Shenzhen Huaxia Testing Technology Co., Ltd

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Report Template Version: V03
Report Template Revision Date: Mar.1st, 2017

Test Report

Report No. :	CQASZ20190700561E-02
Applicant:	MIGU Video Co., Ltd
Address of Applicant:	No. 636 Qiaoyun Road, Shanghai, China.
Manufacturer:	MIGU Video Co., Ltd
Address of Manufacturer:	No. 636 Qiaoyun Road, Shanghai, China.
Factory:	UNIONMAN TECHNOLOGY CO., LTD.
Address of Factory:	No.5 Huitai Road, Huinan High-Tech Industrial Park, Huizhou City, Guangdong, China.

Equipment Under Test (EUT):

Product:	Set-top box
Model No.:	MGV2002
Brand Name:	MIGU
FCC ID:	2ATTH-MGV2002
Standards:	47 CFR Part 15, Subpart E
Date of Test:	2019-06-17 to 2019-07-04
Date of Issue:	2019-07-04
Test Result :	**PASS***

Tested By: Martin Lee
(Martin Lee)

Reviewed By: Aaron Ma
(Aaron Ma)

Approved By:
(Jack Ai)

SHENZHEN HUAXIA TESTING TECHNOLOGY CO., LTD. 华夏淮测 APPROVED

* In the configuration tested, the EUT complied with the standards specified above.

1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20190700561E-02	Rev.01	Initial report	2019-07-04

2 Test Summary

Test Item	Test Requirement	Test method	Result
Antenna Requirement	FCC 47 CFR Part 15 Subpart C Section 15.203 FCC 47 CFR Part 15 Subpart C Section 15.407(a)(1) (2)	ANSI C63.10-2013	PASS
AC Power Line Conducted Emission	FCC 47 CFR Part 15 Subpart E Section 15.407 (b)(6) FCC 47 CFR Part 15 Subpart C Section 15.207	ANSI C63.10-2013	PASS
26 dB emission bandwidth	FCC 47 CFR Part 15 Subpart E Section 15.407 (a)(2)(5)	KDB 789033 D02 v01r04 Section C.1	PASS
6 dB bandwidth	FCC 47 CFR Part 15 Subpart E Section 15.407 (e)	KDB 789033 D02 v01r04 Section C.2	PASS
Maximum conducted output power	FCC 47 CFR Part 15 Subpart E Section 15.407 (a)(1)(2)(3)	KDB 789033 D02 v01r04 Section E.3.a(Method PM)	PASS
Peak Power Spectral Density	FCC 47 CFR Part 15 Subpart E Section 15.407 (a)(1)(2)(3)	KDB 789033 D02 v01r04 Section F	PASS
Frequency stability	FCC 47 CFR Part 15 Subpart E Section 15.407 (g)	ANSI C63.10-2013	PASS
Radiated Emissions and Band Edge Measurement	FCC 47 CFR Part 15 Subpart E Section 15.407 (b)(1)(2)(3)(4)(6) FCC 47 CFR Part 15 Subpart C Section 15.209/205	ANSI C63.10-2013	PASS
Dynamic Frequency Selection	FCC 47 CFR Part 15 Subpart E Section 15.407 (h)	KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02 r01 KDB 905462 D03 Client Without DFS New Rules v01r02	PASS

Note: N/A: In this whole report not application.

3 Contents

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4 General Information

4.1 Client Information

Applicant:	MIGU Video Co., Ltd
Address of Applicant:	No. 636 Qiaoyun Road, Shanghai, China
Manufacturer:	MIGU Video Co., Ltd
Address of Manufacturer:	No. 636 Qiaoyun Road, Shanghai, China

4.2 General Description of EUT

Product Name:	Set-top box
Model No.:	MGV2002
Trade Mark:	MIGU
Type of Modulation:	EEE 802.11b mode: DSSS(CCK,QPSK, BPSK) IEEE 802.11g mode: OFDM (BPSK/QPSK/16QAM/64QAM) IEEE 802.11n HT20 MHz mode: OFDM (BPSK/QPSK/16QAM/64QAM) IEEE 802.11n HT40 MHz mode: OFDM (BPSK/QPSK/16QAM/64QAM) IEEE 802.11a: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac: OFDM(256QAM, 64QAM, 16QAM, QPSK, BPSK)
Channel Spacing:	IEEE 802.11b/g/n(HT20):20MHz IEEE 802.11n(HT40):40MHz IEEE 802.11a/n-HT20/ac-VHT20: 20 MHz IEEE 802.11n-HT40/ac-VHT40: 40 MHz IEEE 802.11ac-VHT80/: 80 MHz
Operation Frequency:	IEEE 802.11b;IEEE 802.11g;IEEE 802.11n HT20

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	6	2437	11	2462
2	2417	7	2442		
3	2422	8	2447		
4	2427	9	2452		
5	2432	10	2457		

IEEE 802.11n HT40

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2422	4	2437	7	2452
2	2427	5	2442		
3	2432	6	2447		

Band	Mode	Frequency Range(MHz)	Number of

				channels
	UNII Band I	IEEE 802.11n/ac 20MHz	5180-5240	4
		IEEE 802.11n/ac 40MHz	5190-5230	2
		IEEE 802.11ac 80MHz	5210	1
	UNII Band II-A	IEEE 802.11n/ac 20MHz	5260-5320	4
		IEEE 802.11n/ac 40MHz	5270-5310	2
		IEEE 802.11ac 80MHz	5290	1
	UNII Band II-C	IEEE 802.11n/ac 20MHz	5500-5700	11
		IEEE 802.11n/ac 40MHz	5510-5670	5
		IEEE 802.11ac 80MHz	5530-5610	2
	UNII Band III	IEEE 802.11n/ac 20MHz	5745-5825	5
		IEEE 802.11n/ac 40MHz	5755-5795	2
		IEEE 802.11ac 80MHz	5775	1

Antenna Type:	patch antenna
Antenna	

Frequency Range	Antenna 1	Antenna 2
2400~2483.5MHz	2dBi	2dBi
5150~5350MHz	2dBi	3dBi
5470~5725MHz	2dBi	3dBi
5725~5850MHz	2dBi	3dBi

2.4G Directional gain: 5.01dBi
5G(Band I) Directional gain: 5.52dBi
5G(Band II) Directional gain: 5.52dBi
5G(Band III) Directional gain: 5.52dBi
Note: KDB 662911D01 Multiplr Transmitter Output v02r01
11a,b,g,n,ac uses Antenna 1/ Antenna 2
11n,ac uses MIMO

Power Supply:	DC 12V from Adapter Input AC 120V/60Hz

Operation Frequency Each of Channel							
Channel	**Frequency**	**Channel**	**Frequency**	**Channel**	**Frequency**	**Channel**	**Frequency**
For IEEE 802.11a/n-HT20/ac-VHT20 operation in the 5150 MHz to 5250 MHz band							
36	5180 MHz	40	5200 MHz	44	5220 MHz	48	5240 MHz
For IEEE 802.11a/n-HT20/ac-VHT20 operation in the 5725 MHz to 5850 MHz band							
149	5745 MHz	153	5765 MHz	157	5785 MHz	161	5805 MHz
165	5825 MHz	--	--	--	--	--	--
For IEEE 802.11n-HT40/ac-VHT40 operation in the 5150 MHz to 5250 MHz band							
38	5190 MHz	46	5230 MHz	--	--	--	--
For IEEE 802.11n-HT40/ac-VHT40 operation in the 5725 MHz to 5850 MHz band							
151	5755 MHz	159	5795 MHz	--	--	--	--
For IEEE 802.11ac-VHT80 operation in the 5150 MHz to 5250 MHz band							
42	5210 MHz	--	--	--	--	--	--
For IEEE 802.11ac-VHT80 operation in the 5725 MHz to 5850 MHz band							
155	5775 MHz	--	--	--	--	--	--

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Mode	Tx/Rx Frequency	Test RF Channel Lists		
		Lowest(L)	Middle(M)	Highest(H)
IEEE 802.11a IEEE 802.11n-HT20 IEEE 802.11ac-VHT20	5150 MHz to 5250 MHz	Channel 36	Channel 44	Channel 48
		5180 MHz	5220 MHz	5240 MHz
	5725 MHz to 5850 MHz	Channel 149	Channel 157	Channel 165
		5745 MHz	5785 MHz	5825 MHz
IEEE 802.11n-HT40 IEEE 802.11ac-VHT40	5150 MHz to 5250 MHz	Channel 38	--	Channel 46
		5190 MHz	--	5230 MHz
	5725 MHz to 5850 MHz	Channel 151	--	Channel 159
		5755 MHz	--	5795 MHz
IEEE 802.11ac-VHT80	5150 MHz to 5250 MHz	--	Channel 42	--
		--	5210 MHz	--
	5725 MHz to 5850 MHz	--	Channel 155	--
		--	5775 MHz	--

Note:

Software (RF test) provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

4.3 Test Environment and Mode

Operating Environment:		
Humidity:	52 % RH	
Atmospheric Pressure:	1008 mbar	
Test Condition	Temperature (°C)	Voltage (V)
TN/VN	+15 to +35	120
TL/VL	-20	120
TH/VL	50	120

Remark:

1)The EUT just work in such extreme temperature of -20 °C to 50 °C and the extreme voltage of 120 V, so here the EUT is tested in the temperature of -20 °C to 50 °C and the voltage of 120 V.

2VN: Normal Voltage; TN: Normal Temperature;

TL: Low Extreme Test Temperature; TH: High Extreme Test Temperature;

VL: Low Extreme Test Voltage; VH: High Extreme Test Voltage.

Remark:

1) Duty cycle= On Time/ Period;

2) Duty Cycle factor = 10 * log (1/ Duty cycle);

Duty Cycle (x)

Test Mode	Test Channel	Ant	Duty Cycle[%]	10log(1/x) Factor[dB]
11A	5180	Ant1	94.44	0.25
11A	5180	Ant2	94.44	0.25
11A	5220	Ant1	94.44	0.25
11A	5220	Ant2	94.44	0.25
11A	5240	Ant1	94.44	0.25
11A	5240	Ant2	94.44	0.25
11A	5260	Ant1	94.37	0.25
11A	5260	Ant2	94.44	0.25
11A	5300	Ant1	94.44	0.25
11A	5300	Ant2	94.44	0.25
11A	5320	Ant1	94.44	0.25
11A	5320	Ant2	94.44	0.25
11A	5500	Ant1	94.44	0.25
11A	5500	Ant2	94.44	0.25
11A	5580	Ant1	94.44	0.25
11A	5580	Ant2	94.44	0.25
11A	5700	Ant1	94.44	0.25
11A	5700	Ant2	94.44	0.25
11A	5745	Ant1	94.44	0.25
11A	5745	Ant2	94.44	0.25
11A	5785	Ant1	94.44	0.25
11A	5785	Ant2	94.44	0.25
11A	5825	Ant1	94.44	0.25
11A	5825	Ant2	94.44	0.25
11N20	5180	Ant1	94.12	0.26
11N20	5180	Ant2	94.12	0.26
11N20	5220	Ant1	94.03	0.27
11N20	5220	Ant2	94.03	0.27
11N20	5240	Ant1	94.12	0.26
11N20	5240	Ant2	94.12	0.26
11N20	5260	Ant1	94.12	0.26
11N20	5260	Ant2	94.12	0.26

11N20	5300	Ant1	94.03	0.27
11N20	5300	Ant2	94.12	0.26
11N20	5320	Ant1	94.12	0.26
11N20	5320	Ant2	94.03	0.27
11N20	5500	Ant1	94.03	0.27
11N20	5500	Ant2	94.03	0.27
11N20	5580	Ant1	94.12	0.26
11N20	5580	Ant2	92.65	0.33
11N20	5700	Ant1	94.12	0.26
11N20	5700	Ant2	94.12	0.26
11N20	5745	Ant1	94.03	0.27
11N20	5745	Ant2	94.12	0.26
11N20	5785	Ant1	94.12	0.26
11N20	5785	Ant2	94.12	0.26
11N20	5825	Ant1	94.03	0.27
11N20	5825	Ant2	94.12	0.26
11N40	5190	Ant1	88.24	0.54
11N40	5190	Ant2	88.24	0.54
11N40	5230	Ant1	88.24	0.54
11N40	5230	Ant2	88.24	0.54
11N40	5270	Ant1	88.24	0.54
11N40	5270	Ant2	88.24	0.54
11N40	5310	Ant1	88.24	0.54
11N40	5310	Ant2	88.24	0.54
11N40	5510	Ant1	85.71	0.67
11N40	5510	Ant2	88.24	0.54
11N40	5550	Ant1	85.71	0.67
11N40	5550	Ant2	88.24	0.54
11N40	5670	Ant1	88.24	0.54
11N40	5670	Ant2	88.24	0.54
11N40	5755	Ant1	88.57	0.53
11N40	5755	Ant2	88.24	0.54
11N40	5795	Ant1	88.24	0.54
11N40	5795	Ant2	88.57	0.53
11AC20	5180	Ant1	94.12	0.26

11AC20	5180	Ant2	94.12	0.26
11AC20	5220	Ant1	94.12	0.26
11AC20	5220	Ant2	94.12	0.26
11AC20	5240	Ant1	94.12	0.26
11AC20	5240	Ant2	94.12	0.26
11AC20	5260	Ant1	92.65	0.33
11AC20	5260	Ant2	94.12	0.26
11AC20	5300	Ant1	92.65	0.33
11AC20	5300	Ant2	92.65	0.33
11AC20	5320	Ant1	94.12	0.26
11AC20	5320	Ant2	94.12	0.26
11AC20	5500	Ant1	94.12	0.26
11AC20	5500	Ant2	94.12	0.26
11AC20	5580	Ant1	94.12	0.26
11AC20	5580	Ant2	94.12	0.26
11AC20	5700	Ant1	94.12	0.26
11AC20	5700	Ant2	94.12	0.26
11AC20	5745	Ant1	94.12	0.26
11AC20	5745	Ant2	94.12	0.26
11AC20	5785	Ant1	94.12	0.26
11AC20	5785	Ant2	94.12	0.26
11AC20	5825	Ant1	92.65	0.33
11AC20	5825	Ant2	94.12	0.26
11AC80	5210	Ant1	20.00	6.99
11AC80	5210	Ant2	20.00	6.99
11AC80	5290	Ant1	20.00	6.99
11AC80	5290	Ant2	20.00	6.99
11AC80	5530	Ant1	20.00	6.99
11AC80	5530	Ant2	20.00	6.99
11AC80	5610	Ant1	33.33	4.77
11AC80	5610	Ant2	20.00	6.99
11AC80	5775	Ant1	20.00	6.99
11AC80	5775	Ant2	33.33	4.77
11AC40	5190	Ant1	88.57	0.53
11AC40	5190	Ant2	88.57	0.53

11AC40	5230	Ant1	85.71	0.67
11AC40	5230	Ant2	85.71	0.67
11AC40	5270	Ant1	88.57	0.53
11AC40	5270	Ant2	88.57	0.53
11AC40	5310	Ant1	88.57	0.53
11AC40	5310	Ant2	88.57	0.53
11AC40	5510	Ant1	88.57	0.53
11AC40	5510	Ant2	88.57	0.53
11AC40	5550	Ant1	88.57	0.53
11AC40	5550	Ant2	88.57	0.53
11AC40	5670	Ant1	88.57	0.53
11AC40	5670	Ant2	88.57	0.53
11AC40	5755	Ant1	88.57	0.53
11AC40	5755	Ant2	88.57	0.53
11AC40	5795	Ant1	88.57	0.53
11AC40	5795	Ant2	88.57	0.53

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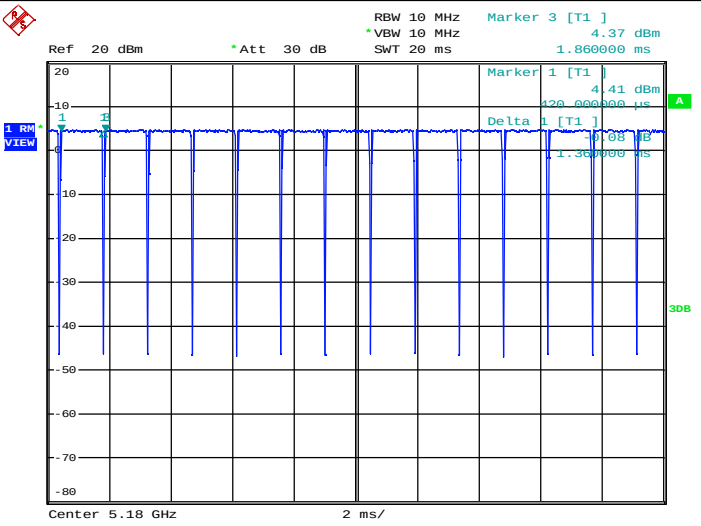

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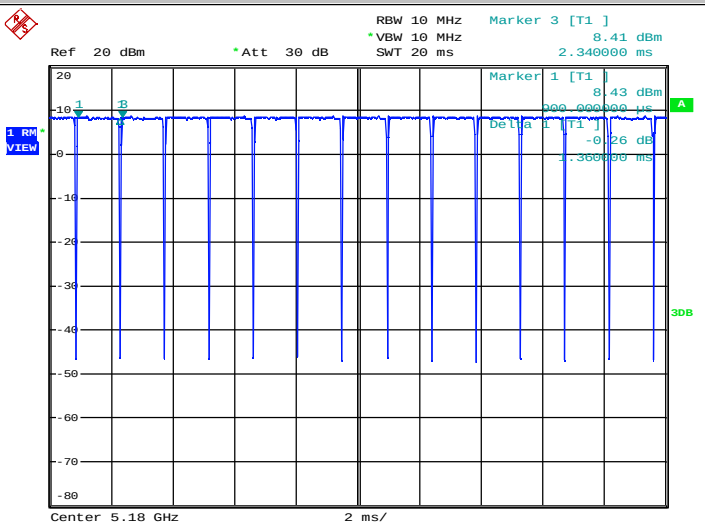

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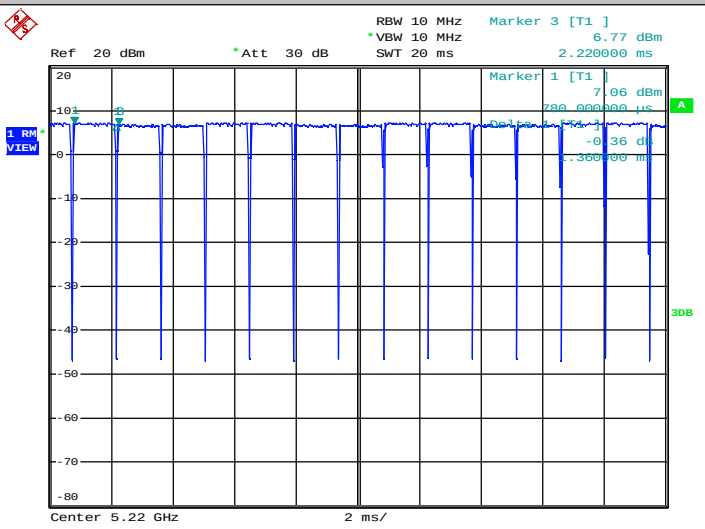

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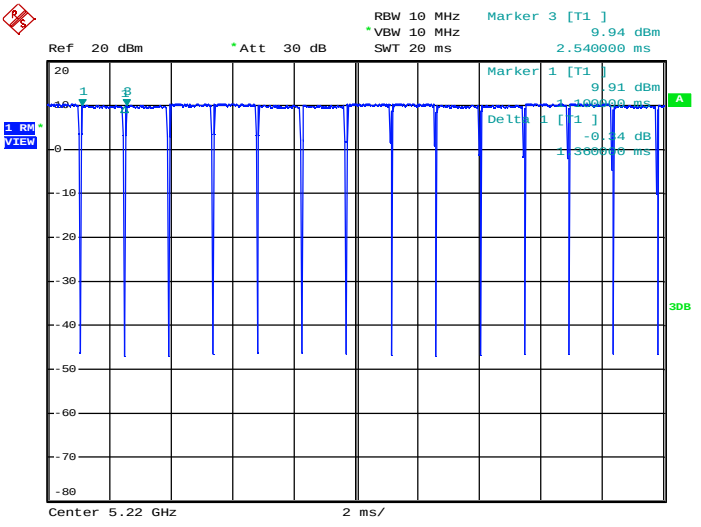

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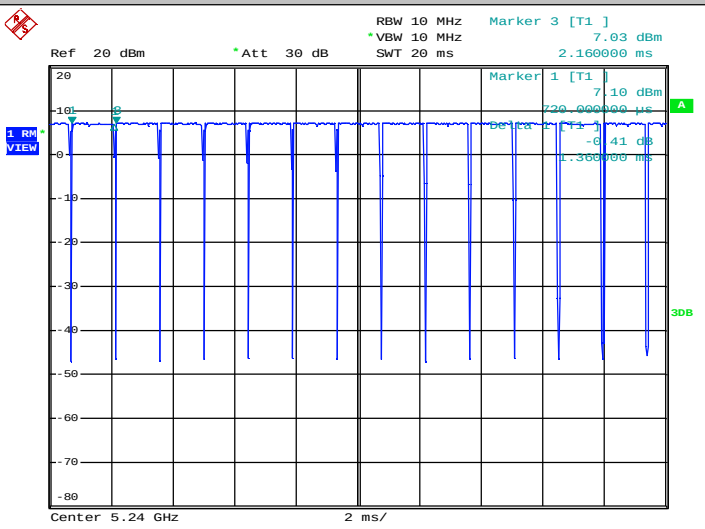

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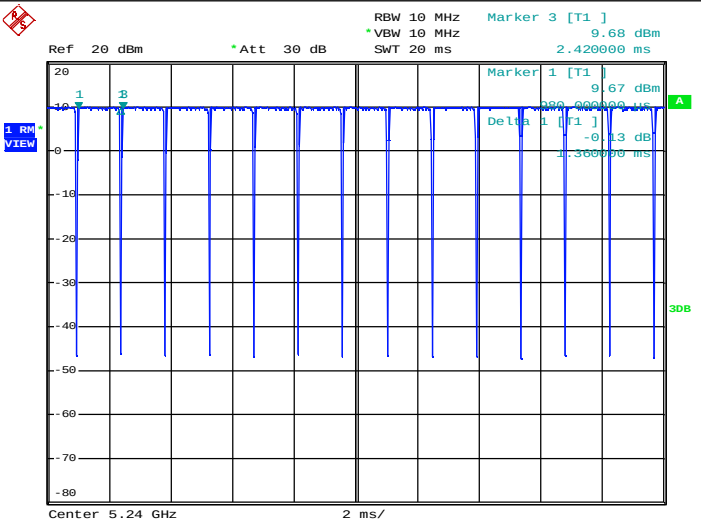

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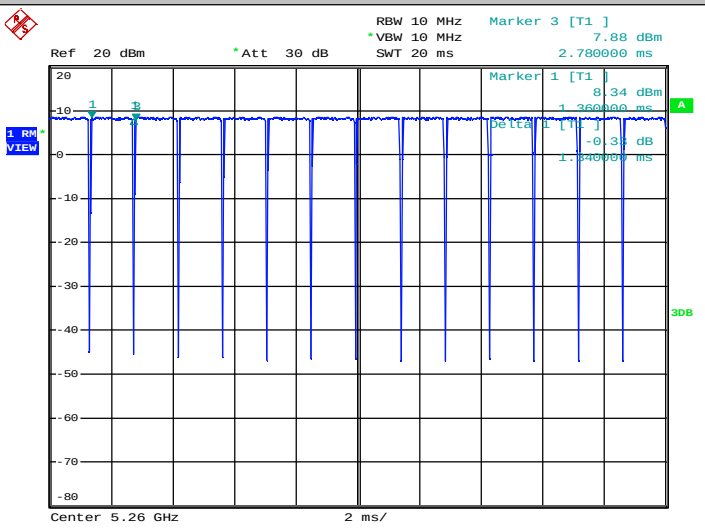

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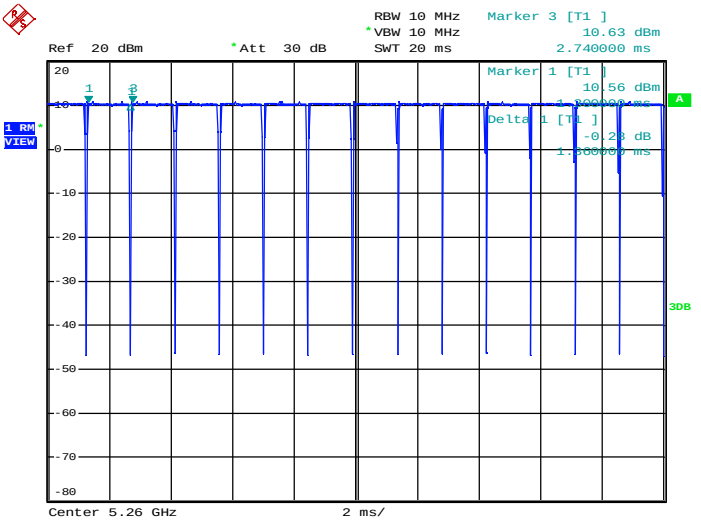

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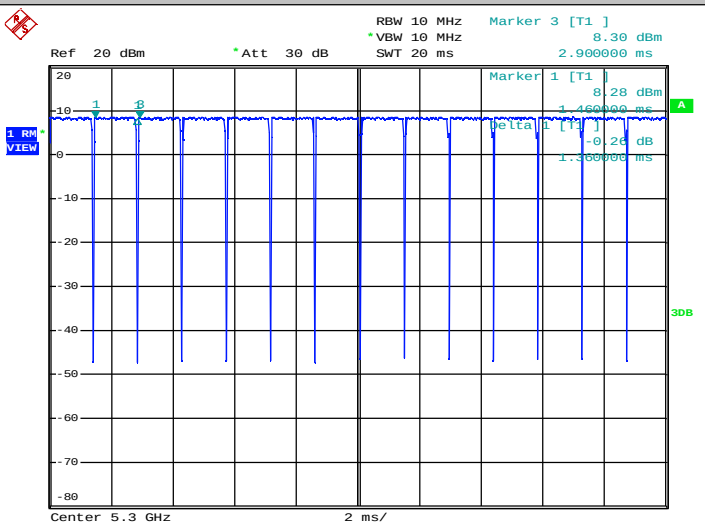

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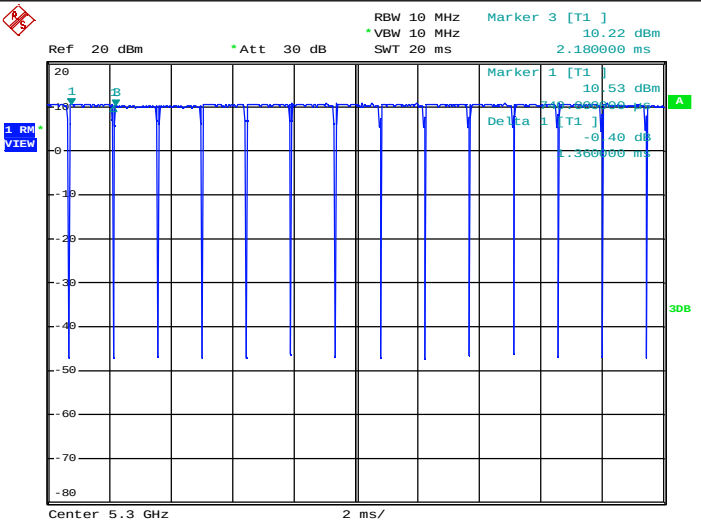

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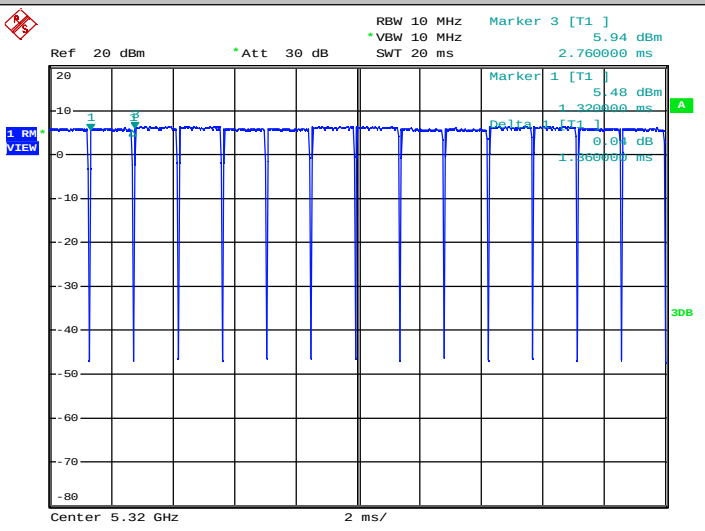

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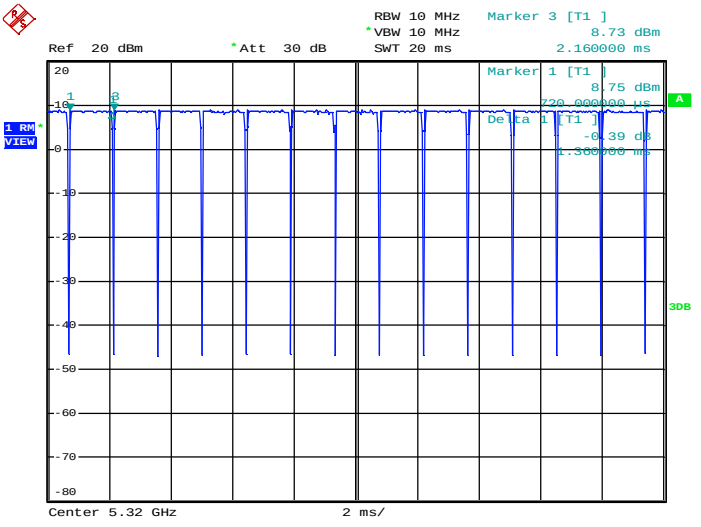

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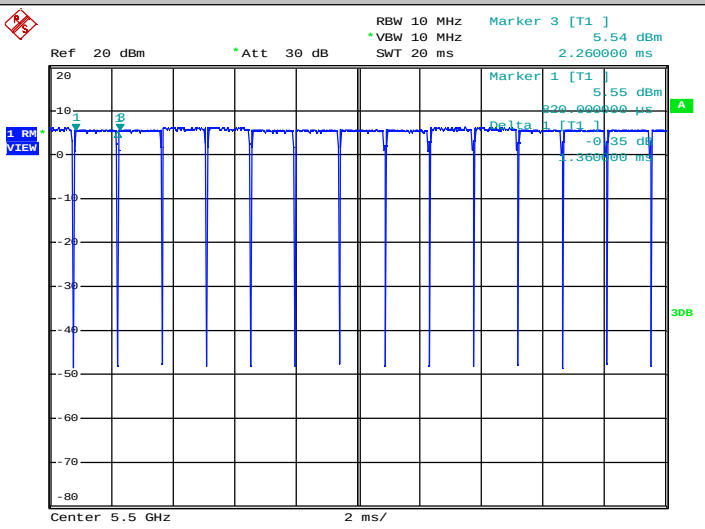

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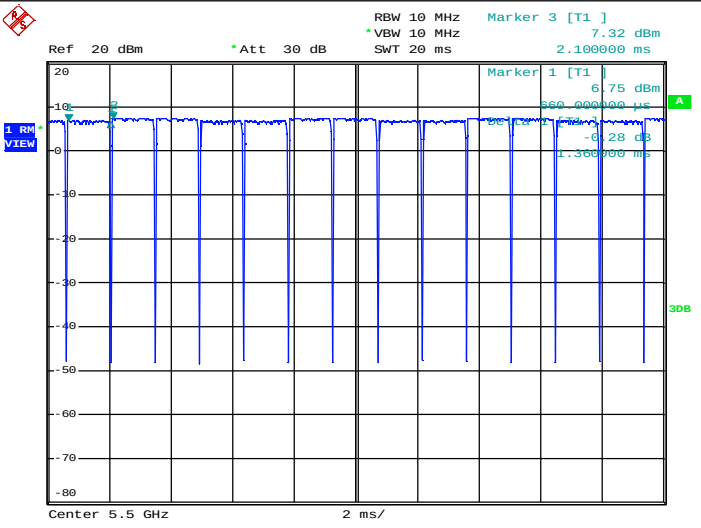

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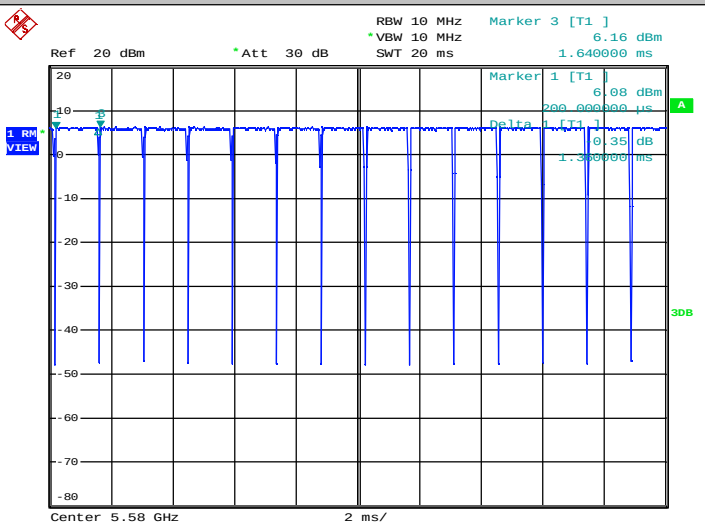

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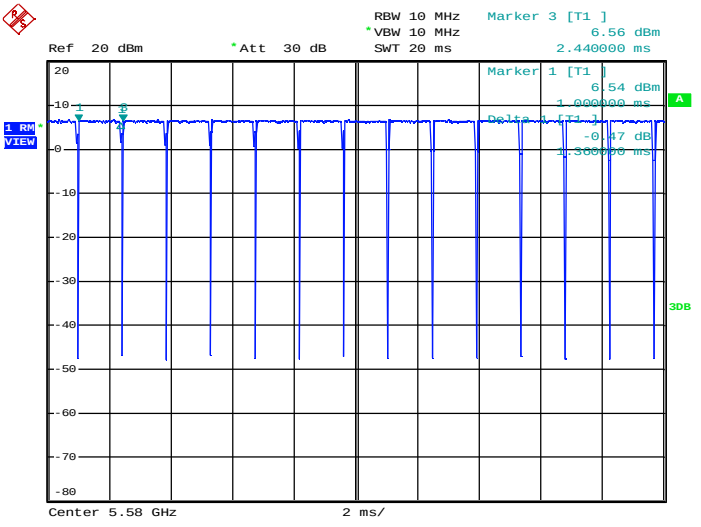

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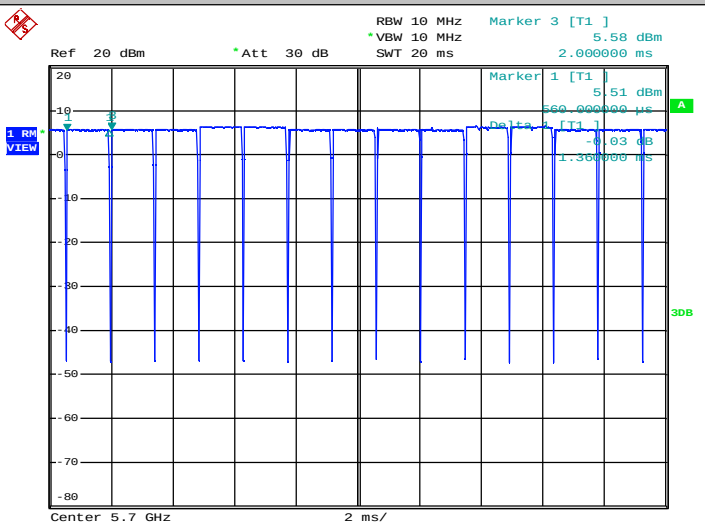
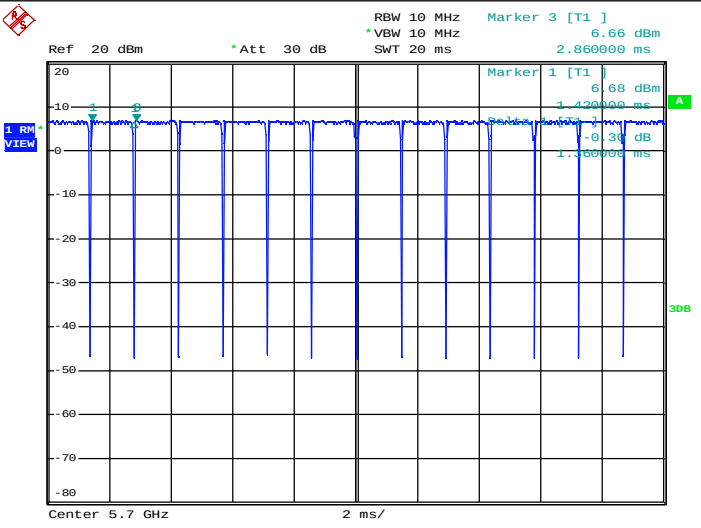


Duty Cycle_11A_5700_Ant2



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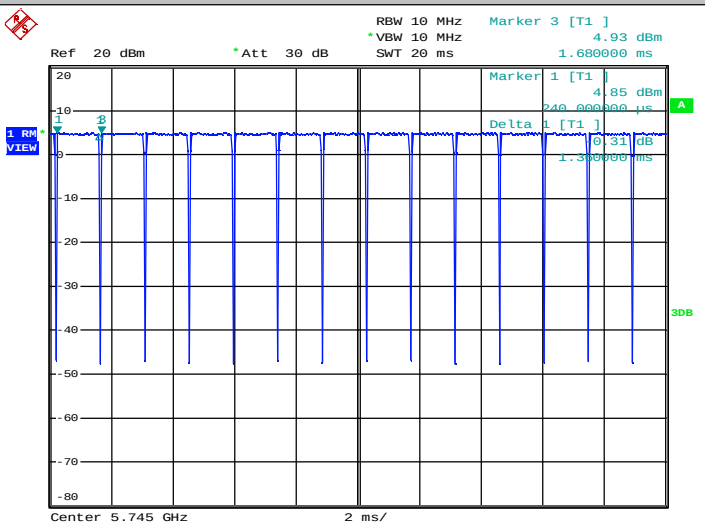
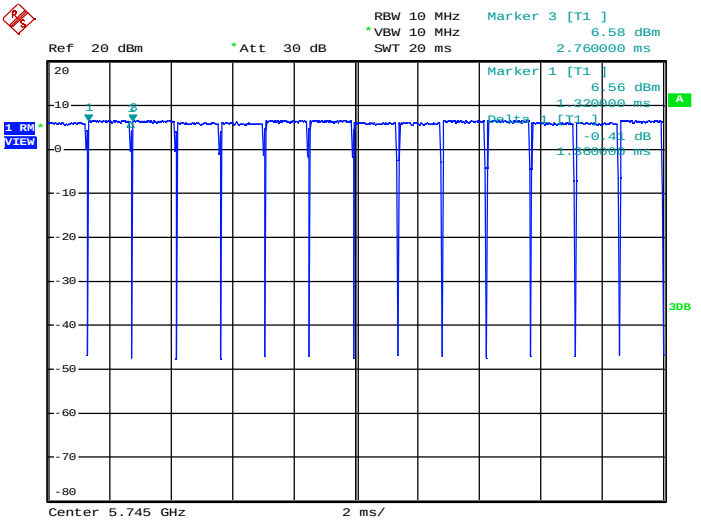
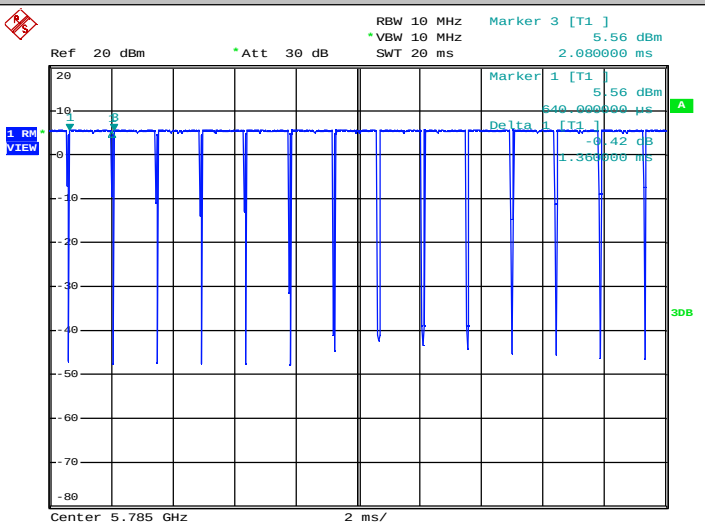


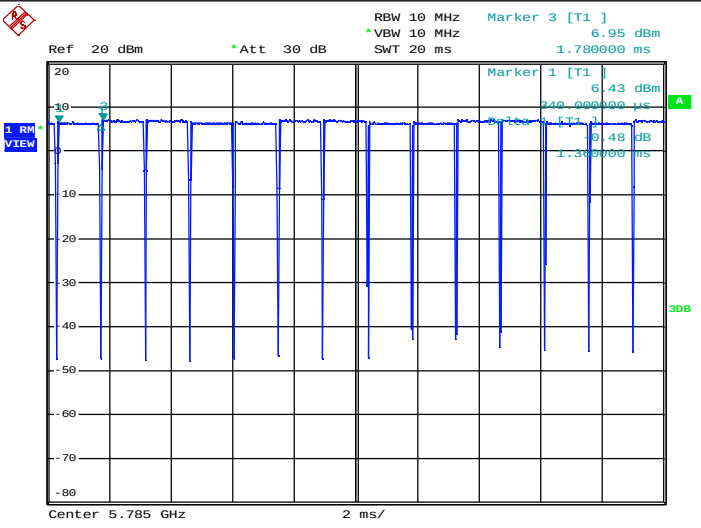
Duty Cycle_11A_5745_Ant2



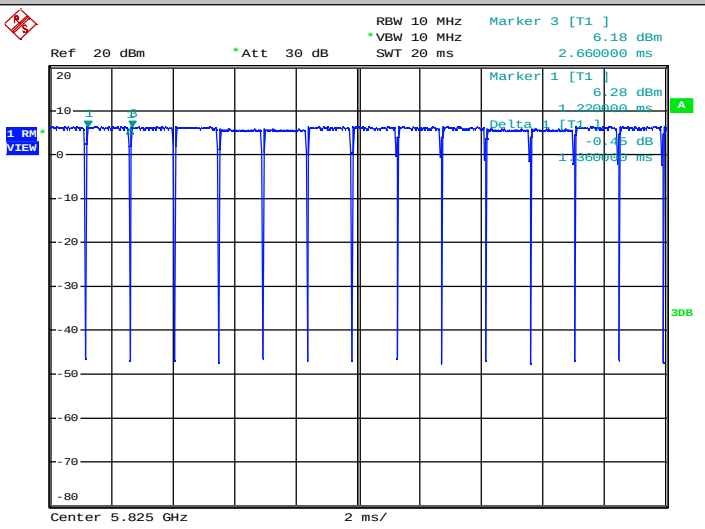
Duty Cycle_11A_5785_Ant1



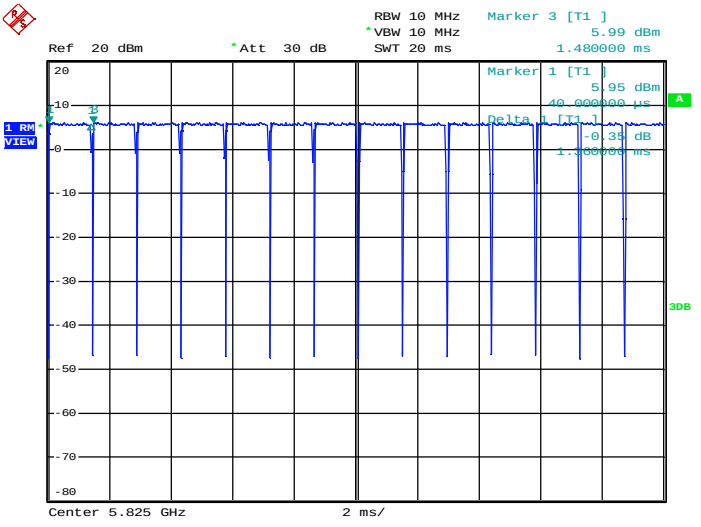
Duty Cycle_11A_5785_Ant2



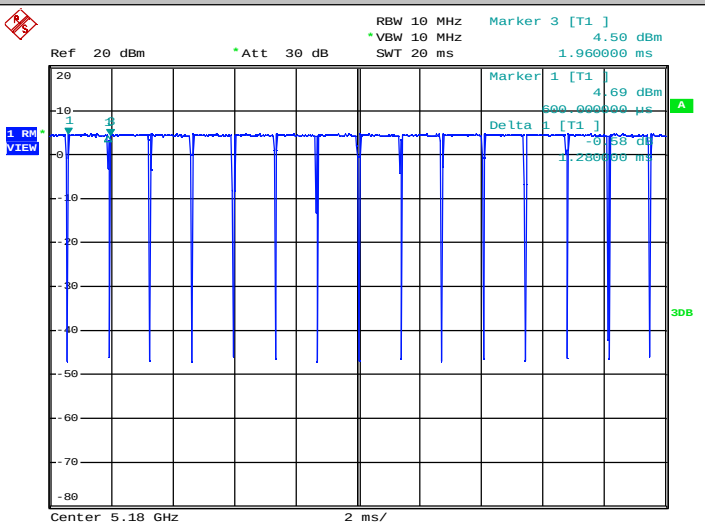
Duty Cycle_11A_5825_Ant1



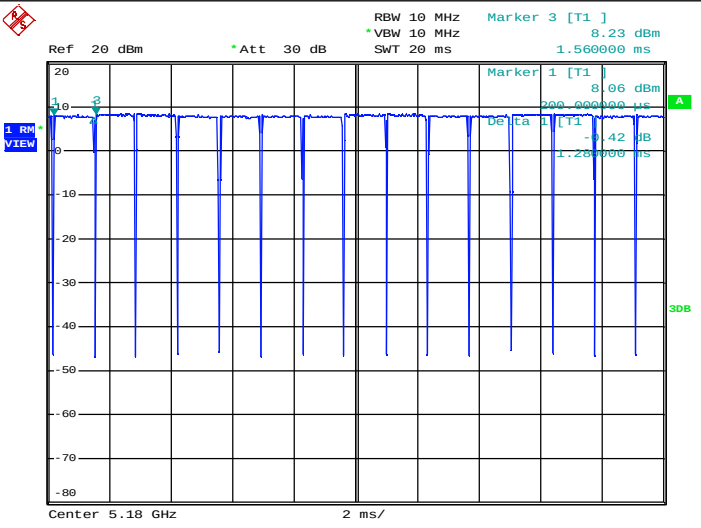
Duty Cycle_11A_5825_Ant2



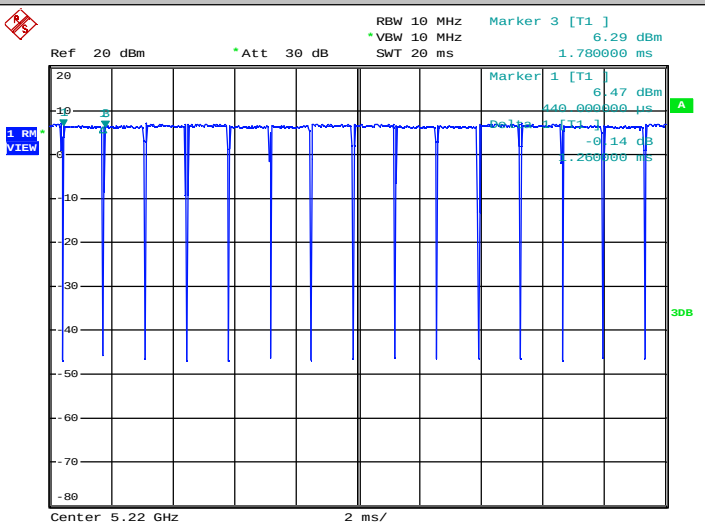
Duty Cycle_11N20_5180_Ant1



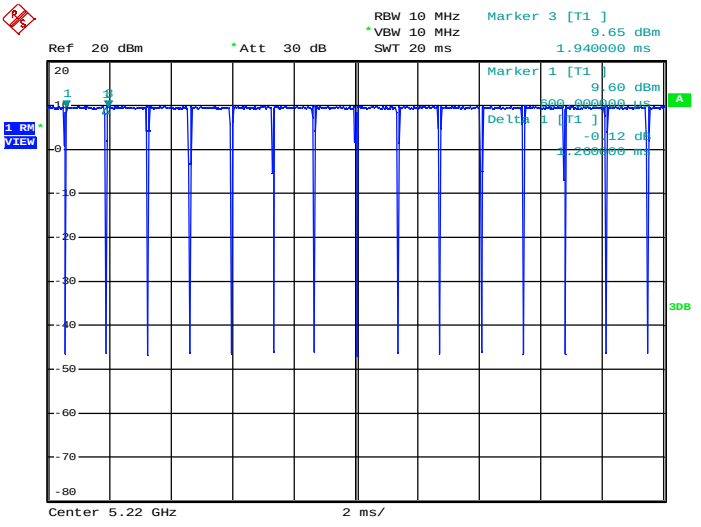
Duty Cycle_11N20_5180_Ant2



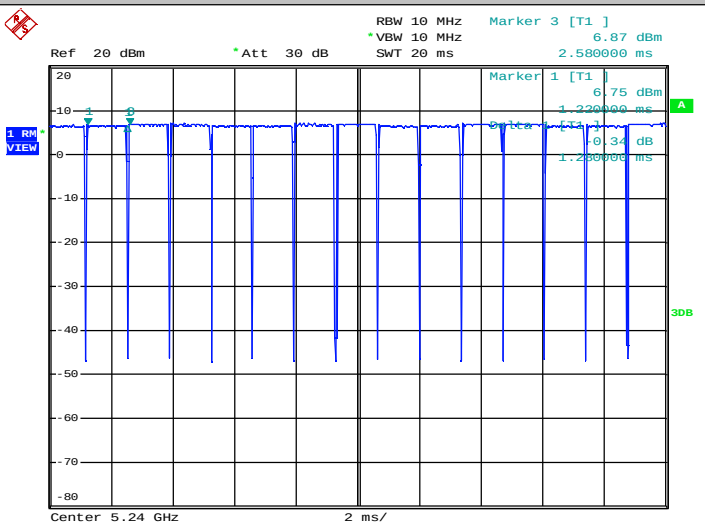
Duty Cycle_11N20_5220_Ant1



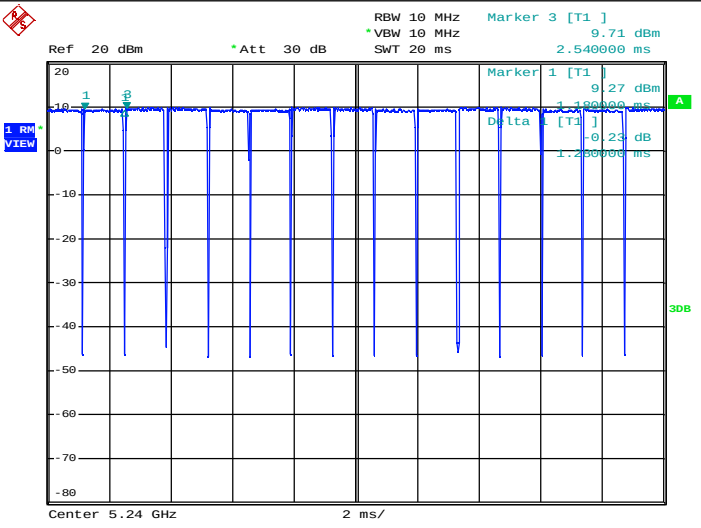
Duty Cycle_11N20_5220_Ant2



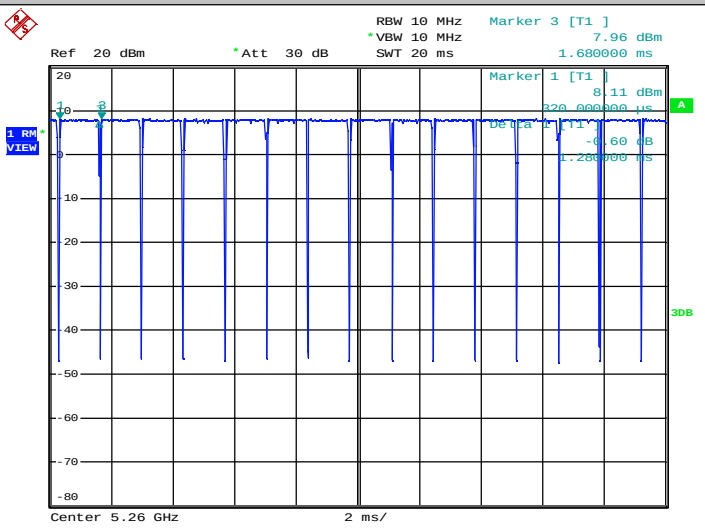
Duty Cycle_11N20_5240_Ant1



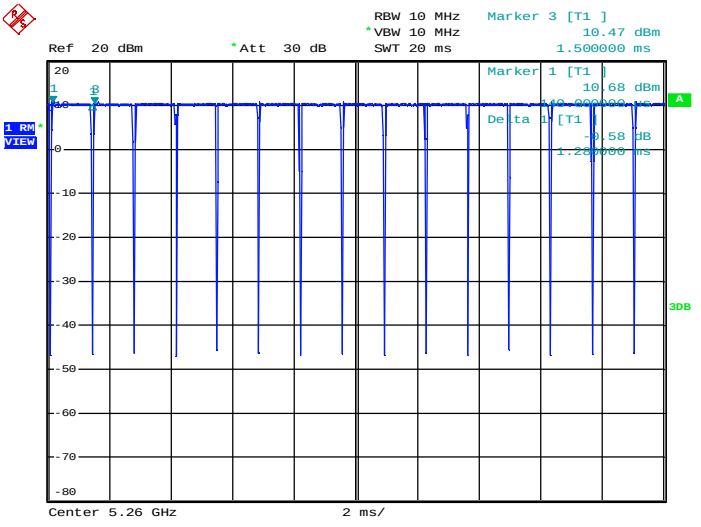
Duty Cycle_11N20_5240_Ant2



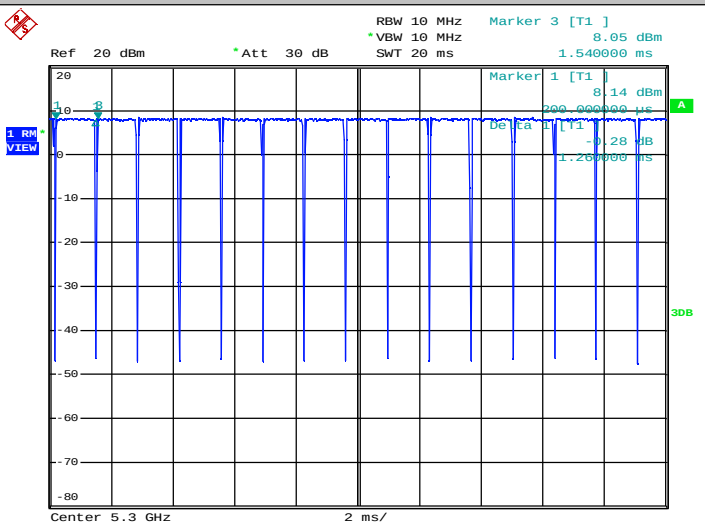
Duty Cycle_11N20_5260_Ant1



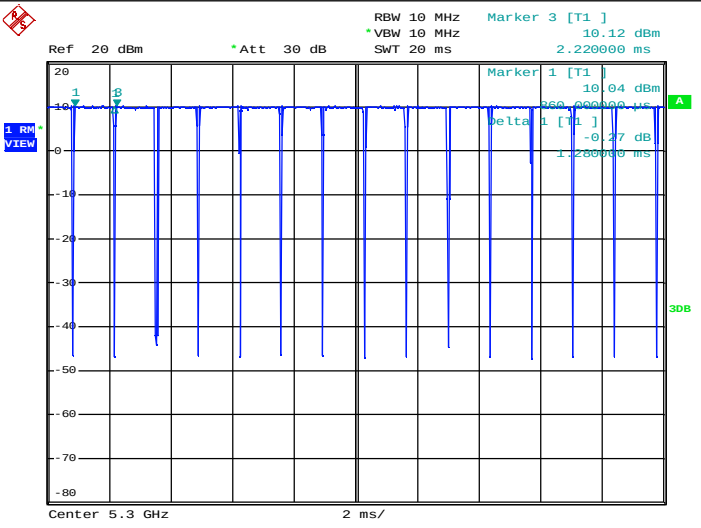
Duty Cycle_11N20_5260_Ant2



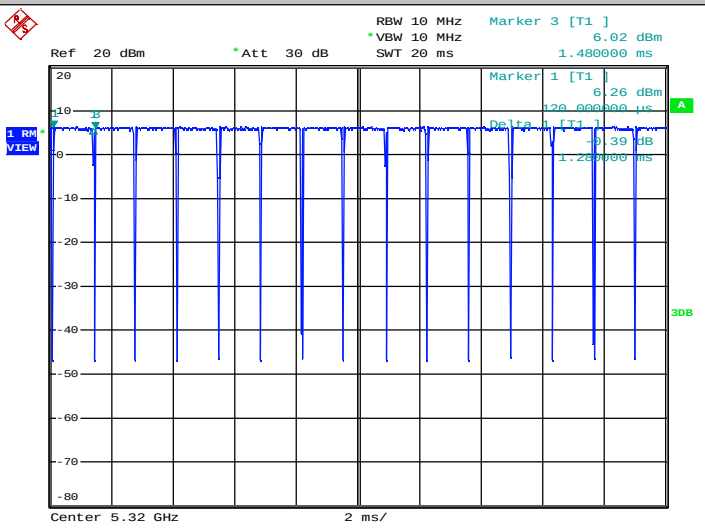
Duty Cycle_11N20_5300_Ant1



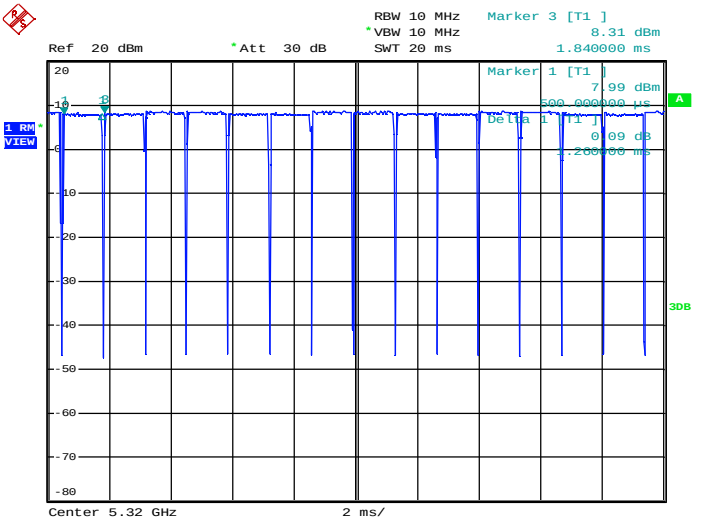
Duty Cycle_11N20_5300_Ant2



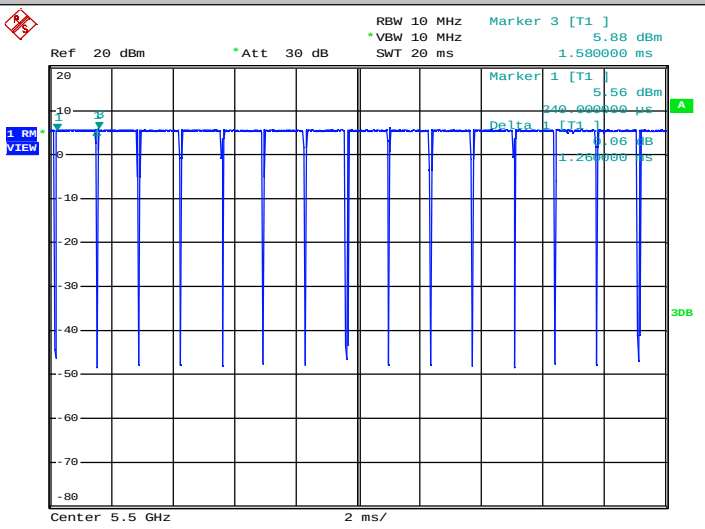
Duty Cycle_11N20_5320_Ant1



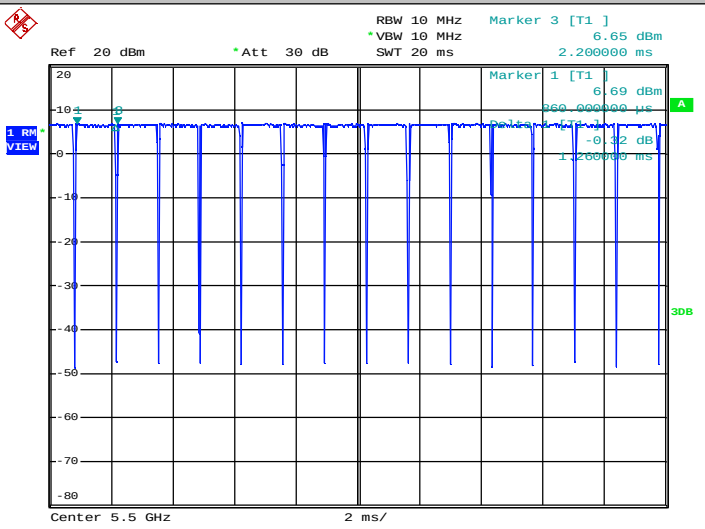
Duty Cycle_11N20_5320_Ant2



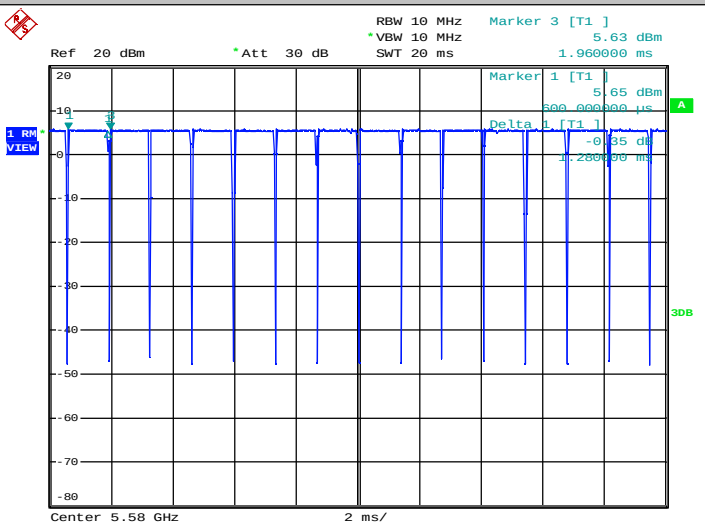
Duty Cycle_11N20_5500_Ant1



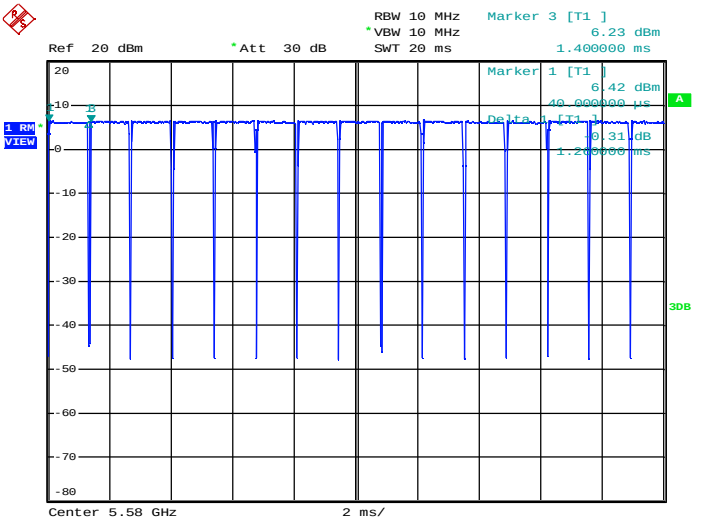
Duty Cycle_11N20_5500_Ant2



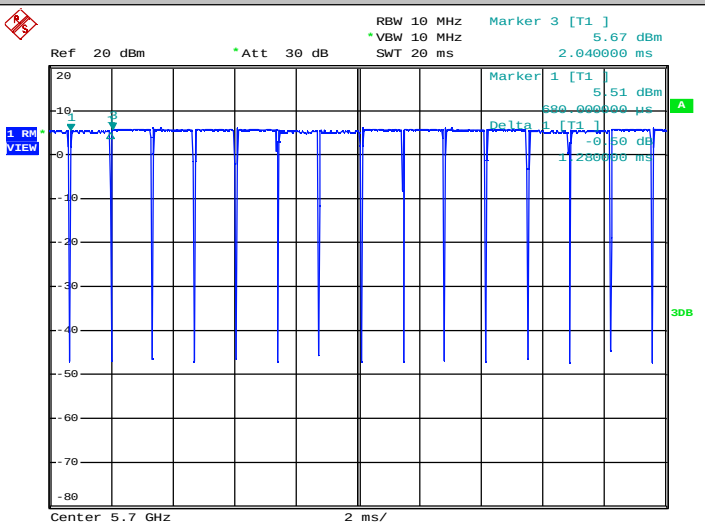
Duty Cycle_11N20_5580_Ant1



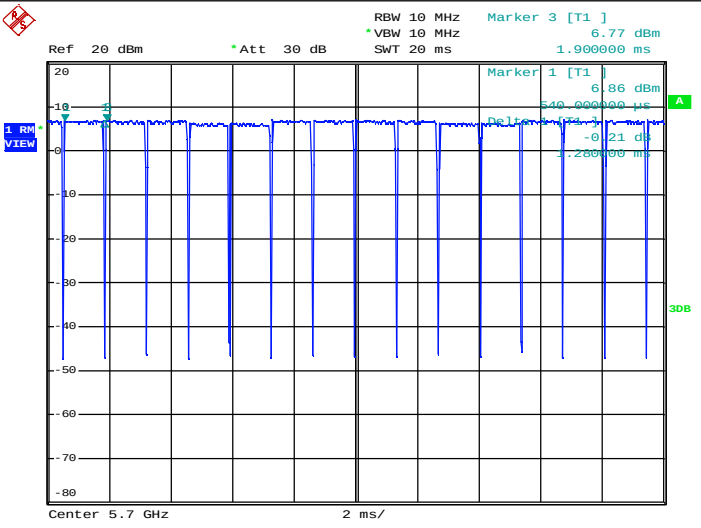
Duty Cycle_11N20_5580_Ant2



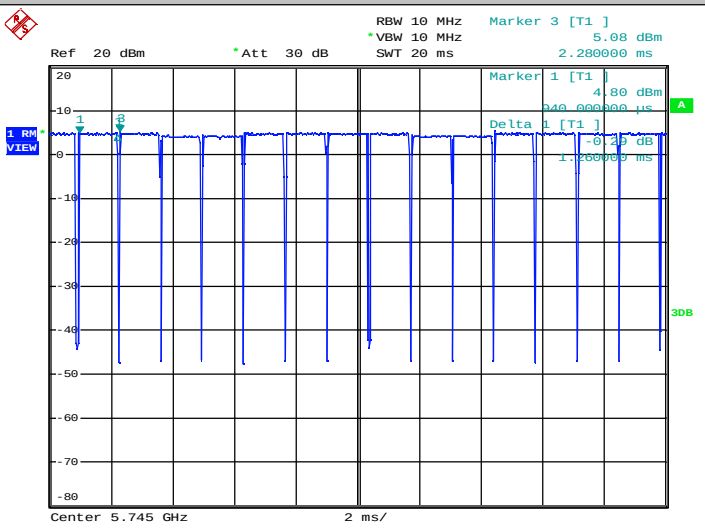
Duty Cycle_11N20_5700_Ant1



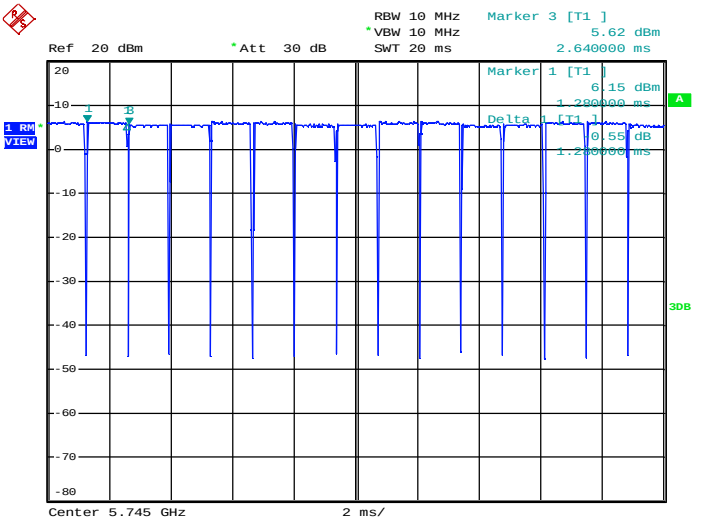
Duty Cycle_11N20_5700_Ant2



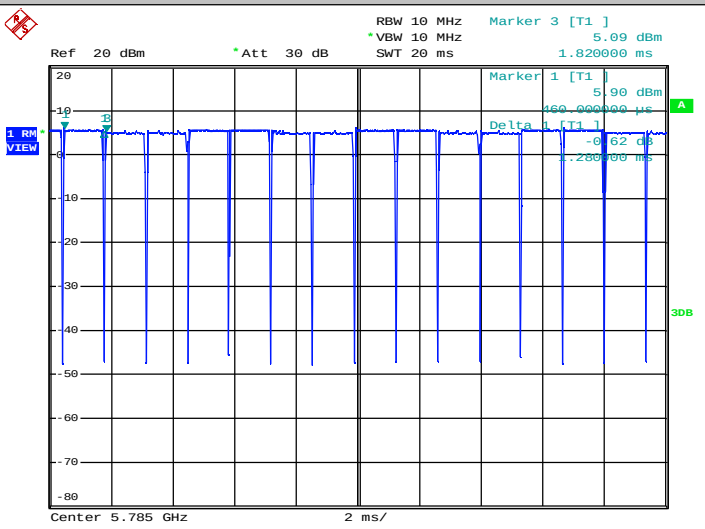
Duty Cycle_11N20_5745_Ant1



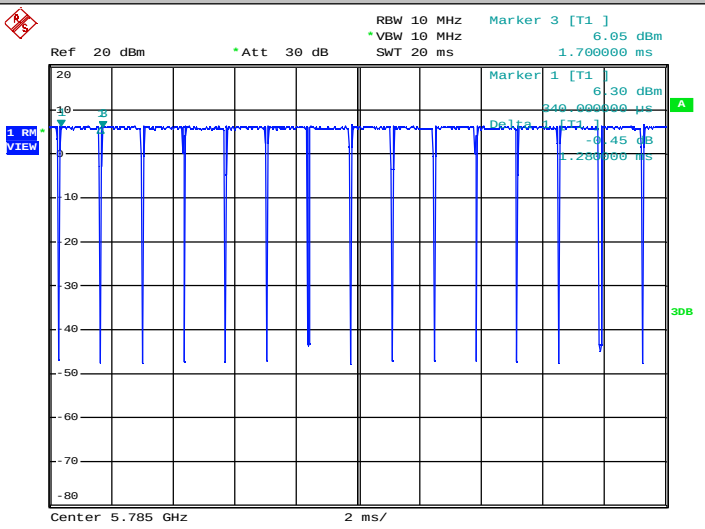
Duty Cycle_11N20_5745_Ant2



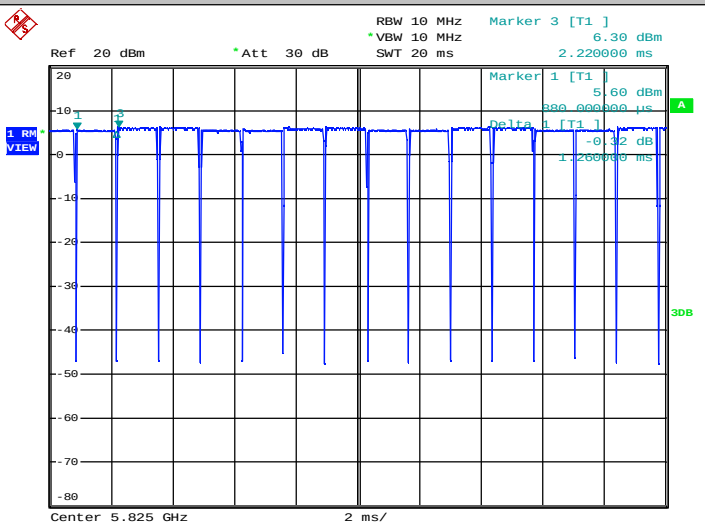
Duty Cycle_11N20_5785_Ant1



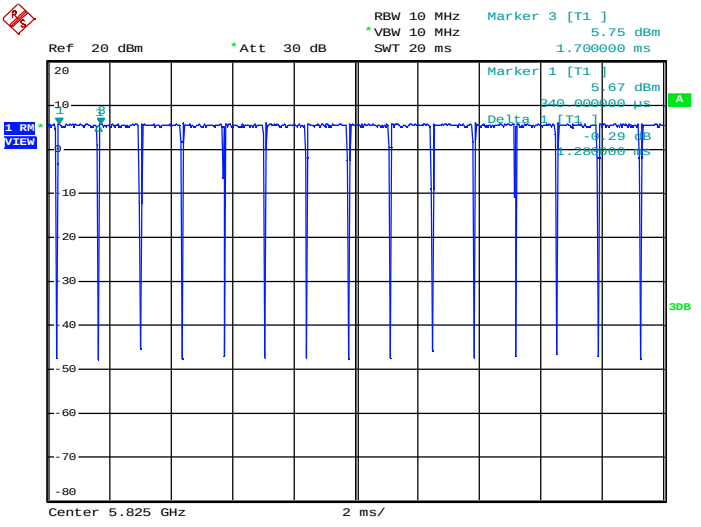
Duty Cycle_11N20_5785_Ant2



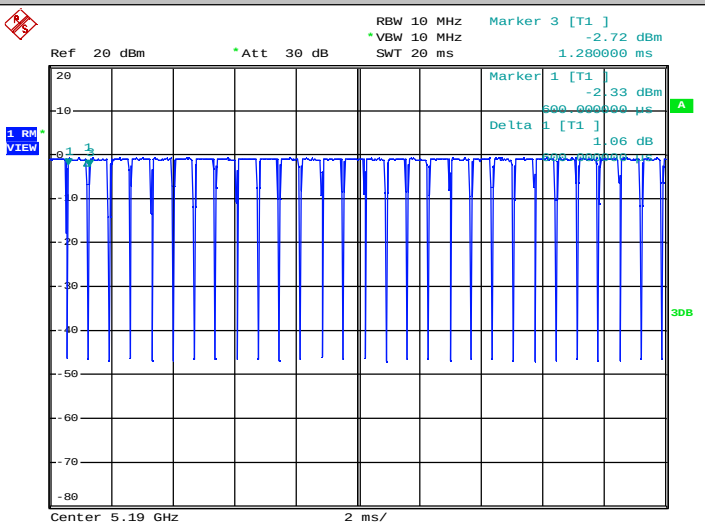
Duty Cycle_11N20_5825_Ant1



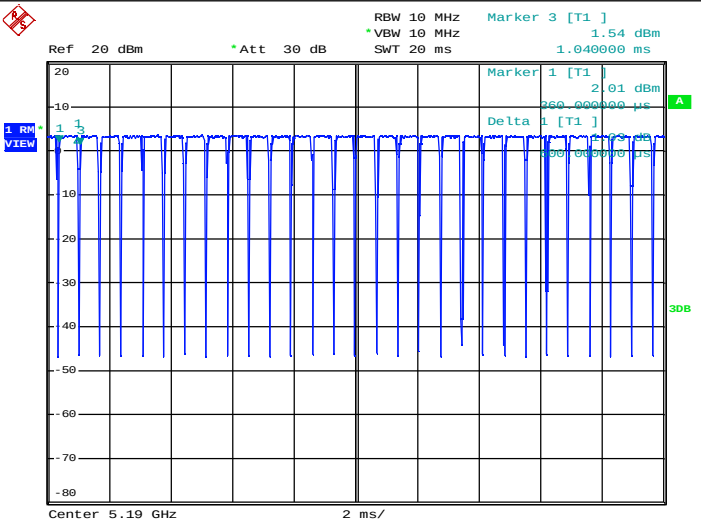
Duty Cycle_11N20_5825_Ant2



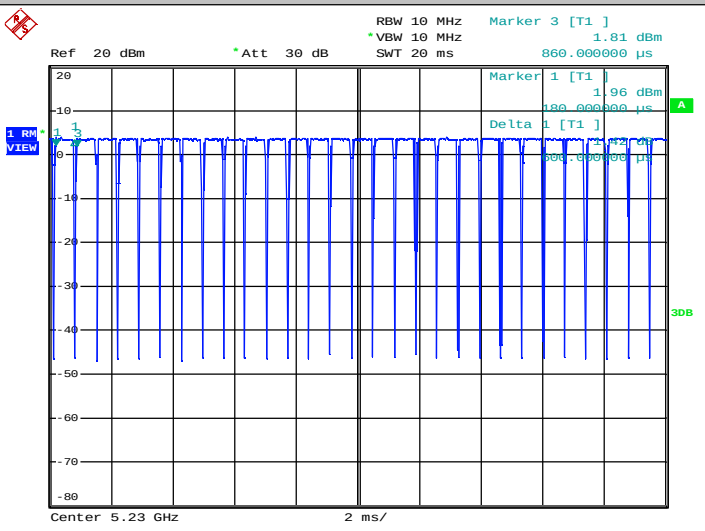
Duty Cycle_11N40_5190_Ant1



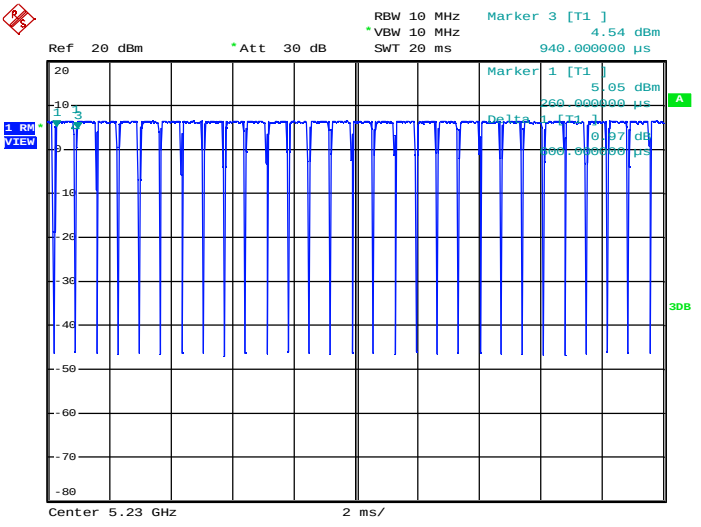
Duty Cycle_11N40_5190_Ant2



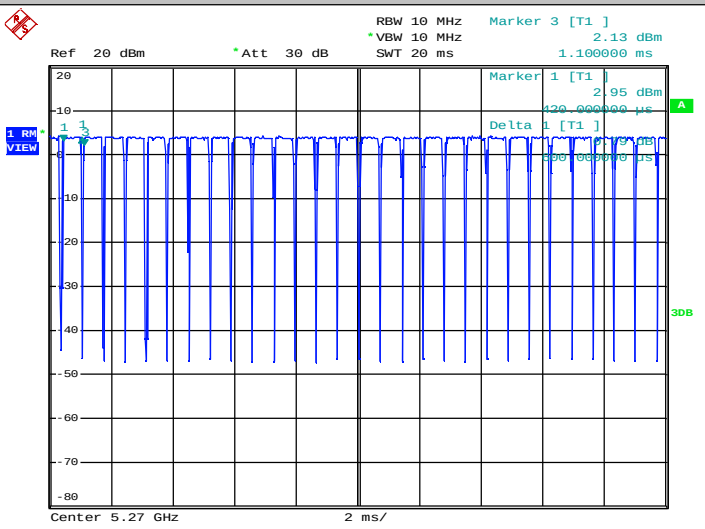
Duty Cycle_11N40_5230_Ant1



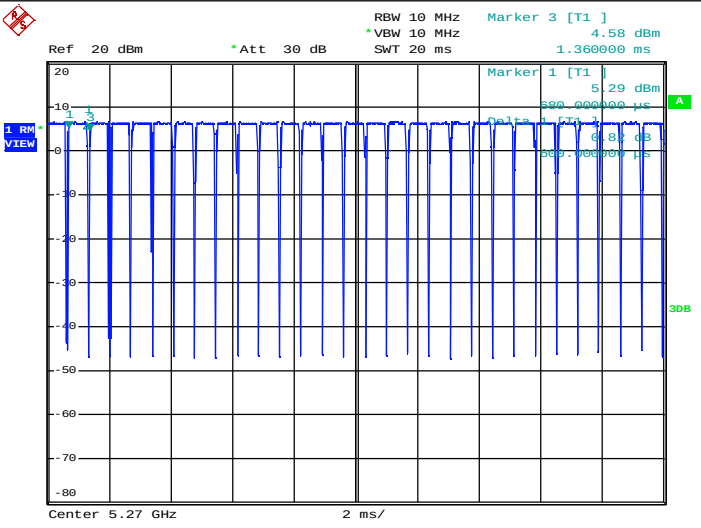
Duty Cycle_11N40_5230_Ant2



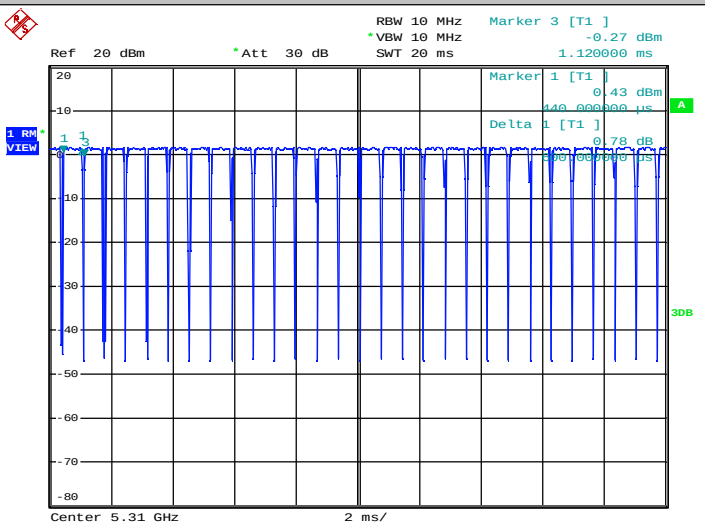
Duty Cycle_11N40_5270_Ant1



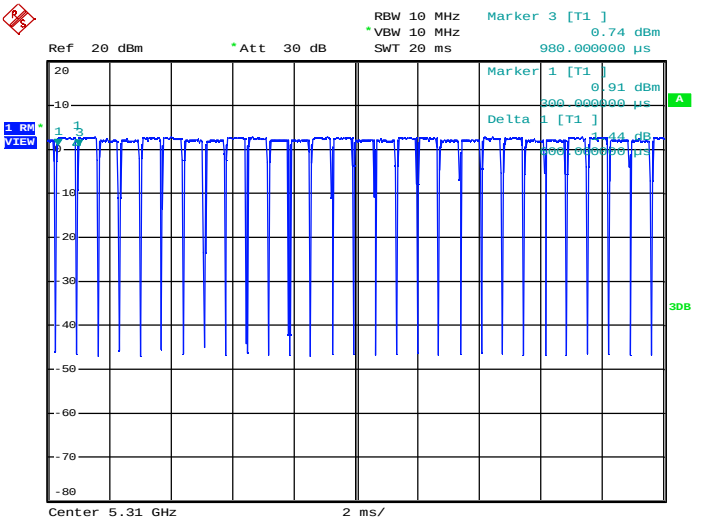
Duty Cycle_11N40_5270_Ant2



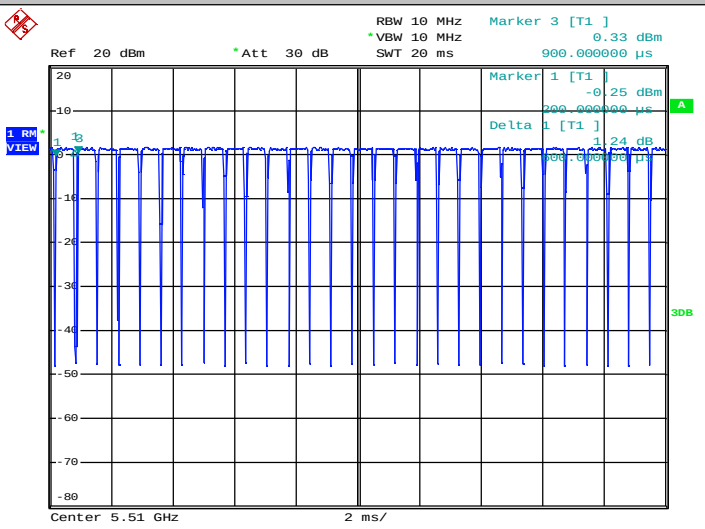
Duty Cycle_11N40_5310_Ant1



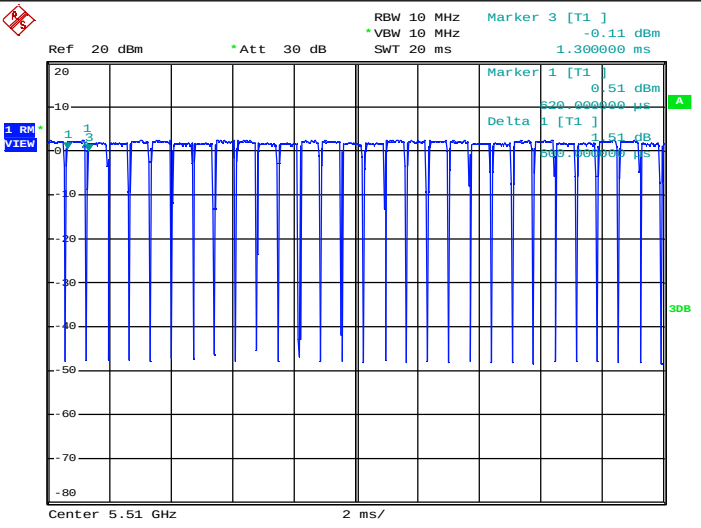
Duty Cycle_11N40_5310_Ant2



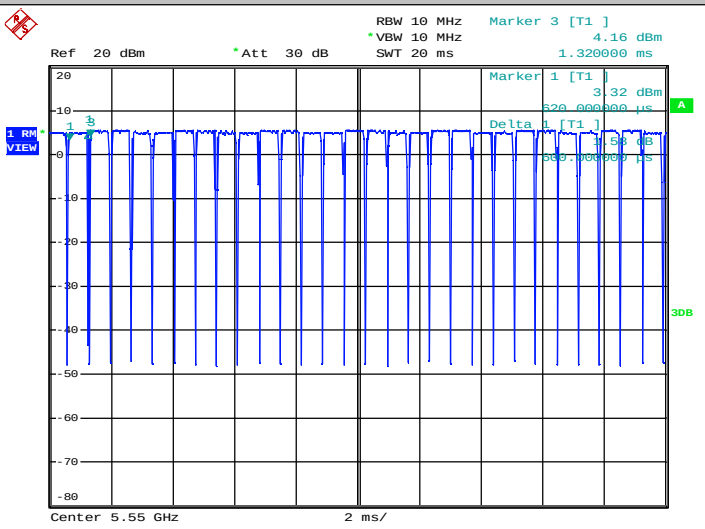
Duty Cycle_11N40_5510_Ant1



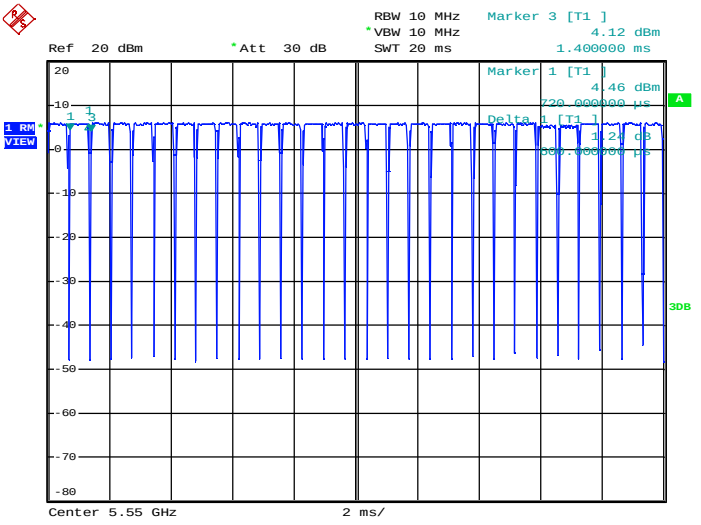
Duty Cycle_11N40_5510_Ant2



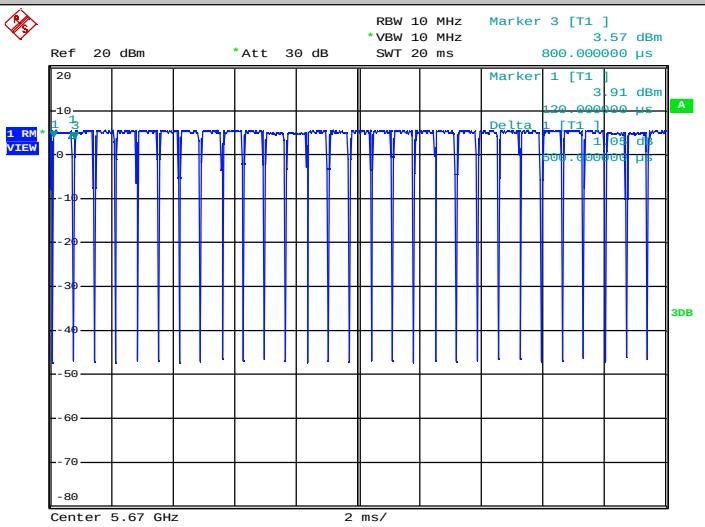
Duty Cycle_11N40_5550_Ant1



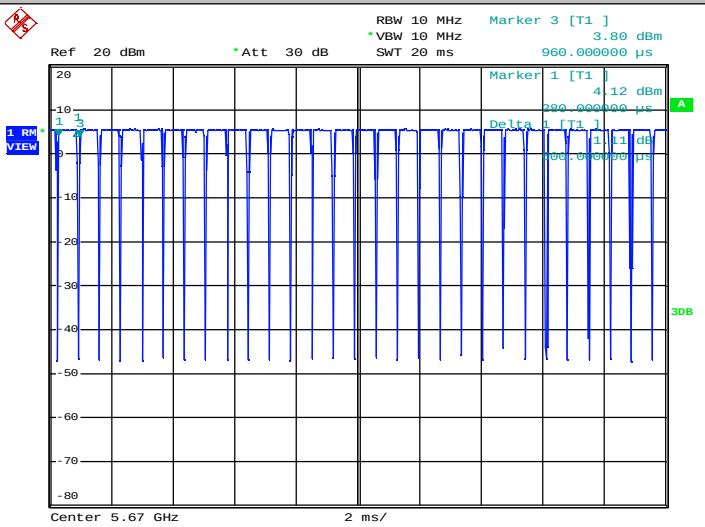
Duty Cycle_11N40_5550_Ant2



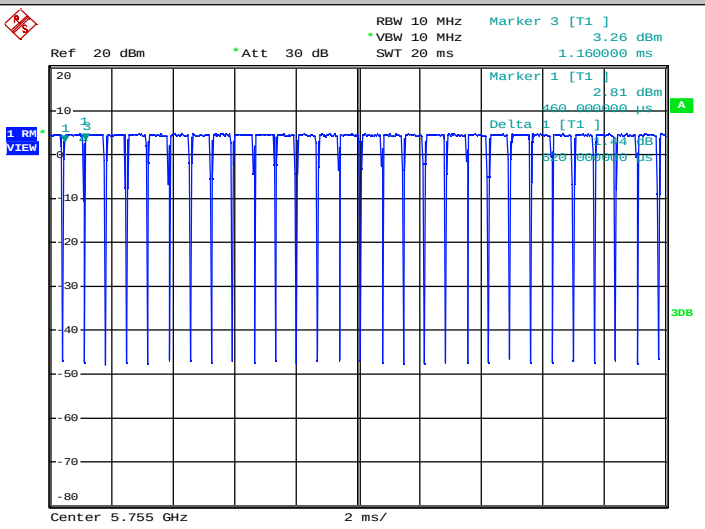
Duty Cycle_11N40_5670_Ant1



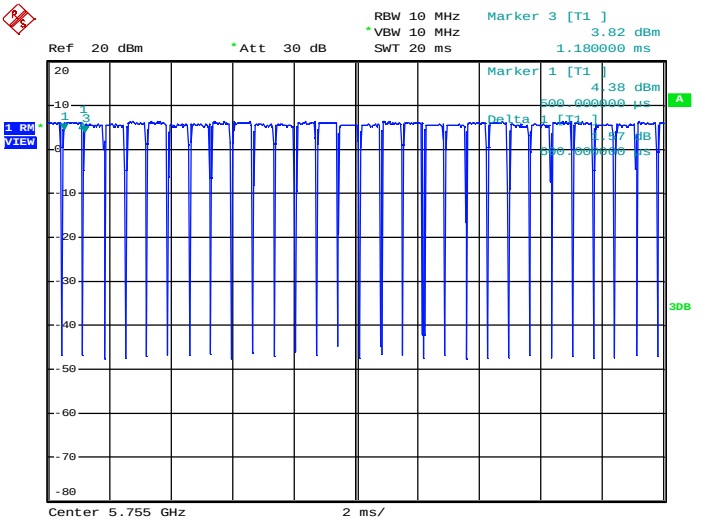
Duty Cycle_11N40_5670_Ant2



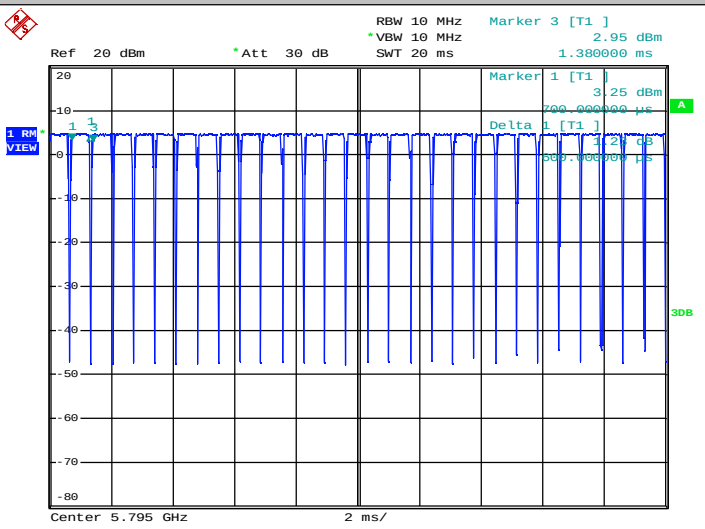
Duty Cycle_11N40_5755_Ant1



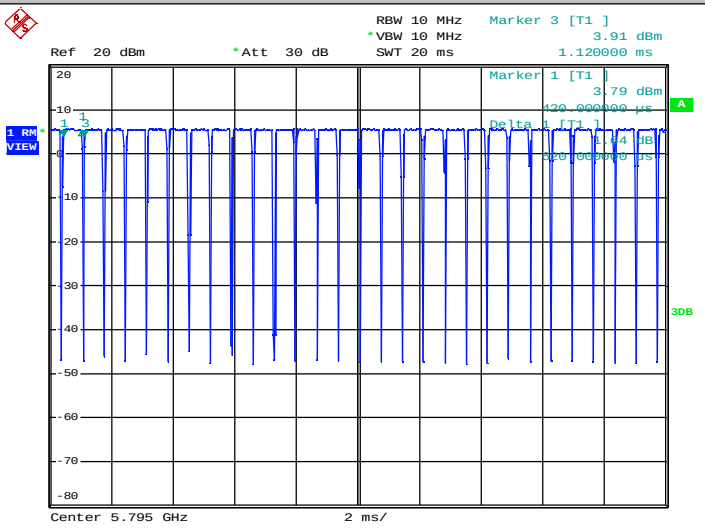
Duty Cycle_11N40_5755_Ant2



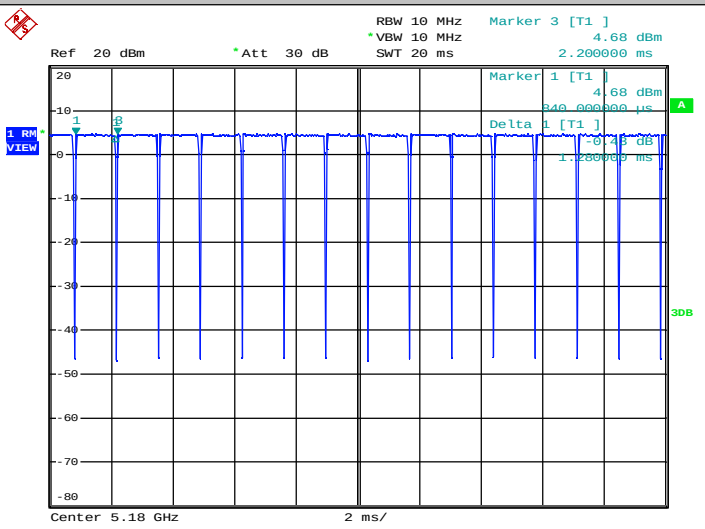
Duty Cycle_11N40_5795_Ant1



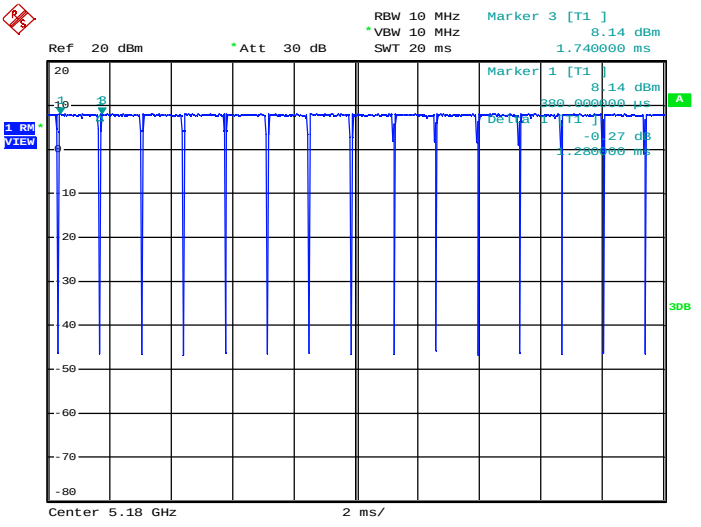
Duty Cycle_11N40_5795_Ant2



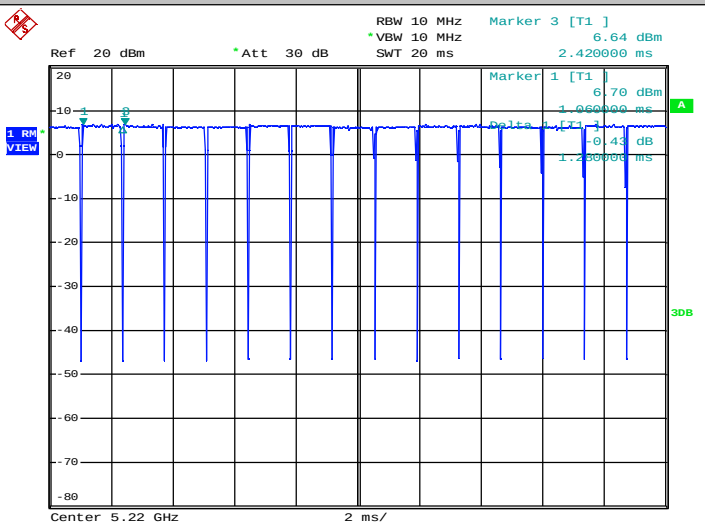
Duty Cycle_11AC20_5180_Ant1



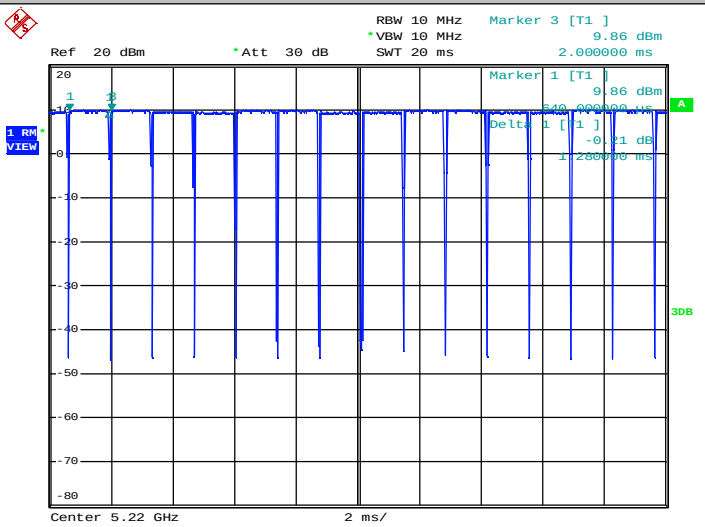
Duty Cycle_11AC20_5180_Ant2



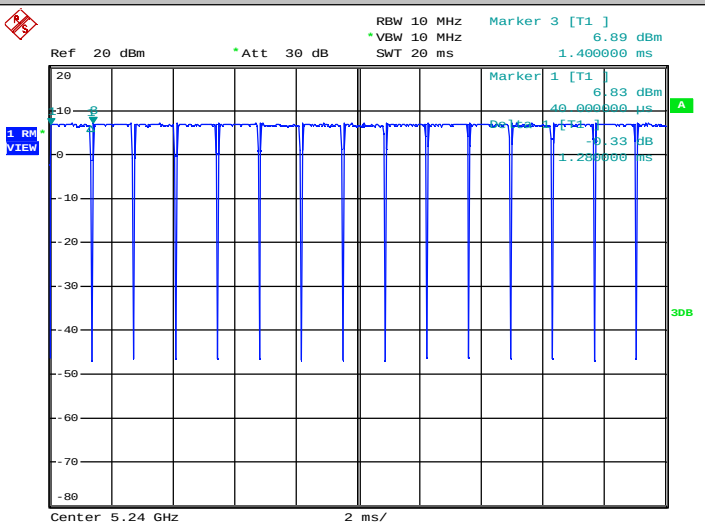
Duty Cycle_11AC20_5220_Ant1



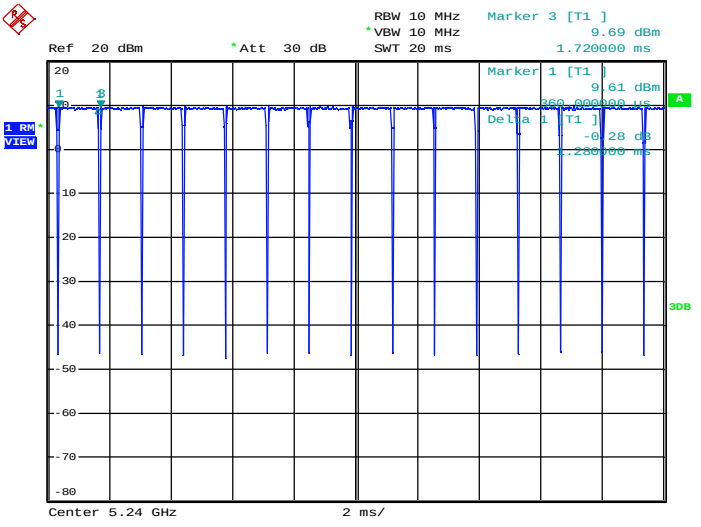
Duty Cycle_11AC20_5220_Ant2



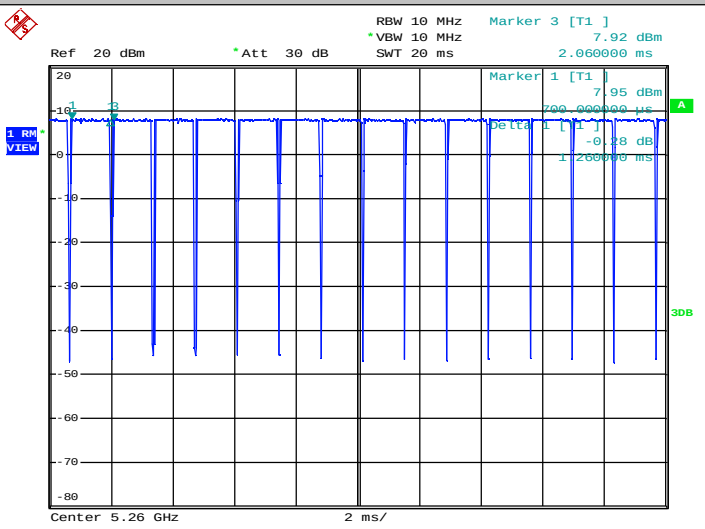
Duty Cycle_11AC20_5240_Ant1



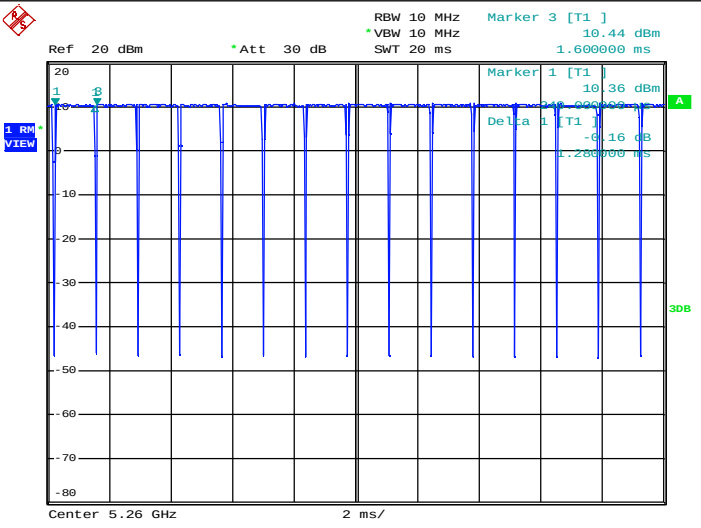
Duty Cycle_11AC20_5240_Ant2



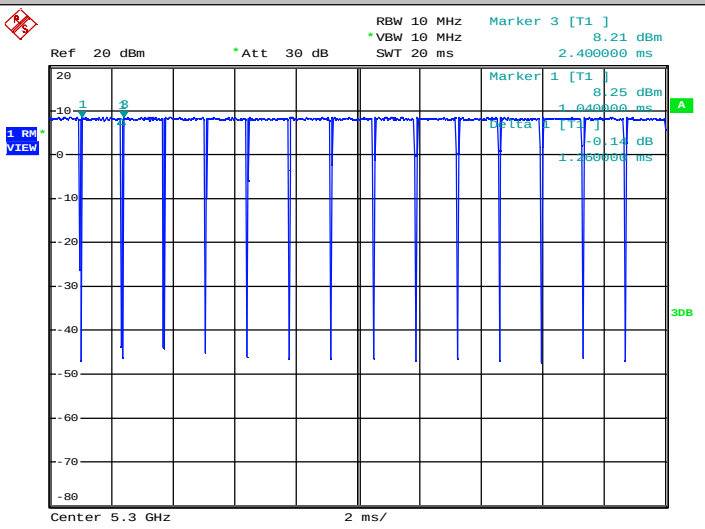
Duty Cycle_11AC20_5260_Ant1



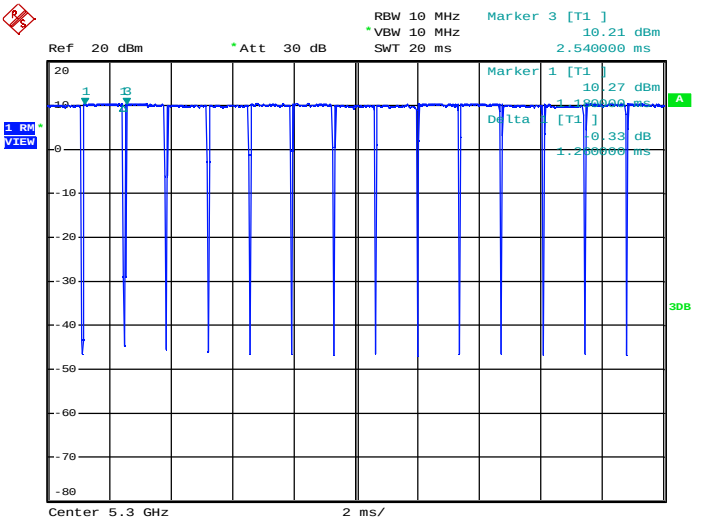
Duty Cycle_11AC20_5260_Ant2



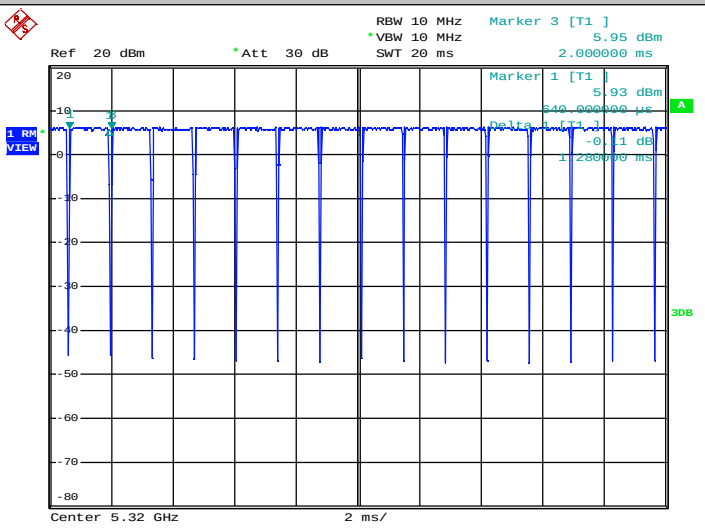
Duty Cycle_11AC20_5300_Ant1



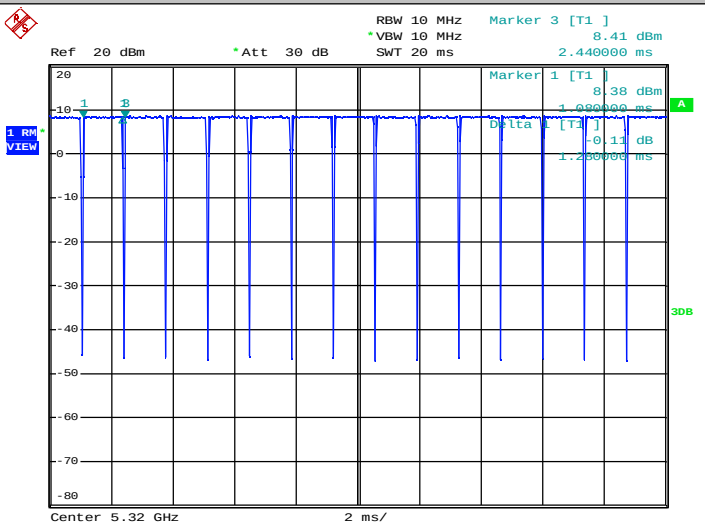
Duty Cycle_11AC20_5300_Ant2



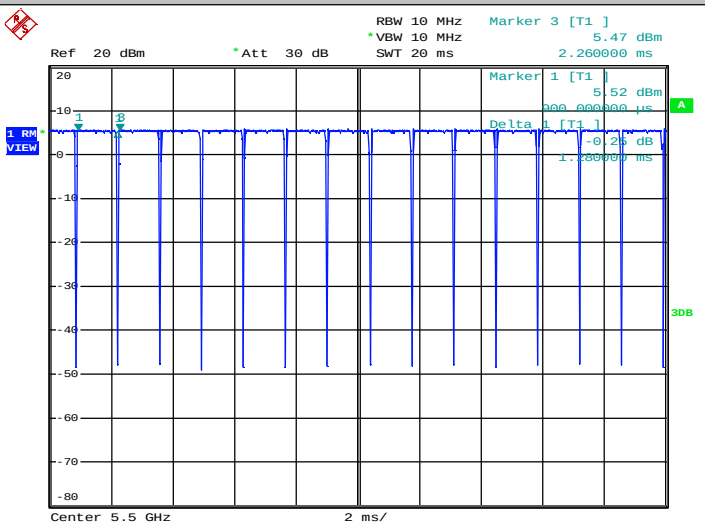
Duty Cycle_11AC20_5320_Ant1



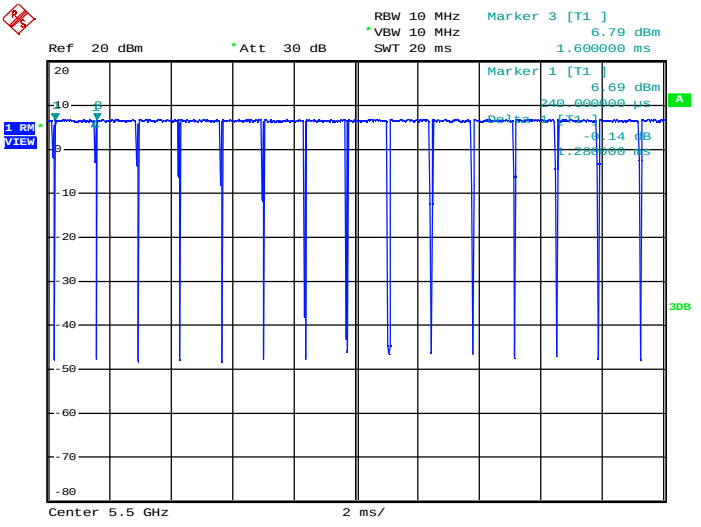
Duty Cycle_11AC20_5320_Ant2



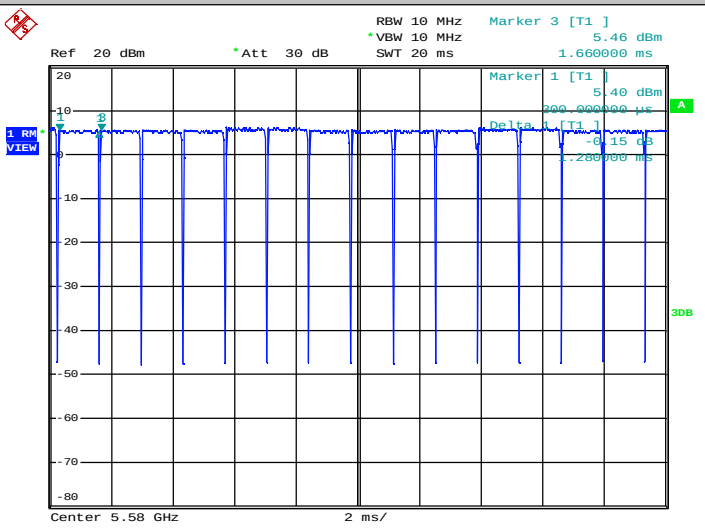
Duty Cycle_11AC20_5500_Ant1



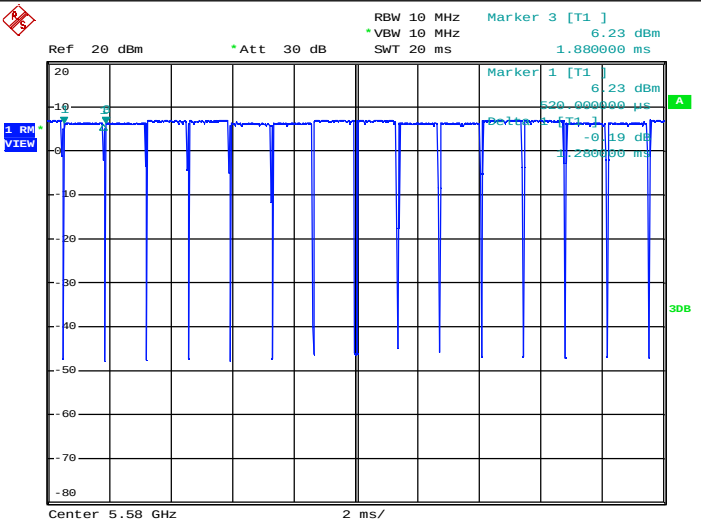
Duty Cycle_11AC20_5500_Ant2



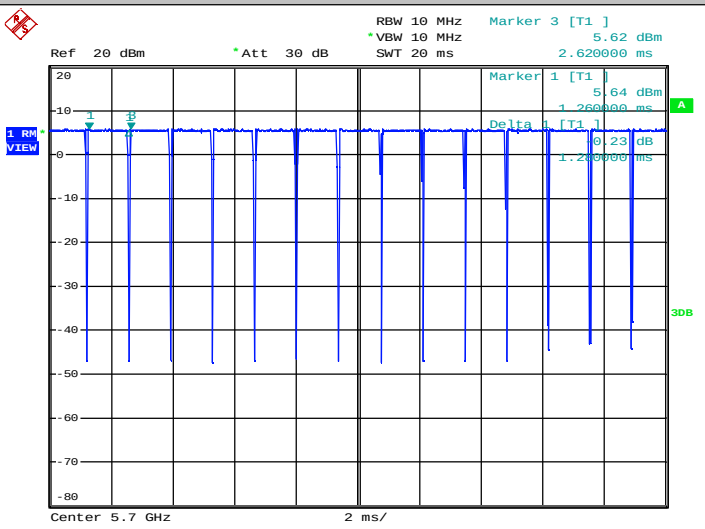
Duty Cycle_11AC20_5580_Ant1



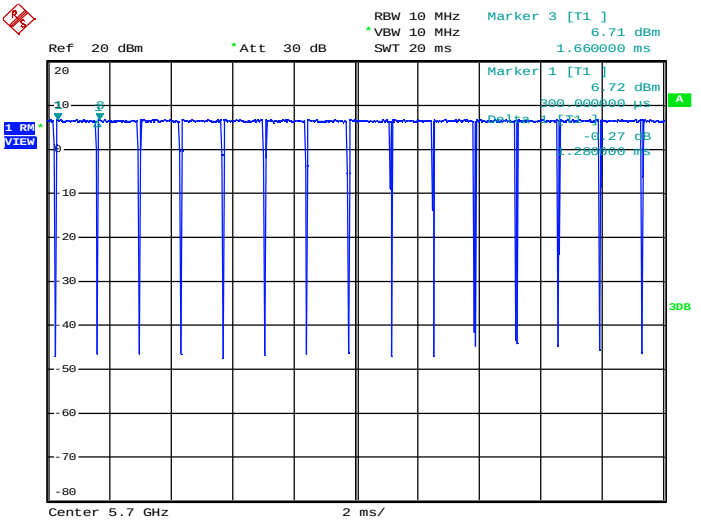
Duty Cycle_11AC20_5580_Ant2



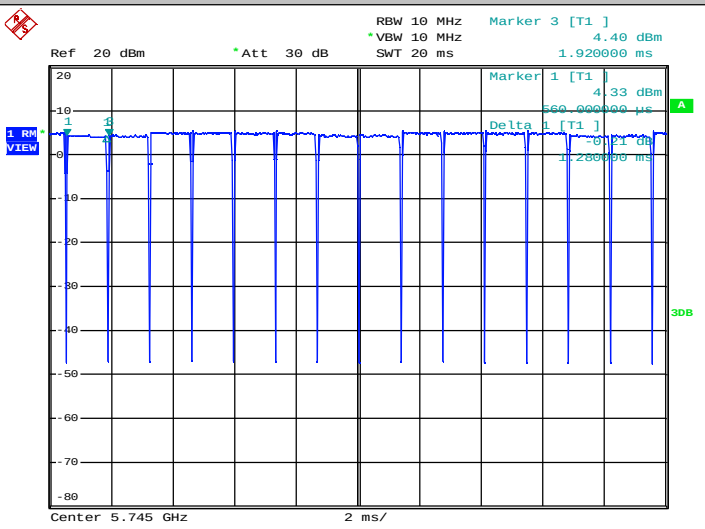
Duty Cycle_11AC20_5700_Ant1



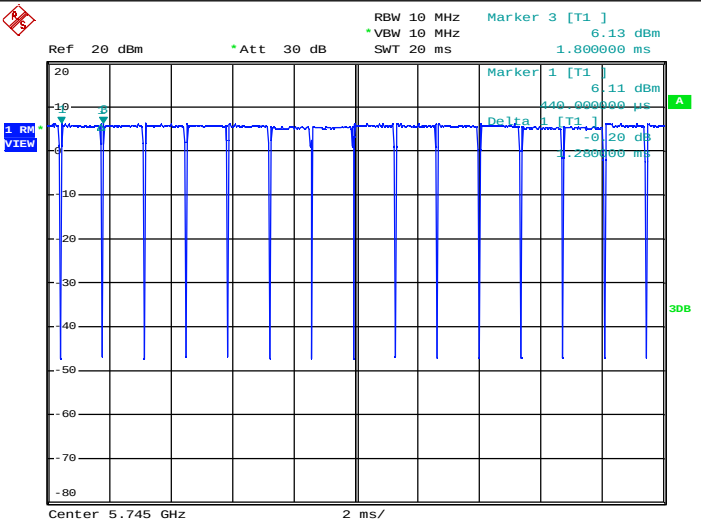
Duty Cycle_11AC20_5700_Ant2



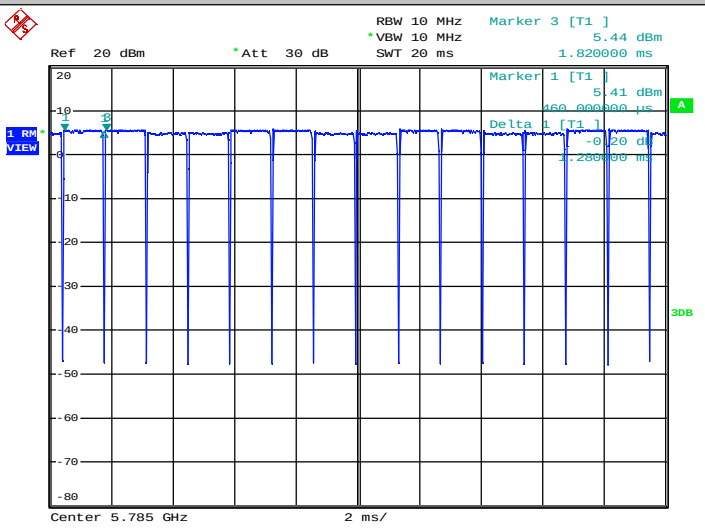
Duty Cycle_11AC20_5745_Ant1



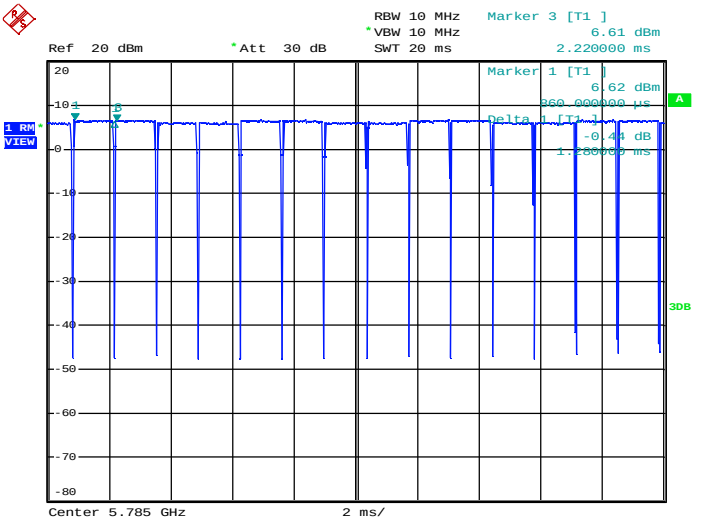
Duty Cycle_11AC20_5745_Ant2



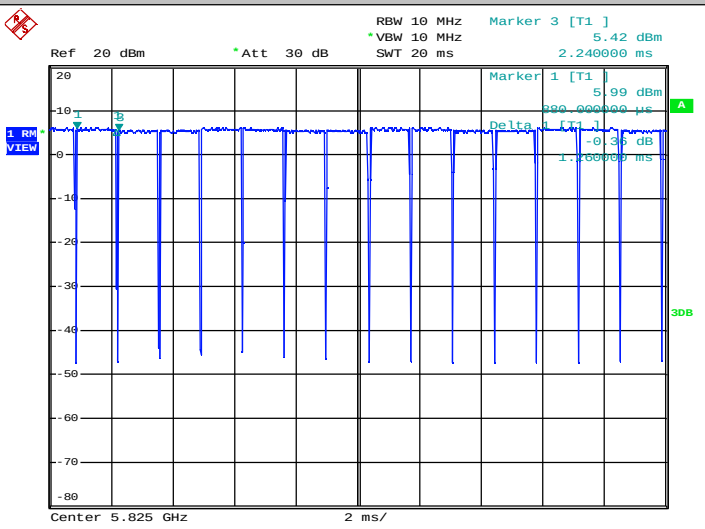
Duty Cycle_11AC20_5785_Ant1



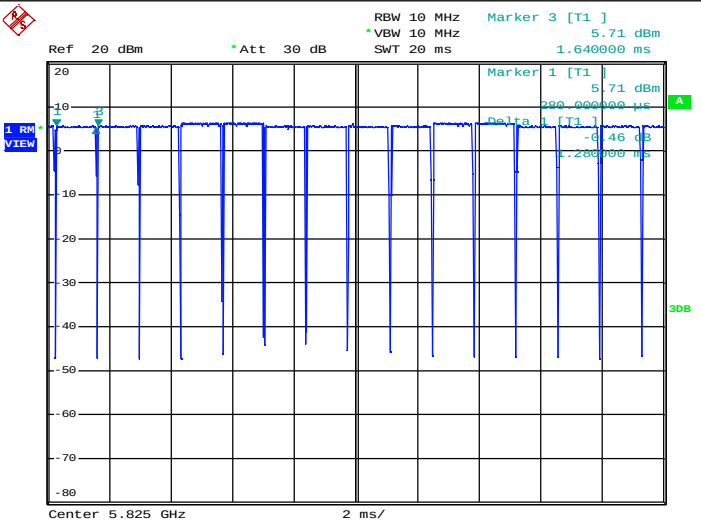
Duty Cycle_11AC20_5785_Ant2



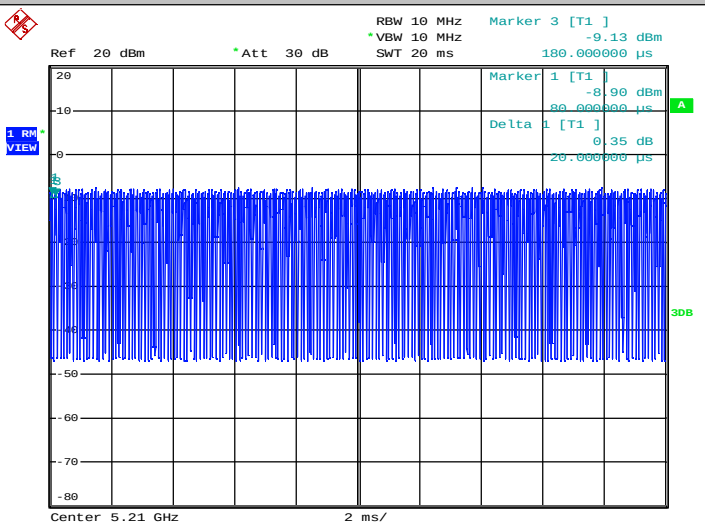
Duty Cycle_11AC20_5825_Ant1



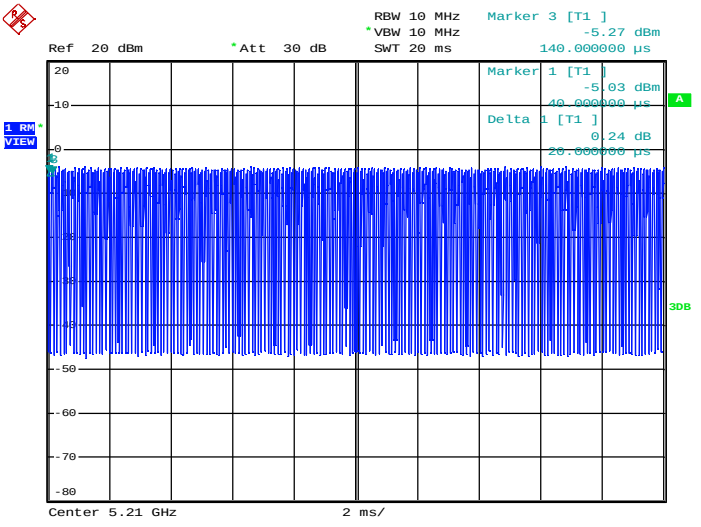
Duty Cycle_11AC20_5825_Ant2



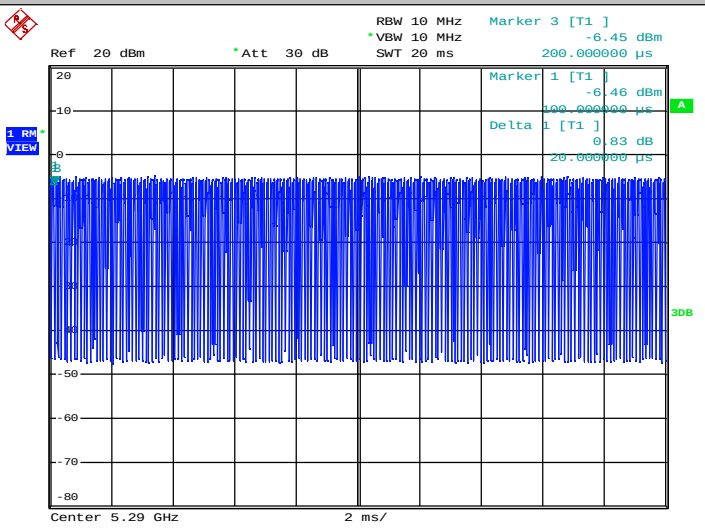
Duty Cycle_11AC80_5210_Ant1



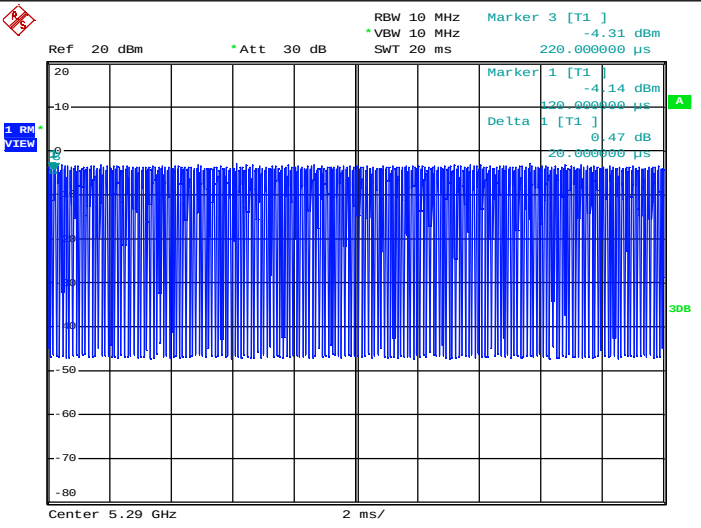
Duty Cycle_11AC80_5210_Ant2



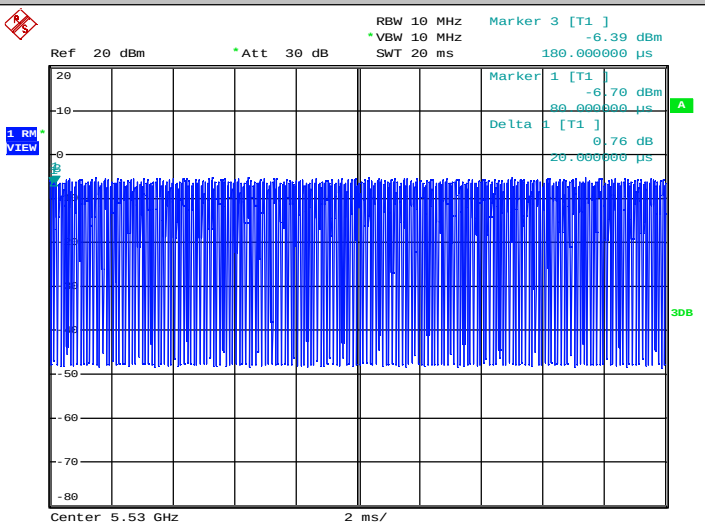
Duty Cycle_11AC80_5290_Ant1



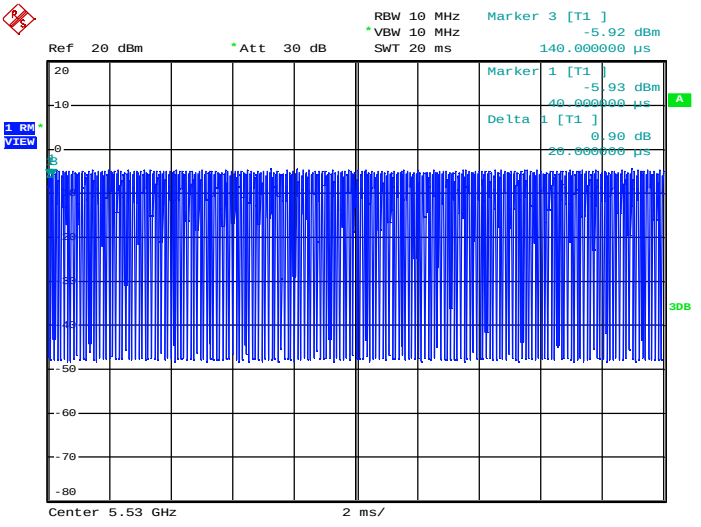
Duty Cycle_11AC80_5290_Ant2



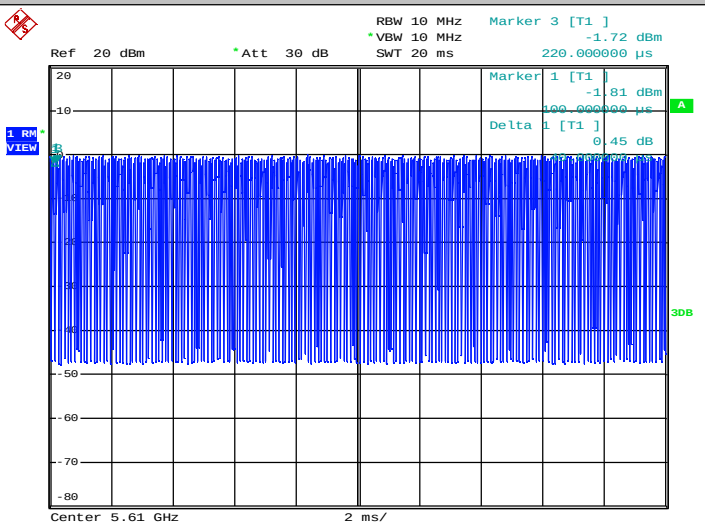
Duty Cycle_11AC80_5530_Ant1



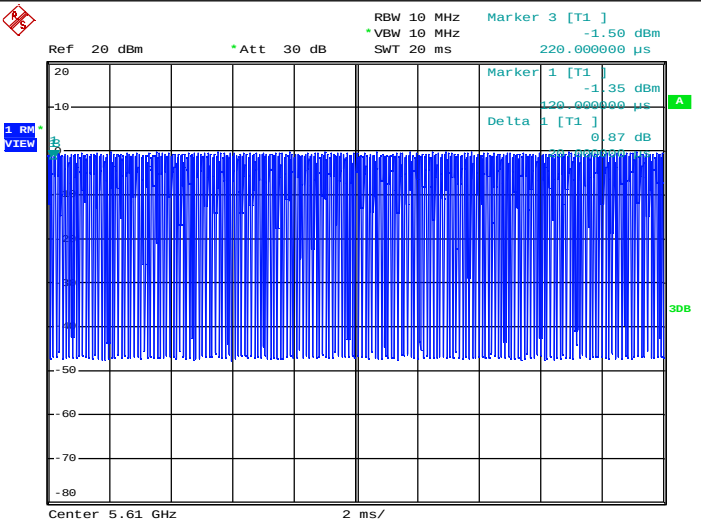
Duty Cycle_11AC80_5530_Ant2



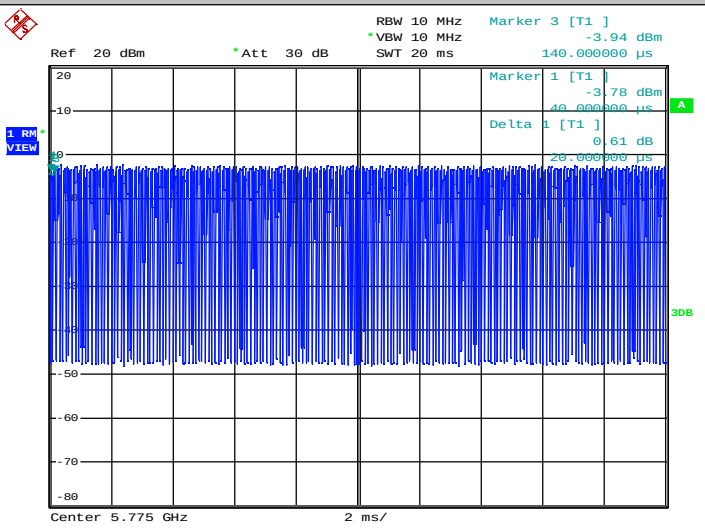
Duty Cycle_11AC80_5610_Ant1



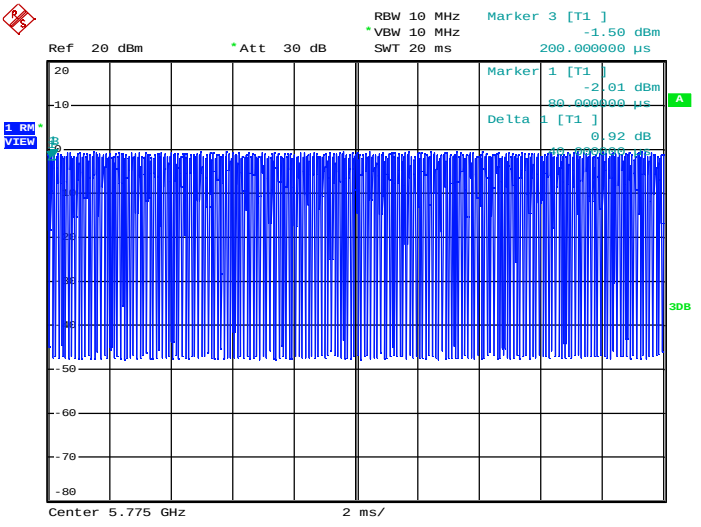
Duty Cycle_11AC80_5610_Ant2



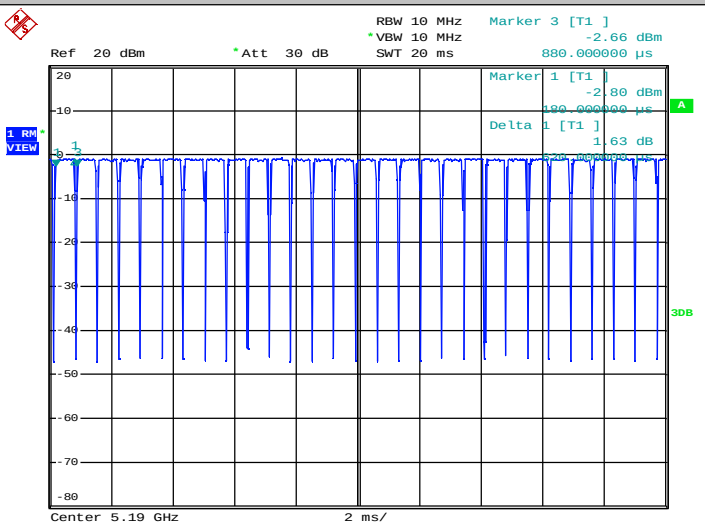
Duty Cycle_11AC80_5775_Ant1



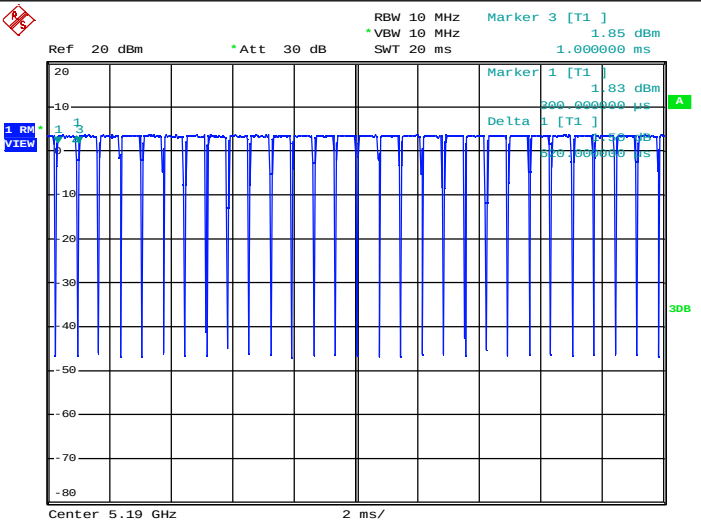
Duty Cycle_11AC80_5775_Ant2



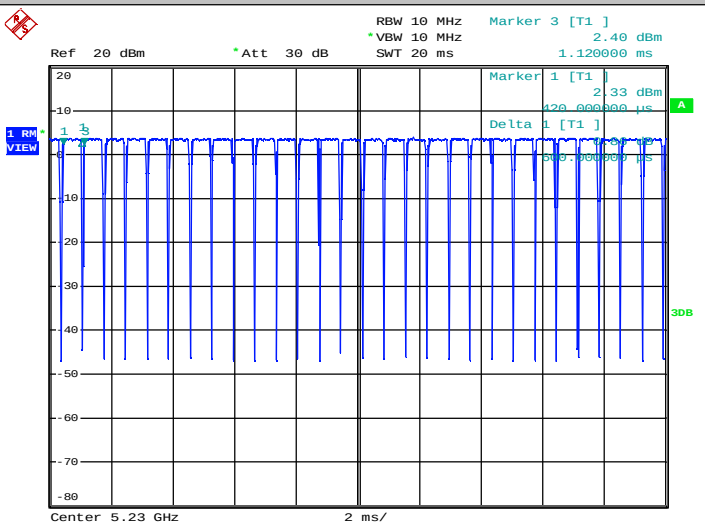
Duty Cycle_11AC40_5190_Ant1



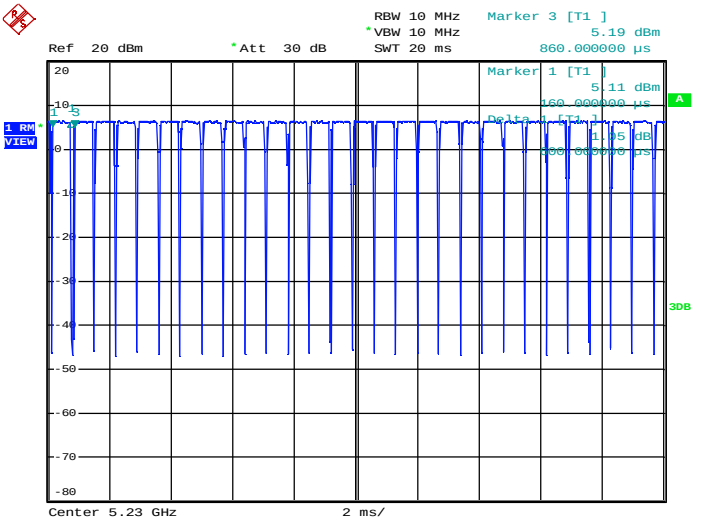
Duty Cycle_11AC40_5190_Ant2



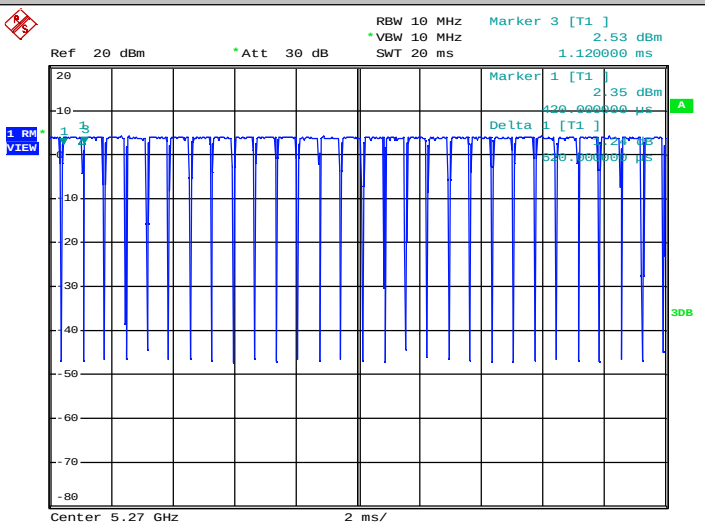
Duty Cycle_11AC40_5230_Ant1



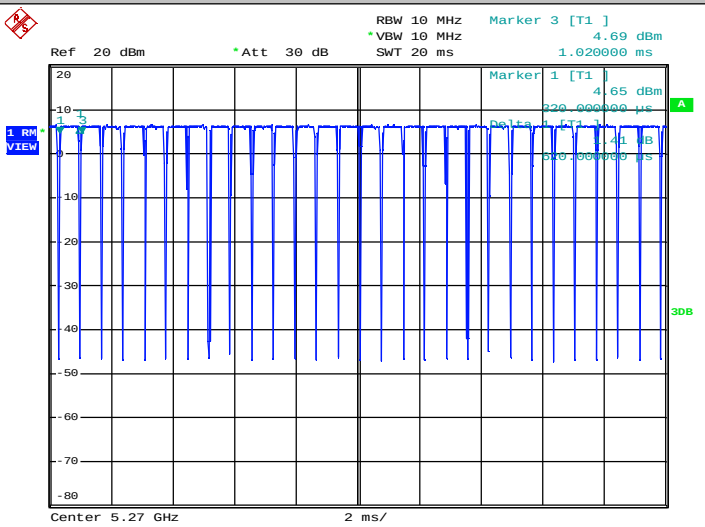
Duty Cycle_11AC40_5230_Ant2



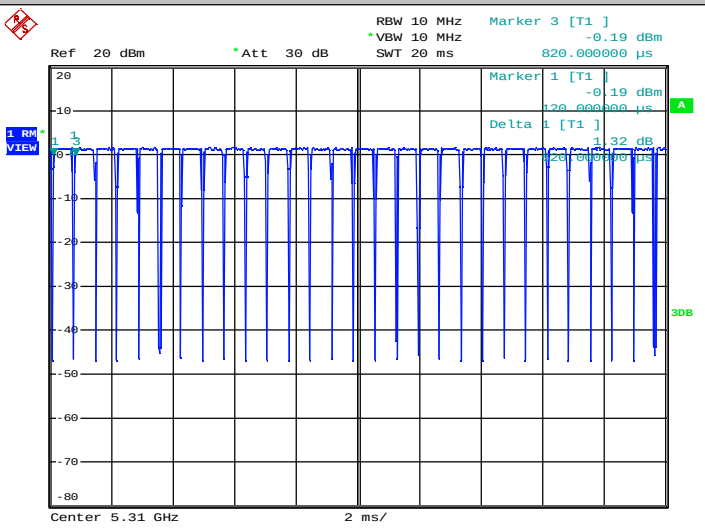
Duty Cycle_11AC40_5270_Ant1



Duty Cycle_11AC40_5270_Ant2



Duty Cycle_11AC40_5310_Ant1



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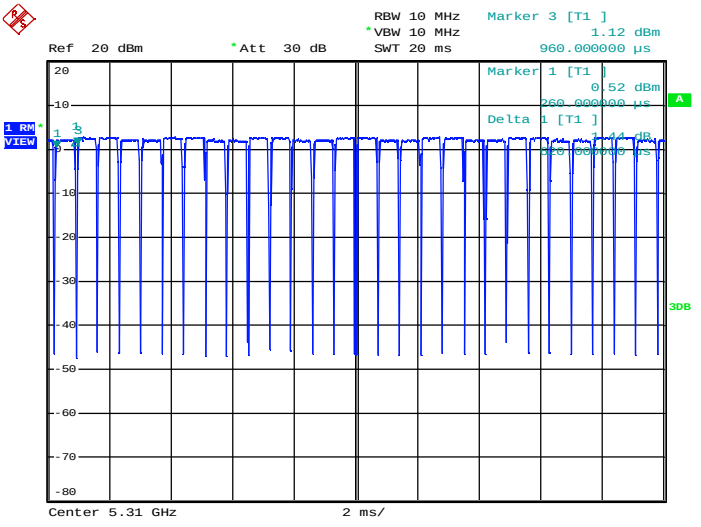
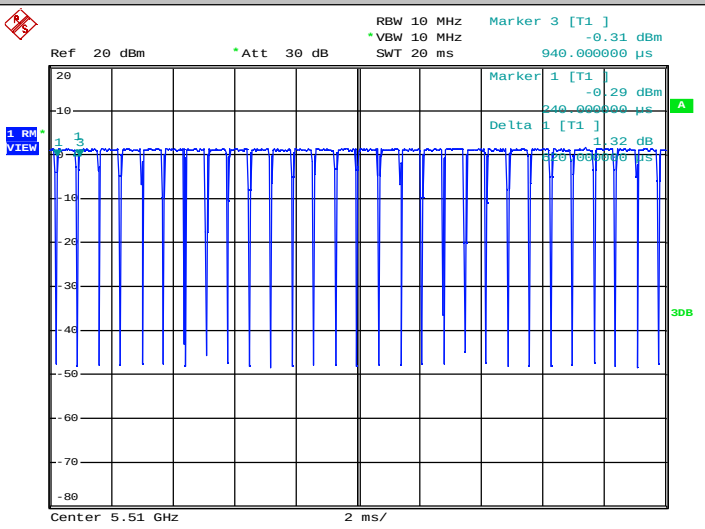
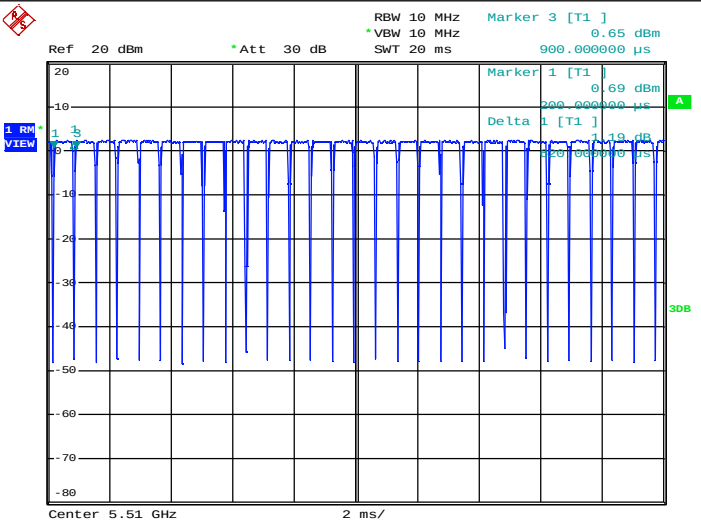


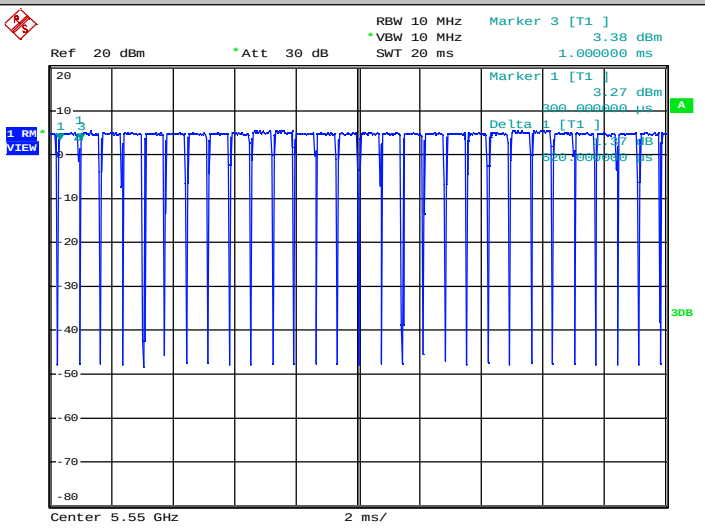
Duty Cycle_11AC40_5510_Ant1



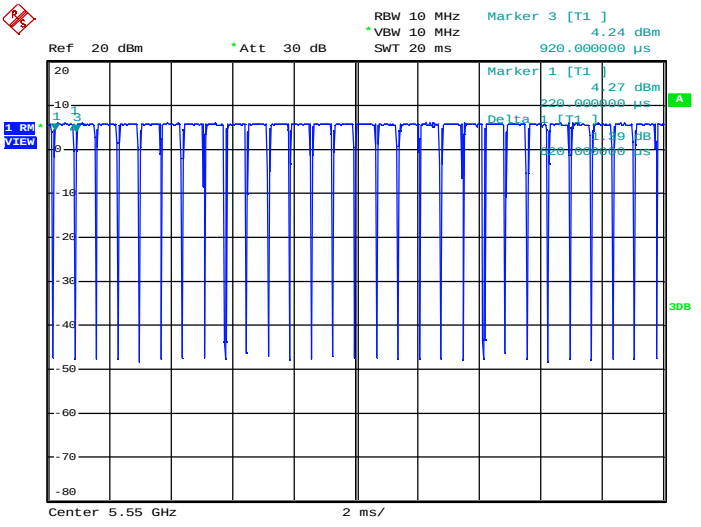
Duty Cycle_11AC40_5510_Ant2



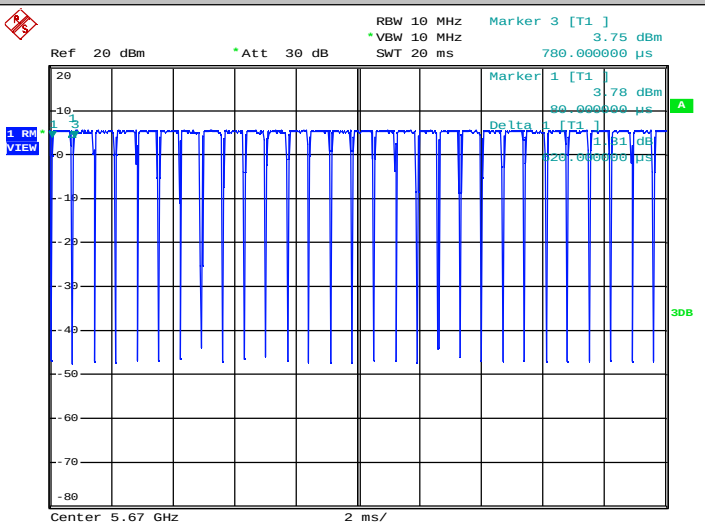
Duty Cycle_11AC40_5550_Ant1



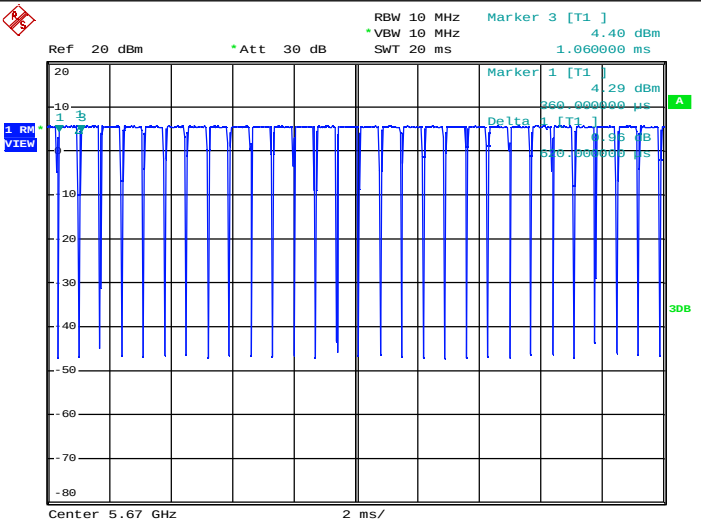
Duty Cycle_11AC40_5550_Ant2



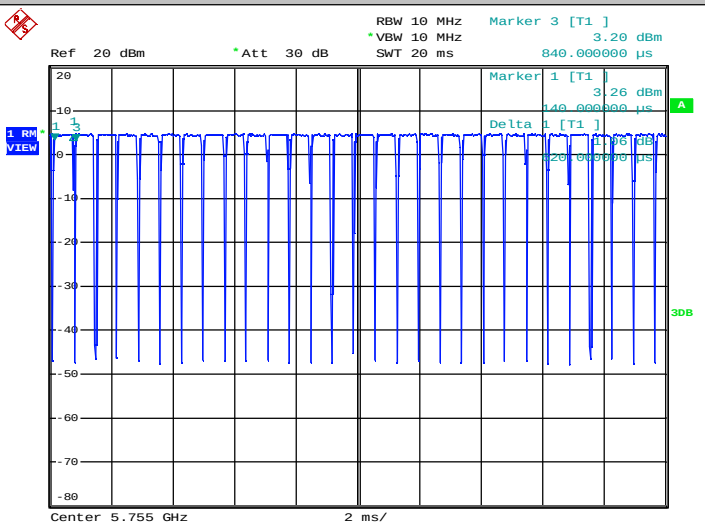
Duty Cycle_11AC40_5670_Ant1



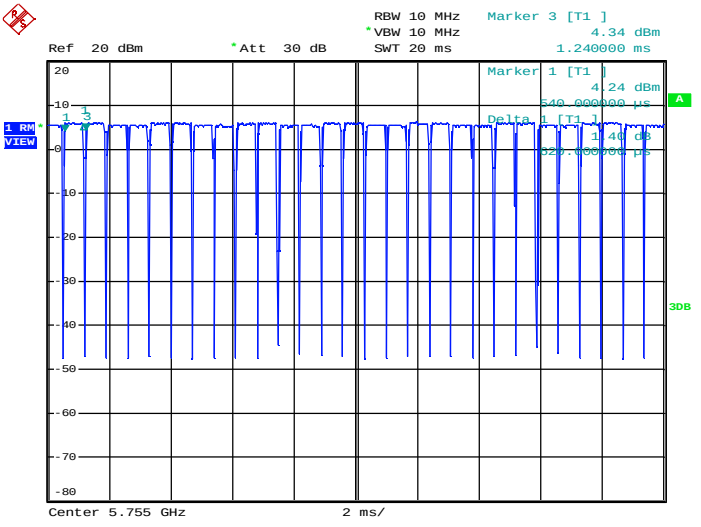
Duty Cycle_11AC40_5670_Ant2



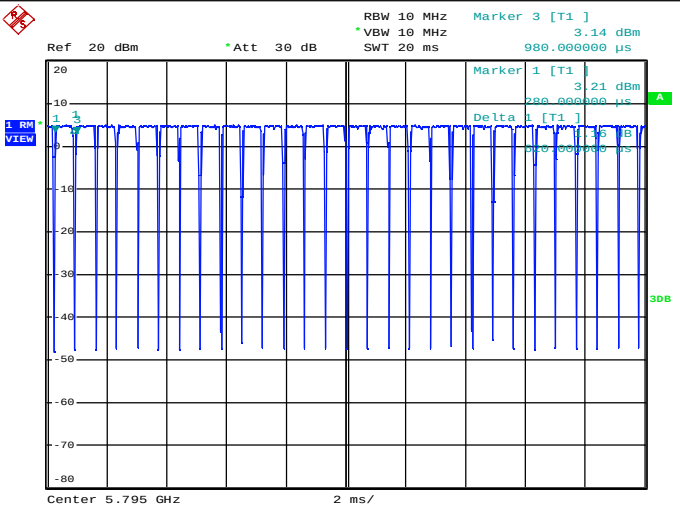
Duty Cycle_11AC40_5755_Ant1



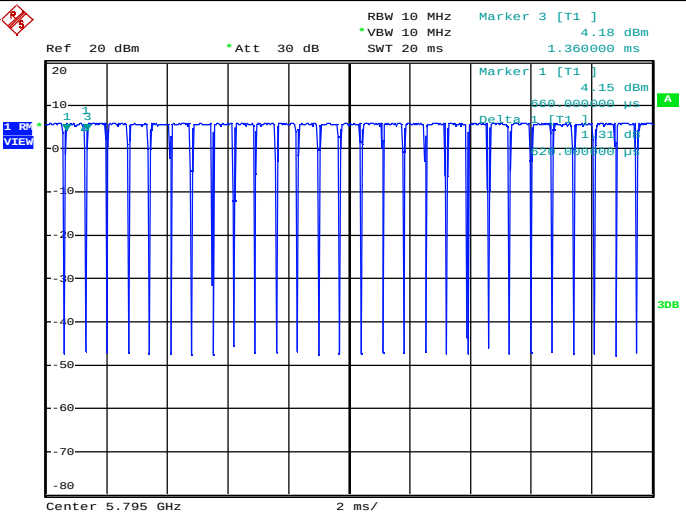
Duty Cycle_11AC40_5755_Ant2



Duty Cycle_11AC40_5795_Ant1



Duty Cycle_11AC40_5795_Ant2



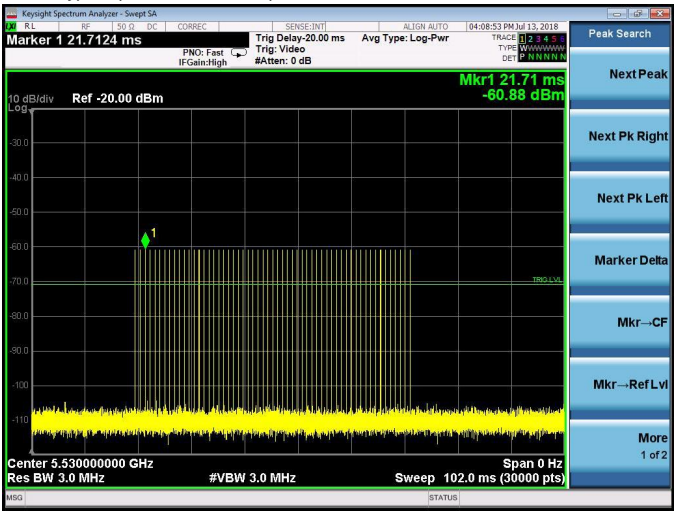
DFS: Non-occupancy period, DFS: Channel Move Time, DFS: Channel Closing Transmission Time

Test plots as follows:

Remark: Only the data of Ant.1 is recorded.

Radar Waveform Calibration Result

Radar Type 0 (80MHz / 5530MHz)

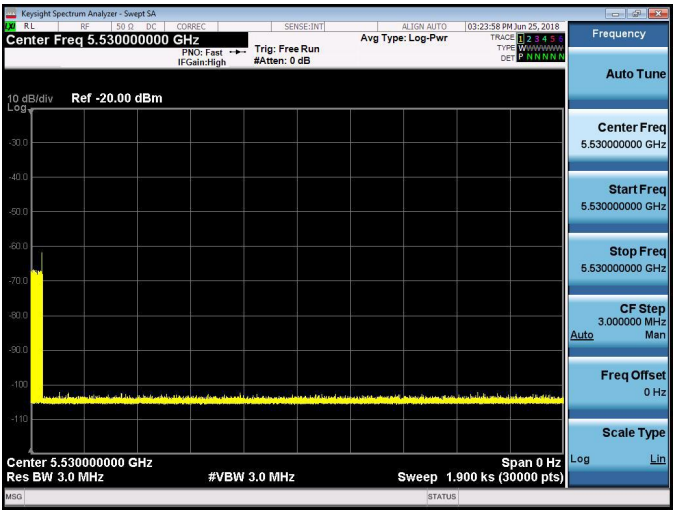


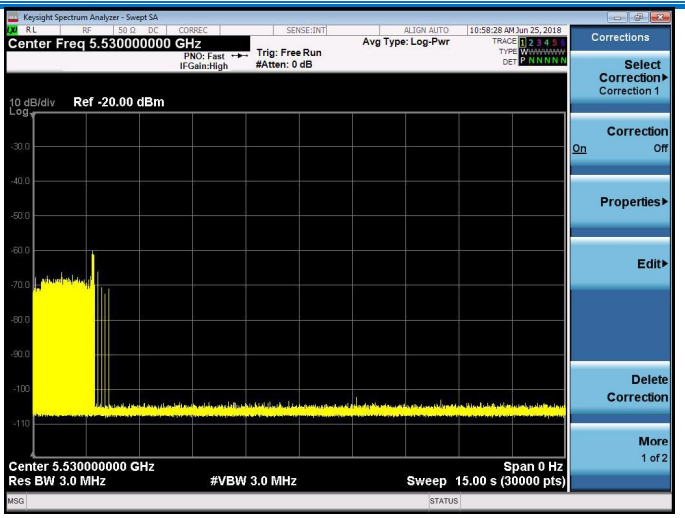
Test Data:

BW/Channel	Test Item	Test Result	Limit	Results
80MHz / 5530MHz	Non-occupancy period	Refer to test point	>30 min	pass
	Channel Move Time	0.413s	≤10s	Pass
	Channel Closing Transmission Time	0.0015ms	≤60ms	Pass

Test plots as follows:

80MHz / 5530MHz




Keysight Spectrum Analyzer - Swept SA
Center Freq 5.530000000 GHz
PNO: Fast
IFGain:High
Trig: Free Run
#Atten: 0 dB
Avg Type: Log-Pwr
10:58:28 AM Jun 25, 2018
10 dB/div
Log
Ref -20.00 dBm
Center 5.530000000 GHz
Res BW 3.0 MHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 15.00 s (30000 pts)
Corrections
Select Correction
Correction 1
Correction
On
Off
Properties
Edit
Delete Correction
More
1 of 2
MSG
STATUS


InServiceMonitorUtility(10,0,0) (C:\Users\EMC\Desktop\DFS\harman0510\NEW\5530\5530-5.csv)
In Service Monitor
Power Trace (dBm)
Time (S)
Time Index Info
T0 : -0.0525 S (Radar Injection Start)
T1 : 0.0000 S (Radar Injection Stop)
T2 : 0.2000 S (200msec Interval)
T3 : 0.4130 S (Channel Move Time)
Time Per Bin:0.50005 ms
T2~T3 Bins Over Threshold:
= 3 Bins
Channel Move Time: 0.4130413 S
Channel Close Time: 0.0015002 S
Import File
ZoomReset
Zoom (T0 ~ T1)
Zoom (T0 ~ T2)
Zoom(T2 ~ T3)
ChangeTimeScale
Time Zero
Edit Parameter
SG :
SA
Trigger SA
Save Picture
ClipBoard Copy
Connect SG
Connect SA
Exit

4.4 Description of Support Units

The EUT has been tested with associated equipment below.

Description	Manufacturer	Model No.	Remark	FCC certification
PC	Lenovo	ThinkPad E450c	Provide by lab	ID

4.5 Test Location

All tests were performed at:

Shenzhen Huaxia Testing Technology Co., Ltd.,

1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua New District, Shenzhen, Guangdong, China

4.6 Test Facility

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

• CNAS (No. CNAS L5785)

CNAS has accredited Shenzhen Huaxia Testing Technology Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

• ISED Registration No.: 22984-1

The 3m Semi-anechoic chamber of Shenzhen Huaxia Testing Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing

• A2LA (Certificate No. 4742.01)

Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 4742.01.

• FCC Registration No.: 522263

Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.:522263

4.7 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate.

The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities.

The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 „Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements“ and is documented in the **Shenzhen Huaxia Testing Technology Co., Ltd.** quality system acc. to DIN EN ISO/IEC 17025.

Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for CQA laboratory is reported:

Test	Range	Uncertainty	Notes
Radiated Emission	Below 1GHz	±5.12dB	(1)
Radiated Emission	Above 1GHz	±4.60dB	(1)
Conducted Disturbance	0.15~30MHz	±3.34dB	(1)

(1)This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

4.8 Deviation from Standards

None.

4.9 Abnormalities from Standard Conditions

None.

4.10Other Information Requested by the Customer

None.

4.11Equipment List

Item	Test Equipment	Manufacturer	Model No.	Instrument No.	Calibration Due Date
1	EMI Test Receiver	R&S	ESR7	CQA-005	2019/9/25
2	Spectrum analyzer	R&S	FSU26	CQA-038	2019/9/25
3	Preamplifier	MITEQ	AFS4-00010300-18-10P-4	CQA-035	2019/9/25
4	Preamplifier	MITEQ	AMF-6D-02001800-29-20P	CQA-036	2019/9/25
5	Loop antenna	Schwarzbeck	FMZB1516	CQA-087	2019/9/25
6	Bilog Antenna	R&S	HL562	CQA-011	2019/9/25
7	Horn Antenna	R&S	HF906	CQA-012	2019/9/25
8	Horn Antenna	Schwarzbeck	BBHA 9170	CQA-088	2019/9/25
9	Coaxial Cable (Above 1GHz)	CQA	N/A	C019	2019/9/25
10	Coaxial Cable (Below 1GHz)	CQA	N/A	C020	2019/9/25
11	Antenna Connector	CQA	RFC-01	CQA-080	2019/9/25
12	RF cable(9KHz~40GHz)	CQA	RF-01	CQA-079	2019/9/25
13	Power Sensor	KEYSIGHT	U2021XA	CQA-30	2019/9/25
14	N1918A Power Analysis Manager Power Panel	Agilent	N1918A	CQA-074	2019/9/25
15	Power divider	MIDWEST	PWD-2533-02-SMA-79	CQA-067	2019/9/25
16	EMI Test Receiver	R&S	ESPI3	CQA-005	2019/9/25
17	LISN	R&S	ENV216	CQA-003	2019/9/25
18	Coaxial cable (9KHz~300MHz)	CQA	N/A	CQA-C009	2019/9/25

Note:

The temporary antenna connector is soldered on the PCB board in order to perform conducted tests and this temporary antenna connector is listed in the equipment list.

5 Test results and Measurement Data

5.1 Antenna Requirement

Standard requirement:	47 CFR Part 15C Section 15.203 /407

15.203 requirement:

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

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

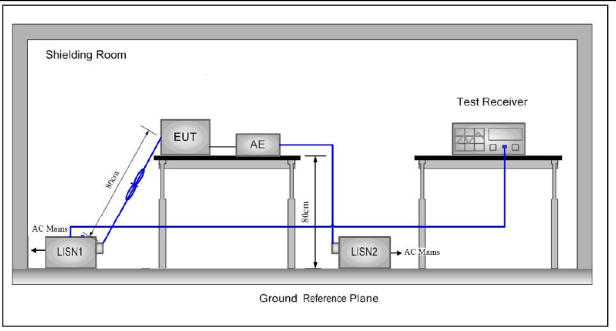
The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

EUT Antenna:

The antenna is a PCB antenna. The best case gain of the Antenna Gain 1: 2.4G Antenna gain:2dBi ; 5G Antenna gain:2dBi ;Antenna Gain 2:2.4G Antenna gain: 2dBi ; 5G Antenna gain:3dBi ;

5.2 Conducted Emissions

<table>
<tr><td>Test Requirement:</td><td>47 CFR Part 15 Subpart C Section 15.207</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10: 2013</td></tr>
<tr><td>Test Frequency Range:</td><td>150kHz to 30MHz</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (dBuV)</th></tr>
<tr><th>Quasi-peak</th><th>Average</th></tr>
<tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr>
<tr><td>0.5-5</td><td>56</td><td>46</td></tr>
<tr><td>5-30</td><td>60</td><td>50</td></tr>
</table>
* Decreases with the logarithm of the frequency.
</td></tr>
<tr><td>Test Procedure:</td><td>1) The mains terminal disturbance voltage test was conducted in a shielded room.
2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.</td></tr>
</table>

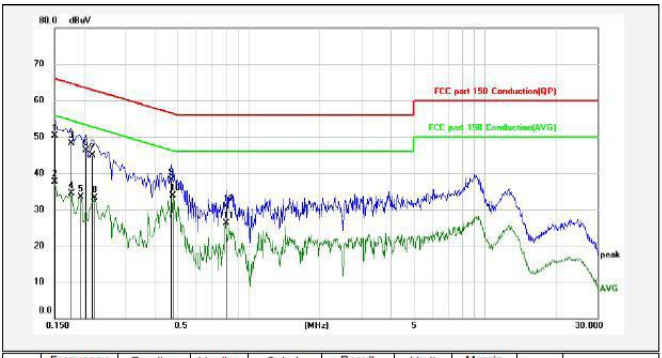
Test Setup:	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates at lowest, middle and highest channel.
Final Test Mode:	Through Pre-scan, find the 6Mbps of rate of 802.11a at lowest channel is the worst case. Only the worst case is recorded in the report.
Test Voltage:	AC120V/60Hz
Test Results:	Pass

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.

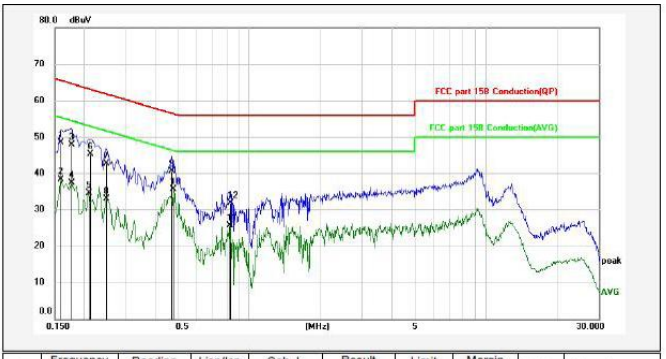
Live Line:



No.	Frequency (MHz)	Reading (dBuV)	Lisn/Isn (dB)	Cab_L (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1500	40.58	9.6	0.22	50.40	66.00	-15.60	QP	
2	0.1500	27.94	9.6	0.22	37.76	56.00	-18.24	AVG	
3	0.1770	38.48	9.6	0.22	48.30	64.63	-16.33	QP	
4	0.1770	24.76	9.6	0.22	34.58	54.63	-20.05	AVG	
5	0.1949	23.67	9.6	0.23	33.50	53.83	-20.33	AVG	
6	0.2040	36.57	9.6	0.23	46.40	63.45	-17.05	QP	
7	0.2175	35.07	9.6	0.23	44.90	62.91	-18.01	QP	
8	0.2220	23.56	9.6	0.23	33.39	52.74	-19.35	AVG	
9	0.4695	28.38	9.58	0.24	38.20	56.52	-18.32	QP	
10	0.4785	24.14	9.57	0.24	33.95	46.37	-12.42	AVG	
11	0.7980	16.46	9.53	0.23	26.22	46.00	-19.78	AVG	
12	0.8025	21.24	9.53	0.23	31.00	56.00	-25.00	QP	

Remarks: 1. Result=Reading+Lisn+Cab_L
2. If the average limit is met when using a quasi-peak detector. the EUT shall be deemed to meet both limits and measurement with average detctor is unnecessary.

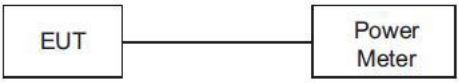
Neutral Line:



No.	Frequency (MHz)	Reading (dBuV)	Lisn/Isn (dB)	Cab_L (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1590	38.68	9.6	0.22	48.50	65.52	-17.02	QP	
2	0.1590	28.49	9.6	0.22	38.31	55.52	-17.21	AVG	
3	0.1770	38.08	9.6	0.22	47.90	64.63	-16.73	QP	
4	0.1770	27.46	9.6	0.22	37.28	54.63	-17.35	AVG	
5	0.2085	24.58	9.6	0.23	34.41	53.26	-18.85	AVG	
6	0.2130	35.47	9.6	0.23	45.30	63.09	-17.79	QP	
7	0.2490	32.87	9.6	0.23	42.70	61.79	-19.09	QP	
8	0.2490	23.13	9.6	0.23	32.96	51.79	-18.83	AVG	
9	0.4695	30.78	9.58	0.24	40.60	56.52	-15.92	QP	
10	0.4785	25.77	9.57	0.24	35.58	46.37	-10.79	AVG	
11	0.8294	15.81	9.52	0.23	25.56	46.00	-20.44	AVG	
12	0.8339	22.05	9.52	0.23	31.80	56.00	-24.20	QP	

Remarks: 1. Result=Reading+Lisn+Cab_L
2. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detctor is unnecessary.

5.3 Conducted Average Output Power

Test Requirement:	47 CFR Part 15 Subpart E Section 15.407 (a)(1)(2)(3)	
Test Method:	KDB 789033 D02 v01r04 Section F	
Test Setup:		
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates	
Final Test Mode:	Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a ; 6.5Mbps of rate is the worst case of 802.11n(HT20) ; 13.5Mbps of rate is the worst case of 802.11n(HT40); 6.5Mbps of rate is the worst case of 802.11ac(VHT20) ; 13.5Mbps of rate is the worst case of 802.11ac(VHT40); 29.3Mbps of rate is the worst case of 802.11ac(VHT80). Only the worst case is recorded in the report.	
Limit:	U-NII-1	24dBm
	U-NII-2A	24dBm
	U-NII-2C	24dBm
	U-NII-3	30dBm
Test Results:	Pass	

Maximum Conduct Output Power

Test Mode	Test Channel	Ant	Level [dBm]	10log(1/x) Factor [dB]	Power [dBm]	Limit [dBm]	Verdict
11A	5180	Ant1	10.54	0.25	10.79	<23.98	PASS
11A	5180	Ant2	14.03	0.25	14.28	<23.98	PASS
11A	5220	Ant1	12.44	0.25	12.69	<23.98	PASS
11A	5220	Ant2	15.63	0.25	15.88	<23.98	PASS
11A	5240	Ant1	12.56	0.25	12.81	<23.98	PASS
11A	5240	Ant2	15.36	0.25	15.61	<23.98	PASS
11A	5260	Ant1	13.83	0.25	14.08	<23.98	PASS
11A	5260	Ant2	16.34	0.25	16.59	<23.98	PASS
11A	5300	Ant1	13.79	0.25	14.04	<23.98	PASS
11A	5300	Ant2	15.94	0.25	16.19	<23.98	PASS
11A	5320	Ant1	11.74	0.25	11.99	<23.98	PASS
11A	5320	Ant2	14.25	0.25	14.50	<23.98	PASS
11A	5500	Ant1	11.52	0.25	11.77	<23.98	PASS
11A	5500	Ant2	12.88	0.25	13.13	<23.98	PASS
11A	5580	Ant1	11.69	0.25	11.94	<23.98	PASS
11A	5580	Ant2	12.28	0.25	12.53	<23.98	PASS
11A	5700	Ant1	11.86	0.25	12.11	<23.98	PASS
11A	5700	Ant2	12.76	0.25	13.01	<23.98	PASS
11A	5745	Ant1	10.5	0.25	10.75	<30.00	PASS
11A	5745	Ant2	11.95	0.25	12.20	<30.00	PASS
11A	5785	Ant1	11.09	0.25	11.34	<30.00	PASS
11A	5785	Ant2	12.38	0.25	12.63	<30.00	PASS
11A	5825	Ant1	11.48	0.25	11.73	<30.00	PASS
11A	5825	Ant2	11.69	0.25	11.94	<30.00	PASS
11N20	5180	Ant1	10.47	0.26	10.73	<23.98	PASS
11N20	5180	Ant2	14.23	0.26	14.49	<23.98	PASS
11N20	5220	Ant1	12.48	0.27	12.75	<23.98	PASS
11N20	5220	Ant2	15.72	0.27	15.99	<23.98	PASS
11N20	5240	Ant1	12.76	0.26	13.02	<23.98	PASS
11N20	5240	Ant2	15.41	0.26	15.67	<23.98	PASS
11N20	5260	Ant1	13.87	0.26	14.13	<23.98	PASS
11N20	5260	Ant2	16.33	0.26	16.59	<23.98	PASS

11N20	5300	Ant1	13.9	0.27	14.17	<23.98	PASS
11N20	5300	Ant2	15.82	0.26	16.08	<23.98	PASS
11N20	5320	Ant1	11.83	0.26	12.09	<23.98	PASS
11N20	5320	Ant2	14.33	0.27	14.60	<23.98	PASS
11N20	5500	Ant1	11.54	0.27	11.81	<23.98	PASS
11N20	5500	Ant2	12.65	0.27	12.92	<23.98	PASS
11N20	5580	Ant1	11.55	0.26	11.81	<23.98	PASS
11N20	5580	Ant2	12.28	0.33	12.61	<23.98	PASS
11N20	5700	Ant1	11.68	0.26	11.94	<23.98	PASS
11N20	5700	Ant2	12.6	0.26	12.86	<23.98	PASS
11N20	5745	Ant1	10.68	0.27	10.95	<30.00	PASS
11N20	5745	Ant2	11.9	0.26	12.16	<30.00	PASS
11N20	5785	Ant1	11.45	0.26	11.71	<30.00	PASS
11N20	5785	Ant2	11.98	0.26	12.24	<30.00	PASS
11N20	5825	Ant1	11.77	0.27	12.04	<30.00	PASS
11N20	5825	Ant2	11.5	0.26	11.76	<30.00	PASS
11N40	5190	Ant1	7.82	0.54	8.36	<23.98	PASS
11N40	5190	Ant2	12.17	0.54	12.71	<23.98	PASS
11N40	5230	Ant1	12.27	0.54	12.81	<23.98	PASS
11N40	5230	Ant2	14.97	0.54	15.51	<23.98	PASS
11N40	5270	Ant1	12.73	0.54	13.27	<23.98	PASS
11N40	5270	Ant2	15.13	0.54	15.67	<23.98	PASS
11N40	5310	Ant1	10.18	0.54	10.72	<23.98	PASS
11N40	5310	Ant2	11.27	0.54	11.81	<23.98	PASS
11N40	5510	Ant1	10.18	0.67	10.85	<23.98	PASS
11N40	5510	Ant2	10.97	0.54	11.51	<23.98	PASS
11N40	5550	Ant1	13.99	0.67	14.66	<23.98	PASS
11N40	5550	Ant2	14.59	0.54	15.13	<23.98	PASS
11N40	5670	Ant1	14.01	0.54	14.55	<23.98	PASS
11N40	5670	Ant2	14.34	0.54	14.88	<23.98	PASS
11N40	5755	Ant1	13.31	0.53	13.84	<30.00	PASS
11N40	5755	Ant2	14.76	0.54	15.30	<30.00	PASS
11N40	5795	Ant1	13.48	0.54	14.02	<30.00	PASS
11N40	5795	Ant2	14.54	0.53	15.07	<30.00	PASS
11AC20	5180	Ant1	10.49	0.26	10.75	<23.98	PASS

11AC20	5180	Ant2	14.03	0.26	14.29	<23.98	PASS
11AC20	5220	Ant1	12.42	0.26	12.68	<23.98	PASS
11AC20	5220	Ant2	15.65	0.26	15.91	<23.98	PASS
11AC20	5240	Ant1	12.7	0.26	12.96	<23.98	PASS
11AC20	5240	Ant2	15.37	0.26	15.63	<23.98	PASS
11AC20	5260	Ant1	13.88	0.33	14.21	<23.98	PASS
11AC20	5260	Ant2	16.38	0.26	16.64	<23.98	PASS
11AC20	5300	Ant1	14.05	0.33	14.38	<23.98	PASS
11AC20	5300	Ant2	16.15	0.33	16.48	<23.98	PASS
11AC20	5320	Ant1	11.85	0.26	12.11	<23.98	PASS
11AC20	5320	Ant2	14.28	0.26	14.54	<23.98	PASS
11AC20	5500	Ant1	11.42	0.26	11.68	<23.98	PASS
11AC20	5500	Ant2	12.63	0.26	12.89	<23.98	PASS
11AC20	5580	Ant1	11.84	0.26	12.10	<23.98	PASS
11AC20	5580	Ant2	12.71	0.26	12.97	<23.98	PASS
11AC20	5700	Ant1	11.54	0.26	11.80	<23.98	PASS
11AC20	5700	Ant2	12.59	0.26	12.85	<23.98	PASS
11AC20	5745	Ant1	10.77	0.26	11.03	<30.00	PASS
11AC20	5745	Ant2	11.76	0.26	12.02	<30.00	PASS
11AC20	5785	Ant1	11.32	0.26	11.58	<30.00	PASS
11AC20	5785	Ant2	12.43	0.26	12.69	<30.00	PASS
11AC20	5825	Ant1	11.69	0.33	12.02	<30.00	PASS
11AC20	5825	Ant2	11.99	0.26	12.25	<30.00	PASS
11AC80	5210	Ant1	5.18	6.99	12.17	<23.98	PASS
11AC80	5210	Ant2	8.52	6.99	15.51	<23.98	PASS
11AC80	5290	Ant1	7.75	6.99	14.74	<23.98	PASS
11AC80	5290	Ant2	9.74	6.99	16.73	<23.98	PASS
11AC80	5530	Ant1	7.5	6.99	14.49	<23.98	PASS
11AC80	5530	Ant2	8.09	6.99	15.08	<23.98	PASS
11AC80	5610	Ant1	12.41	4.77	17.18	<23.98	PASS
11AC80	5610	Ant2	12.53	6.99	19.52	<23.98	PASS
11AC80	5775	Ant1	10.45	6.99	17.44	<30.00	PASS
11AC80	5775	Ant2	12.5	4.77	17.27	<30.00	PASS
11AC40	5190	Ant1	7.67	0.53	8.20	<23.98	PASS
11AC40	5190	Ant2	12.22	0.53	12.75	<23.98	PASS

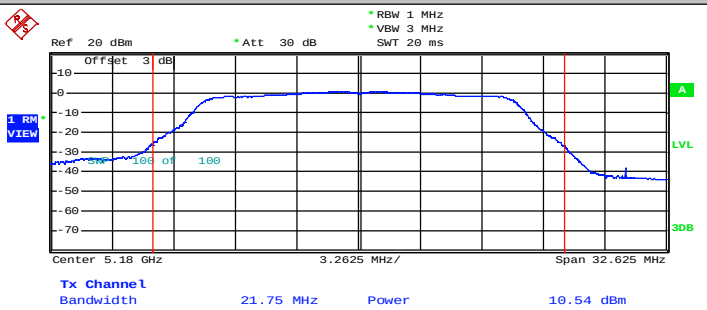
11AC40	5230	Ant1	12.51	0.67	13.18	<23.98	PASS
11AC40	5230	Ant2	15.07	0.67	15.74	<23.98	PASS
11AC40	5270	Ant1	12.67	0.53	13.20	<23.98	PASS
11AC40	5270	Ant2	15.14	0.53	15.67	<23.98	PASS
11AC40	5310	Ant1	10.1	0.53	10.63	<23.98	PASS
11AC40	5310	Ant2	11.29	0.53	11.82	<23.98	PASS
11AC40	5510	Ant1	10.06	0.53	10.59	<23.98	PASS
11AC40	5510	Ant2	11.01	0.53	11.54	<23.98	PASS
11AC40	5550	Ant1	13.87	0.53	14.40	<23.98	PASS
11AC40	5550	Ant2	14.61	0.53	15.14	<23.98	PASS
11AC40	5670	Ant1	14.04	0.53	14.57	<23.98	PASS
11AC40	5670	Ant2	14.4	0.53	14.93	<23.98	PASS
11AC40	5755	Ant1	13.34	0.53	13.87	<30.00	PASS
11AC40	5755	Ant2	14.64	0.53	15.17	<30.00	PASS
11AC40	5795	Ant1	13.55	0.53	14.08	<30.00	PASS
11AC40	5795	Ant2	14.62	0.53	15.15	<30.00	PASS

MIMO:

Test Mode	Test Channel	Ant	Power [dBm]	Limit [dBm]	Verdict
11N20	5180	Ant1+2	16.02	<23.98	PASS
11N20	5220	Ant1+2	17.68	<23.98	PASS
11N20	5240	Ant1+2	17.55	<23.98	PASS
11N20	5260	Ant1+2	18.54	<23.98	PASS
11N20	5300	Ant1+2	18.24	<23.98	PASS
11N20	5320	Ant1+2	16.53	<23.98	PASS
11N20	5500	Ant1+2	15.41	<23.98	PASS
11N20	5580	Ant1+2	15.24	<23.98	PASS
11N20	5700	Ant1+2	15.43	<23.98	PASS
11N20	5745	Ant1+2	14.61	<30.00	PASS
11N20	5785	Ant1+2	14.99	<30.00	PASS
11N20	5825	Ant1+2	14.91	<30.00	PASS
11N40	5190	Ant1+2	14.07	<23.98	PASS
11N40	5230	Ant1+2	17.38	<23.98	PASS
11N40	5270	Ant1+2	17.64	<23.98	PASS
11N40	5310	Ant1+2	14.31	<23.98	PASS
11N40	5510	Ant1+2	14.20	<23.98	PASS
11N40	5550	Ant1+2	17.91	<23.98	PASS
11N40	5670	Ant1+2	17.73	<23.98	PASS
11N40	5755	Ant1+2	17.64	<30.00	PASS
11N40	5795	Ant1+2	17.59	<30.00	PASS
11AC20	5180	Ant1+2	15.88	<23.98	PASS
11AC20	5220	Ant1+2	17.60	<23.98	PASS
11AC20	5240	Ant1+2	17.51	<23.98	PASS
11AC20	5260	Ant1+2	18.60	<23.98	PASS
11AC20	5300	Ant1+2	18.57	<23.98	PASS
11AC20	5320	Ant1+2	16.50	<23.98	PASS
11AC20	5500	Ant1+2	15.34	<23.98	PASS
11AC20	5580	Ant1+2	15.57	<23.98	PASS
11AC20	5700	Ant1+2	15.37	<23.98	PASS
11AC20	5745	Ant1+2	14.56	<30.00	PASS
11AC20	5785	Ant1+2	15.18	<30.00	PASS
11AC20	5825	Ant1+2	15.15	<30.00	PASS
11AC40	5190	Ant1+2	14.06	<23.98	PASS
11AC40	5230	Ant1+2	17.66	<23.98	PASS
11AC40	5270	Ant1+2	17.62	<23.98	PASS
11AC40	5310	Ant1+2	14.28	<23.98	PASS
11AC40	5510	Ant1+2	14.10	<23.98	PASS
11AC40	5550	Ant1+2	17.80	<23.98	PASS
11AC40	5670	Ant1+2	17.76	<23.98	PASS
11AC40	5755	Ant1+2	17.58	<30.00	PASS
11AC40	5795	Ant1+2	17.66	<30.00	PASS

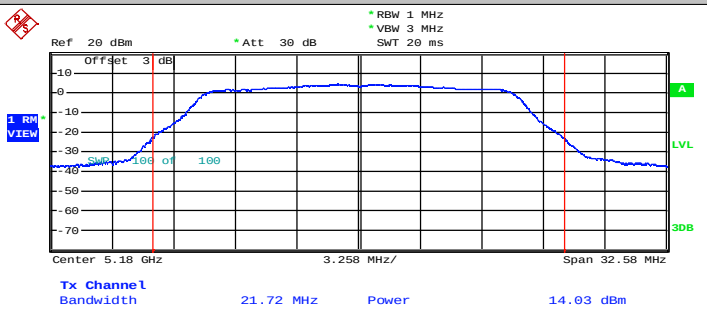
11AC80	5210	Ant1+2	17.16	<23.98	PASS
11AC80	5290	Ant1+2	18.86	<23.98	PASS
11AC80	5530	Ant1+2	17.81	<23.98	PASS
11AC80	5610	Ant1+2	21.50	<23.98	PASS
11AC80	5775	Ant1+2	20.37	<30.00	PASS

Maximum Conduct Output Power_11A_5180_Ant1



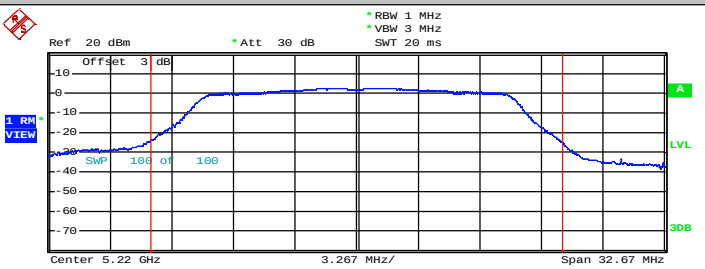
Tx Channel
Bandwidth 21.75 MHz Power 10.54 dBm

Maximum Conduct Output Power_11A_5180_Ant2



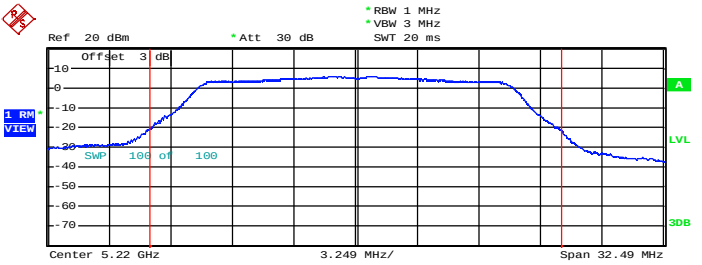
Tx Channel
Bandwidth 21.72 MHz Power 14.03 dBm

Maximum Conduct Output Power_11A_5220_Ant1



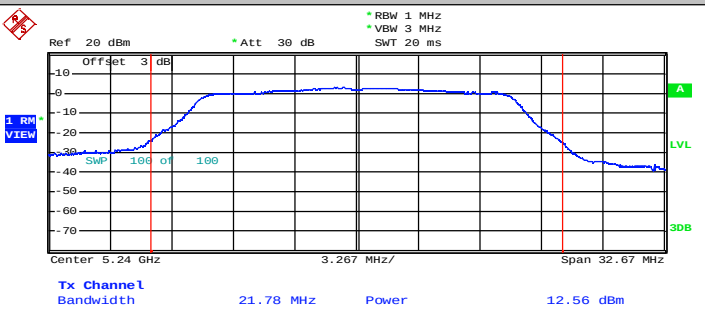
Tx Channel
Bandwidth 21.78 MHz Power 12.44 dBm

Maximum Conduct Output Power_11A_5220_Ant2

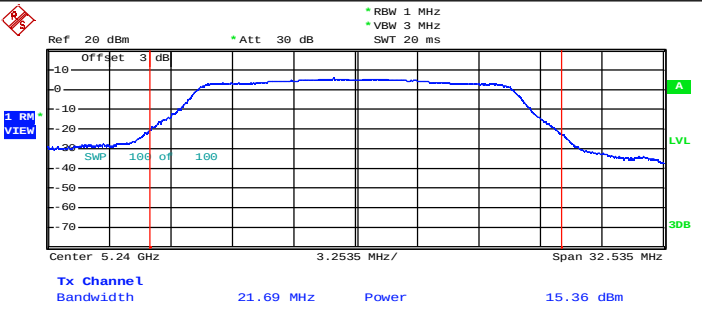


Tx Channel
Bandwidth 21.66 MHz Power 15.63 dBm

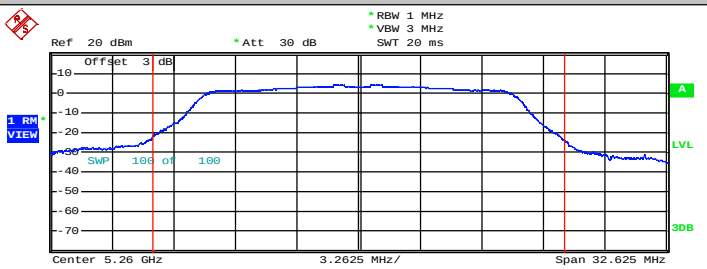
Maximum Conduct Output Power_11A_5240_Ant1



Maximum Conduct Output Power_11A_5240_Ant2

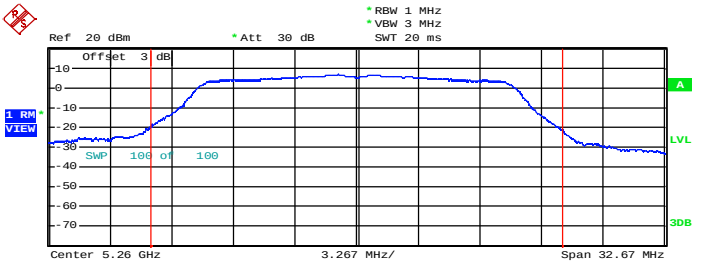


Maximum Conduct Output Power_11A_5260_Ant1



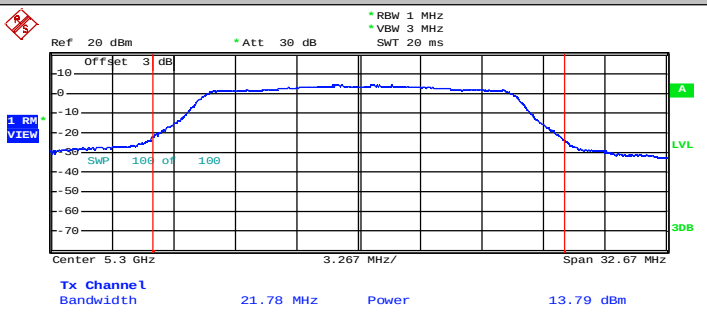
Tx Channel
Bandwidth 21.75 MHz Power 13.83 dBm

Maximum Conduct Output Power_11A_5260_Ant2



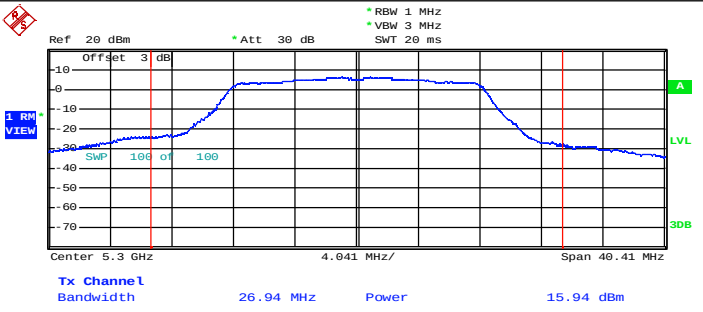
Tx Channel
Bandwidth 21.78 MHz Power 16.34 dBm

Maximum Conduct Output Power_11A_5300_Ant1



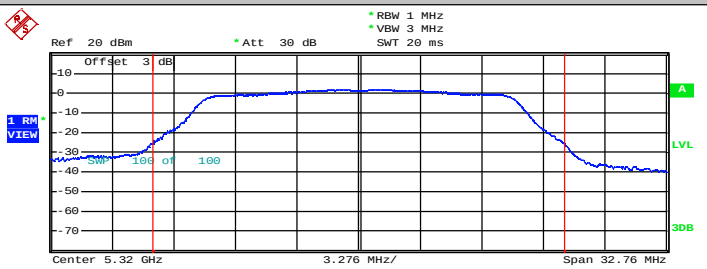
Tx Channel
Bandwidth 21.78 MHz Power 13.79 dBm

Maximum Conduct Output Power_11A_5300_Ant2



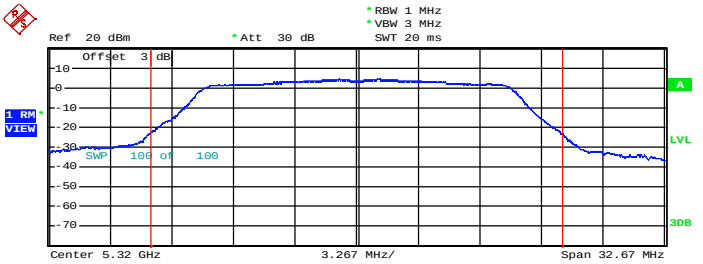
Tx Channel
Bandwidth 26.94 MHz Power 15.94 dBm

Maximum Conduct Output Power_11A_5320_Ant1



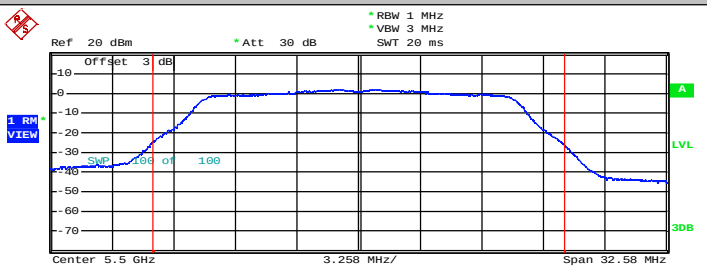
Tx Channel
Bandwidth 21.84 MHz Power 11.74 dBm

Maximum Conduct Output Power_11A_5320_Ant2



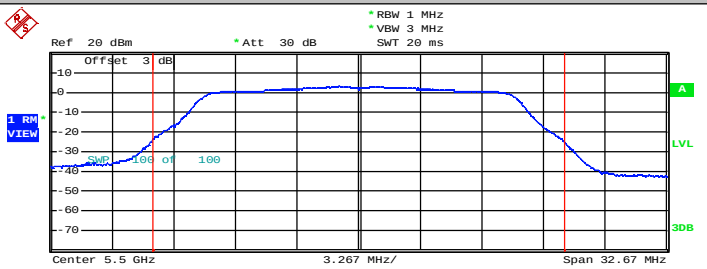
Tx Channel
Bandwidth 21.78 MHz Power 14.25 dBm

Maximum Conduct Output Power_11A_5500_Ant1



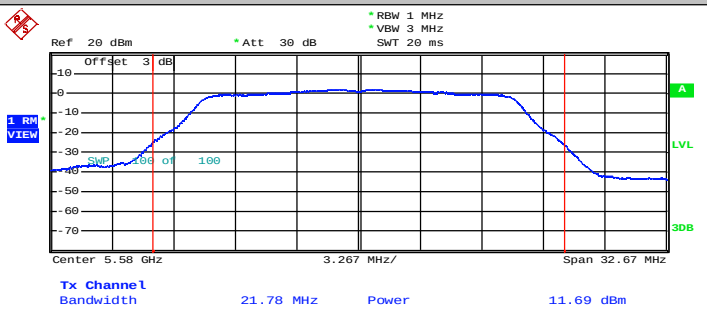
Tx Channel
Bandwidth 21.72 MHz Power 11.52 dBm

Maximum Conduct Output Power_11A_5500_Ant2

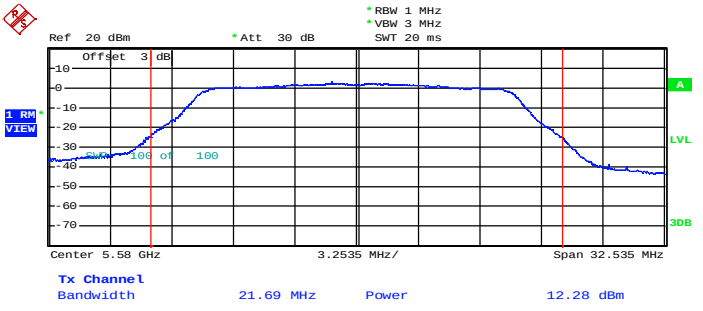


Tx Channel
Bandwidth 21.78 MHz Power 12.88 dBm

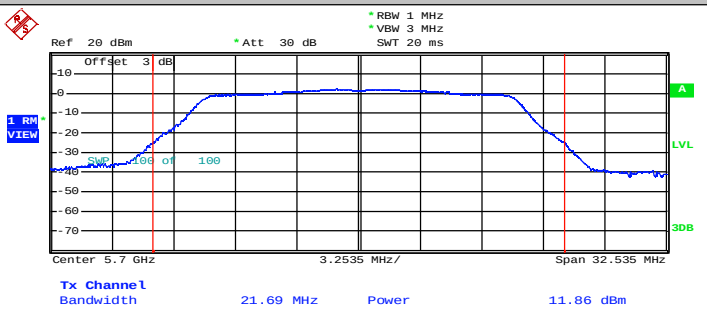
Maximum Conduct Output Power_11A_5580_Ant1



Maximum Conduct Output Power_11A_5580_Ant2

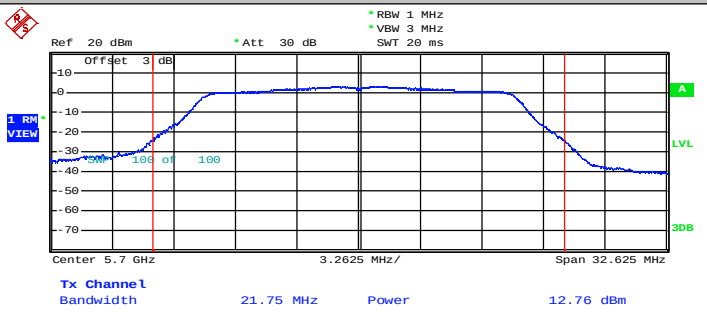


Maximum Conduct Output Power_11A_5700_Ant1



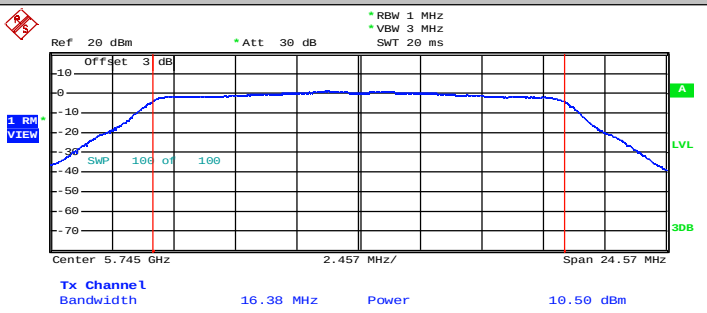
Tx Channel
Bandwidth 21.69 MHz Power 11.86 dBm

Maximum Conduct Output Power_11A_5700_Ant2

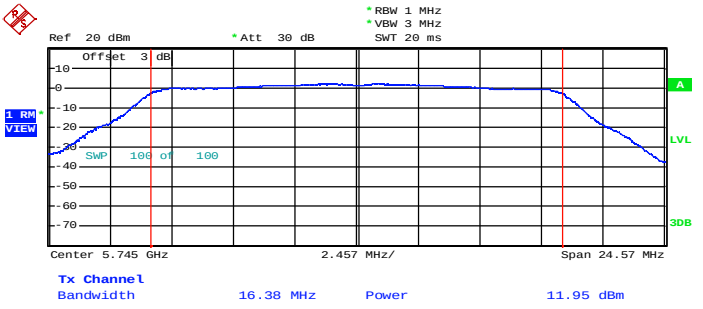


Tx Channel
Bandwidth 21.75 MHz Power 12.76 dBm

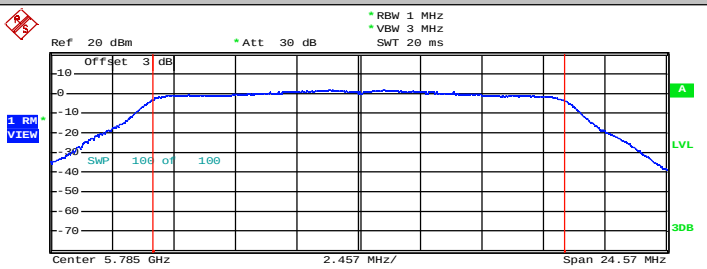
Maximum Conduct Output Power_11A_5745_Ant1



Maximum Conduct Output Power_11A_5745_Ant2

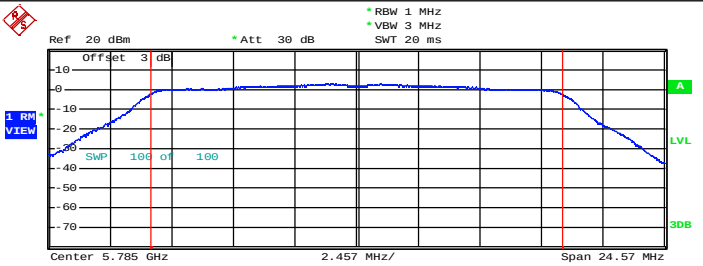


Maximum Conduct Output Power_11A_5785_Ant1



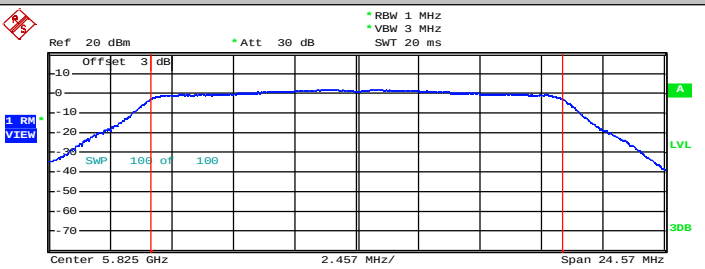
Tx Channel
Bandwidth 16.38 MHz Power 11.09 dBm

Maximum Conduct Output Power_11A_5785_Ant2



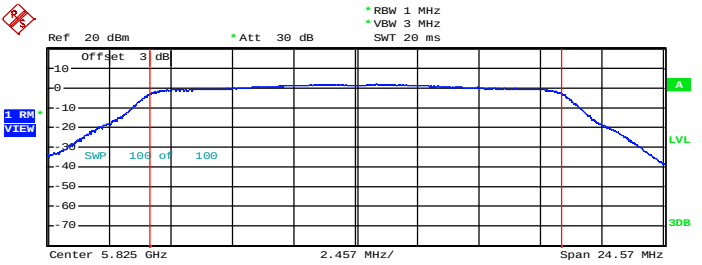
Tx Channel
Bandwidth 16.38 MHz Power 12.38 dBm

Maximum Conduct Output Power_11A_5825_Ant1



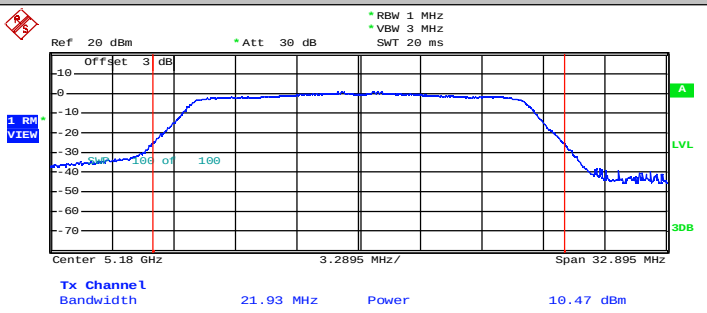
Tx Channel
Bandwidth 16.38 MHz Power 11.48 dBm

Maximum Conduct Output Power_11A_5825_Ant2



Tx Channel
Bandwidth 16.38 MHz Power 11.69 dBm

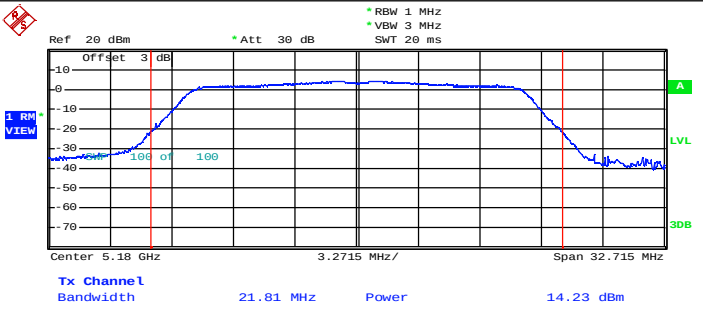
Maximum Conduct Output Power_11N20_5180_Ant1



Tx Channel

Bandwidth	21.93 MHz	Power	10.47 dBm

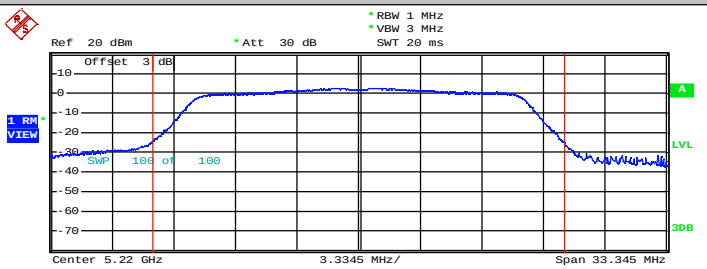
Maximum Conduct Output Power_11N20_5180_Ant2



Tx Channel

Bandwidth	21.81 MHz	Power	14.23 dBm

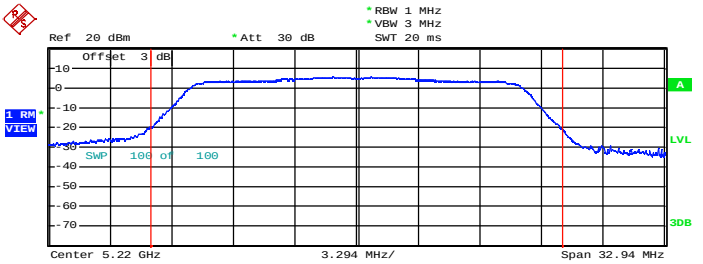
Maximum Conduct Output Power_11N20_5220_Ant1



Tx Channel

Bandwidth	22.23 MHz	Power	12.48 dBm

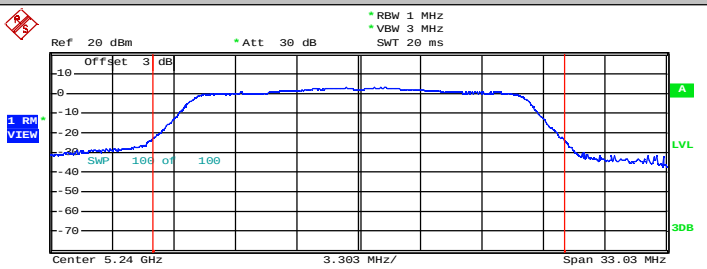
Maximum Conduct Output Power_11N20_5220_Ant2



Tx Channel

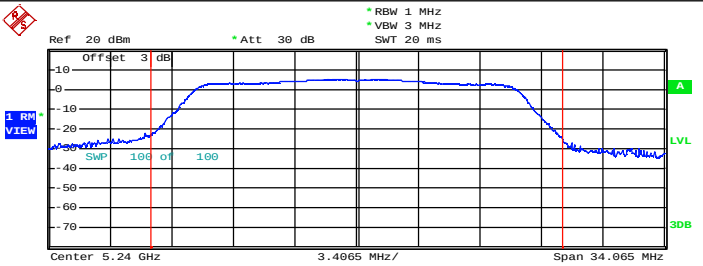
Bandwidth	21.96 MHz	Power	15.72 dBm

Maximum Conduct Output Power_11N20_5240_Ant1



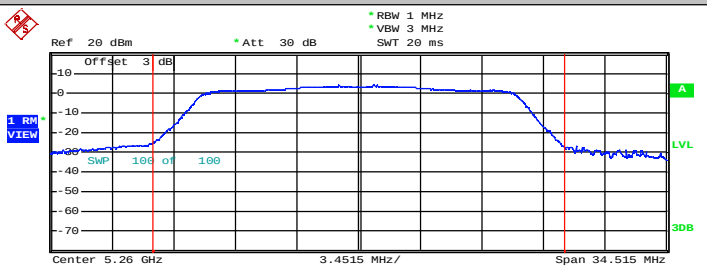
Tx Channel
Bandwidth 22.02 MHz Power 12.76 dBm

Maximum Conduct Output Power_11N20_5240_Ant2



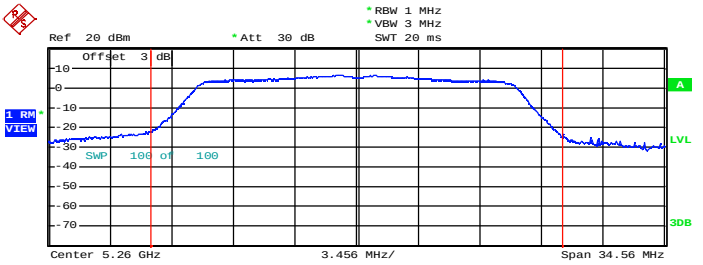
Tx Channel
Bandwidth 22.71 MHz Power 15.41 dBm

Maximum Conduct Output Power_11N20_5260_Ant1



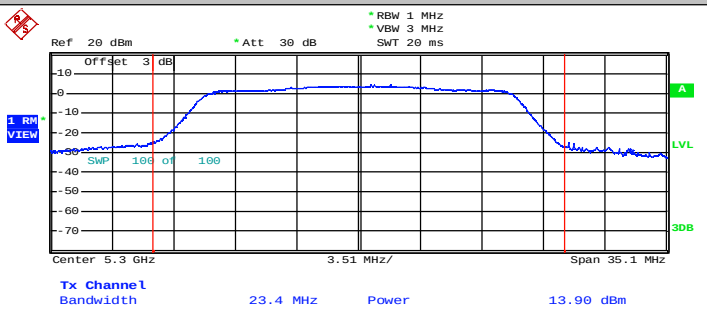
Tx Channel
Bandwidth 23.01 MHz Power 13.87 dBm

Maximum Conduct Output Power_11N20_5260_Ant2

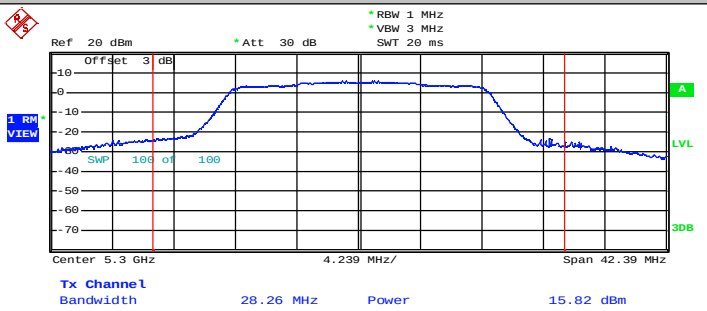


Tx Channel
Bandwidth 23.04 MHz Power 16.33 dBm

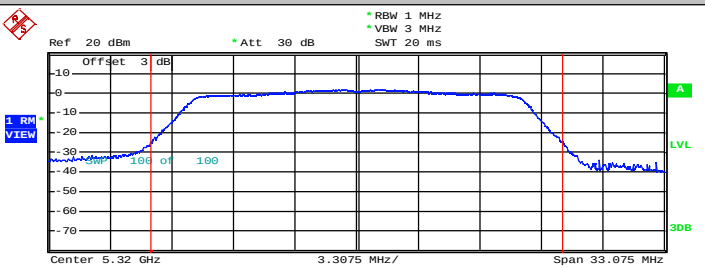
Maximum Conduct Output Power_11N20_5300_Ant1



Maximum Conduct Output Power_11N20_5300_Ant2



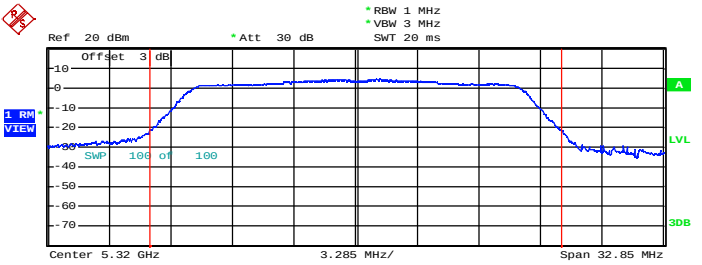
Maximum Conduct Output Power_11N20_5320_Ant1



Tx Channel

Bandwidth	22.05 MHz	Power	11.83 dBm

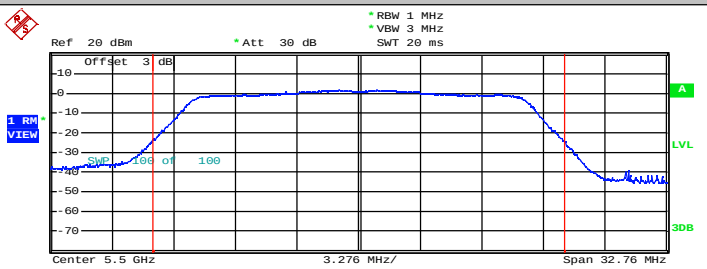
Maximum Conduct Output Power_11N20_5320_Ant2



Tx Channel

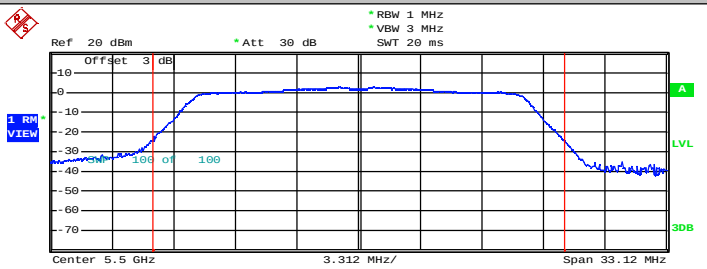
Bandwidth	21.9 MHz	Power	14.33 dBm

Maximum Conduct Output Power_11N20_5500_Ant1



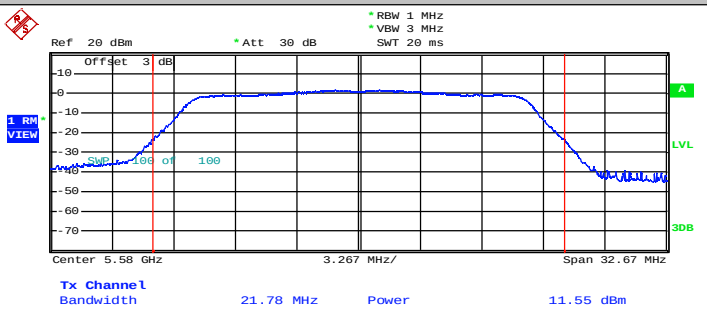
Tx Channel
Bandwidth 21.84 MHz Power 11.54 dBm

Maximum Conduct Output Power_11N20_5500_Ant2



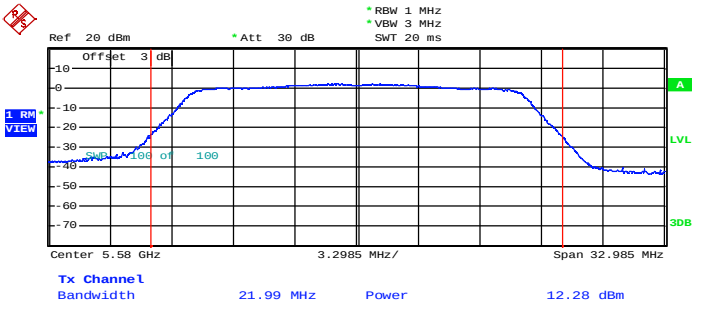
Tx Channel
Bandwidth 22.08 MHz Power 12.65 dBm

Maximum Conduct Output Power_11N20_5580_Ant1



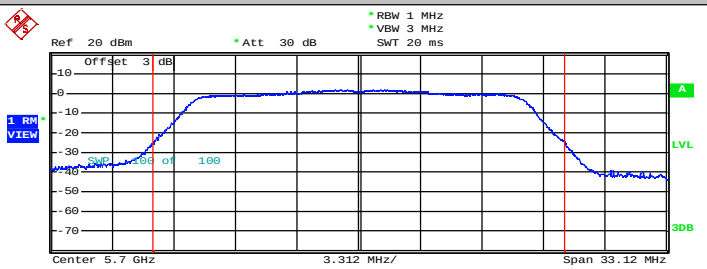
Tx Channel
Bandwidth 21.78 MHz Power 11.55 dBm

Maximum Conduct Output Power_11N20_5580_Ant2



Tx Channel
Bandwidth 21.99 MHz Power 12.28 dBm

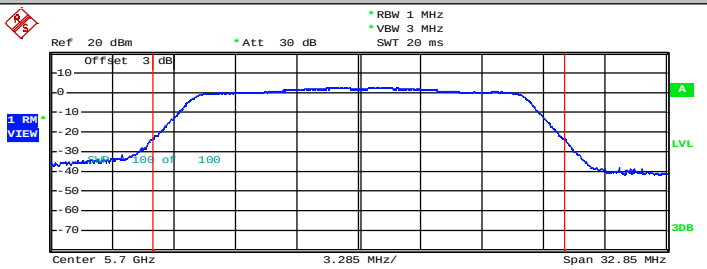
Maximum Conduct Output Power_11N20_5700_Ant1



Tx Channel

Bandwidth	22.08 MHz	Power	11.68 dBm

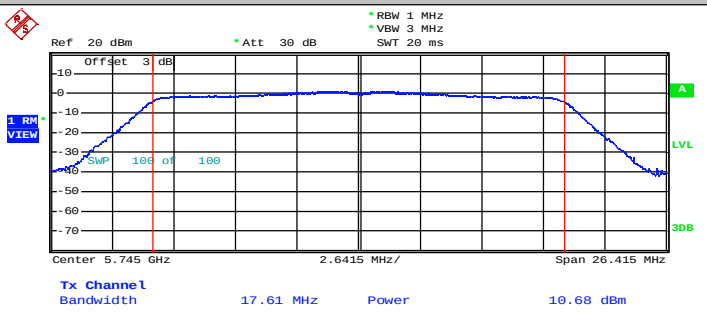
Maximum Conduct Output Power_11N20_5700_Ant2



Tx Channel

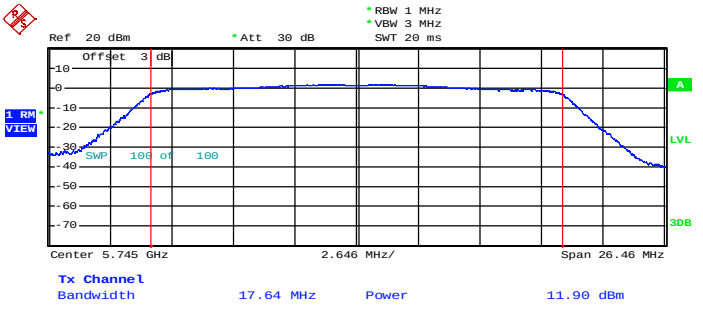
Bandwidth	21.9 MHz	Power	12.60 dBm

Maximum Conduct Output Power_11N20_5745_Ant1



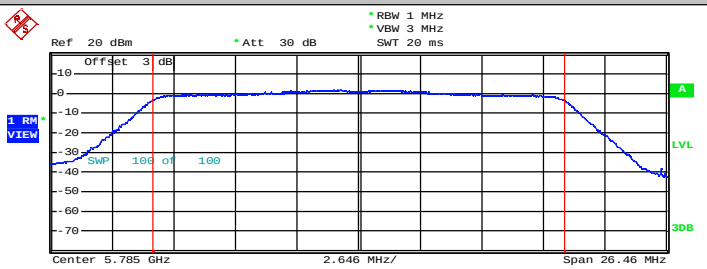
Tx Channel
Bandwidth 17.61 MHz Power 10.68 dBm

Maximum Conduct Output Power_11N20_5745_Ant2



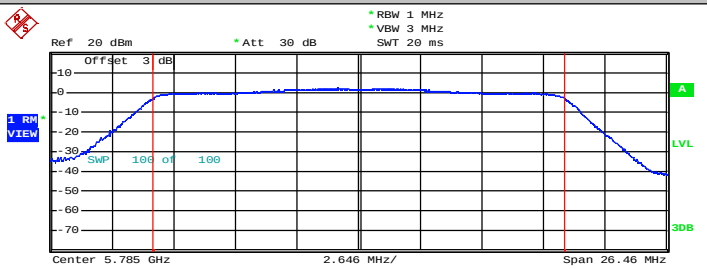
Tx Channel
Bandwidth 17.64 MHz Power 11.90 dBm

Maximum Conduct Output Power_11N20_5785_Ant1



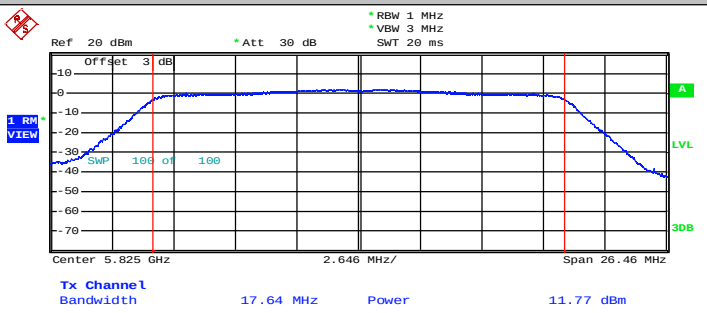
Tx Channel
Bandwidth 17.64 MHz Power 11.45 dBm

Maximum Conduct Output Power_11N20_5785_Ant2



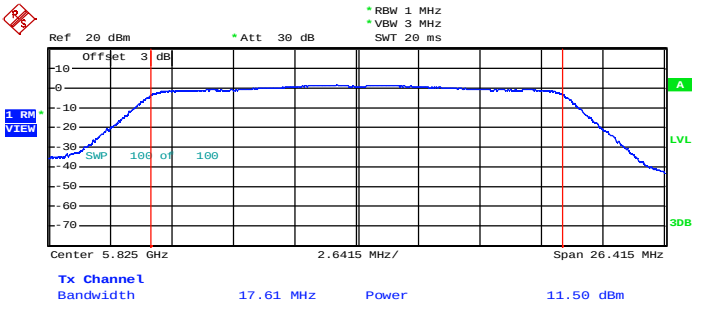
Tx Channel
Bandwidth 17.64 MHz Power 11.98 dBm

Maximum Conduct Output Power_11N20_5825_Ant1



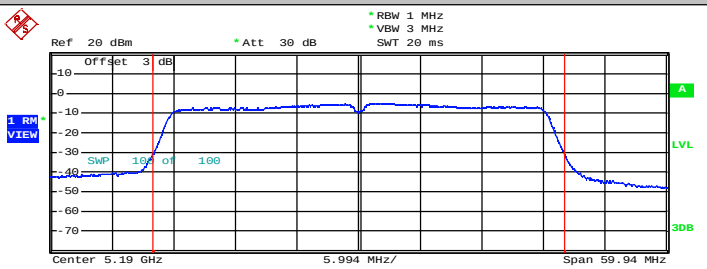
Tx Channel
Bandwidth 17.64 MHz Power 11.77 dBm

Maximum Conduct Output Power_11N20_5825_Ant2



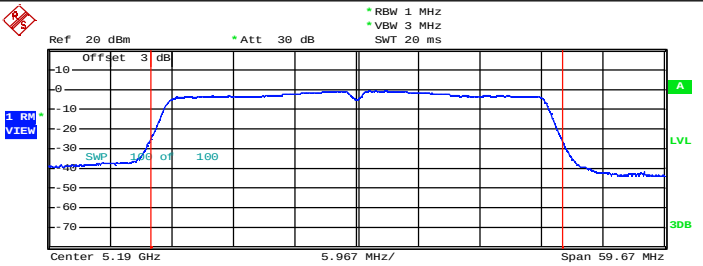
Tx Channel
Bandwidth 17.61 MHz Power 11.50 dBm

Maximum Conduct Output Power_11N40_5190_Ant1



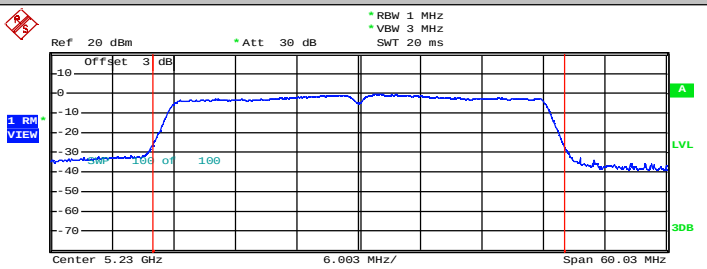
Tx Channel
Bandwidth 39.96 MHz Power 7.82 dBm

Maximum Conduct Output Power_11N40_5190_Ant2



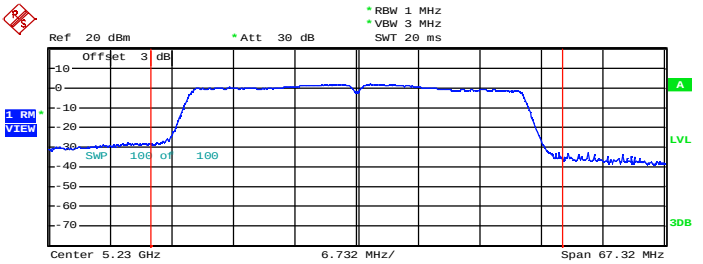
Tx Channel
Bandwidth 39.78 MHz Power 12.17 dBm

Maximum Conduct Output Power_11N40_5230_Ant1



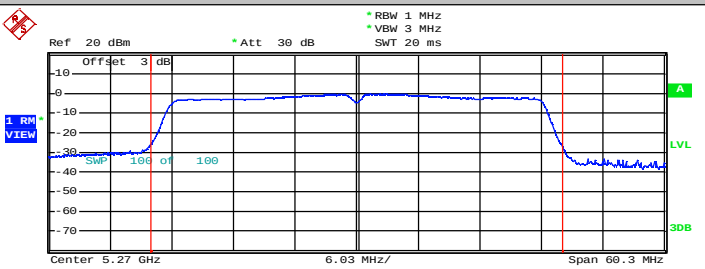
Tx Channel
Bandwidth 40.02 MHz Power 12.27 dBm

Maximum Conduct Output Power_11N40_5230_Ant2



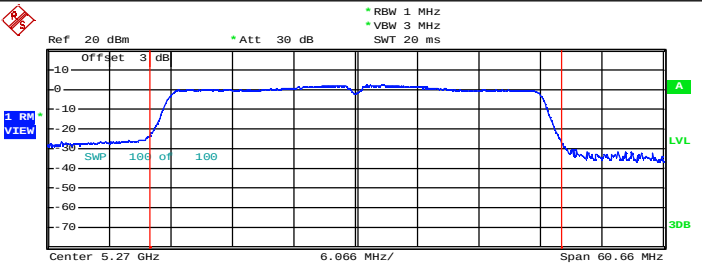
Tx Channel
Bandwidth 44.88 MHz Power 14.97 dBm

Maximum Conduct Output Power_11N40_5270_Ant1



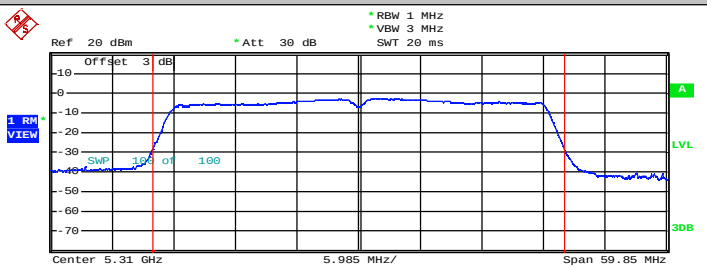
Tx Channel
Bandwidth 40.2 MHz Power 12.73 dBm

Maximum Conduct Output Power_11N40_5270_Ant2



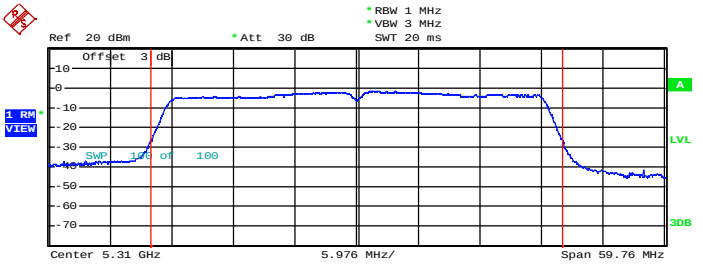
Tx Channel
Bandwidth 40.44 MHz Power 15.13 dBm

Maximum Conduct Output Power_11N40_5310_Ant1



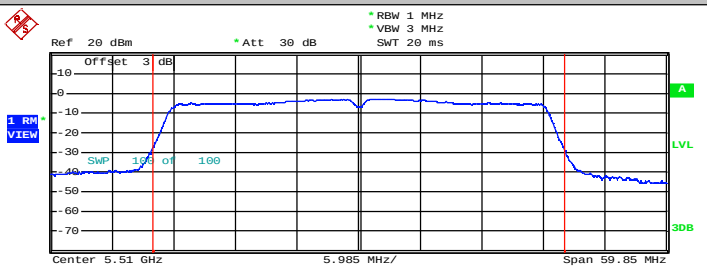
Tx Channel
Bandwidth 39.9 MHz Power 10.18 dBm

Maximum Conduct Output Power_11N40_5310_Ant2



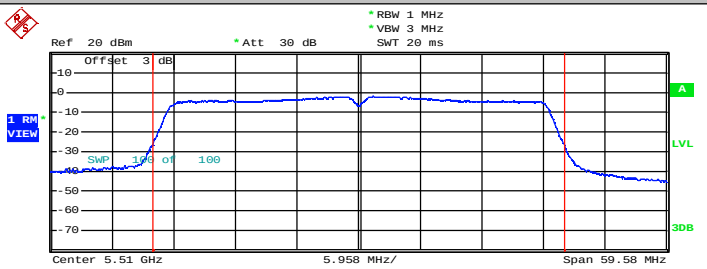
Tx Channel
Bandwidth 39.84 MHz Power 11.27 dBm

Maximum Conduct Output Power_11N40_5510_Ant1



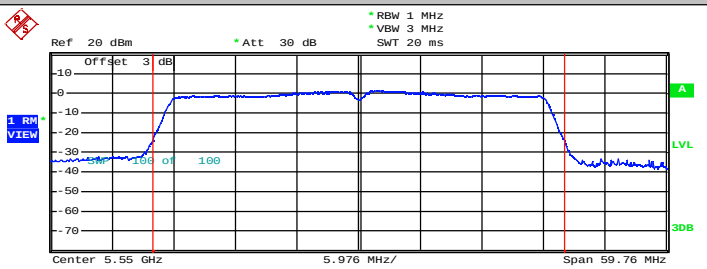
Tx Channel
Bandwidth 39.9 MHz Power 10.18 dBm

Maximum Conduct Output Power_11N40_5510_Ant2



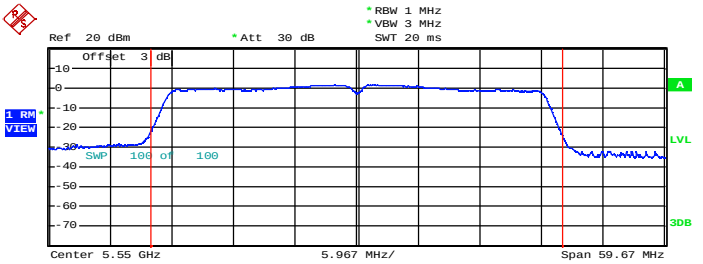
Tx Channel
Bandwidth 39.72 MHz Power 10.97 dBm

Maximum Conduct Output Power_11N40_5550_Ant1



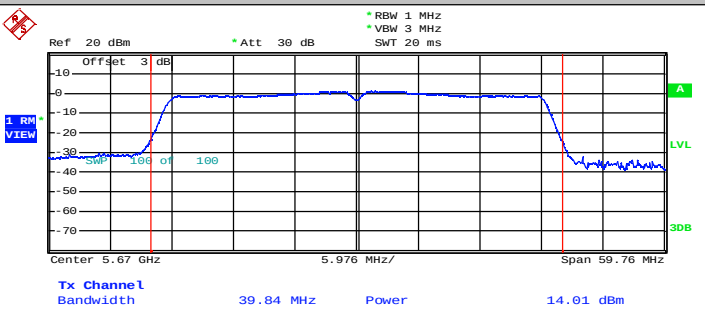
Tx Channel
Bandwidth 39.84 MHz Power 13.99 dBm

Maximum Conduct Output Power_11N40_5550_Ant2

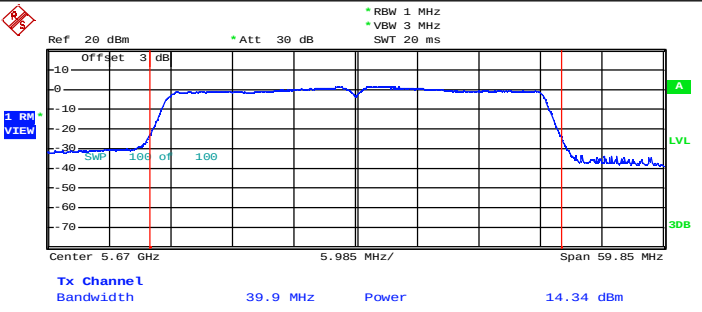


Tx Channel
Bandwidth 39.78 MHz Power 14.59 dBm

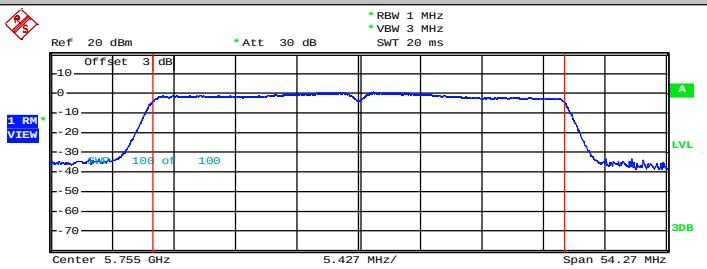
Maximum Conduct Output Power_11N40_5670_Ant1



Maximum Conduct Output Power_11N40_5670_Ant2

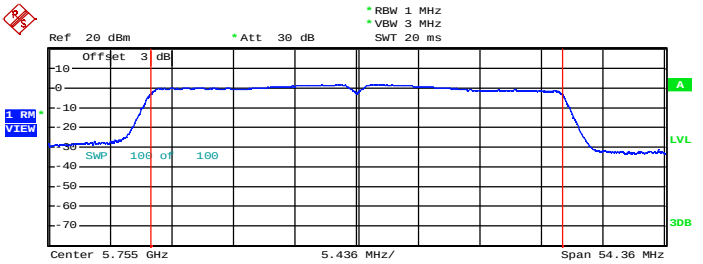


Maximum Conduct Output Power_11N40_5755_Ant1



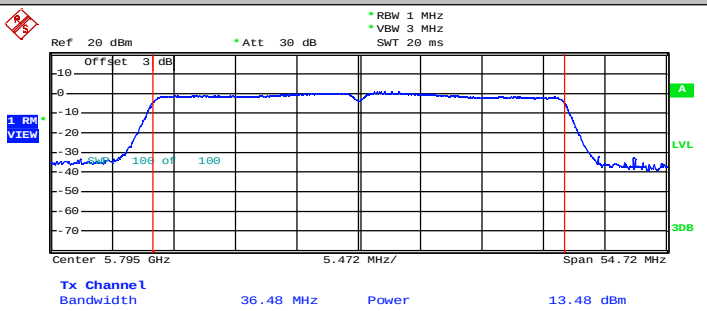
Tx Channel
Bandwidth 36.18 MHz Power 13.31 dBm

Maximum Conduct Output Power_11N40_5755_Ant2



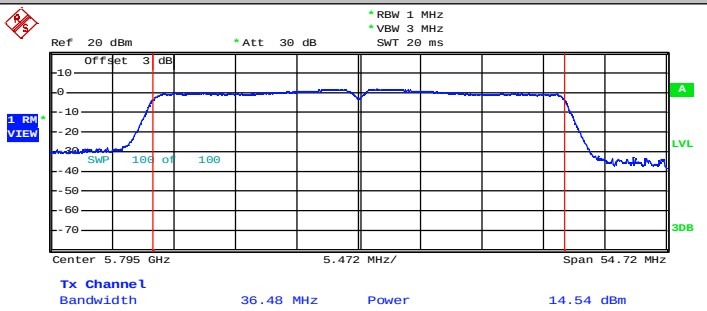
Tx Channel
Bandwidth 36.24 MHz Power 14.76 dBm

Maximum Conduct Output Power_11N40_5795_Ant1



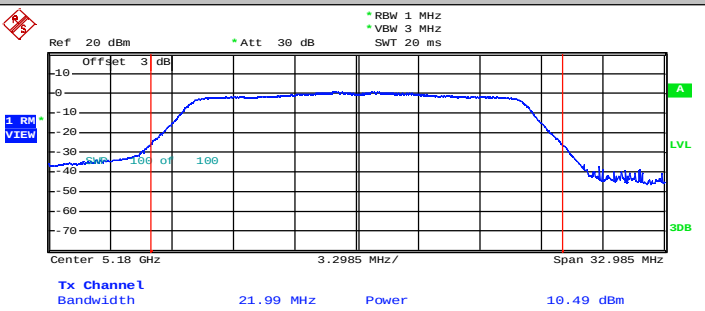
Tx Channel
Bandwidth 36.48 MHz Power 13.48 dBm

Maximum Conduct Output Power_11N40_5795_Ant2



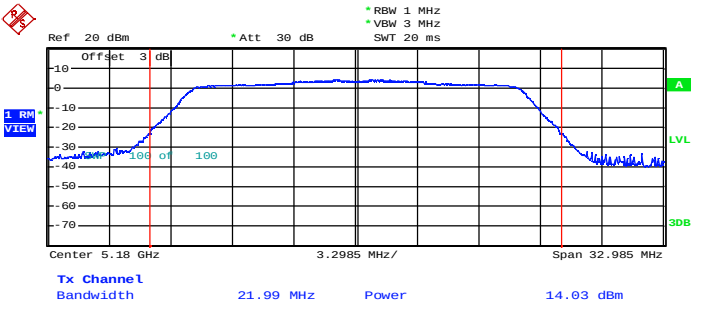
Tx Channel
Bandwidth 36.48 MHz Power 14.54 dBm

Maximum Conduct Output Power_11AC20_5180_Ant1



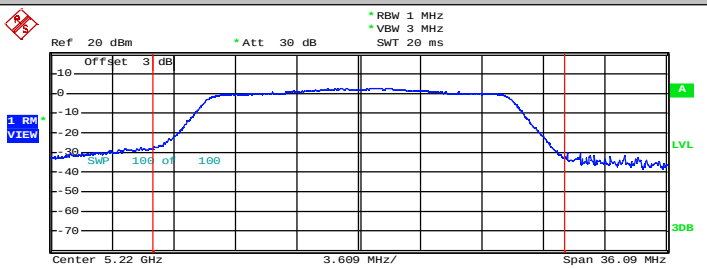
Tx Channel
Bandwidth 21.99 MHz Power 10.49 dBm

Maximum Conduct Output Power_11AC20_5180_Ant2



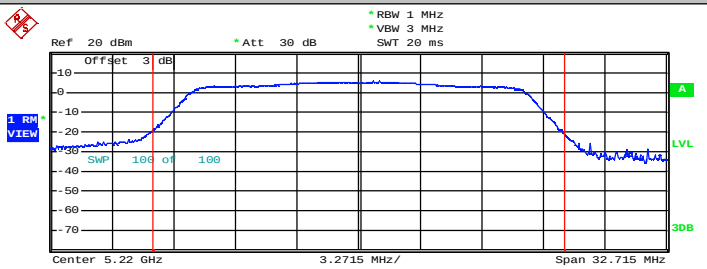
Tx Channel
Bandwidth 21.99 MHz Power 14.03 dBm

Maximum Conduct Output Power_11AC20_5220_Ant1



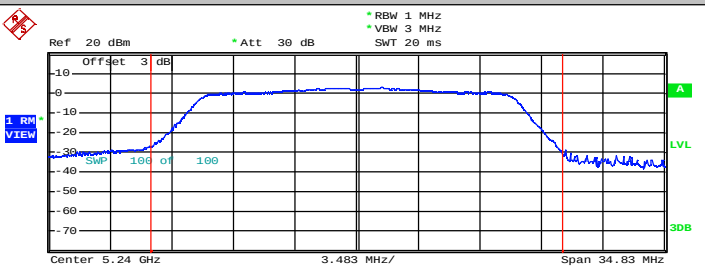
Tx Channel
Bandwidth 24.06 MHz Power 12.42 dBm

Maximum Conduct Output Power_11AC20_5220_Ant2



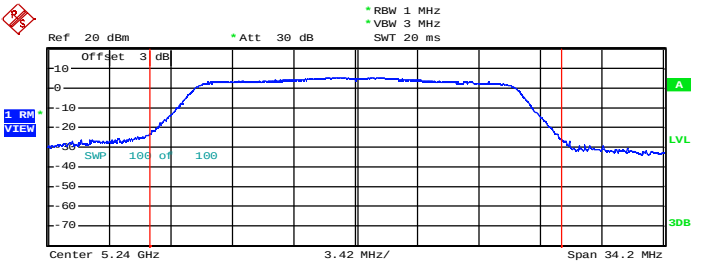
Tx Channel
Bandwidth 21.81 MHz Power 15.65 dBm

Maximum Conduct Output Power_11AC20_5240_Ant1



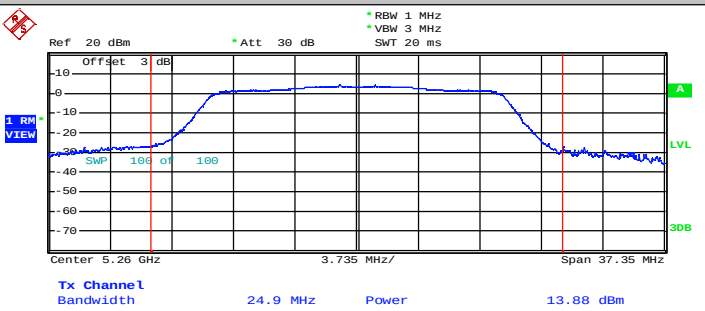
Tx Channel
Bandwidth 23.22 MHz Power 12.70 dBm

Maximum Conduct Output Power_11AC20_5240_Ant2



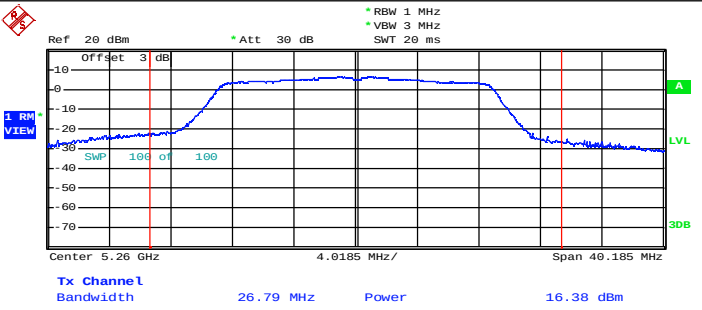
Tx Channel
Bandwidth 22.8 MHz Power 15.37 dBm

Maximum Conduct Output Power_11AC20_5260_Ant1



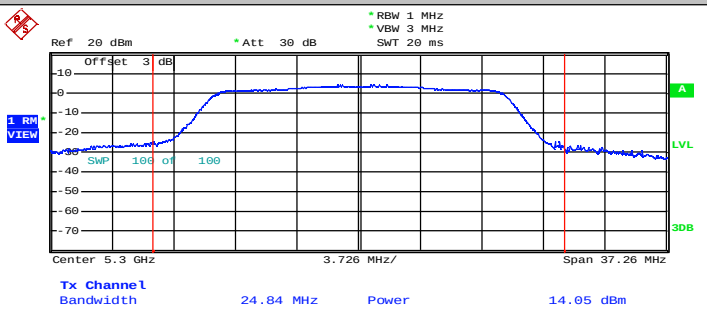
Tx Channel
Bandwidth 24.9 MHz Power 13.88 dBm

Maximum Conduct Output Power_11AC20_5260_Ant2

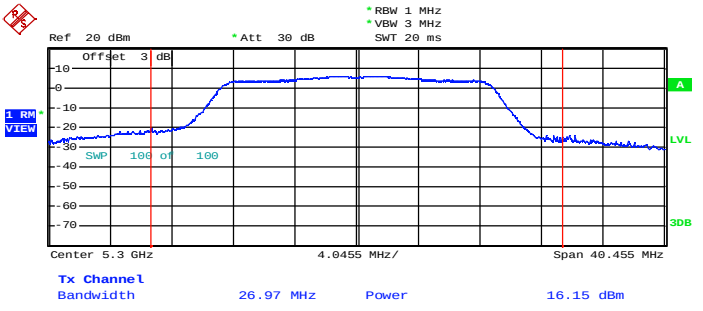


Tx Channel
Bandwidth 26.79 MHz Power 16.38 dBm

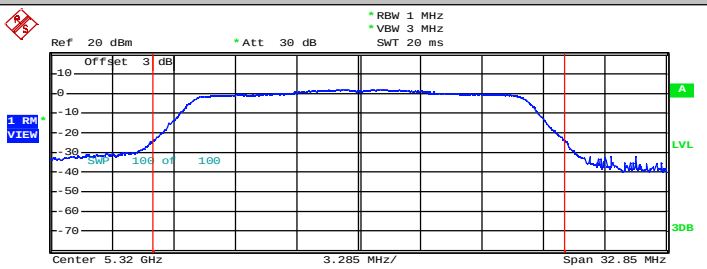
Maximum Conduct Output Power_11AC20_5300_Ant1



Maximum Conduct Output Power_11AC20_5300_Ant2

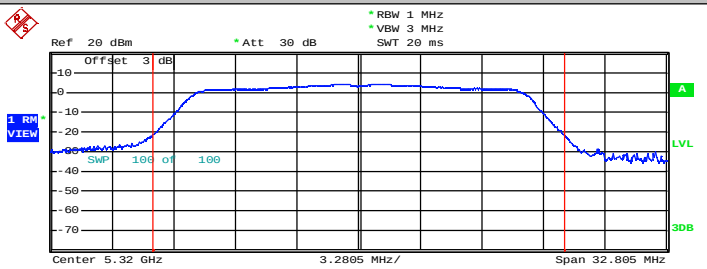


Maximum Conduct Output Power_11AC20_5320_Ant1



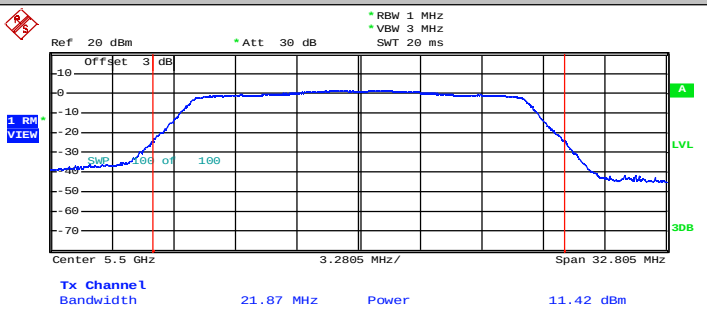
Tx Channel
Bandwidth 21.9 MHz Power 11.85 dBm

Maximum Conduct Output Power_11AC20_5320_Ant2

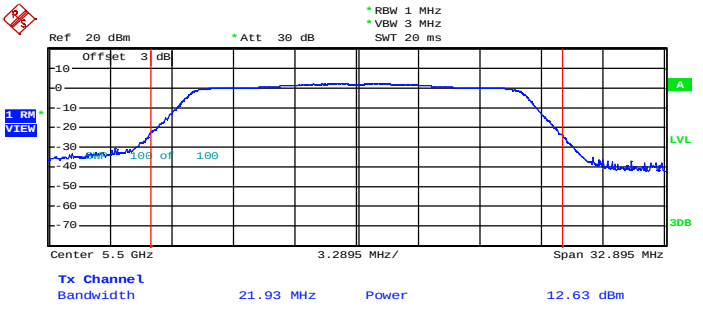


Tx Channel
Bandwidth 21.87 MHz Power 14.28 dBm

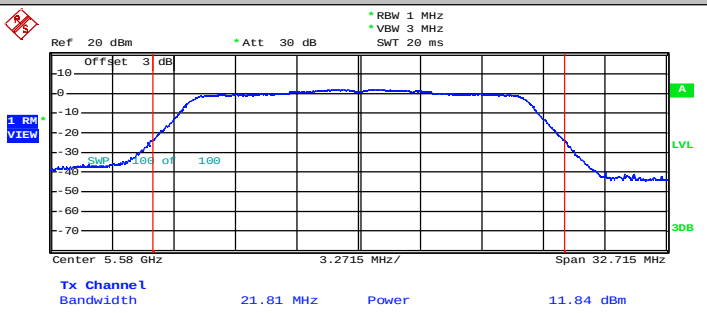
Maximum Conduct Output Power_11AC20_5500_Ant1



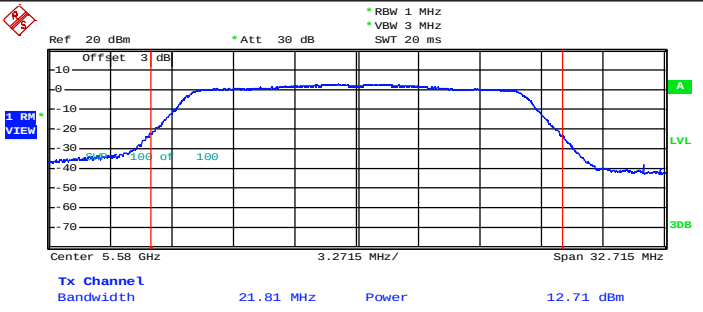
Maximum Conduct Output Power_11AC20_5500_Ant2



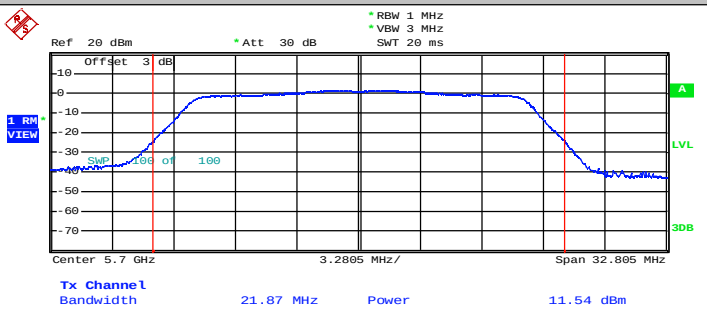
Maximum Conduct Output Power_11AC20_5580_Ant1



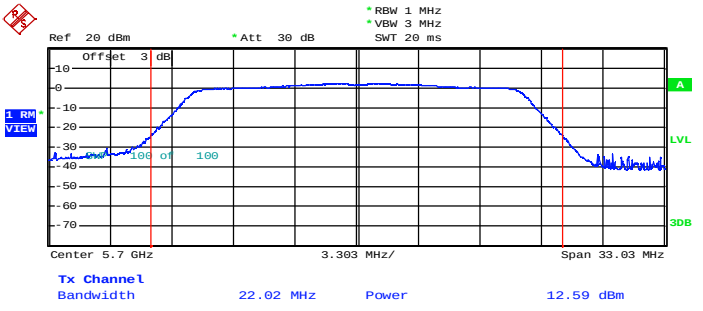
Maximum Conduct Output Power_11AC20_5580_Ant2



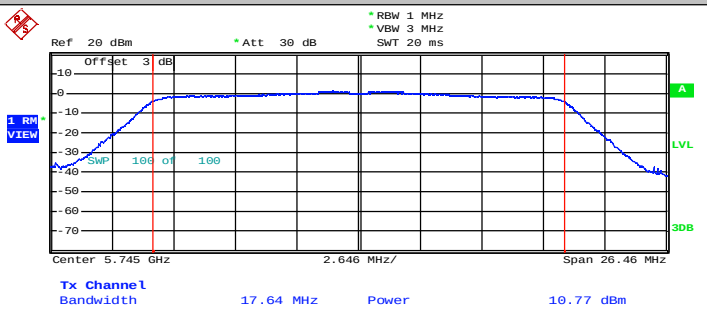
Maximum Conduct Output Power_11AC20_5700_Ant1



Maximum Conduct Output Power_11AC20_5700_Ant2

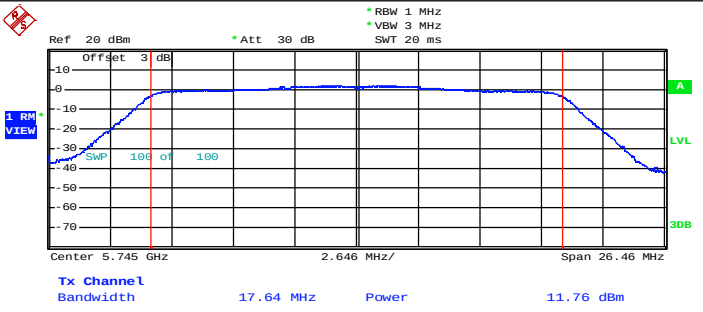


Maximum Conduct Output Power_11AC20_5745_Ant1



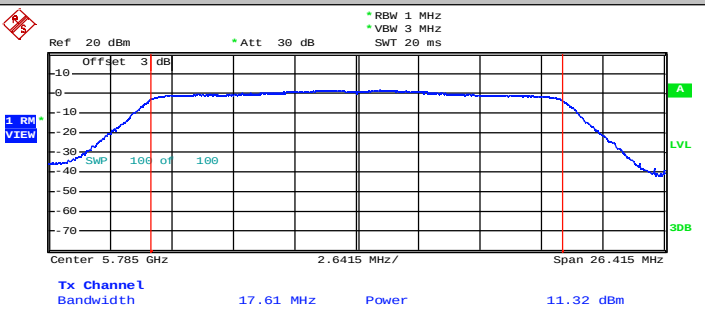
Tx Channel
Bandwidth 17.64 MHz Power 10.77 dBm

Maximum Conduct Output Power_11AC20_5745_Ant2



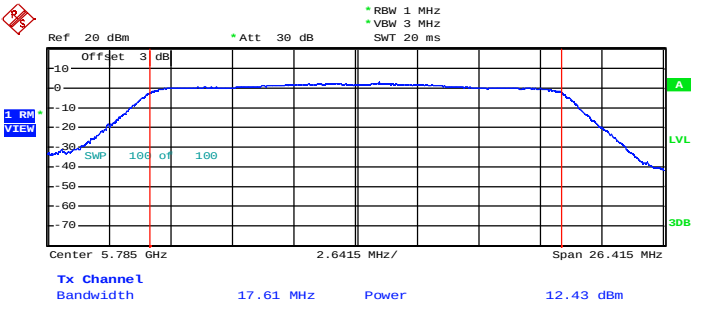
Tx Channel
Bandwidth 17.64 MHz Power 11.76 dBm

Maximum Conduct Output Power_11AC20_5785_Ant1



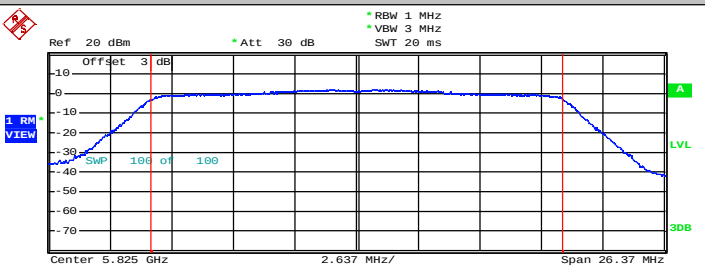
Tx Channel
Bandwidth 17.61 MHz Power 11.32 dBm

Maximum Conduct Output Power_11AC20_5785_Ant2



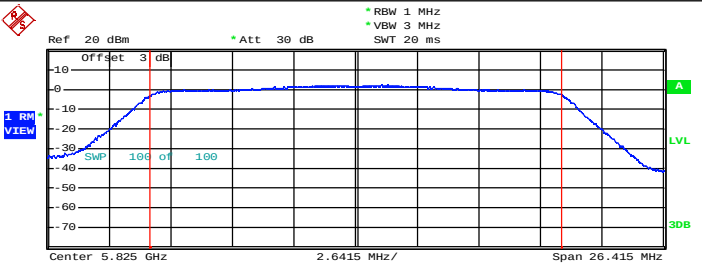
Tx Channel
Bandwidth 17.61 MHz Power 12.43 dBm

Maximum Conduct Output Power_11AC20_5825_Ant1



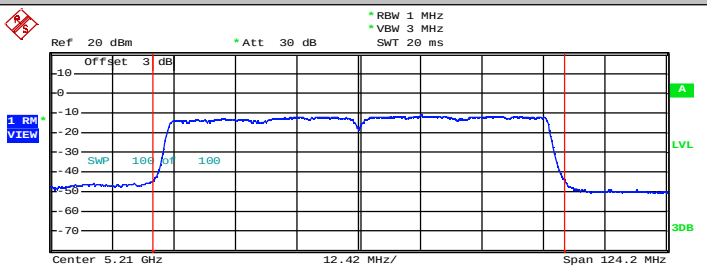
Tx Channel
Bandwidth 17.58 MHz Power 11.69 dBm

Maximum Conduct Output Power_11AC20_5825_Ant2



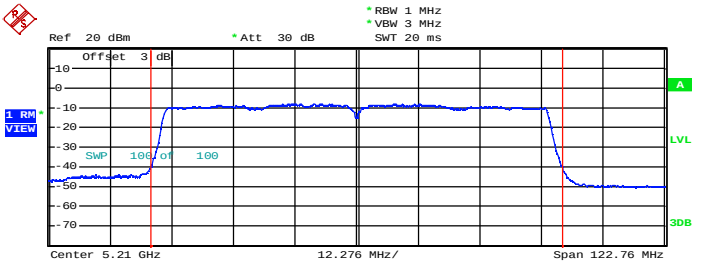
Tx Channel
Bandwidth 17.61 MHz Power 11.99 dBm

Maximum Conduct Output Power_11AC80_5210_Ant1



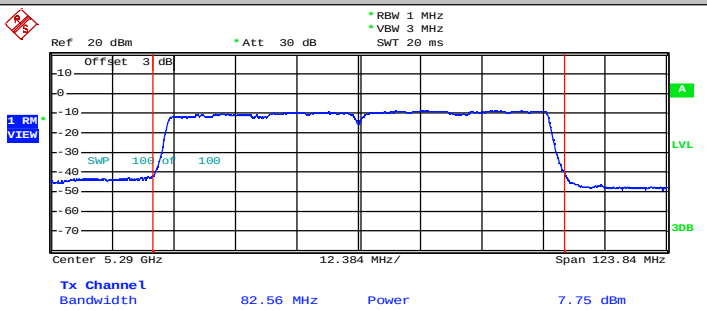
Tx Channel
Bandwidth 82.8 MHz Power 5.18 dBm

Maximum Conduct Output Power_11AC80_5210_Ant2

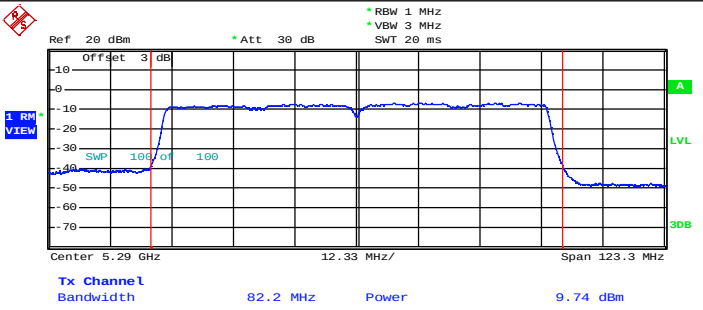


Tx Channel
Bandwidth 81.84 MHz Power 8.52 dBm

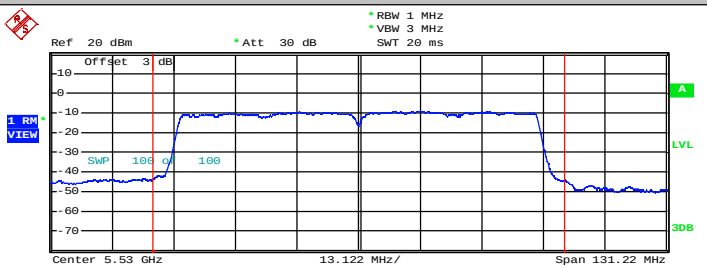
Maximum Conduct Output Power_11AC80_5290_Ant1



Maximum Conduct Output Power_11AC80_5290_Ant2



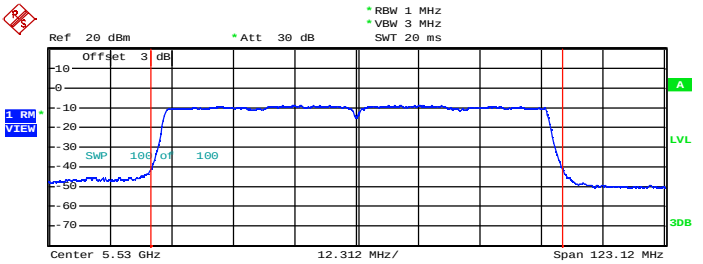
Maximum Conduct Output Power_11AC80_5530_Ant1



Tx Channel

Bandwidth	87.48 MHz	Power	7.50 dBm

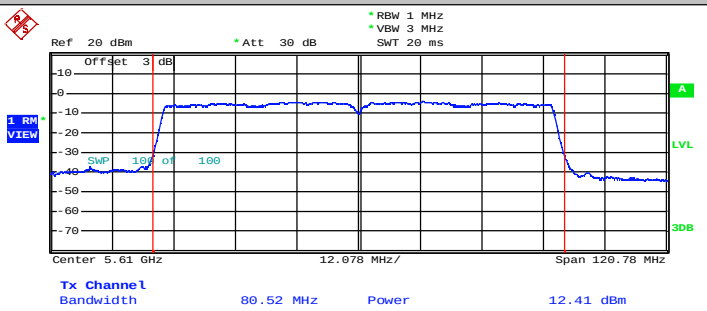
Maximum Conduct Output Power_11AC80_5530_Ant2



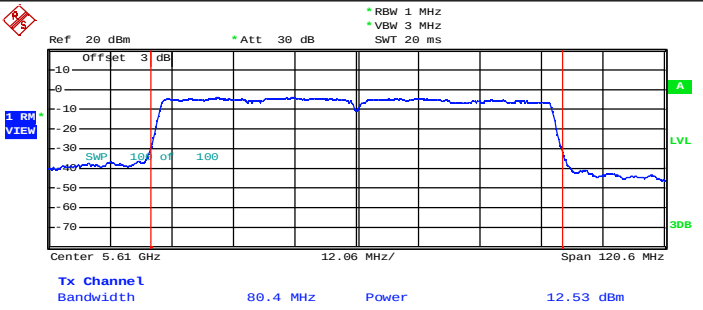
Tx Channel

Bandwidth	82.08 MHz	Power	8.09 dBm

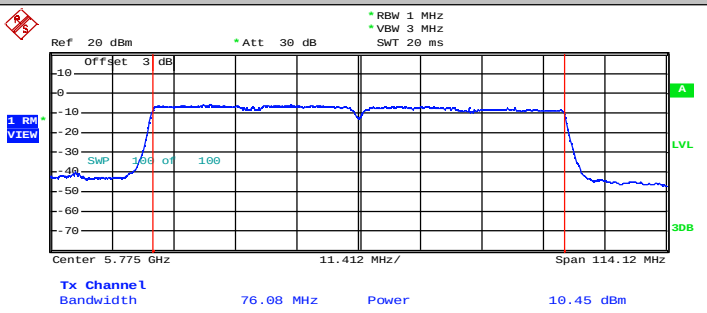
Maximum Conduct Output Power_11AC80_5610_Ant1



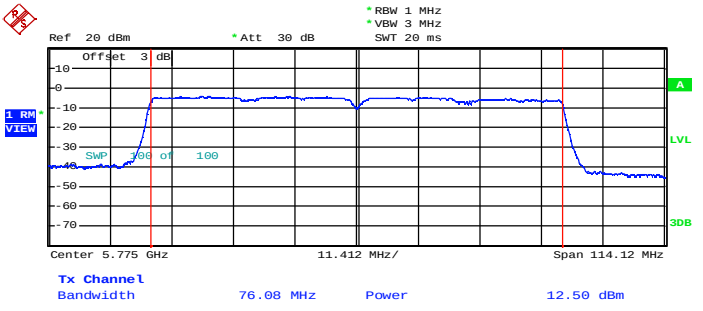
Maximum Conduct Output Power_11AC80_5610_Ant2



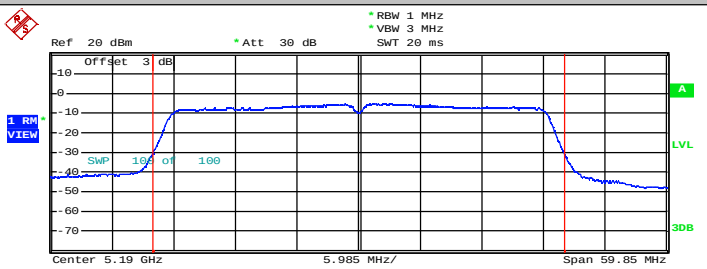
Maximum Conduct Output Power_11AC80_5775_Ant1



Maximum Conduct Output Power_11AC80_5775_Ant2

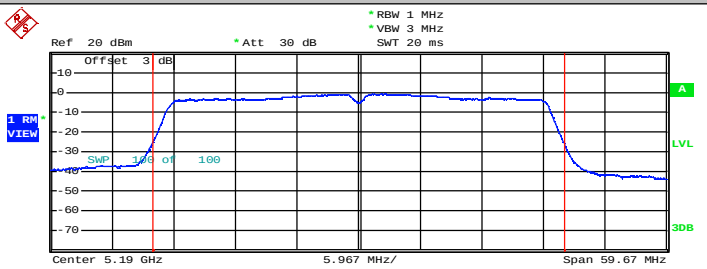


Maximum Conduct Output Power_11AC40_5190_Ant1



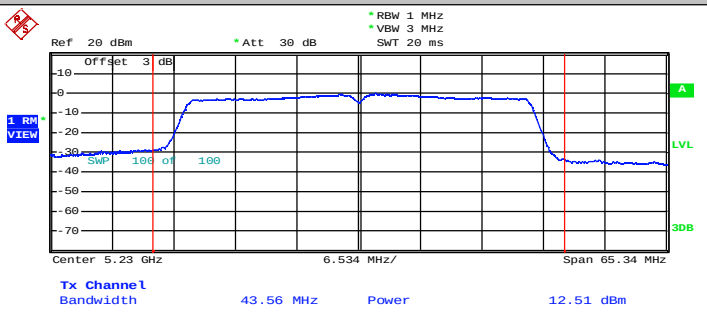
Tx Channel
Bandwidth 39.9 MHz Power 7.67 dBm

Maximum Conduct Output Power_11AC40_5190_Ant2

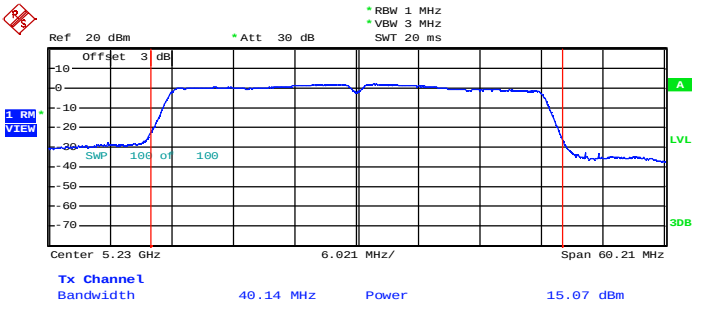


Tx Channel
Bandwidth 39.78 MHz Power 12.22 dBm

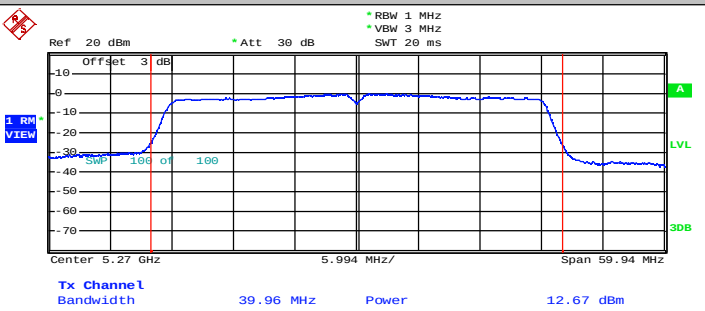
Maximum Conduct Output Power_11AC40_5230_Ant1



Maximum Conduct Output Power_11AC40_5230_Ant2

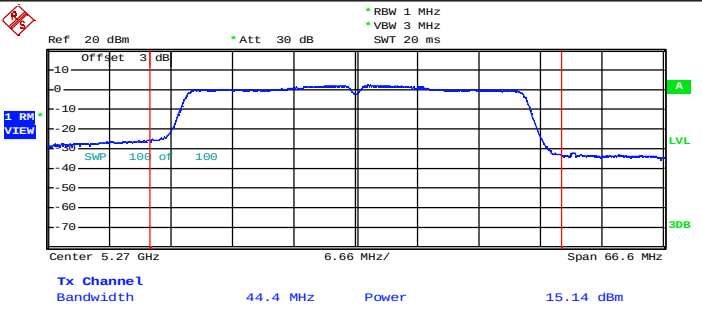


Maximum Conduct Output Power_11AC40_5270_Ant1



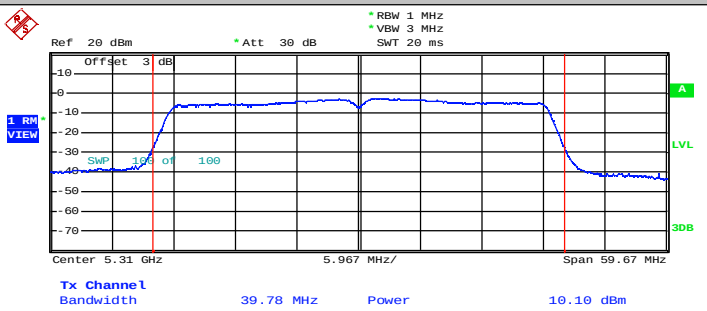
Tx Channel
Bandwidth 39.96 MHz Power 12.67 dBm

Maximum Conduct Output Power_11AC40_5270_Ant2



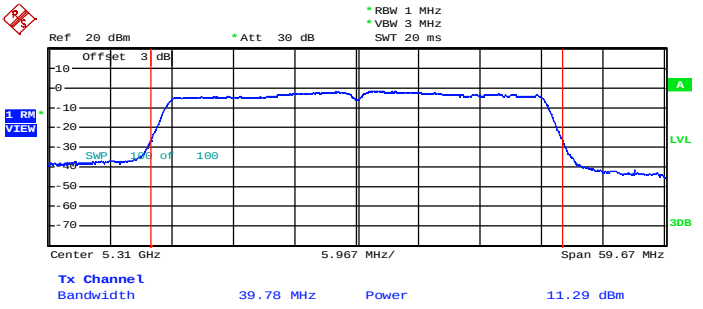
Tx Channel
Bandwidth 44.4 MHz Power 15.14 dBm

Maximum Conduct Output Power_11AC40_5310_Ant1



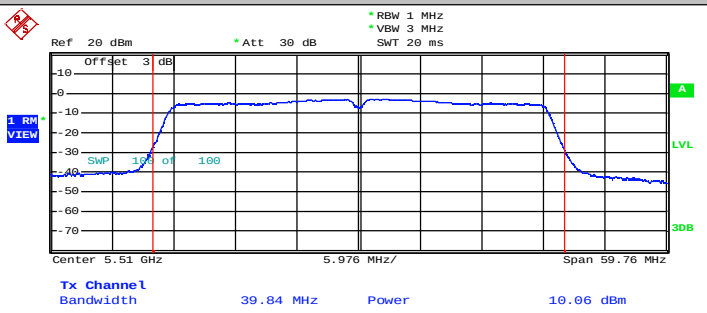
Tx Channel
Bandwidth 39.78 MHz Power 10.10 dBm

Maximum Conduct Output Power_11AC40_5310_Ant2

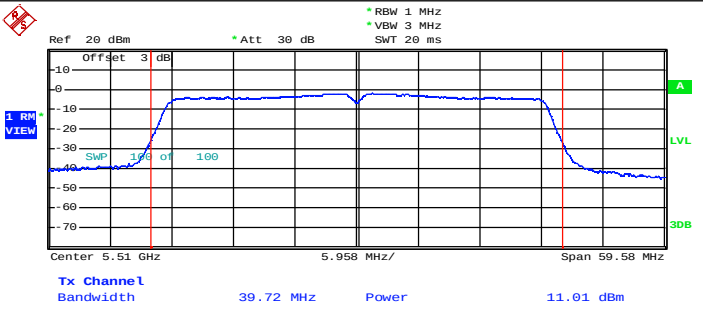


Tx Channel
Bandwidth 39.78 MHz Power 11.29 dBm

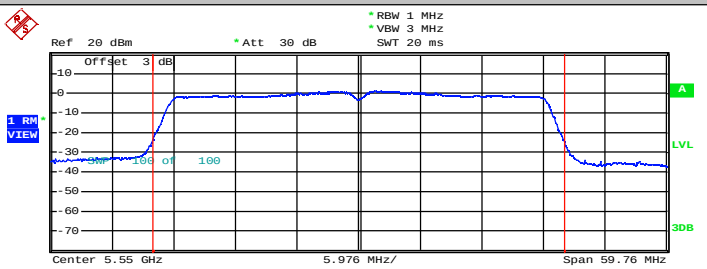
Maximum Conduct Output Power_11AC40_5510_Ant1



Maximum Conduct Output Power_11AC40_5510_Ant2

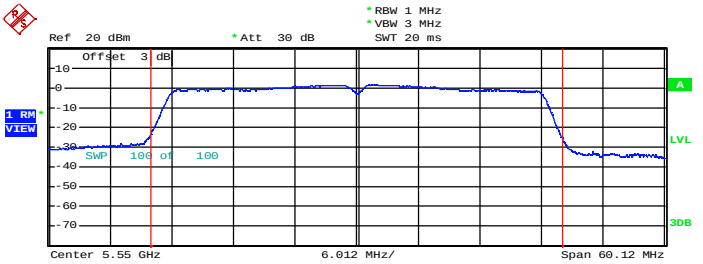


Maximum Conduct Output Power_11AC40_5550_Ant1



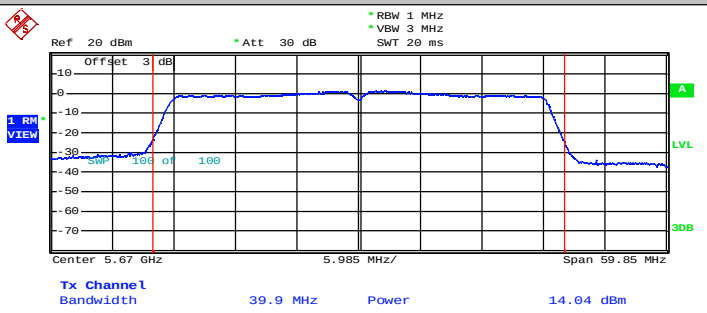
Tx Channel
Bandwidth 39.84 MHz Power 13.87 dBm

Maximum Conduct Output Power_11AC40_5550_Ant2

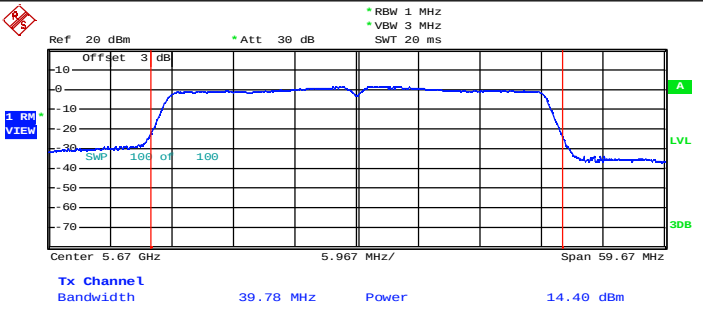


Tx Channel
Bandwidth 40.08 MHz Power 14.61 dBm

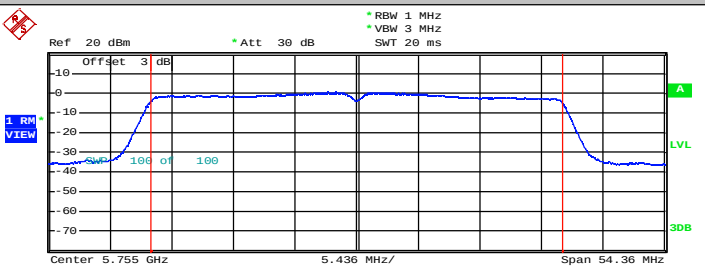
Maximum Conduct Output Power_11AC40_5670_Ant1



Maximum Conduct Output Power_11AC40_5670_Ant2

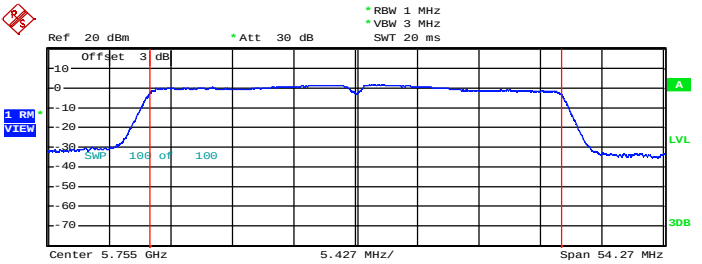


Maximum Conduct Output Power_11AC40_5755_Ant1



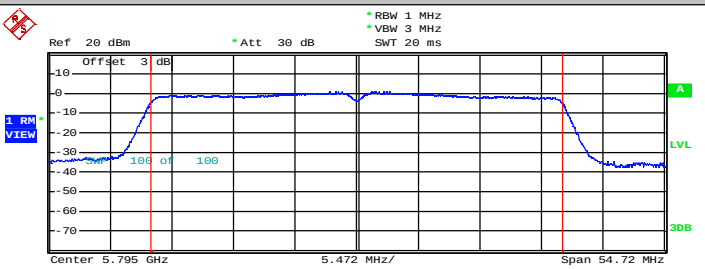
Tx Channel
Bandwidth 36.24 MHz Power 13.34 dBm

Maximum Conduct Output Power_11AC40_5755_Ant2



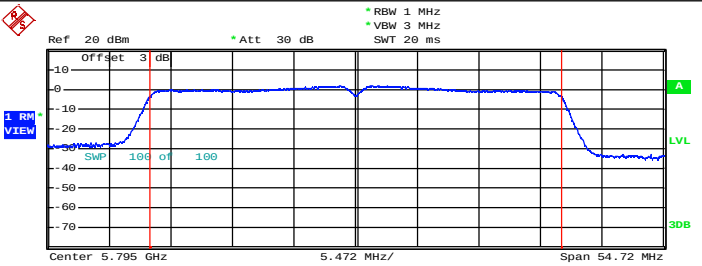
Tx Channel
Bandwidth 36.18 MHz Power 14.64 dBm

Maximum Conduct Output Power_11AC40_5795_Ant1



Tx Channel
Bandwidth 36.48 MHz Power 13.55 dBm

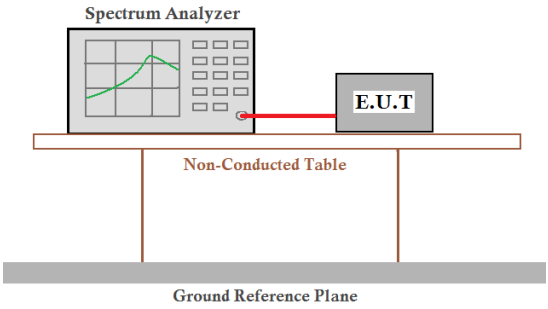
Maximum Conduct Output Power_11AC40_5795_Ant2



Tx Channel
Bandwidth 36.48 MHz Power 14.62 dBm

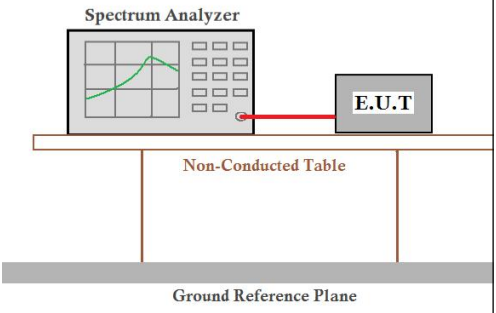
5.4 Bandwidth

99% Bandwidth

Test Requirement:	FCC 47 CFR Part 15 Subpart C Section 15.407 (e)
Test Method:	KDB 789033 D02 v01r04Section C.2
Test Setup:	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	TX mode (Band 1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report. TX mode (Band 2A)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report. TX mode (Band 2C)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report. TX mode (Band 3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of

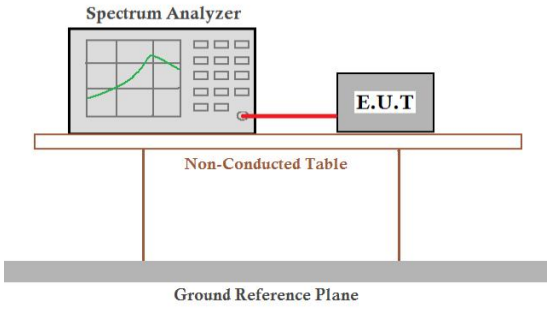
	IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
Limit:	≥ 500 kHz
Test Results:	Pass

26dB Bandwidth

Test Requirement:	FCC 47 CFR Part 15 Subpart E Section 15.407 (a) (2)(5)
Test Method:	KDB 789033 D02 v01r04 Section C.1
Test Setup:	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	TX mode (Band 2A)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report. TX mode (Band 2C)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is

	the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
Limit:	None; for reporting purposes only.
Test Results:	Pass

Minimum 6dB Bandwidth (5.725-5.85 GHz band)

Test Requirement:	FCC 47 CFR Part 15 Subpart C Section 15.407 (e)
Test Method:	KDB 789033 D02 v01r04Section C.2
Test Setup:	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	TX mode (Band 3)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80). Only the data of worst case is recorded in the report.
Limit:	≥ 500 kHz
Test Results:	Pass

Emission Bandwidth Measurement

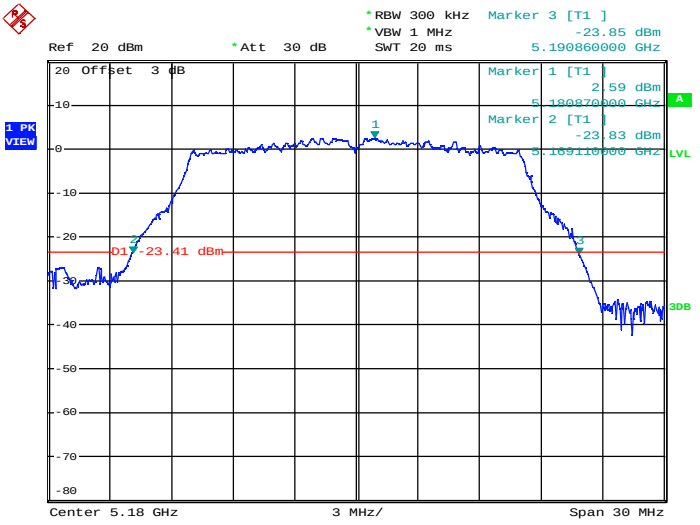
Test Mode	Test Channel	Ant	EBW[MHz]	Limit[MHz]	Verdict
11A	5180	Ant1	21.750	---	PASS
11A	5180	Ant2	21.720	---	PASS
11A	5220	Ant1	21.780	---	PASS
11A	5220	Ant2	21.660	---	PASS
11A	5240	Ant1	21.780	---	PASS
11A	5240	Ant2	21.690	---	PASS
11A	5260	Ant1	21.750	---	PASS
11A	5260	Ant2	21.780	---	PASS
11A	5300	Ant1	21.780	---	PASS
11A	5300	Ant2	26.940	---	PASS
11A	5320	Ant1	21.840	---	PASS
11A	5320	Ant2	21.780	---	PASS
11A	5500	Ant1	21.720	---	PASS
11A	5500	Ant2	21.780	---	PASS
11A	5580	Ant1	21.780	---	PASS
11A	5580	Ant2	21.690	---	PASS
11A	5700	Ant1	21.690	---	PASS
11A	5700	Ant2	21.750	---	PASS
11A	5745	Ant1	16.380	>=0.5	PASS
11A	5745	Ant2	16.380	>=0.5	PASS
11A	5785	Ant1	16.380	>=0.5	PASS
11A	5785	Ant2	16.380	>=0.5	PASS
11A	5825	Ant1	16.380	>=0.5	PASS
11A	5825	Ant2	16.380	>=0.5	PASS
11N20	5180	Ant1	21.930	---	PASS
11N20	5180	Ant2	21.810	---	PASS
11N20	5220	Ant1	22.230	---	PASS
11N20	5220	Ant2	21.960	---	PASS
11N20	5240	Ant1	22.020	---	PASS
11N20	5240	Ant2	22.710	---	PASS
11N20	5260	Ant1	23.010	---	PASS
11N20	5260	Ant2	23.040	---	PASS

11N20	5300	Ant1	23.400	---	PASS
11N20	5300	Ant2	28.260	---	PASS
11N20	5320	Ant1	22.050	---	PASS
11N20	5320	Ant2	21.900	---	PASS
11N20	5500	Ant1	21.840	---	PASS
11N20	5500	Ant2	22.080	---	PASS
11N20	5580	Ant1	21.780	---	PASS
11N20	5580	Ant2	21.990	---	PASS
11N20	5700	Ant1	22.080	---	PASS
11N20	5700	Ant2	21.900	---	PASS
11N20	5745	Ant1	17.610	>=0.5	PASS
11N20	5745	Ant2	17.640	>=0.5	PASS
11N20	5785	Ant1	17.640	>=0.5	PASS
11N20	5785	Ant2	17.640	>=0.5	PASS
11N20	5825	Ant1	17.640	>=0.5	PASS
11N20	5825	Ant2	17.610	>=0.5	PASS
11N40	5190	Ant1	39.960	---	PASS
11N40	5190	Ant2	39.780	---	PASS
11N40	5230	Ant1	40.020	---	PASS
11N40	5230	Ant2	44.880	---	PASS
11N40	5270	Ant1	40.200	---	PASS
11N40	5270	Ant2	40.440	---	PASS
11N40	5310	Ant1	39.900	---	PASS
11N40	5310	Ant2	39.840	---	PASS
11N40	5510	Ant1	39.900	---	PASS
11N40	5510	Ant2	39.720	---	PASS
11N40	5550	Ant1	39.840	---	PASS
11N40	5550	Ant2	39.780	---	PASS
11N40	5670	Ant1	39.840	---	PASS
11N40	5670	Ant2	39.900	---	PASS
11N40	5755	Ant1	36.180	>=0.5	PASS
11N40	5755	Ant2	36.240	>=0.5	PASS
11N40	5795	Ant1	36.480	>=0.5	PASS
11N40	5795	Ant2	36.480	>=0.5	PASS
11AC20	5180	Ant1	21.990	---	PASS

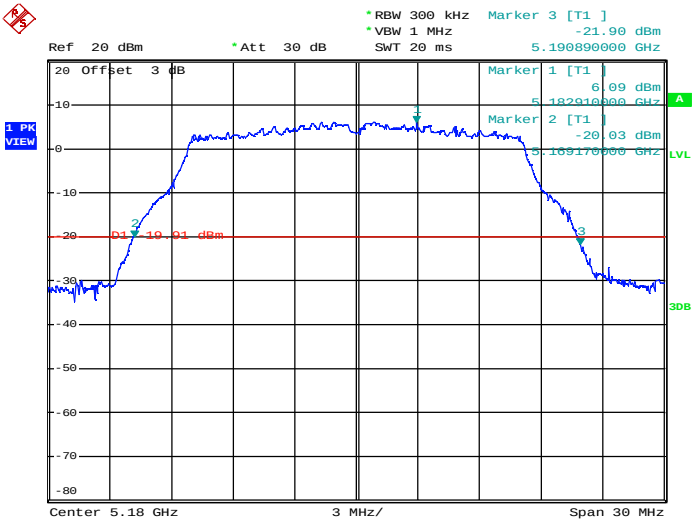
11AC20	5180	Ant2	21.990	---	PASS
11AC20	5220	Ant1	24.060	---	PASS
11AC20	5220	Ant2	21.810	---	PASS
11AC20	5240	Ant1	23.220	---	PASS
11AC20	5240	Ant2	22.800	---	PASS
11AC20	5260	Ant1	24.900	---	PASS
11AC20	5260	Ant2	26.790	---	PASS
11AC20	5300	Ant1	24.840	---	PASS
11AC20	5300	Ant2	26.970	---	PASS
11AC20	5320	Ant1	21.900	---	PASS
11AC20	5320	Ant2	21.870	---	PASS
11AC20	5500	Ant1	21.870	---	PASS
11AC20	5500	Ant2	21.930	---	PASS
11AC20	5580	Ant1	21.810	---	PASS
11AC20	5580	Ant2	21.810	---	PASS
11AC20	5700	Ant1	21.870	---	PASS
11AC20	5700	Ant2	22.020	---	PASS
11AC20	5745	Ant1	17.640	>=0.5	PASS
11AC20	5745	Ant2	17.640	>=0.5	PASS
11AC20	5785	Ant1	17.610	>=0.5	PASS
11AC20	5785	Ant2	17.610	>=0.5	PASS
11AC20	5825	Ant1	17.580	>=0.5	PASS
11AC20	5825	Ant2	17.610	>=0.5	PASS
11AC80	5210	Ant1	82.800	---	PASS
11AC80	5210	Ant2	81.840	---	PASS
11AC80	5290	Ant1	82.560	---	PASS
11AC80	5290	Ant2	82.200	---	PASS
11AC80	5530	Ant1	87.480	---	PASS
11AC80	5530	Ant2	82.080	---	PASS
11AC80	5610	Ant1	80.520	---	PASS
11AC80	5610	Ant2	80.400	---	PASS
11AC80	5775	Ant1	76.080	>=0.5	PASS
11AC80	5775	Ant2	76.080	>=0.5	PASS
11AC40	5190	Ant1	39.900	---	PASS
11AC40	5190	Ant2	39.780	---	PASS

11AC40	5230	Ant1	43.560	---	PASS
11AC40	5230	Ant2	40.140	---	PASS
11AC40	5270	Ant1	39.960	---	PASS
11AC40	5270	Ant2	44.400	---	PASS
11AC40	5310	Ant1	39.780	---	PASS
11AC40	5310	Ant2	39.780	---	PASS
11AC40	5510	Ant1	39.840	---	PASS
11AC40	5510	Ant2	39.720	---	PASS
11AC40	5550	Ant1	39.840	---	PASS
11AC40	5550	Ant2	40.080	---	PASS
11AC40	5670	Ant1	39.900	---	PASS
11AC40	5670	Ant2	39.780	---	PASS
11AC40	5755	Ant1	36.240	>=0.5	PASS
11AC40	5755	Ant2	36.180	>=0.5	PASS
11AC40	5795	Ant1	36.480	>=0.5	PASS
11AC40	5795	Ant2	36.480	>=0.5	PASS

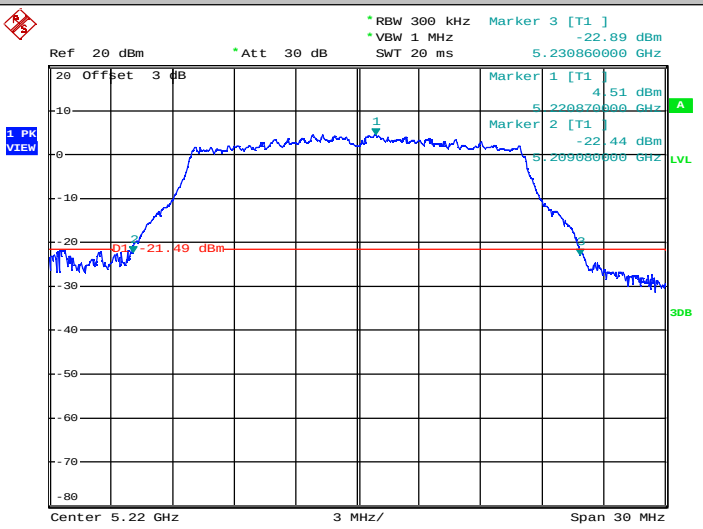
Emission Bandwidth Measurement_11A_5180_Ant1



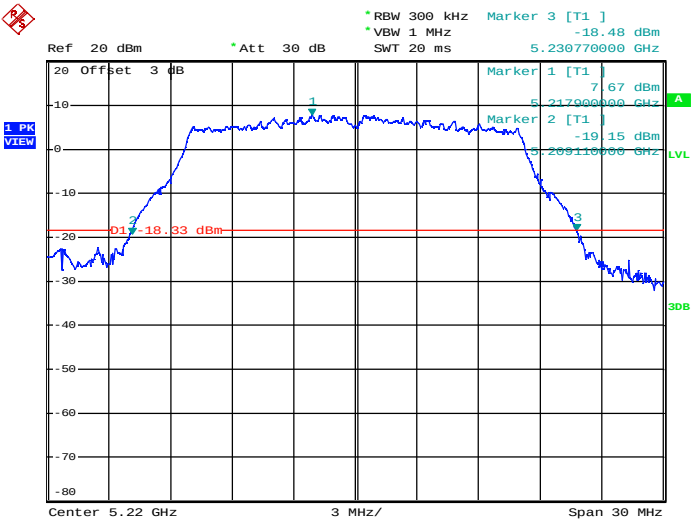
Emission Bandwidth Measurement_11A_5180_Ant2



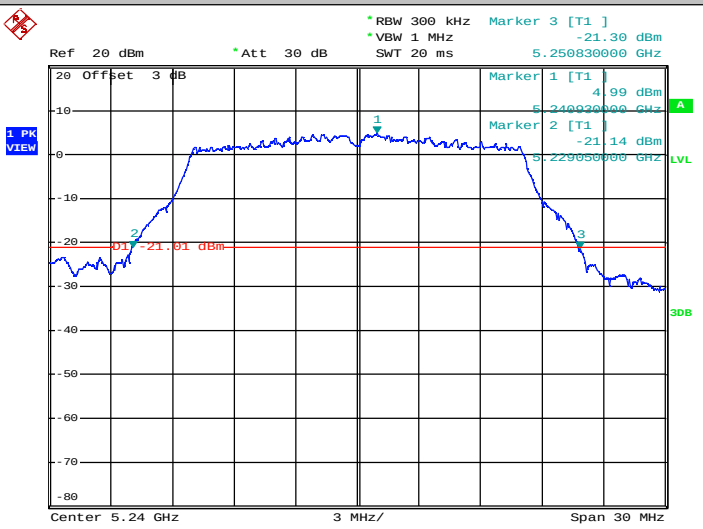
Emission Bandwidth Measurement_11A_5220_Ant1



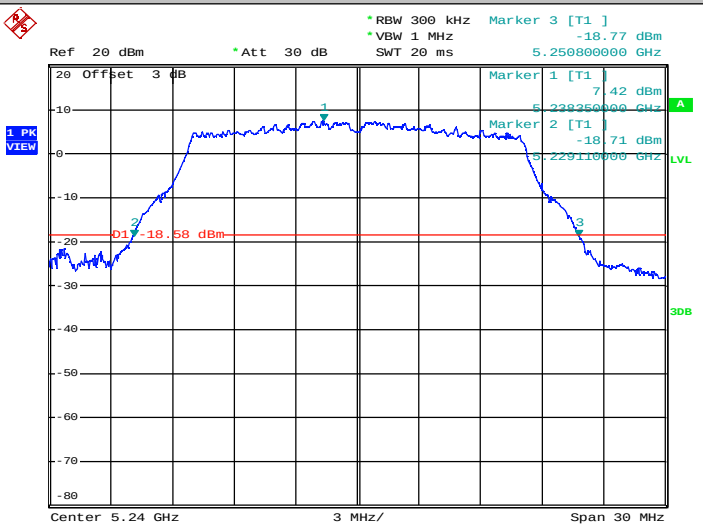
Emission Bandwidth Measurement_11A_5220_Ant2



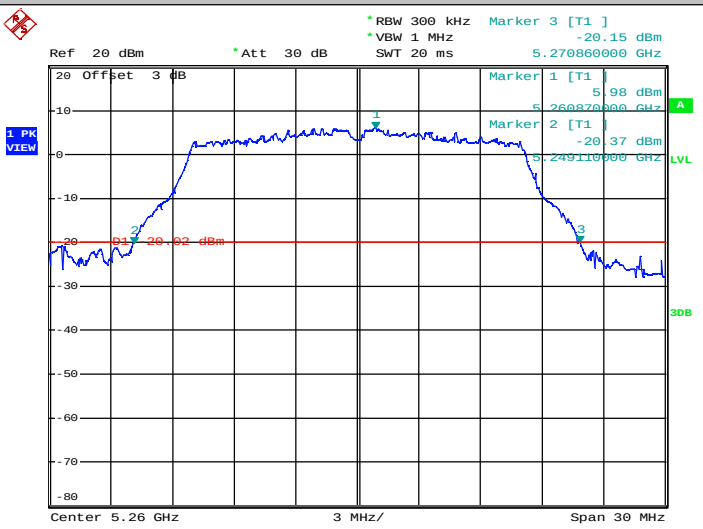
Emission Bandwidth Measurement_11A_5240_Ant1



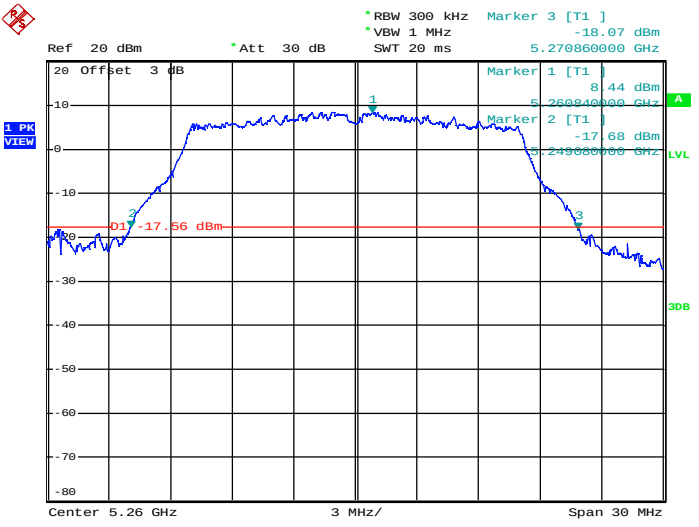
Emission Bandwidth Measurement_11A_5240_Ant2



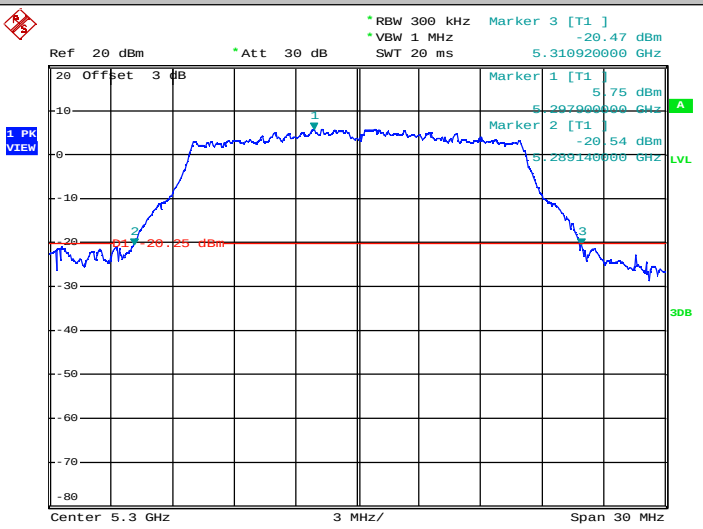
Emission Bandwidth Measurement_11A_5260_Ant1



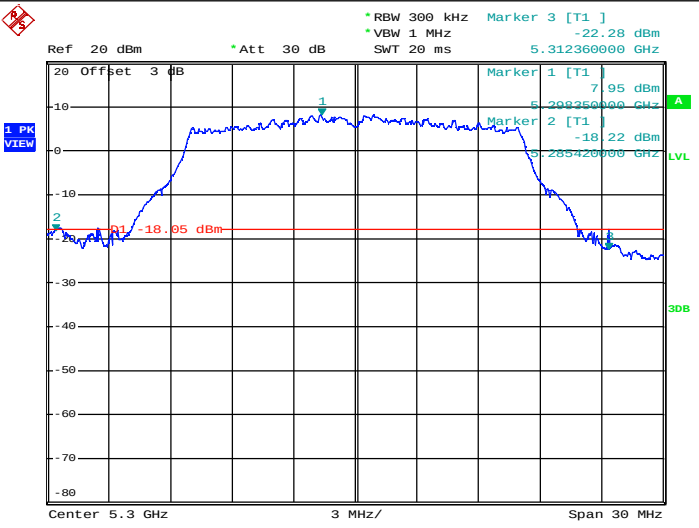
Emission Bandwidth Measurement_11A_5260_Ant2



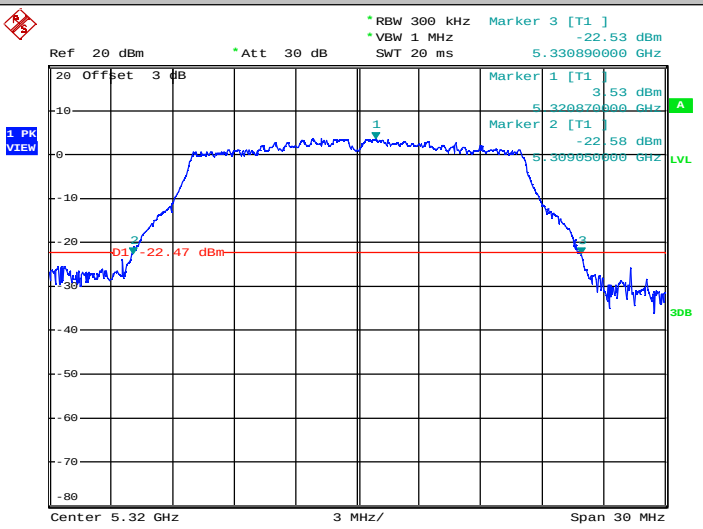
Emission Bandwidth Measurement_11A_5300_Ant1



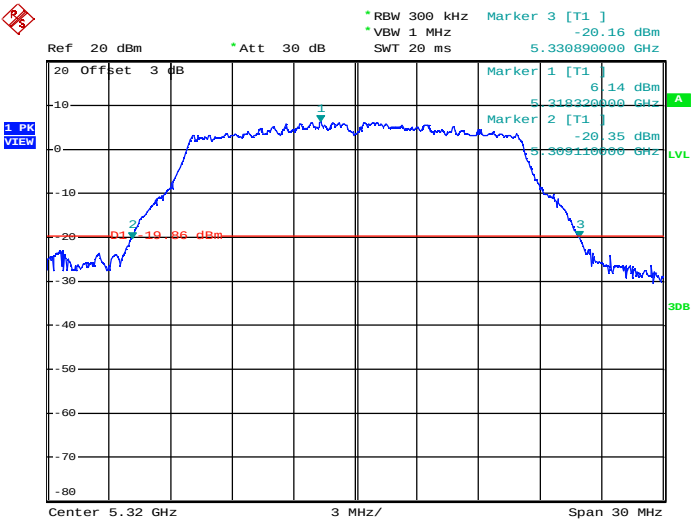
Emission Bandwidth Measurement_11A_5300_Ant2



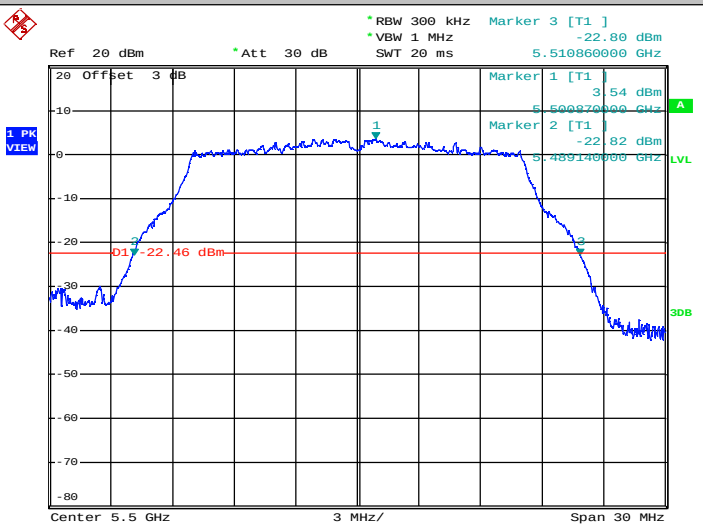
Emission Bandwidth Measurement_11A_5320_Ant1



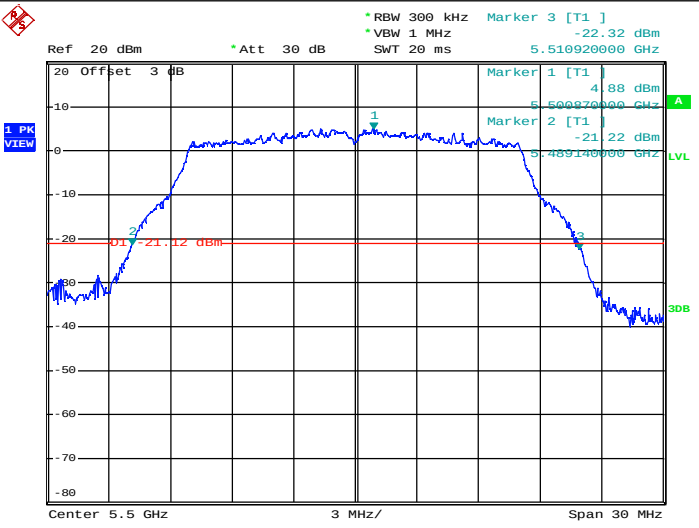
Emission Bandwidth Measurement_11A_5320_Ant2



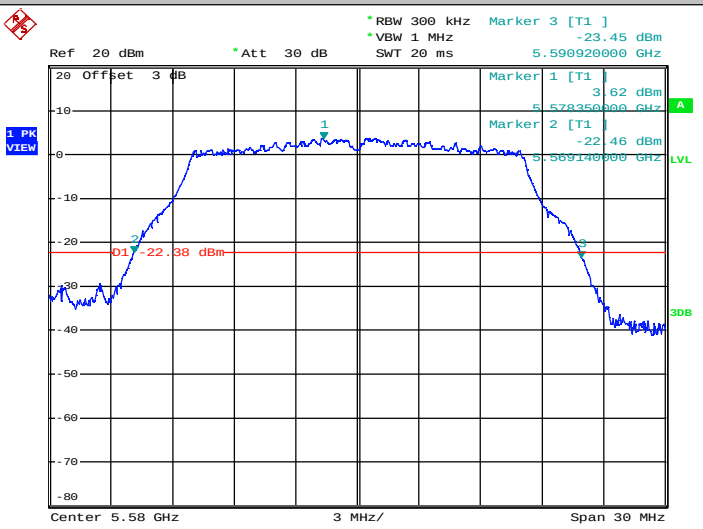
Emission Bandwidth Measurement_11A_5500_Ant1



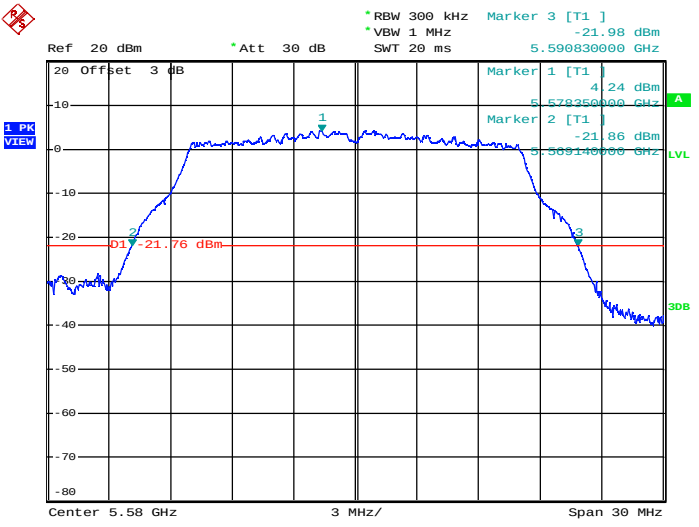
Emission Bandwidth Measurement_11A_5500_Ant2



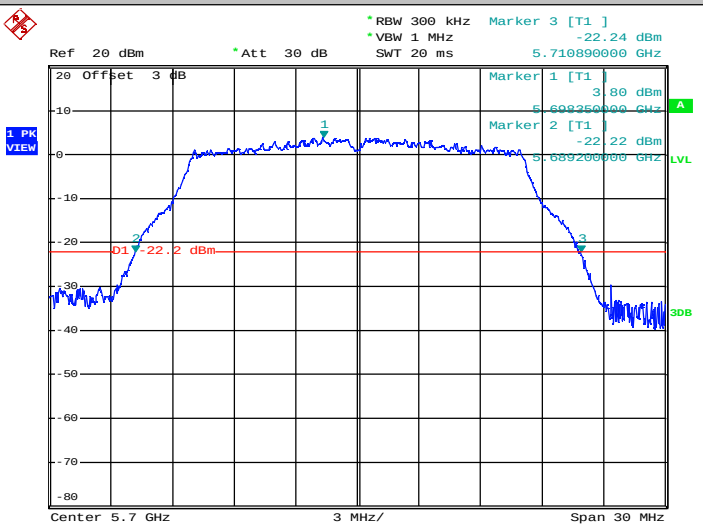
Emission Bandwidth Measurement_11A_5580_Ant1



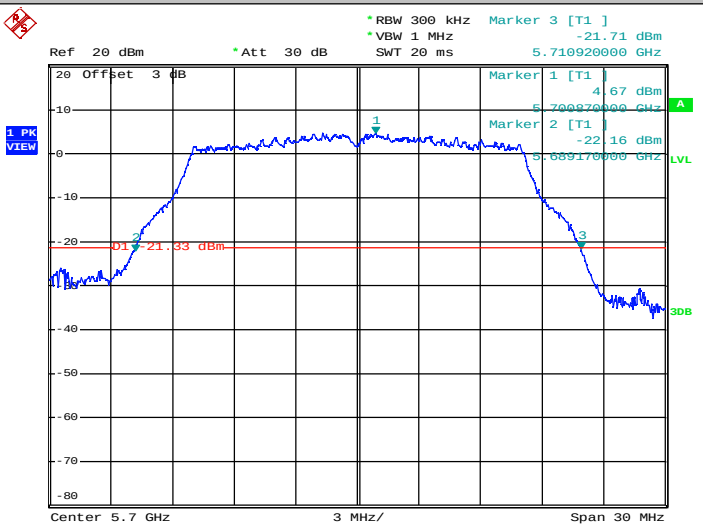
Emission Bandwidth Measurement_11A_5580_Ant2



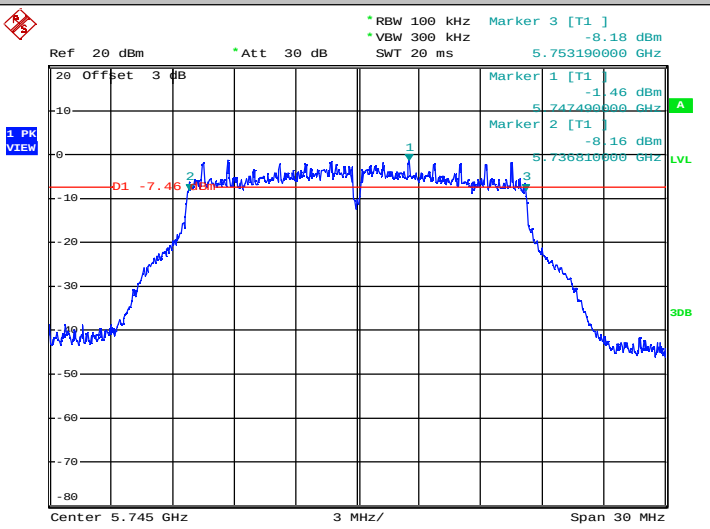
Emission Bandwidth Measurement_11A_5700_Ant1



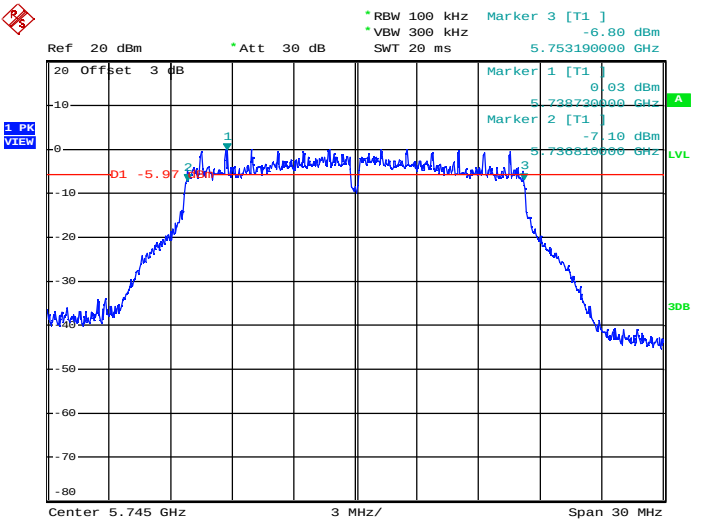
Emission Bandwidth Measurement_11A_5700_Ant2



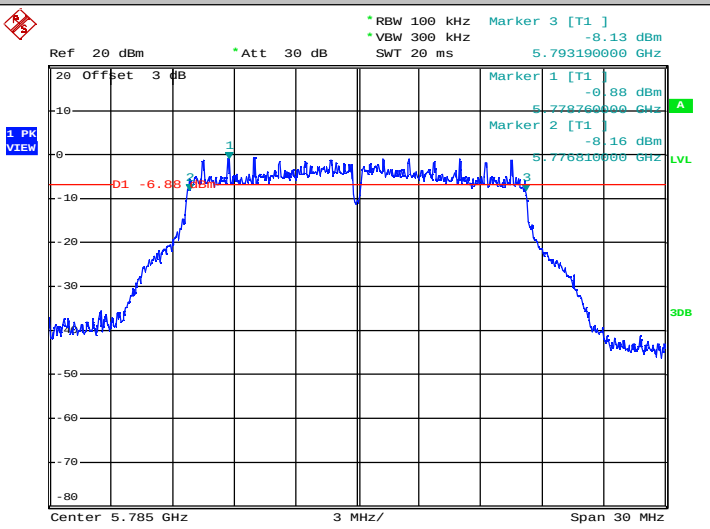
Emission Bandwidth Measurement_11A_5745_Ant1



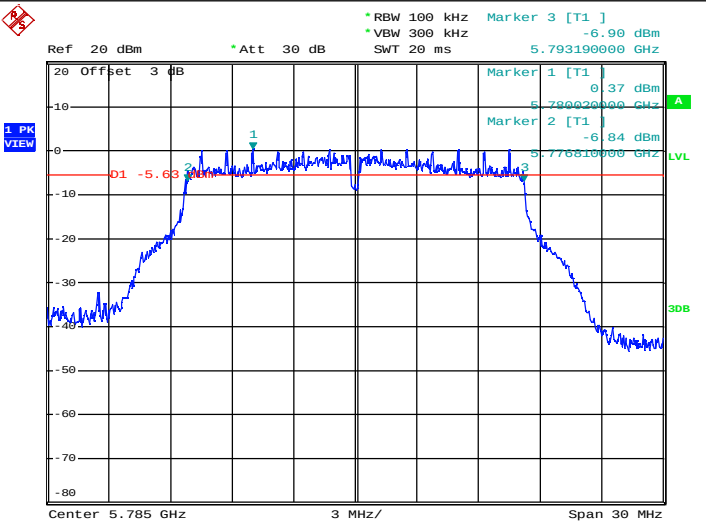
Emission Bandwidth Measurement_11A_5745_Ant2



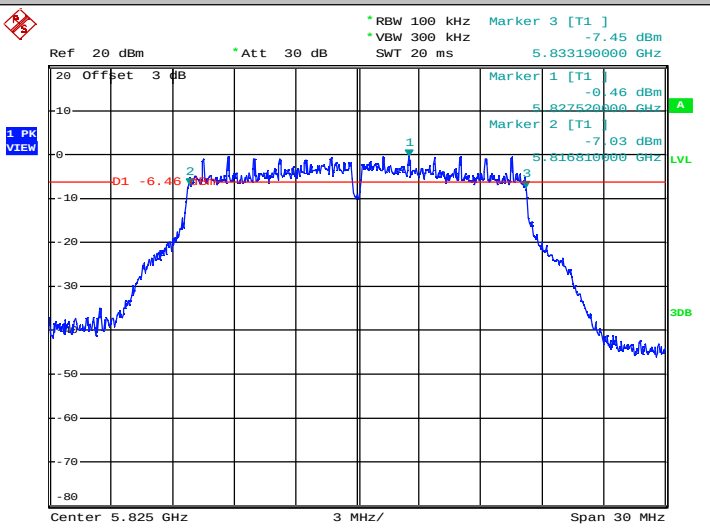
Emission Bandwidth Measurement_11A_5785_Ant1



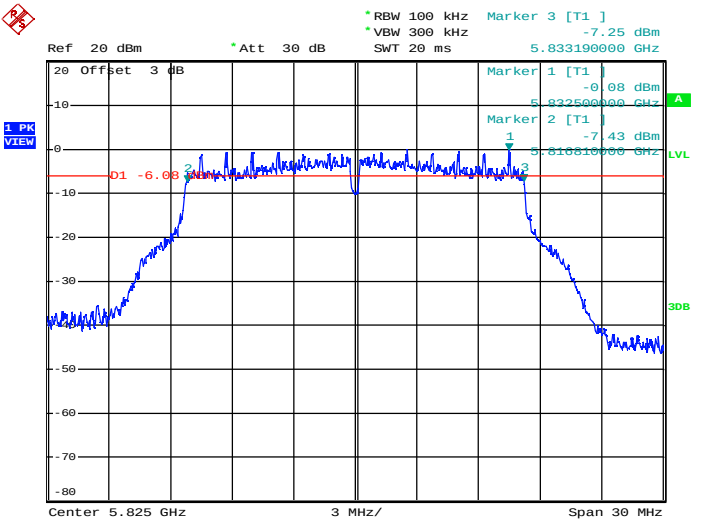
Emission Bandwidth Measurement_11A_5785_Ant2



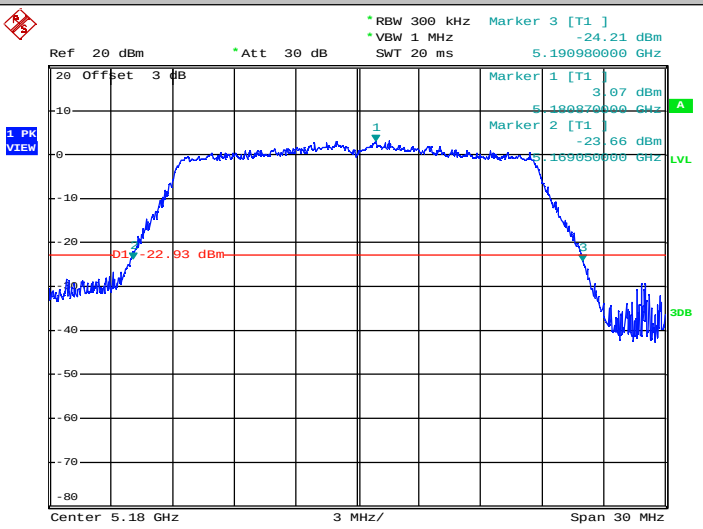
Emission Bandwidth Measurement_11A_5825_Ant1



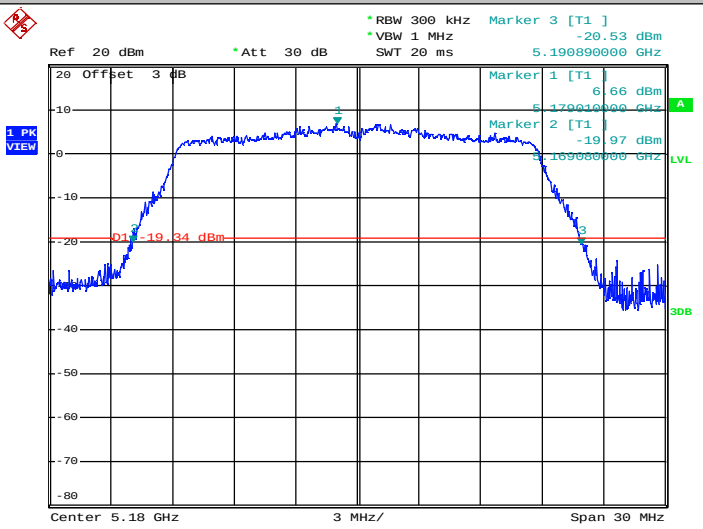
Emission Bandwidth Measurement_11A_5825_Ant2



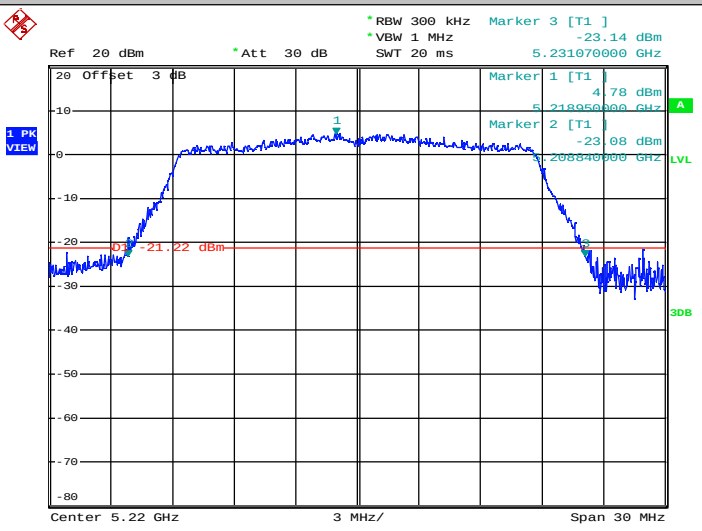
Emission Bandwidth Measurement_11N20_5180_Ant1



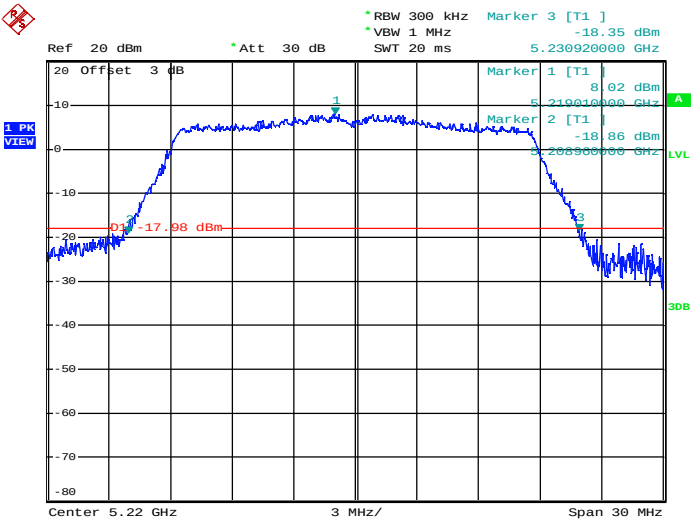
Emission Bandwidth Measurement_11N20_5180_Ant2



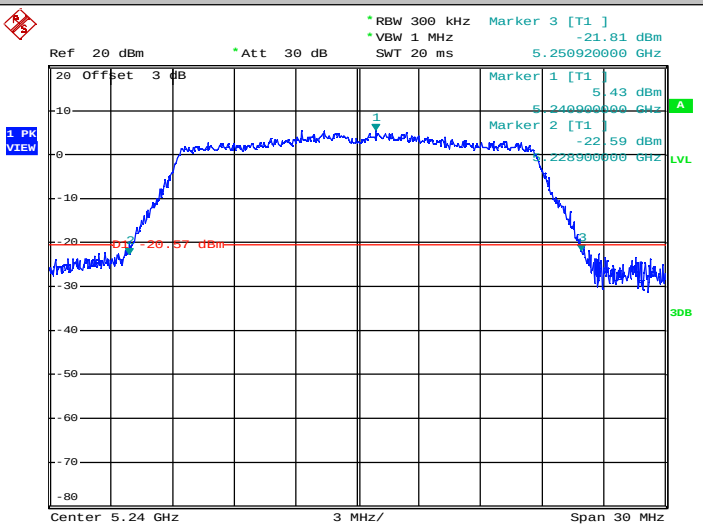
Emission Bandwidth Measurement_11N20_5220_Ant1



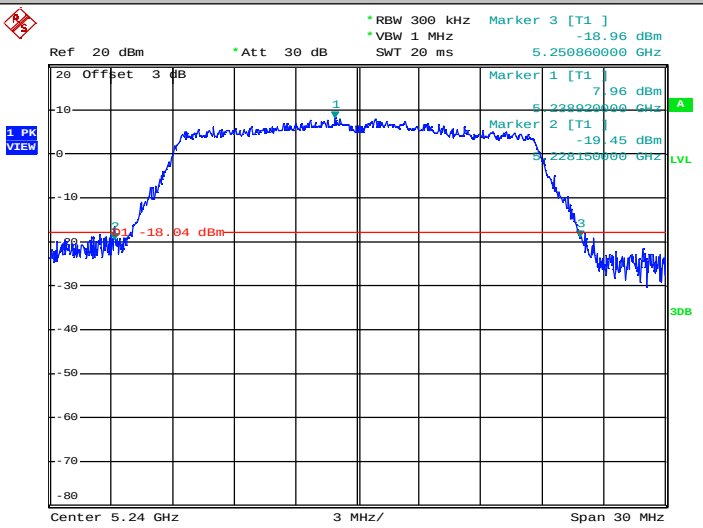
Emission Bandwidth Measurement_11N20_5220_Ant2



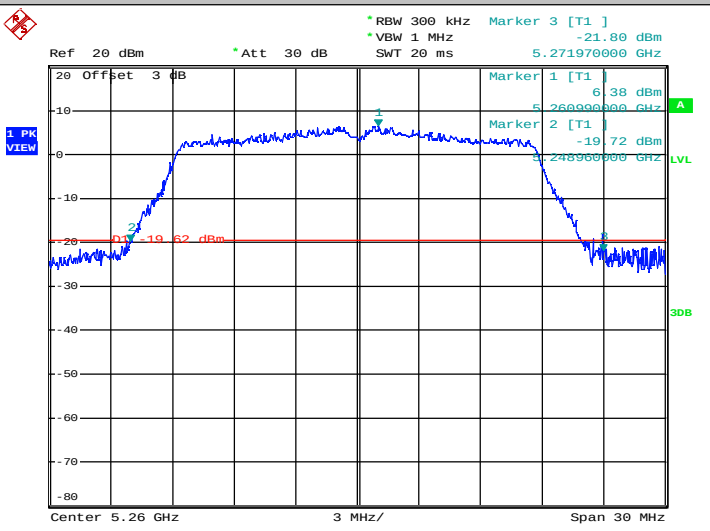
Emission Bandwidth Measurement_11N20_5240_Ant1



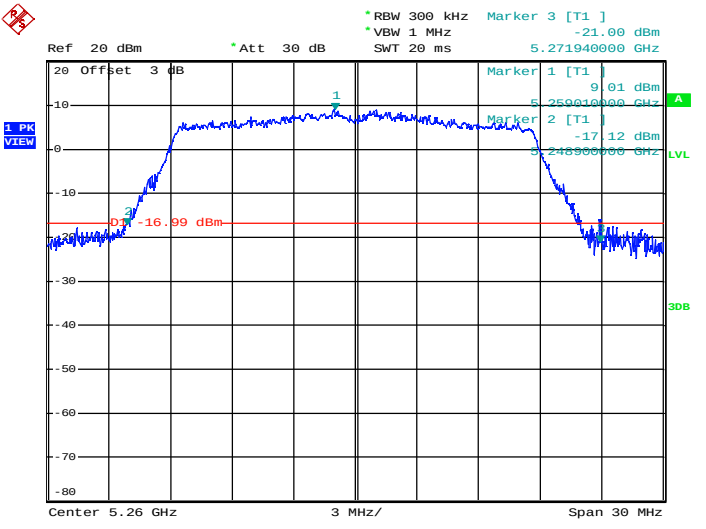
Emission Bandwidth Measurement_11N20_5240_Ant2



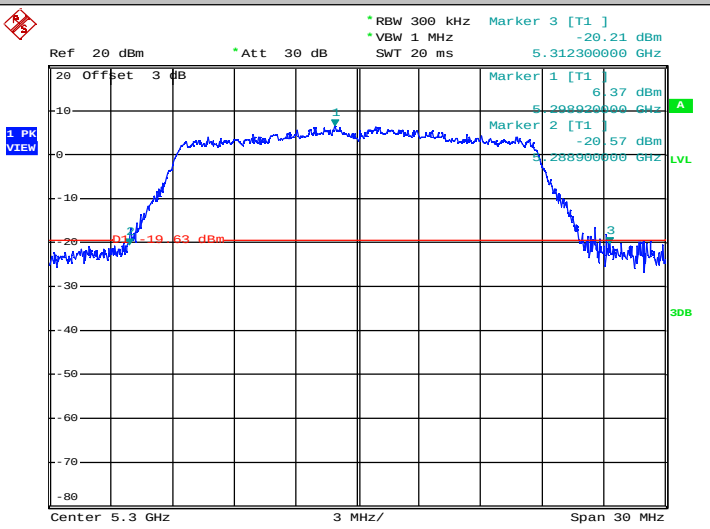
Emission Bandwidth Measurement_11N20_5260_Ant1



Emission Bandwidth Measurement_11N20_5260_Ant2



Emission Bandwidth Measurement_11N20_5300_Ant1



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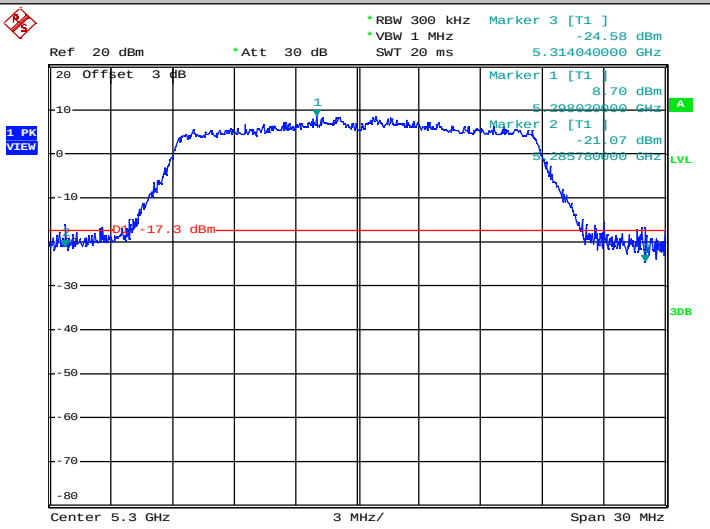
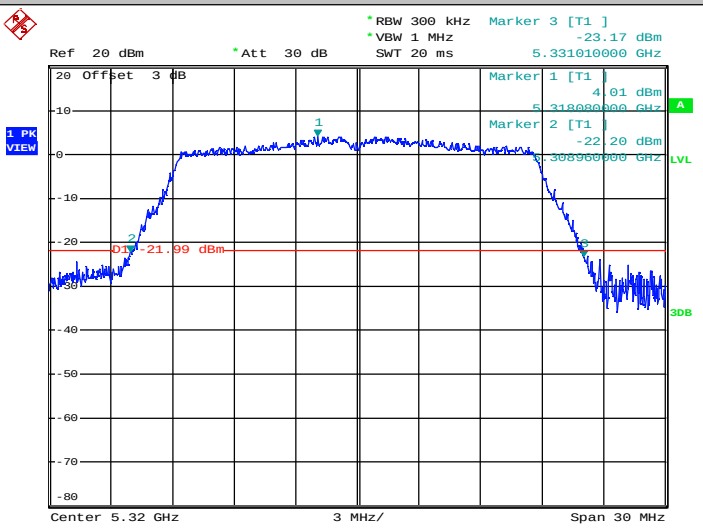


Emission Bandwidth Measurement_11N20_5320_Ant1



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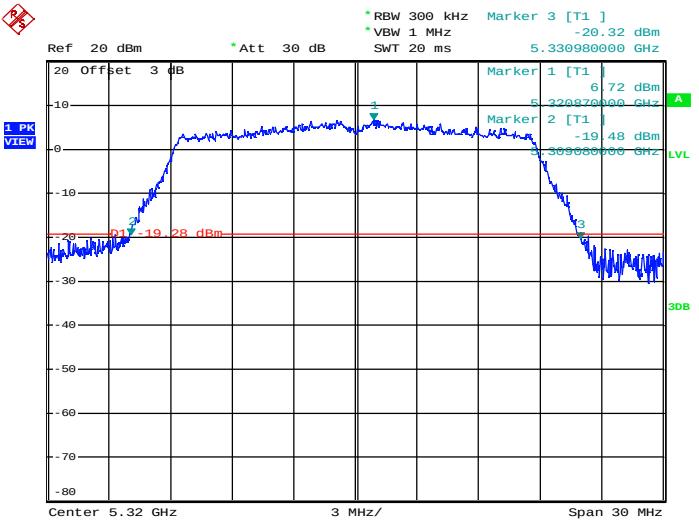
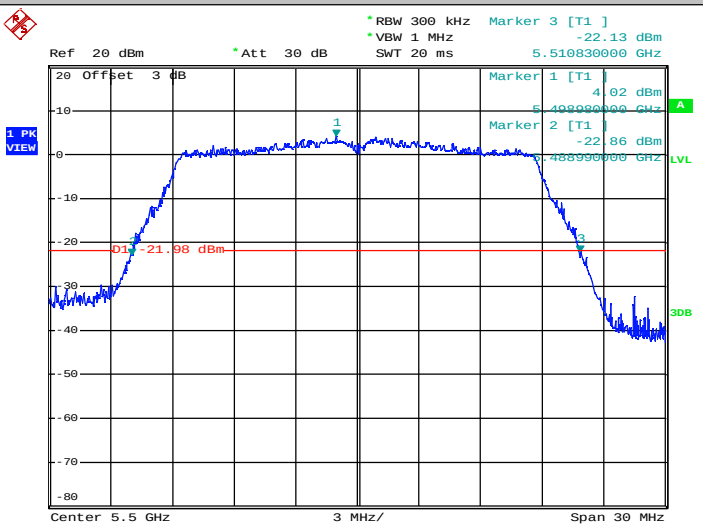
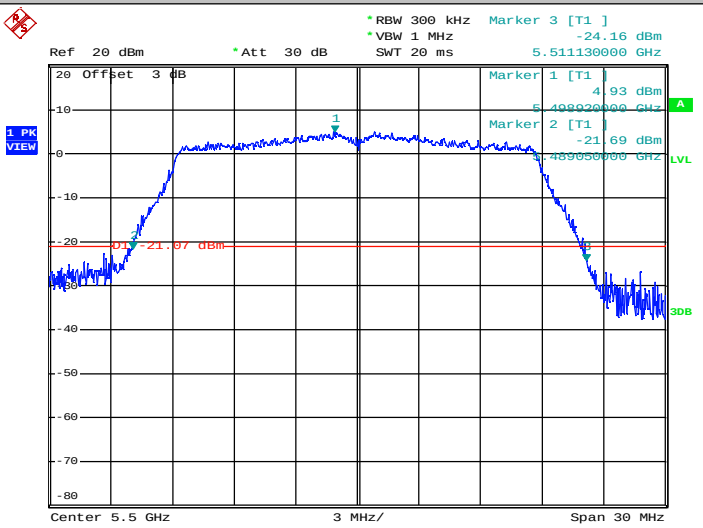


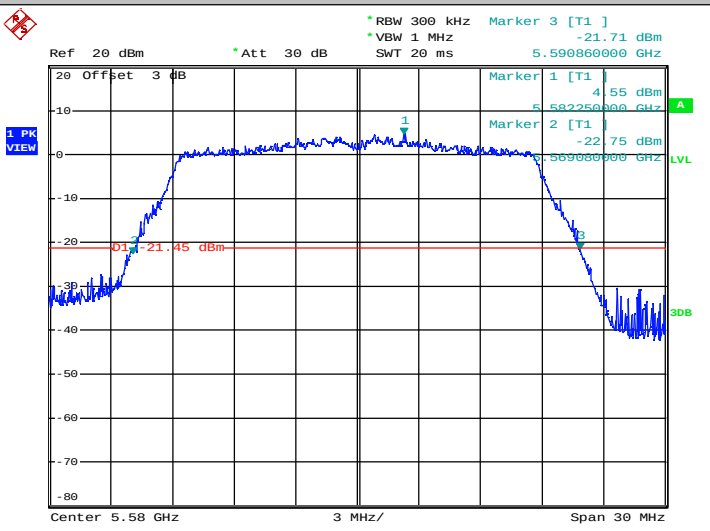
Emission Bandwidth Measurement_11N20_5500_Ant1



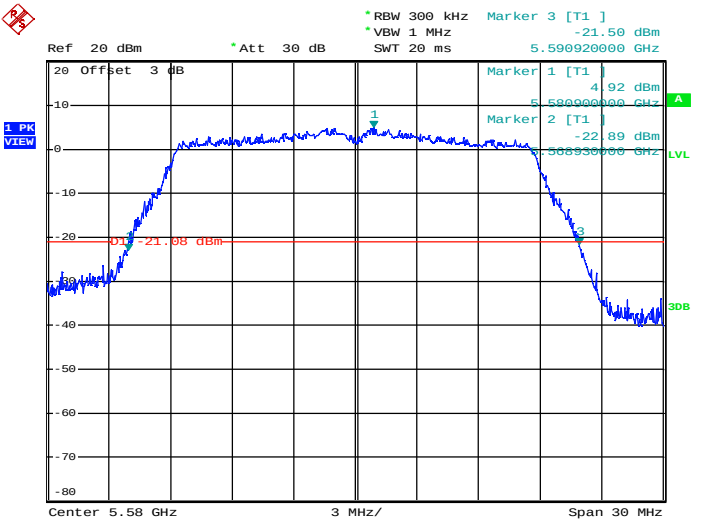
Emission Bandwidth Measurement_11N20_5500_Ant2



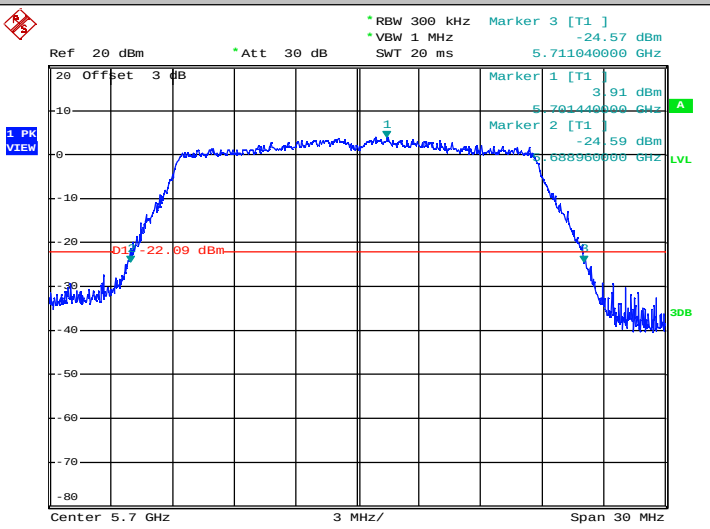
Emission Bandwidth Measurement_11N20_5580_Ant1



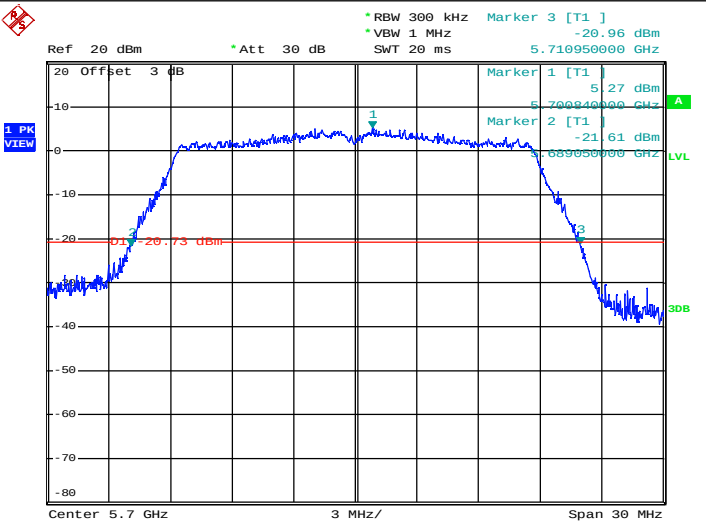
Emission Bandwidth Measurement_11N20_5580_Ant2



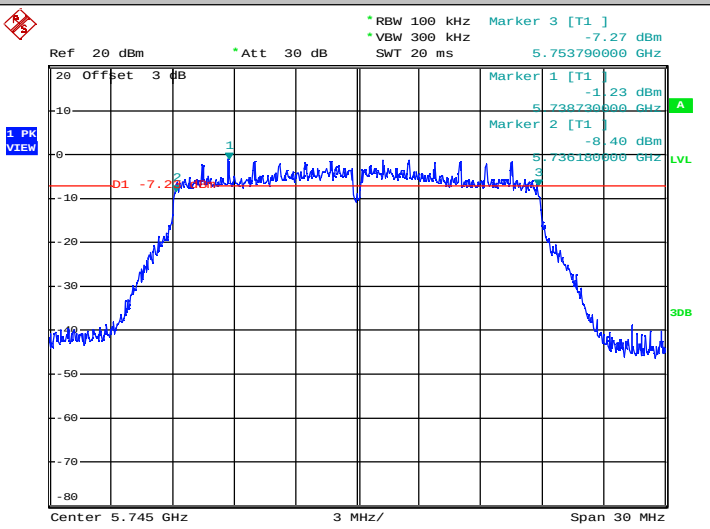
Emission Bandwidth Measurement_11N20_5700_Ant1



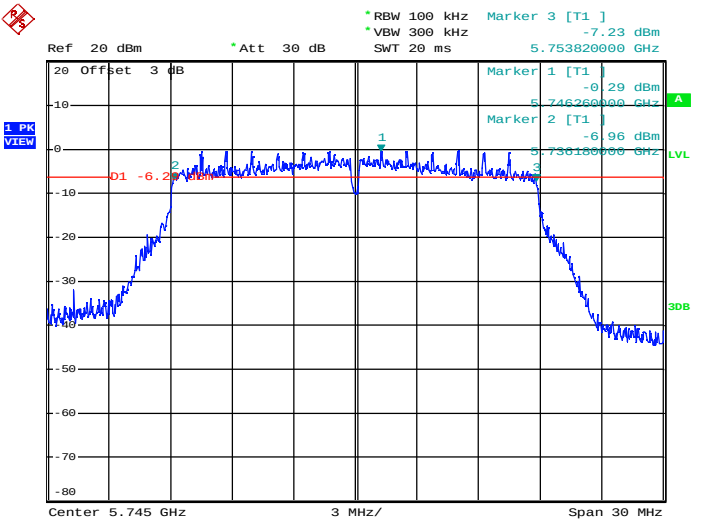
Emission Bandwidth Measurement_11N20_5700_Ant2



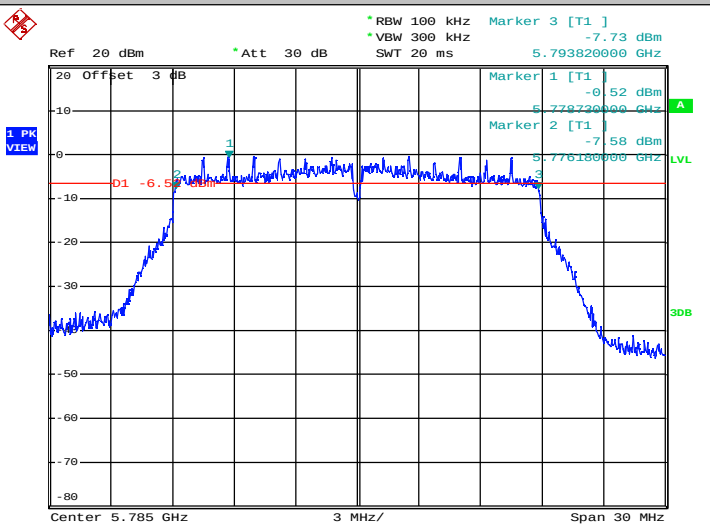
Emission Bandwidth Measurement_11N20_5745_Ant1



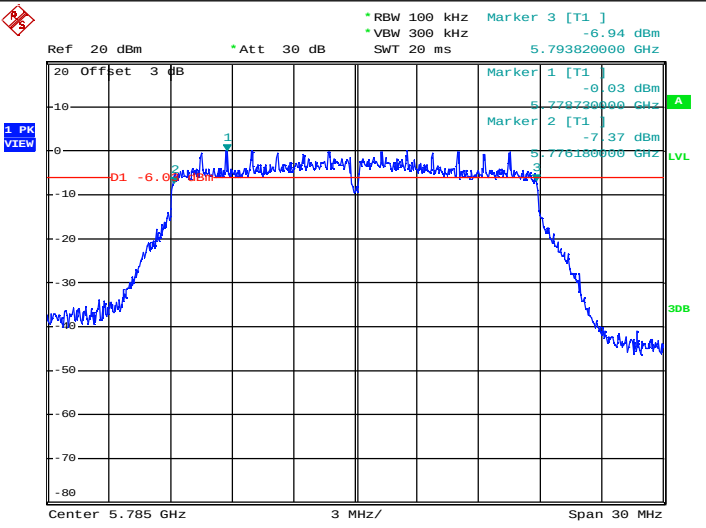
Emission Bandwidth Measurement_11N20_5745_Ant2



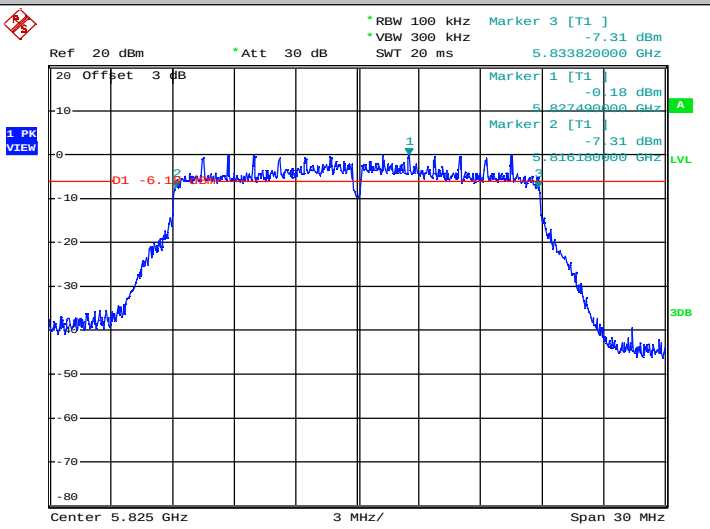
Emission Bandwidth Measurement_11N20_5785_Ant1



Emission Bandwidth Measurement_11N20_5785_Ant2



Emission Bandwidth Measurement_11N20_5825_Ant1



Emission Bandwidth Measurement_11N20_5825_Ant2