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Rev.: 01
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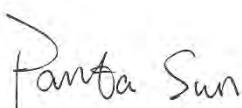
TEST REPORT

Application No.: SEWM2302000040RG
Applicant: Ningbo Sunvot Technology Co., Ltd
Address of Applicant: Building 3,NO 55 Longtan Shan Road, Beilun Daqi,Ningbo,Zhejiang
Manufacturer: Ningbo Sunvot Technology Co., Ltd
Address of Manufacturer: Building 3,NO 55 Longtan Shan Road, Beilun Daqi,Ningbo,Zhejiang
EUT Description: 5G CPE
Model No.: GC600/GC600C/GC600T/GC600A/GC600B
Trade Mark: Sunvot
FCC ID: 2AZGN-GC600-202303
Standards: FCC 47 CFR Part 2, Subpart J
FCC 47 CFR Part 15, Subpart E
Date of Receipt: 2023/02/20
Date of Test: 2023/02/28 to 2023/03/13
Date of Issue: 2023/03/13

Test Result :	PASS *
----------------------	---------------

* In the configuration tested, the EUT detailed in this report complied with the standards specified above.

Authorized Signature:



Panta Sun
Wireless Laboratory Manager



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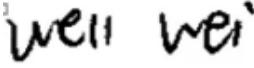
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1 Version

Revision Record

Version	Chapter	Date	Modifier	Remark
01		2023/03/13		Original

Prepared By	
	(Ives Cheng) / Test Engineer
Checked By	
	(Well Wei) / Reviewer



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2 Test Summary

Test Item	Band ^[1]	FCC rules No.	Test Requirements	Test Result	Result	Lab ^[2]
Antenna Requirement	--	15.203/15.407 (a)	--	Clause 4.1	PASS	--
26dB Emission Bandwidth	Band I Band II-A Band II-C	15.407(a)(1) 15.407(a)(2) 15.407(a)(2)	No limit.	Clause 4.5	Reporting only	A
6dB Emission Bandwidth	Band III	15.407(e)	≥ 500 kHz.	Clause 4.6	PASS	A
99% Occupied Bandwidth	Band I Band II-A Band II-C Band III	KDB 789033 D02§ D	No limit.	Clause 4.7	Reporting only	A
Duty Cycle	Band I Band II-A Band II-C Band III	--	No limit.	Clause 4.3	Reporting only	A
Maximum Conducted Output Power	Band I Band II-A Band II-C Band III	15.407(a)(iv) 15.407(a)(2) 15.407(a)(3)	< 250mW <MIN{250mW,11dBm+10*Ig(EBW)} < 1W	Clause 4.4	PASS	A
Maximum Power Spectral Density	Band I Band II-A Band II-C Band III	15.407(a)(iv) 15.407(a)(2) 15.407(a)(3)	<11dBm/MHz <11dBm/MHz <30dBm/500KHz	Clause 4.8	PASS	A
Unwanted Emissions that fall Out of the Restricted Bands (Radiated)	Band I	15.209 15.407(b)	F<1GHz: §15.209/\$7.2.5 limit (QP). F≥1GHz & out-restricted: <-27dBm/MHz PK e.i.r.p. (exl. 5.15-5.35 GHz). F≥1GHz & in-restricted: §15.209/\$7.2.5 limit (AV&PK).	Clause 4.9	PASS	A
	Band II-A	15.407(b) 15.209	F<1GHz: §15.209/\$7.2.5 limit (QP). F≥1GHz & out-restricted: <-27dBm/MHz PK e.i.r.p. (exl. 5.25-5.35 GHz). F≥1GHz & in-restricted: §15.209/\$7.2.5 limit (AV&PK).		PASS	
	Band II-C	15.407(b) 15.209	F<1GHz: §15.209/\$7.2.5 limit (QP). F≥1GHz & out-restricted: <-27dBm/MHz PK e.i.r.p. (exl. 5.47-5.725 GHz). F≥1GHz & in-restricted: §15.209/\$7.2.5 limit (AV&PK).		PASS	
	Band III	15.407(b)	F<1GHz:		PASS	

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		15.209	§15.209/§7.2.5 limit (QP) $F \geq 1\text{GHz}$ & out-restricted: (QP) a) 27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edges; b) 15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges; c) 10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges; and d) -27 dBm/MHz at frequencies more than 75 MHz above or below the band edges. $F \geq 1\text{GHz}$ & in-restricted: §15.209/§7.2.5 limit (AV&PK).			
Unwanted Emissions in the Restricted Bands (Radiated)	Band I Band II-A Band II-C Band III	15.209	---	Clause 4.10	PASS	A
AC Power Line Conducted Emissions	Band I Band II-A Band II-C Band III	15.207	---	Clause 4.2	PASS	A
Dynamic Frequency Selection	Band II-A Band II-C	15.407	Channel Move Time: 10 Seconds	Clause 4.11	PASS	B
Frequency Stability	Band I Band II-A Band II-C Band III	15.407(g)	Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual	N/A	N/A	N/A

Note 1:

Band I: 5150-5250MHz

Band II-A: 5250-5350MHz

Band II-C: 5470-5725MHz

Band III: 5725-5850MHz

Note 2:

Lab A SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.

Lab B SGS-CSTC STANDARDS TECHNICAL SERVICES (XI 'AN) CO., LTD.



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3 General Information

3.1 Details of Client

Applicant:	Ningbo Sunvot Technology Co., Ltd
Address of Applicant:	Building 3, NO 55 Longtan Shan Road, Beilun Daqi, Ningbo, Zhejiang
Manufacturer:	Ningbo Sunvot Technology Co., Ltd
Address of Manufacturer:	Building 3, NO 55 Longtan Shan Road, Beilun Daqi, Ningbo, Zhejiang

3.2 Test Location

Lab A:	
Company:	SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.
Address:	South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone
Post code:	215000
Test engineer:	Ives Cheng, Tizzy Song
Lab B:	
Company:	SGS-CSTC STANDARDS TECHNICAL SERVICES (XI'AN) CO., LTD.
Address:	1/F, Unit D, Building 1, Kanghong Orange Science Park, No.137, Keyuan 3rd Road, Fengdong New Town, Xi'an, Shaanxi China
Post code:	710086
Test engineer:	Qiang Zhang

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3.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

Lab A:

- **A2LA (Certificate No. 6336.01)**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 6336.01.

- **Innovation, Science and Economic Development Canada**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0120.

IC#: 27594.

- **FCC –Designation Number: CN1312**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized as an accredited testing laboratory.

Designation Number: CN1312.

Test Firm Registration Number: 717327

Lab B:

- **A2LA (Certificate No. 4854.01)**

SGS-CSTC STANDARDS TECHNICAL SERVICES (XI 'AN) CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 4854.01.

- **Innovation, Science and Economic Development Canada**

SGS-CSTC STANDARDS TECHNICAL SERVICES (XI 'AN) CO., LTD. has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0095.

IC#: 25613.

- **FCC –Designation Number: CN1337**

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Designation Number: CN1337.

Test Firm Registration Number: 917410

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3.4 General Description of EUT

EUT Description:	5G CPE	
Model No.:	GC600/GC600C/GC600T/GC600A/GC600B	
Trade Mark:	Suvot	
Hardware Version:	GC600-Main-V1.1	
Software Version:	600.102.1.507	
IMEI:	RF Conducted	867626050020050
	RSE & AC power line	862600060000357
WLAN Mode Supported:	802.11a:	20 MHz channel bandwidth
	802.11n:	20 MHz / 40 MHz channel bandwidth
	802.11ac:	20 MHz / 40 MHz / 80 MHz channel bandwidth
Operation Frequency:	5150MHz to 5250MHz	
	5250MHz to 5350MHz	
	5470MHz to 5725MHz	
	5725MHz to 5850MHz	
Modulation Type:	802.11a:	OFDM (BPSK, QPSK, 16QAM, 64QAM)
	802.11n:	OFDM (BPSK, QPSK, 16QAM, 64QAM)
	802.11ac:	OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)
Channel Spacing:	20MHz:	802.11a/n(HT20)/ac(VHT20)
	40MHz:	802.11n(HT40)/ac(VHT40)
	80MHz:	802.11ac(VHT80)
Antenna Type:	<input type="checkbox"/> External, <input checked="" type="checkbox"/> Integrated	
Antenna Gain:	5150MHz to 5250MHz: 4.87dBi(Ant0); 5.06dBi(Ant1); 5250MHz to 5350MHz: 4.76dBi(Ant0); 4.28dBi(Ant1); 5470MHz to 5725MHz: 3.22dBi(Ant0); 4.85dBi(Ant1); 5725MHz to 5850MHz: 2.73dBi(Ant0); 4.54dBi(Ant1);	
	Note: The antenna gain are derived from the gain information report provided by the manufacturer.	
Smart System:	<input checked="" type="checkbox"/> SISO	802.11a/n/ac
	<input checked="" type="checkbox"/> MIMO	802.11n/ac: 2Tx & 2Rx
TPC Function:	<input checked="" type="checkbox"/> Support, <input type="checkbox"/> Not Support	
DFS Function:	<input type="checkbox"/> Master	
	<input type="checkbox"/> Slave with radar detection	<input checked="" type="checkbox"/> Slave without radar detection
RF Cable:	Lab A: 1.0dB	
	Lab B: 5250MHz ~ 5350MHz (1.7dB); 5470MHz ~ 5725MHz (1.8dB)	
Remark:	As above information is provided and confirmed by the applicant. SGS is not liable to the accuracy,	

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suitability, reliability or/and integrity of the information.

Remark:

In FCC 15.31, for each band in which the device can be operated with the device operating at the number of frequencies in each band specified in the following table, and the selected channel to perform the test as below:

Frequency range over which device operates	Number of Measurement Frequencies Required	Location of Measurement Frequency in Band of Operation
1 MHz or less	1	centre
1 MHz to 10 MHz	2	1 near high end, 1 near low end
Greater than 10 MHz	3	1 near high end, 1 near centre

For UNII Band I:

Mode	Channel	Frequency(MHz)
IEEE 802.11a/n/ac 20MHz	The Lowest channel	5180
	The Middle channel	5200
	The Highest channel	5240
IEEE 802.11n/ac 40MHz	The Lowest channel	5190
	The Highest channel	5230
IEEE 802.11ac 80MHz	The Middle channel	5210

For UNII Band II-A:

Mode	Channel	Frequency(MHz)
IEEE 802.11a/n/ac 20MHz	The Lowest channel	5260
	The Middle channel	5280
	The Highest channel	5320
IEEE 802.11n/ac 40MHz	The Lowest channel	5270
	The Highest channel	5310
IEEE 802.11ac 80MHz	The Middle channel	5290

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For UNII Band II-C:

Mode	Channel	Frequency(MHz)
IEEE 802.11a/n/ac 20MHz	The Lowest channel	5500
	The Middle channel	5580
	The Highest channel	5700
IEEE 802.11n/ac 40MHz	The Lowest channel	5510
	The Middle channel	5550
	The Highest channel	5670
IEEE 802.11ac 80MHz	The Lowest channel	5530
	The Highest channel	5610

For UNII Band III:

Mode	Channel	Frequency(MHz)
IEEE 802.11a/n/ac 20MHz	The Lowest channel	5745
	The Middle channel	5785
	The Highest channel	5825
IEEE 802.11n/ac 40MHz	The Lowest channel	5755
	The Highest channel	5795
IEEE 802.11ac 80MHz	The Middle channel	5775

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3.5 Test Environment and Mode

Environment Parameter	96.0~101.0 kPa Selected Values During Tests	
Relative Humidity	40-60 % RH Ambient	
Value	Temperature(°C)	Voltage(V)
NTNV	22~25	12.0
Remark: NV: Normal Voltage NT: Normal Temperature		

3.6 Description of Support Units

The EUT has been tested as an independent unit.

3.7 Worst-case configuration and mode

Low data rate was used to test on antenna port conducted tests and radiated spurious emissions since it has the highest maximum power. Following are the worst-case data rates set for test:

Modulation Type	SISO - Data Rate	MIMO - Data Rate
802.11a	6 Mbps	/
802.11n (HT 20)	MCS0 (6.5 Mbps)	MCS0 (13 Mbps)
802.11n (HT 40)	MCS0 (13.5 Mbps)	MCS0 (27 Mbps)
802.11ac (VHT 20)	MCS0 (6.5 Mbps)	MCS0 (13 Mbps)
802.11ac (VHT 40)	MCS0 (13.5 Mbps)	MCS0 (27 Mbps)
802.11ac (VHT 80)	MCS0 (29.3 Mbps)	MCS0 (58.5 Mbps)



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4 Test results and Measurement Data

4.1 Antenna Requirement

Standard requirement:	47 CFR Part 15 Section 15.203
The antenna is Integrated Antenna and no consideration of replacement.	
The best case gain of the antenna is	
5150MHz to 5250MHz: 4.87dBi(Ant0); 5.06dBi(Ant1);*	
5250MHz to 5350MHz: 4.76dBi(Ant0); 4.28dBi(Ant1);*	
5470MHz to 5725MHz: 3.22dBi(Ant0); 4.85dBi(Ant1);*	
5725MHz to 5850MHz: 2.73dBi(Ant0); 4.54dBi(Ant1);*	
<i>*Note:</i>	
<i>The antenna gain are derived from the gain information report provided by the manufacturer.</i>	
<i>Remark:</i>	
<i>As above information is provided and confirmed by the applicant. SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.</i>	



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Cyclic Delay Diversity (CDD) System:

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

If all antennas have the same gain, G_{ANT} , Directional gain = G_{ANT} + Array Gain, where Array Gain is as follows.

- For power spectral density (PSD) measurements on all devices,
 $Array\ Gain = 10 \log(N_{ANT}/N_{SS}=1) \ dB.$
- For power measurements on IEEE 802.11 devices:
 $Array\ Gain = 0 \ dB \ (i.e.,\ no\ array\ gain)\ for\ N_{ANT} \leq 4;$
 $Array\ Gain = 0 \ dB \ (i.e.,\ no\ array\ gain)\ for\ channel\ widths \geq 40 \ MHz\ for\ any\ N_{ANT};$
 $Array\ Gain = 5 \ log(N_{ANT}/N_{SS}=1) \ dB\ or\ 3 \ dB,\ whichever\ is\ less,\ for\ 20-MHz\ channel\ widths\ with\ N_{ANT} \geq 5.$

Unequal antenna gains, with equal transmit powers. For antenna gains given by G1, G2, ..., GN dBi

- If transmit signals are correlated, then

$Directional\ gain = 10 \ log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] \ dBi$ [Note the “20”s in the denominator of each exponent and the square of the sum of terms; the object is to combine the signal levels coherently.]

- If all transmit signals are completely uncorrelated, then

$Directional\ gain = 10 \ log[(10^{G1/10} + 10^{G2/10} + \dots + 10^{GN/10}) / N_{ANT}] \ dBi$

The Power and PSD limit should be modified if the directional gain of eut is over 6dbi.

The EUT supports CDD System.

Unequal antenna gain:

Operation Frequency	ANT Gain0 (dBi)	ANT Gain1 (dBi)	Directional gain For Power (dBi)	Directional gain For PSD (dBi)	Power Limit Reduction (dBm)	PSD Limit Reduction (dBm)
5150MHz to 5250MHz	4.87	5.06	4.97	7.98	0	1.98
5250MHz to 5350MHz	4.76	4.28	4.53	7.53	0	1.53
5470MHz to 5725MHz	3.22	4.85	4.11	7.08	0	1.08
5725MHz to 5850MHz	2.73	4.54	3.73	6.69	0	0.69

5150MHz to 5250MHz:

Power Limit Reduction = Directional gain – 6dBi, (Directional gain < 6dBi) =0

PSD Limit Reduction = Directional gain – 6dBi, (Directional gain > 6dBi) =7.98 – 6 = 1.98

5250MHz to 5350MHz:

Power Limit Reduction = Directional gain – 6dBi, (Directional gain < 6dBi) =0

PSD Limit Reduction = Directional gain – 6dBi, (Directional gain > 6dBi) =7.53 – 6 = 1.53

5470MHz to 5725MHz:

Power Limit Reduction = Directional gain – 6dBi, (Directional gain < 6dBi) =6.08 – 6 = 0.08

PSD Limit Reduction = Directional gain – 6dBi, (Directional gain > 6dBi) =7.08 – 6 = 1.08

5725MHz to 5850MHz:

Power Limit Reduction = Directional gain – 6dBi, (Directional gain < 6dBi) =0

PSD Limit Reduction = Directional gain – 6dBi, (Directional gain > 6dBi) =6.69 – 6 = 0.69



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4.2 AC Power Line Conducted Emissions

Test Requirement:	47 CFR Part 15 Section 15.207		
Test Method:	ANSI C63.10: 2013 Section 6.2		
Test Frequency Range:	150kHz to 30MHz		
Receiver Setup:	RBW = 9kHz, VBW = 30kHz		
Limit:	Frequency range (MHz)		Limit (dBuV)
			Quasi-peak
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	50
* Decreases with the logarithm of the frequency.			
Test Procedure:	<ol style="list-style-type: none">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 $50\Omega/50\mu\text{H} + 5\Omega$ 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: 2013 on conducted measurement.		

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Test Setup:	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates at lowest, middle and highest channel.
Final Test Mode:	Refer to section 3.7 for details. Only the worst case is recorded in the report.
Instruments Used:	Refer to section 6 for details.
Test Results:	Pass

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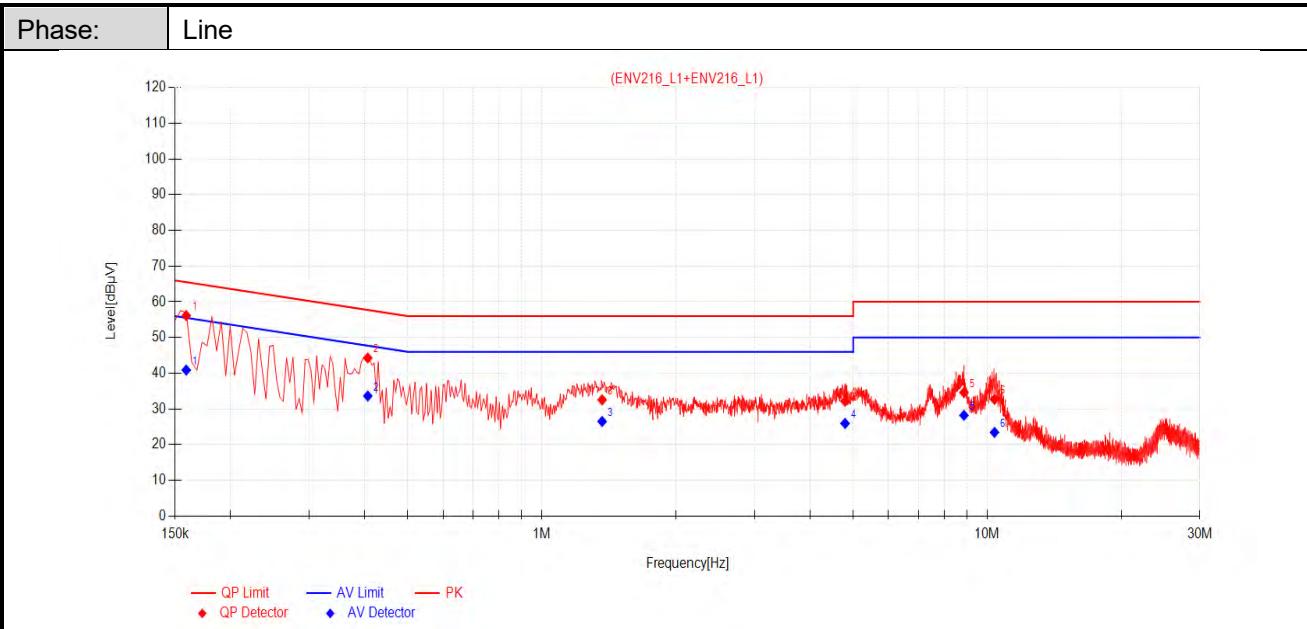
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Measurement Data

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.



Final Data List												
NO.	Frequency [MHz]	Factor [dB]	QP Reading [dBμV]	QP Value [dBμV]	QP Limit [dBμV]	QP Margin [dB]	AV Reading [dBμV]	AV Value [dBμV]	AV Limit [dBμV]	AV Margin [dB]	Verdict	
1	0.1590	10.67	45.46	56.13	65.52	9.39	30.23	40.90	55.52	14.62	PASS	
2	0.4065	10.51	33.78	44.29	57.72	13.43	23.12	33.63	47.72	14.09	PASS	
3	1.3650	10.78	21.78	32.56	56.00	23.44	15.72	26.50	46.00	19.50	PASS	
4	4.7940	10.66	21.52	32.18	56.00	23.82	15.29	25.95	46.00	20.05	PASS	
5	8.8665	10.66	23.95	34.61	60.00	25.39	17.57	28.23	50.00	21.77	PASS	
6	10.3830	10.63	22.07	32.70	60.00	27.30	12.81	23.44	50.00	26.56	PASS	

Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Value =Reading[dBμV] + Factor(Lisn factor[dB] + cable loss[dB]).
3. Margin = Limit[dBμV] – Value[dBμV]



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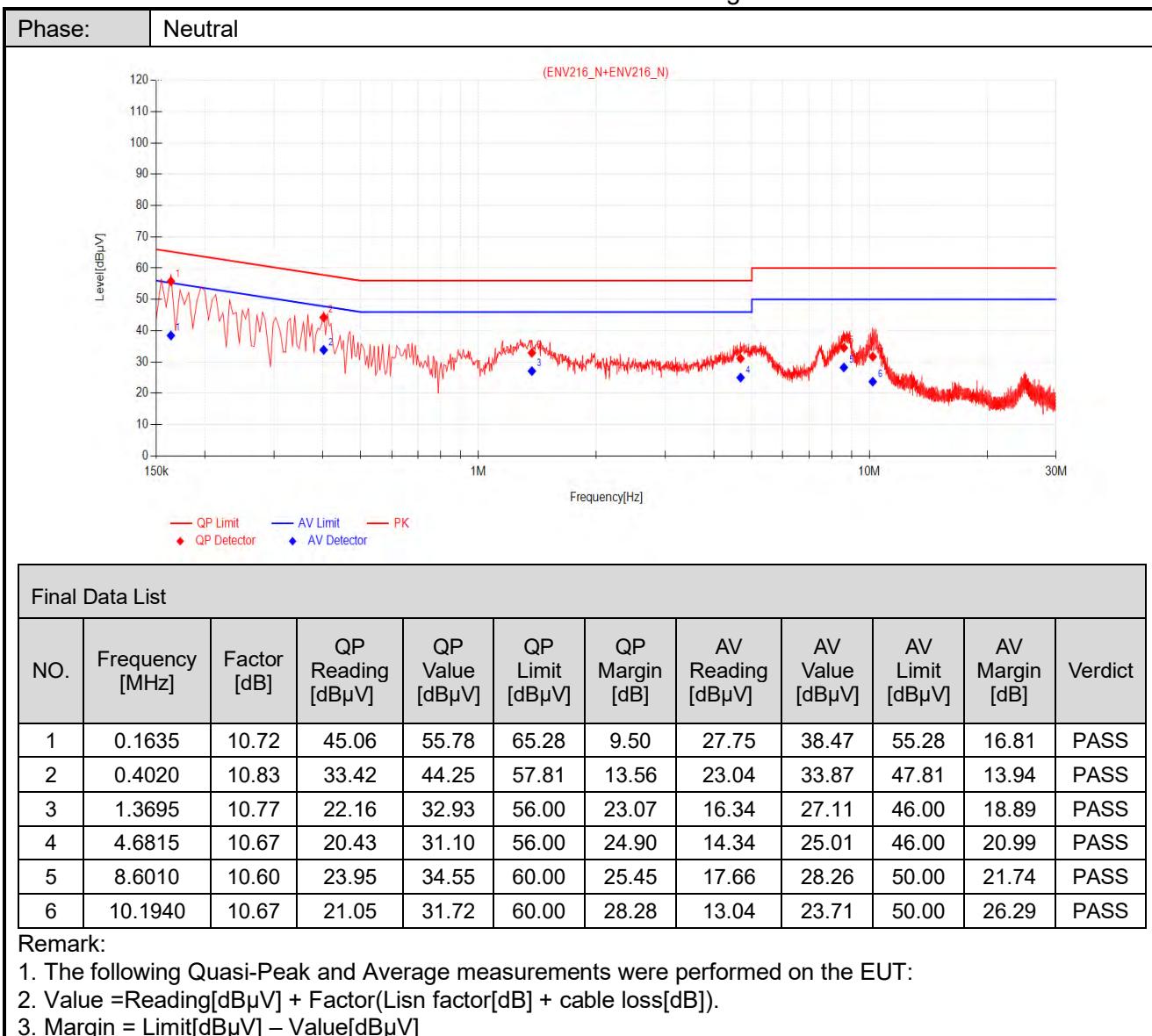
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4.3 Duty Cycle

The detailed test data see: **Appendix**



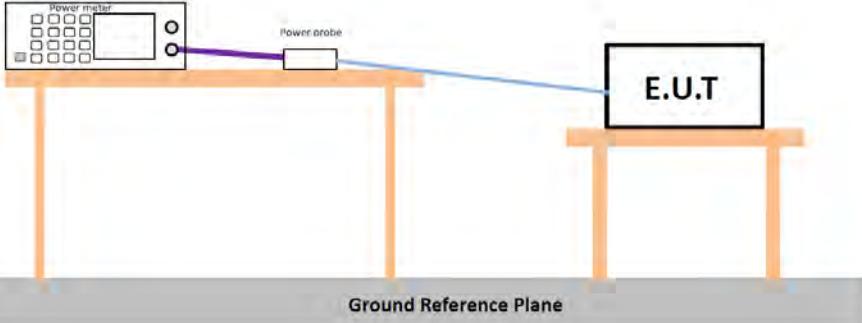
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4.4 Conducted Output Power

Test Requirement:	47 CFR Part 15 Section 15.407(a)(iv)	
Test Method:	ANSI C63.10 :2013 Section 12.3.3.2	
Test Setup:	 <p>* Test with power meter (Detector function: Average) Method PM-G is measurement using a gated RF average power meter. Measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Because the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.</p>	
Test Instruments:	Refer to section 6 for details.	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates	
Final Test Mode:	Refer to section 3.7 for details.	
Limit:	Frequency Band	Limit
	5150-5250MHz	Not exceed 250mW(24dBm)
	5250-5350MHz	The lesser of 250mW(24dBm) or $11 + 10\log B$
	5470-5725MHz	The lesser of 250mW(24dBm) or $11 + 10\log B$
	5725-5850MHz	Not exceed 1W(30dBm)
	*Where B is the 26dB emission bandwidth in MHz	
Test Results:	Pass	
The detailed test data see: Appendix		

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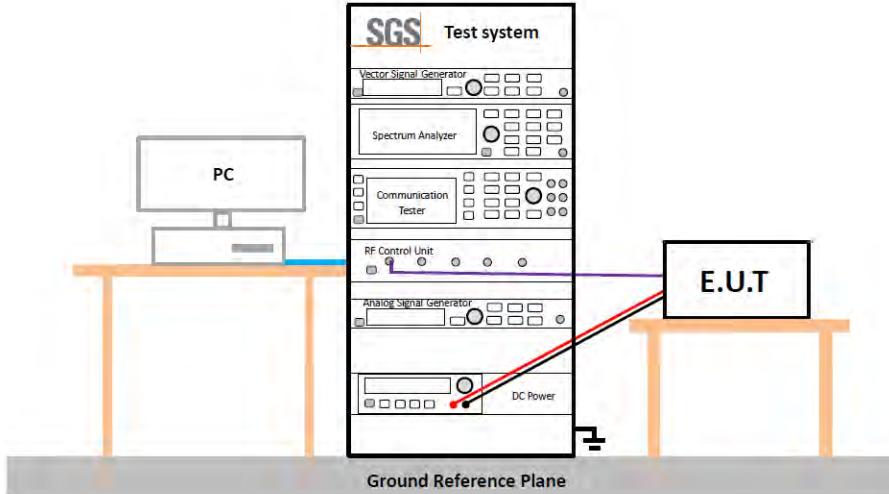


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4.5 26dB Emission Bandwidth

Test Requirement:	47 CFR Part 15 Section 15.407(a), KDB 789033 D02& C
Test Method:	ANSI C63.10: 2013 Section 12.4.1
Test Setup:	
Instruments Used:	Refer to section 6 for details.
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Refer to section 3.7 for details.
Limit:	No restriction limits
Test Results:	Pass
The detailed test data see: Appendix	



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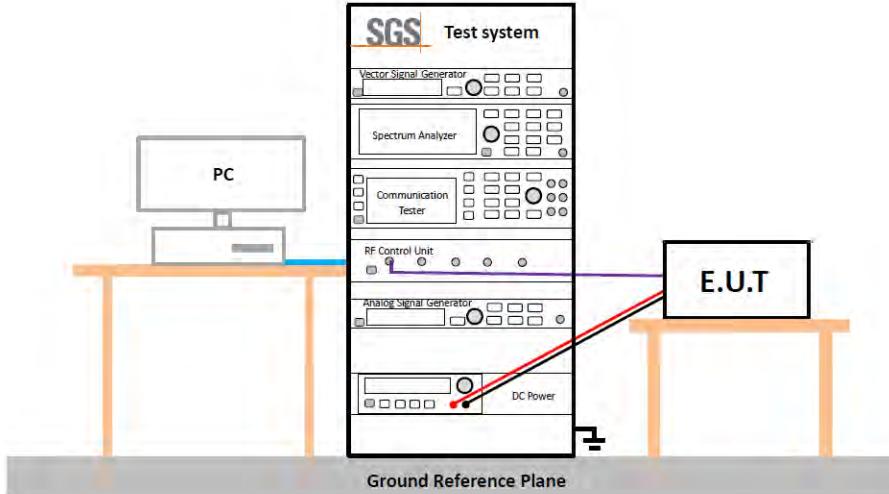
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4.6 6dB Emission Bandwidth

Test Requirement:	47 CFR Part 15 Section 15.407(e)	
Test Method:	ANSI C63.10: 2013 Section 12.4.1	
Test Setup:		
Test Instruments:	Refer to section 6 for details.	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates	
Final Test Mode:	Refer to section 3.7 for details.	
Limit:	Frequency Band	Limit
	5725-5850MHz	At lease 500kHz
Test Results:	Pass	
The detailed test data see: Appendix		

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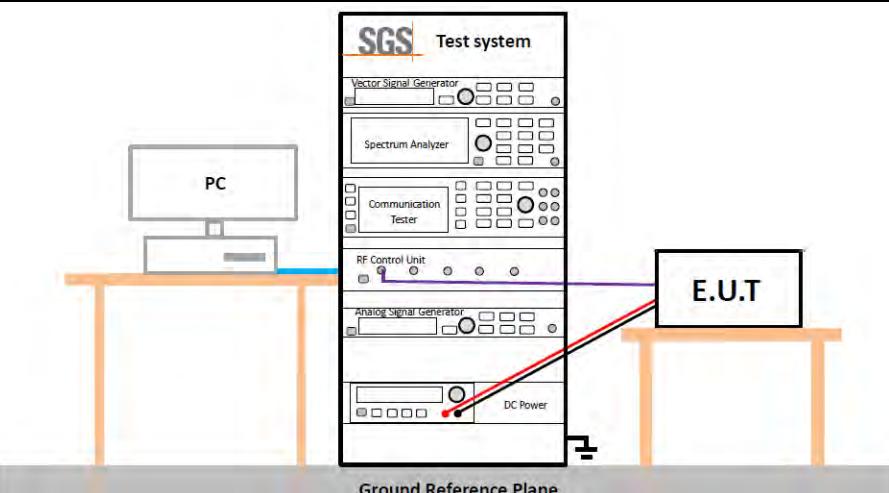
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4.7 99% Occupied Bandwidth

Test Requirement:	KDB 789033 D02§ D
Test Method:	ANSI C63.10: 2013 Section 12.4.2
Test Setup:	
Instruments Used:	Refer to section 6 for details.
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Refer to section 3.7 for details.
Limit:	No restriction limits
Test Results:	Pass
The detailed test data see: Appendix	



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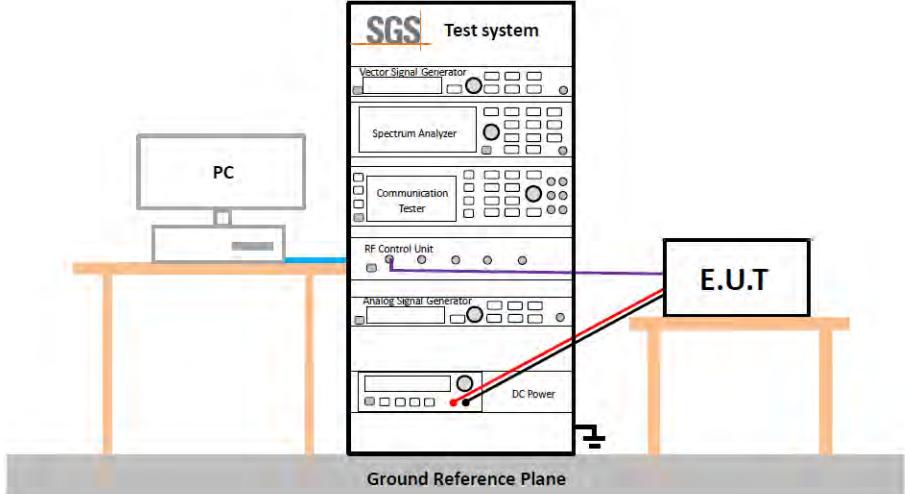
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4.8 Power Spectral Density

Test Requirement:	47 CFR Part 15 Section 15.407(a)(iv)	
Test Method:	ANSI C63.10: 2013 Section 12.5 KDB 789033 D02 v02r01, Section F.	
Test Setup:		
Instruments Used:	Refer to section 6 for details.	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates	
Final Test Mode:	Refer to section 3.7 for details.	
Limit:	Frequency Band	Limit
	5150-5250MHz	The power spectral density less than 11dBm/1MHz
	5250-5350MHz	The power spectral density less than 11dBm/1MHz
	5470-5725MHz	The power spectral density less than 11dBm/1MHz
	5725-5850MHz	The power spectral density less than <30dBm/500KHz
Test Results:	Pass	
The detailed test data see: Appendix		



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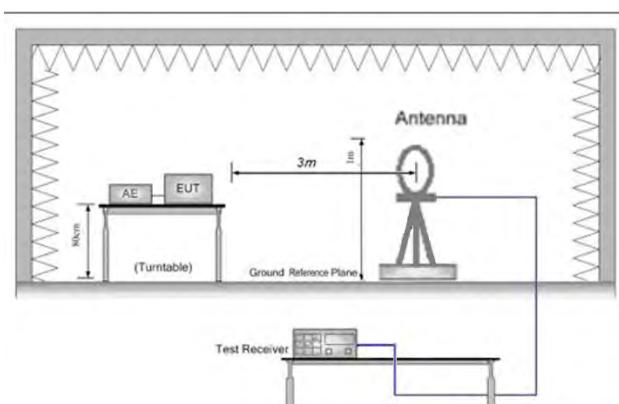
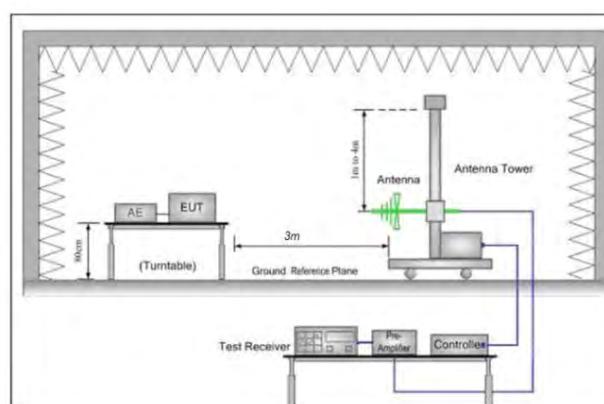
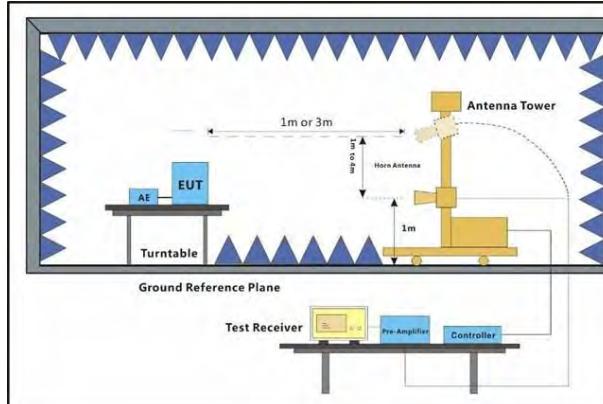
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4.9 Radiated Spurious Emissions

Test Requirement:	47 CFR Part 15 Section 15.205 and 15.209
Test Method:	ANSI C63.10: 2013 Section 6.4 / 6.5 / 6.6
Test Site:	Measurement Distance: 3m or 10m (Semi-Anechoic Chamber)
Test frequency:	9kHz ~ 40GHz(or 10 Harmonic)
Test Setup:	
	
Figure 1. 9kHz to 30MHz	
	
Figure 1. 30MHz to 1GHz	
	
Figure 2. Above 1 GHz	
Test Procedure:	<ol style="list-style-type: none"> For below 1GHz test, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. For above 1GHz test, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. (Distance from antenna to EUT is 1m for measurements >18GHz). The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

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	<p>e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.</p> <p>f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</p> <p>g. Test the EUT in the outermost channels.</p> <p>h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is worse case.</p> <p>i. Repeat above procedures until all frequencies measured was complete.</p> <p>j. 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</p> <p>k. The disturbance above 18GHz was very low, and the harmonics were the highest point could be found when testing, so only the harmonics had been displayed.</p> <p>l. At a measurement distance of 1 meter the limit line was increased by $20 \times \log(3/1) = 9.54$ dB.</p>
Test Configuration:	<p>Measurements below 30MHz</p> <ul style="list-style-type: none"> • RBW = 10 kHz • VBW = 30 kHz • Detector = Peak & Average & Quasi-peak • Trace mode = max hold <p>Measurements 30 ~ 1000MHz</p> <ul style="list-style-type: none"> • RBW = 120 kHz • VBW = 300 kHz • Detector = Quasi-peak • Trace mode = max hold <p>Peak Measurements Above 1000 MHz</p> <ul style="list-style-type: none"> • RBW = 1 MHz • VBW \geq 3 MHz • Detector = Peak • Sweep time = auto • Trace mode = max hold <p>Average Measurements Above 1000MHz</p> <ul style="list-style-type: none"> • RBW = 1 MHz • VBW = 10 Hz, when duty cycle is no less than 98 percent. • VBW \geq 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates.
Final Test Mode:	Refer to section 3.7 for details.
Instruments Used:	Refer to section 6 for details.
Test Results:	Pass
The detailed test data see: Appendix	



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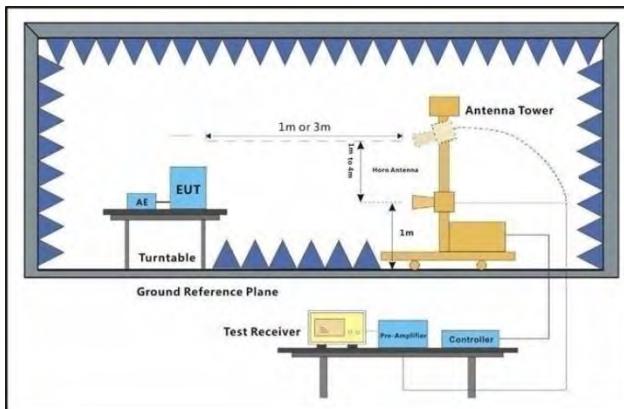
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4.10 Restricted bands around fundamental frequency

Test Requirement:	47 CFR Part 15 Section 15.407(b)		
Test Method:	ANSI C63.10: 2013 Section 12.7		
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)		
Limit:	Frequency	Limit (dBuV/m)	Remark
	30MHz-88MHz	40.0	Quasi-peak
	88MHz-216MHz	43.5	Quasi-peak
	216MHz-960MHz	46.0	Quasi-peak
	960MHz-1GHz	54.0	Quasi-peak
	Above 1GHz	54.0	Average Value
		74.0	Peak Value

Test Setup:



Test Procedure:	<ul style="list-style-type: none">a. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.f. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channelg. Test the EUT in the outermost channels.h. The radiation measurements are performed in X, Y, Z axis positioning for
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	<p>Transmitting mode, And found the X axis positioning which it is worse case.</p> <p>i. Repeat above procedures until all frequencies measured was complete.</p>
Test Configuration:	<p>Measurements Below 1000MHz</p> <ul style="list-style-type: none"> • RBW = 120 kHz • VBW = 300 kHz • Detector = Quasi-peak • Trace mode = max hold <p>Peak Measurements Above 1000 MHz</p> <ul style="list-style-type: none"> • RBW = 1 MHz • VBW \geq 3 MHz • Detector = Peak • Sweep time = auto • Trace mode = max hold <p>Average Measurements Above 1000MHz</p> <ul style="list-style-type: none"> • RBW = 1 MHz • VBW = 10 Hz, when duty cycle is no less than 98 percent. • VBW \geq 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates.
Final Test Mode:	Refer to section 3.7 for details.
Instruments Used:	Refer to section 6 for details.
Test Results:	Pass
The detailed test data see: Appendix	



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4.11 Dynamic Frequency Selection

4.11.1 DFS Overview

Table 1: Applicability of DFS Requirements Prior to Use of a Channel

Requirement	Operational Mode		
	Master	Client Without Radar Detection	Client With Radar Detection
<i>Non-Occupancy Period</i>	Yes	Not required	Yes
<i>DFS Detection Threshold</i>	Yes	Not required	Yes
<i>Channel Availability Check Time</i>	Yes	Not required	Not required
<i>U-NII Detection Bandwidth</i>	Yes	Not required	Yes

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational Mode	
	Master Device or Client with Radar Detection	Client Without Radar Detection
<i>DFS Detection Threshold</i>	Yes	Not required
<i>Channel Closing Transmission Time</i>	Yes	Yes
<i>Channel Move Time</i>	Yes	Yes
<i>U-NII Detection Bandwidth</i>	Yes	Not required
Additional requirements for devices with multiple bandwidth modes	Master Device or Client with Radar Detection	Client Without Radar Detection
<i>U-NII Detection Bandwidth and Statistical Performance Check</i>	All BW modes must be tested	Not required
<i>Channel Move Time and Channel Closing Transmission Time</i>	Test using widest BW mode available	Test using the widest BW mode available for the link
<i>All other tests</i>	Any single BW mode	Not required
Note: Frequencies selected for statistical performance check (Section 7.8.4) should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.		



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4.11.2 DFS Detection Thresholds

Table 3: DFS Detection Thresholds for Master Devices and Client Devices with Radar Detection

Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP \geq 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64 dBm

Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.

Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.

Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.



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4.11.3 RADAR TEST WAVEFORMS

Table 5 – Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (μsec)	PRI (μsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
0	1	1428	18	See Note 1	See Note 1
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a	18	60%	30
		Test B: 15 unique PRI values randomly selected within the range of 518-3066 μsec, with a minimum increment of 1 μsec, excluding PRI values selected in Test A			
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120

Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.



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Table 5a - Pulse Repetition Intervals Values for Test A

Pulse Repetition Frequency Number	Pulse Repetition Frequency (Pulses Per Second)	Pulse Repetition Interval (Microseconds)
1	1930.5	518
2	1858.7	538
3	1792.1	558
4	1730.1	578
5	1672.2	598
6	1618.1	618
7	1567.4	638
8	1519.8	658
9	1474.9	678
10	1432.7	698
11	1392.8	718
12	1355	738
13	1319.3	758
14	1285.3	778
15	1253.1	798
16	1222.5	818
17	1193.3	838
18	1165.6	858
19	1139	878
20	1113.6	898
21	1089.3	918
22	1066.1	938
23	326.2	3066

The aggregate is the average of the percentage of successful detections of Short Pulse Radar Types 1-4. For example, the following table indicates how to compute the aggregate of percentage of successful detections.

Radar Type	Number of Trials	Number of Successful Detections	Minimum Percentage of Successful Detection
1	35	29	82.9%
2	30	18	60%
3	30	27	90%
4	50	44	88%
Aggregate $(82.9\% + 60\% + 90\% + 88\%) / 4 = 80.2\%$			



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Table 6 – Long Pulse Radar Test Waveform

Radar Type	Pulse Width (μsec)	Chirp Width (MHz)	PRI (μsec)	Number of Pulses per Burst	Number of Bursts	Minimum Percentage of Successful Detection	Minimum Number of Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

Table 7 – Frequency Hopping Radar Test Waveform

Radar Type	Pulse Width (μsec)	PRI (μsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Minimum Percentage of Successful Detection	Minimum Number of Trials
6	1	333	9	0.333	300	70%	30

4.11.4 Response Requirements

Table 4: DFS Response Requirement Values

Parameter	Value
<i>Non-occupancy period</i>	Minimum 30 minutes
<i>Channel Availability Check Time</i>	60 seconds
<i>Channel Move Time</i>	10 seconds See Note 1.
<i>Channel Closing Transmission Time</i>	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
<i>U-NII Detection Bandwidth</i>	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.

Note 1: *Channel Move Time* and the *Channel Closing Transmission Time* should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.

Note 2: The *Channel Closing Transmission Time* is comprised of 200 milliseconds starting at the beginning of the *Channel Move Time* plus any additional intermittent control signals required to facilitate a *Channel* move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.

Note 3: During the *U-NII Detection Bandwidth* detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

The detailed test data see: **Appendix**



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5 Measurement Uncertainty (95% confidence levels, k=2)

Lab A:

No.	Item	Measurement Uncertainty
1	Total RF power, conducted	±0.54dB
2	RF power density, conducted	±1.03dB
3	Spurious emissions, conducted	±0.54dB
4	Radio Frequency	±1.0 %
5	Duty Cycle	±0.37%
6	Occupied Bandwidth	±1.0 %
7	Conduction Emission	± 2.90dB (150kHz to 30MHz)
8	Radiated Emission	± 3.13dB (9k -30MHz)
		± 4.88dB (30M -1GHz)
		± 4.75dB (1GHz to 18GHz)
		± 4.77dB (Above 18GHz)

Jah R-

No.	Item	Measurement Uncertainty
1	Radio Frequency	$\pm 9.01 \times 10^{-8}$ GHz

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6 Equipment List

Lab A:

RF Test Equipment					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date (yyyy/mm/dd)	Cal.Due date (yyyy/mm/dd)
Shielding Room	Brilliant-emc	N/A	SUWI-04-01-06	2021/05/08	2024/05/07
Temperature and humidity meter	MingGao	TH101B	SUWI-01-01-07	2023/02/06	2024/02/05
Signal Analyzer	ROHDE& SCHWARZ	FSV3030	SUWI-01-02-02	2022/05/17	2023/05/16
Measurement Software	Tonscend	JS1120-3 Test System V3.1.55	SUWI-02-09-09	NCR	NCR
Signal Analyzer	ROHDE& SCHWARZ	FSW43	SUWI-01-02-04	2022/05/28	2023/05/27
Wideband Radio Communication Tester	ROHDE& SCHWARZ	CMW500	SUWI-01-16-05	2023/02/06	2024/02/05
DC Power Supply	HYELEC	HY3005B	SUWI-01-18-01	2023/02/06	2024/02/05
Power meter	Anritsu	ML2495A	SUWI-01-31-01	2022/11/23	2023/11/22
Pulse power sensor	Anritsu	MA2411B	SUWI-01-32-01	2022/11/23	2023/11/22
MXG Vector signal genitor	KEYSIGHT	N5182B	SUWI-01-38-01	2023/02/06	2024/02/05
Temperature Chamber	ESPEC	SU-242	SUWI-01-13-01	2023/02/06	2024/02/05

CE Test System					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date (yyyy/mm/dd)	Cal.Due date (yyyy/mm/dd)
Shielding Room	Brilliant-emc	N/A	SUWI-04-03-01	2021/05/08	2024/05/07
Test receiver	ROHDE&SCHWARZ	ESR7	SUWI-01-10-01	2023/02/08	2024/02/07
Temperature and humidity meter	MingGao	TH101B	SUWI-01-01-06	2023/02/07	2024/02/06
Artificial network	ROHDE&SCHWARZ	ENV216	SUWI-01-19-03	2023/02/08	2024/02/07
Artificial network	ROHDE&SCHWARZ	ENV216	SUWI-01-19-04	2023/02/08	2024/02/07
Measurement Software	Tonscend	JS32-CE 4.0.0.2	SUWI-02-09-05	NCR	NCR

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RSE Test System					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date (yyyy/mm/dd)	Cal.Due date (yyyy/mm/dd)
Semi-Anechoic Chamber	Brilliant-emc	N/A	SUWI-04-02-02	2021/11/25	2024/11/24
Temperature and humidity meter*	MingGao	TH101B	SUWI-01-01-13	2023/02/07	2024/02/06
Signal Analyzer	ROHDE&SCHWARZ	FSW43	SUWI-01-02-04	2022/05/28	2023/05/27
Signal Analyzer	KEYSIGHT	N9020A	SUWI-01-02-06	2022/11/23	2023/11/22
Test receiver	ROHDE&SCHWARZ	ESR7	SUWI-01-10-01	2023/02/08	2024/02/07
Receiving antenna	SCHWRZBECK MESS-ELEKTRONIK	VULB 9163	SUWI-01-11-04	2021/12/05	2023/12/04
Receiving antenna	SCHWRZBECK MESS-ELEKTRONIK	BBHA 9120D	SUWI-01-11-05	2021/12/05	2023/12/04
Receiving antenna	SCHWRZBECK MESS-ELEKTRONIK	BBHA 9170	SUWI-01-11-03	2021/05/14	2023/05/13
Active Loop Antenna	SCHWRZBECK MESS-ELEKTRONIK	FMZB 1519B	SUWI-01-21-01	2021/06/10	2023/06/09
Amplifier	Tonscend	TAP9K3G32	SUWI-01-14-06	2022/11/23	2023/11/22
Amplifier	Tonscend	TAP01018050	SUWI-01-14-04	2022/11/23	2023/11/22
Amplifier	Tonscend	TAP30M7G30	SUWI-01-14-05	2022/11/23	2023/11/22
Measurement Software	Tonscend	JS32-RE V4.0.0.0	SUWI-02-09-04	NCR	NCR



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Lab B:

RF Test Equipment					
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MXA signal analyzer	Agilent	N9020A	XAW01-06-07	2023/02/16	2024/02/15
MXG vector signal Generator	Agilent	N5182B	XAW01-07-16	2023/02/16	2024/02/15
Measurement Software	Tonscend	JS1120-3 (3.2.18)	XAW02-14-01	NCR	NCR
RF control unit	Tonscend	JS0806-2	XAW03-37-01	NCR	NCR
temperature chamber	Votsch	VT4002	XAW01-18-01	2023/02/16	2024/02/15
Power Supply	Agilent	66311B	XAW01-17-01	2023/02/16	2024/02/15
Temperature and humidity meter	MingGao	T809	XAW01-01-16	2022/09/18	2023/09/17



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7 Photographs - Setup Photos

Refer to Appendix A.2 WLAN Setup Photos.



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Emission Bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	26dB EBW [MHz]	FL[MHz]	FH[MHz]	Verdict
11a-SISO	Ant0	5180	20.20	5169.84	5190.04	Reporting only
		5220	20.24	5209.92	5230.16	
		5240	20.24	5229.92	5250.16	
		5260	20.04	5250.00	5270.04	
		5300	20.12	5289.96	5310.08	
		5320	20.20	5309.88	5330.08	
		5500	20.04	5489.96	5510.00	
		5580	20.12	5569.92	5590.04	
		5700	23.16	5687.48	5710.64	
		5745	23.68	5732.80	5756.48	
		5785	24.44	5773.60	5798.04	
		5825	24.16	5811.88	5836.04	
		Ant0	5180	20.44	5169.80	
		Ant1	5180	20.44	5169.84	
		Ant0	5220	20.36	5209.84	
11ac20MIMO	Ant0	Ant1	5220	20.52	5209.76	5230.28
		Ant0	5240	20.68	5229.64	5250.32
		Ant1	5240	20.20	5229.92	5250.12
		Ant0	5260	20.08	5249.96	5270.04
		Ant1	5260	20.36	5249.84	5270.20
		Ant0	5300	20.48	5289.72	5310.20
		Ant1	5300	20.32	5289.80	5310.12
		Ant0	5320	20.28	5309.84	5330.12
		Ant1	5320	20.16	5309.96	5330.12
		Ant0	5500	20.52	5489.68	5510.20
		Ant1	5500	20.52	5489.76	5510.28
		Ant0	5580	20.56	5569.72	5590.28
		Ant1	5580	20.44	5569.76	5590.20
		Ant0	5700	20.56	5689.76	5710.32
		Ant1	5700	21.28	5689.88	5711.16
		Ant0	5745	22.04	5734.52	5756.56
		Ant1	5745	21.96	5733.84	5755.80
		Ant0	5785	20.44	5774.88	5795.32
		Ant1	5785	24.52	5771.24	5795.76
		Ant0	5825	20.44	5814.80	5835.24
		Ant1	5825	20.64	5814.80	5835.44
11ac40MIMO	Ant0	Ant0	5190	40.96	5169.36	5210.32
		Ant1	5190	40.32	5169.84	5210.16
		Ant0	5230	40.96	5209.76	5250.72
		Ant1	5230	40.48	5209.76	5250.24
		Ant0	5270	40.72	5249.68	5290.40
		Ant1	5270	40.72	5249.68	5290.40
		Ant0	5310	40.64	5289.76	5330.40
		Ant1	5310	40.48	5289.68	5330.16
		Ant0	5510	40.72	5489.60	5530.32
		Ant1	5510	40.88	5489.52	5530.40
		Ant0	5550	41.04	5529.44	5570.48
		Ant1	5550	39.92	5530.08	5570.00
		Ant0	5670	40.80	5649.44	5690.24
		Ant1	5670	40.64	5649.52	5690.16

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	Ant0	5755	40.24	5734.76	5775.00	
	Ant1	5755	41.28	5733.96	5775.24	
	Ant0	5795	40.56	5774.76	5815.32	
	Ant1	5795	40.32	5774.68	5815.00	
11ac80MIMO	Ant0	5210	81.60	5169.20	5250.80	
	Ant1	5210	81.60	5169.36	5250.96	
	Ant0	5290	82.08	5249.04	5331.12	
	Ant1	5290	81.28	5249.36	5330.64	
	Ant0	5530	81.76	5489.04	5570.80	
	Ant1	5530	81.28	5489.20	5570.48	
	Ant0	5775	97.12	5726.20	5823.32	
	Ant1	5775	91.04	5724.60	5815.64	

Remark:

For 802.11n HT20/ac VHT20 and 802.11n HT40/ac VHT40 mode, the whole testing have assessed only, 802.11ac VHT20/40 by referring to their higher output power.



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Test Graphs



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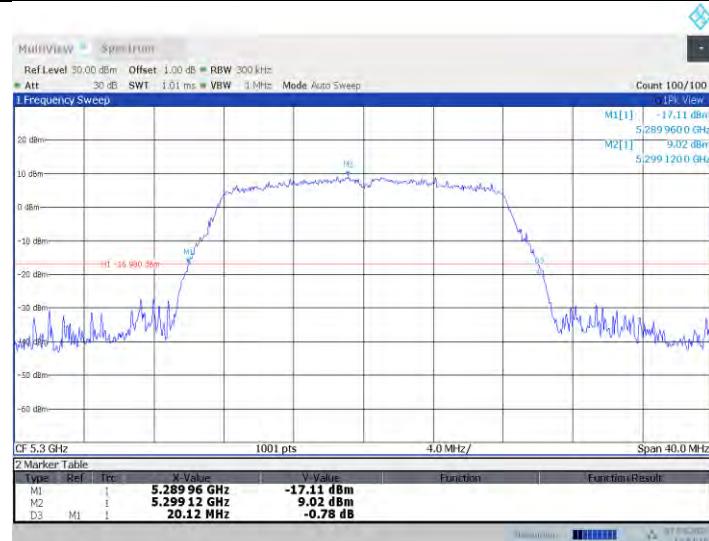
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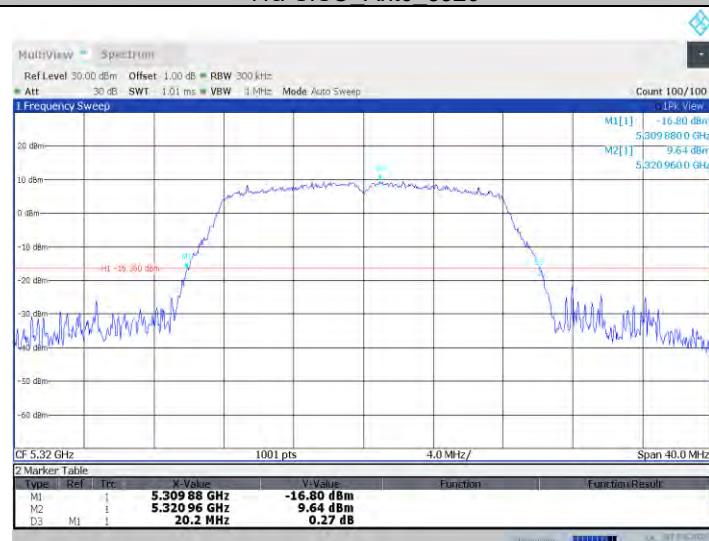
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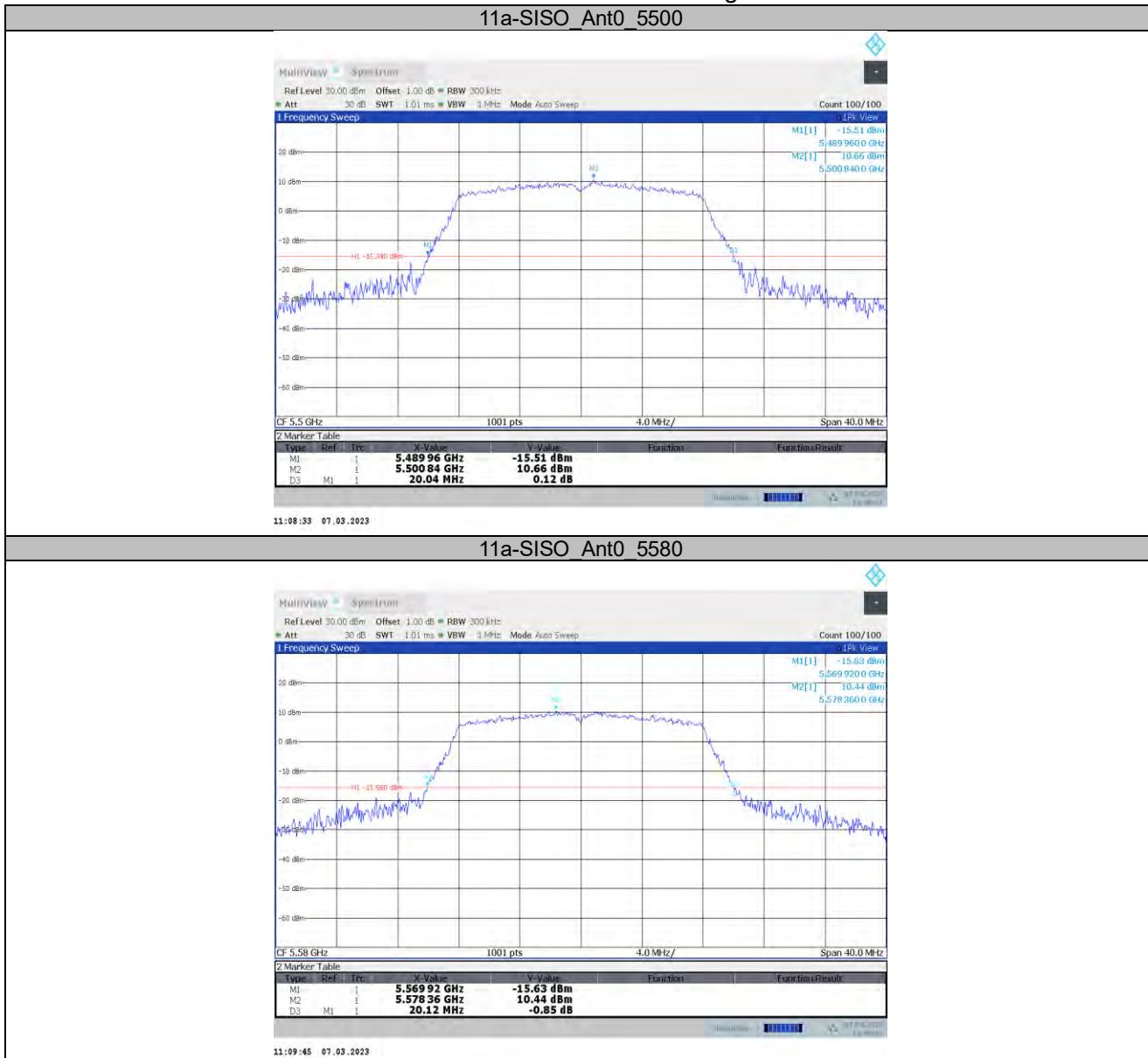
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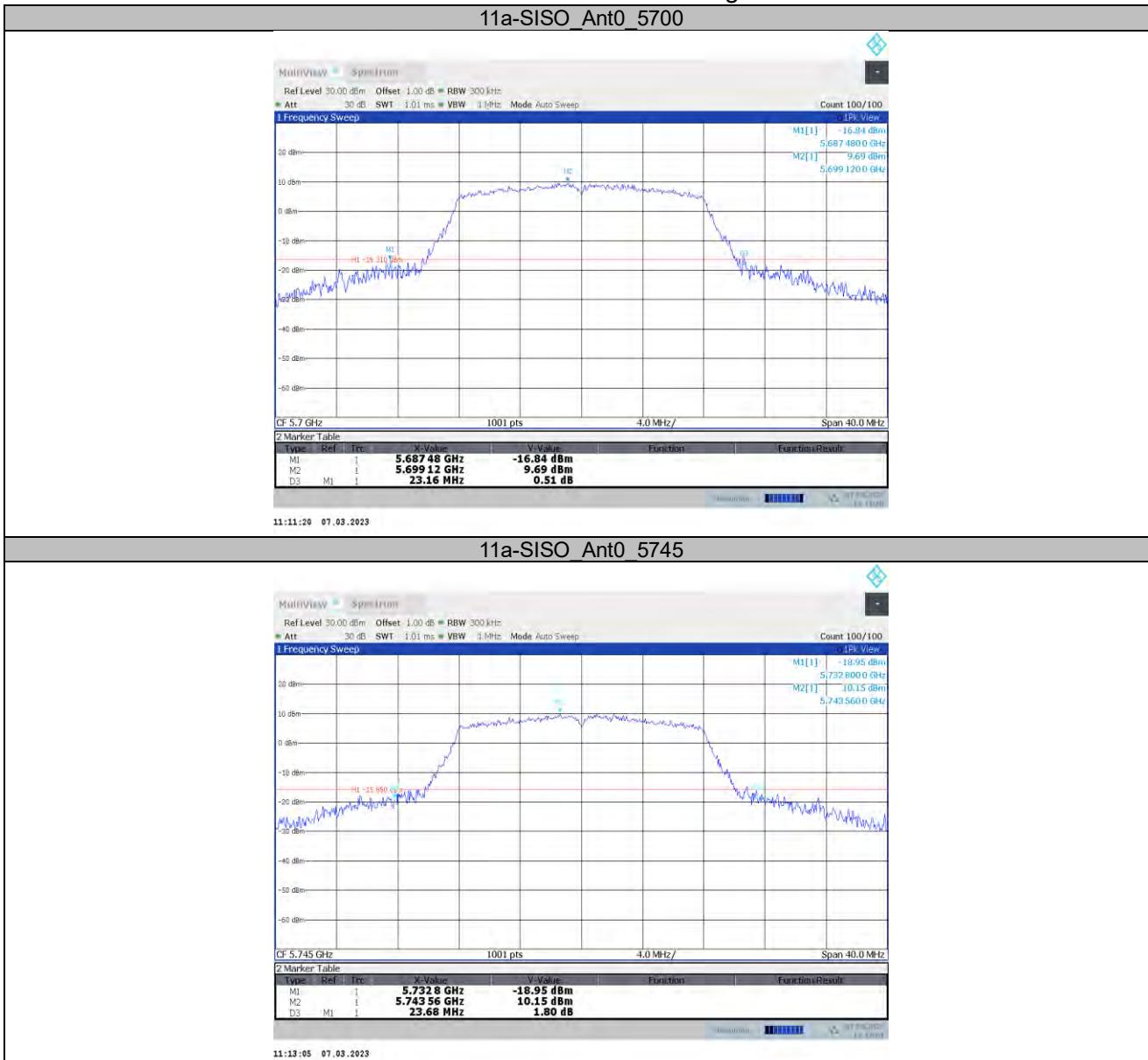
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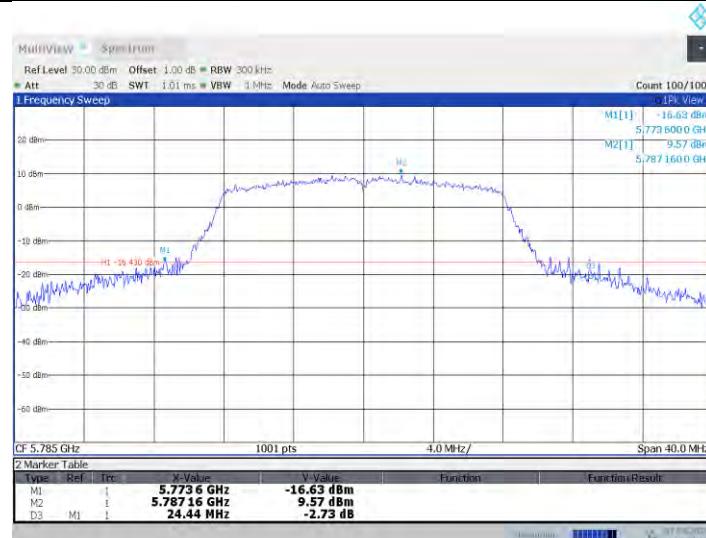
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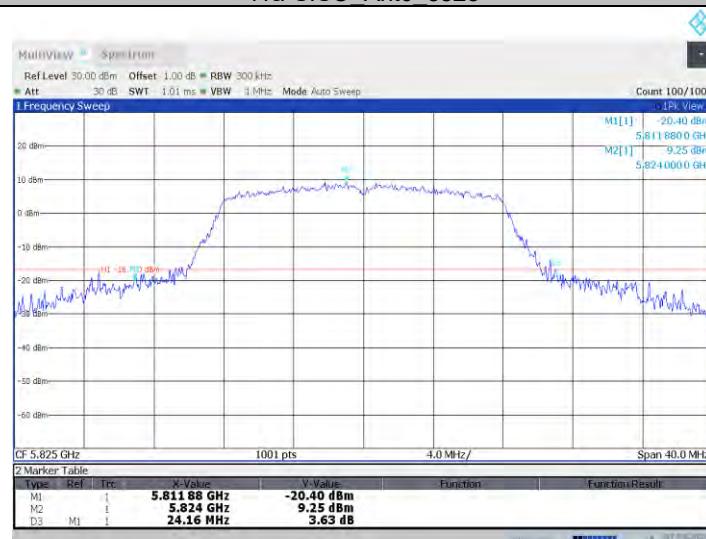
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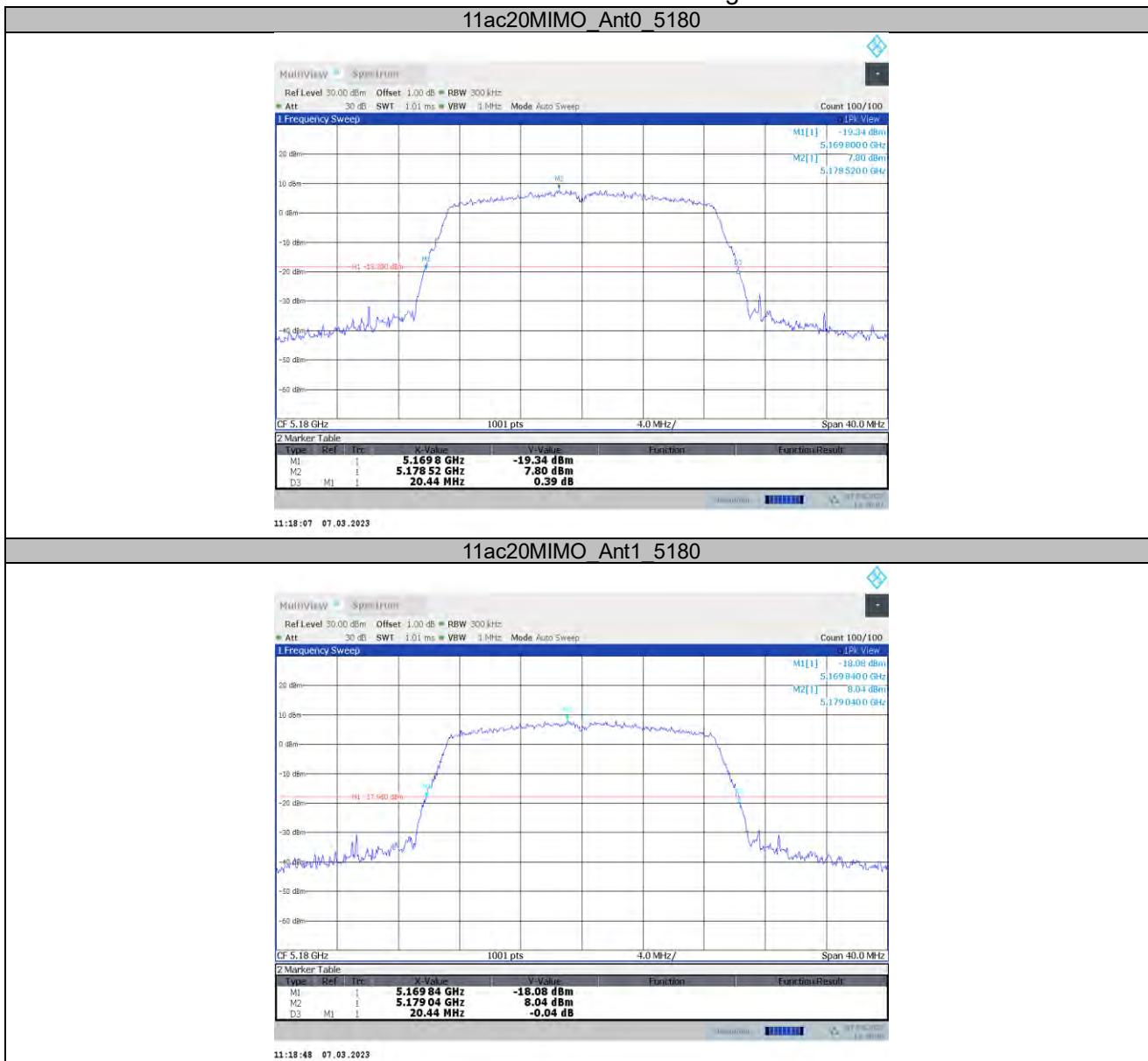
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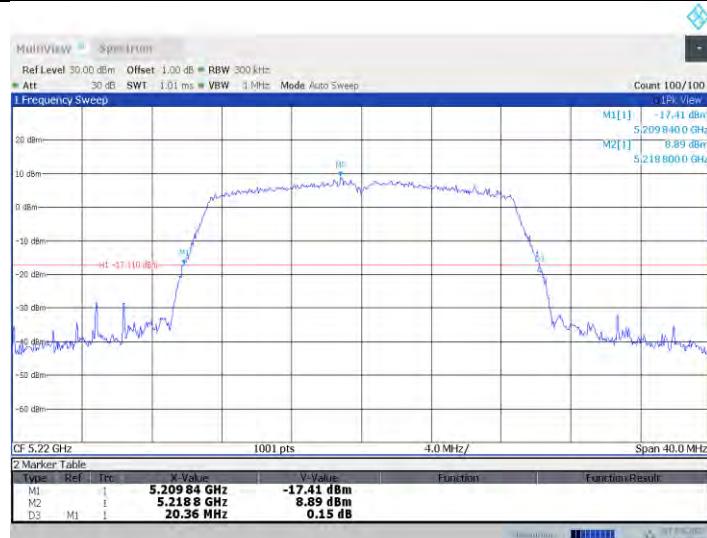
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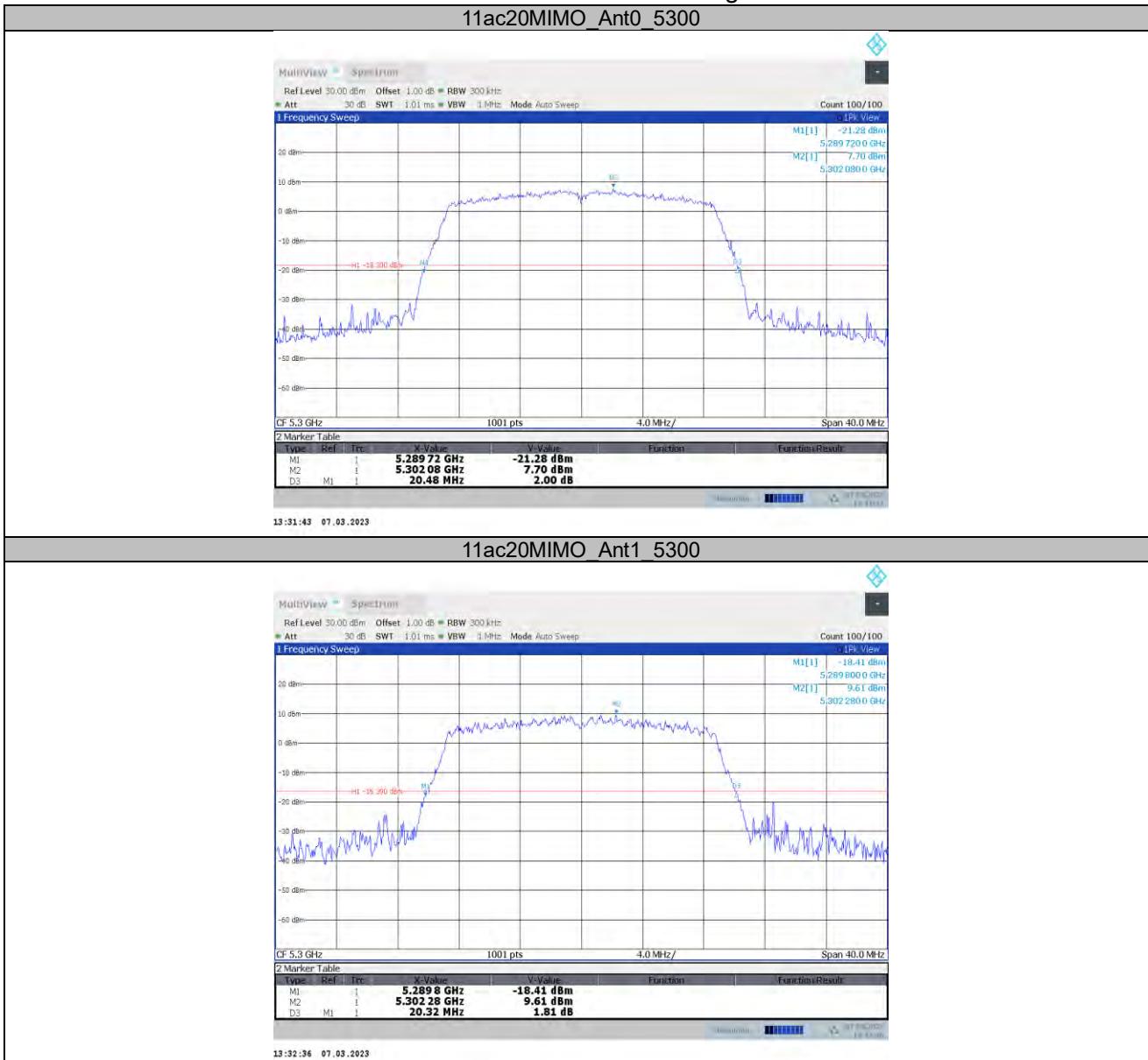
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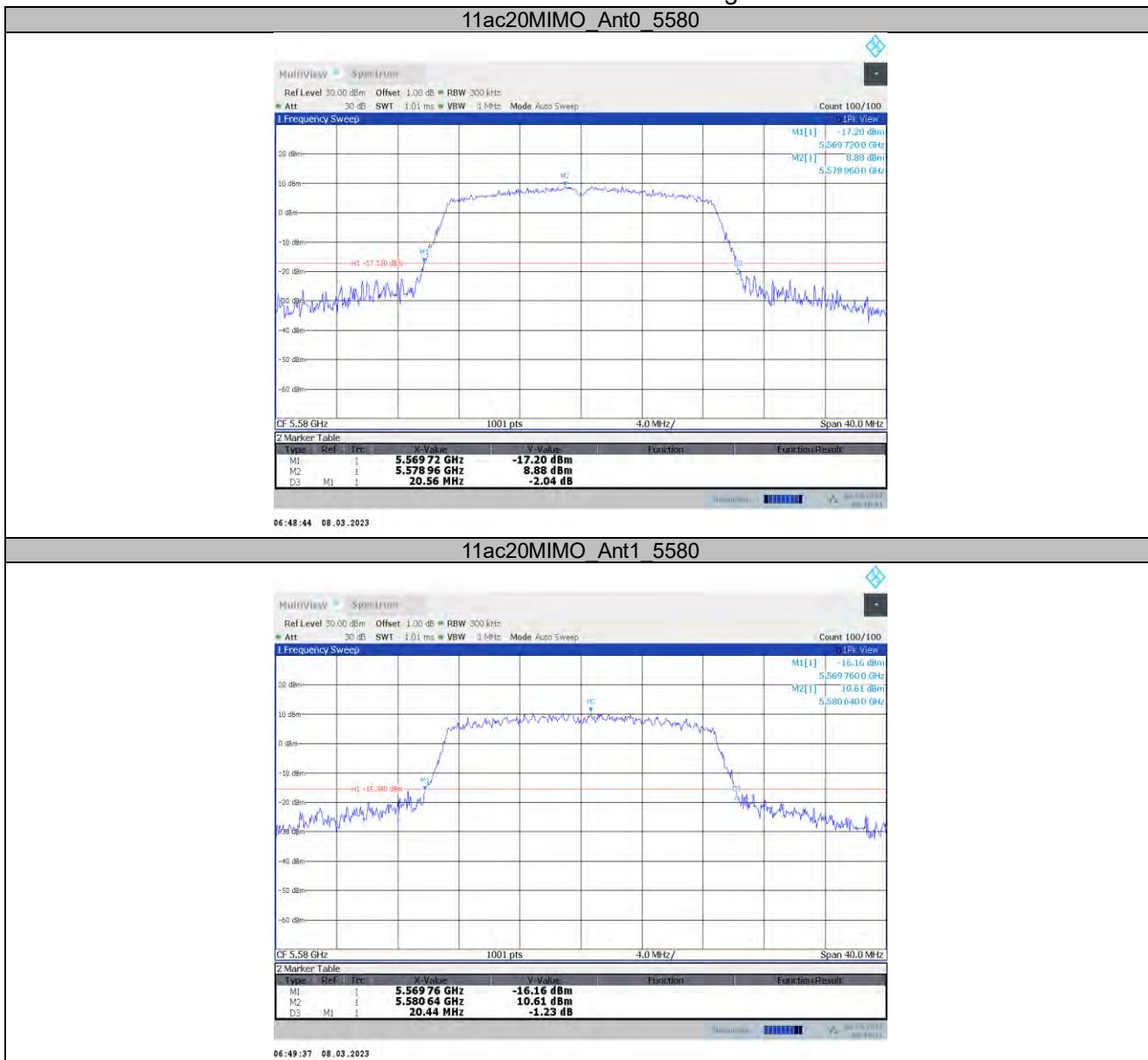
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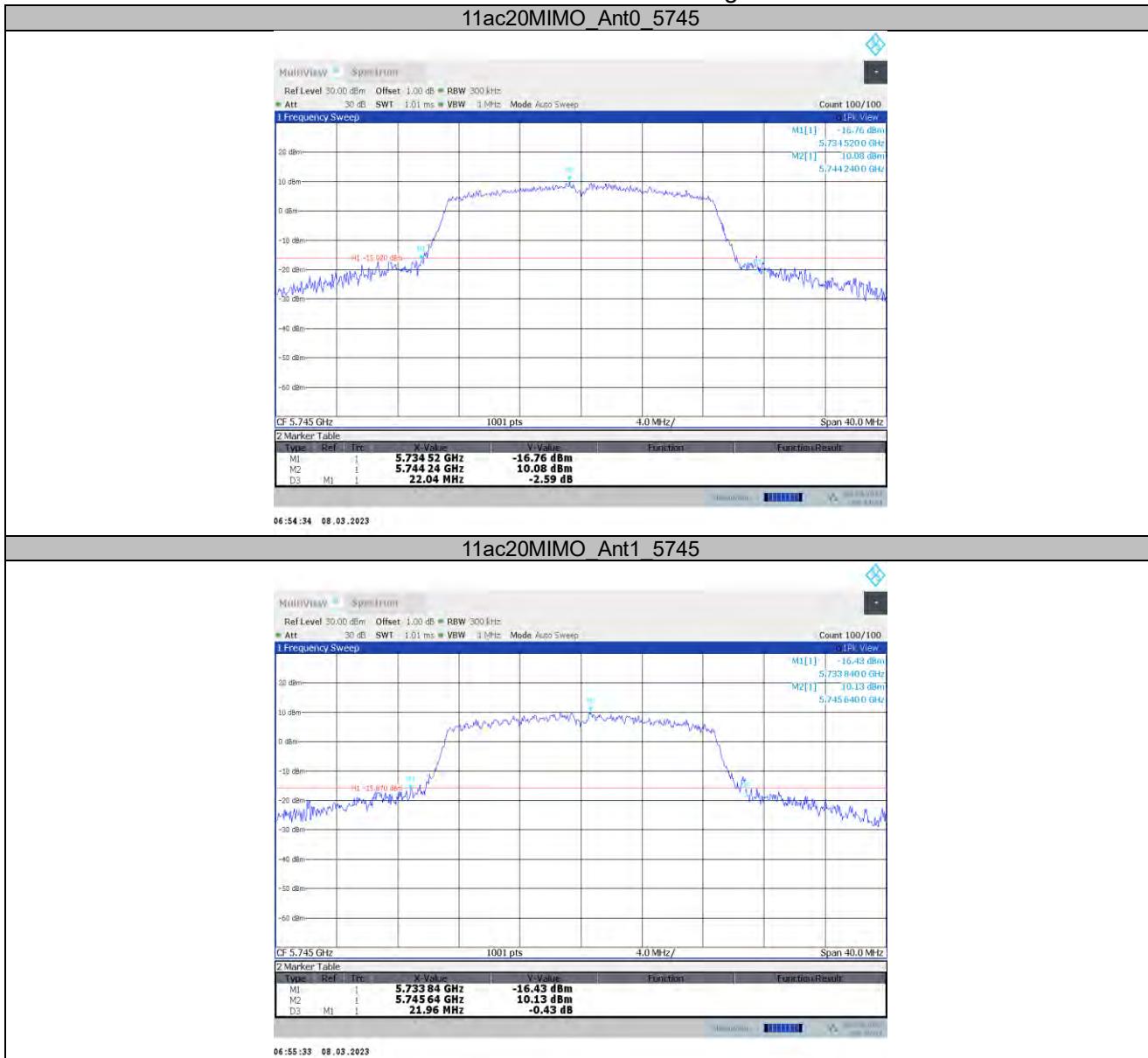
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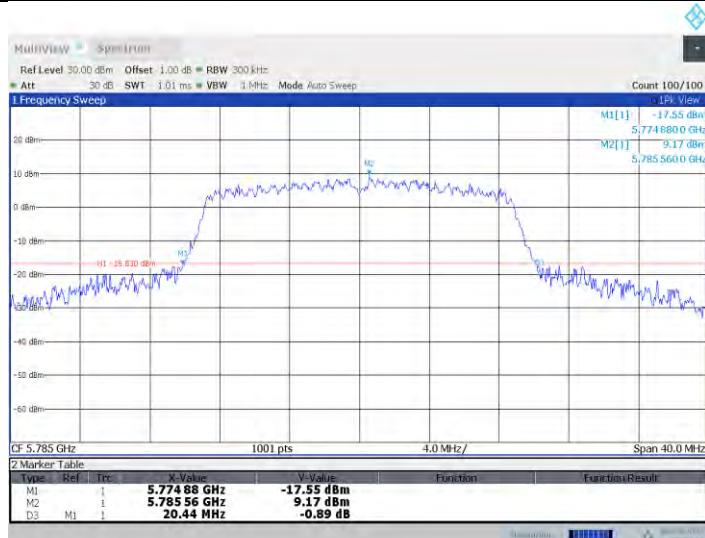
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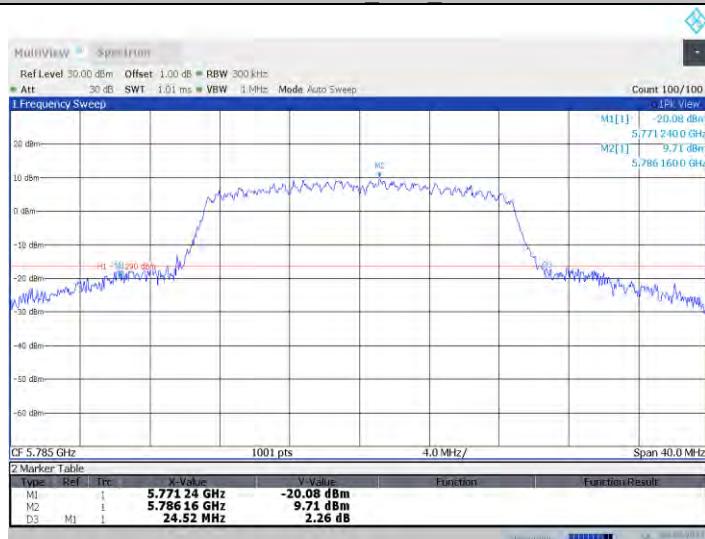
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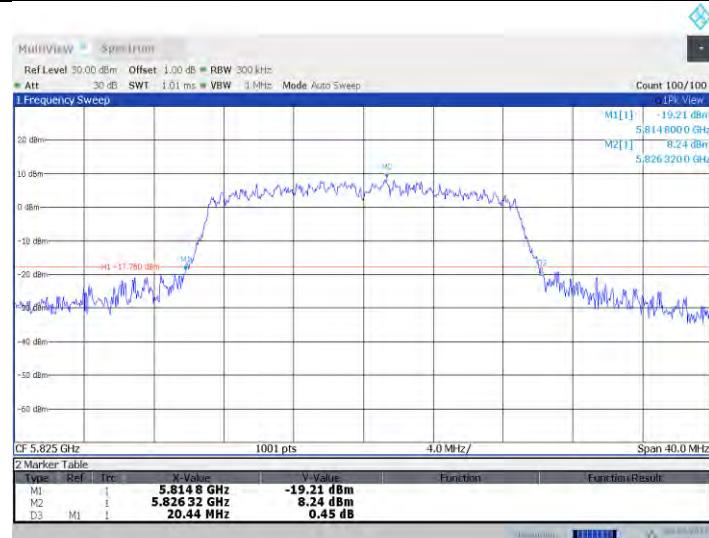
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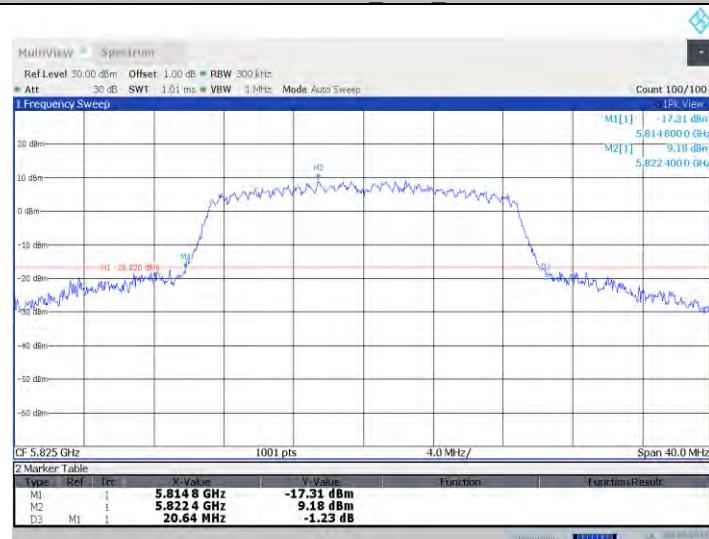
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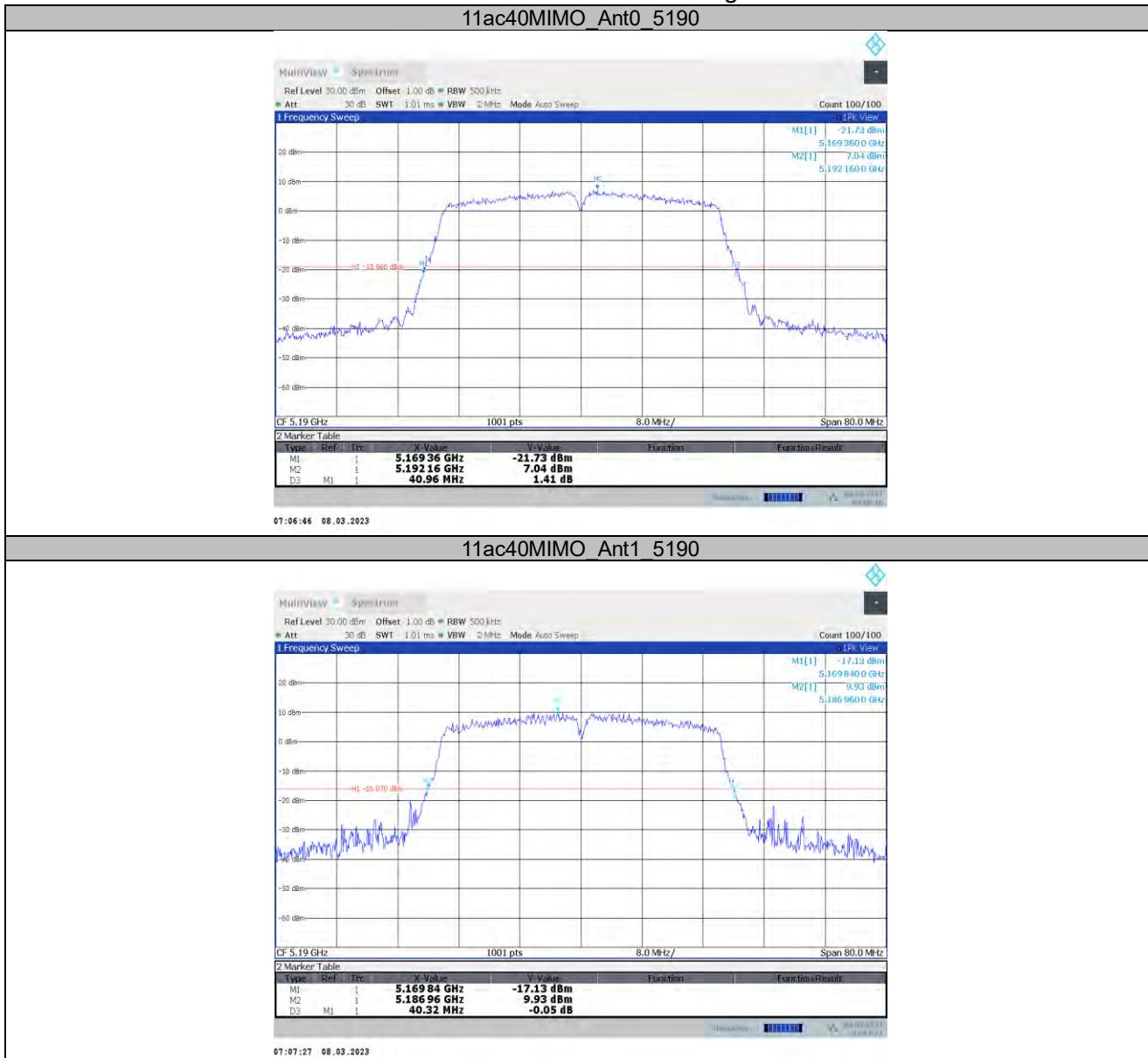
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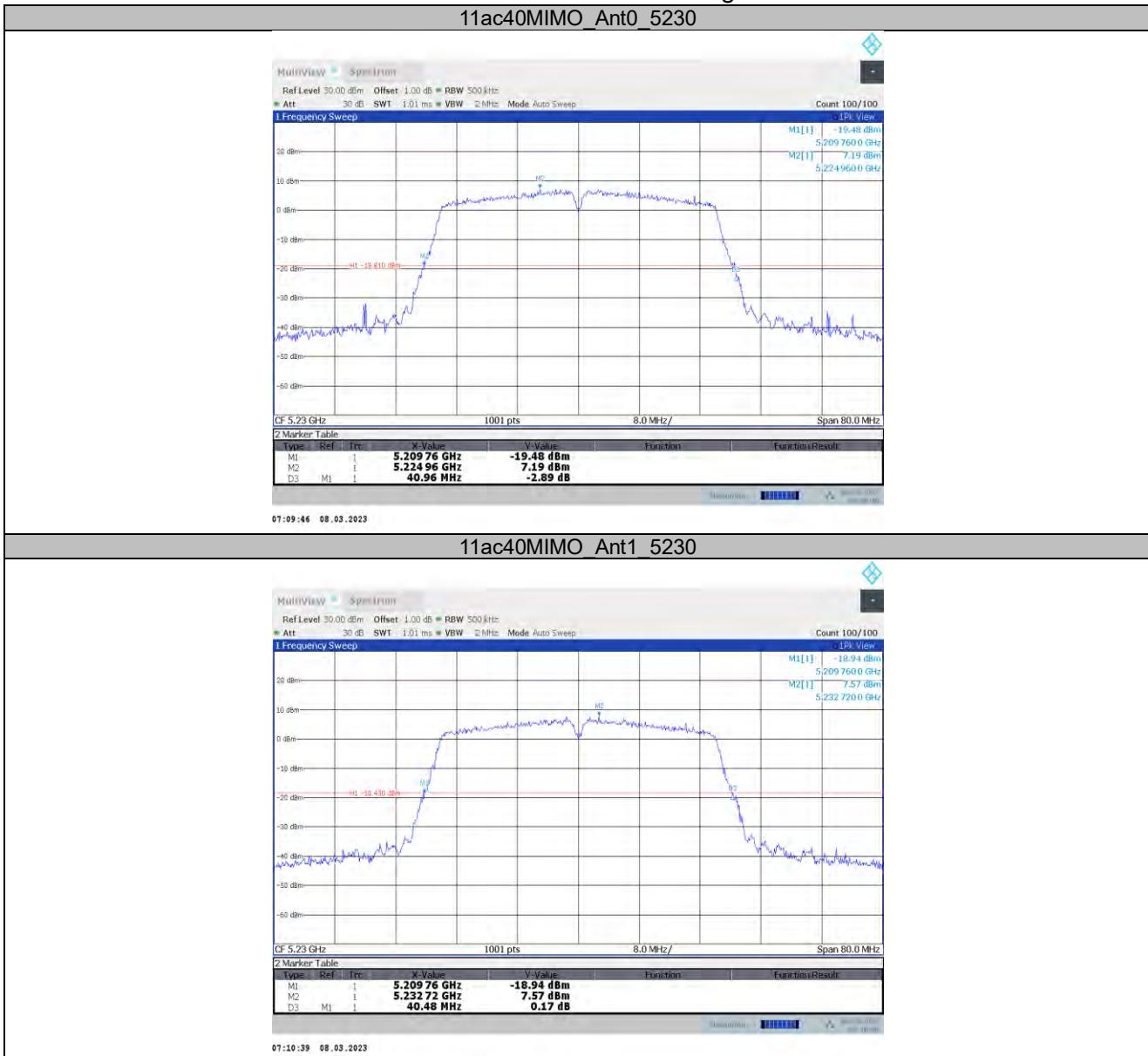
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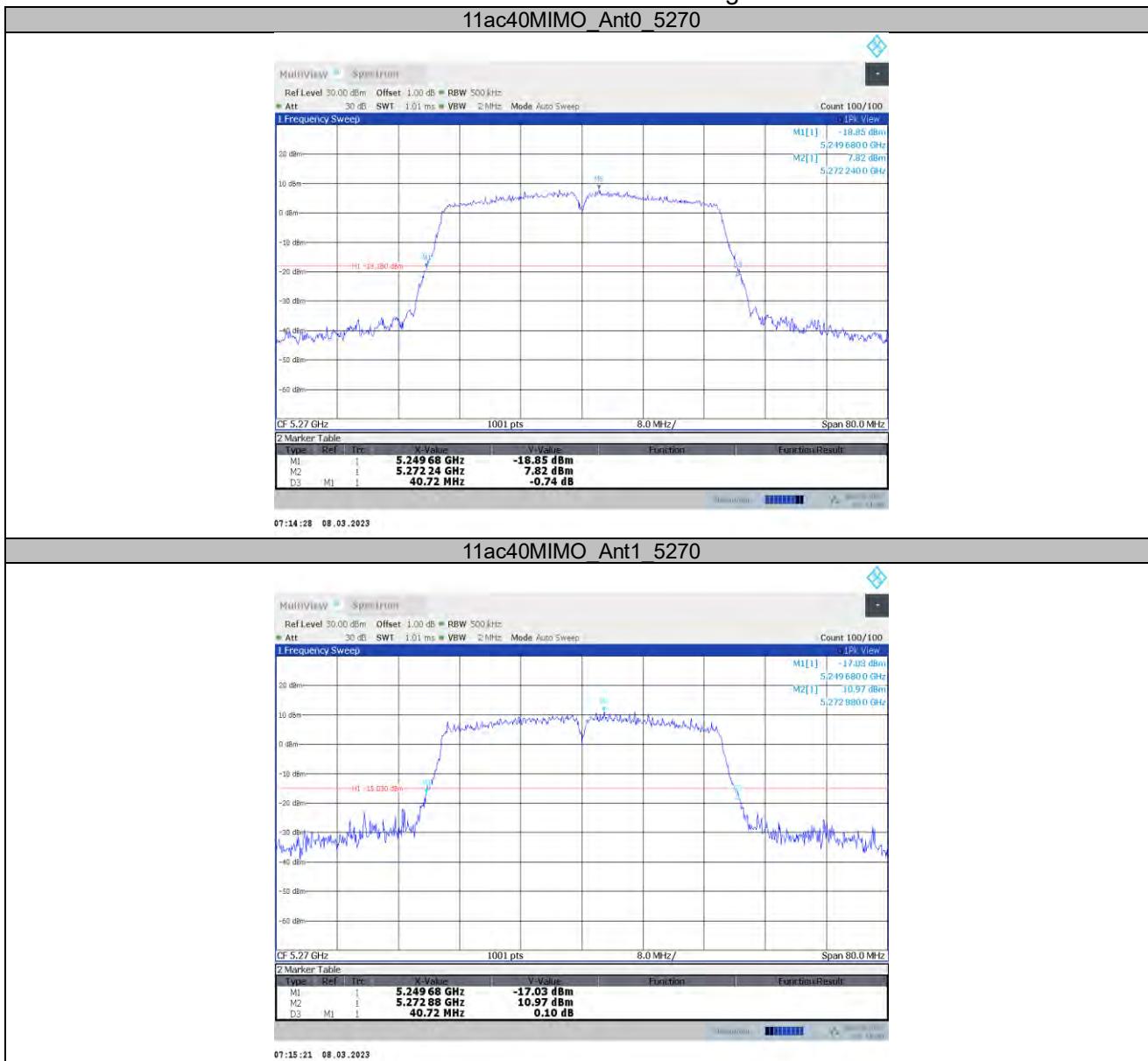
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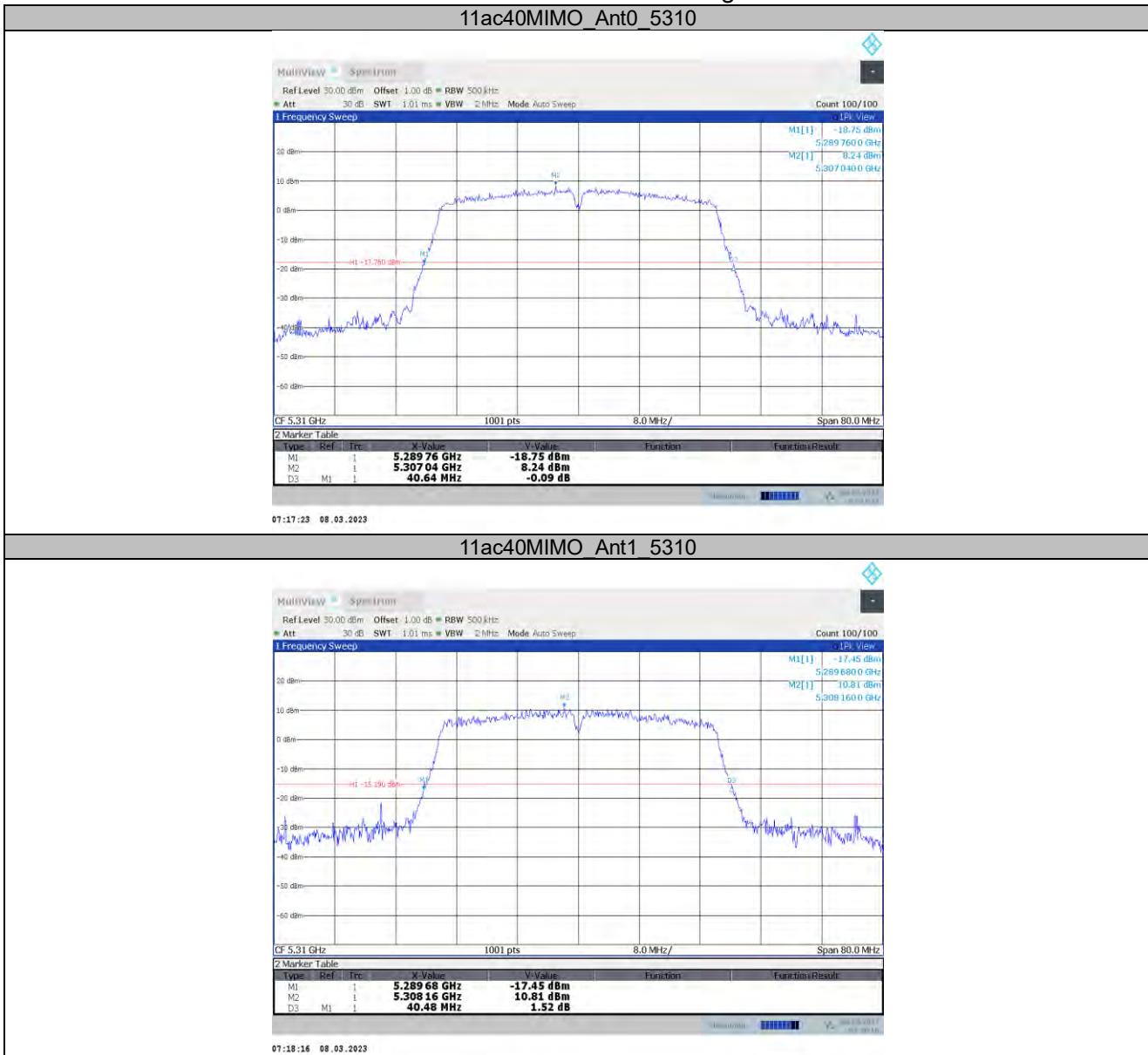
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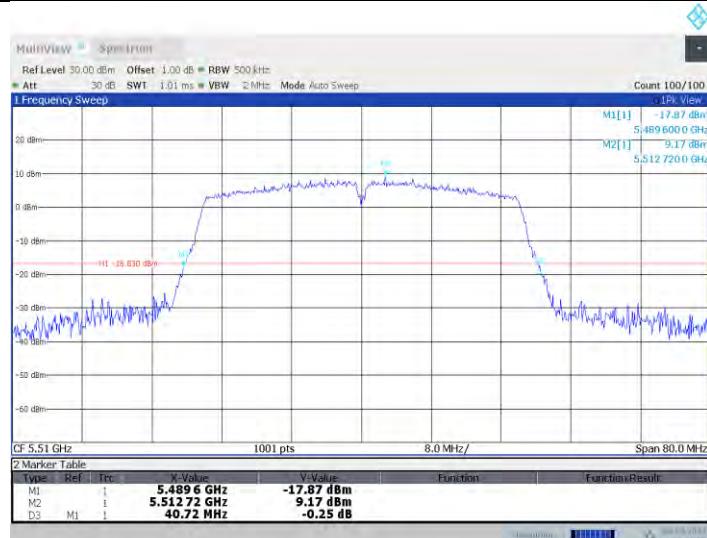
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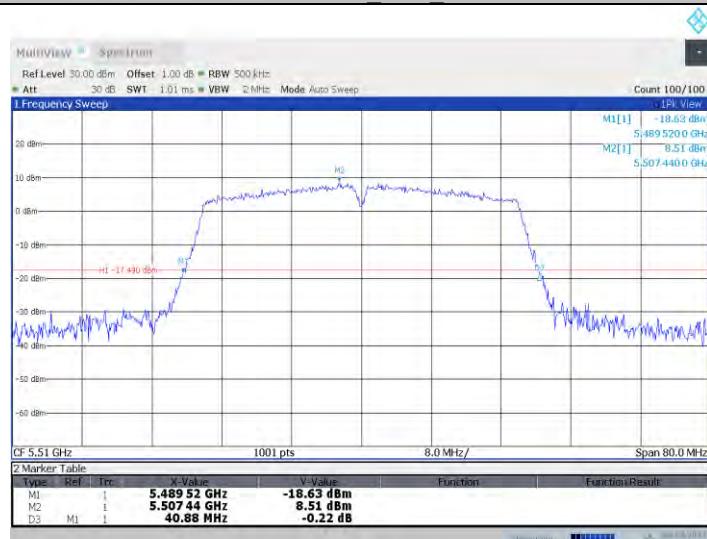
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11ac40MIMO_Ant0_5510



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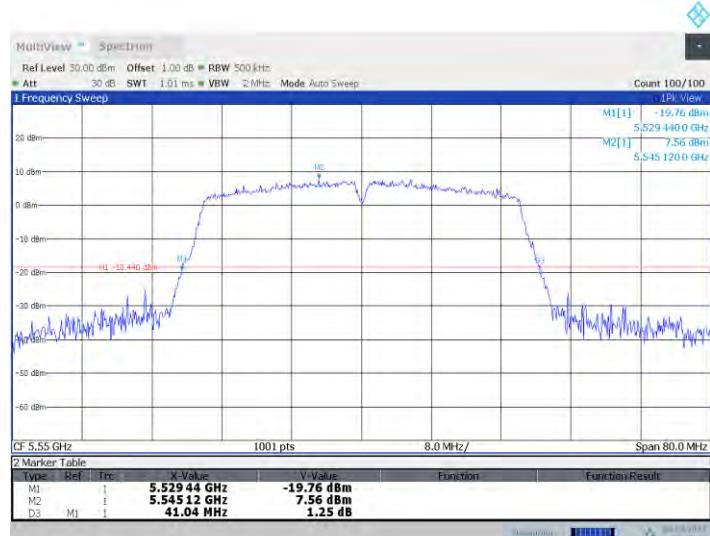
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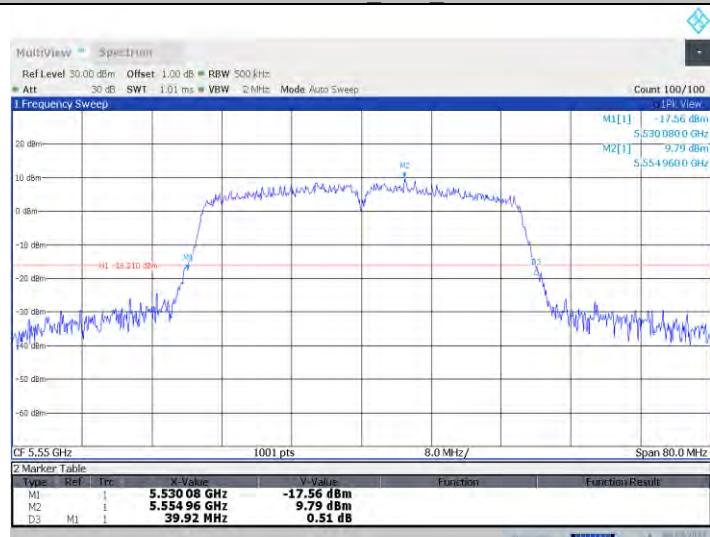
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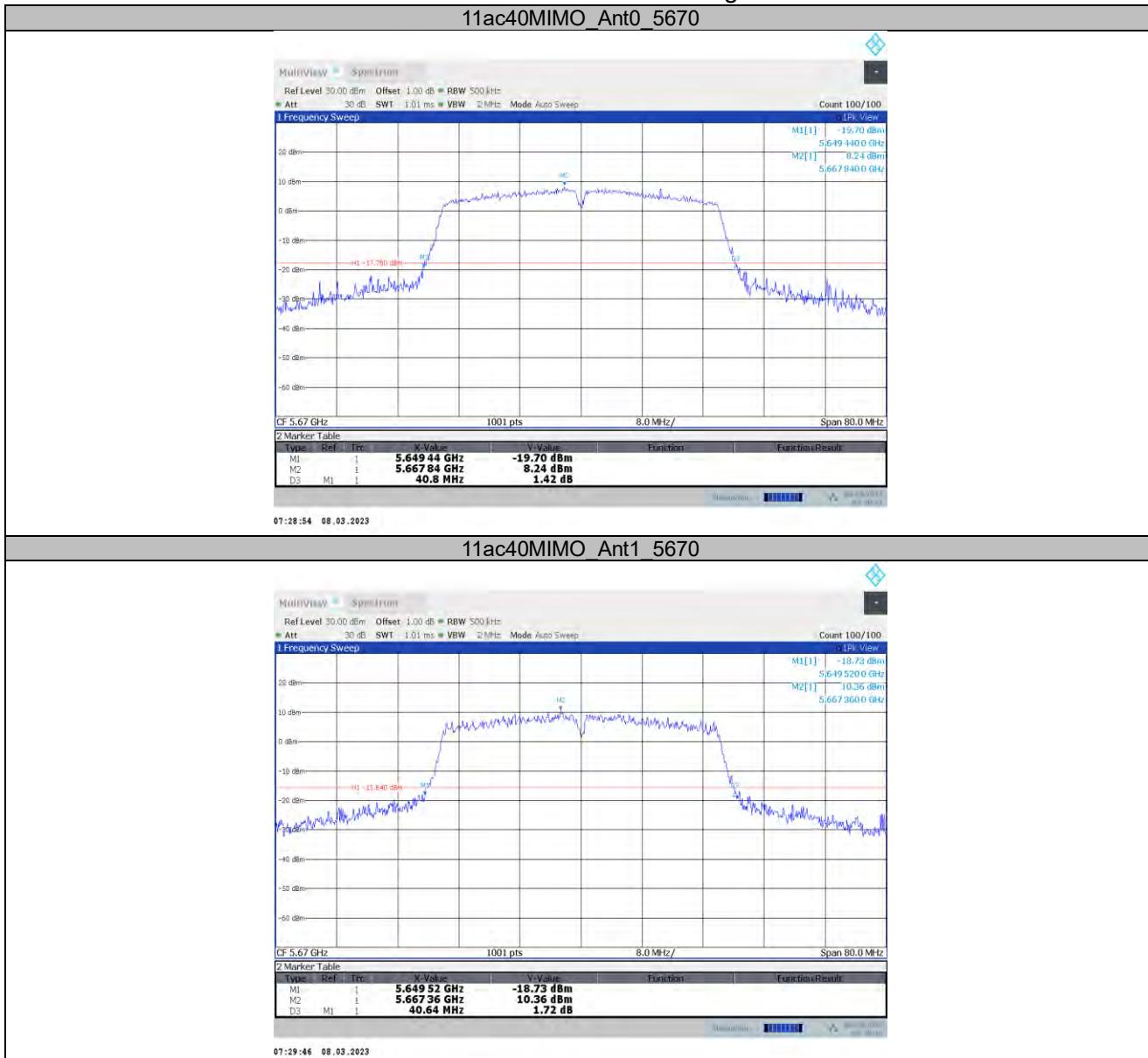
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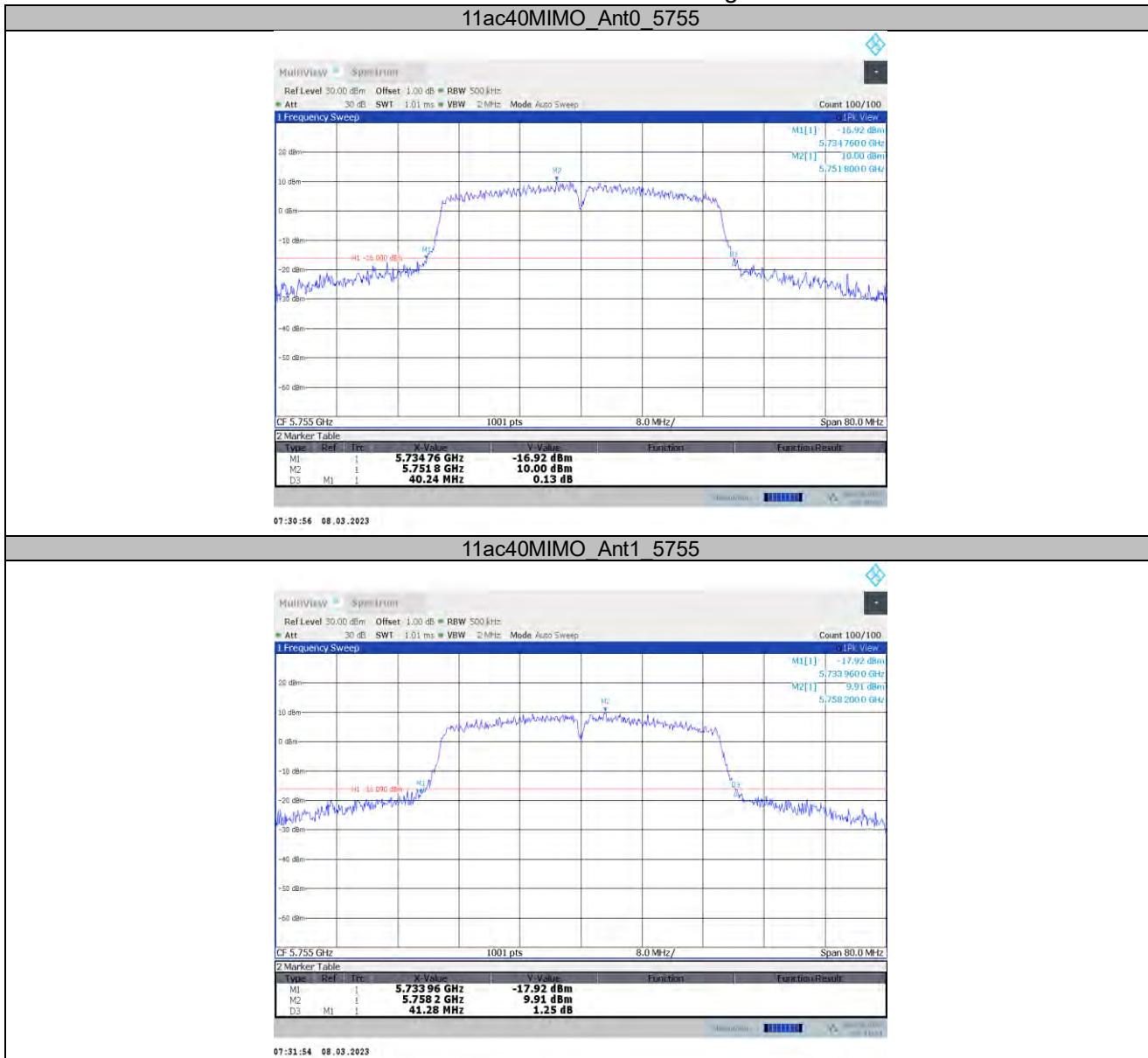
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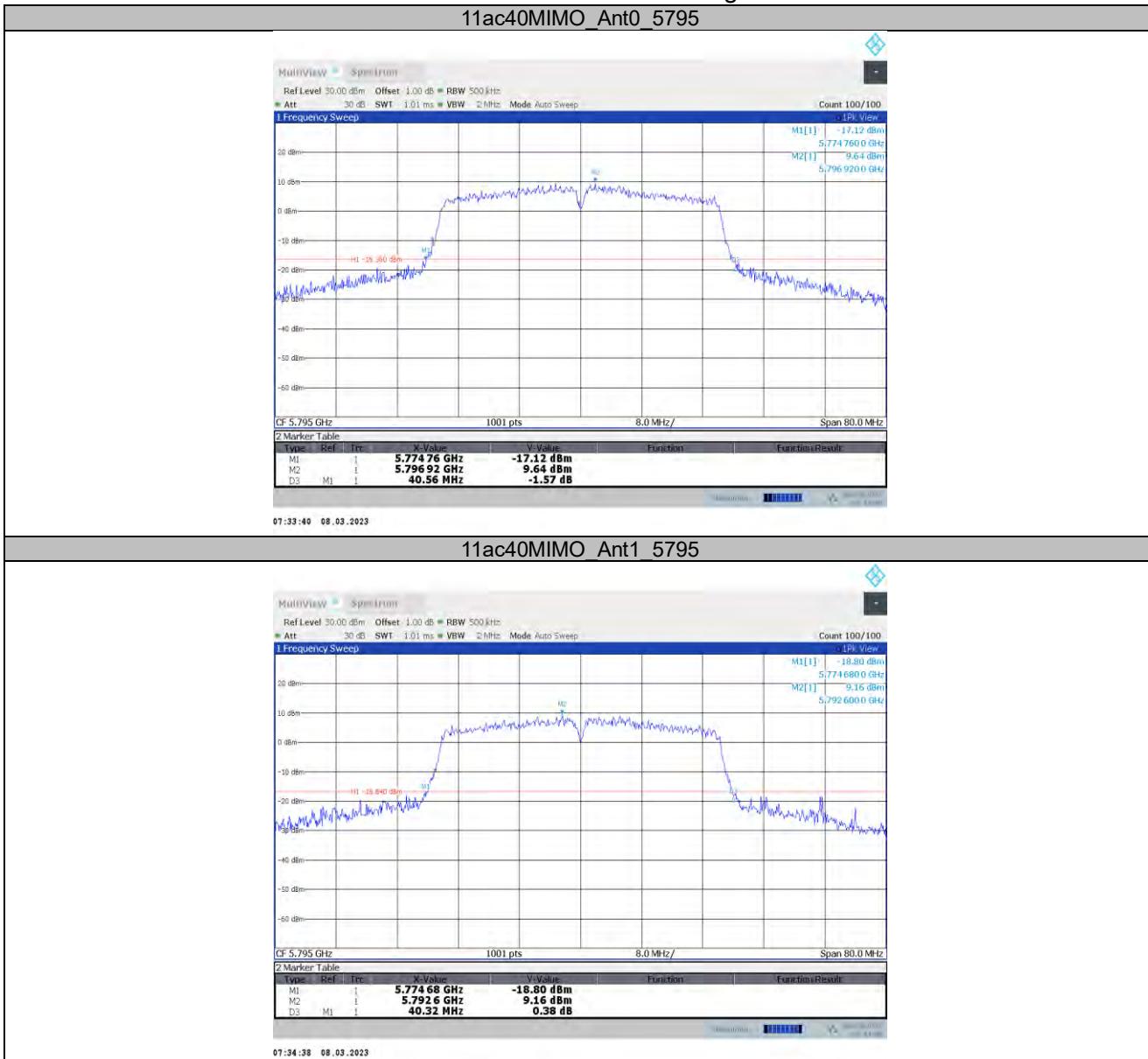
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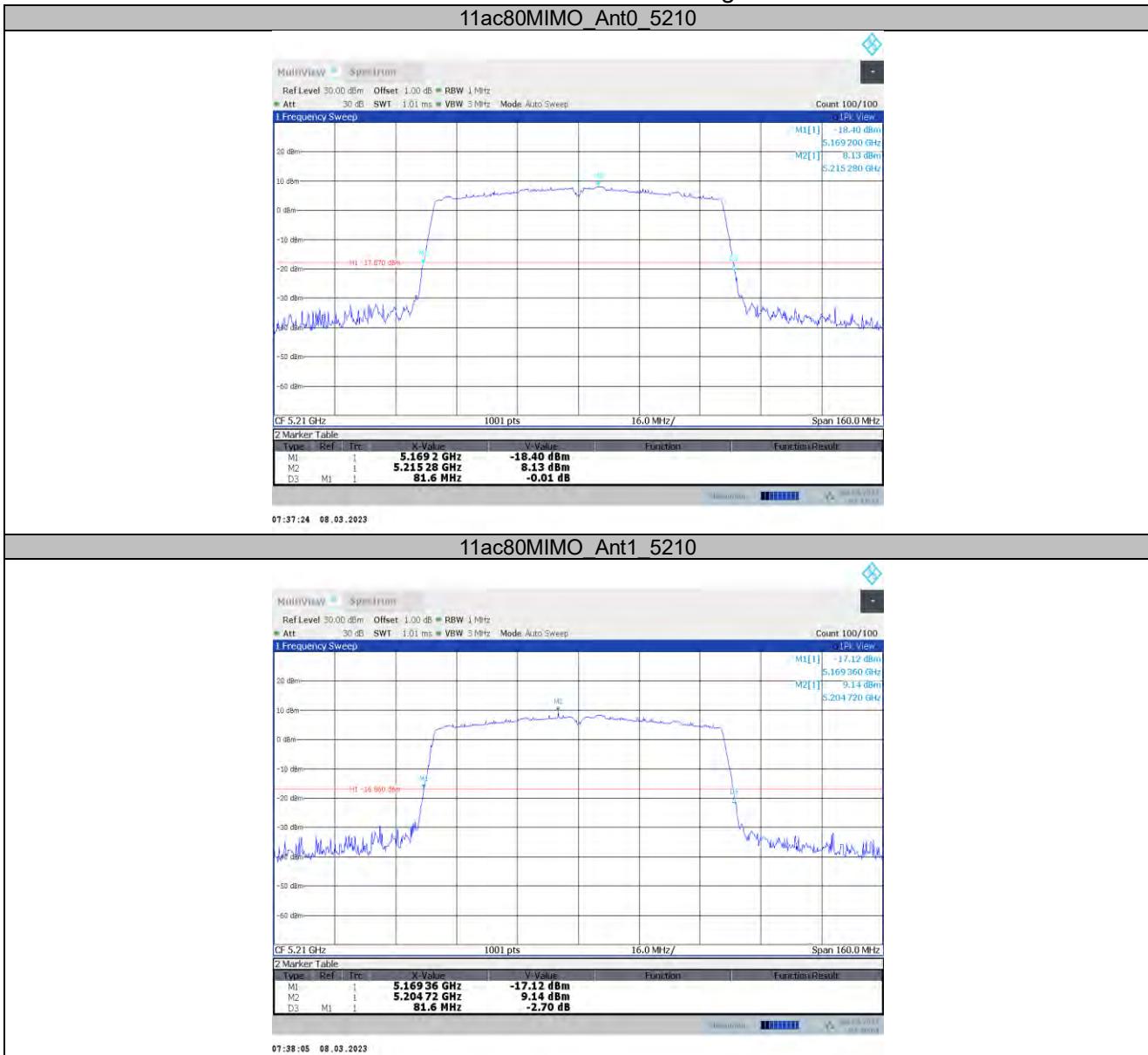
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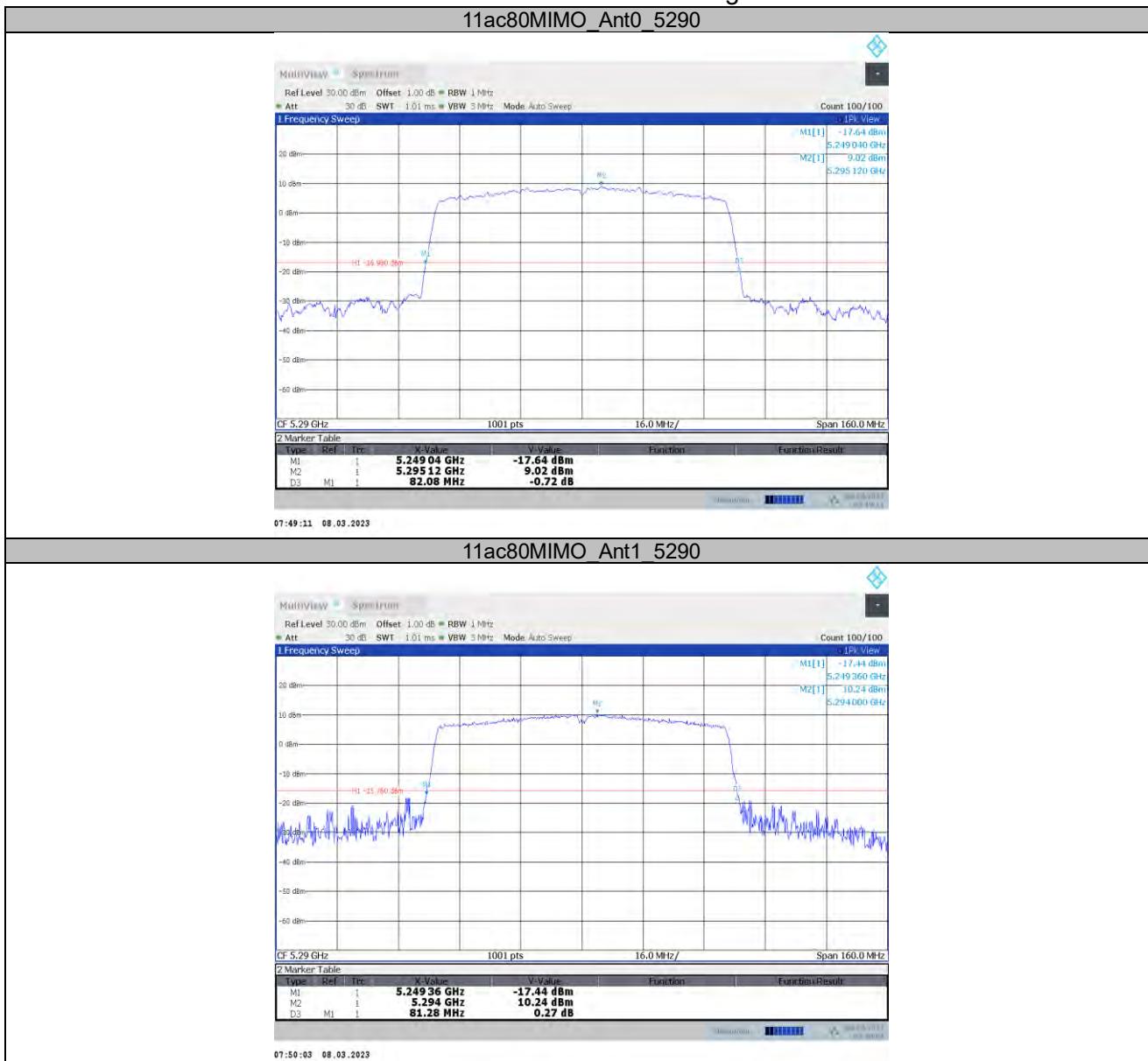
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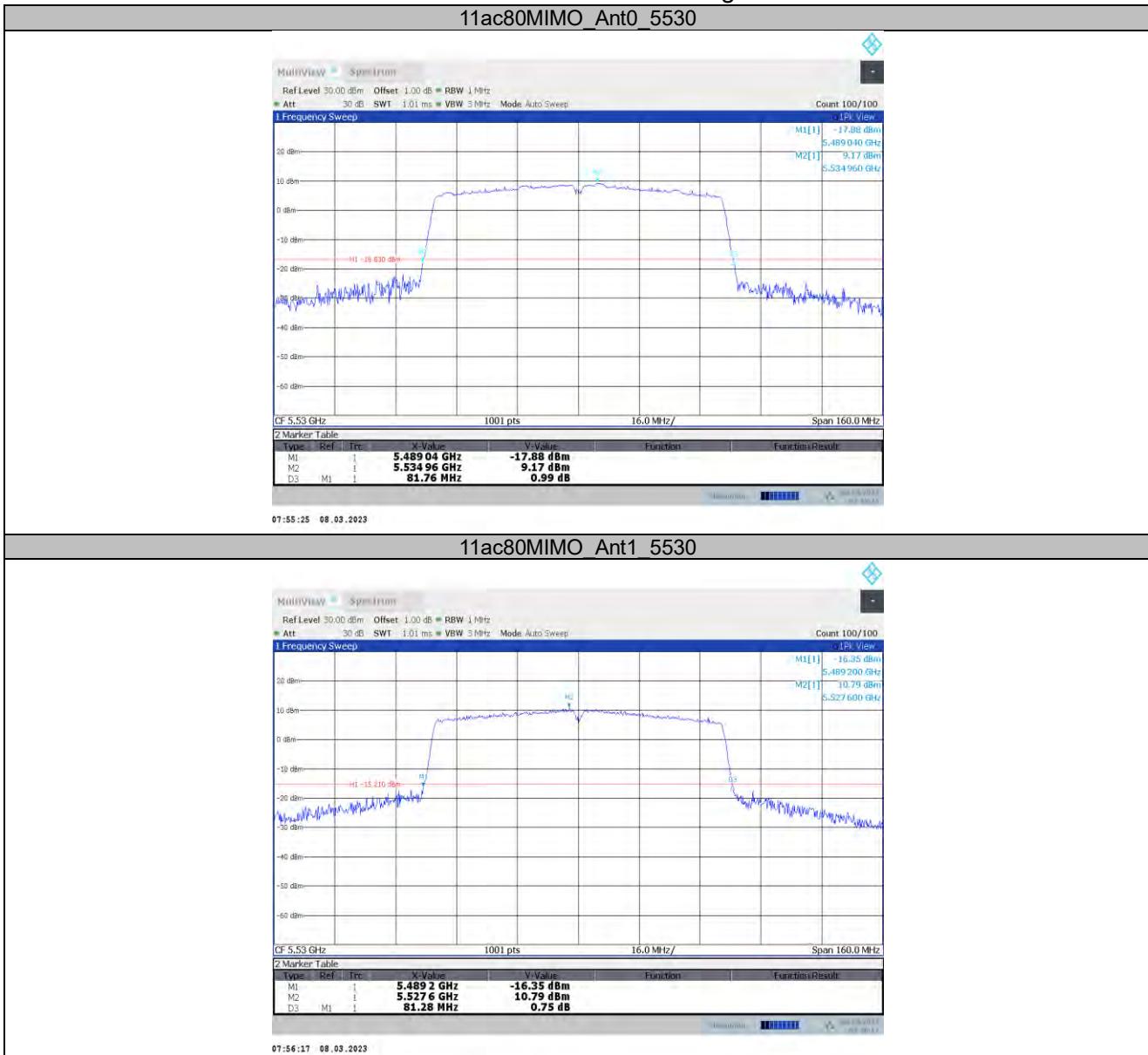
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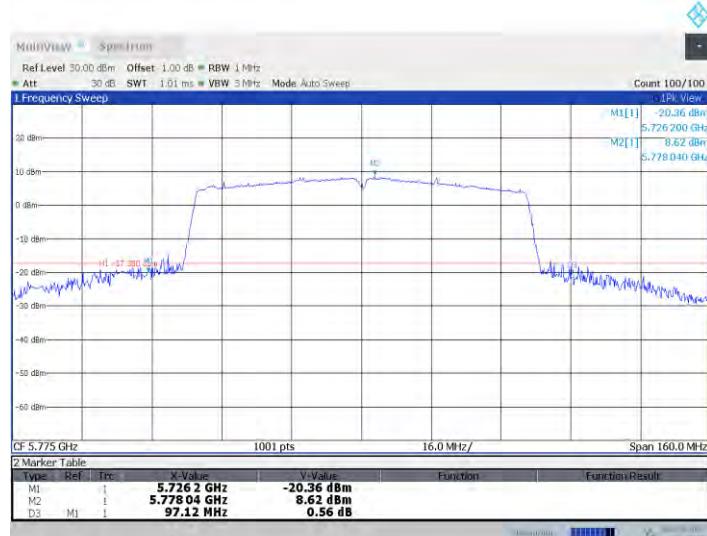
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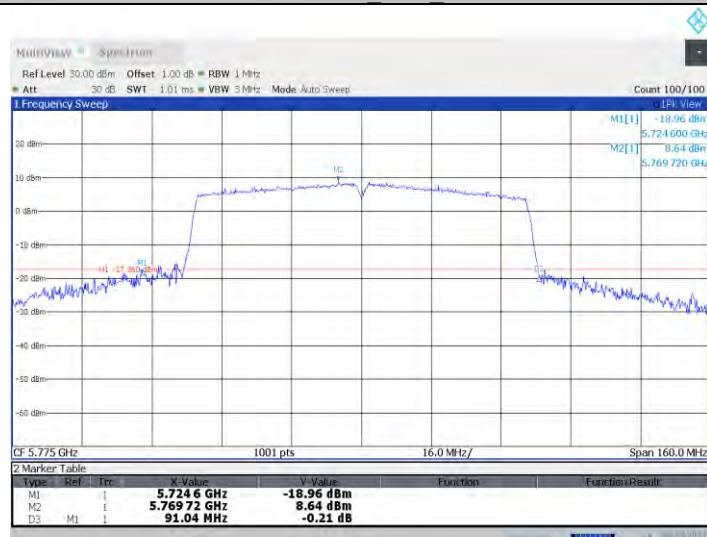
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Occupied channel bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Verdict
11a-SISO	Ant0	5180	17.096	5171.448	5188.544	
		5220	17.116	5211.441	5228.557	
		5240	17.078	5231.481	5248.560	
		5260	17.096	5251.457	5268.553	
		5300	17.065	5291.466	5308.531	
		5320	17.151	5311.437	5328.588	
		5500	17.137	5491.408	5508.545	
		5580	17.153	5571.416	5588.569	
		5700	17.232	5691.351	5708.583	
		5745	17.263	5736.376	5753.639	
		5785	17.398	5776.285	5793.683	
		5825	17.339	5816.308	5833.647	
		Ant0	5180	17.951	5171.045	5188.996
		Ant1	5180	17.984	5171.024	5189.008
		Ant0	5220	17.941	5211.015	5228.956
11ac20MIMO	Ant0	Ant1	5220	17.959	5211.033	5228.992
		Ant0	5240	17.946	5231.037	5248.983
		Ant1	5240	17.751	5231.108	5248.859
		Ant0	5260	17.971	5251.013	5268.985
		Ant1	5260	17.738	5251.138	5268.877
		Ant0	5300	17.971	5291.026	5308.996
		Ant1	5300	17.762	5291.128	5308.890
		Ant0	5320	17.961	5311.014	5328.975
		Ant1	5320	17.751	5311.153	5328.904
		Ant0	5500	17.977	5491.014	5508.991
		Ant1	5500	18.011	5491.027	5509.038
		Ant0	5580	17.981	5570.999	5588.980
		Ant1	5580	17.828	5571.079	5588.908
		Ant0	5700	18.037	5690.990	5709.028
		Ant1	5700	17.865	5691.067	5708.932
		Ant0	5745	18.111	5735.932	5754.043
		Ant1	5745	17.899	5736.056	5753.956
		Ant0	5785	17.885	5776.045	5793.930
		Ant1	5785	17.885	5776.040	5793.925
		Ant0	5825	17.846	5816.076	5833.922
		Ant1	5825	17.875	5816.043	5833.918
11ac40MIMO	Ant0	Ant0	5190	36.42	5171.813	5208.233
		Ant1	5190	36.354	5171.881	5208.235
		Ant0	5230	36.412	5211.811	5248.223
		Ant1	5230	36.306	5211.882	5248.188
		Ant0	5270	36.406	5251.853	5288.260
		Ant1	5270	36.337	5251.847	5288.184
		Ant0	5310	36.414	5291.845	5328.260
		Ant1	5310	36.283	5291.872	5328.155
		Ant0	5510	36.438	5491.791	5528.229
		Ant1	5510	36.447	5491.797	5528.244
		Ant0	5550	36.469	5531.753	5568.221
		Ant1	5550	36.304	5531.886	5568.190
		Ant0	5670	36.603	5651.666	5688.268
		Ant1	5670	36.452	5651.728	5688.180
		Ant0	5755	36.593	5736.662	5773.255
		Ant1	5755	36.63	5736.635	5773.266



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	Ant0	5795	36.58	5776.674	5813.254	
	Ant1	5795	36.519	5776.724	5813.243	
11ac80MIMO	Ant0	5210	75.23	5172.467	5247.696	
	Ant1	5210	75.226	5172.435	5247.662	
	Ant0	5290	75.207	5252.488	5327.695	
	Ant1	5290	75.235	5252.434	5327.669	
	Ant0	5530	75.234	5492.410	5567.644	
	Ant1	5530	75.35	5492.316	5567.666	
	Ant0	5775	75.574	5737.148	5812.723	
	Ant1	5775	75.62	5737.120	5812.740	

Remark:

For 802.11n HT20/ac VHT20 and 802.11n HT40/ac VHT40 mode, the whole testing have assessed only, 802.11ac VHT20/40 by referring to their higher output power.



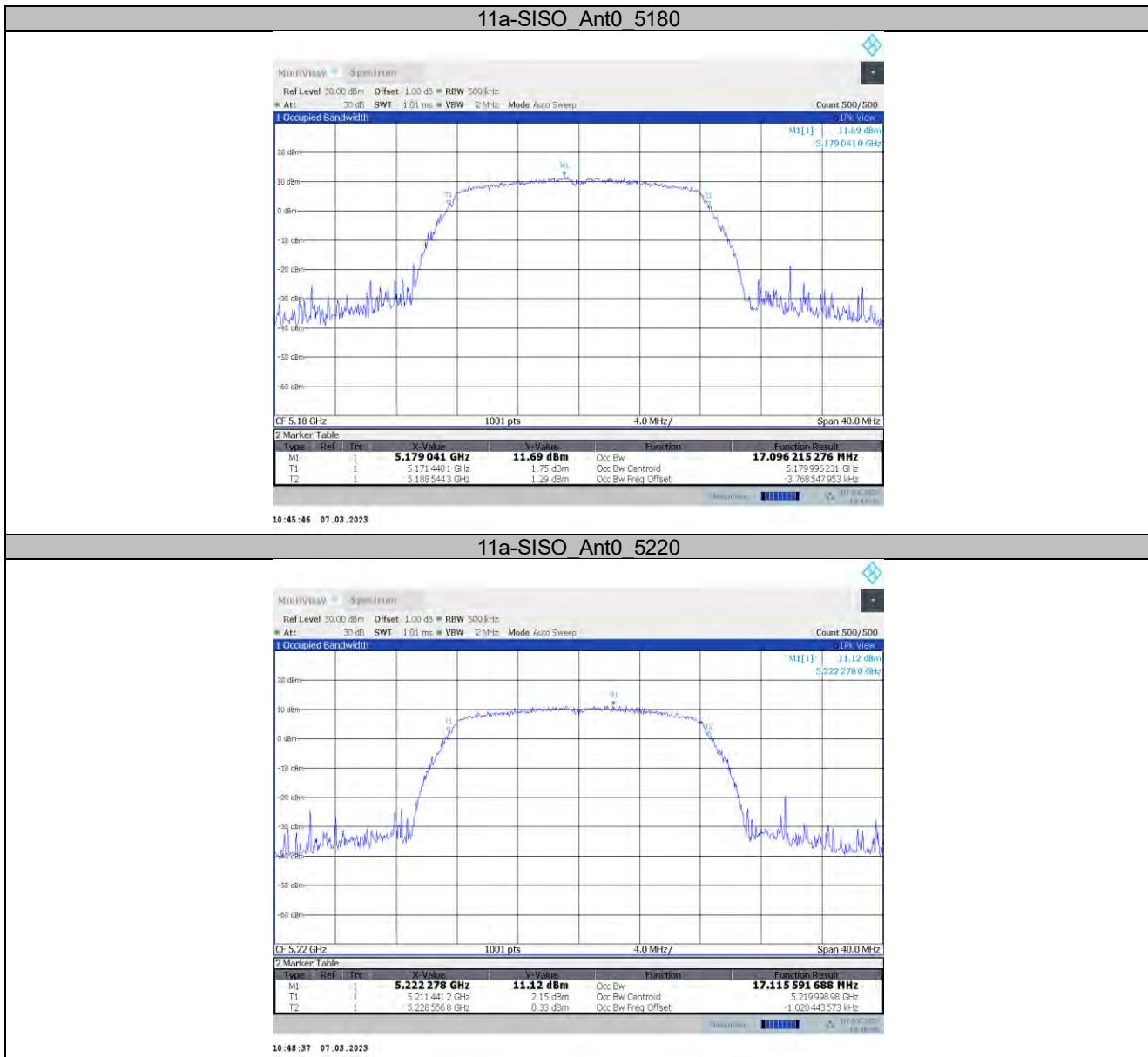
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Test Graphs



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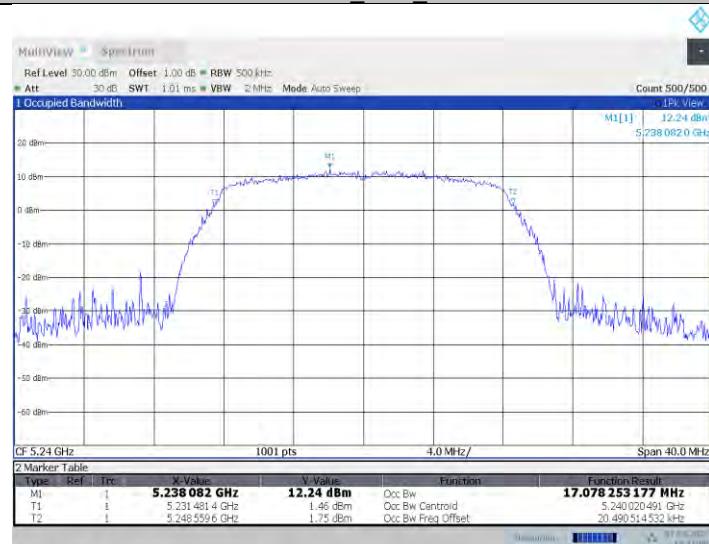
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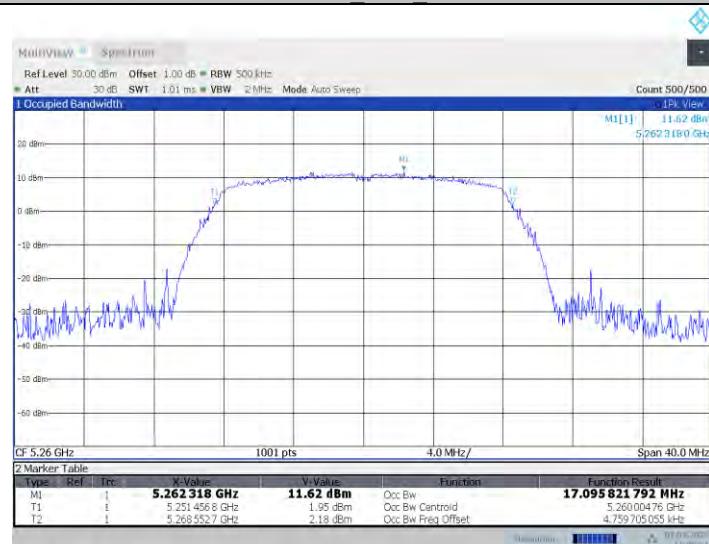
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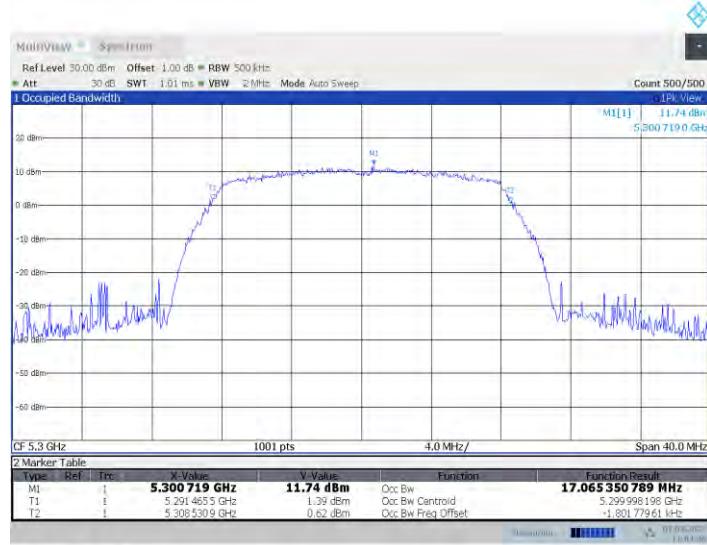
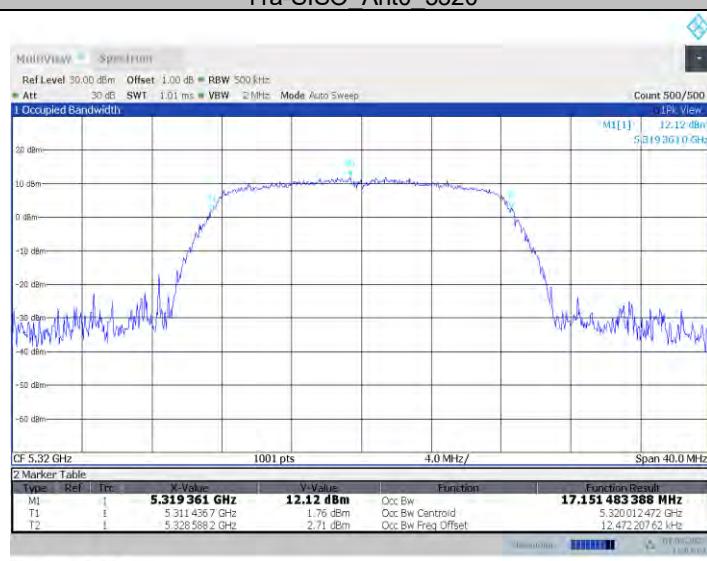
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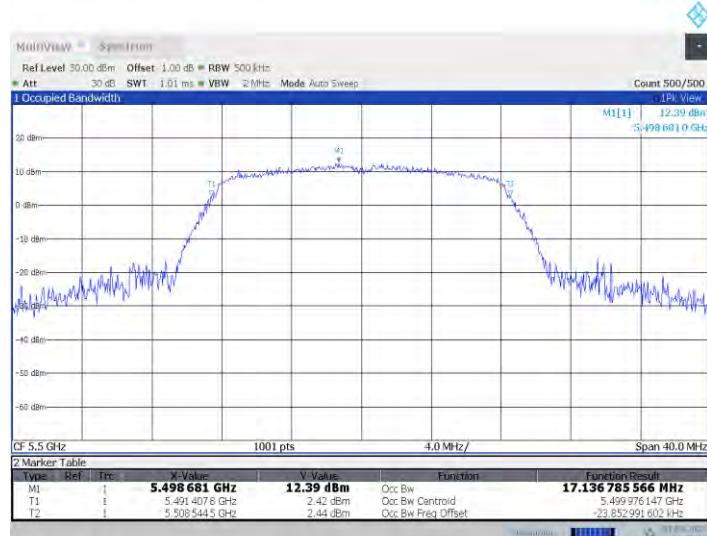
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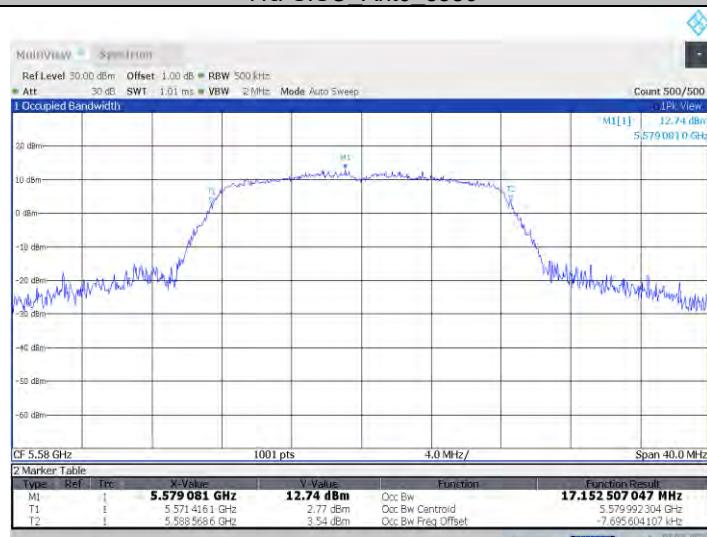
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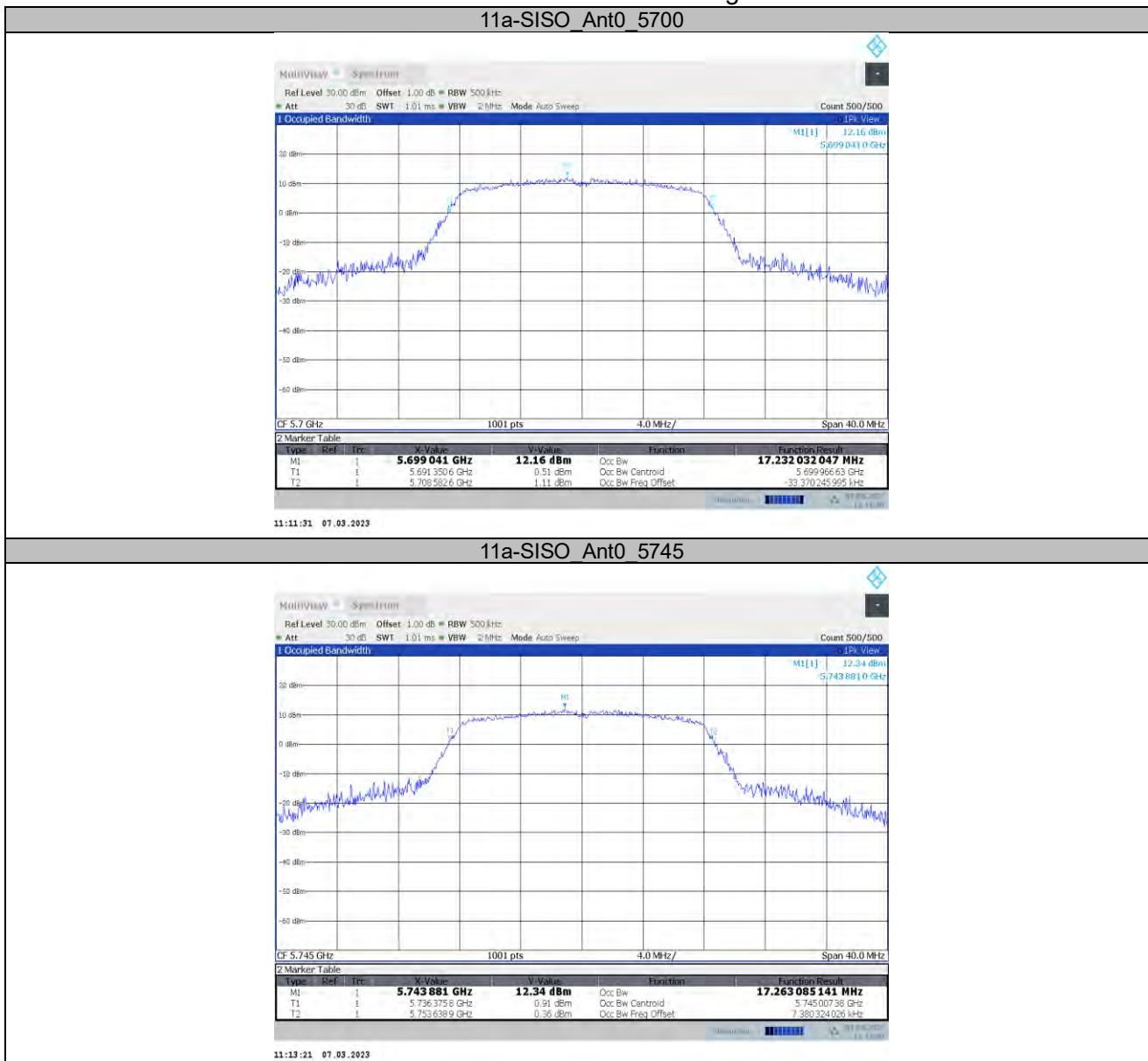
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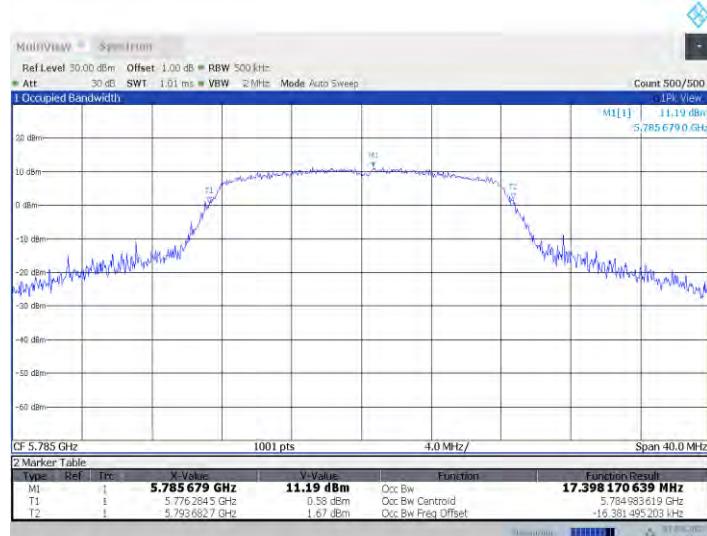
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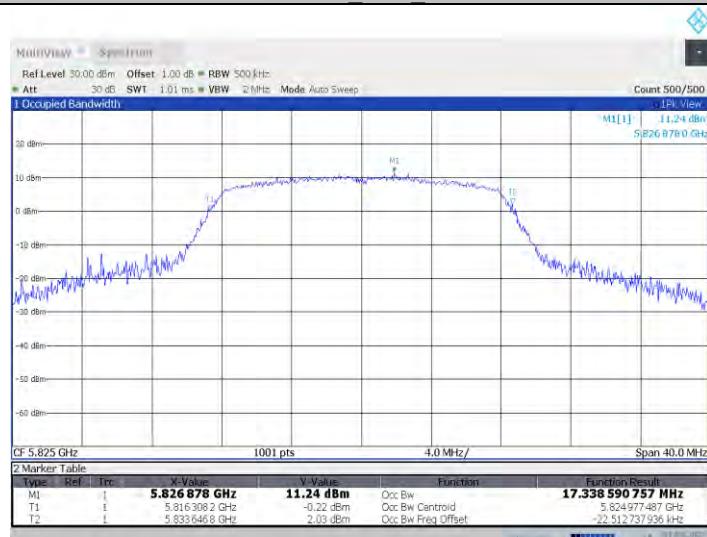
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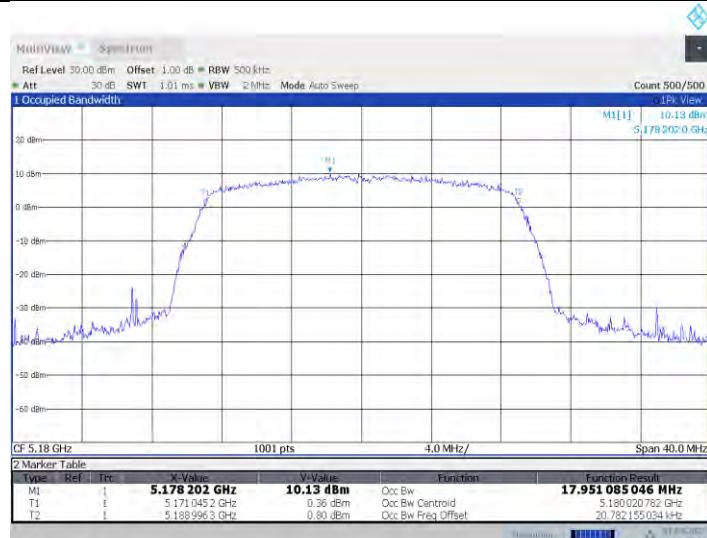
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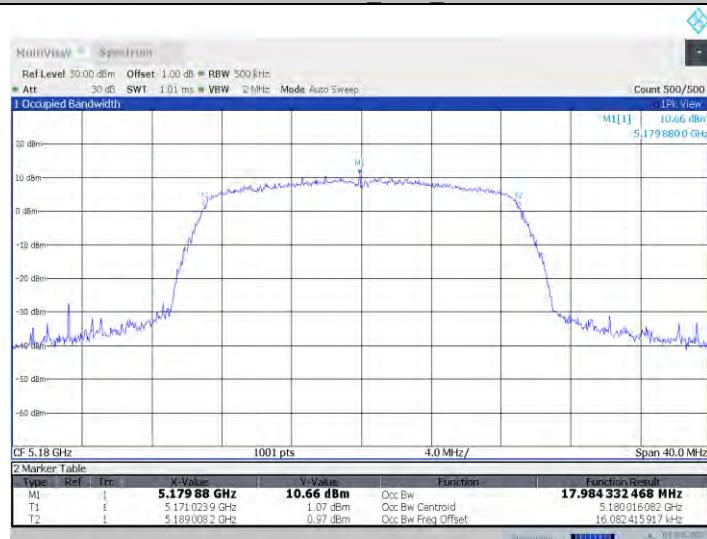
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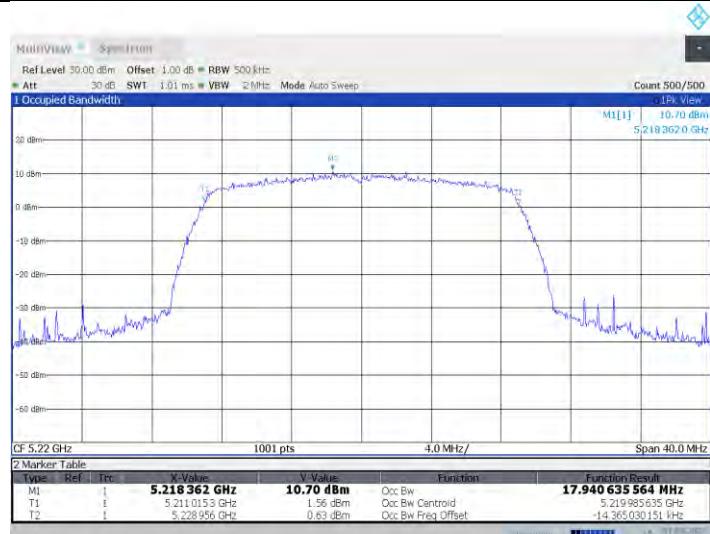
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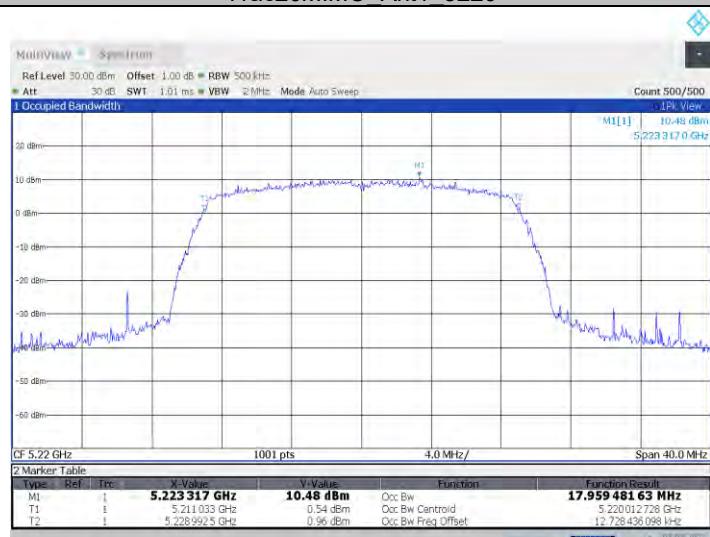
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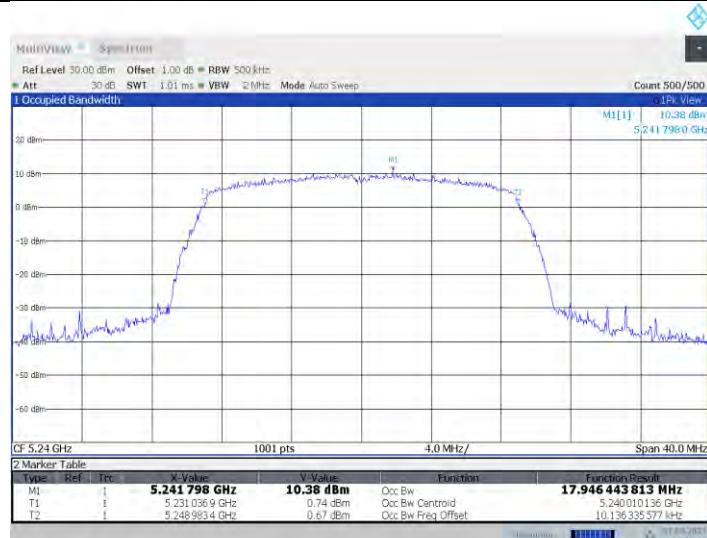
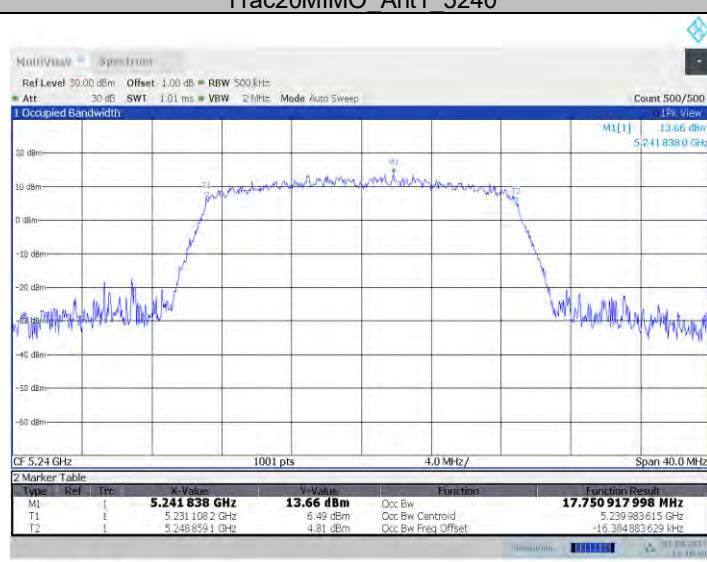
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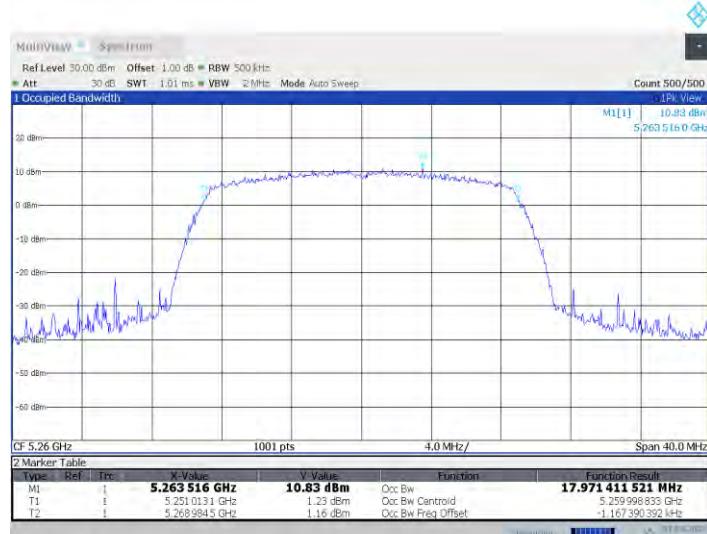
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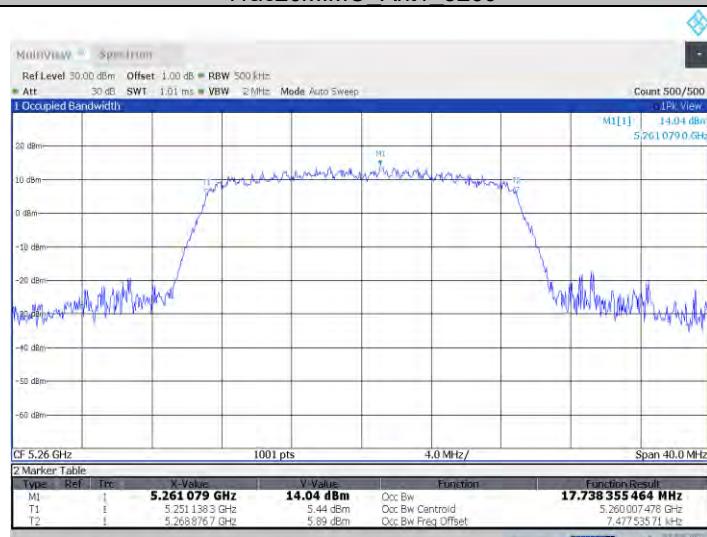
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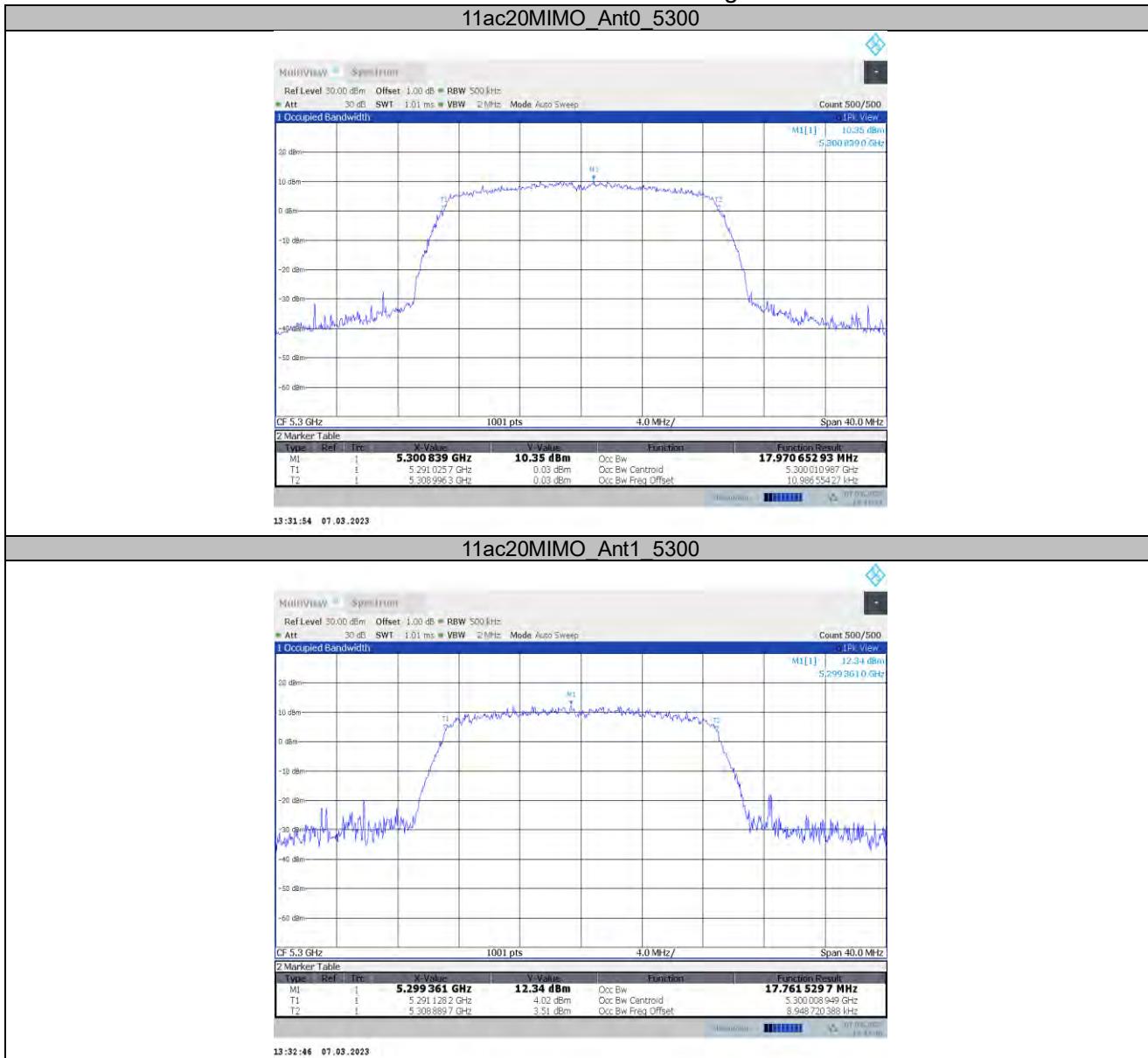
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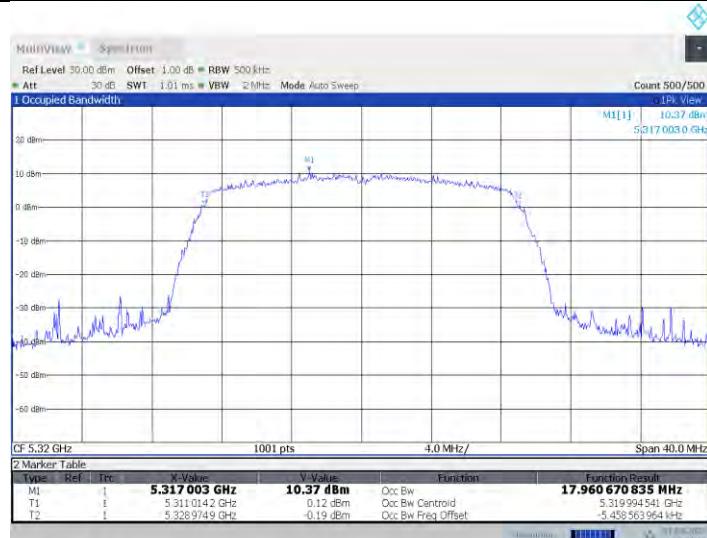
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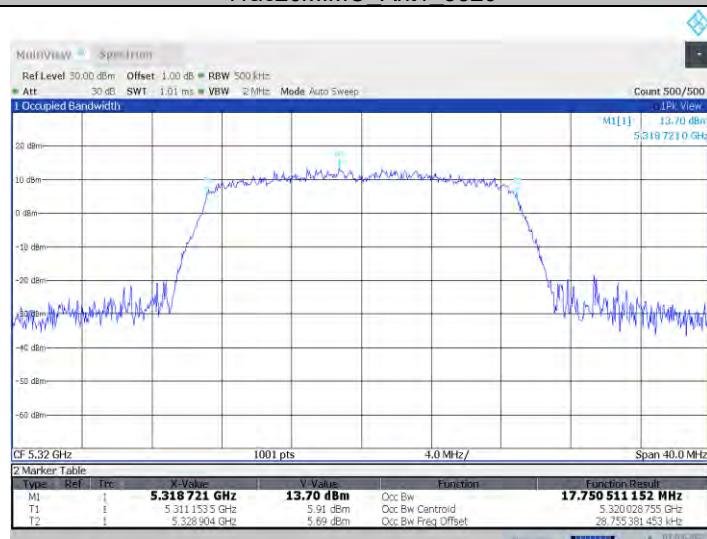
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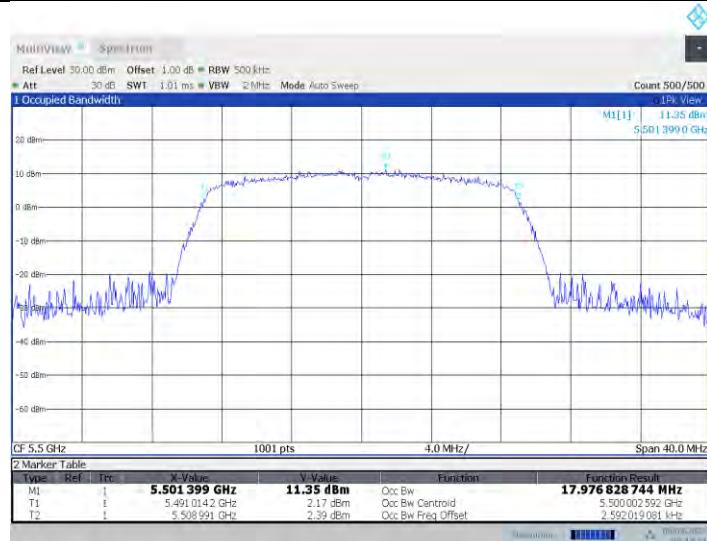
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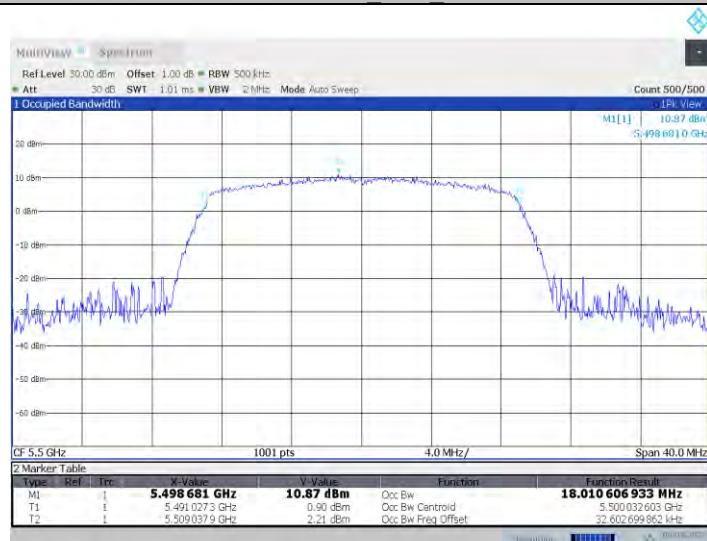
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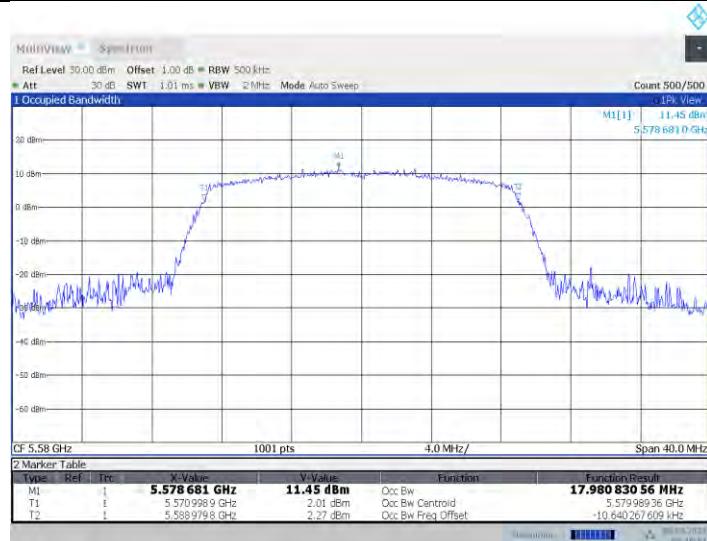
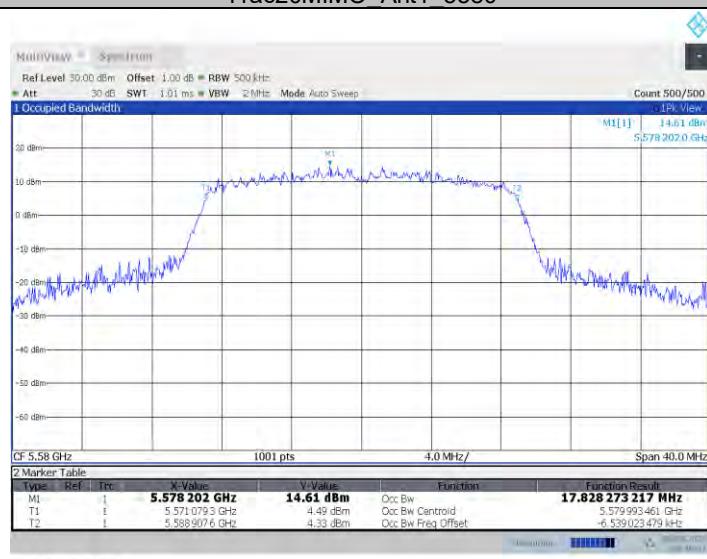
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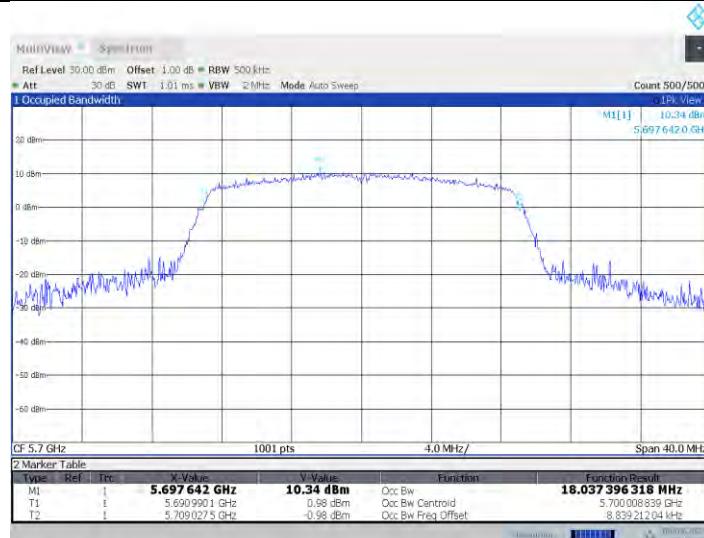
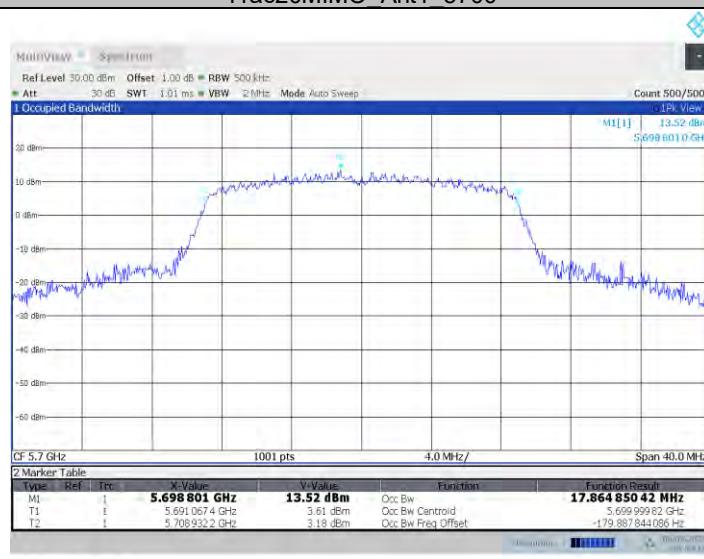
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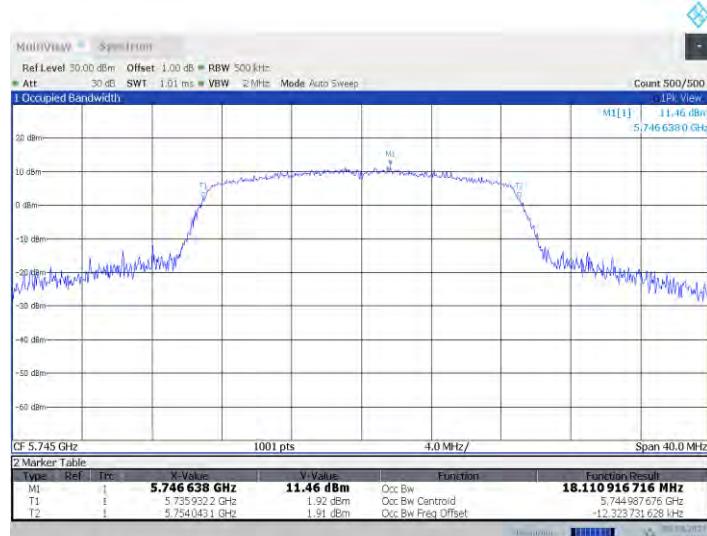
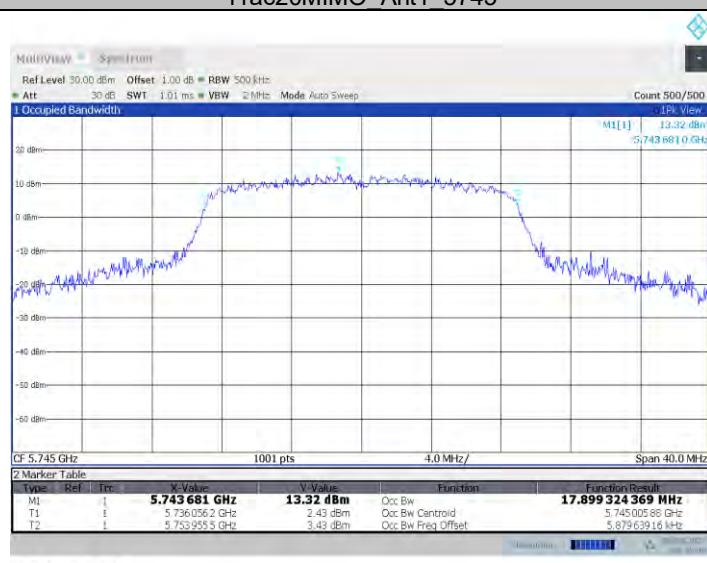
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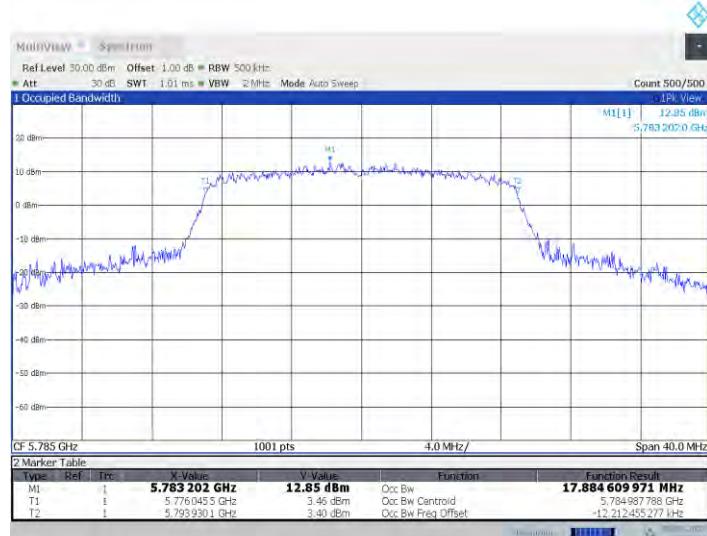
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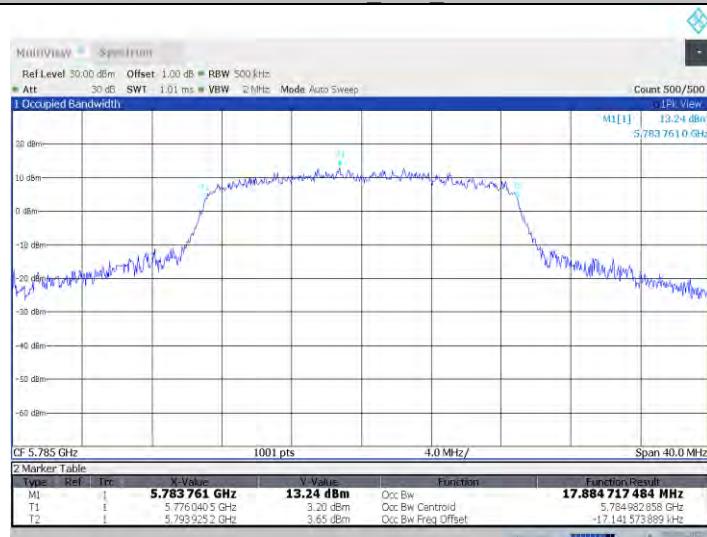
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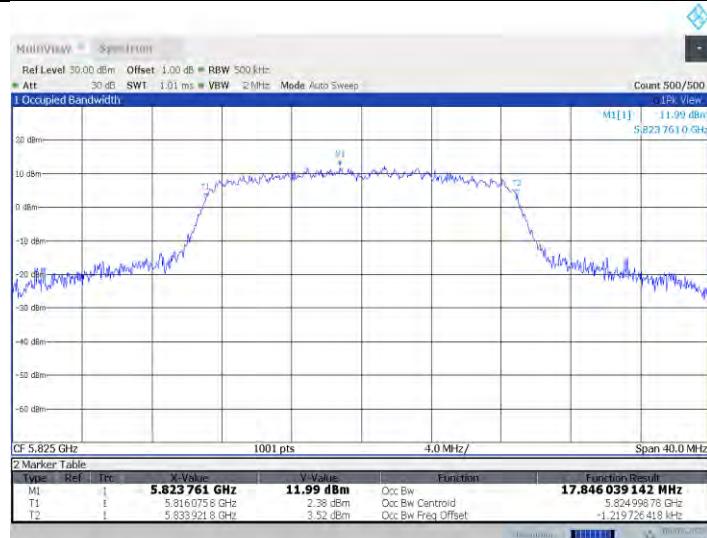
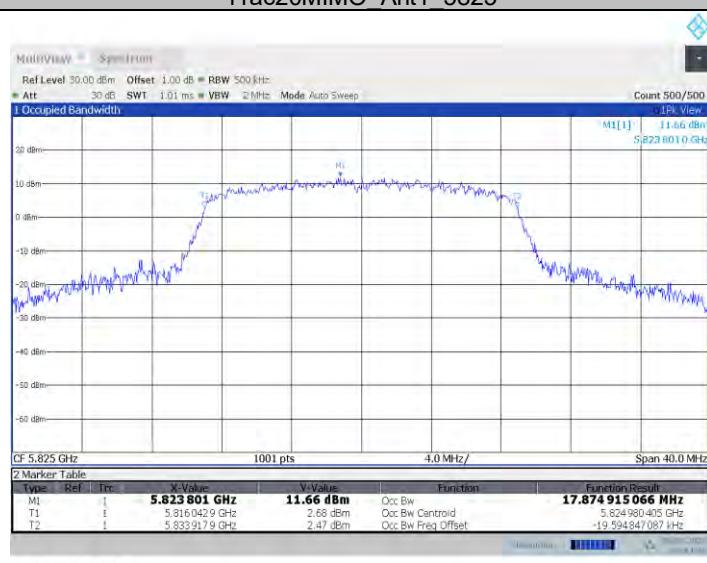
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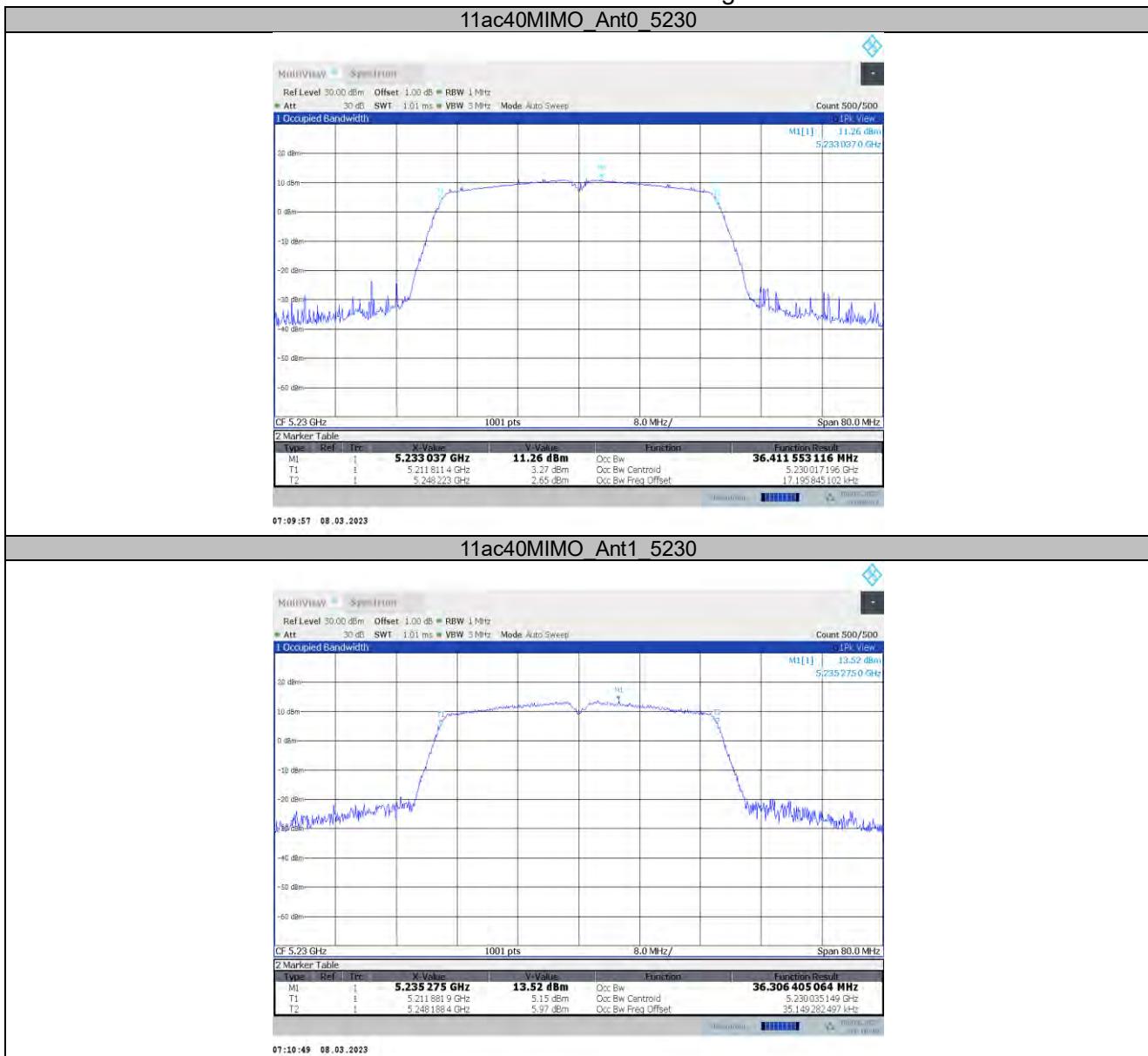
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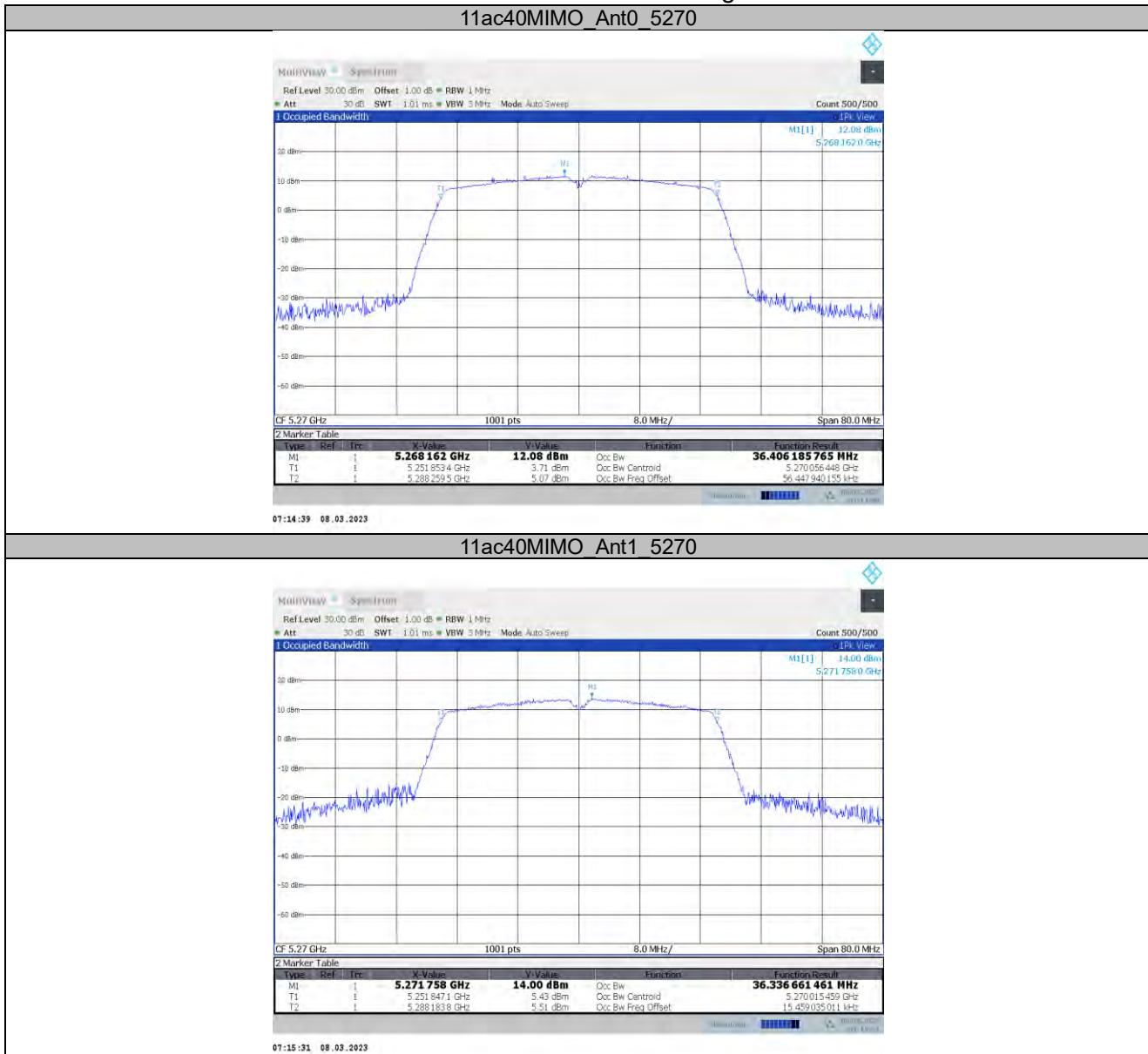
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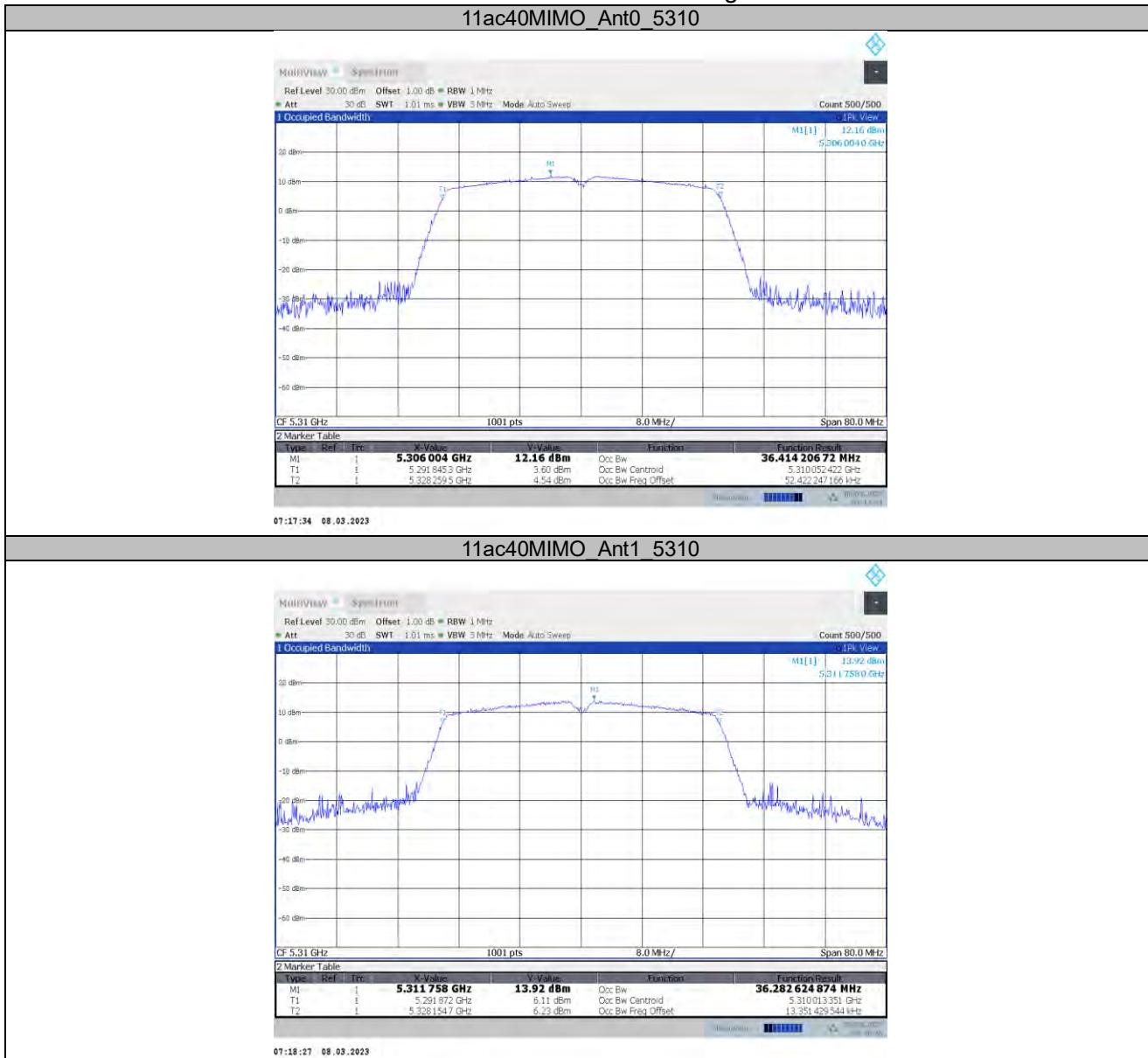
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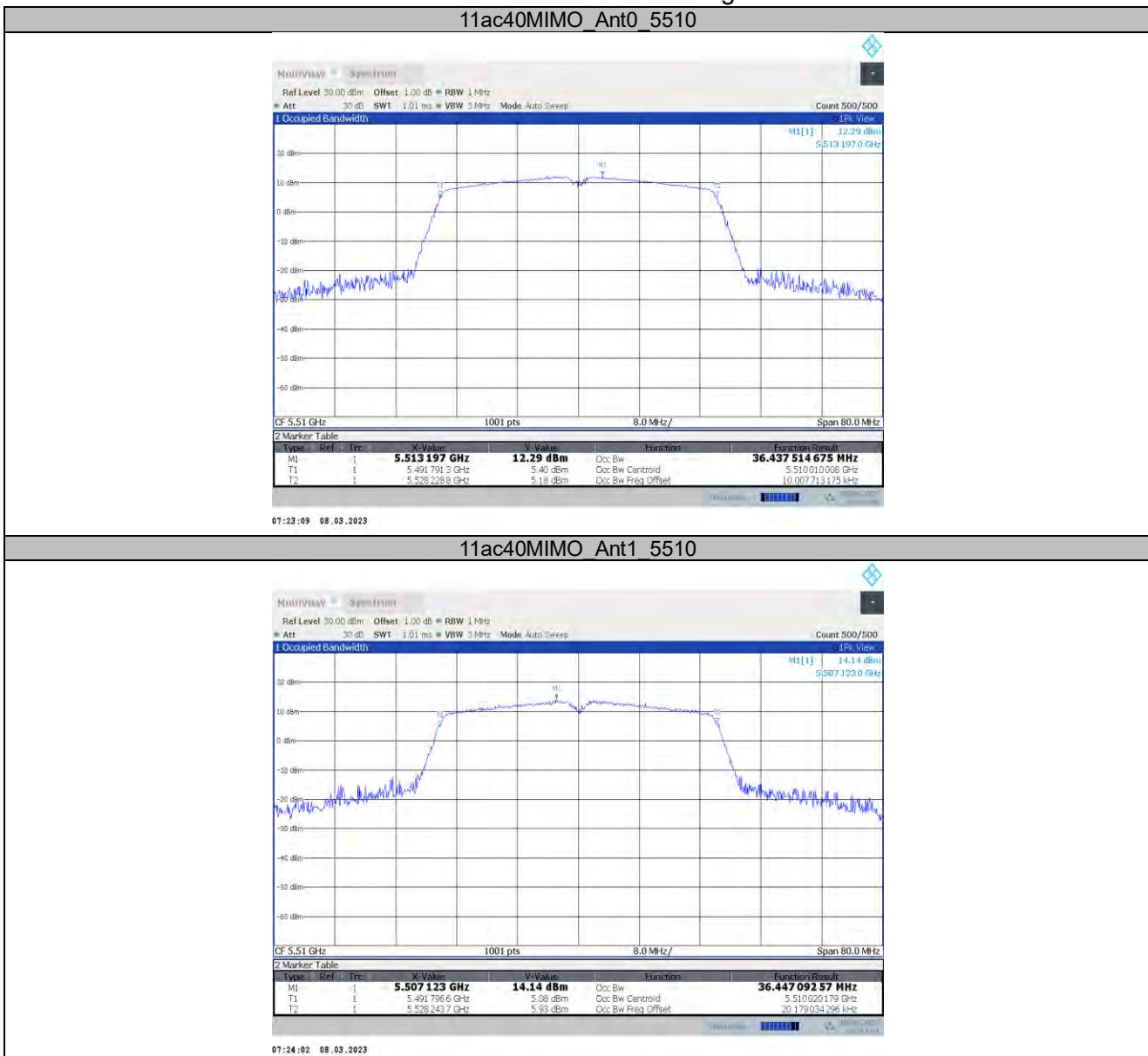
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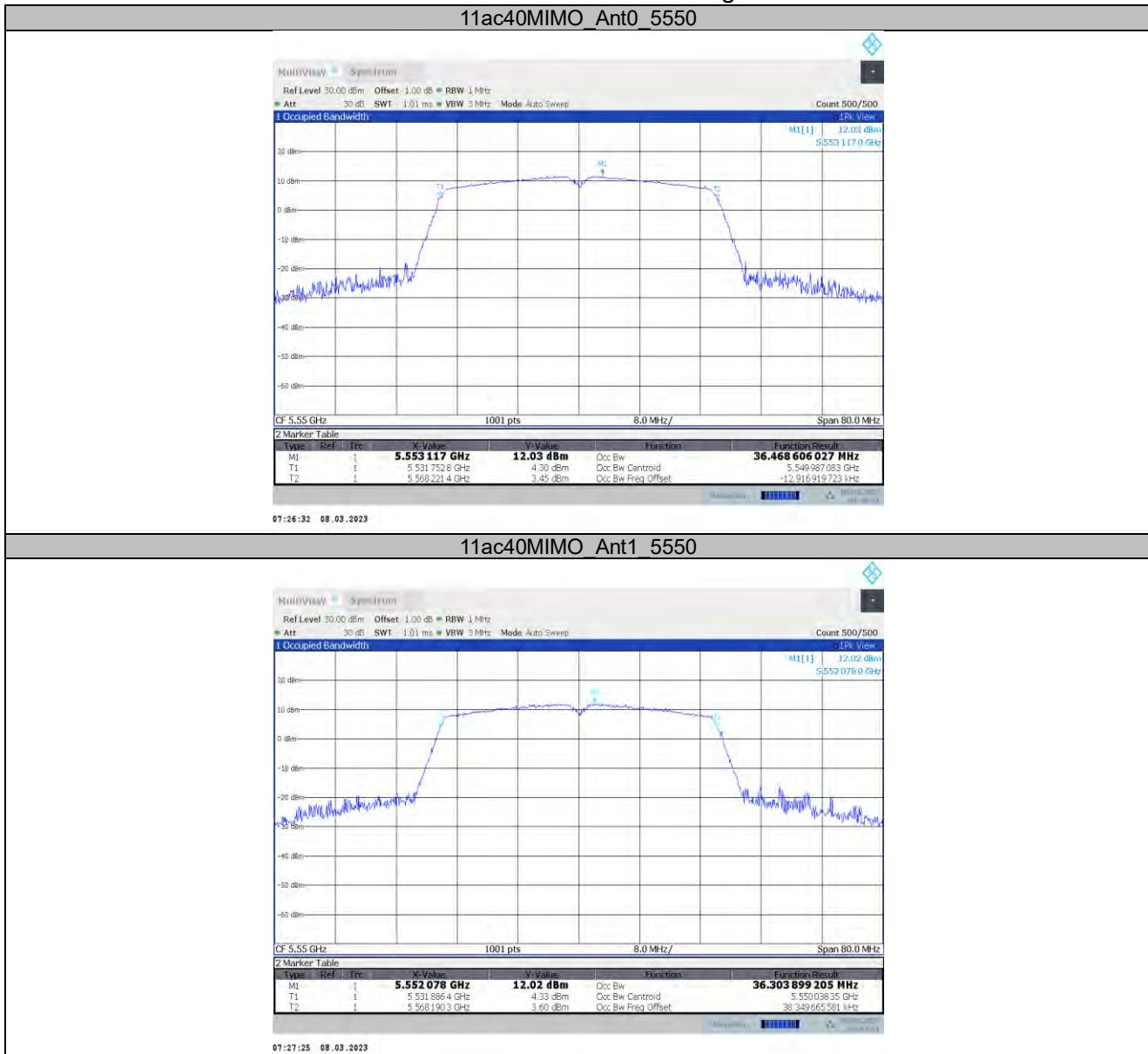
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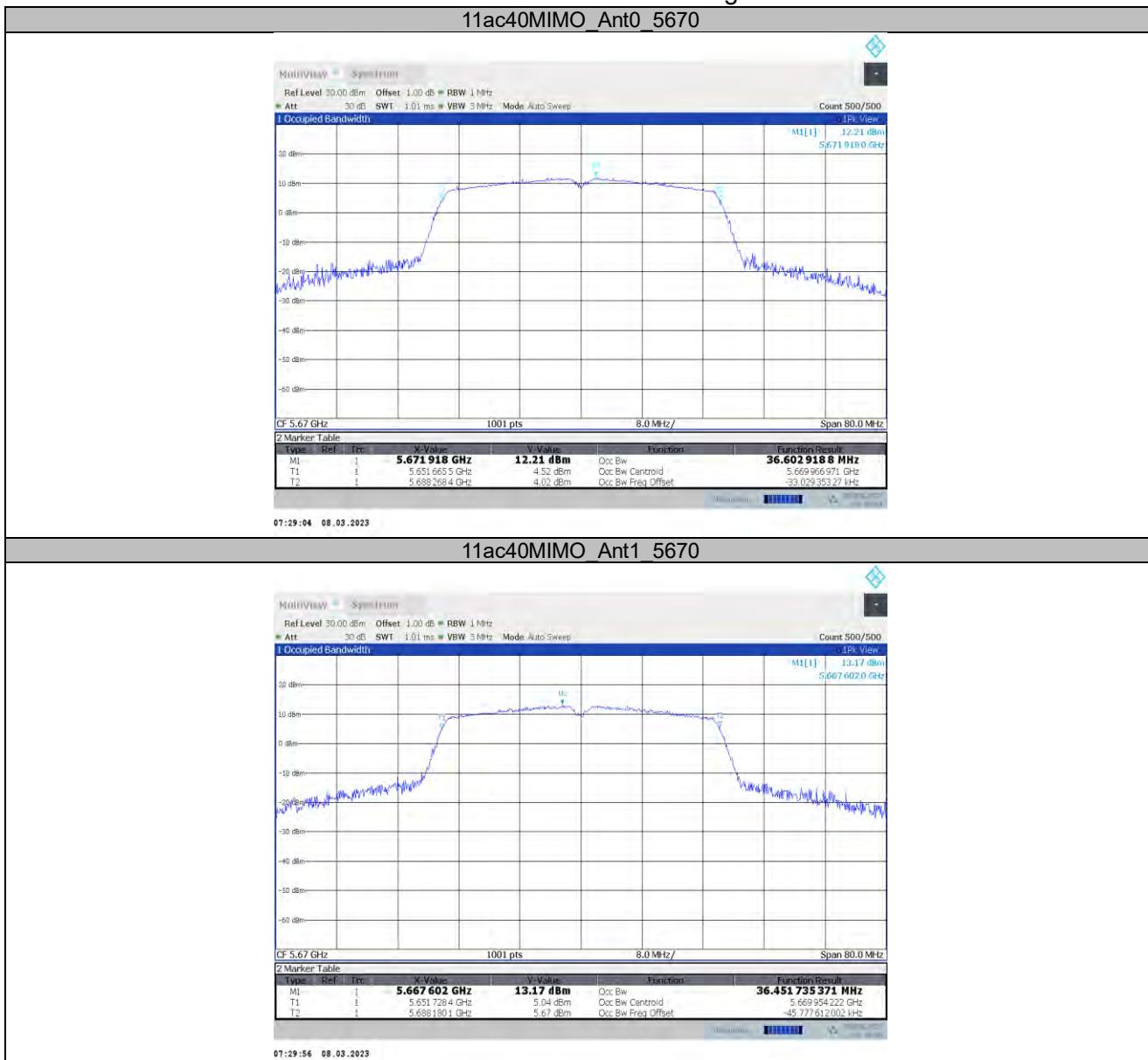
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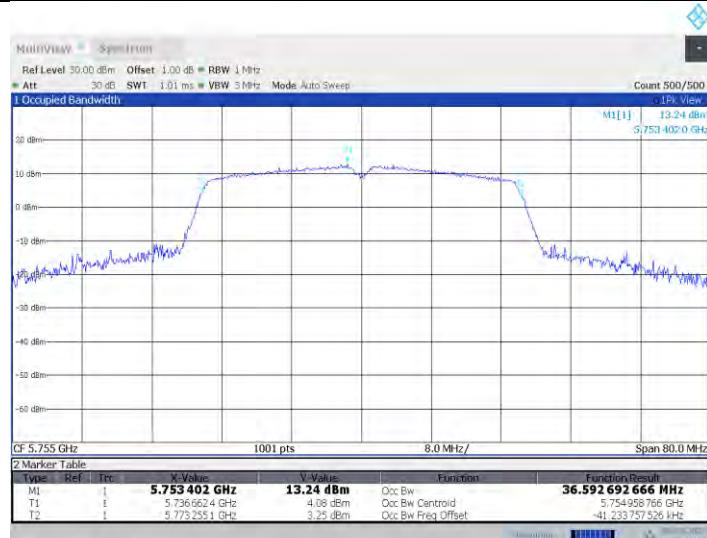
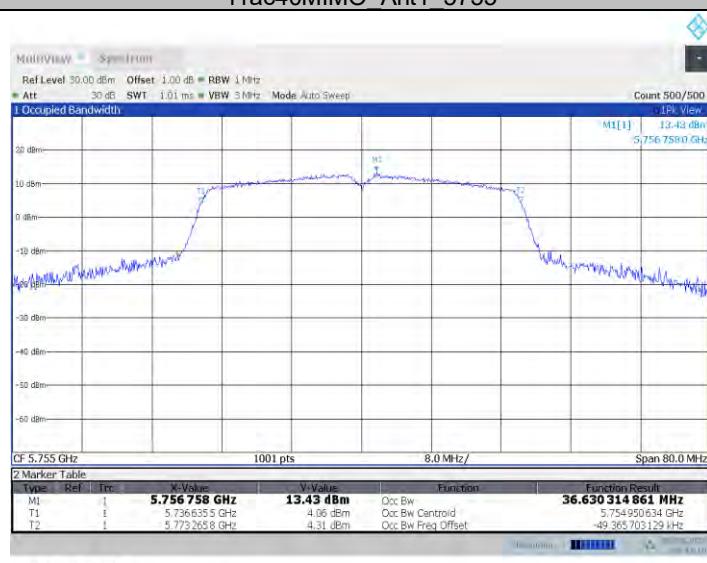
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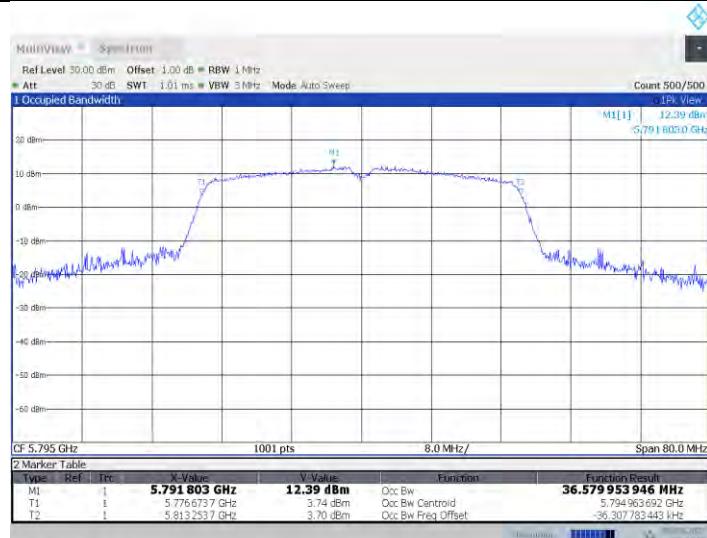
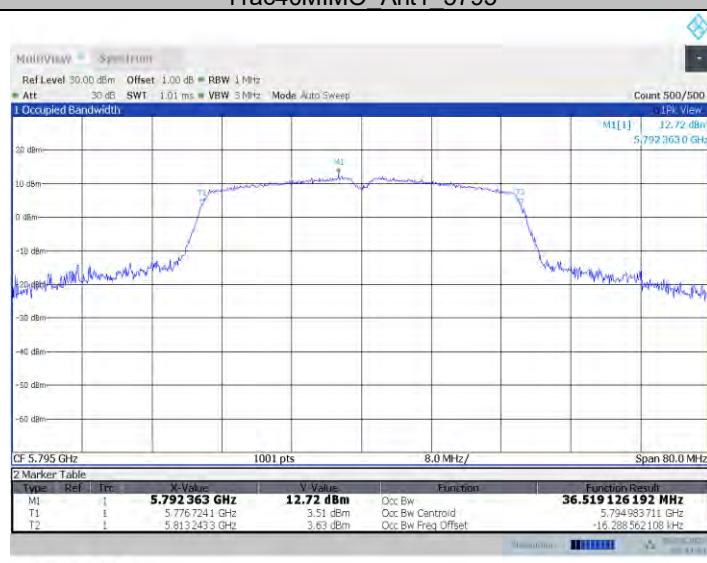
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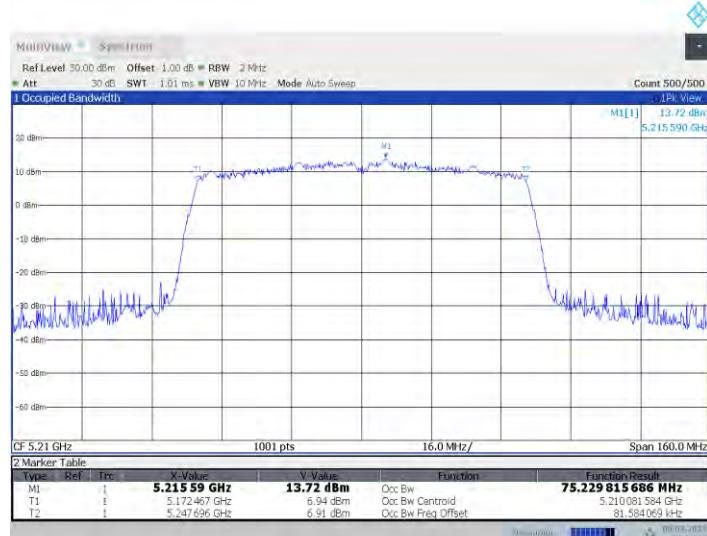
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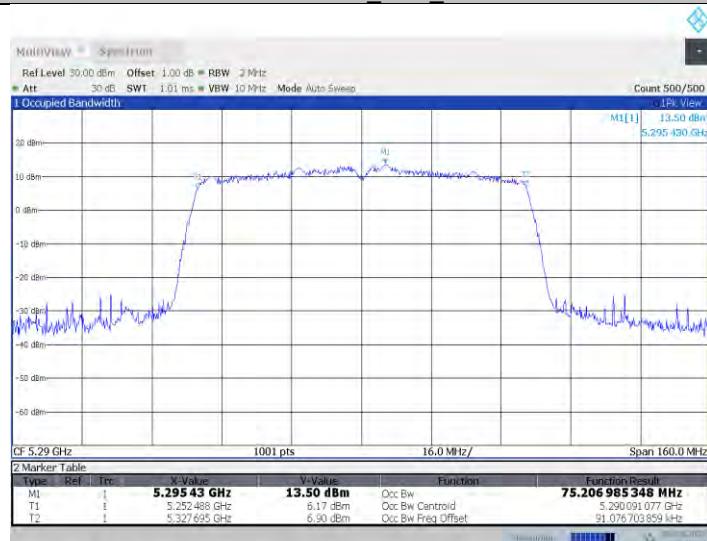
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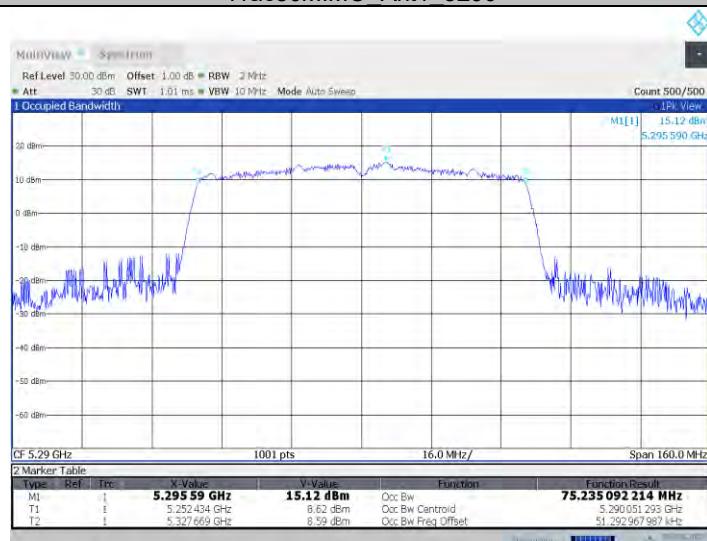
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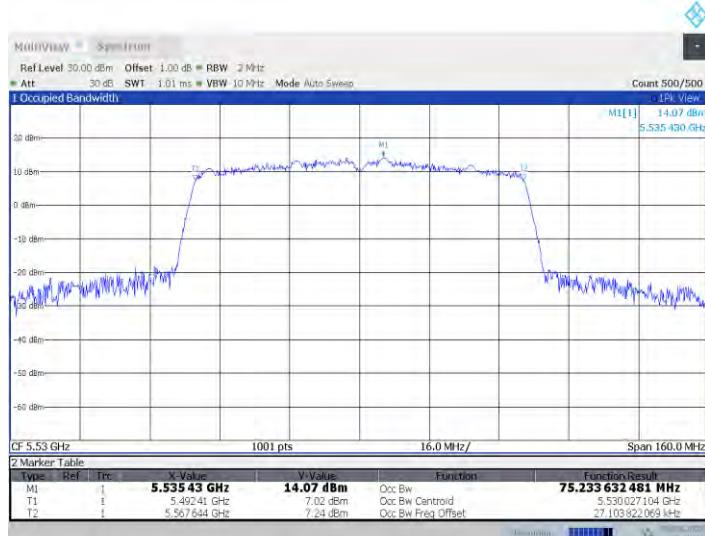
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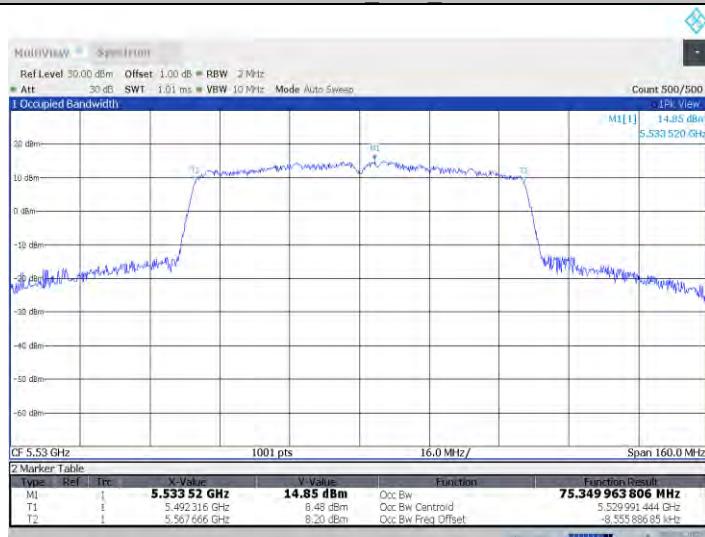
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6dB emission bandwidth

Test Result B4

TestMode	Antenna	Frequency[MHz]	6dB EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11a-SISO	Ant0	5745	14.80	5737.16	5751.96	≥ 0.5	PASS
		5785	15.52	5777.08	5792.60	≥ 0.5	PASS
		5825	15.32	5817.48	5832.80	≥ 0.5	PASS
11ac20MIMO	Ant0	5745	13.08	5738.28	5751.36	≥ 0.5	PASS
	Ant1	5745	14.76	5737.80	5752.56	≥ 0.5	PASS
	Ant0	5785	15.40	5777.40	5792.80	≥ 0.5	PASS
	Ant1	5785	15.16	5777.40	5792.56	≥ 0.5	PASS
	Ant0	5825	15.76	5816.80	5832.56	≥ 0.5	PASS
	Ant1	5825	15.20	5817.40	5832.60	≥ 0.5	PASS
11ac40MIMO	Ant0	5755	29.36	5738.60	5767.96	≥ 0.5	PASS
	Ant1	5755	32.80	5739.80	5772.60	≥ 0.5	PASS
	Ant0	5795	34.64	5777.96	5812.60	≥ 0.5	PASS
	Ant1	5795	35.20	5777.40	5812.60	≥ 0.5	PASS
11ac80MIMO	Ant0	5775	75.52	5737.24	5812.76	≥ 0.5	PASS
	Ant1	5775	75.36	5737.40	5812.76	≥ 0.5	PASS

Remark:

For 802.11n HT20/ac VHT20 and 802.11n HT40/ac VHT40 mode, the whole testing have assessed only, 802.11ac VHT20/40 by referring to their higher output power.



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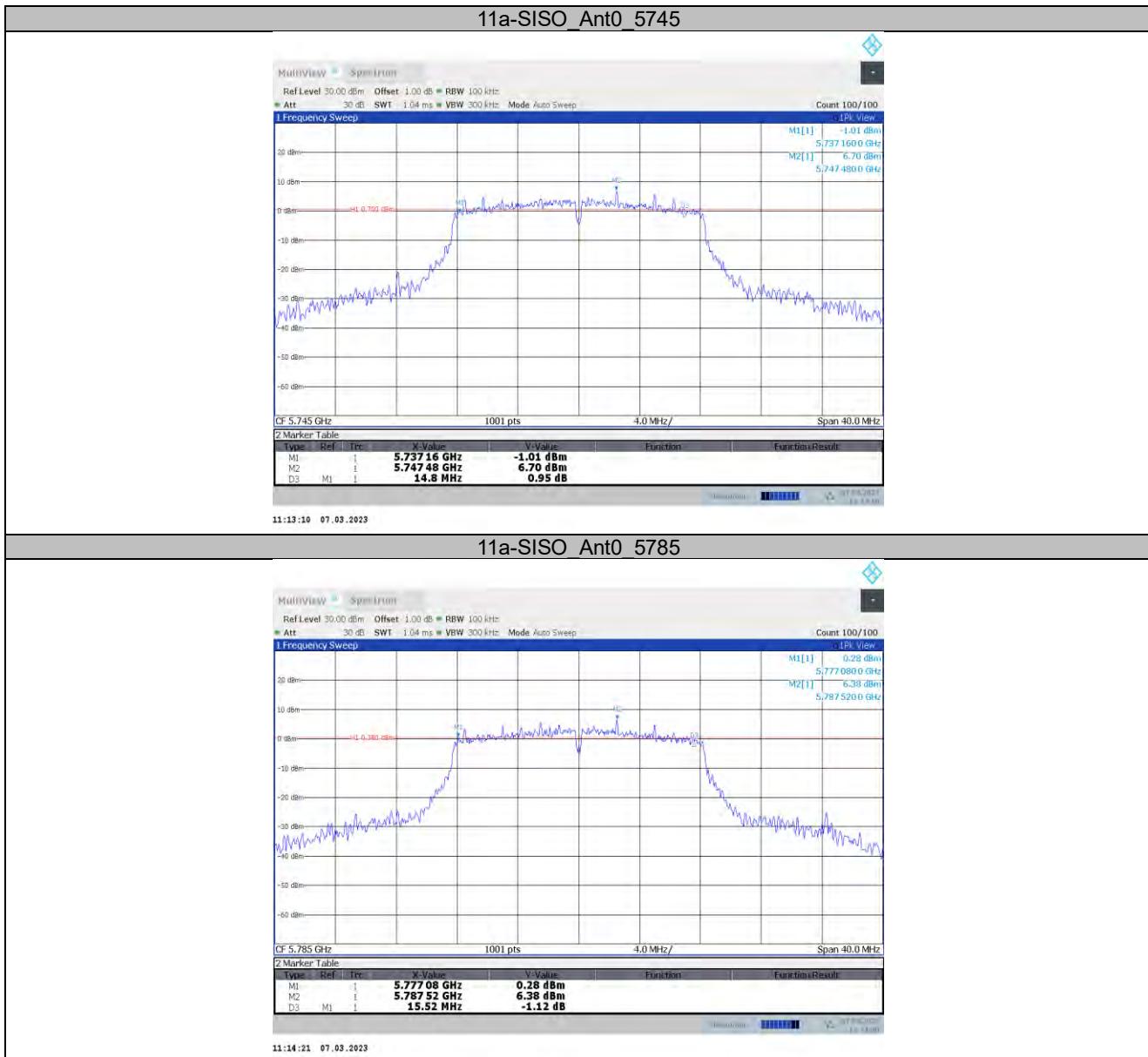
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Test Graphs B4



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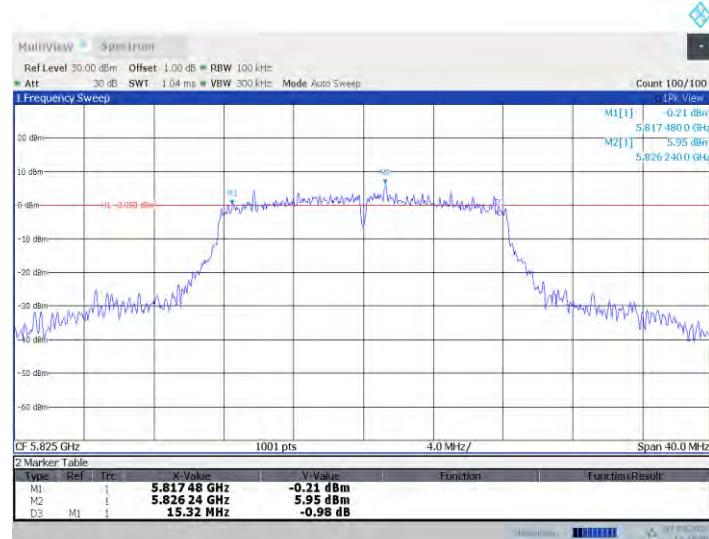
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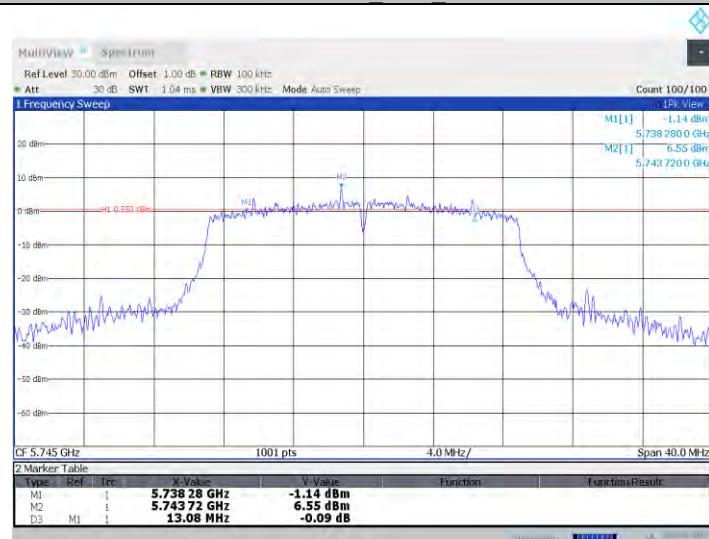
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