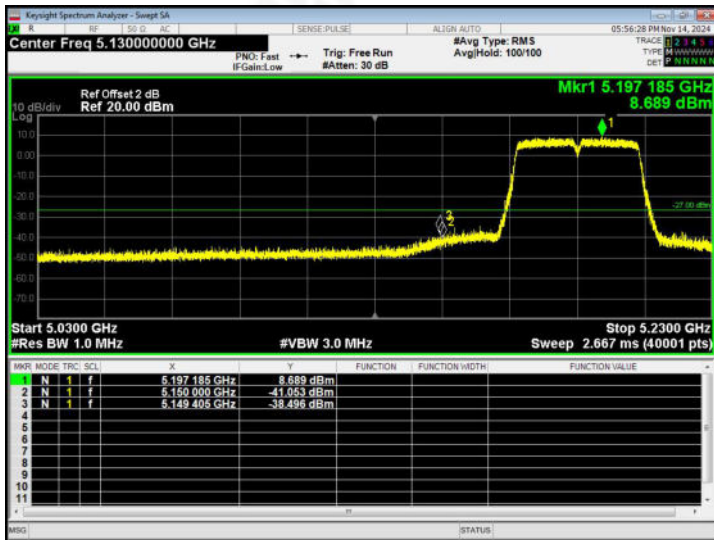
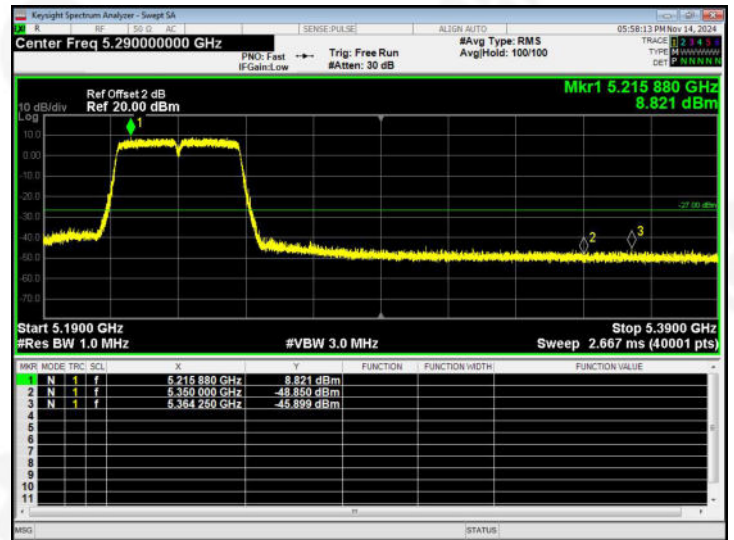




SISO ANT A - 802.11n40

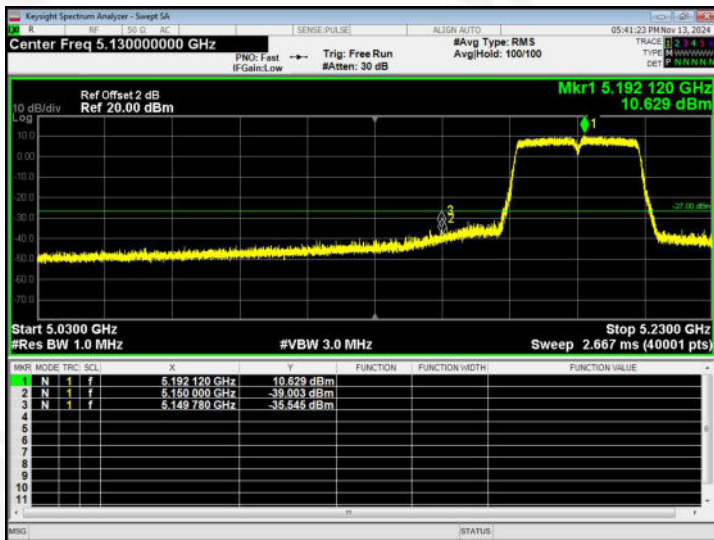


Channel 38

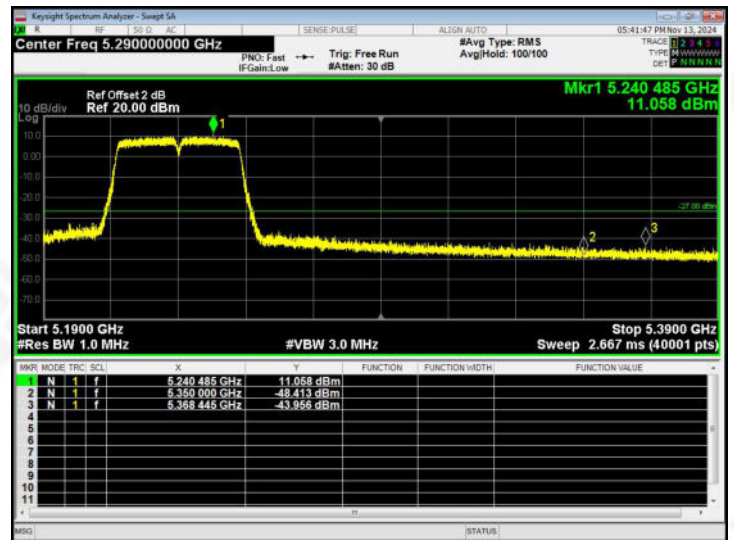


Channel 46

MIMO A - 802.11n40



Channel 38

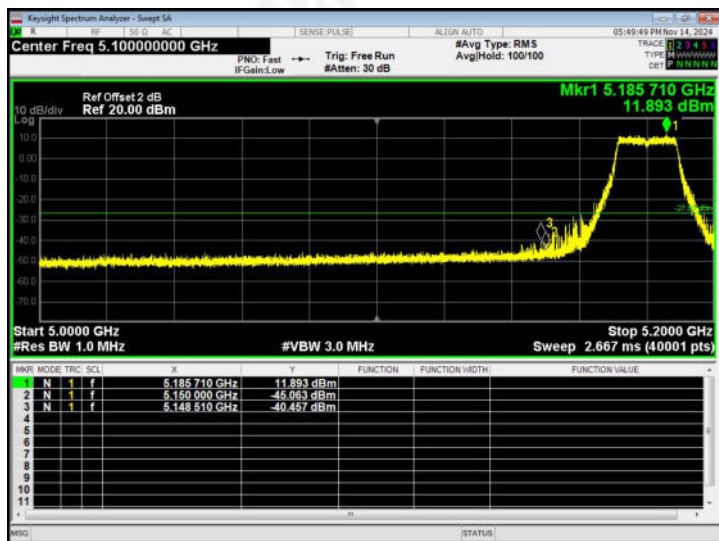


Channel 46

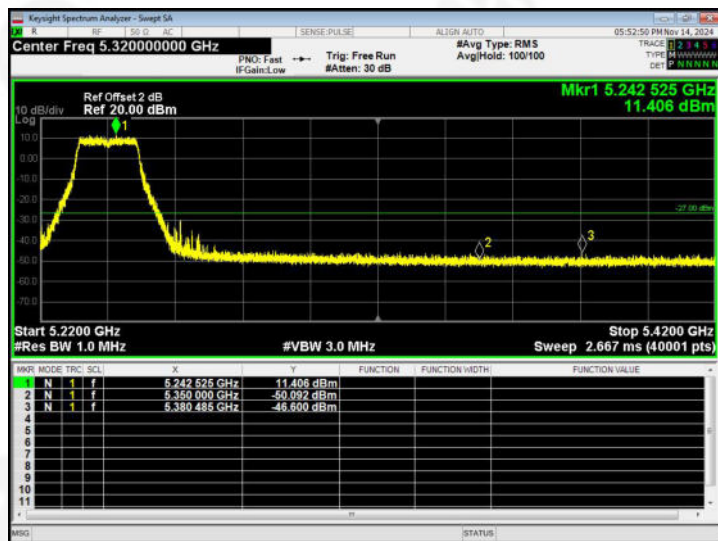
Note: Both SISO ANT A&B and MIMO A&B passed the test, the test data shows only the worst case SISO ANT A and MIMO A.



SISO ANT A - 802.11ac20

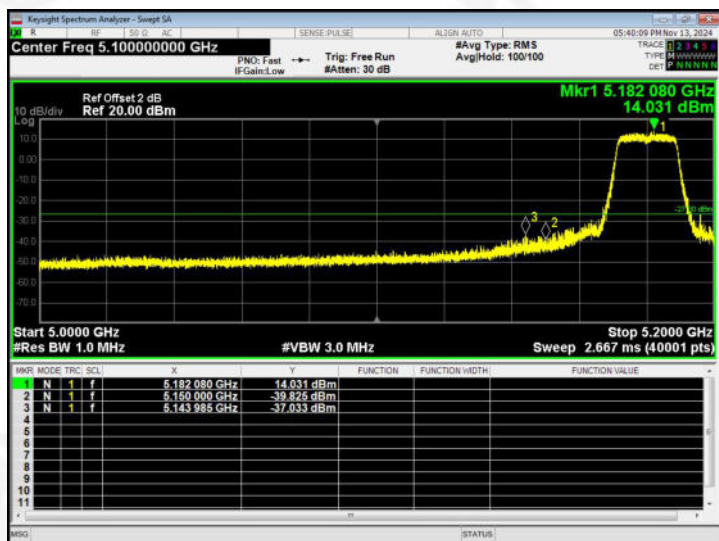


Channel 36

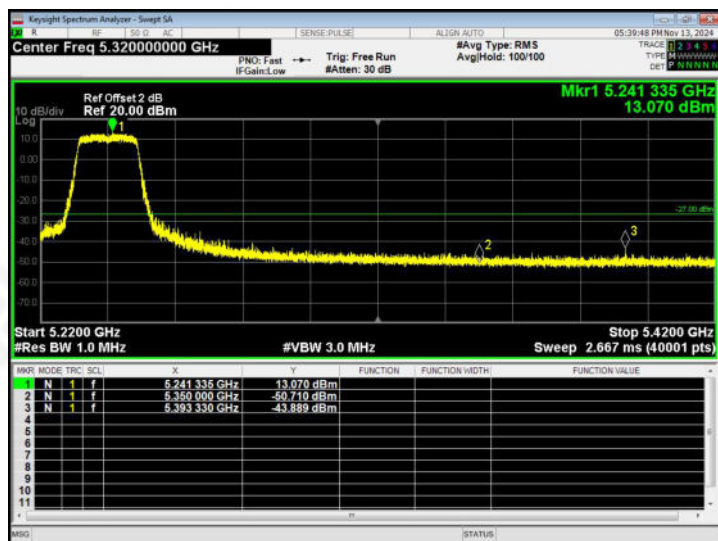


Channel 48

MIMO A - 802.11ac20



Channel 36

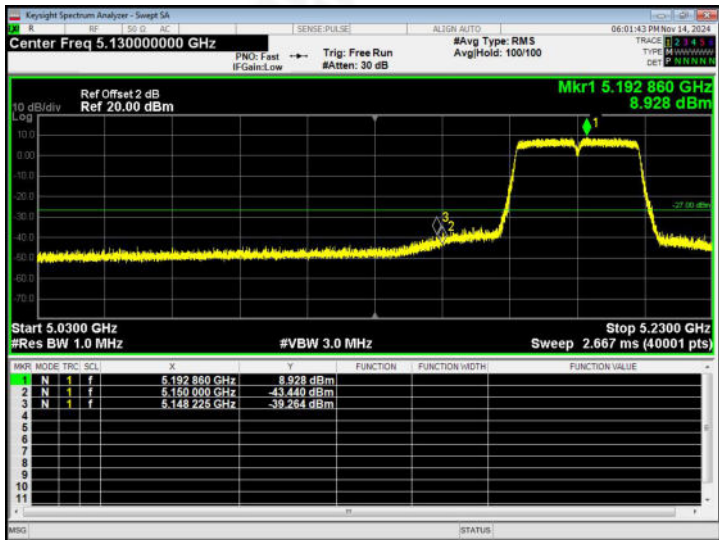


Channel 48

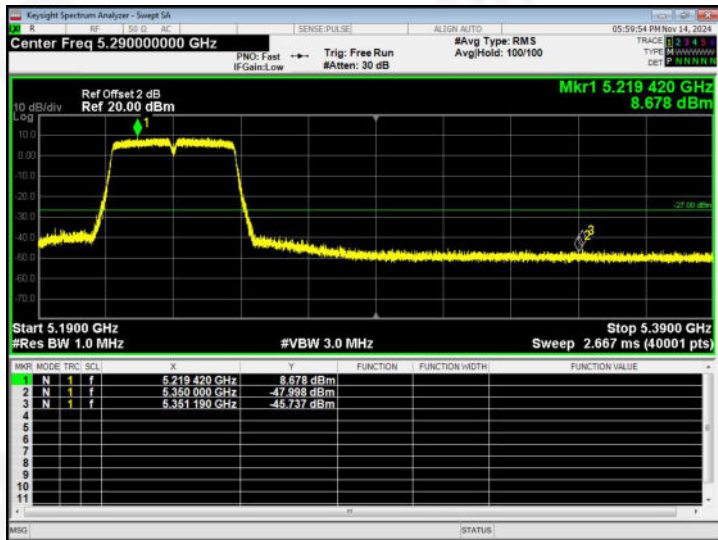
Note: Both SISO ANT A&B and MIMO A&B passed the test, the test data shows only the worst case SISO ANT A and MIMO A.



SISO ANT A - 802.11ac40

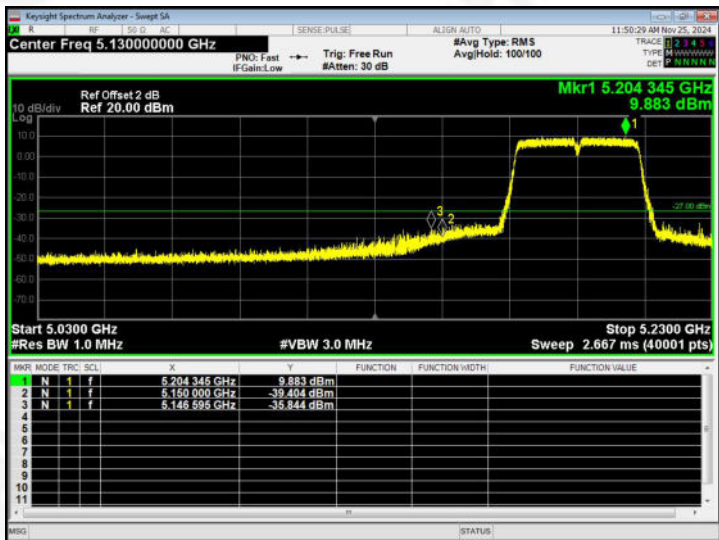


Channel 38

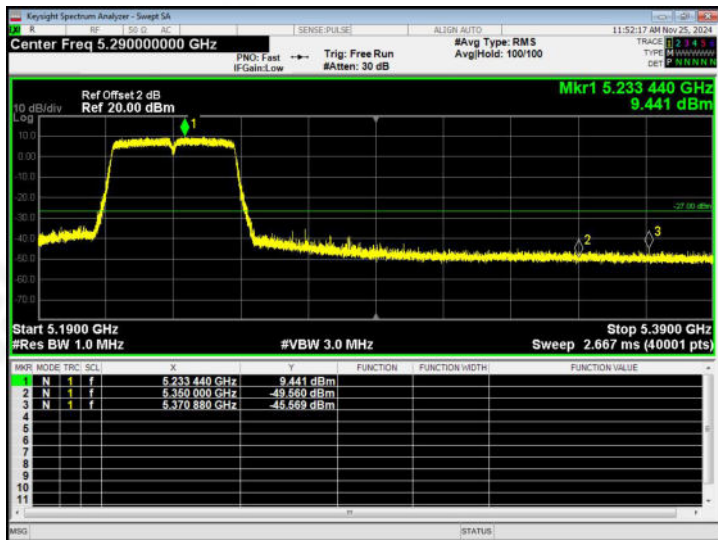


Channel 46

MIMO A - 802.11ac40



Channel 38



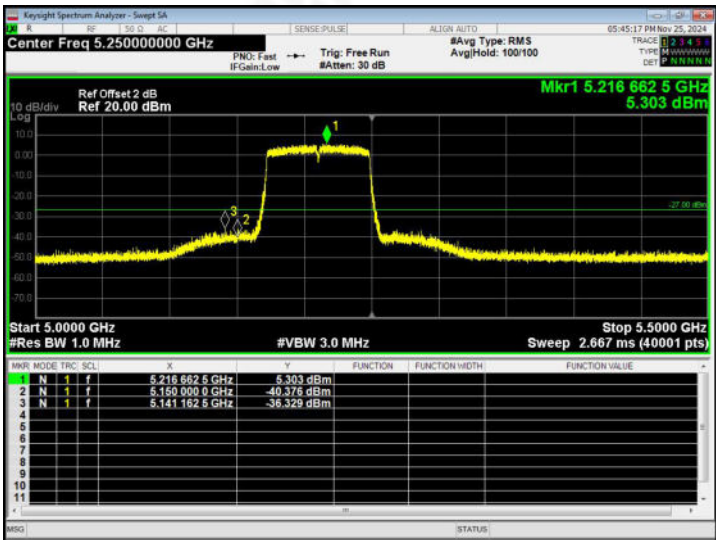
Channel 46

Note: Both SISO ANT A&B and MIMO A&B passed the test, the test data shows only the worst case SISO ANT A and MIMO ANT A.

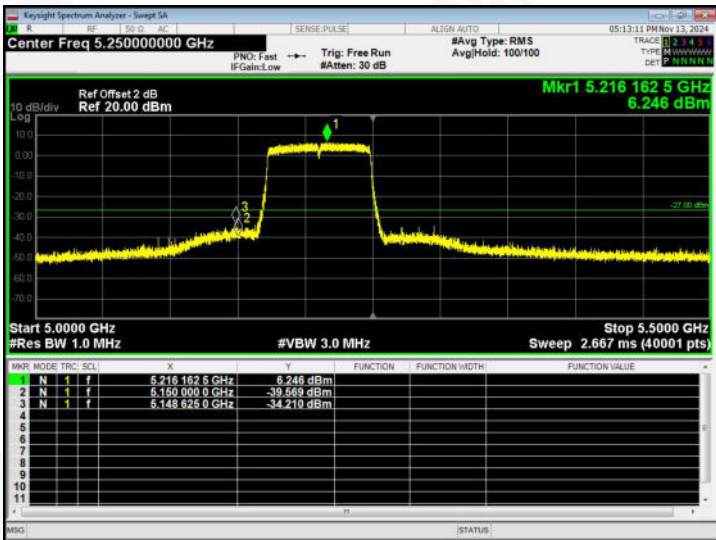


SISO ANT A - 802.11ac80

MIMO A - 802.11ac80



Channel 42



Channel 42

Note: Both SISO ANT A&B and MIMO A&B passed the test, the test data shows only the worst case SISO ANT A and MIMO ANT A.



Keysight Spectrum Analyzer - Sweep SA

8/21/2024 8:38:15 PM Nov 13, 2024

Center Freq 5.10000000 GHz

Ref Offset 2 dB
Ref 20.00 dBm

PNM: Fast
IF Gain: Low

Sense PULSE

Trig: Free Run
#Atten: 30 dB

#Avg Type: RMS
Avg/Hold: 100/100

Mkr1 5.188 400 GHz
13.474 dBm

Start 5.0000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 5.2000 GHz
Sweep 2.667 ms (40001 pts)

MARKER	MODE	TRIG	SC	F	AM	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	5.188 400 GHz	13.474 dBm			
2	N	1	f	5.150 000 GHz	-42.043 dBm			
3	N	1	f	5.148 130 GHz	-33.976 dBm			

Keysight Spectrum Analyzer - Swept SA

Center Freq 5.32000000 GHz

SENSE: PULSE

ALIGN: AUTO

#Avg Type: RMS

Avg/Hold: 100/100

03:46:24 PM Nov 15, 2016

TRACE 1

TYPE M

DET M

MATH 1

Ref Offset 2 dB

Ref 20.00 dBm

Mkr1 5.241 165 GHz

14.372 dBm

10 dB/div

Log

Start 5.2200 GHz

Stop 5.4200 GHz

#Res BW 1.0 MHz

#VBW 3.0 MHz

Sweep 2.667 ms (40001 pts)

MARK	MODE	TRIG	SCL	F	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	F	5.241 165 GHz	14.372 dBm			
2	N	1	F	5.320 000 GHz	-51.504 dBm			
3	N	1	F	5.403 940 GHz	-46.858 dBm			

Keysight Spectrum Analyzer - Sweet SA

Center Freq 5.10000000 GHz

PMW: Fast IF Gain: Low Trig: Free Run #Atten: 30 dB

#Avg Type: RMS Avg/Hold: 100/100

85:17:37 PM Nov 13, 2024

TRACE 1 1 1 1 TYPE 16 WWWWWW DEF 1 NNNNNN

10 dB/div Ref Offset 2 dB Ref 20.00 dBm

Log

Mkr1 5.185 385 GHz 16.469 dBm

Start 5.0000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Stop 5.2000 GHz Sweep 2.567 ms (40001 pts)

WNR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	5.185 385 GHz	16.469 dBm			
2	N	1	f	5.150 000 GHz	-38.673 dBm			
3	N	1	f	5.149 980 GHz	-27.101 dBm			
4								
5								
6								
7								
8								
9								
10								
11								

KeySight Spectrum Analyzer - Swept SA

SENSE PULSE ALGN AUTO

05:23:13 PM Nov 13, 2024

Center Freq 5.32000000 GHz

PNO: Fast IF Gain: Low Trig: Free Run #Atten: 30 dB

#Avg Type: RMS Avg/Hold: 100/100

TRACE 1 1 4 5 TYPE M WWWWWW DET P WNNNNR

Log

Ref Offset 2 dB Ref 20.00 dBm

Mkr1 5.243 810 GHz 14.210 dBm

-27.00 dBm

Start 5.2200 GHz Stop 5.4200 GHz

#Res BW 1.0 MHz #VBW 3.0 MHz Sweep 2.667 ms (40001 pts)

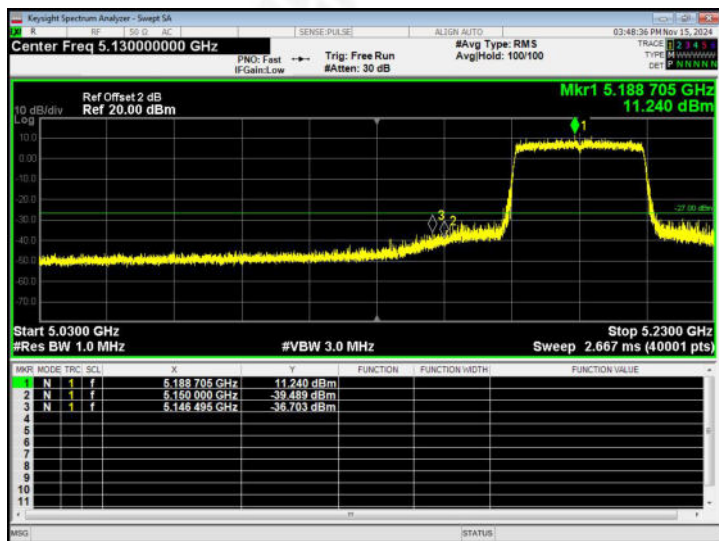
MARKER MODE TRIG SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1 N 1 f	5.243 810 GHz	14.210 dBm			
2 N 1 f	5.300 000 GHz	-48.999 dBm			
3 N 1 f	5.384 300 GHz	-46.062 dBm			
4					
5					
6					
7					
8					
9					
10					
11					

MRO STATUS

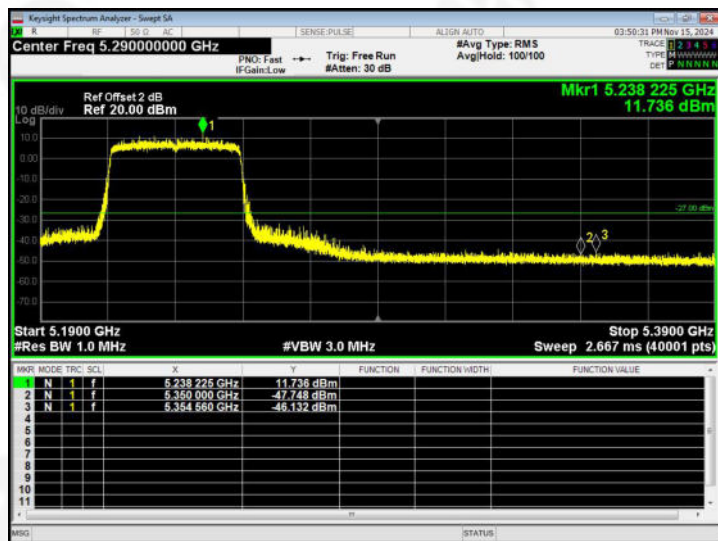
Note: Both SISO ANT A&B and MIMO A&B passed the test, the test data shows only the worst case SISO ANT A and MIMO A.



SISO ANT A - 802.11ax40

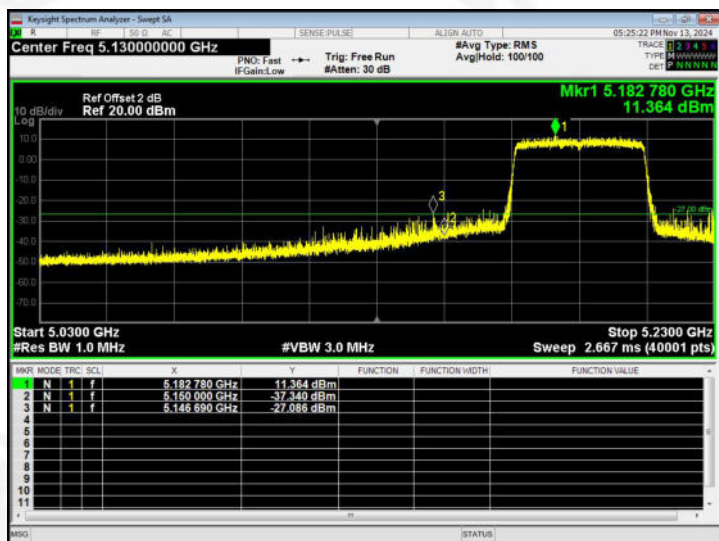


Channel 38

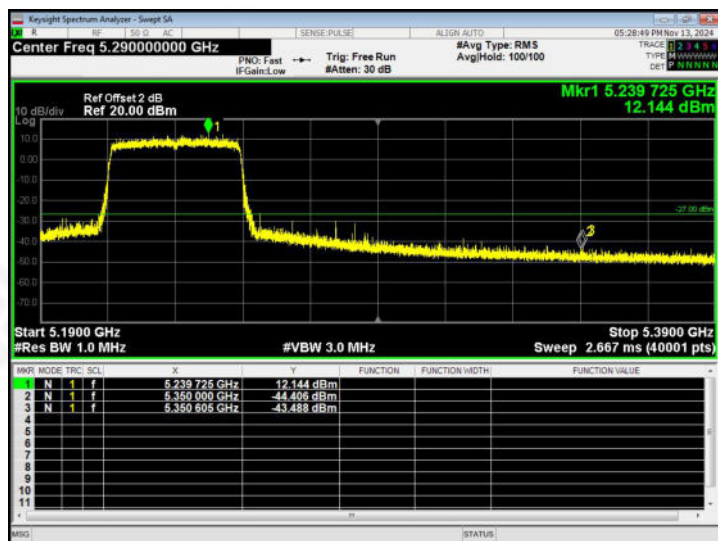


Channel 46

MIMO A - 802.11ax40



Channel 38



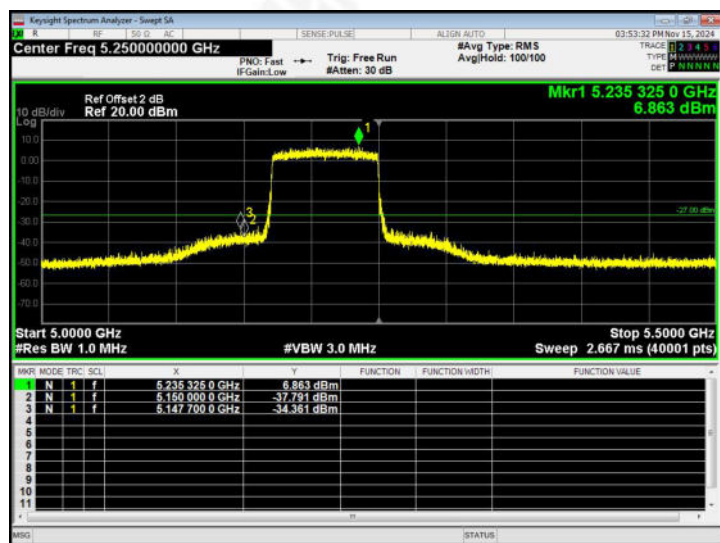
Channel 46

Note: Both SISO ANT A&B and MIMO A&B passed the test, the test data shows only the worst case SISO ANT A and MIMO ANT A.

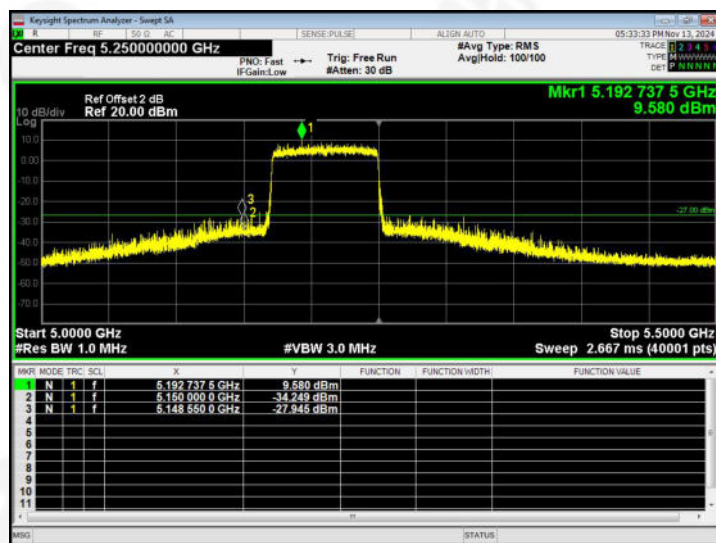


SISO ANT A - 802.11ax80

MIMO A - 802.11ax80



Channel 42



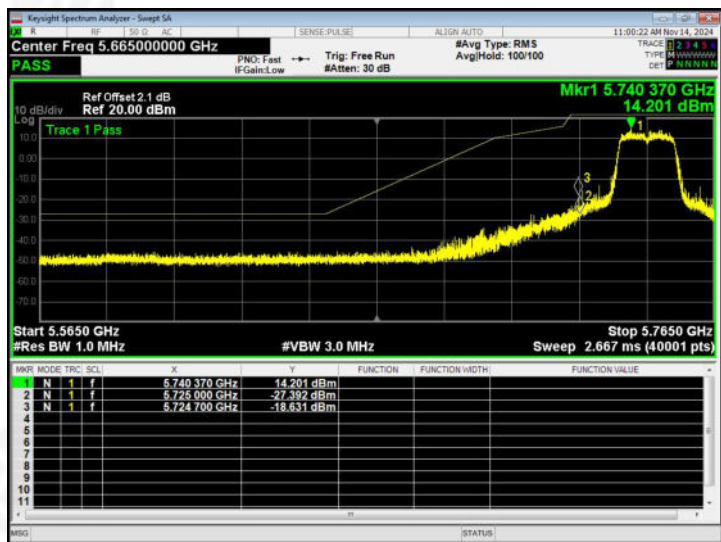
Channel 42

Note: Both SISO ANT A&B and MIMO A&B passed the test, the test data shows only the worst case SISO ANT A and MIMO ANT A.

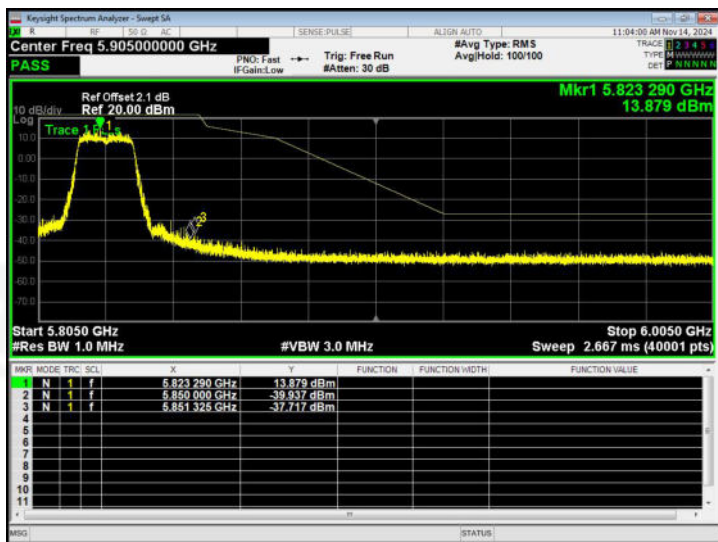


Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1012 hPa	Test Voltage :	DC 3.85V
Test band :	5.8G	Antenna gain :	2.1dBi (The gain value of antenna A is tested uniformly)

SISO ANT A - 802.11a

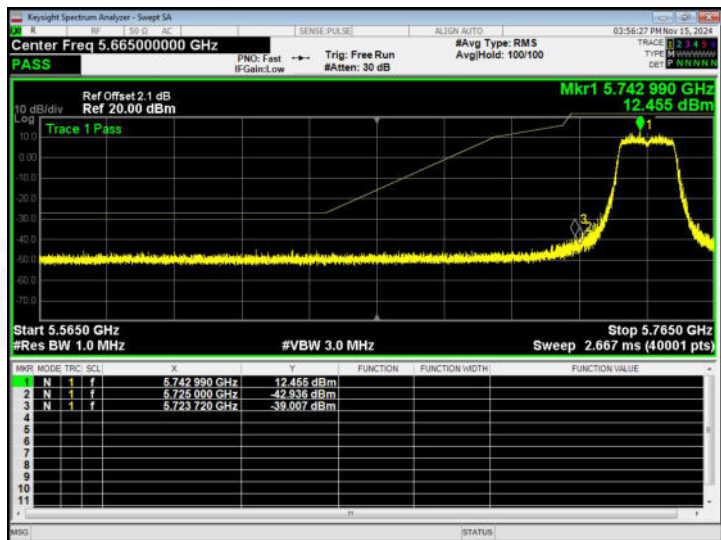


Channel 149

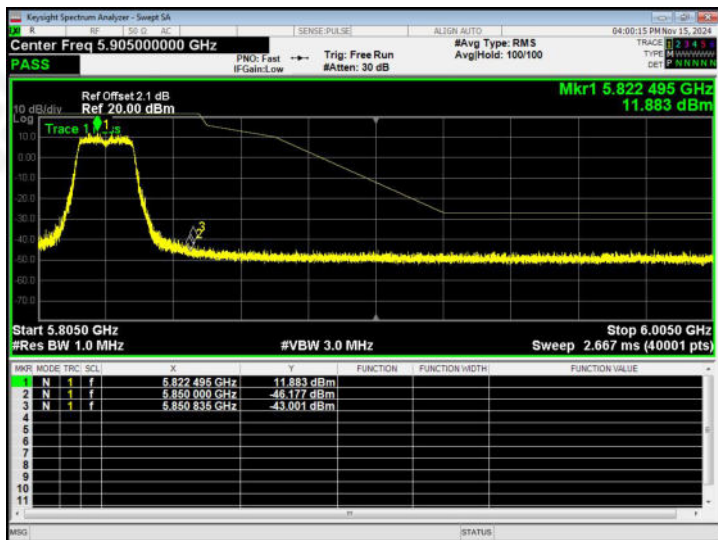


Channel 165

SISO ANT B - 802.11a



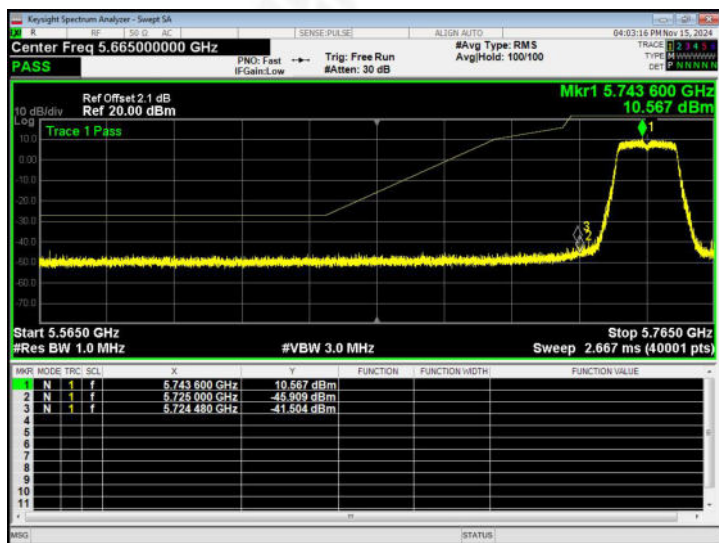
Channel 149



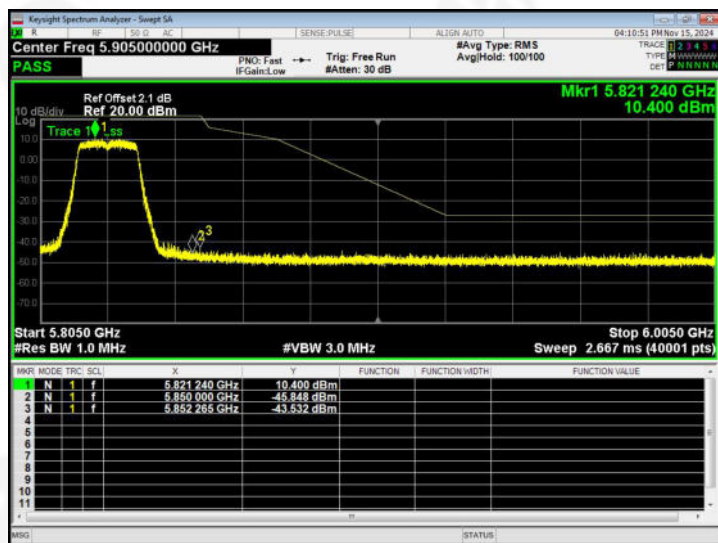
Channel 165



SISO ANT A - 802.11n20

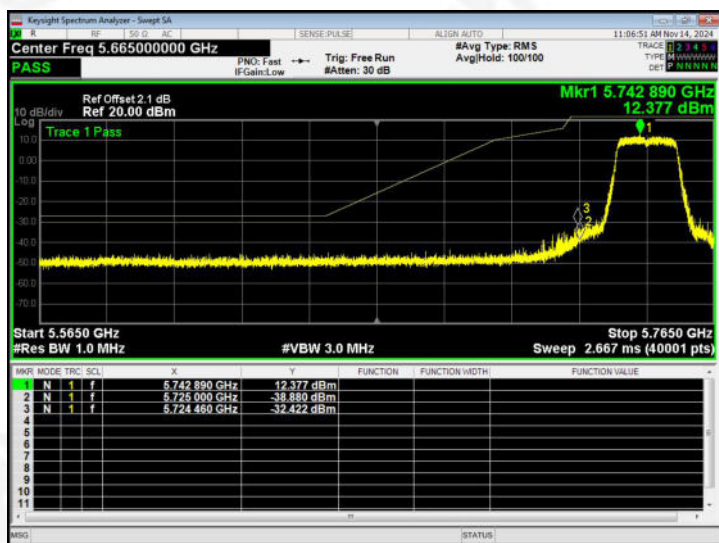


Channel 149

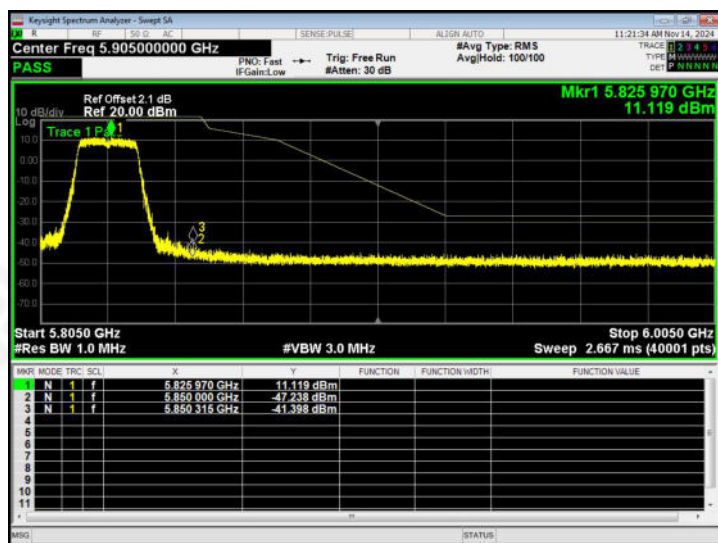


Channel 165

MIMO A - 802.11n20



Channel 149

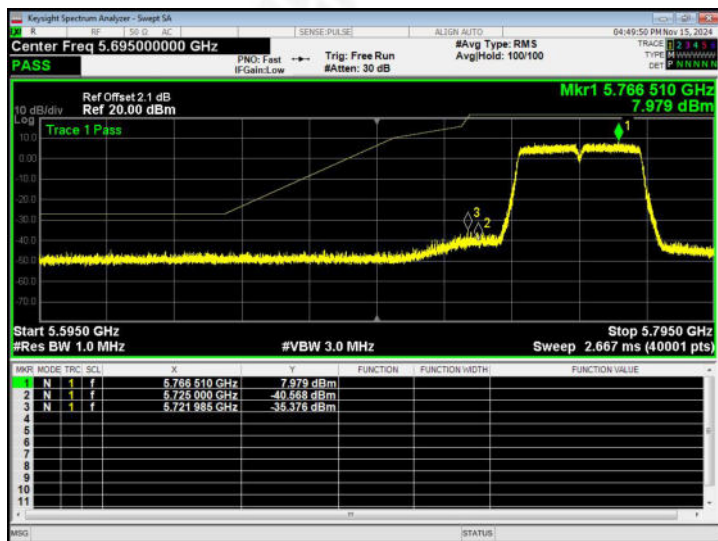


Channel 165

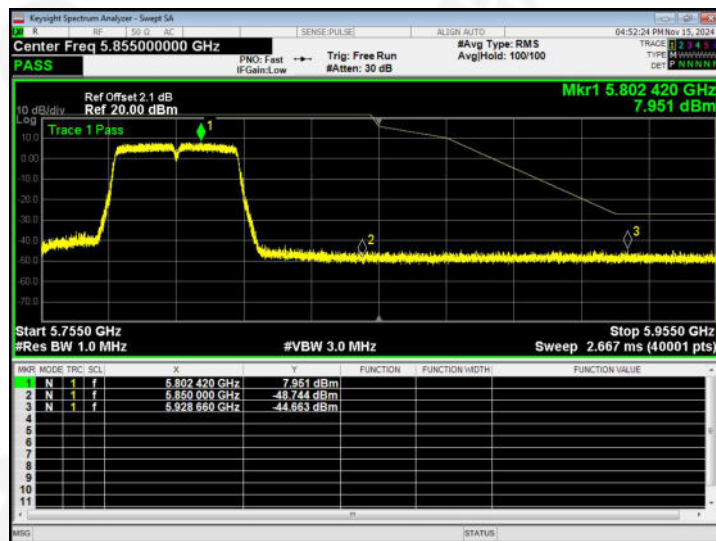
Note: Both SISO ANT A&B and MIMO A&B passed the test, the test data shows only the worst case SISO ANT A and MIMO A.



SISO ANT A - 802.11n40

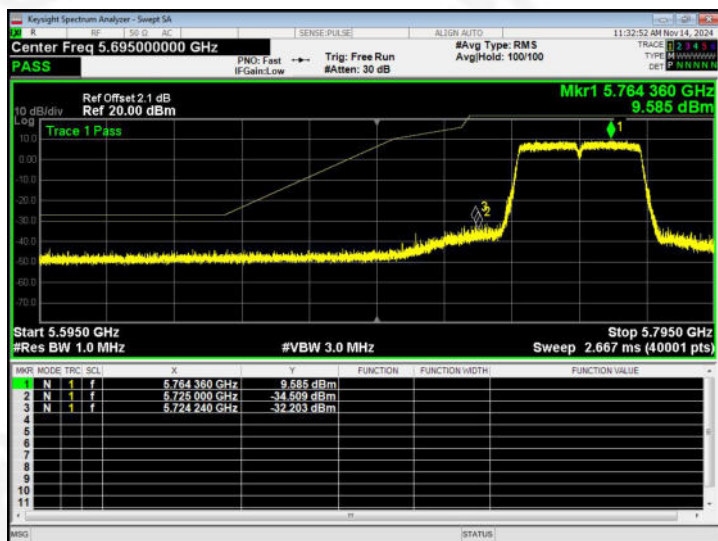


Channel 151

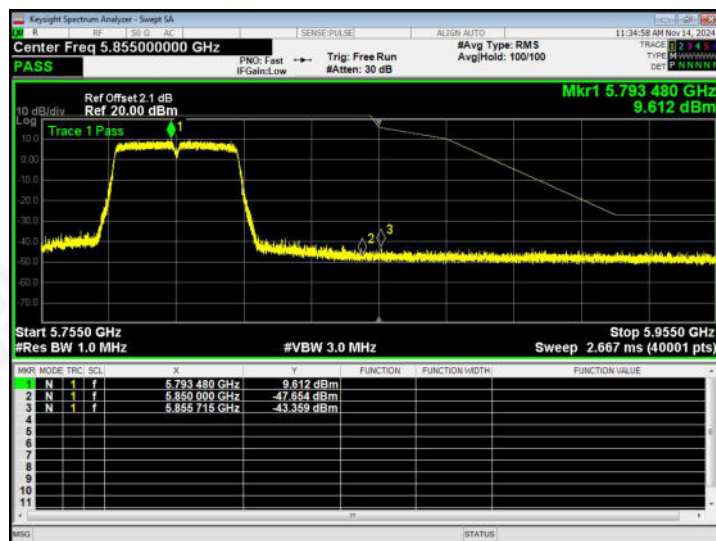


Channel 159

MIMO A - 802.11n40



Channel 151

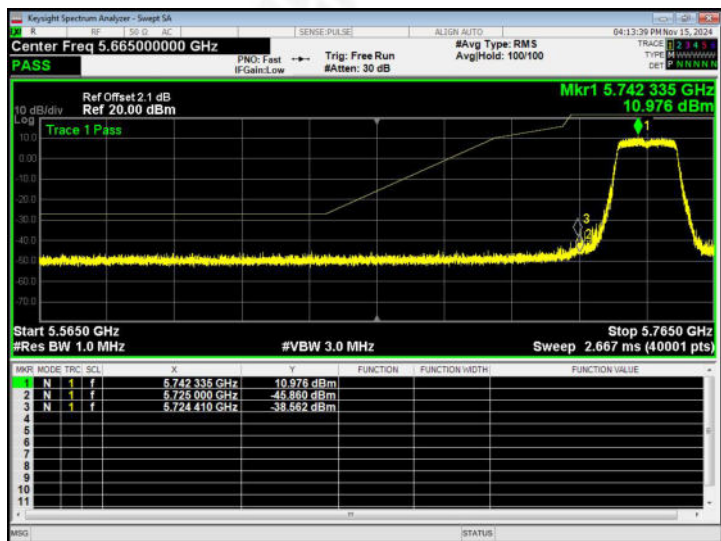


Channel 159

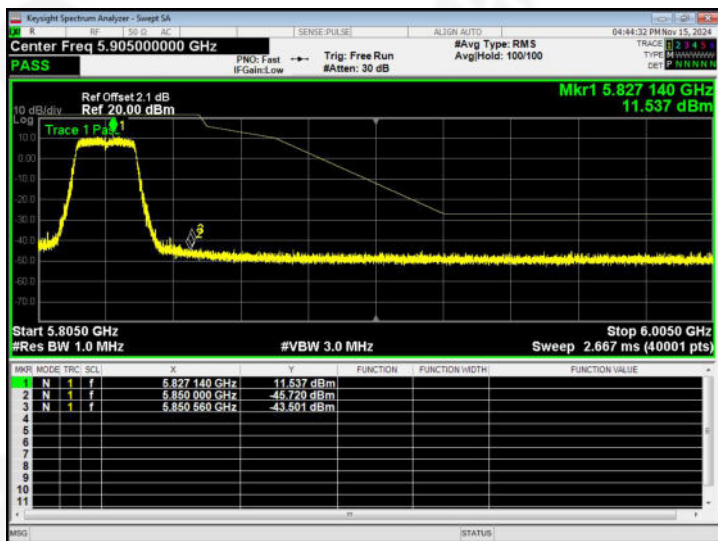
Note: Both SISO ANT A&B and MIMO A&B passed the test, the test data shows only the worst case SISO ANT A and MIMO A.



SISO ANT A - 802.11ac20

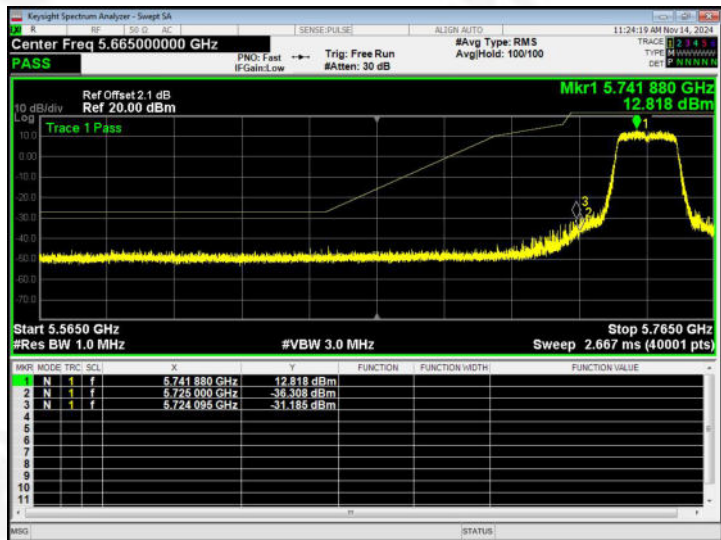


Channel 149

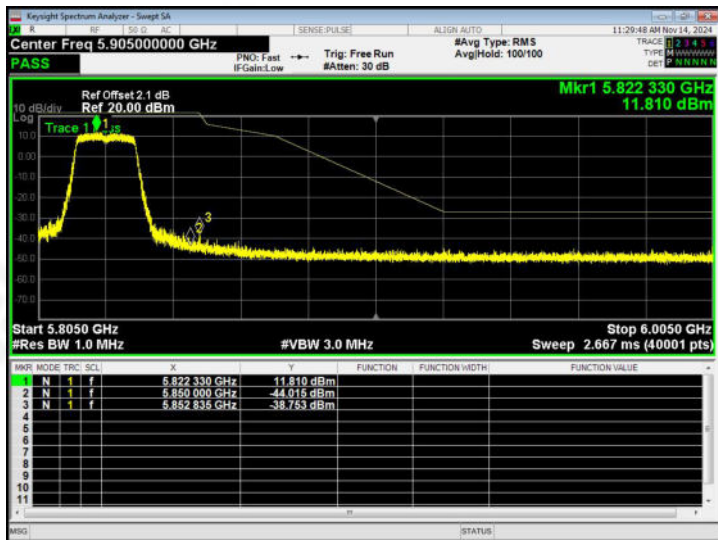


Channel 165

MIMO A - 802.11ac20



Channel 149

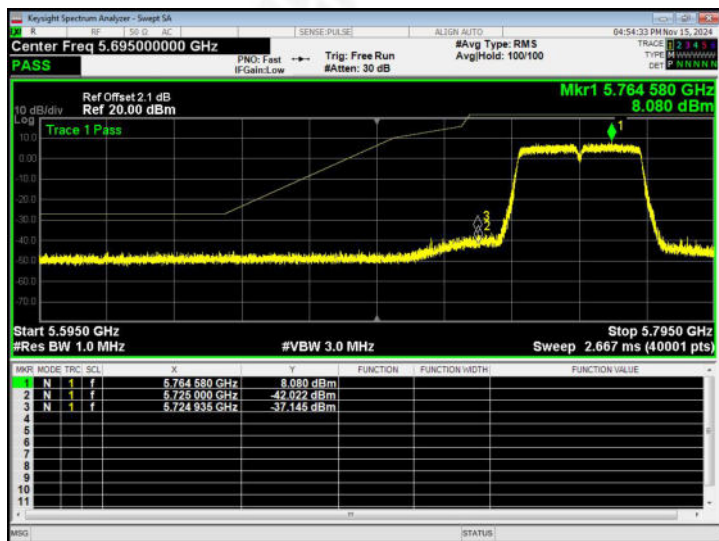


Channel 165

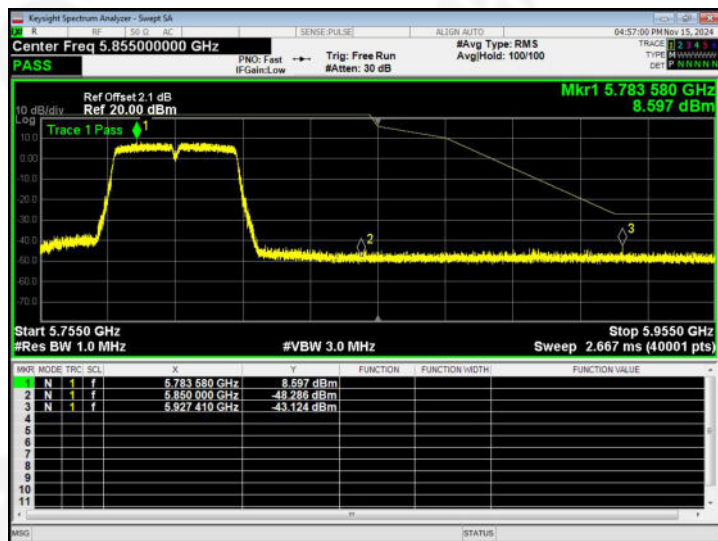
Note: Both SISO ANT A&B and MIMO A&B passed the test, the test data shows only the worst case SISO ANT A and MIMO A.



SISO ANT A - 802.11ac40

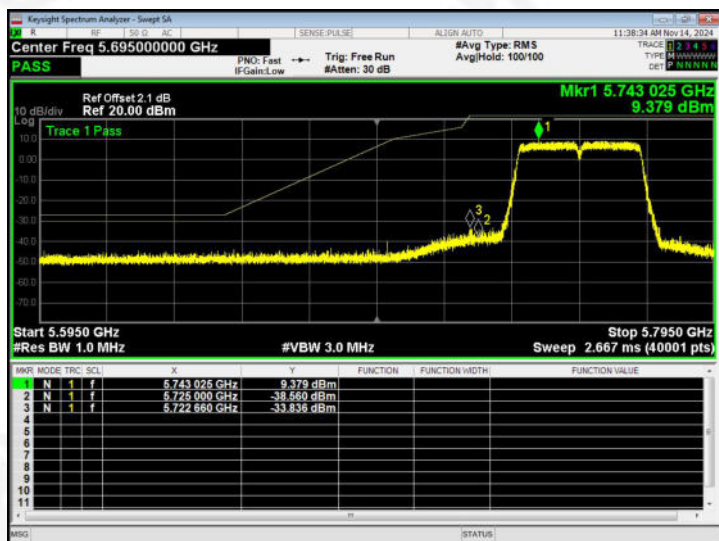


Channel 151

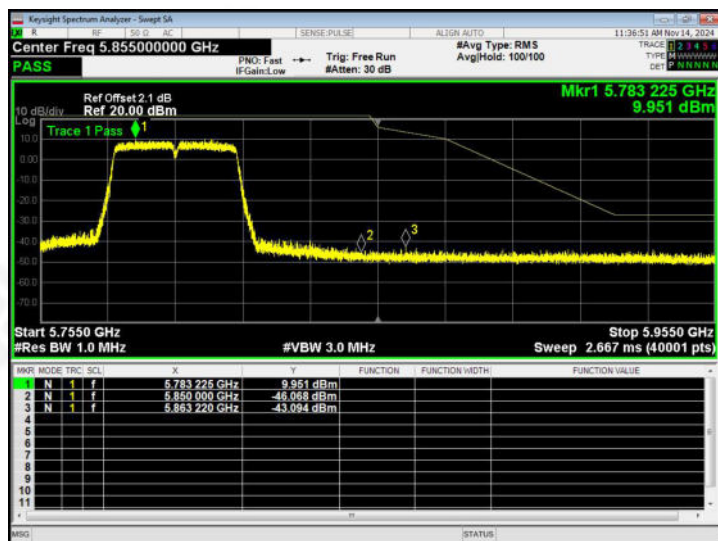


Channel 159

MIMO A - 802.11ac40



Channel 151



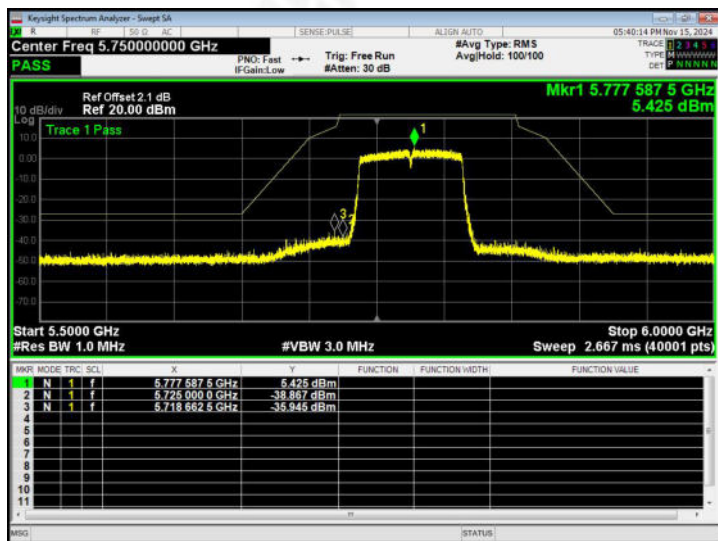
Channel 159

Note: Both SISO ANT A&B and MIMO A&B passed the test, the test data shows only the worst case SISO ANT A and MIMO ANT A.

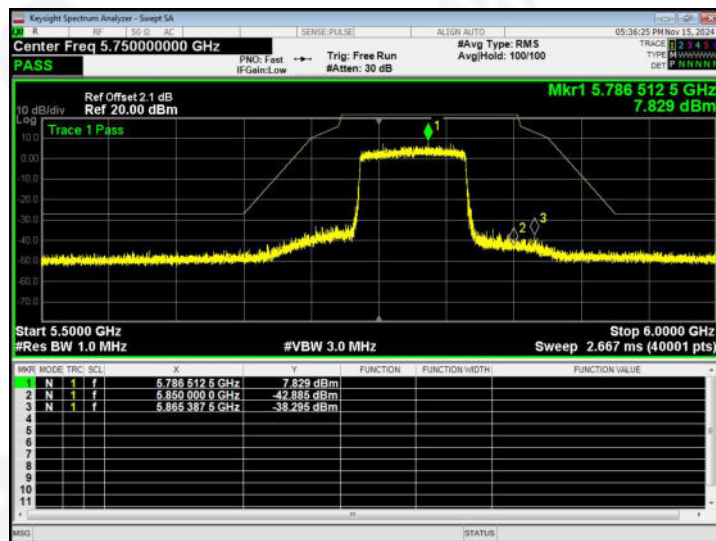


SISO ANT A - 802.11ac80

MIMO A - 802.11ac80



Channel 155

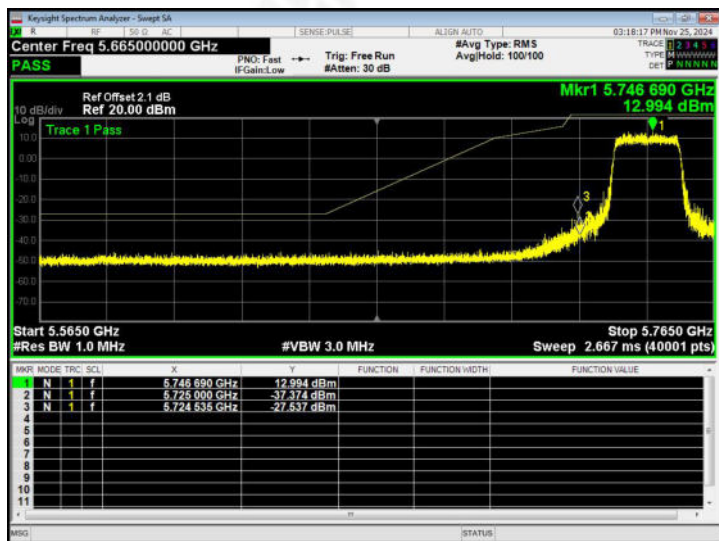


Channel 155

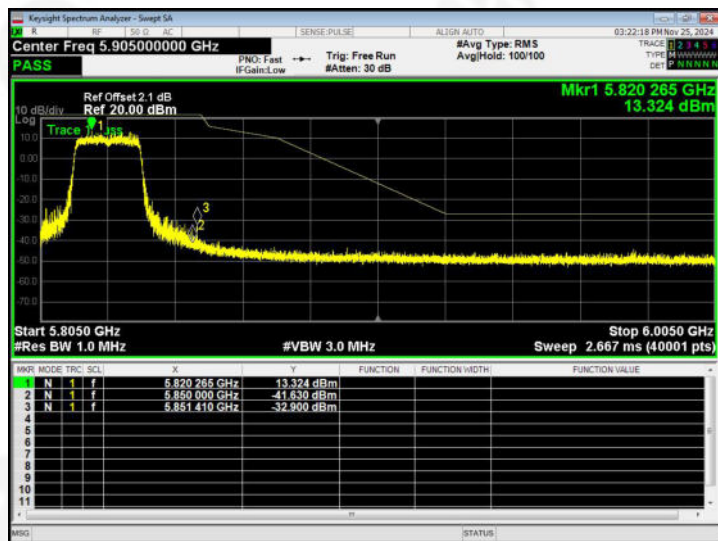
Note: Both SISO ANT A&B and MIMO A&B passed the test, the test data shows only the worst case SISO ANT A and MIMO ANT A.



SISO ANT A - 802.11ax20

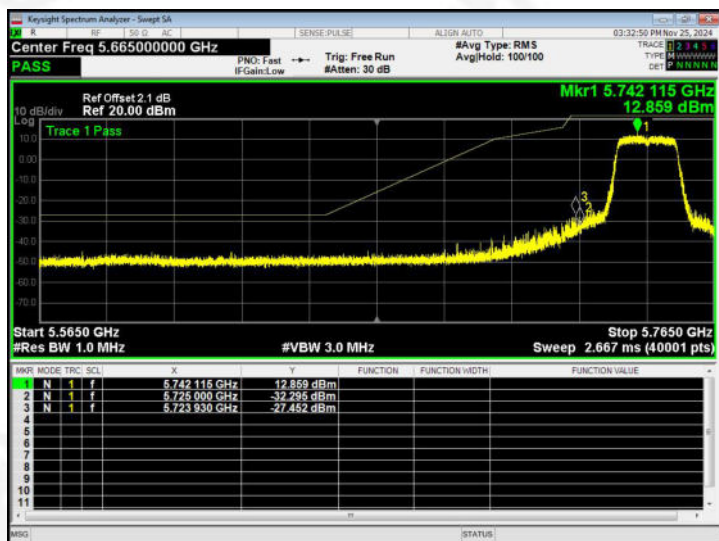


Channel 149

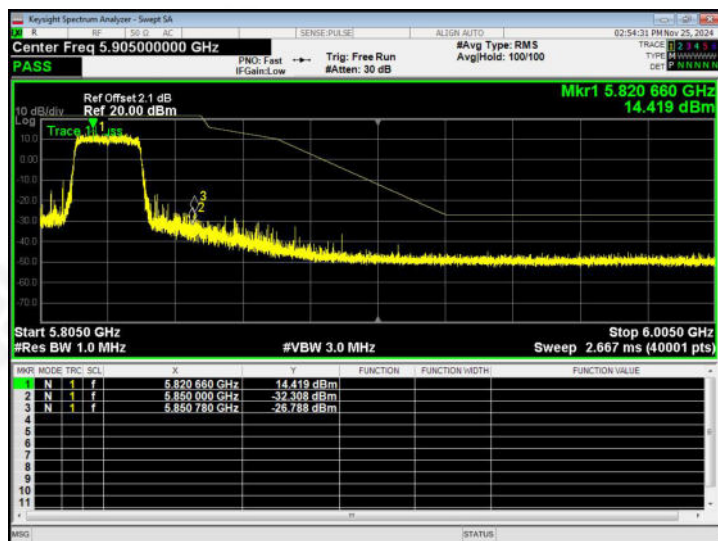


Channel 165

MIMO A - 802.11ax20



Channel 149

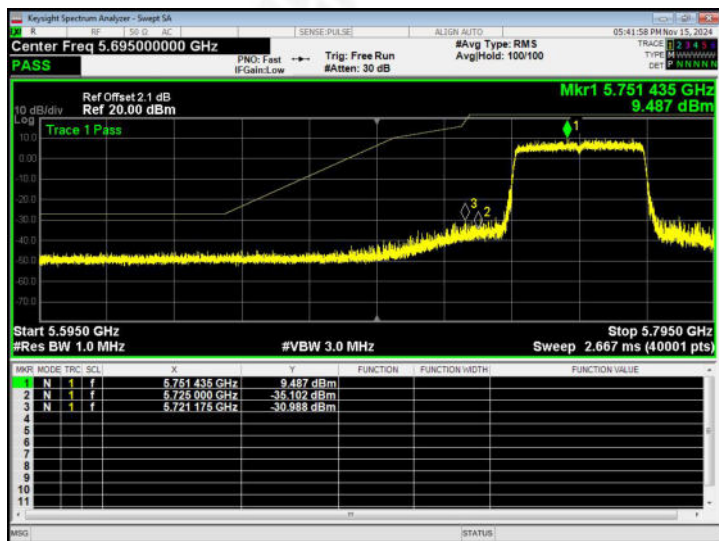


Channel 165

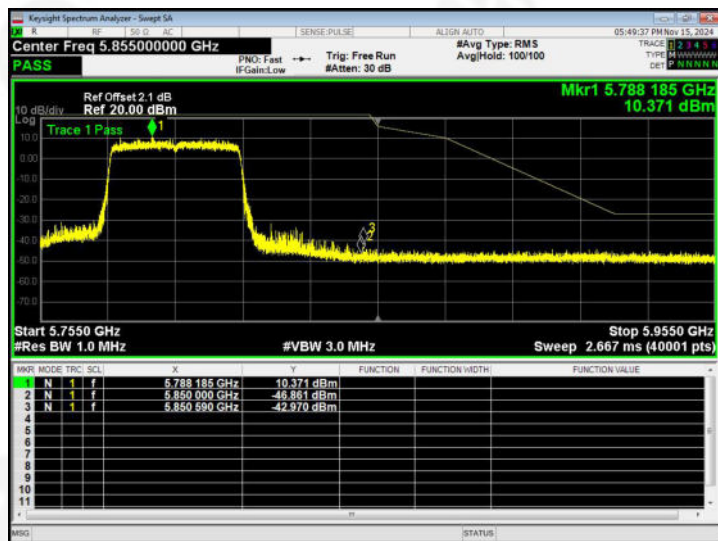
Note: Both SISO ANT A&B and MIMO A&B passed the test, the test data shows only the worst case SISO ANT A and MIMO A.



SISO ANT A - 802.11ax40

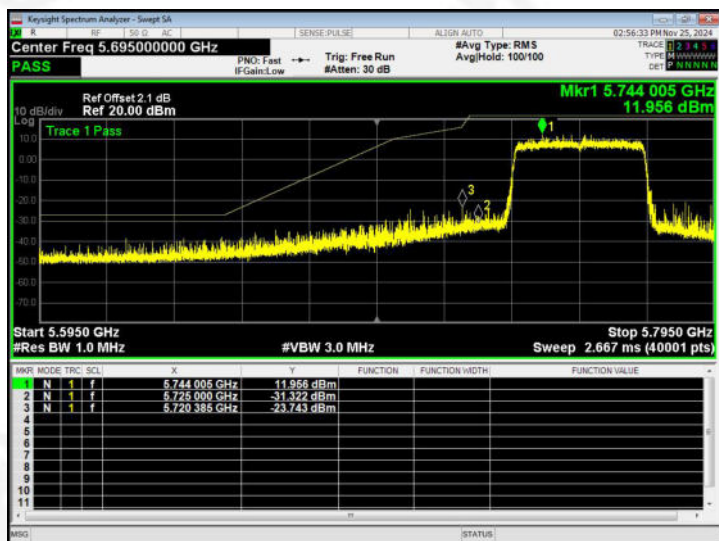


Channel 151

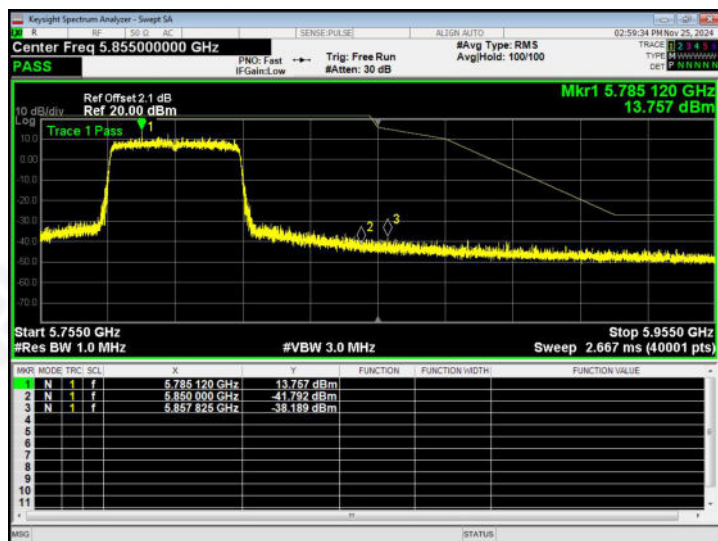


Channel 159

MIMO A - 802.11ax40



Channel 151



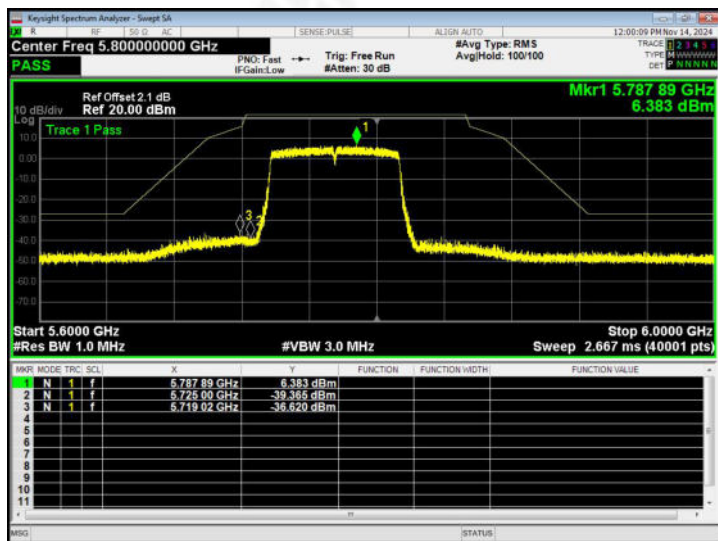
Channel 159

Note: Both SISO ANT A&B and MIMO A&B passed the test, the test data shows only the worst case SISO ANT A and MIMO ANT A.

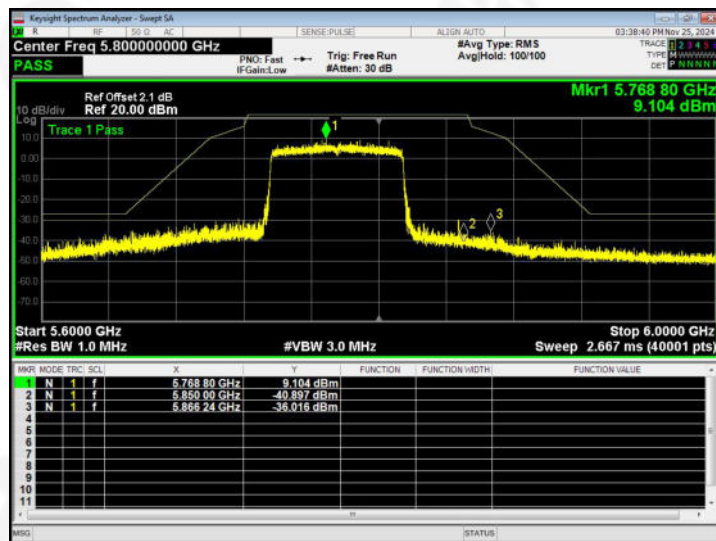


SISO ANT A - 802.11ax80

MIMO A - 802.11ax80



Channel 155



Channel 155

Note: Both SISO ANT A&B and MIMO A&B passed the test, the test data shows only the worst case SISO ANT A and MIMO ANT A.



9.SPURIOUS RF CONDUCTED EMISSIONS

9.1 CONFORMANCE LIMIT

Frequency Band (MHz)	Limit
5150 - 5250	Outside of the 5.15-5.35 GHz band: e.i.r.p. -27 dBm
5250 - 5350	Outside of the 5.15-5.35 GHz band: e.i.r.p. -27 dBm
5470 - 5725	Outside of the 5.47-5.725 GHz band: e.i.r.p. -27 dBm
5725 - 5850	All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

9.2 MEASURING INSTRUMENTS

The Measuring equipment is listed in the section 6.3 of this test report.

9.3 TEST SETUP



9.4 TEST PROCEDURE

The Spurious RF conducted emissions compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10-2013 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW=1MHz and VBW= 3MHz to measure the peak field strength, and measure frequency range from 30MHz to 26.5GHz.

9.5 TEST RESULTS

Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1012 hPa	Test Voltage :	DC 3.85V
Test band :	5.2G & 5.8G		
Remark: The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. And above 26.5GHz of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported. The lowest, middle and highest channels are tested to verify the spurious emissions and band edge measurement data.			



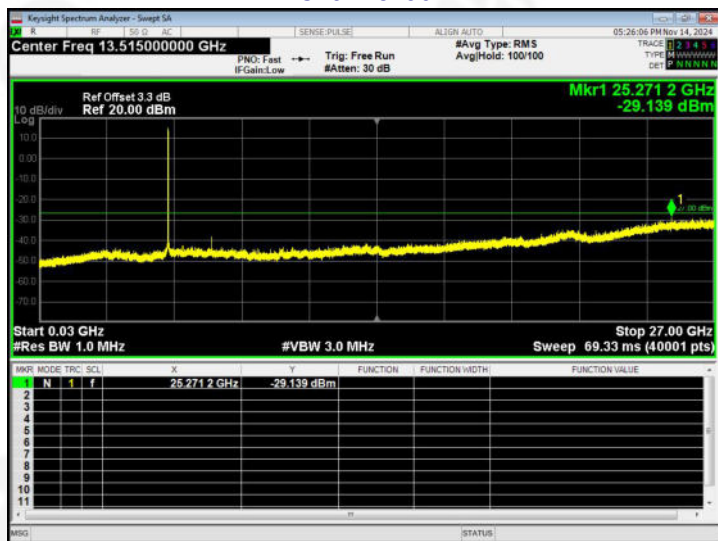
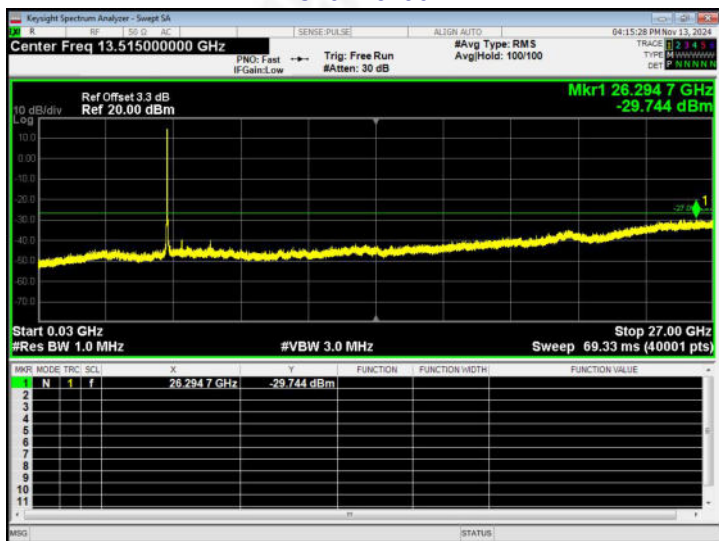
5.2G Test Chart

SISO ANT A - 802.11a

SISO ANT B - 802.11a

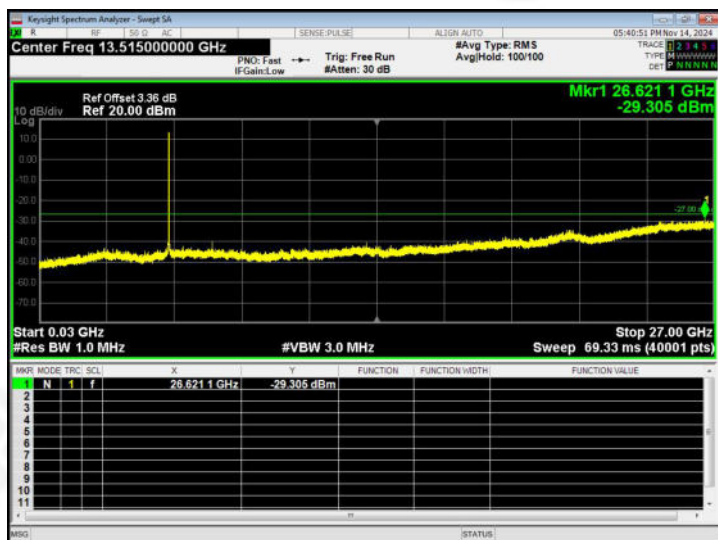
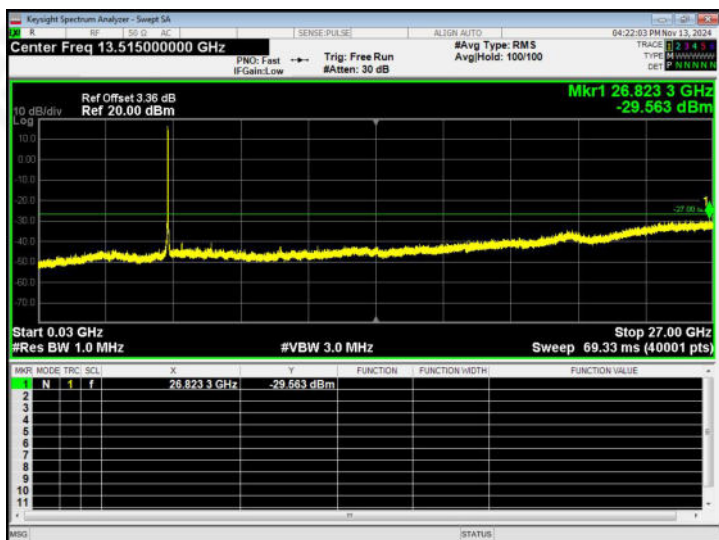
Channel 36

Channel 36



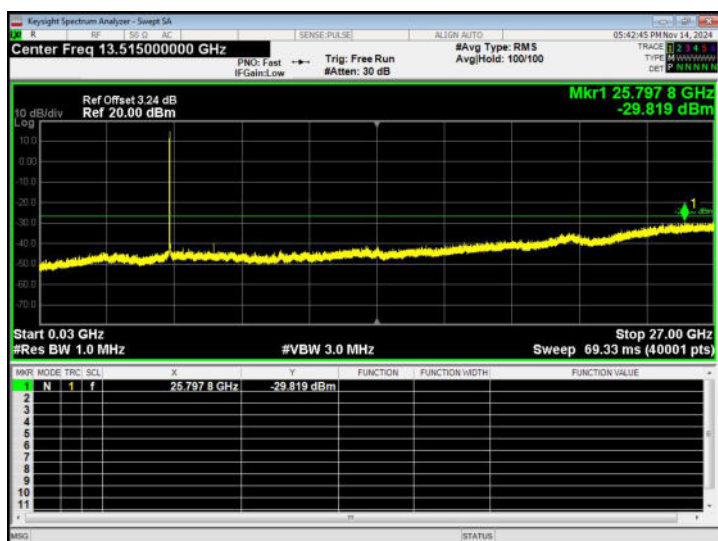
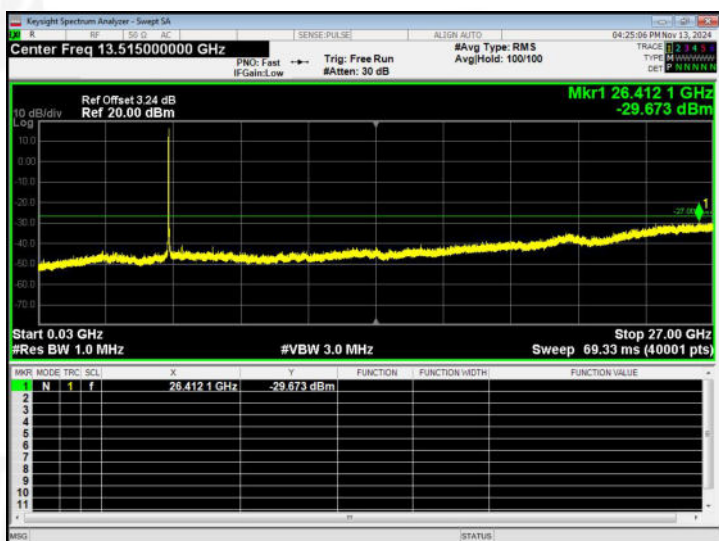
Channel 40

Channel 40



Channel 48

Channel 48





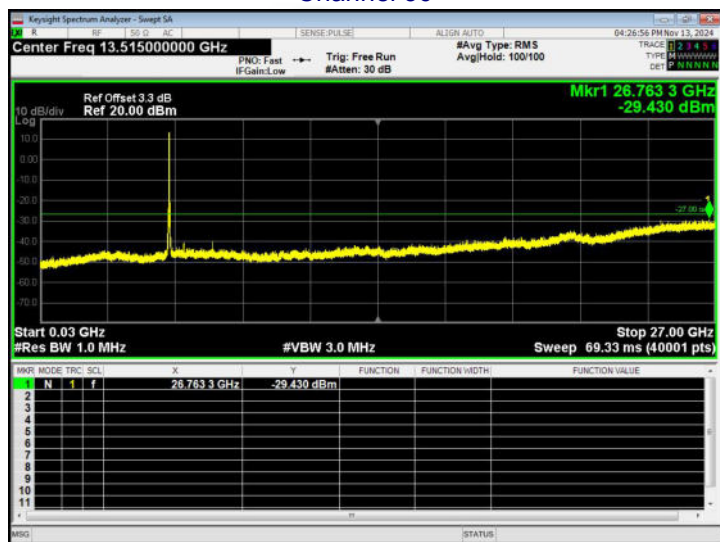
SISO ANT A - 802.11n20

Project No.: ZKT-24110414621E-4

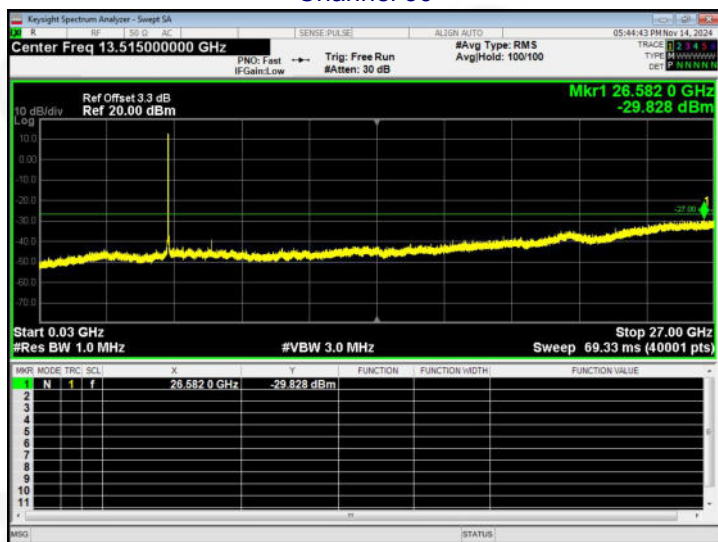
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MIMO A - 802.11n20

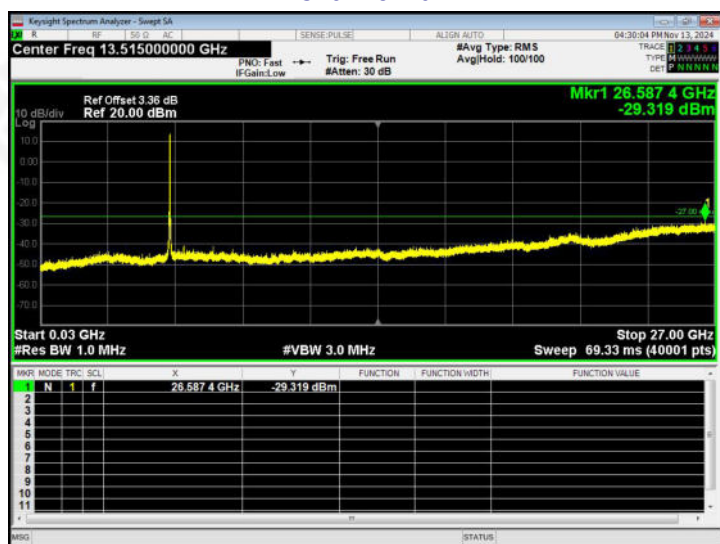
Channel 36



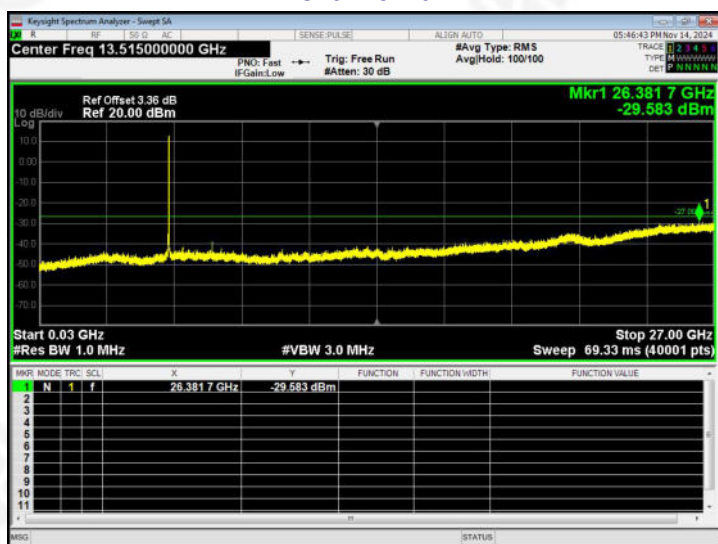
Channel 36



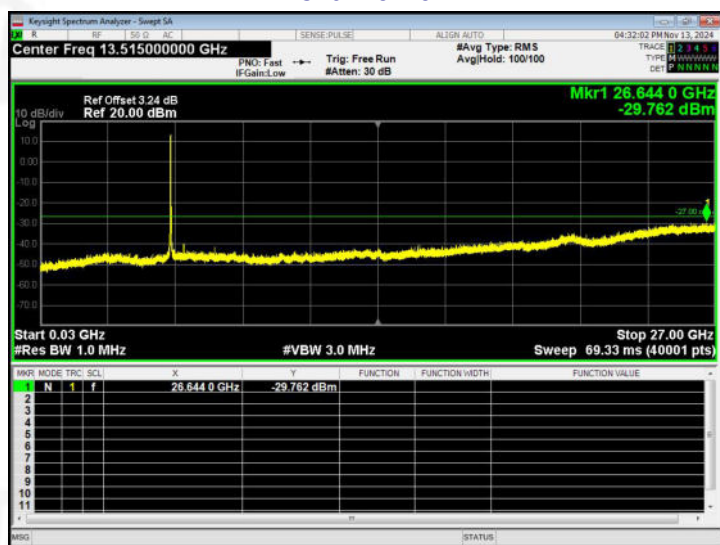
Channel 40



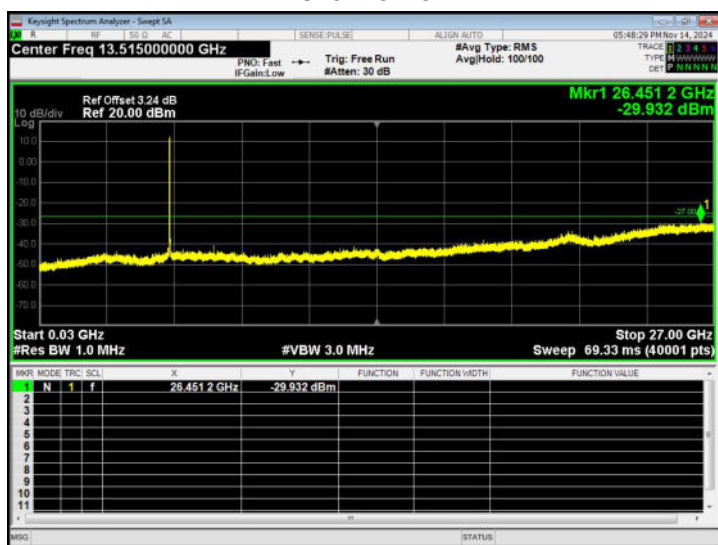
Channel 40



Channel 48



Channel 48



Note: Both SISO ANT A&B and MIMO A&B passed the test, the test data shows only the worst case SISO ANT A and MIMO A.

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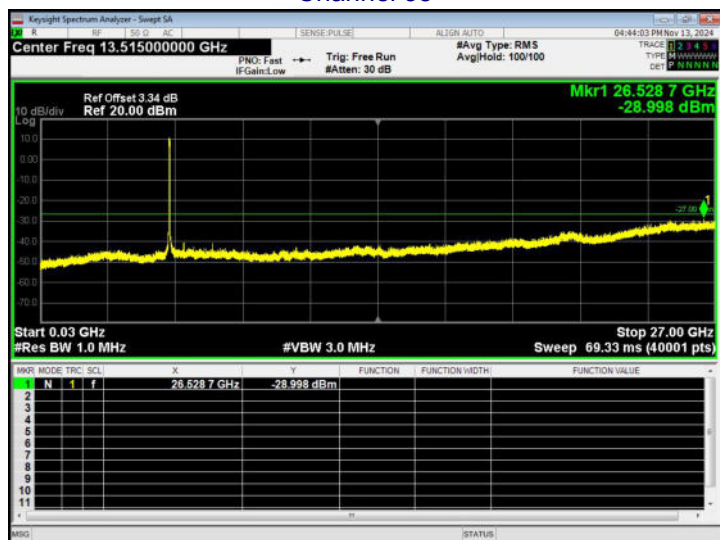
zkt@zkt-lab.com

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SISO ANT A - 802.11n40

Channel 38

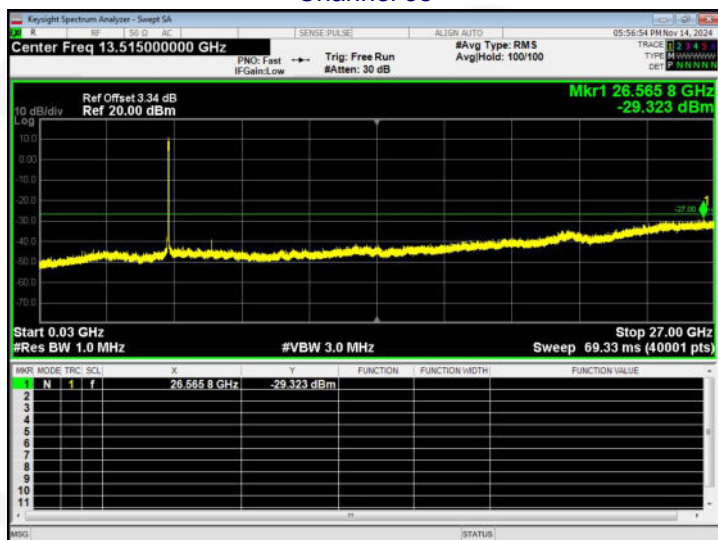


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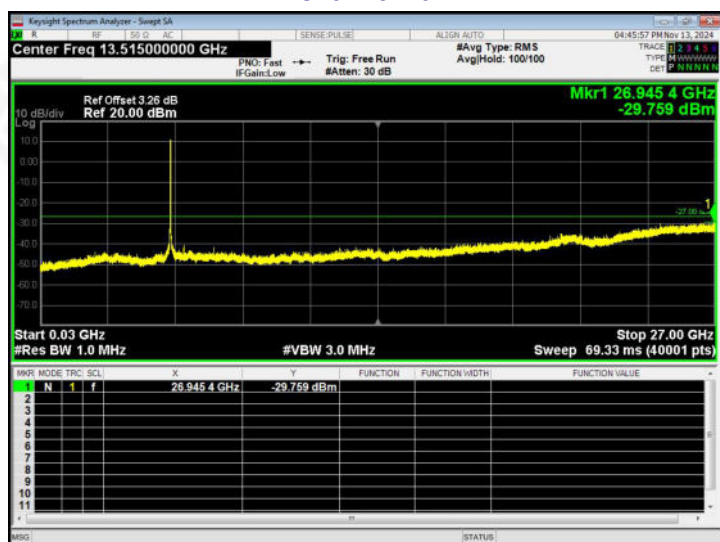
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MIMO A - 802.11n40

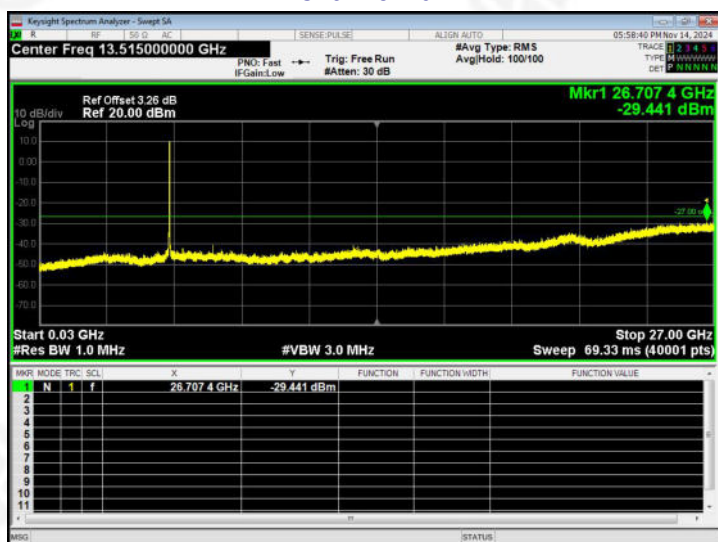
Channel 38



Channel 46



Channel 46

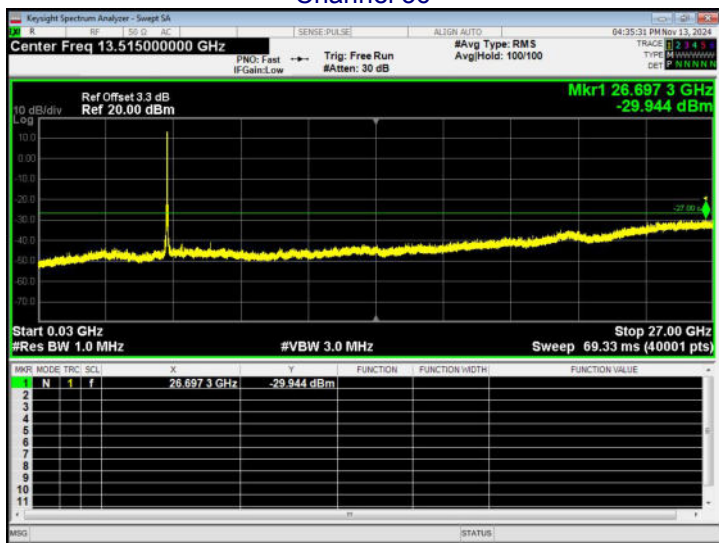


Note: Both SISO ANT A&B and MIMO A&B passed the test, the test data shows only the worst case SISO ANT A and MIMO A.



SISO ANT A - 802.11ac20

Channel 36

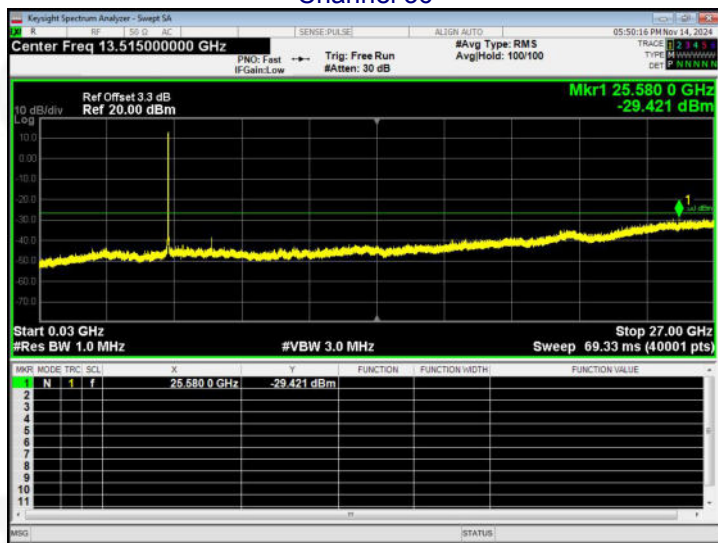


Project No.: ZKT-24110414621E-4

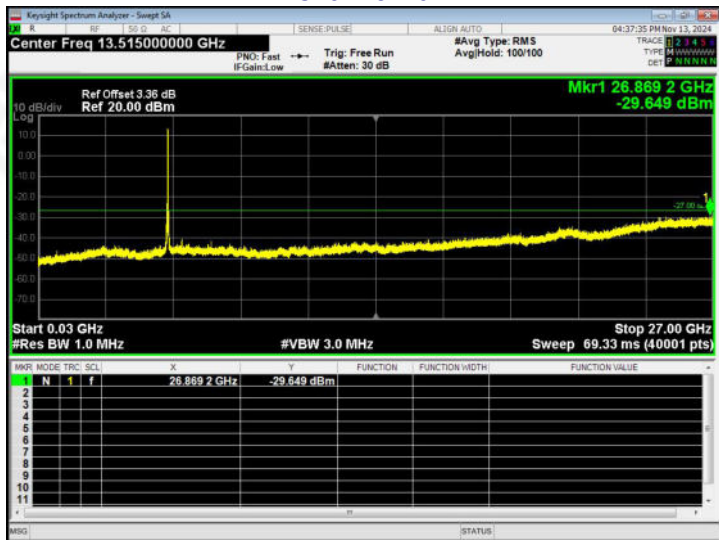
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MIMO A - 802.11ac20

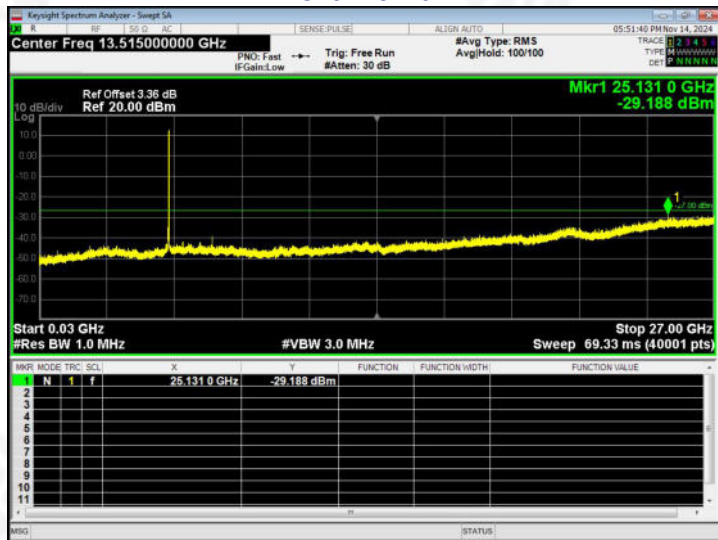
Channel 36



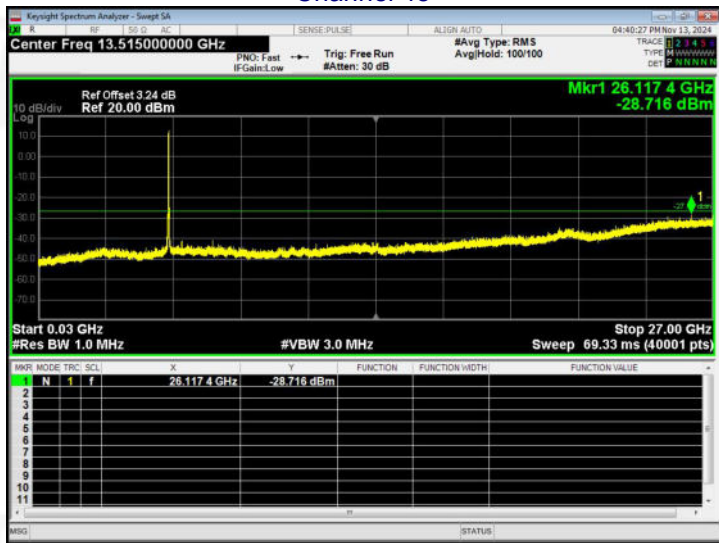
Channel 40



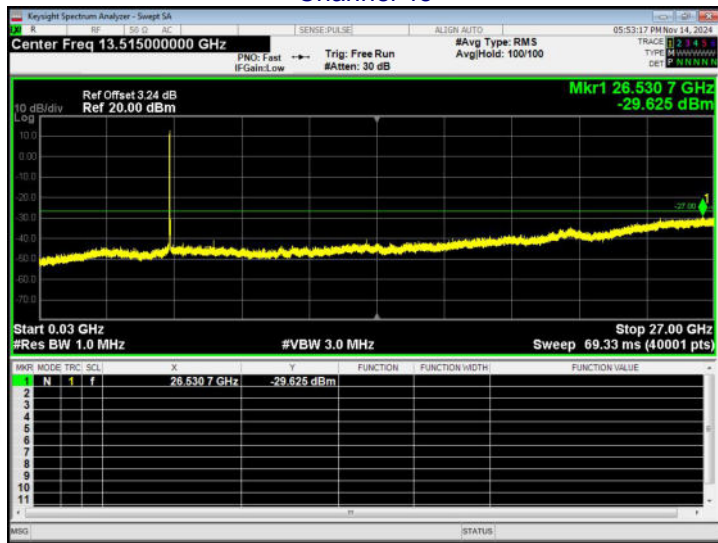
Channel 40



Channel 48



Channel 48



Note: Both SISO ANT A&B and MIMO A&B passed the test, the test data shows only the worst case SISO ANT A and MIMO A.

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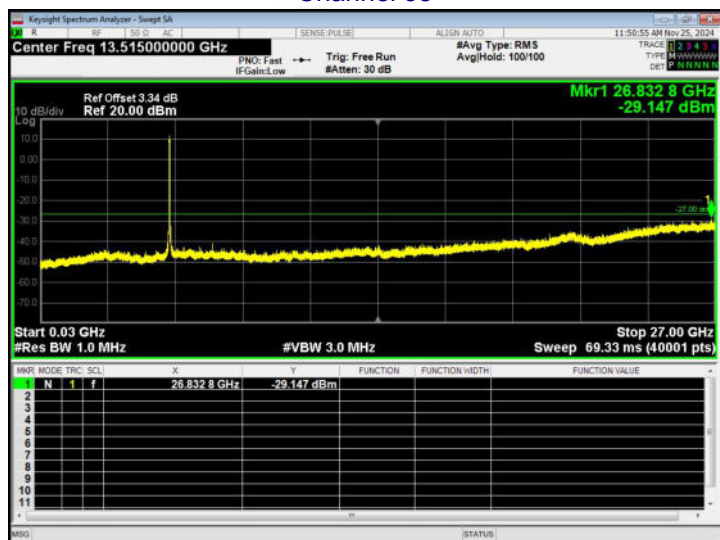
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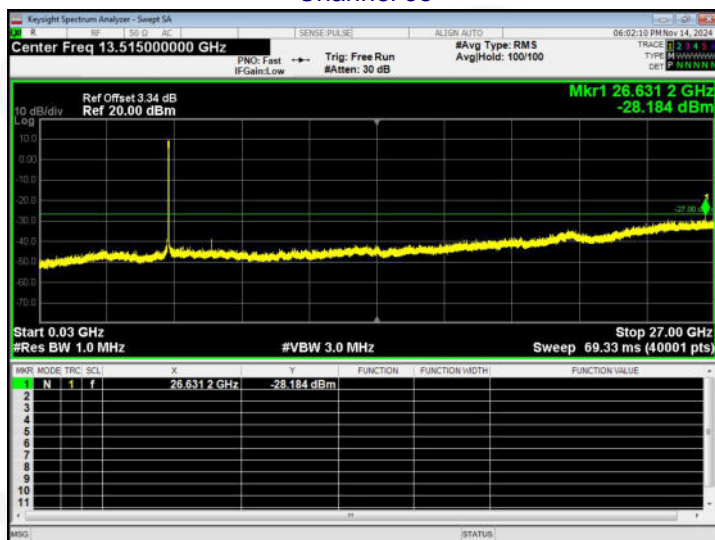
SISO ANT A - 802.11ac40

MIMO A - 802.11ac40

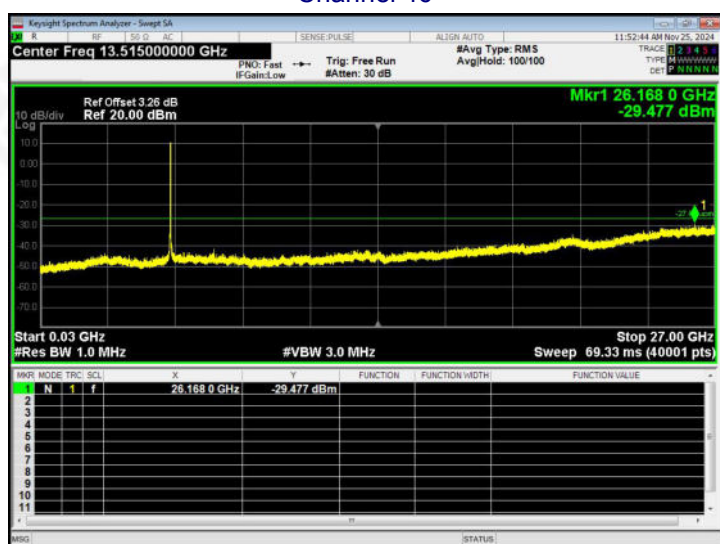
Channel 38



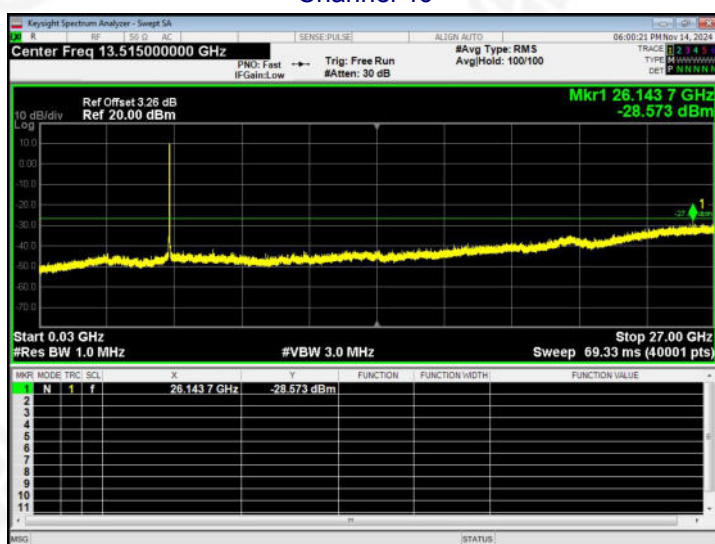
Channel 38



Channel 46



Channel 46

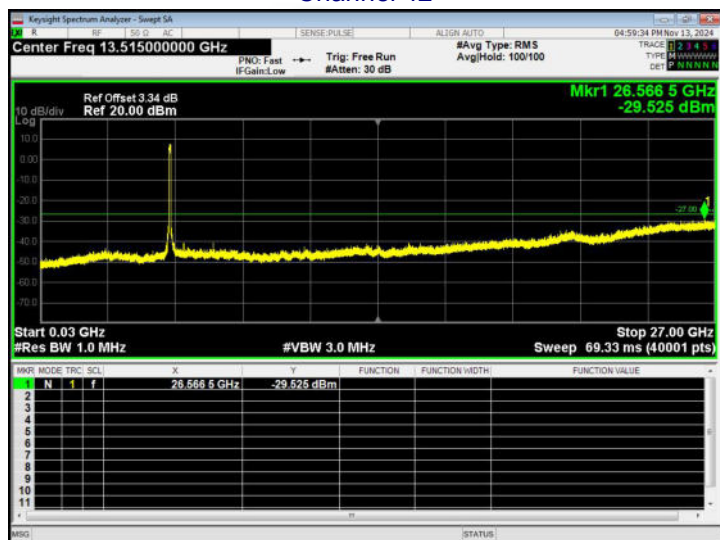


Note: Both SISO ANT A&B and MIMO A&B passed the test, the test data shows only the worst case SISO ANT A and MIMO A.



SISO ANT A - 802.11ac80

Channel 42

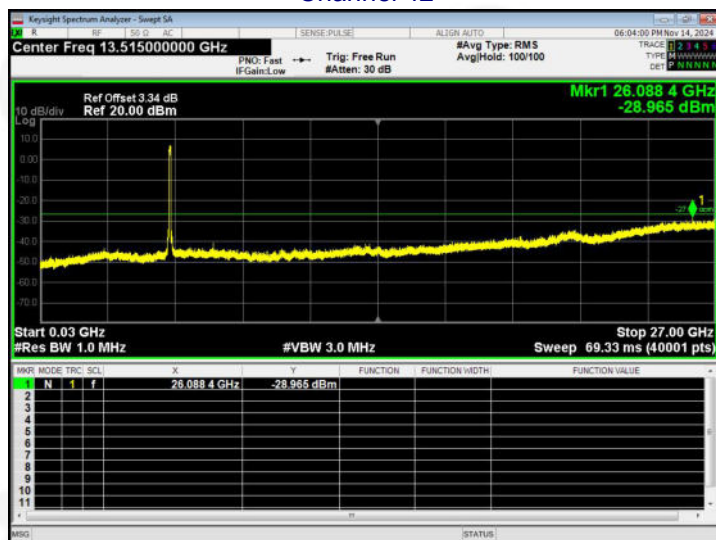


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MIMO A - 802.11ac80

Channel 42

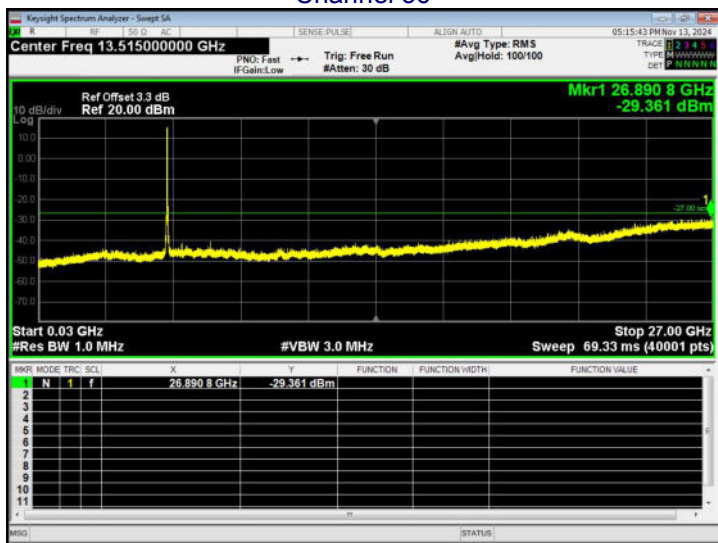


Note: Both SISO ANT A&B and MIMO A&B passed the test, the test data shows only the worst case SISO ANT A and MIMO ANT A.



SISO ANT A - 802.11ax20

Channel 36

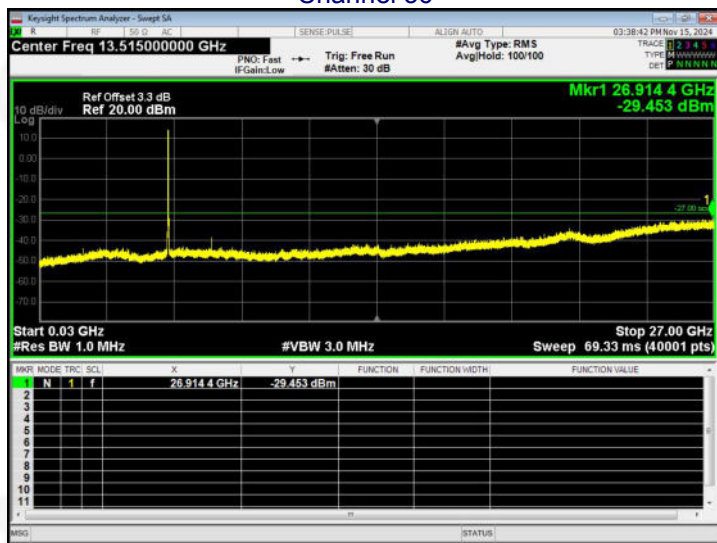


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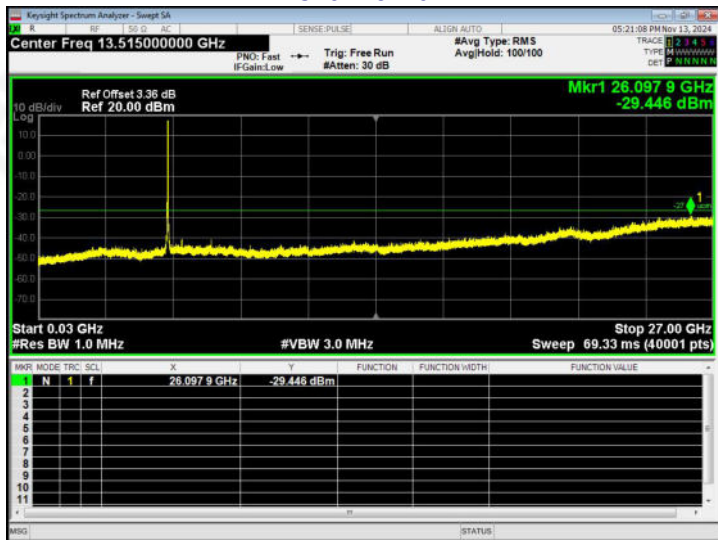
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MIMO A - 802.11ax20

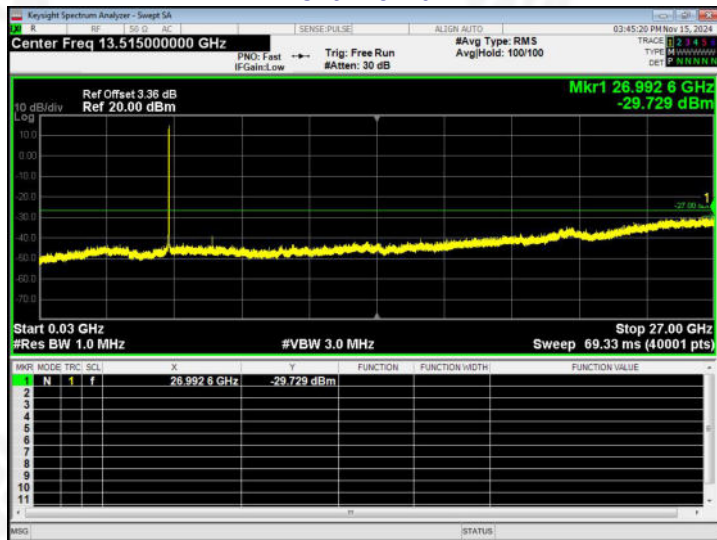
Channel 36



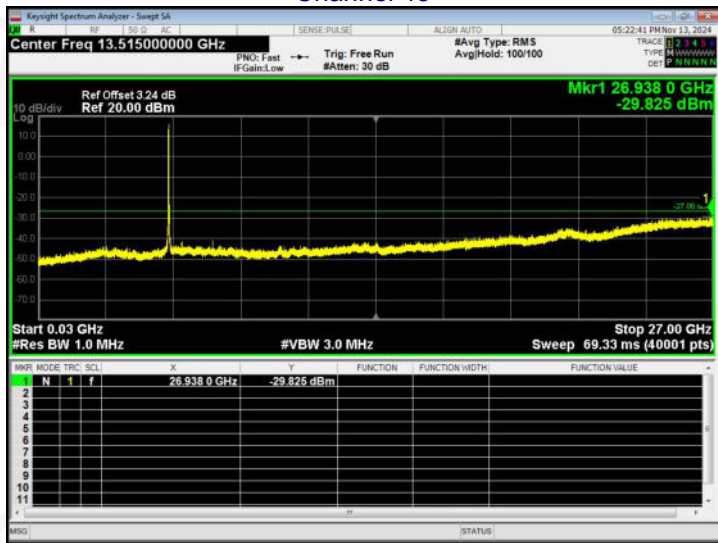
Channel 40



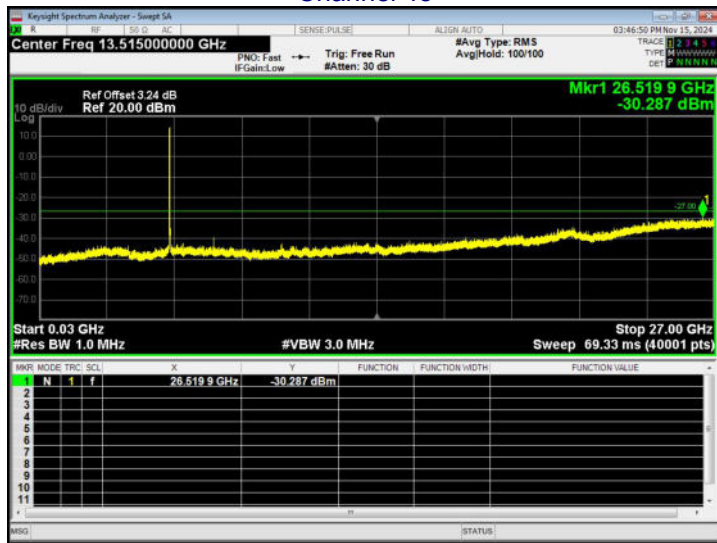
Channel 40



Channel 48



Channel 48



Note: Both SISO ANT A&B and MIMO A&B passed the test, the test data shows only the worst case SISO ANT A and MIMO A.

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