TEST REPORT

REPORT NUMBER: B17W00112-WLAN 5.8GHz_Rev2

ON

Type of Equipment:	4G TLE mobile phone
Model Name:	A1-901
Manufacturer:	SHENZHEN FUTAIHONG PRECISION INDUSTRY CO.,LTD

ACCORDING TO

FCC Part 15
15.407 General technical requirements.
ANSI C63.10-2013:American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

Chongqing Institute of Telecommunications

Month date, year
Jun, 2, 2017
Signature

Zhang Yan
Director

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of Chongqing Institute of Telecommunications.

FCC ID:	2AK9KA1
Report Date:	2017-05-31
Test Firm Name:	Chongqing Institute of Telecommunications
FCC Registration Number:	428018

Statement

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Parts 15. The sample tested was found to comply with the requirements defined in the applied rules.

CONTENTS

1 General Information

1.1 Notes

All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Parts 15.

The test results of this test report relate exclusively to the item(s) tested as specified in section 2.

The following deviation from, additions to, or exclusions from the test specifications have been made. See Annex B.

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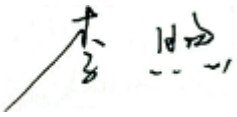
1.2 Testers

Name:	Li Xu
Position:	Engineer
Department:	Department of RF test
Date:	2017-02-21 to 2017-06-02
Signature:	

Editor of this test report:

Name:	Zhou Jin
Position:	Engineer
Department:	Department of RF test
Date:	2017-06-02
Signature:	

Technical responsibility for area of testing:

Name:	Zhang Yan
Position:	Manager
Department:	Director of the laboratory
Date:	2017-06-02
Signature:	

1.3 Testing Laboratory information

1.3.1 Location

Name:	Chongqing Institute of Telecommunications
Address:	No. 8, Yuma Road, Chayuan New City, Nan'an District Chongqing P. R. CHINA, 401336
Tel:	0086 23 88069965
Fax:	0086 23 88608777
Email:	songweiwei@chinattl.com

1.3.2 Details of accreditation status

Accredited by:	------
Registration number:	------
Standard:	------

1.3.3 Test location, where different from section 1.3.1

Name:	------
Street:	------
City:	------
Country:	------
Telephone:	------
Fax:	------
Postcode:	------

1.4 Details of applicant or manufacturer

1.4.1 Applicant

Name:	Cloud Minds(Shenzhen) Holdings Co. Ltd
Address:	Room 201 Building A No.1 Qian hai shengang Corporation Zone Qian hai Road 1st Shenzhen（Stay by Shenzhen Qianhai Commerce Secretariat Co., Ltd ）
Country:	China
Telephone:	0086 13426155325
Fax:	------
Contact:	andy.xu
Email:	andy.xu@cloudminds.com

1.4.2 Manufacturer (if different from applicant in section 1.4.1)

Name:	SHENZHEN FUTAIHONG PRECISION INDUSTRY CO.,LTD
Address:	Office Address Floor 2.Building 3. Zone K1. Foxcon Technology park, 2ND DONGHUAN RD NO.2.LONGHUA Agency. LONGHUA NEW DISTRICT SHENZHEN
Country:	China
Telephone:	------
Fax:	------
Contact:	------
Email:	------

2 Test Item

2.1 General Information

Manufacturer:	SHENZHEN FUTAIHONG PRECISION INDUSTRY CO.,LTD
Type of Equipment:	4G TLE mobile phone
Model Name:	A1-901
Serial Number:	S7/18: 862851030000163/862851030020161 S15/18: 862851030000175/862851030020177
Production Status:	Product
Receipt date of test item:	2017-02-21

2.2 Outline of Equipment under Test

The A1-901, referred to as "EUT" hereafter, is a 4G TLE mobile phone, the EUT supports MIMO 2T2X, all transmit signals are completely uncorrelated. The table below shows the supported bands for the EUT.

Technology	Band	Frequency (MHz)	Note
WLAN	Band 1	5180 – 5240	--
	Band 2	5260 – 5320	--
	Band 3	5500 – 5700	--
	Band 4	5745 – 5825	--

2.3 Modifications Incorporated in EUT

The EUT has not been modified from what is described by the brand name and unique type identification stated above.

2.4 Equipment Configuration

Equipment configuration list:

Item	Generic Description	Manufacturer	Type	Serial No.	Remarks
A	Adaptor	None	None	--	None

2.5 Other Information

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3 Summary of Test Results

A brief summary of the tests carried out is shown as following.

FCC Rules	Name of Test	Result
15.407 (a)	Maximum Peak Output Power	Pass
15.407 (a)	Peak Power Spectral Density	Pass
15. 407 (e)	Occupied Bandwidth	Pass
15. 407 (b)	Band Edges Compliance	Pass
15. 407 (b)	Transmitter Spurious Emission - Conducted	Pass
15. 407 (b)	Transmitter Spurious Emission - Radiated	Pass
15. 407 (b)	AC Powerline Conducted Emission	Pass
Note :--		

4 Test Equipments and Ancillaries Used For Tests

The test equipments and ancillaries used are as follows.

No.	Equipment	Model	SN	Manufacture	Cal. Due Date
1	EMI Test Receiver	ESU26	100367	R&S	2018-03-03
2	Trilog super broadband test antenna	VULB 9163	9163-544	R&S	2017-12-01
3	Double-Ridged Horn Antenna	HF907	100356	R&S	2017-12-01
4	Fully-Anechoic Chamber	11.8m×6.5 m×6.3m	--	ETS	2017-08-19
5	Universal Radio Communication Tester	CMW500	128181	R&S	2018-03-03
6	Signal Generator	SMU200A	104517	R&S	2018-03-03
7	spectrum analyzer	FSQ 26	201137/026	R&S	2018-03-03
8	DC Power Supply	N6705B	MY50000919	Agilent	2017-12-06
9	Test Receiver	ESU40	100350	R&S	2018-03-03

5 Test Results

5.1 Maximum Peak Output Power

Specifications:	FCC Part 15.407 (a)
DUT Serial Number:	S15/18: 862851030000175/862851030020177
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

Limit Level Construction:

According to Part 15.407(a)

For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz.

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

Note: where "B" is the 26 dB emissions bandwidth in MHz.

Antenna Gain:

Antenna1 gain is 0.5 dBi and the value is supplied by the applicant or manufacturer.

Antenna2 gain is 0.5 dBi and the value is supplied by the applicant or manufacturer.

Note:

The MIMO test requirement, RF conducted output power shall measure each transmitter chain by using channel power method.

And after obtain each individual transmitter chain power, then sum the output power.

5.1.1 802.11a Conducted RF Power Output Results

Mode	ANT	Frequency (MHz)	Channel	Maximum output power(rms) (dBm)
802.11a	1	5180	36	16.99
		5200	40	16.99
		5220	44	17.10
		5240	48	17.63
		5260	52	17.60
		5280	56	17.51
		5300	60	17.53
		5320	64	17.49
		5500	100	17.41
		5580	116	17.00
		5700	140	16.74
		5745	149	16.95
		5785	157	16.87
		5825	165	16.88

Mode	ANT	Frequency (MHz)	Channel	Maximum output power(rms) (dBm)
802.11a	2	5180	36	8.11
		5200	40	7.72
		5220	44	7.72
		5240	48	7.73
		5260	52	8.09
		5280	56	8.20
		5300	60	8.87
		5320	64	8.98
		5500	100	8.01
		5580	116	9.09
		5700	140	8.86
		5745	149	7.43
		5785	157	8.06
		5825	165	7.64

5.1.2 802.11n 20MHz Conducted RF Power Output Results

Mode	ANT	Frequency (MHz)	Channel	Maximum output power(rms) (dBm)
802.11n (20MHz)	1	5180	36	16.88
		5200	40	16.83
		5220	44	16.98
		5240	48	17.43
		5260	52	17.45
		5280	56	17.31
		5300	60	17.35
		5320	64	17.30
		5500	100	17.19
		5580	116	16.80
		5700	140	16.55
		5745	149	16.76
		5785	157	16.71
		5825	165	16.70

Mode	ANT	Frequency (MHz)	Channel	Maximum output power(rms) (dBm)
802.11n (20MHz)	2	5180	36	8.04
		5200	40	7.66
		5220	44	7.66
		5240	48	7.70
		5260	52	7.99
		5280	56	8.10
		5300	60	8.73
		5320	64	8.90
		5500	100	7.88
		5580	116	8.96
		5700	140	8.75
		5745	149	7.34
		5785	157	7.98
		5825	165	7.56

Mode	ANT	Frequency (MHz)	Channel	Maximum output power(rms) (dBm)
802.11n (20MHz)	1+2	5180	36	17.42
		5200	40	17.32
		5220	44	17.46
		5240	48	17.87
		5260	52	17.92
		5280	56	17.80
		5300	60	17.91
		5320	64	17.89
		5500	100	17.67
		5580	116	17.47
		5700	140	17.22
		5745	149	17.23
		5785	157	17.26
		5825	165	17.20

5.1.3 802.11n 40MHz Conducted RF Power Output Results

Mode	ANT	Frequency (MHz)	Channel	Maximum output power(rms) (dBm)
802.11n (40MHz)	1	5190	38	17.39
		5230	46	17.81
		5270	54	17.89
		5310	62	17.87
		5510	102	17.74
		5550	110	17.62
		5670	134	17.29
		5755	151	17.27
		5795	159	17.30

Mode	ANT	Frequency (MHz)	Channel	Maximum output power(rms) (dBm)
802.11n (40MHz)	2	5190	38	8.40
		5230	46	8.18
		5270	54	8.51
		5310	62	9.31
		5510	102	8.36
		5550	110	8.82
		5670	134	9.78
		5755	151	7.95
		5795	159	8.78

Mode	ANT	Frequency (MHz)	Channel	Maximum output power(rms) (dBm)
802.11n (40MHz)	1+2	5190	38	17.90
		5230	46	18.26
		5270	54	18.36
		5310	62	18.43
		5510	102	18.22
		5550	110	18.16
		5670	134	18.00
		5755	151	17.75
		5795	159	17.87

5.1.4 802.11ac 20MHz Conducted RF Power Output Results

Mode	ANT	Frequency (MHz)	Channel	Maximum output power(rms) (dBm)
802.11ac (20MHz)	1	5180	36	16.80
		5200	40	16.91
		5220	44	17.00
		5240	48	17.52
		5260	52	17.50
		5280	56	17.45
		5300	60	17.44
		5320	64	17.39
		5500	100	17.23
		5580	116	16.93
		5700	140	16.67
		5745	149	16.84
		5785	157	16.86
		5825	165	16.80

Mode	ANT	Frequency (MHz)	Channel	Maximum output power(rms) (dBm)
802.11ac (20MHz)	2	5180	36	8.04
		5200	40	7.65
		5220	44	7.63
		5240	48	7.64
		5260	52	7.96
		5280	56	8.05
		5300	60	8.83
		5320	64	8.86
		5500	100	7.89
		5580	116	8.96
		5700	140	8.73
		5745	149	7.31
		5785	157	7.94
		5825	165	7.55

Mode	ANT	Frequency (MHz)	Channel	Maximum output power(rms) (dBm)
802.11ac (20MHz)	1+2	5180	36	17.35
		5200	40	17.40
		5220	44	17.47
		5240	48	17.95
		5260	52	17.96
		5280	56	17.92
		5300	60	18.00
		5320	64	17.96
		5500	100	17.71
		5580	116	17.57
		5700	140	17.32
		5745	149	17.30
		5785	157	17.38
		5825	165	17.29

5.1.5 802.11ac 40MHz Conducted RF Power Output Results

Mode	ANT	Frequency (MHz)	Channel	Maximum output power(rms) (dBm)
802.11ac (40MHz)	1	5190	38	17.47
		5230	46	17.89
		5270	54	17.92
		5310	62	17.89
		5510	102	17.76
		5550	110	17.61
		5670	134	17.36
		5755	151	17.36
		5795	159	17.28

Mode	ANT	Frequency (MHz)	Channel	Maximum output power(rms) (dBm)
802.11ac (40MHz)	2	5190	38	8.53
		5230	46	8.25
		5270	54	8.58
		5310	62	9.34
		5510	102	8.40
		5550	110	8.84
		5670	134	9.79
		5755	151	7.95
		5795	159	8.82

Mode	ANT	Frequency (MHz)	Channel	Maximum output power(rms) (dBm)
802.11ac (40MHz)	1+2	5190	38	17.99
		5230	46	18.34
		5270	54	18.39
		5310	62	18.46
		5510	102	18.23
		5550	110	18.16
		5670	134	18.06
		5755	151	17.83
		5795	159	17.86

5.1.6 802.11ac 80MHz Conducted RF Power Output Results

Mode	ANT	Frequency (MHz)	Channel	Maximum output power(rms) (dBm)
802.11ac (80MHz)	1	5210	42	17.68
		5290	58	17.76
		5530	106	17.46
		5690	138	17.24
		5775	155	17.27

Mode	ANT	Frequency (MHz)	Channel	Maximum output power(rms) (dBm)
802.11ac (80MHz)	2	5210	42	8.37
		5290	58	8.64
		5530	106	8.37
		5690	138	9.42
		5775	155	8.08

Mode	ANT	Frequency (MHz)	Channel	Maximum output power(rms) (dBm)
802.11ac (80MHz)	1+2	5210	42	18.19
		5290	58	18.23
		5530	106	18.09
		5690	138	17.74
		5775	155	17.27

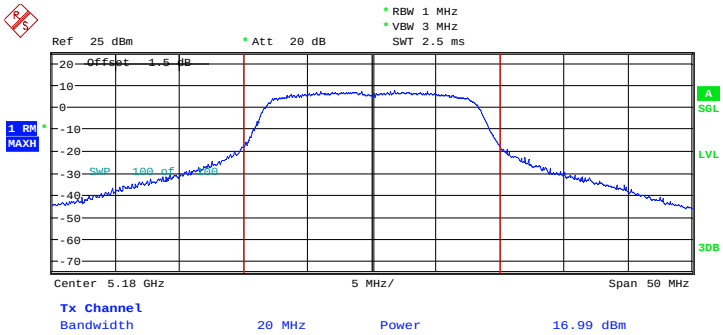

Fig. 1 Conducted Output Power 802.11a ANT1 CH36

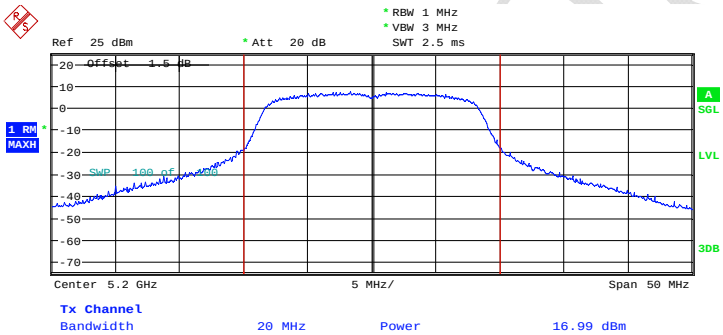

Fig. 2 Conducted Output Power 802.11a ANT1 CH40

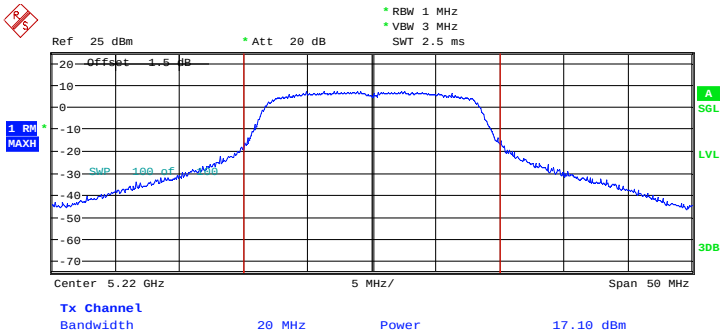

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Fig. 3 Conducted Output Power 802.11a ANT1 CH44

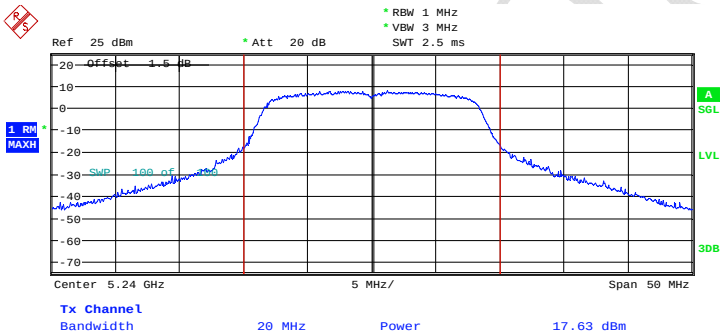

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Fig. 4 Conducted Output Power 802.11a ANT1 CH48

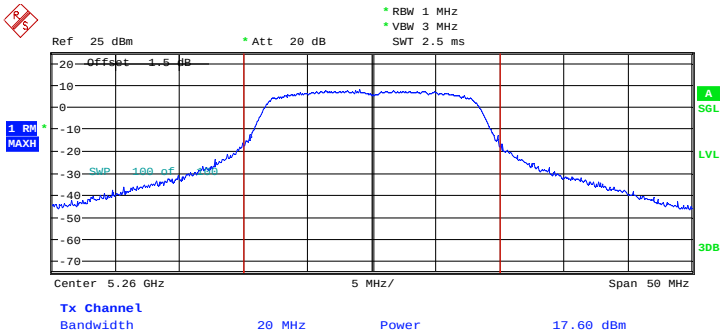

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Fig. 5 Conducted Output Power 802.11a ANT1 CH52

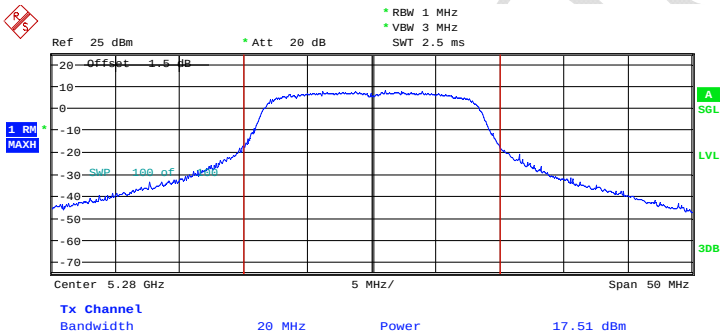

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Fig. 6 Conducted Output Power 802.11a ANT1 CH56

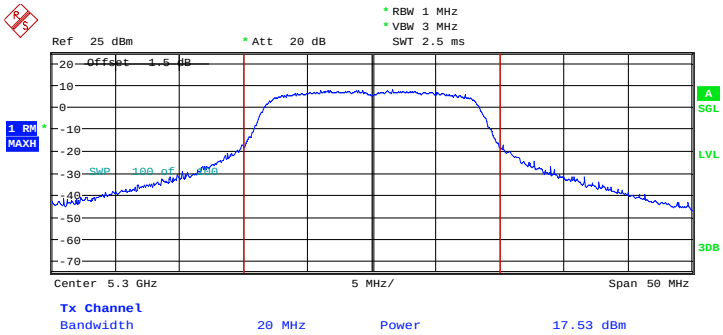

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Fig. 7 Conducted Output Power 802.11a ANT1 CH60

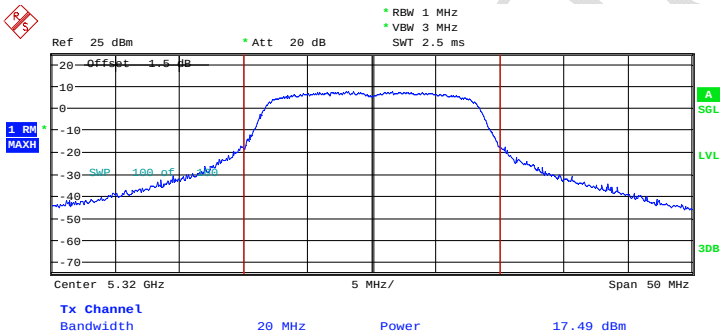

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Fig. 8 Conducted Output Power 802.11a ANT1 CH64

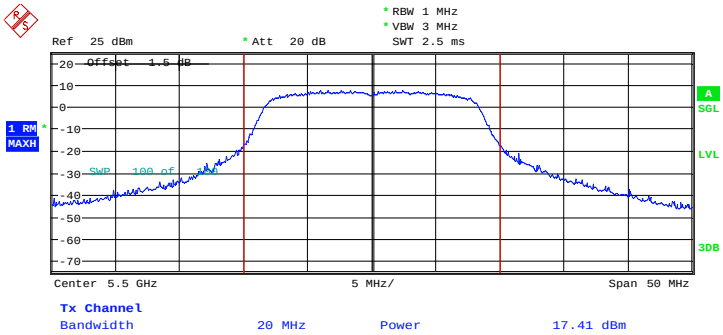

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Fig. 9 Conducted Output Power 802.11a ANT1 CH100

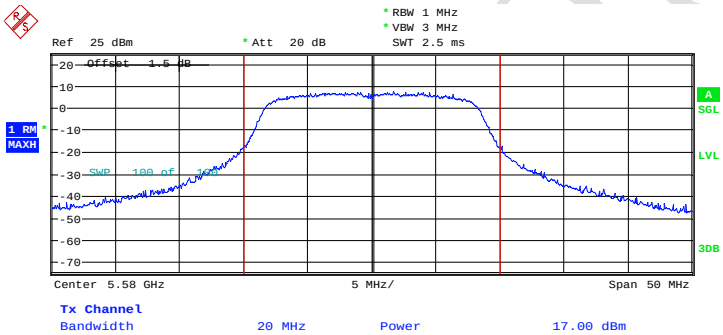

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Fig. 10 Conducted Output Power 802.11a ANT1 CH116

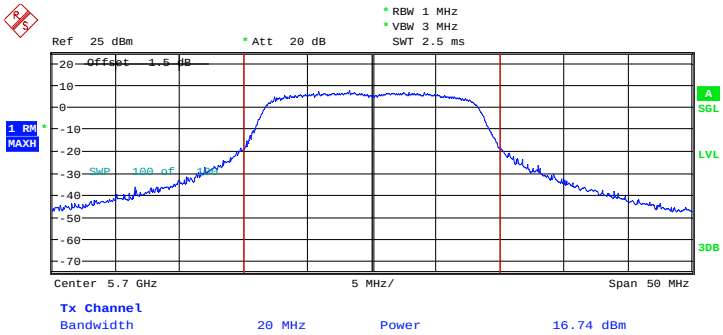

Fig. 11 Conducted Output Power 802.11a ANT1 CH140

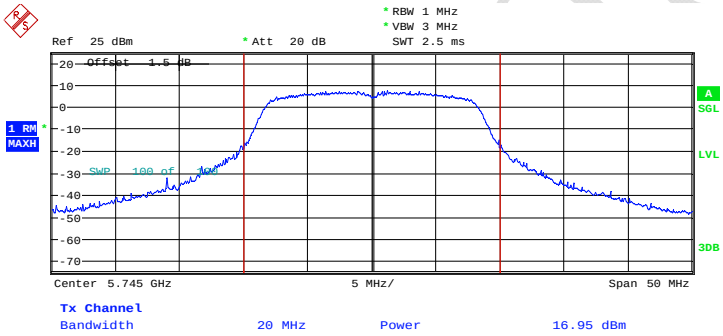

Fig. 12 Conducted Output Power 802.11a ANT1 CH149

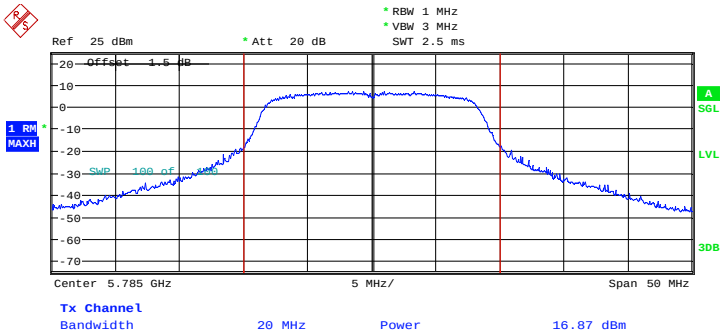

Fig. 13 Conducted Output Power 802.11a ANT1 CH157

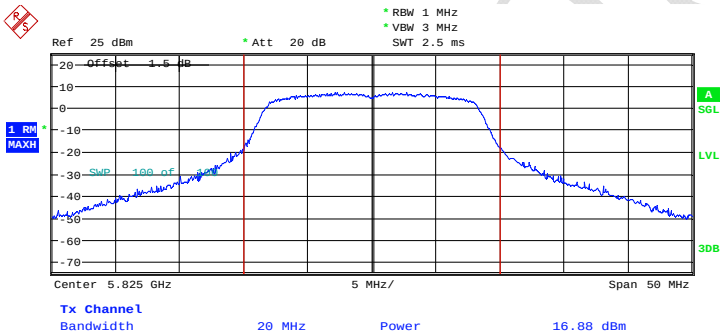

Fig. 14 Conducted Output Power 802.11a ANT1 CH165

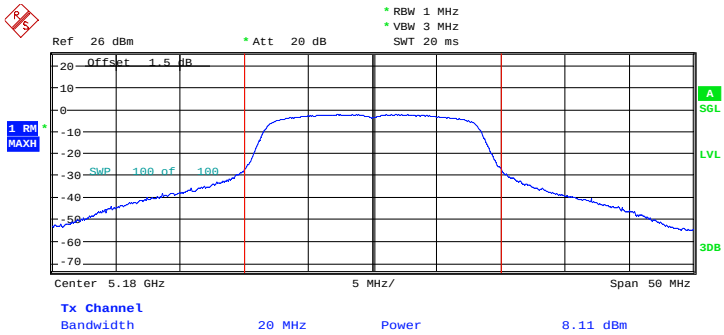

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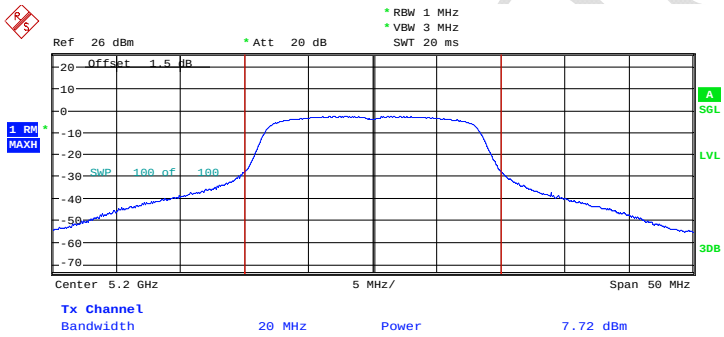
Fig. 15 Conducted Output Power 802.11a ANT2 CH36



Date: 20.MAR.2017 09:10:01

Fig. 16 Conducted Output Power 802.11a ANT2 CH40

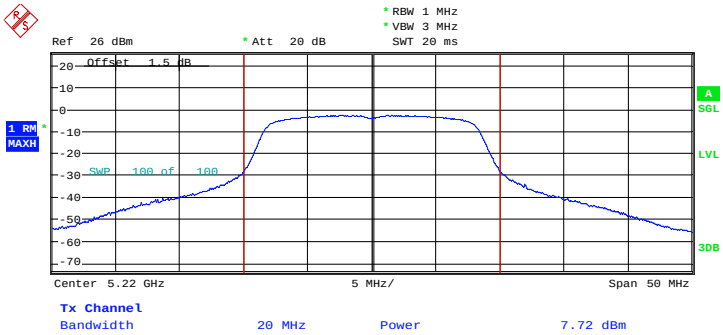


Fig. 17 Conducted Output Power 802.11a ANT2 CH44

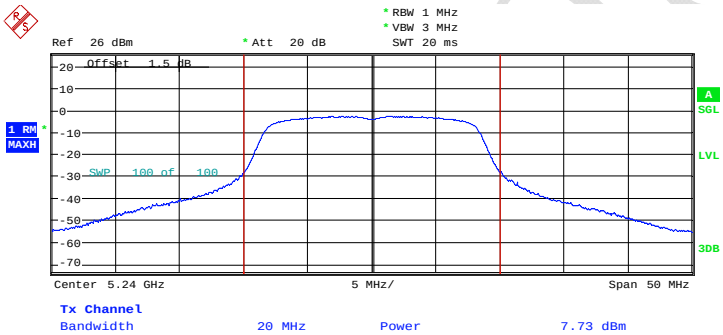


Fig. 18 Conducted Output Power 802.11a ANT2 CH48

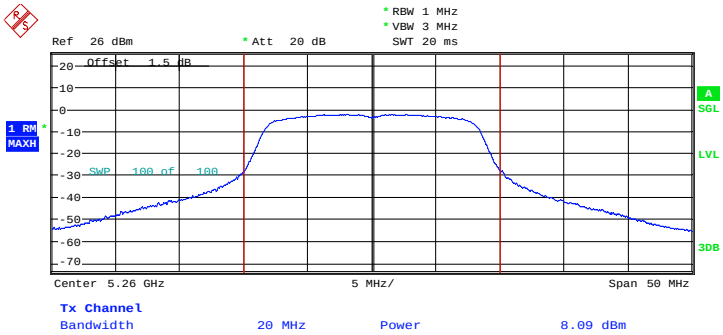


Fig. 19 Conducted Output Power 802.11a ANT2 CH52

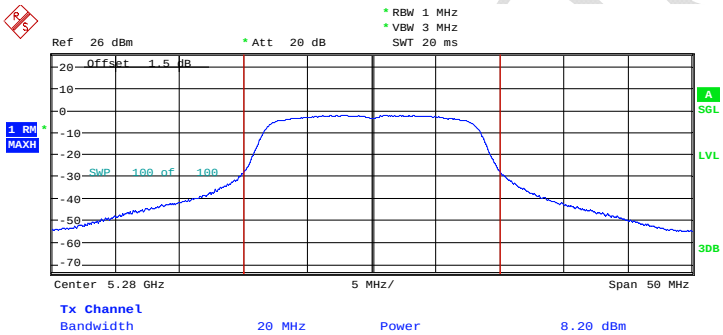


Fig. 20 Conducted Output Power 802.11a ANT2 CH56

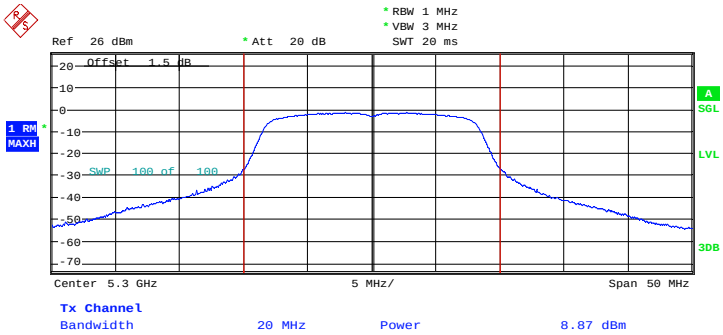


Fig. 21 Conducted Output Power 802.11a ANT2 CH60

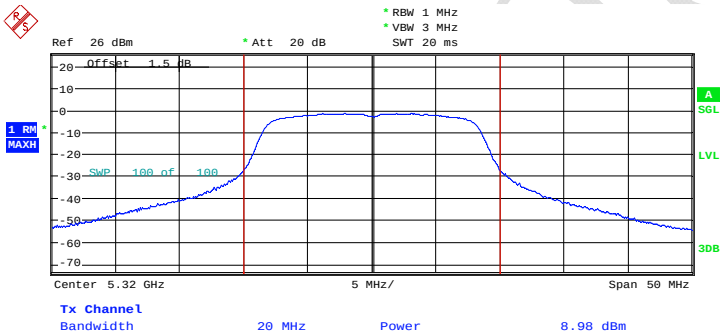


Fig. 22 Conducted Output Power 802.11a ANT2 CH64

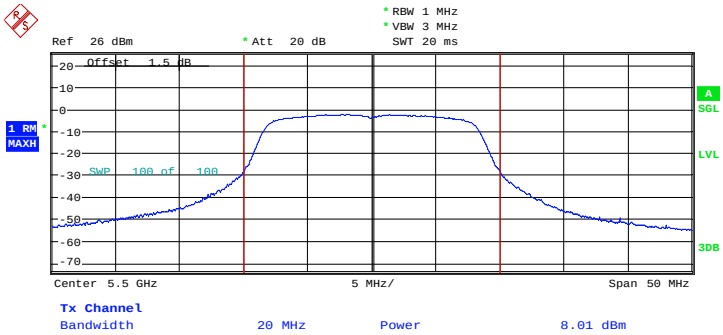


Fig. 23 Conducted Output Power 802.11a ANT2 CH100

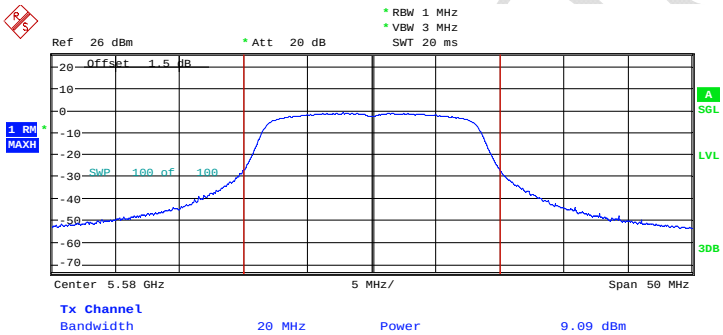


Fig. 24 Conducted Output Power 802.11a ANT2 CH116

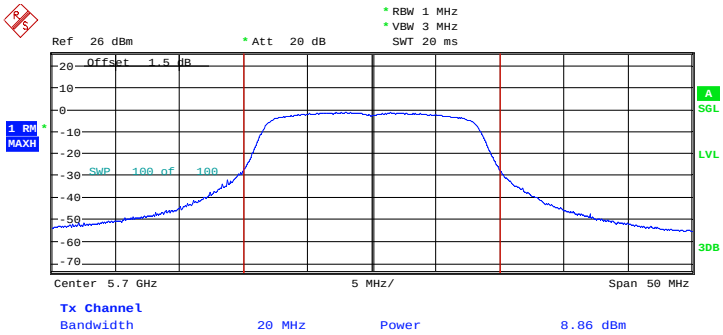


Fig. 25 Conducted Output Power 802.11a ANT2 CH140

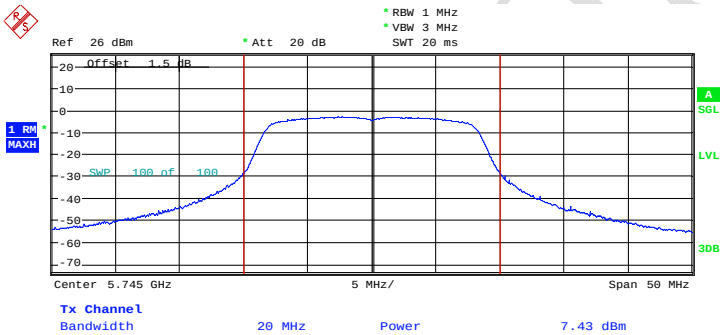


Fig. 26 Conducted Output Power 802.11a ANT2 CH149

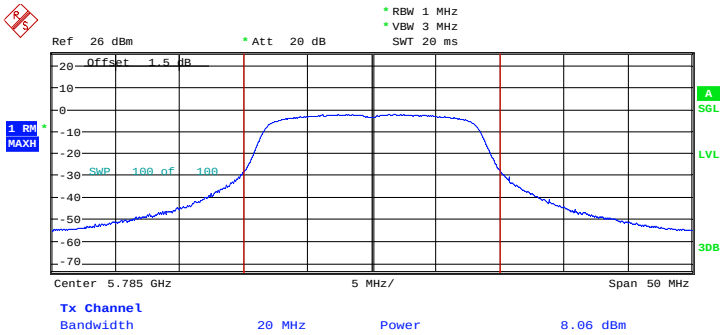


Fig. 27 Conducted Output Power 802.11a ANT2 CH157

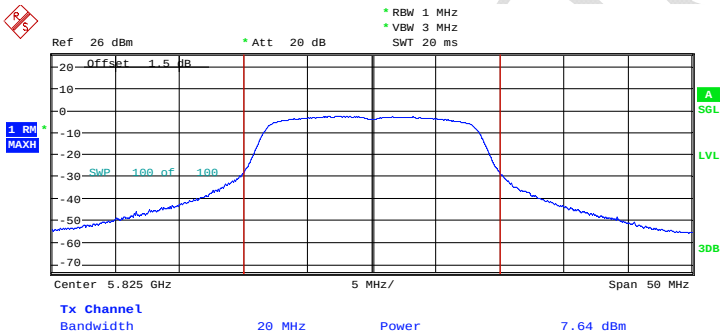


Fig. 28 Conducted Output Power 802.11a ANT2 CH165

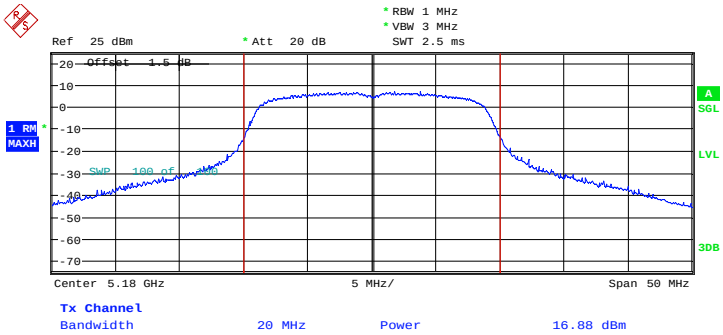


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Fig. 29 Conducted Output Power 802.11n 20MHz ANT1 CH36

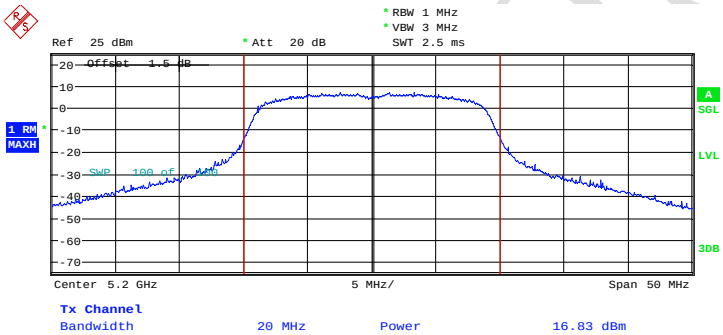

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Fig. 30 Conducted Output Power 802.11n 20MHz ANT1 CH40

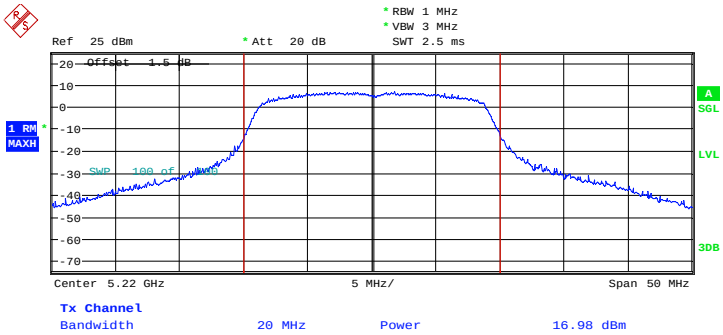

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Fig. 31 Conducted Output Power 802.11n 20MHz ANT1 CH44

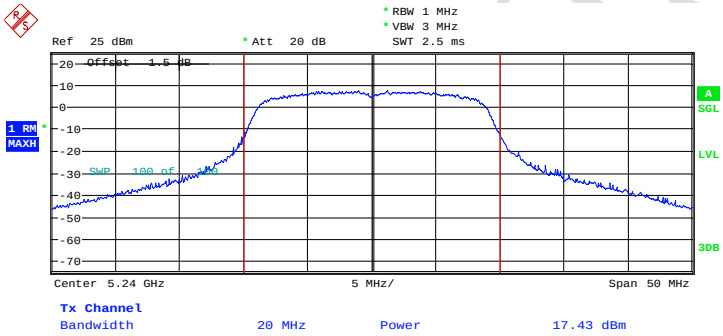

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Fig. 32 Conducted Output Power 802.11n 20MHz ANT1 CH48

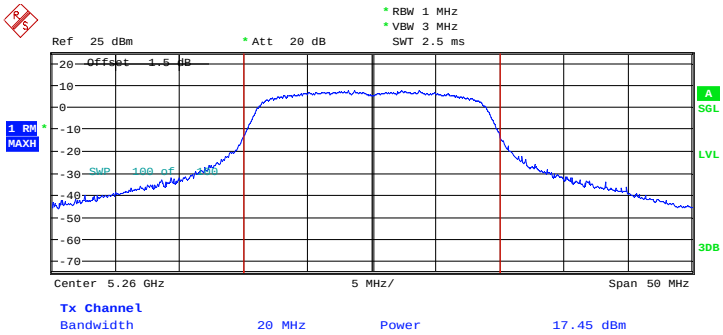

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Fig. 33 Conducted Output Power 802.11n 20MHz ANT1 CH52

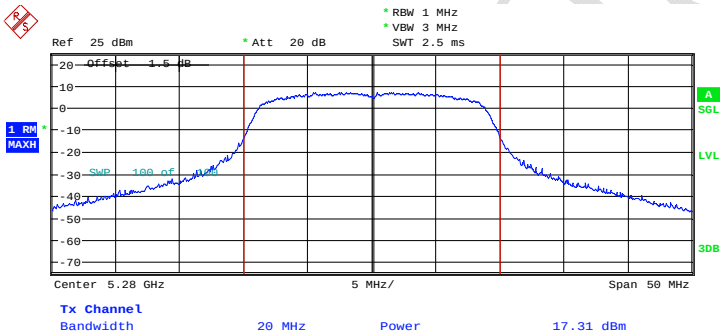

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Fig. 34 Conducted Output Power 802.11n 20MHz ANT1 CH56

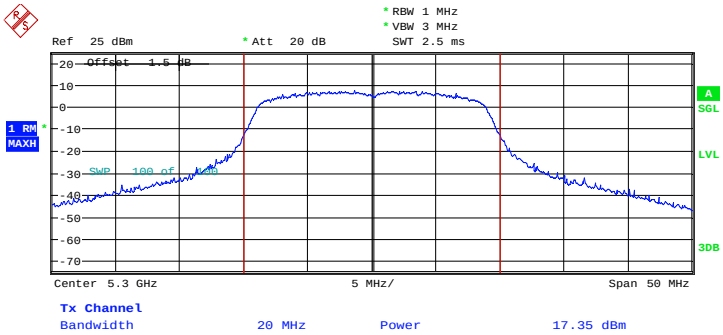

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Fig. 35 Conducted Output Power 802.11n 20MHz ANT1 CH60

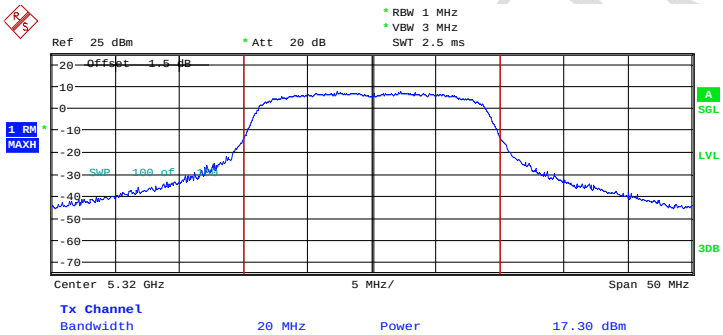

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Fig. 36 Conducted Output Power 802.11n 20MHz ANT1 CH64

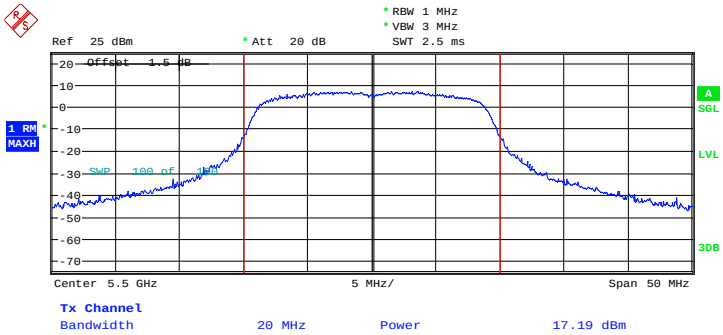

Fig. 37 Conducted Output Power 802.11n 20MHz ANT1 CH100

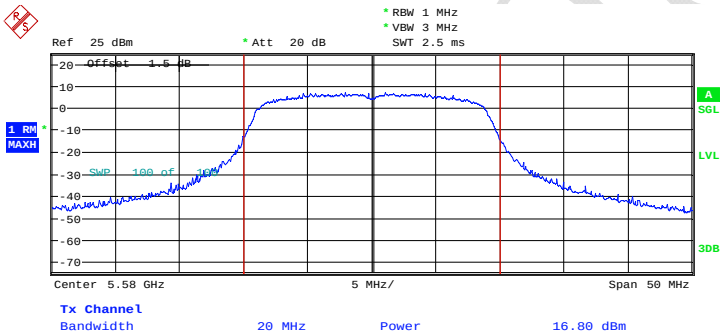

Fig. 38 Conducted Output Power 802.11n 20MHz ANT1 CH116

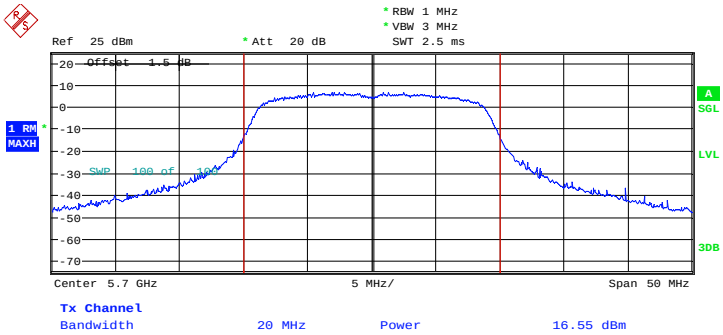

Fig. 39 Conducted Output Power 802.11n 20MHz ANT1 CH140

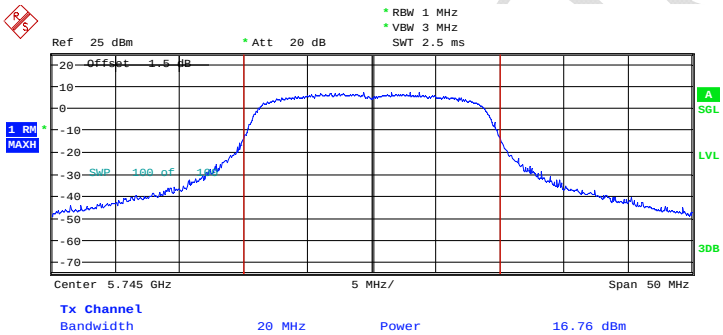

Fig. 40 Conducted Output Power 802.11n 20MHz ANT1 CH149

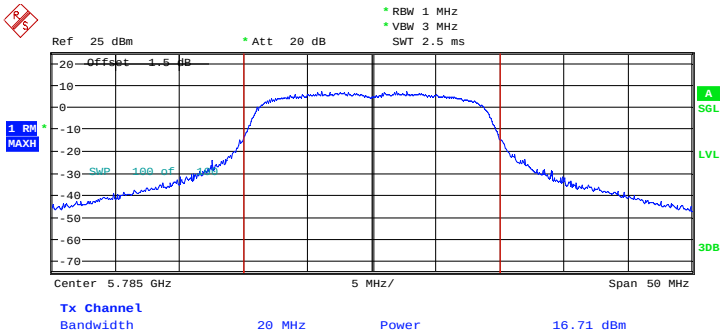

Fig. 41 Conducted Output Power 802.11n 20MHz ANT1 CH157

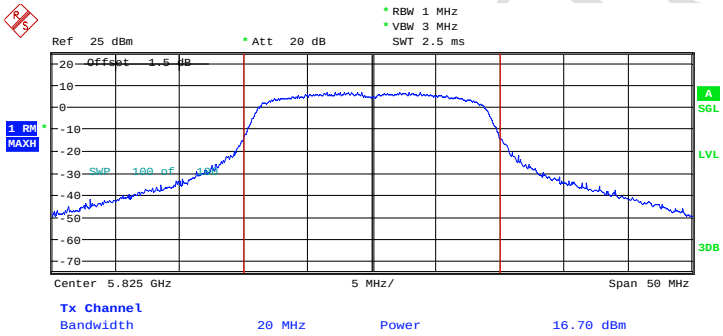

Fig. 42 Conducted Output Power 802.11n 20MHz ANT1 CH165

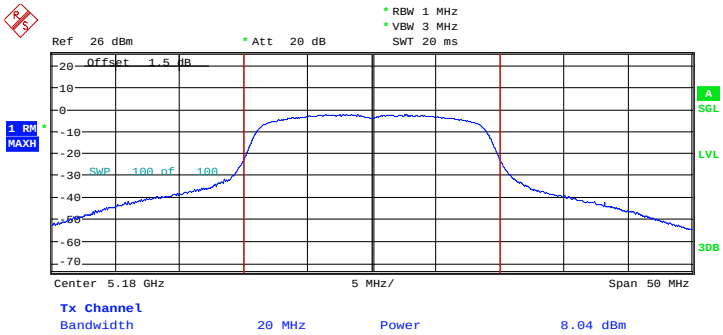

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Fig. 43 Conducted Output Power 802.11n 20MHz ANT2 CH36

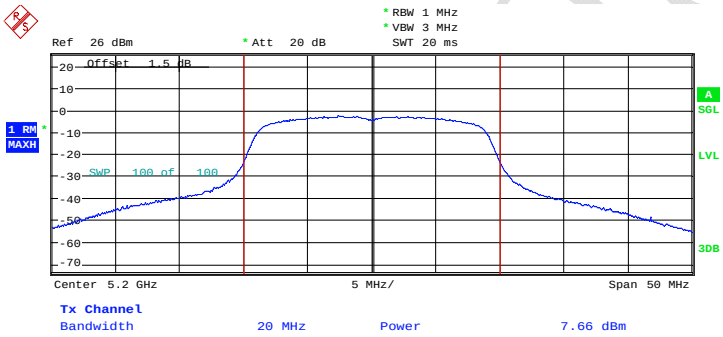

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Fig. 44 Conducted Output Power 802.11n 20MHz ANT2 CH40

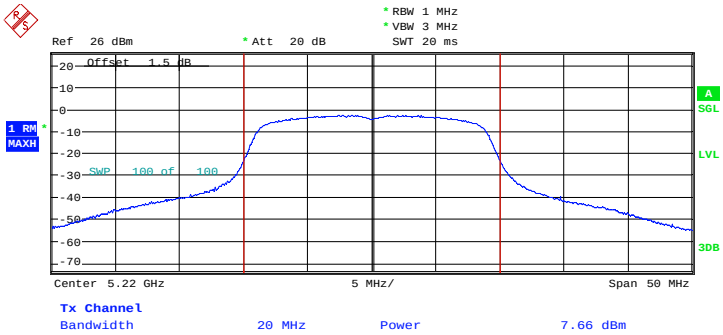

Fig. 45 Conducted Output Power 802.11n 20MHz ANT2 CH44

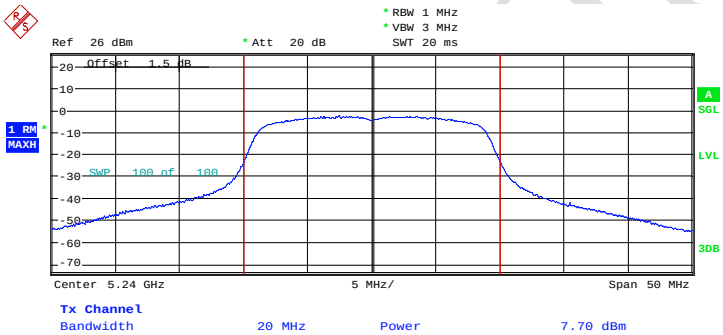

Fig. 46 Conducted Output Power 802.11n 20MHz ANT2 CH48

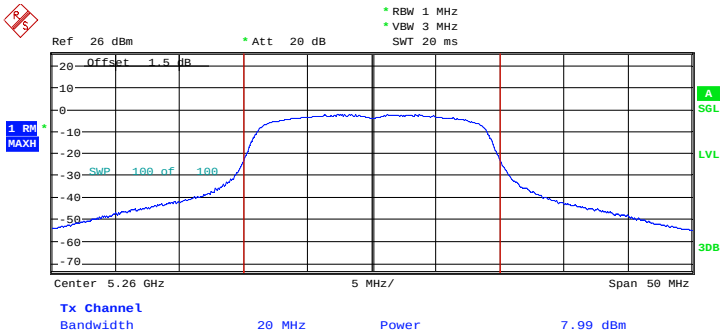

Fig. 47 Conducted Output Power 802.11n 20MHz ANT2 CH52

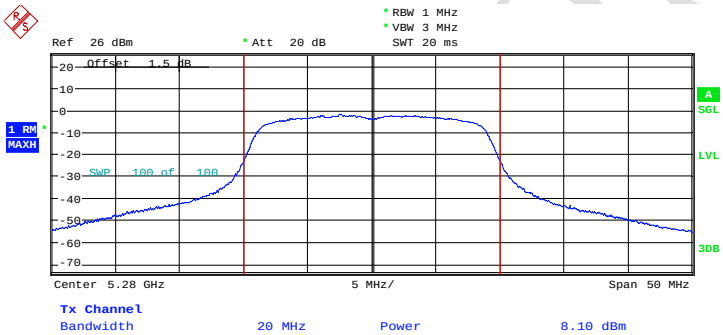

Fig. 48 Conducted Output Power 802.11n 20MHz ANT2 CH56

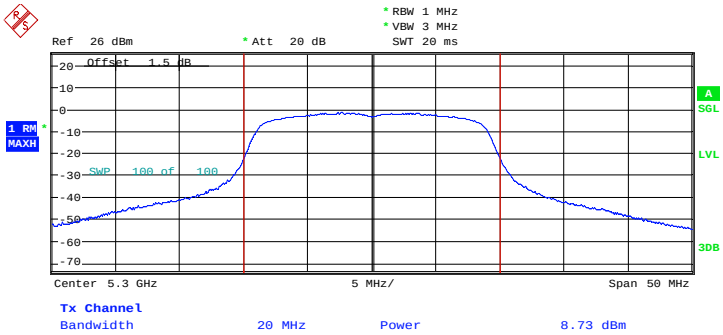

Fig. 49 Conducted Output Power 802.11n 20MHz ANT2 CH60

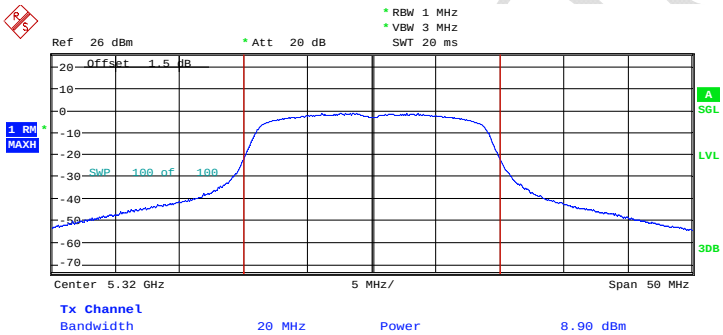

Fig. 50 Conducted Output Power 802.11n 20MHz ANT2 CH64

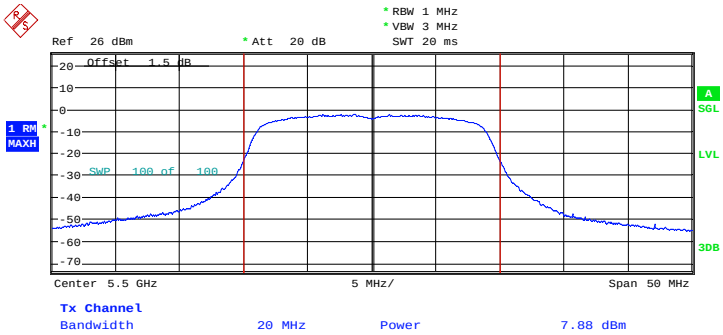

Fig. 51 Conducted Output Power 802.11n 20MHz ANT2 CH100

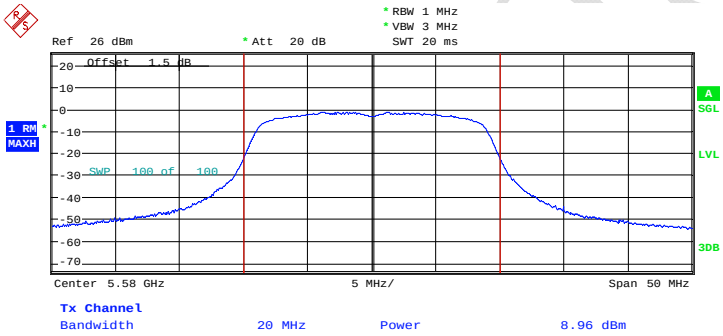

Fig. 52 Conducted Output Power 802.11n 20MHz ANT2 CH116

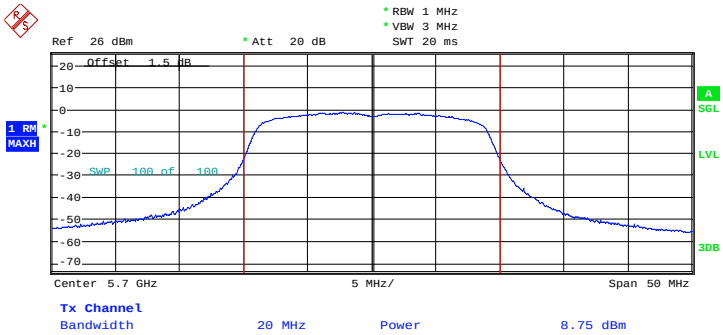

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Fig. 53 Conducted Output Power 802.11n 20MHz ANT2 CH140

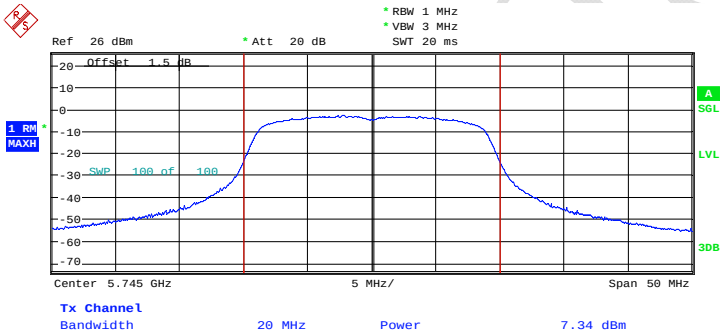

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Fig. 54 Conducted Output Power 802.11n 20MHz ANT2 CH149

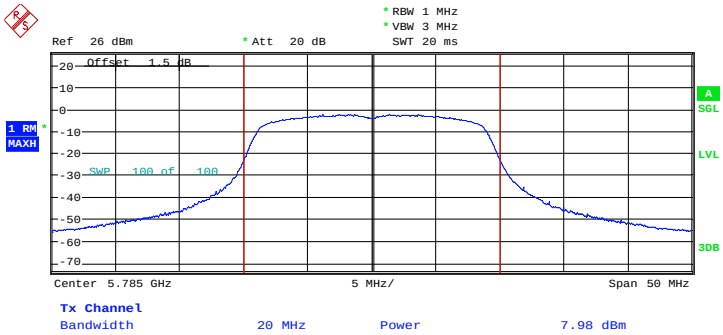

Fig. 55 Conducted Output Power 802.11n 20MHz ANT2 CH157

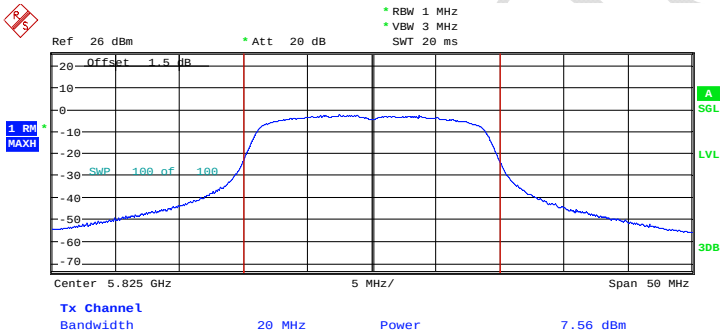

Fig. 56 Conducted Output Power 802.11n 20MHz ANT2 CH165

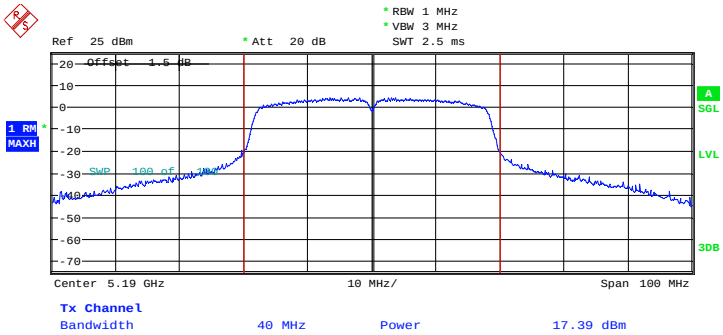

Fig. 57 Conducted Output Power 802.11n 40MHz ANT1 CH38

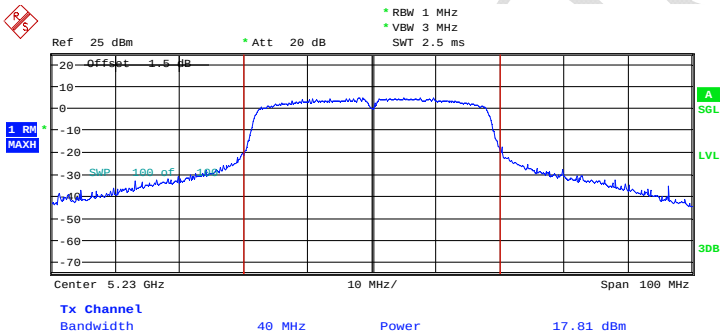

Fig. 58 Conducted Output Power 802.11n 40MHz ANT1 CH46

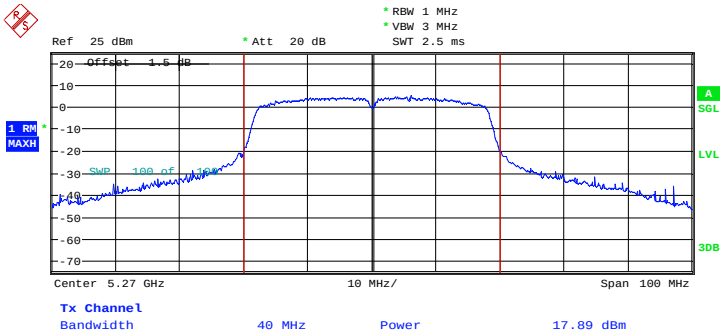

Fig. 59 Conducted Output Power 802.11n 40MHz ANT1 CH54

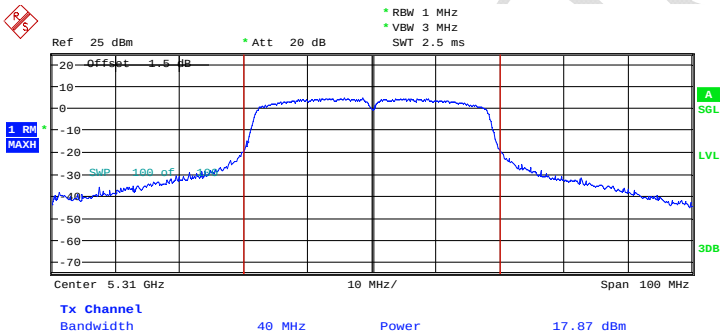

Fig. 60 Conducted Output Power 802.11n 40MHz ANT1 CH62

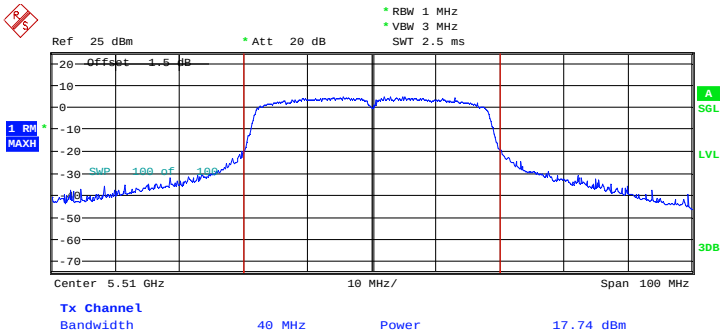

Fig. 61 Conducted Output Power 802.11n 40MHz ANT1 CH102

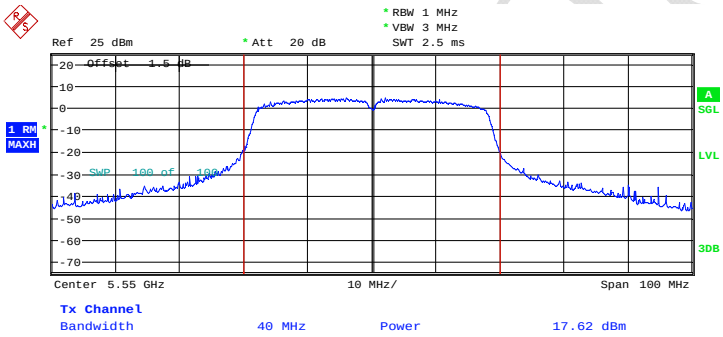

Fig. 62 Conducted Output Power 802.11n 40MHz ANT1 CH110

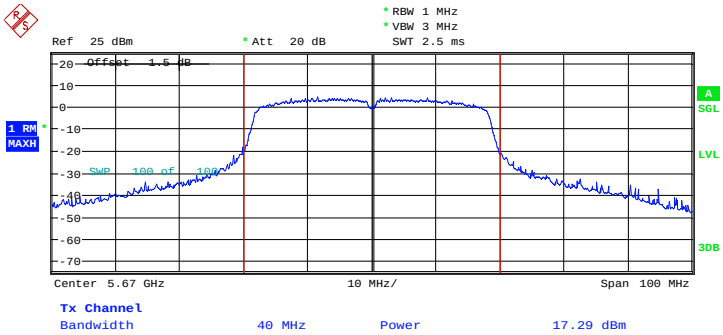

Fig. 63 Conducted Output Power 802.11n 40MHz ANT1 CH134

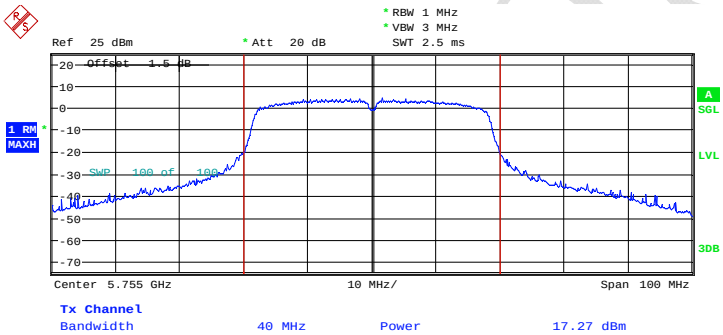

Fig. 64 Conducted Output Power 802.11n 40MHz ANT1 CH151

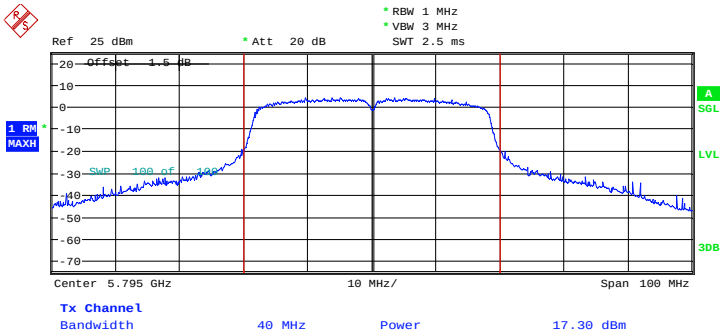

Fig. 65 Conducted Output Power 802.11n 40MHz ANT1 CH159

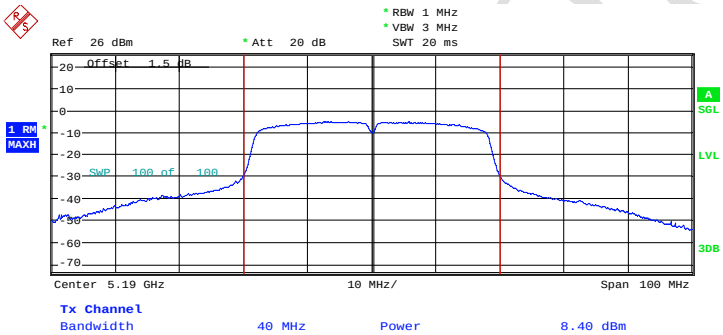

Fig. 66 Conducted Output Power 802.11n 40MHz ANT2 CH38

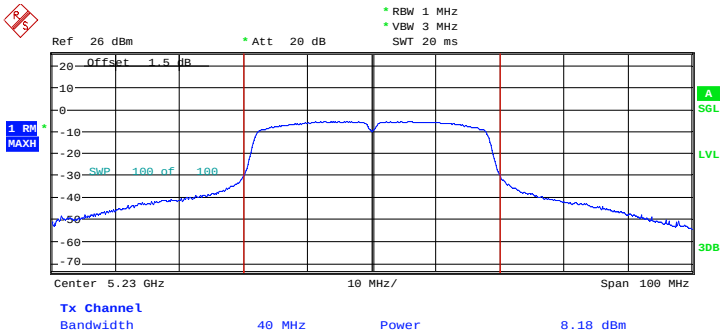

Fig. 67 Conducted Output Power 802.11n 40MHz ANT2 CH46

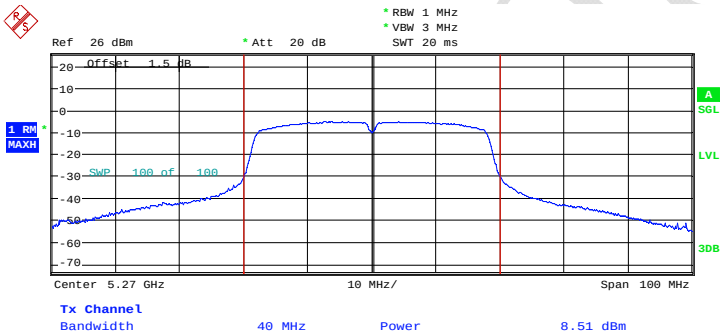

Fig. 68 Conducted Output Power 802.11n 40MHz ANT2 CH54

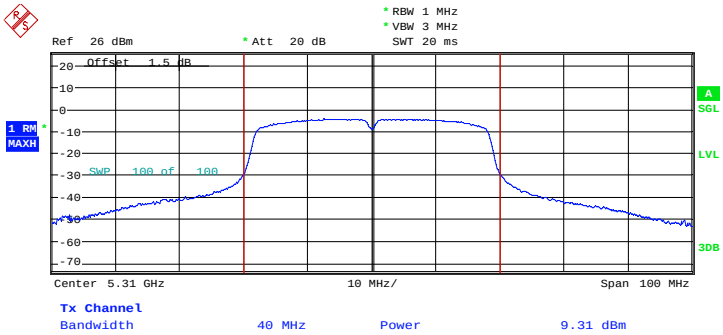

Fig. 69 Conducted Output Power 802.11n 40MHz ANT2 CH62

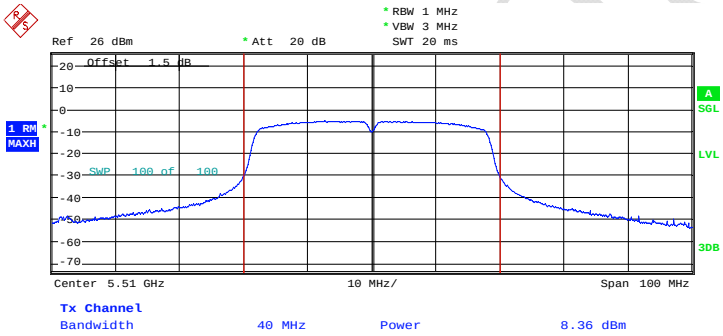

Fig. 70 Conducted Output Power 802.11n 40MHz ANT2 CH102

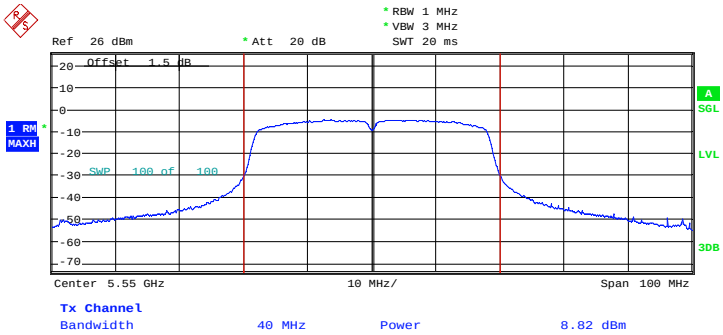

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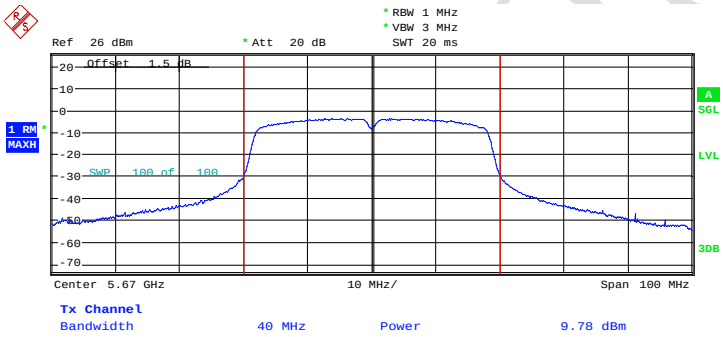
Fig. 71 Conducted Output Power 802.11n 40MHz ANT2 CH110



Date: 20.MAR.2017 09:36:04

Fig. 72 Conducted Output Power 802.11n 40MHz ANT2 CH134

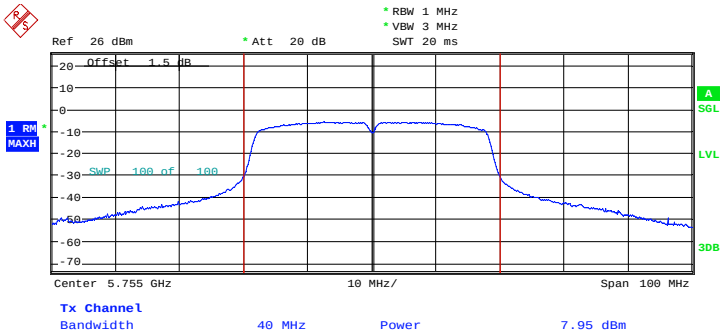


Fig. 73 Conducted Output Power 802.11n 40MHz ANT2 CH151

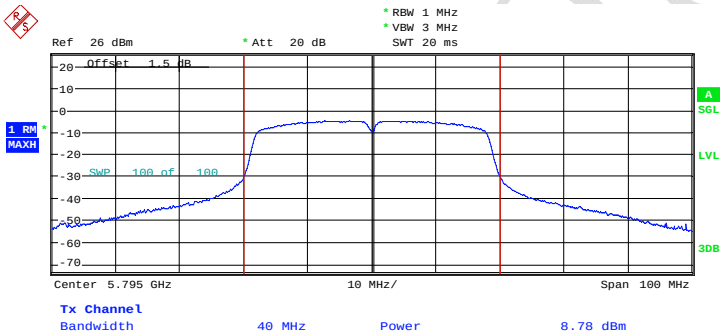
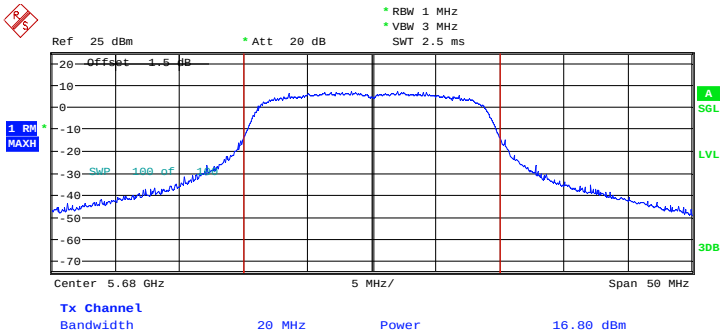
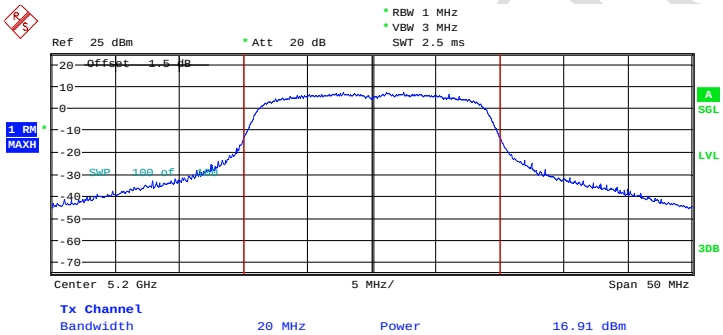


Fig. 74 Conducted Output Power 802.11n 40MHz ANT2 CH159



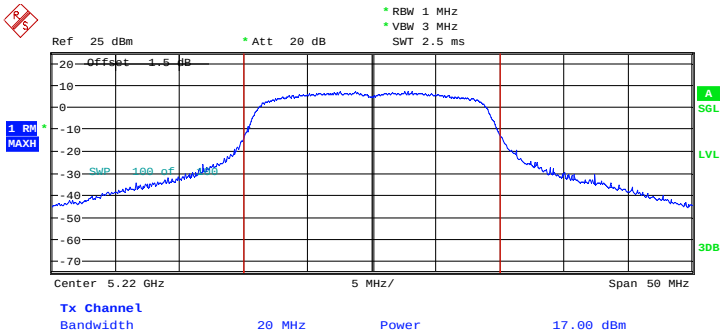
Date: 16.MAR.2017 23:57:49

Fig. 75 Conducted Output Power 802.11ac 20MHz ANT1 CH36



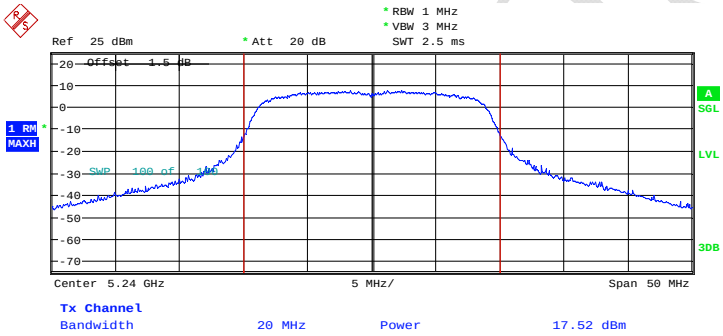
Date: 17.MAR.2017 00:05:24

Fig. 76 Conducted Output Power 802.11ac 20MHz ANT1 CH40



Date: 17.MAR.2017 00:06:12

Fig. 77 Conducted Output Power 802.11ac 20MHz ANT1 CH44



Date: 17.MAR.2017 00:06:45

Fig. 78 Conducted Output Power 802.11ac 20MHz ANT1 CH48

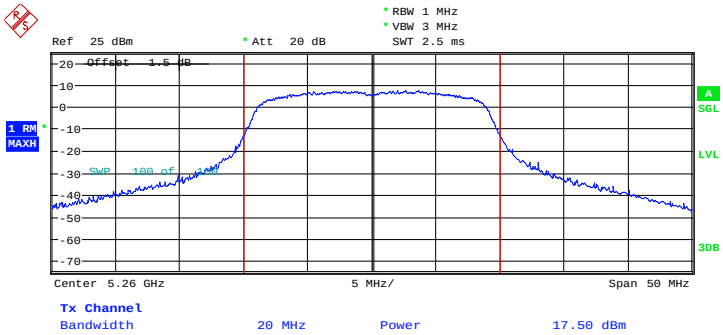


Fig. 79 Conducted Output Power 802.11ac 20MHz ANT1 CH52

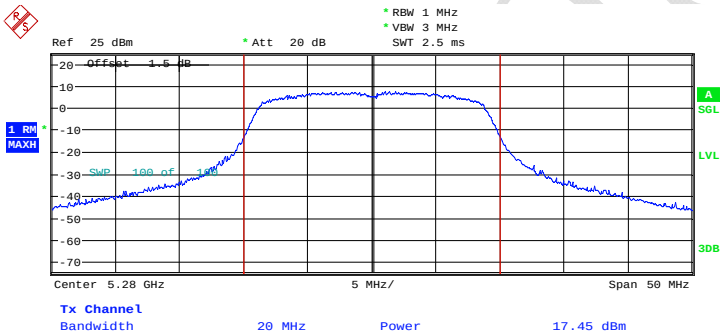
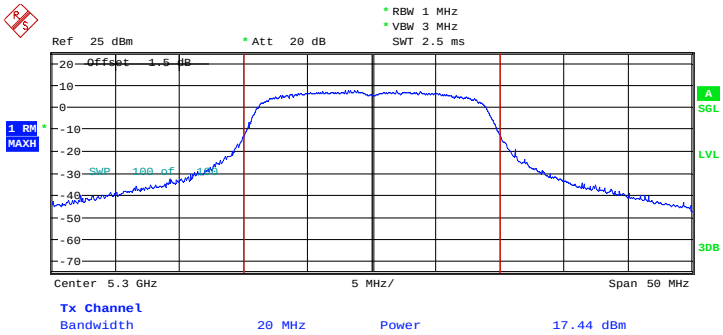
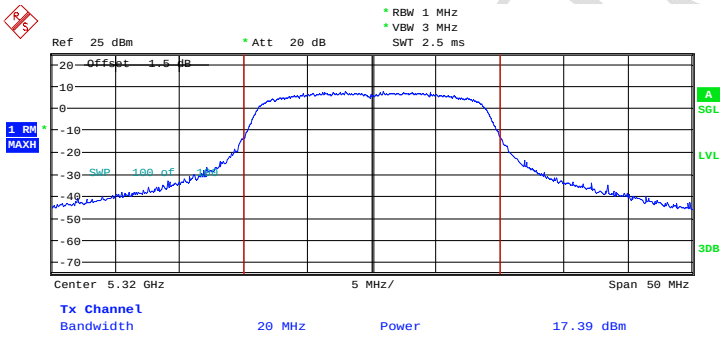


Fig. 80 Conducted Output Power 802.11ac 20MHz ANT1 CH56



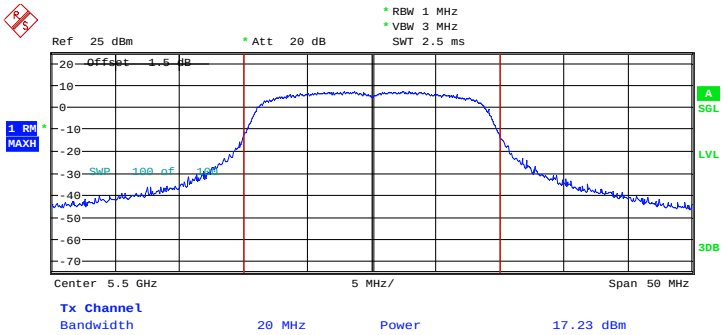
Date: 17.MAR.2017 00:08:22

Fig. 81 Conducted Output Power 802.11ac 20MHz ANT1 CH60



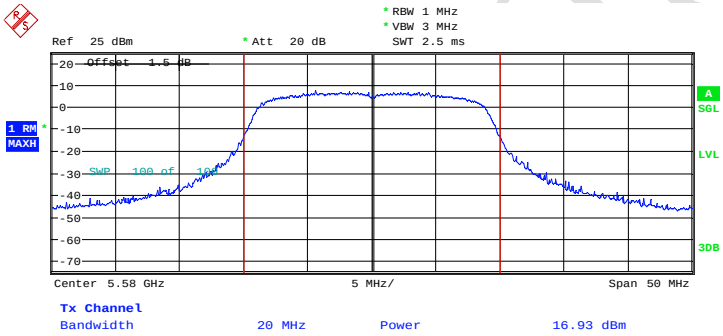
Date: 17.MAR.2017 00:08:52

Fig. 82 Conducted Output Power 802.11ac 20MHz ANT1 CH64



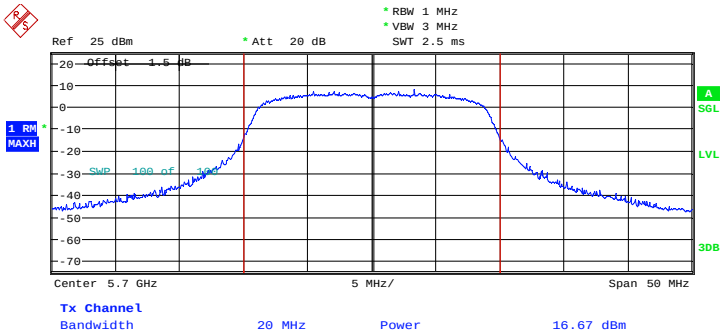
Date: 17.MAR.2017 00:09:50

Fig. 83 Conducted Output Power 802.11ac 20MHz ANT1 CH100



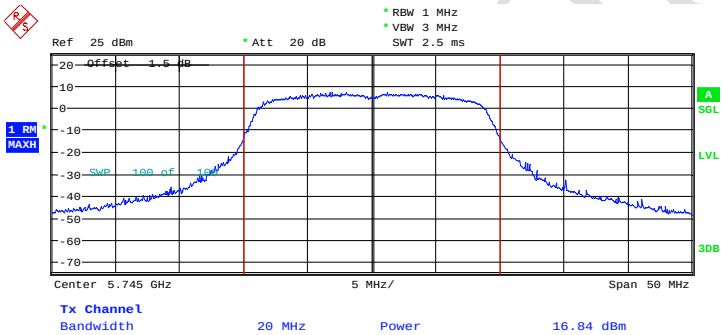
Date: 17.MAR.2017 00:10:13

Fig. 84 Conducted Output Power 802.11ac 20MHz ANT1 CH116



Date: 17.MAR.2017 00:10:53

Fig. 85 Conducted Output Power 802.11ac 20MHz ANT1 CH140



Date: 17.MAR.2017 00:11:18

Fig. 86 Conducted Output Power 802.11ac 20MHz ANT1 CH149

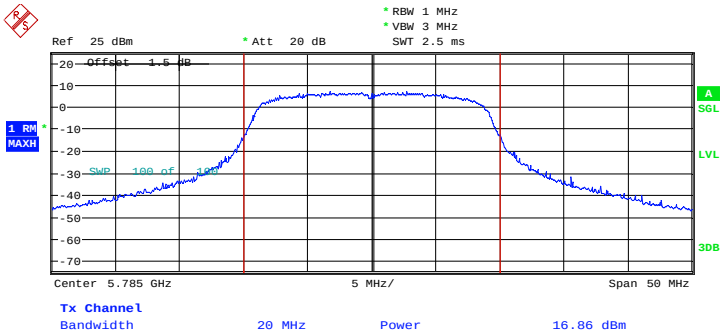


Fig. 87 Conducted Output Power 802.11ac 20MHz ANT1 CH157

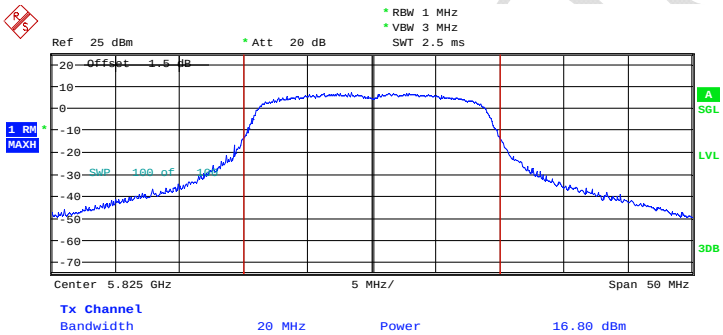
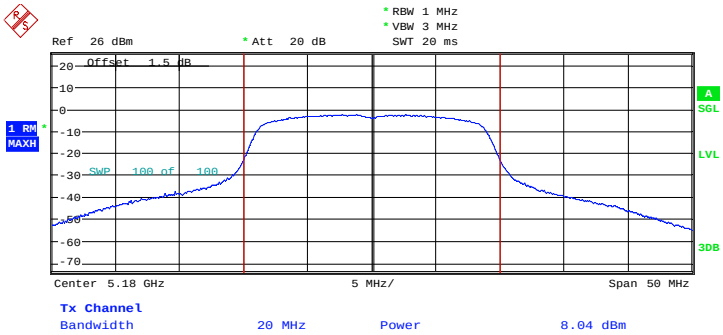
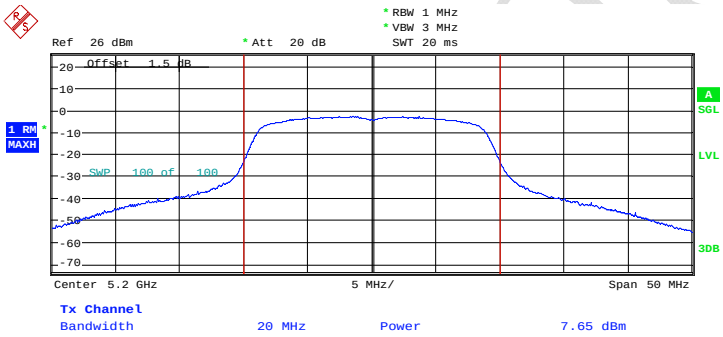


Fig. 88 Conducted Output Power 802.11ac 20MHz ANT1 CH165



Date: 20.MAR.2017 09:44:51

Fig. 89 Conducted Output Power 802.11ac 20MHz ANT2 CH36



Date: 20.MAR.2017 09:45:59

Fig. 90 Conducted Output Power 802.11ac 20MHz ANT2 CH40

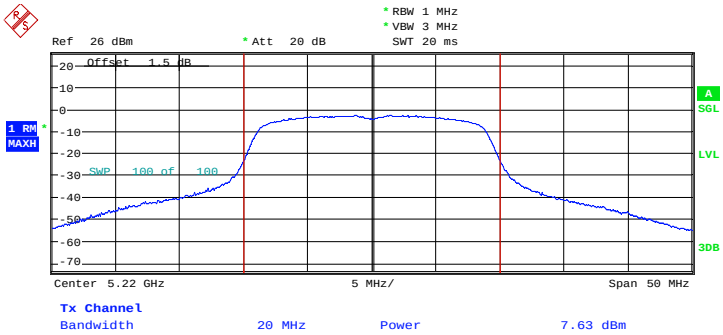


Fig. 91 Conducted Output Power 802.11ac 20MHz ANT2 CH44

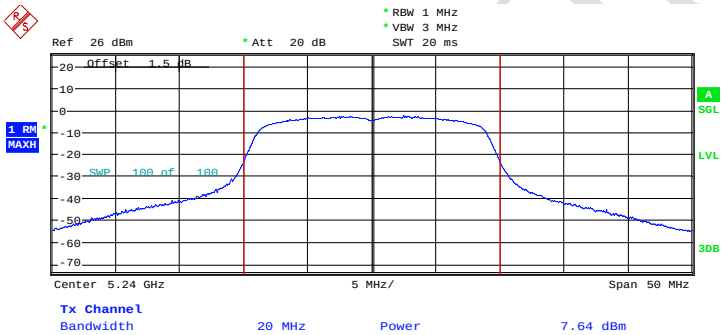
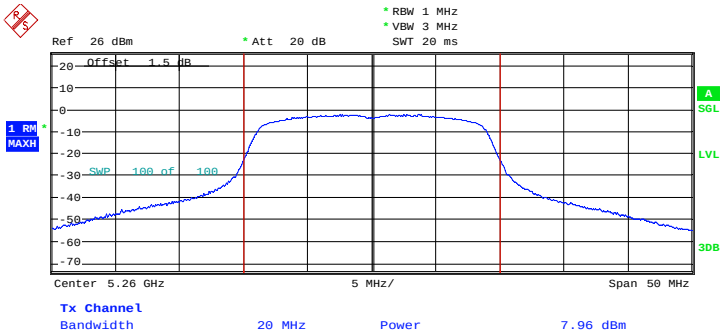
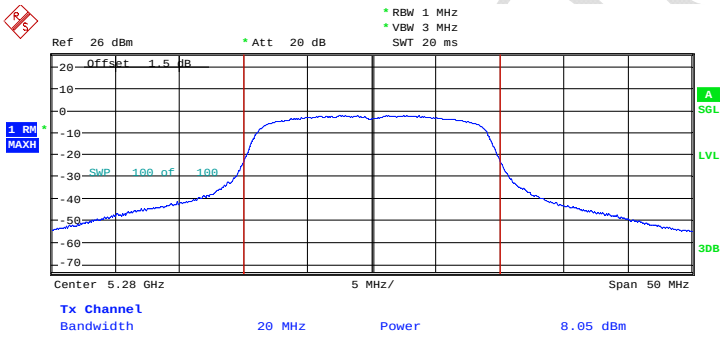


Fig. 92 Conducted Output Power 802.11ac 20MHz ANT2 CH48



Date: 20.MAR.2017 09:48:57

Fig. 93 Conducted Output Power 802.11ac 20MHz ANT2 CH52



Date: 20.MAR.2017 09:49:58

Fig. 94 Conducted Output Power 802.11ac 20MHz ANT2 CH56

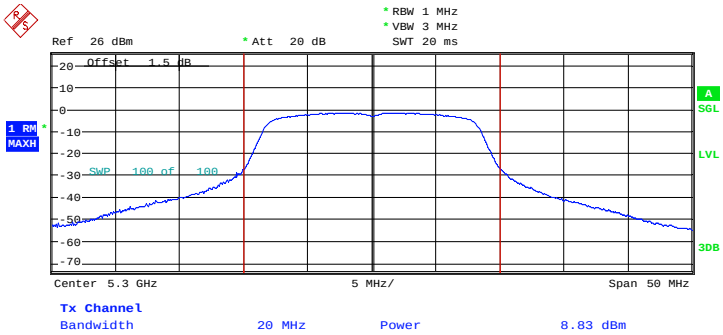


Fig. 95 Conducted Output Power 802.11ac 20MHz ANT2 CH60

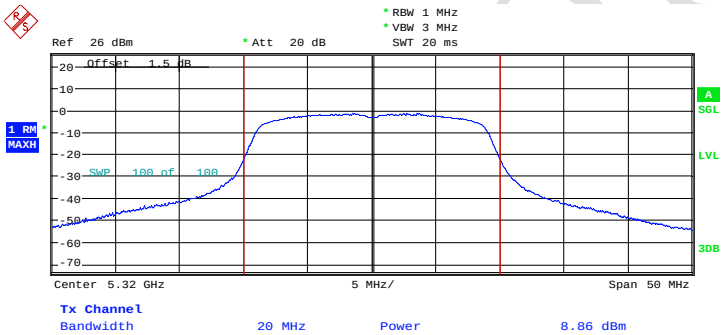


Fig. 96 Conducted Output Power 802.11ac 20MHz ANT2 CH64

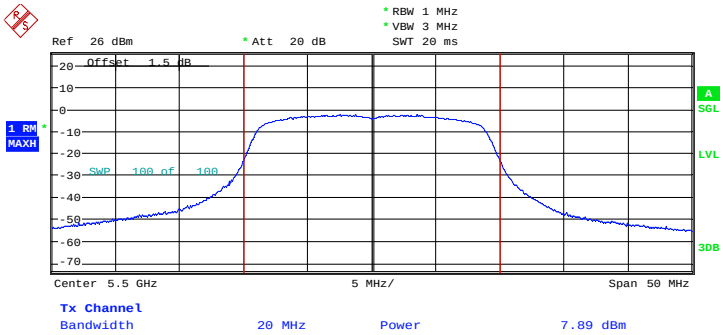


Fig. 97 Conducted Output Power 802.11ac 20MHz ANT2 CH100

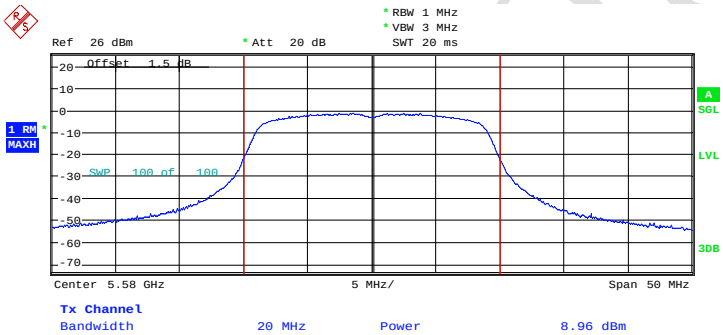


Fig. 98 Conducted Output Power 802.11ac 20MHz ANT2 CH116

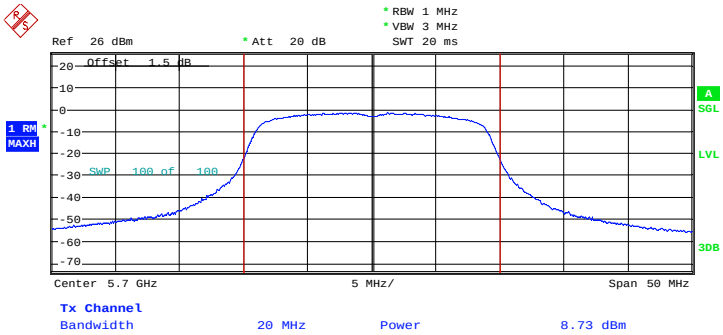


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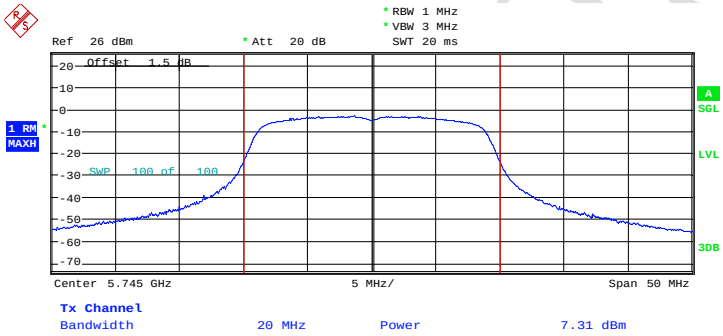
Fig. 99 Conducted Output Power 802.11ac 20MHz ANT2 CH140



Date: 20.MAR.2017 09:54:30

Fig. 100 Conducted Output Power 802.11ac 20MHz ANT2 CH149

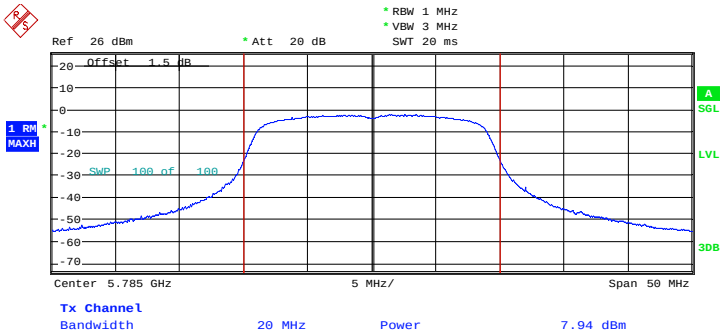


Fig. 101 Conducted Output Power 802.11ac 20MHz ANT2 CH157

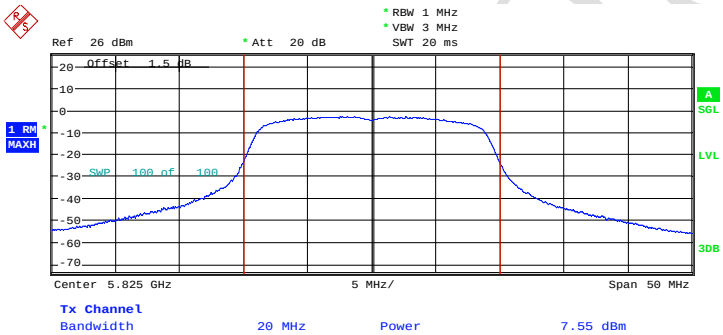


Fig. 102 Conducted Output Power 802.11ac 20MHz ANT2 CH165

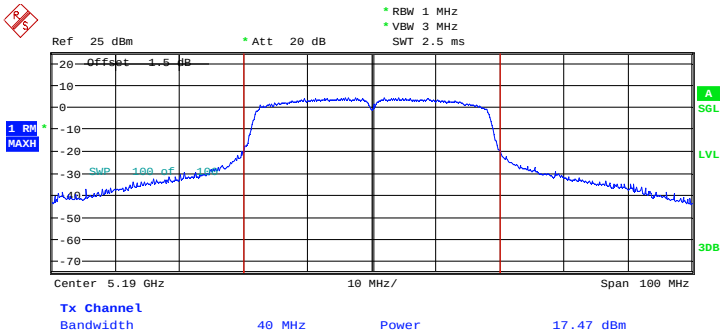


Fig. 103 Conducted Output Power 802.11ac 40MHz ANT1 CH38

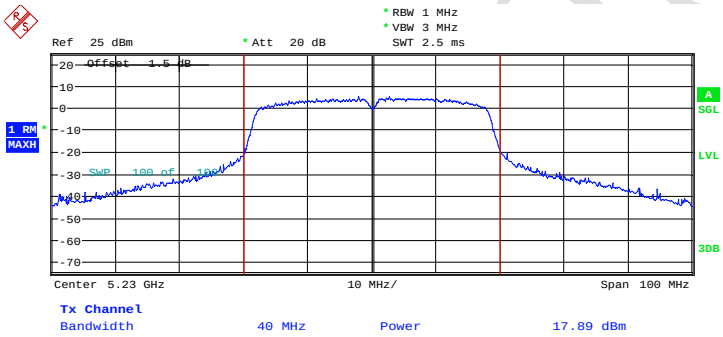


Fig. 104 Conducted Output Power 802.11ac 40MHz ANT1 CH46

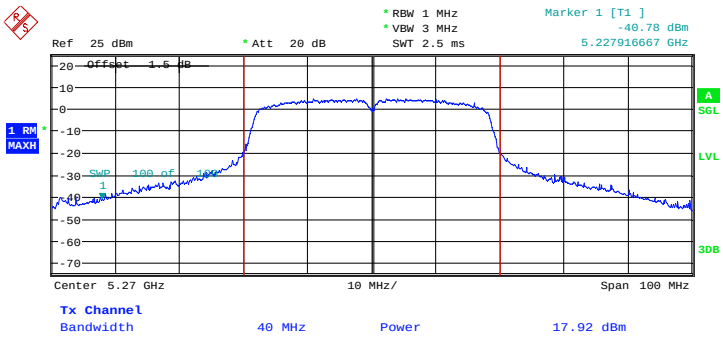


Fig. 105 Conducted Output Power 802.11ac 40MHz ANT1 CH54

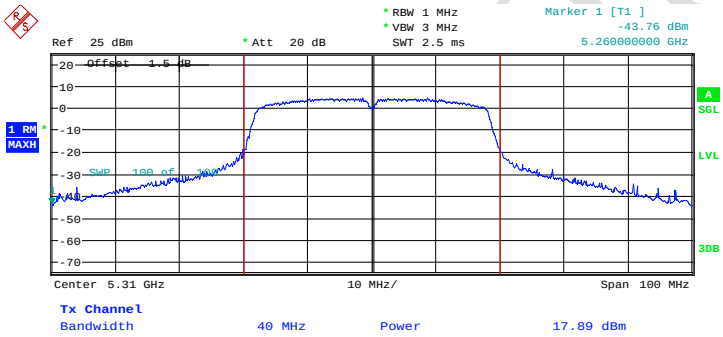
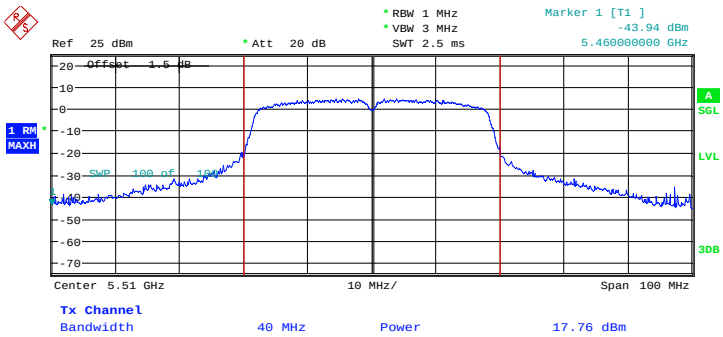
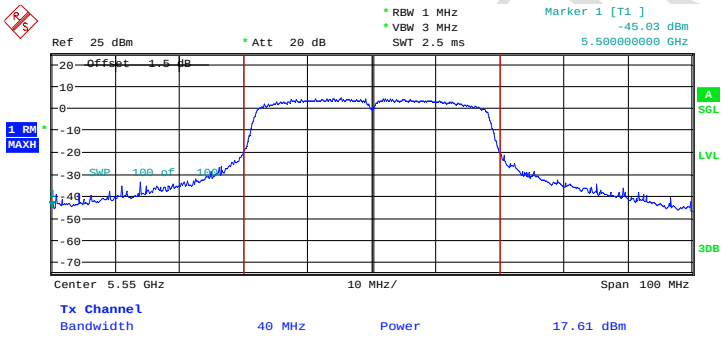


Fig. 106 Conducted Output Power 802.11ac 40MHz ANT1 CH62



Date: 17.MAR.2017 01:29:15

Fig. 107 Conducted Output Power 802.11ac 40MHz ANT1 CH102



Date: 17.MAR.2017 01:30:29

Fig. 108 Conducted Output Power 802.11ac 40MHz ANT1 CH110

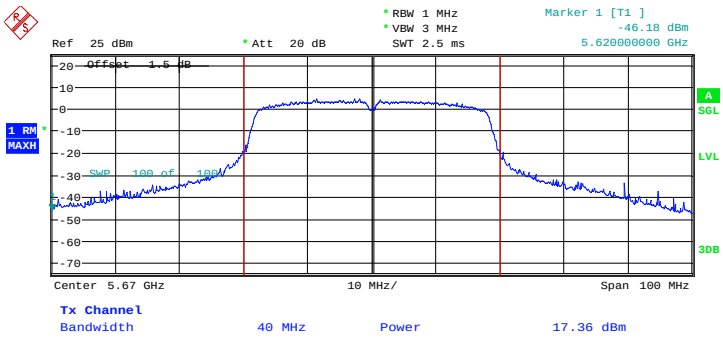


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Fig. 109 Conducted Output Power 802.11ac 40MHz ANT1 CH134

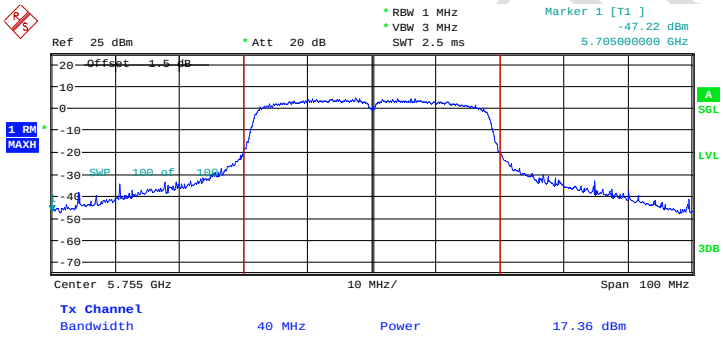

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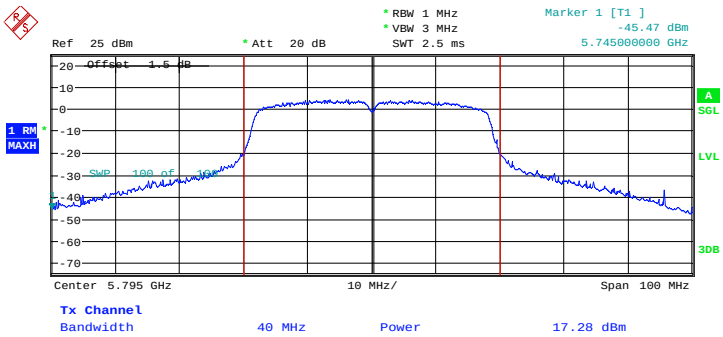
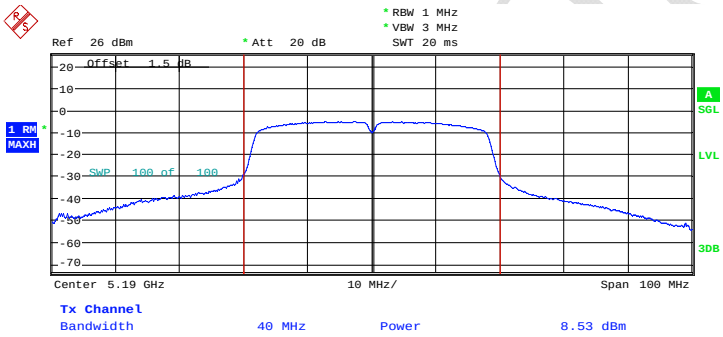
Fig. 110 Conducted Output Power 802.11ac 40MHz ANT1 CH151



Date: 17.MAR.2017 01:33:18

Fig. 111 Conducted Output Power 802.11ac 40MHz ANT1 CH159



Date: 20.MAR.2017 11:47:05

Fig. 112 Conducted Output Power 802.11ac 40MHz ANT2 CH38

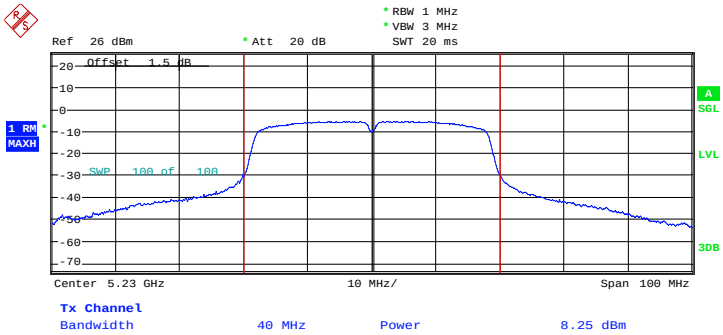


Fig. 113 Conducted Output Power 802.11ac 40MHz ANT2 CH46

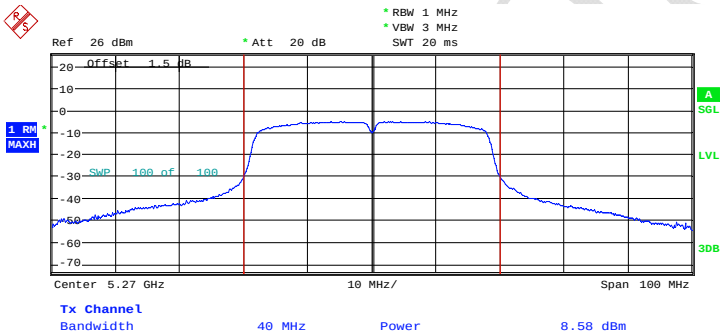


Fig. 114 Conducted Output Power 802.11ac 40MHz ANT2 CH54

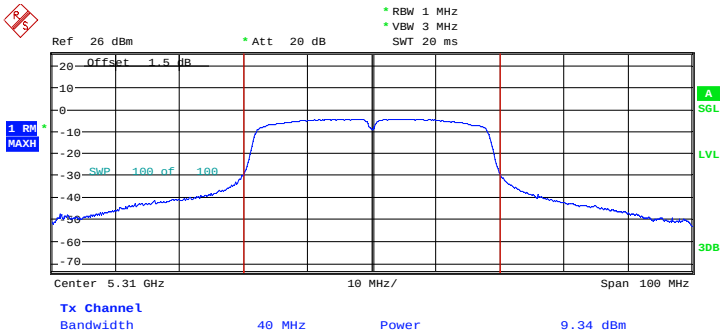


Fig. 115 Conducted Output Power 802.11ac 40MHz ANT2 CH62

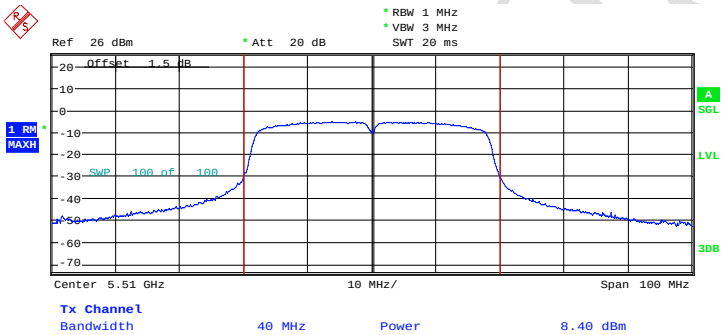
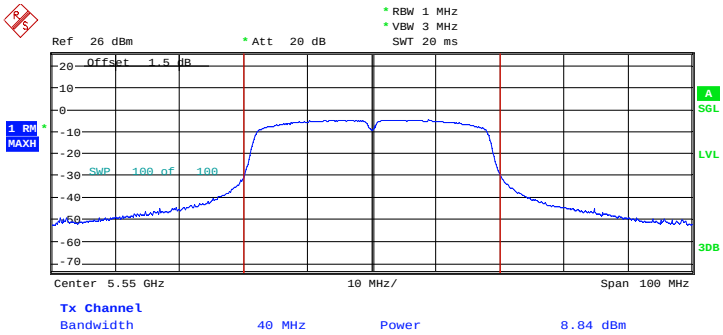
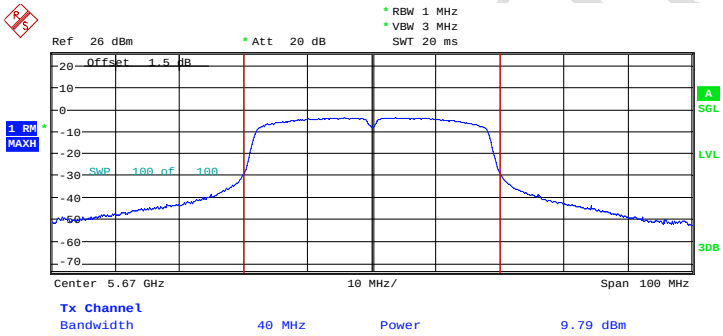


Fig. 116 Conducted Output Power 802.11ac 40MHz ANT2 CH102



Date: 20.MAR.2017 11:49:36

Fig. 117 Conducted Output Power 802.11ac 40MHz ANT2 CH110



Date: 20.MAR.2017 11:50:07

Fig. 118 Conducted Output Power 802.11ac 40MHz ANT2 CH134

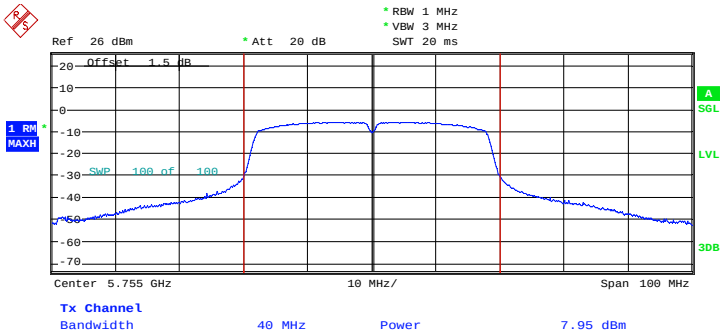


Fig. 119 Conducted Output Power 802.11ac 40MHz ANT2 CH151

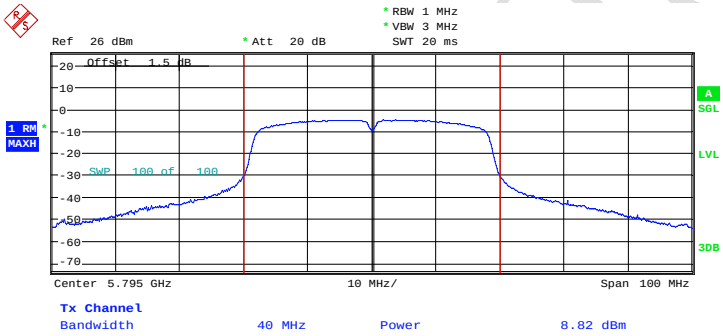
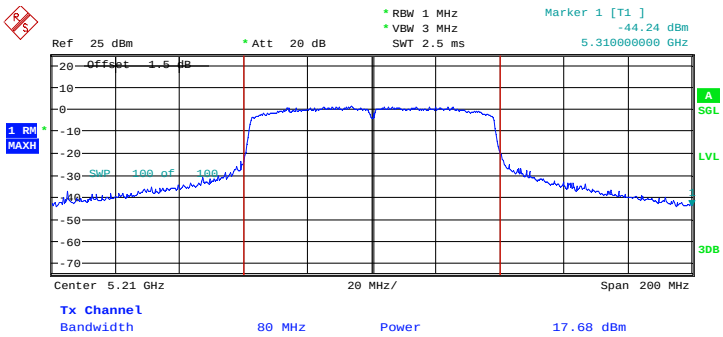
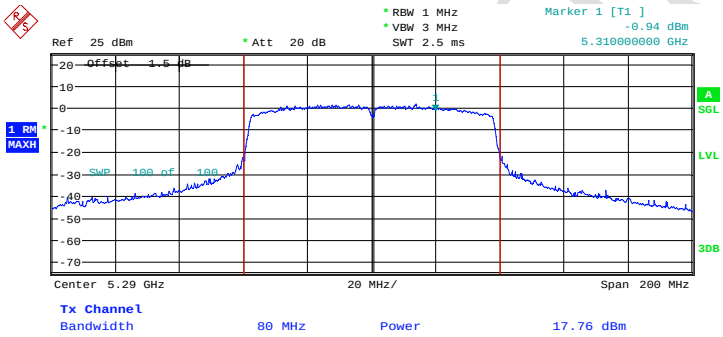


Fig. 120 Conducted Output Power 802.11ac 40MHz ANT2 CH159



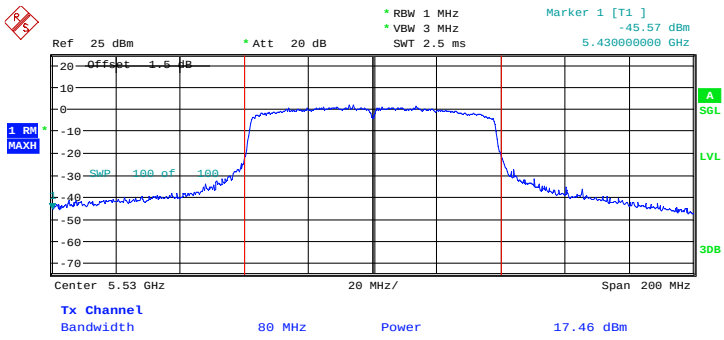
Date: 17.MAR.2017 01:34:39

Fig. 121 Conducted Output Power 802.11ac 80MHz ANT1 CH42



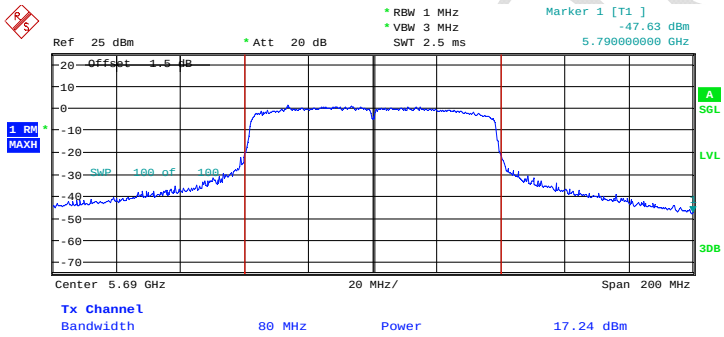
Date: 17.MAR.2017 01:35:24

Fig. 122 Conducted Output Power 802.11ac 80MHz ANT1 CH58



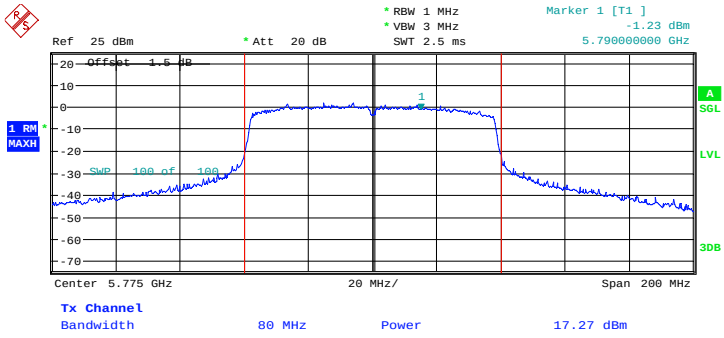
Date: 17.MAR.2017 01:36:31

Fig. 123 Conducted Output Power 802.11ac 80MHz ANT1 CH106



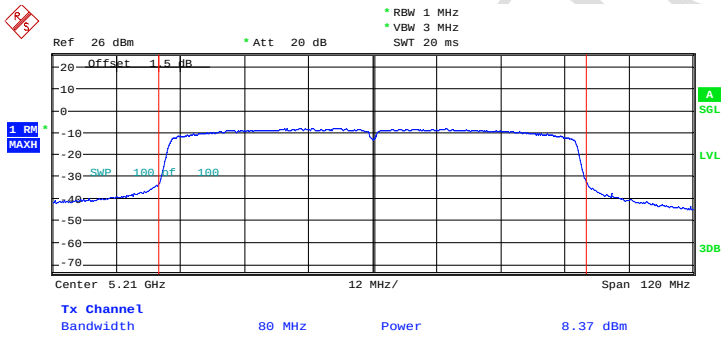
Date: 17.MAR.2017 01:37:27

Fig. 124 Conducted Output Power 802.11ac 80MHz ANT1 CH138



Date: 17.MAR.2017 01:38:22

Fig. 125 Conducted Output Power 802.11ac 80MHz ANT1 CH155



Date: 20.MAR.2017 11:52:00

Fig. 126 Conducted Output Power 802.11ac 80MHz ANT2 CH42

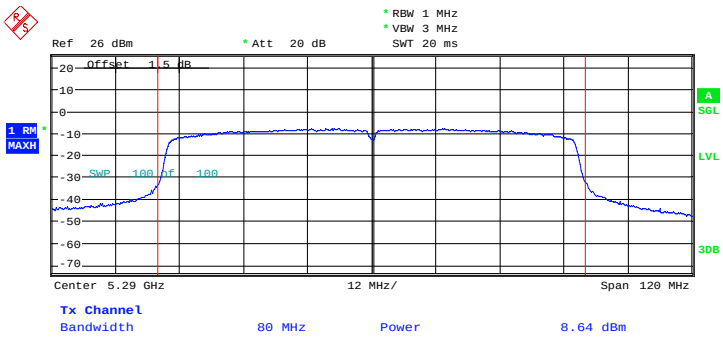


Fig. 127 Conducted Output Power 802.11ac 80MHz ANT1 CH58

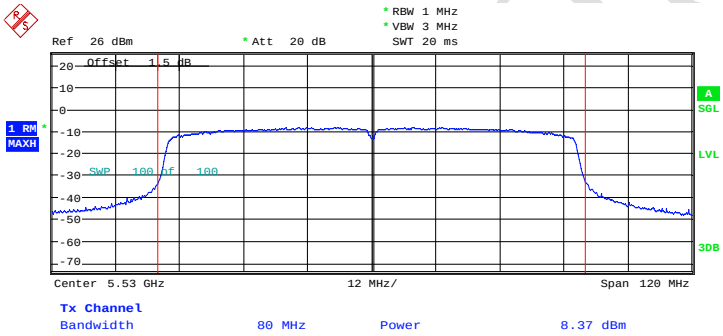
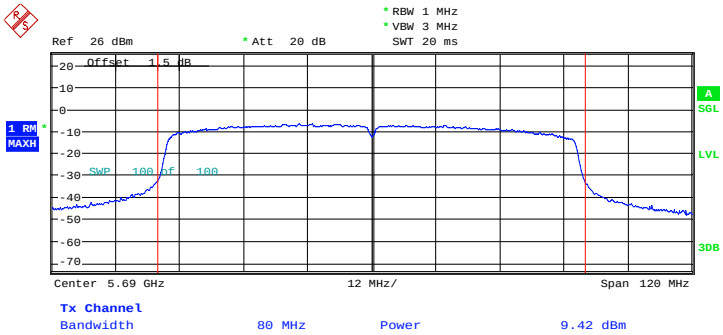
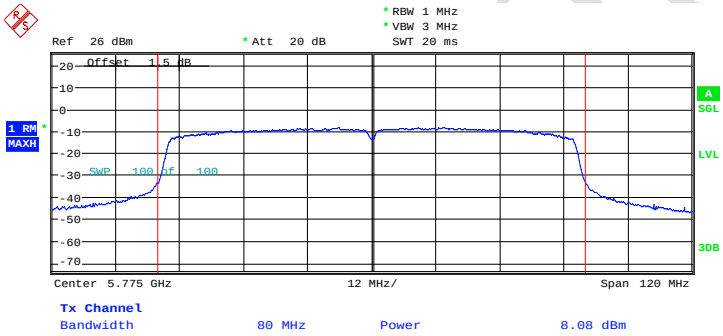


Fig. 128 Conducted Output Power 802.11ac 80MHz ANT1 CH106



Date: 20.MAR.2017 11:53:37

Fig. 129 Conducted Output Power 802.11ac 80MHz ANT1 CH138



Date: 20.MAR.2017 11:54:08

Fig. 130 Conducted Output Power 802.11ac 80MHz ANT1 CH155

5.2 Peak Power Spectral Density

Specifications:	FCC Part 15.407 (a)
DUT Serial Number:	S15/18: 862851030000175/862851030020177
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

Limit Level Construction:

According to Part 15.407(a)

For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500kHz band.

Antenna Gain:

Antenna1 gain is 0.5 dBi and the value is supplied by the applicant or manufacturer.

Antenna2 gain is 0.5 dBi and the value is supplied by the applicant or manufacturer.

Note:

The MIMO test requirement, RF conducted output power shall measure each transmitter chain by using channel power method.

And after obtain each individual transmitter chain power, then sum the output power.

5.2.1 802.11a Power Spectral Density

Mode	ANT	Frequency (MHz)	Channel	Measured Power (dBm)	Antenna gain (dBi)	Power Spectral Density (dBm)
802.11a	1	5180	36	-0.85	0.5	-0.35
		5220	44	-1.21		-0.71
		5240	48	-1.10		-0.60
		5260	52	-0.47		0.03
		5280	56	-0.71		-0.21
		5320	64	0.31		0.81
		5500	100	-0.61		-0.11
		5560	112	-0.08		0.42
		5700	140	-0.07		0.43
		5745	149	-1.56		-1.06
		5785	157	-0.91		-0.41
		5825	165	-1.23		-0.73

Mode	ANT	Frequency (MHz)	Channel	Measured Power (dBm)	Antenna gain (dBi)	Power Spectral Density (dBm)
802.11a	2	5180	36	-2.11	0.5	-1.61
		5220	44	-2.56		-2.06
		5240	48	-2.74		-2.24
		5260	52	-1.90		-1.40
		5280	56	-2.12		-1.62
		5320	64	-1.62		-1.12
		5500	100	-2.76		-2.26
		5560	112	-1.92		-1.42
		5700	140	-0.77		-0.27
		5745	149	-2.11		-1.61
		5785	157	-1.71		-1.21
		5825	165	-1.90		-1.40

5.2.2 802.11n 20MHz Power Spectral Density

Mode	ANT	Frequency (MHz)	Channel	Measured Power (dBm)	Antenna gain (dBi)	Power Spectral Density (dBm)
802.11n (20MHz)	1	5180	36	-0.79	0.5	-0.29
		5220	44	-0.91		-0.41
		5240	48	-1.21		-0.71
		5260	52	-1.07		-0.57
		5280	56	-0.92		-0.42
		5320	64	-0.26		0.24
		5500	100	-0.86		-0.36
		5560	112	-0.55		-0.05
		5700	140	-0.35		0.15
		5745	149	-1.92		-1.42
		5785	157	-0.77		-0.27
		5825	165	-1.45		-0.95

Mode	ANT	Frequency (MHz)	Channel	Measured Power (dBm)	Antenna gain (dBi)	Power Spectral Density (dBm)
802.11n (20MHz)	2	5180	36	-3.10	0.5	-2.60
		5220	44	-2.96		-2.46
		5240	48	-2.04		-1.54
		5260	52	-2.53		-2.03
		5280	56	-2.43		-1.93
		5320	64	-1.79		-1.29
		5500	100	-2.91		-2.41
		5560	112	-2.10		-1.60
		5700	140	-1.48		-0.98
		5745	149	-1.84		-1.34
		5785	157	-2.37		-1.87
		5825	165	-2.08		-1.58

Mode	ANT	Frequency (MHz)	Channel	Power Spectral Density (dBm)
802.11n (20MHz)	1+2	5180	36	1.46
		5220	44	1.76
		5240	48	1.76
		5260	52	1.76
		5280	56	1.76
		5320	64	2.04
		5500	100	1.76
		5560	112	2.30
		5700	140	2.55
		5745	149	1.46
		5785	157	2.04
		5825	165	1.76

5.2.3 802.11n 40MHz Power Spectral Density

Mode	ANT	Frequency (MHz)	Channel	Measured Power (dBm)	Antenna gain (dBi)	Power Spectral Density (dBm)
802.11n (40MHz)	1	5190	38	-3.69	0.5	-3.19
		5230	46	-3.93		-3.43
		5270	54	-3.53		-3.03
		5310	62	-2.68		-2.18
		5510	102	-3.78		-3.28
		5550	110	-3.49		-2.99
		5755	151	-4.24		-3.74
		5795	159	-3.40		-2.90

Mode	ANT	Frequency (MHz)	Channel	Measured Power (dBm)	Antenna gain (dBi)	Power Spectral Density (dBm)
802.11n (40MHz)	2	5190	38	-5.79	0.5	-5.29
		5230	46	-5.27		-4.77
		5270	54	-4.59		-4.09
		5310	62	-4.47		-3.97
		5510	102	-5.52		-5.02
		5550	110	-4.43		-3.93
		5755	151	-4.81		-4.31
		5795	159	-4.85		-4.35

Mode	ANT	Frequency (MHz)	Channel	Power Spectral Density (dBm)
802.11n (40MHz)	1+2	5190	38	-0.97
		5230	46	-0.97
		5270	54	-0.46
		5310	62	0.00
		5510	102	-0.97
		5550	110	-0.46
		5755	151	-0.97
		5795	159	-0.46

5.2.4 802.11ac 80MHz Power Spectral Density

Mode	ANT	Frequency (MHz)	Channel	Measured Power (dBm)	Antenna gain (dBi)	Power Spectral Density (dBm)
802.11ac (80MHz)	1	5210	42	-6.45	0.5	-5.95
		5290	58	-6.28		-5.78
		5530	106	-6.51		-6.01
		5690	138	-5.54		-5.04
		5775	155	-6.97		-6.47

Mode	ANT	Frequency (MHz)	Channel	Measured Power (dBm)	Antenna gain (dBi)	Power Spectral Density (dBm)
802.11ac (80MHz)	2	5210	42	-8.31	0.5	-7.81
		5290	58	-7.57		-7.07
		5530	106	-8.09		-7.59
		5690	138	-6.56		-6.06
		5775	155	-7.74		-7.24

Mode	ANT	Frequency (MHz)	Channel	Power Spectral Density (dBm)
802.11ac (80MHz)	1+2	5210	42	-3.01
		5290	58	-3.01
		5530	106	-3.01
		5690	138	-3.01
		5775	155	-3.98

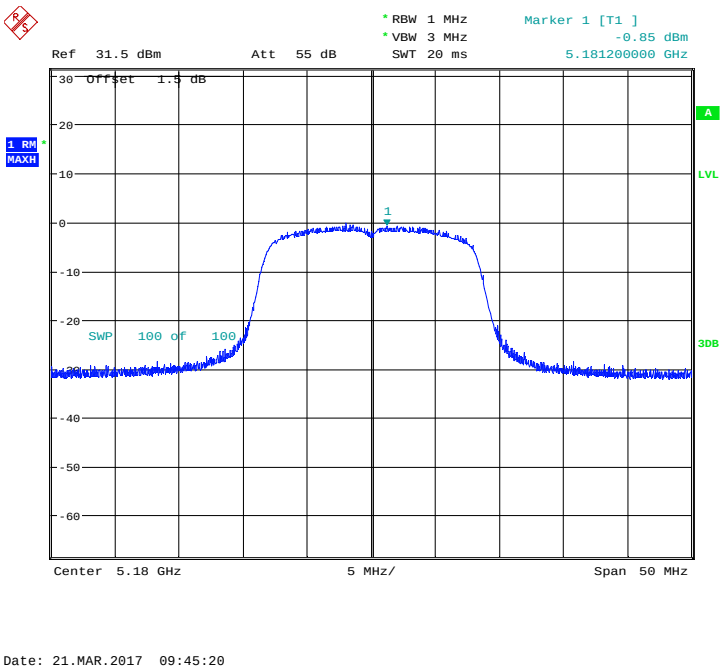


Fig. 131 Power Spectral Density 802.11a ANT1 CH36

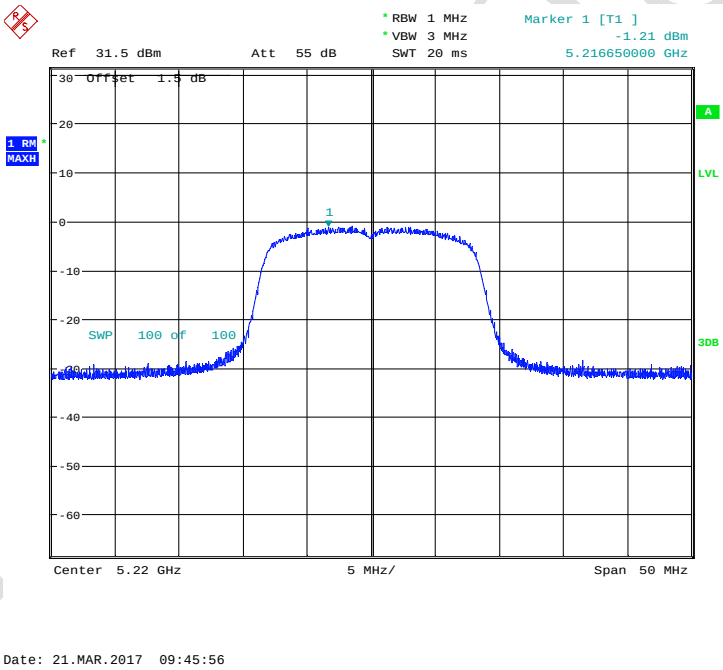


Fig. 132 Power Spectral Density 802.11a ANT1 CH44

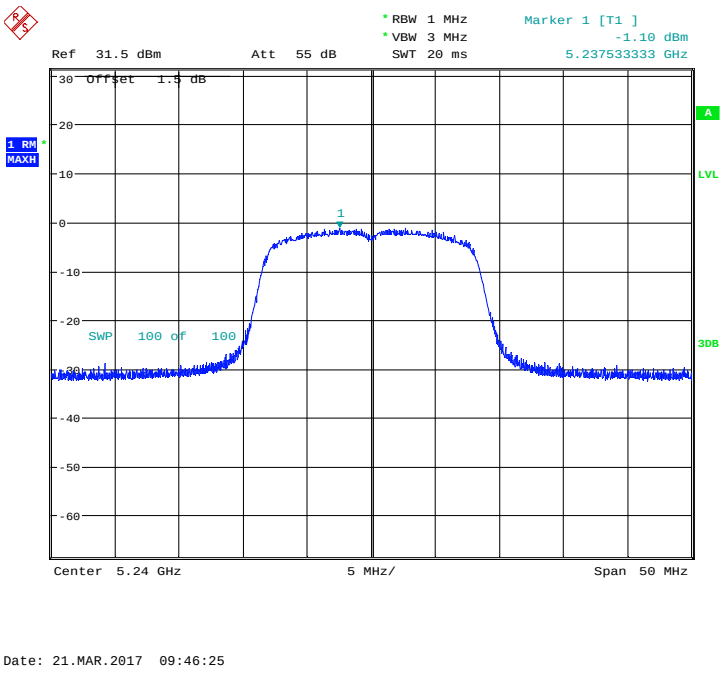


Fig. 133 Power Spectral Density 802.11a ANT1 CH48

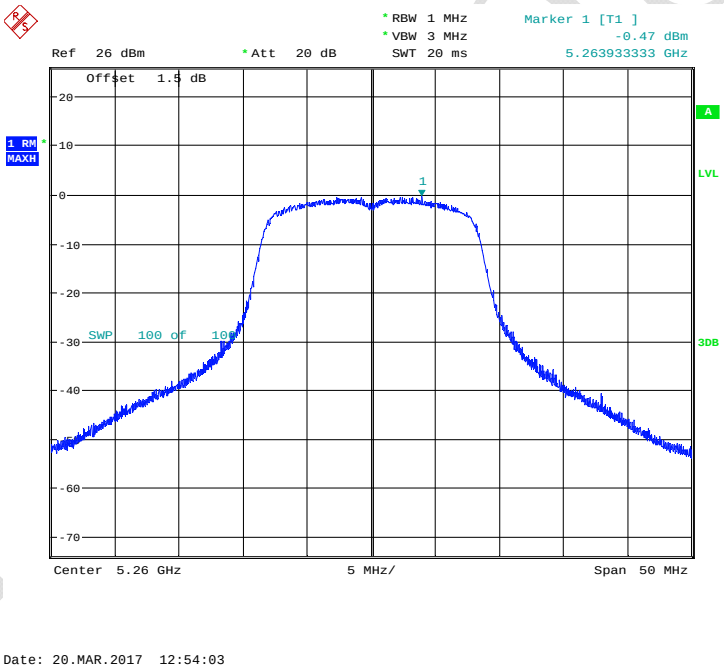


Fig. 134 Power Spectral Density 802.11a ANT1 CH52

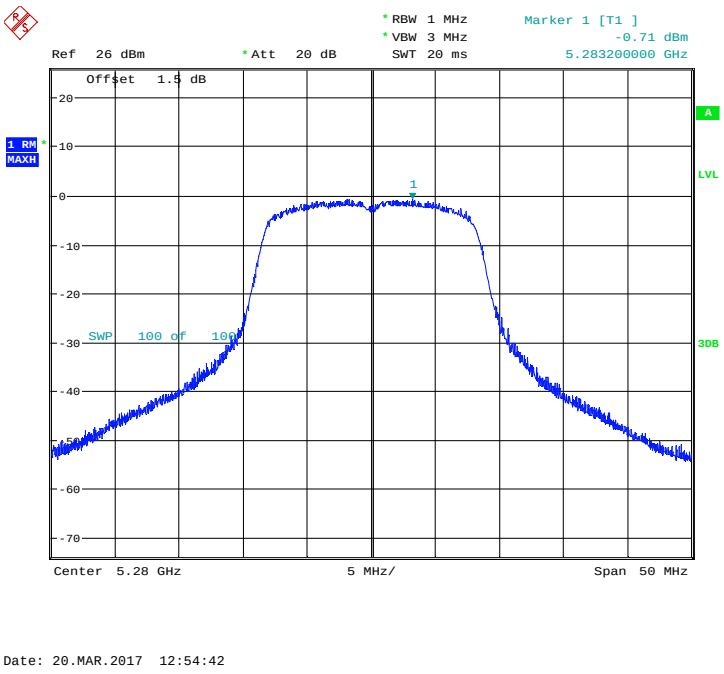


Fig. 135 Power Spectral Density 802.11a ANT1 CH56

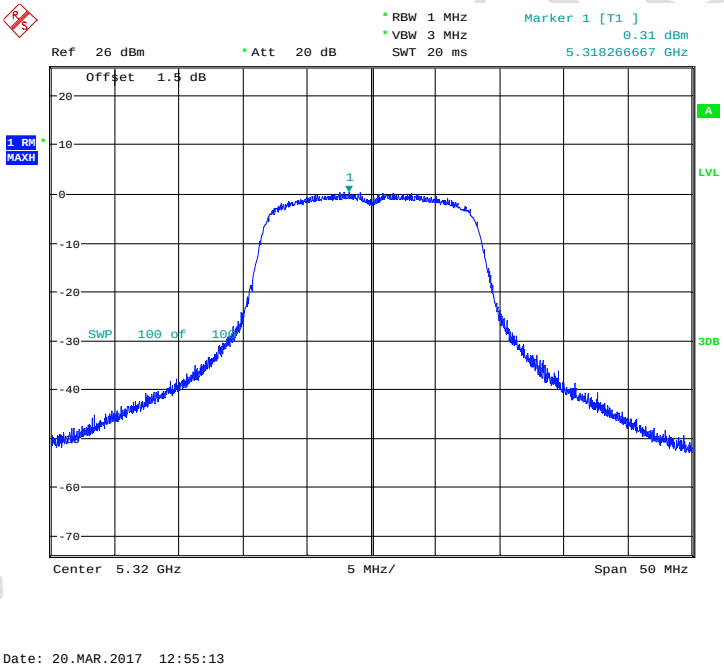


Fig. 136 Power Spectral Density 802.11a ANT1 CH64

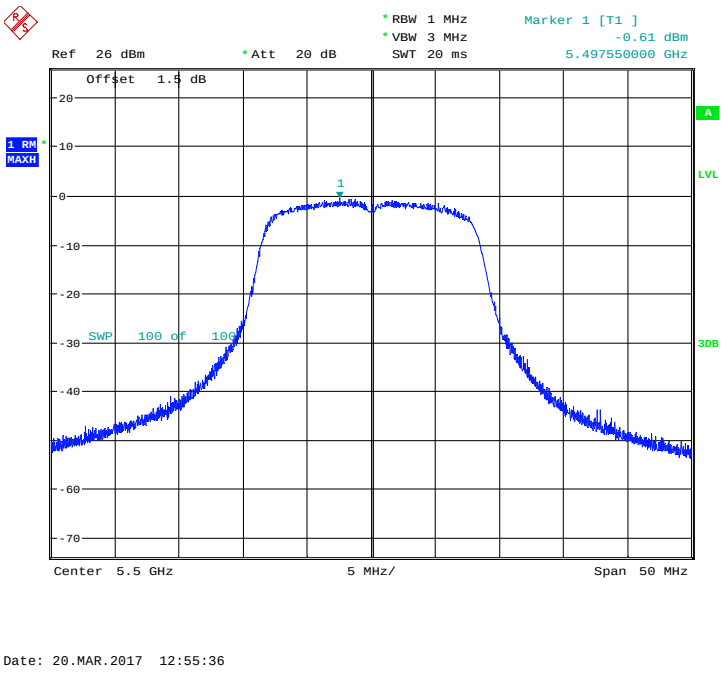


Fig. 137 Power Spectral Density 802.11a ANT1 CH100

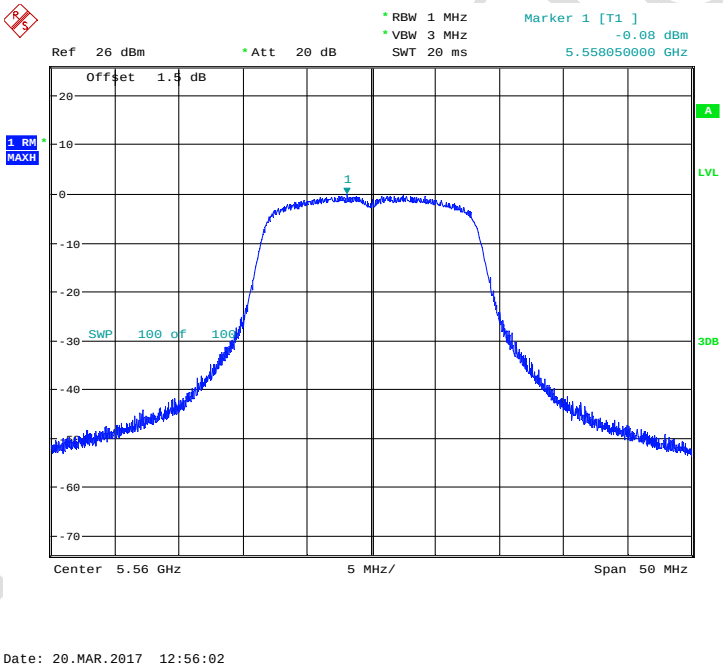


Fig. 138 Power Spectral Density 802.11a ANT1 CH112

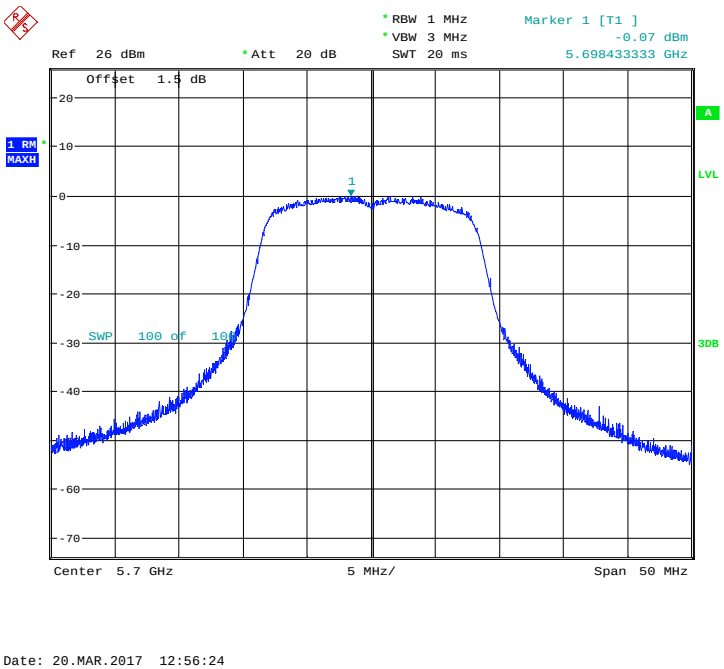


Fig. 139 Power Spectral Density 802.11a ANT1 CH140

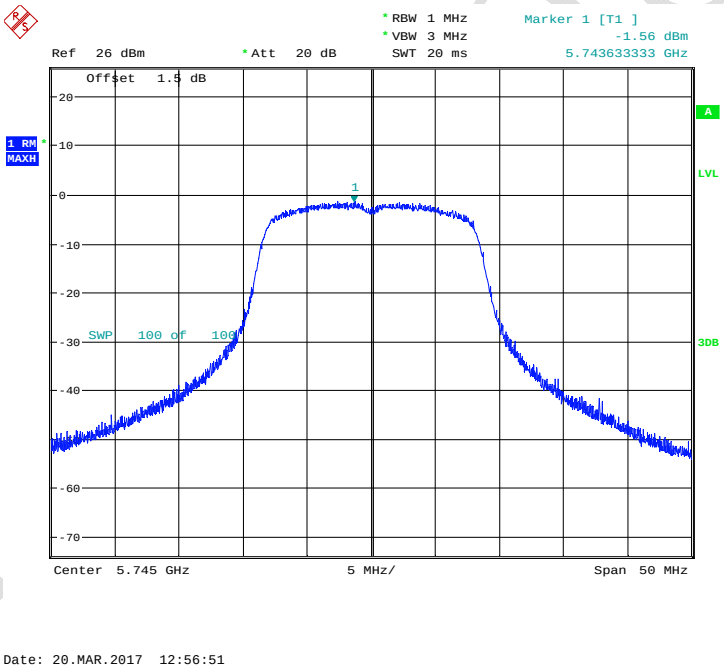


Fig. 140 Power Spectral Density 802.11a ANT1 CH149

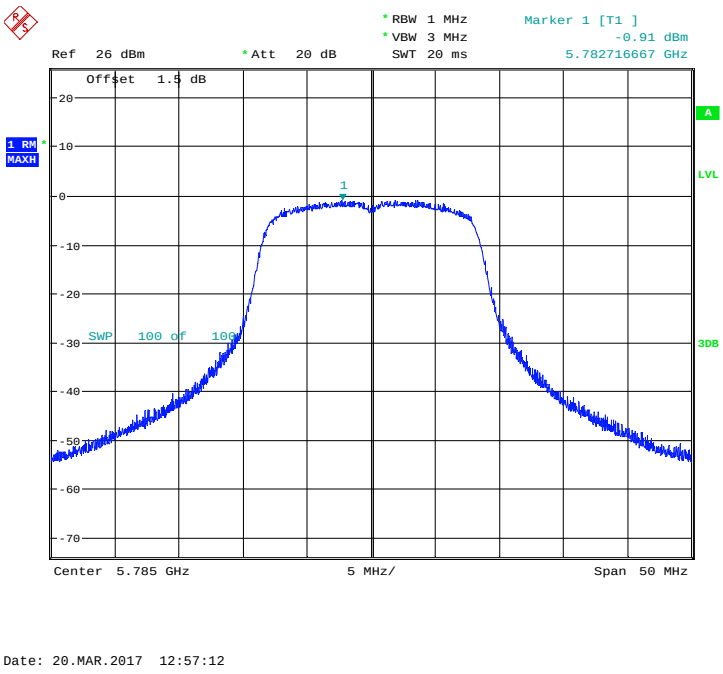


Fig. 141 Power Spectral Density 802.11a ANT1 CH157

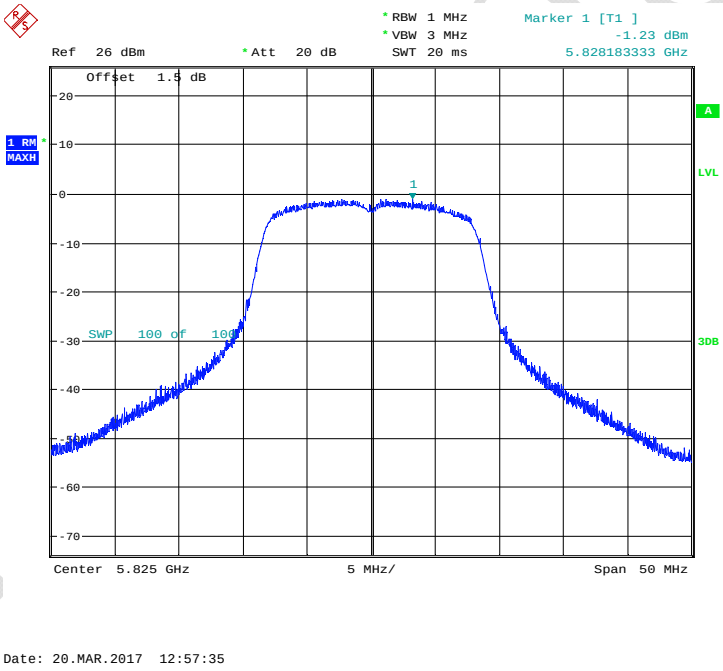


Fig. 142 Power Spectral Density 802.11a ANT1 CH165

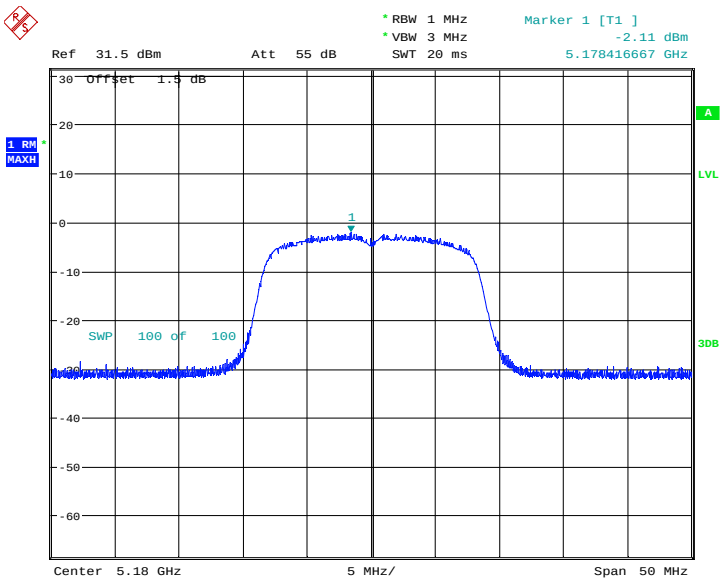


Fig. 143 Power Spectral Density 802.11a ANT2 CH36

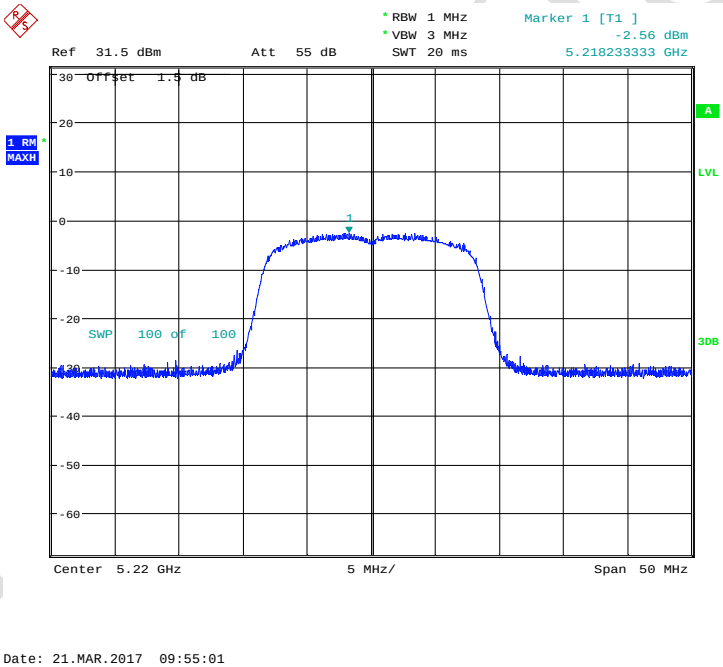


Fig. 144 Power Spectral Density 802.11a ANT2 CH44

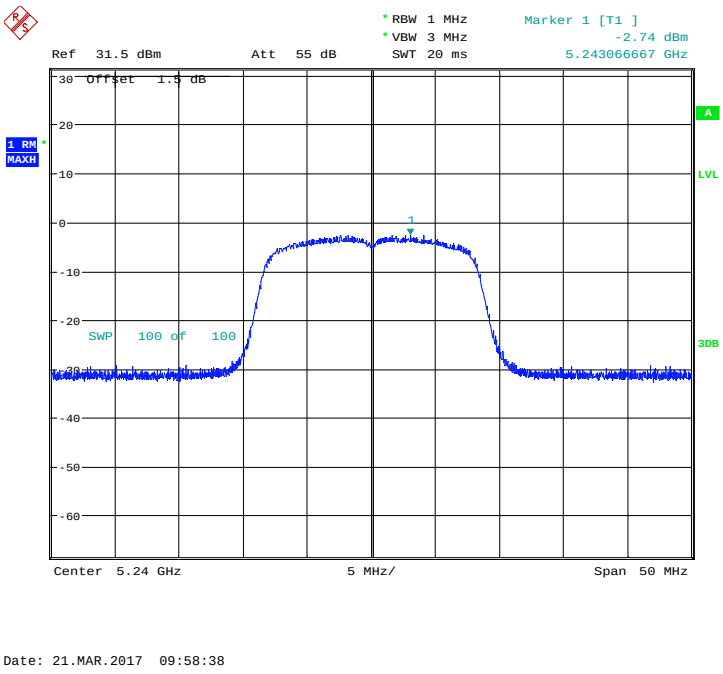


Fig. 145 Power Spectral Density 802.11a ANT2 CH48

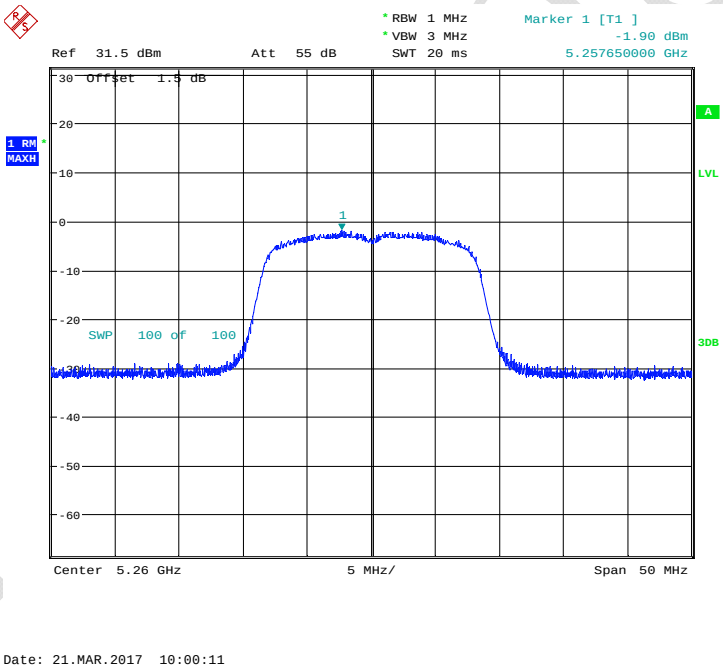


Fig. 146 Power Spectral Density 802.11a ANT2 CH52

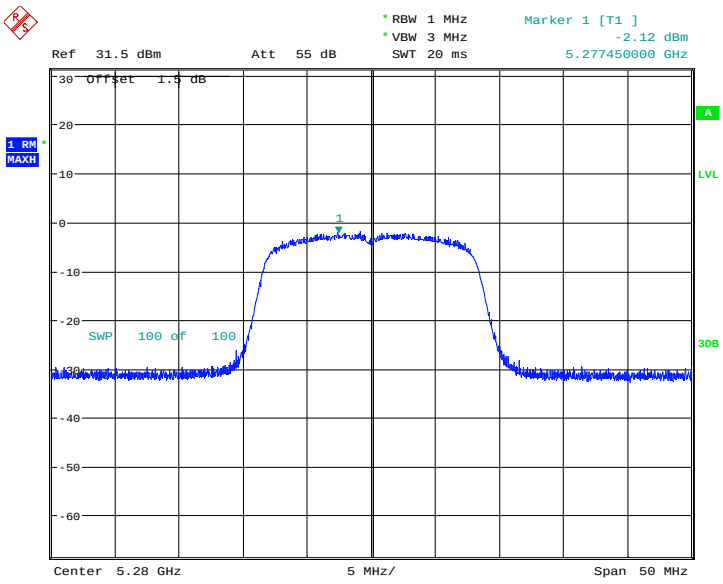


Fig. 147 Power Spectral Density 802.11a ANT2 CH56

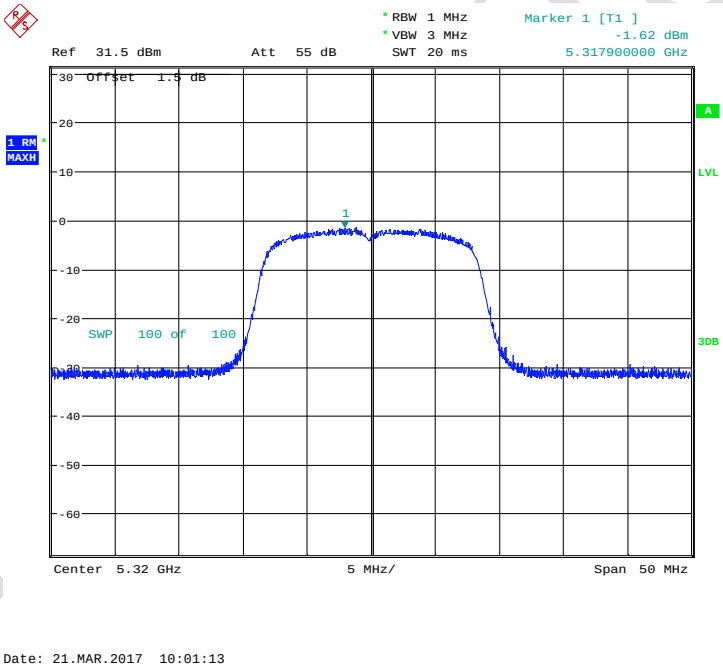


Fig. 148 Power Spectral Density 802.11a ANT2 CH64

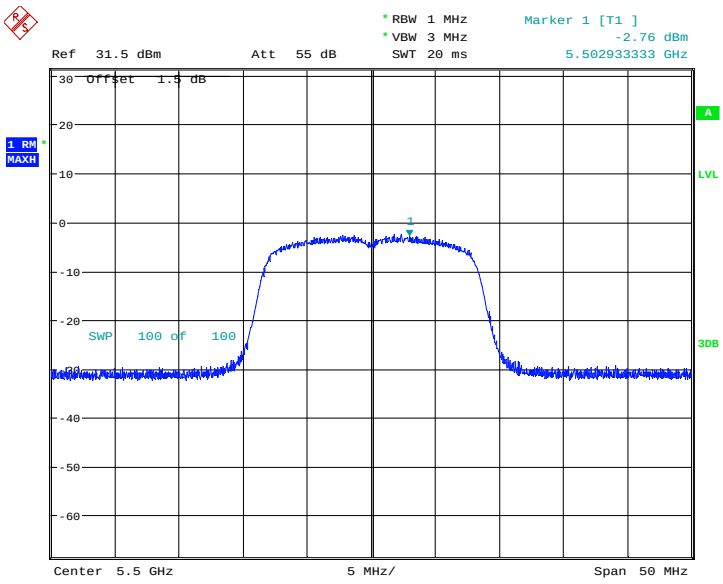


Fig. 149 Power Spectral Density 802.11a ANT2 CH100

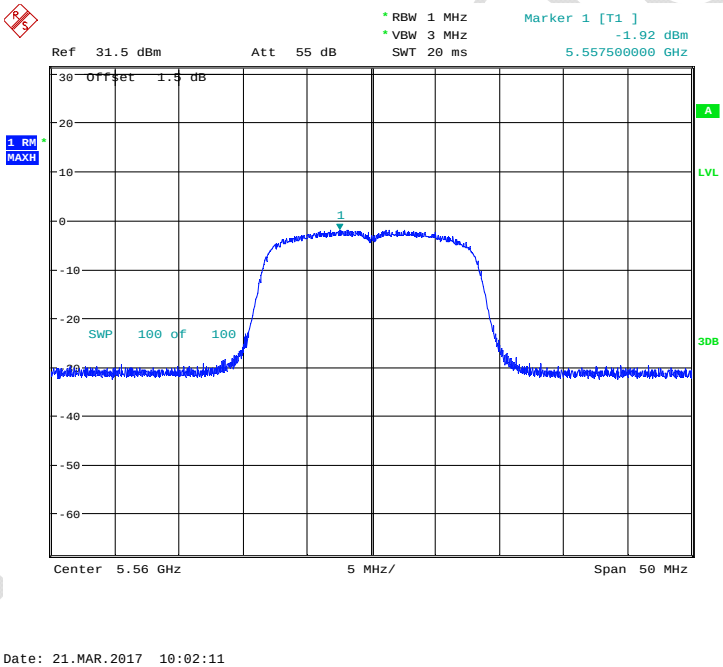


Fig. 150 Power Spectral Density 802.11a ANT2 CH112

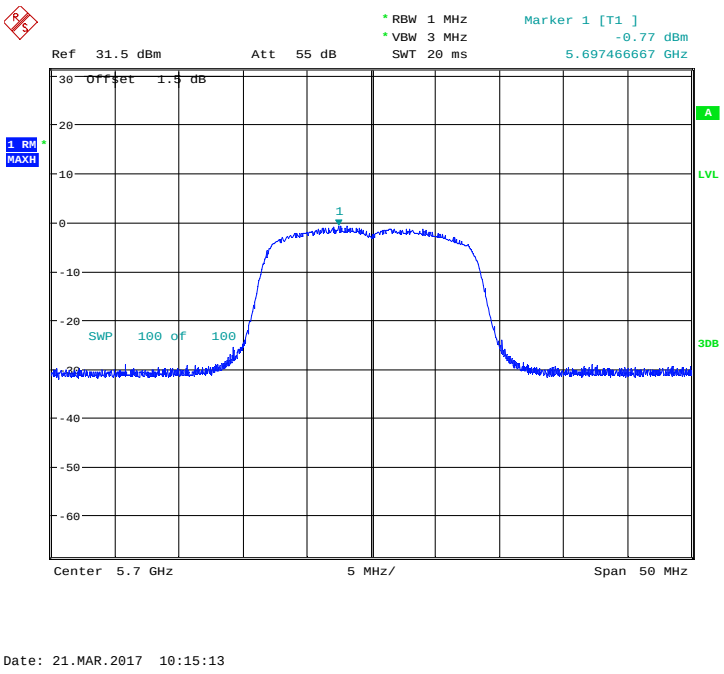


Fig. 151 Power Spectral Density 802.11a ANT2 CH140

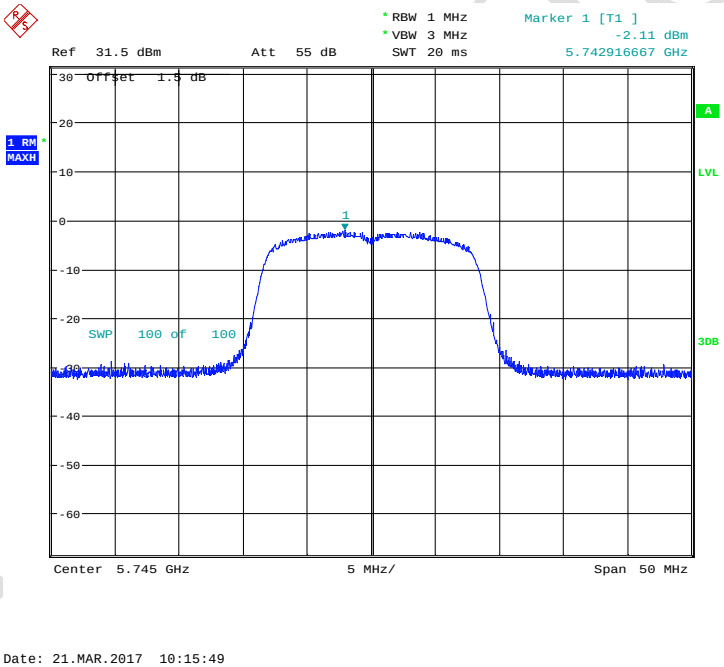


Fig. 152 Power Spectral Density 802.11a ANT2 CH149

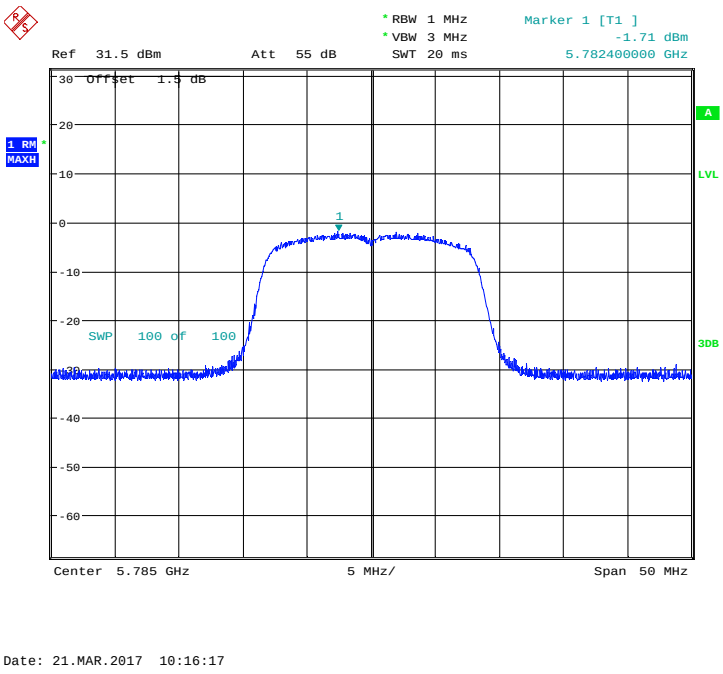


Fig. 153 Power Spectral Density 802.11a ANT2 CH157

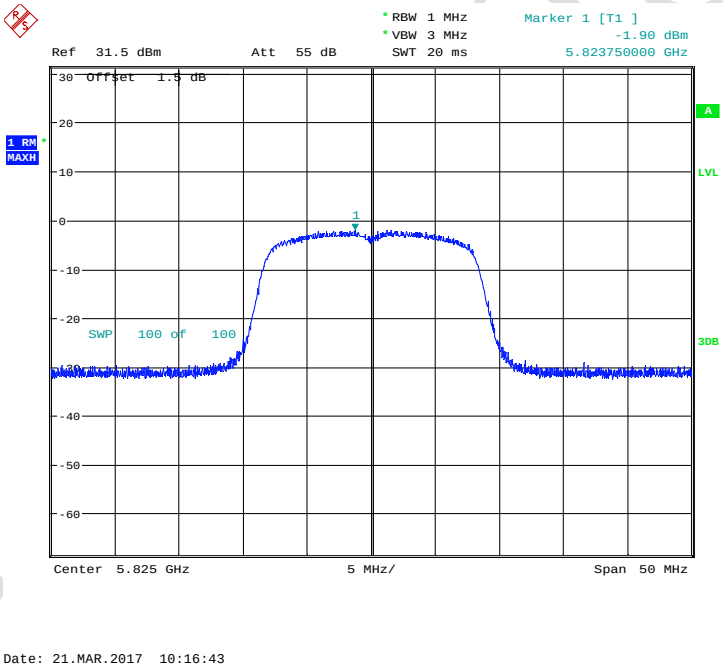


Fig. 154 Power Spectral Density 802.11a ANT2 CH165

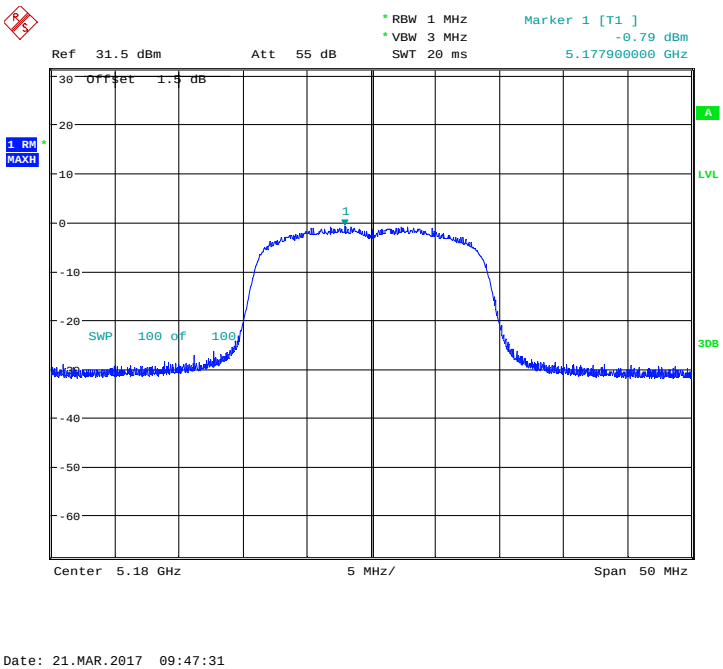


Fig. 155 Power Spectral Density 802.11n 20MHz ANT1 CH36

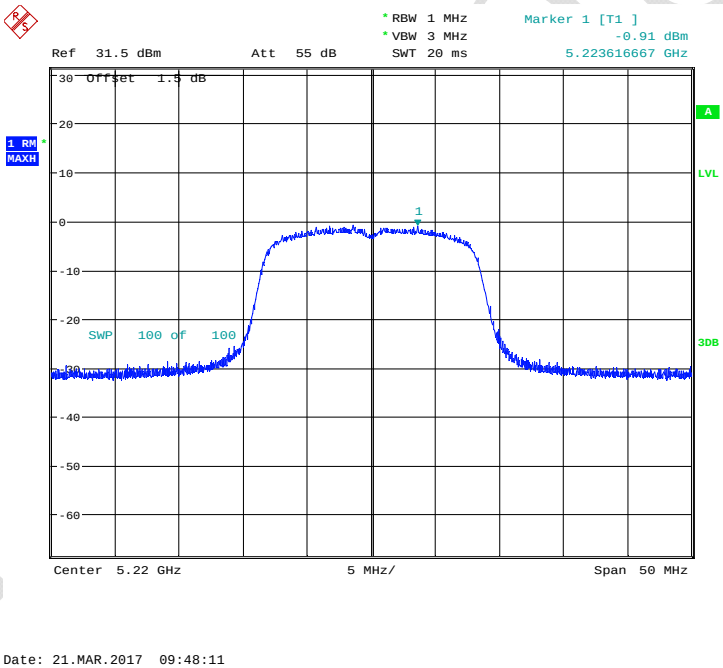


Fig. 156 Power Spectral Density 802.11n 20MHz ANT1 CH44

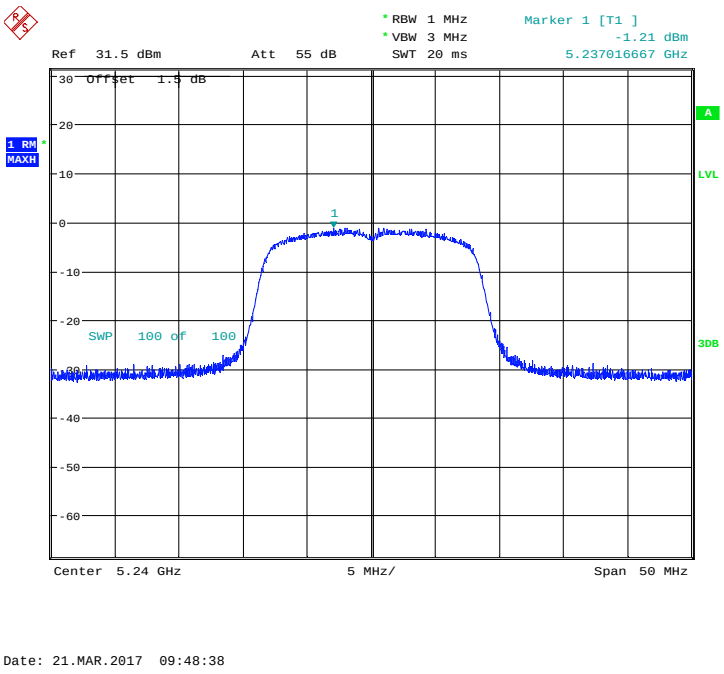


Fig. 157 Power Spectral Density 802.11n 20MHz ANT1 CH48

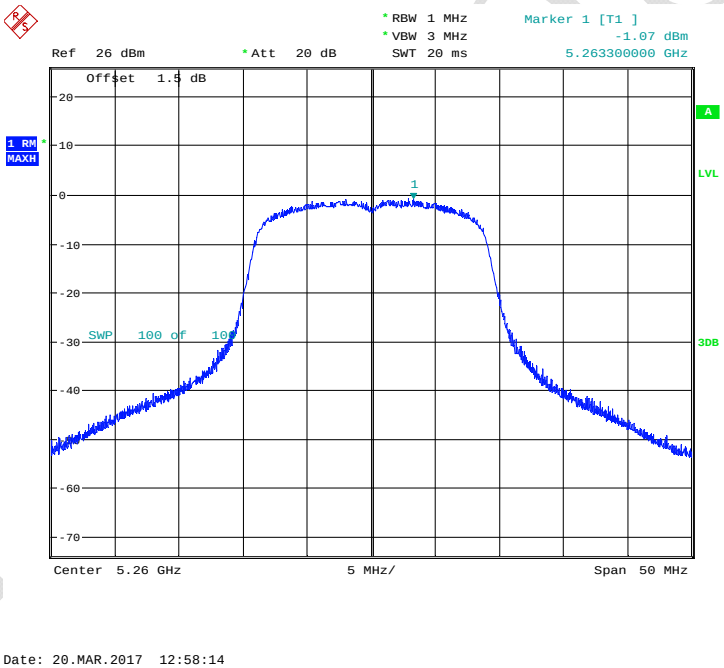


Fig. 158 Power Spectral Density 802.11n 20MHz ANT1 CH52

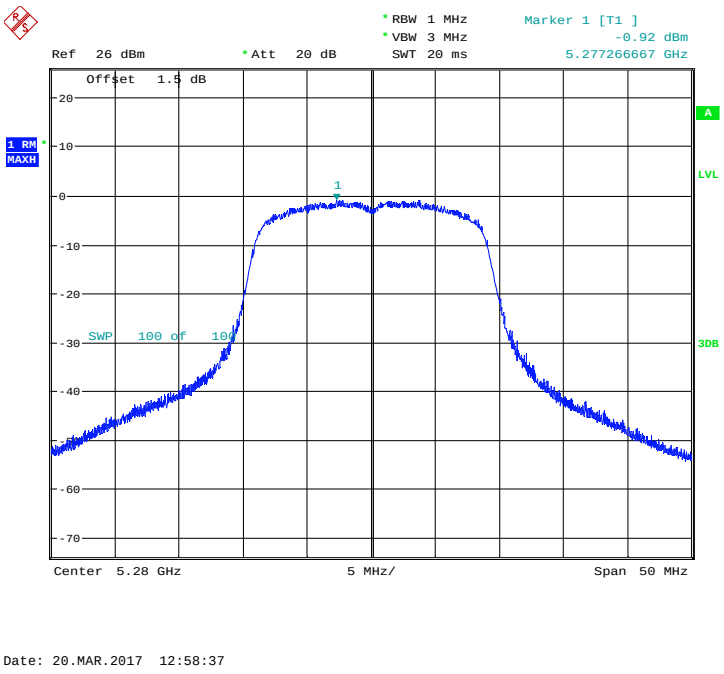


Fig. 159 Power Spectral Density 802.11n 20MHz ANT1 CH56

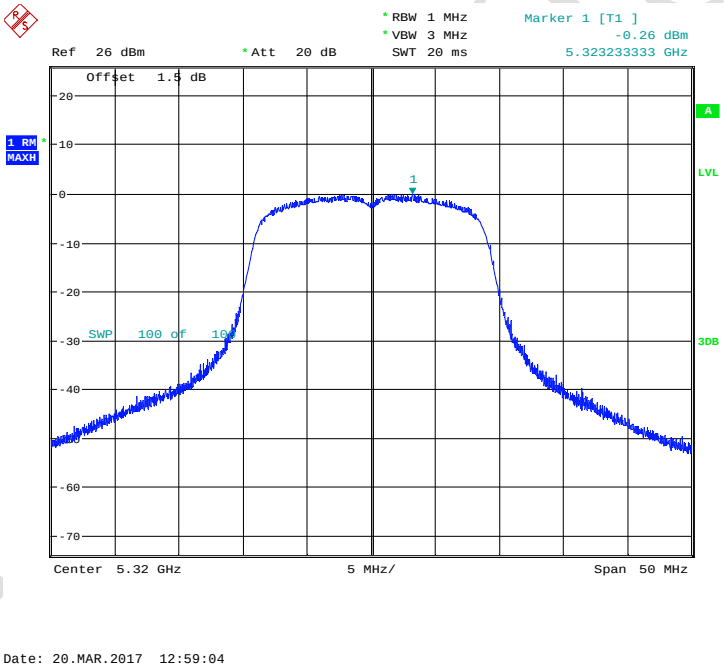


Fig. 160 Power Spectral Density 802.11n 20MHz ANT1 CH64

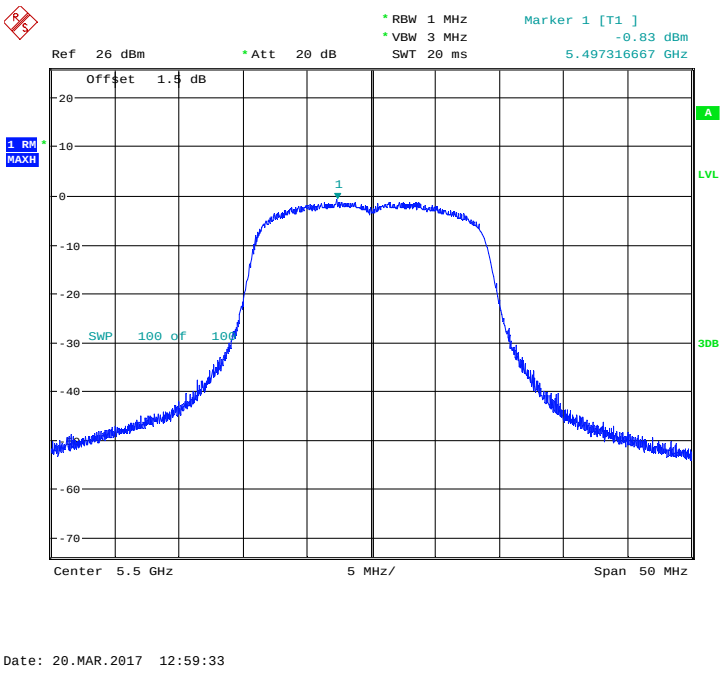


Fig. 161 Power Spectral Density 802.11n 20MHz ANT1 CH100

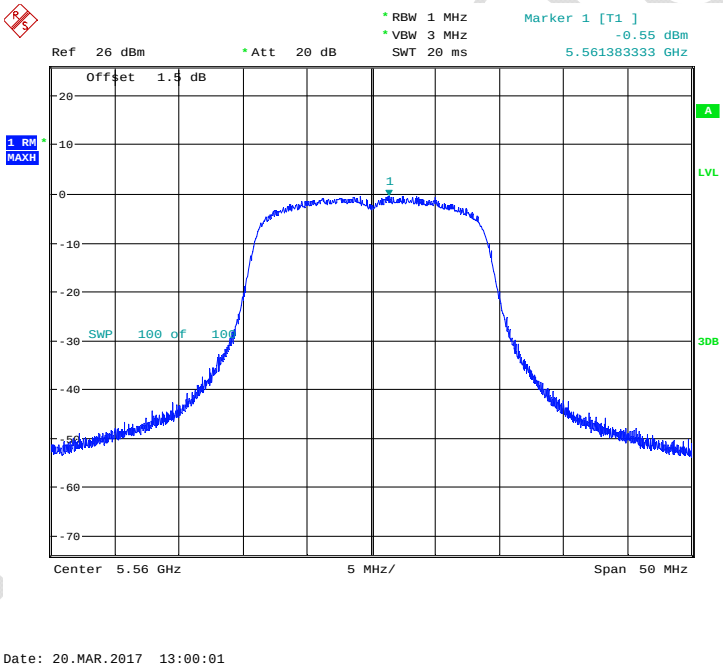


Fig. 162 Power Spectral Density 802.11n 20MHz ANT1 CH112

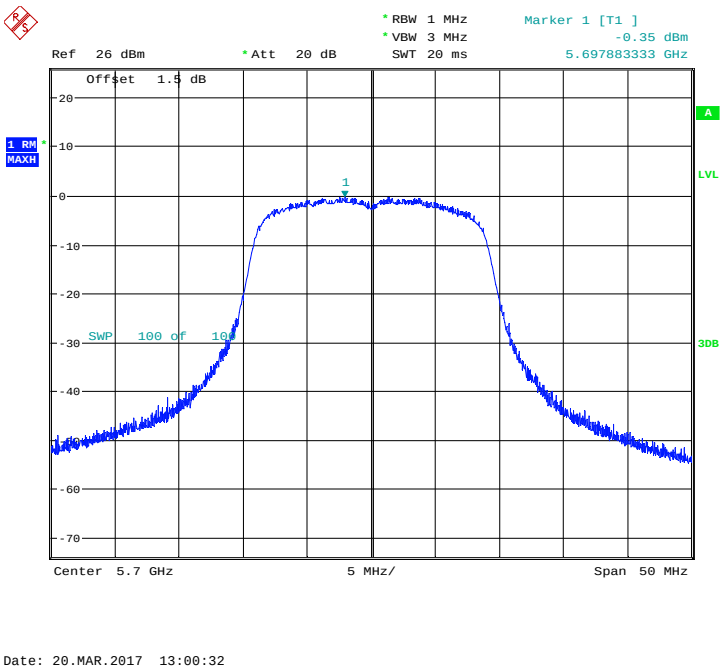


Fig. 163 Power Spectral Density 802.11n 20MHz ANT1 CH140

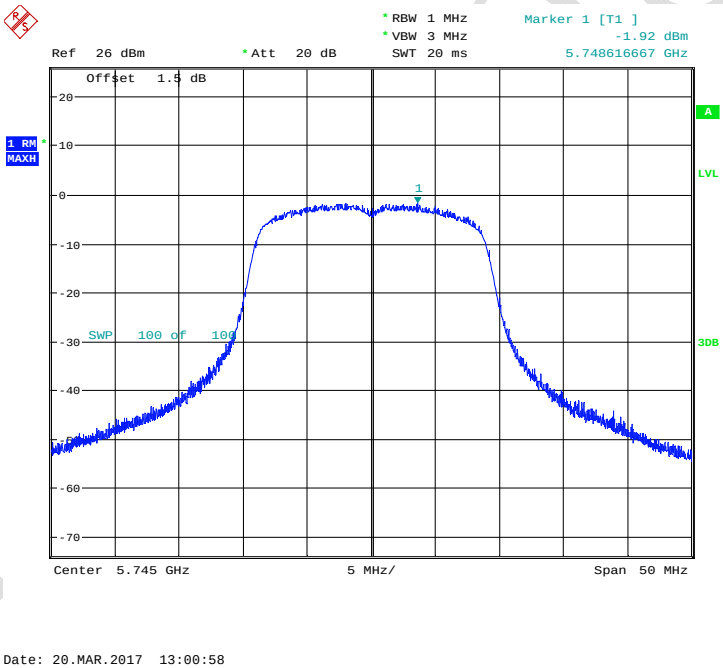


Fig. 164 Power Spectral Density 802.11n 20MHz ANT1 CH149

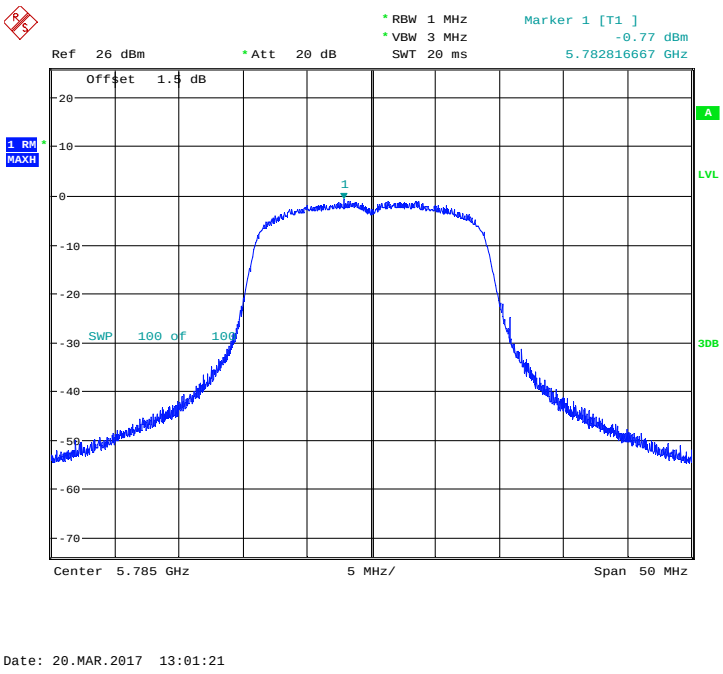


Fig. 165 Power Spectral Density 802.11n 20MHz ANT1 CH157

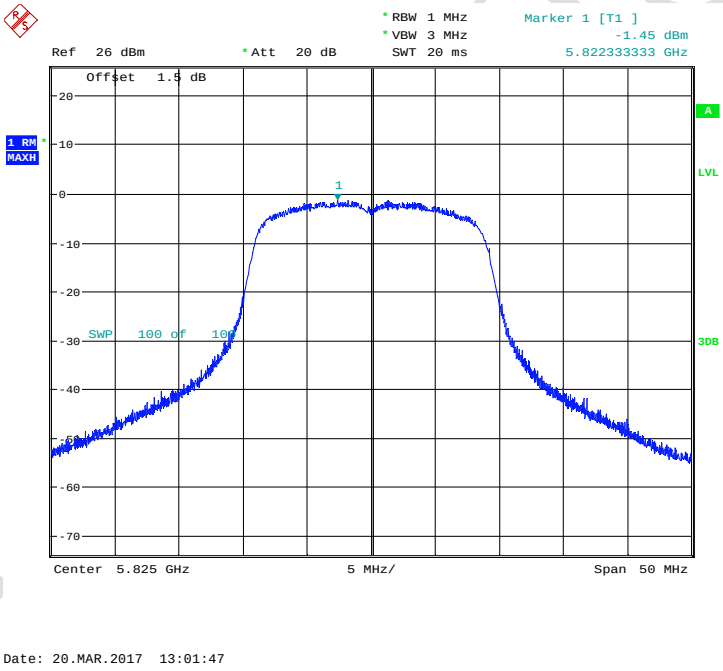


Fig. 166 Power Spectral Density 802.11n 20MHz ANT1 CH165

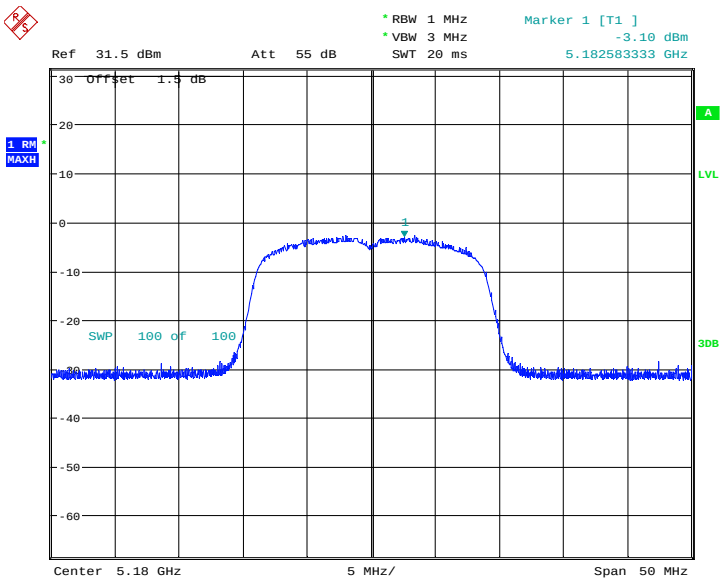


Fig. 167 Power Spectral Density 802.11n 20MHz ANT2 CH36

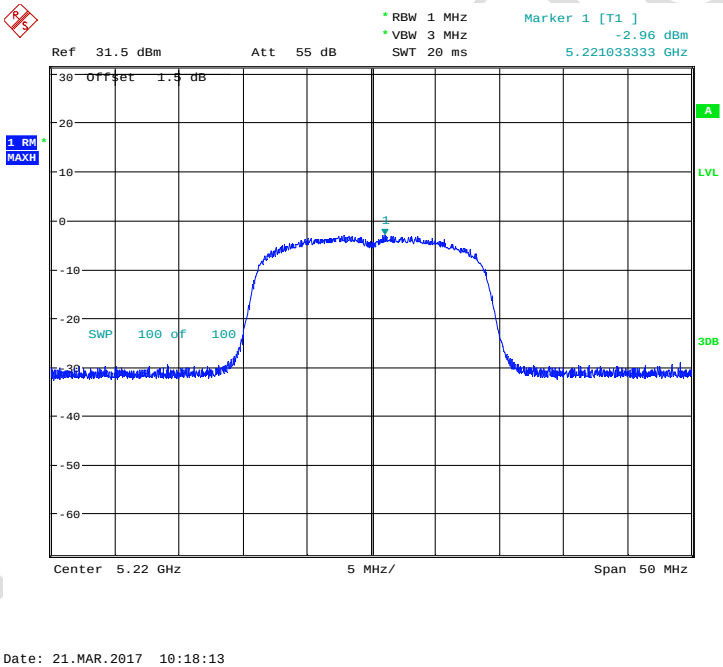


Fig. 168 Power Spectral Density 802.11n 20MHz ANT2 CH44

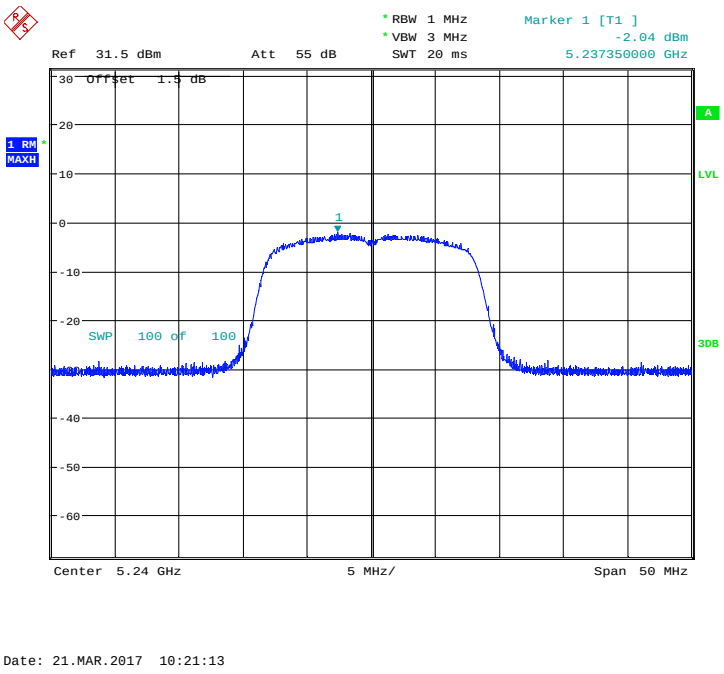


Fig. 169 Power Spectral Density 802.11n 20MHz ANT2 CH48

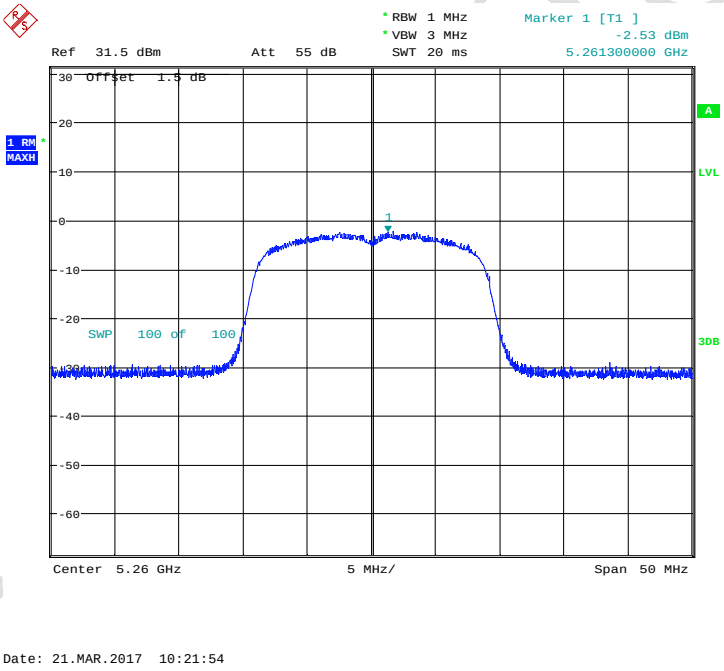


Fig. 170 Power Spectral Density 802.11n 20MHz ANT2 CH52

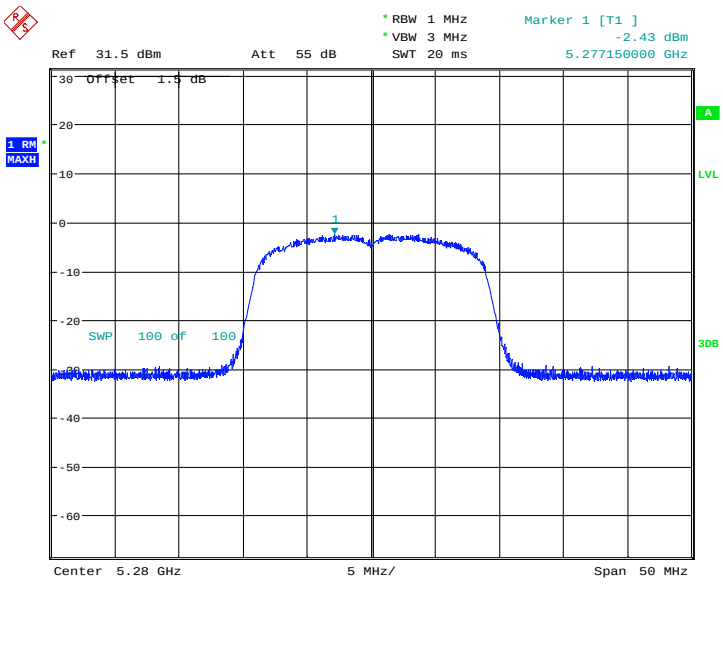


Fig. 171 Power Spectral Density 802.11n 20MHz ANT2 CH56

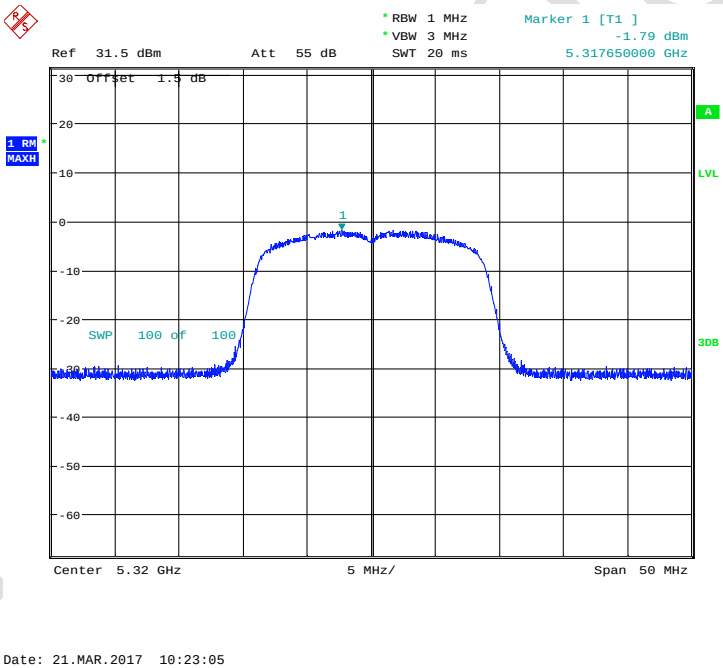


Fig. 172 Power Spectral Density 802.11n 20MHz ANT2 CH64

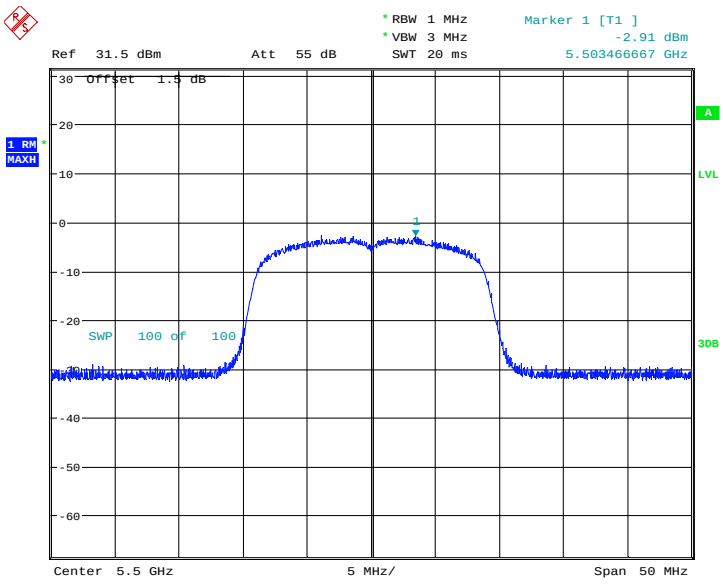


Fig. 173 Power Spectral Density 802.11n 20MHz ANT2 CH100

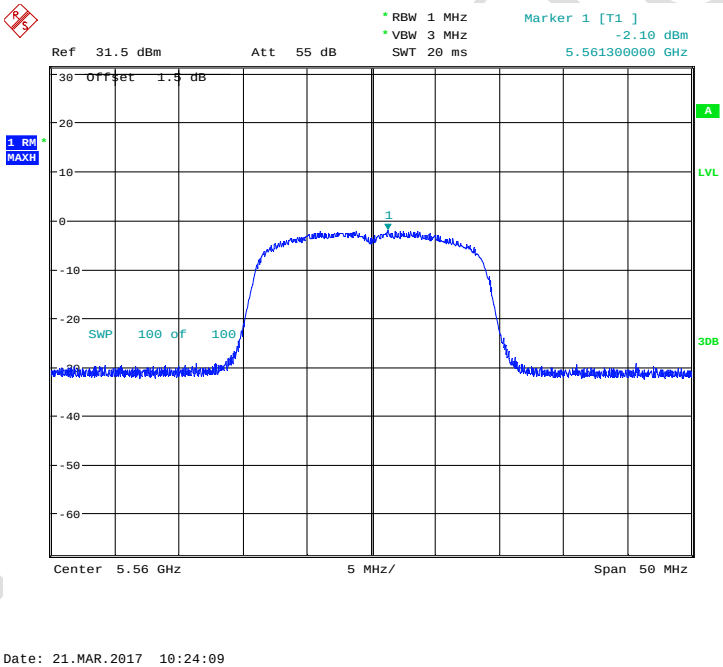


Fig. 174 Power Spectral Density 802.11n 20MHz ANT2 CH112

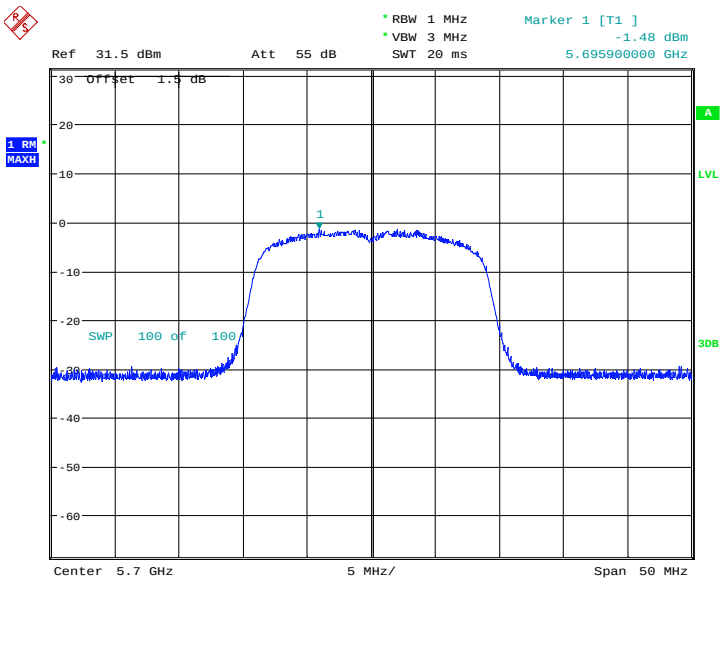


Fig. 175 Power Spectral Density 802.11n 20MHz ANT2 CH140

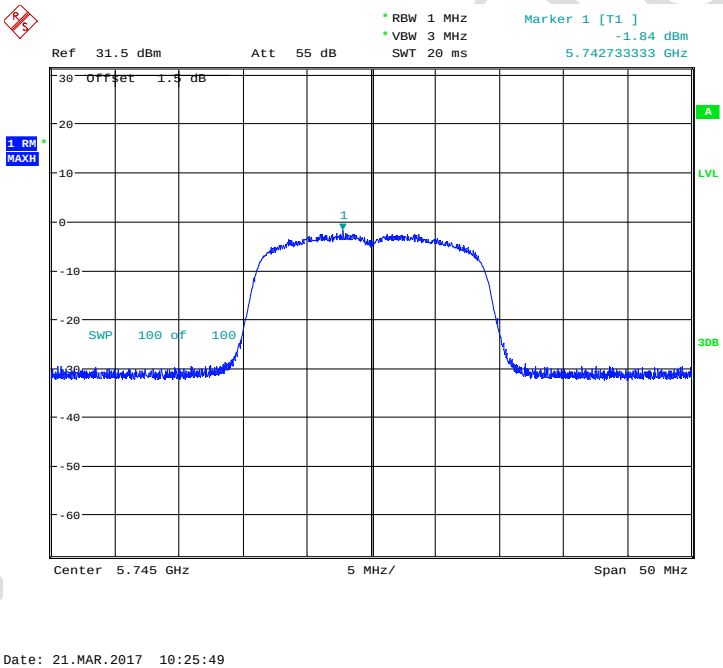


Fig. 176 Power Spectral Density 802.11n 20MHz ANT2 CH149

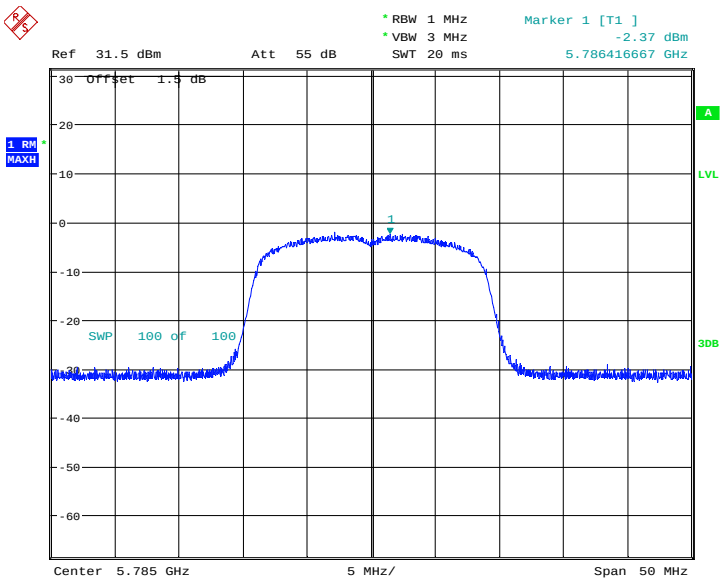


Fig. 177 Power Spectral Density 802.11n 20MHz ANT2 CH157

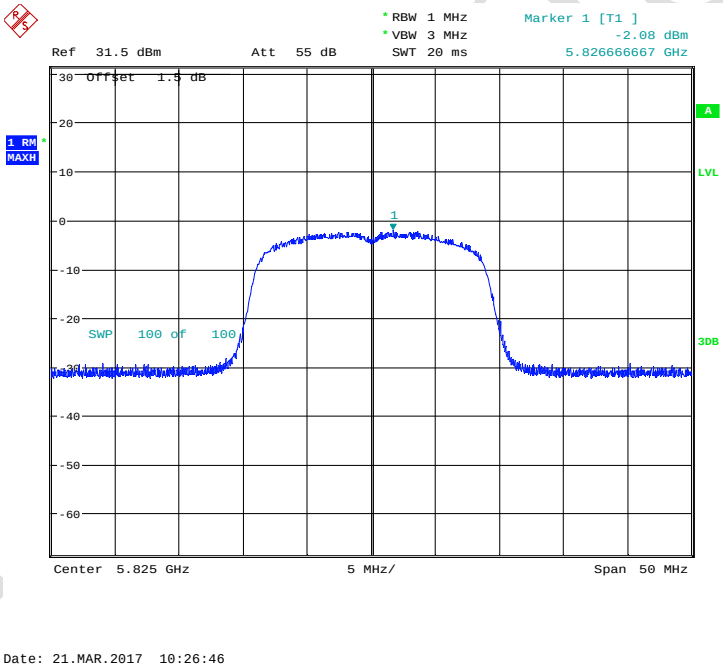


Fig. 178 Power Spectral Density 802.11n 20MHz ANT2 CH165

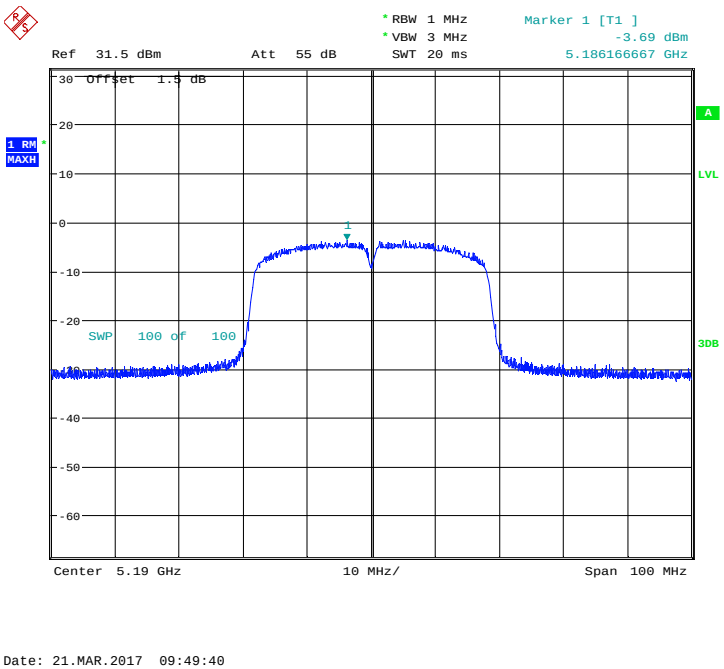


Fig. 179 Power Spectral Density 802.11n 40MHz ANT1 CH38

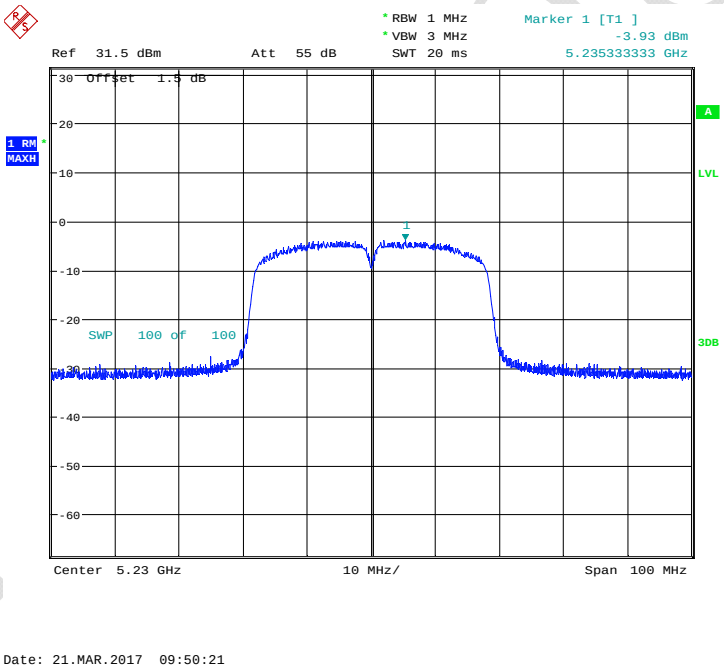


Fig. 180 Power Spectral Density 802.11n 40MHz ANT1 CH46

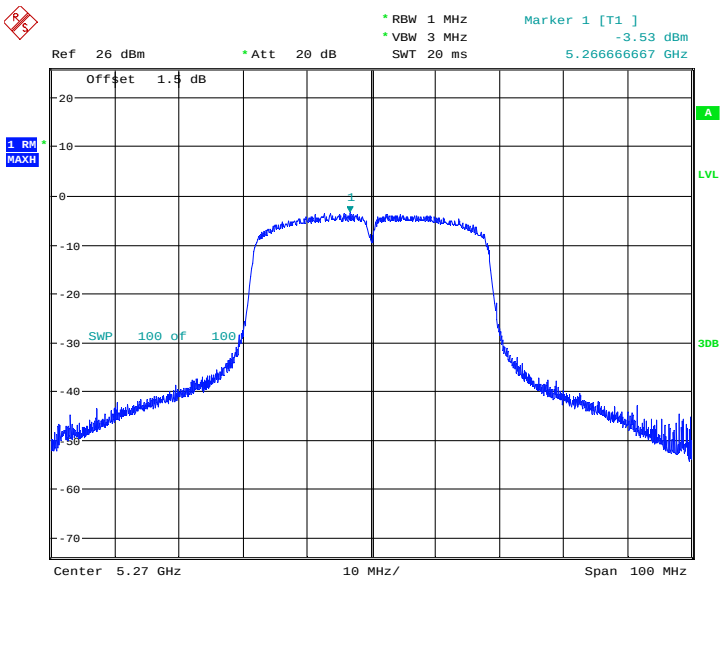


Fig. 181 Power Spectral Density 802.11n 40MHz ANT1 CH54

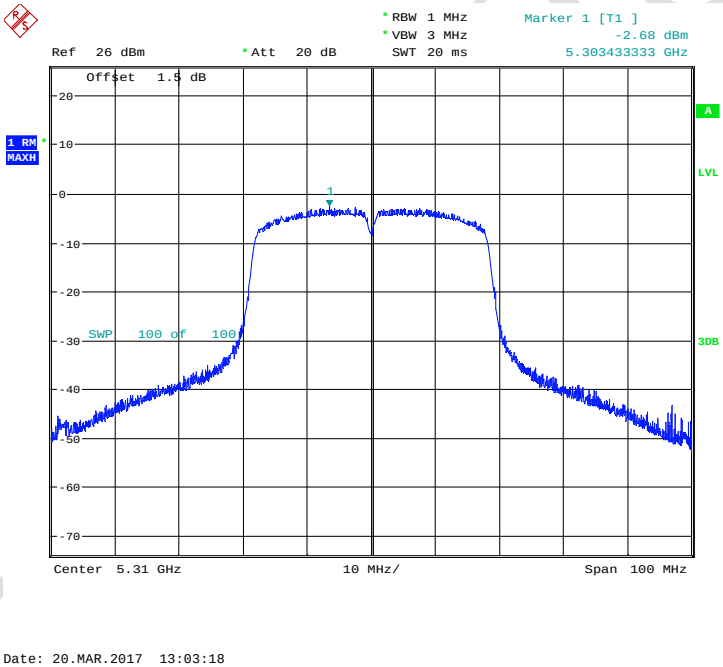


Fig. 182 Power Spectral Density 802.11n 40MHz ANT1 CH62

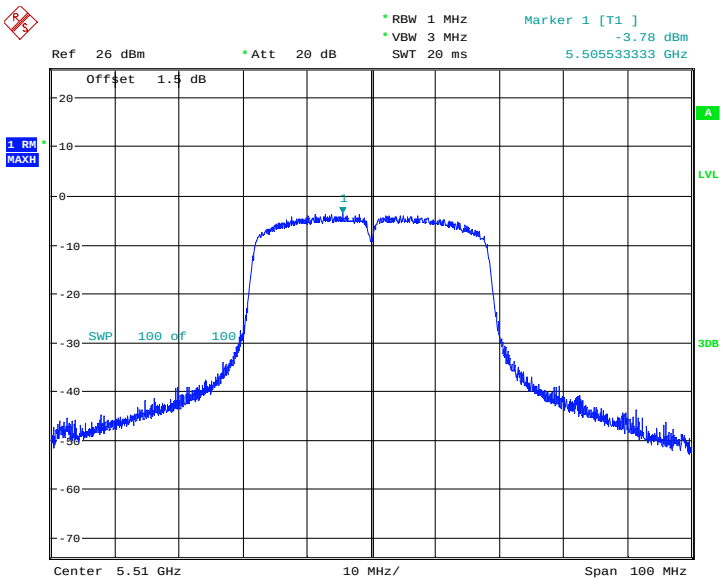


Fig. 183 Power Spectral Density 802.11n 40MHz ANT1 CH102

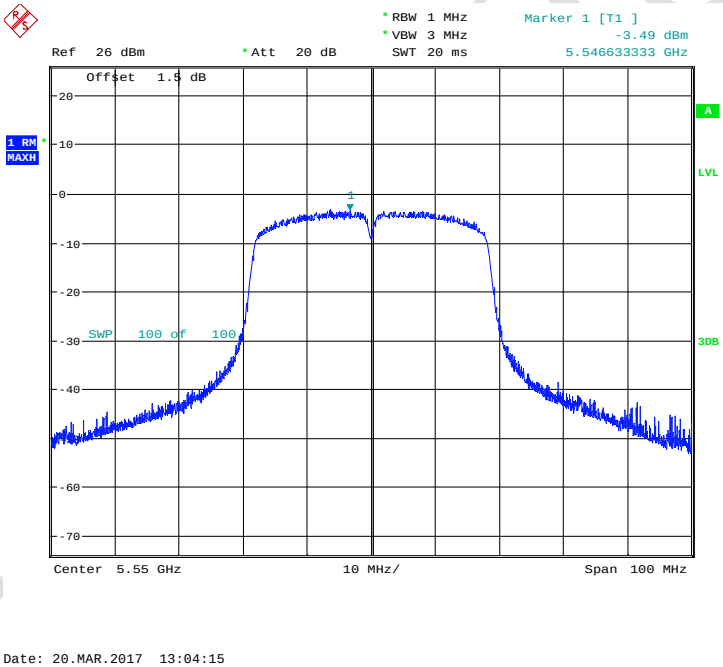


Fig. 184 Power Spectral Density 802.11n 40MHz ANT1 CH110

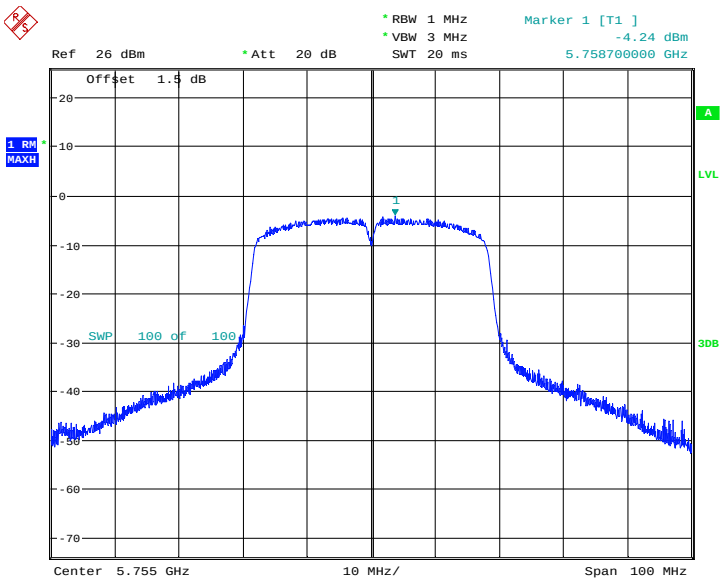


Fig. 185 Power Spectral Density 802.11n 40MHz ANT1 CH151

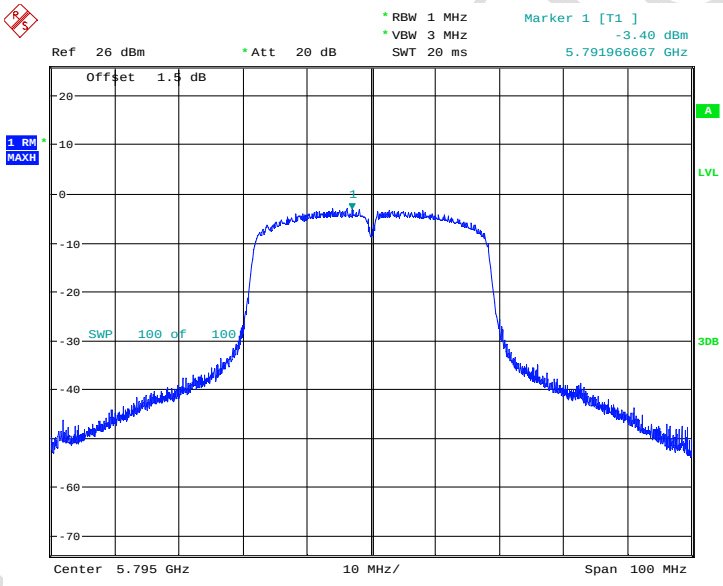


Fig. 186 Power Spectral Density 802.11n 40MHz ANT1 CH159

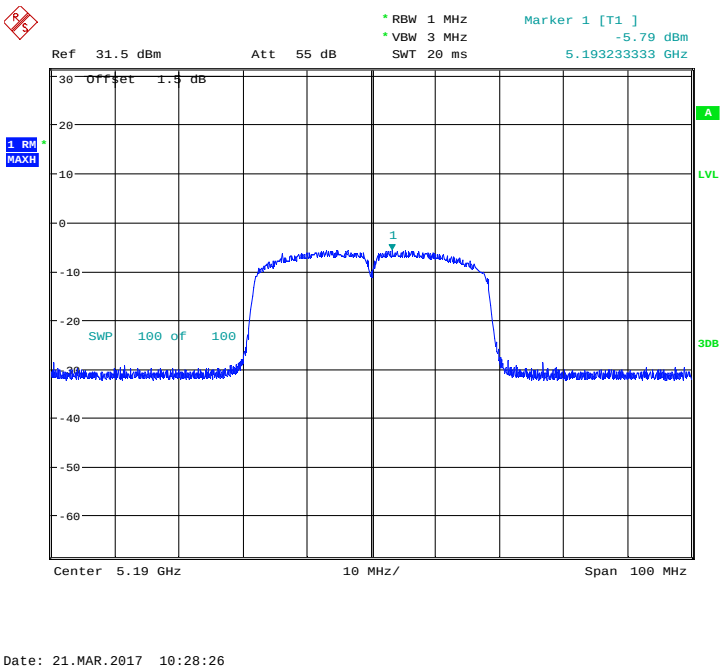


Fig. 187 Power Spectral Density 802.11n 40MHz ANT2 CH38

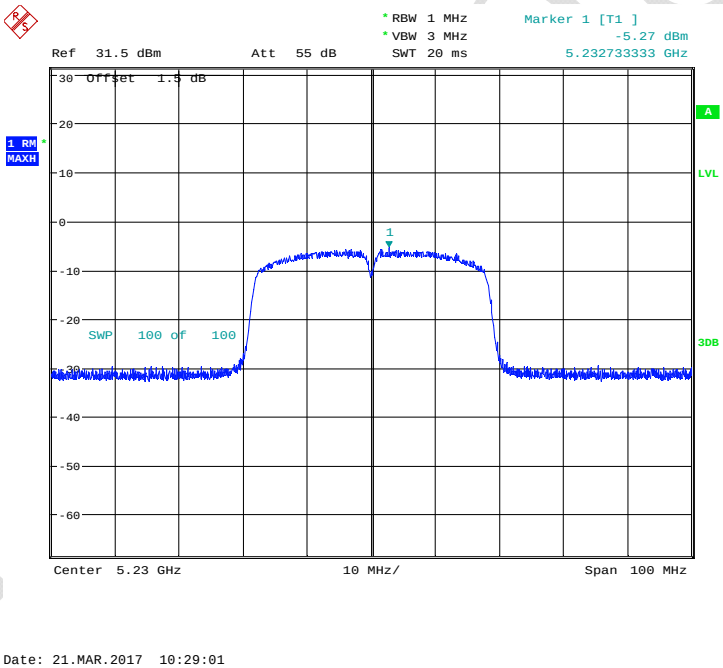


Fig. 188 Power Spectral Density 802.11n 40MHz ANT2 CH46

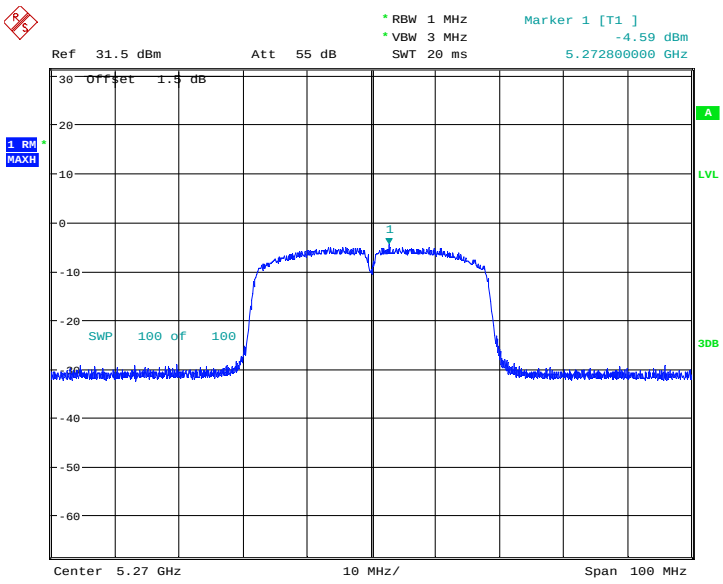


Fig. 189 Power Spectral Density 802.11n 40MHz ANT2 CH54

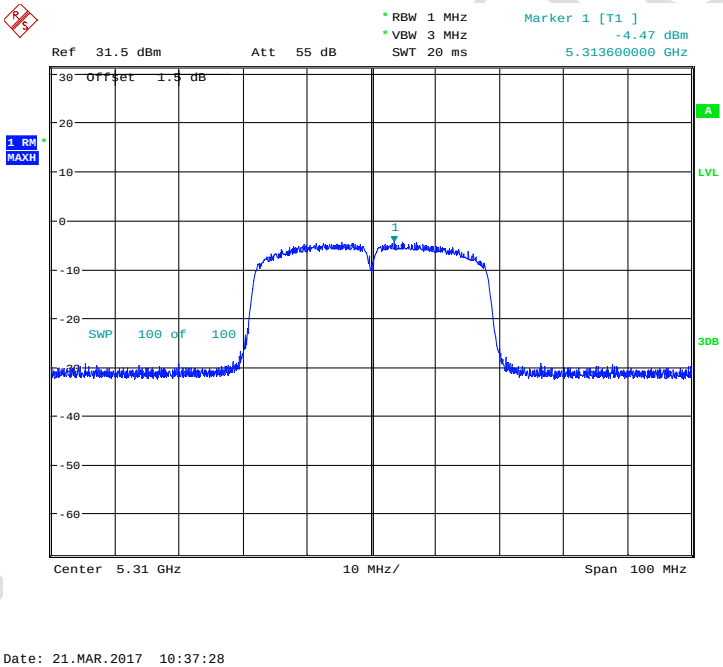


Fig. 190 Power Spectral Density 802.11n 40MHz ANT2 CH62

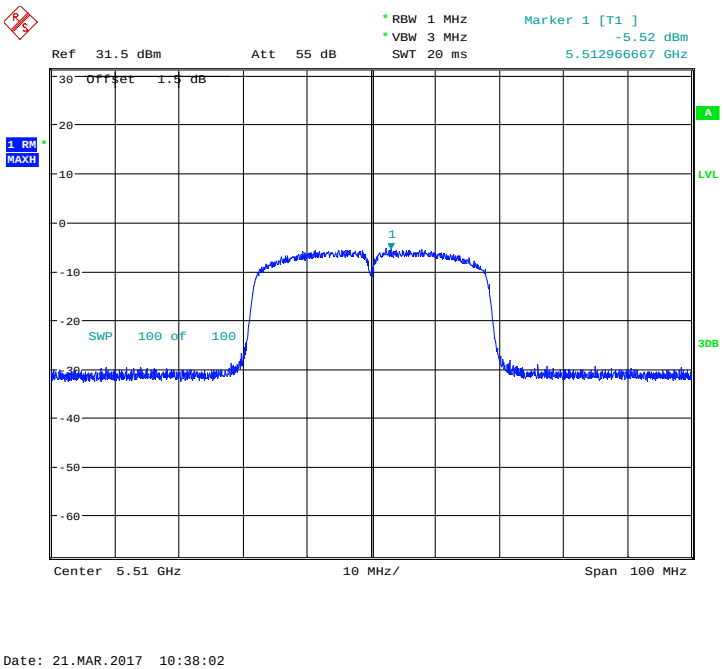


Fig. 191 Power Spectral Density 802.11n 40MHz ANT2 CH102

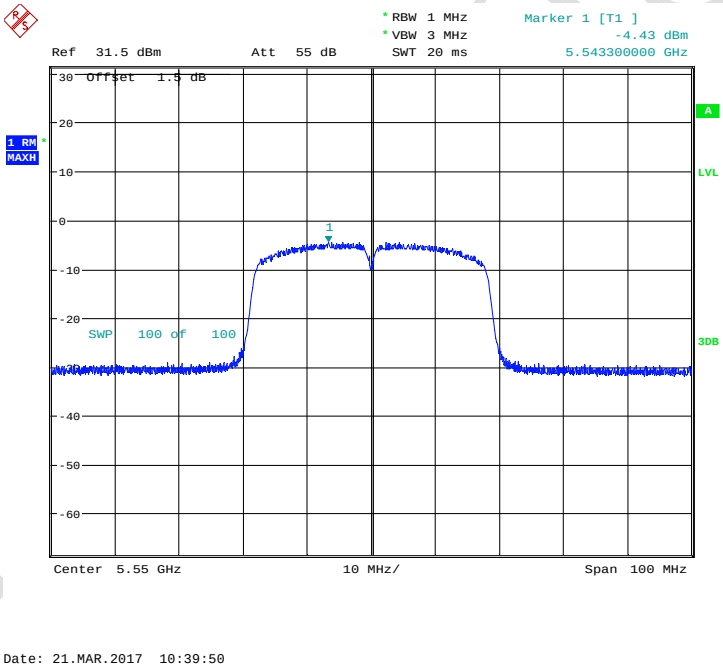


Fig. 192 Power Spectral Density 802.11n 40MHz ANT2 CH110

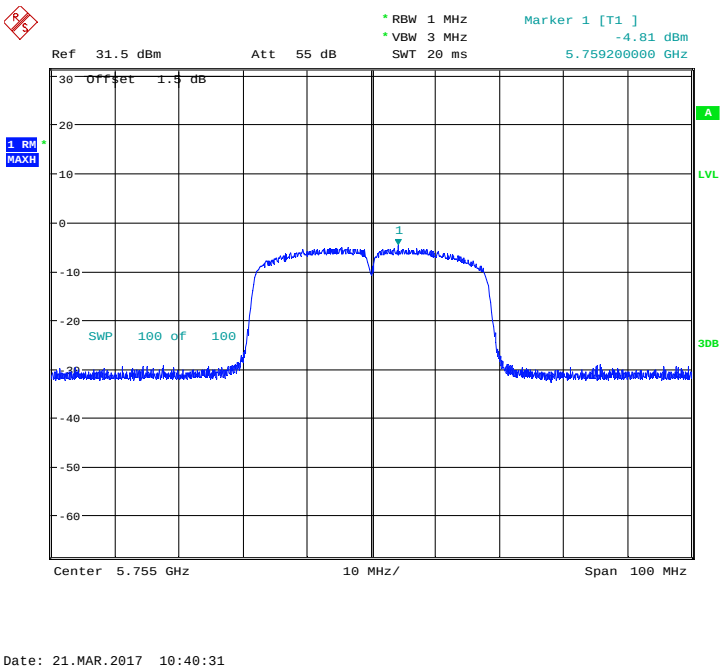


Fig. 193 Power Spectral Density 802.11n 40MHz ANT2 CH151

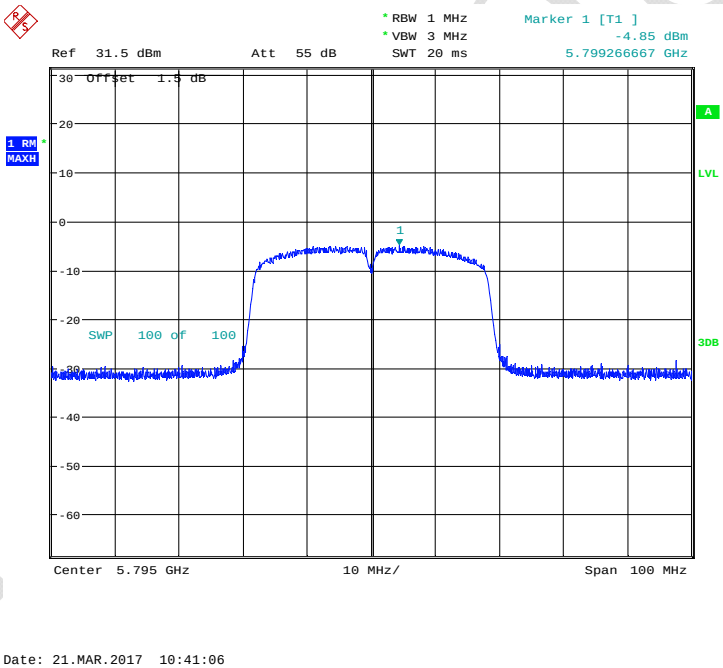


Fig. 194 Power Spectral Density 802.11n 40MHz ANT2 CH159

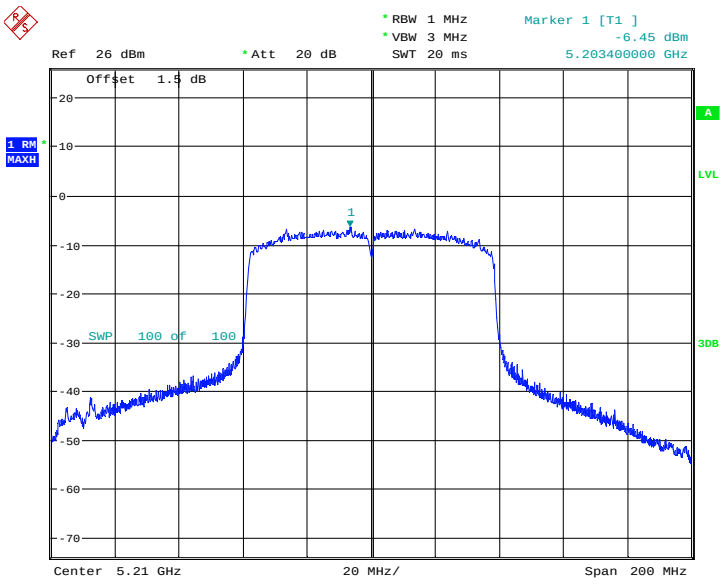


Fig. 195 Power Spectral Density 802.11ac 80MHz ANT1 CH42

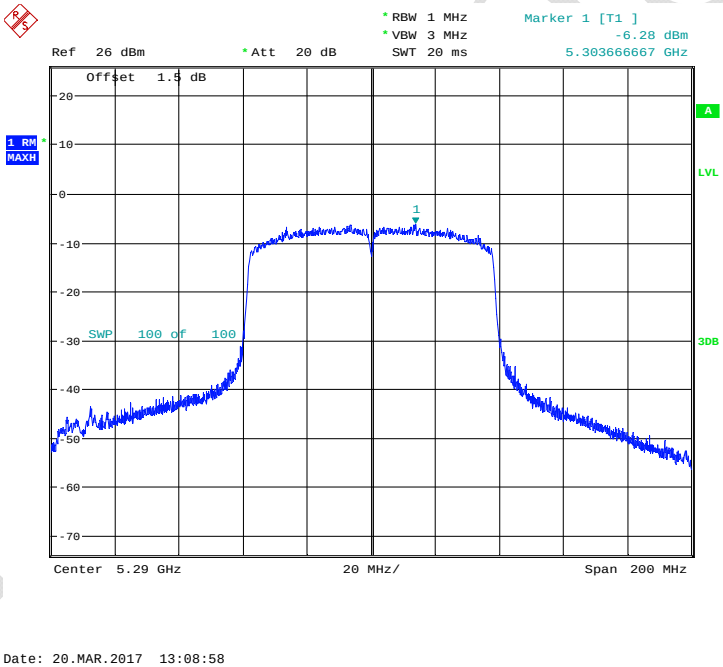


Fig. 196 Power Spectral Density 802.11ac 80MHz ANT1 CH58

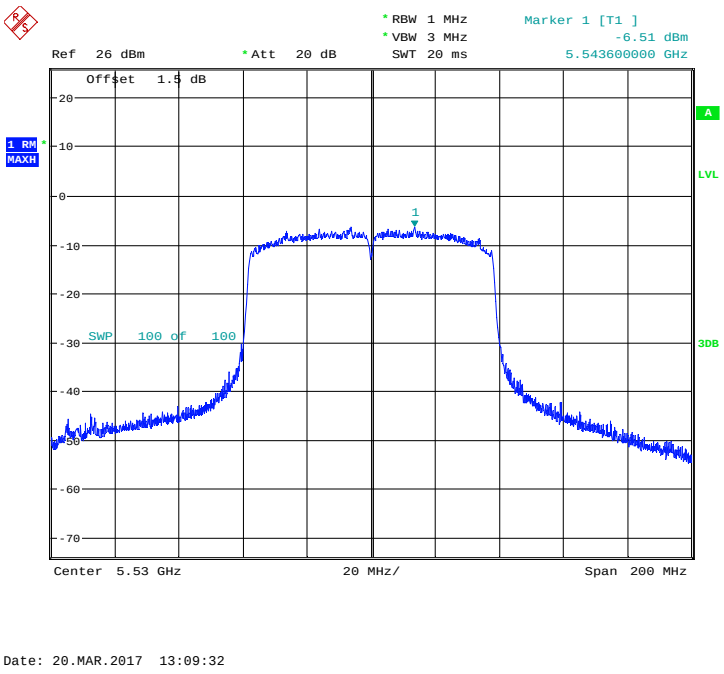


Fig. 197 Power Spectral Density 802.11ac 80MHz ANT1 CH106

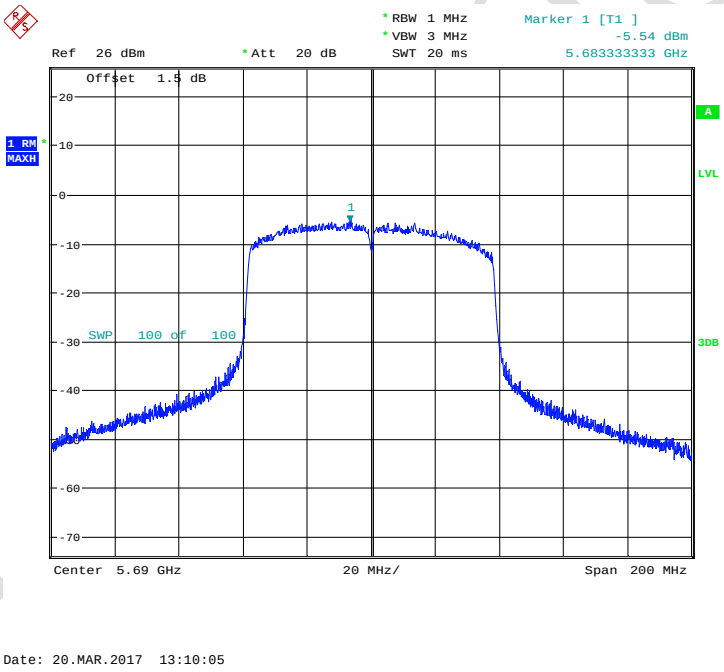


Fig. 198 Power Spectral Density 802.11ac 80MHz ANT1 CH138

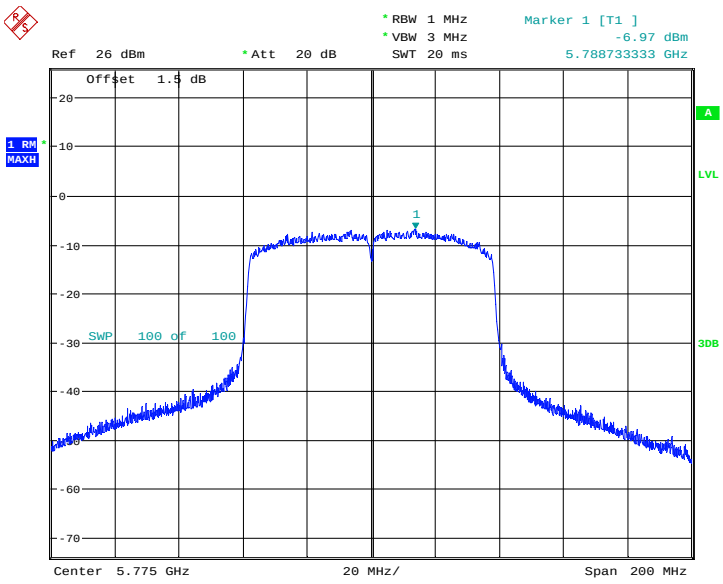


Fig. 199 Power Spectral Density 802.11ac 80MHz ANT1 CH155

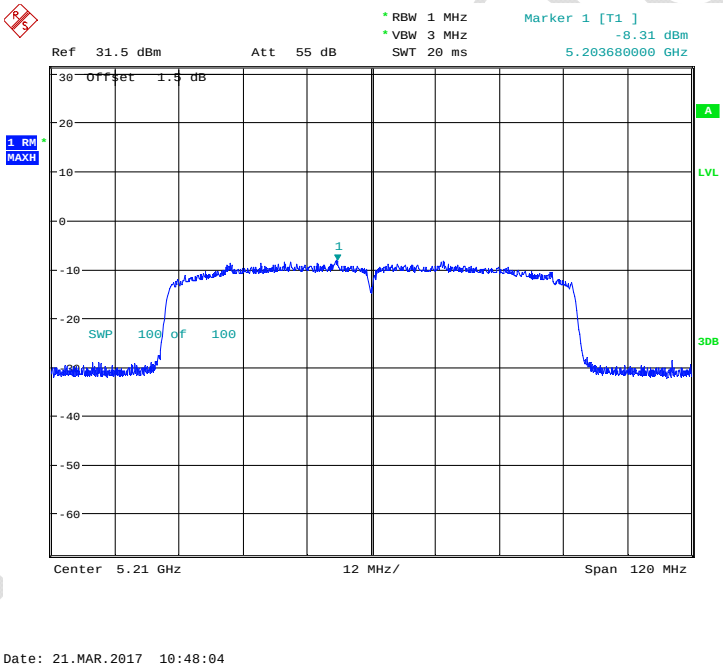


Fig. 200 Power Spectral Density 802.11ac 80MHz ANT2 CH42

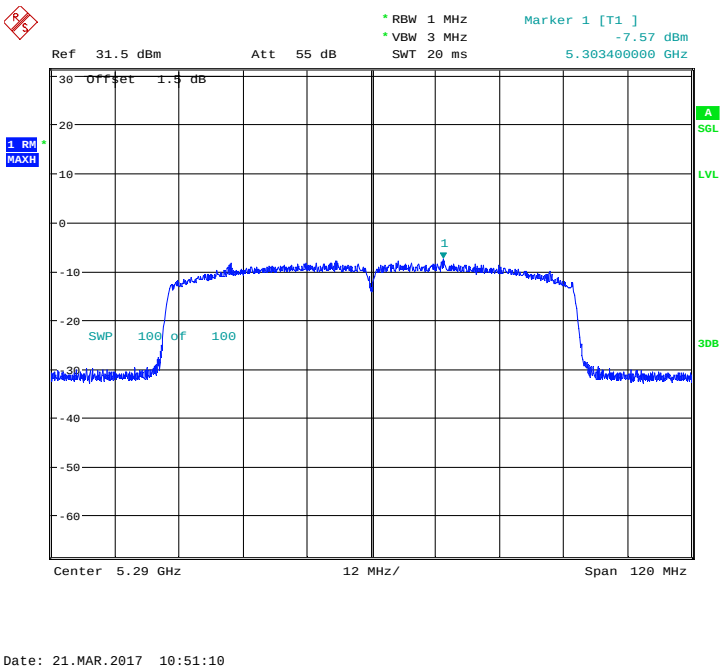


Fig. 201 Power Spectral Density 802.11ac 80MHz ANT2 CH58

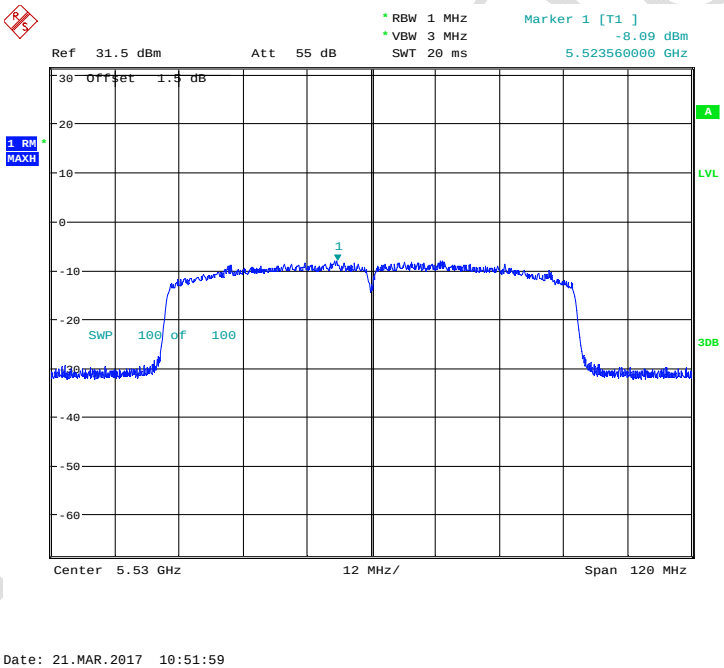


Fig. 202 Power Spectral Density 802.11ac 80MHz ANT2 CH106

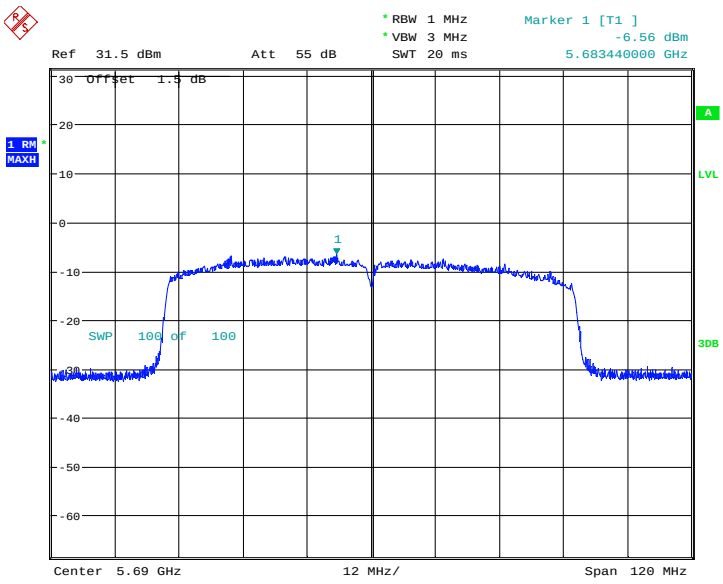


Fig. 203 Power Spectral Density 802.11ac 80MHz ANT2 CH138

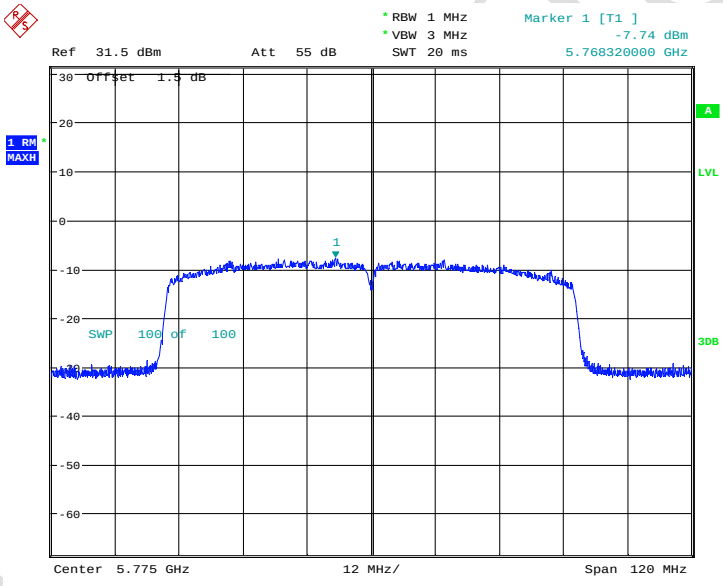


Fig. 204 Power Spectral Density 802.11ac 80MHz ANT2 CH155