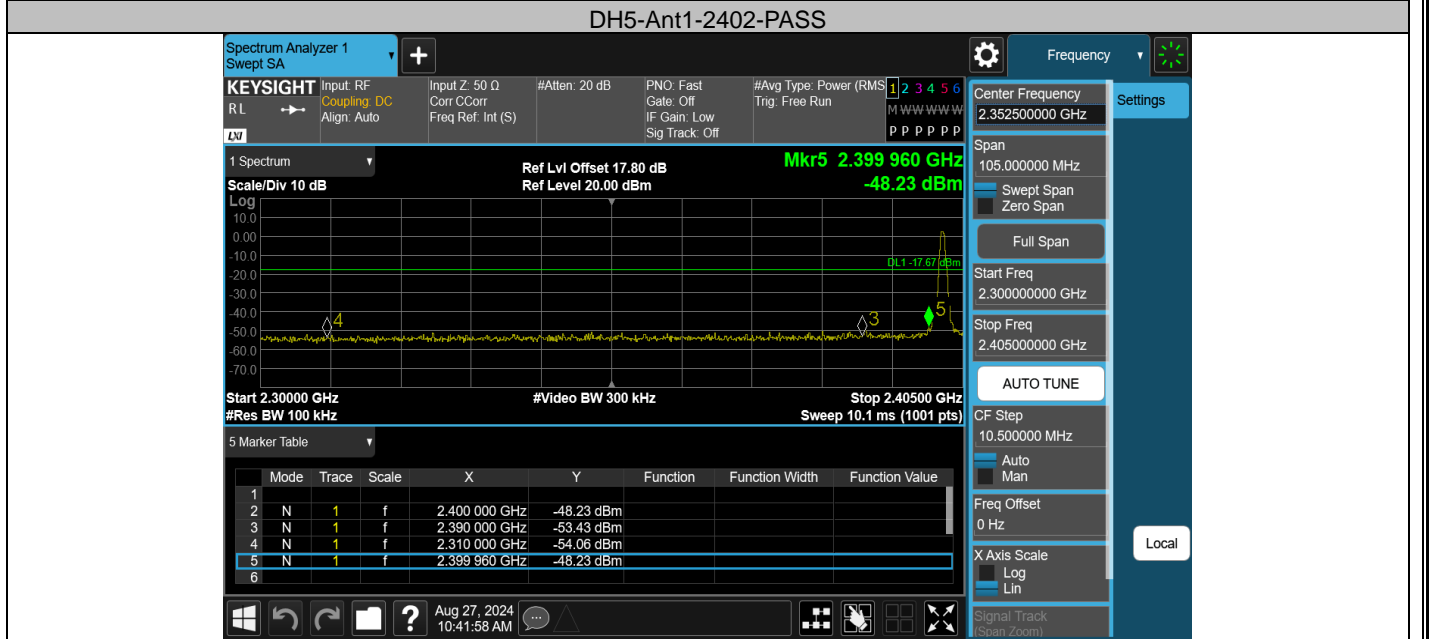


Appendix F: Band edge measurements

Test Result

Test Mode	Antenna	ChName	Frequency[MHz]	Ref Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	2.33	-48.23	≤ -17.67	PASS
DH5	Ant1	High	2480	0.79	-49.67	≤ -19.21	PASS
DH5	Ant1	Low	Hop_2402	1.90	-49.98	≤ -18.1	PASS
DH5	Ant1	High	Hop_2480	1.02	-48.76	≤ -18.98	PASS
2DH5	Ant1	Low	2402	0.93	-48.9	≤ -19.07	PASS
2DH5	Ant1	High	2480	0.27	-49.54	≤ -19.73	PASS
2DH5	Ant1	Low	Hop_2402	-0.40	-50.03	≤ -20.4	PASS
2DH5	Ant1	High	Hop_2480	-0.32	-50.76	≤ -20.32	PASS
3DH5	Ant1	Low	2402	1.98	-49.06	≤ -18.02	PASS
3DH5	Ant1	High	2480	0.71	-50.34	≤ -19.29	PASS
3DH5	Ant1	Low	Hop_2402	1.66	-50.37	≤ -18.34	PASS
3DH5	Ant1	High	Hop_2480	0.12	-50.31	≤ -19.89	PASS

Test Graphs



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

AUTO TUNE

CF Step: 8.0000000 MHz

Freq Offset: 0 Hz

X Axis Scale: Log

Signal Track (Span Zoom)

1 Spectrum Scale/Div 10 dB Ref Lvl Offset 17.50 dB Ref Level 15.00 dB Mkr4 2.486 64 GHz -48.76 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	2.472 00 GHz	1.019 dBm		
2	N	1	f	2.483 50 GHz	-51.62 dBm		
3	N	1	f	2.500 00 GHz	-52.41 dBm		
4	N	1	f	2.486 64 GHz	-48.76 dBm		
5							
6							

Aug 27, 2024 12:03:09 PM

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

AUTO TUNE

CF Step: 10.5000000 MHz

Freq Offset: 0 Hz

X Axis Scale: Log

Signal Track (Span Zoom)

1 Spectrum Scale/Div 10 dB Ref Lvl Offset 17.80 dB Ref Level 20.00 dB Mkr5 2.399 750 GHz -48.90 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	-50.90 dBm		
3	N	1	f	2.380 000 GHz	-52.37 dBm		
4	N	1	f	2.310 000 GHz	-54.53 dBm		
5	N	1	f	2.399 750 GHz	-48.90 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

AUTO TUNE

CF Step: 8.0000000 MHz

Freq Offset: 0 Hz

X Axis Scale: Log

Signal Track (Span Zoom)

1 Spectrum Scale/Div 10 dB Ref Lvl Offset 17.64 dB Ref Level 20.00 dB Mkr4 2.491 60 GHz -49.54 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	-52.41 dBm		
3	N	1	f	2.500 00 GHz	-52.99 dBm		
4	N	1	f	2.491 60 GHz	-49.54 dBm		
5							
6							

Aug 27, 2024 11:29:52 AM

2DH5-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

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)

1 Spectrum Scale/Div 10 dB Ref Lvl Offset 17.54 dB Ref Level 15.00 dB Mkr5 2.387 885 GHz -50.03 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	2.400 000 GHz	-53.46 dBm			
2	N	1	2.390 000 GHz	-51.85 dBm			
3	N	1	2.310 000 GHz	-54.29 dBm			
4	N	1	2.387 885 GHz	-50.03 dBm			
5	N	1	2.387 885 GHz	-50.03 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: 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

AUTO TUNE

CF Step: 8.0000000 MHz

Freq Offset: 0 Hz

X Axis Scale: Log

Signal Track (Span Zoom)

1 Spectrum Scale/Div 10 dB Ref Lvl Offset 17.59 dB Ref Level 15.00 dB Mkr4 2.531 52 GHz -50.76 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	2.472 96 GHz	-0.3174 dBm			
2	N	1	2.483 50 GHz	-53.05 dBm			
3	N	1	2.500 00 GHz	-51.64 dBm			
4	N	1	2.531 52 GHz	-50.76 dBm			
5							
6							

Aug 27, 2024 1:23:46 PM

3DH5-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

AUTO TUNE

CF Step: 10.5000000 MHz

Freq Offset: 0 Hz

X Axis Scale: Log

Signal Track (Span Zoom)

1 Spectrum Scale/Div 10 dB Ref Lvl Offset 17.80 dB Ref Level 20.00 dB Mkr5 2.399 960 GHz -49.06 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	2.400 000 GHz	-49.06 dBm			
3	N	1	2.390 000 GHz	-52.50 dBm			
4	N	1	2.310 000 GHz	-54.98 dBm			
5	N	1	2.399 960 GHz	-49.06 dBm			
6							

Aug 27, 2024 11:31:20 AM

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) 1 2 3 4 5 6
 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

Mkr4 2.491 68 GHz
-50.34 dBm

Ref Lvl Offset 17.64 dB
Ref Level 20.00 dBm

Scale/Div 10 dB

Log

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	2.483 50 GHz	-53.23 dBm			
2	N	1	2.500 00 GHz	-53.73 dBm			
3	N	1	2.491 68 GHz	-50.34 dBm			
4	N	1					
5	N	1					
6	N	1					

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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) 1 2 3 4 5 6
 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

Mkr5 2.365 940 GHz
-50.37 dBm

Ref Lvl Offset 17.54 dB
Ref Level 15.00 dBm

Scale/Div 10 dB

Log

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	2.404 160 GHz	1.661 dBm			
2	N	1	2.400 000 GHz	-52.70 dBm			
3	N	1	2.380 000 GHz	-53.37 dBm			
4	N	1	2.310 000 GHz	-52.78 dBm			
5	N	1	2.365 940 GHz	-50.37 dBm			
6	N	1					

Aug 27, 2024 1:42:08 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) 1 2 3 4 5 6
 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

Mkr4 2.488 48 GHz
-50.31 dBm

Ref Lvl Offset 17.59 dB
Ref Level 15.00 dBm

Scale/Div 10 dB

Log

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

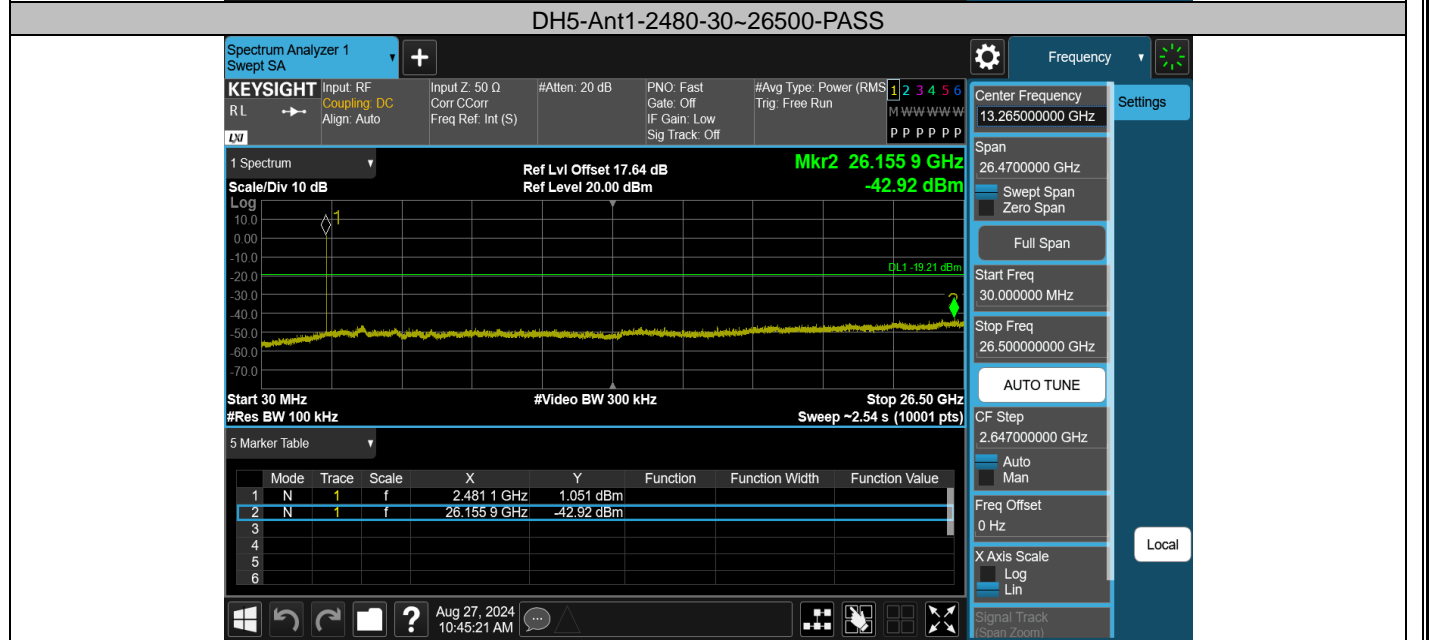
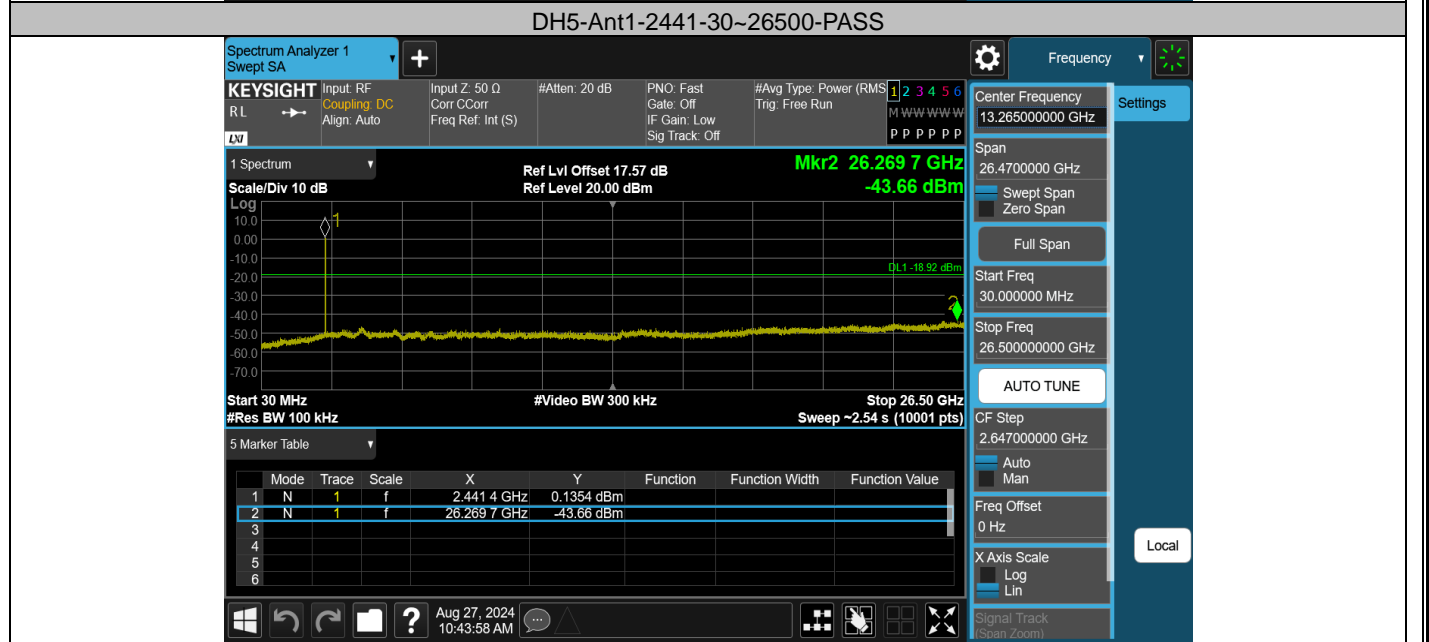
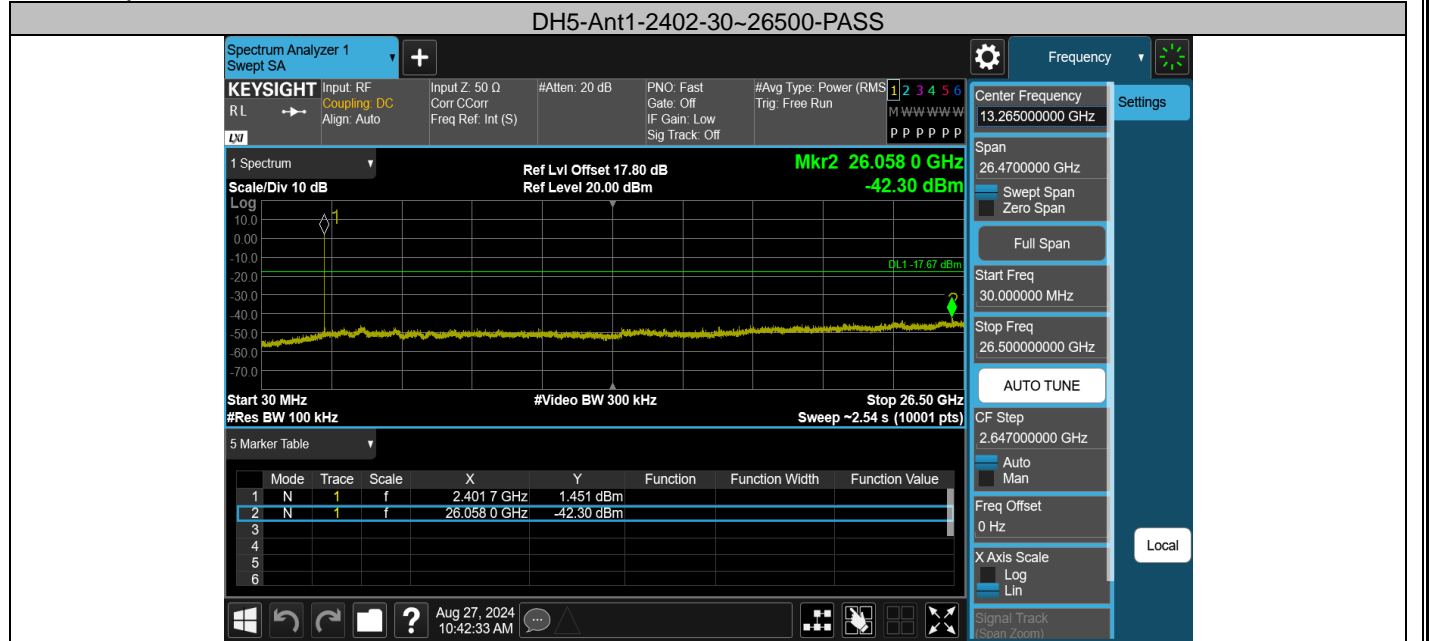
Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	2.479 84 GHz	0.1149 dBm			
2	N	1	2.483 50 GHz	-53.66 dBm			
3	N	1	2.500 00 GHz	-53.71 dBm			
4	N	1	2.488 48 GHz	-50.31 dBm			
5	N	1					
6	N	1					

Aug 27, 2024 1:41:48 PM

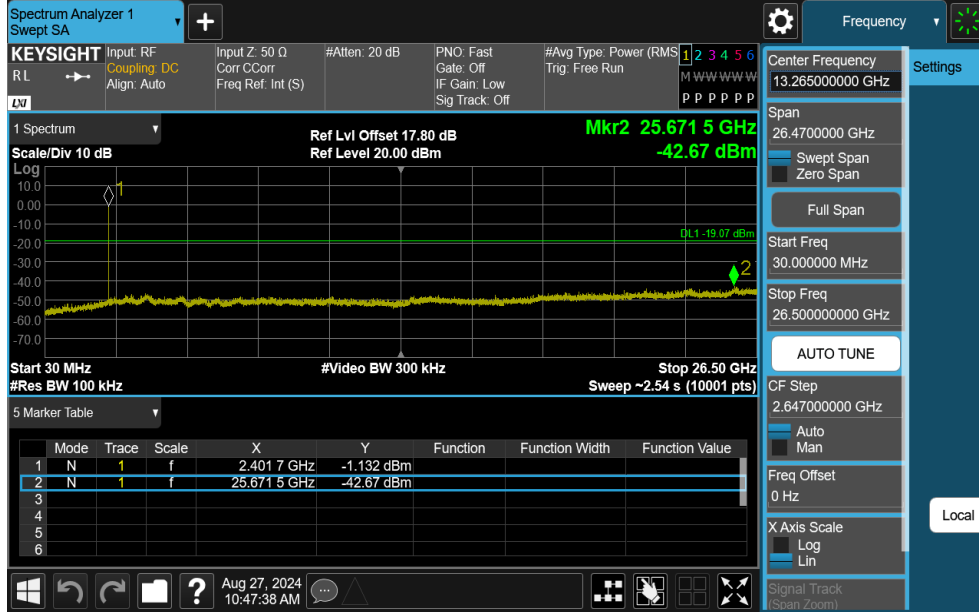
Appendix G: Conducted Spurious Emission Test Result

Test Mode	Antenna	Frequency[MHz]	Freq Range [MHz]	Ref Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	30~26500	2.33	-42.3	≤-17.67	PASS
DH5	Ant1	2441	30~26500	1.08	-43.66	≤-18.92	PASS
DH5	Ant1	2480	30~26500	0.79	-42.92	≤-19.21	PASS
2DH5	Ant1	2402	30~26500	0.93	-42.67	≤-19.07	PASS
2DH5	Ant1	2441	30~26500	1.12	-43.1	≤-18.88	PASS
2DH5	Ant1	2480	30~26500	0.27	-43.07	≤-19.73	PASS
3DH5	Ant1	2402	30~26500	1.98	-42.34	≤-18.02	PASS
3DH5	Ant1	2441	30~26500	1.06	-43.71	≤-18.94	PASS
3DH5	Ant1	2480	30~26500	0.71	-43.34	≤-19.29	PASS

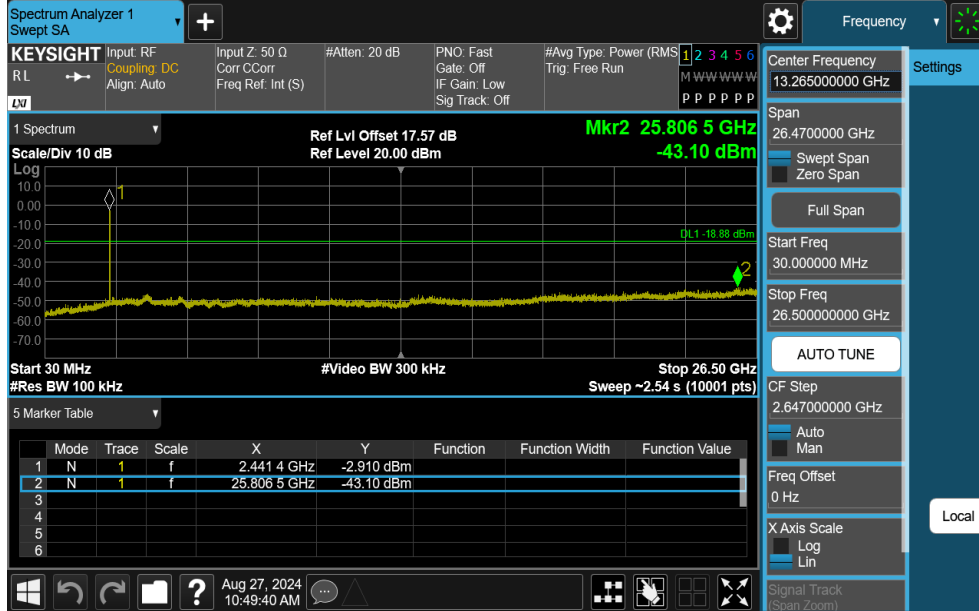
Test Graphs



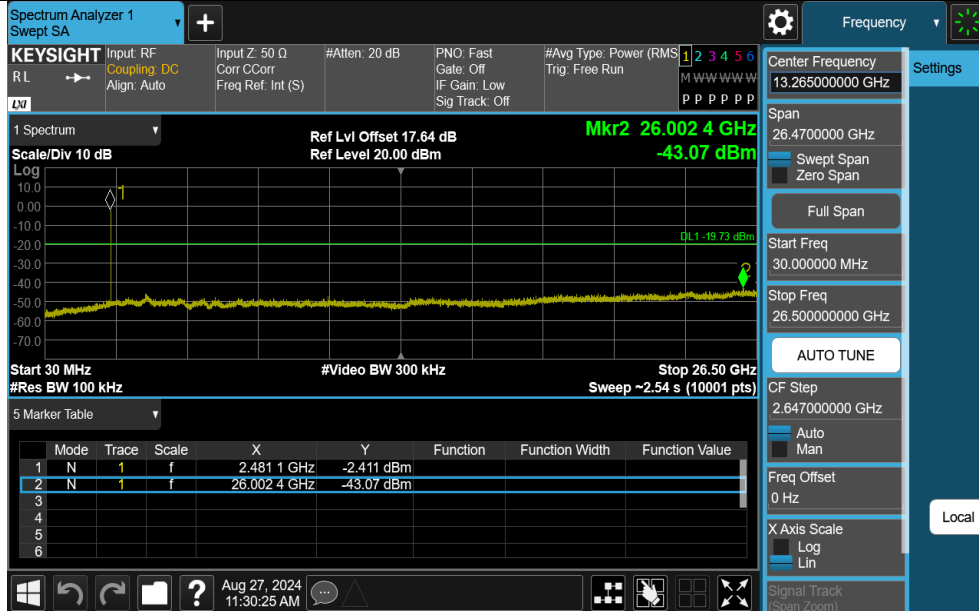
2DH5-Ant1-2402-30~26500-PASS



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



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



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

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: 13.265000000 GHz

Span: 26.4700000 GHz

Start Freq: 30.0000000 MHz

Stop Freq: 26.500000000 GHz

AUTO TUNE

CF Step: 2.647000000 GHz

Freq Offset: 0 Hz

X Axis Scale: Log

Signal Track (Span Zoom)

Local

1 Spectrum Scale/Div 10 dB Ref Lvl Offset 17.80 dB Ref Level 20.00 dB Mkr2 26.349 1 GHz -42.34 dBm

Start 30 MHz #Res BW 100 kHz #Video BW 300 kHz Stop 26.50 GHz Sweep ~2.54 s (10001 pts)

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.401 7 GHz	-2.330 dBm		
2	N	1	f	26.349 1 GHz	-42.34 dBm		
3							
4							
5							
6							

Aug 27, 2024 11:31:54 AM

3DH5-Ant1-2441-30~26500-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: 13.265000000 GHz

Span: 26.4700000 GHz

Start Freq: 30.0000000 MHz

Stop Freq: 26.500000000 GHz

AUTO TUNE

CF Step: 2.647000000 GHz

Freq Offset: 0 Hz

X Axis Scale: Log

Signal Track (Span Zoom)

Local

1 Spectrum Scale/Div 10 dB Ref Lvl Offset 17.57 dB Ref Level 20.00 dB Mkr2 26.402 1 GHz -43.71 dBm

Start 30 MHz #Res BW 100 kHz #Video BW 300 kHz Stop 26.50 GHz Sweep ~2.54 s (10001 pts)

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.441 4 GHz	-2.158 dBm		
2	N	1	f	26.402 1 GHz	-43.71 dBm		
3							
4							
5							
6							

Aug 27, 2024 11:33:05 AM

3DH5-Ant1-2480-30~26500-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: 13.265000000 GHz

Span: 26.4700000 GHz

Start Freq: 30.0000000 MHz

Stop Freq: 26.500000000 GHz

AUTO TUNE

CF Step: 2.647000000 GHz

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 20.00 dB Mkr2 26.113 5 GHz -43.34 dBm

Start 30 MHz #Res BW 100 kHz #Video BW 300 kHz Stop 26.50 GHz Sweep ~2.54 s (10001 pts)

Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.481 1 GHz	-3.095 dBm		
2	N	1	f	26.113 5 GHz	-43.34 dBm		
3							
4							
5							
6							

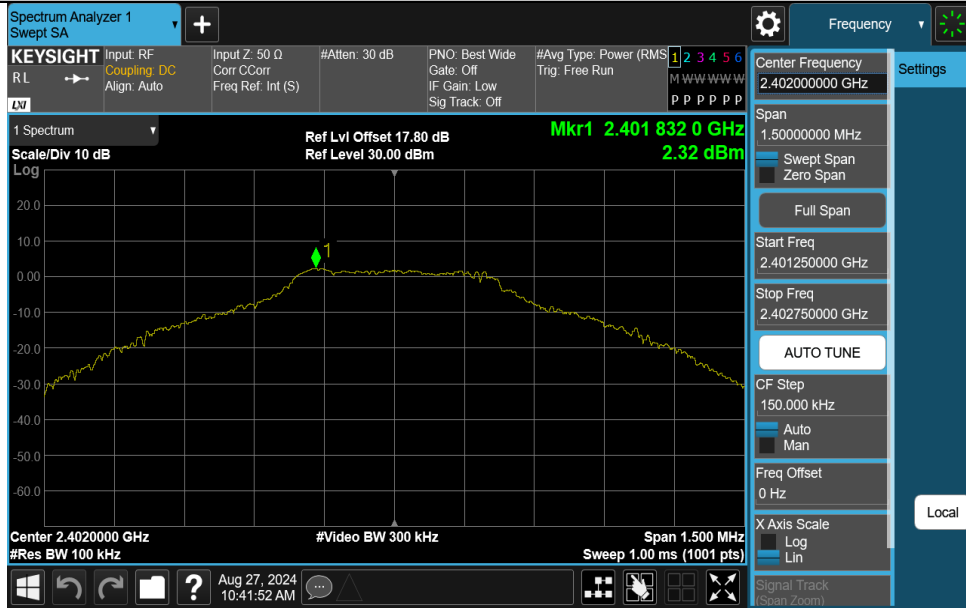
Aug 27, 2024 11:49:10 AM

Appendix H: Reference level measurement Test Result

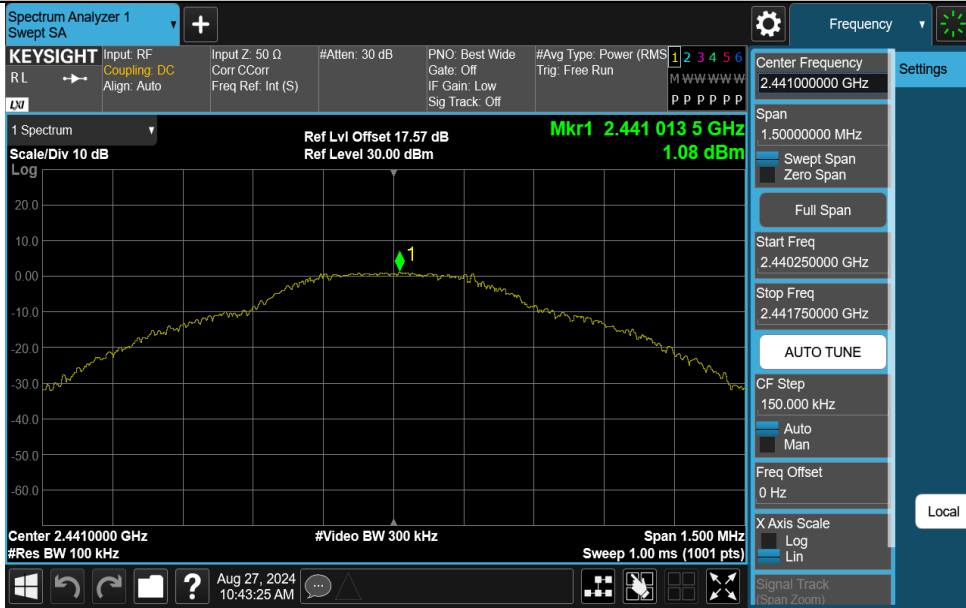
TestMode	Antenna	Freq(MHz)	Max.Point[MHz]	Result[dBm]
DH5	Ant1	2402	2401.83	2.33
DH5	Ant1	2441	2441.01	1.08
DH5	Ant1	2480	2480.18	0.79
2DH5	Ant1	2402	2401.87	0.93
2DH5	Ant1	2441	2440.85	1.12
2DH5	Ant1	2480	2479.81	0.27
3DH5	Ant1	2402	2401.84	1.98
3DH5	Ant1	2441	2441.15	1.06
3DH5	Ant1	2480	2479.82	0.71

Test Graphs

DH5-Ant1-2402-PASS



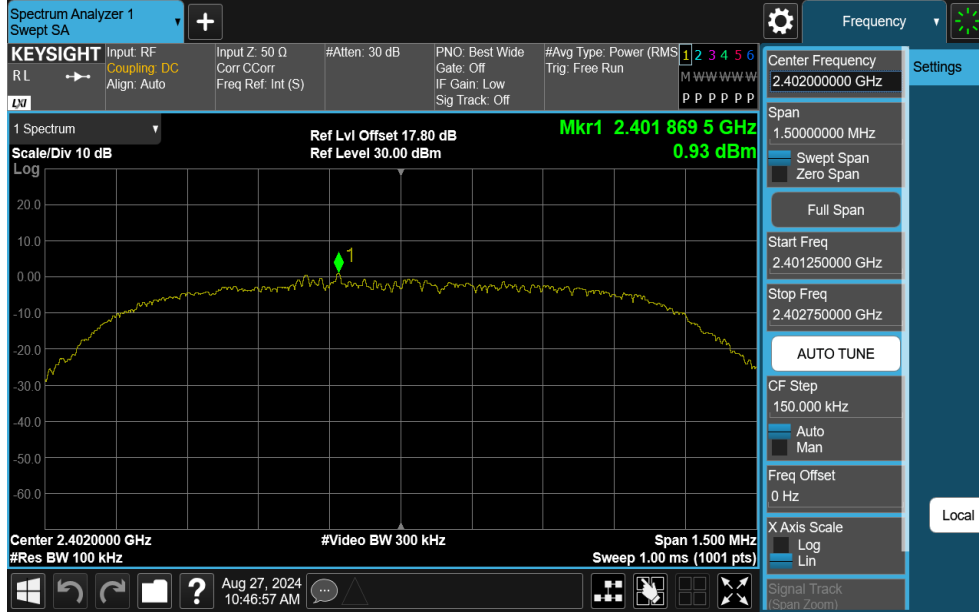
DH5-Ant1-2441-PASS



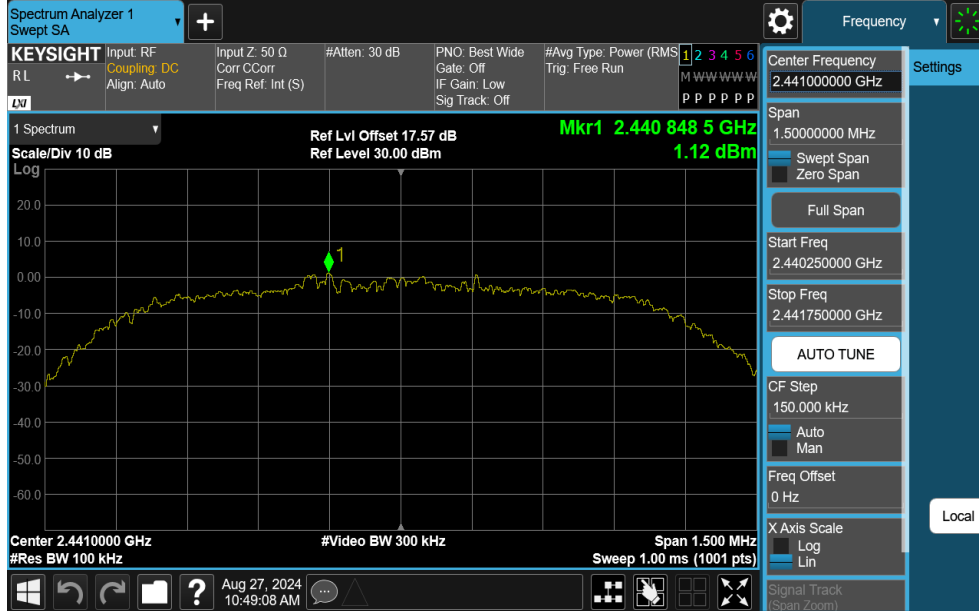
DH5-Ant1-2480-PASS



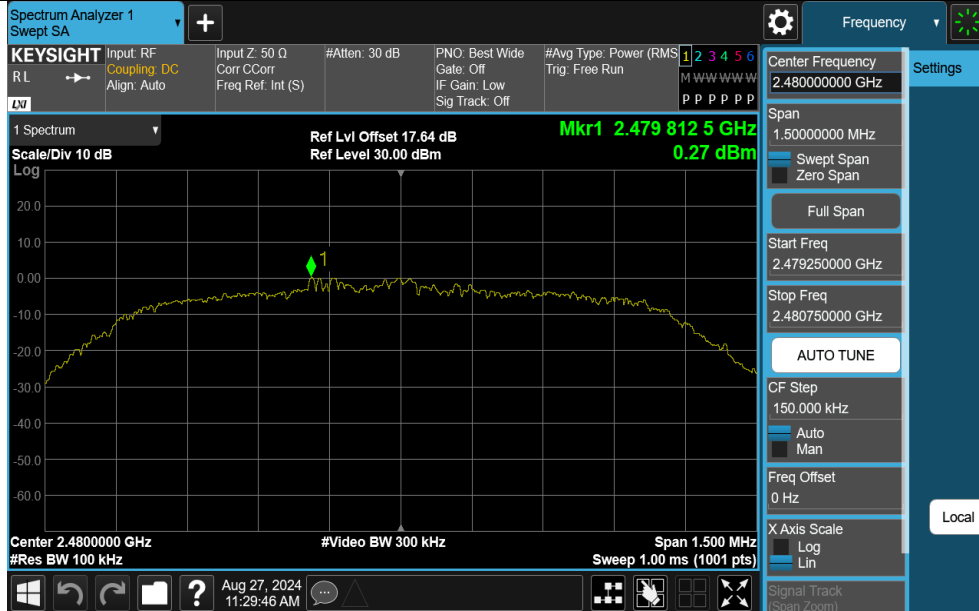
2DH5-Ant1-2402-PASS



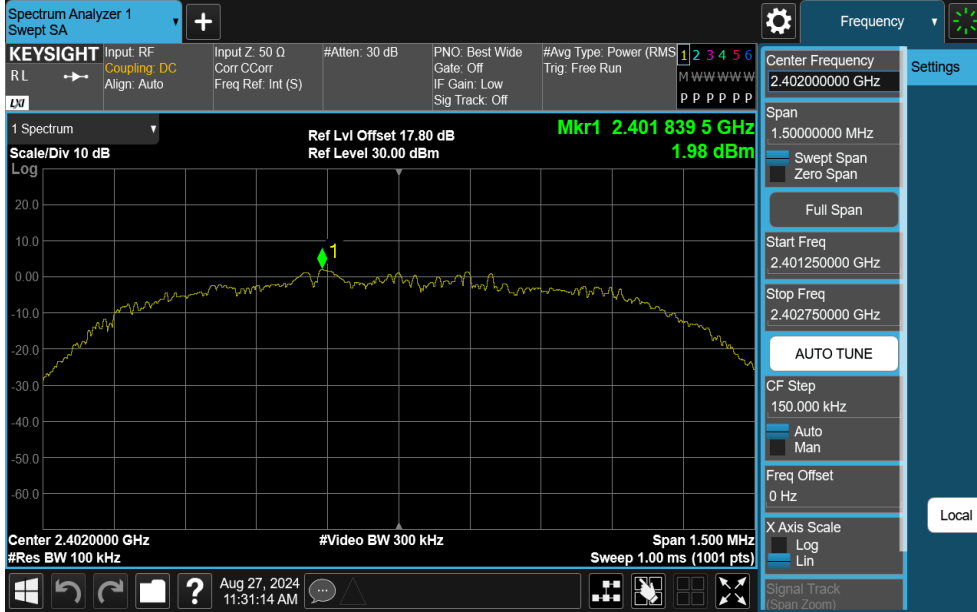
2DH5-Ant1-2441-PASS



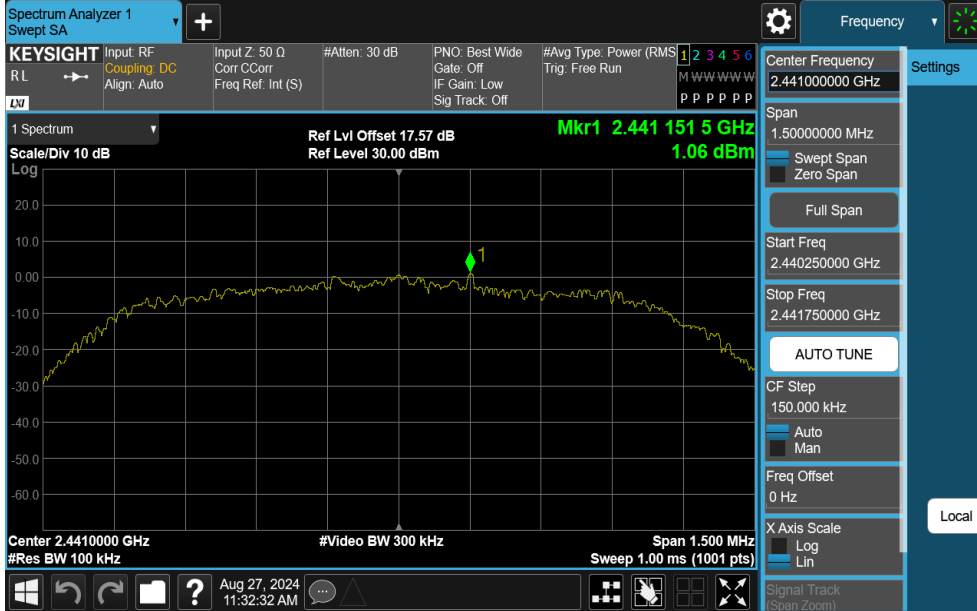
2DH5-Ant1-2480-PASS



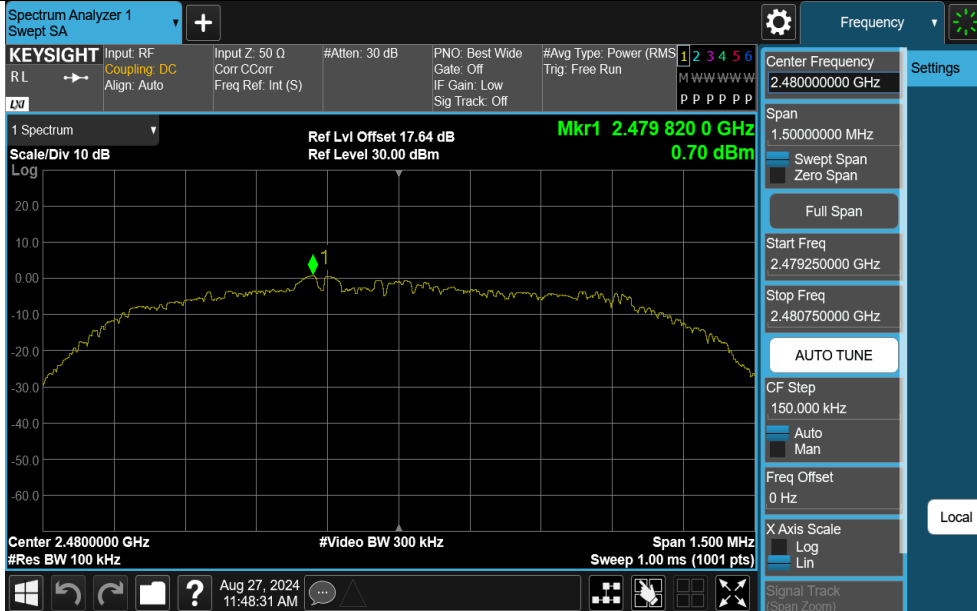
3DH5-Ant1-2402-PASS



3DH5-Ant1-2441-PASS



3DH5-Ant1-2480-PASS

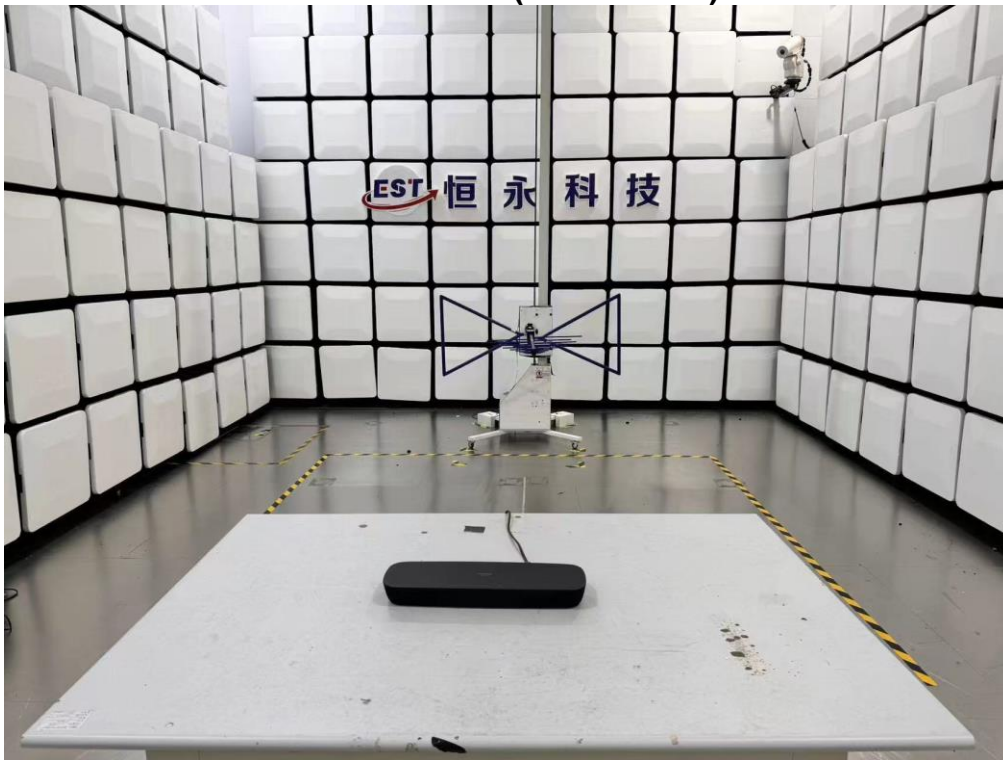


14. TEST SETUP PHOTO

Conducted Test



Radiated Test (Below 1GHz)



Radiated Test (Above 1GHz)



15. EUT PHOTO

External Photos
M/N: SC-HTB200



External Photos
M/N: SC-HTB200



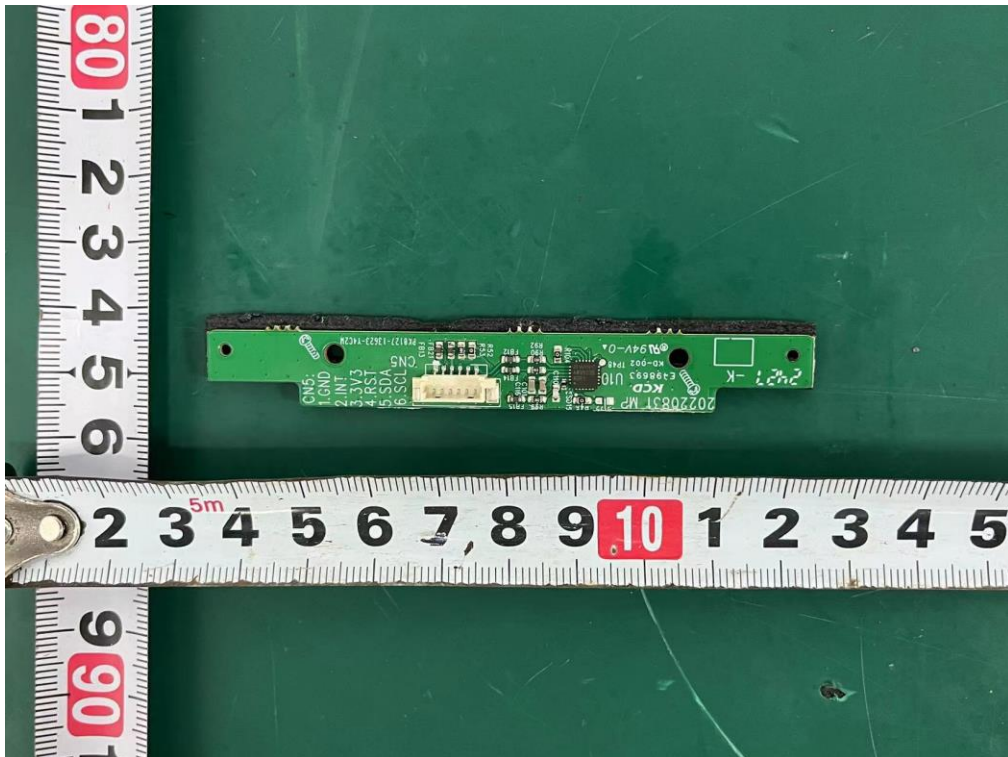
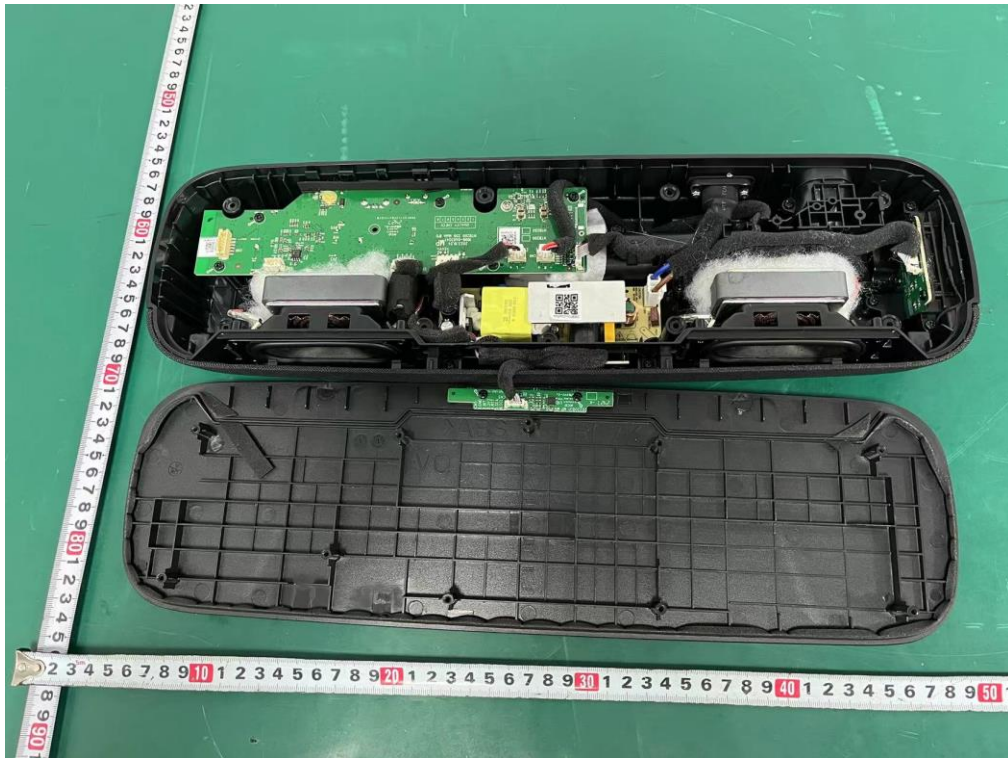
External Photos
M/N: SC-HTB200



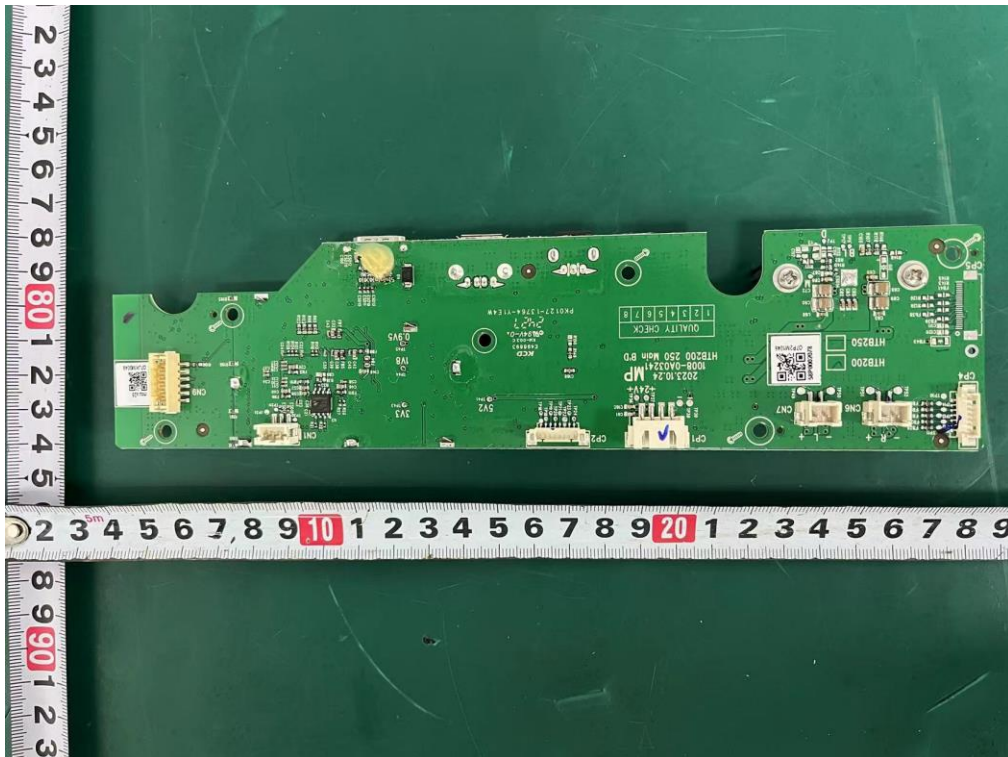
External Photos
M/N: SC-HTB200



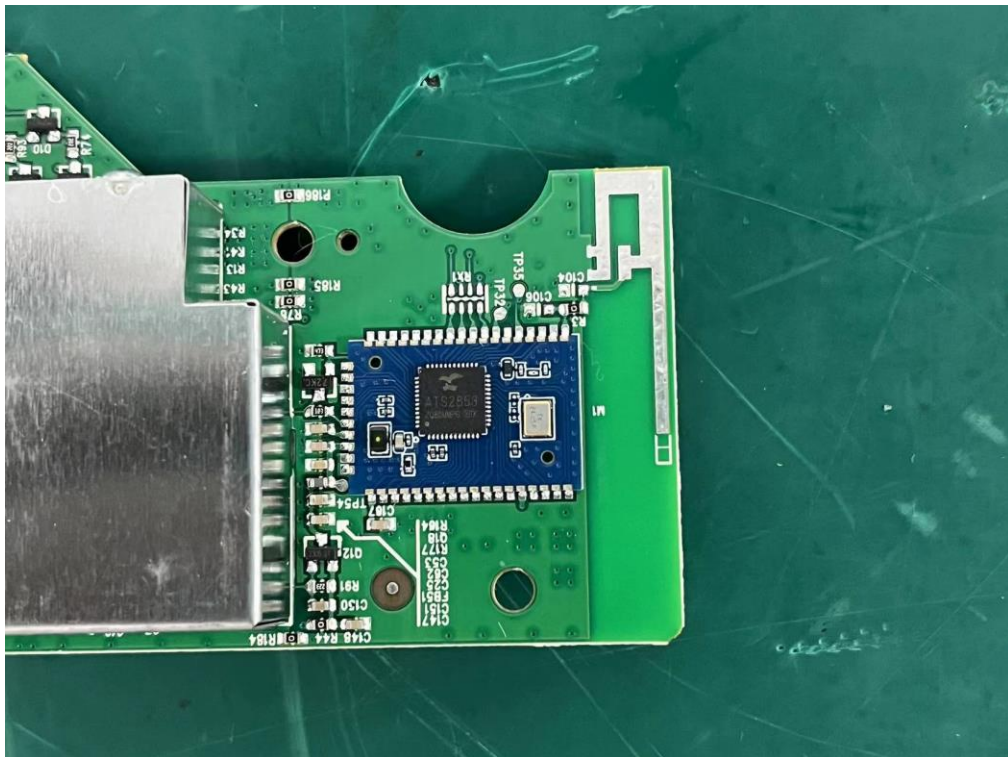
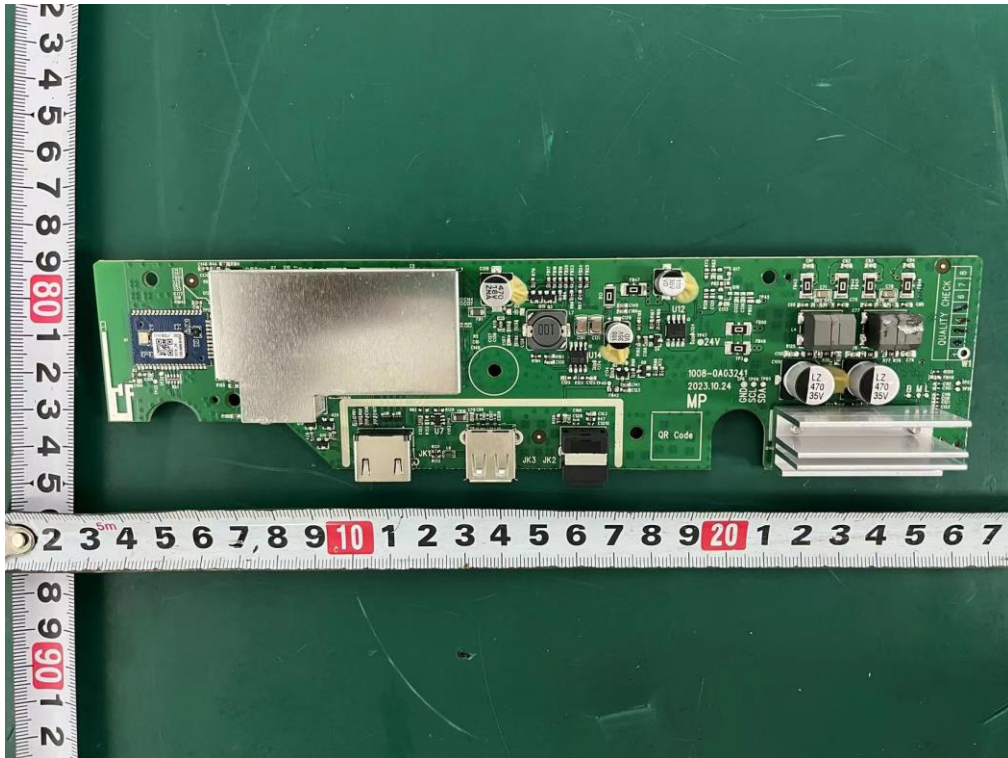
Internal Photos
M/N: SC-HTB200



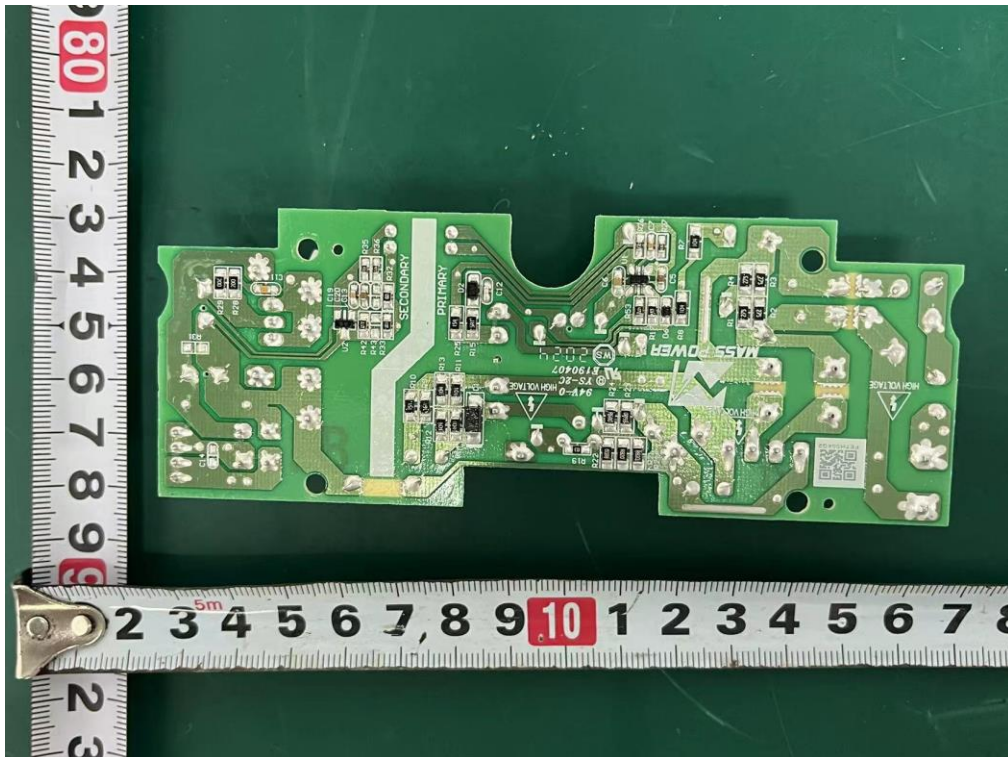
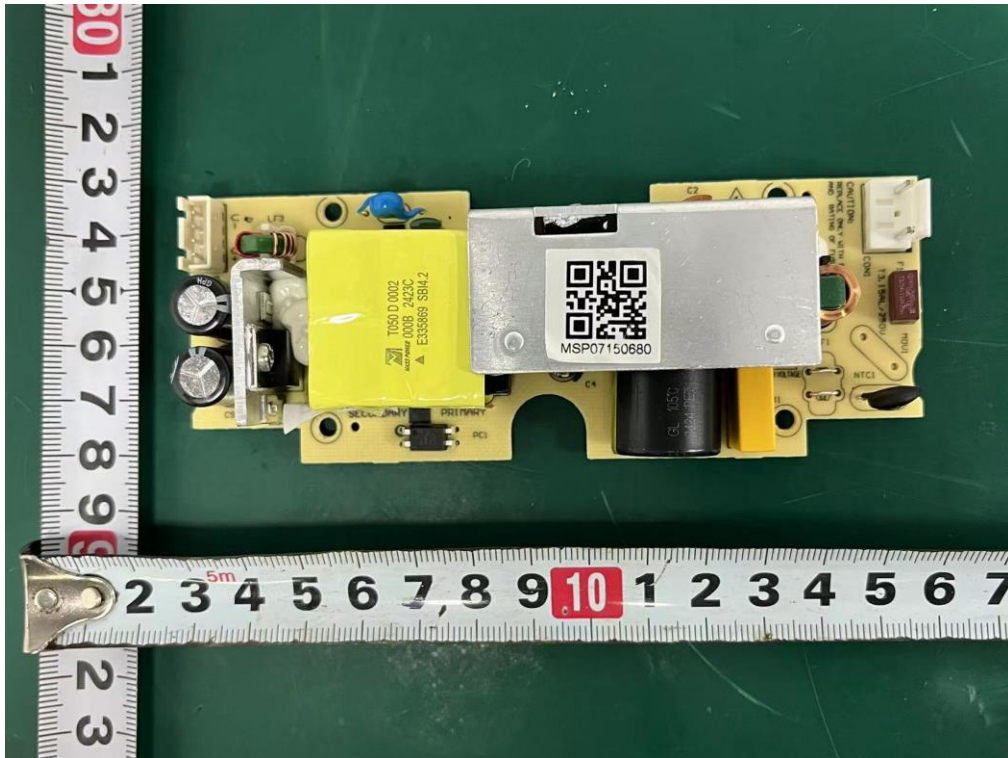
Internal Photos
M/N: SC-HTB200



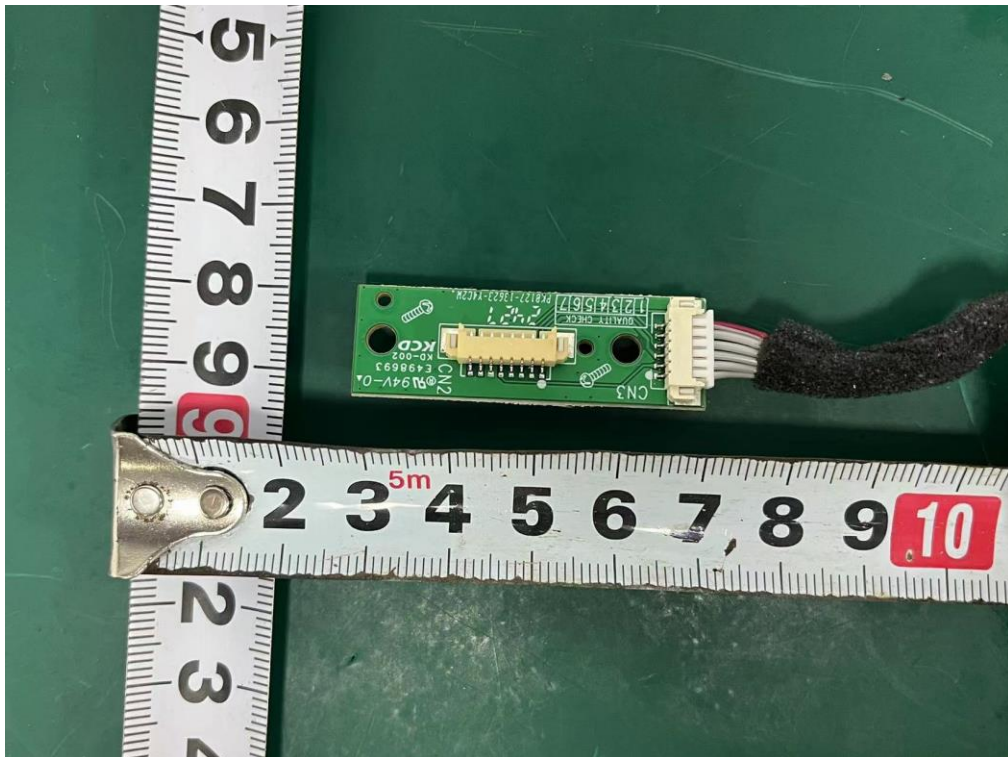
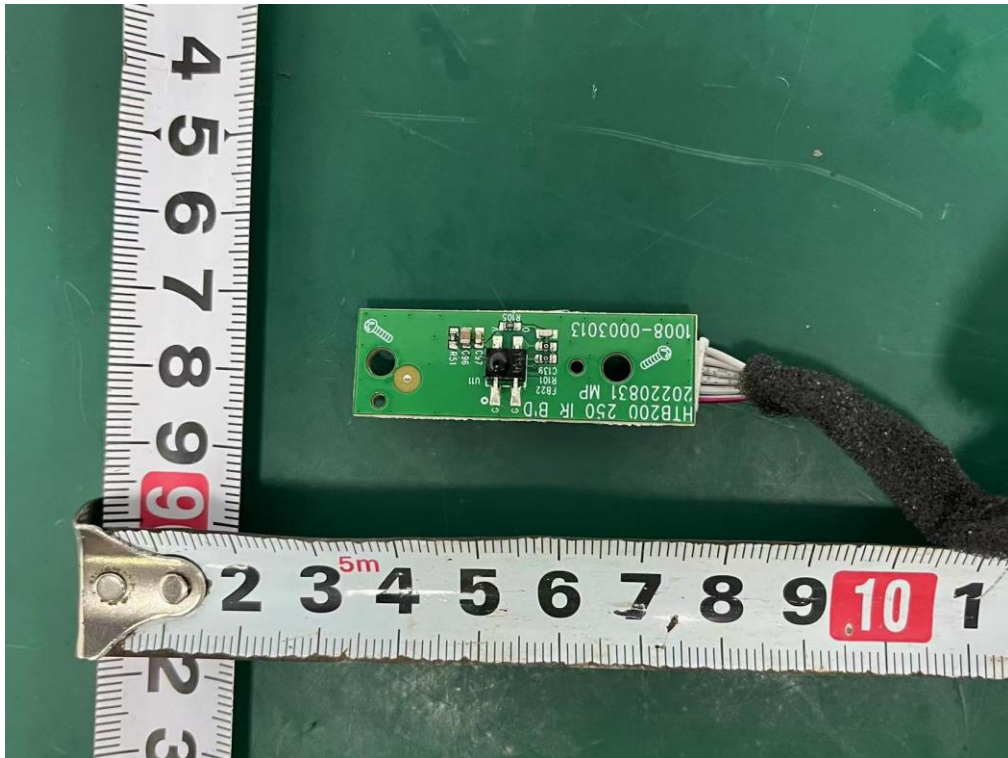
Internal Photos M/N: SC-HTB200



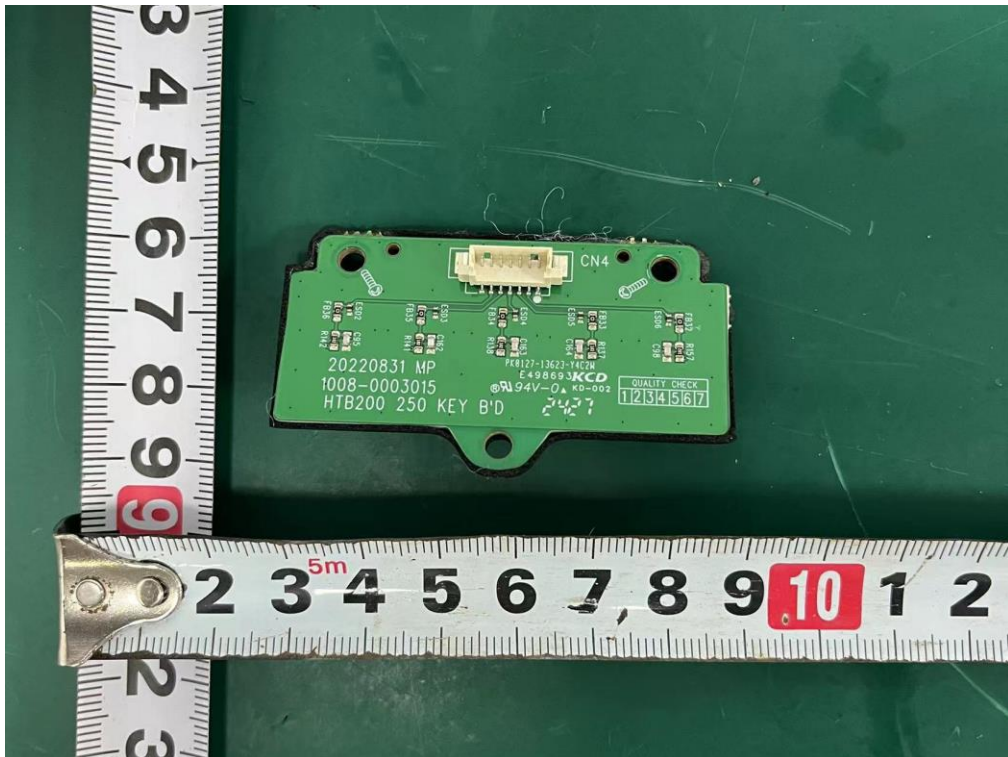
Internal Photos M/N: SC-HTB200



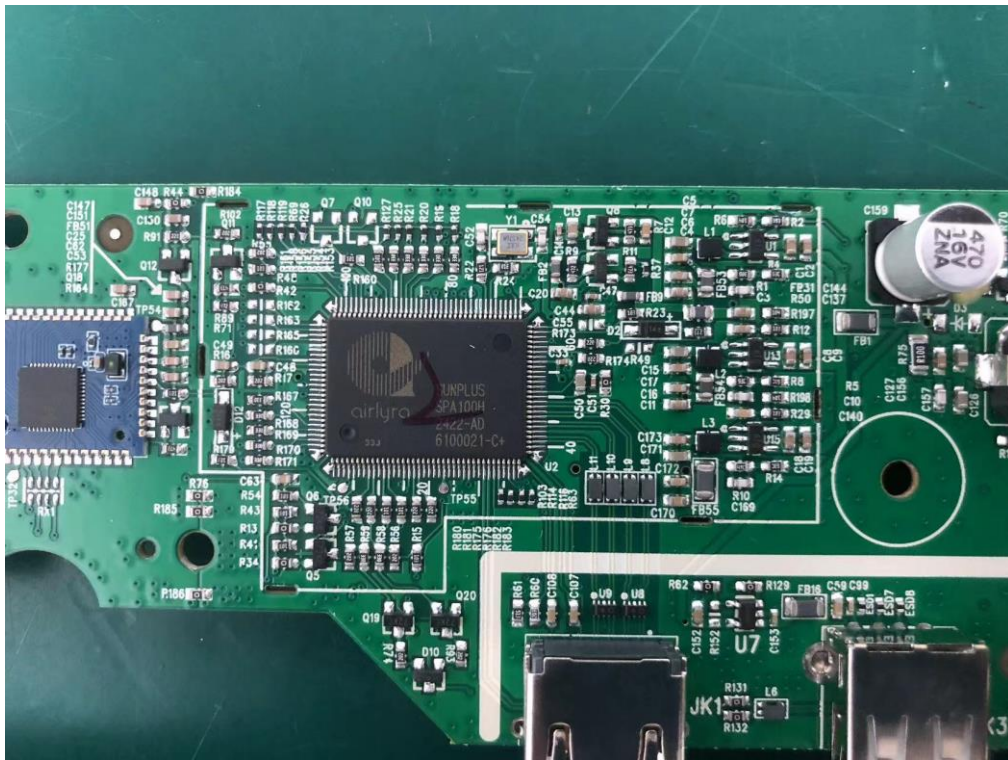
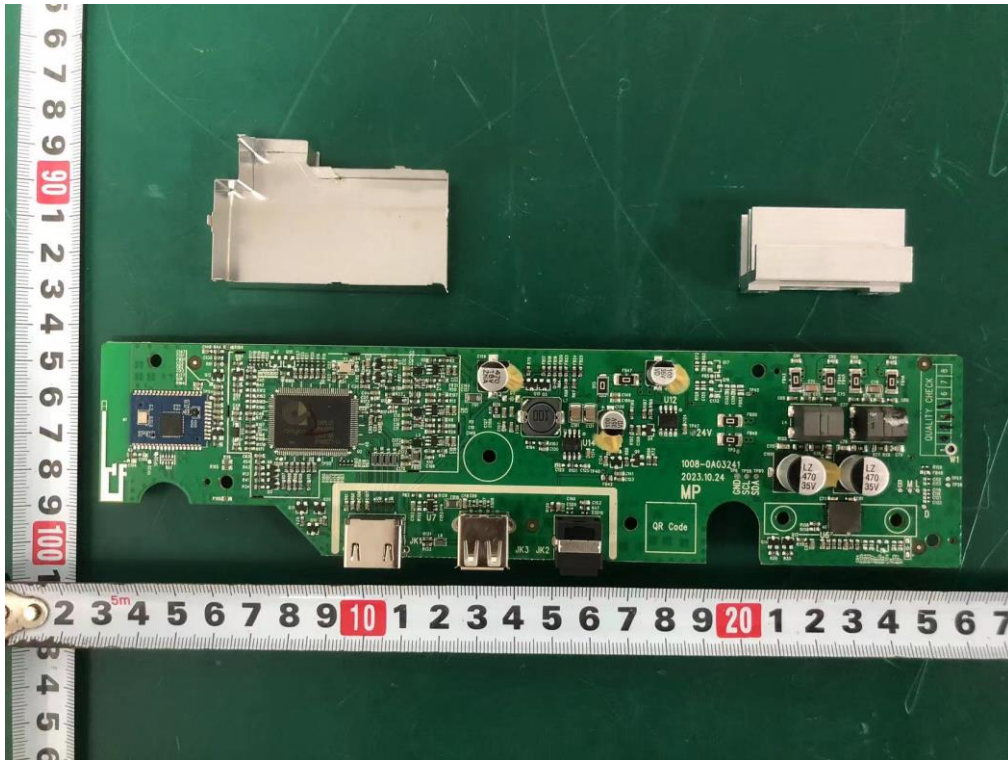
Internal Photos
M/N: SC-HTB200



Internal Photos
M/N: SC-HTB200



Internal Photos M/N: SC-HTB200



End of Test Report