

Product Name: Notebook Computer	Report No: FCC022023-0679RF2
Product Model: IPASON P3	Security Classification: Open
Version: V1.0	Total Page: 97

TIRT Testing Report



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FCC Radio Test Report

FCC ID: 2ATY8-IPASONP3

This report concerns: Original Grant

Equipment : Notebook Computer
Brand Name : **IPASON**
Test Model : IPASON P3
Series Model : N/A
Applicant : Wuhan Ipason Technology Co., Ltd
Address : 5th Floor, Multifunctional Building, No. 1, Ipason Avenue, Shekou Street, Huangpi District, Wuhan City, Hubei Province, China
Manufacturer : Wuhan Ipason Technology Co., Ltd
Address : 5th Floor, Multifunctional Building, No. 1, Ipason Avenue, Shekou Street, Huangpi District, Wuhan City, Hubei Province, China
Date of Receipt : Mar. 01, 2023
Date of Test : Mar. 01, 2023~ Mar. 16, 2023
Issued Date : Apr. 06, 2023
Report Version : V1.0
Test Sample : Engineering Sample No.: 20230227002812
Standard(s) : FCC CFR Title 47, Part 15, Subpart E
FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01
ANSI C63.10-2013

- The test result referred exclusively to the presented test model /sample.
- Without written approval of TIRT Inc. the test report shall not reproduced except in full.

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REPORT ISSUED HISTORY

Report No.	Version	Description	Issued Date	Note
FCC022023-0679RF2	V1.0	Original Report.	Apr. 06, 2023	Valid

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC CFR Title 47, Part 15, Subpart E				
Standard(s) Section	Test Item	Test Result	Judgment	Remark
15.207 15.407(b)	AC Power Line Conducted Emissions	APPENDIX A	PASS	-----
15.407(b) 15.205(a) 15.209(a)	Radiated Emissions	APPENDIX B APPENDIX C APPENDIX D	PASS	-----
15.407(a) 15.407(e)	Bandwidth	APPENDIX E	PASS	-----
15.407(a)	Maximum Output Power	APPENDIX F	PASS	-----
15.407(a)	Power Spectral Density	APPENDIX G	PASS	-----
15.407(g)	Frequency Stability	APPENDIX H	PASS	NOTE (5)
15.203	Antenna Requirements	-----	PASS	NOTE (2)
15.407(c)	Automatically Discontinue Transmission	-----	PASS	NOTE (3)

Note:

- (1) "N/A" denotes test is not applicable in this test report.
- (2) The device what use a permanently attached antenna were considered sufficient to comply with the provisions of 15.203.
- (3) During no any information transmission, the EUT can automatically discontinue transmission and become standby mode for power saving. the EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.
- (4) For UNII-1 this device was functioned as a
 - Outdoor access point device
 - Indoor access point device
 - Fixed point-to-point access points device
 - Client device
- (5) The manufacturer states that the frequency sability is in compliance with 15.407(g).

1.1 TEST FACILITY

Company:	Beijing TIRT Technology Service Co.,Ltd Shenzhen
Address:	101, 3 # Factory Building, Gongjin Electronics Shatin Community, Kengzi Street, Pingshan District, Shenzhen, China
CNAS Registration Number:	CNAS L14158
A2LA Registration Number:	6049.01
FCC Accredited Lab. Designation Number:	CN1309
FCC Test Firm Registration Number:	825524
Telephone:	+86-0755-27087573

1.2 MEASUREMENT UNCERTAINTY

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

The TIRT measurement uncertainty as below table:

Uncertainty	
Parameter	Uncertainty
Occupied Channel Bandwidth	±142.12 KHz
RF power conducted	±0.74 dB
RF power radiated	±3.25dB
Spurious emissions, conducted	±1.78dB
Spurious emissions, radiated (30MHz~1GHz)	±4.6dB
Spurious emissions, radiated (1GHz ~ 18GHz)	±4.9dB
Conduction Emissions(150kHz~30MHz)	±3.1 dB
Humidity	±4.6%
Temperature	±0.7°C
Time	±1.25%

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage	Tested By
AC Power Line Conducted Emissions	25°C	53%	AC 120V/60Hz	Stone Tang
Radiated Emissions-9kHz to 30MHz	24°C	51%	AC 120V/60Hz	Stone Tang
Radiated Emissions-30MHz to 1000MHz	24°C	51%	AC 120V/60Hz	Stone Tang
Radiated Emissions-Above 1000 MHz	24°C	51%	AC 120V/60Hz	Stone Tang
Bandwidth	24.5°C	52%	AC 120V/60Hz	Stone Tang
Maximum Output Power	24.5°C	52%	AC 120V/60Hz	Stone Tang
Power Spectral Density	24.5°C	52%	AC 120V/60Hz	Stone Tang

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Notebook Computer
Brand Name	IPASON
Test Model	IPASON P3
Series Model	N/A
Model Difference(s)	N/A
Software Version	22H2
Hardware Version	1F943C06
Power Source	DC voltage supplied from AC/DC adapter.
Power Rating	DC 20V-2.25A from Adapter
Operation Frequency Band(s)	UNII-1: 5150 MHz ~ 5250 MHz UNII-3: 5725 MHz ~ 5850 MHz
Modulation Type	IEEE 802.11a/n/ac: OFDM
Bit Rate of Transmitter	IEEE 802.11a: 54/48/36/24/18/12/9/6 Mbps IEEE 802.11n: up to 300 Mbps IEEE 802.11ac: up to 866.7 Mbps
Maximum Output Power _UNII-1	IEEE 802.11ac80: 14.16 dBm (0.0261W)
Maximum Output Power _UNII-3	IEEE 802.11ac40: 14.47 dBm (0.0280W)

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

2. Channel List:

IEEE 802.11a IEEE 802.11n(HT20) IEEE 802.11ac(VHT20)		IEEE 802.11n(HT40) IEEE 802.11ac(VHT40)		IEEE 802.11ac(VHT80)	
UNII-1		UNII-1		UNII-1	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	38	5190	42	5210
40	5200	46	5230		
44	5220				
48	5240				

IEEE 802.11a IEEE 802.11n(HT20) IEEE 802.11ac(VHT20)		IEEE 802.11n(HT40) IEEE 802.11ac(VHT40)		IEEE 802.11ac(VHT80)	
UNII-3		UNII-3		UNII-3	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	151	5755	155	5775
153	5765	159	5795		
157	5785				
161	5805				
165	5825				

3. Antenna Specification:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	PIFA	N/A	3.5

Note:

- 1) The antenna gain is provided by the manufacturer.
- 2) The antenna is for testing purposes only.

2.2 TEST MODES

The test system was pre-tested based on the consideration of all possible combinations of EUT operation mode.

Pretest Mode	Description
Mode 1	TX A Mode Channel 36/40/48 (UNII-1)
Mode 2	TX N(HT20) Mode Channel 36/40/48 (UNII-1)
Mode 3	TX N(HT40) Mode Channel 38/46 (UNII-1)
Mode 4	TX AC(VHT20) Mode Channel 36/40/48 (UNII-1)
Mode 5	TX AC(VHT40) Mode Channel 38/46 (UNII-1)
Mode 6	TX AC(VHT80) Mode Channel 42 (UNII-1)
Mode 7	TX A Mode Channel 149/157/165 (UNII-3)
Mode 8	TX N(HT20) Mode Channel 149/157/165 (UNII-3)
Mode 9	TX N(HT40) Mode Channel 151/159 (UNII-3)
Mode 10	TX AC(VHT20) Mode Channel 149/157/165 (UNII-3)
Mode 11	TX AC(VHT40) Mode Channel 151/159 (UNII-3)
Mode 12	TX AC(VHT80) Mode Channel 155 (UNII-3)
Mode 13	TX N(HT40) Mode Channel 110 (UNII-2C)

Following mode(s) was (were) found to be the worst case(s) and selected for the final test.

AC power line conducted emissions test	
Final Test Mode	Description
Mode 24	TX AC(VHT80) Mode Channel 155 (UNII-3)

Radiated Emissions Test - Below 1GHz	
Final Test Mode	Description
Mode 24	TX AC(VHT80) Mode Channel 155 (UNII-3)

Radiated Emissions Test - Above 1GHz	
Final Test Mode	Description
Mode 1	TX A Mode Channel 36/40/48 (UNII-1)
Mode 2	TX N(HT20) Mode Channel 36/40/48 (UNII-1)
Mode 3	TX N(HT40) Mode Channel 38/46 (UNII-1)
Mode 6	TX AC(VHT80) Mode Channel 42 (UNII-1)
Mode 7	TX A Mode Channel 149/157/165 (UNII-3)
Mode 8	TX N(HT20) Mode Channel 149/157/165 (UNII-3)
Mode 9	TX N(HT40) Mode Channel 151/159 (UNII-3)
Mode 10	TX AC(VHT80) Mode Channel 155 (UNII-3)

Conducted Test	
Final Test Mode	Description
Mode 1	TX A Mode Channel 36/40/48 (UNII-1)
Mode 2	TX N(HT20) Mode Channel 36/40/48 (UNII-1)

Mode 3	TX N(HT40) Mode Channel 38/46 (UNII-1)
Mode 4	TX AC(VHT20) Mode Channel 36/40/48 (UNII-1)
Mode 5	TX AC(VHT40) Mode Channel 38/46 (UNII-1)
Mode 6	TX AC(VHT80) Mode Channel 42 (UNII-1)
Mode 7	TX A Mode Channel 149/157/165 (UNII-3)
Mode 8	TX N(HT20) Mode Channel 149/157/165 (UNII-3)
Mode 9	TX N(HT40) Mode Channel 151/159 (UNII-3)
Mode 10	TX AC(VHT20) Mode Channel 149/157/165 (UNII-3)
Mode 11	TX AC(VHT40) Mode Channel 151/159 (UNII-3)
Mode 12	TX AC(VHT80) Mode Channel 155 (UNII-3)

Note:

- (1) For AC power line conducted emissions and radiated emission below 1 GHz test, the TX N(HT40) Mode Channel 36 (UNII-1) is found to be the worst case and recorded.
- (2) For radiated emission above 1 GHz test, the spurious points of 1GHz~26.5GHz and 26.5GHz~40GHz have been pre-tested and in this report only recorded the worst case. The remaining spurious points are all below the limit value of 20dB.
- (3) All the bit rate of transmitter have been tested and found the lowest rate is found to be the worst case and recorded.
- (4) The measurements for Output Power are tested, the worst case are IEEE 802.11a mode, IEEE 802.11n(HT20) mode, IEEE 802.11n(HT40) mode, IEEE 802.11ac(VHT80) mode, only the worst cases are documented for other test items.

2.3 PARAMETERS OF TEST SOFTWARE

UNII-1			
Test Software Version	AQCT		
Frequency (MHz)	5180	5200	5240
IEEE 802.11a	16	16	16
IEEE 802.11n(HT20)	16	16	16
IEEE 802.11ac(VHT20)	16	16	16
Frequency (MHz)	5190	5230	
IEEE 802.11n(HT40)	16	16	
IEEE 802.11ac(VHT40)	16	16	
Frequency (MHz)	5210		
IEEE 802.11ac(VHT80)	16		

UNII-3			
Test Software Version	AQCT		
Frequency (MHz)	5745	5785	5825
IEEE 802.11a	16	16	16
IEEE 802.11n(HT20)	16	16	16
IEEE 802.11ac(VHT20)	16	16	16
Frequency (MHz)	5755	5795	
IEEE 802.11n(HT40)	16	16	
IEEE 802.11ac(VHT40)	16	16	
Frequency (MHz)	5775		
IEEE 802.11ac(VHT80)	16		

2.4 DUTY CYCLE

If duty cycle is $\geq 98\%$, duty factor is not required.

If duty cycle is $< 98\%$, duty factor shall be considered.

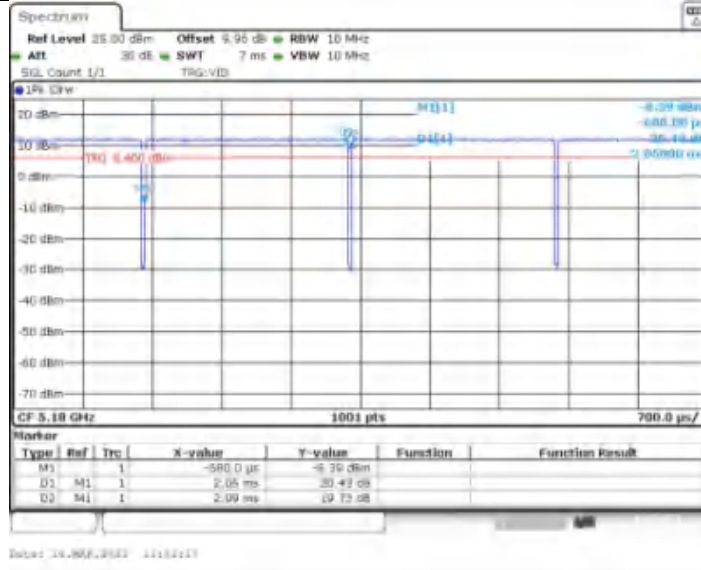
The output power = measured power + duty factor.

The power spectral density = measured power spectral density + duty factor.

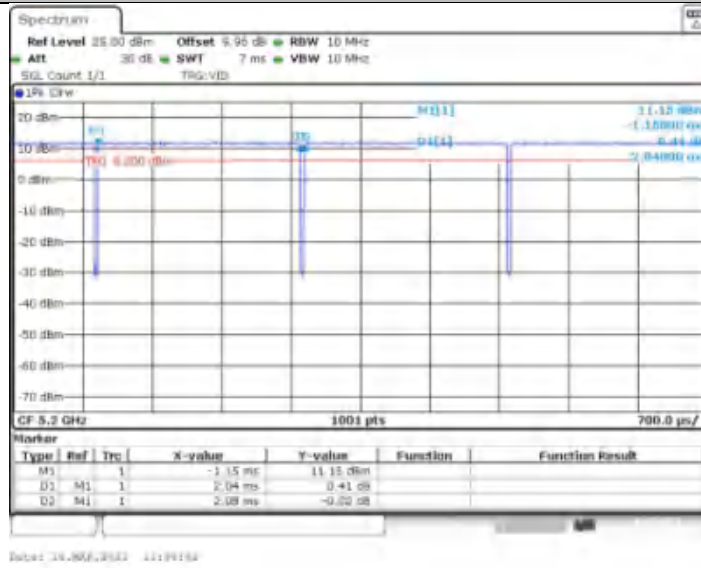
TestMode	Freq(MHz)	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Duty Factor
11A	5180	2.05	2.09	98.09	---
	5200	2.04	2.08	98.08	---
	5240	2.04	2.08	98.08	---
	5745	2.05	2.08	98.56	---
	5785	2.05	2.08	98.56	---
	5825	2.05	2.09	98.09	---
11N20SISO	5180	1.90	1.94	97.94	0.09
	5200	1.91	1.95	97.95	0.09
	5240	1.91	1.95	97.95	0.09
	5745	1.91	1.94	98.45	---
	5785	1.91	1.94	98.45	---
	5825	1.91	1.94	98.45	---
11N40SISO	5190	0.94	0.97	96.91	0.14
	5230	0.94	0.98	95.92	0.18
	5755	0.93	0.97	95.88	0.18
	5795	0.93	0.97	95.88	0.18
11AC20SISO	5180	1.91	1.95	97.95	0.09
	5200	1.91	1.95	97.95	0.09
	5240	1.91	1.95	97.95	0.09
	5745	1.91	1.95	97.95	0.09
	5785	1.90	1.95	97.44	0.11
	5825	1.91	1.95	97.95	0.09
11AC40SISO	5190	0.94	0.98	95.92	0.18
	5230	0.95	0.99	95.96	0.18
	5755	0.95	0.99	95.96	0.18
	5795	0.95	0.99	95.96	0.18
11AC80SISO	5210	0.46	0.50	92.00	0.37
	5775	0.46	0.50	92.00	0.37

Test Graphs

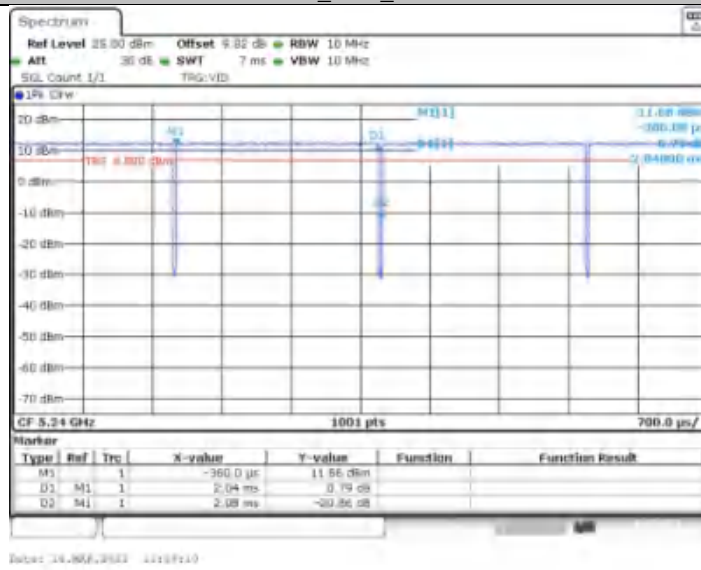
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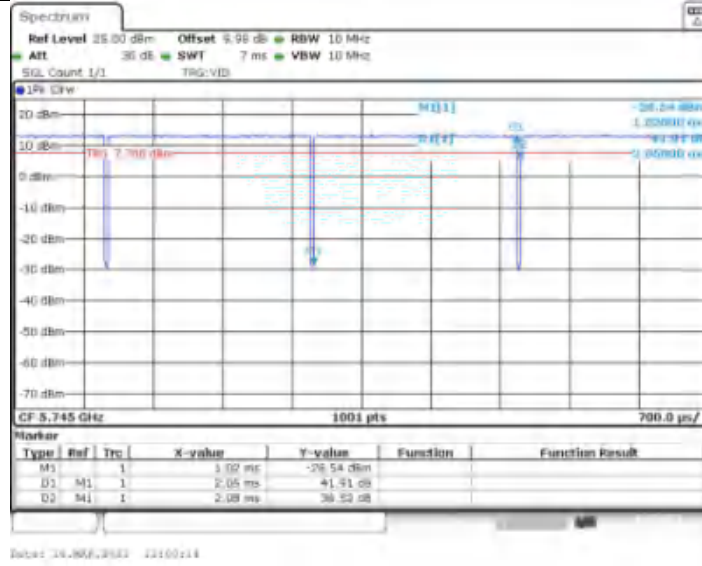
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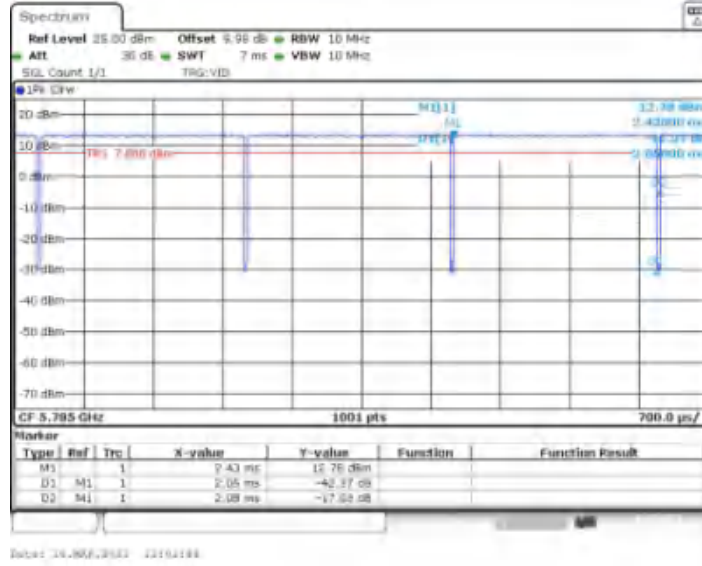
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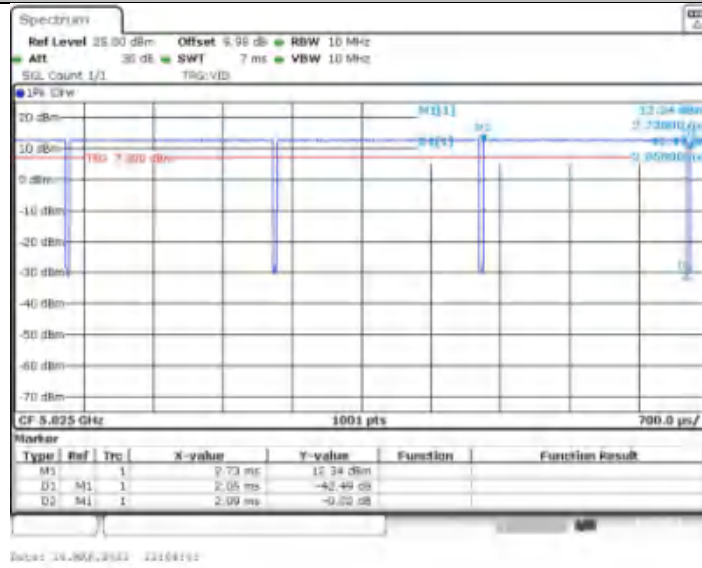
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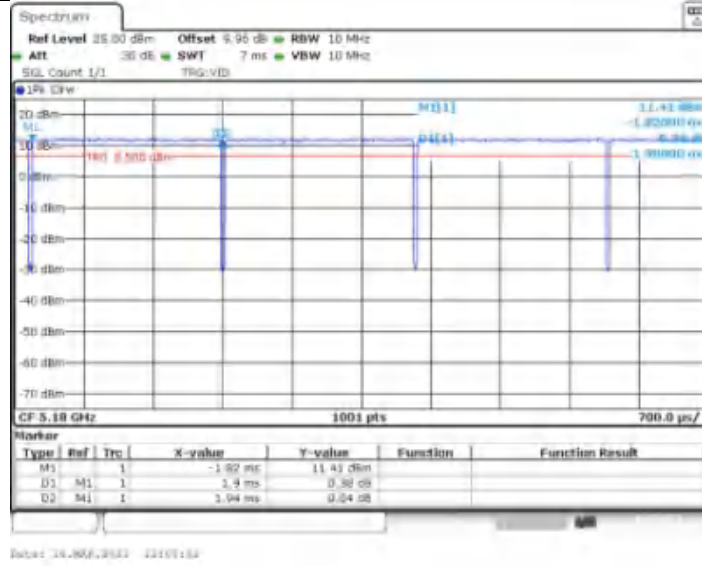
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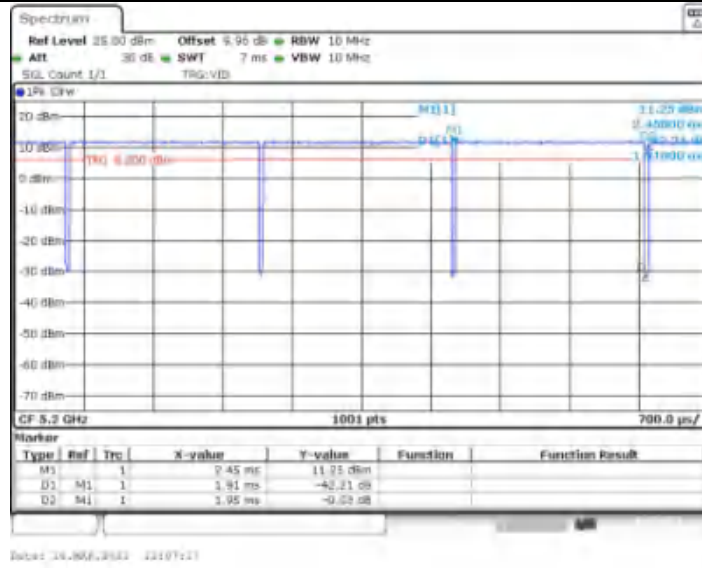
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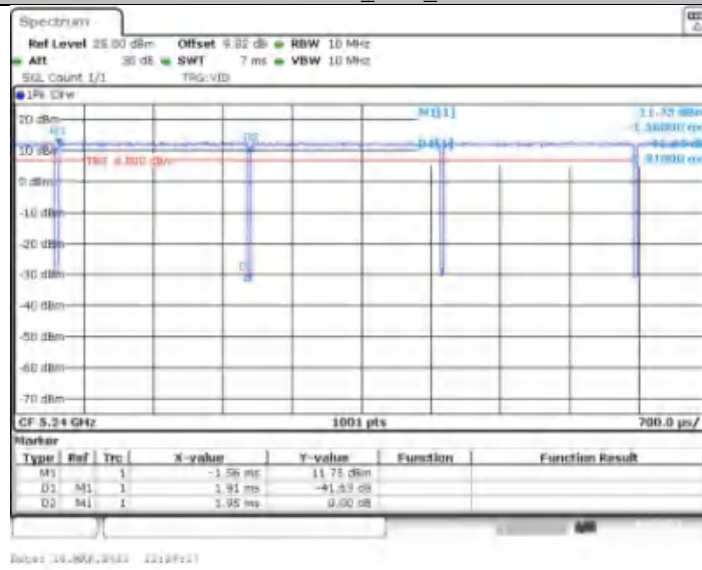
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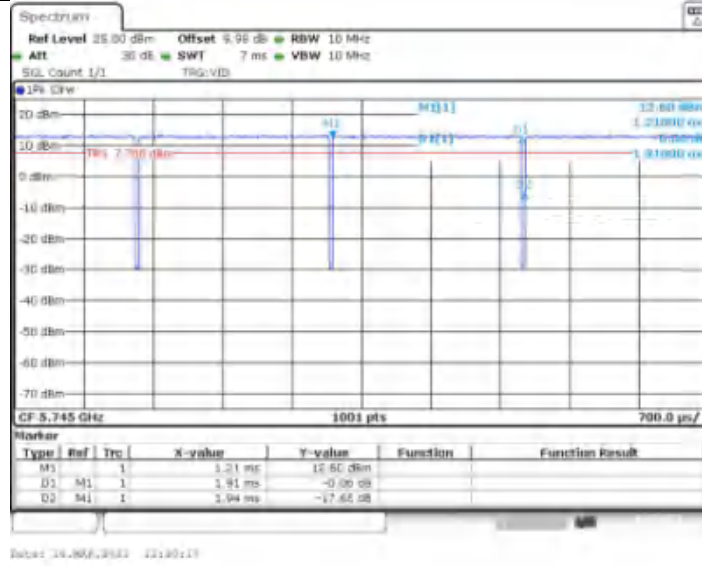
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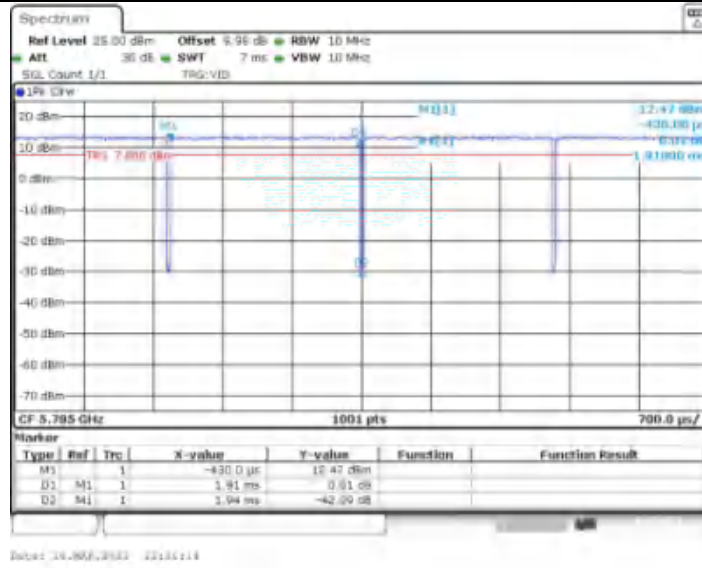
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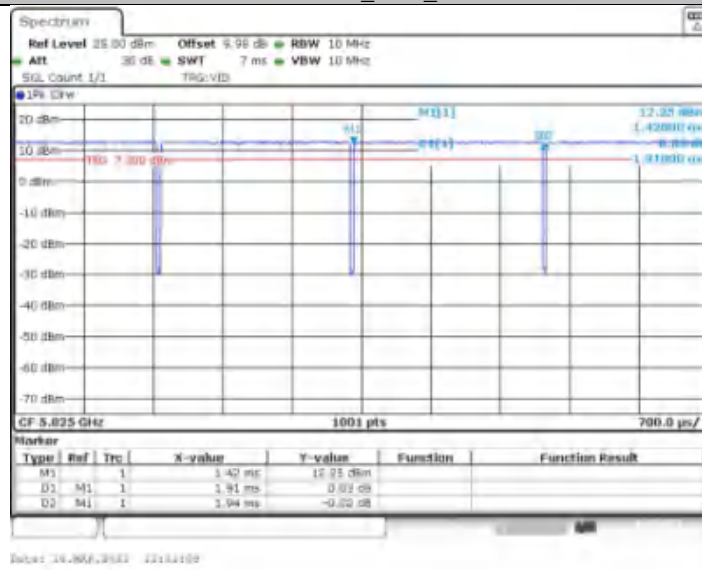
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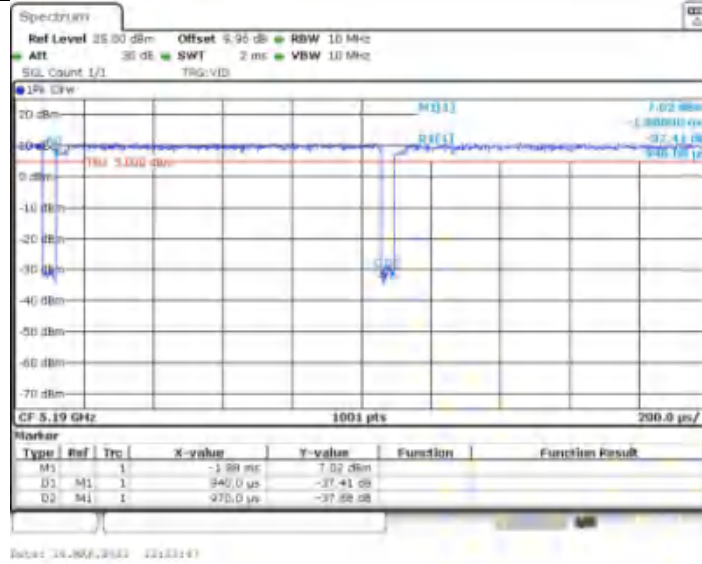
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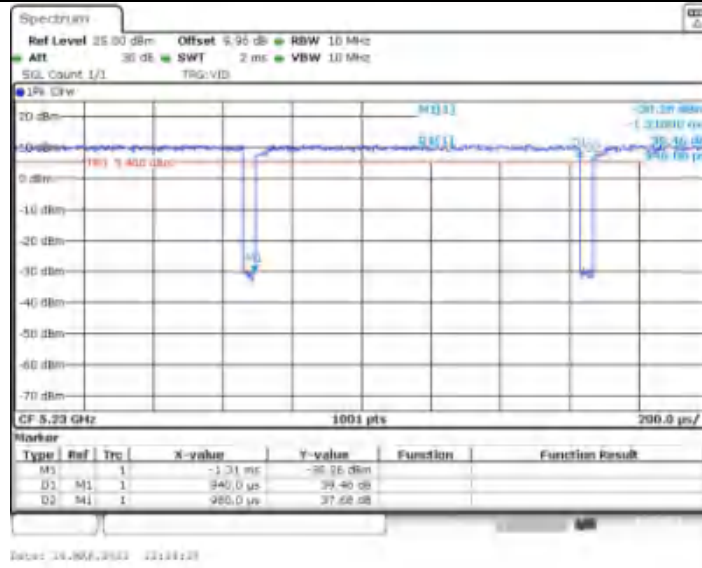
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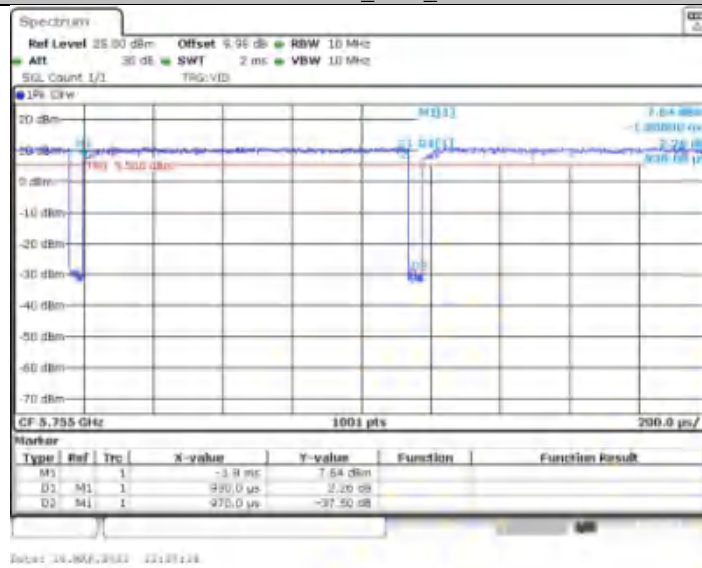
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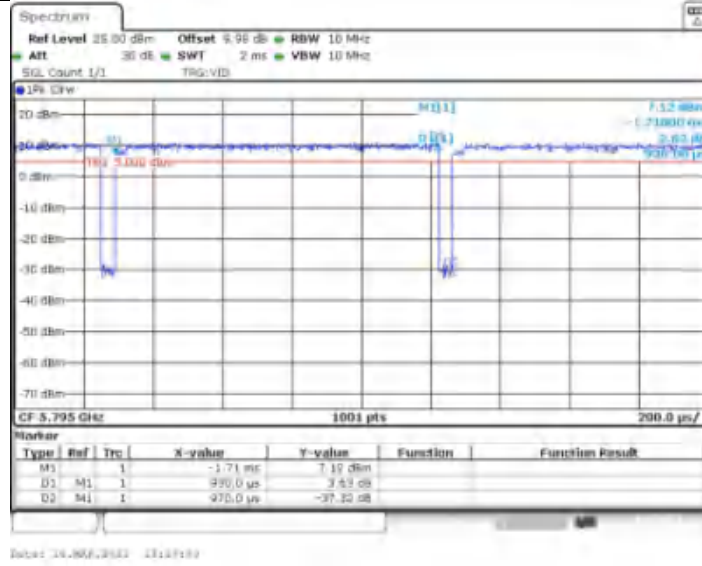
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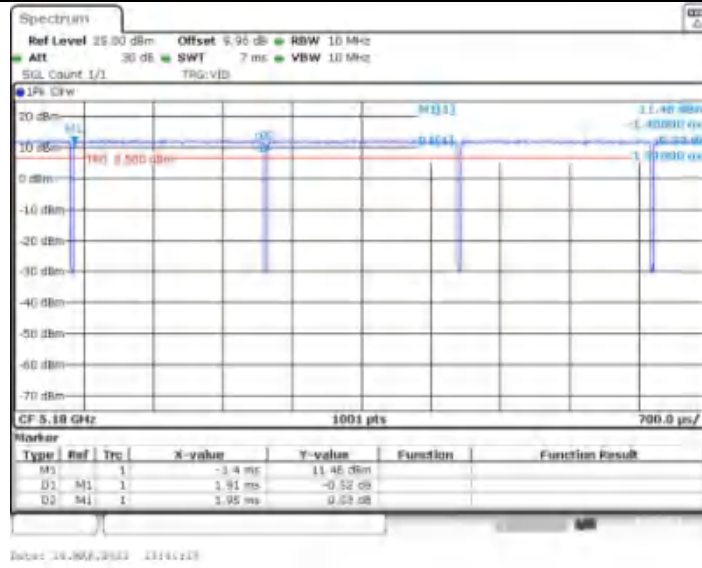
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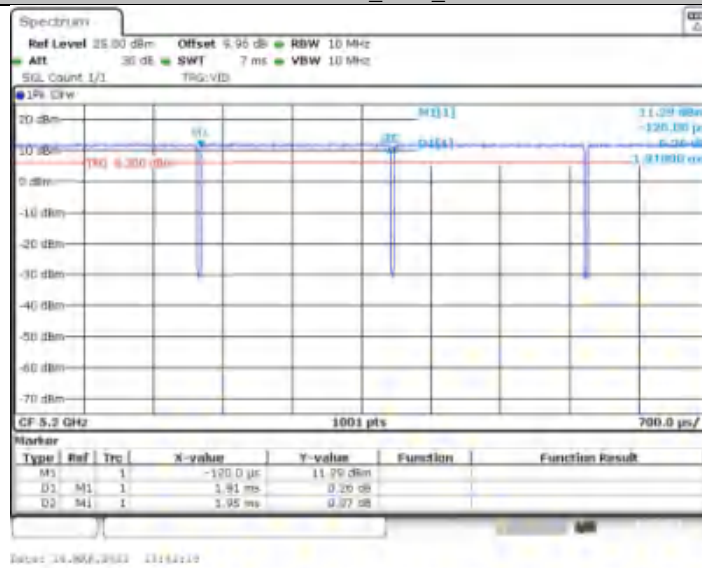
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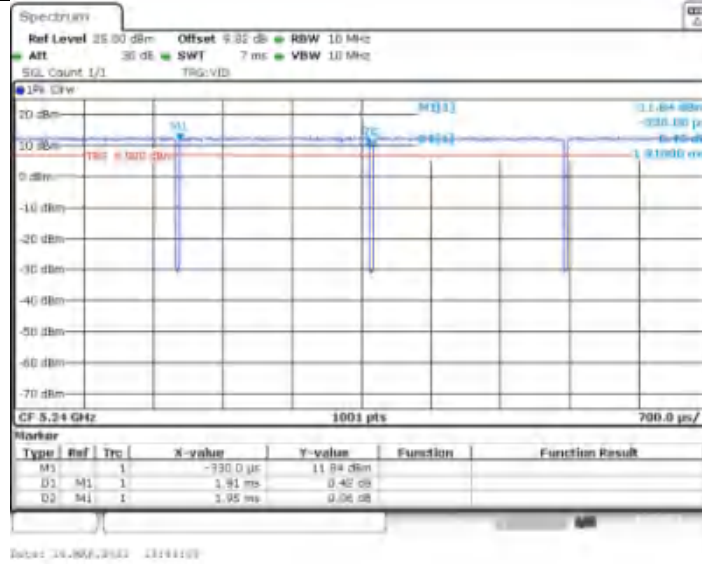
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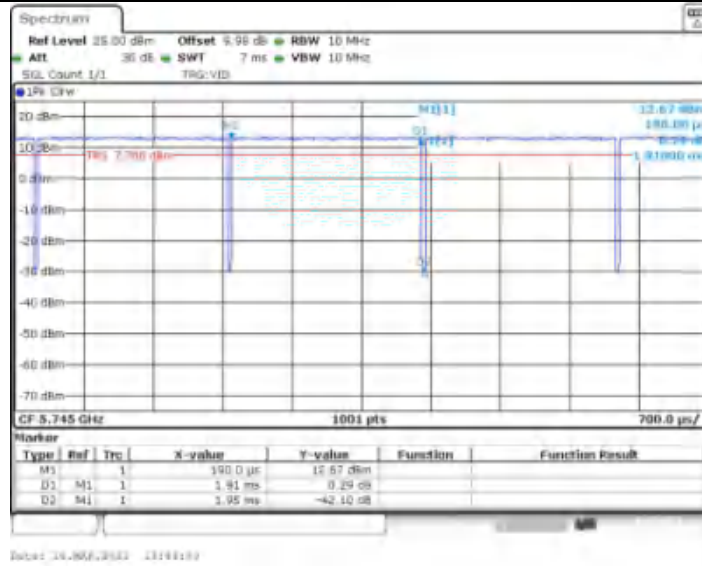
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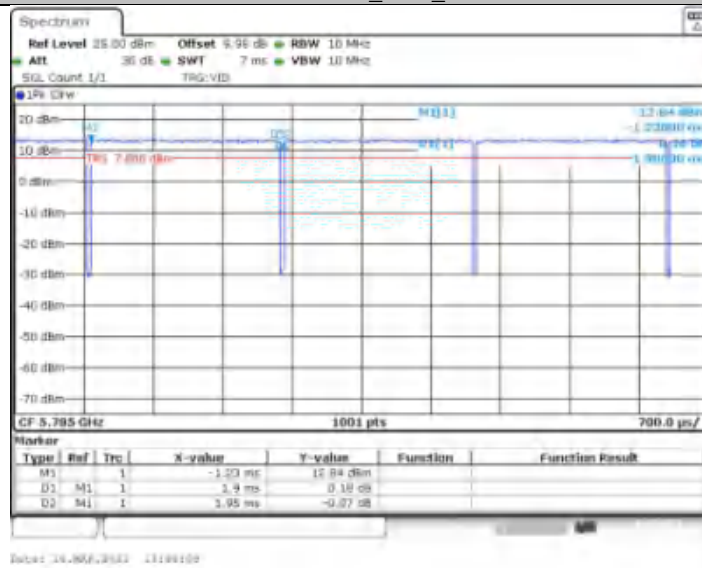
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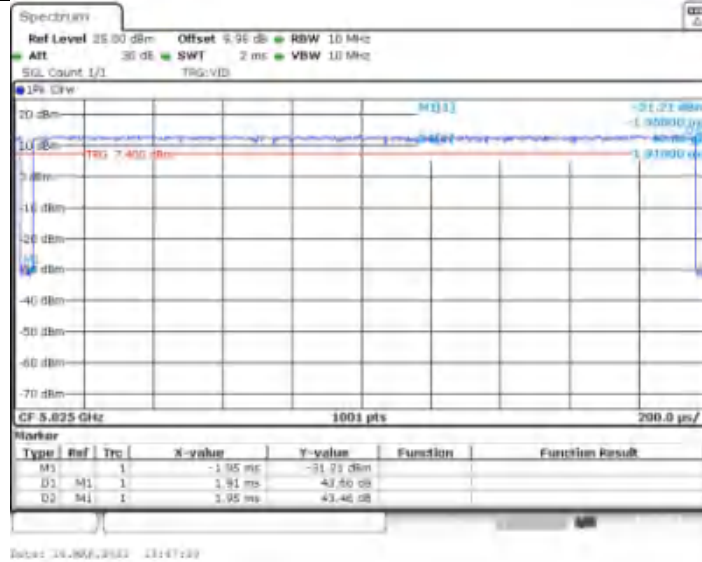
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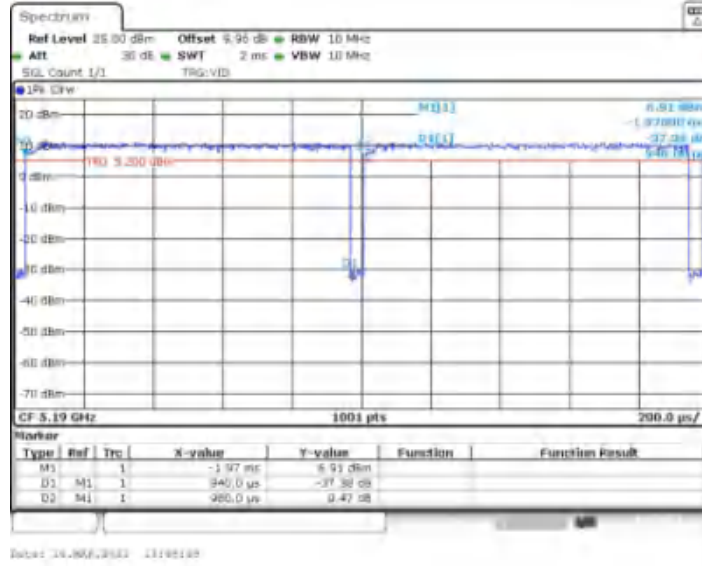
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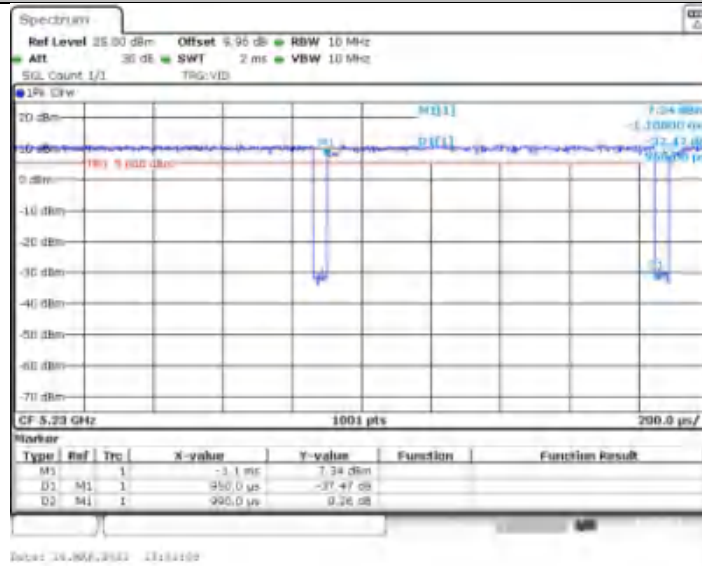
11AC20SISO_Ant1_5825



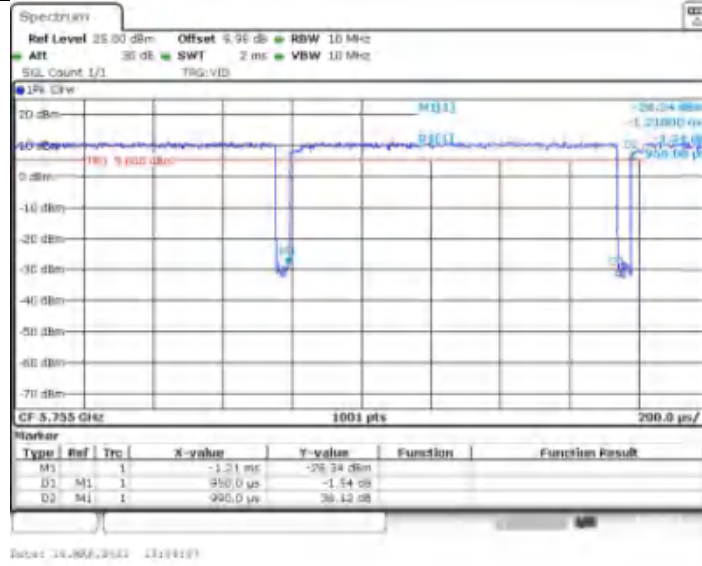
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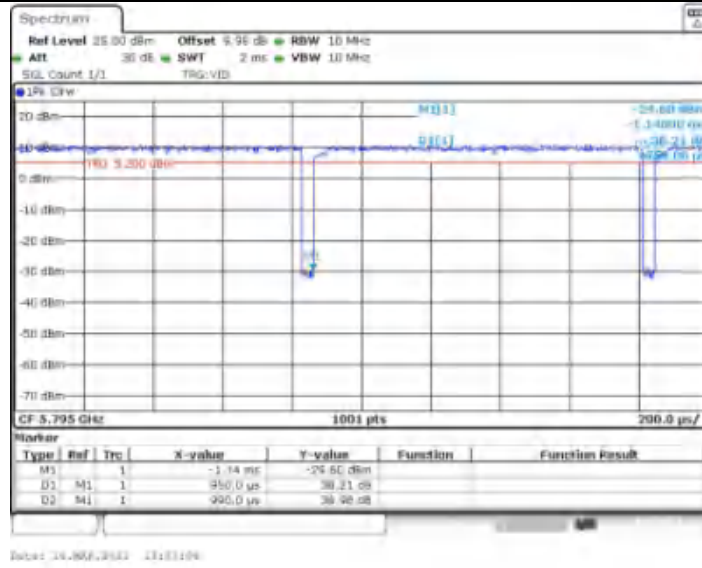
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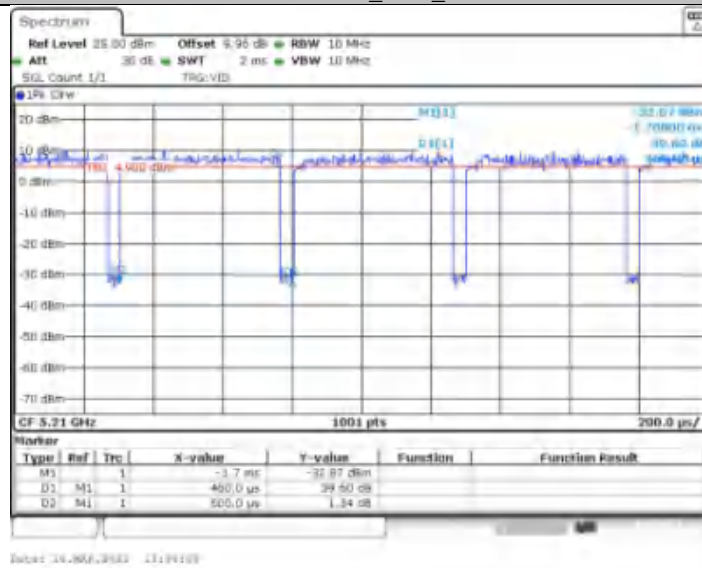
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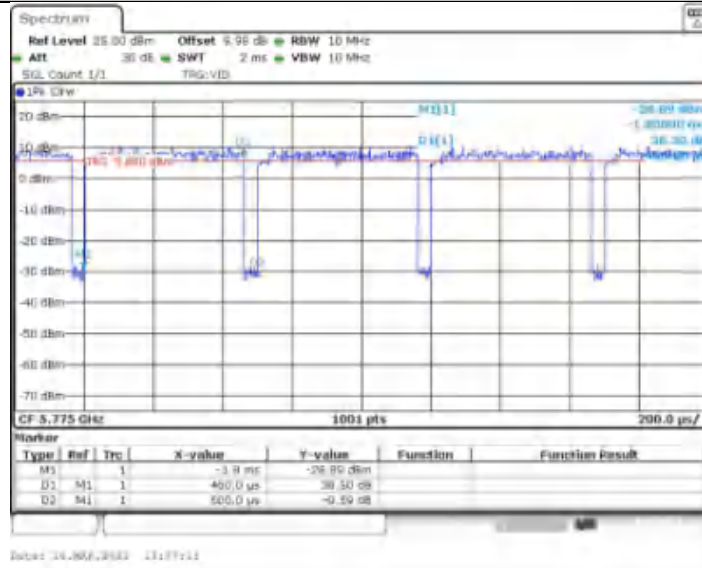
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11AC80SISO_Ant1_5210



11AC80SISO_Ant1_5775



NOTE:

For IEEE 802.11a:

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10Hz (Duty cycle \geq 98%).

For IEEE 802.11n(HT20):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10Hz (Duty cycle \geq 98%).

For IEEE 802.11n(HT40):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10Hz (Duty cycle \geq 98%).

For IEEE 802.11ac(VHT20):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10Hz (Duty cycle \geq 98%).

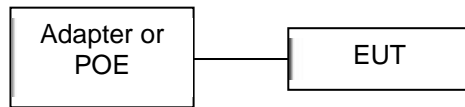
For IEEE 802.11ac(VHT40):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10Hz (Duty cycle \geq 98%).

For IEEE 802.11ac(VHT80):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10Hz (Duty cycle \geq 98%).

2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



2.6 SUPPORT UNITS

Support Equipment				
No.	Equipment	Brand Name	Model Name	Remarks
1	/	/	/	/

3. AC POWER LINE CONDUCTED EMISSIONS

3.1 LIMIT

Frequency (MHz)	Limit (dB μ V)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56*	56 to 46*
0.5 - 5.0	56	46
5.0 - 30.0	60	50

NOTE:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

3.2 TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipment powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item -EUT Test Photos.

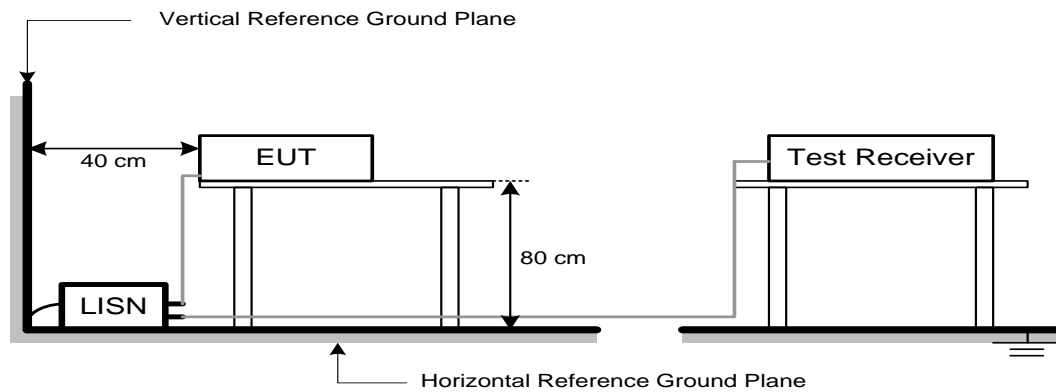
The following table is the setting of the receiver:

Receiver Parameter	Setting
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.3 DEVIATION FROM TEST STANDARD

No deviation

3.4 TEST SETUP



3.5 EUT OPERATION CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

The EUT was programmed to be in continuously transmitting/TX mode.

3.6 TEST RESULTS

Please refer to the APPENDIX A.

4. RADIATED EMISSIONS

4.1 LIMIT

In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

LIMITS OF RADIATED EMISSIONS MEASUREMENT (9 kHz to 1000 MHz)

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

LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS (Above 1000 MHz)

Frequency (MHz)	EIRP Limit (dBm/MHz)	Equivalent Field Strength at 3m (dBμV/m)
5150-5250	-27	68.2
5250-5350	-27	68.2
5470-5725	-27	68.2
5725-5850 NOTE (2)	-27	68.2
	10	105.2
	15.6	110.8
	27	122.2

NOTE:

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

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

(2) According to 15.407(b)(4)(i), 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.

4.2 TEST PROCEDURE

- The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
- The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.

- g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1 GHz)
- h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1 GHz)
- i. For the actual test configuration, please refer to the related Item –EUT Test Photos.

The following table is the setting of the receiver:

Spectrum Parameters	Setting
Start ~ Stop Frequency	9 kHz~150 kHz for RBW 200 Hz
Start ~ Stop Frequency	0.15 MHz~30 MHz for RBW 9 kHz
Start ~ Stop Frequency	30 MHz~1000 MHz for RBW 100 kHz

Spectrum Parameters	Setting
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic or 40 GHz, whichever is lower
RBW / VBW (Emission in restricted band)	1 MHz / 3 MHz for PK value 1 MHz / 1/T Hz for AVG value

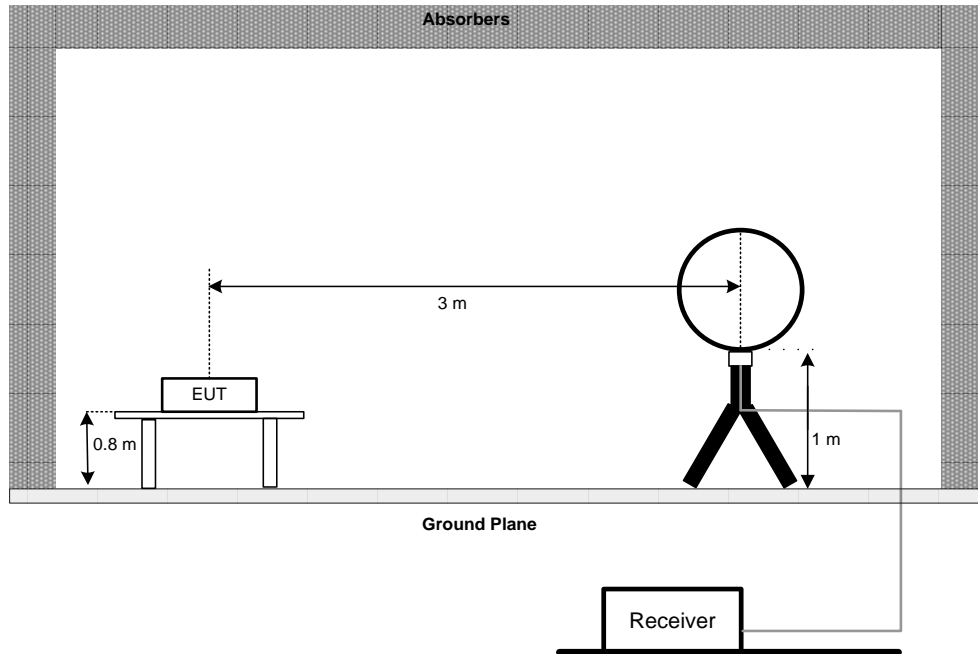
Receiver Parameters	Setting
Start ~ Stop Frequency	9 kHz~90 kHz for PK/AVG detector
Start ~ Stop Frequency	90 kHz~110 kHz for QP detector
Start ~ Stop Frequency	110 kHz~490 kHz for PK/AVG detector
Start ~ Stop Frequency	490 kHz~30 MHz for QP detector
Start ~ Stop Frequency	30 MHz~1000 MHz for QP detector
Start ~ Stop Frequency	1 GHz~40 GHz for PK/AVG detector

4.3 DEVIATION FROM TEST STANDARD

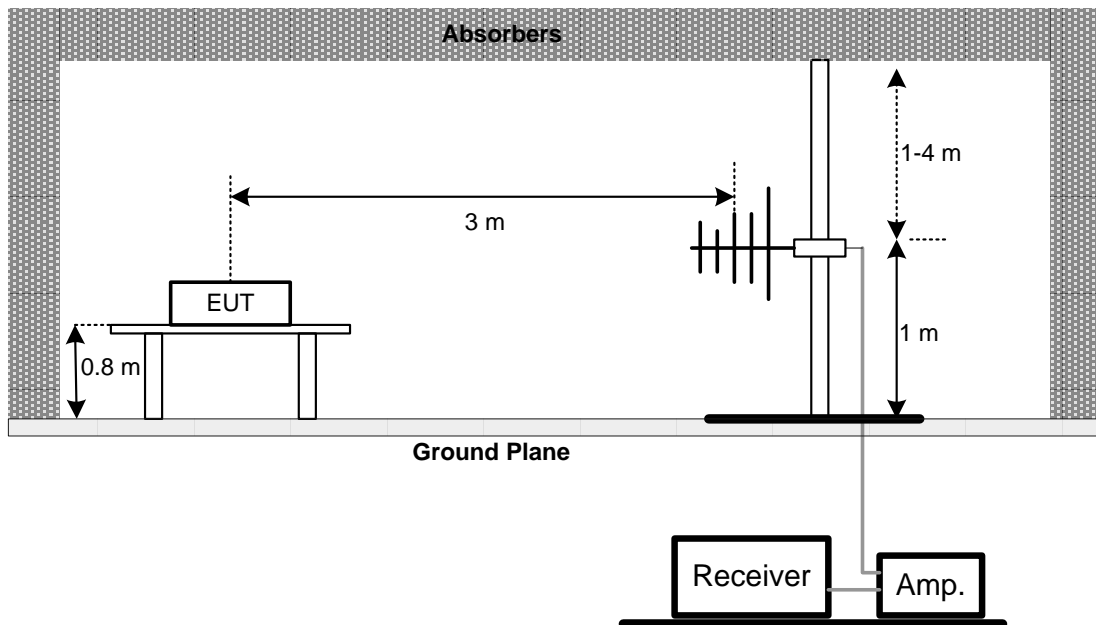
No deviation.

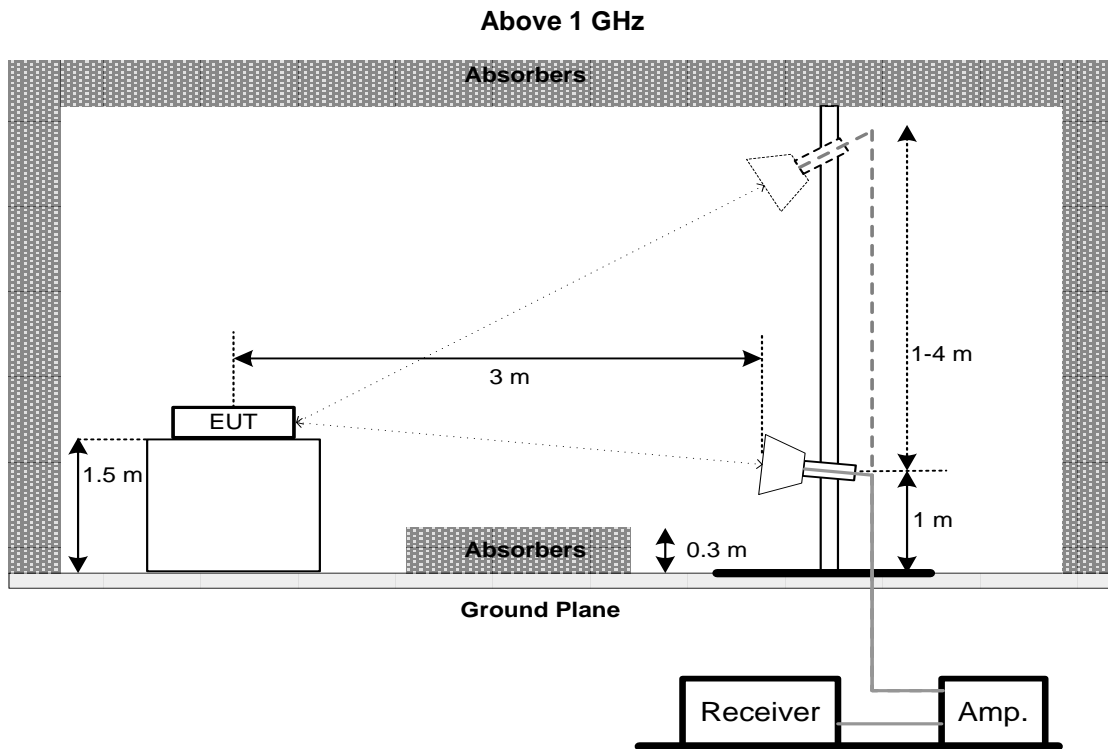
4.4 TEST SETUP

9 kHz to 30 MHz



30 MHz to 1 GHz





4.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 3.5 unless otherwise a special operating condition is specified in the follows during the testing.

4.6 TEST RESULTS - 9 KHZ TO 30 MHZ

Please refer to the APPENDIX B.

Remark:

- (1) Distance extrapolation factor = $40 \log (\text{specific distance} / \text{test distance})$ (dB).
- (2) Limit line = specific limits (dBuV) + distance extrapolation factor.

4.7 TEST RESULTS - 30 MHZ TO 1000 MHZ

Please refer to the APPENDIX C.

4.8 TEST RESULTS - ABOVE 1000 MHZ

Please refer to the APPENDIX D.

Remark:

- (1) No limit: This is fundamental signal, the judgment is not applicable.
For fundamental signal judgment was referred to Peak output test.

5. BANDWIDTH

5.1 LIMIT

Section	Test Item	Limit	Frequency Range (MHz)
FCC 15.407(a) FCC 15.407(e)	26 dB Bandwidth	-	5150-5250
	26 dB Bandwidth	-	5250-5350
	26 dB Bandwidth	-	5470-5725
	6 dB Bandwidth	Minimum 500 kHz	5725-5850

5.2 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below
- b. Spectrum Setting:
For UNII-1

Spectrum Parameter	Setting
Span Frequency	> 26 dB Bandwidth
RBW	Approximately 1% of the emission bandwidth
VBW	> RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

For UNII-3:

Spectrum Parameter	Setting
Span Frequency	> 6 dB Bandwidth
RBW	100 kHz
VBW	300 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

For 99% Occupied Bandwidth:

Spectrum Parameter	Setting
Span Frequency	1.5 times to 5 times the OBW
RBW	1% to 5% of the OBW
VBW	$\geq 3 \times \text{RBW}$
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

- c. Measured the spectrum width with power higher than 26 dB / 6 dB below carrier.

5.3 DEVIATION FROM STANDARD

No deviation.

5.4 TEST SETUP**5.5 EUT OPERATION CONDITIONS**

The EUT was programmed to be in continuously transmitting mode.

5.6 TEST RESULTS

Please refer to the APPENDIX E.

6. MAXIMUM OUTPUT POWER

6.1 LIMIT

Section	Test Item	Limit	Frequency Range (MHz)
FCC 15.407(a)	Maximum Output Power	AP device: 1 Watt (30 dBm) Client device: 250 mW (23.98 dBm)	5150-5250
		250 mW (23.98 dBm)	5250-5350
		250 mW (23.98 dBm)	5470-5725
		1 Watt (30dBm)	5725-5850

Note:

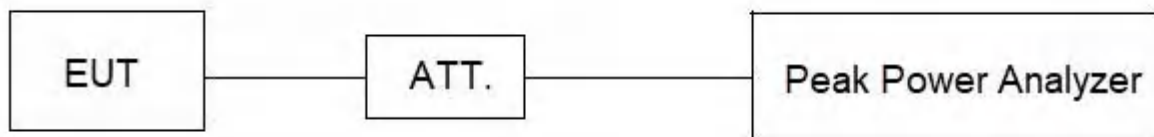
- a. For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
- b. For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26dB Bandwidth in megahertz.

6.2 TEST PROCEDURE

- a. The EUT was directly connected to the peak power analyzer and antenna output port as show in the block diagram below.
- b. The test was performed in accordance with method of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP**6.5 EUT OPERATION CONDITIONS**

The EUT was programmed to be in continuously transmitting mode.

6.6 TEST RESULTS

Please refer to the APPENDIX F.

7. POWER SPECTRAL DENSITY

7.1 LIMIT

Section	Test Item	Limit	Frequency Range (MHz)
FCC 15.407(a)	Power Spectral Density	AP device: 17 dBm/MHz Client device: 11 dBm/MHz	5150-5250
		11 dBm/MHz	5250-5350
		11 dBm/MHz	5470-5725
		30 dBm/500 kHz	5725-5850

7.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- Spectrum Setting:
For UNII-1

Spectrum Parameter	Setting
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RBW	1 MHz.
VBW	3 MHz.
Detector	RMS
Trace average	100 trace
Sweep Time	Auto

For UNII-3:

Spectrum Parameter	Setting
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RBW	100 kHz.
VBW	300 kHz.
Detector	RMS
Trace average	100 trace
Sweep Time	Auto

Note:

- For UNII-3, according to KDB publication 789033 D02 General UNII Test Procedures New Rules v02r01, section II.F.5., it is acceptable to set RBW at 100kHz and VBW at 300kHz if the spectrum analyzer does not have 500 kHz RBW. Then, add $10 \log (500 \text{ kHz}/100 \text{ kHz})$ to the measured result, i.e. 7 dB.
- During the test of U-NII 3 PSD, the measurement result with RBW=100kHz has been added 7 dB by compensating offset. For example, the cable loss is 13 dB, and the final offset is $13 + 7 = 20 \text{ dB}$ when RBW=100kHz is used.

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP**7.5 EUT OPERATION CONDITIONS**

The EUT was programmed to be in continuously transmitting mode.

7.6 TEST RESULTS

Please refer to the APPENDIX G.

8. FREQUENCY STABILITY

8.1 LIMIT

Section	Test Item	Limit	Frequency Range (MHz)
FCC 15.407(g)	Frequency Stability	An emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.	5150-5250
			5250-5350
			5470-5725
			5725-5850

8.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- Spectrum Setting:

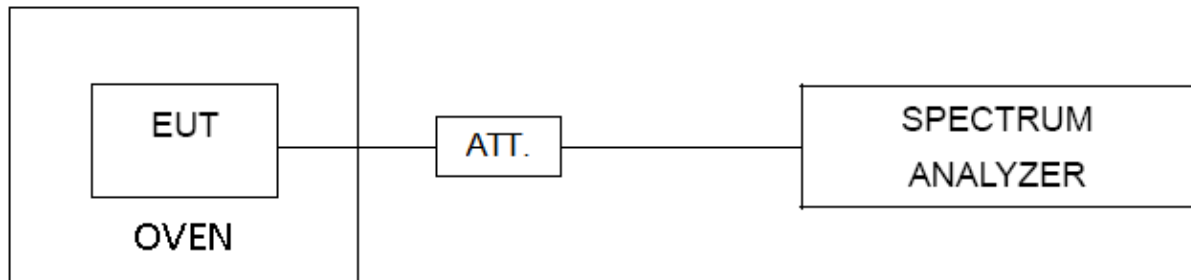
Spectrum Parameter	Setting
Span Frequency	Entire absence of modulation emissions bandwidth
RBW	10 kHz
VBW	10 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

- The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value.
- User manual temperature is -30°C~75°C.

8.3 DEVIATION FROM STANDARD

No deviation.

8.4 TEST SETUP



8.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

8.6 TEST RESULTS

N/A.

9. MEASUREMENT INSTRUMENTS LIST

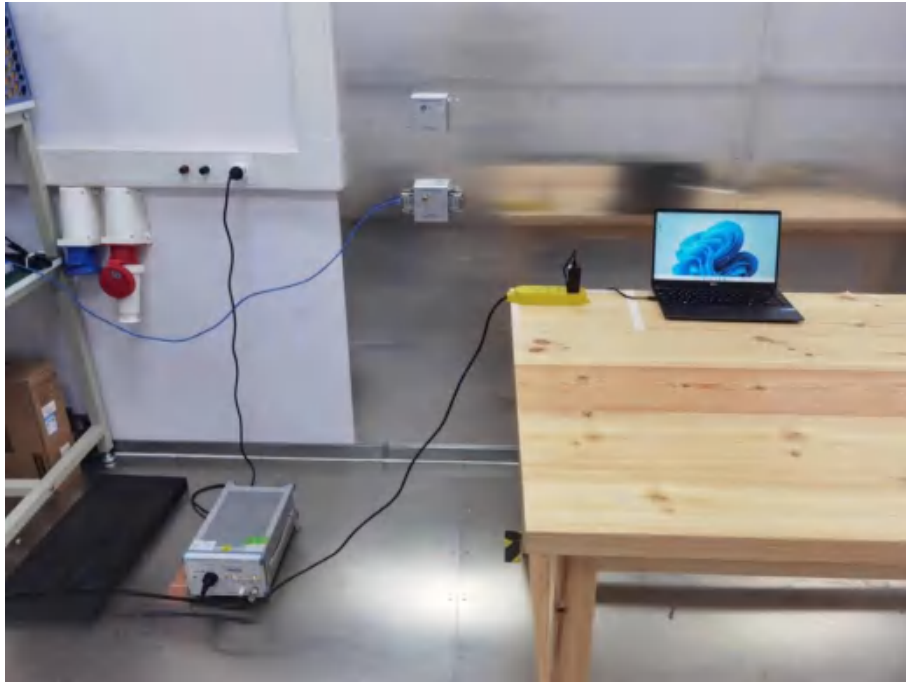
Name of Equipment	Manufacturer	Model Number	Serial Number	Last Calibration	Due Calibration
EMI Receiver	Rohde&Schwarz	ESIB 40	YH-TIRT-SAC-966-20220911	2023/01/05	2024/01/06
Integral Antenna	Schwarzbeck	VULB 9163	01314	2022.12.11	2024.12.10
Integral Antenna	Rohde&Schwarz	HF907	RSM2991424	2022.12.11	2024.12.10
Preamplifier	Emtrace	RP01A	'02017	2023/01/05	2024/01/06
Preamplifier	Schwarzbeck	BBV9744	00143	2023/01/05	2024/01/06
Loop Antenna	ZHINAN	ZN30900A	12024	2023/01/05	2024/01/06
Exposure Level Tester	narda	ELT-400	N-0925	2023/01/05	2024/01/06
Horn Antenna	Schwarzbeck	BBHA9170	00956	2023/01/05	2024/01/06
RF Cable	/	LMR400UF-NMNM-7.0M	/	2023/01/05	2024/01/06
RF Cable	/	SFT2050PUR-NMNM-7.0M	/	2023/01/05	2024/01/06
EMI Receiver	Rohde&Schwarz	ESR7	1316.3003K07-102611-mk	2022/11/02	2023/11/01
LISN	Rohde&Schwarz	ENV216	3560.655.12-102915-Bp	2022/11/02	2023/11/01
ISN	Schwarzbeck	ENY81	1309.8510.03	2023/01/05	2024/01/06
ISN	Schwarzbeck	ENY81-CAT6	1309.8526.03-101976-kh	2023/01/05	2024/01/06
RF Cable	\	SFT2050PUR-NMNM-2.0M	\	2023/01/05	2024/01/06
CMW500	ROHDE&SCHWARZ	CMW500	120434	2023/01/05	2024/01/06
Spectrum analyzer	ROHDE&SCHWARZ	FSU26	200732	2023/01/05	2024/01/06
Spectrum analyzer	ROHDE&SCHWARZ	FSV40-N	101722	2023/01/05	2024/01/06
vector Signal Generator	KEYSIGHT	N5182B	MY56200458	2023/01/05	2024/01/06
vector Signal Generator	HEWLETT PACKARD	83752A	3610A02458	2023/01/05	2024/01/06
Filter	HEWLETT PACKARD	JS0806-F	19K8060209	2023/01/05	2024/01/06
Wireless comprehensive tester	ANRISTU	MT8821C	SN6262170409	2023/01/05	2024/01/06

Wireless comprehensive tester	ANRISTU	MT8000A	SN6262166782	2023/01/05	2024/01/06
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Remark: "N/A" denotes no model name, serial no. or calibration specified.

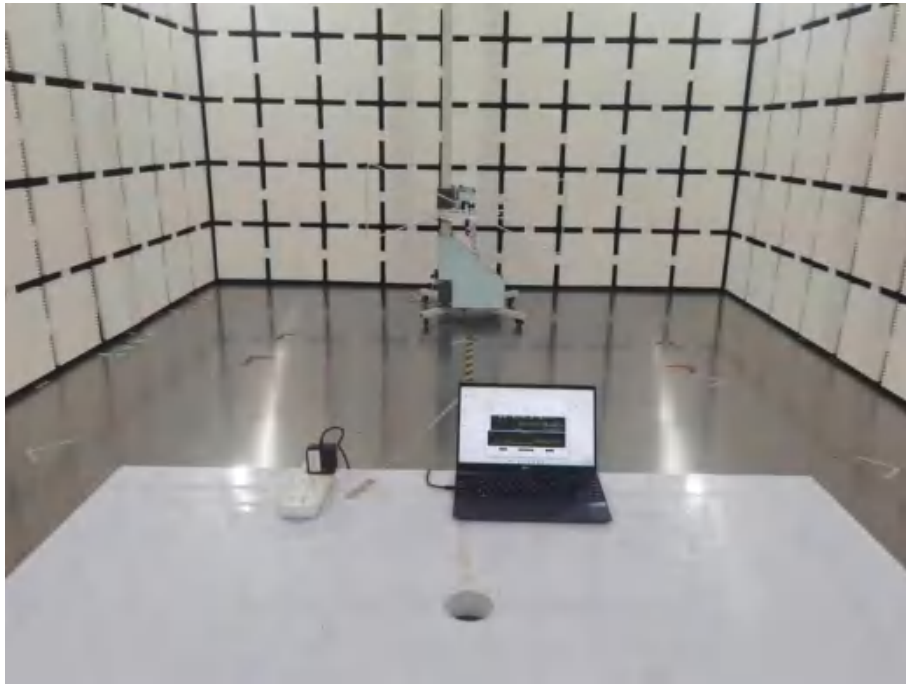
10. EUT TEST PHOTOS

AC Power Line Conducted Emissions Test Photos



Radiated Emissions Test Photos

30 MHz to 1 GHz



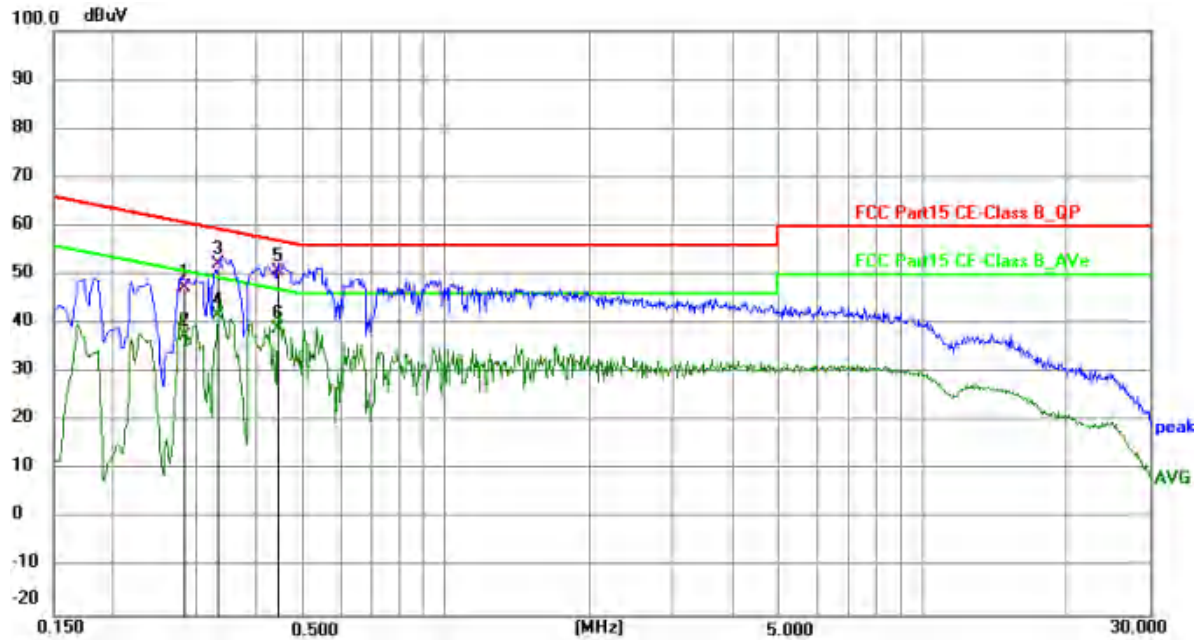
Radiated Emissions Test Photos

Above 1 GHz



APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS

Test Mode	TX AC(VHT80) Mode Channel 155 (UNII-3)	Phase	Line
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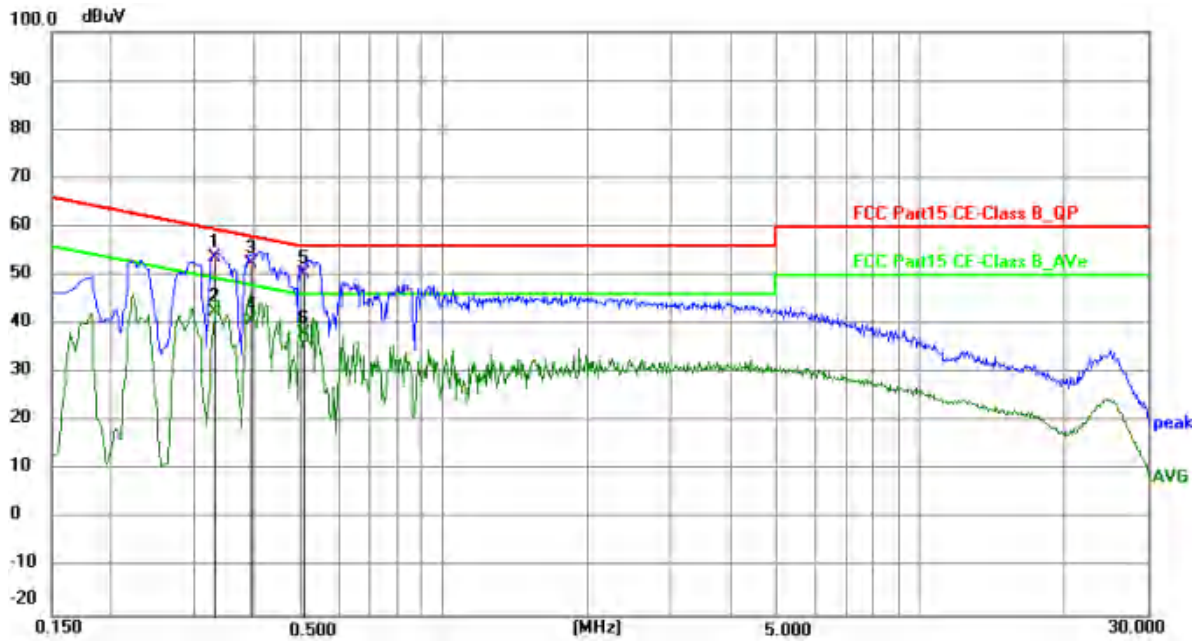


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.2822	37.70	9.63	47.33	60.75	-13.42	QP	P
2	0.2822	27.79	9.63	37.42	50.75	-13.33	AVG	P
3	0.3335	42.67	9.63	52.30	59.36	-7.06	QP	P
4	0.3335	32.04	9.63	41.67	49.36	-7.69	AVG	P
5 *	0.4420	40.96	9.63	50.59	57.02	-6.43	QP	P
6	0.4420	29.34	9.63	38.97	47.02	-8.05	AVG	P

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.
- (3) The test result has included the cable loss.

Test Mode	TX AC(VHT80) Mode Channel 155 (UNII-3)	Phase	Neutral
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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.3295	-43.93	9.62	53.55	59.46	-5.91	QP	P
2	0.3295	32.92	9.62	42.54	49.46	-6.92	AVG	P
3 *	0.3950	42.82	9.62	52.44	57.96	-5.52	QP	P
4	0.3950	31.23	9.62	40.85	47.96	-7.11	AVG	P
5	0.5073	-40.74	9.62	50.36	56.00	-5.64	QP	P
6	0.5073	28.45	9.62	38.07	46.00	-7.93	AVG	P

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.
- (3) The test result has included the cable loss.

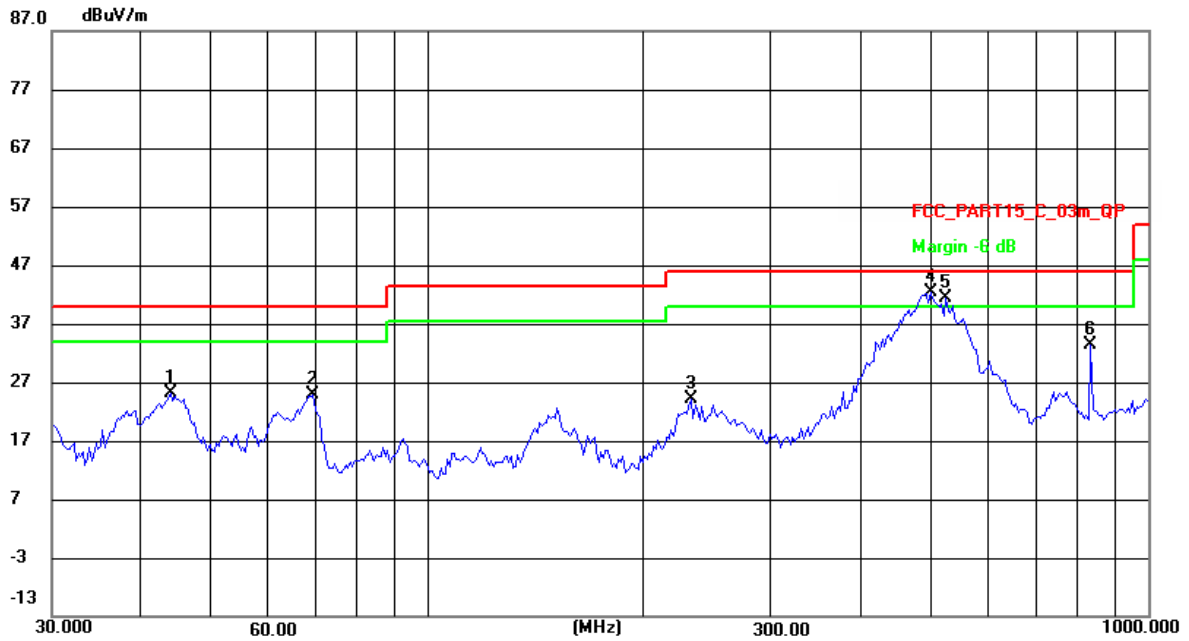
APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ

Test Mode	TX AC(VHT80) Mode Channel 155 (UNII-3)	Polarization	Vertical
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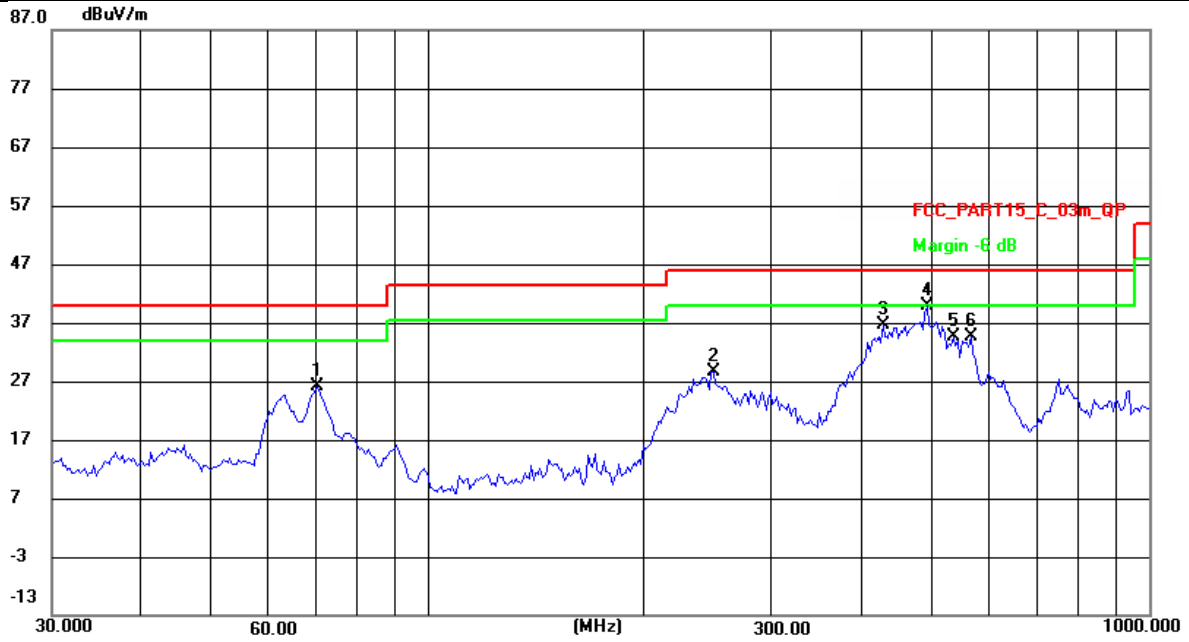


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Elector	Height (cm)	Azimuth (deg.)	P/F
1	43.8452	44.62	-19.44	25.18	40.00	-14.82	peak	100	119	P
2	69.2297	46.79	-21.94	24.85	40.00	-15.15	peak	100	141	P
3	231.8531	49.15	-25.12	24.03	46.00	-21.97	peak	100	12	P
4 *	498.7303	59.58	-17.11	42.47	46.00	-3.53	peak	199	348	P
5 †	523.8763	57.99	-16.64	41.35	46.00	-4.65	peak	100	358	P
6	833.0127	43.21	-9.89	33.32	46.00	-12.68	peak	100	98	P

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX AC(VHT80) Mode Channel 155 (UNII-3)	Polarization	Horizontal
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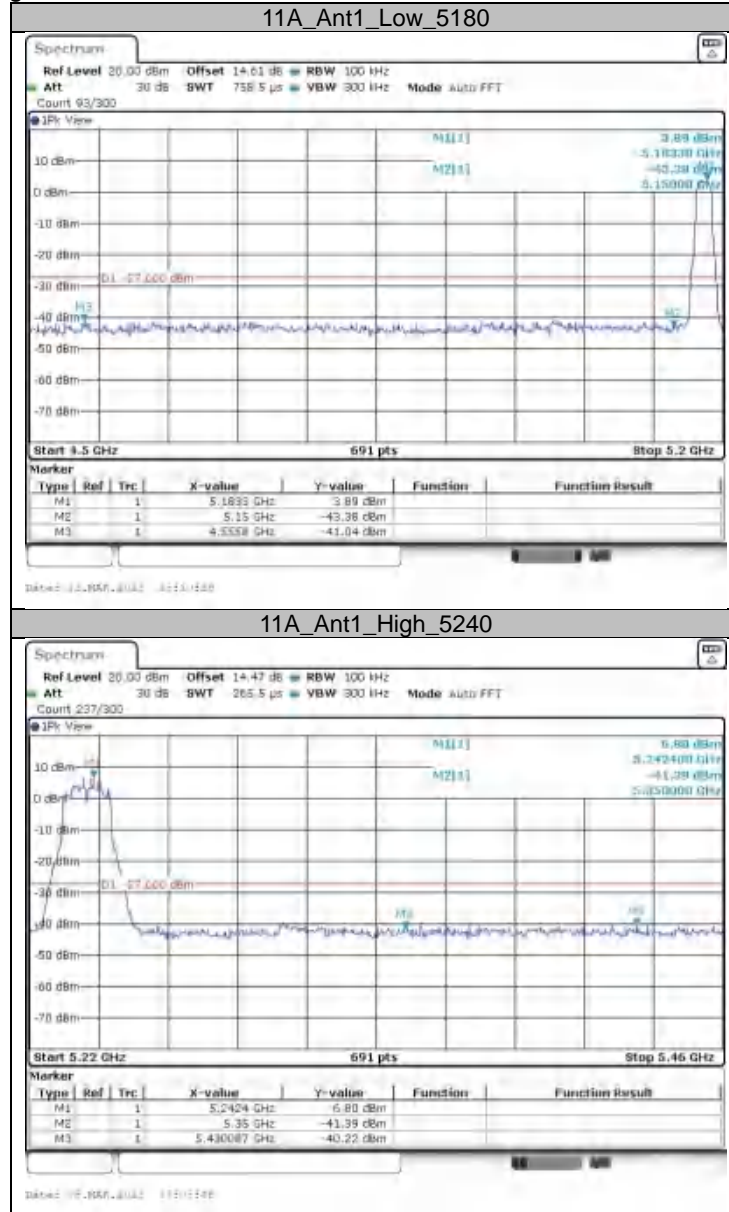
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F
1	70.2096	48.17	-22.12	26.05	40.00	-13.95	peak	199	348	P
2	248.7319	52.60	-23.90	28.70	46.00	-17.30	peak	199	107	P
3	427.2920	55.28	-18.60	36.68	46.00	-9.32	peak	100	271	P
4 *	491.7700	57.11	-17.25	39.86	46.00	-6.14	peak	100	271	P
5	535.0377	50.87	-16.32	34.55	46.00	-11.45	peak	199	261	P
6	565.9776	49.83	-15.23	34.60	46.00	-11.40	peak	199	261	P

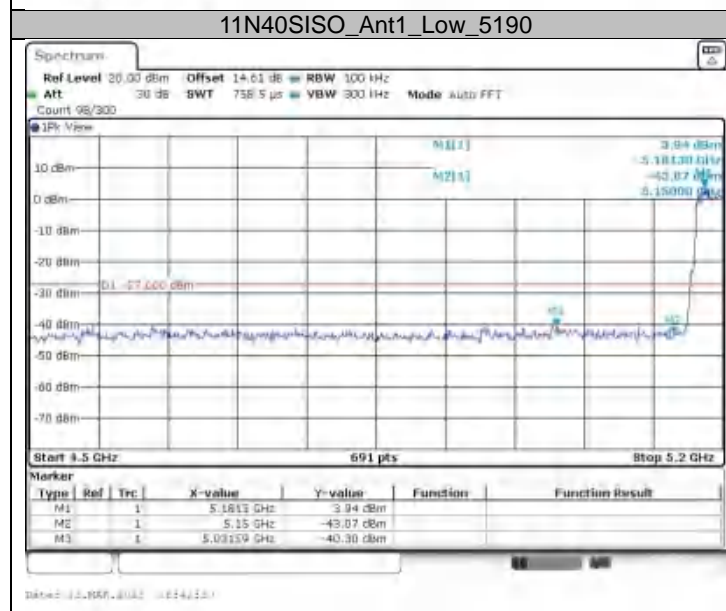
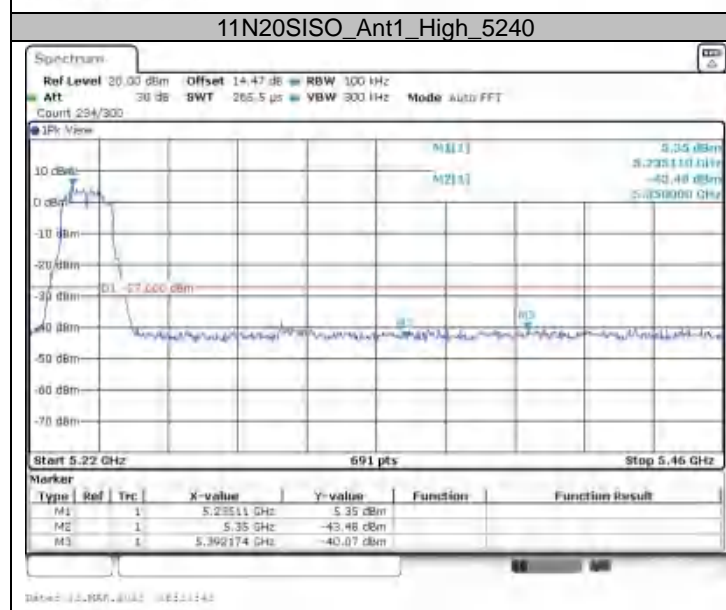
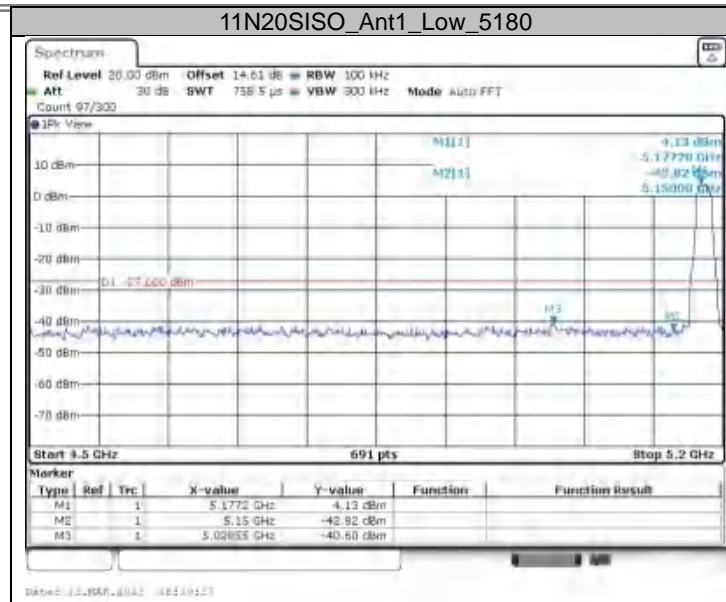
REMARKS:

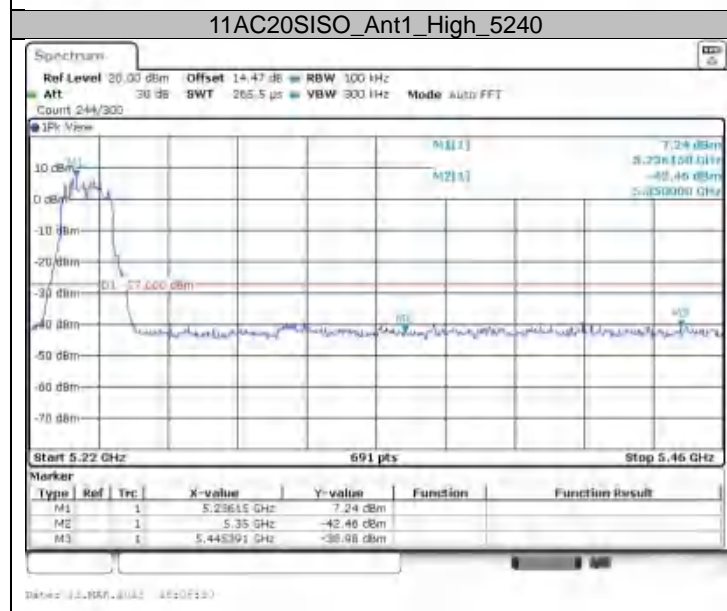
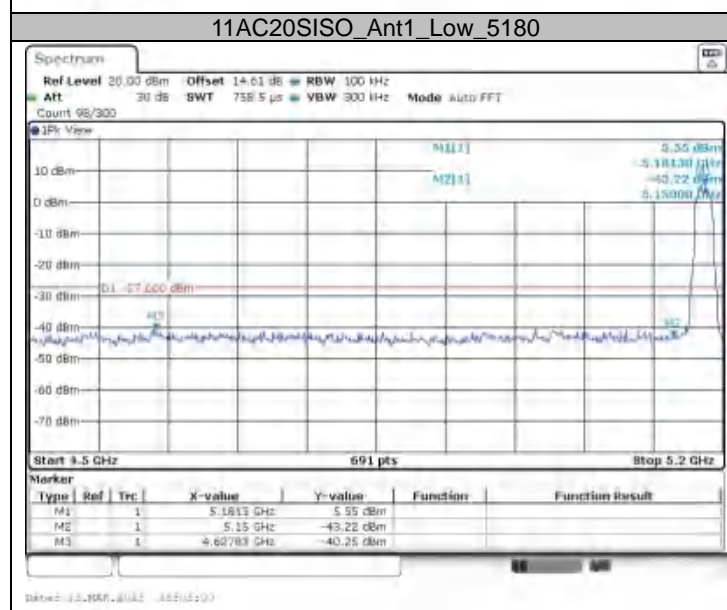
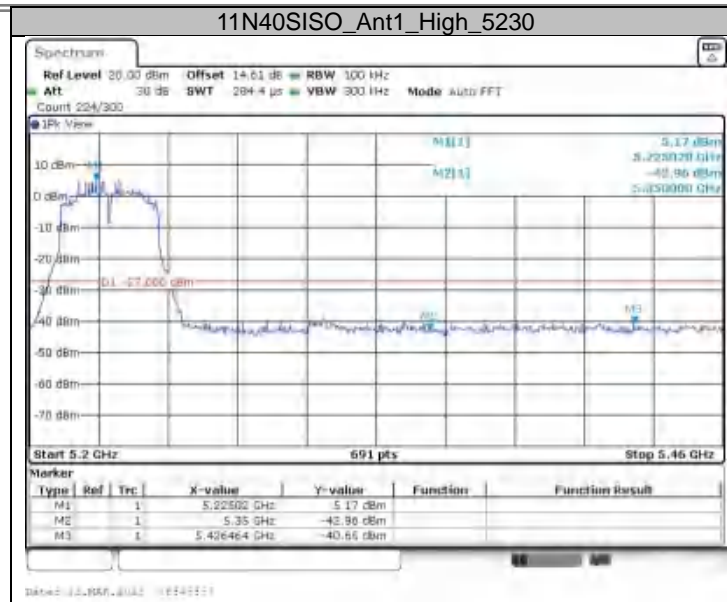
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

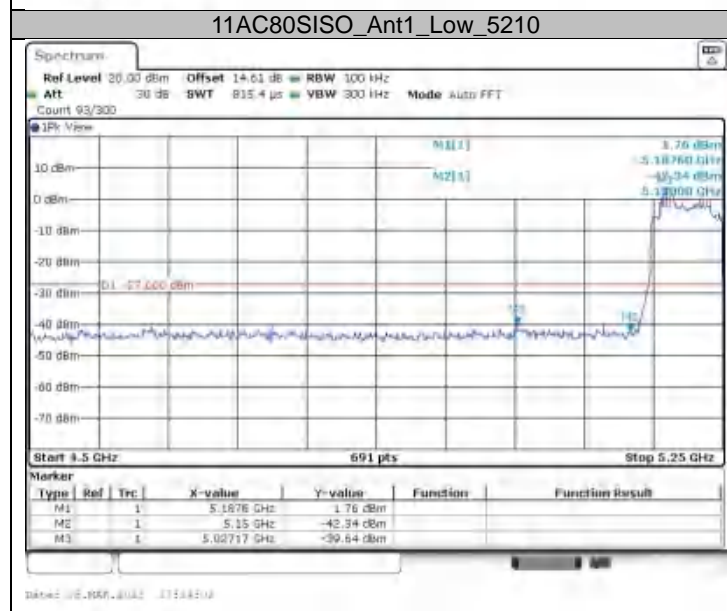
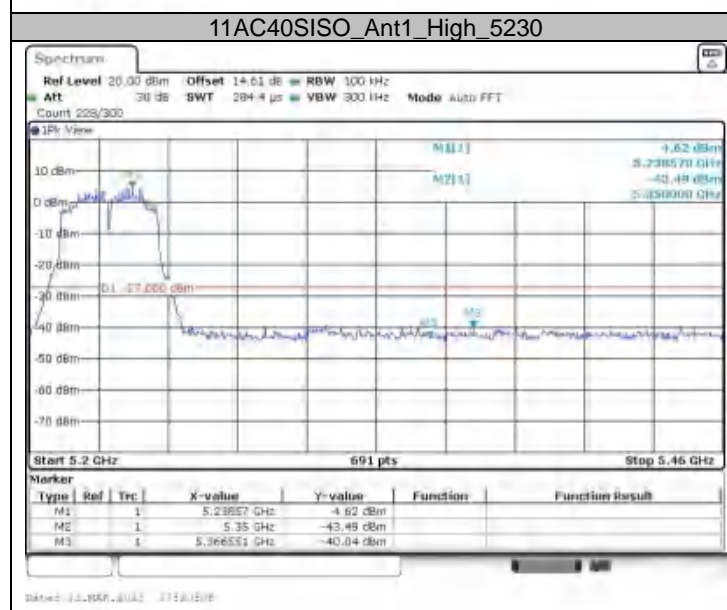
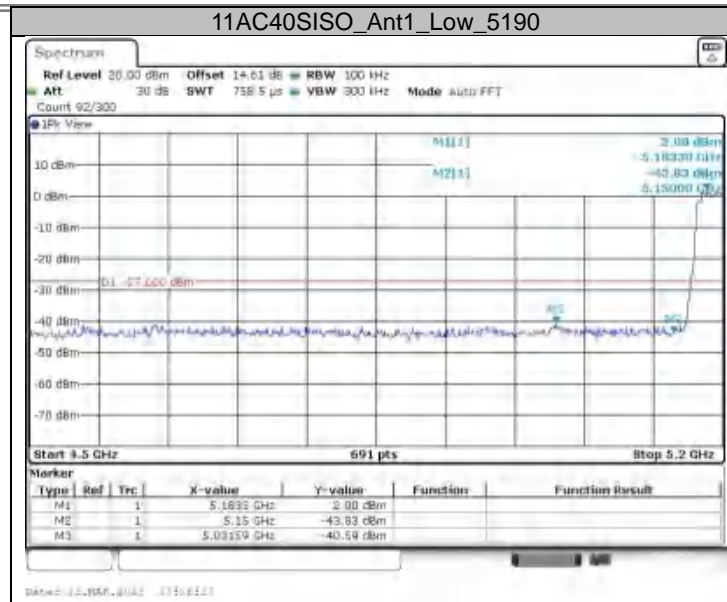
APPENDIX D - RADIATED EMISSION - ABOVE 1000 MHZ

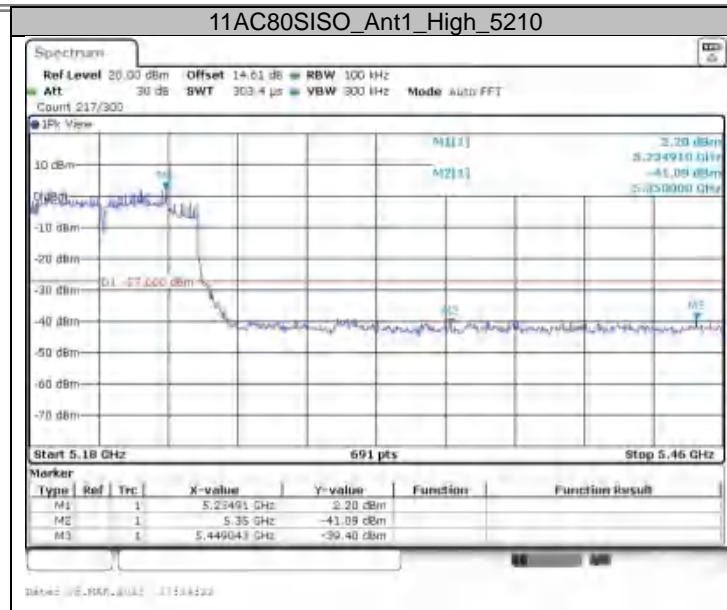
Test Result of Band edges.



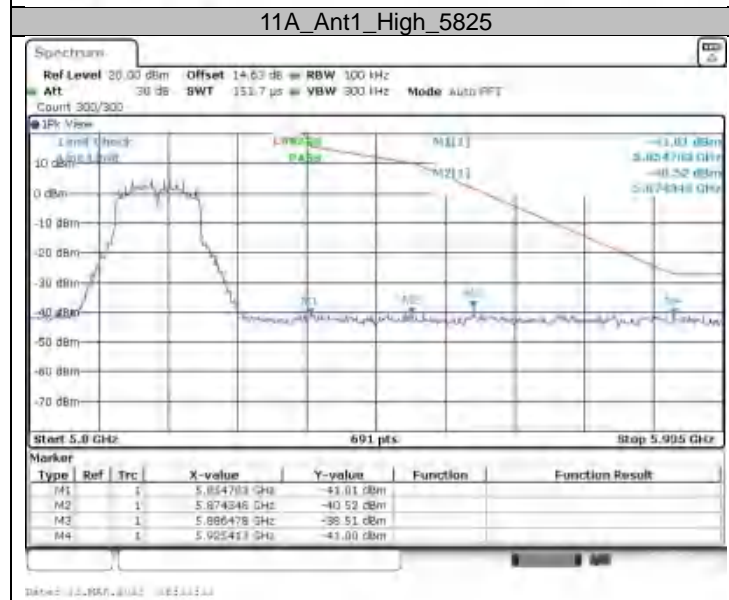
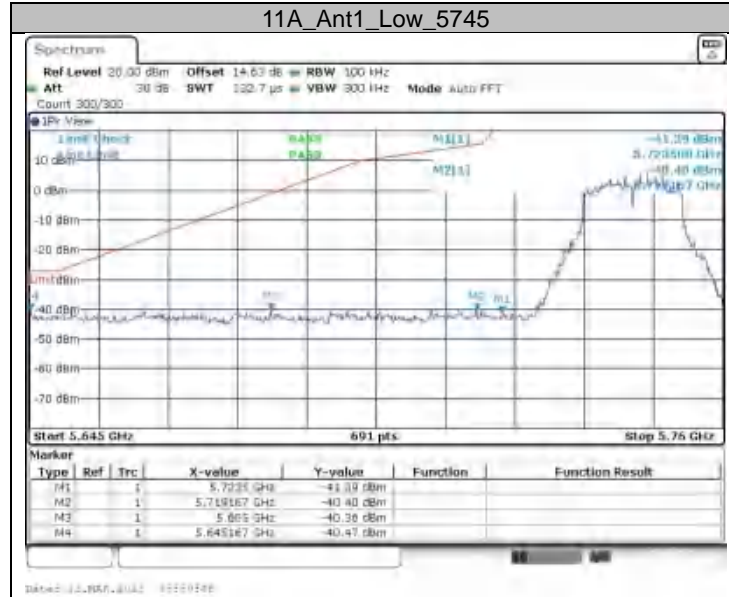


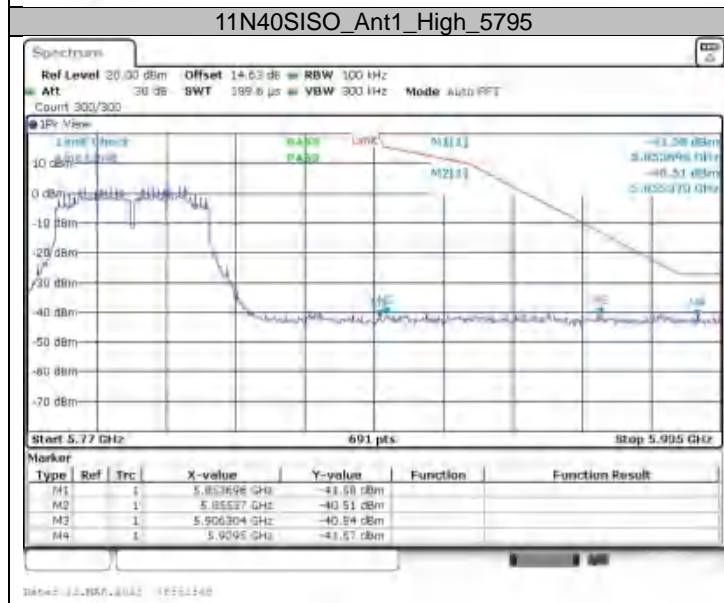
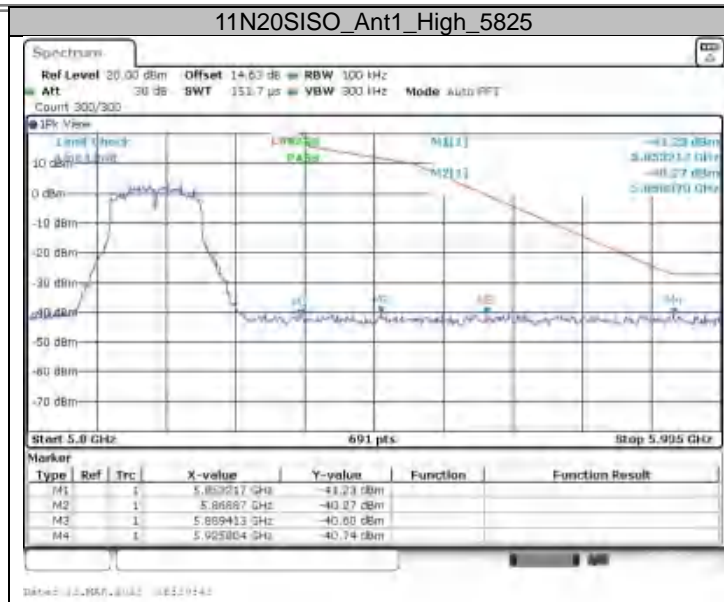


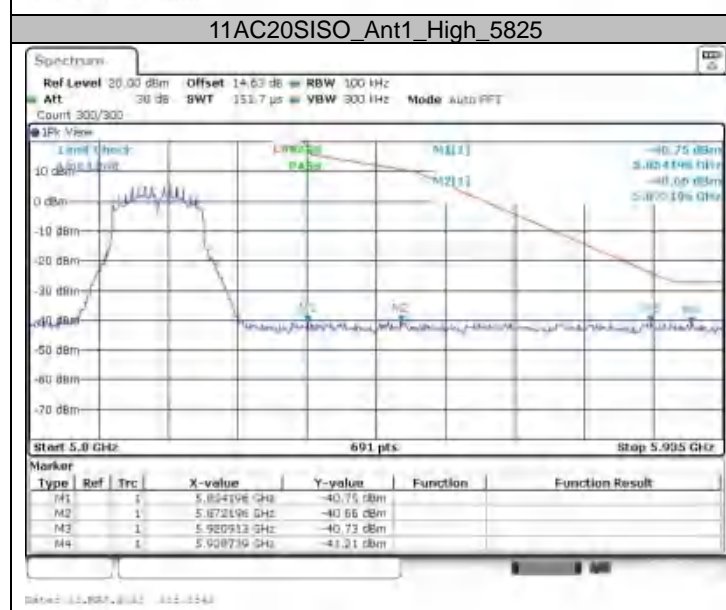
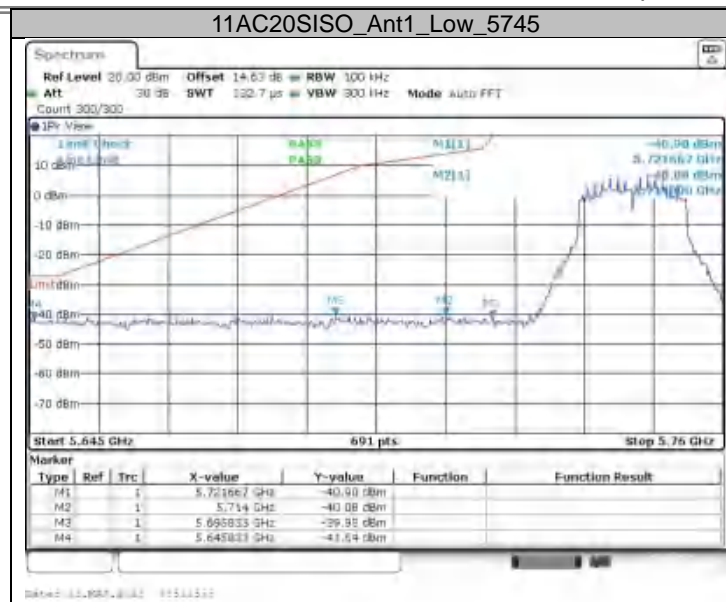


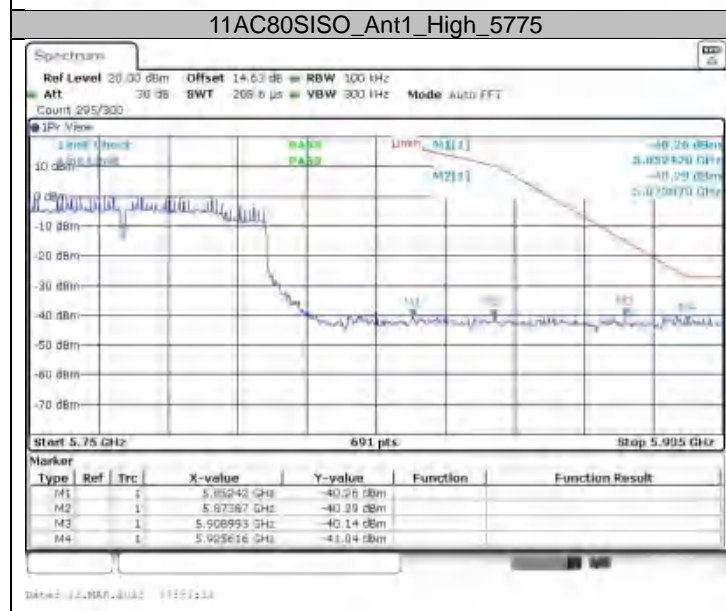
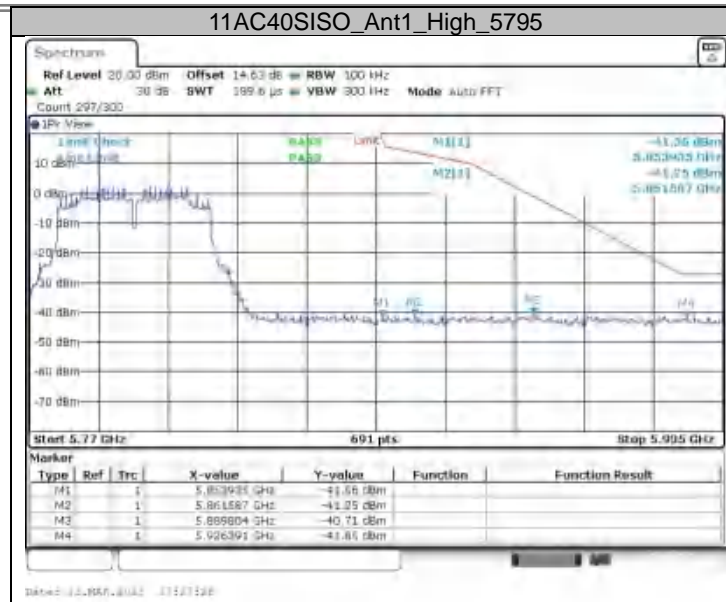


Test Graphs B4









ABOVE 1000 MHz

Note: All the modes have been tested and recorded worst mode in the report.

11A Channel 36 / 5180 MHz									
Frequency	Ant.Pol. H/V	Peak reading (dBuV)	AV reading (dBuV)	Correction Factor	Emission Level		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
					Peak (dBuV/m)	AV (dBuV/m)			
10360	H	47.31	---	9.03	56.34	---	74	54	-17.66
15540	H	41.62	---	9.87	51.49	---	75	55	-23.51
---	H	---	---	---	---	---	---	---	---
10360	V	44.18	---	9.03	53.21	---	74	54	-20.79
15540	V	40.47	---	9.87	50.34	---	75	55	-24.66
---	V	---	---	---	---	---	---	---	---
11A Channel 40 / 5200 MHz									
Frequency	Ant.Pol. H/V	Peak reading (dBuV)	AV reading (dBuV)	Correction Factor	Emission Level		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
					Peak (dBuV/m)	AV (dBuV/m)			
10400	H	43.69	---	9.09	52.78	---	74	54	-15.42
15600	H	40.65	---	9.83	50.48	---	75	55	-24.52
---	H	---	---	---	---	---	---	---	---
10400	V	44.58	---	9.09	53.67	---	74	54	-14.53
15600	V	40.81	---	9.83	50.64	---	74	54	-23.36
---	V	---	---	---	---	---	---	---	---
11A Channel 48 / 5240 MHz									
Frequency	Ant.Pol. H/V	Peak reading (dBuV)	AV reading (dBuV)	Correction Factor	Emission Level		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
					Peak (dBuV/m)	AV (dBuV/m)			
10480	H	43.40	---	9.24	52.64	---	74	54	-15.56
15720	H	40.94	---	9.83	50.77	---	74	54	-23.23
---	H	---	---	---	---	---	---	---	---
10480	V	44.27	---	9.24	53.51	---	74	54	-14.69
15720	V	38.41	---	9.83	48.24	---	74	54	-25.76
---	V	---	---	---	---	---	---	---	---

Notes:

- 1). Radiated emissions measured in frequency range from 9 KHz-10th harmonic or 40GHz (which is less) were made with an instrument using Peak detector mode.
- 2). Data of measurement within this frequency range shown "----" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 3). Worst case data at 1Mbps at IEEE 802.11a.
- 4). Measured Level = Reading Level + Factor, Margin = Measured Level - Limit

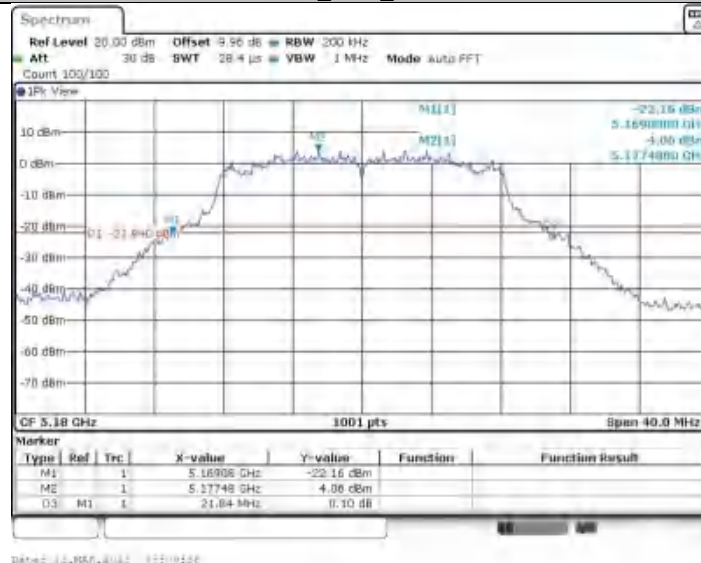
APPENDIX E - BANDWIDTH

Appendix A1: Emission Bandwidth

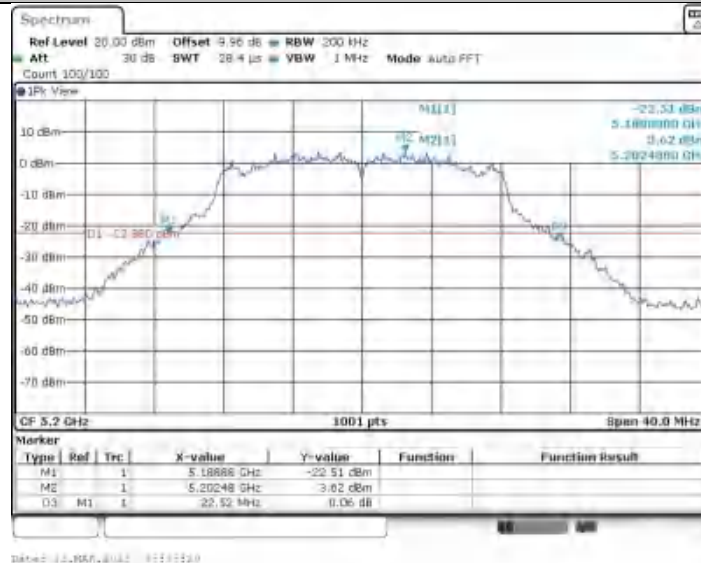
TestMode	Freq(MHz)	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	5180	21.84	5169.08	5190.92	---	---
	5200	22.52	5188.88	5211.40	---	---
	5240	22.56	5228.56	5251.12	---	---
	5745	22.68	5733.64	5756.32	---	---
	5785	22.80	5773.52	5796.32	---	---
	5825	22.48	5813.40	5835.88	---	---
11N20SISO	5180	23.04	5168.56	5191.60	---	---
	5200	22.68	5188.44	5211.12	---	---
	5240	22.12	5228.60	5250.72	---	---
	5745	22.40	5733.92	5756.32	---	---
	5785	23.48	5773.00	5796.48	---	---
	5825	22.40	5813.92	5836.32	---	---
11N40SISO	5190	42.16	5168.64	5210.80	---	---
	5230	42.80	5208.00	5250.80	---	---
	5755	44.16	5732.36	5776.52	---	---
	5795	43.68	5773.00	5816.68	---	---
11AC20SISO	5180	21.84	5169.04	5190.88	---	---
	5200	23.04	5188.36	5211.40	---	---
	5240	21.64	5229.08	5250.72	---	---
	5745	23.00	5733.68	5756.68	---	---
	5785	23.44	5772.96	5796.40	---	---
	5825	22.60	5813.24	5835.84	---	---
11AC40SISO	5190	42.88	5168.40	5211.28	---	---
	5230	43.52	5207.76	5251.28	---	---
	5755	43.12	5733.16	5776.28	---	---
	5795	44.88	5772.36	5817.24	---	---
11AC80SISO	5210	81.28	5169.52	5250.80	---	---
	5775	81.60	5735.00	5816.60	---	---

Test Graphs

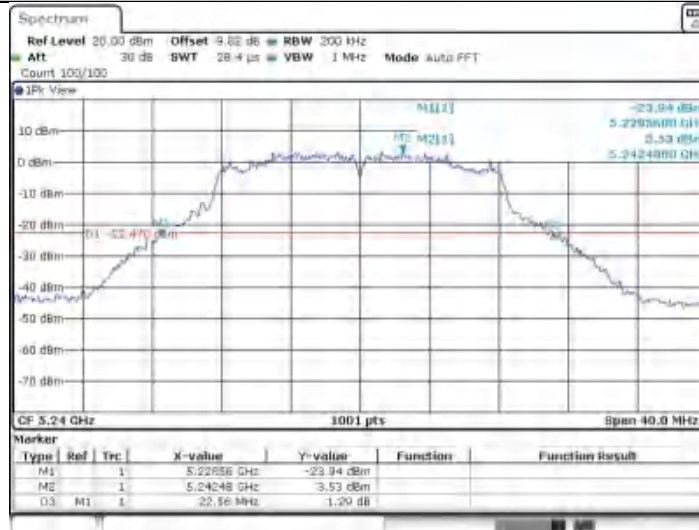
11A_Ant1_5180



11A_Ant1_5200

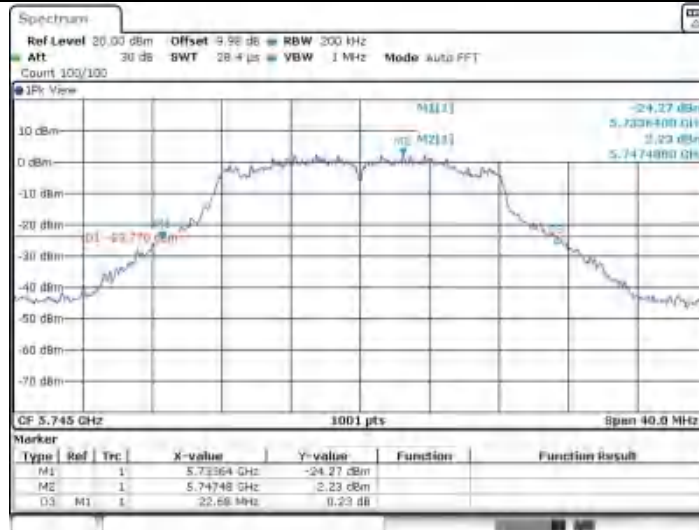


11A_Ant1_5240



Date: 12/06/2023 11:04:44

11A_Ant1_5745



Date: 12/06/2023 11:05:27

11A_Ant1_5785



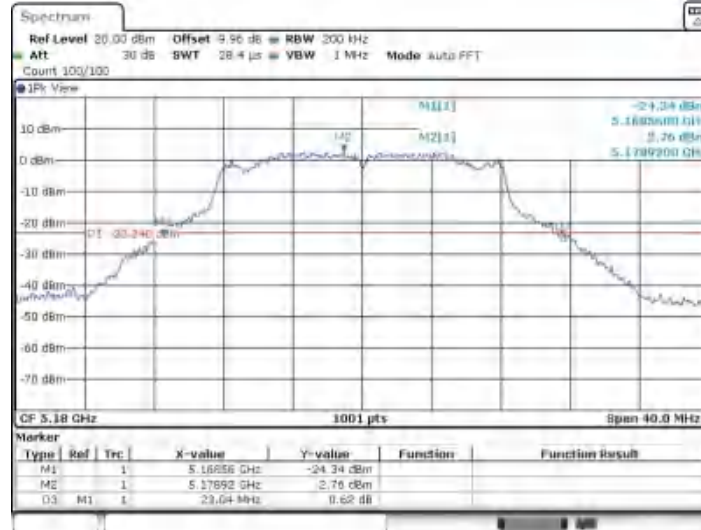
Date: 12/06/2023 11:04:44

11A_Ant1_5825



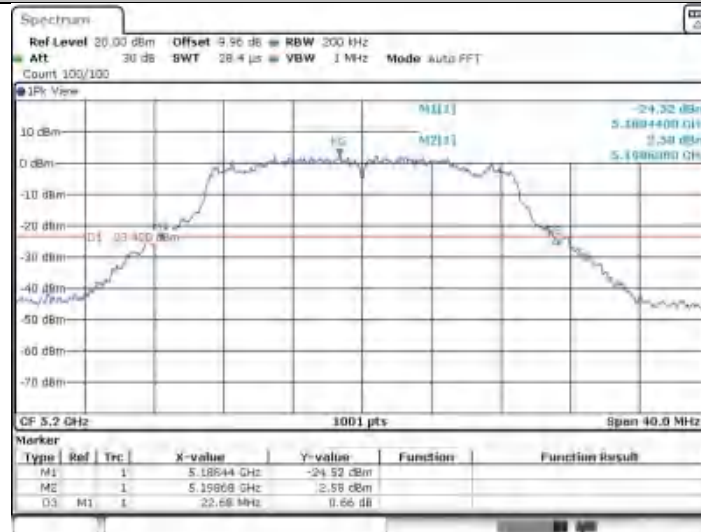
Date: 12/06/2023 12:10:51

11N20SISO_Ant1_5180



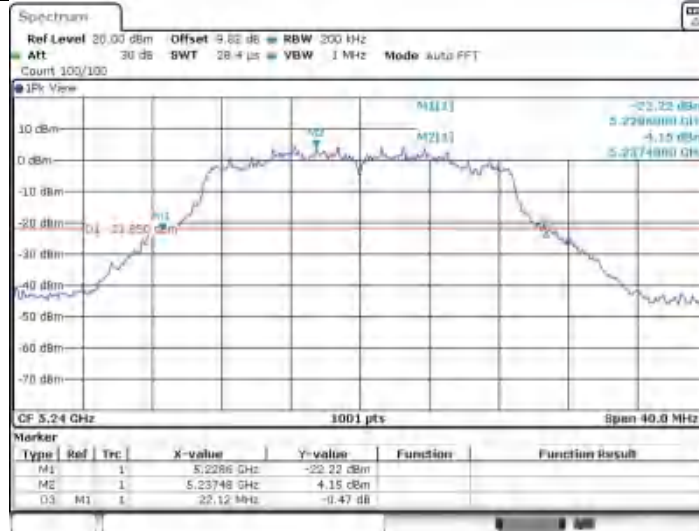
Date: 12/06/2023 12:10:52

11N20SISO_Ant1_5200



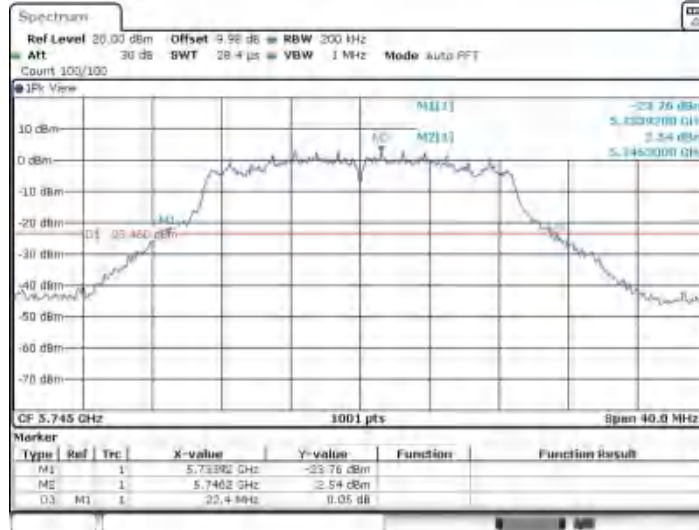
Date: 12/06/2023 12:10:53

11N20SISO_Ant1_5240



Date: 12/06/2023 10:22:54

11N20SISO_Ant1_5745



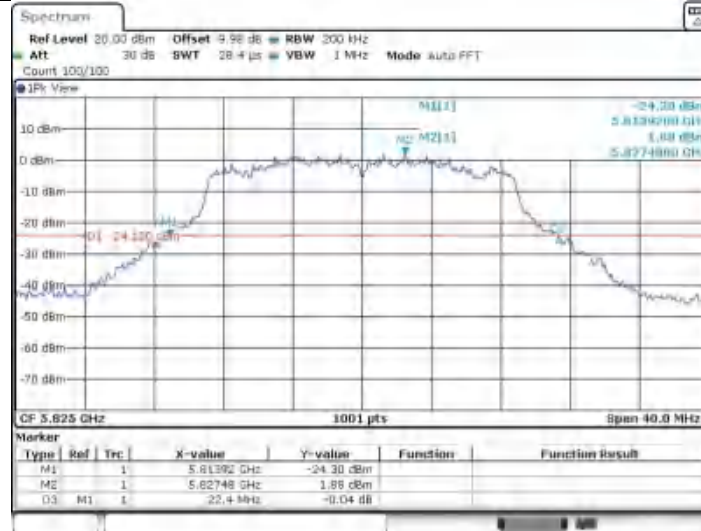
Date: 12/06/2023 10:22:54

11N20SISO_Ant1_5785



Date: 12/06/2023 10:22:54

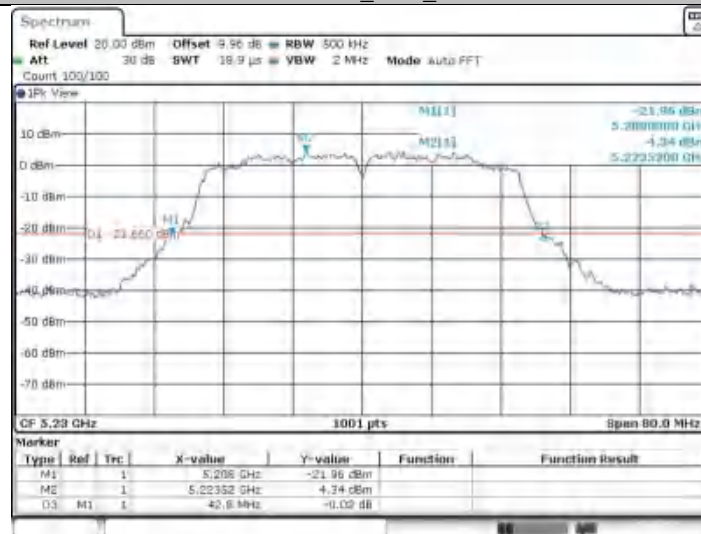
11N20SISO_Ant1_5825



11N40SISO_Ant1_5190



11N40SISO_Ant1_5230



11N40SISO_Ant1_5755



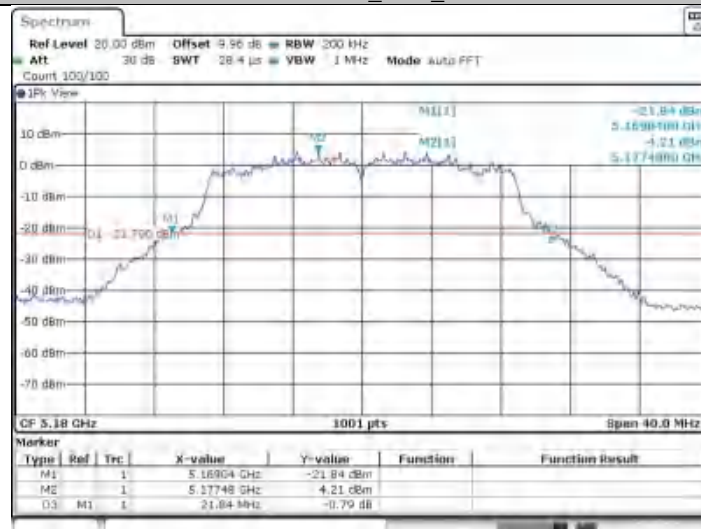
Date# 22,NOV,2022 10:59:27

11N40SISO_Ant1_5795



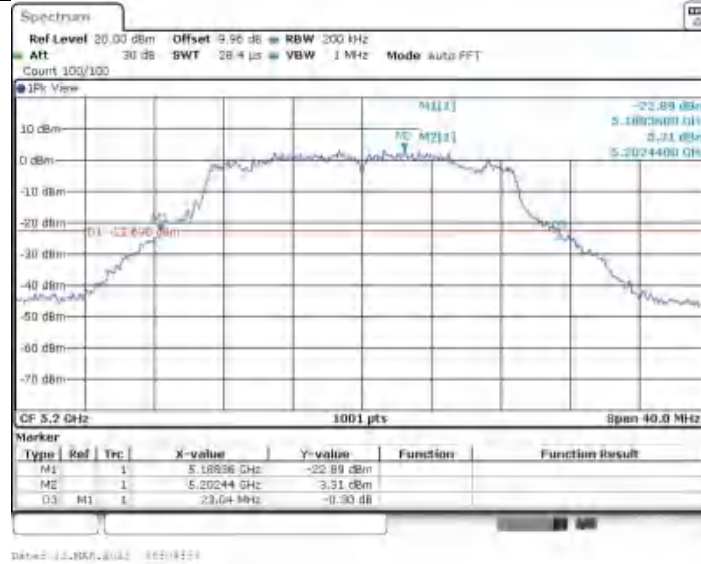
Date# 22,NOV,2022 10:59:24

11AC20SISO_Ant1_5180

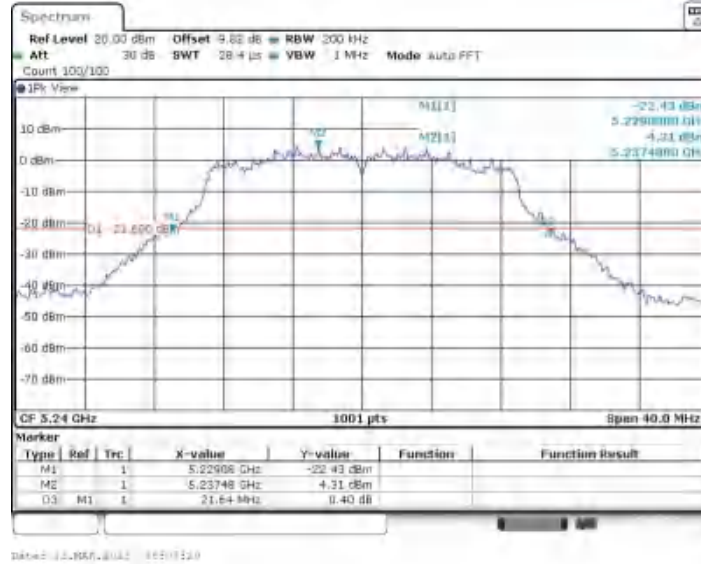


Date# 22,NOV,2022 10:59:29

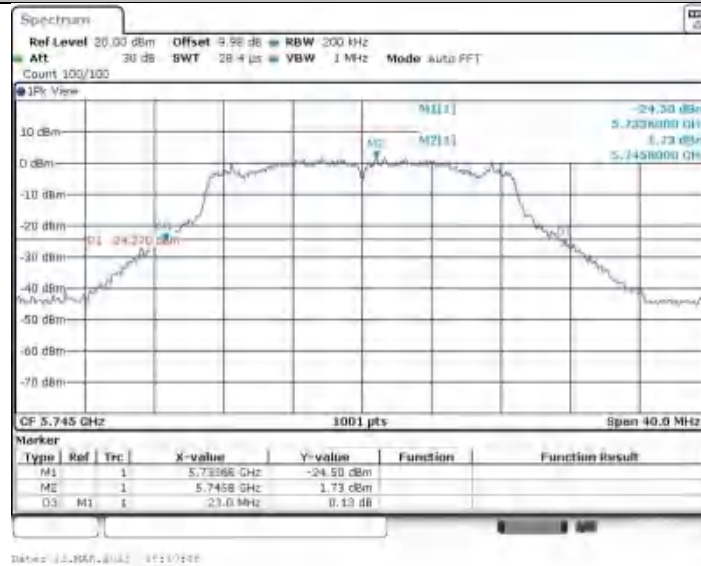
11AC20SISO_Ant1_5200



11AC20SISO_Ant1_5240



11AC20SISO_Ant1_5745



11AC20SISO_Ant1_5785



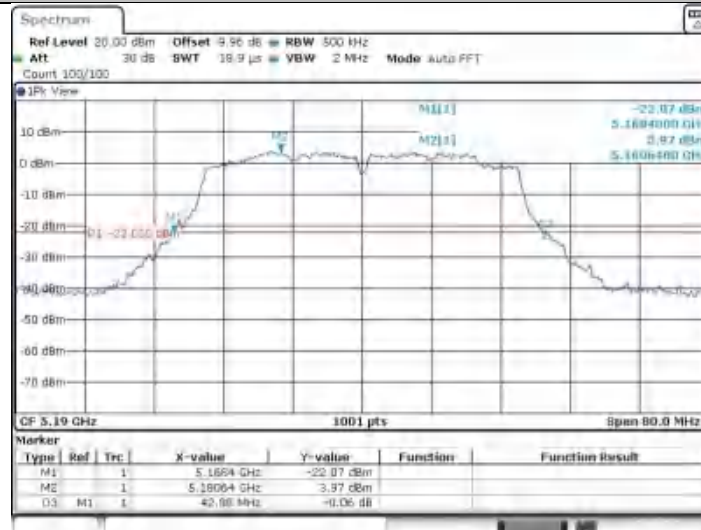
Date: 12/06/2023 11:11:22

11AC20SISO_Ant1_5825



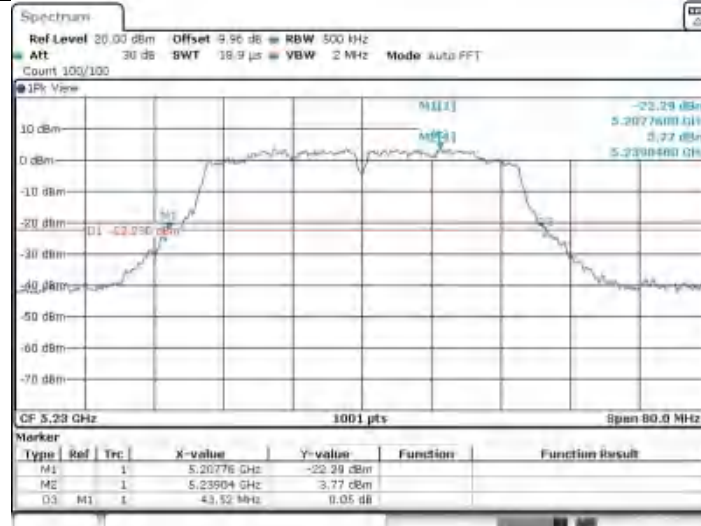
Date: 12/06/2023 11:11:23

11AC40SISO_Ant1_5190



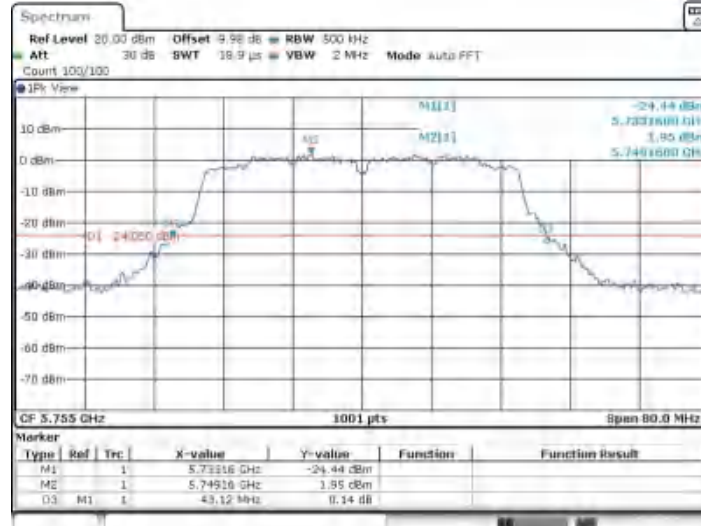
Date: 12/06/2023 11:11:23

11AC40SISO_Ant1_5230



Date: 12/06/2023 11:50:11

11AC40SISO_Ant1_5755



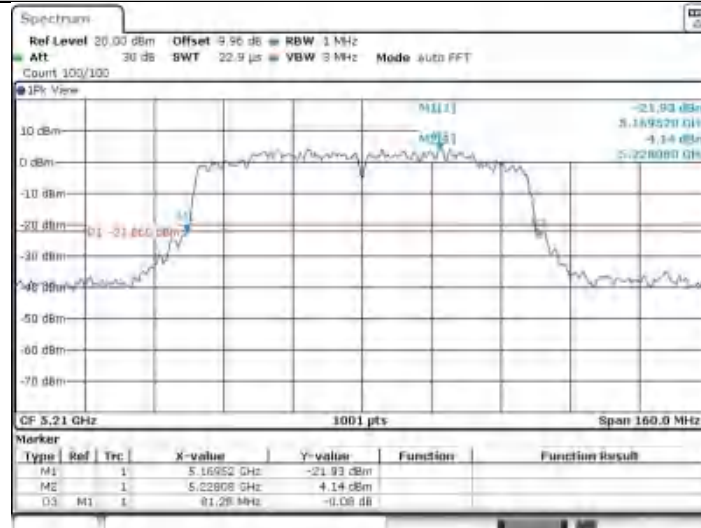
Date: 12/06/2023 11:52:22

11AC40SISO_Ant1_5795



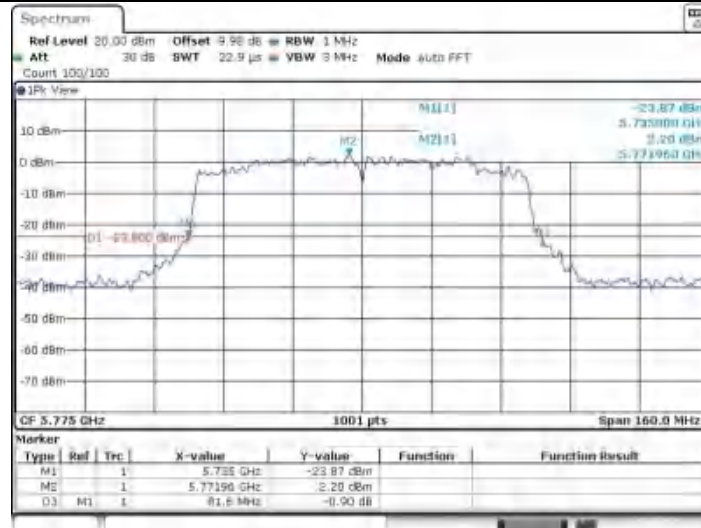
Date: 12/06/2023 11:52:50

11AC80SISO_Ant1_5210



Date: 12-06-2023 11:52:13

11AC80SISO_Ant1_5775

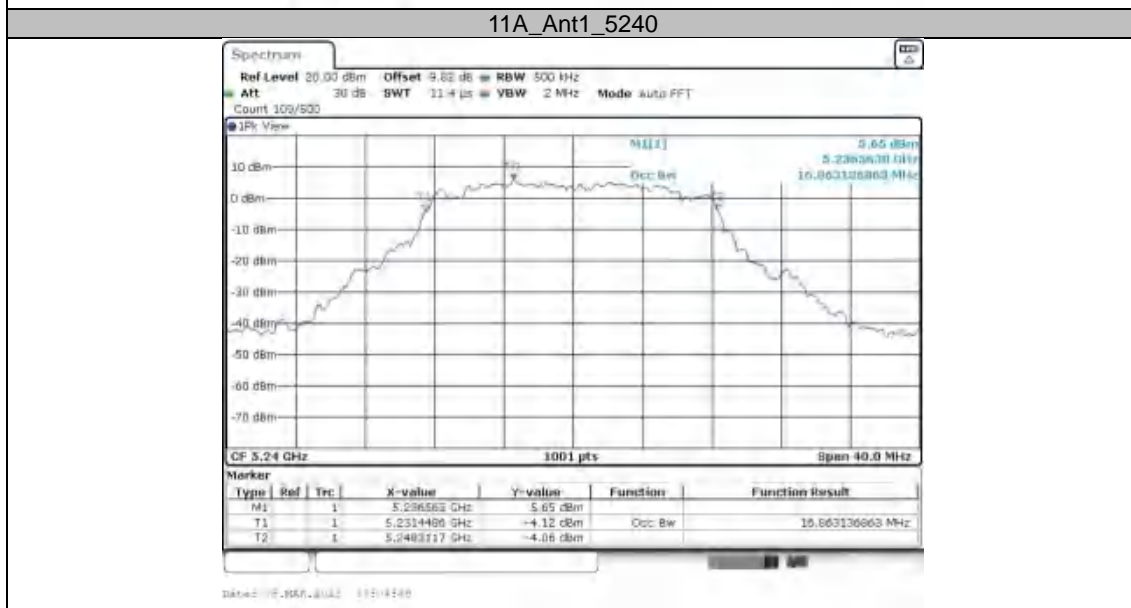
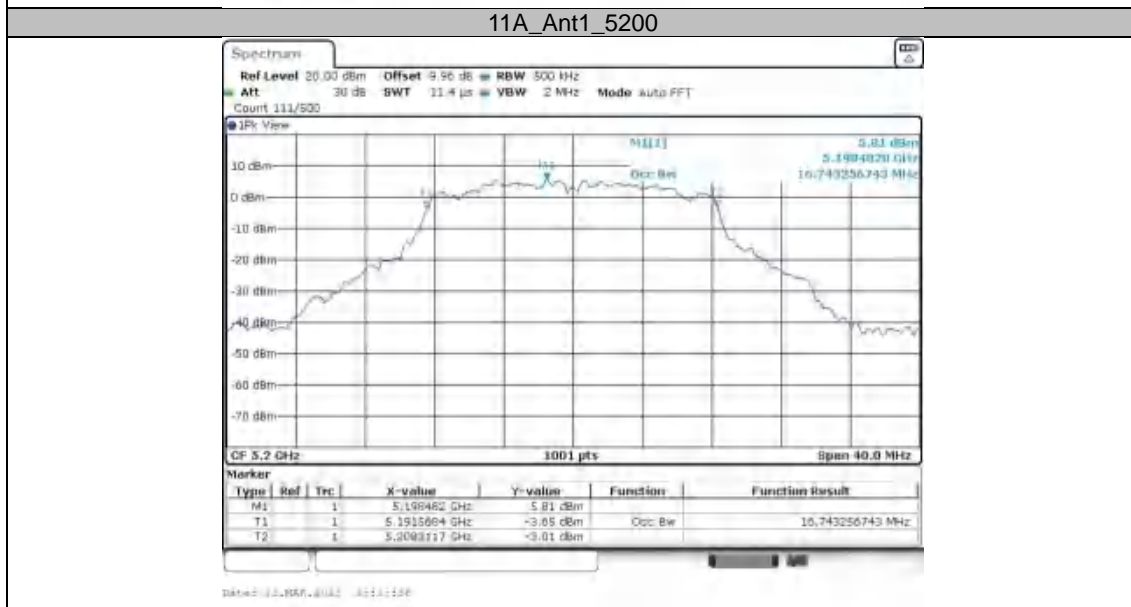
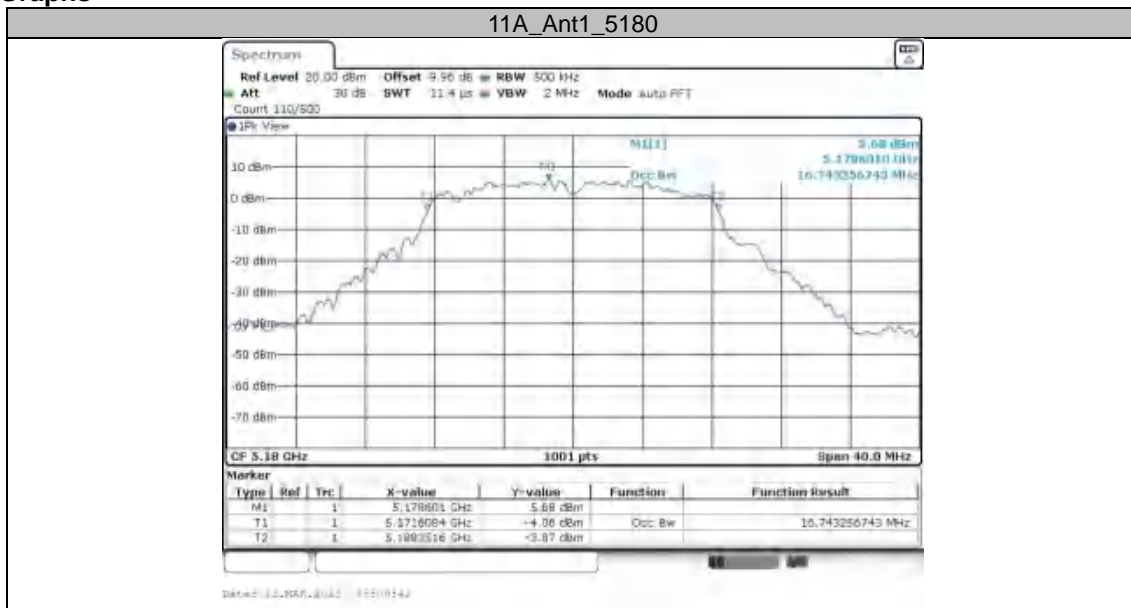


Date: 12-06-2023 11:52:13

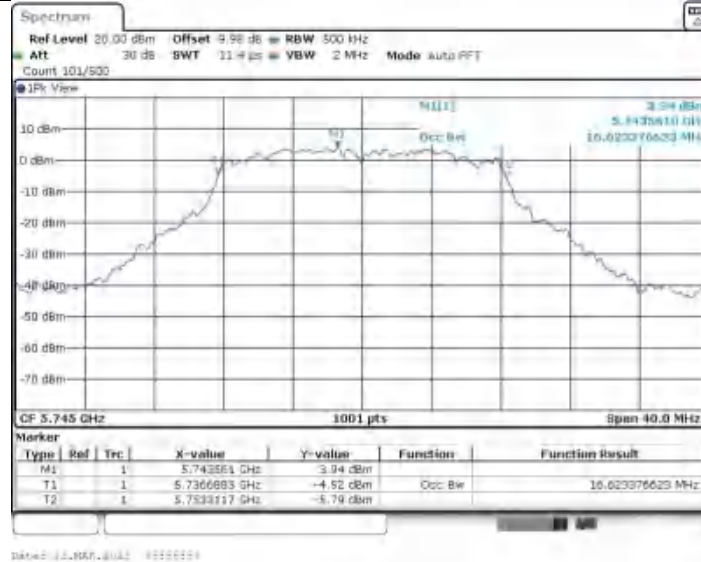
Appendix A2: Occupied channel bandwidth

TestMode	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	5180	16.743	5171.6084	5188.3516	---	---
	5200	16.743	5191.5684	5208.3117	---	---
	5240	16.863	5231.4486	5248.3117	---	---
	5745	16.623	5736.6883	5753.3117	---	---
	5785	16.663	5776.5285	5793.1918	---	---
	5825	16.943	5816.5285	5833.4715	---	---
11N20SISO	5180	16.783	5171.6883	5188.4715	---	---
	5200	17.742	5191.0490	5208.7912	---	---
	5240	17.662	5231.0889	5248.7512	---	---
	5745	17.862	5736.0090	5753.8711	---	---
	5785	17.942	5776.0090	5793.9510	---	---
	5825	17.702	5816.1289	5833.8312	---	---
11N40SISO	5190	35.964	5171.8581	5207.8222	---	---
	5230	36.364	5211.6983	5248.0619	---	---
	5755	36.204	5736.8581	5773.0619	---	---
	5795	36.124	5776.7782	5812.9021	---	---
11AC20SISO	5180	17.862	5171.1688	5189.0310	---	---
	5200	17.902	5190.8891	5208.7912	---	---
	5240	18.062	5230.8492	5248.9111	---	---
	5745	18.022	5736.0490	5754.0709	---	---
	5785	17.982	5775.8092	5793.7912	---	---
	5825	17.982	5815.8492	5833.8312	---	---
11AC40SISO	5190	36.044	5171.9381	5207.9820	---	---
	5230	36.204	5211.9381	5248.1419	---	---
	5755	36.364	5736.7782	5773.1419	---	---
	5795	36.364	5776.6983	5813.0619	---	---
11AC80SISO	5210	75.285	5172.1179	5247.4026	---	---
	5775	75.285	5737.7572	5813.0420	---	---

Test Graphs



11A_Ant1_5745



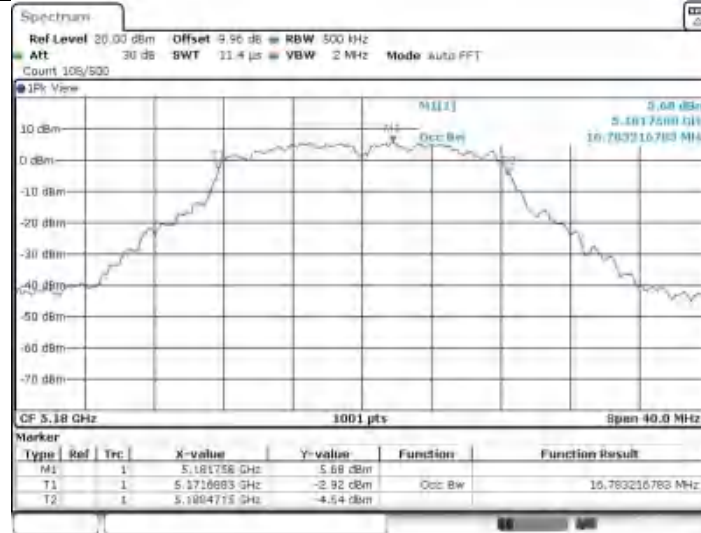
11A_Ant1_5785



11A_Ant1_5825

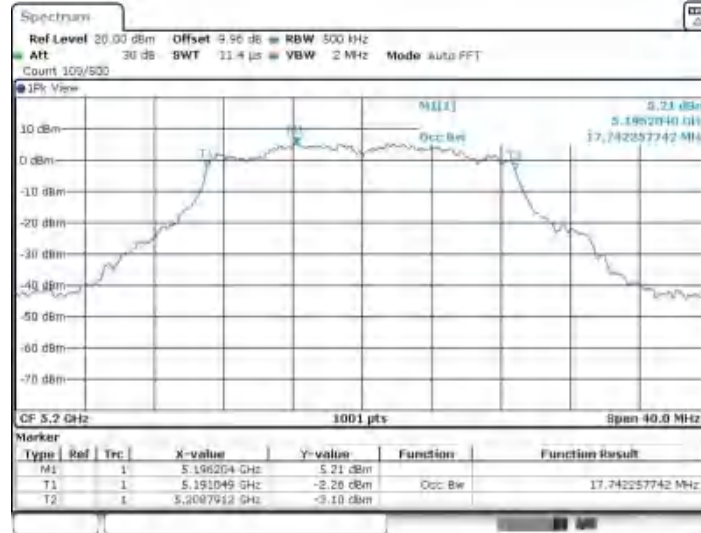


11N20SISO_Ant1_5180



Date: 12-06-2023 10:22:44

11N20SISO_Ant1_5200



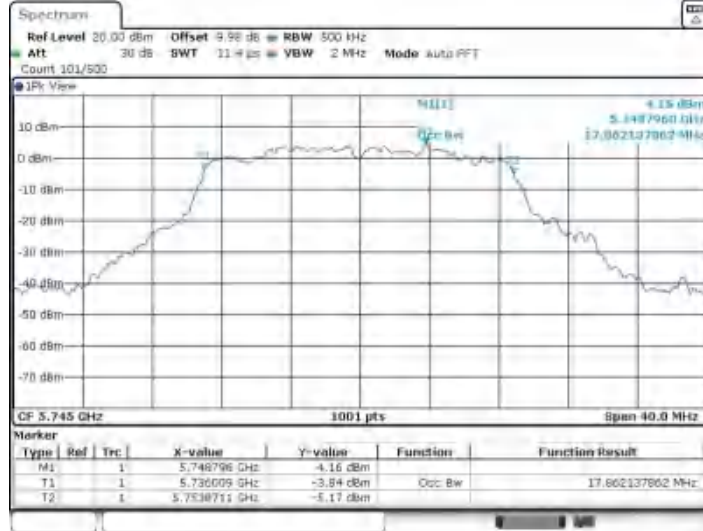
Date: 12-06-2023 11:50:22

11N20SISO_Ant1_5240



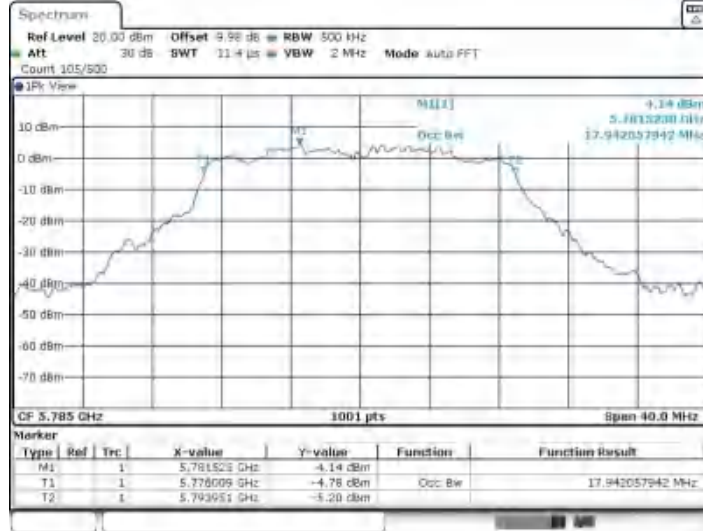
Date: 12-06-2023 10:22:44

11N20SISO_Ant1_5745



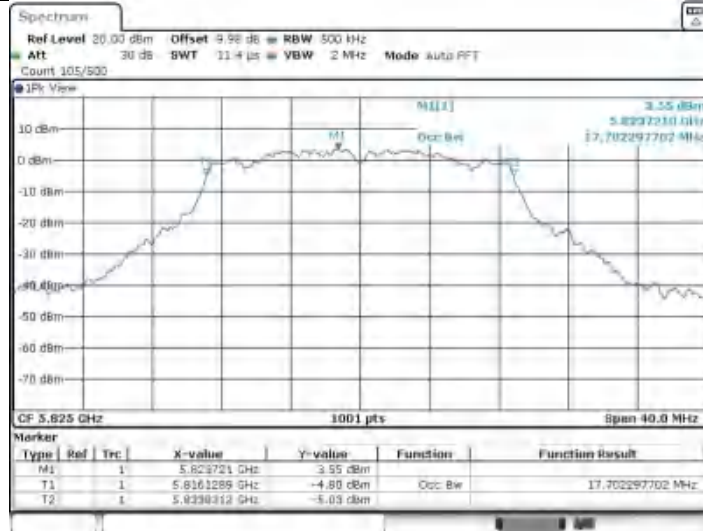
Date: 12-06-2023 10:11:42

11N20SISO_Ant1_5785



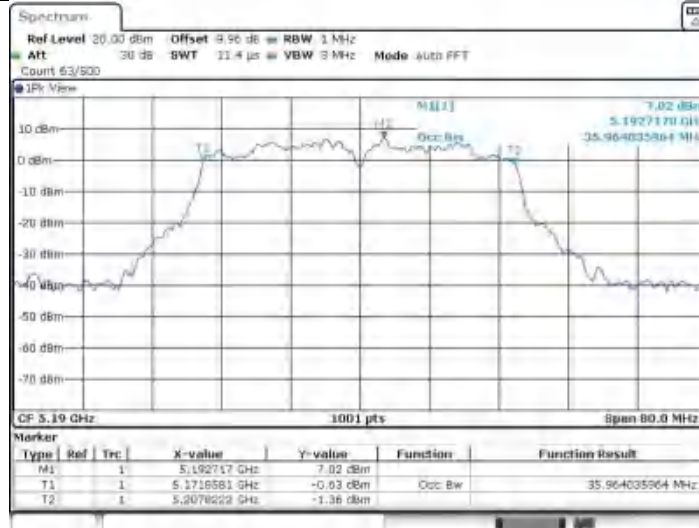
Date: 12-06-2023 10:12:52

11N20SISO_Ant1_5825

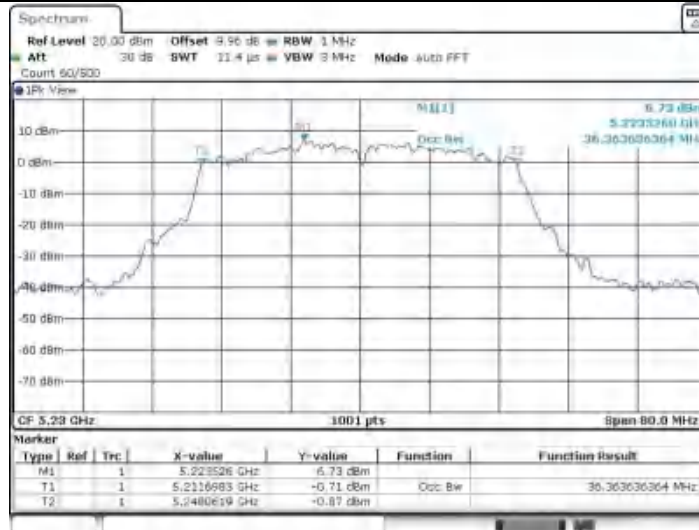


Date: 12-06-2023 10:13:43

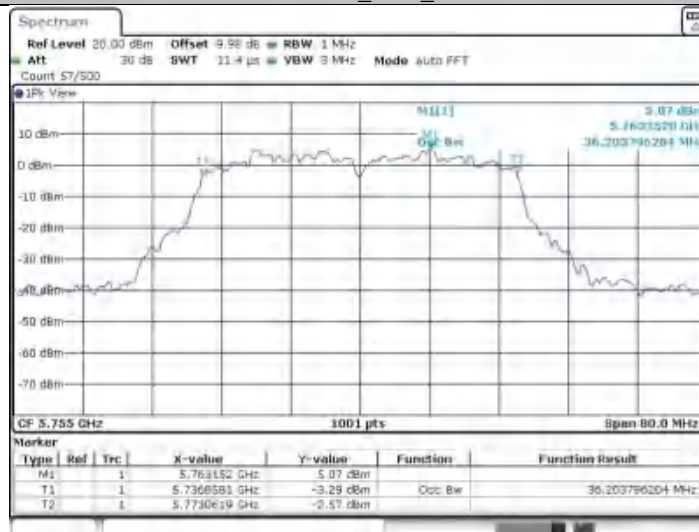
11N40SISO_Ant1_5190



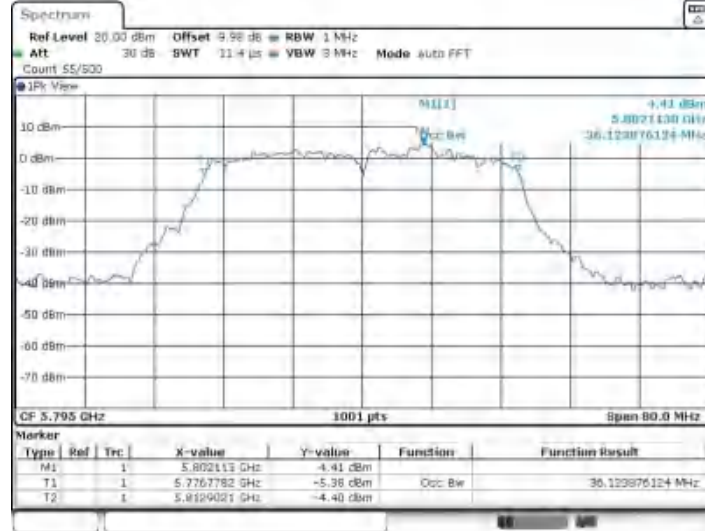
11N40SISO_Ant1_5230



11N40SISO_Ant1_5755

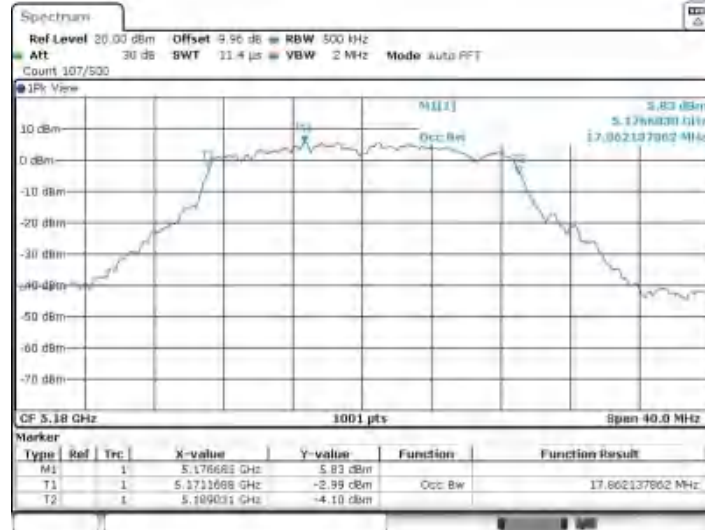


11N40SISO_Ant1_5795



Date: 12/06/2023 18:52:22

11AC20SISO_Ant1_5180



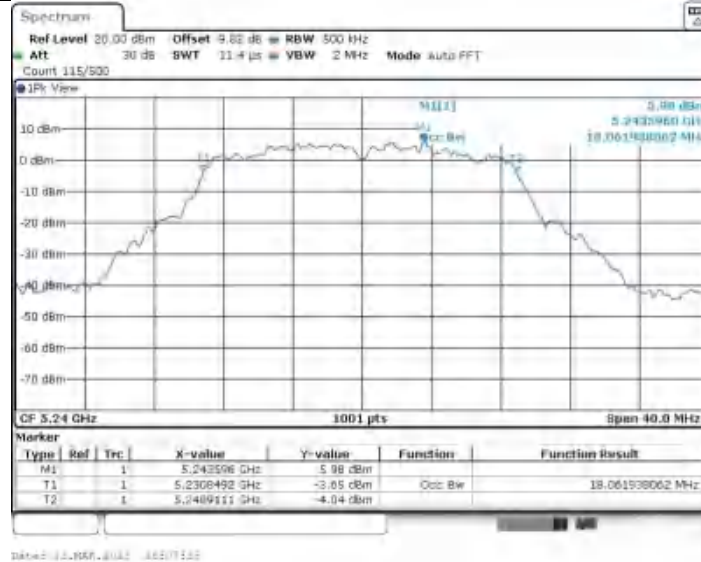
Date: 12/06/2023 18:52:19

11AC20SISO_Ant1_5200

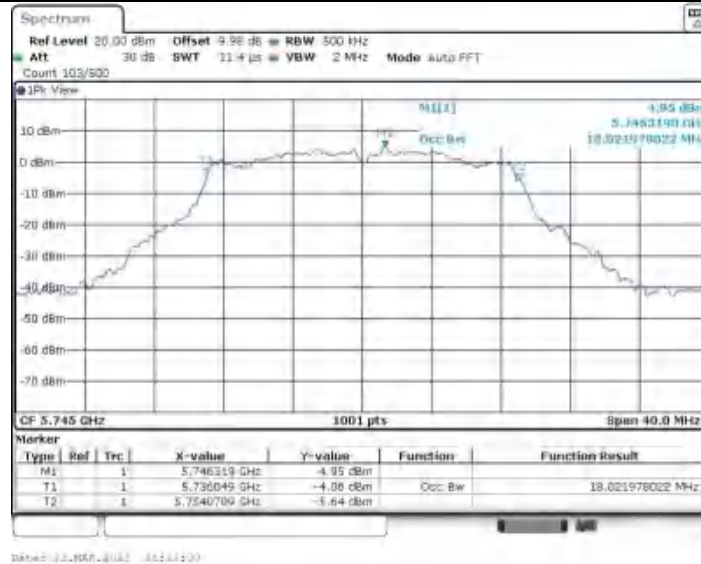


Date: 12/06/2023 18:51:51

11AC20SISO_Ant1_5240



11AC20SISO_Ant1_5745



11AC20SISO_Ant1_5785

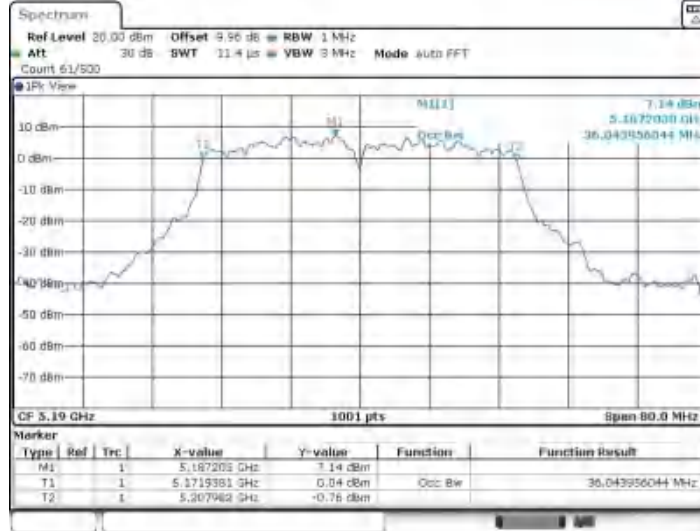


11AC20SISO_Ant1_5825



Date: 12/06/2023 11:51:54

11AC40SISO_Ant1_5190



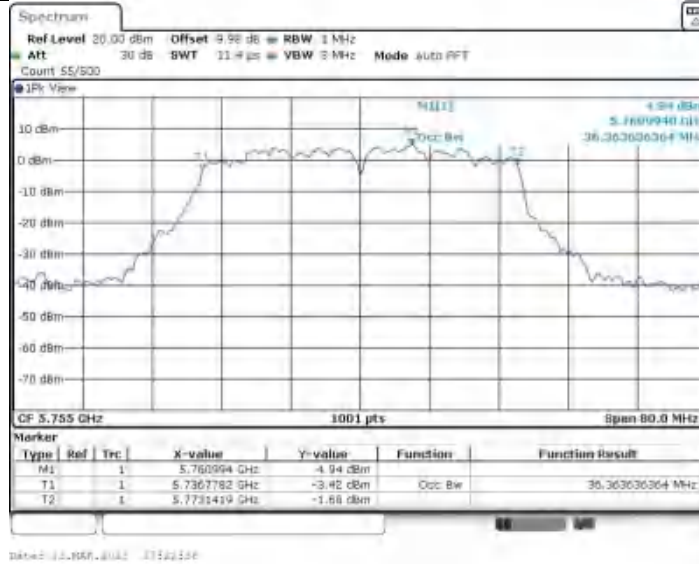
Date: 12/06/2023 11:50:48

11AC40SISO_Ant1_5230

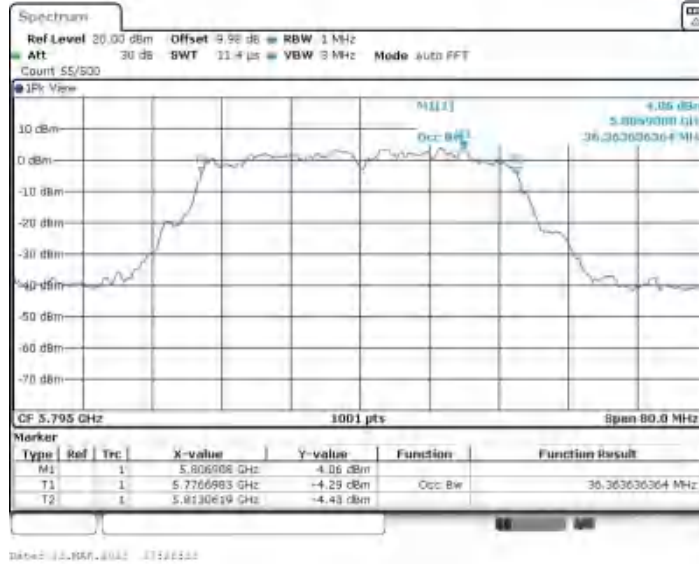


Date: 12/06/2023 11:50:42

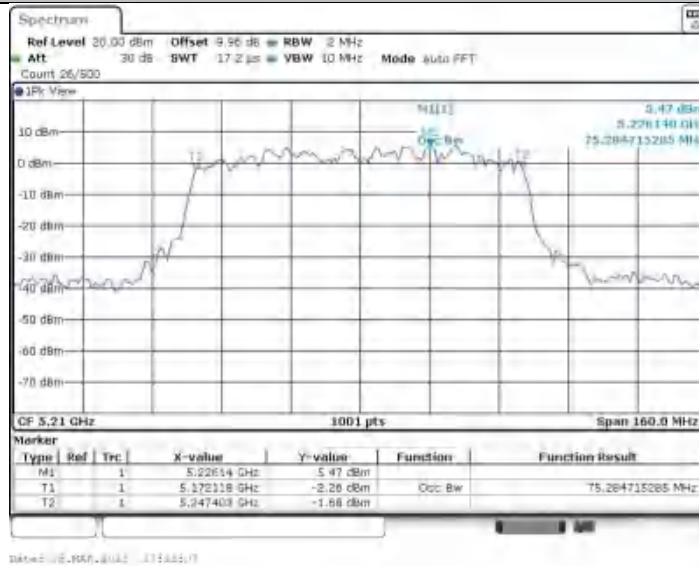
11AC40SISO_Ant1_5755



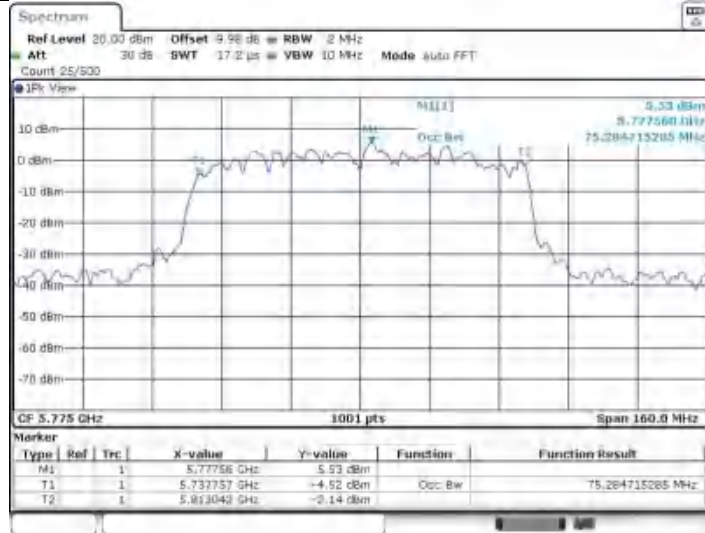
11AC40SISO_Ant1_5795



11AC80SISO_Ant1_5210



11AC80SISO_Ant1_5775

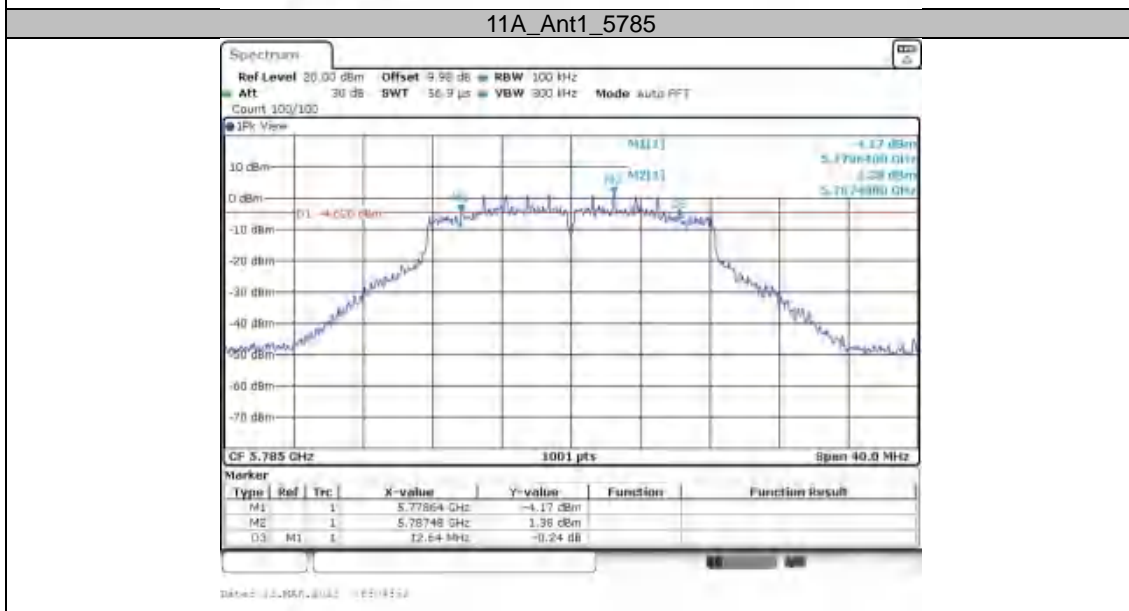
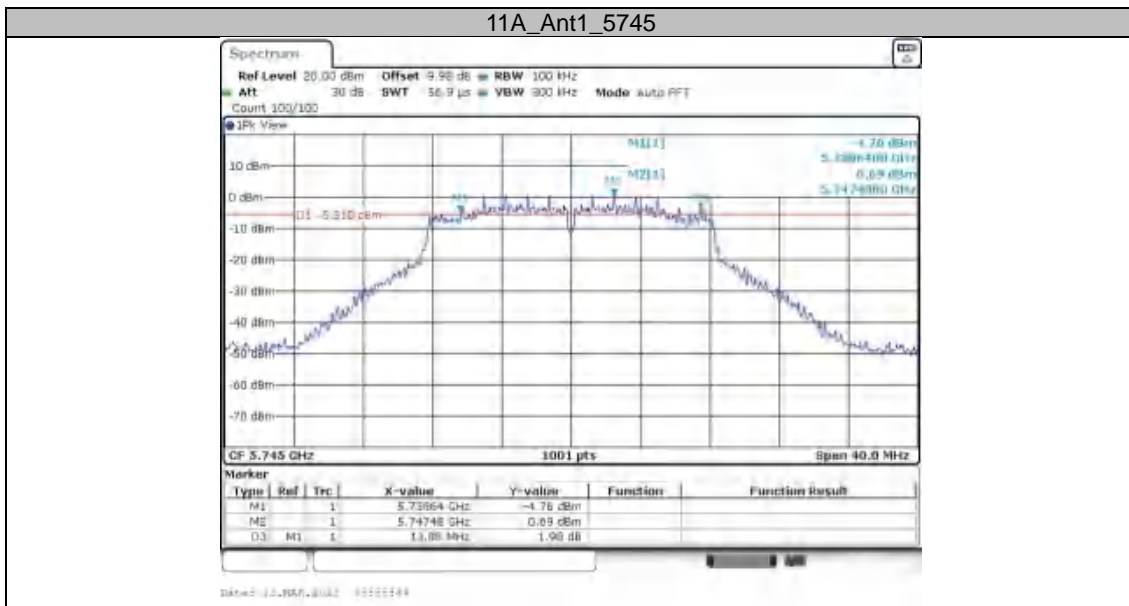


Date: 12/06/2023 11:50:52

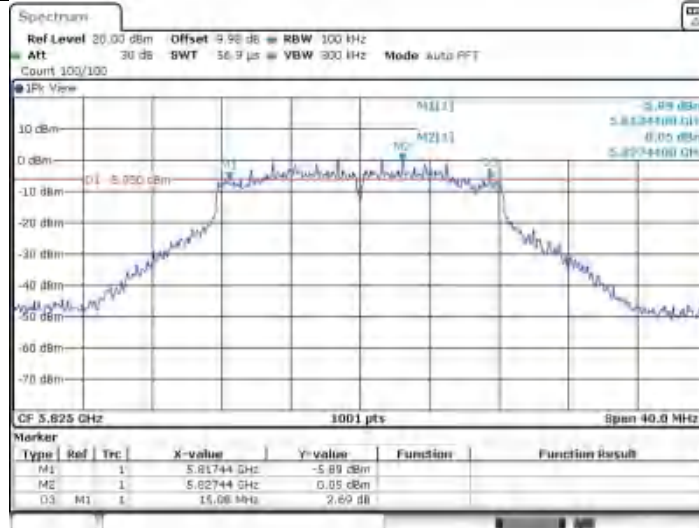
Appendix A3: Min emission bandwidth

TestMode	Freq(MHz)	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	5745	13.88	5738.64	5752.52	0.5	PASS
	5785	12.64	5778.64	5791.28	0.5	PASS
	5825	15.08	5817.44	5832.52	0.5	PASS
11N20SISO	5745	17.60	5736.16	5753.76	0.5	PASS
	5785	17.60	5776.16	5793.76	0.5	PASS
	5825	12.60	5818.68	5831.28	0.5	PASS
11N40SISO	5755	30.72	5741.80	5772.52	0.5	PASS
	5795	36.40	5776.76	5813.16	0.5	PASS
11AC20SISO	5745	17.60	5736.16	5753.76	0.5	PASS
	5785	17.60	5776.16	5793.76	0.5	PASS
	5825	17.60	5816.16	5833.76	0.5	PASS
11AC40SISO	5755	33.84	5738.68	5772.52	0.5	PASS
	5795	34.72	5777.80	5812.52	0.5	PASS
11AC80SISO	5775	63.84	5737.40	5801.24	0.5	PASS

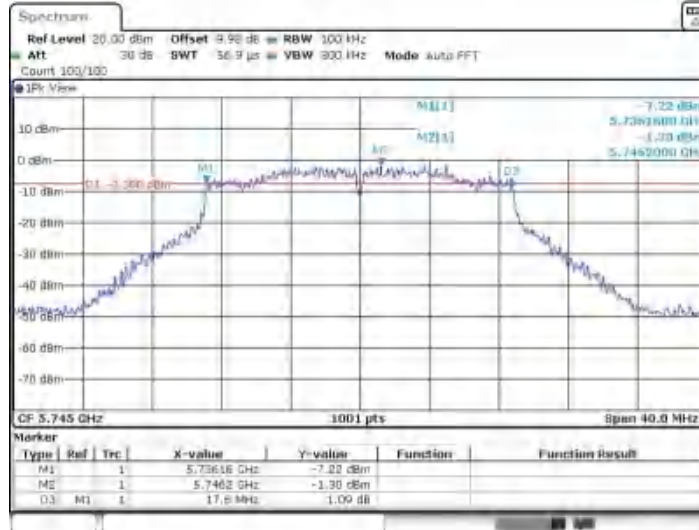
Test Graphs



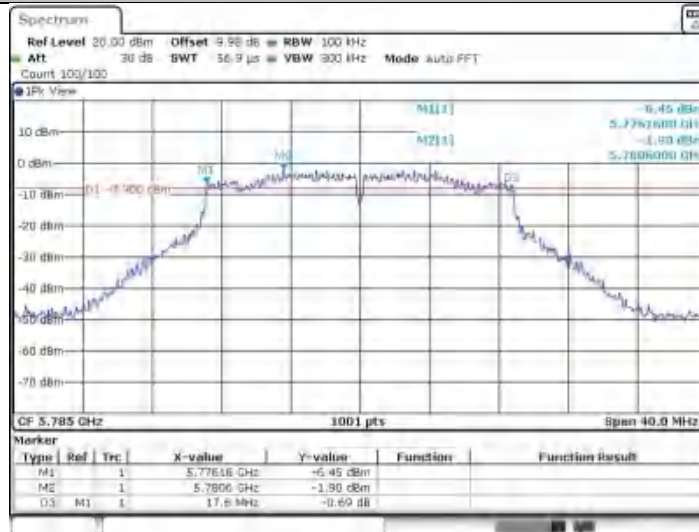
11A_Ant1_5825



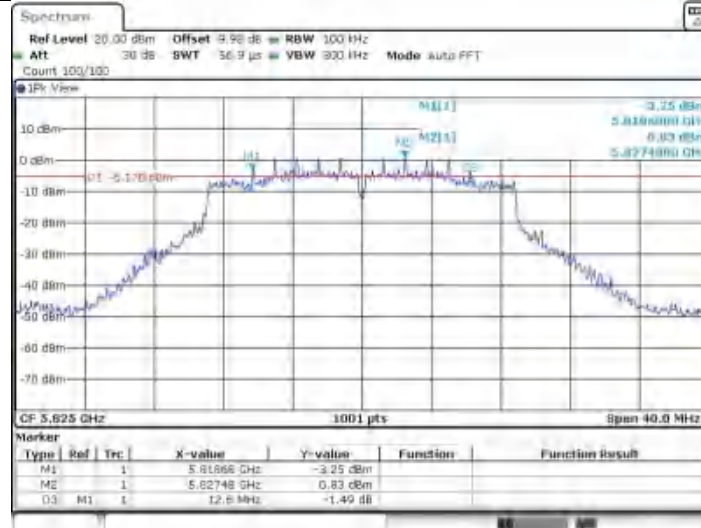
11N20SISO_Ant1_5745



11N20SISO_Ant1_5785

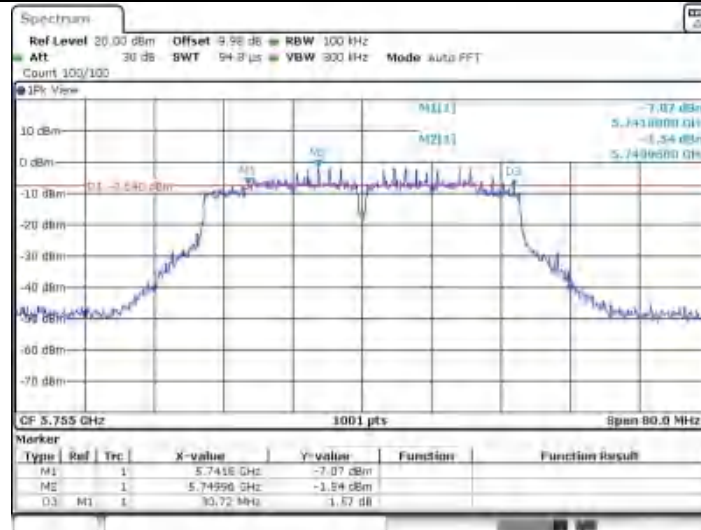


11N20SISO_Ant1_5825



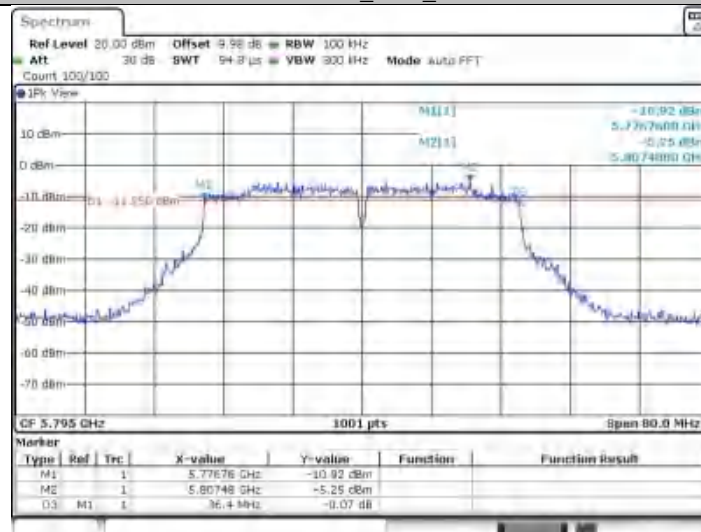
Date: 12/06/2022 10:22:43

11N40SISO_Ant1_5755



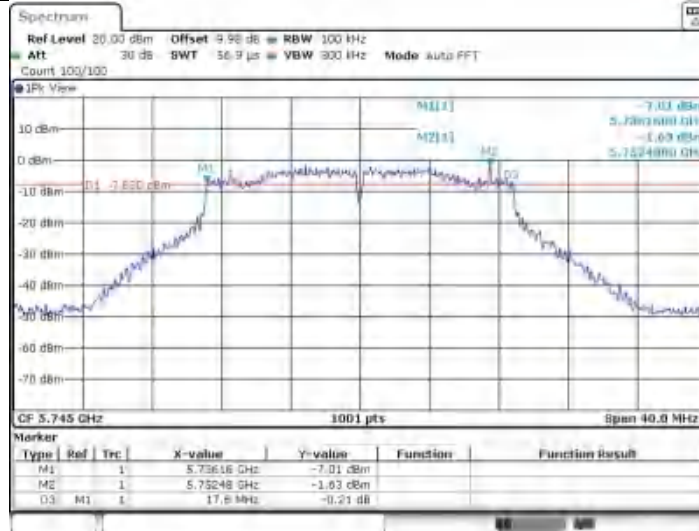
Date: 12/06/2022 10:24:54

11N40SISO_Ant1_5795



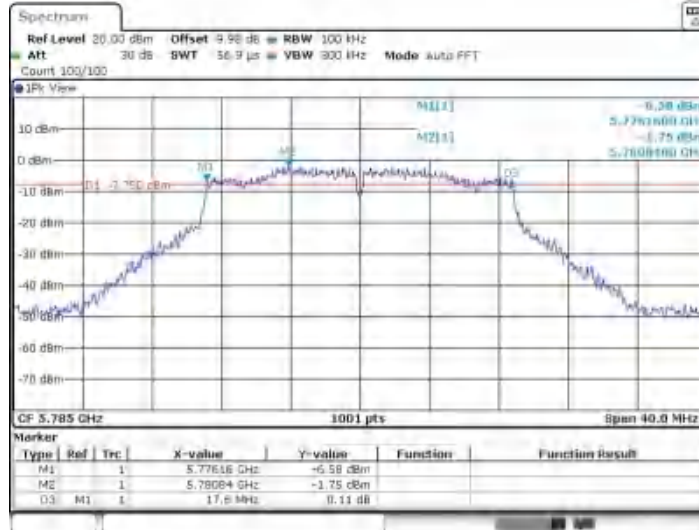
Date: 12/06/2022 10:25:49

11AC20SISO_Ant1_5745



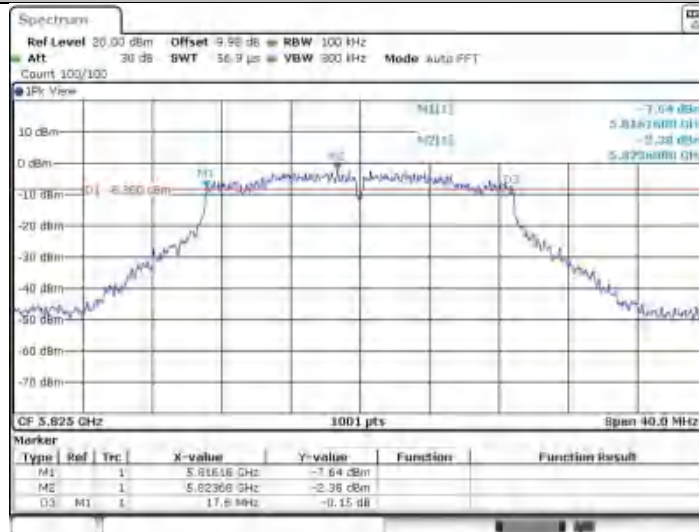
Date: 12/06/2023 09:33:22

11AC20SISO_Ant1_5785



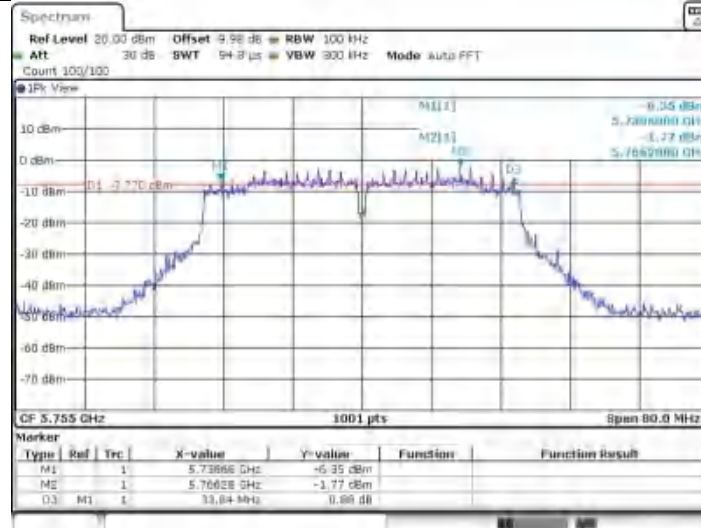
Date: 12/06/2023 09:33:23

11AC20SISO_Ant1_5825



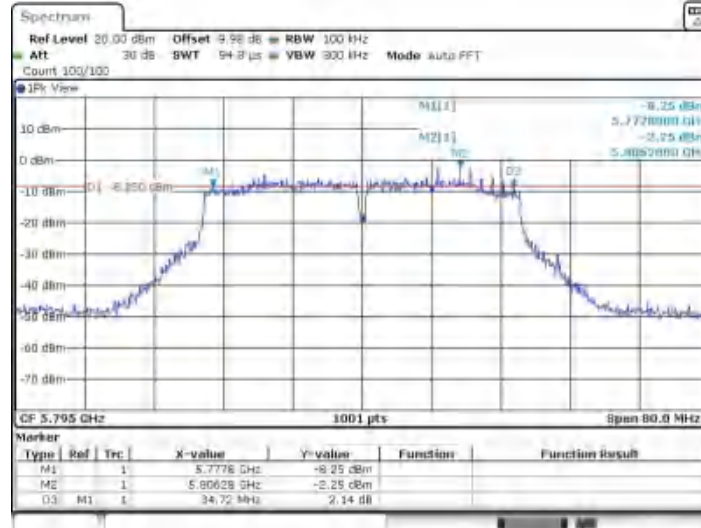
Date: 12/06/2023 09:33:24

11AC40SISO_Ant1_5755



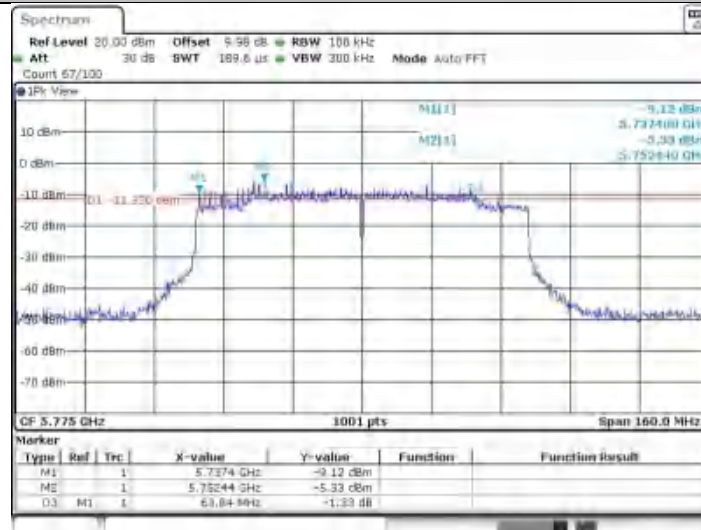
Date# 22,NOV,2022 11:22:24

11AC40SISO_Ant1_5795



Date# 22,NOV,2022 11:22:27

11AC80SISO_Ant1_5775



Date# 22,NOV,2022 11:22:10

APPENDIX F - MAXIMUM OUTPUT POWER

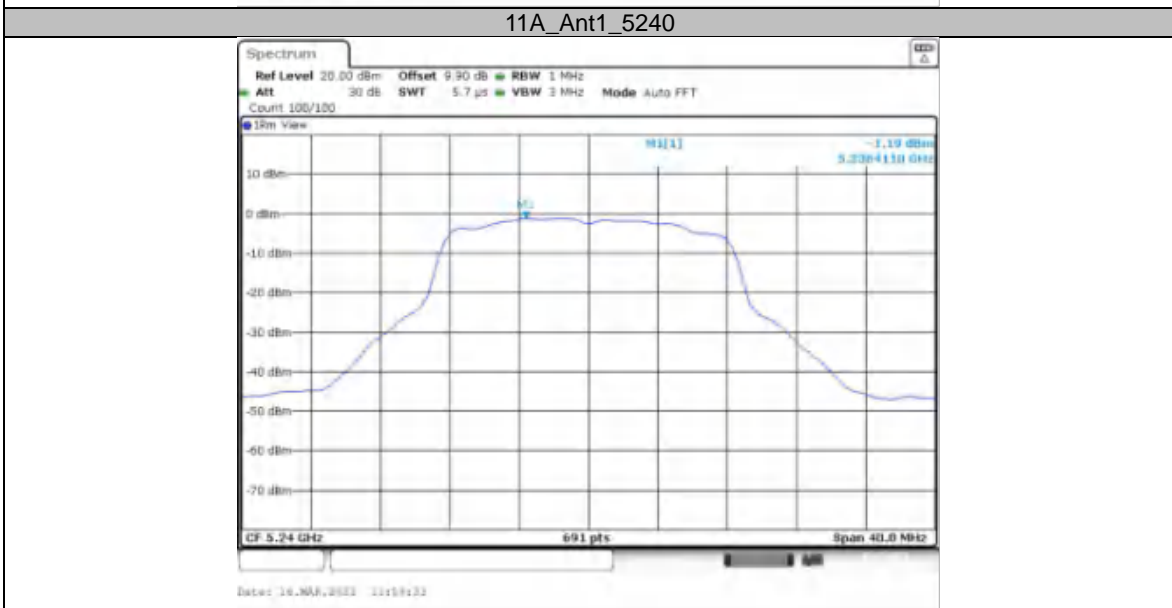
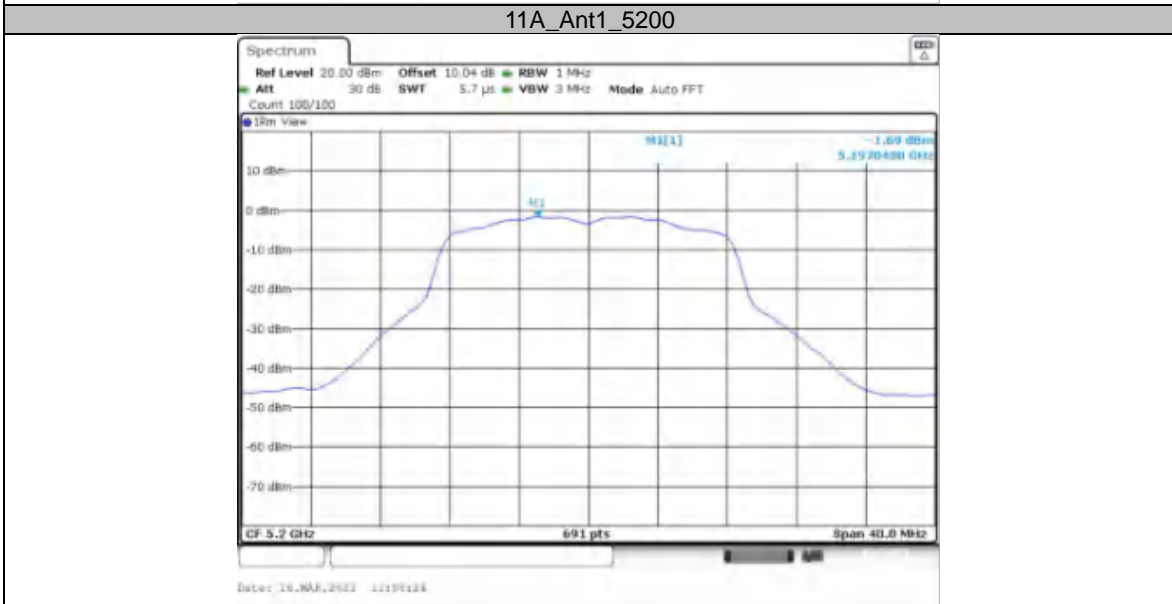
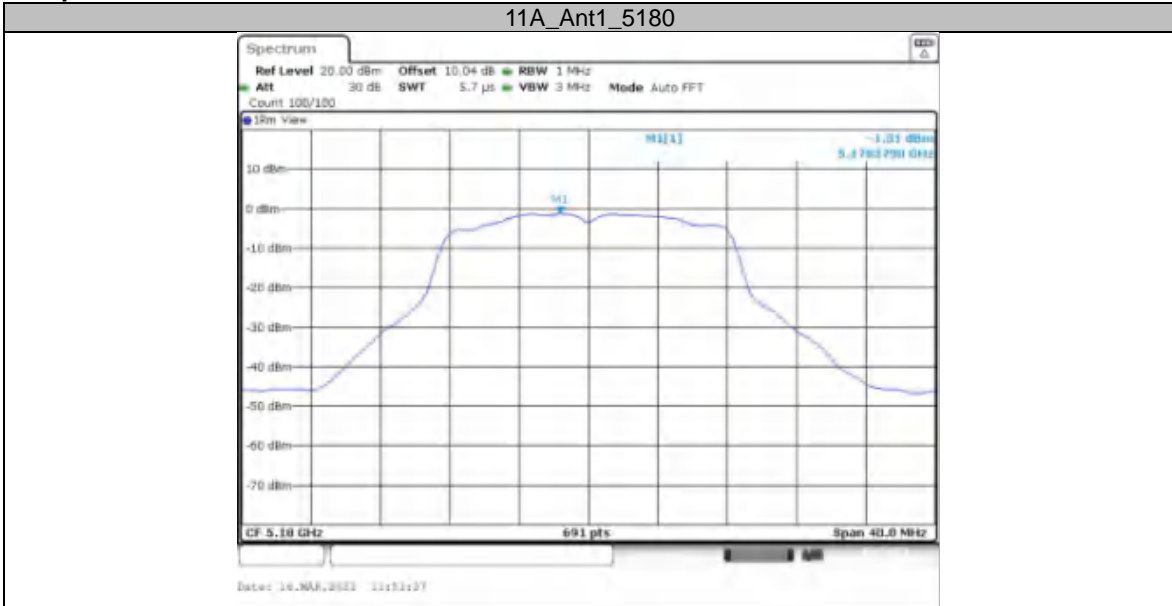
Test Mode	Frequency [MHz]	Channel Power [dBm]	Duty Cycle [%]	DC Factor [dBm]	Ant. Gain	Output Power [dBm]	Limit [dBm]	Verdict
11A	5180	9.29	98.09	---	3.5	12.79	≤23.98	PASS
	5200	9.09	98.08	---	3.5	12.59	≤23.98	PASS
	5240	9.54	98.08	---	3.5	13.04	≤23.98	PASS
	5745	10.43	98.56	---	3.5	13.93	≤30.00	PASS
	5785	10.55	98.56	---	3.5	14.05	≤30.00	PASS
11N 20SISO	5825	10.14	98.09	---	3.5	13.64	≤30.00	PASS
	5180	9.15	97.94	0.09	3.5	12.74	≤23.98	PASS
	5200	9.15	97.95	0.09	3.5	12.74	≤23.98	PASS
	5240	9.45	97.95	0.09	3.5	13.04	≤23.98	PASS
	5745	10.38	98.45	---	3.5	13.88	≤30.00	PASS
11N 40SISO	5785	10.58	98.45	---	3.5	14.08	≤30.00	PASS
	5825	10.21	98.45	---	3.5	13.71	≤30.00	PASS
	5190	10.08	96.91	0.14	3.5	13.72	≤23.98	PASS
	5230	10.16	95.92	0.18	3.5	13.84	≤23.98	PASS
	5755	10.68	95.88	0.18	3.5	14.36	≤30.00	PASS
11AC 20SISO	5795	10.34	95.88	0.18	3.5	14.02	≤30.00	PASS
	5180	9.32	97.95	0.09	3.5	12.91	≤23.98	PASS
	5200	9.26	97.95	0.09	3.5	12.85	≤23.98	PASS
	5240	9.60	97.95	0.09	3.5	13.19	≤23.98	PASS
	5745	10.41	97.95	0.09	3.5	14.00	≤30.00	PASS
11AC 40SISO	5785	10.61	97.44	0.11	3.5	14.22	≤30.00	PASS
	5825	10.23	97.95	0.09	3.5	13.82	≤30.00	PASS
	5190	10.14	95.92	0.18	3.5	13.82	≤23.98	PASS
	5230	10.42	95.96	0.18	3.5	14.10	≤23.98	PASS
	5755	10.79	95.96	0.18	3.5	14.47	≤30.00	PASS
11AC 80SISO	5795	10.57	95.96	0.18	3.5	14.25	≤30.00	PASS
	5210	10.29	92.00	0.37	3.5	14.16	≤23.98	PASS
	5775	10.54	92.00	0.37	3.5	14.41	≤30.00	PASS

APPENDIX G - POWER SPECTRAL DENSITY

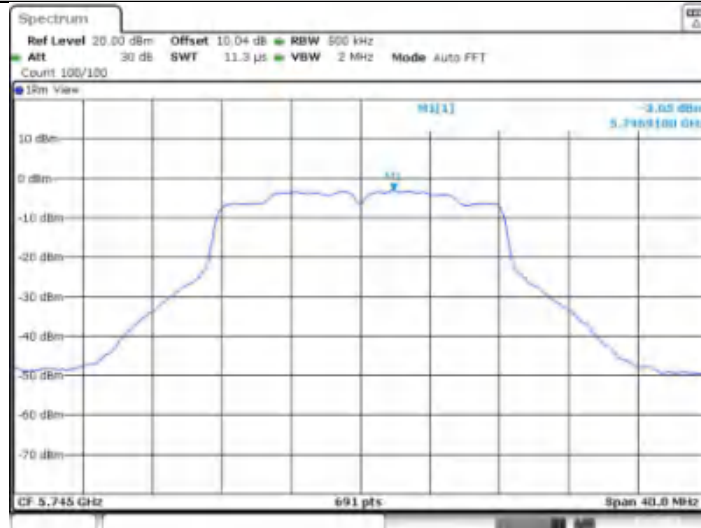
TestMode	Freq(MHz)	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	5180	-1.31	≤11.00	PASS
	5200	-1.69	≤11.00	PASS
	5240	-1.19	≤11.00	PASS
	5745	-3.05	≤30.00	PASS
	5785	-2.96	≤30.00	PASS
	5825	-3.48	≤30.00	PASS
11N20SISO	5180	-1.59	≤11.00	PASS
	5200	-1.51	≤11.00	PASS
	5240	-0.92	≤11.00	PASS
	5745	-3.18	≤30.00	PASS
	5785	-3.25	≤30.00	PASS
	5825	-3.78	≤30.00	PASS
11N40SISO	5190	-4.3	≤11.00	PASS
	5230	-3.9	≤11.00	PASS
	5755	-6.08	≤30.00	PASS
	5795	-6.53	≤30.00	PASS
11AC20SISO	5180	-1.54	≤11.00	PASS
	5200	-1.98	≤11.00	PASS
	5240	-0.97	≤11.00	PASS
	5745	-3.44	≤30.00	PASS
	5785	-2.92	≤30.00	PASS
	5825	-3.89	≤30.00	PASS
11AC40SISO	5190	-4.24	≤11.00	PASS
	5230	-3.62	≤11.00	PASS
	5755	-6.23	≤30.00	PASS
	5795	-6.56	≤30.00	PASS
11AC80SISO	5210	-6.02	≤11.00	PASS
	5775	-9.06	≤30.00	PASS

Note: 1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.
 2.The Duty Cycle Factor and RBW Factor is compensated in the graph.

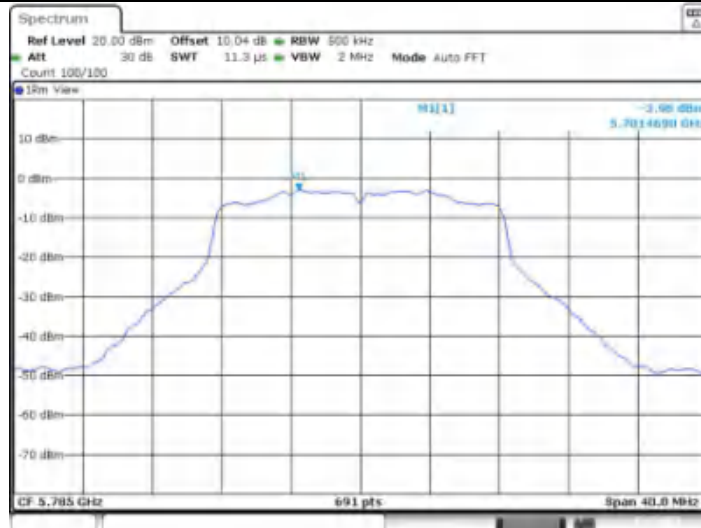
Test Graphs



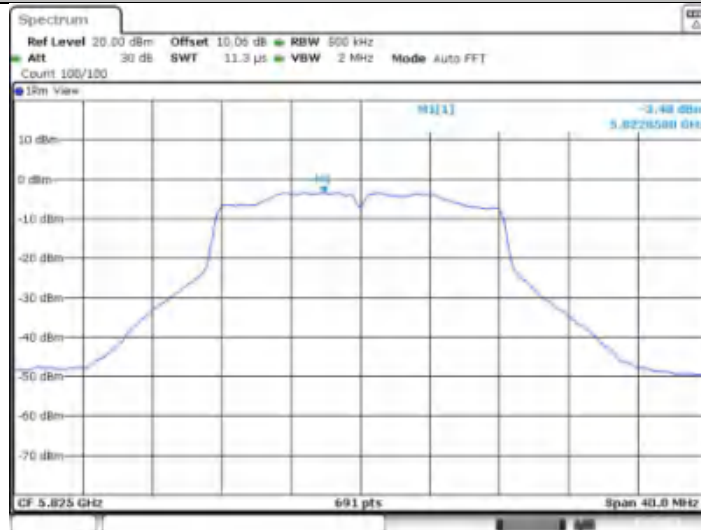
11A_Ant1_5745



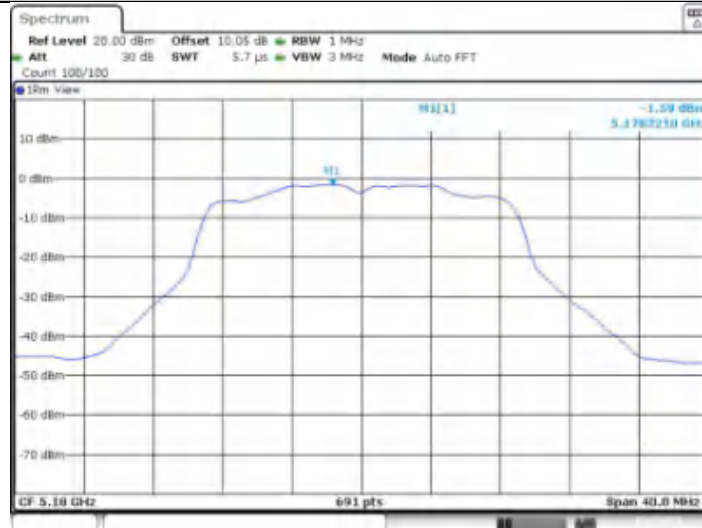
11A_Ant1_5785



11A_Ant1_5825



11N20SISO_Ant1_5180



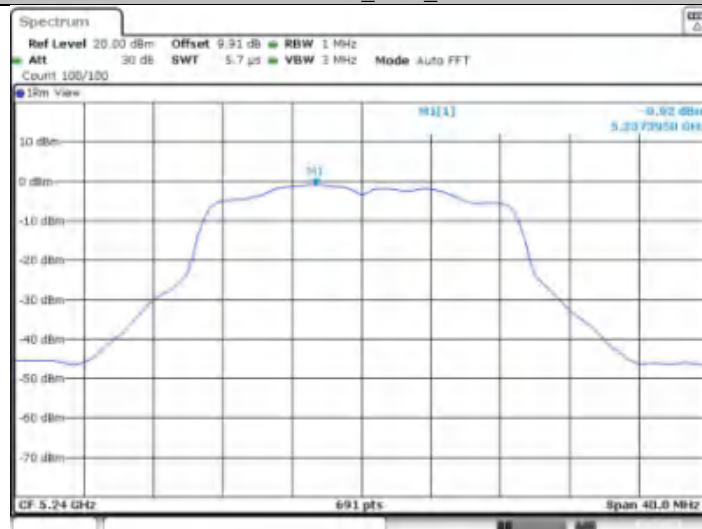
Date: 16_MAR_2023 12:09:14

11N20SISO_Ant1_5200



Date: 16_MAR_2023 12:07:29

11N20SISO_Ant1_5240

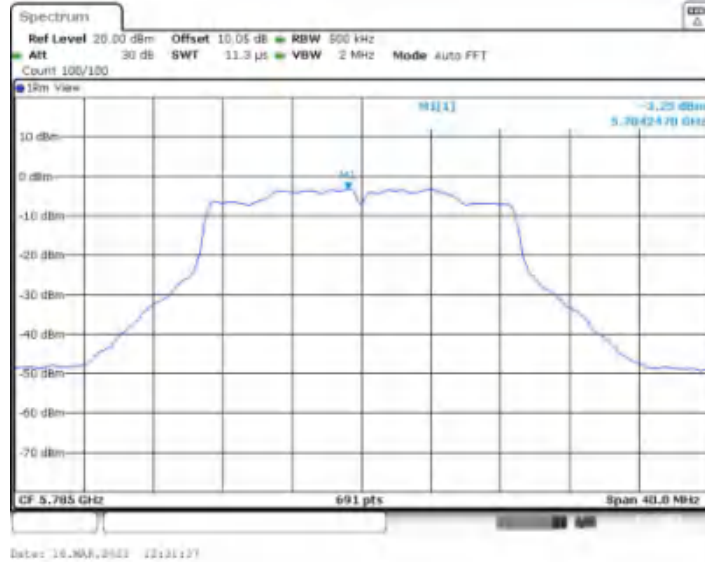


Date: 16_MAR_2023 12:07:29

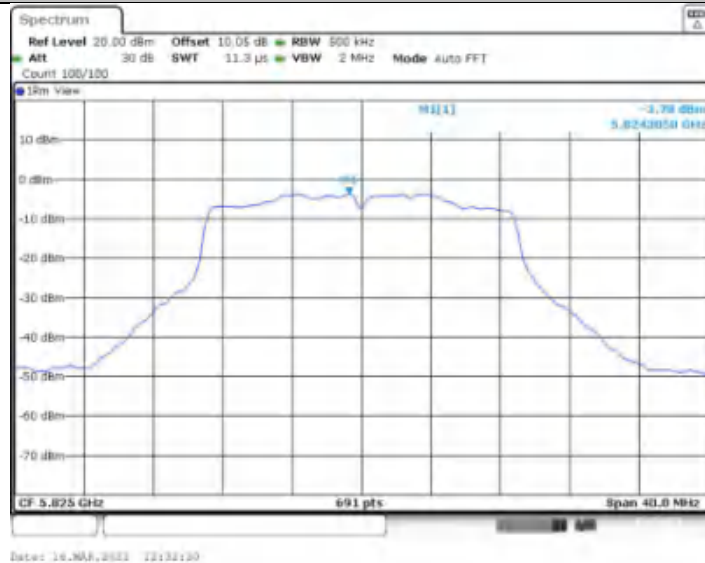
11N20SISO_Ant1_5745



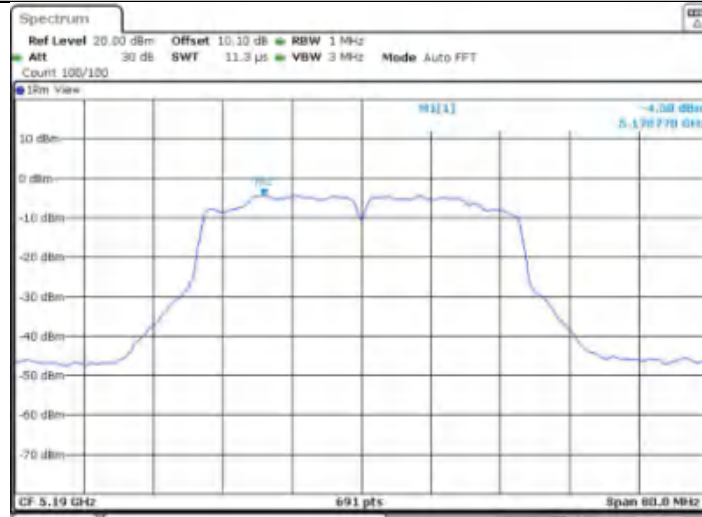
11N20SISO_Ant1_5785



11N20SISO_Ant1_5825

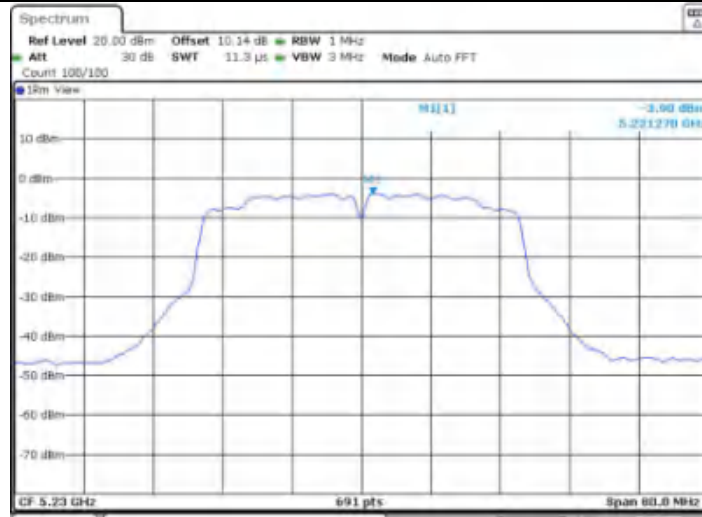


11N40SISO_Ant1_5190



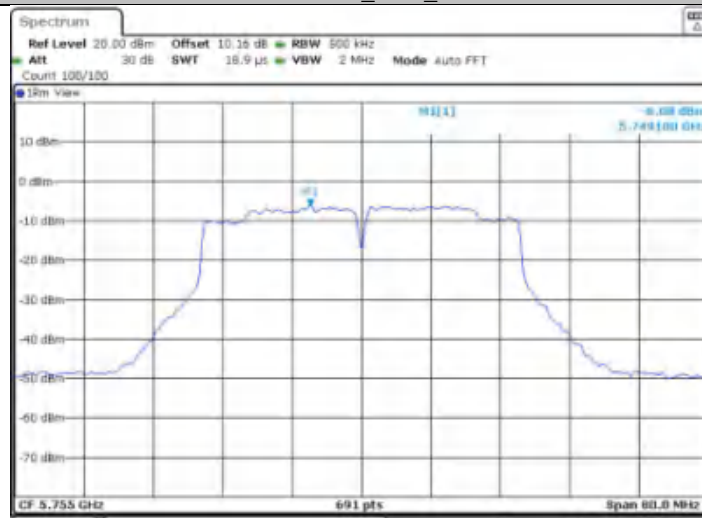
Date: 16.MAR.2023 12:14:10

11N40SISO_Ant1_5230



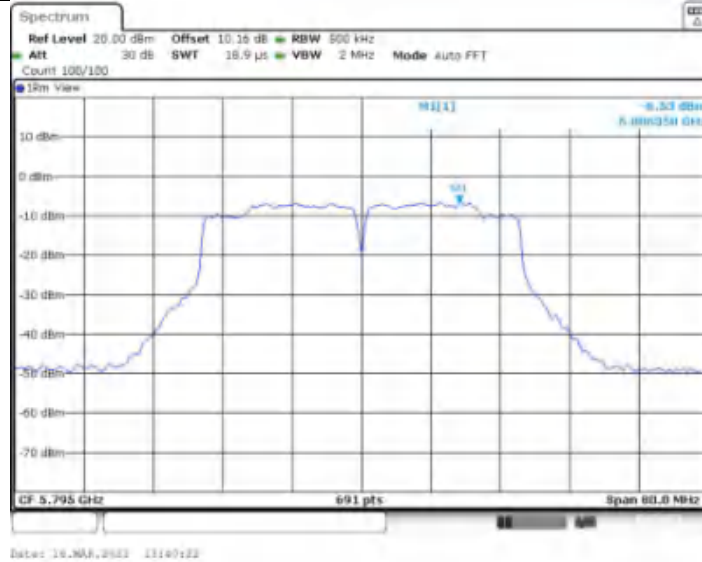
Date: 16.MAR.2023 12:14:17

11N40SISO_Ant1_5755

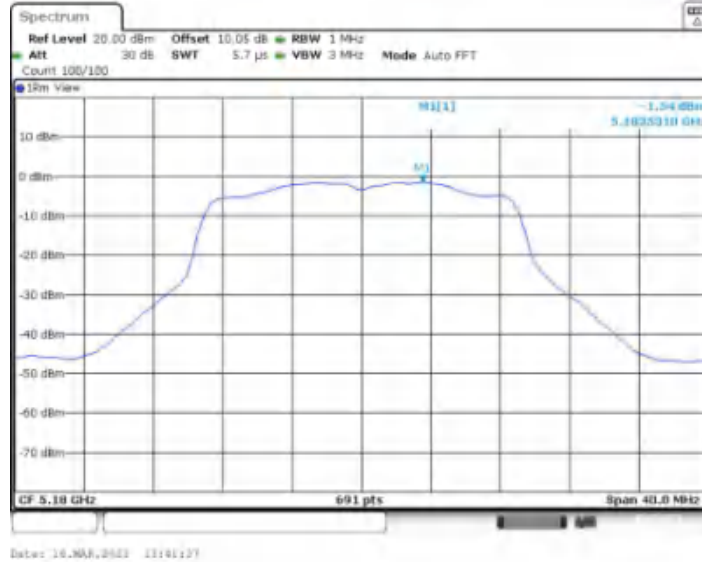


Date: 16.MAR.2023 12:21:04

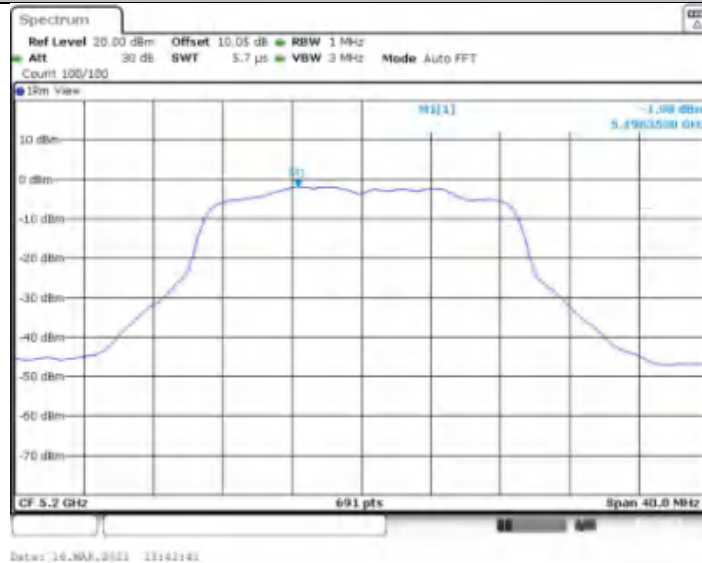
11N40SISO_Ant1_5795



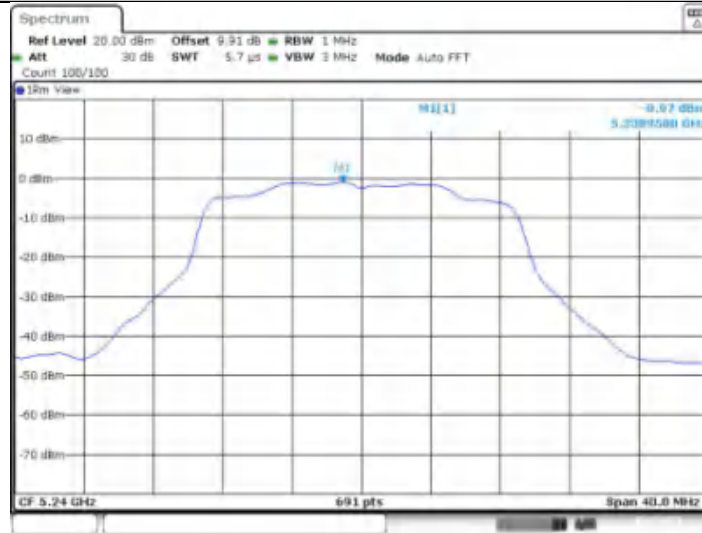
11AC20SISO_Ant1_5180



11AC20SISO_Ant1_5200

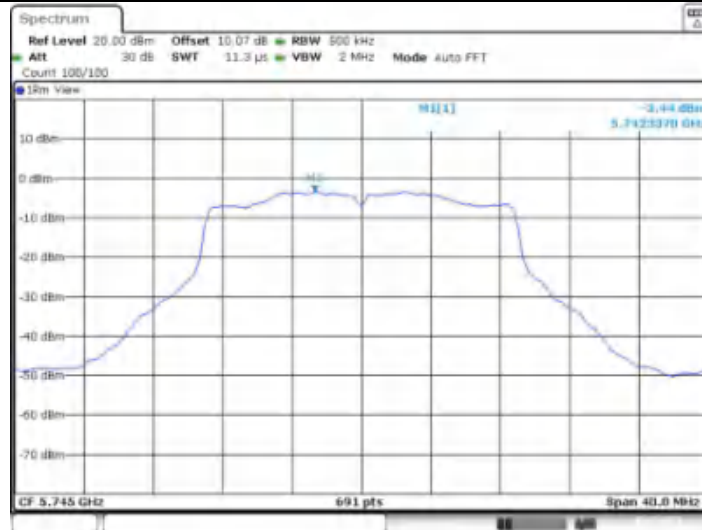


11AC20SISO_Ant1_5240



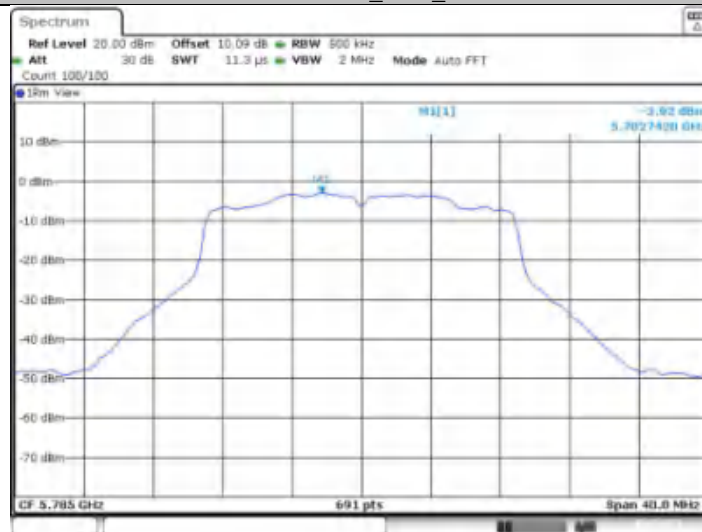
Date: 16.MAR.2023 11:44:20

11AC20SISO_Ant1_5745



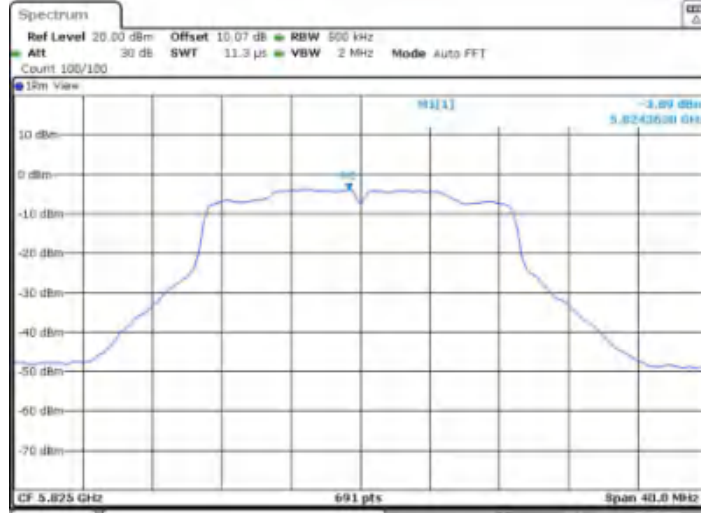
Date: 16.MAR.2023 11:47:22

11AC20SISO_Ant1_5785



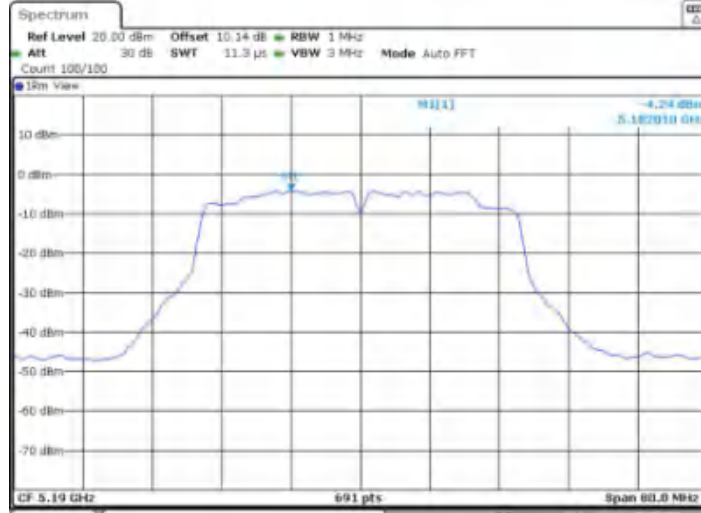
Date: 16.MAR.2023 11:48:21

11AC20SISO_Ant1_5825



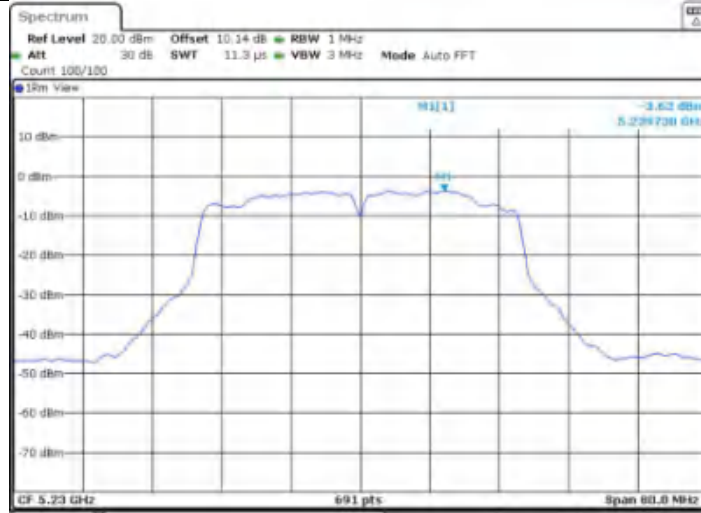
Date: 16_MAR_2023 11:47:11

11AC40SISO_Ant1_5190



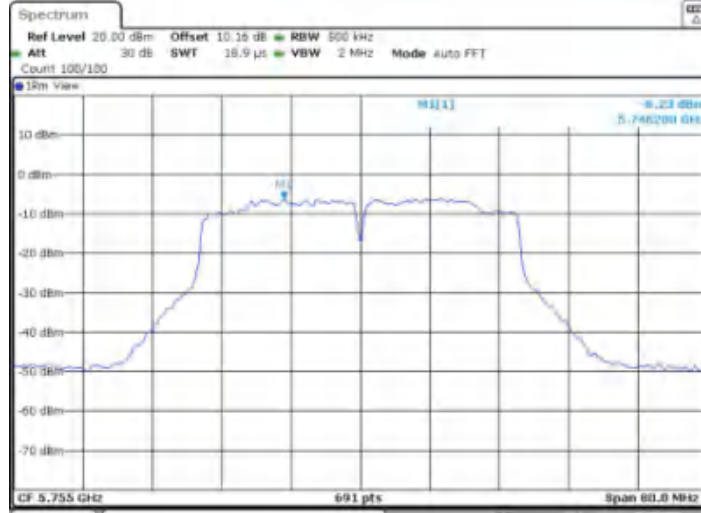
Date: 16_MAR_2023 11:48:10

11AC40SISO_Ant1_5230

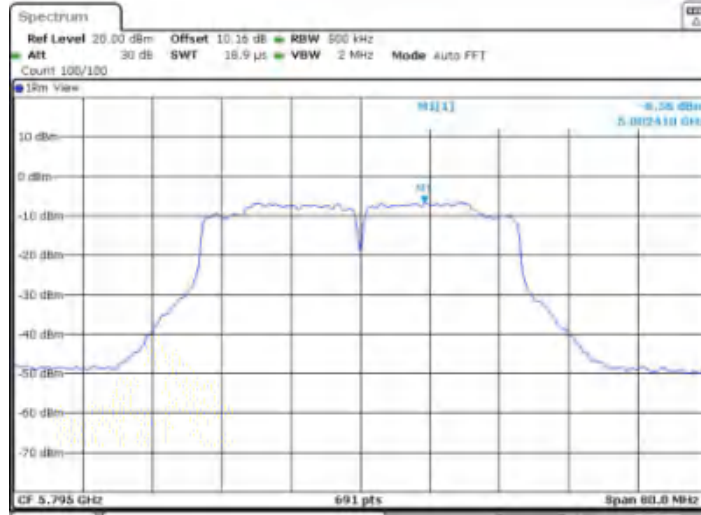


Date: 16_MAR_2023 11:48:20

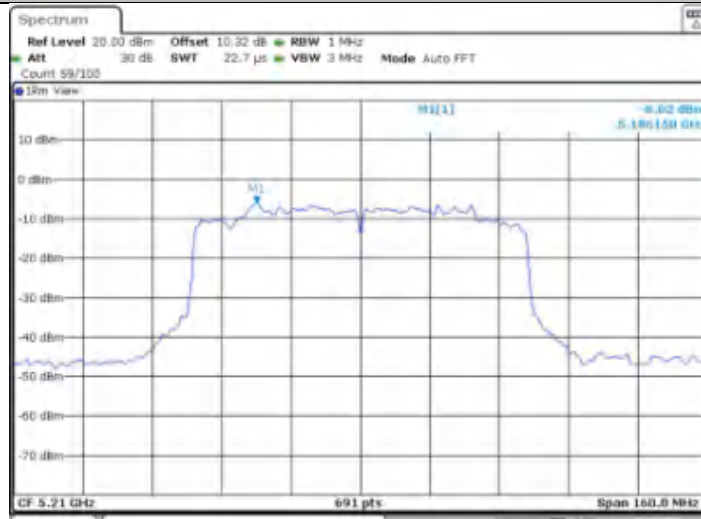
11AC40SISO_Ant1_5755



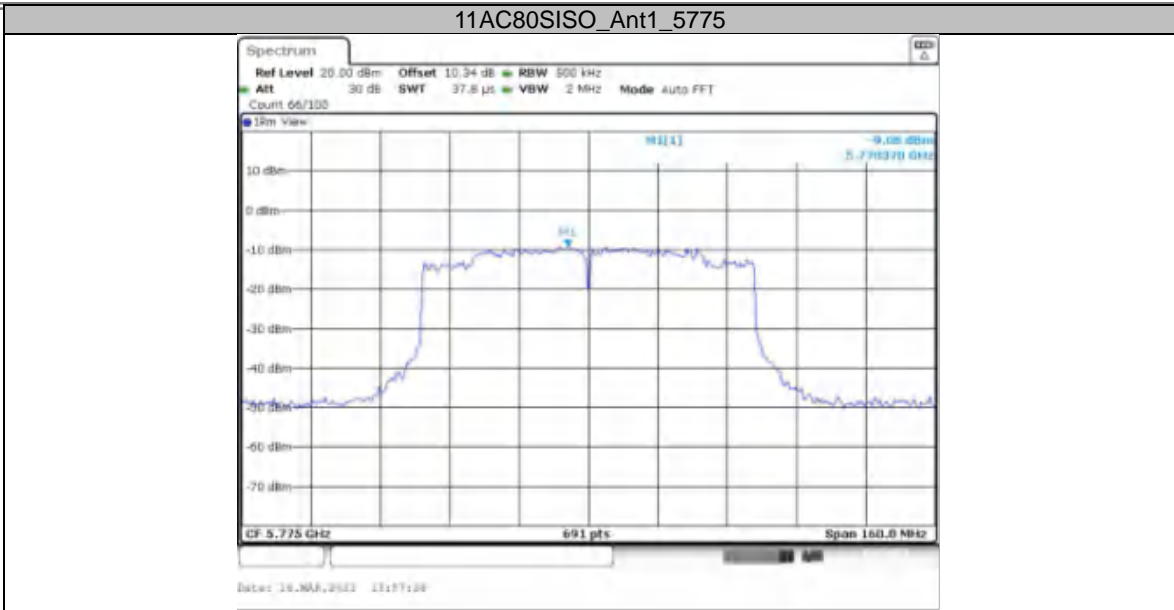
11AC40SISO_Ant1_5795



11AC80SISO_Ant1_5210



11AC80SISO_Ant1_5775



End of Test Report