

NOTE:

- The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection at frequency below 1GHz.
- The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and video bandwidth is 3 MHz for Peak detection at frequency above 1 GHz.
- The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz for Average detection using reduced video bandwidth (Duty cycle $\geq 98\%$) at frequency above 1GHz.
- The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $1/\tau$ Hz, where τ is minimum transmitter on time (Duty cycle $< 98\%$) for Average detection using reduced video bandwidth at frequency above 1GHz.
- All modes of operation were investigated and the worst-case emissions are reported.

7.6.2. Test Limits

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

NOTE:

- The lower limit shall apply at the transition frequencies.
- Emission level (dBuV/m) = 20 log Emission level (uV/m).
- For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

For Radiated emissions which fall out of the restricted bands must comply with the radiated emission limits specified as below table.

Applicable To		Limit	
789033 D02 General UNII Test Procedures New Rules v01r03		Field Strength at 3 m	
		PK: 74 (dBuV/m)	AV: 54 (dBuV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBuV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	15.407(b)(4)(i)	PK:-27 (dBm/MHz) ¹ PK:10 (dBm/MHz) ² PK:15.6 (dBm/MHz) ³ PK:27 (dBm/MHz) ⁴	PK: 68.2 (dBuV/m) ¹ PK:105.2 (dBuV/m) ² PK: 110.8 (dBuV/m) ³ PK:122.2 (dBuV/m) ⁴
	15.407(b)(4)(ii)	Emission limits in section 15.247(d)	
¹ beyond 75 MHz or more above of the band edge.			
² below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.			
³ below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.			
⁴ from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.			

NOTE:

The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = ((1000000 \sqrt{(30P)}) / 3) \mu\text{V/m}, \text{ where } P \text{ is the eirp (Watts)}$$

7.6.3. Test Result

802.11a

Test: WIFI SAC Restricted Band Edge
Model Number: AZH77PCN6TZ5AN S/N: 767TXV0821 EMC SR ID#: 19613-EMC-00218
Battery: PMNN4802A Accessory: NA
Test Channel: Low Test Frequency: 5180.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: X-Plane (802.11a 20MHz)

Restricted Band Edge (Low Channel) tabular data

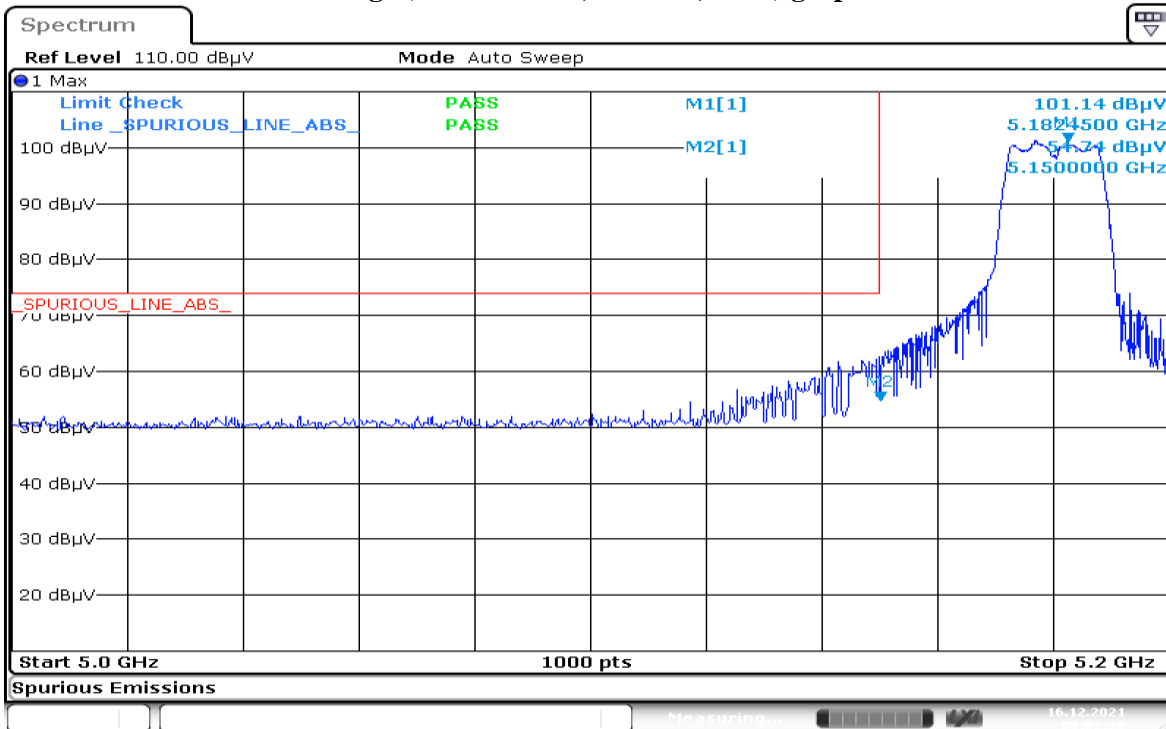
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
5150.0000	-	54.5285	43.8646	-	74.0000	54.0000	-	-19.4715	-10.1354	-
Horizontal Radiated Emission Result										
5150.0000	-	50.9717	42.5850	-	74.0000	54.0000	-	-23.0283	-11.4150	-

Remarks: Pass Result	Marginal Result	Fail Result
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Temperature (degC):22.8
Test Performed by: Abid
System MU: 5.84dB

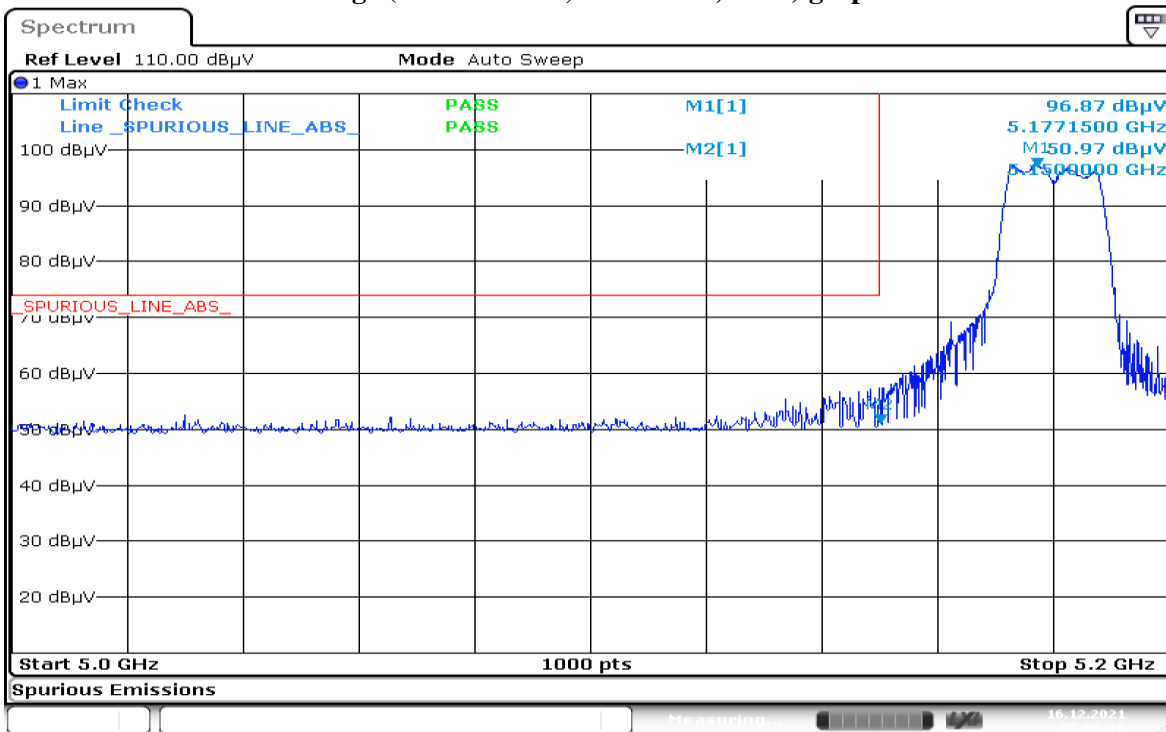
Humidity (%): 70.0
Test Date: Thu, 16 Dec, 2021

Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



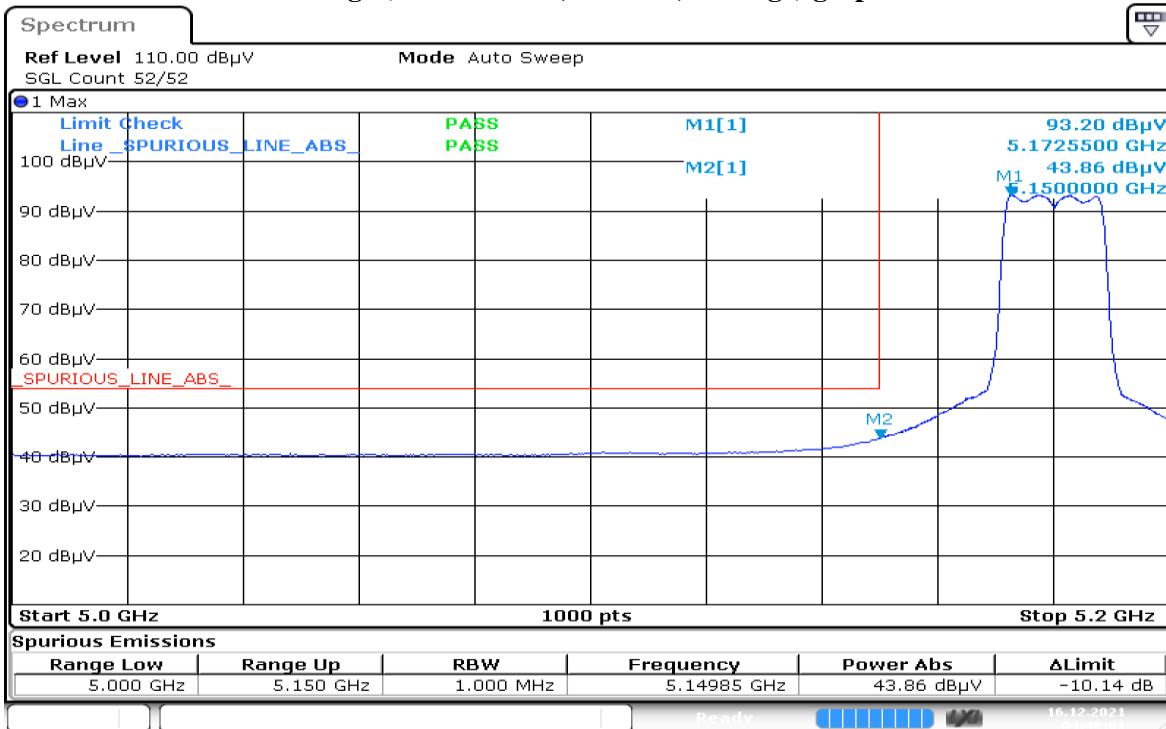
Date: 16.DEC.2021 05:02:30

Restricted Band Edge (Low Channel, Horizontal, Peak) graphical screen shot



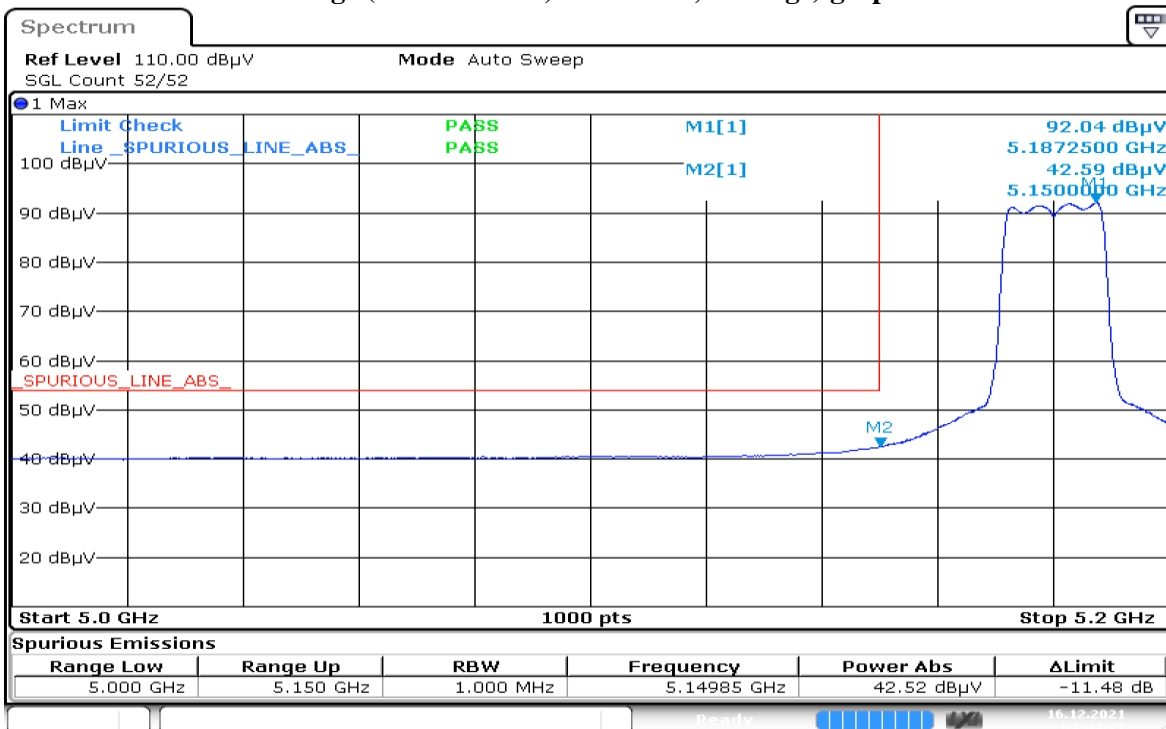
Date: 16.DEC.2021 05:06:37

Restricted Band Edge (Low Channel, Vertical, Average) graphical screen shot



Date: 16.DEC.2021 04:40:02

Restricted Band Edge (Low Channel, Horizontal, Average) graphical screen shot



Date: 16.DEC.2021 04:44:28

Test: WIFI SAC Restricted Band Edge
Model Number: AZH77PCN6TZ5AN S/N: 767TXV0821 EMC SR ID#: 19613-EMC-00218
Battery: PMNN4802A Accessory: NA
Test Channel: High Test Frequency: 5320.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: X-Plane (802.11a 20MHz)

Restricted Band Edge (High Channel) tabular data

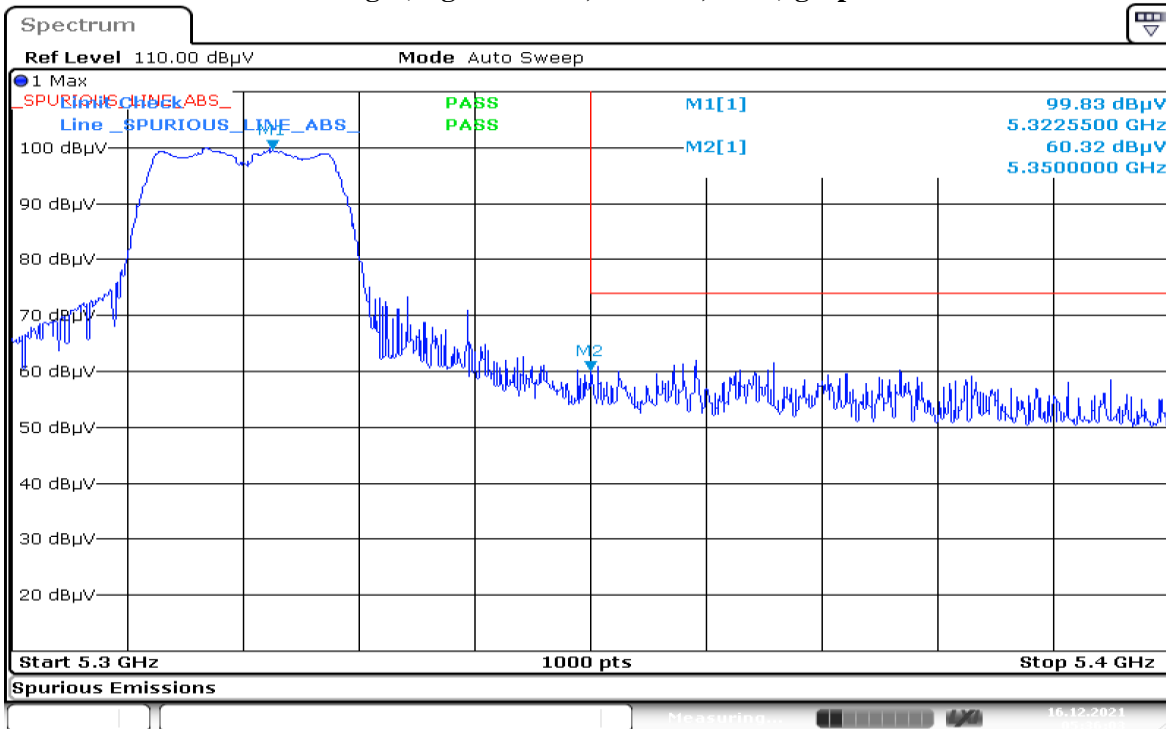
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
5350.0000	-	60.3214	42.4601	-	74.0000	54.0000	-	-13.6786	-11.5399	-
Horizontal Radiated Emission Result										
5350.0000	-	54.9363	43.4370	-	74.0000	54.0000	-	-19.0637	-10.5630	-

Remarks: Pass Result	Marginal Result	Fail Result
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Temperature (degC):22.8
Test Performed by: Abid
System MU: 5.84dB

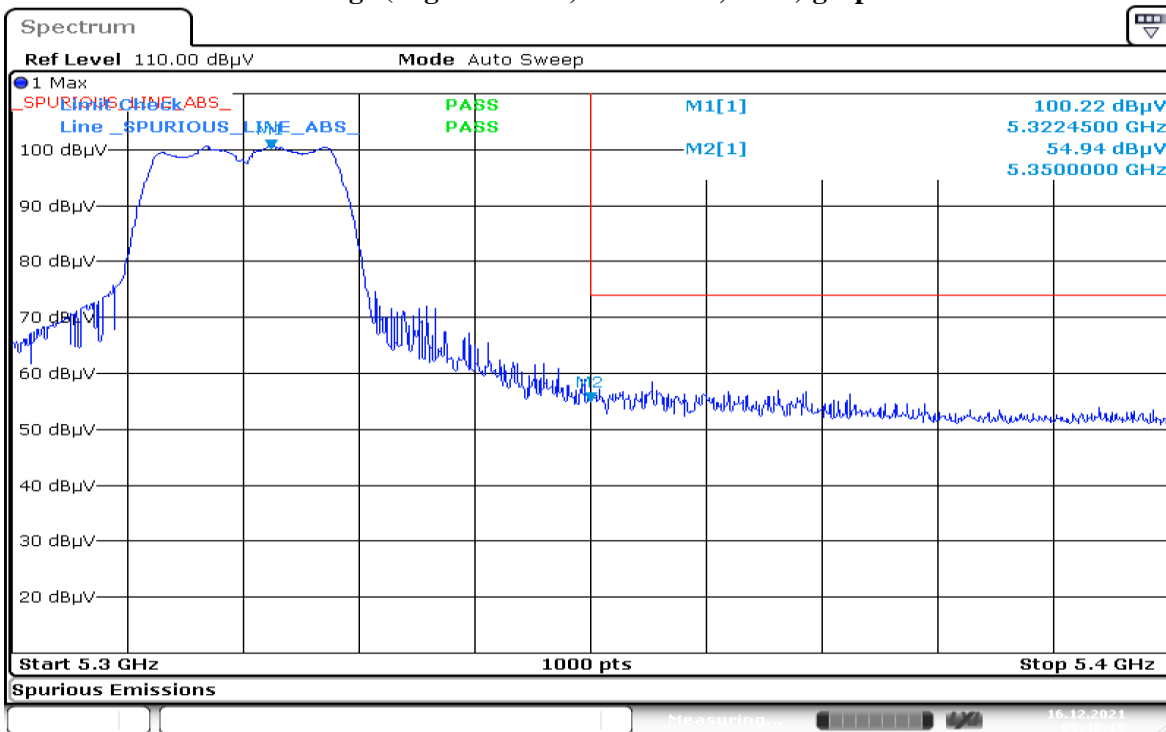
Humidity (%): 70.0
Test Date: Thu, 16 Dec, 2021

Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot



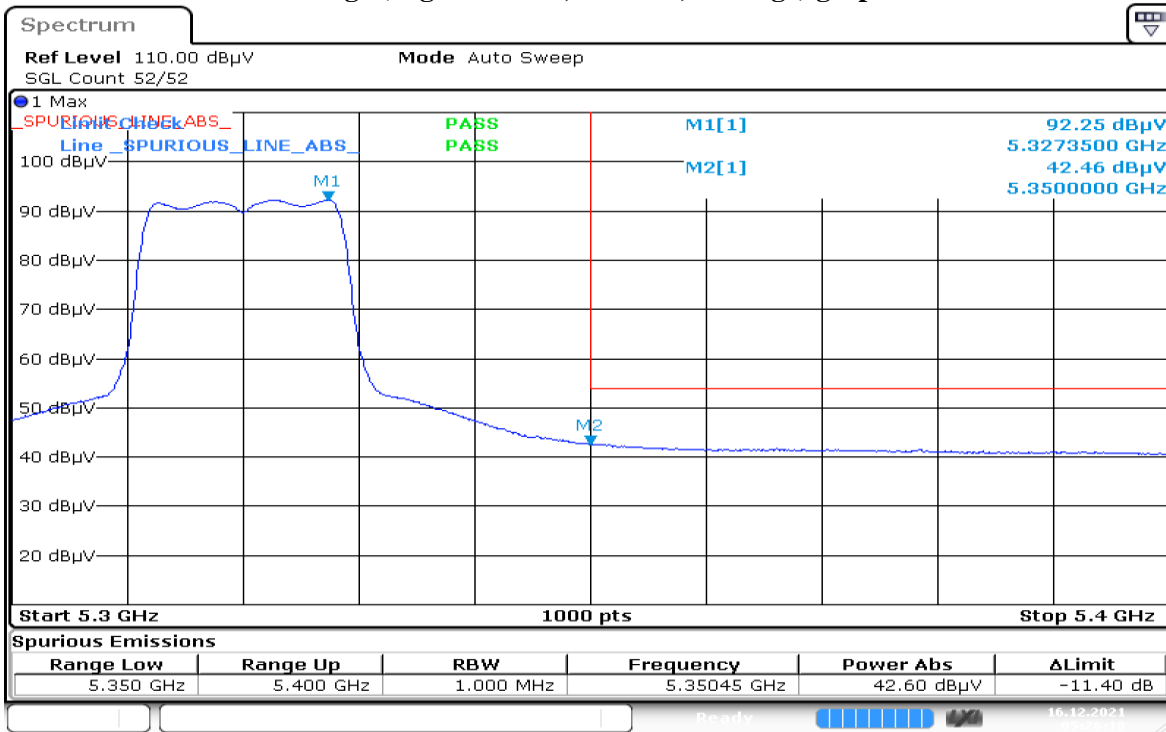
Date: 16.DEC.2021 05:36:03

Restricted Band Edge (High Channel, Horizontal, Peak) graphical screen shot



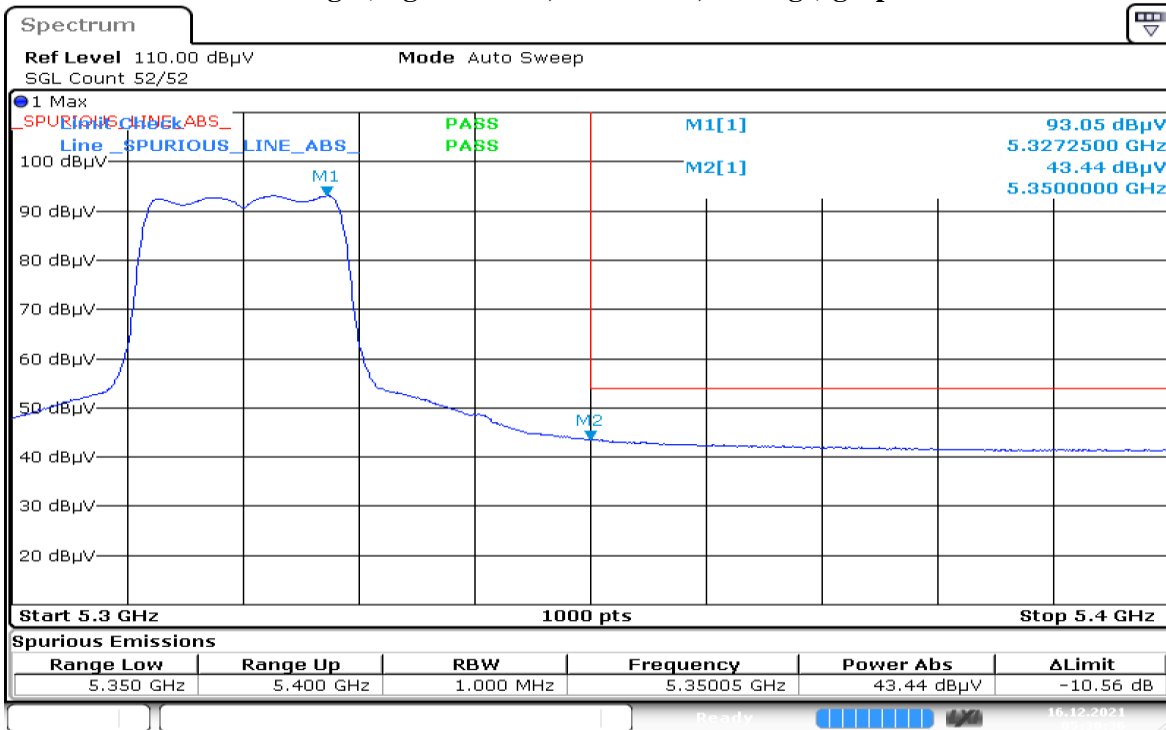
Date: 16.DEC.2021 05:40:19

Restricted Band Edge (High Channel, Vertical, Average) graphical screen shot



Date: 16.DEC.2021 05:26:18

Restricted Band Edge (High Channel, Horizontal, Average) graphical screen shot



Date: 16.DEC.2021 05:30:36

Test: WIFI SAC Restricted Band Edge
Model Number: AZH77PCN6TZ5AN S/N: 767TXV0821 EMC SR ID#: 19613-EMC-00218
Battery: PMNN4802A Accessory: NA
Test Channel: Low Test Frequency: 5500.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: X-Plane (802.11a 20MHz)

Restricted Band Edge (Low Channel) tabular data

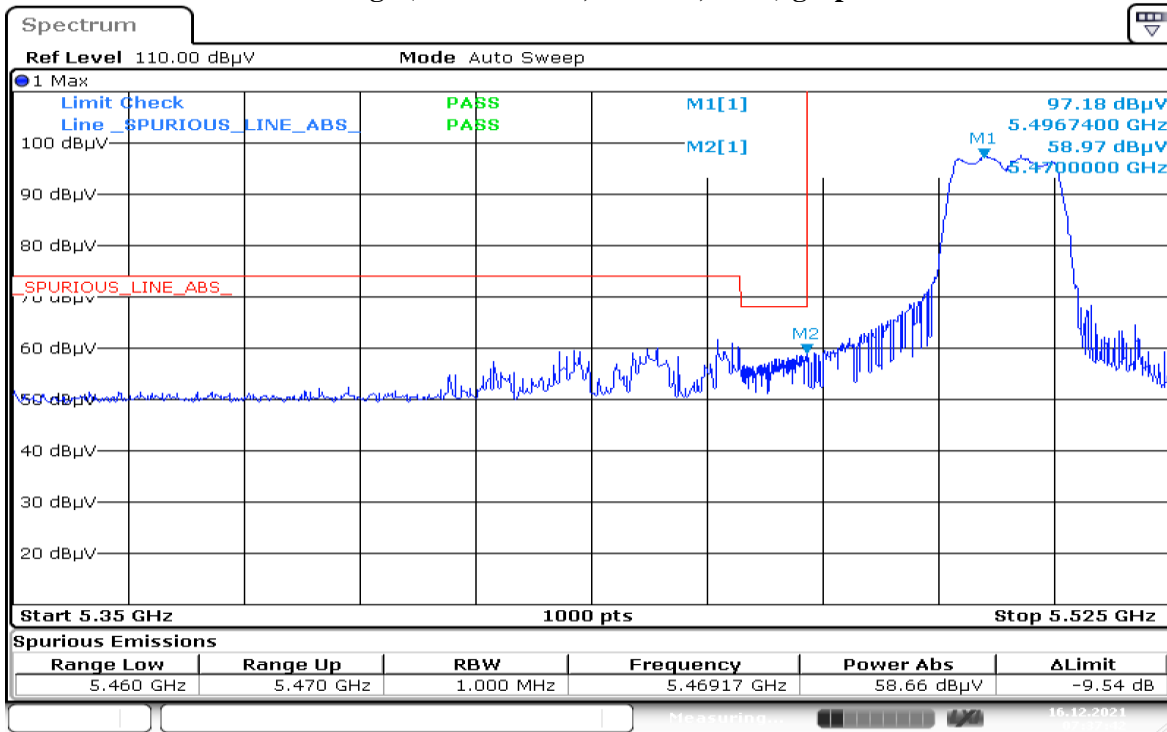
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBμV/m)	Spur level PK (dBμV/m)	Spur level AV (dBμV/m)	Limit QPK (dBμV/m)	Limit PK (dBμV/m)	Limit AV (dBμV/m)	Margin QPK (dBμV/m)	Margin PK (dBμV/m)	Margin AV (dBμV/m)	Carrier PK Power (dBμV/m)
5460.0000	-	-	40.6988	-	-	54.0000	-	-	-13.3012	-
5470.0000	-	57.9639	-	-	68.2000	-	-	-10.2361	-	-
Horizontal Radiated Emission Result										
5460.0000	-	-	41.4890	-	-	54.0000	-	-	-12.5110	-
5470.0000	-	61.0862	-	-	68.2000	-	-	-7.1138	-	-

Remarks: Pass Result	Marginal Result	Fail Result
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Temperature (degC): 22.8
 Test Performed by: Abid
 System MU: 5.84dB

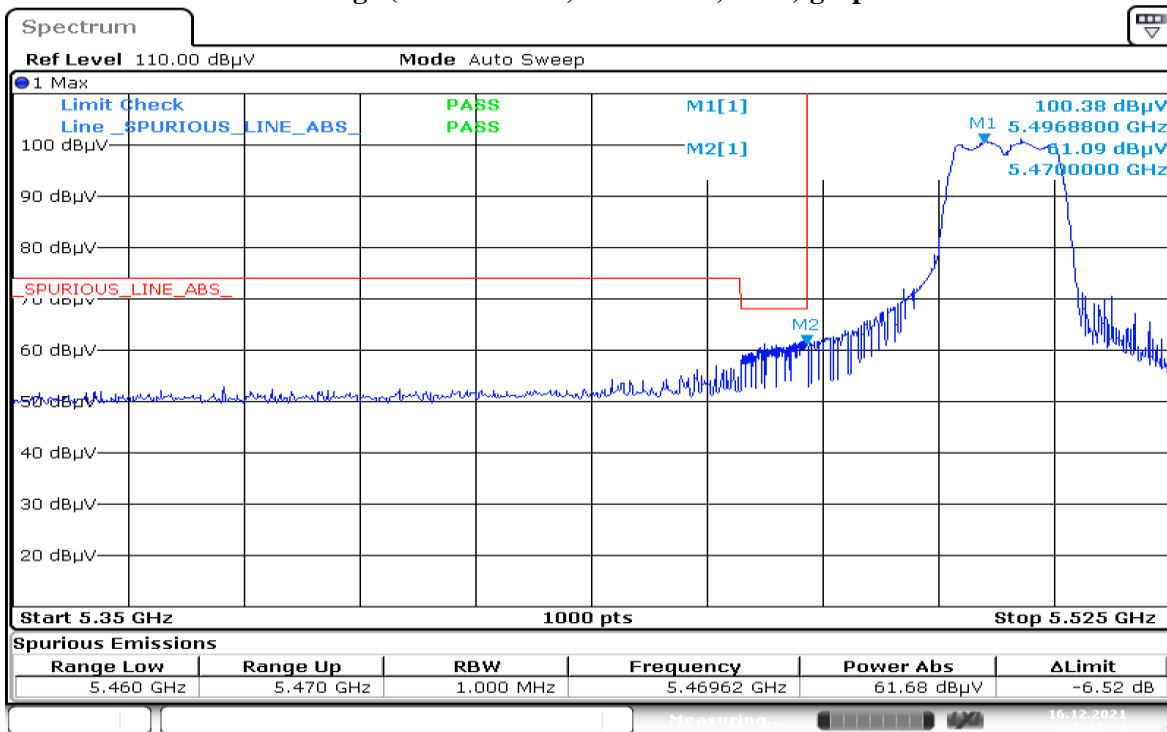
Humidity (%): 70.0
 Test Date: Thu, 16 Dec, 2021

Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



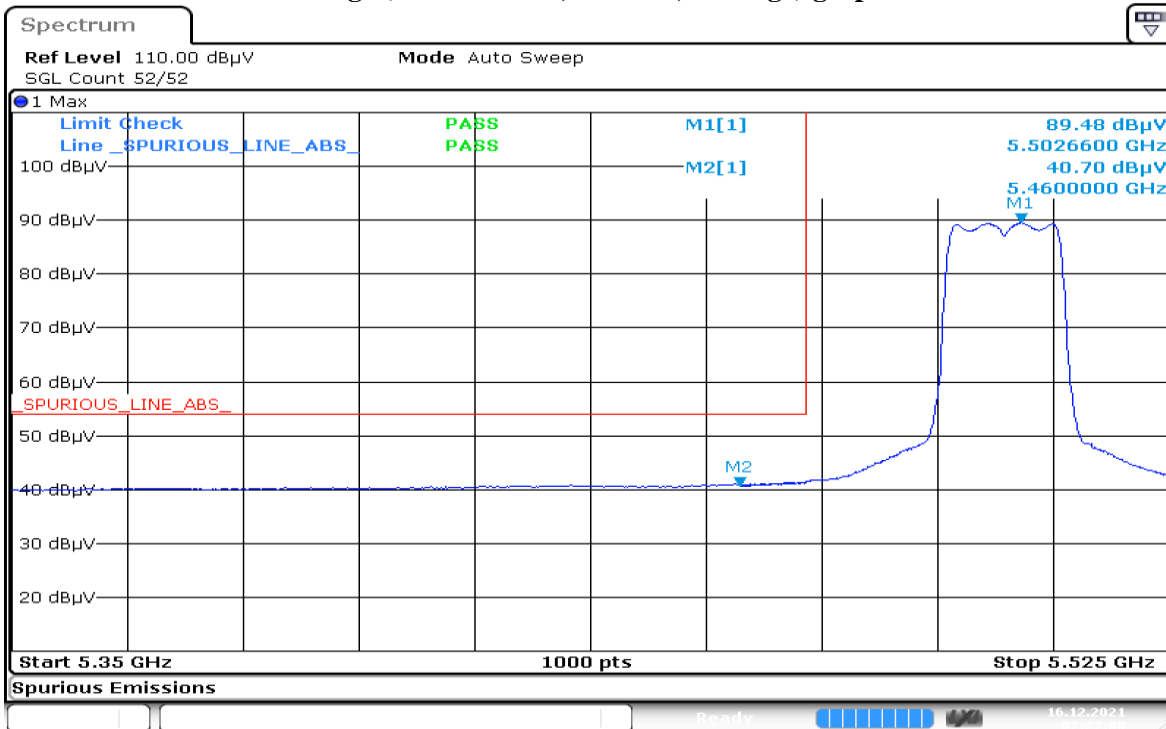
Date: 16.DEC.2021 07:37:42

Restricted Band Edge (Low Channel, Horizontal, Peak) graphical screen shot



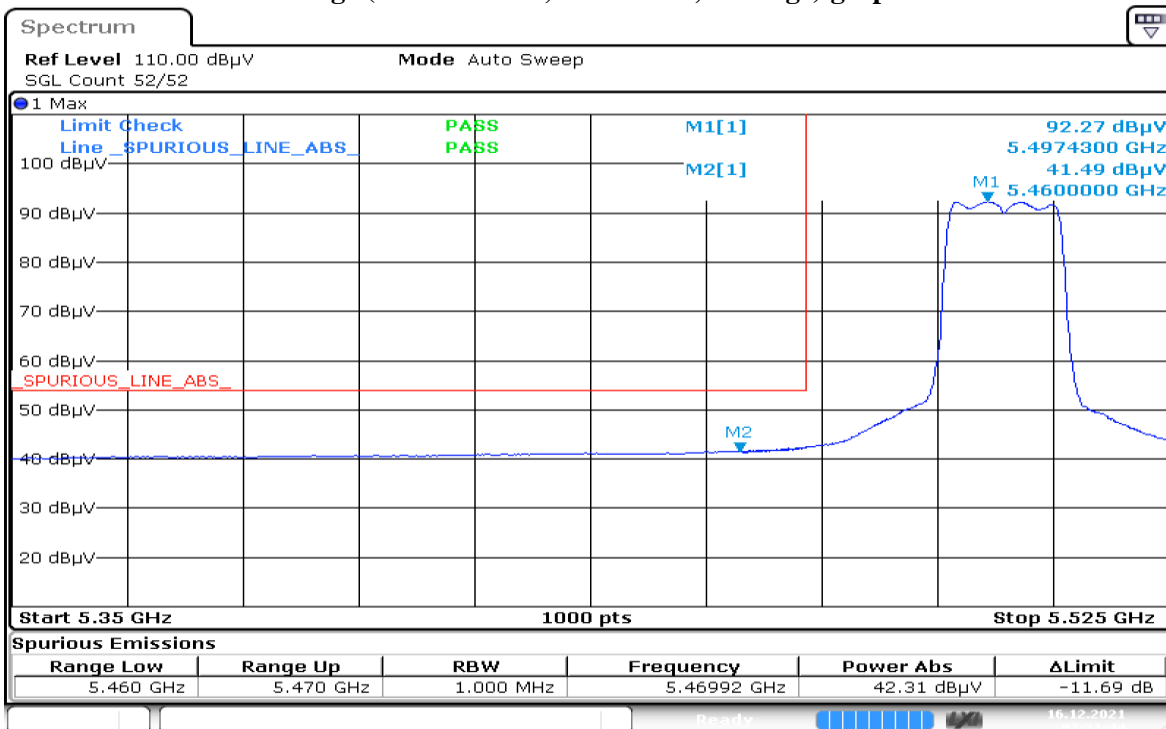
Date: 16.DEC.2021 07:42:03

Restricted Band Edge (Low Channel, Vertical, Average) graphical screen shot



Date: 16.DEC.2021 07:27:09

Restricted Band Edge (Low Channel, Horizontal, Average) graphical screen shot



Date: 16.DEC.2021 07:31:45

Test: WIFI SAC Restricted Band Edge
Model Number: AZH77PCN6TZ5AN S/N: 767TXV0821 EMC SR ID#: 19613-EMC-00218
Battery: PMNN4802A Accessory: NA
Test Channel: High Test Frequency: 5700.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: X-Plane (802.11a 20MHz)

Restricted Band Edge (High Channel) tabular data

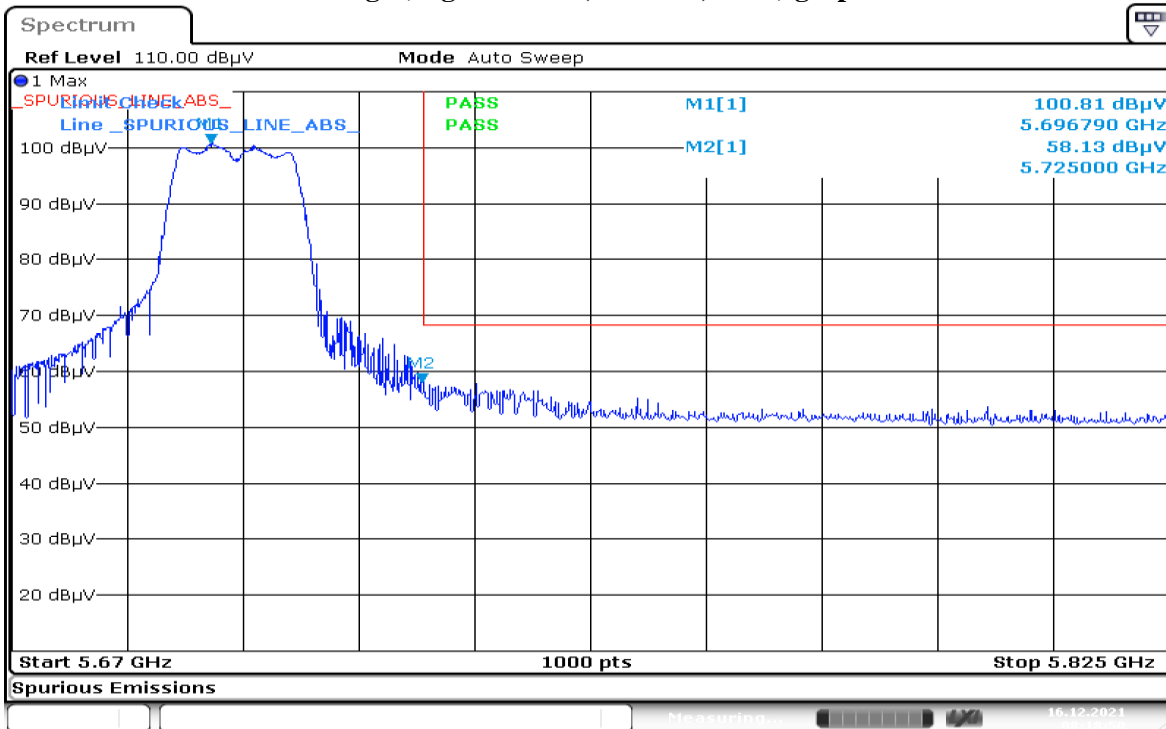
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBμV/m)	Spur level PK (dBμV/m)	Spur level AV (dBμV/m)	Limit QPK (dBμV/m)	Limit PK (dBμV/m)	Limit AV (dBμV/m)	Margin QPK (dBμV/m)	Margin PK (dBμV/m)	Margin AV (dBμV/m)	Carrier PK Power (dBμV/m)
5725.0000	-	58.1316	42.9083	-	68.2000	54.0000	-	-10.0684	-11.0917	-
Horizontal Radiated Emission Result										
5725.0000	-	57.8538	42.9083	-	68.2000	54.0000	-	-10.3462	-11.0917	-

Remarks: Pass Result	Marginal Result	Fail Result
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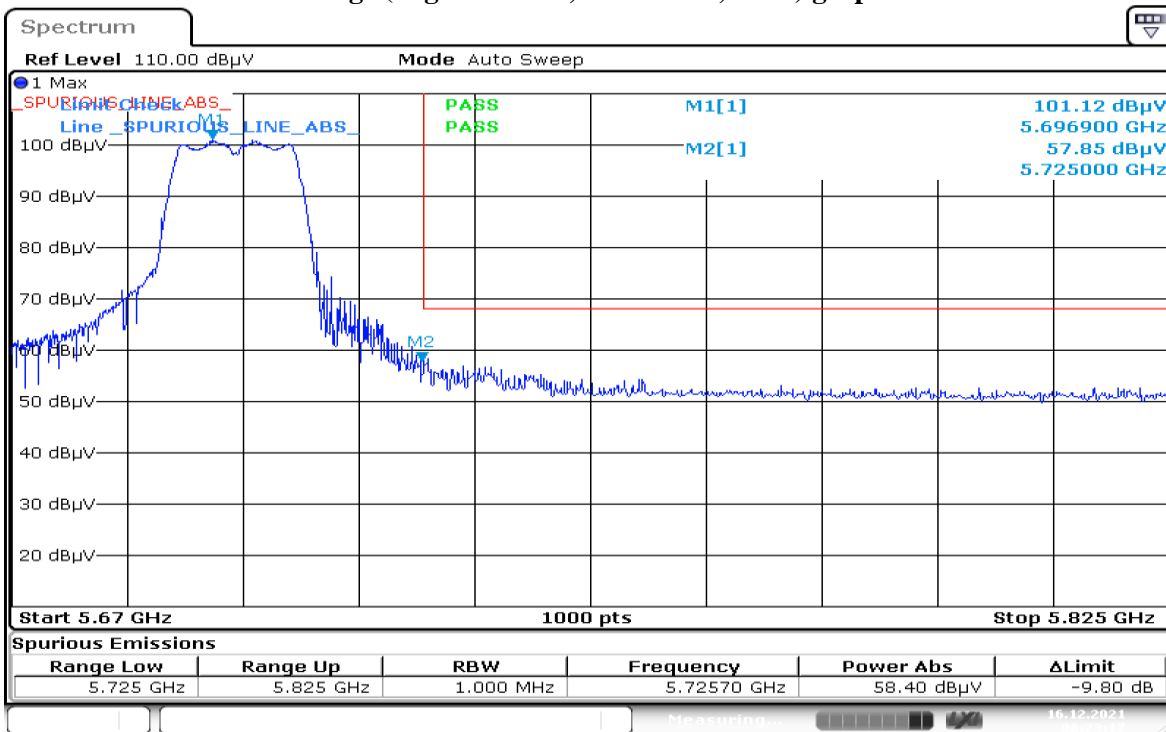
Temperature (degC):22.8
 Test Performed by: Abid
 System MU: 5.84dB

Humidity (%): 70.0
 Test Date: Thu, 16 Dec, 2021

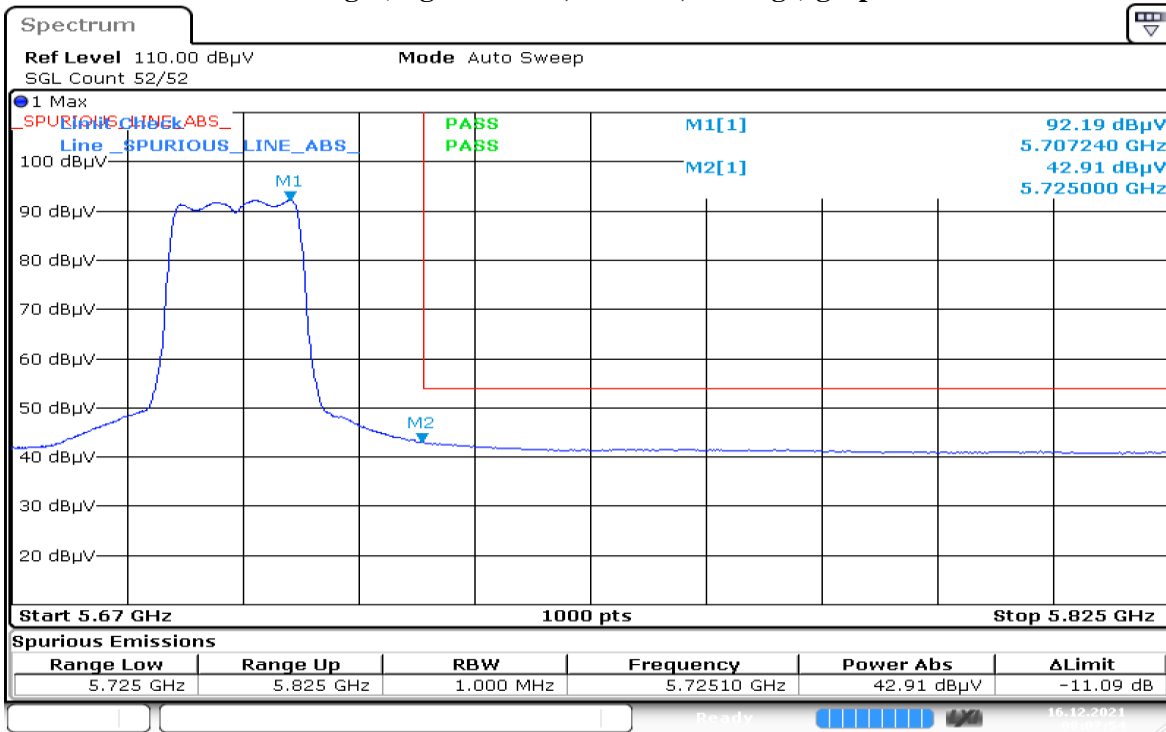
Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot



Restricted Band Edge (High Channel, Horizontal, Peak) graphical screen shot

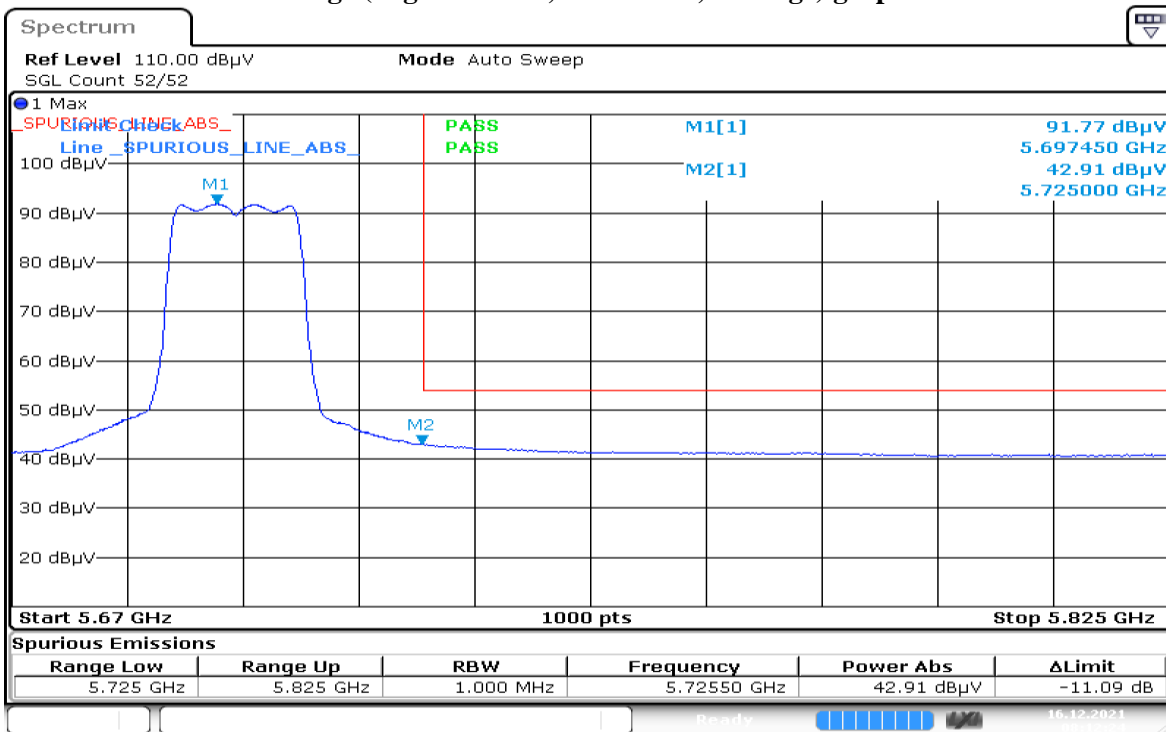


Restricted Band Edge (High Channel, Vertical, Average) graphical screen shot



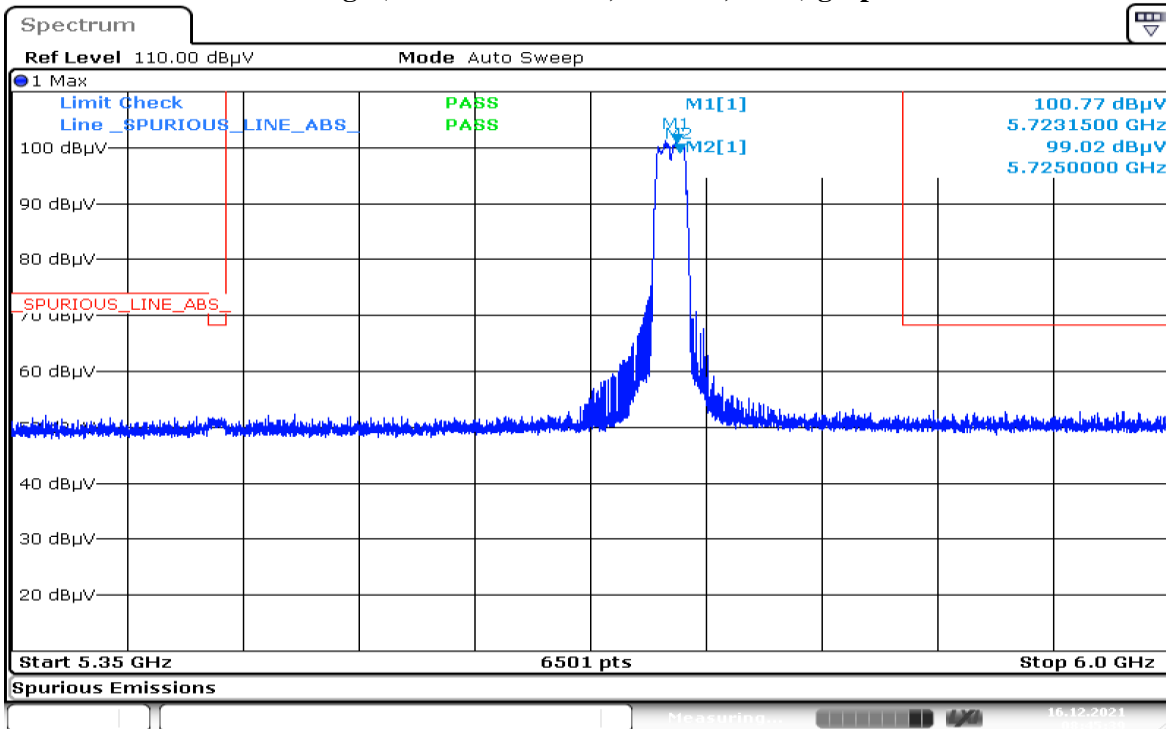
Date: 16.DEC.2021 08:07:54

Restricted Band Edge (High Channel, Horizontal, Average) graphical screen shot



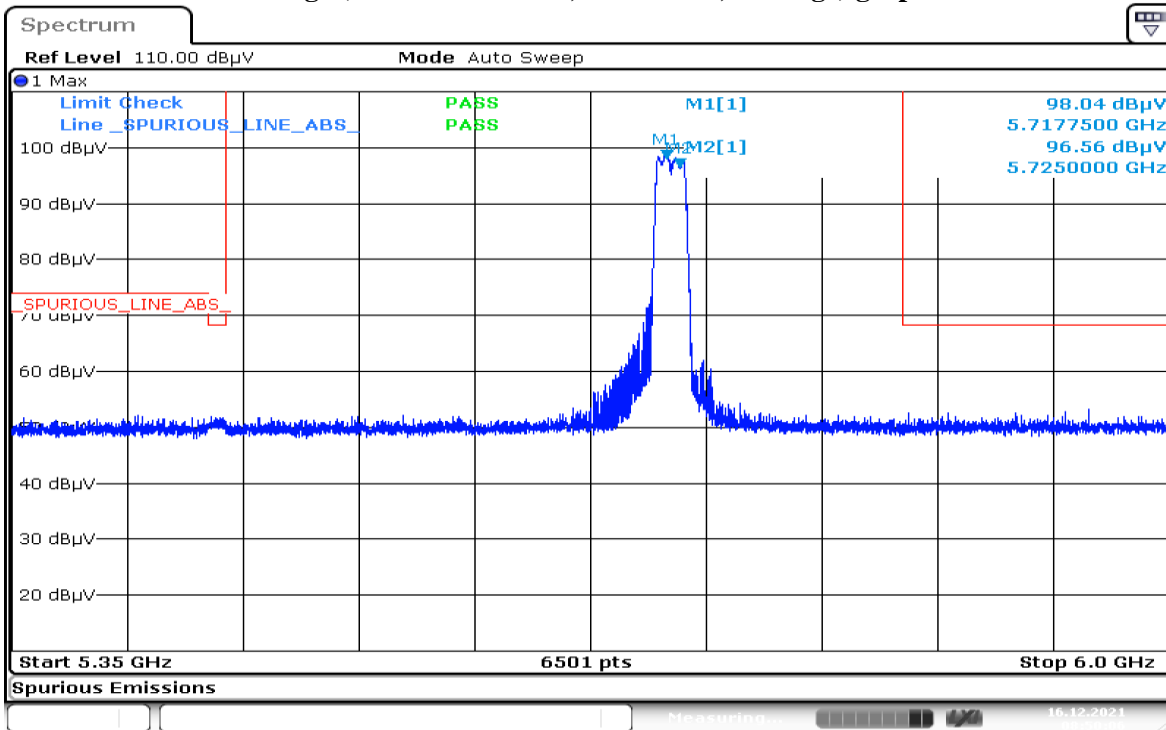
Date: 16.DEC.2021 08:12:25

Restricted Band Edge (Straddle Channel, Vertical, Peak) graphical screen shot



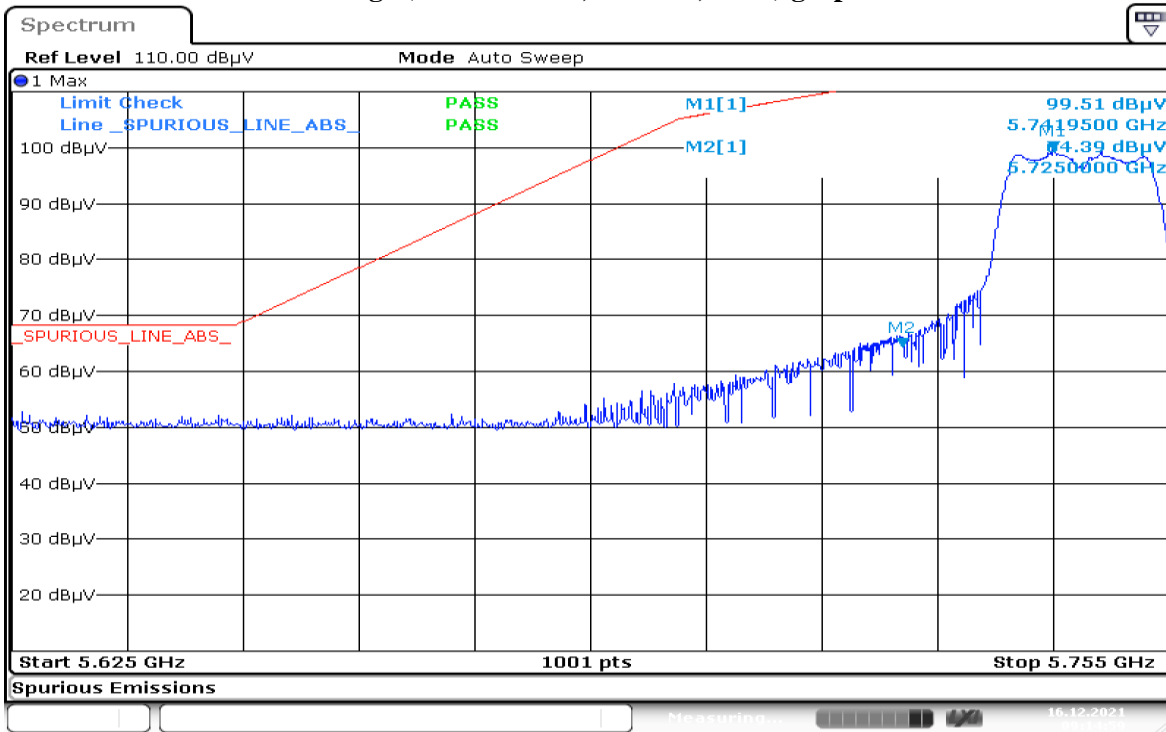
Date: 16.DEC.2021 08:45:40

Restricted Band Edge (Straddle Channel, Horizontal, Average) graphical screen shot

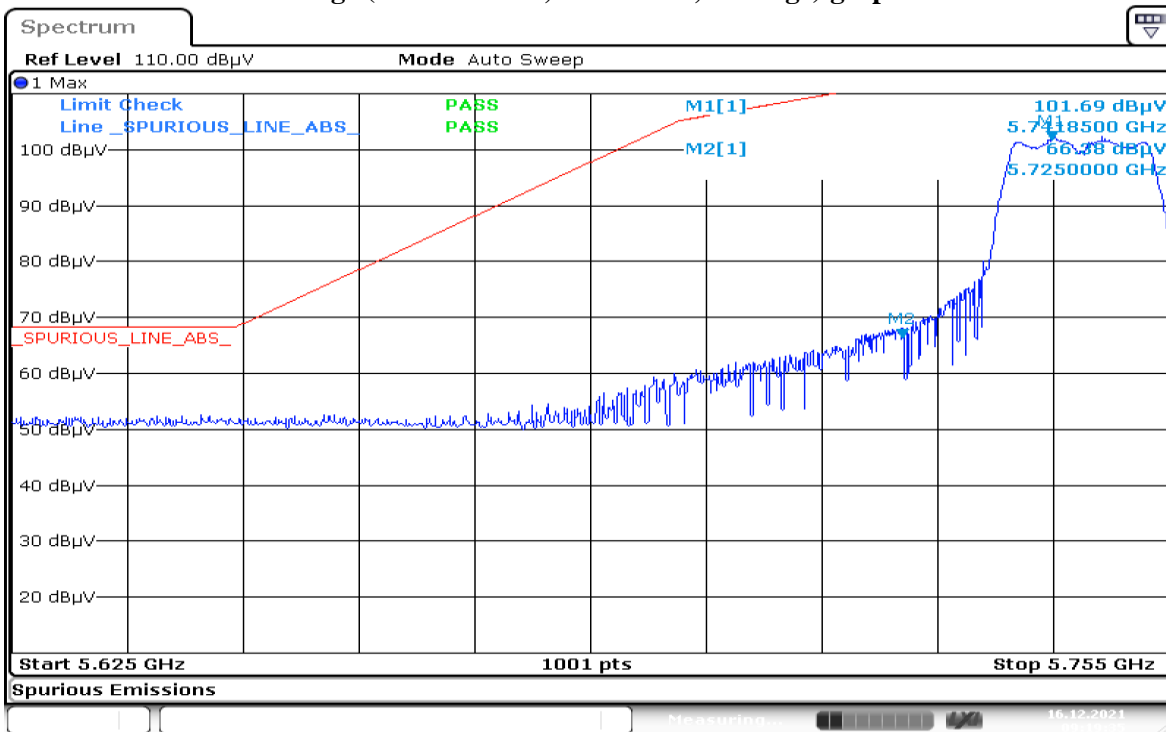


Date: 16.DEC.2021 08:50:06

Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



Restricted Band Edge (Low Channel, Horizontal, Average) graphical screen shot



Test: WIFI SAC Restricted Band Edge

Model Number: AZH77PCN6TZ5AN S/N: 767TXV0821 EMC SR ID#: 19613-EMC-00218

Battery: PMNN4802A Accessory: NA

Test Channel: High Test Frequency: 5825.0000 MHz Test Standard: ANSI C63.10-2013

Worst Case Plane: X-Plane (802.11a 20MHz)

Restricted Band Edge (High Channel) tabular data

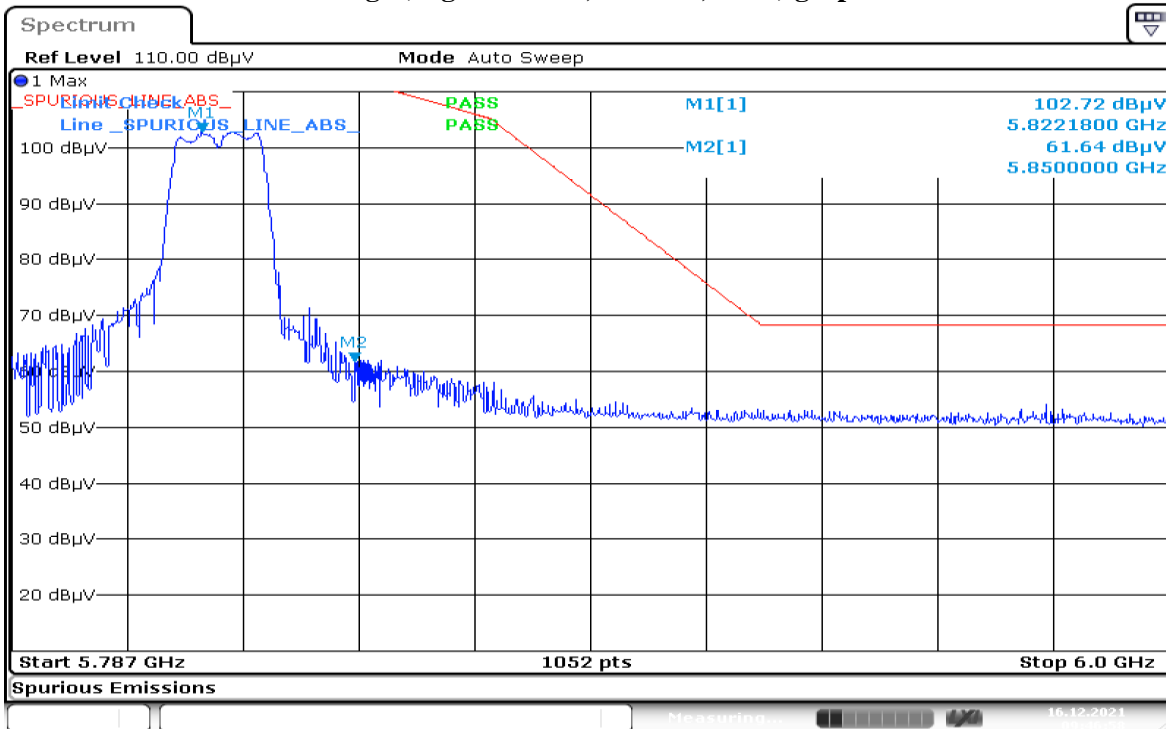
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
Horizontal Radiated Emission Result										

Remarks: Pass Result	Marginal Result	Fail Result
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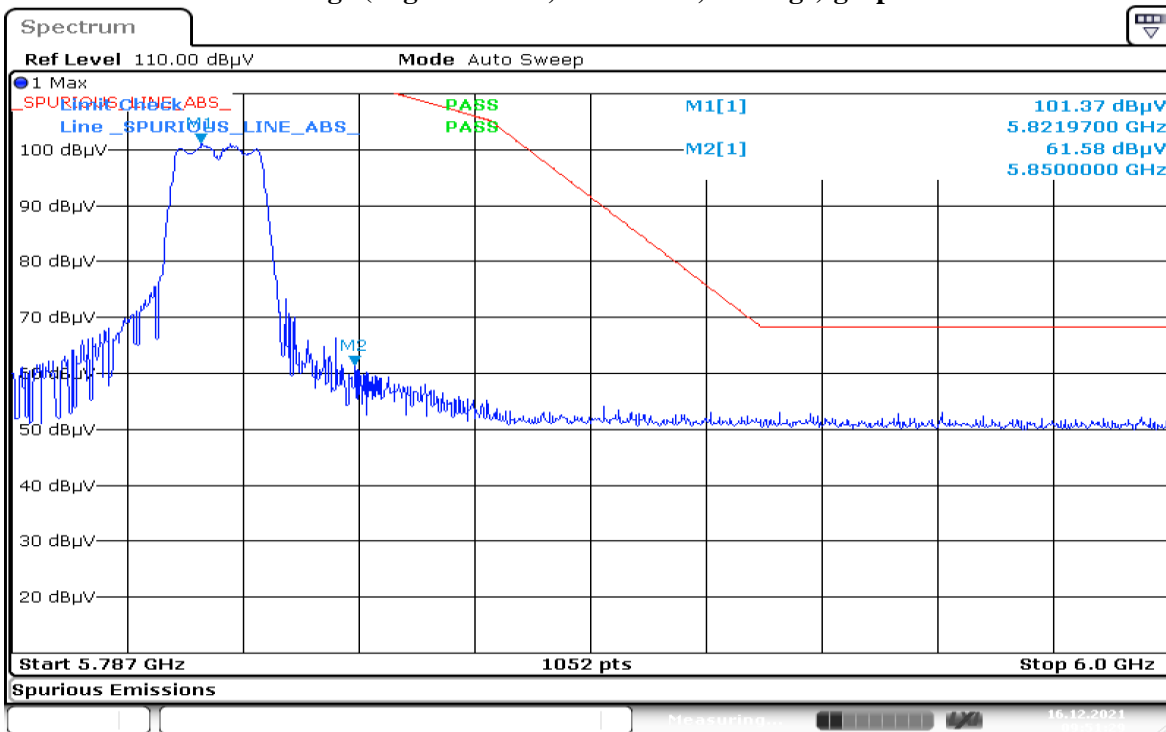
Temperature (degC): 22.8
 Test Performed by: Abid
 System MU: 5.84dB

Humidity (%): 70.0
 Test Date: Thu, 16 Dec, 2021

Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot



Restricted Band Edge (High Channel, Horizontal, Average) graphical screen shot



802.11n (HT20)

Test: WIFI SAC Restricted Band Edge

Model Number: AZH77PCN6TZ5AN S/N: 767TXV0821 EMC SR ID#: 19613-EMC-00218

Battery: PMNN4802A Accessory: NA

Test Channel: Low Test Frequency: 5180.0000 MHz Test Standard: ANSI C63.10-2013

Worst Case Plane: X-Plane (802.11n 20MHz)

Restricted Band Edge (Low Channel) tabular data

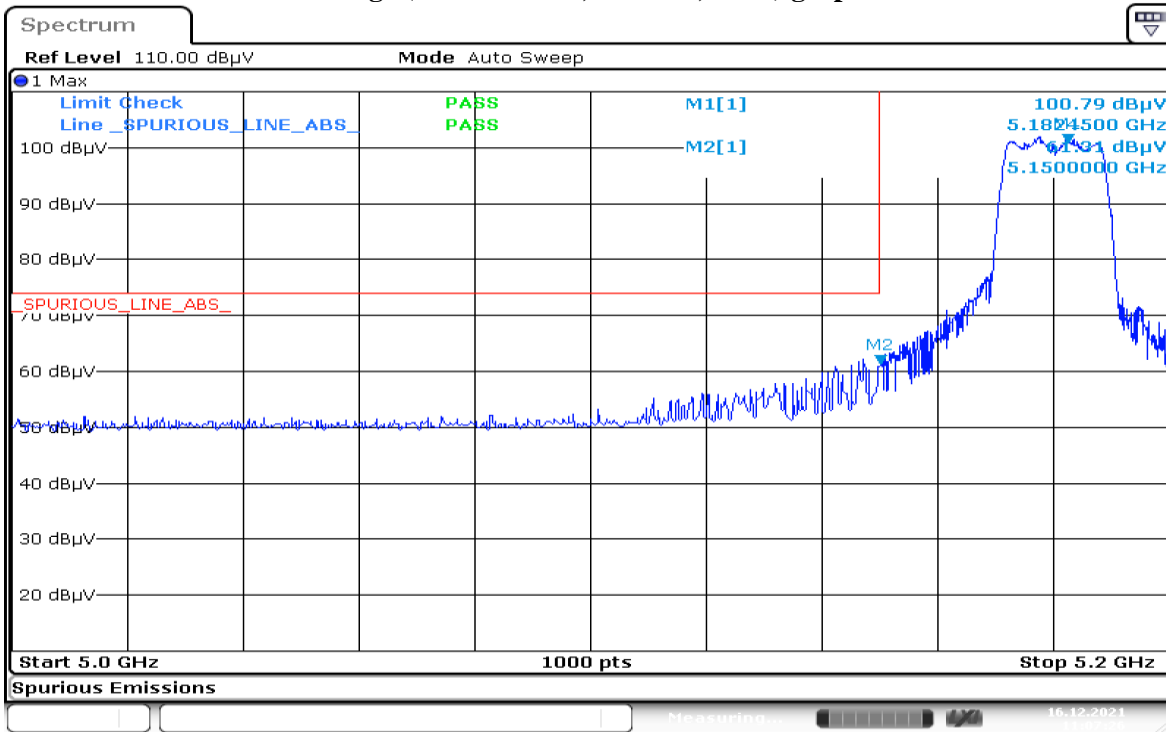
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
5150.0000	-	61.3084	43.4379	-	74.0000	54.0000	-	-12.6916	-10.5621	-
Horizontal Radiated Emission Result										
5150.0000	-	54.0290	43.2484	-	74.0000	54.0000	-	-19.9710	-10.7516	-

Remarks: Pass Result	Marginal Result	Fail Result
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Temperature (degC):22.8
Test Performed by: Abid
System MU: 5.84dB

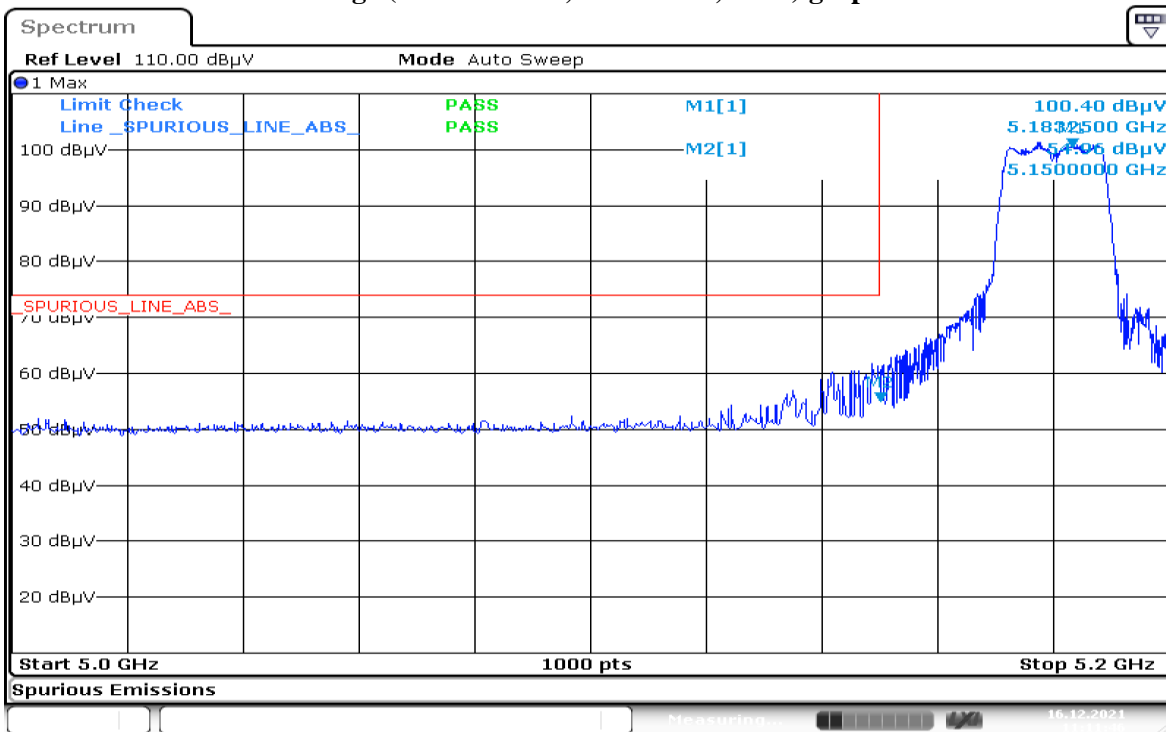
Humidity (%): 70.0
Test Date: Thu, 16 Dec, 2021

Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



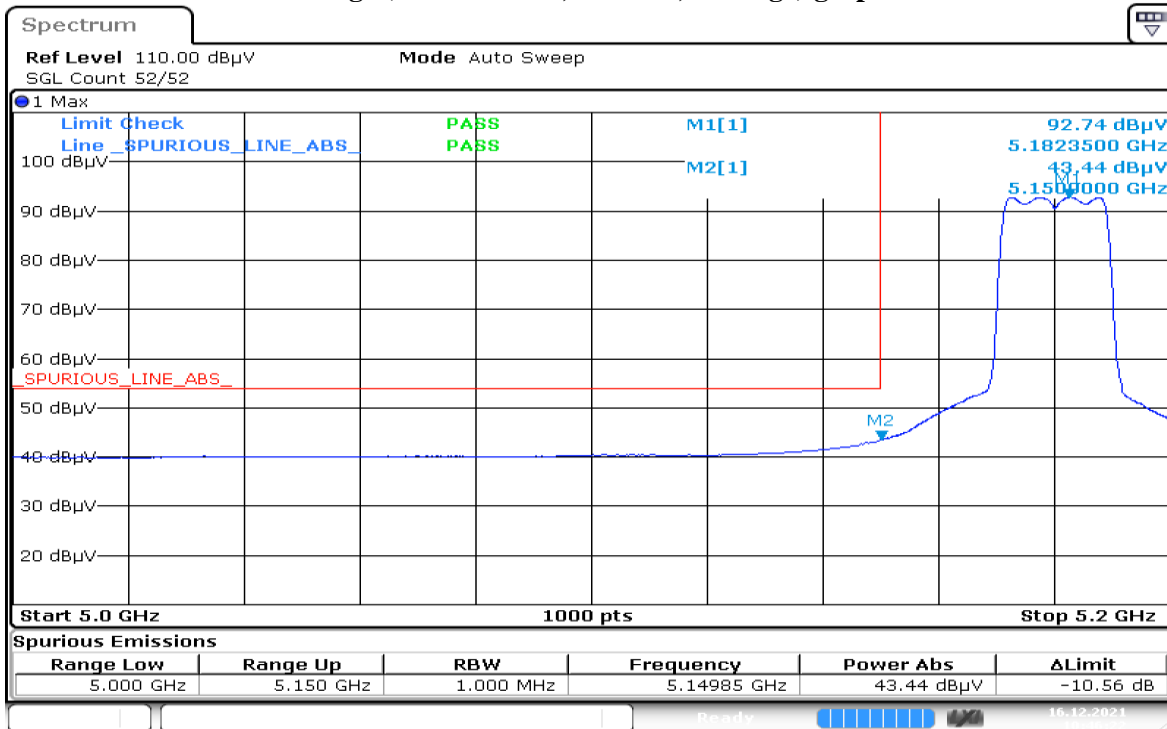
Date: 16.DEC.2021 11:07:27

Restricted Band Edge (Low Channel, Horizontal, Peak) graphical screen shot



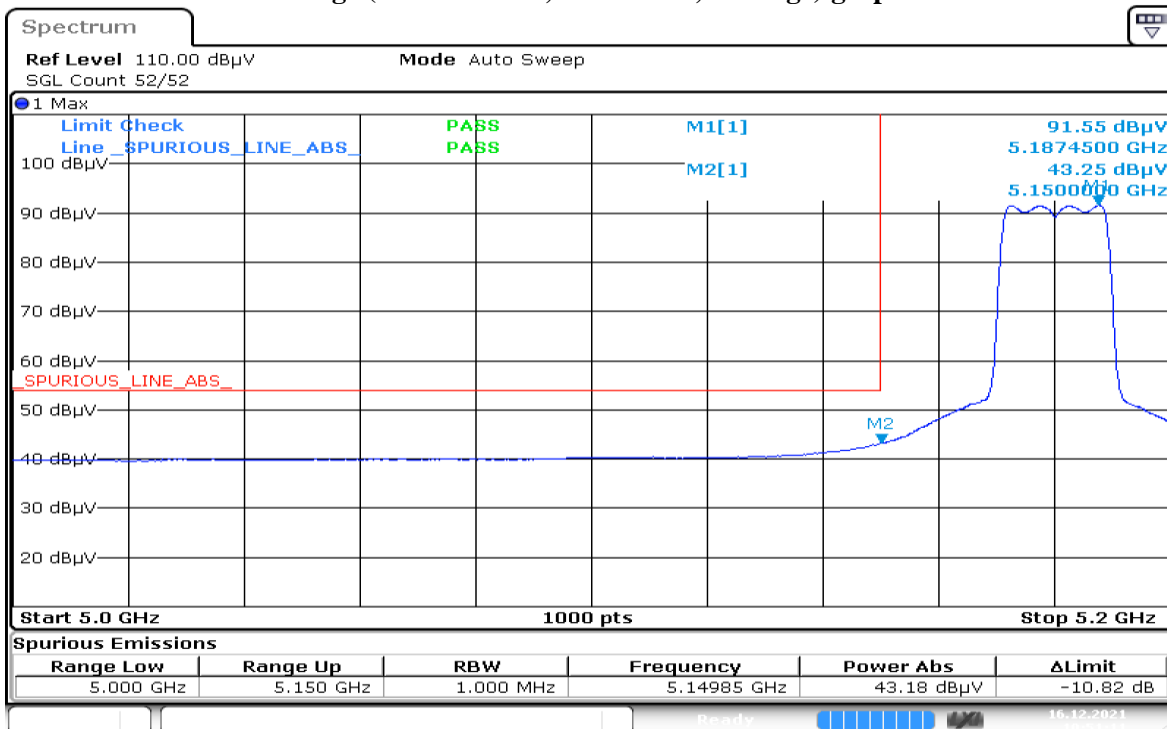
Date: 16.DEC.2021 11:11:47

Restricted Band Edge (Low Channel, Vertical, Average) graphical screen shot



Date: 16.DEC.2021 10:46:23

Restricted Band Edge (Low Channel, Horizontal, Average) graphical screen shot



Date: 16.DEC.2021 10:51:12

Test: WIFI SAC Restricted Band Edge
Model Number: AZH77PCN6TZ5AN S/N: 767TXV0821 EMC SR ID#: 19613-EMC-00218
Battery: PMNN4802A Accessory: NA
Test Channel: High Test Frequency: 5320.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: X-Plane (802.11n 20MHz)

Restricted Band Edge (High Channel) tabular data

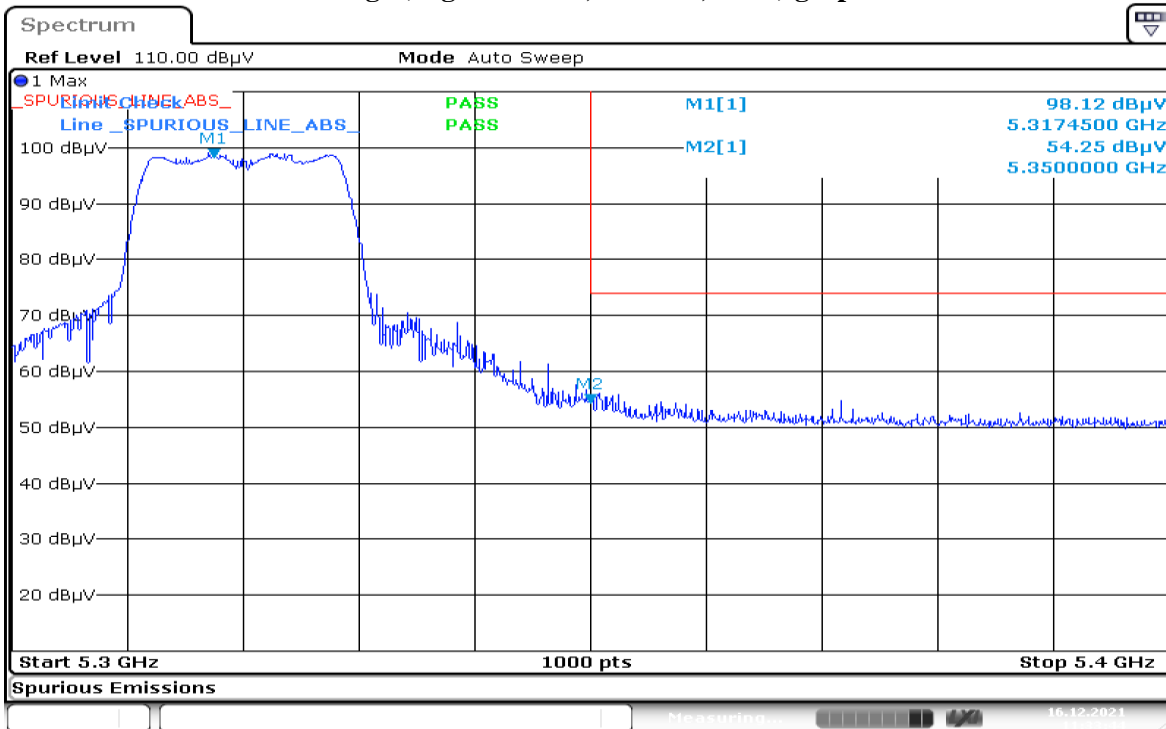
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBμV/m)	Spur level PK (dBμV/m)	Spur level AV (dBμV/m)	Limit QPK (dBμV/m)	Limit PK (dBμV/m)	Limit AV (dBμV/m)	Margin QPK (dBμV/m)	Margin PK (dBμV/m)	Margin AV (dBμV/m)	Carrier PK Power (dBμV/m)
5350.0000	-	54.2453	42.6645	-	74.0000	54.0000	-	-13.9547	-11.3355	-
Horizontal Radiated Emission Result										
5350.0000	-	61.2489	43.2502	-	74.0000	54.0000	-	-6.9511	-10.7498	-

Remarks: Pass Result	Marginal Result	Fail Result
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Temperature (degC):22.8
 Test Performed by: Abid
 System MU: 5.84dB

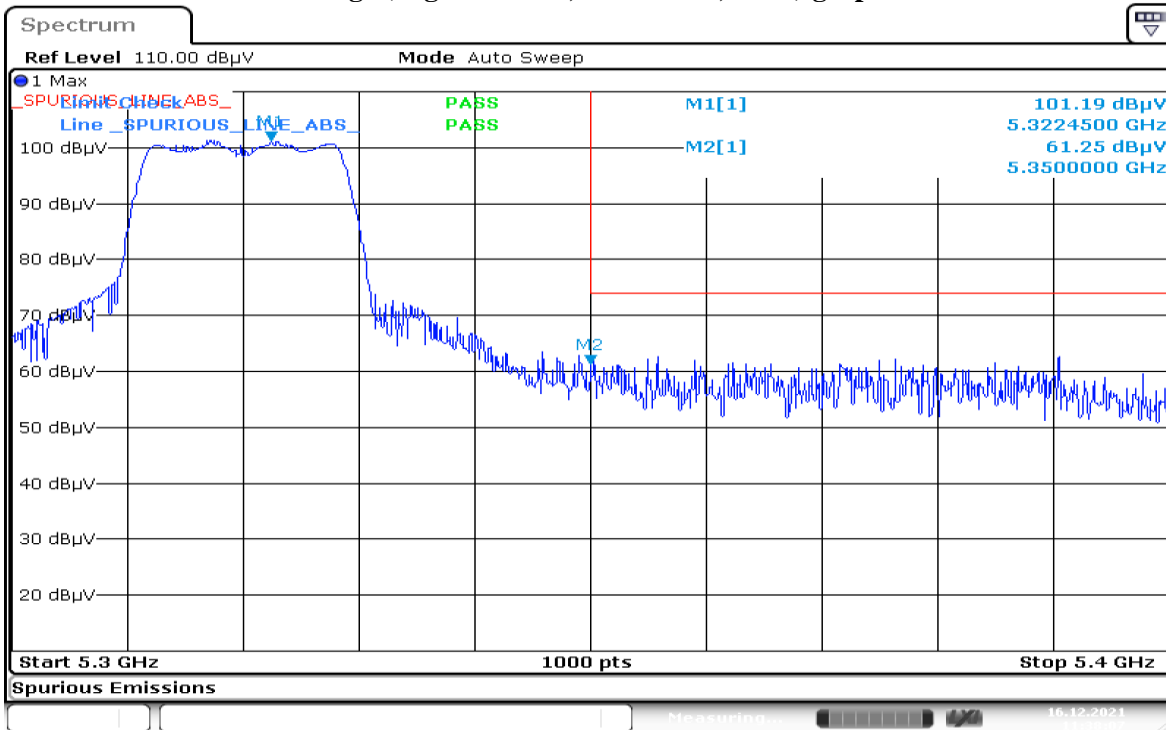
Humidity (%): 70.0
 Test Date: Thu, 16 Dec, 2021

Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot



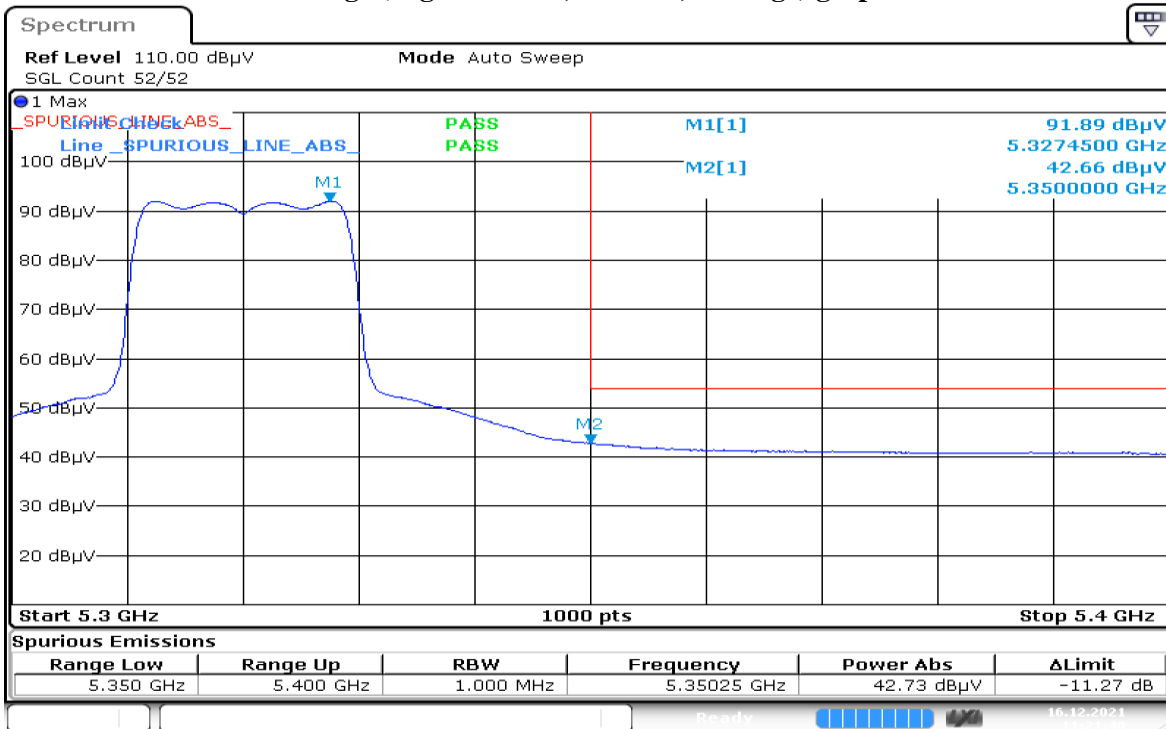
Date: 16.DEC.2021 11:33:44

Restricted Band Edge (High Channel, Horizontal, Peak) graphical screen shot



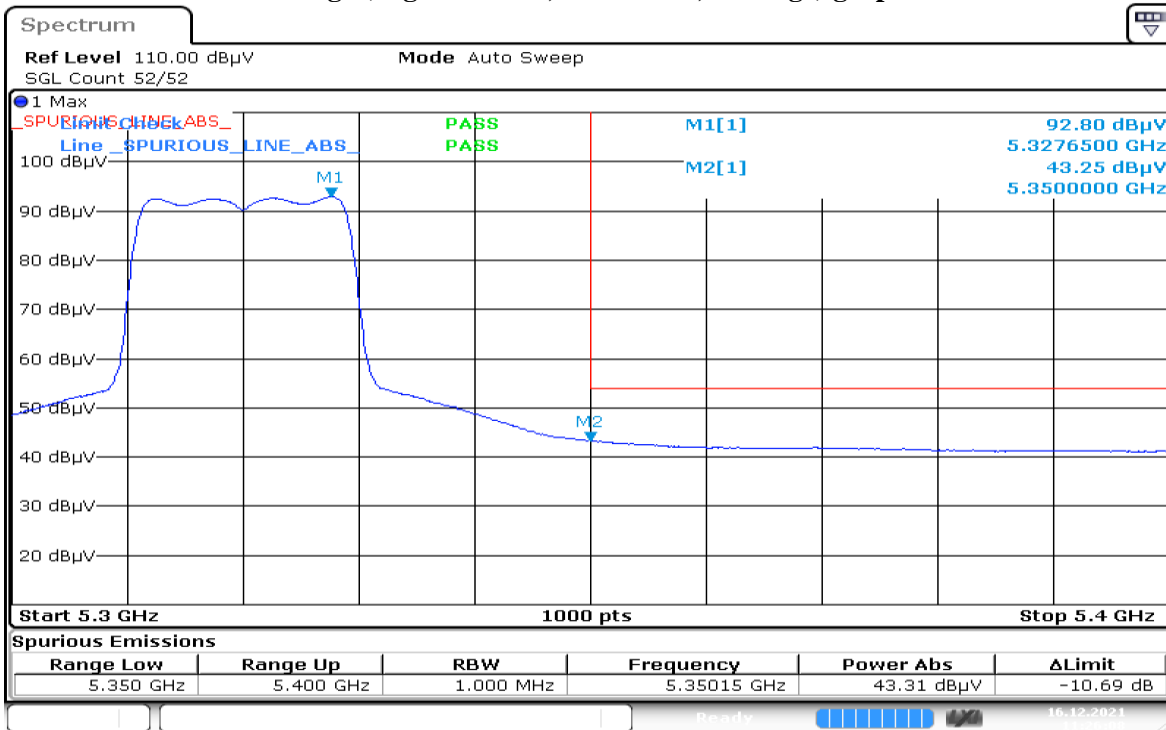
Date: 16.DEC.2021 11:38:08

Restricted Band Edge (High Channel, Vertical, Average) graphical screen shot



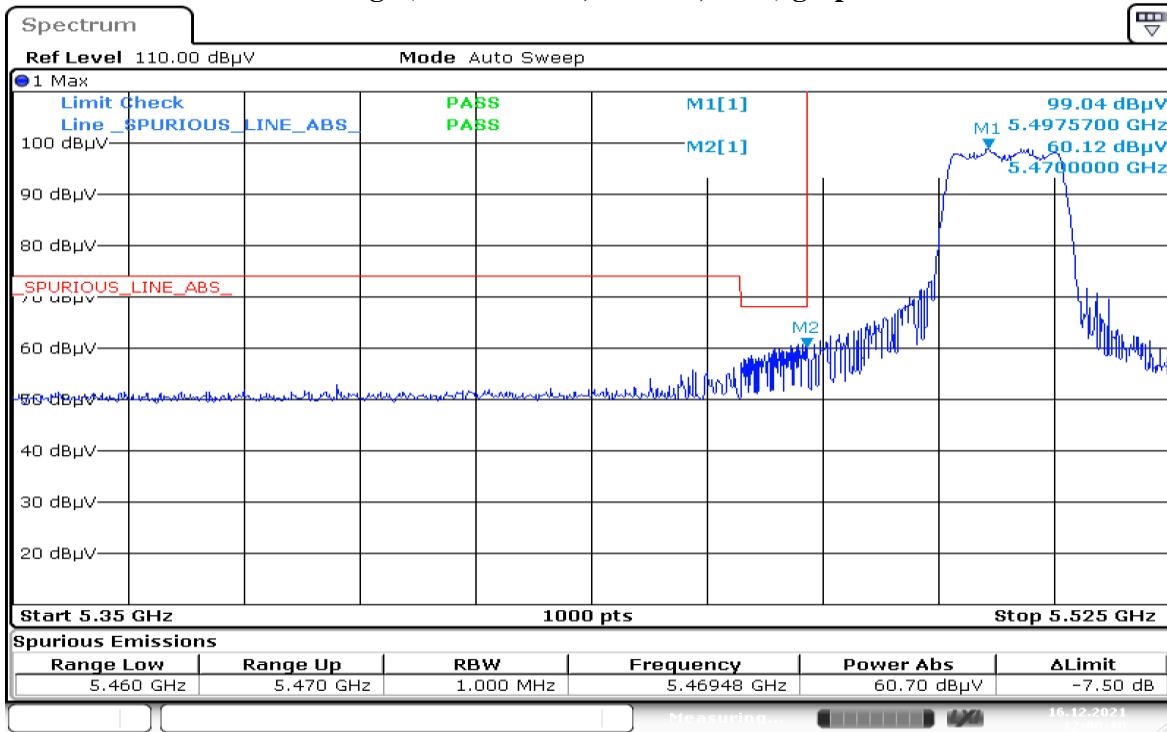
Date: 16.DEC.2021 11:21:41

Restricted Band Edge (High Channel, Horizontal, Average) graphical screen shot



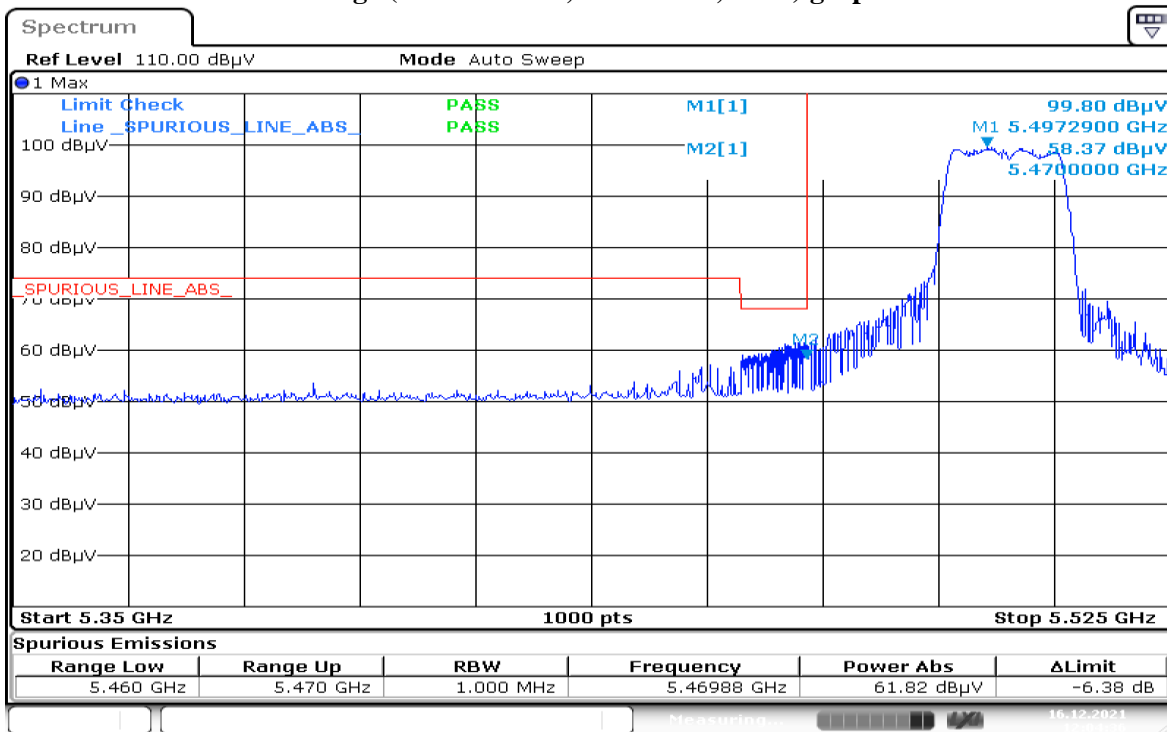
Date: 16.DEC.2021 11:26:09

Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



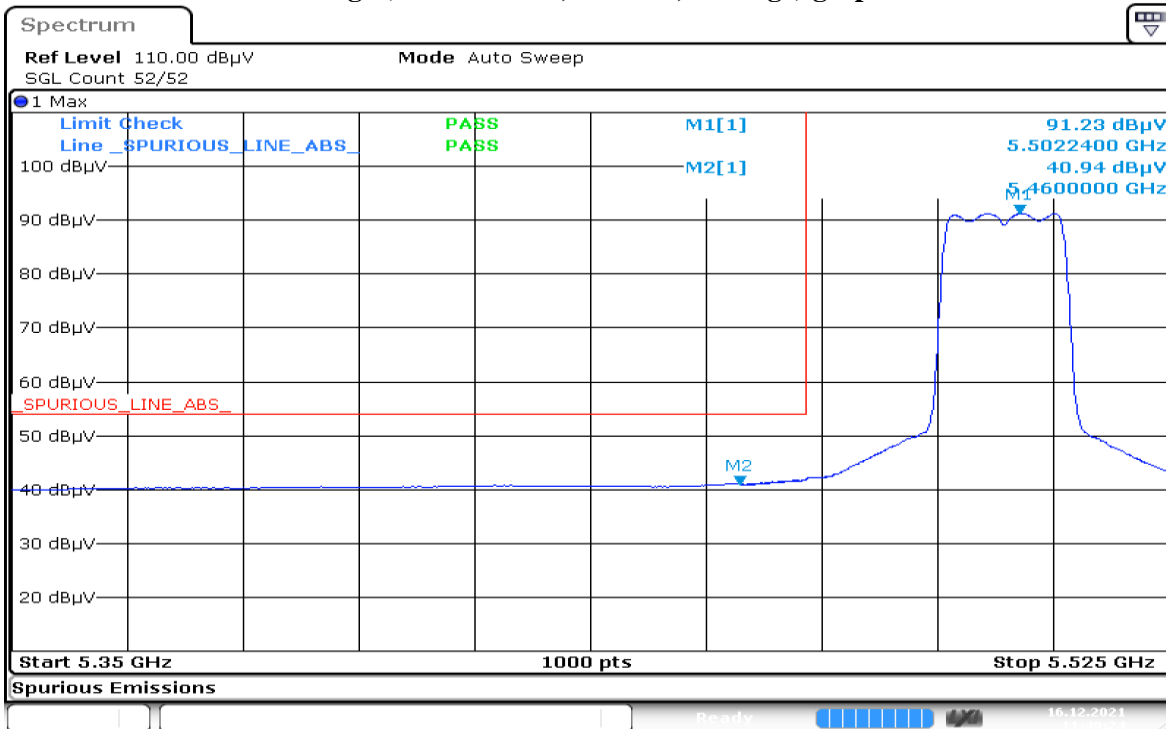
Date: 16.DEC.2021 12:00:10

Restricted Band Edge (Low Channel, Horizontal, Peak) graphical screen shot



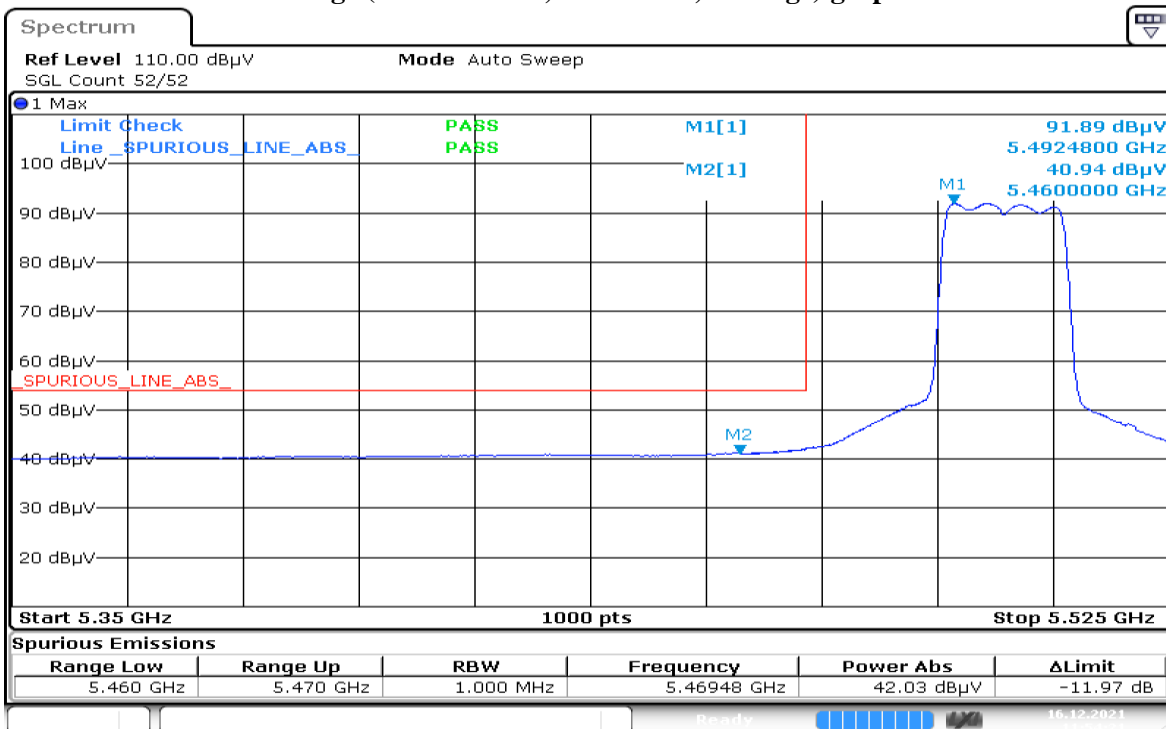
Date: 16.DEC.2021 12:04:37

Restricted Band Edge (Low Channel, Vertical, Average) graphical screen shot



Date: 16.DEC.2021 11:49:24

Restricted Band Edge (Low Channel, Horizontal, Average) graphical screen shot



Date: 16.DEC.2021 11:54:21

Test: WIFI SAC Restricted Band Edge
 Model Number: AZH77PCN6TZ5AN S/N: 767TXV0821 EMC SR ID#: 19613-EMC-00218
 Battery: PMNN4802A Accessory: NA
 Test Channel: High Test Frequency: 5700.0000 MHz Test Standard: ANSI C63.10-2013
 Worst Case Plane: X-Plane (802.11n 20MHz)

Restricted Band Edge (High Channel) tabular data

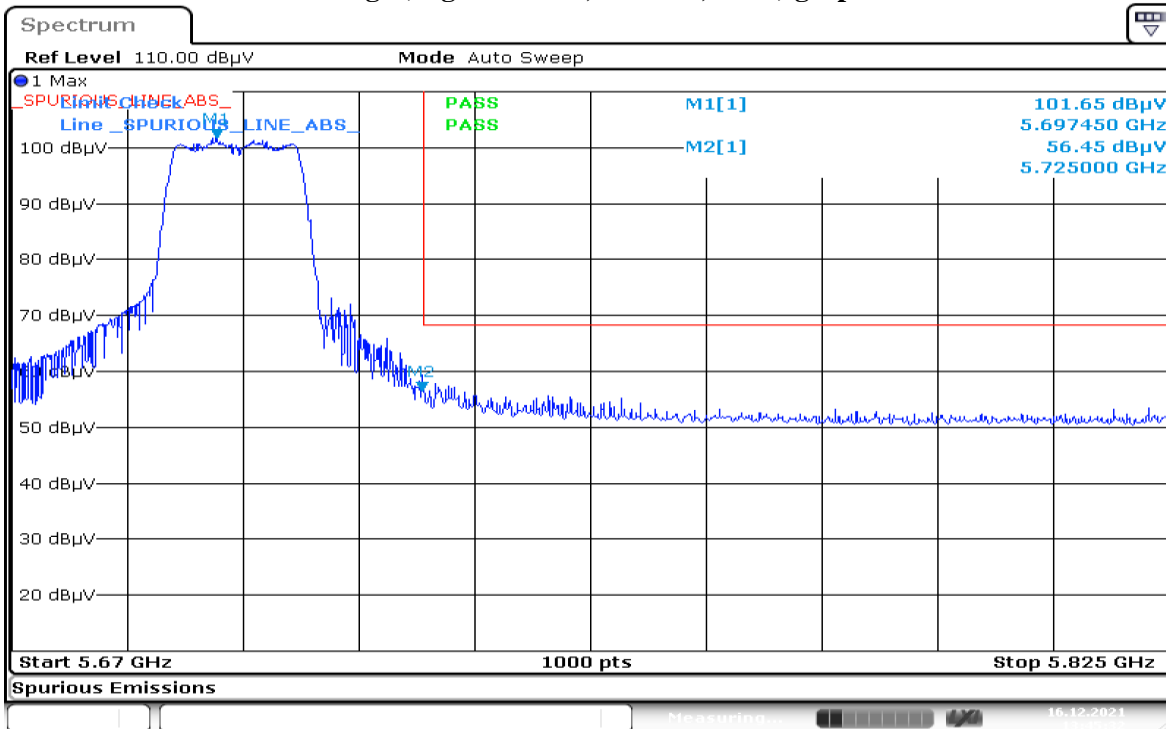
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dB μ V/m)	Spur level PK (dB μ V/m)	Spur level AV (dB μ V/m)	Limit QPK (dB μ V/m)	Limit PK (dB μ V/m)	Limit AV (dB μ V/m)	Margin QPK (dB μ V/m)	Margin PK (dB μ V/m)	Margin AV (dB μ V/m)	Carrier PK Power (dB μ V/m)
5725.0000	-	56.4458	43.4599	-	68.2000	54.0000	-	-11.7542	-10.5401	-
Horizontal Radiated Emission Result										
5725.0000	-	54.8442	42.6920	-	68.2000	54.0000	-	-13.3558	-11.3080	-

Remarks: Pass Result	Marginal Result	Fail Result
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Temperature (degC): 22.8
 Test Performed by: Abid
 System MU: 5.84dB

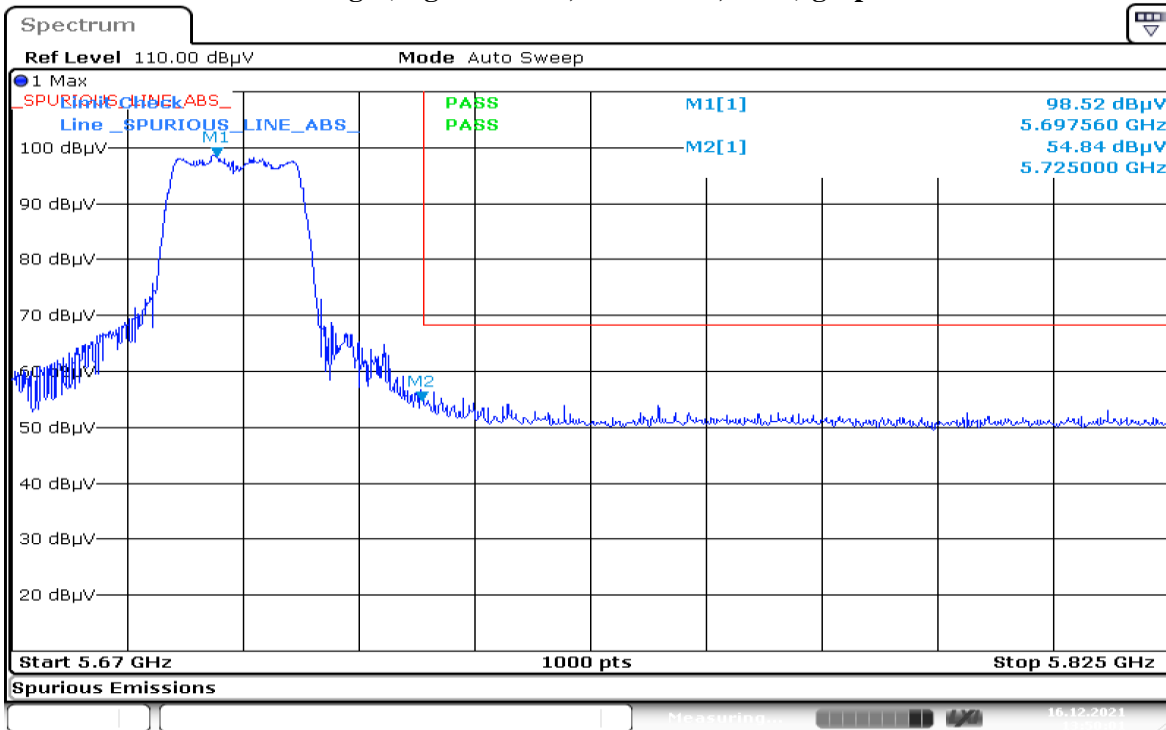
Humidity (%): 70.0
 Test Date: Thu, 16 Dec, 2021

Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot



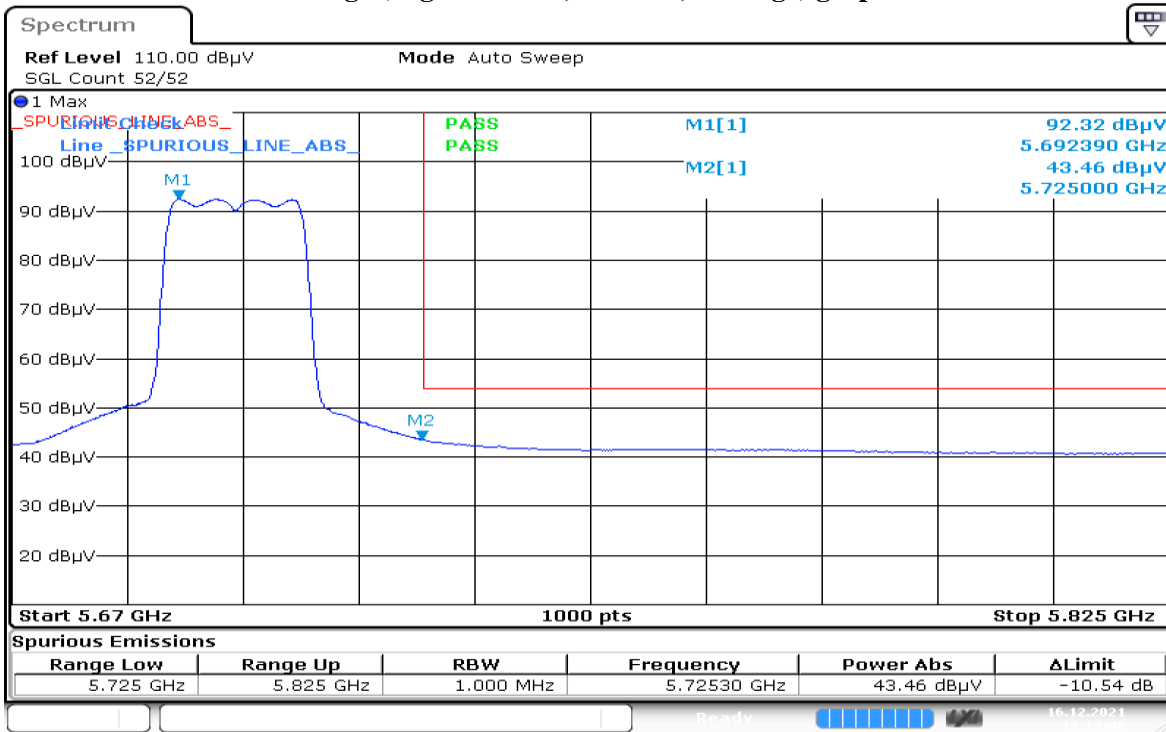
Date: 16.DEC.2021 13:45:32

Restricted Band Edge (High Channel, Horizontal, Peak) graphical screen shot



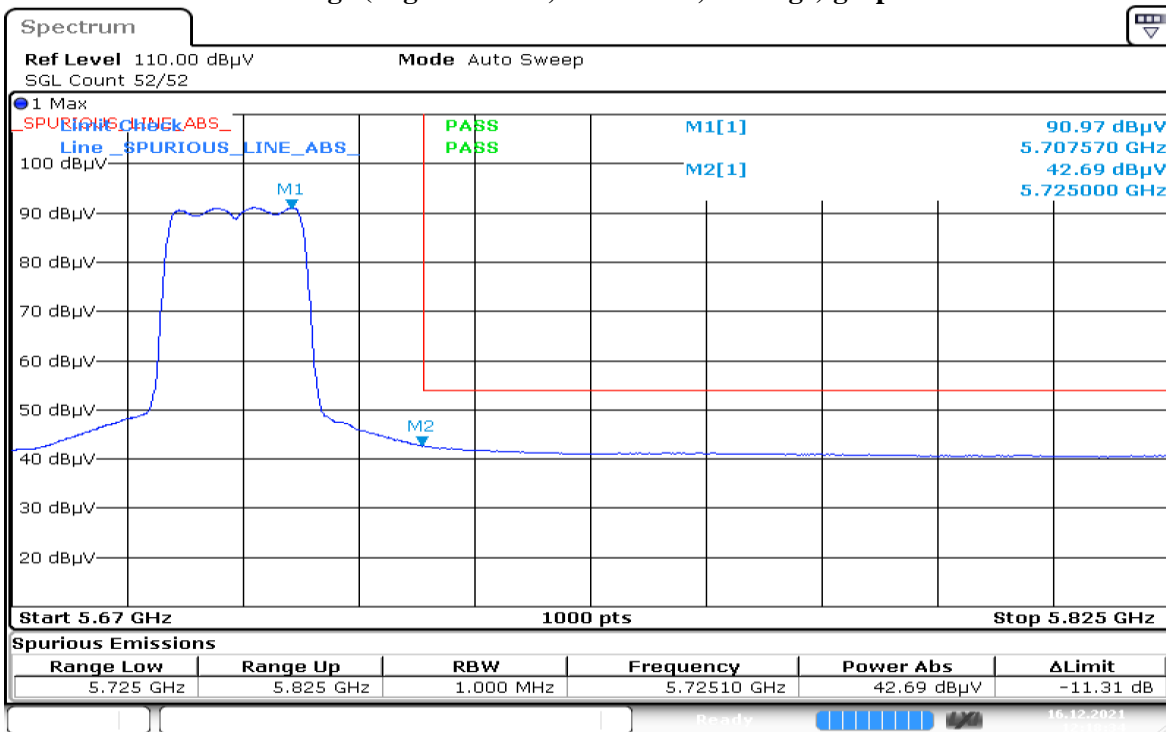
Date: 16.DEC.2021 13:50:01

Restricted Band Edge (High Channel, Vertical, Average) graphical screen shot



Date: 16.DEC.2021 12:13:48

Restricted Band Edge (High Channel, Horizontal, Average) graphical screen shot



Date: 16.DEC.2021 12:18:35

Test: WIFI SAC Restricted Band Edge
Model Number: AZH77PCN6TZ5AN S/N: 767TXV0821 EMC SR ID#: 19613-EMC-00218
Battery: PMNN4802A Accessory: NA
Test Channel: Straddle Test Frequency: 5720.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: X-Plane (802.11n 20MHz)

Restricted Band Edge (Straddle Channel) tabular data

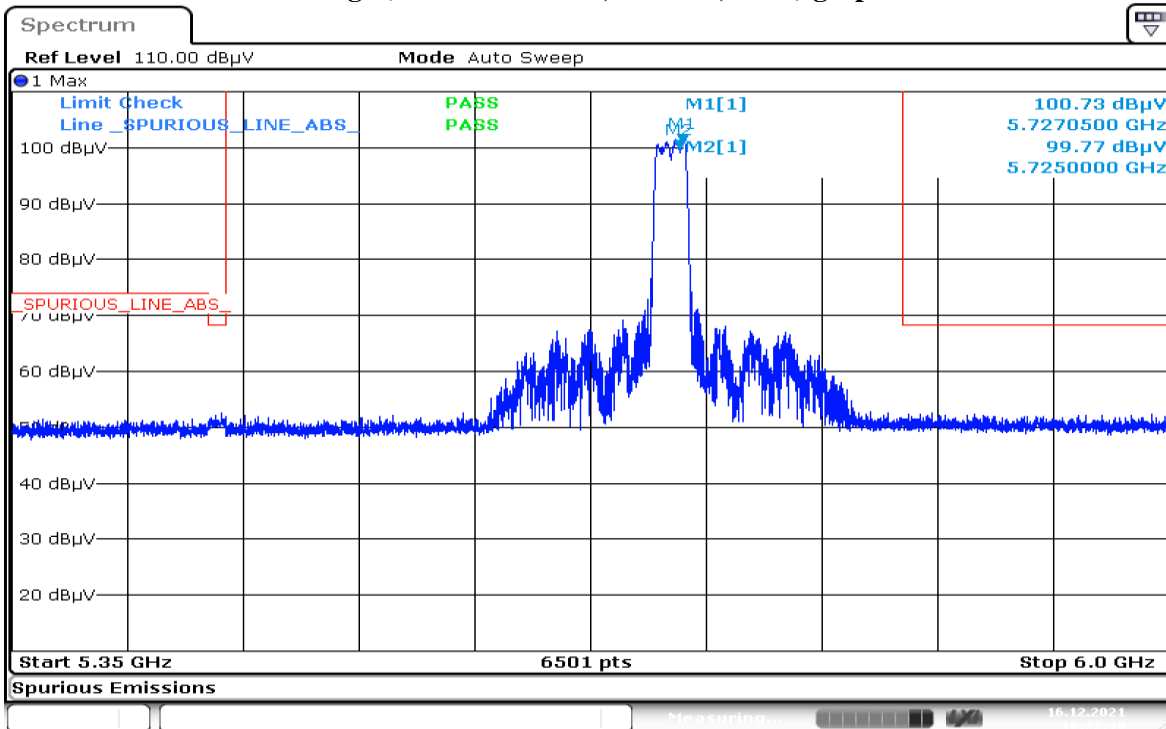
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
Horizontal Radiated Emission Result										

Remarks: Pass Result	Marginal Result	Fail Result
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Temperature (degC):22.8
Test Performed by: Abid
System MU: 5.84dB

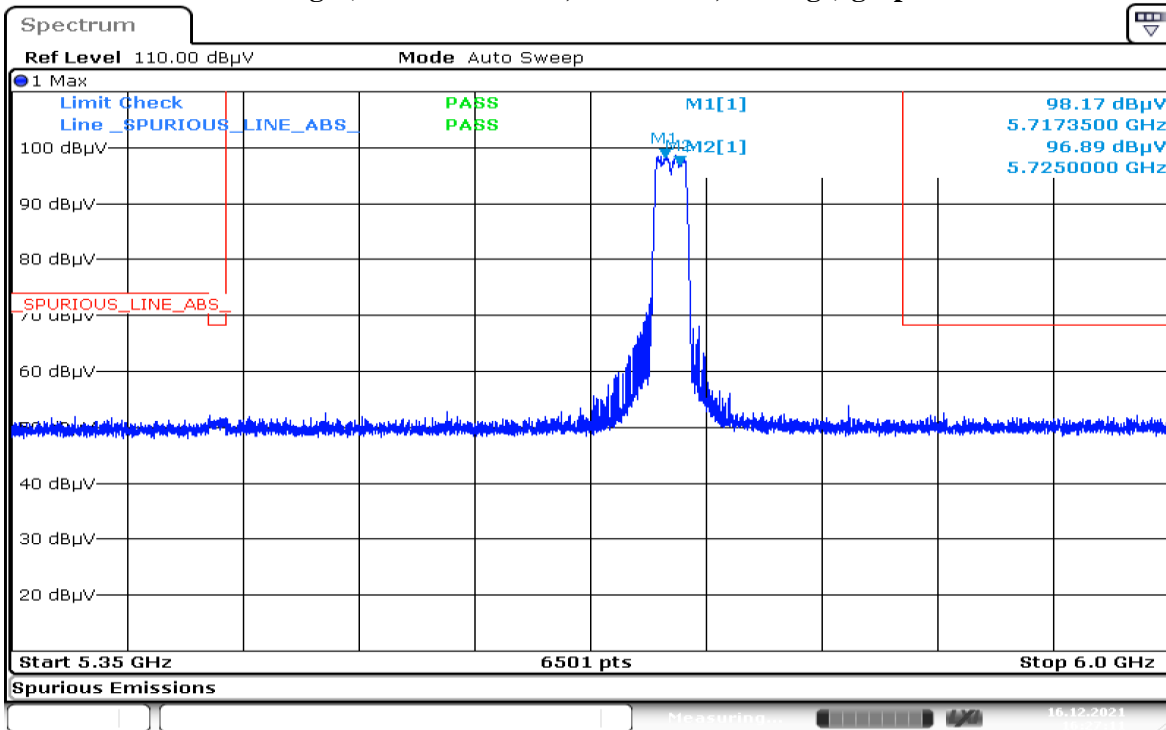
Humidity (%): 70.0
Test Date: Thu, 16 Dec, 2021

Restricted Band Edge (Straddle Channel, Vertical, Peak) graphical screen shot



Date: 16.DEC.2021 16:22:39

Restricted Band Edge (Straddle Channel, Horizontal, Average) graphical screen shot



Date: 16.DEC.2021 16:27:11

Test: WIFI SAC Restricted Band Edge
Model Number: AZH77PCN6TZ5AN S/N: 767TXV0821 EMC SR ID#: 19613-EMC-00218
Battery: PMNN4802A Accessory: NA
Test Channel: Low Test Frequency: 5745.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: X-Plane (802.11n 20MHz)

Restricted Band Edge (Low Channel) tabular data

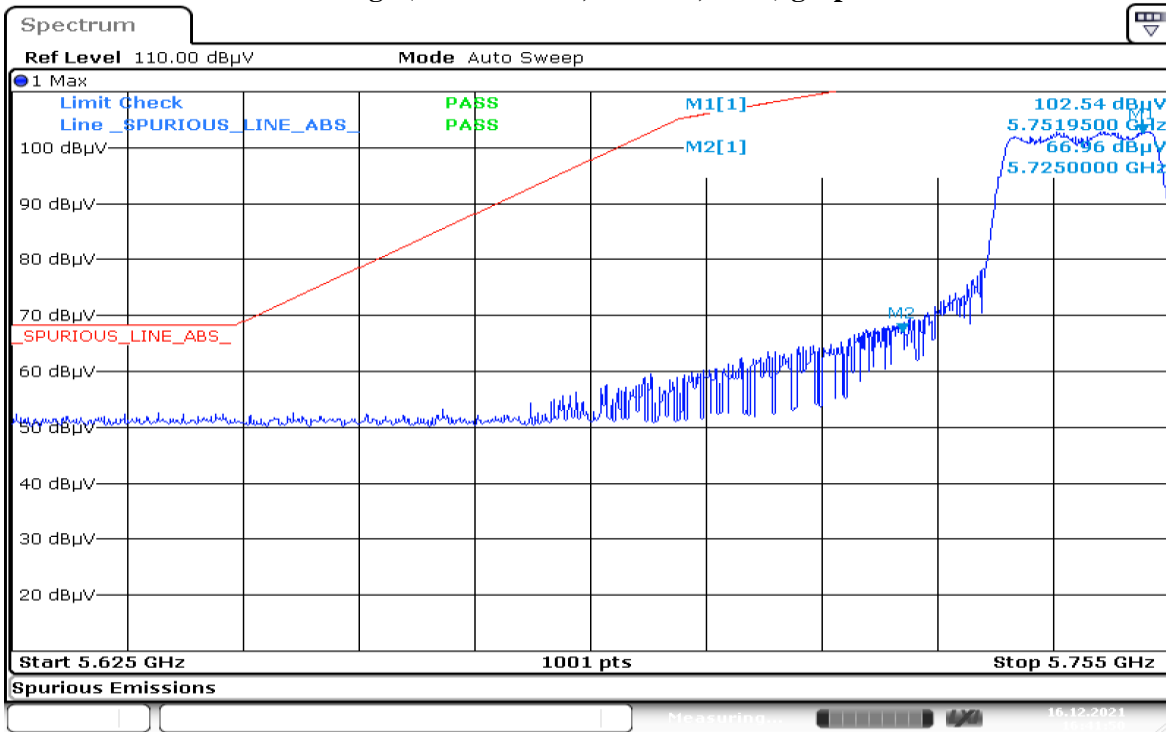
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBμV/m)	Spur level PK (dBμV/m)	Spur level AV (dBμV/m)	Limit QPK (dBμV/m)	Limit PK (dBμV/m)	Limit AV (dBμV/m)	Margin QPK (dBμV/m)	Margin PK (dBμV/m)	Margin AV (dBμV/m)	Carrier PK Power (dBμV/m)

Remarks: Pass Result	Marginal Result	Fail Result
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Temperature (degC):22.8
Test Performed by: Abid
System MU: 5.84dB

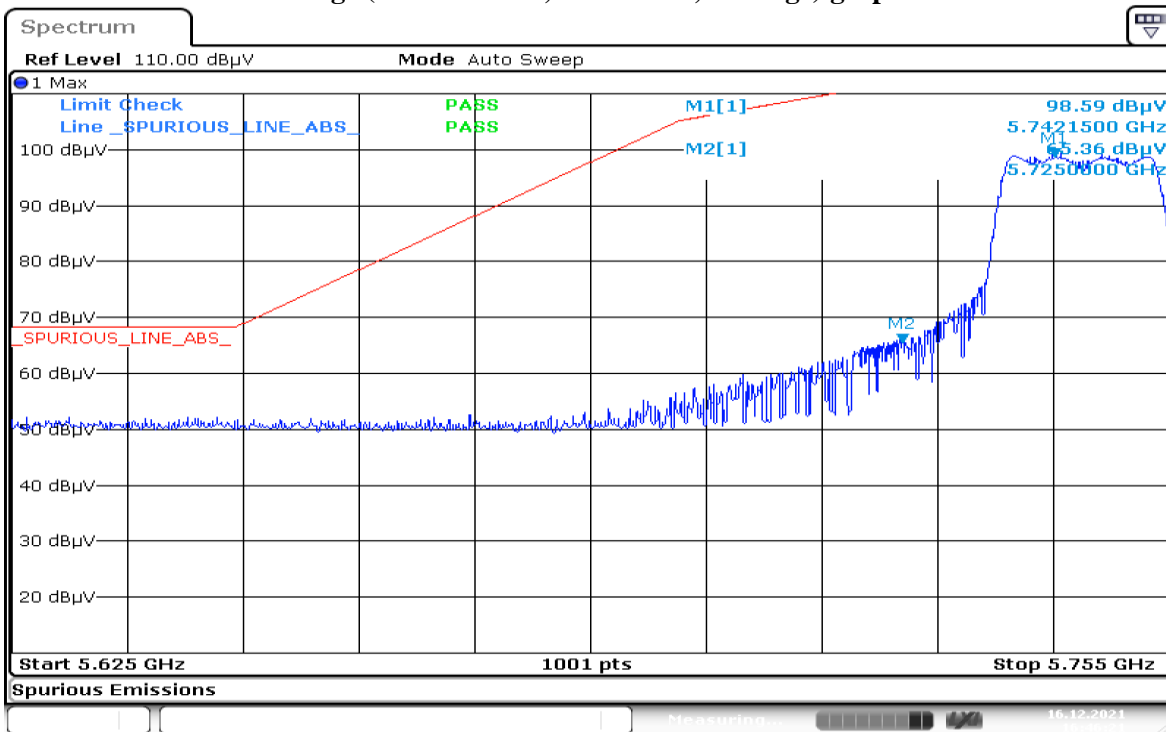
Humidity (%): 70.0
Test Date: Thu, 16 Dec, 2021

Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



Date: 16.DEC.2021 16:41:51

Restricted Band Edge (Low Channel, Horizontal, Average) graphical screen shot



Date: 16.DEC.2021 16:46:21

Test: WIFI SAC Restricted Band Edge
Model Number: AZH77PCN6TZ5AN S/N: 767TXV0821 EMC SR ID#: 19613-EMC-00218
Battery: PMNN4802A Accessory: NA
Test Channel: High Test Frequency: 5825.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: X-Plane (802.11n 20MHz)

Restricted Band Edge (High Channel) tabular data

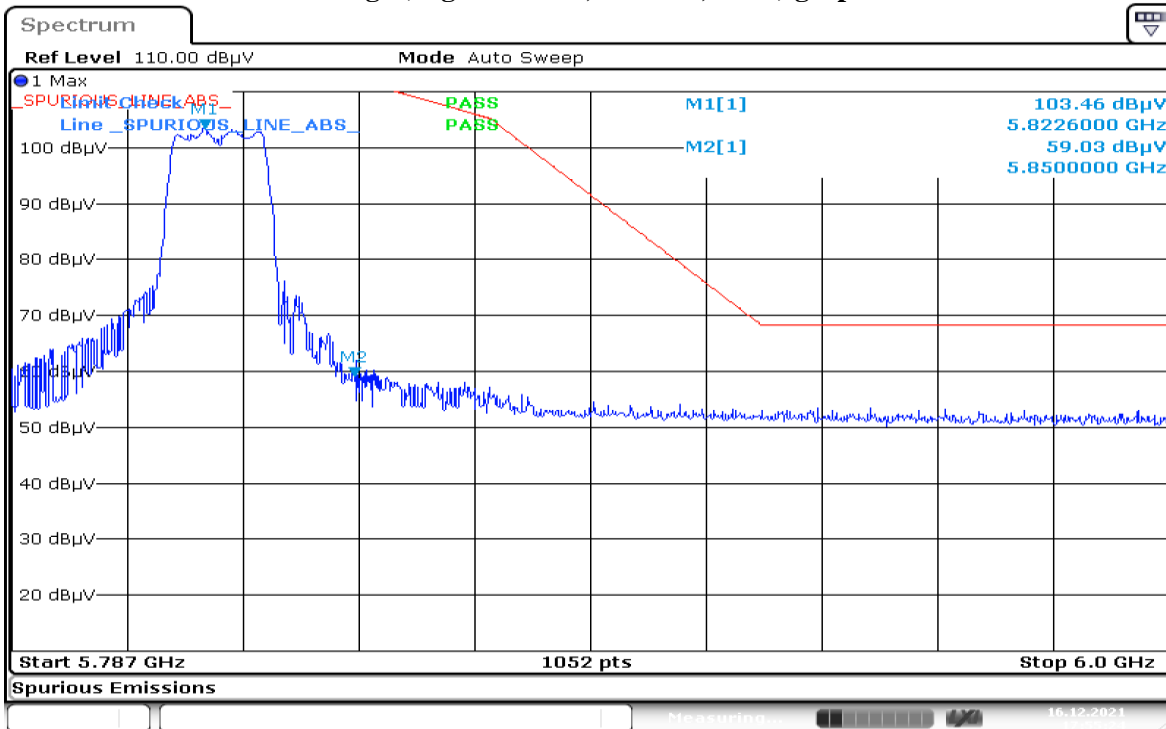
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
Horizontal Radiated Emission Result										

Remarks: Pass Result	Marginal Result	Fail Result
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Temperature (degC):22.8
 Test Performed by: Abid
 System MU: 5.84dB

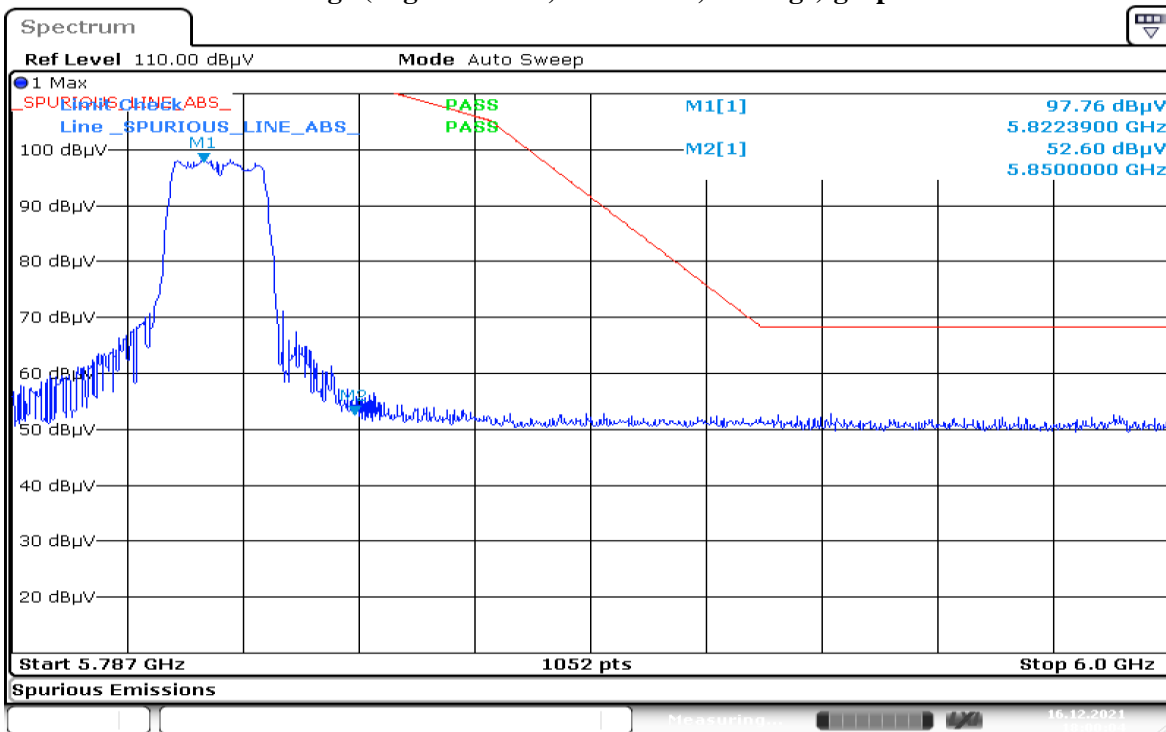
Humidity (%): 70.0
 Test Date: Thu, 16 Dec, 2021

Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot



Date: 16.DEC.2021 17:55:25

Restricted Band Edge (High Channel, Horizontal, Average) graphical screen shot



Date: 16.DEC.2021 18:00:04