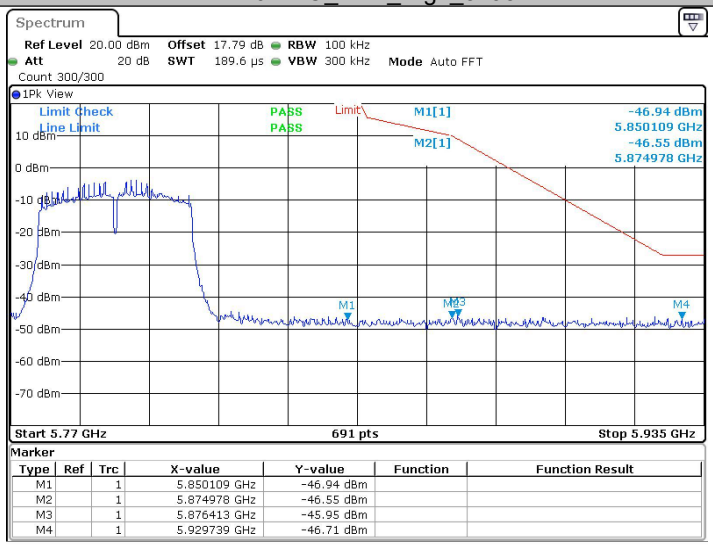
11N40SISO_Ant1_High_5795

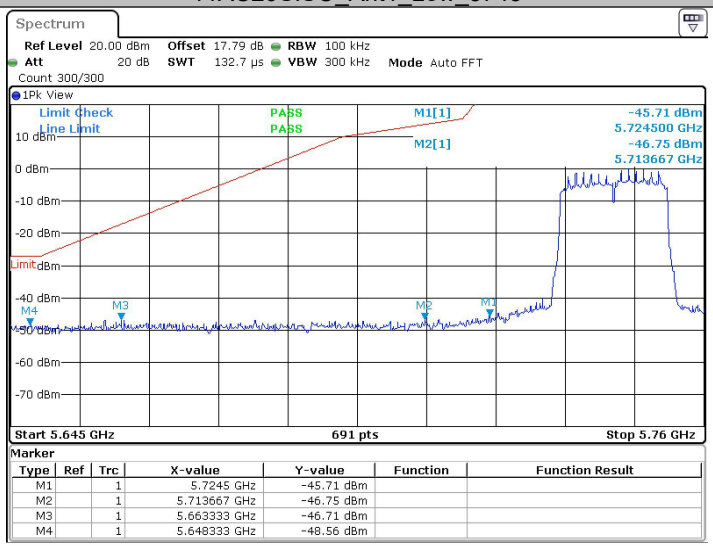


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.850109 GHz	-46.94 dBm		
M2		1	5.874978 GHz	-46.55 dBm		
M3		1	5.876413 GHz	-45.95 dBm		
M4		1	5.929739 GHz	-46.71 dBm		

Date: 16.APR.2024 19:00:59

11AC20SISO_Ant1_Low_5745

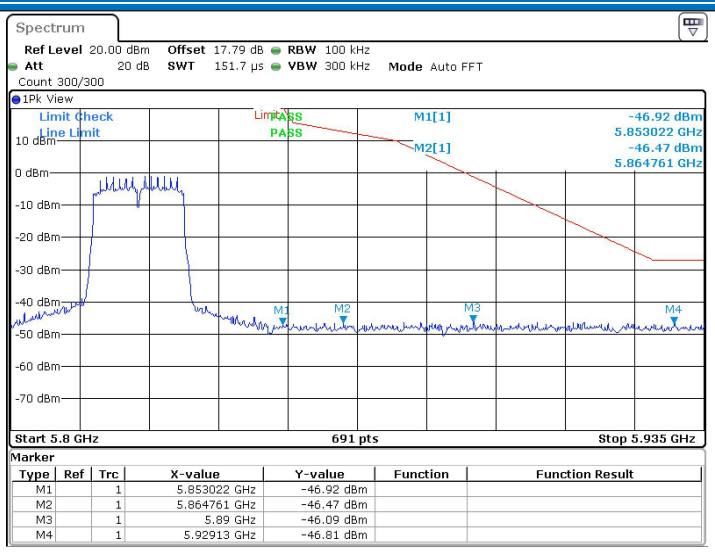


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.7245 GHz	-45.71 dBm		
M2		1	5.713667 GHz	-46.75 dBm		
M3		1	5.663333 GHz	-46.71 dBm		
M4		1	5.648333 GHz	-48.56 dBm		

Date: 12.APR.2024 14:52:06

11AC20SISO_Ant1_High_5825

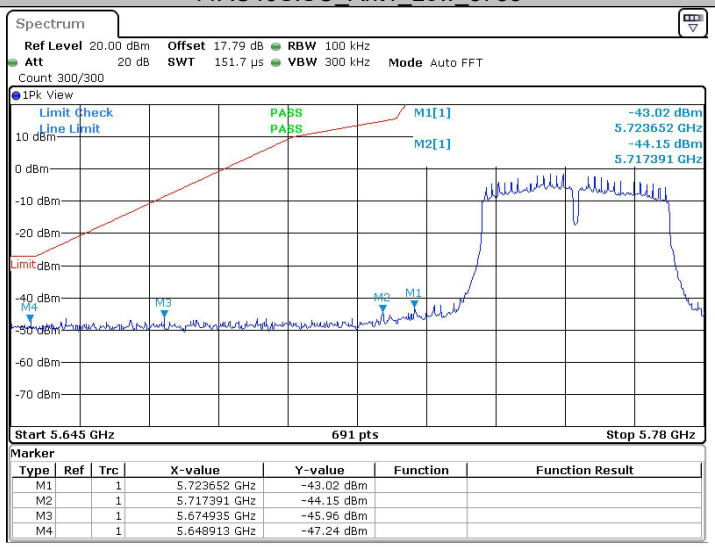


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.853022 GHz	-46.92 dBm		
M2		1	5.864761 GHz	-46.47 dBm		
M3		1	5.89 GHz	-46.09 dBm		
M4		1	5.92913 GHz	-46.81 dBm		

Date: 12.APR.2024 14:56:37

11AC40SISO_Ant1_Low_5755

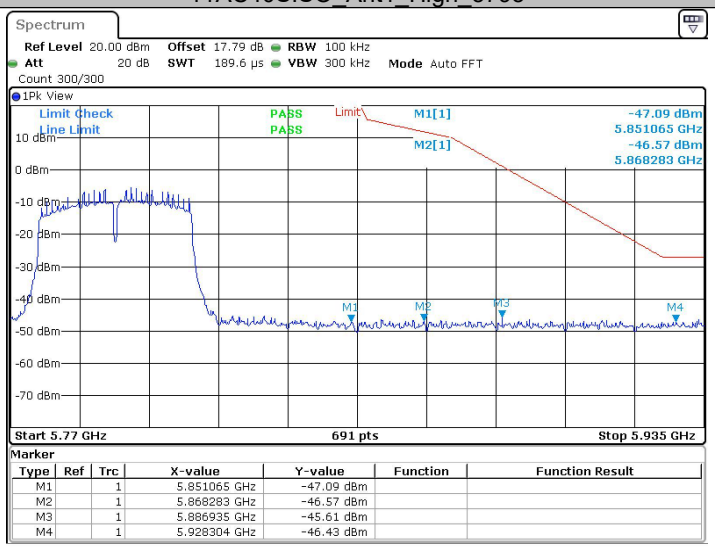


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.723652 GHz	-43.02 dBm		
M2		1	5.717391 GHz	-44.15 dBm		
M3		1	5.674935 GHz	-45.96 dBm		
M4		1	5.648913 GHz	-47.24 dBm		

Date: 16.APR.2024 19:26:48

11AC40SISO_Ant1_High_5795



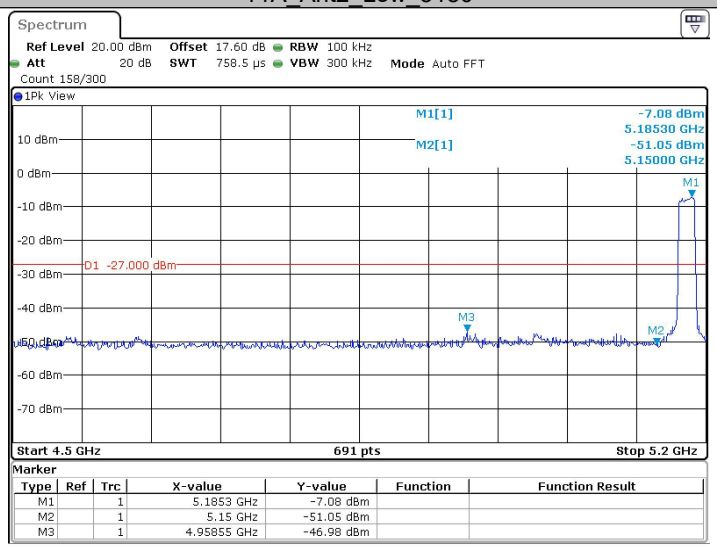
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.851065 GHz	-47.09 dBm		
M2		1	5.868283 GHz	-46.57 dBm		
M3		1	5.886935 GHz	-45.61 dBm		
M4		1	5.928304 GHz	-46.43 dBm		

Date: 16.APR.2024 19:50:49

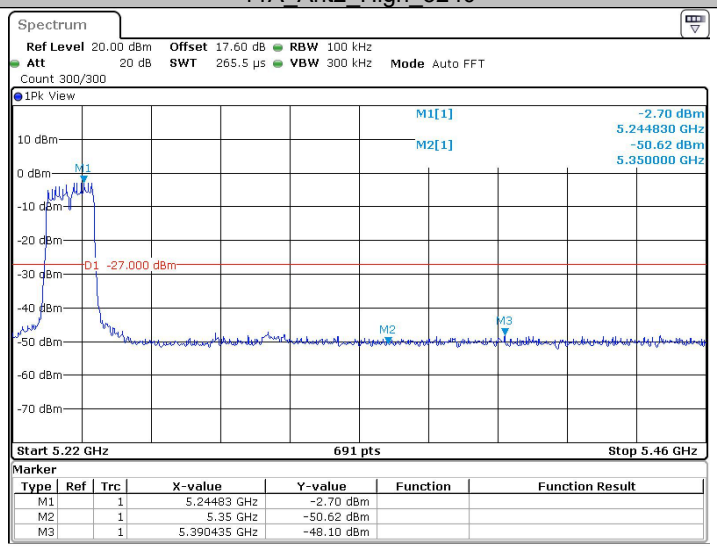
7.1.3 Test Graphs B1

11A_Ant2_Low_5180



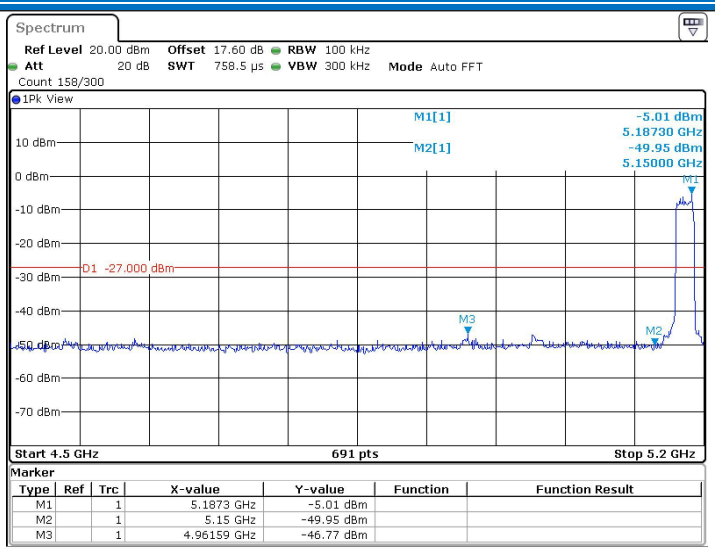
Date: 12.APR.2024 17:22:15

11A_Ant2_High_5240



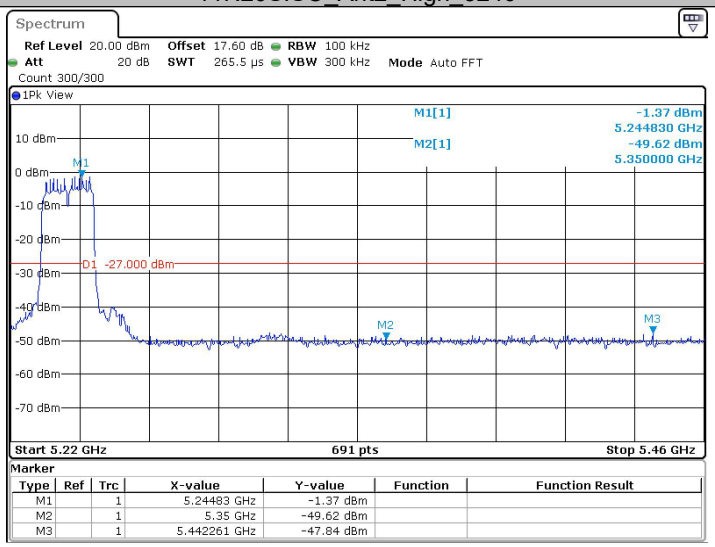
Date: 12.APR.2024 17:32:33

11N20SISO_Ant2_Low_5180



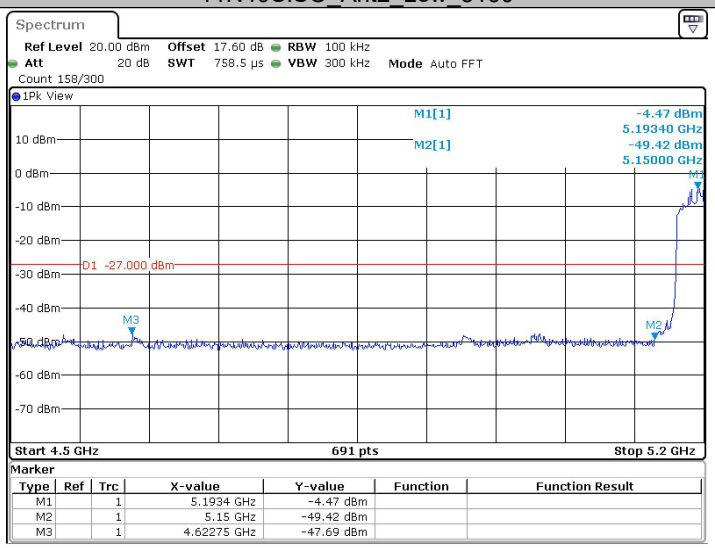
Date: 12.APR.2024 17:55:25

11N20SISO_Ant2_High_5240



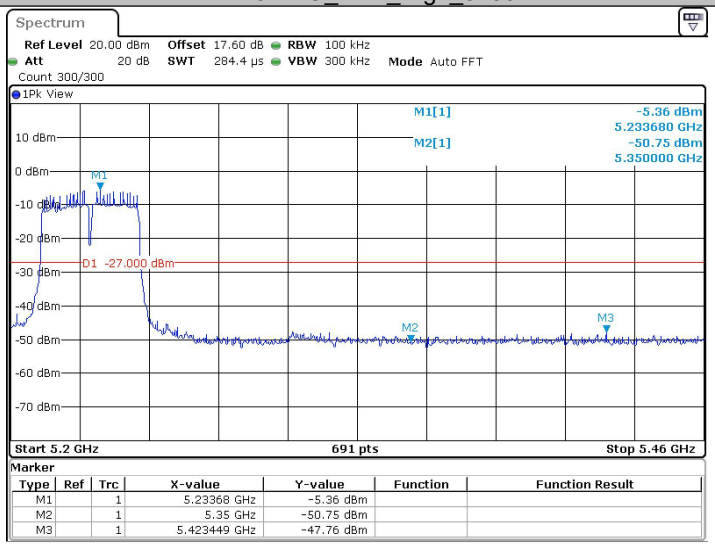
Date: 15.APR.2024 08:55:22

11N40SISO_Ant2_Low_5190



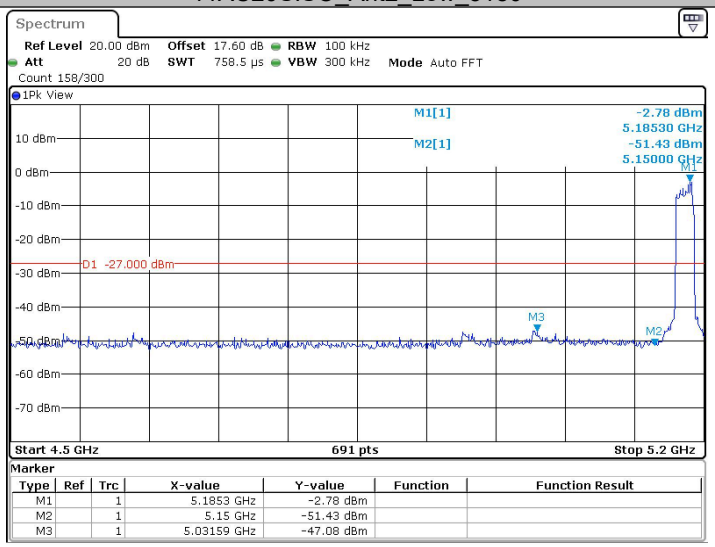
Date: 15.APR.2024 09:10:41

11N40SISO_Ant2_High_5230



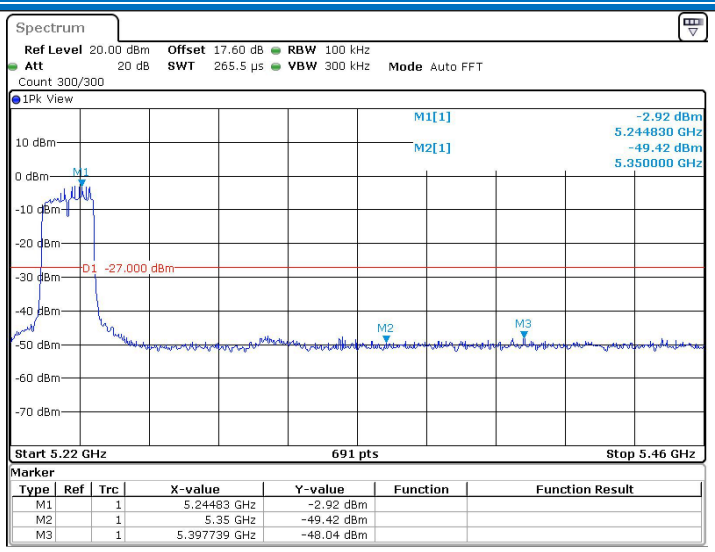
Date: 15.APR.2024 09:18:16

11AC20SISO_Ant2_Low_5180



Date: 15.APR.2024 09:32:58

11AC20SISO_Ant2_High_5240

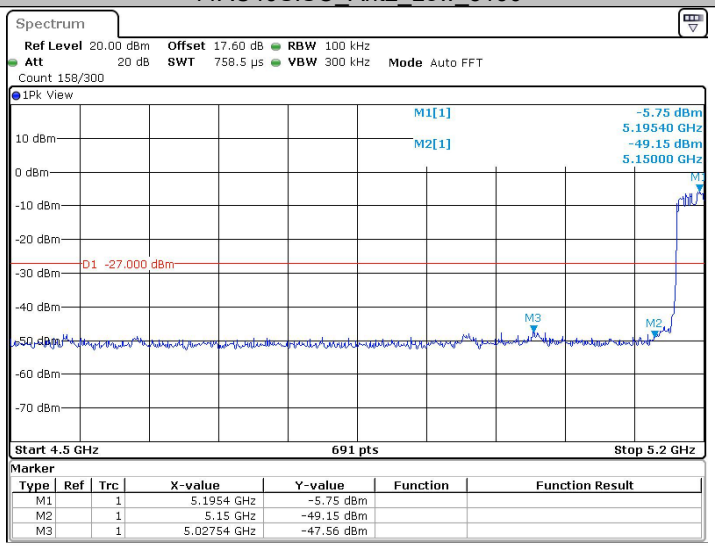


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.24483 GHz	-2.92 dBm		
M2		1	5.35 GHz	-49.42 dBm		
M3		1	5.397739 GHz	-48.04 dBm		

Date: 15.APR.2024 09:41:58

11AC40SISO_Ant2_Low_5190

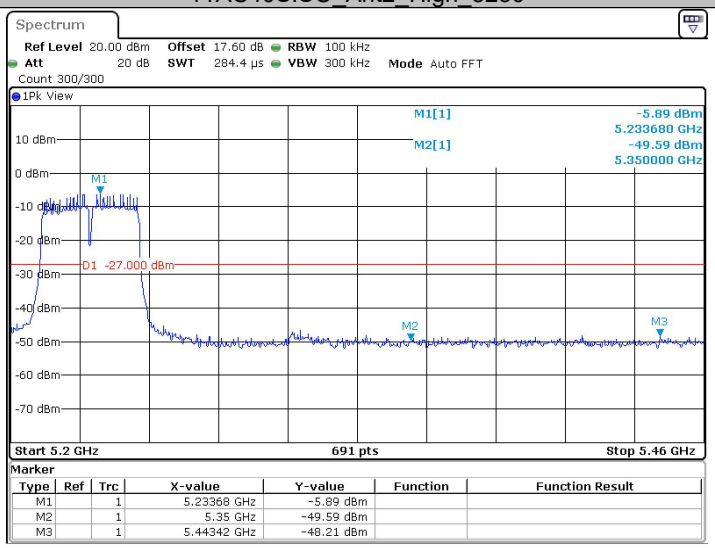


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.1954 GHz	-5.75 dBm		
M2		1	5.15 GHz	-49.15 dBm		
M3		1	5.02754 GHz	-47.56 dBm		

Date: 15.APR.2024 09:55:48

11AC40SISO_Ant2_High_5230



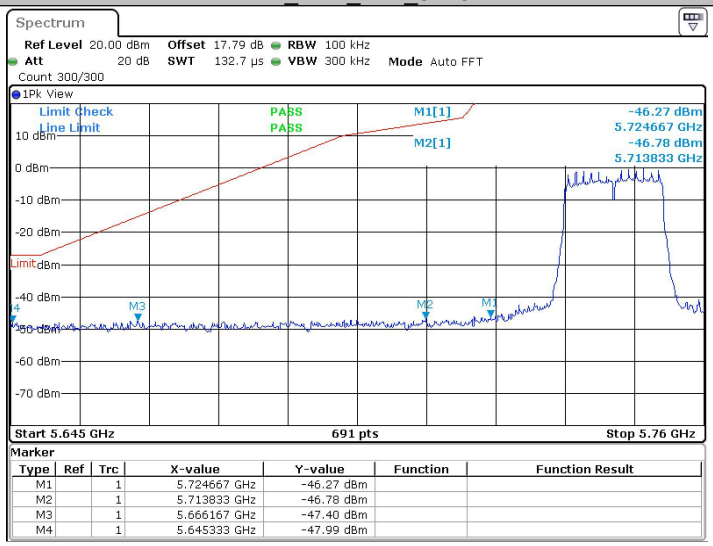
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.23368 GHz	-5.89 dBm		
M2		1	5.35 GHz	-49.59 dBm		
M3		1	5.44342 GHz	-48.21 dBm		

Date: 15.APR.2024 09:58:38

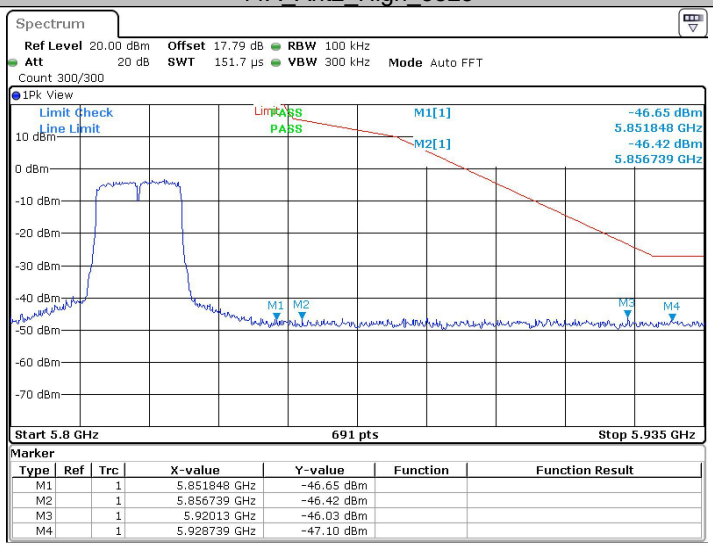
7.1.4 Test Graphs B4

11A_Ant2_Low_5745



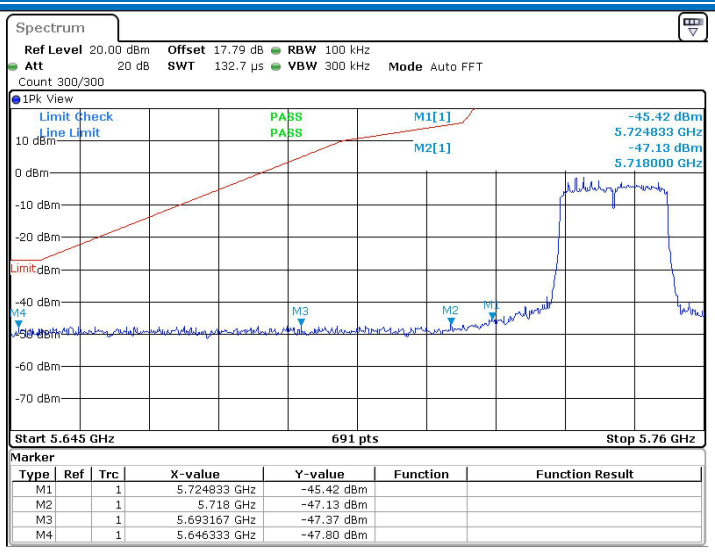
Date: 12.APR.2024 17:35:19

11A_Ant2_High_5825



Date: 12.APR.2024 17:47:11

11N20SISO_Ant2_Low_5745

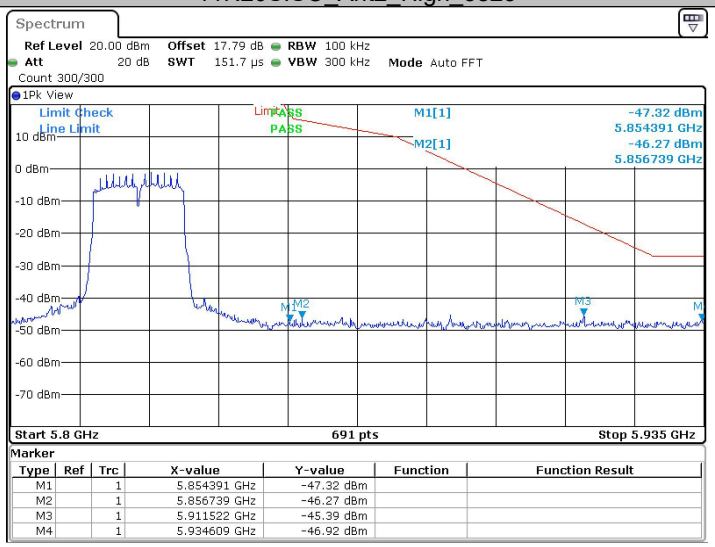


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.724833 GHz	-45.42 dBm		
M2		1	5.718 GHz	-47.13 dBm		
M3		1	5.693167 GHz	-47.37 dBm		
M4		1	5.646333 GHz	-47.80 dBm		

Date: 15.APR.2024 08:58:40

11N20SISO_Ant2_High_5825

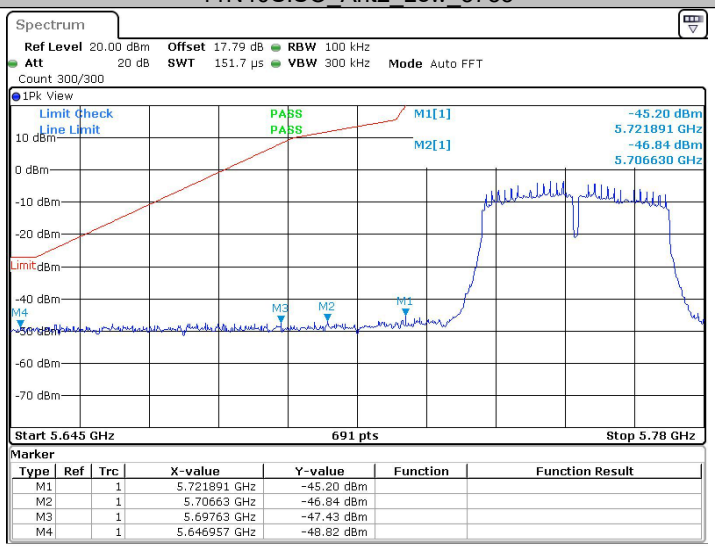


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.854391 GHz	-47.32 dBm		
M2		1	5.856739 GHz	-46.27 dBm		
M3		1	5.911522 GHz	-45.39 dBm		
M4		1	5.934609 GHz	-46.92 dBm		

Date: 15.APR.2024 09:05:35

11N40SISO_Ant2_Low_5755

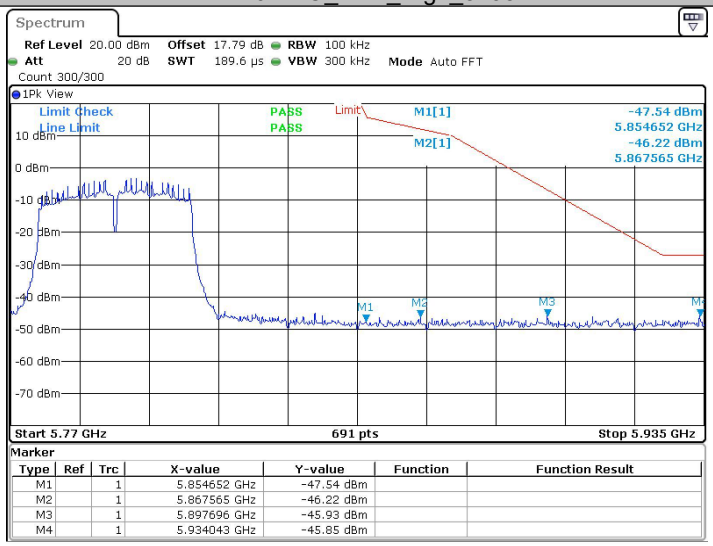


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.721891 GHz	-45.20 dBm		
M2		1	5.70663 GHz	-46.84 dBm		
M3		1	5.69763 GHz	-47.43 dBm		
M4		1	5.646957 GHz	-48.82 dBm		

Date: 15.APR.2024 09:22:35

11N40SISO_Ant2_High_5795

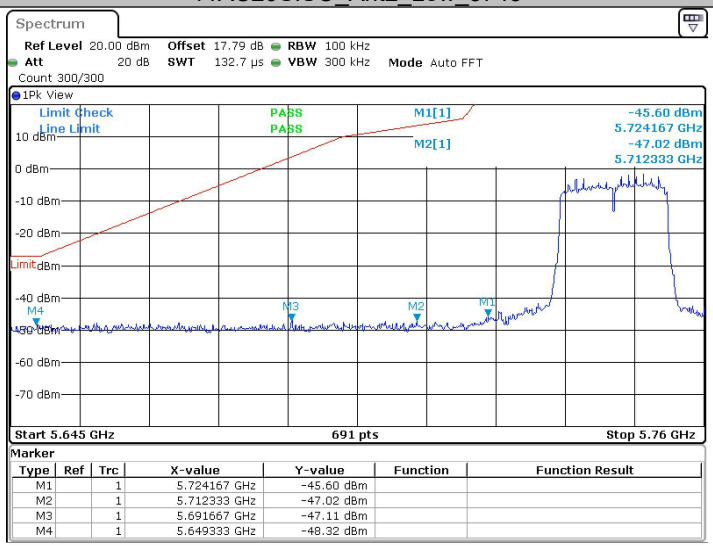


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.854652 GHz	-47.54 dBm		
M2		1	5.867565 GHz	-46.22 dBm		
M3		1	5.897696 GHz	-45.93 dBm		
M4		1	5.934043 GHz	-45.85 dBm		

Date: 15.APR.2024 09:26:09

11AC20SISO_Ant2_Low_5745

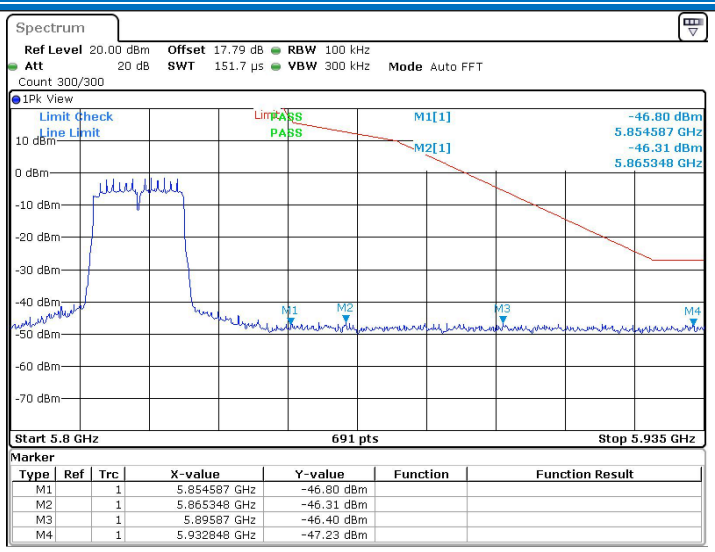


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.724167 GHz	-45.60 dBm		
M2		1	5.712333 GHz	-47.02 dBm		
M3		1	5.691667 GHz	-47.11 dBm		
M4		1	5.649333 GHz	-48.32 dBm		

Date: 15.APR.2024 09:44:29

11AC20SISO_Ant2_High_5825

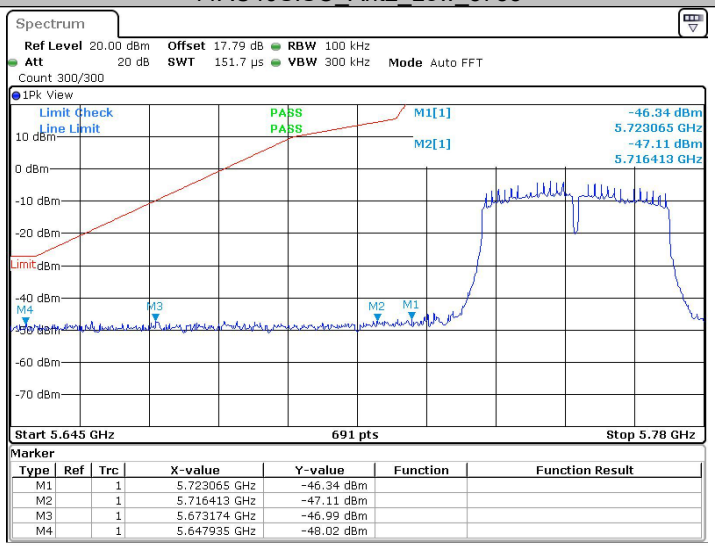


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.854587 GHz	-46.80 dBm		
M2		1	5.865348 GHz	-46.31 dBm		
M3		1	5.89587 GHz	-46.40 dBm		
M4		1	5.932848 GHz	-47.23 dBm		

Date: 15.APR.2024 09:51:14

11AC40SISO_Ant2_Low_5755

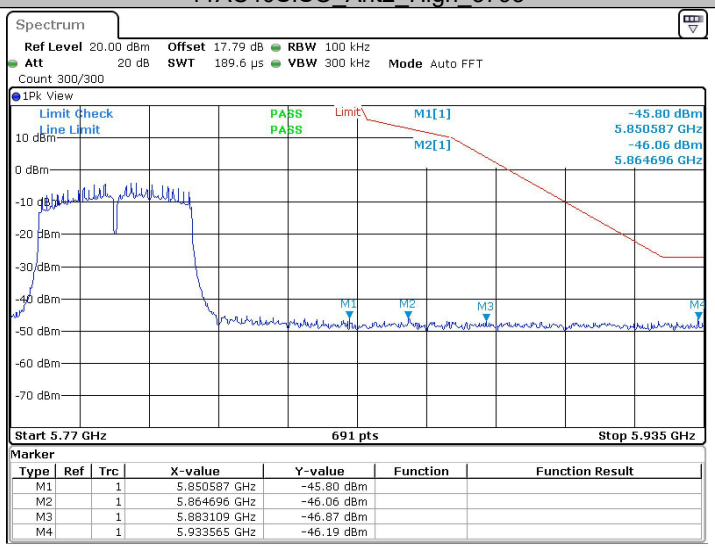


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.723065 GHz	-46.34 dBm		
M2		1	5.716413 GHz	-47.11 dBm		
M3		1	5.673174 GHz	-46.99 dBm		
M4		1	5.647935 GHz	-48.02 dBm		

Date: 15.APR.2024 10:03:20

11AC40SISO_Ant2_High_5795



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.850587 GHz	-45.80 dBm		
M2		1	5.864696 GHz	-46.06 dBm		
M3		1	5.883109 GHz	-46.87 dBm		
M4		1	5.933565 GHz	-46.19 dBm		

Date: 15.APR.2024 10:05:47

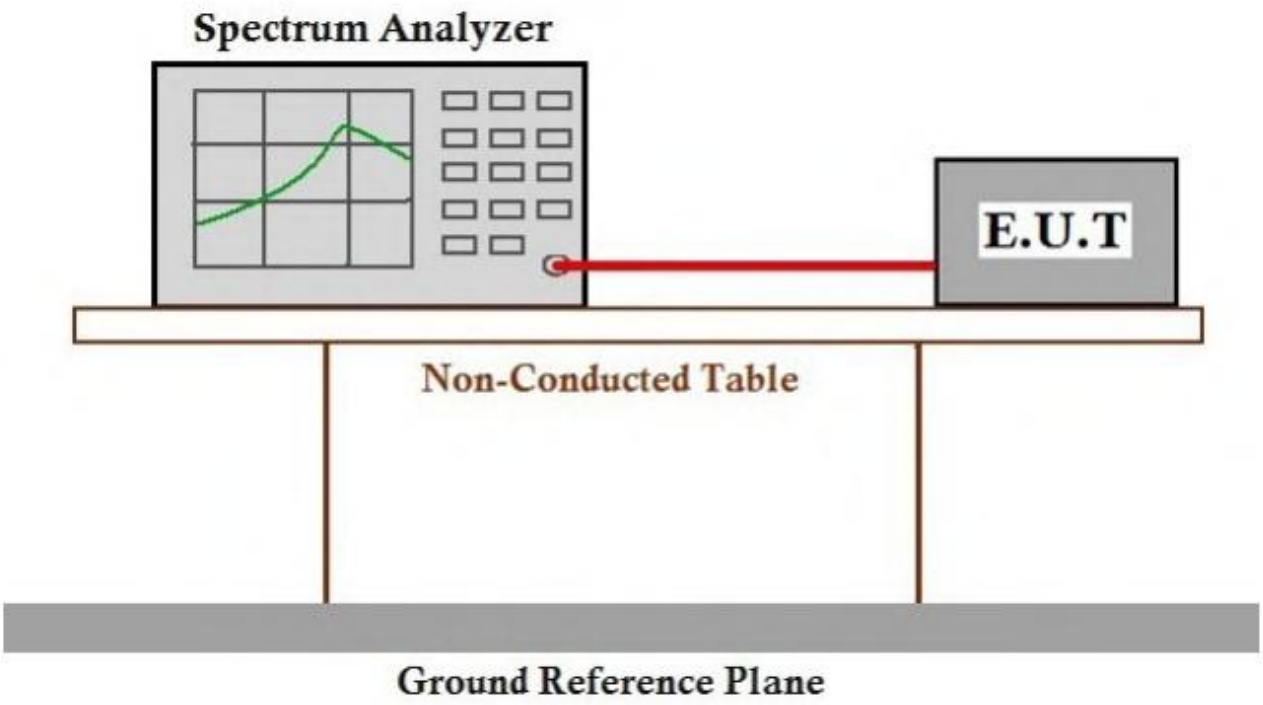
Appendix E): Frequency Stability

Test Requirement 47 CFR Part 15, Subpart C 15.407 (g)

Test Method: ANSI C63.10 (2013) Section 6.8

Limit:The frequency tolerance shall be maintained within the band of operation frequency over a temperature variation of 14.4 degrees to 17.6 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

Test Setup Diagram



Measurement Data

ANT1:

Frequency Stability Versus Temp.			
Operating Frequency: 5240 MHz			
Temp (℃)	Volta ge	Deviation (Hz)	Frequency Drift (ppm)
45	VN	-30000.00	-5.725191
35		-30000.00	-5.725191
25		-30000.00	-5.725191
15		-30000.00	-5.725191
10		-30000.00	-5.725191
0		-30000.00	-5.725191
-10		-30000.00	-5.725191

Frequency Stability Versus Temp.			
Operating Frequency: 5180 MHz			
Temp.	Volta ge	Deviation (Hz)	Frequency Drift (ppm)
TN	VL	-30000.00	-5.791506
	VN	-30000.00	-5.791506
	VH	-30000.00	-5.791506

Frequency Stability Versus Temp.			
Operating Frequency: 5745 MHz			
Temp (℃)	Volta ge	Deviation (Hz)	Frequency Drift (ppm)
45	VN	-33000.00	-5.744125
35		-33000.00	-5.744125
25		-33000.00	-5.744125
15		-33000.00	-5.744125
10		-33000.00	-5.744125
0		-33000.00	-5.744125
-10		-33000.00	-5.744125

Frequency Stability Versus Temp.			
Operating Frequency: 5785 MHz			
Temp.	Volta ge	Deviation (Hz)	Frequency Drift (ppm)
TN	VL	-33000.00	-5.704408
	VN	-33000.00	-5.704408
	VH	-33000.00	-5.704408

Note: All the modulation and channels had been tested, but only the worst data recorded in the report.

ANT2:

Frequency Stability Versus Temp.			
Operating Frequency: 5240 MHz			
Temp (℃)	Volta ge	Deviation (Hz)	Frequency Drift (ppm)
45	VN	-30000.00	-5.725191
35		-30000.00	-5.725191
25		-30000.00	-5.725191
15		-30000.00	-5.725191
10		-30000.00	-5.725191
0		-30000.00	-5.725191
-10		-30000.00	-5.725191

Frequency Stability Versus Temp.			
Operating Frequency: 5180 MHz			
Temp.	Volta ge	Deviation (Hz)	Frequency Drift (ppm)
TN	VL	-30000.00	-5.791506
	VN	-30000.00	-5.791506
	VH	-30000.00	-5.791506

Frequency Stability Versus Temp.			
Operating Frequency: 5745 MHz			
Temp (℃)	Volta ge	Deviation (Hz)	Frequency Drift (ppm)
45	VN	-33000.00	-5.744125
35		-33000.00	-5.744125
25		-33000.00	-5.744125
15		-33000.00	-5.744125
10		-33000.00	-5.744125
0		-33000.00	-5.744125
-10		-33000.00	-5.744125

Frequency Stability Versus Temp.			
Operating Frequency: 5785 MHz			
Temp.	Volta ge	Deviation (Hz)	Frequency Drift (ppm)
TN	VL	-33000.00	-5.704408
	VN	-33000.00	-5.704408
	VH	-33000.00	-5.704408

Note: All the modulation and channels had been tested, but only the worst data recorded in the report.

Appendix F): Antenna Requirement

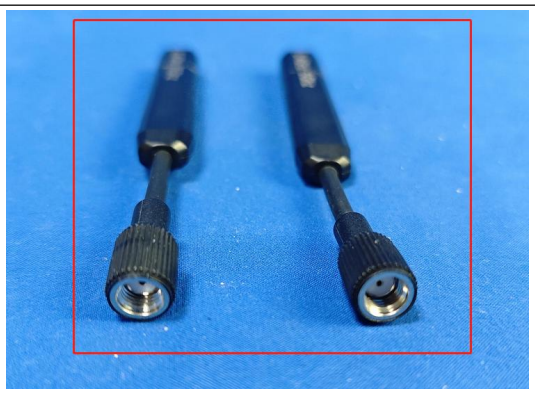
15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.407(a)(1) (2) requirement:

The conducted output power limit specified in paragraph (a) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (a) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power and the peak power spectral density shall be reduced by the by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

EUT Antenna:



The antenna is internal antenna with ipex connector.The best case gain of the 5G WiFi antenna is 3.77dBi@Band 1, 3.32dBi@Band 4.

Appendix G): Operation in the absence of information to the transmit

15.407(c) requirement: The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signal ling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of how this requirement is met.
Operation in the absence of information to the transmit
While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ASK message transmitting from remote device and verify whether it shall resend or discontinue transmission. (manufacturer declare)

Appendix H): AC Power Line Conducted Emission

<table>
<tr><td>Test Procedure:</td><td>Test frequency range :150KHz-30MHz
1)The mains terminal disturbance voltage test was conducted in a shielded room.
2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
3)The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (dBμV)</th></tr>
<tr><th>Quasi-peak</th><th>Average</th></tr>
<tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr>
<tr><td>0.5-5</td><td>56</td><td>46</td></tr>
<tr><td>5-30</td><td>60</td><td>50</td></tr>
</table>
* The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.
NOTE : The lower limit is applicable at the transition frequency</td></tr>
</table>

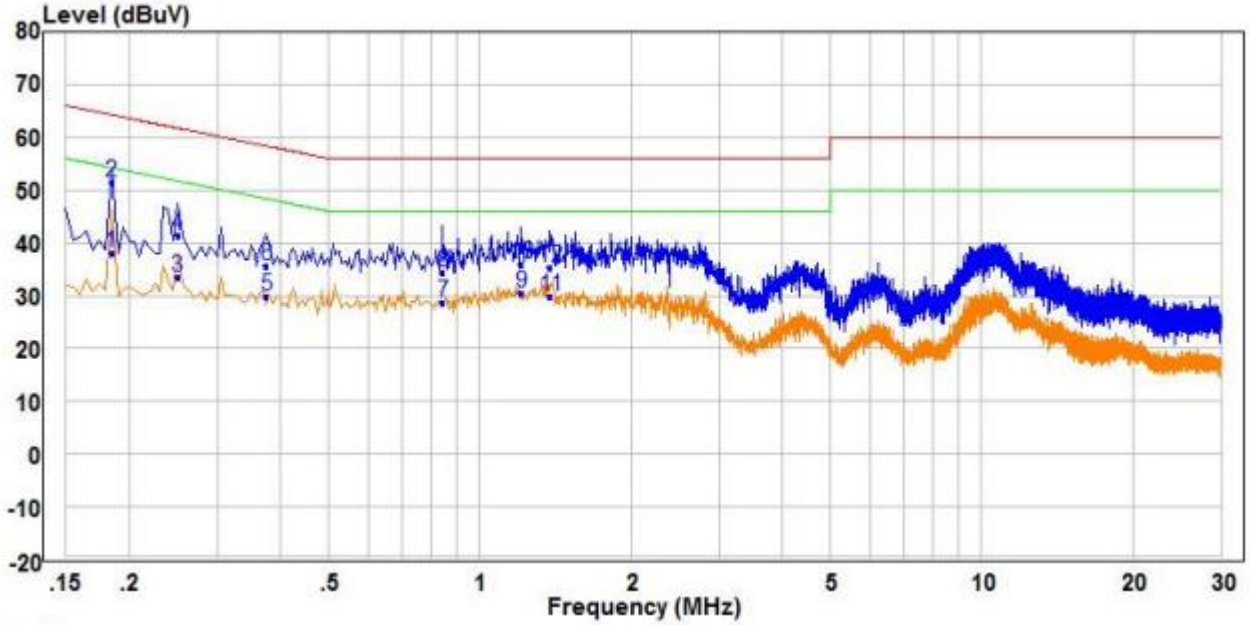
Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.

Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

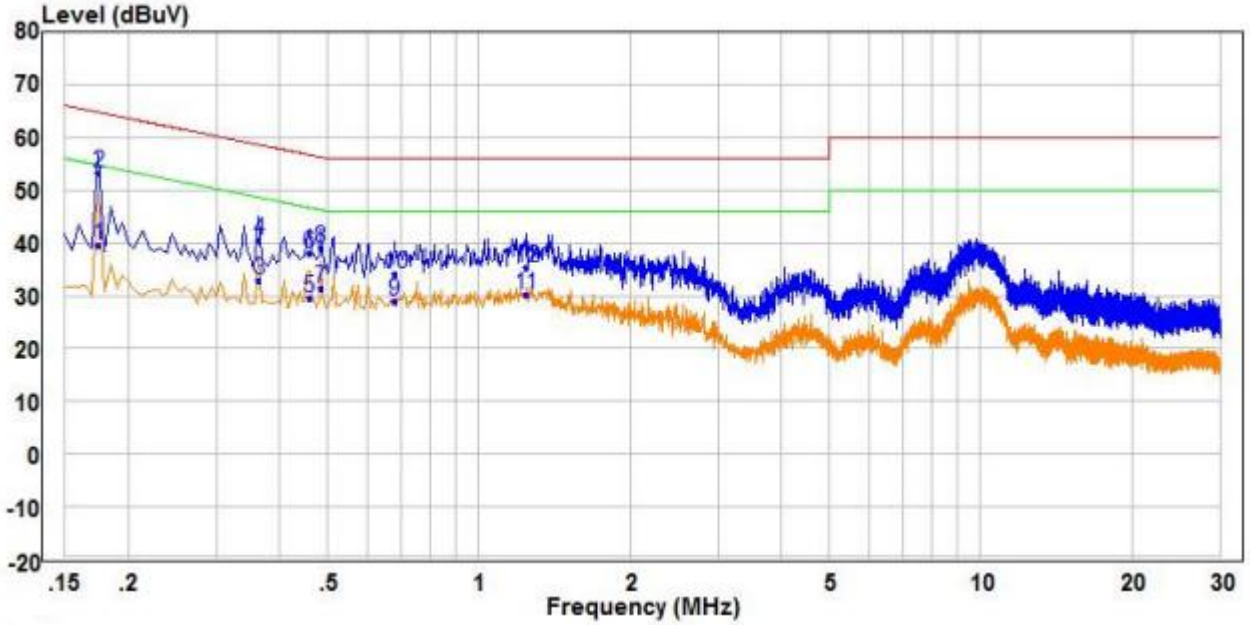
Ant1

;Live line:



		Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.185	28.48	9.64	38.12	54.26	-16.14	Average	Line
2	PP	0.185	41.89	9.64	51.53	64.26	-12.73	QP	Line
3		0.250	23.82	9.55	33.37	51.76	-18.39	Average	Line
4		0.250	31.89	9.55	41.44	61.76	-20.32	QP	Line
5		0.375	20.25	9.58	29.83	48.39	-18.56	Average	Line
6		0.375	26.04	9.58	35.62	58.39	-22.77	QP	Line
7		0.845	18.94	9.80	28.74	46.00	-17.26	Average	Line
8		0.845	24.51	9.80	34.31	56.00	-21.69	QP	Line
9	AV	1.210	20.25	10.23	30.48	46.00	-15.52	Average	Line
10		1.210	25.62	10.23	35.85	56.00	-20.15	QP	Line
11		1.380	19.30	10.60	29.90	46.00	-16.10	Average	Line
12		1.380	24.59	10.60	35.19	56.00	-20.81	QP	Line

Neutral line:



	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB		
1 AV	0.175	30.09	9.65	39.74	54.72	-14.98	Average	Neutral
2 PP	0.175	43.64	9.65	53.29	64.72	-11.43	QP	Neutral
3	0.365	23.48	9.56	33.04	48.61	-15.57	Average	Neutral
4	0.365	30.88	9.56	40.44	58.61	-18.17	QP	Neutral
5	0.460	19.86	9.66	29.52	46.69	-17.17	Average	Neutral
6	0.460	28.34	9.66	38.00	56.69	-18.69	QP	Neutral
7	0.485	21.57	9.69	31.26	46.25	-14.99	Average	Neutral
8	0.485	29.36	9.69	39.05	56.25	-17.20	QP	Neutral
9	0.680	19.02	9.88	28.90	46.00	-17.10	Average	Neutral
10	0.680	24.22	9.88	34.10	56.00	-21.90	QP	Neutral
11	1.240	20.37	9.71	30.08	46.00	-15.92	Average	Neutral
12	1.240	25.76	9.71	35.47	56.00	-20.53	QP	Neutral

Notes:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.
3. The Ant1 6Mbps of rate of 802.11A_5240 is the worst case, only the worst data recorded in the report.