RR051-18-101516-2-A Ed. 2

This report cancels and replaces test report RR051-18-101516-2-A Ed. 1

Certification Radio test report

According to the standard:
CFR 47 FCC PART 15

Equipment under test:

ANAFI

FCC ID: 2AG6IANAFI

Company:
PARROT DRONES SAS

Distribution: Mr KANSO **(Company:** PARROT DRONES SAS**)**

Number of pages: 242 with 5 appendixes

Ed.	Date	Modified Page(s)	Technical Verification and Quality Approval Name and Function	Visa
2	13-Jul-18	See vertical lines	T. LEDRESSEUR, Radio Technician	p/o

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This document is the result of testing a specimen or a sample of the product submitted. It does not imply an assessment of the conformity of the whole manufactured products of the tested sample.

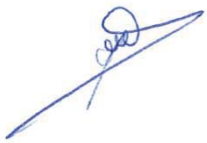
S51 RTY 000 INT 00006 [01]

DESIGNATION OF PRODUCT:	**ANAFI**
Serial number (S/N):	PS728000P38D000414
Reference / model (P/N):	ANAFI
Software version:	0.8.4
MANUFACTURER:	PARROT DRONES SAS

COMPANY SUBMITTING THE PRODUCT:

Company:	PARROT DRONE SAS
Address:	174 QUAI DE JEMMAPES 75010 - PARIS FRANCE
Responsible:	Mr KANSO
***Person(s) present during the tests*:**	Mr KANSO (first day)
DATES OF TEST:	From 25-Apr-18 to 4-Jun-18
TESTING LOCATION:	EMITECH ANGERS laboratory at JUIGNE SUR LOIRE (49) FRANCE FCC Accredited under US-EU MRA Designation Number: FR0009 Test Firm Registration Number: 873677
TESTED BY:	M. DUMESNIL
WRITTEN BY:	M. DUMESNIL

VISA:



CONTENTS

1. INTRODUCTION

This report presents the results of radio test carried out on the following radio equipment: **ANAFI**, in accordance with normative reference.

The product integrates a Wi-Fi radio part.
See test report RR051-18-101516-1-A for test on 2.4GHz band and RR051-18-101516-3-A for test on non-radio part.

2. PRODUCT DESCRIPTION

Class:	B
Utilization:	Residential
Antenna type and gain:	(2.92 dBi for band U-NII-1) 4 integral identical antennas (MIMO): (4.05 dBi for band U-NII-3) 4 integral identical antennas (MIMO): Front Left, Front Right, Back Left, Back Right For mode a and an the product emit on the two chains simultaneously among: Front Left + Front Right Back Left + Back Right Front Left + Back Left Front Right + Back Right
Directionnal gain:	Band U-NII-1: for power measurements: 2.92 dBi For PSD measurements: 5.92 dBi
Directionnal gain:	Band U-NII-3: for power measurements: 4.05 dBi For PSD measurements: 7.05 dBi
Operating frequency range:	From 5150 MHz to 5250 MHz band U-NII-1 From 5725 MHz to 5850 MHz band U-NII-3
Number of channels:	4 for band 5150MHz to 5250 MHz 5 for band 5725MHz to 5850 MHz
Channel spacing:	20 MHz
Channel bandwidth:	10 MHz and 20 MHz
Power setting	U-NII-1: 16 dBm for 10MHz bandwidth and 19 dBm for 20 MHz bandwidth U-NII-3: 23 dBm
Modulation:	OFDM: BPSK OFDM: 64-QAM
Mode tested:	802.11 a 802.11 an

Data rate tested:	For 802.11a: 6Mbit/s For 802.11an: MCS0
Channel tested:	
Band U-NII-1:	Chanel 36, 5180 MHz Chanel 40, 5200 MHz Chanel 48, 5240 MHz
Band U-NII-3:	Chanel 149, 5745 MHz Chanel 157, 5785 MHz Chanel 165, 5825 MHz
Double radio function:	No. The product can't emit simultaneously in bands 2.4GHz and 5GHz or on different channels.
Correlated signal:	For mode a/an the signals are considered as correlated, the mode cyclic delay diversity (CDD) is used. (IEEE 802.11) The product is not using spatial multiplexing or intentional beamforming.
Power source:	7.6Vdc by internal battery During the charge of the battery the product is not functional.

Power level, frequency range and channels characteristics are not user adjustable.
The details pictures of the product and the circuit boards are joined with this file.

3. NORMATIVE REFERENCE

The standards and testing methods related throughout this report are those listed below.
They are applied on the whole test report even though the extensions (version, date and amendment) are not repeated.

CFR 47 FCC Part 15 (2018)	Radio Frequency Devices
ANSI C63.10	2013 Procedures for ComplianceTesting of Unlicensed Wireless Devices.
789033 D02 General UNII Test Procedures New Rules v02r01	Guidelines for compliances testing of unlicensed national information infrastructure (U-NII) devices pat 15, subpart E
662911 D01 Multiple Transmitter Output V02r01	Emissions Testing of Transmitters with Multiple Outputs in the Same Band
447498 D01 General RF Exposure Guidance v06	RF Exposure procedures and equipment authorization policies for mobile and portable equipment

4. TEST METHODOLOGY

Radio performance tests procedures given in CFR 47 part 15:

Subpart C – Intentional Radiators
- Paragraph 203: Antenna requirement
- Paragraph 205: Restricted bands of operation
- Paragraph 207: Conducted limits
- Paragraph 209: Radiated emission limits; general requirements

Subpart E – Unlicensed national information infrastructure devices
- Paragraph 407: General technical requirements

5. TEST EQUIPMENT CALIBRATION DATES

Emitech Number	Model	Type	Last calibration	Calibration interval (years)	Next calibration due
0000	BAT-EMC V3.16.0.64	Software	/	/	/
2507	Hewlett Packard 8491A-20dB	Attenuator	12/09/2016	2	12/09/2018
4088	R&S FSP40	Spectrum Analyzer	21/02/2018	2	21/02/2020
4352	ATM WR28	Antenna	16/05/2016	3	16/05/2019
4354	ALC ALS2640-30-10	Low-noise amplifier	14/02/2018	1	14/02/2019
6606	Microtronics LPM 15601	Low Pass Filter	04/08/2017	2	04/08/2019
6607	Microtronics HPM 15600	High Pass Filter	04/08/2017	2	04/08/2019
6796	R&S FSP7	Spectrum Analyzer	12/09/2016	2	12/09/2018
7124	A.H. Systems SAS-572	Antenna	21/03/2015	3	21/07/2018 (1)
7190	R&S HL223	Antenna	15/03/2016	3	15/03/2019
7240	Emco 3110	Biconical antenna	15/03/2016	3	15/03/2019
7566	Testo 608-H1	Meteo station	15/02/2016	2	15/06/2018 (1)
8528	Schwarzbeck VHA 9103	Biconical antenna	15/03/2016	3	15/03/2019
8549	Midwest Microwave 20dB	Attenuator	09/06/2016	2	09/06/2018
8702	R&S NRVS	Power meter	11/04/2018	2	11/04/2020
8704	LUCIX Corp S180265L3201 LNA	Low-noise amplifier	02/05/2017	1	02/09/2018 (1)

Emitech Number	Model	Type	Last calibration	Calibration interval (years)	Next calibration due
8707	R&S ESI7	Test receiver	13/02/2018	1	13/02/2019
8732	Emitech	OATS	11/10/2016	3	11/10/2019
8742	R&S NRV-Z52	Sensor	11/04/2018	2	11/04/2020
8750	La Crosse Technology WS-9232	Meteo station	23/09/2016	2	23/09/2018
8783	EMCO 3147	Log periodic antenna	15/03/2016	3	15/03/2019
8855	EMITECH	Turntable and mat controller	/	/	/
8896	ACQUISYS GPS8	Satellite synchronized frequency standard	/	/	/
8974	STORM MICROWAE k-20cm	cable	19/11/2017	2	19/11/2019
9398	N-1.5m	cable	29/03/2018	2	29/03/2020
9403	R&S ESU8	Spectrum Analyzer	11/08/2016	2	11/08/2018
10730	Mini-circuit ZFL-1000LN	Low-noise amplifier	12/02/2018	1	12/02/2019
10759	SIDT Cage 3	Anechoic chamber	/	/	/
10771	EMCO 3117	Antenna	23/11/2016	3	23/11/2019
10789	MATURO	Turntable and mat controller NCD	/	/	/
10811	R&S EMC 32	Software	/	/	/
10812	R&S 0SP120	Switch	12/12/2017	1	12/12/2018
12590	LUCIX Corp S005180M3201	Low-noise amplifier	22/08/2017	1	22/08/2018
12917	SUCOFLEX K-2m	cable	11/04/2018	2	11/04/2020
14302	SUCOFLEX N-1m	cable	28/11/2016	2	28/11/2018
14303	SUCOFLEX N-2m	cable	28/11/2016	2	28/11/2018
14304	SUCOFLEX N-2.5m	cable	28/11/2016	2	28/11/2018
14305	SUCOFLEX N-4m	cable	28/11/2016	2	28/11/2018
14539	R&S FSL18	Spectrum Analyzer	07/08/2017	1	07/08/2018

(1).See derogation reference EQS DER 000 S51 00087

6. TESTS RESULTS SUMMARY

6.1 intentional radiator (subpart C)

Test procedure	Description of test	Respected criteria?				Comment
		Yes	No	NAp	NAs	
FCC Part 15.203	ANTENNA REQUIREMENT	X				*Note 1*
FCC Part 15.205	RESTRICTED BANDS OF OPERATION	X				
FCC Part 15.207	CONDUCTED LIMITS			X		
FCC Part 15.209	RADIATED EMISSION LIMITS; general requirements	X				*Note 2*

NAp: Not Applicable NAs: Not Asked

Note 1: Integral antenna without standard connector.

Note 2: See FCC part 15.407.

6.2 unlicensed national information infrastructure device (subpart E)

Test procedure	Description of test	Respected criteria?				Comment
		Yes	No	NAp	NAs	
FCC Part 15.407	GENERAL TECHNICAL REQUIREMETS					
	a) Power limits					
	a) (1) in the bands 5150–5250 MHz	X				
	a) (2) in the bands 5250–5350 MHz and 5470-5725 MHz			X		
	a) (3) in the bands 5725–5825 MHz	X				
	a) (4) maximum conducted output power	X				
	a) 5) peak power spectral density	X				*Note 1*
	b) Undesirable emission limits					
	b) (1) outside of the bands 5150–5250 MHz	X				
	b) (2) outside of the bands 5250–5350 MHz			X		
	b) (3) outside of the bands 5470-5725 MHz			X		
	b) (4) outside of the bands 5725–5825 MHz	X				

NAp: Not Applicable NAs: Not Asked

Note 1: The 26 dB bandwidth plots are on appendix 6.

7. RF EXPOSURE:

MPE

U-NII-1:
Maximum measured power = 0.3253 W at 5200 MHz (802.11a mode – BW 20 MHz)
With antenna gain = 2.92 dBi

In accordance with KDB 447498 D01 General RF Exposure Guidance v06:

PSD= *EIRP/(4*π*R²)*

⇨ *325.3/(4*π*(20 cm)²)=* ***0.0647 mW/cm² (limit = 1 mW/cm²)***

U-NII-3:
Maximum measured power = 1.0354 W at 5785 MHz (802.11a mode – BW 10 MHz)
With antenna gain = 4.05 dBi

In accordance with KDB 447498 D01 General RF Exposure Guidance v06:

PSD= *EIRP/(4*π*R²)*

⇨ *1035.4/(4*π*(20 cm)²)=* ***0.20599 mW/cm² (limit = 1 mW/cm²)***

The equipment fulfils the requirements on power density for general population/uncontrolled exposure and therefore fulfils the requirements of 47 CFR §1.1310.

8. MEASUREMENT UNCERTAINTY

To declare, or not, the compliance with the specifications, it was not explicitly taken into account of uncertainty associated with the result(s)

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for normal distribution corresponds to a coverage probability of approximately 95%.

Parameter	Emitech Uncertainty
RF power, conducted	± 0.75dB
Radiated emission valid to 26 GHz F < 62.5 MHz: 62.5 MHz < F < 1 GHz: 1 GHz < F < 26 GHz:	 ± 5.14 dB ± 5.13 dB ± 5.16 dB
AC Power Lines conducted emissions	± 3.38 dB
Temperature	± 1 °C
Humidity	± 5 %

9. POWER LIMITS

Temperature (°C) : 18.2-22.6 **Humidity (%HR):** 47-55 **Date :** April 19, 2018 and April 24, 2018

Technician : M. DUMESNIL

Standard: FCC Part 15

Test procedure: paragraph 15.407 (a)

PM-G method (using a gated RF average power meter) of paragraph II.E.3.b of KDB 789033 for U-NII-1
PM method (using an RF average power meter) of paragraph II.E.3.a of KDB 789033 for U-NII-3

Test set up:

U-NII-1:
The measure is realized in conducted mode with a calibrated gated RF average reading power meter.

The power sensor was used on each output port of the EUT. A power meter was used to read the response of the power sensor. Record the power level. Then the results were summed in linear power unit.

U-NII-3:
The measure is realized in conducted mode with a calibrated RF average reading power meter.

The power sensor was used on each output port of the EUT. A power meter was used to read the response of the power sensor. Record the power level.

Next duty cycle correction factor measurement is added. (Correction= 10 log (1/X) = 0.25 dB max)

This factor is already included on the results tables

Then the results were summed in linear power unit.

Equipment under test operating condition:

The equipment under test is blocked in continuous modulated transmission mode, at the highest output power level at which the transmitter is intended to operate (see §2).

We used for power source the internal fully charged battery

Results:

Band U-NII-1

Sample N° 1 Channel 36 (F = 5180 MHz) – Mode 802.11a – Bandwidth 10 MHz

Maximum conducted output power (dBm):				Maximum conducted output power (W):				Total Maximum conducted power (W) (2)	Limit (W) (1)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right	Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
15.9	14.4	14.8	15.3	0.039	0.028	0.030	0.034	0.069	0.250

(1) For 4 antennas with 2.92 dBi

(2) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 40 (F = 5200 MHz) – Mode 802.11a – Bandwidth 10 MHz

Maximum conducted output power (dBm):				Maximum conducted output power (W):				Total Maximum conducted power (W) (2)	Limit (W) (1)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right	Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
16.8	14.5	14.8	16.2	0.048	0.028	0.030	0.042	0.078	0.250

(1) For 4 antennas with 2.92 dBi

(2) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 48 (F = 5240 MHz) – Mode 802.11a – Bandwidth 10 MHz

Maximum conducted output power (dBm):				Maximum conducted output power (W):				Total Maximum conducted power (W) (2)	Limit (W) (1)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right	Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
15.6	14.5	15.0	15	0.036	0.028	0.032	0.032	0.133	0.250

(1) For 4 antennas with 2.92 dBi

(2) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Band U-NII-1

Sample N° 1 Channel 36 (F = 5180 MHz) – Mode 802.11an – Bandwidth 10 MHz

Maximum conducted output power (dBm):				Maximum conducted output power (W):				Total Maximum conducted power (W) (2)	Limit (W) (1)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right	Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
15.7	14.2	14.6	15.1	0.037	0.026	0.029	0.032	0.066	0.250

(1) For 4 antennas with 2.92 dBi

(2) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 40 (F = 5200 MHz) – Mode 802.11an – Bandwidth 10 MHz

Maximum conducted output power (dBm):				Maximum conducted output power (W):				Total Maximum conducted power (W) (2)	Limit (W) (1)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right	Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
16.5	14.3	14.7	15.9	0.045	0.027	0.030	0.039	0.074	0.250

(1) For 4 antennas with 2.92 dBi

(2) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 48 (F = 5240 MHz) – Mode 802.11an – Bandwidth 10 MHz

Maximum conducted output power (dBm):				Maximum conducted output power (W):				Total Maximum conducted power (W) (2)	Limit (W) (1)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right	Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
15.3	14.3	14.8	14.8	0.034	0.027	0.030	0.030	0.064	0.250

(1) For 4 antennas with 2.92 dBi

(2) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Band U-NII-1

Sample N° 1 Channel 36 (F = 5180 MHz) – Mode 802.11a – Bandwidth 20 MHz

Maximum conducted output power (dBm):				Maximum conducted output power (W):				Total Maximum conducted power (W) (2)	Limit (W) (1)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right	Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
19.2	17.6	18	18.5	0.083	0.58	0.063	0.071	0.146	0.250

(1) For 4 antennas with 2.92 dBi

(2) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 40 (F = 5200 MHz) – Mode 802.11a – Bandwidth 20 MHz

Maximum conducted output power (dBm):				Maximum conducted output power (W):				Total Maximum conducted power (W) (2)	Limit (W) (1)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right	Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
20.0	17.7	18.2	19.4	0.100	0.059	0.066	0.087	0.166	0.250

(1) For 4 antennas with 2.92 dBi

(2) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 48 (F = 5240 MHz) – Mode 802.11a – Bandwidth 20 MHz

Maximum conducted output power (dBm):				Maximum conducted output power (W):				Total Maximum conducted power (W) (2)	Limit (W) (1)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right	Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
18.7	17.7	18.2	18.3	0.074	0.059	0.066	0.068	0.140	0.250

(1) For 4 antennas with 2.92 dBi

(2) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Band U-NII-1

Sample N° 1 Channel 36 (F = 5180 MHz) – Mode 802.11an – Bandwidth 20 MHz

Maximum conducted output power (dBm):				Maximum conducted output power (W):				Total Maximum conducted power (W) (2)	Limit (W) (1)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right	Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
18.9	17.4	17.7	18.3	0.078	0.055	0.059	0.068	0.137	0.250

(1) For 4 antennas with 2.92 dBi

(2) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 40 (F = 5200 MHz) – Mode 802.11an – Bandwidth 20 MHz

Maximum conducted output power (dBm):				Maximum conducted output power (W):				Total Maximum conducted power (W) (2)	Limit (W) (1)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right	Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
19.7	17.5	17.9	19.3	0.093	0.056	0.062	0.085	0.155	0.250

(1) For 4 antennas with 2.92 dBi

(2) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 48 (F = 5240 MHz) – Mode 802.11an – Bandwidth 20 MHz

Maximum conducted output power (dBm):				Maximum conducted output power (W):				Total Maximum conducted power (W) (2)	Limit (W) (1)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right	Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
18.5	17.5	17.9	18.0	0.071	0.056	0.062	0.063	0.132	0.250

(1) For 4 antennas with 2.92 dBi

(2) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Band U-NII-3

Sample N° 1 Channel 149 (F = 5745 MHz) – Mode 802.11a – Bandwidth 10 MHz

Maximum conducted output power (dBm):				Maximum conducted output power (W):				Total Maximum conducted power (W) (2)	Limit (W) (1)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right	Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
21.38	20.78	21.43	20.35	0.137	0.120	0.139	0.108	0.276	1

(1) For 4 antennas with 4.05 dBi

(2) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 157 (F = 5785 MHz) – Mode 802.11a – Bandwidth 10 MHz

Maximum conducted output power (dBm):				Maximum conducted output power (W):				Total Maximum conducted power (W) (2)	Limit (W) (1)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right	Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
21.39	22.91	24.31	20.25	0.138	0.195	0.270	0.106	0.407	1

(1) For 4 antennas with 4.05 dBi

(2) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 165 (F = 5825 MHz) – Mode 802.11a – Bandwidth 10 MHz

Maximum conducted output power (dBm):				Maximum conducted output power (W):				Total Maximum conducted power (W) (2)	Limit (W) (1)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right	Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
21.03	20.60	21.24	21.05	0.127	0.115	0.133	0.127	0.260	1

(1) For 4 antennas with 4.05 dBi

(2) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Band U-NII-3

Sample N° 1 Channel 149 (F = 5745 MHz) – Mode 802.11an – Bandwidth 10 MHz

Maximum conducted output power (dBm):				Maximum conducted output power (W):				Total Maximum conducted power (W) (2)	Limit (W) (1)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right	Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
21.21	20.64	21.24	20.18	0.132	0.116	0.133	0.104	0.265	1

(1) For 4 antennas with 4.05 dBi

(2) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 157 (F = 5785 MHz) – Mode 802.11an – Bandwidth 10 MHz

Maximum conducted output power (dBm):				Maximum conducted output power (W):				Total Maximum conducted power (W) (2)	Limit (W) (1)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right	Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
21.22	22.87	24.24	20.08	0.132	0.194	0.265	0.102	0.398	1

(1) For 4 antennas with 4.05 dBi

(2) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 165 (F = 5825 MHz) – Mode 802.11an – Bandwidth 10 MHz

Maximum conducted output power (dBm):				Maximum conducted output power (W):				Total Maximum conducted power (W) (2)	Limit (W) (1)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right	Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
20.86	20.42	21.07	20.86	0.122	0.110	0.128	0.122	0.250	1

(1) For 4 antennas with 4.05 dBi

(2) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Band U-NII-3

Sample N° 1 Channel 149 (F = 5745 MHz) – Mode 802.11a – Bandwidth 20 MHz

Maximum conducted output power (dBm):				Maximum conducted output power (W):				Total Maximum conducted power (W) (2)	Limit (W) (1)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right	Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
21.40	20.85	21.48	20.46	0.138	0.122	0.141	0.111	0.279	1

(1) For 4 antennas with 4.05 dBi

(2) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 157 (F = 5785 MHz) – Mode 802.11a – Bandwidth 20 MHz

Maximum conducted output power (dBm):				Maximum conducted output power (W):				Total Maximum conducted power (W) (2)	Limit (W) (1)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right	Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
21.45	22.96	24.24	20.31	0.140	0.198	0.265	0.107	0.405	1

(1) For 4 antennas with 4.05 dBi

(2) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 165 (F = 5825 MHz) – Mode 802.11a – Bandwidth 20 MHz

Maximum conducted output power (dBm):				Maximum conducted output power (W):				Total Maximum conducted power (W) (2)	Limit (W) (1)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right	Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
21.04	20.64	21.31	21.11	0.127	0.116	0.135	0.129	0.264	1

(1) For 4 antennas with 4.05 dBi

(2) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Band U-NII-3

Sample N° 1 Channel 149 (F = 5745 MHz) – Mode 802.11an – Bandwidth 20 MHz

Maximum conducted output power (dBm):				Maximum conducted output power (W):				Total Maximum conducted power (W) (2)	Limit (W) (1)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right	Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
21.27	20.72	21.34	20.27	0.134	0.118	0.136	0.106	0.270	1

(1) For 4 antennas with 4.05 dBi

(2) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 157 (F = 5785 MHz) – Mode 802.11an – Bandwidth 20 MHz

Maximum conducted output power (dBm):				Maximum conducted output power (W):				Total Maximum conducted power (W) (2)	Limit (W) (1)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right	Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
21.32	22.92	24.20	20.18	0.136	0.196	0.263	0.104	0.399	1

(1) For 4 antennas with 4.05 dBi

(2) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 165 (F = 5825 MHz) – Mode 802.11an – Bandwidth 20 MHz

Maximum conducted output power (dBm):				Maximum conducted output power (W):				Total Maximum conducted power (W) (2)	Limit (W) (1)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right	Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
20.92	20.52	21.17	20.97	0.124	0.113	0.131	0.125	0.256	1

(1) For 4 antennas with 4.05 dBi

(2) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Test conclusion:

RESPECTED STANDARD

10. INTENTIONAL RADIATOR

Temperature (°C) : 23.1-26.8 **Humidity (%HR):** 47.5-60.9 **Date :** From May 29, 2018 to June 1, 2018

Technician : M. DUMESNIL

Standard: FCC Part 15

Test procedure: paragraph 15.205, paragraph 15.209, paragraph 15.407 (b)

paragraph II.G.2 of KDB 789033
paragraph II.G.4 of KDB 789033
paragraph II.G.5 of KDB 789033
paragraph II.G.6 of KDB 789033 (method AD)

Test set up:

The product is oriented in this normal position.

The measure is realized on open area test site under 1 GHz and in anechoic chamber above 1 GHz.

When the system is tested in an open area test site (OATS), the EUT is placed on a rotating table, 0.8m from a ground plane.

When the system is tested in anechoic chamber, the EUT is placed on a rotating table, 1.5 m from a ground plane.

Zero degree azimuths correspond to the front of the device under test.

Frequency range: From 9 kHz to 40 GHz.

Detection mode: Quasi-peak (F < 1 GHz) Peak / Average (F > 1 GHz)

Bandwidth: 200Hz (9 kHz < F < 150kHz)
9 kHz (150 kHz < F < 30MHz)
120 kHz (30 MHz < F < 1 GHz)
100 kHz / 1 MHz (F > 1 GHz)

Distance of antenna: 10 m below 1 GHz
3 m between 1 GHz and 13 GHz
1 m between 13 GHz and 18 GHz
0.4 m between 18 GHz and 26 GHz
0.3 m between 26 GHz and 40 GHz

Antenna height: 1 to 4 meters (in open area test site) / 1.5 meter (in anechoic room)

Antenna polarization: vertical and horizontal (only the highest level is recorded)

Equipment under test operating condition:

The equipment under test is blocked in continuous modulated transmission mode, at the highest output power level at which the transmitter is intended to operate (see §2).

We used for power source the internal fully charged battery

For 802.11a and 802.11an modes, duty cycle factor for average measurement is then added. (Correction= 10 log (1/X) = 0.25 dB max)

This factor is already included on the results (tables and graphs)

Results:

Band U-NII-1

Sample N° 1 Channel 36 (F = 5180 MHz) – Mode 802.11a – Bandwidth 10 MHz – Worst case chains.

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 10 m (dBµV/m)	Field strength Computed at 3 m (dBµV/m)	Limits (dBµV/m)	Margin (dB)
504	P	100	H	24.5	35	46	11
552	P	100	H	19.5	30	46	16
600	P	100	H	21.2	31.7	46	14.3
648	P	100	H	19.1	29.6	46	16.4
696	P	100	H	22.0	32.5	46	13.5
720	P	100	H	18.6	29.1	46	16.9
744	P	100	H	20.5	31	46	15
792	P	100	H	22.7	33.2	46	12.8
840	P	100	H	26.1	36.6	46	9.4
888	P	100	H	24.4	34.9	46	11.1
936	P	100	V	25.2	35.7	46	10.3
984	P	100	V	22.1	32.6	54	21.4

P= Peak, QP=Quasi-peak, Av=Average

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 3 m (dBµV/m)	Calculated Level EIRP (dBm/MHz) (1)	Limits (dBm/MHz)	Margin (dB)
6906.7	P	1000	V	49.1	-46.13	-27	19.13

P= Peak, QP=Quasi-peak, Av=Average

(1) According KDB 412172: EIRP = $(E \times d)^2 / 30$

Sample N° 1 Channel 40 (F = 5200 MHz) – Mode 802.11a – Bandwidth 10 MHz – Worst case chains.

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 10 m (dBµV/m)	Field strength Computed at 3 m (dBµV/m)	Limits (dBµV/m)	Margin (dB)
504	P	100	H	24.5	35	46	11
552	P	100	H	19.5	30	46	16
600	P	100	H	21.2	31.7	46	14.3
648	P	100	H	19.1	29.6	46	16.4
696	P	100	H	22.0	32.5	46	13.5
720	P	100	H	18.6	29.1	46	16.9
744	P	100	H	20.5	31	46	15
792	P	100	H	22.7	33.2	46	12.8
840	P	100	H	26.1	36.6	46	9.4
888	P	100	H	24.4	34.9	46	11.1
936	P	100	V	25.2	35.7	46	10.3
984	P	100	V	22.1	32.6	54	21.4

P= Peak, QP=Quasi-peak, Av=Average

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 3 m (dBµV/m)	Calculated Level EIRP (dBm/MHz) (1)	Limits (dBm/MHz)	Margin (dB)
6933.6	P	1000	V	49.1	-46.13	-27	19.13

P= Peak, QP=Quasi-peak, Av=Average

(1) According KDB 412172: EIRP = $(E \times d)^2 / 30$

Sample N° 1 Channel 48 (F = 5240 MHz) – Mode 802.11a – Bandwidth 10 MHz – Worst case chains.

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 10 m (dBµV/m)	Field strength Computed at 3 m (dBµV/m)	Limits (dBµV/m)	Margin (dB)
504	P	100	H	24.5	35	46	11
552	P	100	H	19.5	30	46	16
600	P	100	H	21.2	31.7	46	14.3
648	P	100	H	19.1	29.6	46	16.4
696	P	100	H	22.0	32.5	46	13.5
720	P	100	H	18.6	29.1	46	16.9
744	P	100	H	20.5	31	46	15
792	P	100	H	22.7	33.2	46	12.8
840	P	100	H	26.1	36.6	46	9.4
888	P	100	H	24.4	34.9	46	11.1
936	P	100	V	25.2	35.7	46	10.3
984	P	100	V	22.1	32.6	54	21.4

P= Peak, QP=Quasi-peak, Av=Average

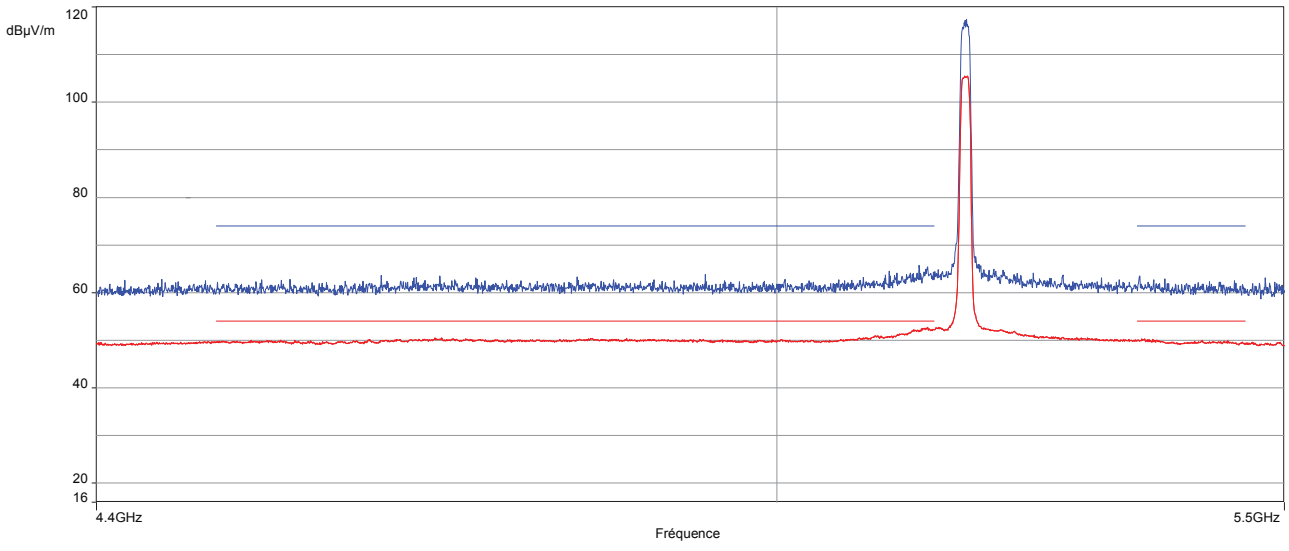
Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 3 m (dBµV/m)	Calculated Level EIRP (dBm/MHz) (1)	Limits (dBm/MHz)	Margin (dB)
6986.8	P	1000	V	48	-47.23	-27	20.23

P= Peak, QP=Quasi-peak, Av=Average

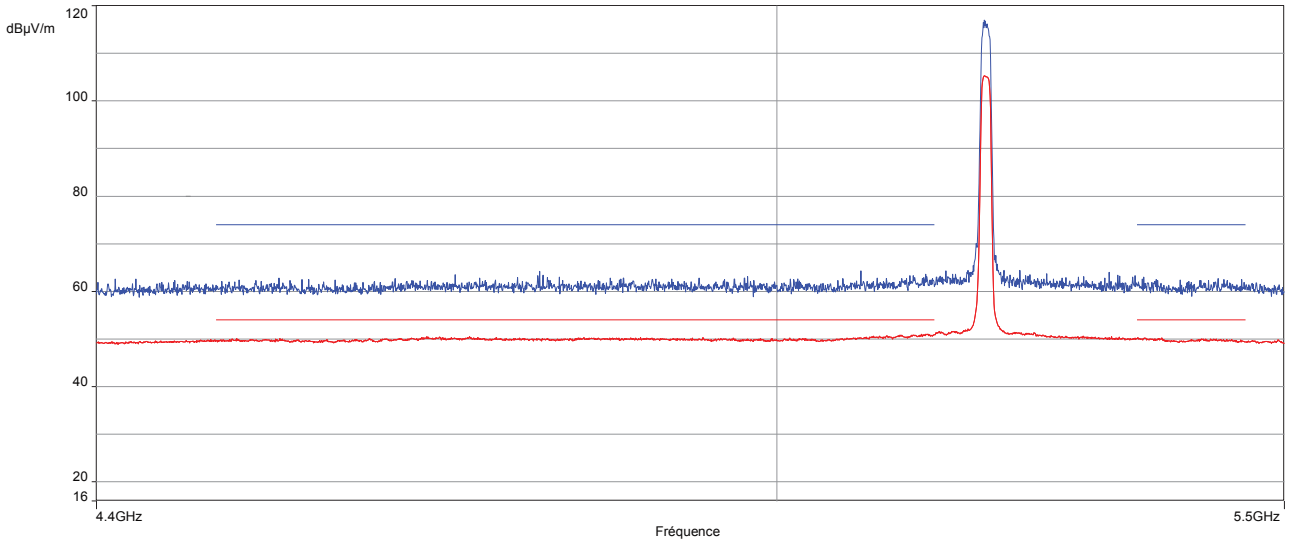
(1) According KDB 412172: EIRP = $(E \times d)^2 / 30$

Band edge realized on worst critical chains configuration.

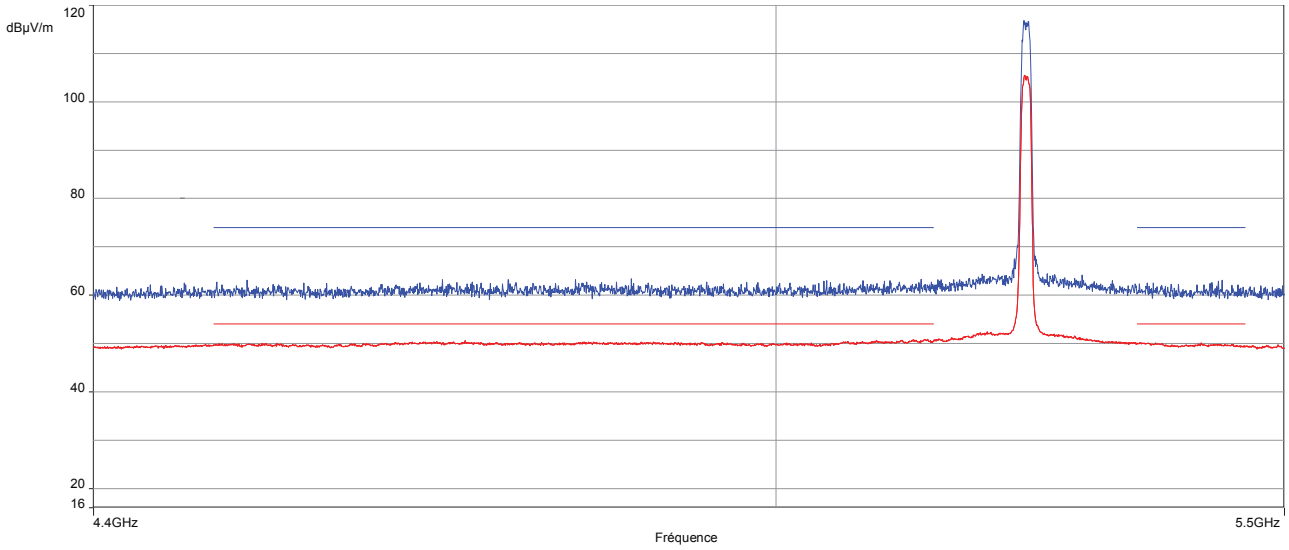
Low Channel



Central Channel



High channel



Sample N° 1 Channel 36 (F = 5180 MHz) – Mode 802.11an – Bandwidth 10 MHz – Worst case chains.

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 10 m (dBµV/m)	Field strength Computed at 3 m (dBµV/m)	Limits (dBµV/m)	Margin (dB)
504	P	100	H	24.4	34.9	46	11.1
552	P	100	H	19.6	30.1	46	15.9
600	P	100	H	19.9	30.4	46	15.6
648	P	100	H	18.7	29.2	46	16.8
696	P	100	H	21.8	32.3	46	13.7
720	P	100	H	18.2	28.7	46	17.3
744	P	100	H	20.5	31	46	15
792	P	100	V	22.0	32.5	46	13.5
840	P	100	H	27.3	37.8	46	8.2
869	P	100	V	24.3	34.8	46	11.2
888	P	100	H	24.6	35.1	46	10.9
936	P	100	V	25.1	35.6	46	10.4
984	P	100	V	20.6	31.1	54	22.9

P= Peak, QP=Quasi-peak, Av=Average

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 3 m (dBµV/m)	Calculated Level EIRP (dBm/MHz) (1)	Limits (dBm/MHz)	Margin (dB)
6907	P	1000	V	49.1	-46.13	-27	19.13
10360	P	1000	V	47.6	-47.63	-27	20.63

P= Peak, QP=Quasi-peak, Av=Average

(1) According KDB 412172: EIRP = $(E \times d)^2 / 30$

Sample N° 1 Channel 40 (F = 5200 MHz) – Mode 802.11an – Bandwidth 10 MHz – Worst case chains.

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 10 m (dBµV/m)	Field strength Computed at 3 m (dBµV/m)	Limits (dBµV/m)	Margin (dB)
504	P	100	H	24.4	34.9	46	11.1
552	P	100	H	19.6	30.1	46	15.9
600	P	100	H	19.9	30.4	46	15.6
648	P	100	H	18.7	29.2	46	16.8
696	P	100	H	21.8	32.3	46	13.7
720	P	100	H	18.2	28.7	46	17.3
744	P	100	H	20.5	31	46	15
792	P	100	V	22.0	32.5	46	13.5
840	P	100	H	27.3	37.8	46	8.2
869	P	100	V	24.3	34.8	46	11.2
888	P	100	H	24.6	35.1	46	10.9
936	P	100	V	25.1	35.6	46	10.4
984	P	100	V	20.6	31.1	54	22.9

P= Peak, QP=Quasi-peak, Av=Average

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 3 m (dBµV/m)	Calculated Level EIRP (dBm/MHz) (1)	Limits (dBm/MHz)	Margin (dB)
6933.6	P	1000	V	47.5	-47.73	-27	20.73
10400	P	1000	V	48.9	-46.33	-27	19.33

P= Peak, QP=Quasi-peak, Av=Average

(1) According KDB 412172: EIRP = $(E \times d)^2 / 30$

Sample N° 1 Channel 48 (F = 5240 MHz) – Mode 802.11an – Bandwidth 10 MHz – Worst case chains.

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 10 m (dBµV/m)	Field strength Computed at 3 m (dBµV/m)	Limits (dBµV/m)	Margin (dB)
504	P	100	H	24.4	34.9	46	11.1
552	P	100	H	19.6	30.1	46	15.9
600	P	100	H	19.9	30.4	46	15.6
648	P	100	H	18.7	29.2	46	16.8
696	P	100	H	21.8	32.3	46	13.7
720	P	100	H	18.2	28.7	46	17.3
744	P	100	H	20.5	31	46	15
792	P	100	V	22.0	32.5	46	13.5
840	P	100	H	27.3	37.8	46	8.2
869	P	100	V	24.3	34.8	46	11.2
888	P	100	H	24.6	35.1	46	10.9
936	P	100	V	25.1	35.6	46	10.4
984	P	100	V	20.6	31.1	54	22.9

P= Peak, QP=Quasi-peak, Av=Average

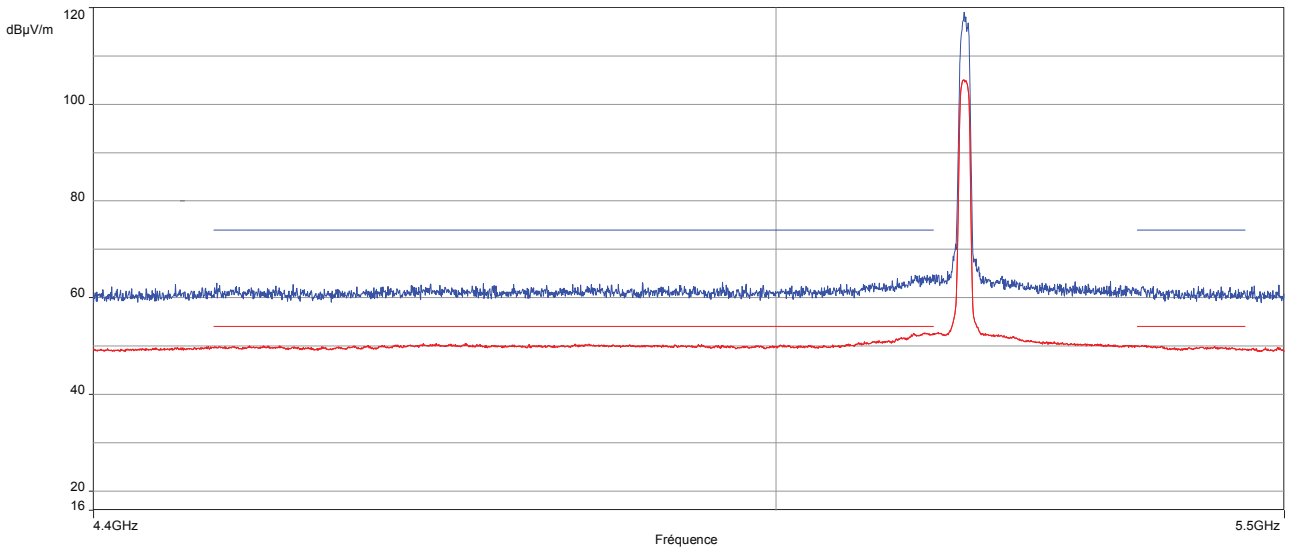
Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 3 m (dBµV/m)	Calculated Level EIRP (dBm/MHz) (1)	Limits (dBm/MHz)	Margin (dB)
6986.8	P	1000	V	48.2	-47.03	-27	20.03

P= Peak, QP=Quasi-peak, Av=Average

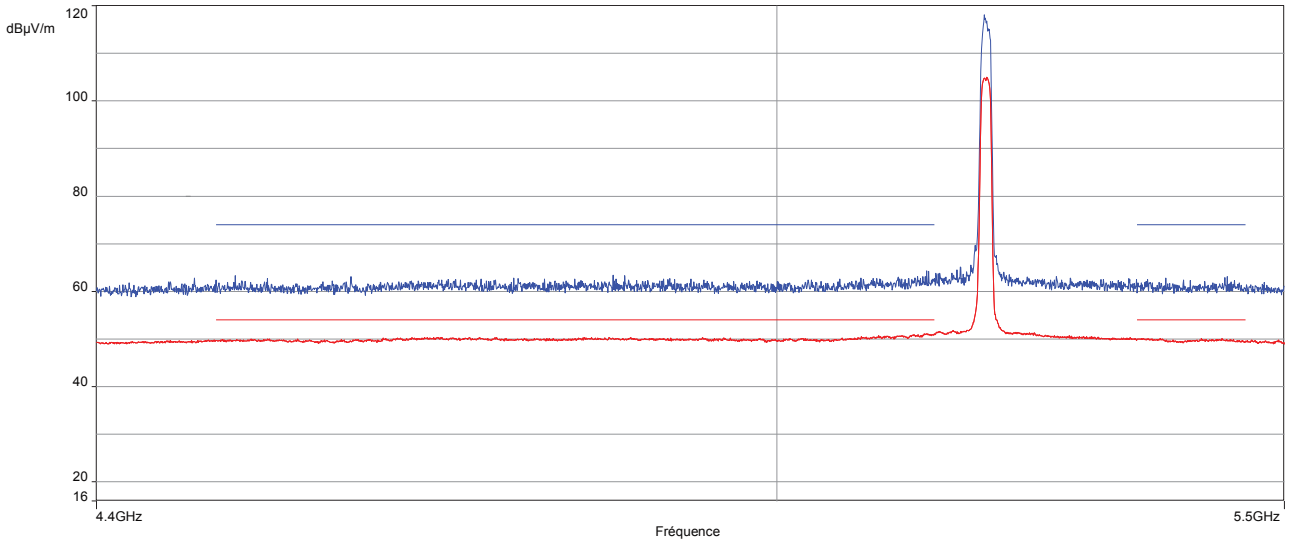
(1) According KDB 412172: EIRP = $(E \times d)^2 / 30$

Band edge realized on worst critical chains configuration.

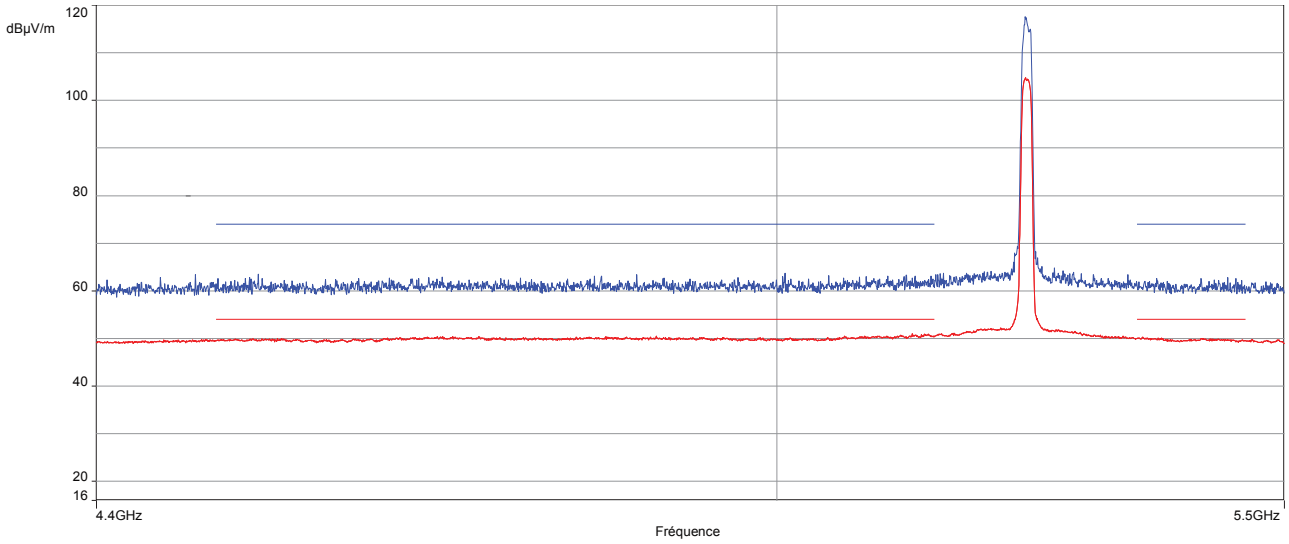
Low Channel



Central Channel



High channel



Sample N° 1 Channel 36 (F = 5180 MHz) – Mode 802.11a – Bandwidth 20 MHz – Worst case chains.

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 10 m (dBµV/m)	Field strength Computed at 3 m (dBµV/m)	Limits (dBµV/m)	Margin (dB)
504	P	100	H	23.9	34.4	46	11.6
552	P	100	H	19.9	30.4	46	15.6
600	P	100	H	20.2	30.7	46	15.3
648	P	100	H	19.0	29.5	46	16.5
696	P	100	H	21.4	31.9	46	14.1
720	P	100	H	19.1	29.6	46	16.4
744	P	100	H	21.7	32.2	46	13.8
792	P	100	H	23.4	33.9	46	12.1
840	P	100	H	25.4	35.9	46	10.1
888	P	100	V	24.7	35.2	46	10.8
936	P	100	V	23.0	33.5	46	12.5
984	P	100	V	20.2	30.7	54	23.3

P= Peak, QP=Quasi-peak, Av=Average

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured or computed at 3 m (dBµV/m)	Calculated Level EIRP (dBm/MHz) (1)	Limits (dBm/MHz)	Margin (dB)
6906.7	P	1000	V	48.7	-46.53	-27	19.53
10360	P	1000	V	47.8	-47.43	-27	20.43
25900	P	1000	V	46.5	-48.73	-27	21.73

P= Peak, QP=Quasi-peak, Av=Average

(1) According KDB 412172: EIRP = $(E \times d)^2 / 30$

Sample N° 1 Channel 40 (F = 5200 MHz) – Mode 802.11a – Bandwidth 20 MHz – Worst case chains.

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 10 m (dBµV/m)	Field strength Computed at 3 m (dBµV/m)	Limits (dBµV/m)	Margin (dB)
504	P	100	H	23.9	34.4	46	11.6
552	P	100	H	19.9	30.4	46	15.6
600	P	100	H	20.2	30.7	46	15.3
648	P	100	H	19.0	29.5	46	16.5
696	P	100	H	21.4	31.9	46	14.1
720	P	100	H	19.1	29.6	46	16.4
744	P	100	H	21.7	32.2	46	13.8
792	P	100	H	23.4	33.9	46	12.1
840	P	100	H	25.4	35.9	46	10.1
888	P	100	V	24.7	35.2	46	10.8
936	P	100	V	23.0	33.5	46	12.5
984	P	100	V	20.2	30.7	54	23.3

P= Peak, QP=Quasi-peak, Av=Average

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 3 m (dBµV/m)	Calculated Level EIRP (dBm/MHz) (1)	Limits (dBm/MHz)	Margin (dB)
6933.6	P	1000	V	48.7	-46.53	-27	19.53
10400	P	1000	V	49.3	-45.93	-27	18.93

P= Peak, QP=Quasi-peak, Av=Average

(1) According KDB 412172: EIRP = $(E \times d)^2 / 30$

Sample N° 1 Channel 48 (F = 5240 MHz) – Mode 802.11a – Bandwidth 20 MHz – Worst case chains.

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 10 m (dBµV/m)	Field strength Computed at 3 m (dBµV/m)	Limits (dBµV/m)	Margin (dB)
504	P	100	H	23.9	34.4	46	11.6
552	P	100	H	19.9	30.4	46	15.6
600	P	100	H	20.2	30.7	46	15.3
648	P	100	H	19.0	29.5	46	16.5
696	P	100	H	21.4	31.9	46	14.1
720	P	100	H	19.1	29.6	46	16.4
744	P	100	H	21.7	32.2	46	13.8
792	P	100	H	23.4	33.9	46	12.1
840	P	100	H	25.4	35.9	46	10.1
888	P	100	V	24.7	35.2	46	10.8
936	P	100	V	23.0	33.5	46	12.5
984	P	100	V	20.2	30.7	54	23.3

P= Peak, QP=Quasi-peak, Av=Average

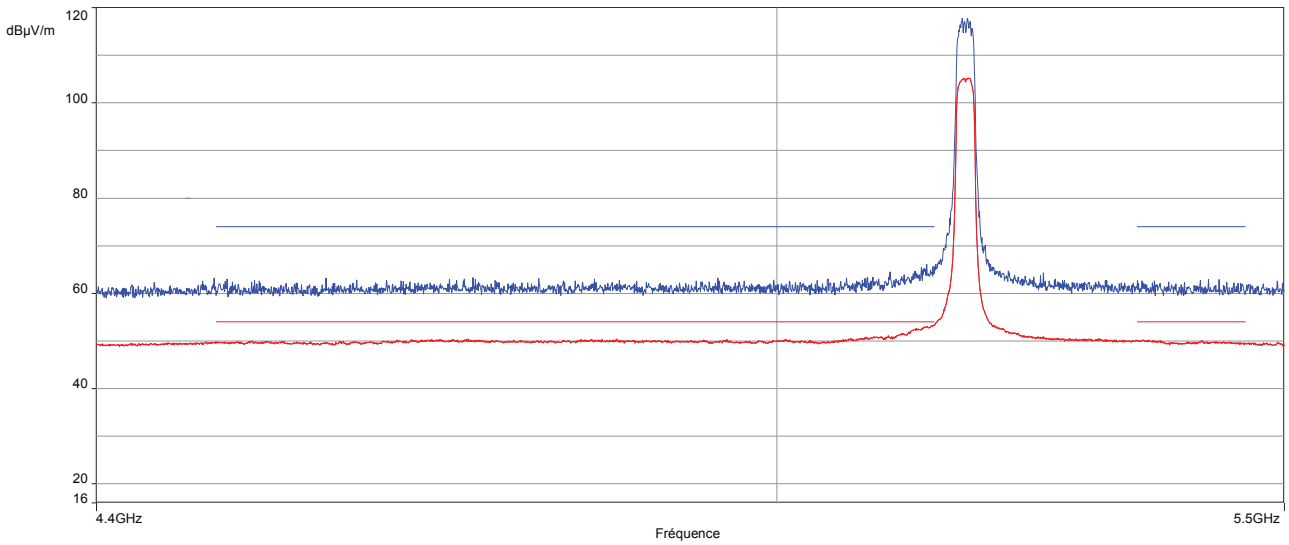
Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 3 m (dBµV/m)	Calculated Level EIRP (dBm/MHz) (1)	Limits (dBm/MHz)	Margin (dB)
6986.8	P	1000	V	47.6	-47.63	-27	20.63
10480	P	1000	V	50.4	-44.83	-27	17.83

P= Peak, QP=Quasi-peak, Av=Average

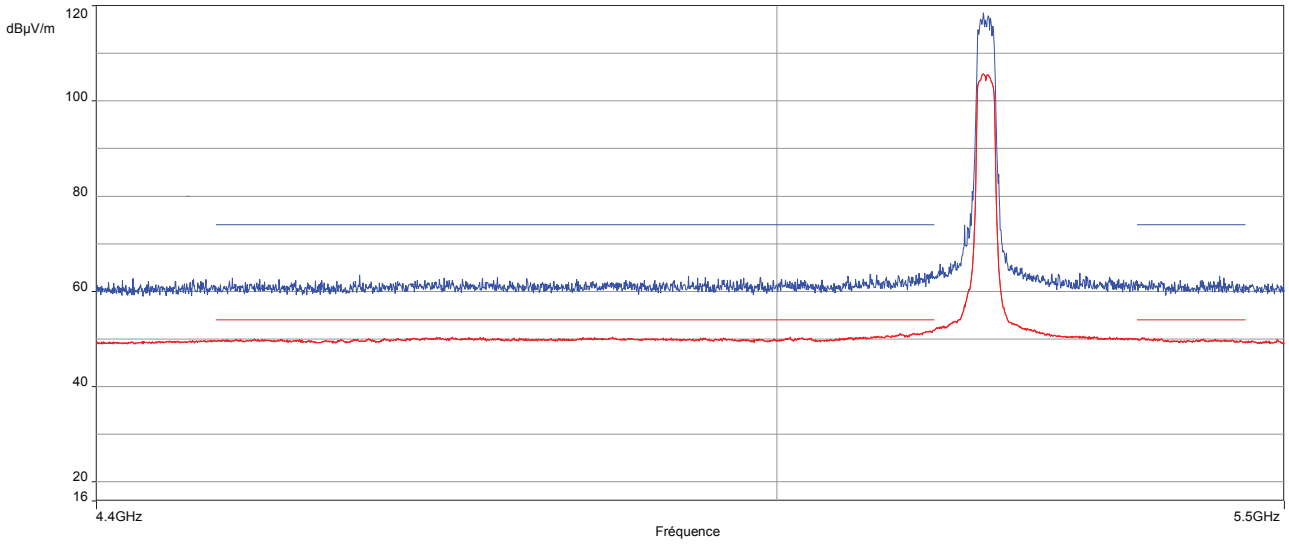
(1) According KDB 412172: EIRP = $(E \times d)^2 / 30$

Band edge realized on worst critical chains configuration.

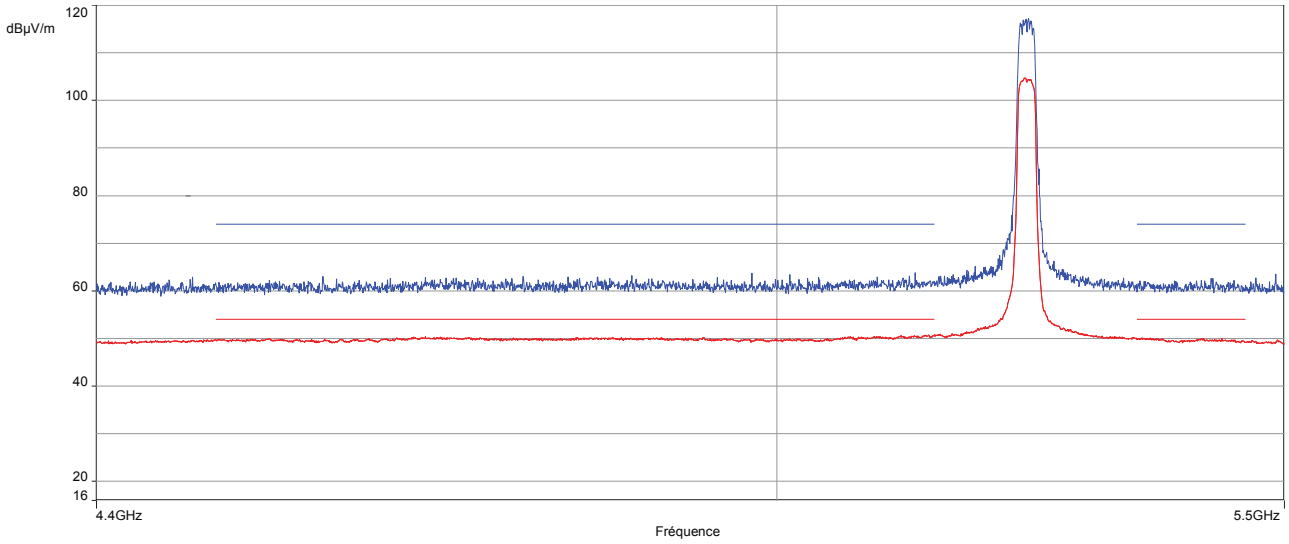
Low Channel



Central Channel



High channel



Sample N° 1 Channel 36 (F = 5180 MHz) – Mode 802.11an – Bandwidth 20 MHz – Worst case chains.

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 10 m (dBµV/m)	Field strength Computed at 3 m (dBµV/m)	Limits (dBµV/m)	Margin (dB)
504	P	100	H	25.2	35.7	46	10.3
552	P	100	H	19.2	29.7	46	16.3
600	P	100	H	21.0	31.5	46	14.5
648	P	100	H	18.2	28.7	46	17.3
696	P	100	H	21.6	32.1	46	13.9
720	P	100	H	19.6	30.1	46	15.9
744	P	100	H	20.8	31.3	46	14.7
792	P	100	V	22.2	32.7	46	13.3
840	P	100	H	25.3	35.8	46	10.2
888	P	100	V	23.8	34.3	46	11.7
936	P	100	V	24.0	34.5	46	11.5
984	P	100	V	20.6	31.1	54	22.9

P= Peak, QP=Quasi-peak, Av=Average

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 3 m (dBµV/m)	Calculated Level EIRP (dBm/MHz) (1)	Limits (dBm/MHz)	Margin (dB)
6906.7	P	1000	V	47.9	-47.33	-27	20.33
10360	P	1000	V	47.7	-47.53	-27	20.53

P= Peak, QP=Quasi-peak, Av=Average

(1) According KDB 412172: EIRP = $(E \times d)^2 / 30$

Sample N° 1 Channel 40 (F = 5200 MHz) – Mode 802.11an – Bandwidth 20 MHz – Worst case chains.

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 10 m (dBµV/m)	Field strength Computed at 3 m (dBµV/m)	Limits (dBµV/m)	Margin (dB)
504	P	100	H	25.2	35.7	46	10.3
552	P	100	H	19.2	29.7	46	16.3
600	P	100	H	21.0	31.5	46	14.5
648	P	100	H	18.2	28.7	46	17.3
696	P	100	H	21.6	32.1	46	13.9
720	P	100	H	19.6	30.1	46	15.9
744	P	100	H	20.8	31.3	46	14.7
792	P	100	V	22.2	32.7	46	13.3
840	P	100	H	25.3	35.8	46	10.2
888	P	100	V	23.8	34.3	46	11.7
936	P	100	V	24.0	34.5	46	11.5
984	P	100	V	20.6	31.1	54	22.9

P= Peak, QP=Quasi-peak, Av=Average

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 3 m (dBµV/m)	Calculated Level EIRP (dBm/MHz) (1)	Limits (dBm/MHz)	Margin (dB)
6933.3	P	1000	V	48.7	-46.53	-27	19.53
10400	P	1000	V	47.6	-47.63	-27	20.63

P= Peak, QP=Quasi-peak, Av=Average

(1) According KDB 412172: EIRP = $(E \times d)^2 / 30$

Sample N° 1 Channel 48 (F = 5240 MHz) – Mode 802.11an – Bandwidth 20 MHz – Worst case chains.

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 10 m (dBµV/m)	Field strength Computed at 3 m (dBµV/m)	Limits (dBµV/m)	Margin (dB)
504	P	100	H	25.2	35.7	46	10.3
552	P	100	H	19.2	29.7	46	16.3
600	P	100	H	21.0	31.5	46	14.5
648	P	100	H	18.2	28.7	46	17.3
696	P	100	H	21.6	32.1	46	13.9
720	P	100	H	19.6	30.1	46	15.9
744	P	100	H	20.8	31.3	46	14.7
792	P	100	V	22.2	32.7	46	13.3
840	P	100	H	25.3	35.8	46	10.2
888	P	100	V	23.8	34.3	46	11.7
936	P	100	V	24.0	34.5	46	11.5
984	P	100	V	20.6	31.1	54	22.9

P= Peak, QP=Quasi-peak, Av=Average

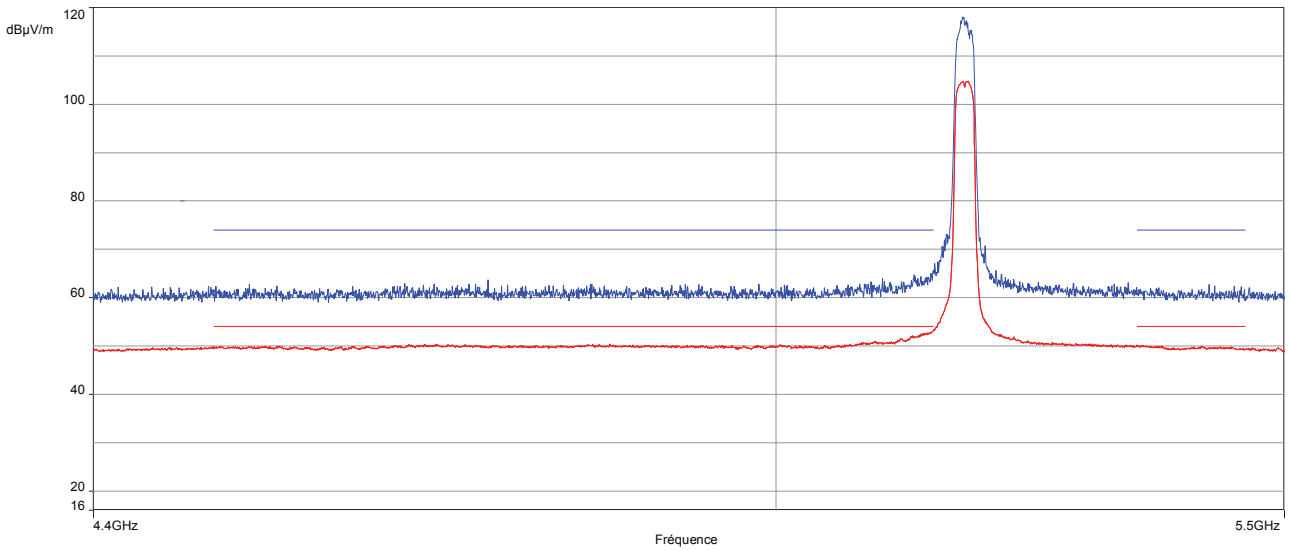
Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 3 m (dBµV/m)	Calculated Level EIRP (dBm/MHz) (1)	Limits (dBm/MHz)	Margin (dB)
6986.8	P	1000	V	48.1	-47.13	-27	20.13
10480	P	1000	V	48.4	-46.83	-27	19.83

P= Peak, QP=Quasi-peak, Av=Average

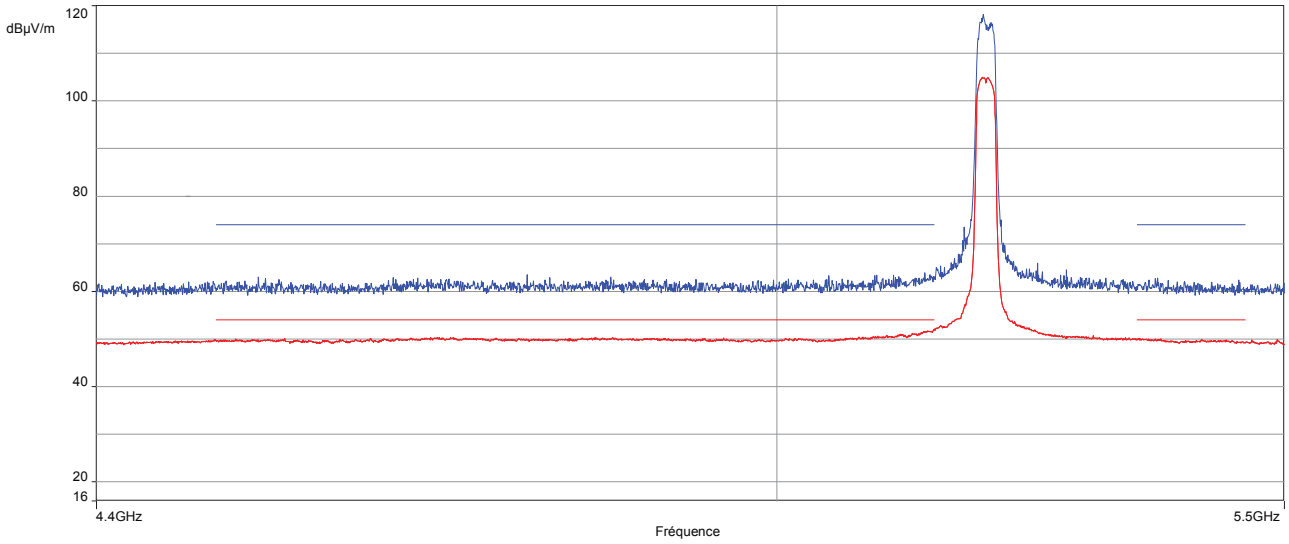
(1) According KDB 412172: EIRP = $(E \times d)^2 / 30$

Band edge realized on worst critical chains configuration.

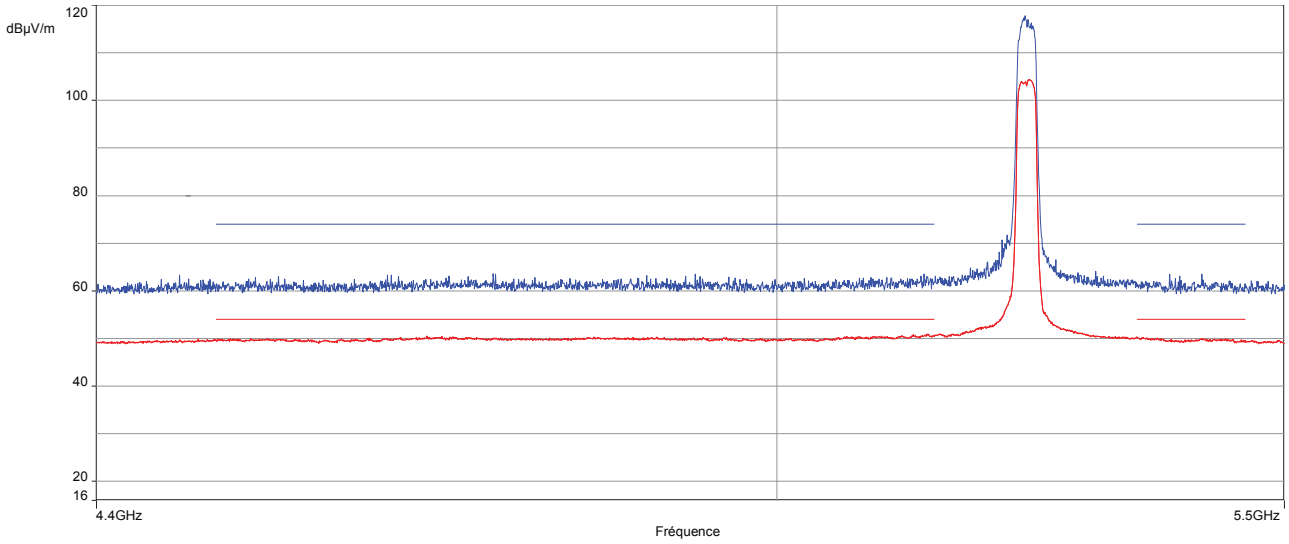
Low Channel



Central Channel



High channel



Band U-NII-3

Sample N° 1 Channel 149 (F = 5745 MHz) – Mode 802.11a – Bandwidth 10 MHz – Worst case chains.

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 10 m (dBµV/m)	Field strength Measured or computed at 3 m (dBµV/m)	Limits (dBµV/m)	Margin (dB)
504	P	100	H	23.7	34.2	46	11.8
552	P	100	H	18.8	29.3	46	16.7
600	P	100	H	19.4	29.9	46	16.1
648	P	100	H	19.7	30.2	46	15.8
696	P	100	H	21.1	31.6	46	14.4
720	P	100	H	18.3	28.8	46	17.2
744	P	100	H	22.1	32.6	46	13.4
792	P	100	H	22.8	33.3	46	12.7
840	P	100	H	25.6	36.1	46	9.9
888	P	100	H	23.8	34.3	46	11.7
912	P	100	V	21.9	32.4	46	13.6
936	P	100	V	24.0	34.5	46	11.5
960	P	100	V	20.9	31.4	54	22.6
984	P	100	V	21.2	31.7	54	22.3
11490 (1)	P	1000	V	/	48.5 (2)	74	25.5
22980 (1)	P	1000	V	/	44.1 (2)	74	29.9

P= Peak, QP=Quasi-peak, Av=Average
(1) Restricted bands of operation in 15.205
(2) The peak level is lower than the average limit (54 dBµV/m)

Sample N° 1 Channel 157 (F = 5785 MHz) – Mode 802.11a – Bandwidth 10 MHz – Worst case chains.

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 10 m (dBµV/m)	Field strength Measured or computed at 3 m (dBµV/m)	Limits (dBµV/m)	Margin (dB)
504	P	100	H	23.7	34.2	46	11.8
552	P	100	H	18.8	29.3	46	16.7
600	P	100	H	19.4	29.9	46	16.1
648	P	100	H	19.7	30.2	46	15.8
696	P	100	H	21.1	31.6	46	14.4
720	P	100	H	18.3	28.8	46	17.2
744	P	100	H	22.1	32.6	46	13.4
792	P	100	H	22.8	33.3	46	12.7
840	P	100	H	25.6	36.1	46	9.9
888	P	100	H	23.8	34.3	46	11.7
912	P	100	V	21.9	32.4	46	13.6
936	P	100	V	24.0	34.5	46	11.5
960	P	100	V	20.9	31.4	54	22.6
984	P	100	V	21.2	31.7	54	22.3
11570 (1)	P	1000	V	/	49.8 (2)	74	24.2

P= Peak, QP=Quasi-peak, Av=Average

(1) Restricted bands of operation in 15.205

(2) The peak level is lower than the average limit (54 dBµV/m)

Sample N° 1 Channel 165 (F = 5825 MHz) – Mode 802.11a – Bandwidth 10 MHz – Worst case chains.

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 10 m (dBµV/m)	Field strength Measured or computed at 3 m (dBµV/m)	Limits (dBµV/m)	Margin (dB)
504	P	100	H	23.7	34.2	46	11.8
552	P	100	H	18.8	29.3	46	16.7
600	P	100	H	19.4	29.9	46	16.1
648	P	100	H	19.7	30.2	46	15.8
696	P	100	H	21.1	31.6	46	14.4
720	P	100	H	18.3	28.8	46	17.2
744	P	100	H	22.1	32.6	46	13.4
792	P	100	H	22.8	33.3	46	12.7
840	P	100	H	25.6	36.1	46	9.9
888	P	100	H	23.8	34.3	46	11.7
912	P	100	V	21.9	32.4	46	13.6
936	P	100	V	24.0	34.5	46	11.5
960	P	100	V	20.9	31.4	54	22.6
984	P	100	V	21.2	31.7	54	22.3
11650 (1)	P	1000	V	/	49.9 (2)	74	24.1

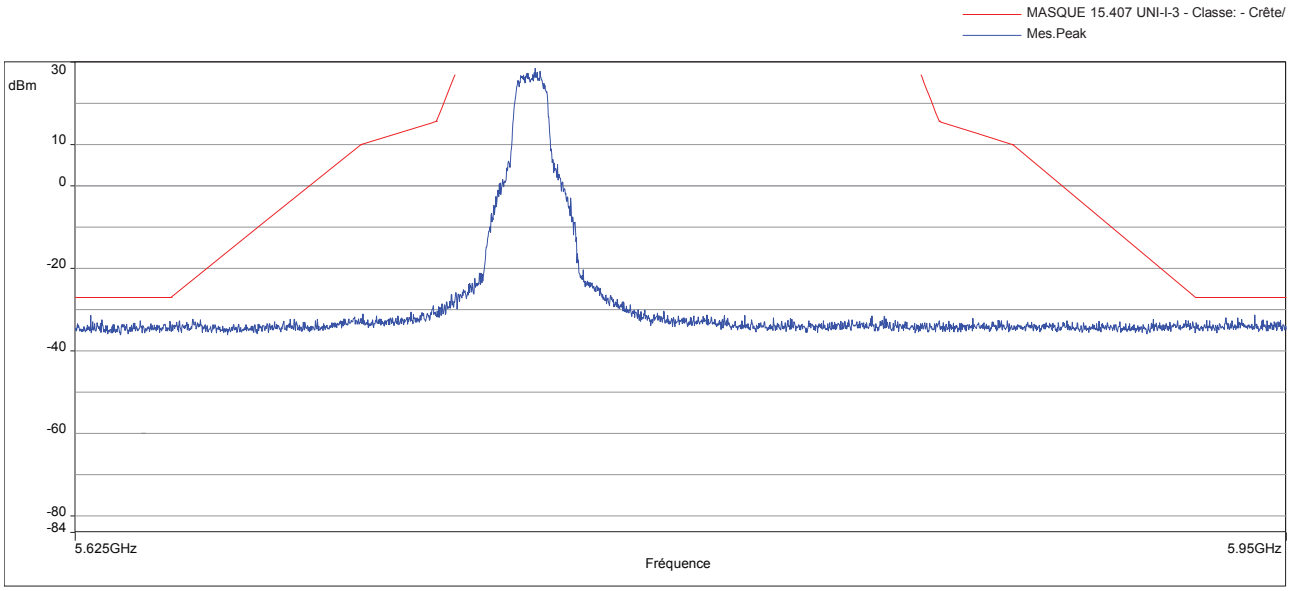
P= Peak, QP=Quasi-peak, Av=Average
(1) Restricted bands of operation in 15.205
(2) The peak level is lower than the average limit (54 dBµV/m)

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured or computed at 3 m (dBµV/m)	Calculated Level EIRP (dBm/MHz) (1)	Limits (dBm/MHz)	Margin (dB)
23300	P	1000	V	46.2	-49.03	-27	22.03

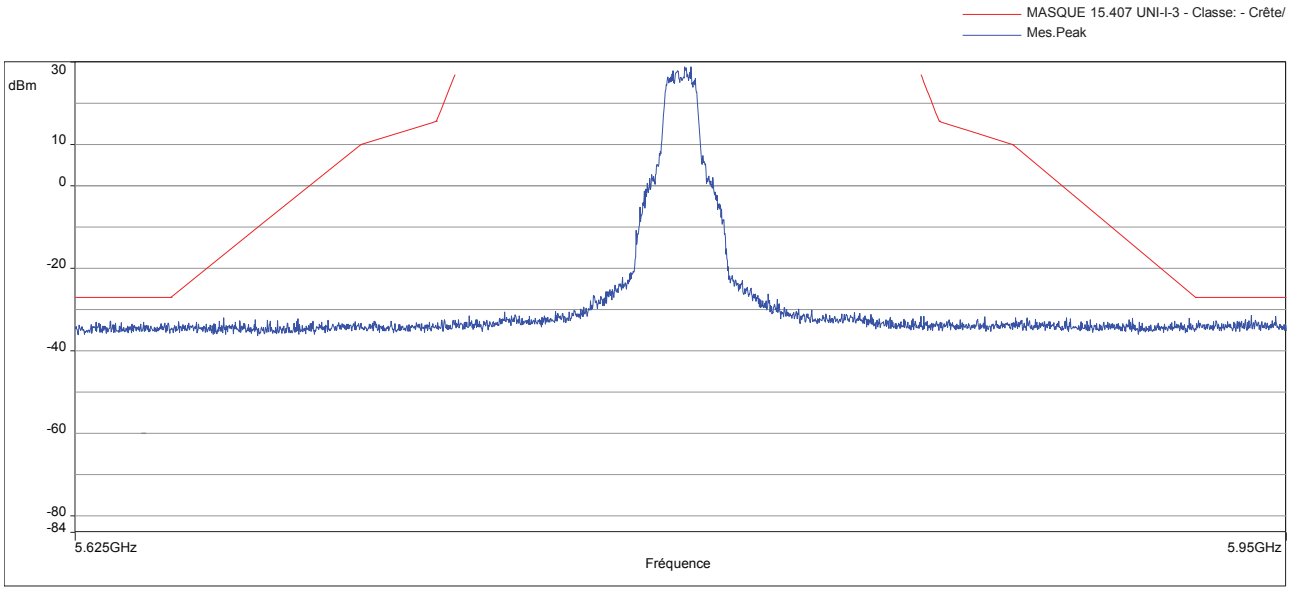
P= Peak, QP=Quasi-peak, Av=Average
(1) According KDB 412172: EIRP = $(E \times d)^2 / 30$

Spectrum mask realized on worst critical chains configuration

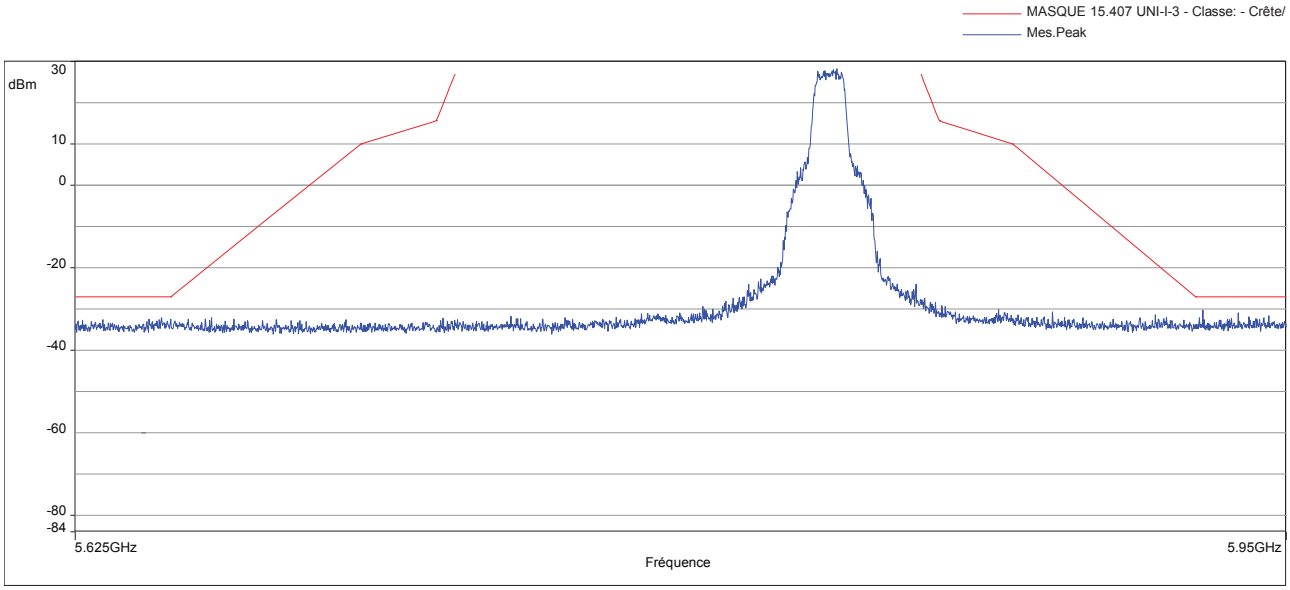
Low Channel



Central Channel

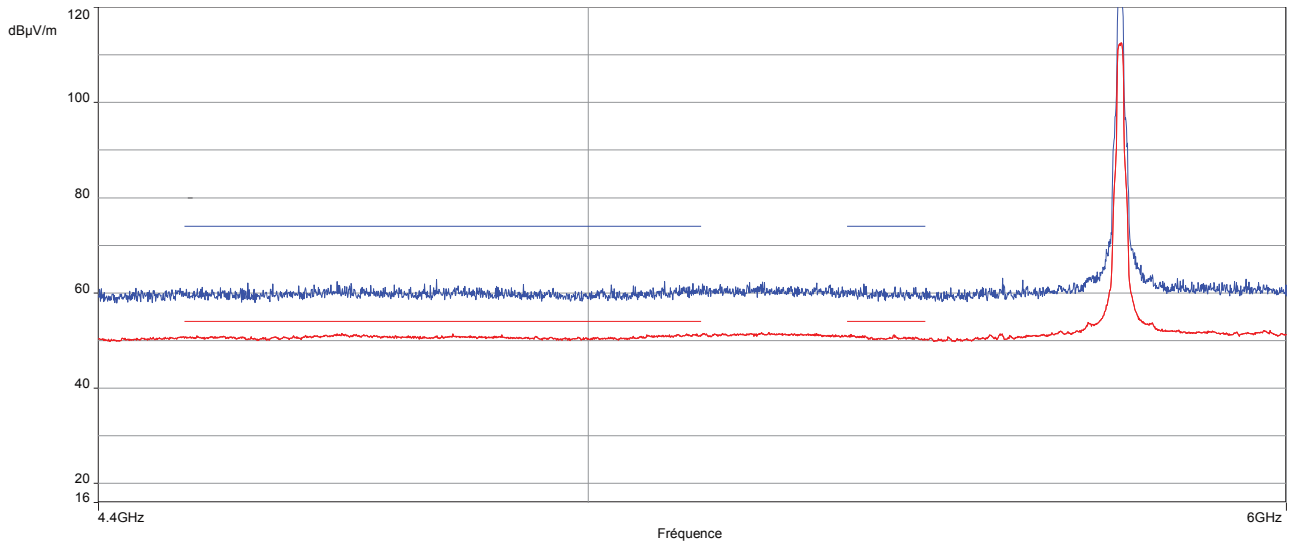


High channel

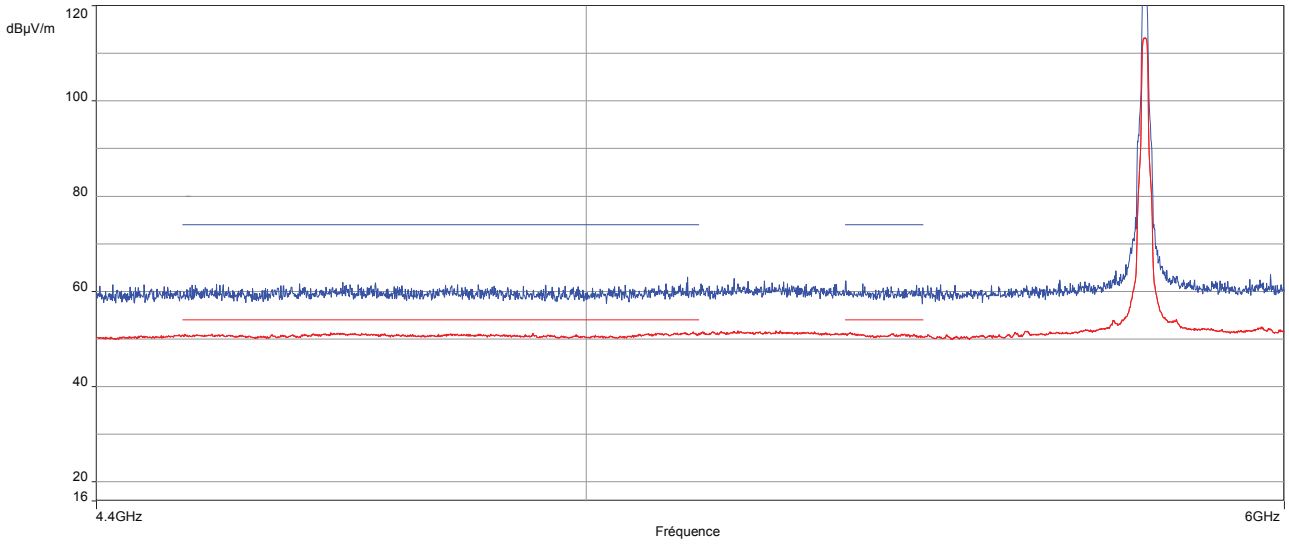


Band edge realized on worst critical chains configuration.

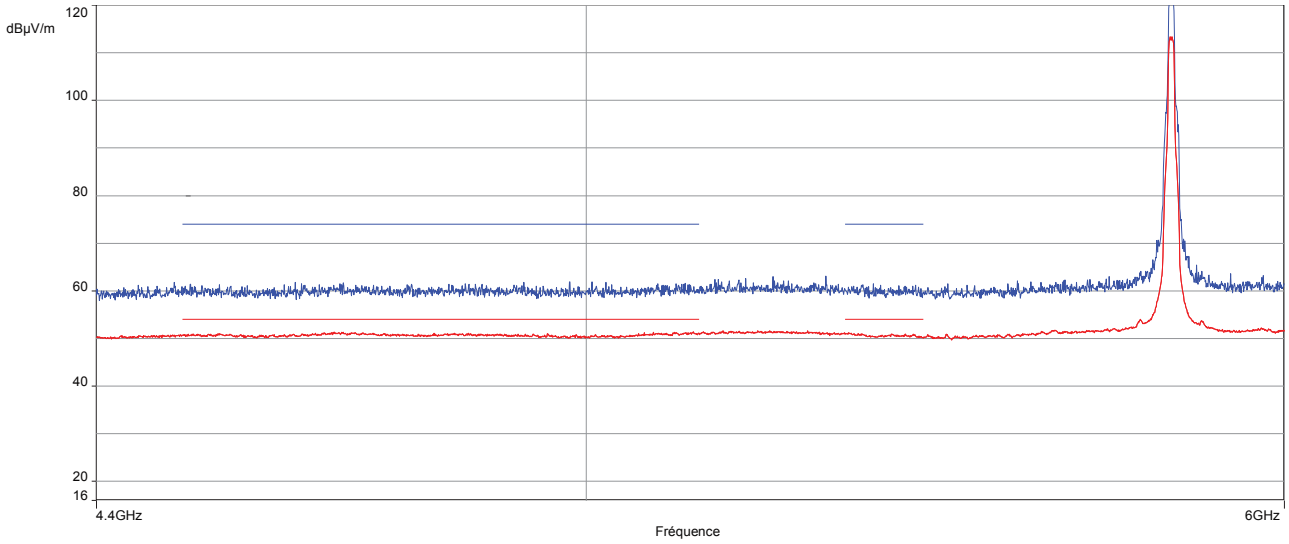
Low Channel



Central Channel



High channel



Sample N° 1 Channel 149 (F = 5745 MHz) – Mode 802.11an – Bandwidth 10 MHz – Worst case chains.

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 10 m (dBµV/m)	Field strength Measured or computed at 3 m (dBµV/m)	Limits (dBµV/m)	Margin (dB)
504	P	100	H	25.2	35.7	46	10.3
552	P	100	H	21.3	31.8	46	14.2
600	P	100	H	21.3	31.8	46	14.2
648	P	100	H	20.1	30.6	46	15.4
696	P	100	H	21.2	31.7	46	14.3
720	P	100	H	18.6	29.1	46	16.9
744	P	100	H	22.8	33.3	46	12.7
792	P	100	V	21.5	32	46	14
840	P	100	H	26.8	37.3	46	8.7
888	P	100	H	24.7	35.2	46	10.8
936	P	100	V	23.6	34.1	46	11.9
960	P	100	V	19.6	30.1	54	23.9
984	P	100	V	21.2	31.7	54	22.3
11490 (1)	P	1000	V	/	48.9 (2)	74	25.1
22980 (1)	P	1000	V	/	45.4 (2)	74	28.6

P= Peak, QP=Quasi-peak, Av=Average

(1) Restricted bands of operation in 15.205

(2) The peak level is lower than the average limit (54 dBµV/m)

Sample N° 1 Channel 157 (F = 5785 MHz) – Mode 802.11an – Bandwidth 10 MHz – Worst case chains.

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 10 m (dBµV/m)	Field strength Measured or computed at 3 m (dBµV/m)	Limits (dBµV/m)	Margin (dB)
504	P	100	H	25.2	35.7	46	10.3
552	P	100	H	21.3	31.8	46	14.2
600	P	100	H	21.3	31.8	46	14.2
648	P	100	H	20.1	30.6	46	15.4
696	P	100	H	21.2	31.7	46	14.3
720	P	100	H	18.6	29.1	46	16.9
744	P	100	H	22.8	33.3	46	12.7
792	P	100	V	21.5	32	46	14
840	P	100	H	26.8	37.3	46	8.7
888	P	100	H	24.7	35.2	46	10.8
936	P	100	V	23.6	34.1	46	11.9
960	P	100	V	19.6	30.1	54	23.9
984	P	100	V	21.2	31.7	54	22.3
11570 (1)	P	1000	V	/	49.3 (2)	74	25.1

P= Peak, QP=Quasi-peak, Av=Average

(1) Restricted bands of operation in 15.205

(2) The peak level is lower than the average limit (54 dBµV/m)

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured or computed at 3 m (dBµV/m)	Calculated Level EIRP (dBm/MHz) (1)	Limits (dBm/MHz)	Margin (dB)
23140	P	1000	V	45.3	-49.93	-27	22.93

P= Peak, QP=Quasi-peak, Av=Average

(1) According KDB 412172: EIRP = $(E \times d)^2 / 30$

Sample N° 1 Channel 165 (F = 5825 MHz) – Mode 802.11an – Bandwidth 10 MHz – Worst case chains.

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 10 m (dBµV/m)	Field strength Measured or computed at 3 m (dBµV/m)	Limits (dBµV/m)	Margin (dB)
504	P	100	H	25.2	35.7	46	10.3
552	P	100	H	21.3	31.8	46	14.2
600	P	100	H	21.3	31.8	46	14.2
648	P	100	H	20.1	30.6	46	15.4
696	P	100	H	21.2	31.7	46	14.3
720	P	100	H	18.6	29.1	46	16.9
744	P	100	H	22.8	33.3	46	12.7
792	P	100	V	21.5	32	46	14
840	P	100	H	26.8	37.3	46	8.7
888	P	100	H	24.7	35.2	46	10.8
936	P	100	V	23.6	34.1	46	11.9
960	P	100	V	19.6	30.1	54	23.9
984	P	100	V	21.2	31.7	54	22.3
11650 (1)	P	1000	V	/	48.8 (2)	74	25.2

P= Peak, QP=Quasi-peak, Av=Average

(1) Restricted bands of operation in 15.205

(2) The peak level is lower than the average limit (54 dBµV/m)

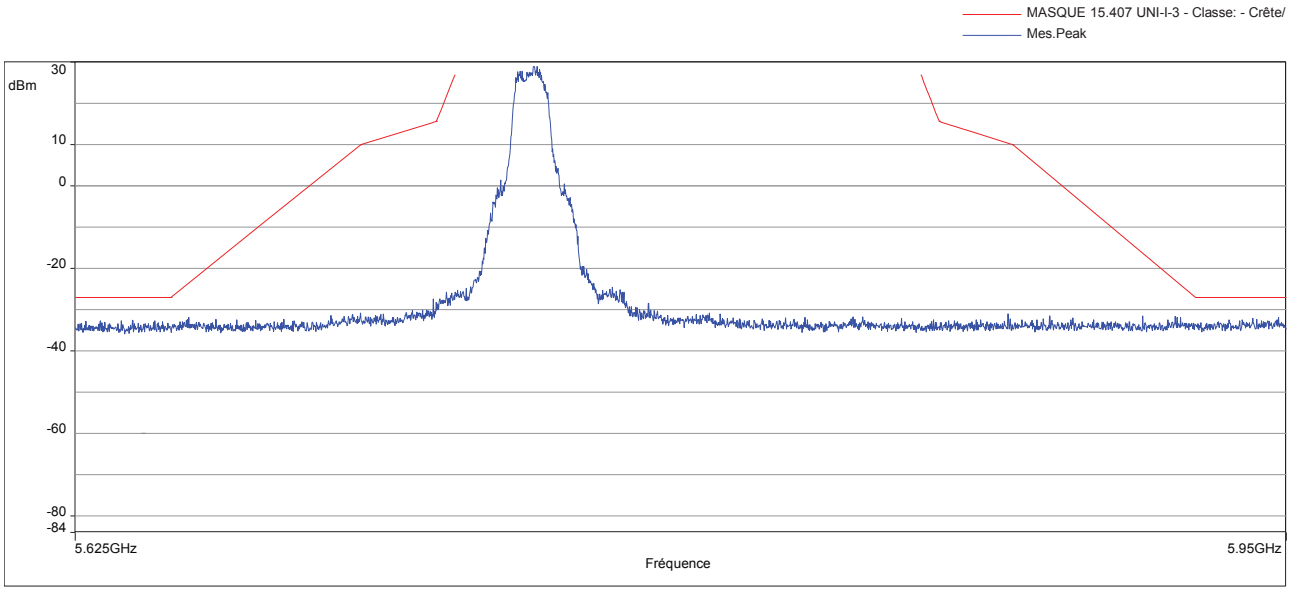
Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured or computed at 3 m (dBµV/m)	Calculated Level EIRP (dBm/MHz) (1)	Limits (dBm/MHz)	Margin (dB)
23300	P	1000	V	45.7	-49.53	-27	22.53

P= Peak, QP=Quasi-peak, Av=Average

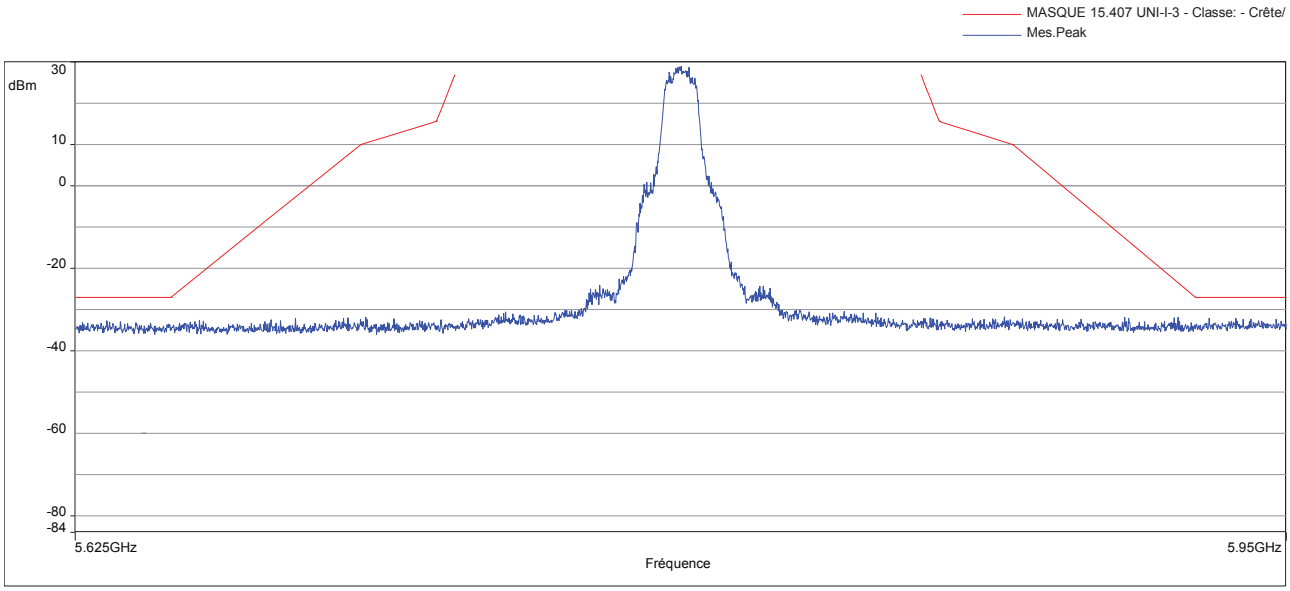
(1) According KDB 412172: EIRP = $(E \times d)^2 / 30$

Spectrum mask realized on worst critical chains configuration

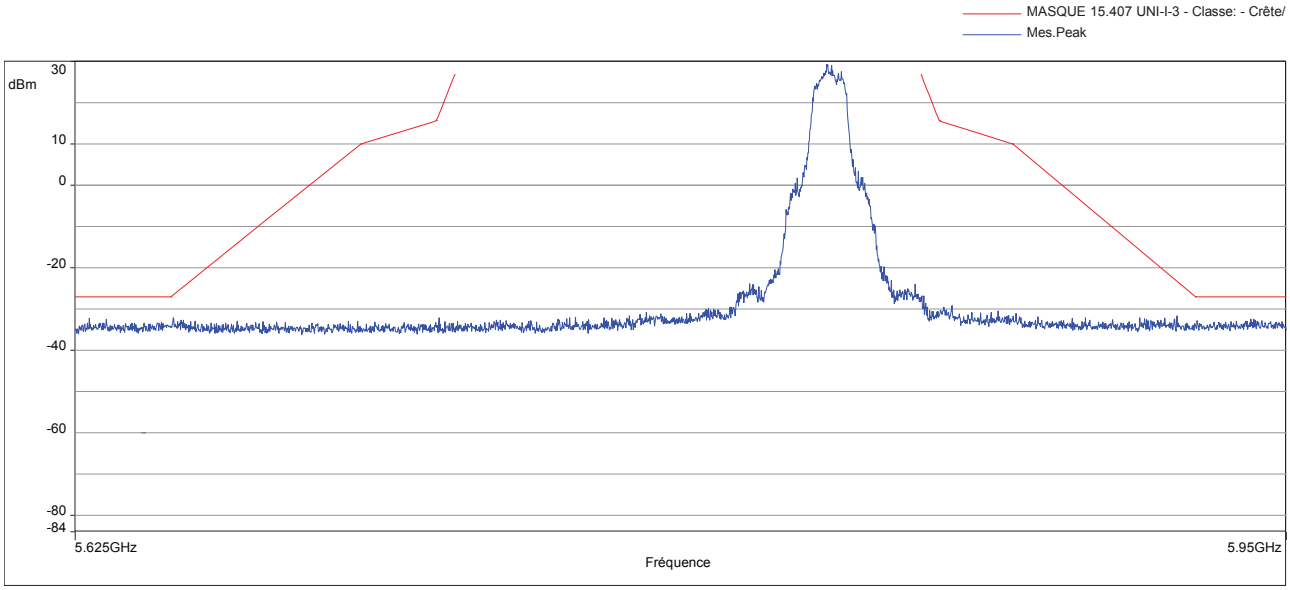
Low Channel



Central Channel

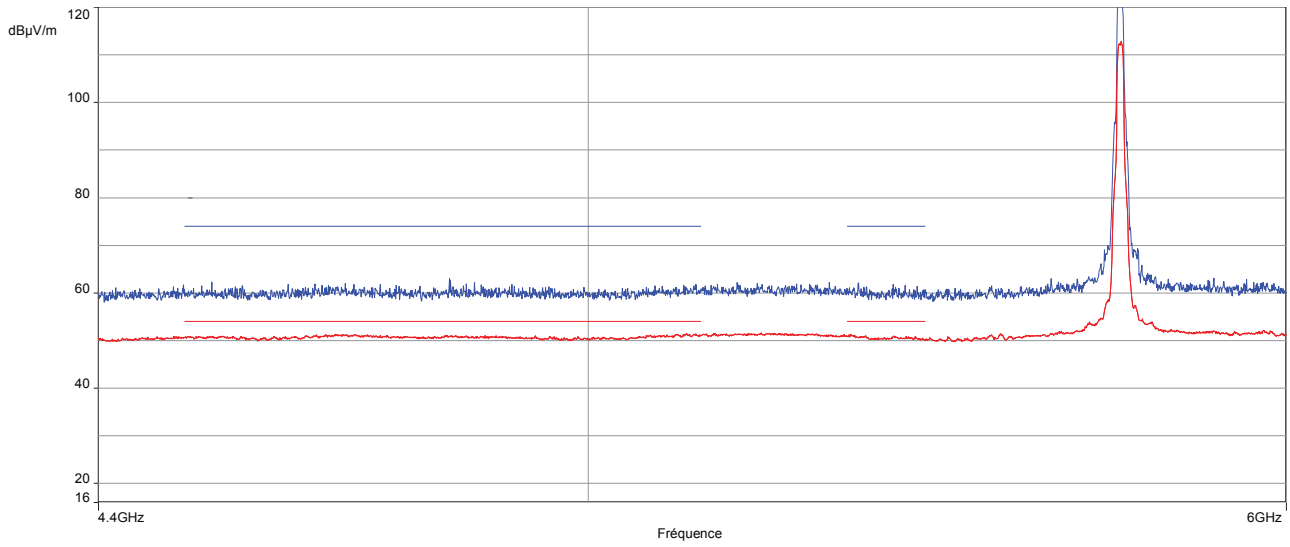


High channel

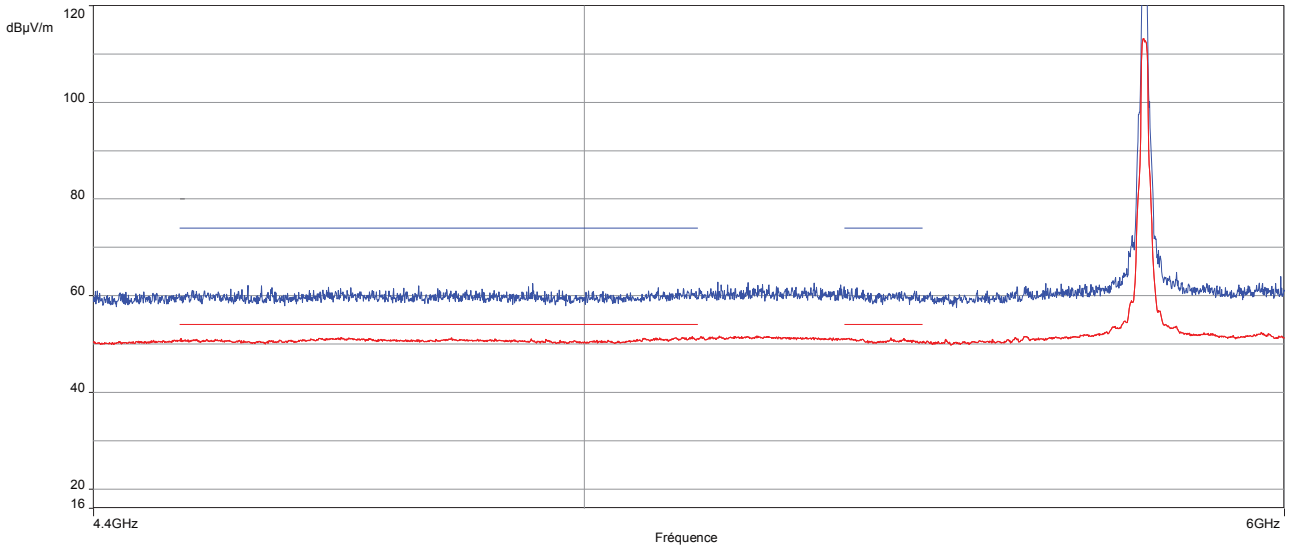


Band edge realized on worst critical chains configuration.

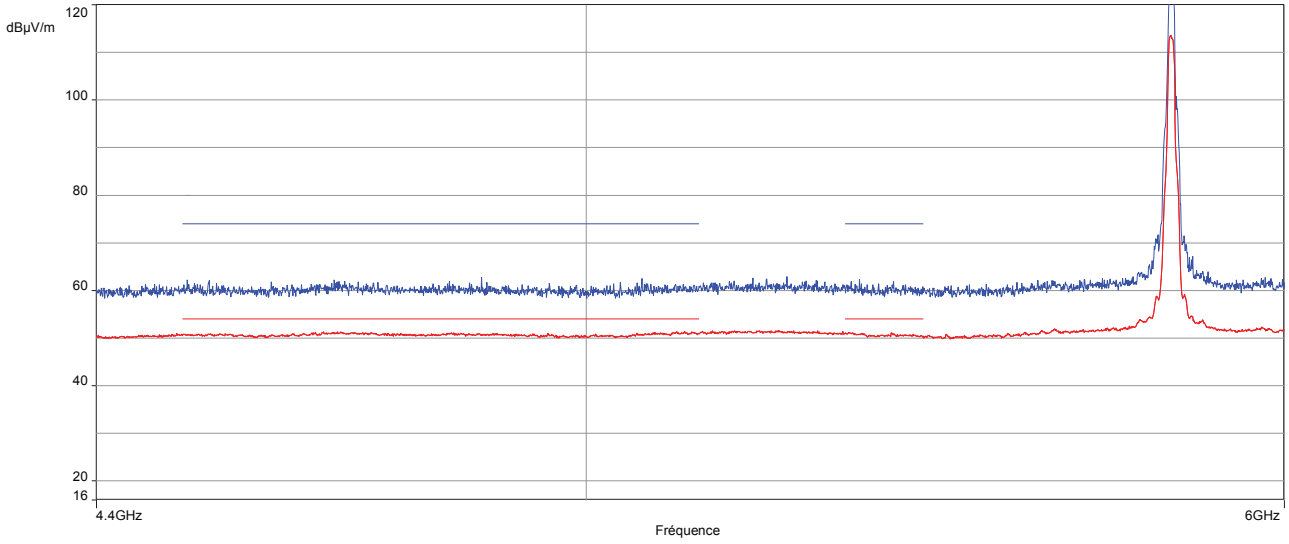
Low Channel



Central Channel



High channel



Sample N° 1 Channel 149 (F = 5745 MHz) – Mode 802.11a – Bandwidth 20 MHz – Worst case chains.

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 10 m (dBµV/m)	Field strength Measured or computed at 3 m (dBµV/m)	Limits (dBµV/m)	Margin (dB)
504	P	100	H	23.4	33.9	46	12.1
552	P	100	H	20.2	30.7	46	15.3
600	P	100	H	20.8	31.3	46	14.7
648	P	100	V	18.7	29.2	46	16.8
696	P	100	H	20.5	31	46	15
720	P	100	H	18.5	29	46	17
744	P	100	H	22.5	33	46	13
792	P	100	H	22.5	33	46	13
816	P	100	H	19.9	30.4	46	15.6
840	P	100	H	26.4	36.9	46	9.1
869	P	100	V	20.8	31.3	46	14.7
888	P	100	H	24.6	35.1	46	10.9
936	P	100	V	24.0	34.5	46	11.5
984	P	100	V	20.2	30.7	54	23.3
11490 (1)	P	1000	V	/	50.4 (2)	74	23.6

P= Peak, QP=Quasi-peak, Av=Average

(1) Restricted bands of operation in 15.205

(2) The peak level is lower than the average limit (54 dBµV/m)

Sample N° 1 Channel 157 (F = 5785 MHz) – Mode 802.11a – Bandwidth 20 MHz – Worst case chains.

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 10 m (dBµV/m)	Field strength Measured or computed at 3 m (dBµV/m)	Limits (dBµV/m)	Margin (dB)
504	P	100	H	23.4	33.9	46	12.1
552	P	100	H	20.2	30.7	46	15.3
600	P	100	H	20.8	31.3	46	14.7
648	P	100	V	18.7	29.2	46	16.8
696	P	100	H	20.5	31	46	15
720	P	100	H	18.5	29	46	17
744	P	100	H	22.5	33	46	13
792	P	100	H	22.5	33	46	13
816	P	100	H	19.9	30.4	46	15.6
840	P	100	H	26.4	36.9	46	9.1
869	P	100	V	20.8	31.3	46	14.7
888	P	100	H	24.6	35.1	46	10.9
936	P	100	V	24.0	34.5	46	11.5
984	P	100	V	20.2	30.7	54	23.3

P= Peak, QP=Quasi-peak, Av=Average

Sample N° 1 Channel 165 (F = 5825 MHz) – Mode 802.11a – Bandwidth 20 MHz – Worst case chains.

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 10 m (dBµV/m)	Field strength Measured or computed at 3 m (dBµV/m)	Limits (dBµV/m)	Margin (dB)
504	P	100	H	23.4	33.9	46	12.1
552	P	100	H	20.2	30.7	46	15.3
600	P	100	H	20.8	31.3	46	14.7
648	P	100	V	18.7	29.2	46	16.8
696	P	100	H	20.5	31	46	15
720	P	100	H	18.5	29	46	17
744	P	100	H	22.5	33	46	13
792	P	100	H	22.5	33	46	13
816	P	100	H	19.9	30.4	46	15.6
840	P	100	H	26.4	36.9	46	9.1
869	P	100	V	20.8	31.3	46	14.7
888	P	100	H	24.6	35.1	46	10.9
936	P	100	V	24.0	34.5	46	11.5
984	P	100	V	20.2	30.7	54	23.3
11650 (1)	P	1000	V	/	48.8 (2)	74	25.2

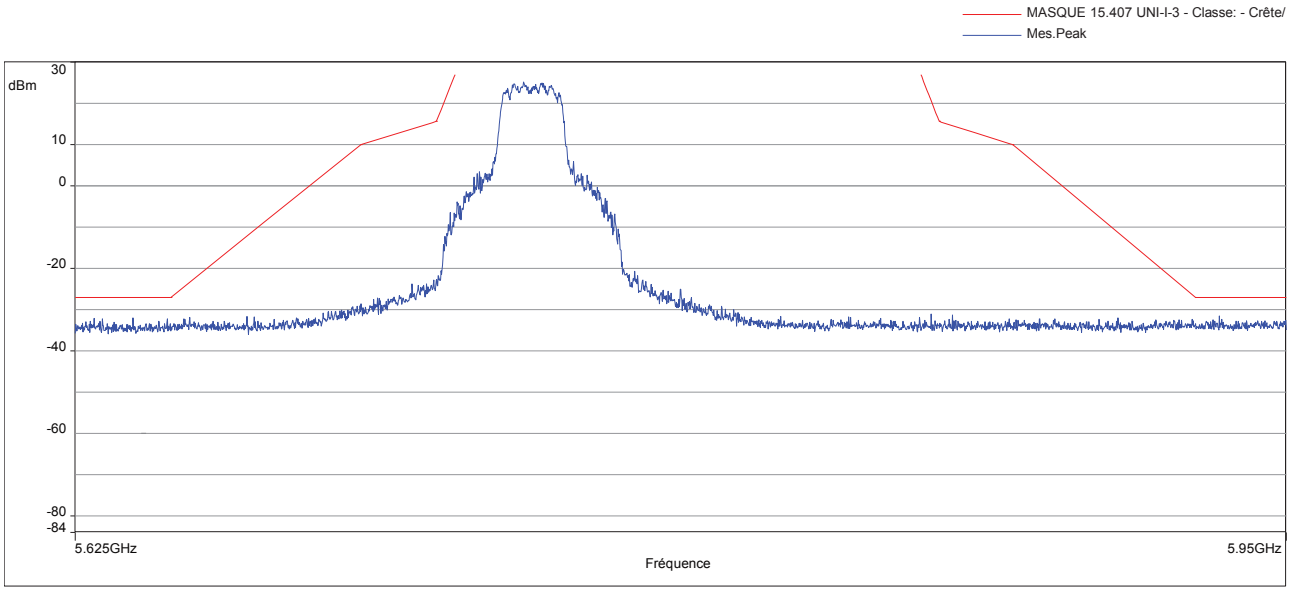
P= Peak, QP=Quasi-peak, Av=Average
(1) Restricted bands of operation in 15.205
(2) The peak level is lower than the average limit (54 dBµV/m)

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured or computed at 3 m (dBµV/m)	Calculated Level EIRP (dBm/MHz) (1)	Limits (dBm/MHz)	Margin (dB)
23300	P	1000	V	43.9	-51.33	-27	24.33

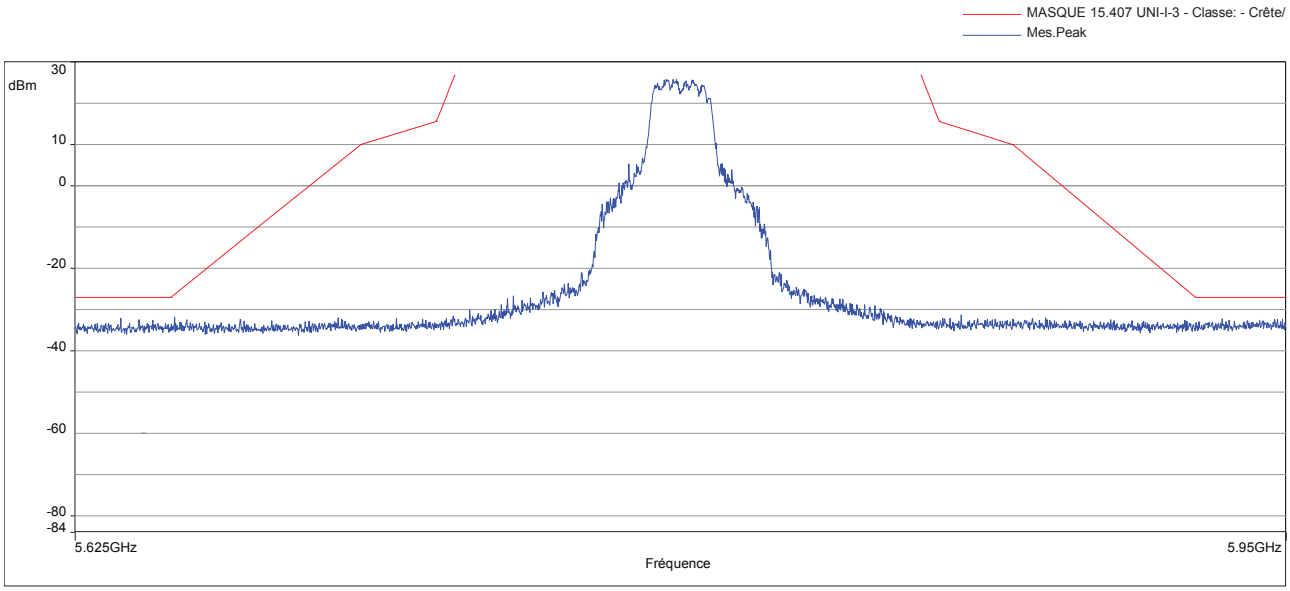
P= Peak, QP=Quasi-peak, Av=Average
(1) According KDB 412172: EIRP = $(E \times d)^2 / 30$

Spectrum mask realized on worst critical chains configuration

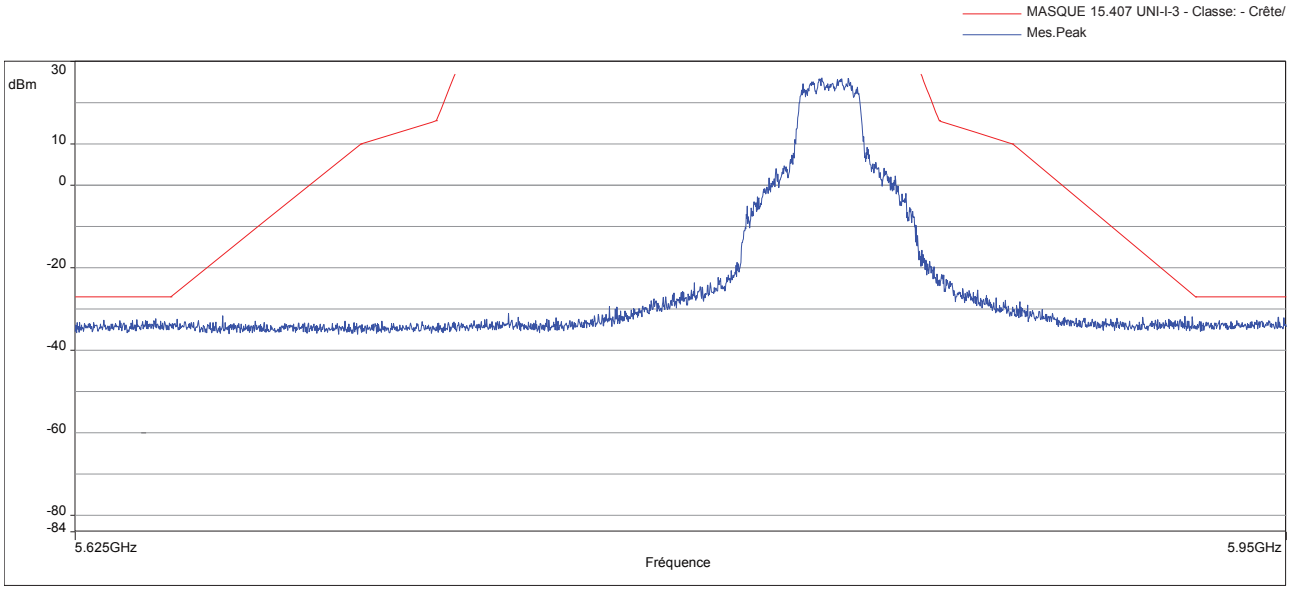
Low Channel



Central Channel

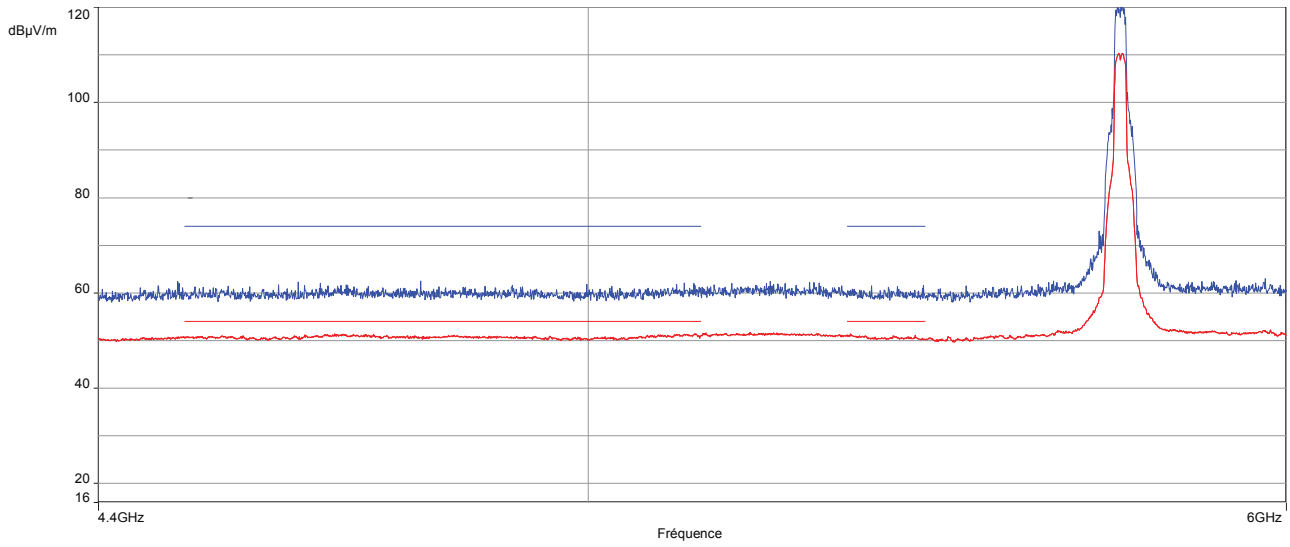


High channel

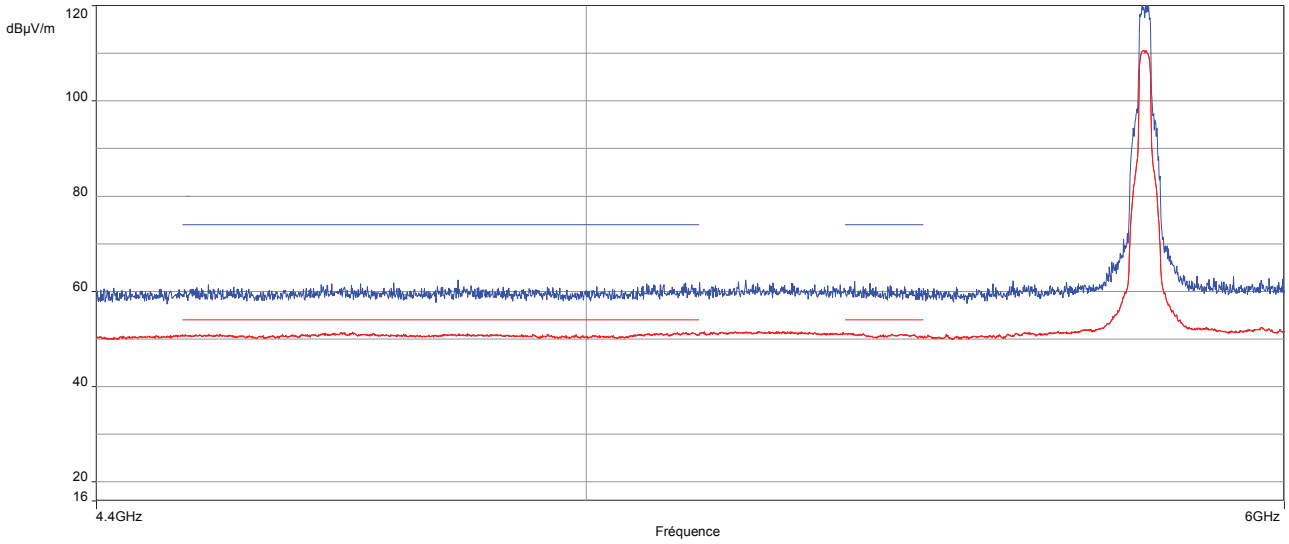


Band edge realized on worst critical chains configuration.

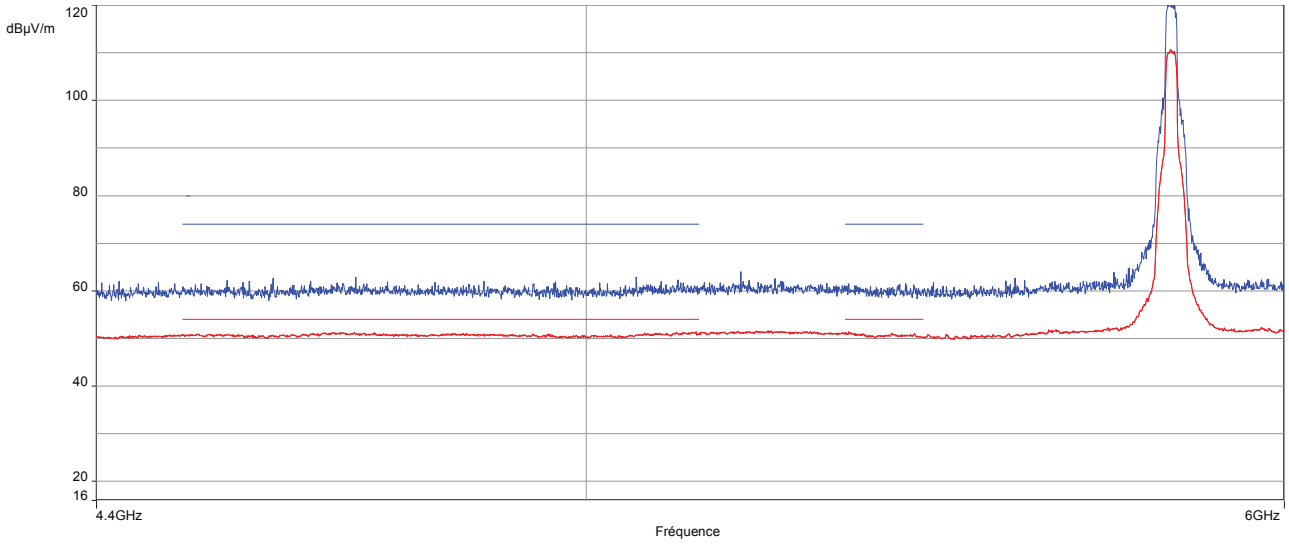
Low Channel



Central Channel



High channel



Sample N° 1 Channel 149 (F = 5745 MHz) – Mode 802.11an – Bandwidth 20 MHz – Worst case chains.

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 10 m (dBµV/m)	Field strength Measured or computed at 3 m (dBµV/m)	Limits (dBµV/m)	Margin (dB)
504	P	100	H	25.1	35.6	46	10.4
552	P	100	H	20.3	30.8	46	15.2
600	P	100	H	19.6	30.1	46	15.9
648	P	100	V	17.8	28.3	46	17.7
696	P	100	H	21.0	31.5	46	14.5
720	P	100	H	19.5	30	46	16
744	P	100	H	21.2	31.7	46	14.3
792	P	100	V	21.6	32.1	46	13.9
840	P	100	H	27.3	37.8	46	8.2
888	P	100	V	24.6	35.1	46	10.9
912	P	100	V	20.5	31	46	15
936	P	100	V	23.4	33.9	46	12.1
960	P	100	H	19.0	29.5	54	24.5
984	P	100	V	21.1	31.6	54	22.4
11490 (1)	P	1000	V	/	48.6 (2)	74	25.4
22980 (1)	P	1000	V	/	44.1 (2)	74	29.9

P= Peak, QP=Quasi-peak, Av=Average

(1) Restricted bands of operation in 15.205

(2) The peak level is lower than the average limit (54 dBµV/m)

Sample N° 1 Channel 157 (F = 5785 MHz) – Mode 802.11an – Bandwidth 20 MHz – Worst case chains.

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 10 m (dBµV/m)	Field strength Measured or computed at 3 m (dBµV/m)	Limits (dBµV/m)	Margin (dB)
504	P	100	H	25.1	35.6	46	10.4
552	P	100	H	20.3	30.8	46	15.2
600	P	100	H	19.6	30.1	46	15.9
648	P	100	V	17.8	28.3	46	17.7
696	P	100	H	21.0	31.5	46	14.5
720	P	100	H	19.5	30	46	16
744	P	100	H	21.2	31.7	46	14.3
792	P	100	V	21.6	32.1	46	13.9
840	P	100	H	27.3	37.8	46	8.2
888	P	100	V	24.6	35.1	46	10.9
912	P	100	V	20.5	31	46	15
936	P	100	V	23.4	33.9	46	12.1
960	P	100	H	19.0	29.5	54	24.5
984	P	100	V	21.1	31.6	54	22.4
11570 (1)	P	1000	V	/	48.8 (2)	74	25.2

P= Peak, QP=Quasi-peak, Av=Average

(1) Restricted bands of operation in 15.205

(2) The peak level is lower than the average limit (54 dBµV/m)

Sample N° 1 Channel 165 (F = 5825 MHz) – Mode 802.11an – Bandwidth 20 MHz – Worst case chains.

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured at 10 m (dBµV/m)	Field strength Measured or computed at 3 m (dBµV/m)	Limits (dBµV/m)	Margin (dB)
504	P	100	H	25.1	35.6	46	10.4
552	P	100	H	20.3	30.8	46	15.2
600	P	100	H	19.6	30.1	46	15.9
648	P	100	V	17.8	28.3	46	17.7
696	P	100	H	21.0	31.5	46	14.5
720	P	100	H	19.5	30	46	16
744	P	100	H	21.2	31.7	46	14.3
792	P	100	V	21.6	32.1	46	13.9
840	P	100	H	27.3	37.8	46	8.2
888	P	100	V	24.6	35.1	46	10.9
912	P	100	V	20.5	31	46	15
936	P	100	V	23.4	33.9	46	12.1
960	P	100	H	19.0	29.5	54	24.5
984	P	100	V	21.1	31.6	54	22.4
11650 (1)	P	1000	V	/	48 (2)	74	26

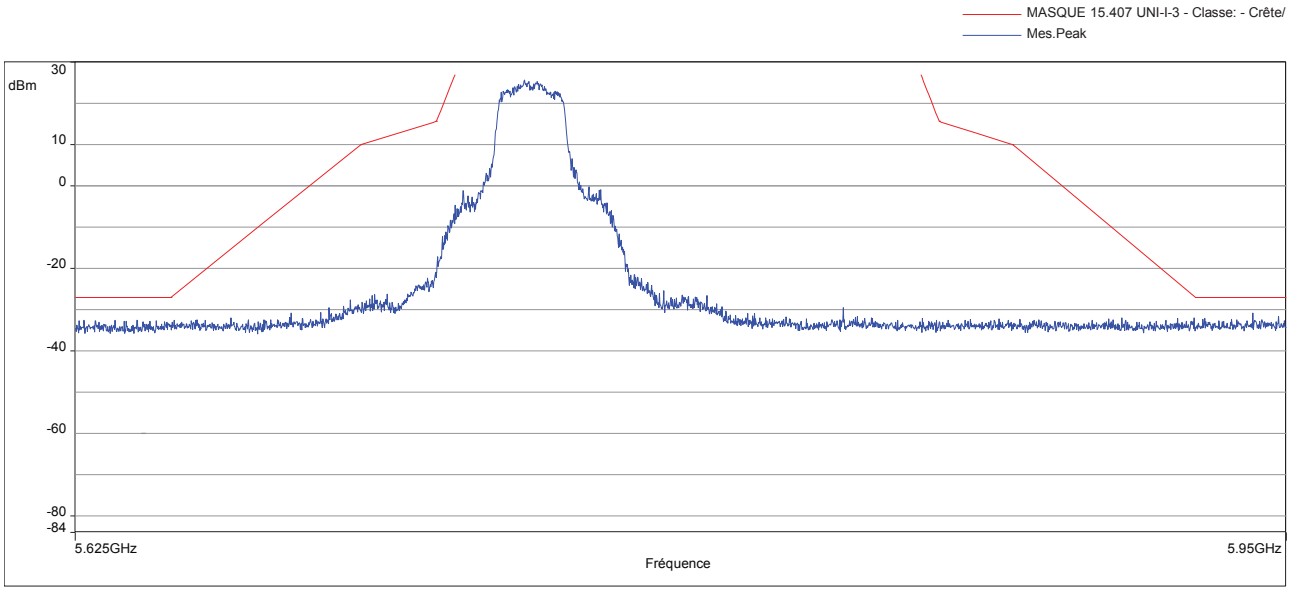
P= Peak, QP=Quasi-peak, Av=Average
(1) Restricted bands of operation in 15.205
(2) The peak level is lower than the average limit (54 dBµV/m)

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Polarization H: Horizontal V: Vertical	Field strength Measured or computed at 3 m (dBµV/m)	Calculated Level EIRP (dBm/MHz) (1)	Limits (dBm/MHz)	Margin (dB)
23300	P	1000	V	45	-50.23	-27	23.23

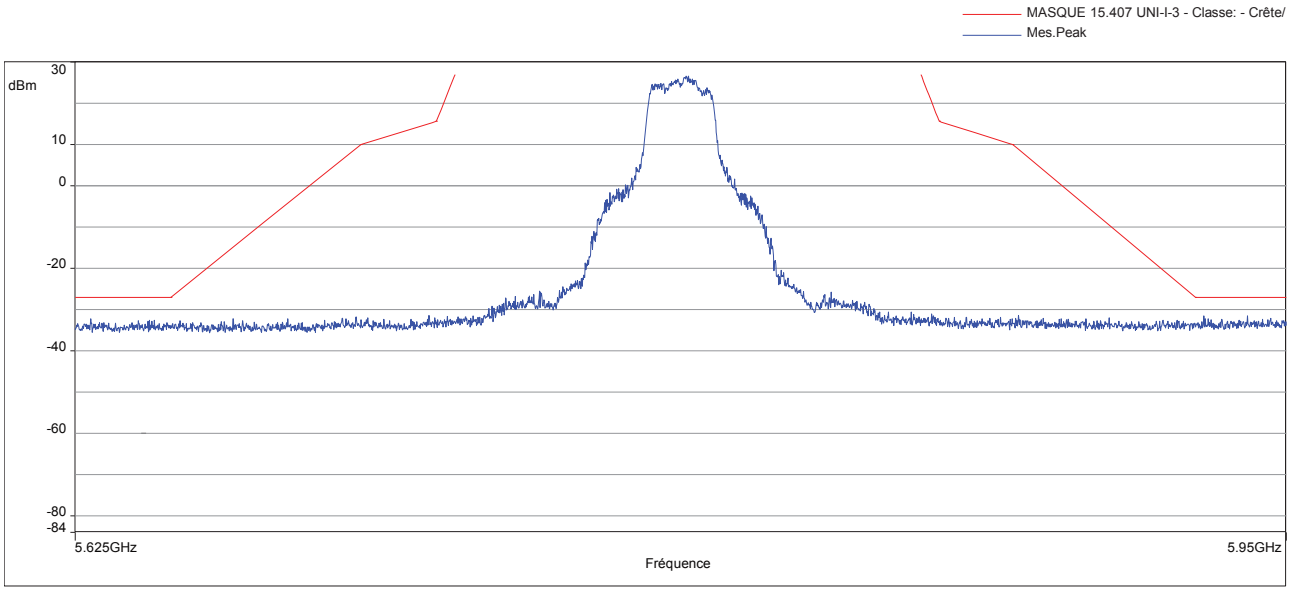
P= Peak, QP=Quasi-peak, Av=Average
(1) According KDB 412172: EIRP = $(E \times d)^2 / 30$

Spectrum mask realized on worst critical chains configuration

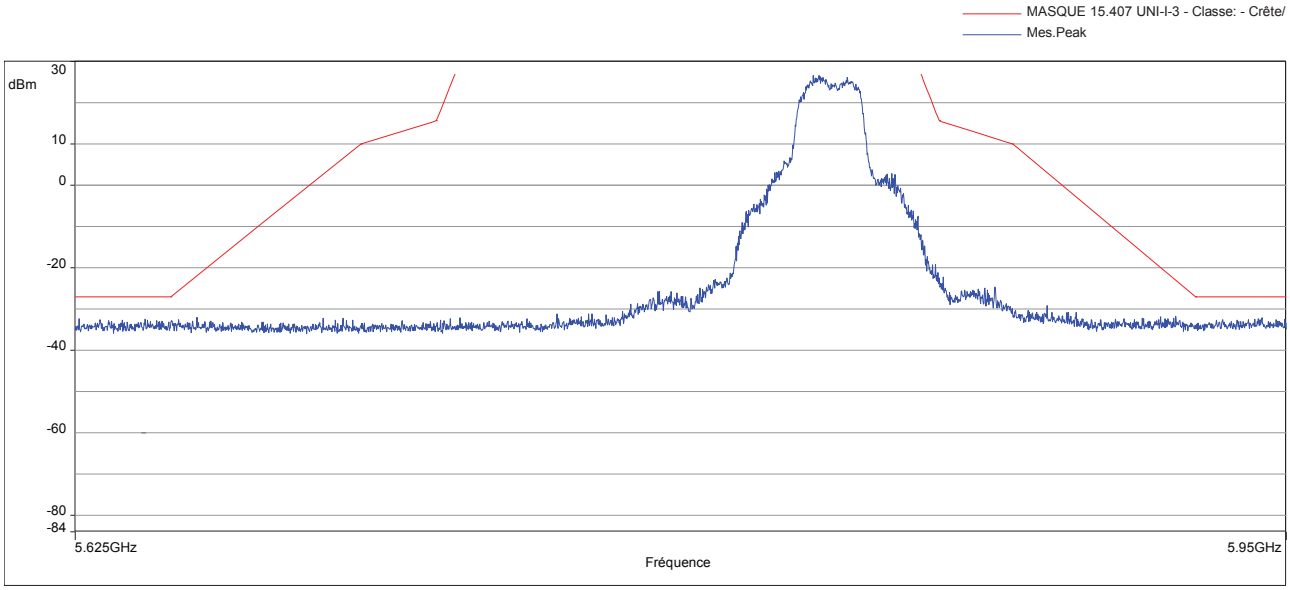
Low Channel



Central Channel

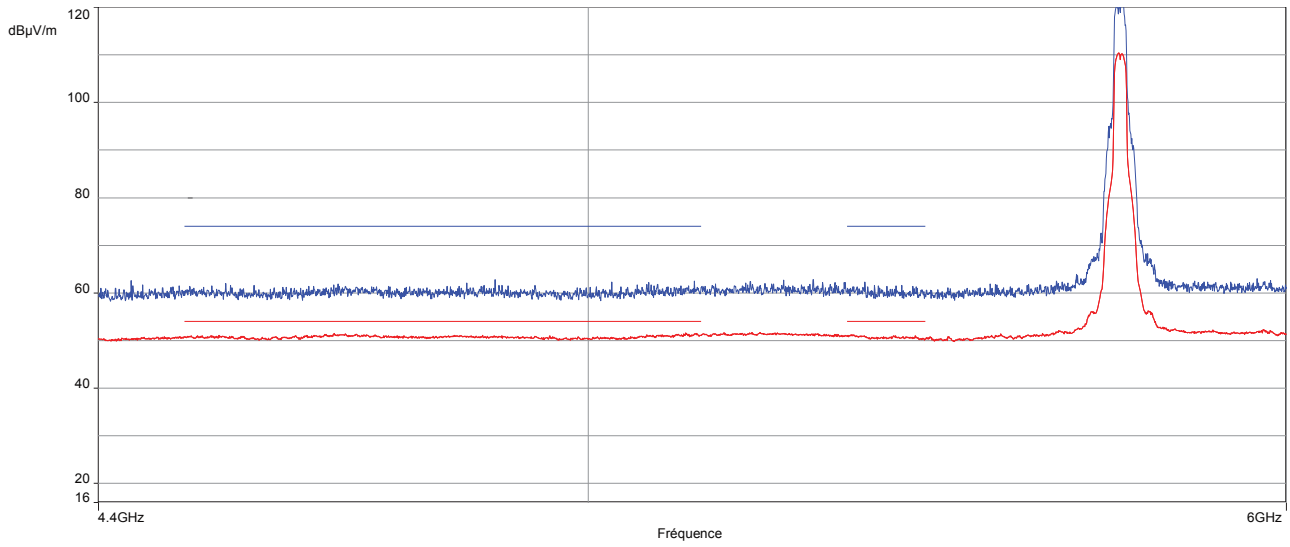


High channel

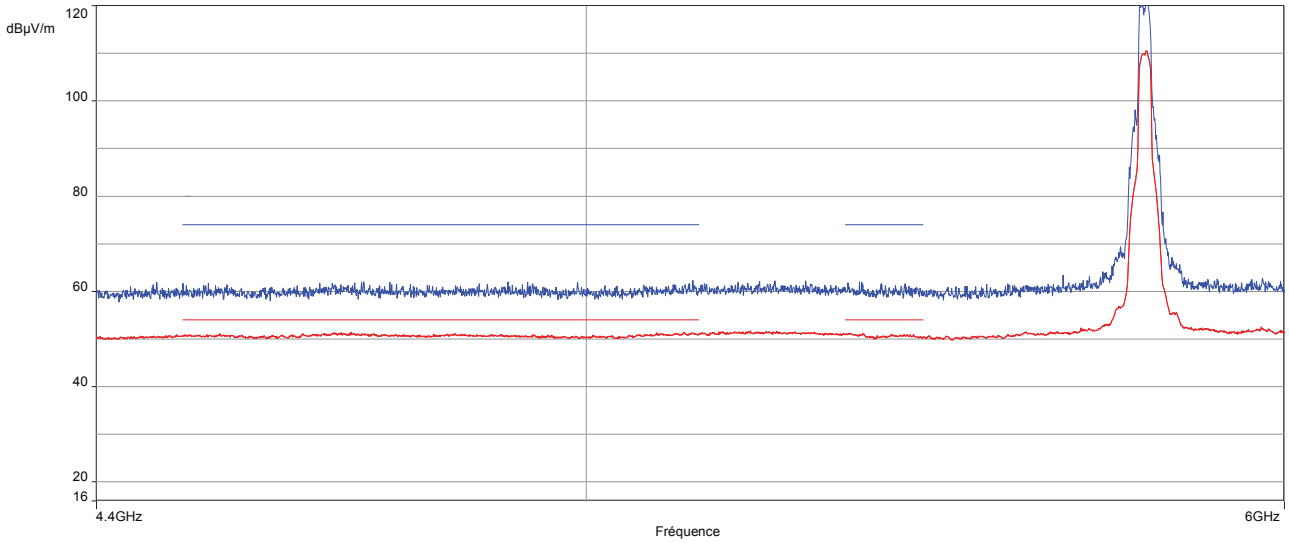


Band edge realized on worst critical chains configuration.

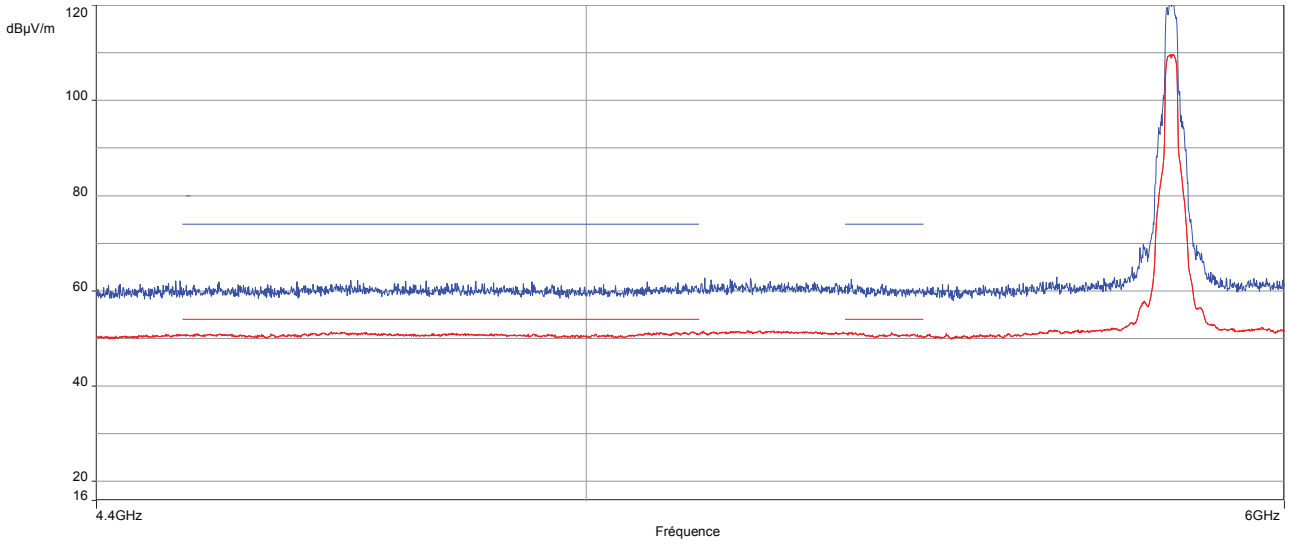
Low Channel



Central Channel



High channel



Applicable limits in the restricted band:

for 9 kHz ≤ F ≤ 490 kHz : 2400/F(kHz) at 300 meters
for 490 kHz < F ≤ 1.705 MHz : 24000/F(kHz) at 30 meters
for 1.705 MHz < F ≤ 30 MHz : 29.5 dBµV/m at 30 meters
for 30 MHz < F ≤ 88 MHz : 40 dBµV/m at 3 meters
for 88 MHz < F ≤ 216 MHz : 43.5 dBµV/m at 3 meters
for 216 MHz < F ≤ 960 MHz : 46 dBµV/m at 3 meters
Above 960 MHz : 54 dBµV/m at 3 meters

Applicable limits in non the restricted band:

UNII-1 and 2: -27dBm / MHz
UNII-3: -27dBm/MHz / MHz or see spectrum mask

Test conclusion:

RESPECTED STANDARD

11. MAXIMUM POWER SPECTRAL DENSITY

Temperature (°C) : 24.1-24.4 **Humidity (%HR):** 42 **Date :** April 23, 2018 and April 24, 2018

Technician : M. DUMESNIL

Standard: FCC Part 15

Test procedure: paragraph 15.407 (a)

Paragraph II.F of KDB 789033 and SA2 method of paragraph II.E.2.d of KDB 789033

Test set up:

The measure is realized in conducted mode with an analyser and the following settings are used.

Bandwidth selected	**10 MHz**		**20 MHz**	
U-NII band	**U-NII-1**	**U-NII-3**	**U-NII-1**	**U-NII-3**
Span	20 MHz		40 MHz	
RBW	1 MHz	500 kHz	1 MHz	500 kHz
VBW	3 MHz	3 MHz	3 MHz	3 MHz
detector	RMS		RMS	
Points	8001		8001	
Trace mode	Avg power		Avg power	
Number of traces	100		100	

Then the peak marker function is used.

Next duty cycle correction factor measurement is added. (Correction= 10 log (1/X) = 0.25 dB max)

This factor is already included on the results (tables only, graphs in appendix are without)

The measure is repeated on each output port of the EUT. Then the results were summed in linear power unit.

Equipment under test operating condition:

The equipment under test is blocked in continuous modulated transmission mode, at the highest output power level at which the transmitter is intended to operate (see §2).

We used for power source the internal fully charged battery

- According with KDB 662911 the antenna gain is calculated as follow:

Total gain = antenna gain (dBi) + array gain
With Array Gain = 10 log (NANT/NSS) dB = 3 and with NANT=2 and NSS=1

Total gain = 2.92 +3 = 5.92 dBi for U-NII-1 band
Total gain = 4.05 +3 = 7.05 dBi for U-NII-3 band (The limit is so reduced by 1.05 dBm in order to taken in account the amount in dB that the directional gain of the antenna exceeds 6 dBi for U-NII-3 band).

See appendix for plot

Results:

Band U-NII-1

Sample N° 1 Channel 36 (F = 5180 MHz) – Mode 802.11a – Bandwidth 10 MHz

Maximum conducted output power (dBm/MHz):				Total Maximum conducted power (dBm/MHz) (1)	Limit (dBm/MHz)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
7.32	6.96	6.87	7.53	10.26	11

(1) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 40 (F = 5200 MHz) – Mode 802.11a – Bandwidth 10 MHz

Maximum conducted output power (dBm/MHz):				Total Maximum conducted power (dBm/MHz) (1)	Limit (dBm/MHz)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
7.08	7.00	7.02	8.42	10.79	11

(1) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 48 (F = 5240 MHz) – Mode 802.11a – Bandwidth 10 MHz

Maximum conducted output power (dBm/MHz):				Total Maximum conducted power (dBm/MHz) (1)	Limit (dBm/MHz)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
6.90	7.01	7.12	7.20	10.17	11

(1) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Band U-NII-1

Sample N° 1 Channel 36 (F = 5180 MHz) – Mode 802.11an – Bandwidth 10 MHz

Maximum conducted output power (dBm/MHz):				Total Maximum conducted power (dBm/MHz) (1)	Limit (dBm/MHz)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
6.88	6.66	6.55	6.93	9.81	11

(1) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 40 (F = 5200 MHz) – Mode 802.11an – Bandwidth 10 MHz

Maximum conducted output power (dBm/MHz):				Total Maximum conducted power (dBm/MHz) (1)	Limit (dBm/MHz)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
6.77	6.63	6.61	6.88	9.77	11

(1) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 48 (F = 5240 MHz) – Mode 802.11an – Bandwidth 10 MHz

Maximum conducted output power (dBm/MHz):				Total Maximum conducted power (dBm/MHz) (1)	Limit (dBm/MHz)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
6.46	6.78	6.76	6.93	9.87	11

(1) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Band U-NII-1

Sample N° 1 Channel 36 (F = 5180 MHz) – Mode 802.11a – Bandwidth 20 MHz

Maximum conducted output power (dBm/MHz):				Total Maximum conducted power (dBm/MHz) (1)	Limit (dBm/MHz)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
7.44	7.02	6.99	7.53	10.29	11

(1) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 40 (F = 5200 MHz) – Mode 802.11a – Bandwidth 20 MHz

Maximum conducted output power (dBm/MHz):				Total Maximum conducted power (dBm/MHz) (1)	Limit (dBm/MHz)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
7.27	7.15	7.23	7.32	10.29	11

(1) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 48 (F = 5240 MHz) – Mode 802.11a – Bandwidth 20 MHz

Maximum conducted output power (dBm/MHz):				Total Maximum conducted power (dBm/MHz) (1)	Limit (dBm/MHz)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
7.08	7.19	7.20	7.08	10.15	11

(1) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Band U-NII-1

Sample N° 1 Channel 36 (F = 5180 MHz) – Mode 802.11an – Bandwidth 20 MHz

Maximum conducted output power (dBm/MHz):				Total Maximum conducted power (dBm/MHz) (1)	Limit (dBm/MHz)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
7.05	6.70	6.73	7.03	9.90	11

(1) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 40 (F = 5200 MHz) – Mode 802.11an – Bandwidth 20 MHz

Maximum conducted output power (dBm/MHz):				Total Maximum conducted power (dBm/MHz) (1)	Limit (dBm/MHz)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
6.92	6.83	6.74	6.92	9.89	11

(1) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 48 (F = 5240 MHz) – Mode 802.11an – Bandwidth 20 MHz

Maximum conducted output power (dBm/MHz):				Total Maximum conducted power (dBm/MHz) (1)	Limit (dBm/MHz)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
6.71	6.88	6.80	6.79	9.85	11

(1) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Band U-NII-3

Sample N° 1 Channel 149 (F = 5745 MHz) – Mode 802.11a – Bandwidth 10 MHz

Maximum conducted output power (dBm/500kHz):				Total Maximum conducted power (dBm/500kHz) (1)	Limit (dBm/500kHz)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
10.63	10.12	8.74	9.23	13.39	28.95

(1) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 157 (F = 5785 MHz) – Mode 802.11a – Bandwidth 10 MHz

Maximum conducted output power (dBm/500kHz):				Total Maximum conducted power (dBm/500kHz) (1)	Limit (dBm/500kHz)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
10.73	10.17	8.93	9.01	13.47	28.95

(1) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 165 (F = 5825 MHz) – Mode 802.11a – Bandwidth 10 MHz

Maximum conducted output power (dBm/500kHz):				Total Maximum conducted power (dBm/500kHz) (1)	Limit (dBm/500kHz)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
11.09	10.46	9.09	9.20	13.80	28.95

(1) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Band U-NII-3

Sample N° 1 Channel 149 (F = 5745 MHz) – Mode 802.11an – Bandwidth 10 MHz

Maximum conducted output power (dBm/500kHz):				Total Maximum conducted power (dBm/500kHz) (1)	Limit (dBm/500kHz)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
10.44	9.67	8.42	8.76	13.08	28.95

(1) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 157 (F = 5785 MHz) – Mode 802.11an – Bandwidth 10 MHz

Maximum conducted output power (dBm/500kHz):				Total Maximum conducted power (dBm/500kHz) (1)	Limit (dBm/500kHz)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
10.28	9.85	8.62	8.61	13.08	28.95

(1) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 165 (F = 5825 MHz) – Mode 802.11an – Bandwidth 10 MHz

Maximum conducted output power (dBm/500kHz):				Total Maximum conducted power (dBm/500kHz) (1)	Limit (dBm/500kHz)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
10.75	10.16	8.92	8.96	13.48	28.95

(1) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Band U-NII-3

Sample N° 1 Channel 149 (F = 5745 MHz) – Mode 802.11a – Bandwidth 20 MHz

Maximum conducted output power (dBm/500kHz):				Total Maximum conducted power (dBm/500kHz) (1)	Limit (dBm/500kHz)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
7.70	7.02	5.77	6.11	10.38	28.95

(1) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 157 (F = 5785 MHz) – Mode 802.11a – Bandwidth 20 MHz

Maximum conducted output power (dBm/500kHz):				Total Maximum conducted power (dBm/500kHz) (1)	Limit (dBm/500kHz)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
7.68	7.13	5.94	5.95	10.42	28.95

(1) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 165 (F = 5825 MHz) – Mode 802.11a – Bandwidth 20 MHz

Maximum conducted output power (dBm/500kHz):				Total Maximum conducted power (dBm/500kHz) (1)	Limit (dBm/500kHz)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
7.90	7.40	6.06	6.25	10.67	28.95

(1) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Band U-NII-3

Sample N° 1 Channel 149 (F = 5745 MHz) – Mode 802.11an – Bandwidth 20 MHz

Maximum conducted output power (dBm/500kHz):				Total Maximum conducted power (dBm/500kHz) (1)	Limit (dBm/500kHz)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
7.38	6.72	5.52	5.83	10.07	28.95

(1) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 157 (F = 5785 MHz) – Mode 802.11an – Bandwidth 20 MHz

Maximum conducted output power (dBm/500kHz):				Total Maximum conducted power (dBm/500kHz) (1)	Limit (dBm/500kHz)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
7.35	6.88	5.65	5.69	10.13	28.95

(1) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Sample N° 1 Channel 165 (F = 5825 MHz) – Mode 802.11an – Bandwidth 20 MHz

Maximum conducted output power (dBm/500kHz):				Total Maximum conducted power (dBm/500kHz) (1)	Limit (dBm/500kHz)
Chain Front Left	Chain Front Right	Chain Back Left	Chain Back Right		
7.66	7.26	5.95	5.97	10.47	28.95

(1) Max between: Front Left + Front Right
Back Left + Back Right
Front Left + Back Left
Front Right + Back Right

Test conclusion:

RESPECTED STANDARD

□□□ End of report, 5 appendixes to be forwarded □□□

APPENDIX 1: Test equipment list

Power limits

TYPE	MANUFACTURER	EMITECH NUMBER
Switch 0SP120	Rohde et Schwarz	10812
Attenuator 20dB	Midwest Microwave	8549
Power meter NRVS	Rohde & Schwarz	8702
Sensor NRV-Z52	Rohde & Schwarz	8742
Meteo station WS-9232	La Crosse Technology	8750
Software EMC 32	Rohde et Schwarz	10811

Intentional radiator

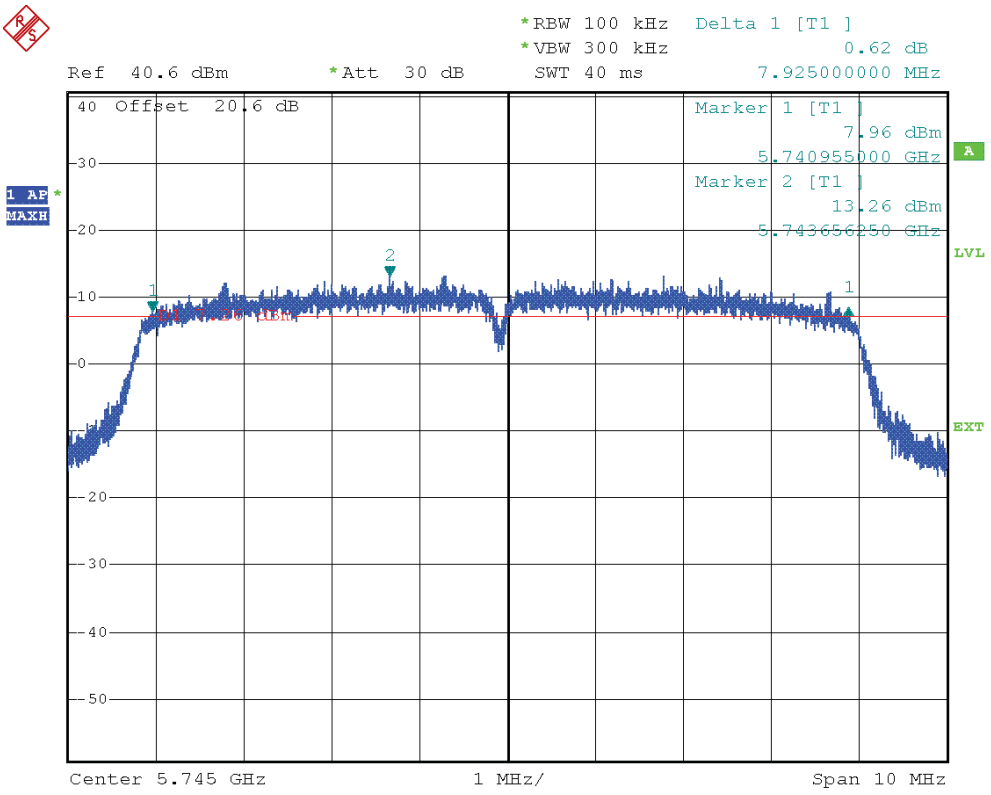
TYPE	MANUFACTURER	EMITECH NUMBER
Open test site	EMITECH	8732
Turntable and mat controller	EMITECH	8855
Full anechoic chamber	EMITECH	10759
Turntable and mat controller NCD	MATURO	10789
Satellite synchronized frequency standard GPS8	ACQUISYS	8896
Test receiver ESI7	Rohde & Schwarz	8707
Spectrum Analyzer FSP7	Rohde & Schwarz	6796
Spectrum Analyzer FSP40	Rohde & Schwarz	4088
Biconical antenna VHA 9103	Schwarzbeck	8528
Biconical antenna 3110	Emco	7240
Log periodic antenna 3147	Emco	8783
Log periodic antenna HL223	Rohde & Schwarz	7190
Antenna 3117	ETS-Lindgren	10771
Antenna SAS-572	AH Systems	7124
Antenna WR28	ATM	4352
Low-noise amplifier ZFL-1000LN	Mini-circuit	10730
Low-noise amplifier S005180M3201	LUCIX Corp.	12590
Low-noise amplifier S180265L3201 LNA	LUCIX Corp.	8704
Low-noise amplifier ALS2640-30-10	ALC	4354
Low Pass Filter LPM 15601	Microtronics	6606
High Pass Filter LPM 15600	Microtronics	6607
Attenuator 20dB 8491A	Hewlett Packard	2507
Attenuator 20dB	Midwest Microwave	8549
Cable k-20cm	STORM MICROWAE	8974
Cable N-1.5m	-	9398
Cable K-2m	SUCOFLEX	12917
Cable N-1m	SUCOFLEX	14302
Cable N-2m	SUCOFLEX	14303
Cable N-2.5m	SUCOFLEX	14304
Cable N-4m	SUCOFLEX	14305
Meteo station 608-H1	Testo	7566
Software	BAT-EMC V3.16.0.64	0000

Maximum power spectral density

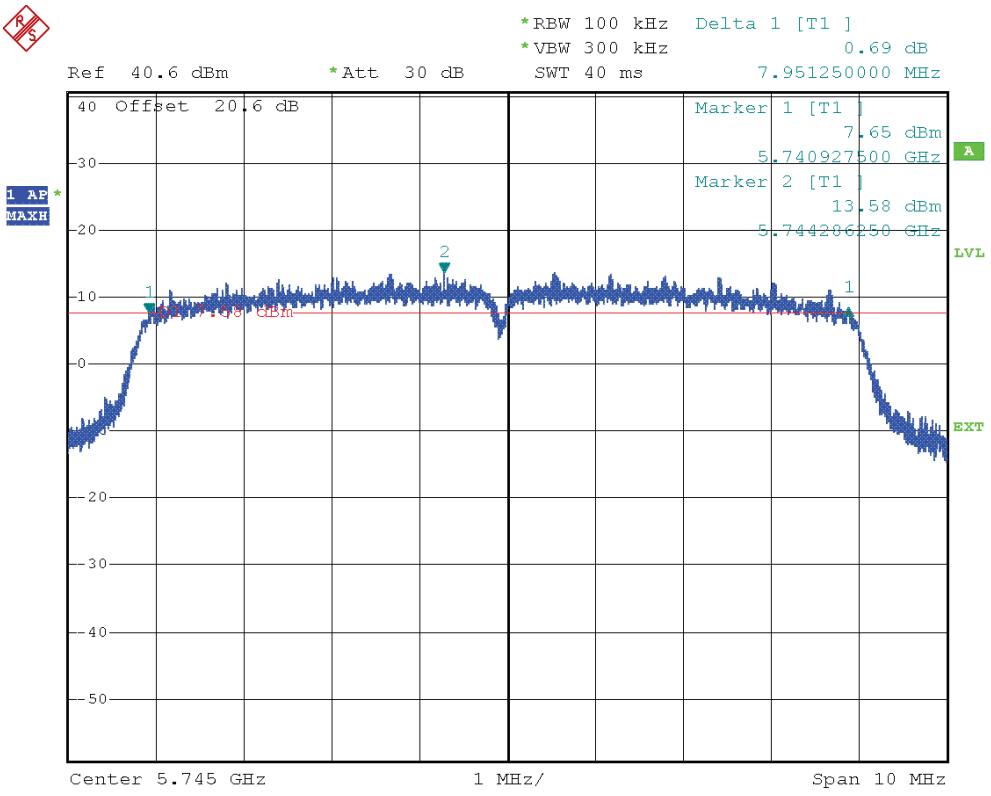
TYPE	MANUFACTURER	EMITECH NUMBER
Spectrum Analyzer FSL18	Rohde & Schwarz	14539
Spectrum Analyzer ESU8	Rohde & Schwarz	9403
Attenuator 20dB	Midwest Microwave	8549
Meteo station WS-9232	La Crosse Technology	8750
Software Commander V1.6.4	Rohde et Schwarz	10811

APPENDIX 2: 6 dB bandwidth

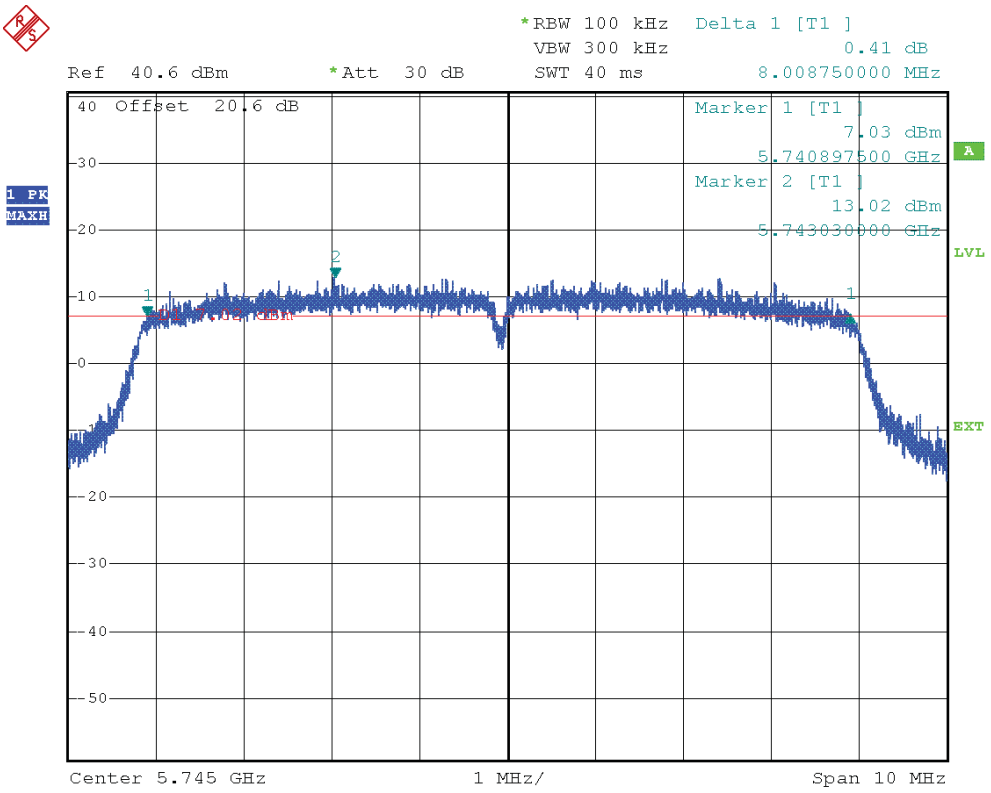
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11a – bandwidth 10 MHz – Front Left



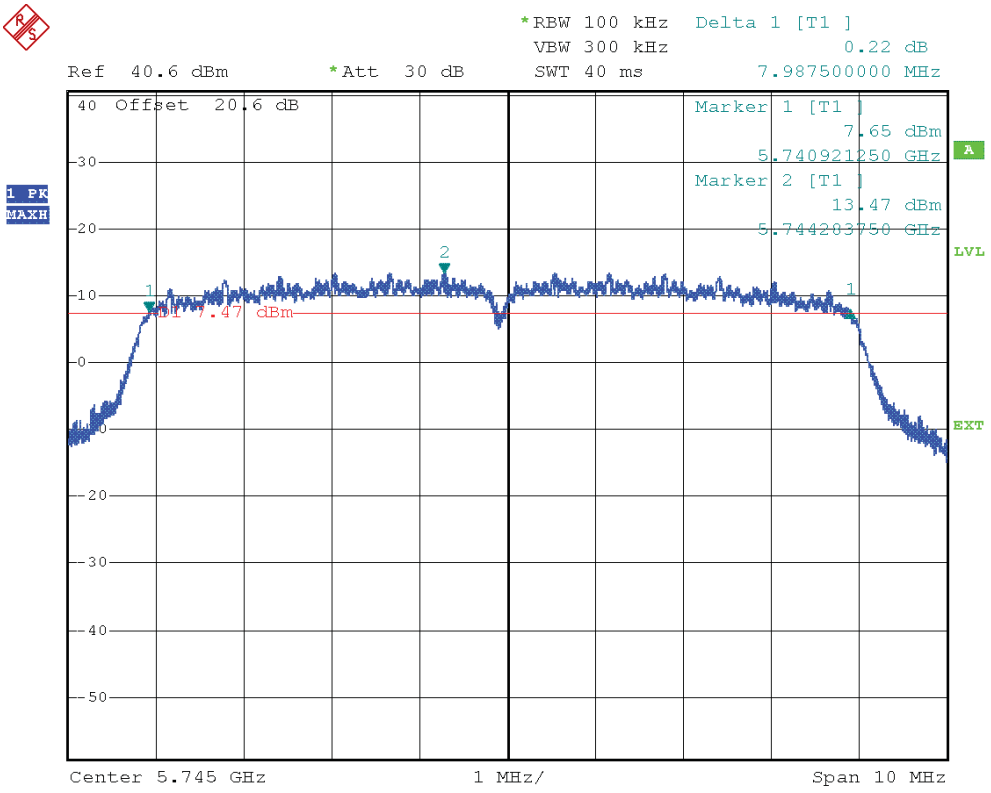
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11a – bandwidth 10 MHz – Front Right



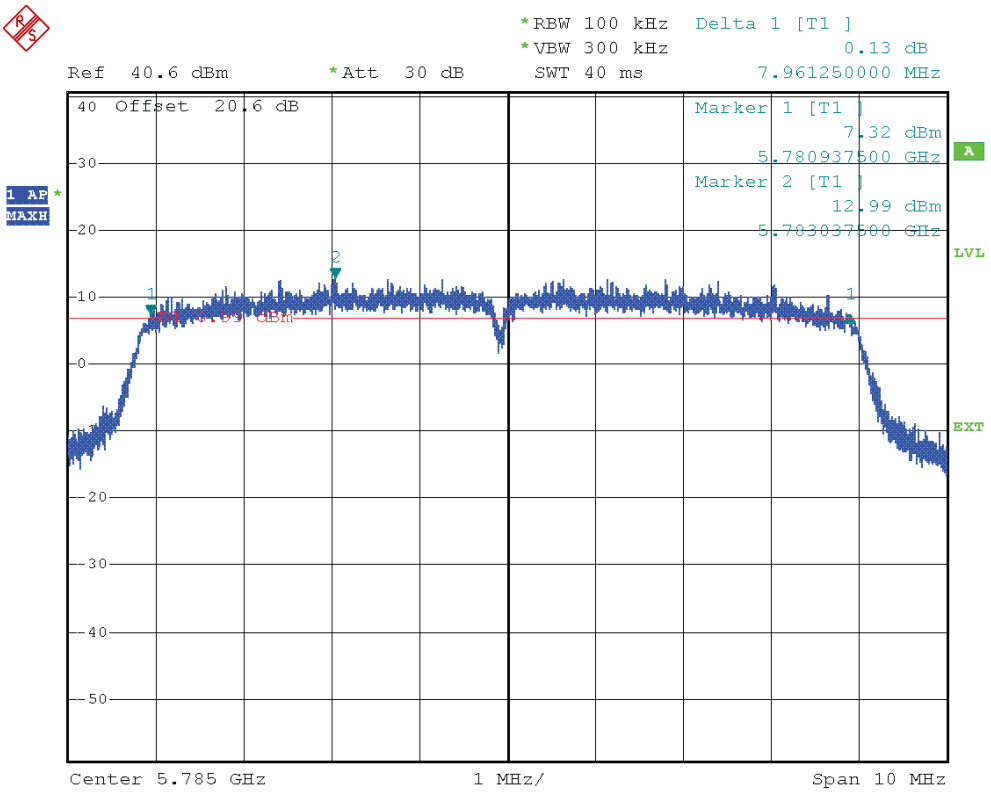
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11a – bandwidth 10 MHz – Back Left



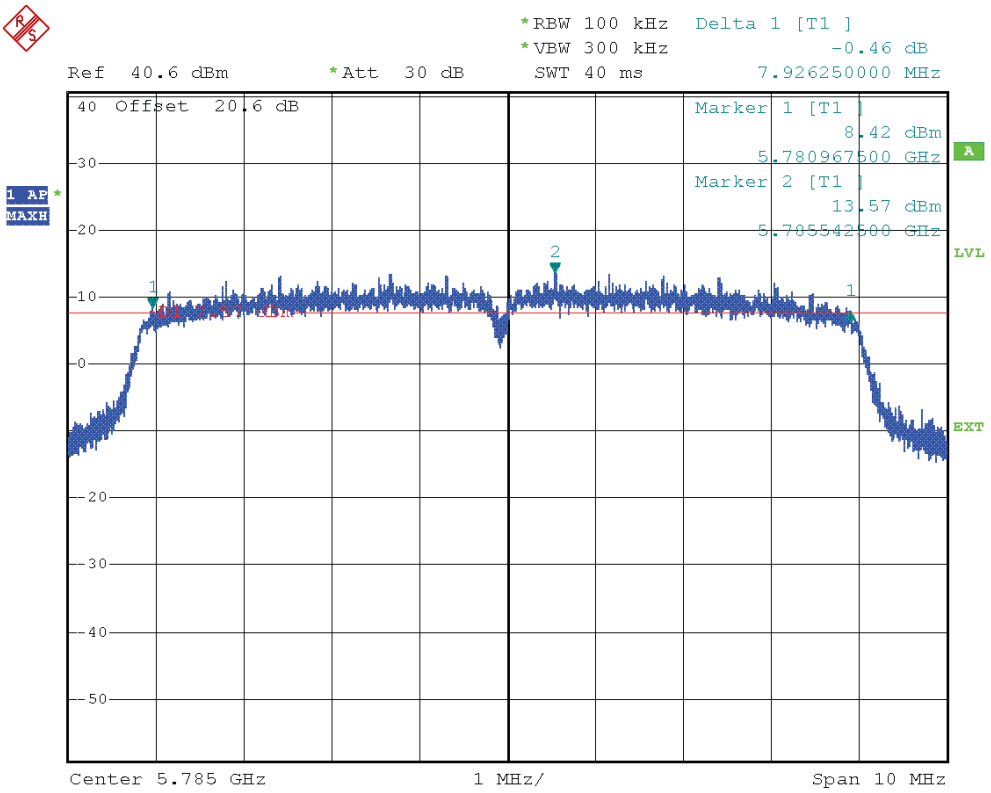
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11a – bandwidth 10 MHz – Back Right



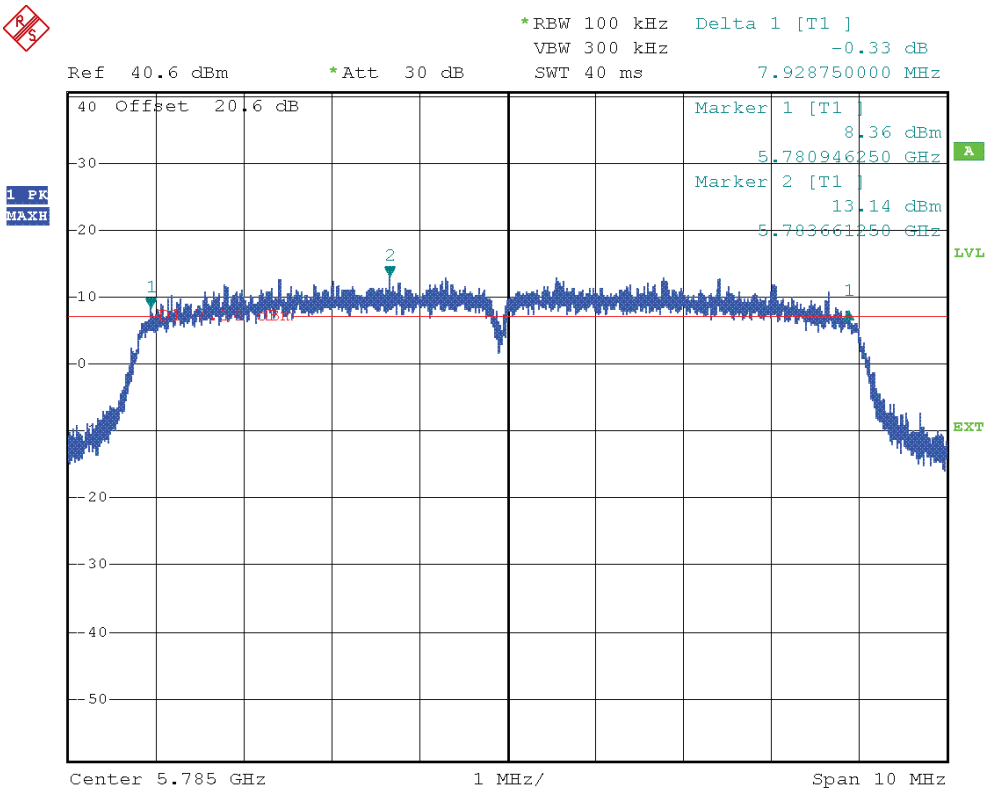
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11a – bandwidth 10 MHz – Front Left



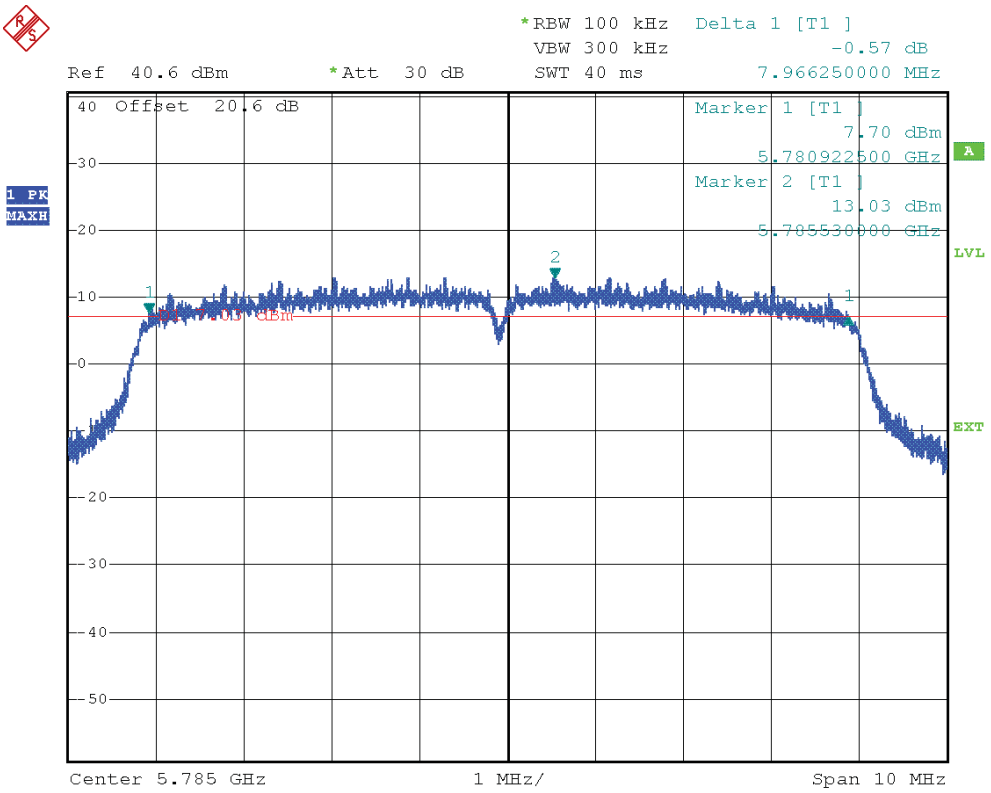
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11a – bandwidth 10 MHz – Front Right



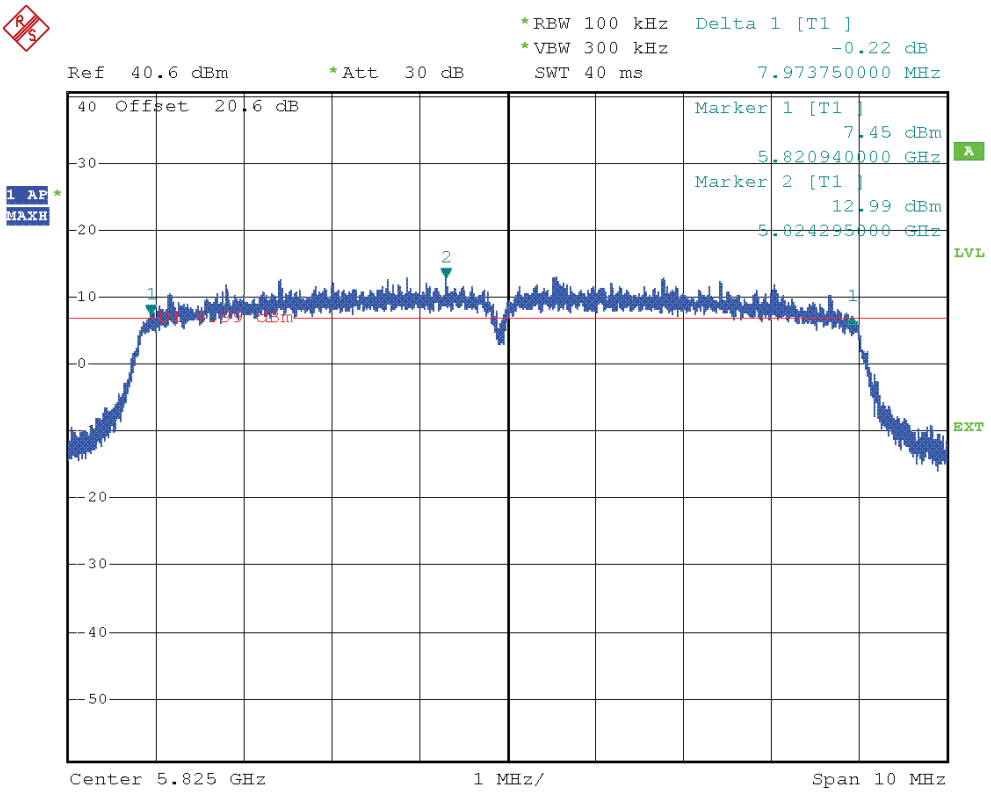
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11a – bandwidth 10 MHz – Back Left



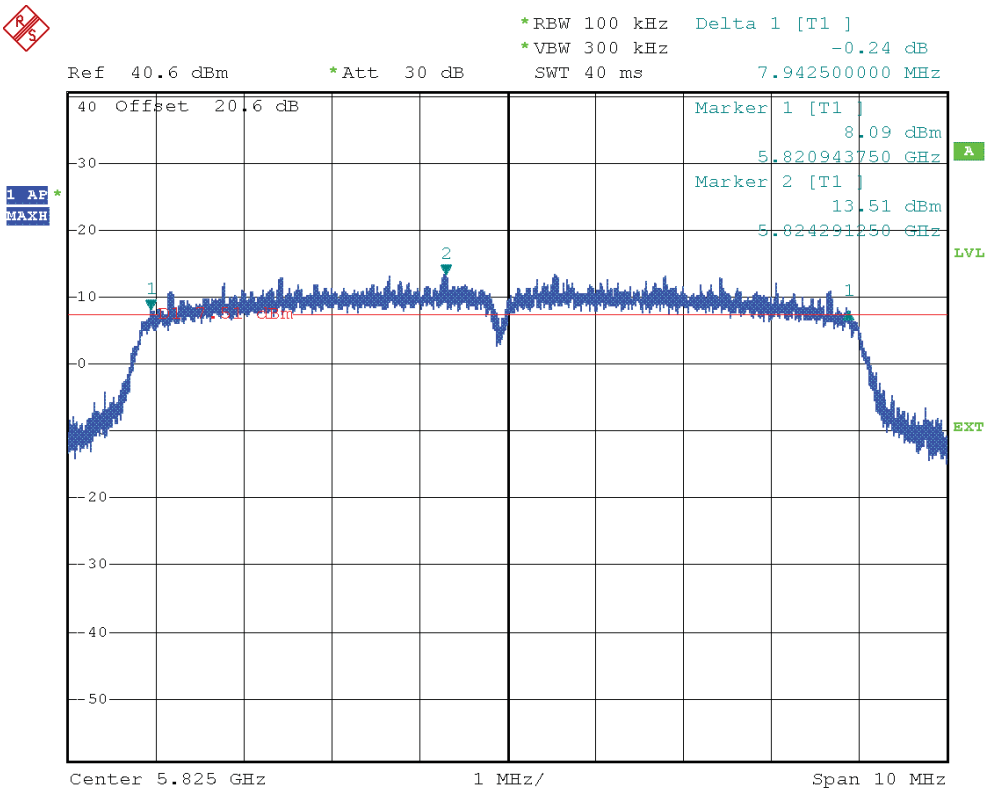
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11a – bandwidth 10 MHz – Back Right



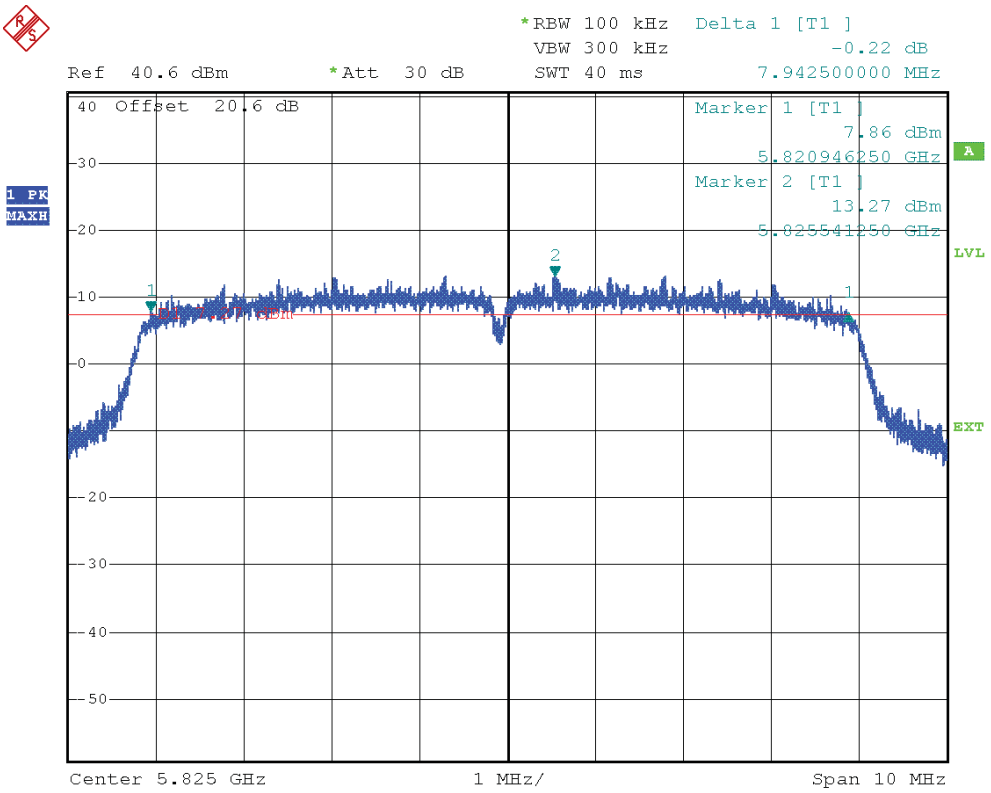
U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11a – bandwidth 10 MHz – Front Left



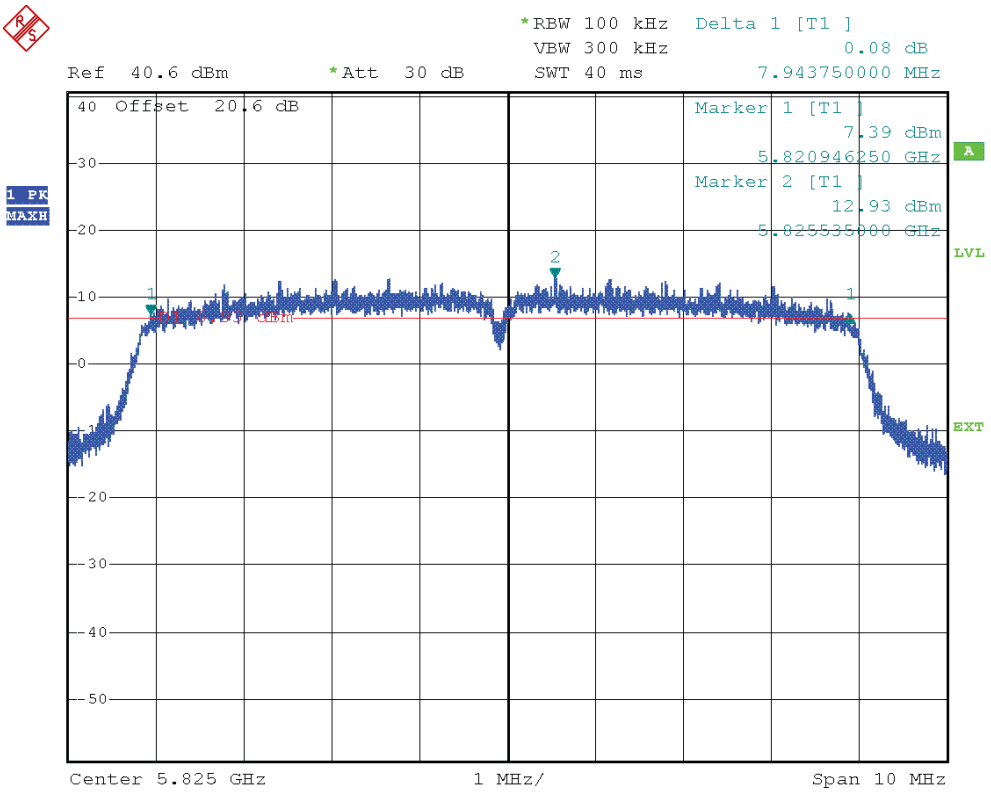
U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11a – bandwidth 10 MHz – Front Right



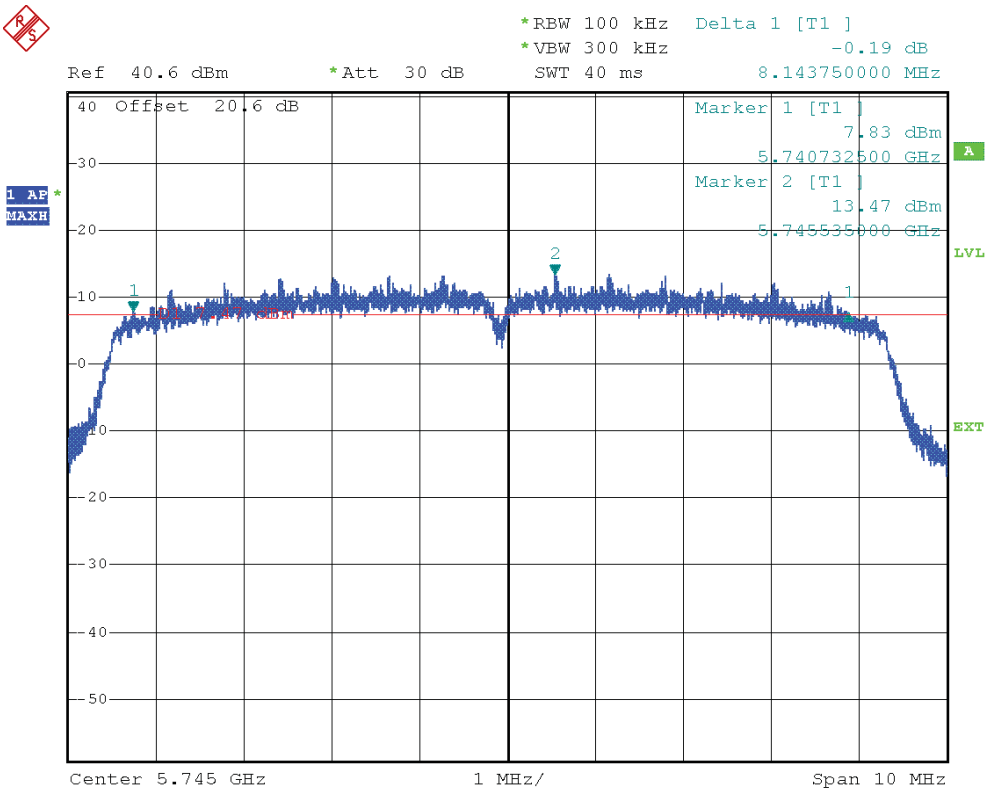
U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11a – bandwidth 10 MHz – Back Left



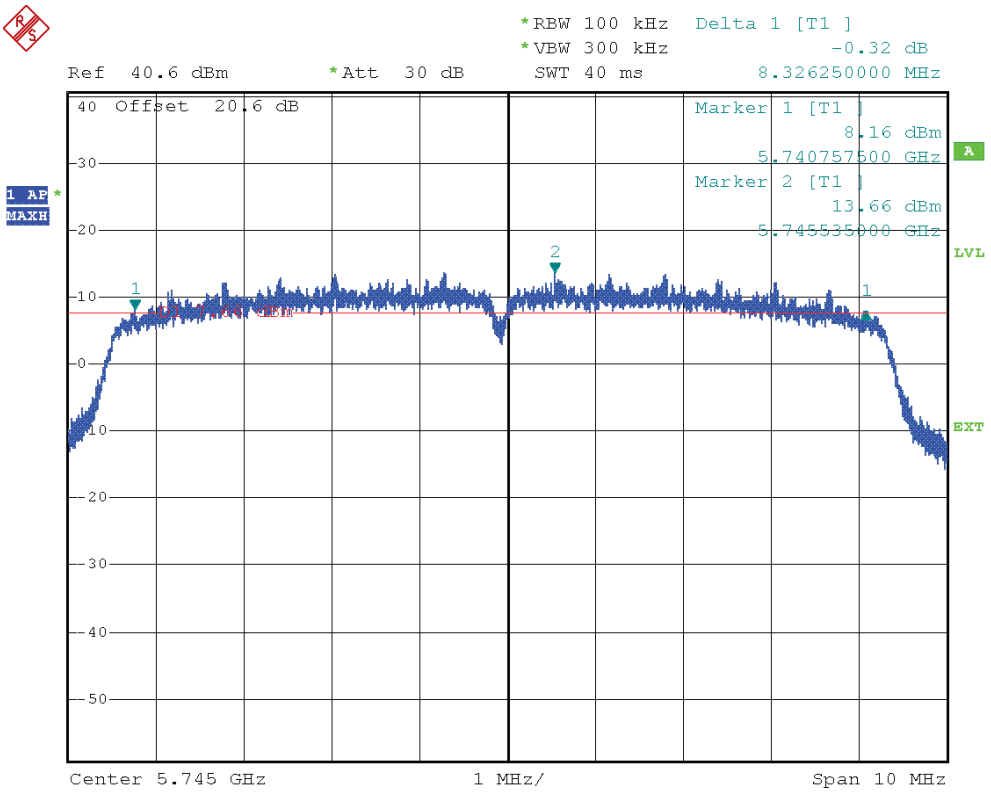
U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11a – bandwidth 10 MHz – Back Right



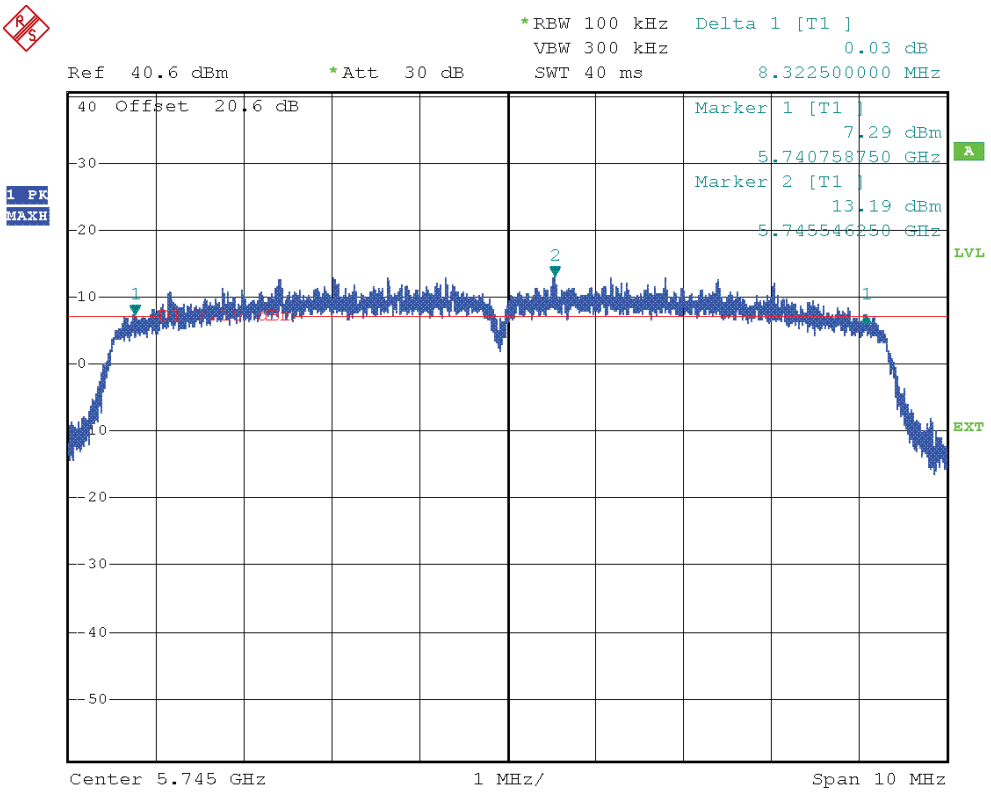
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11an – bandwidth 10 MHz – Front Left



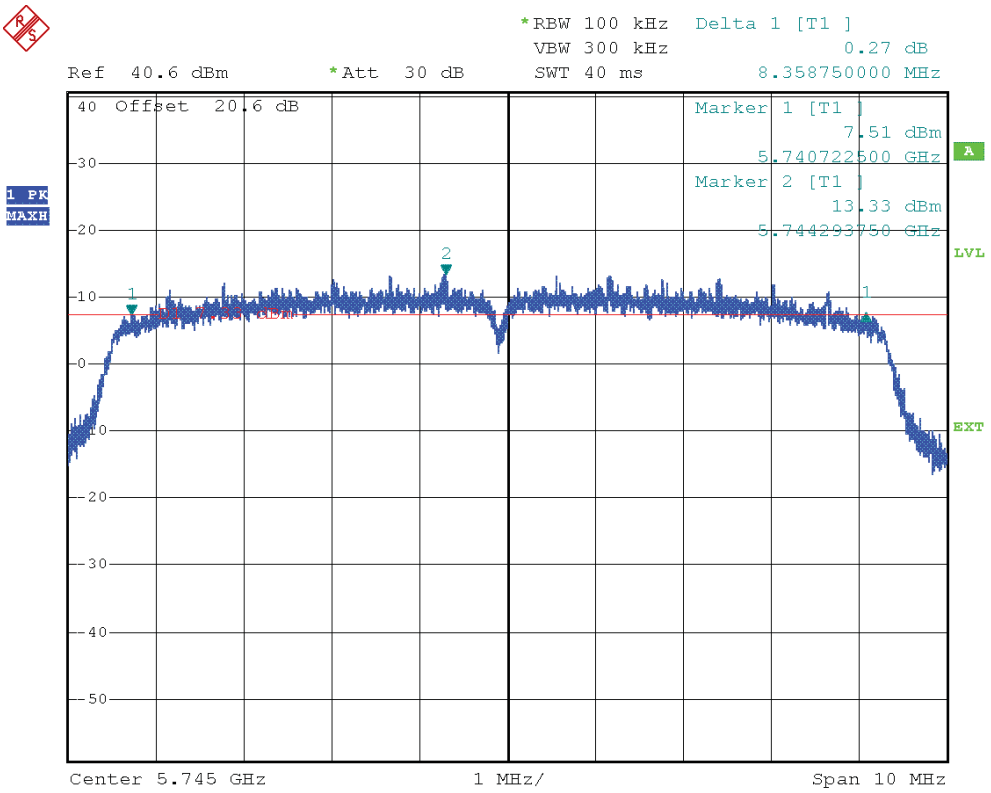
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11an – bandwidth 10 MHz – Front Right



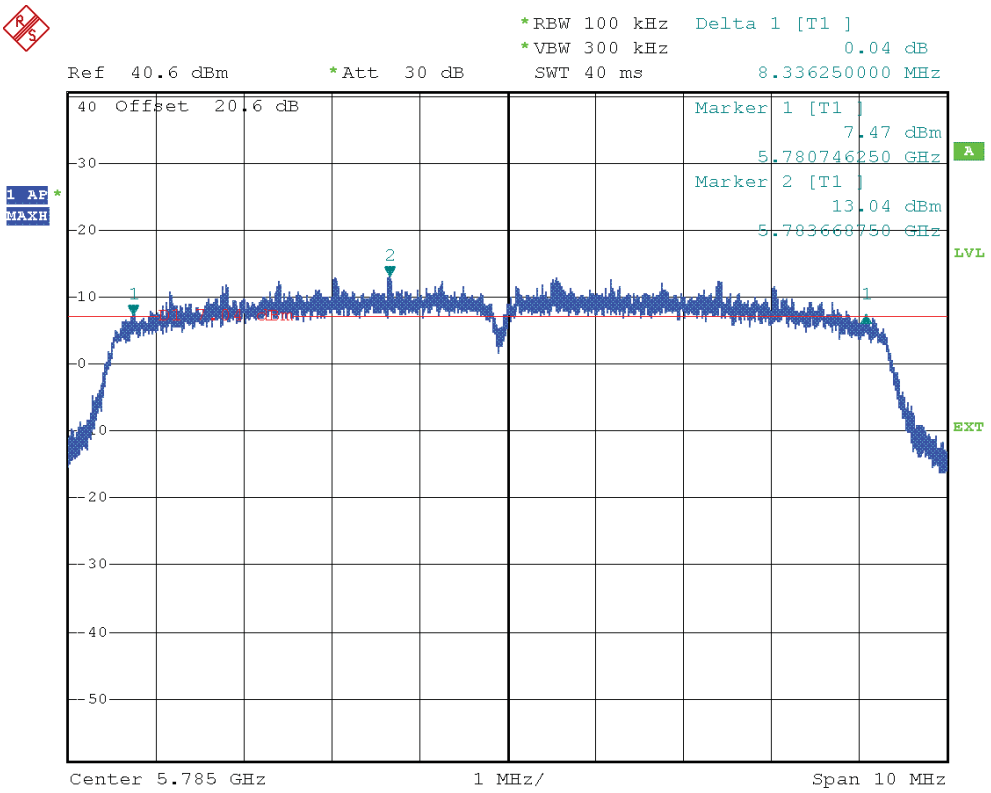
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11an – bandwidth 10 MHz – Back Left



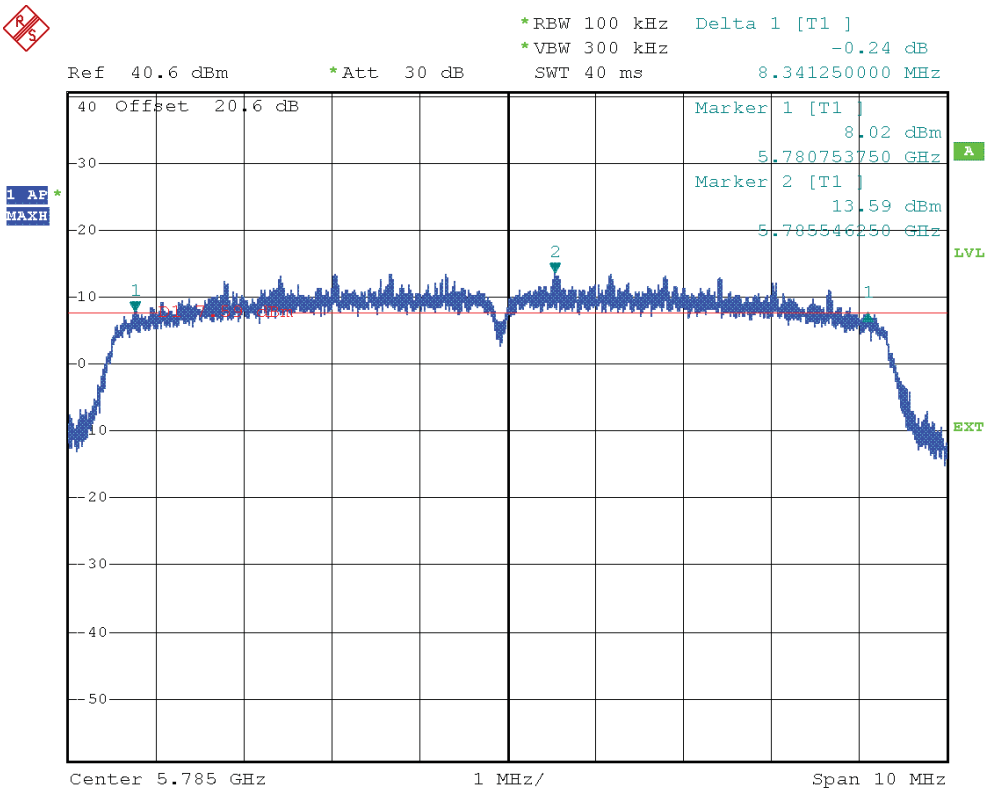
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11an – bandwidth 10 MHz – Back Right



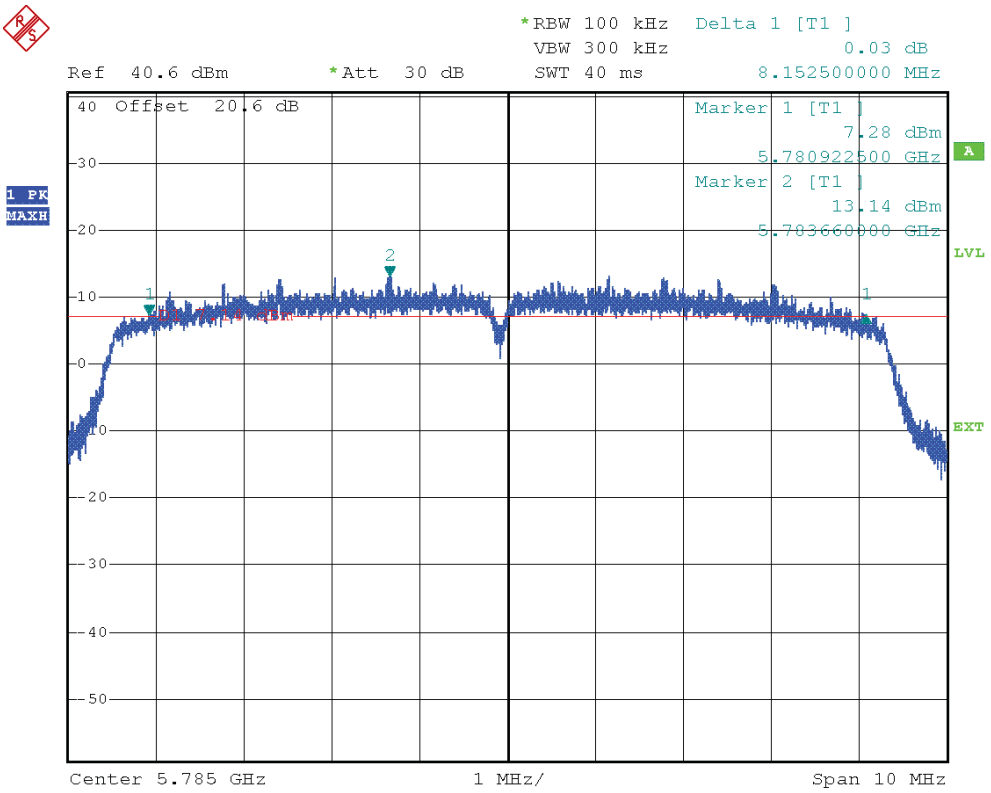
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11an – bandwidth 10 MHz – Front Left



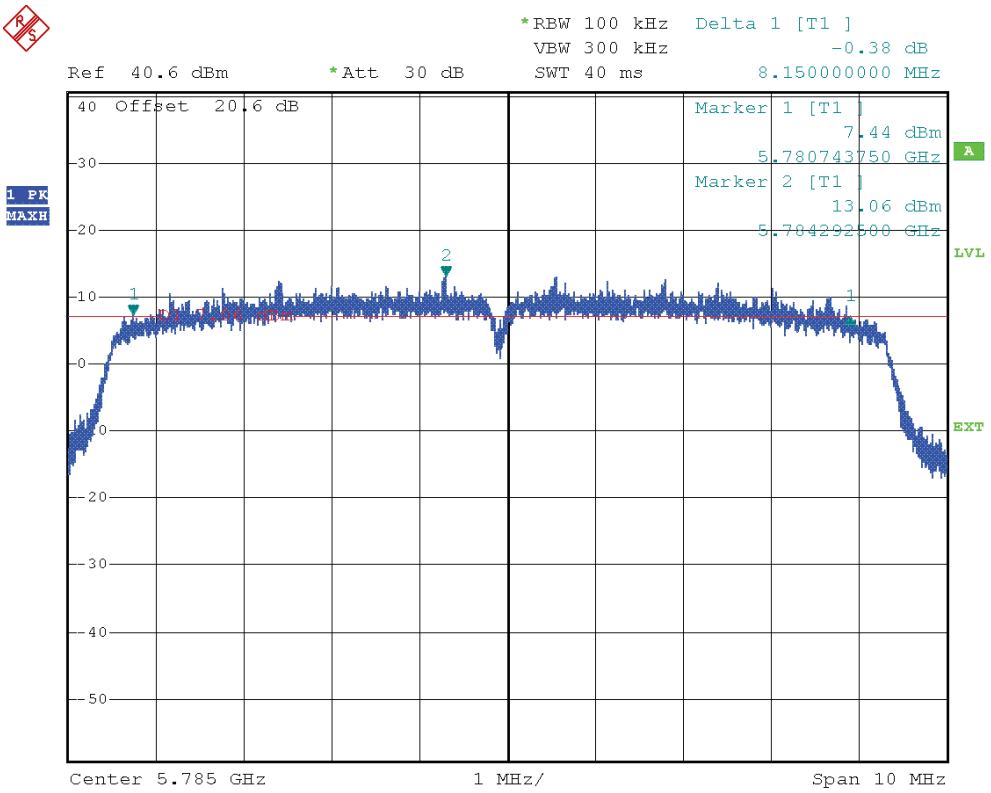
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11an – bandwidth 10 MHz – Front Right



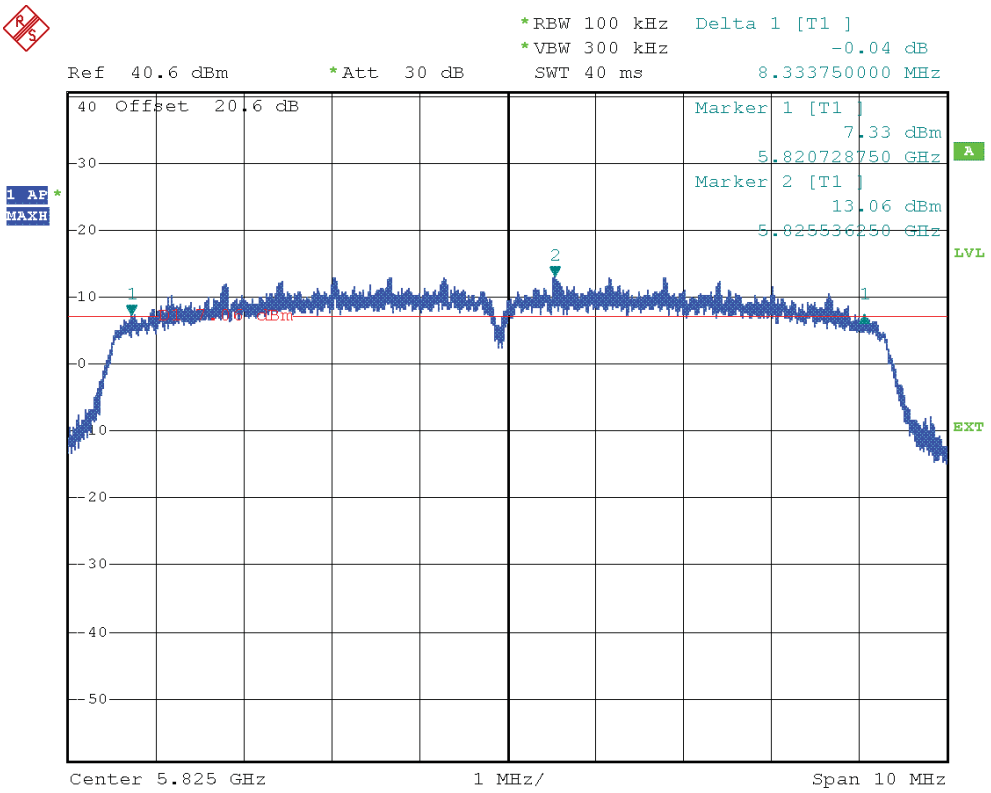
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11an – bandwidth 10 MHz – Back Left



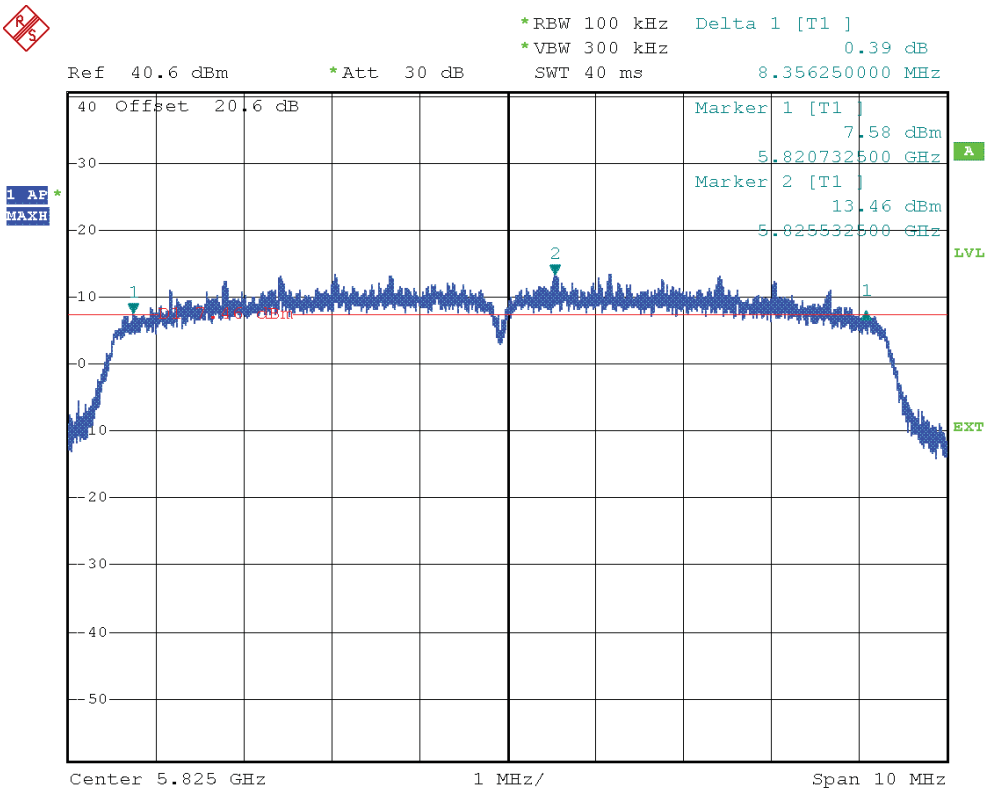
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11an – bandwidth 10 MHz – Back Right



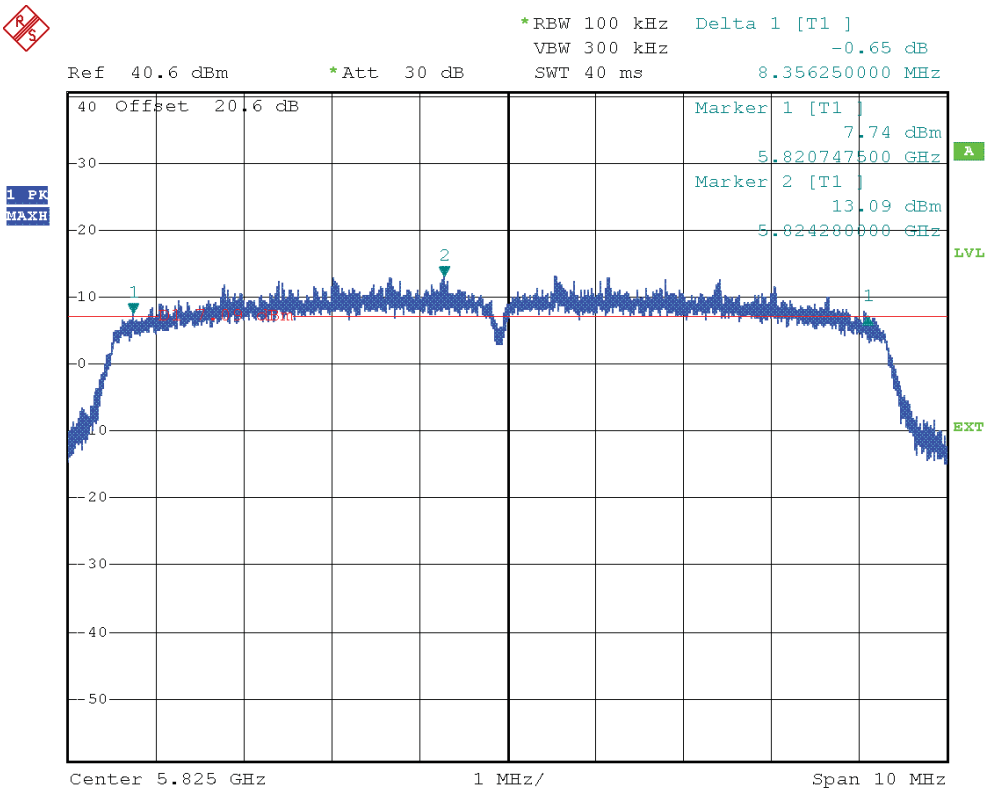
U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11an – bandwidth 10 MHz – Front Left



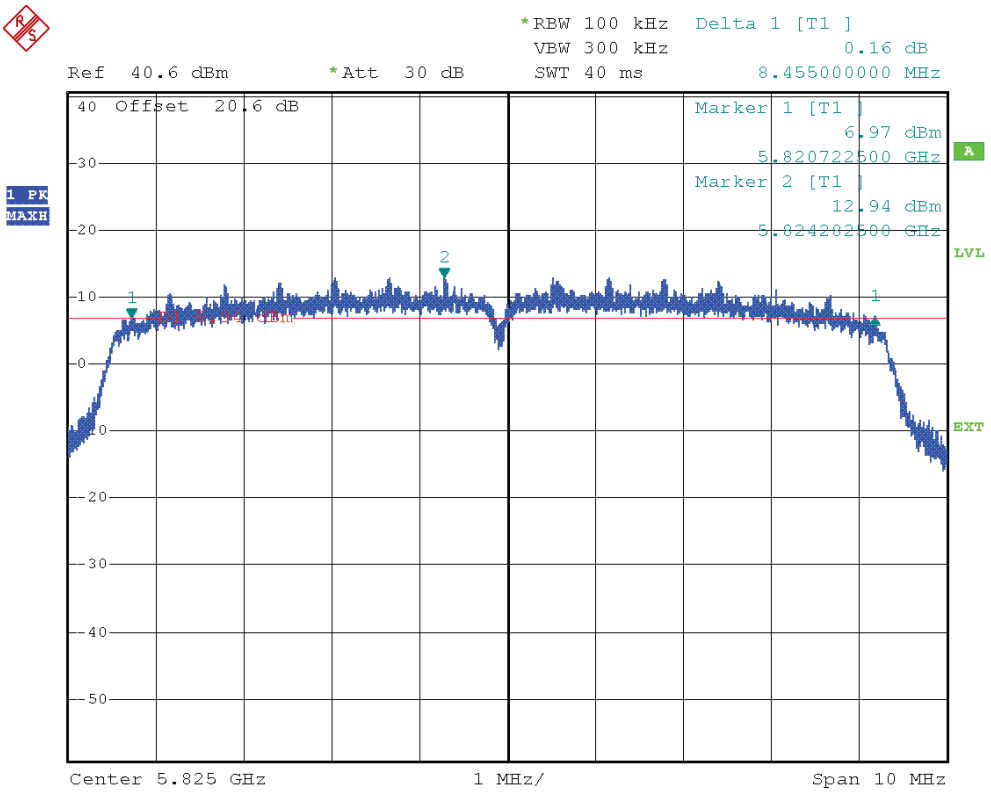
U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11an – bandwidth 10 MHz – Front Right



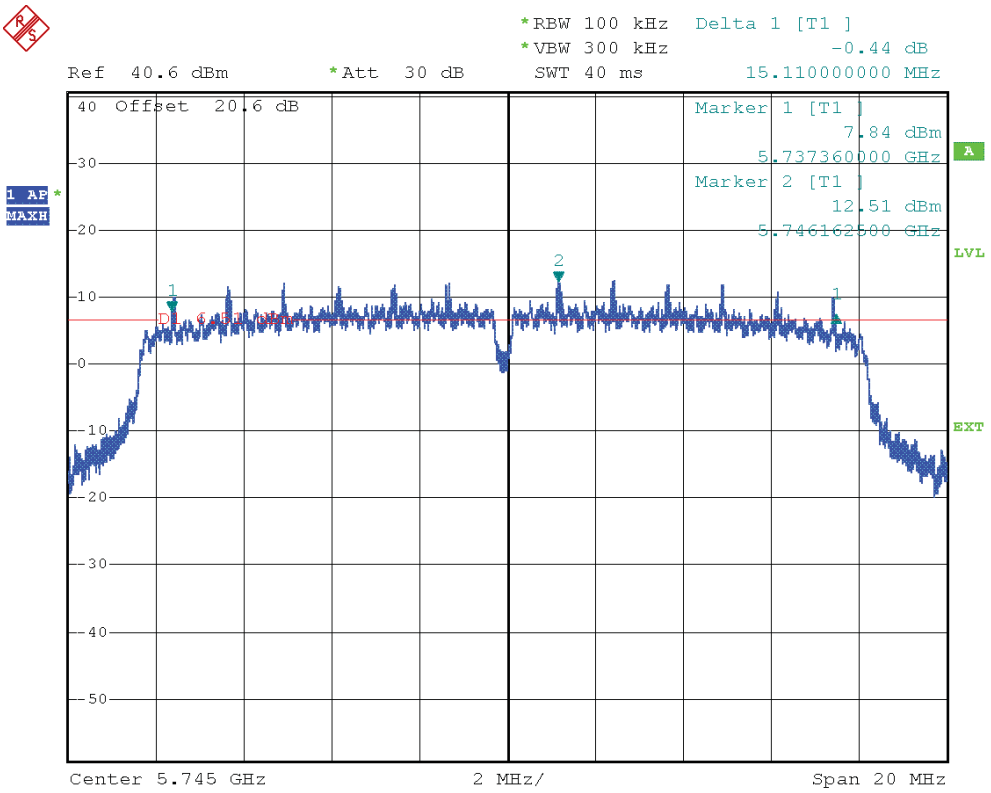
U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11an – bandwidth 10 MHz – Back Left



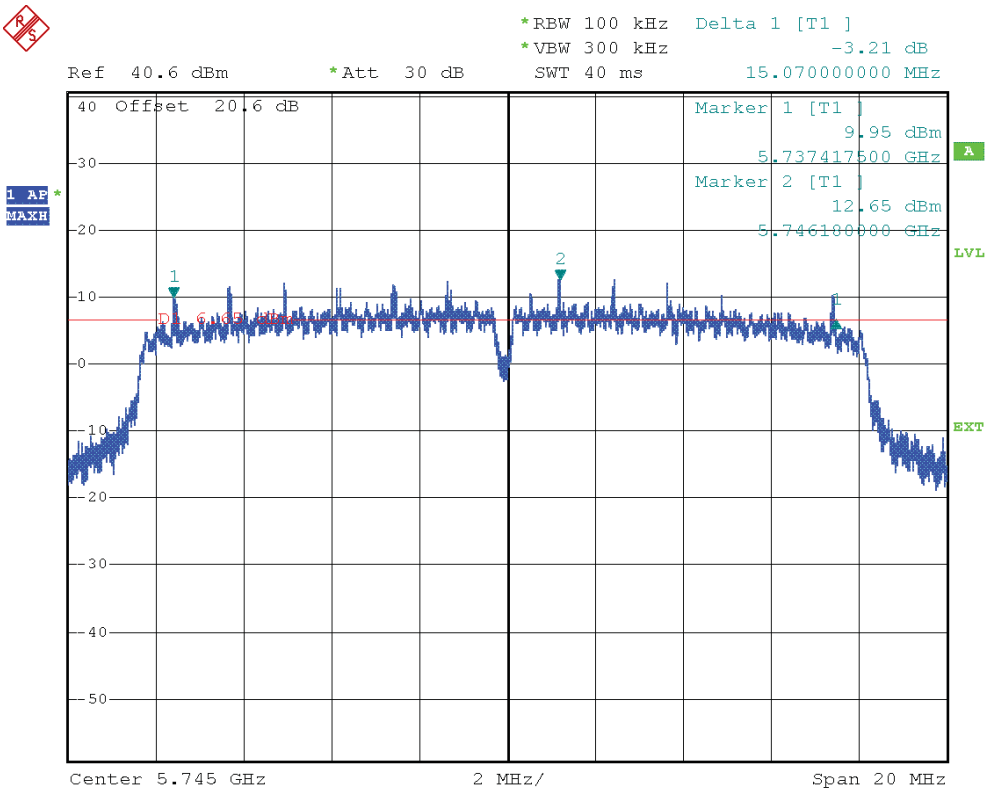
U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11an – bandwidth 10 MHz – Back Right



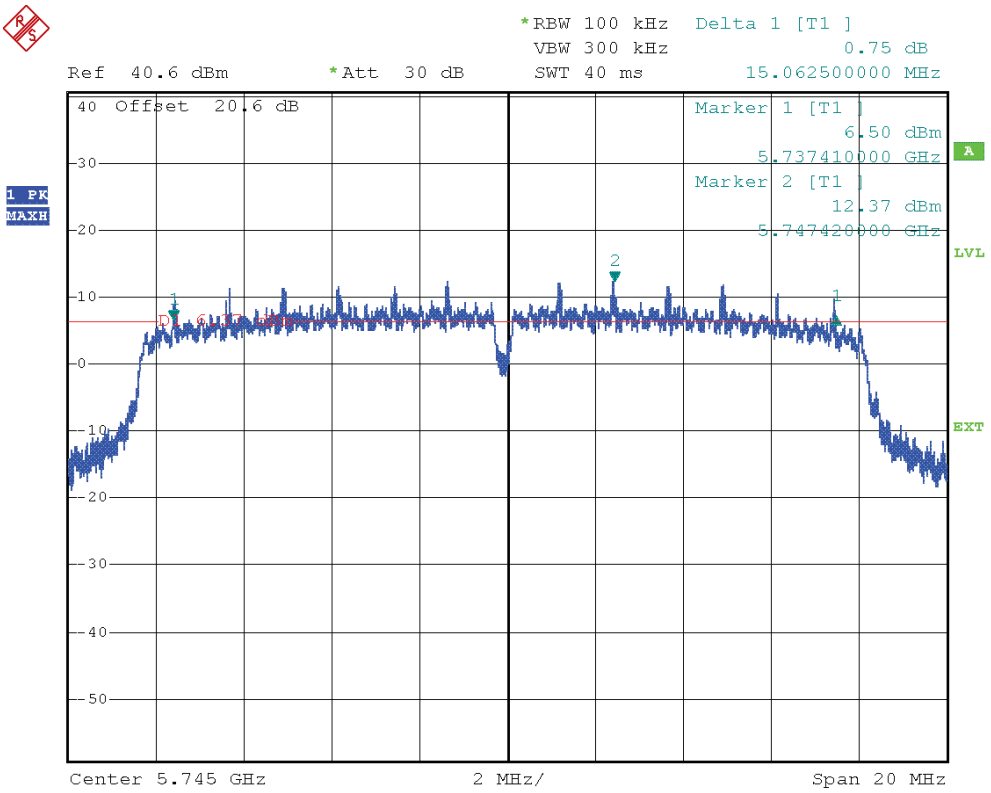
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11a – bandwidth 20 MHz – Front Left



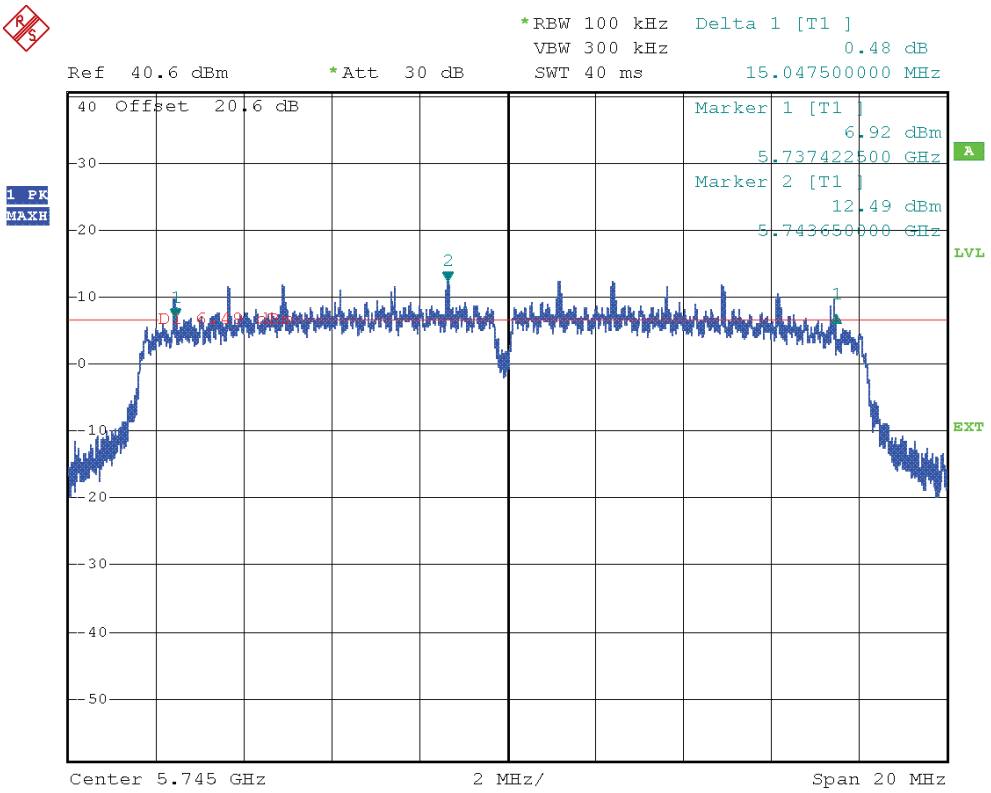
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11a – bandwidth 20 MHz – Front Right



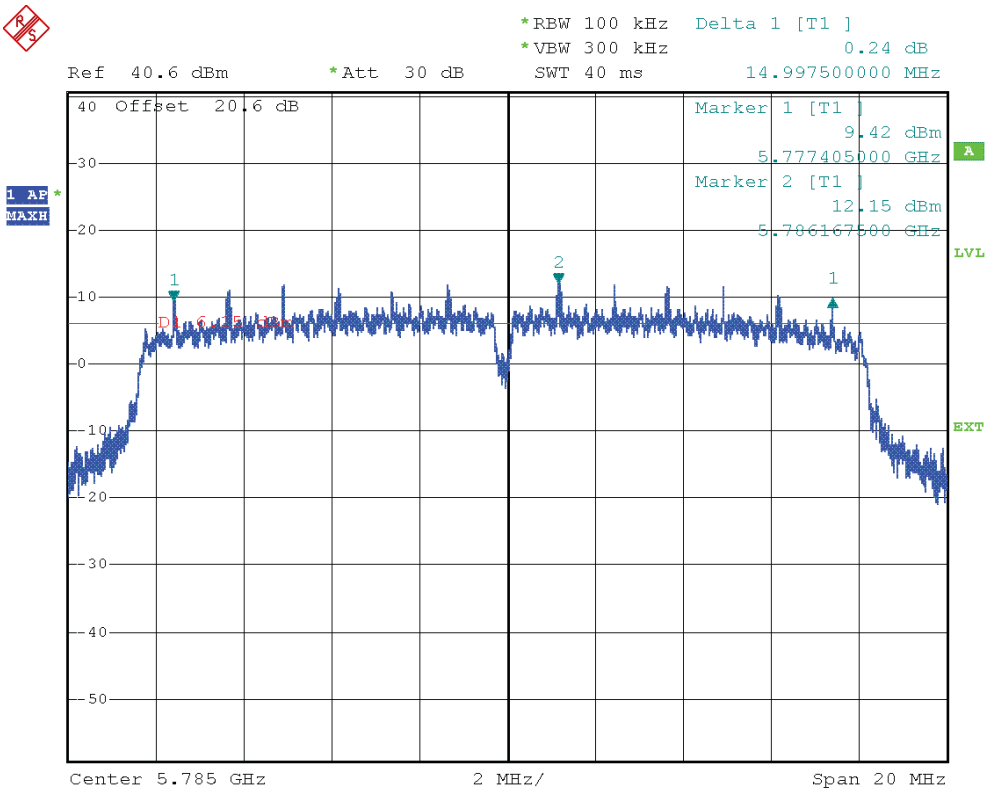
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11a – bandwidth 20 MHz – Back Left



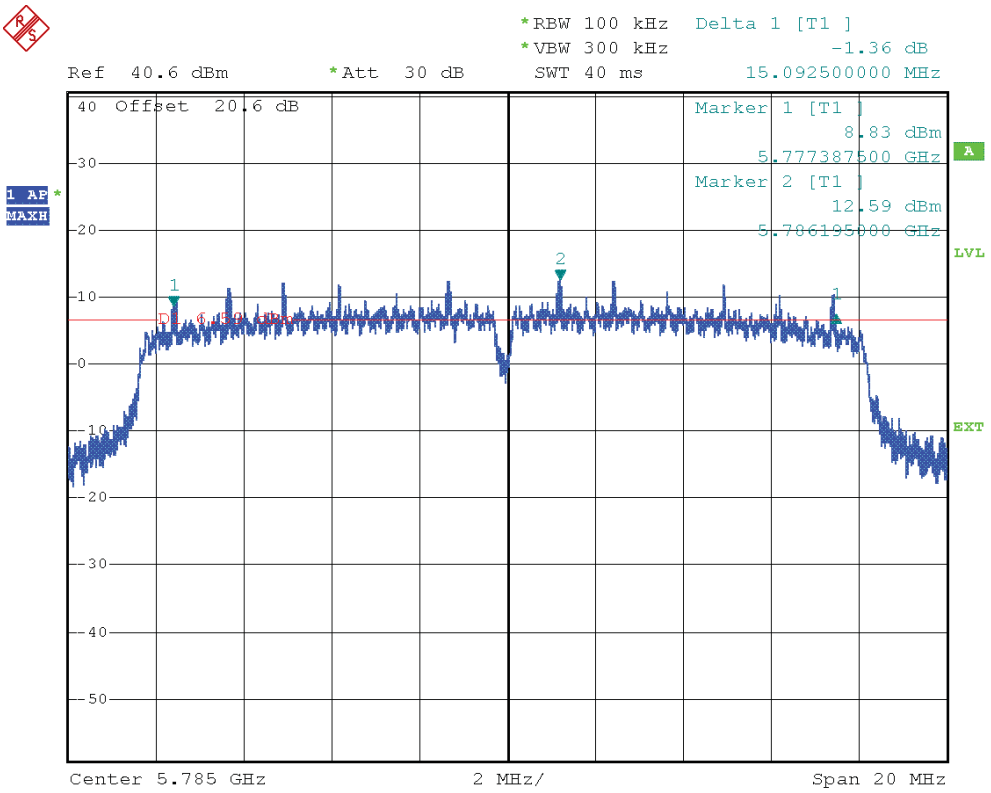
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11a – bandwidth 20 MHz – Back Right



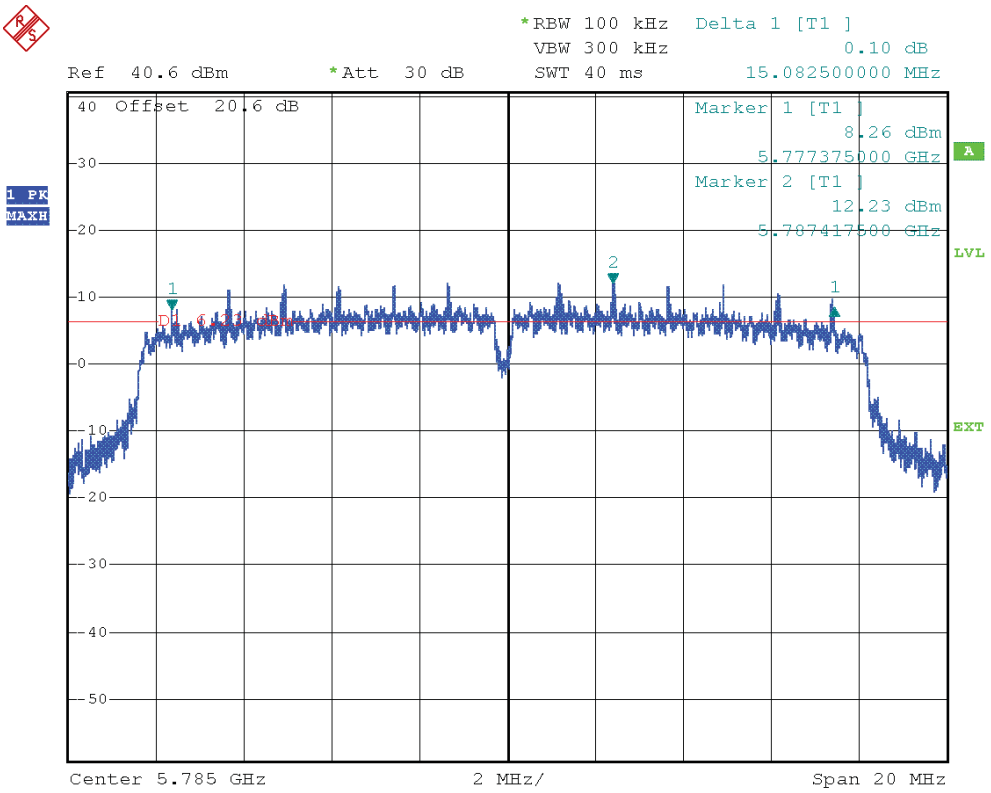
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11a – bandwidth 20 MHz – Front Left



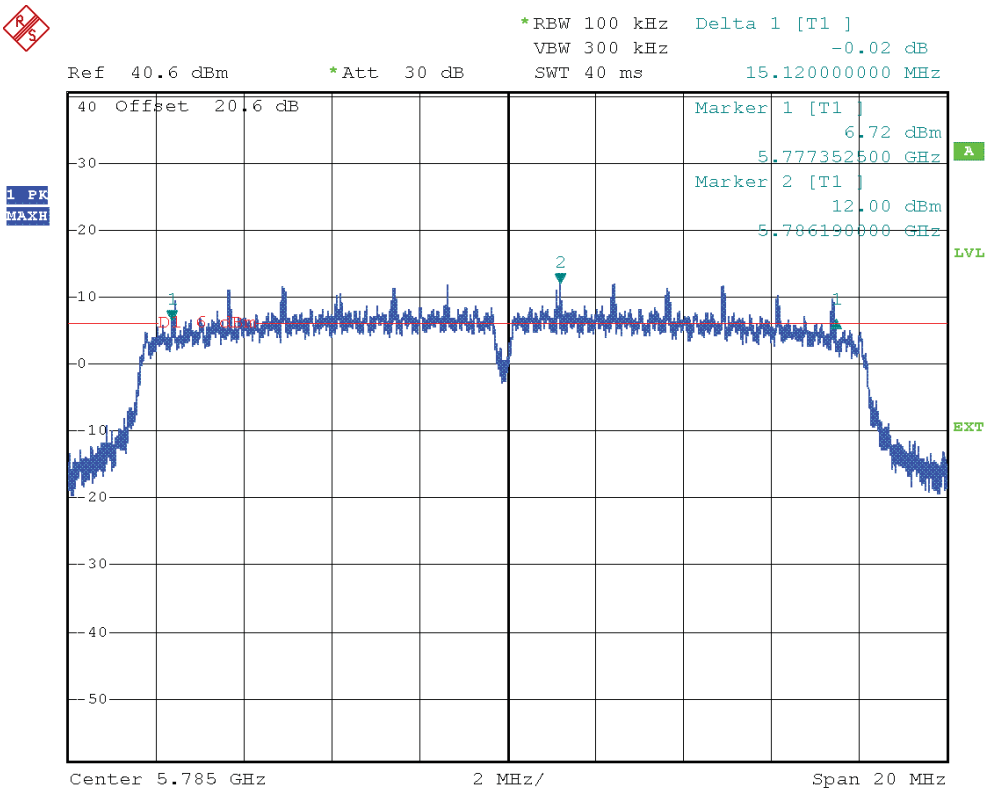
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11a – bandwidth 20 MHz – Front Right



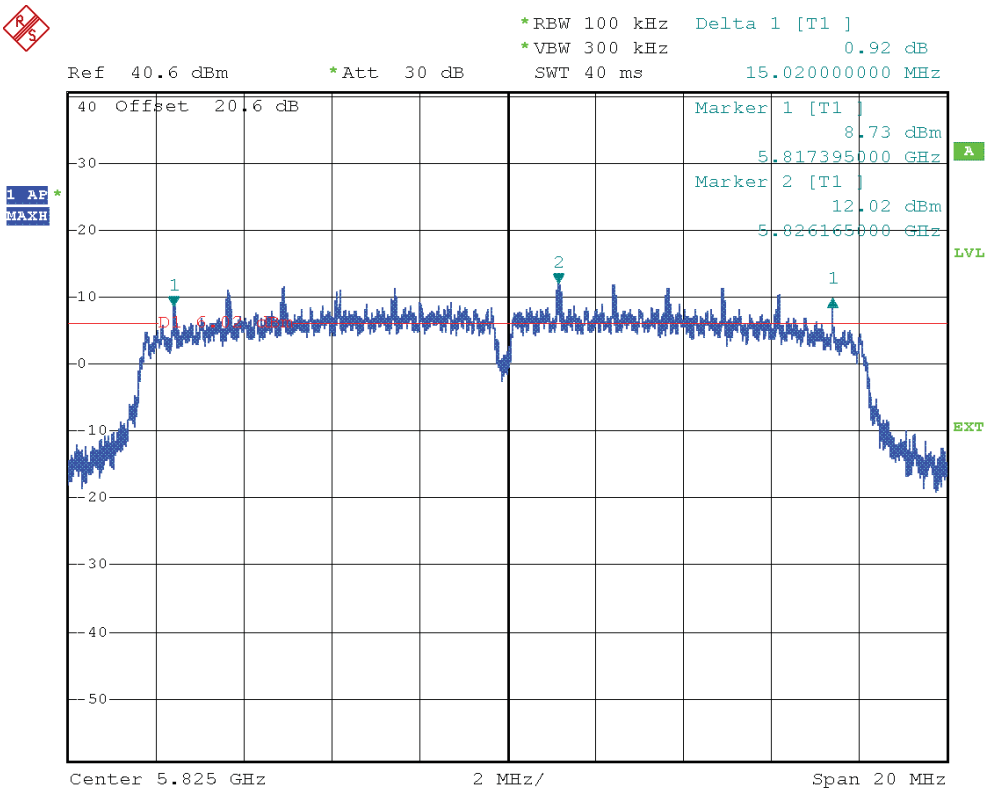
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11a – bandwidth 20 MHz – Back Left



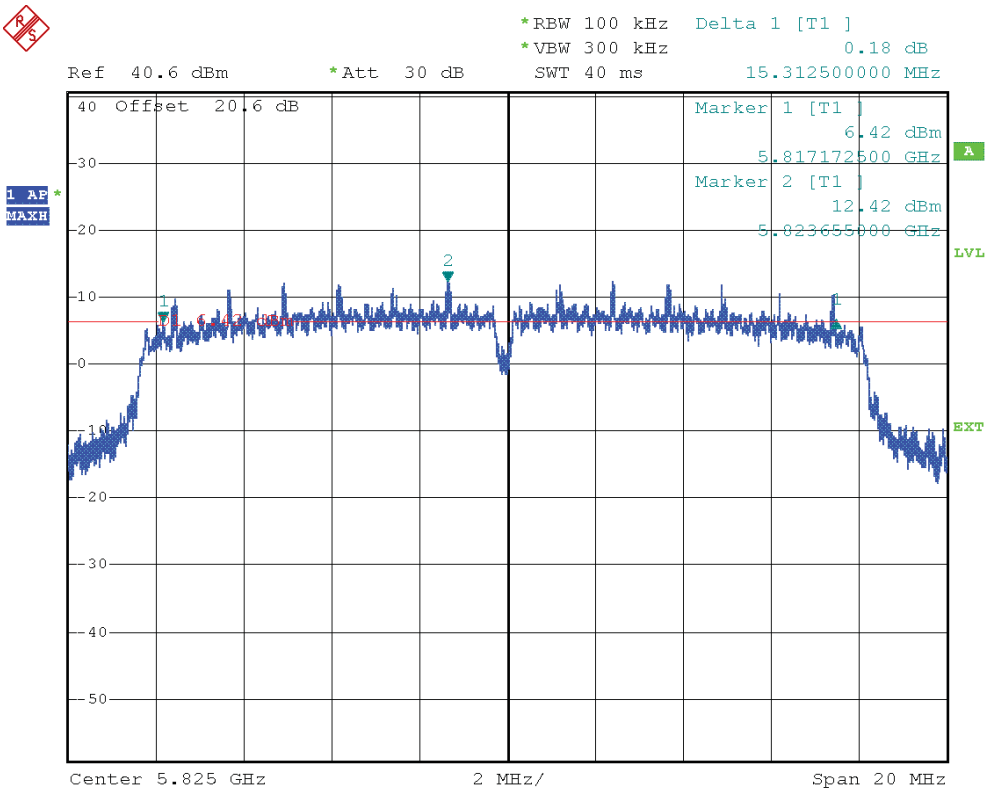
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11a – bandwidth 20 MHz – Back Right



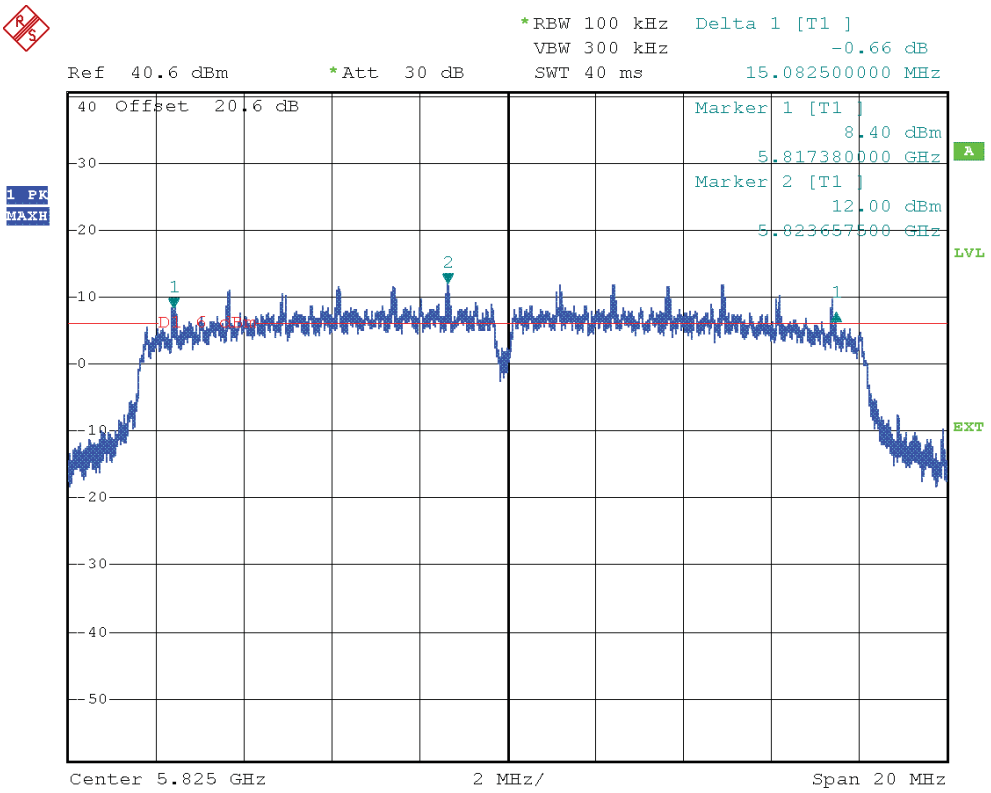
U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11a – bandwidth 20 MHz – Front Left



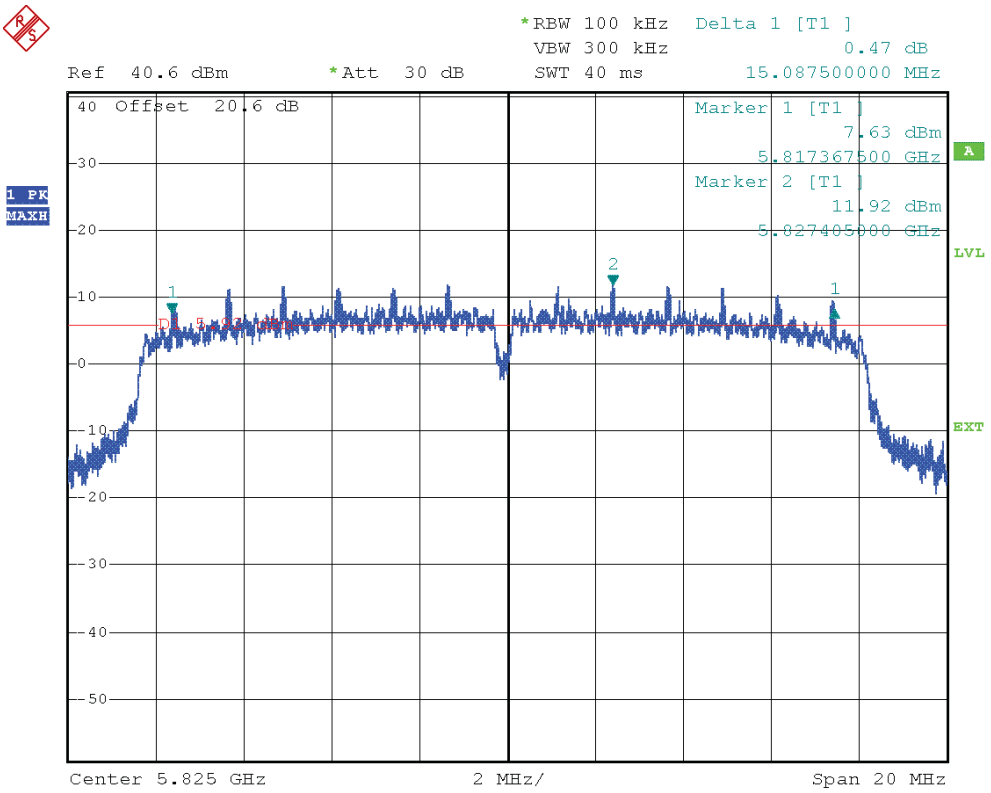
U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11a – bandwidth 20 MHz – Front Right



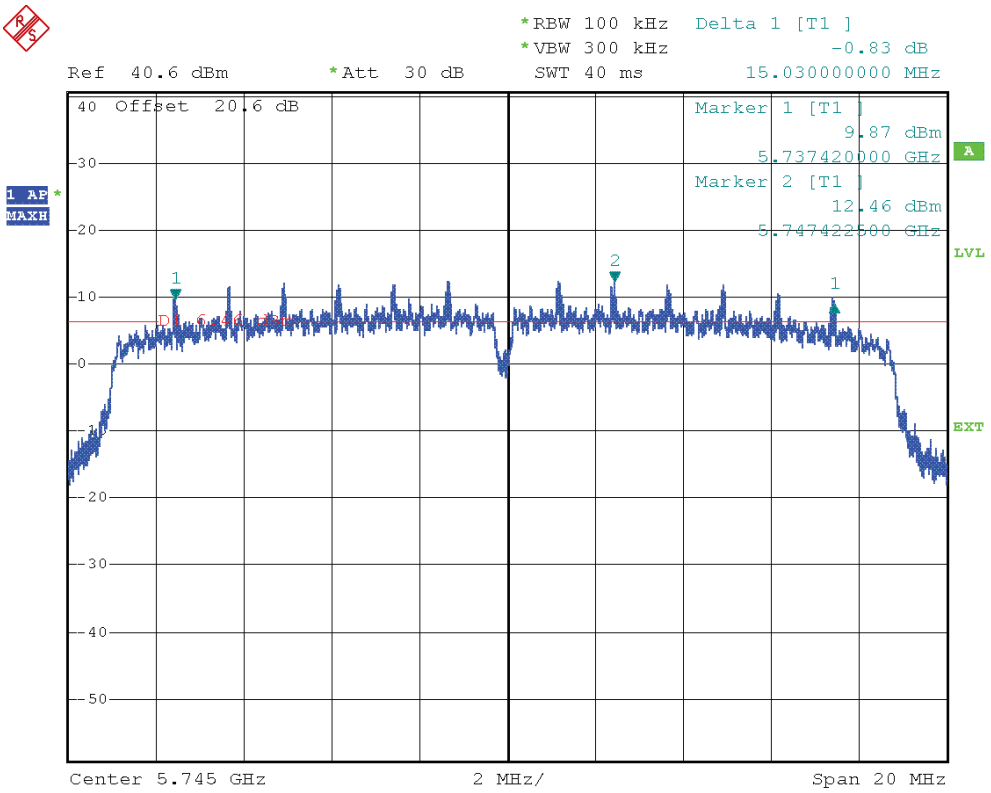
U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11a – bandwidth 20 MHz – Back Left



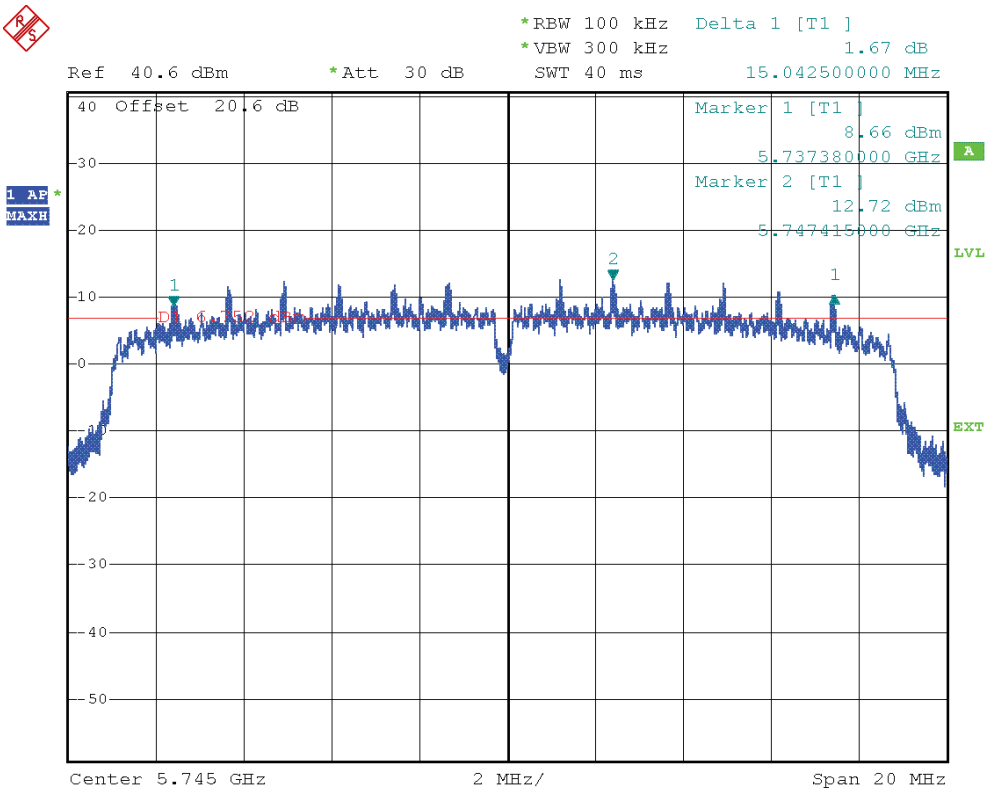
U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11a – bandwidth 20 MHz – Back Right



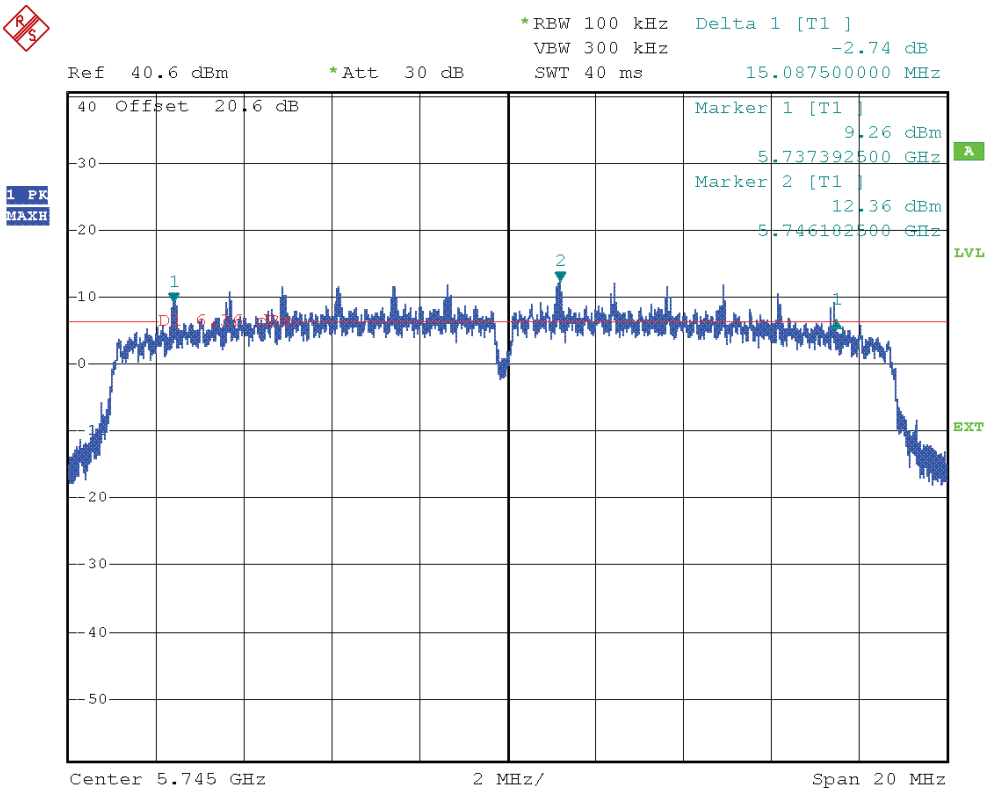
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11an – bandwidth 20 MHz – Front Left



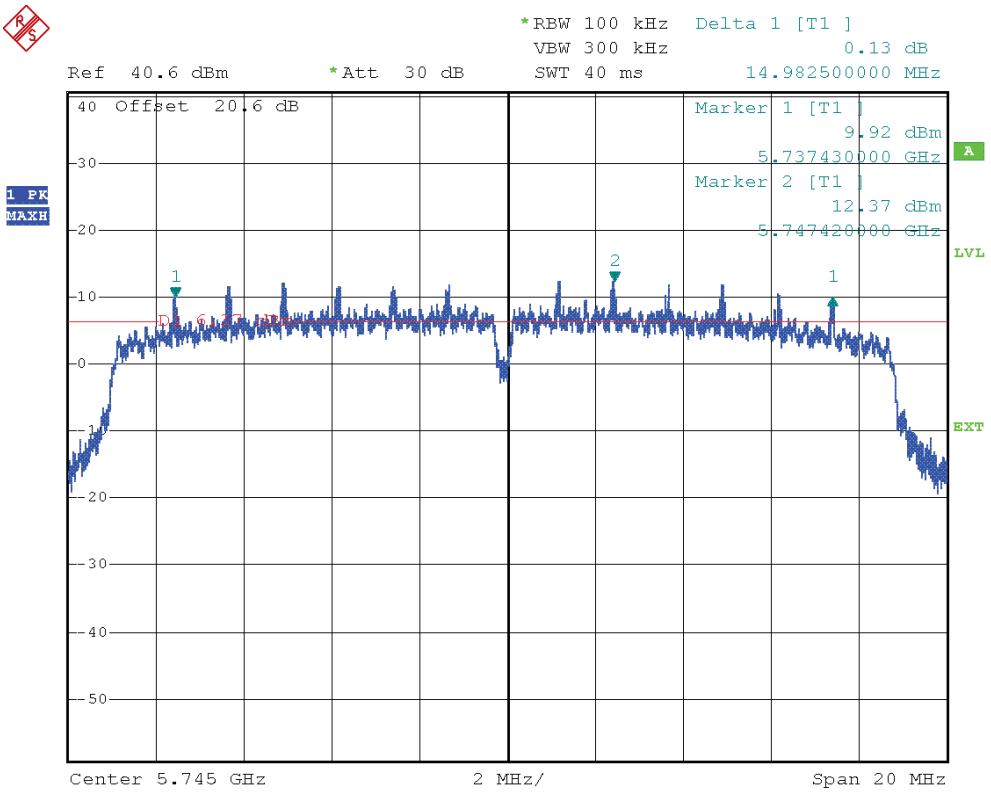
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11an – bandwidth 20 MHz – Front Right



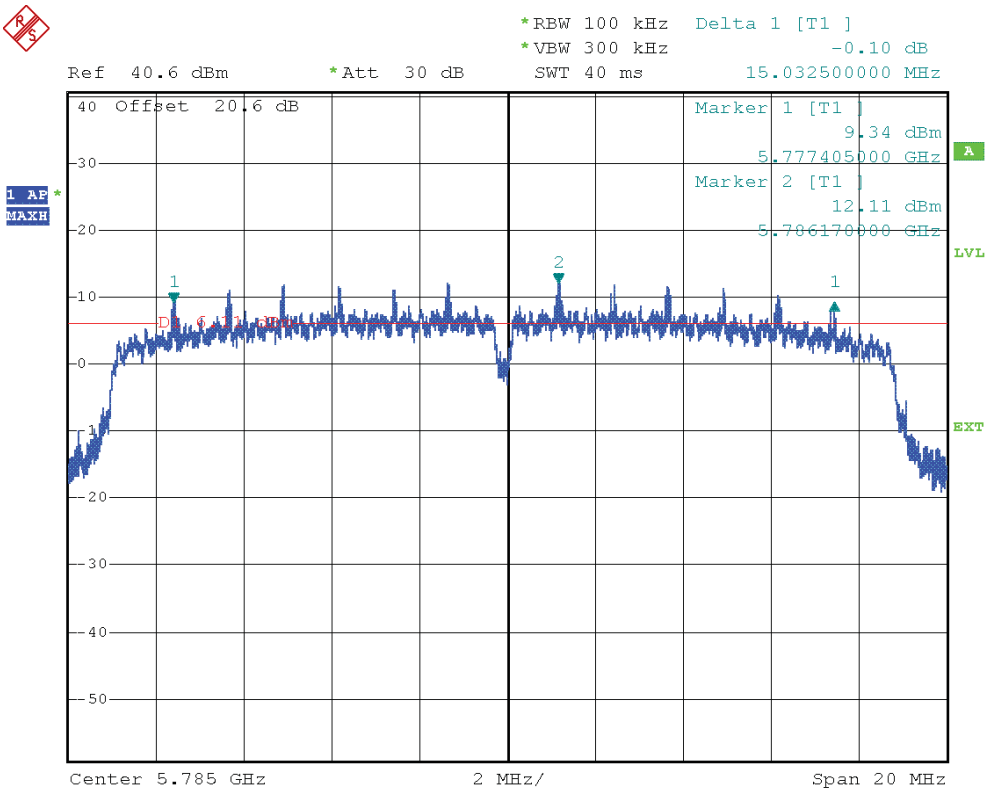
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11an – bandwidth 20 MHz – Back Left



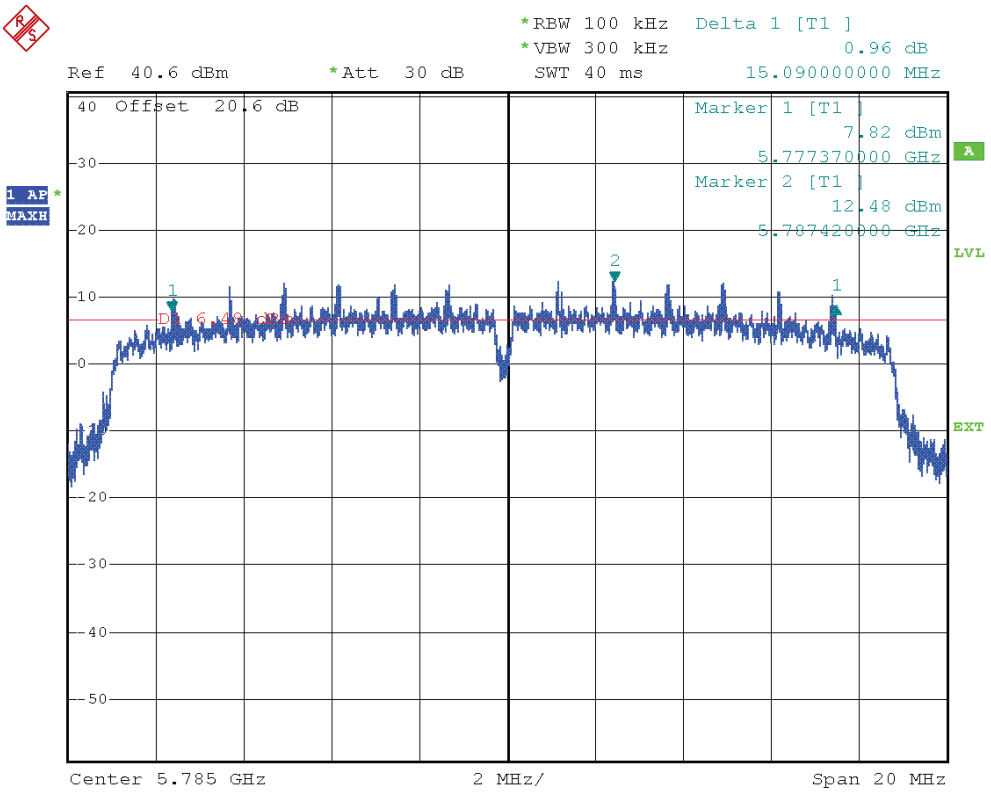
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11an – bandwidth 20 MHz – Back Right



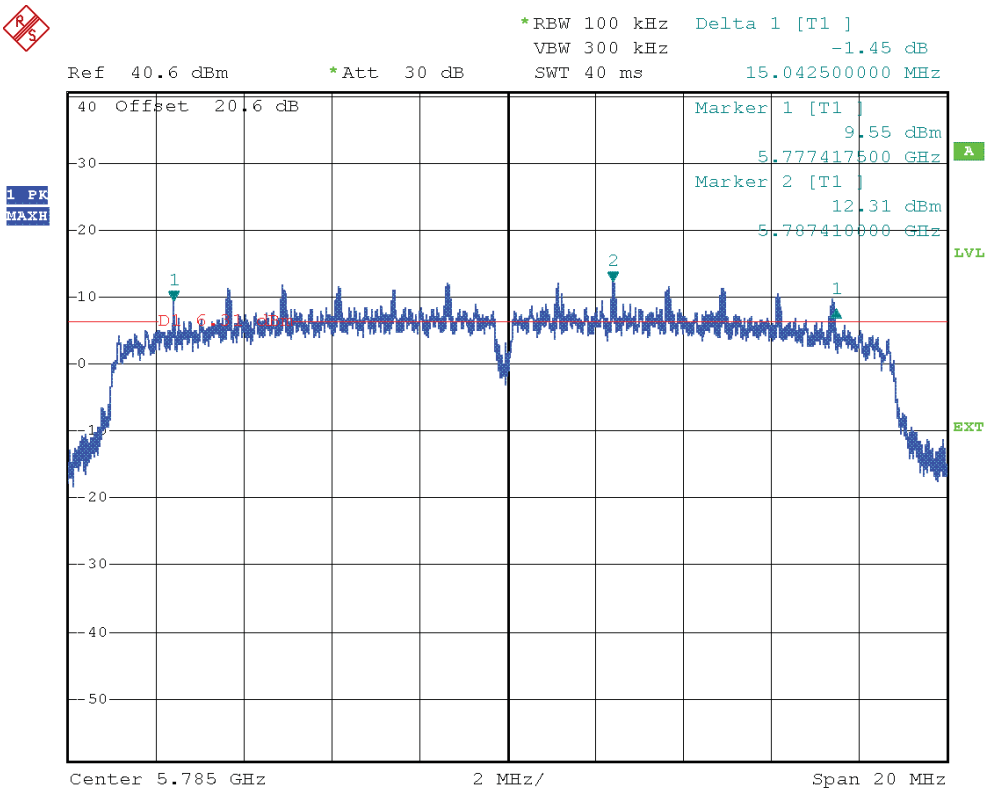
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11an – bandwidth 20 MHz – Front Left



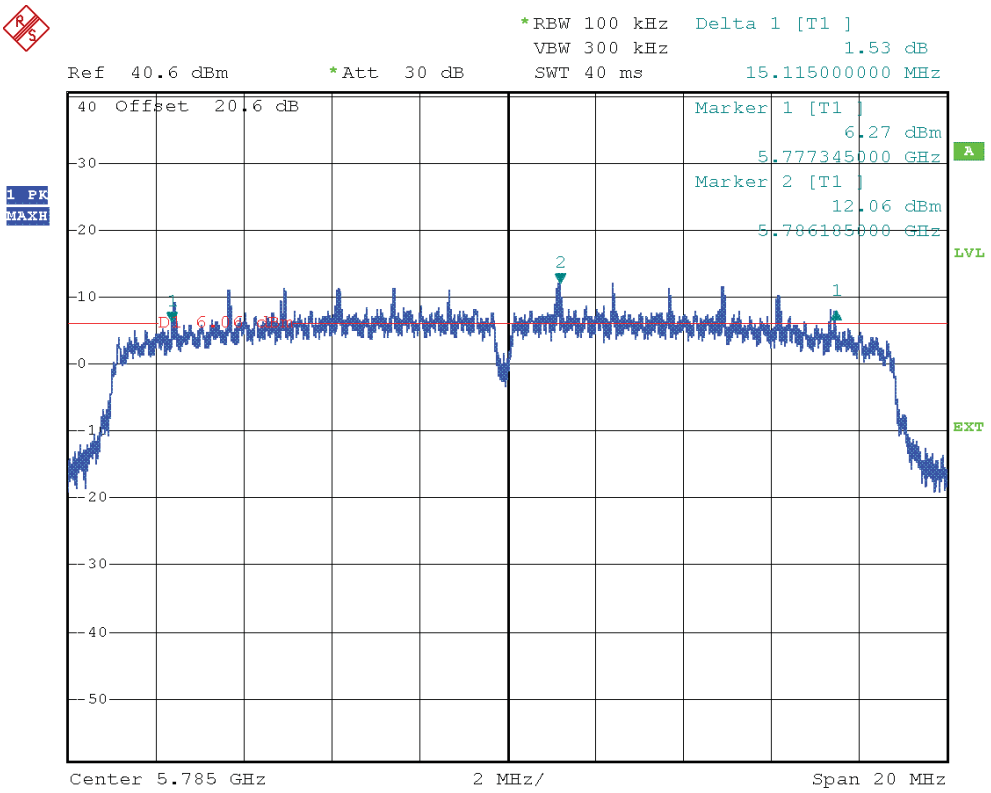
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11an – bandwidth 20 MHz – Front Right



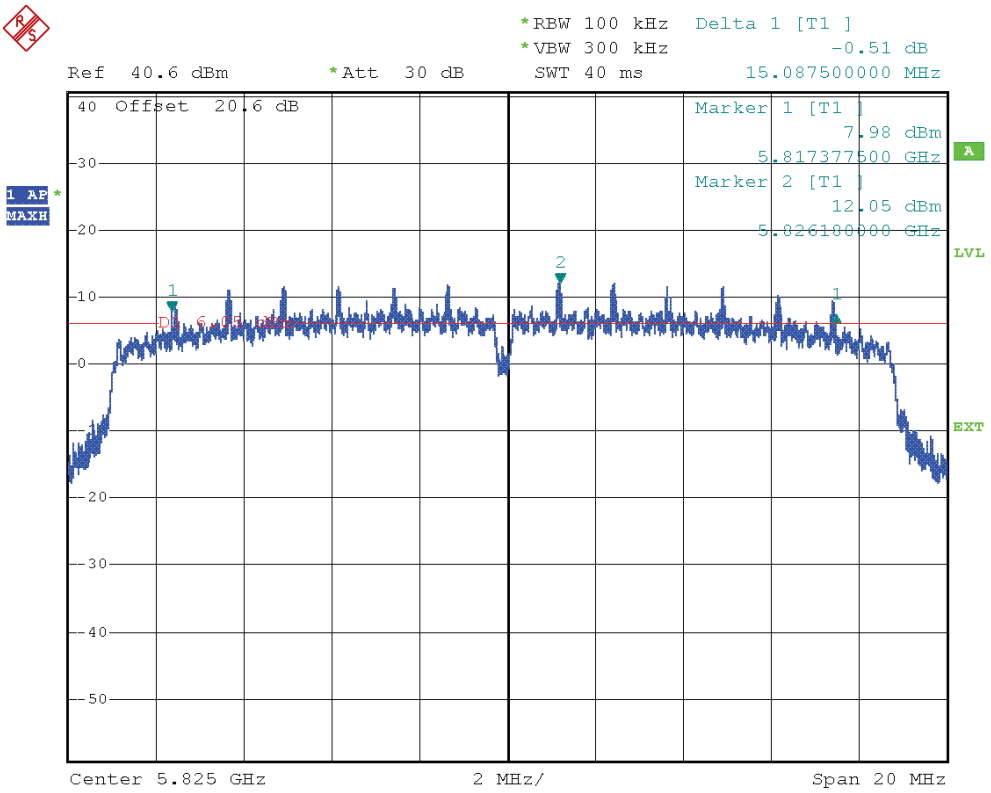
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11an – bandwidth 20 MHz – Back Left



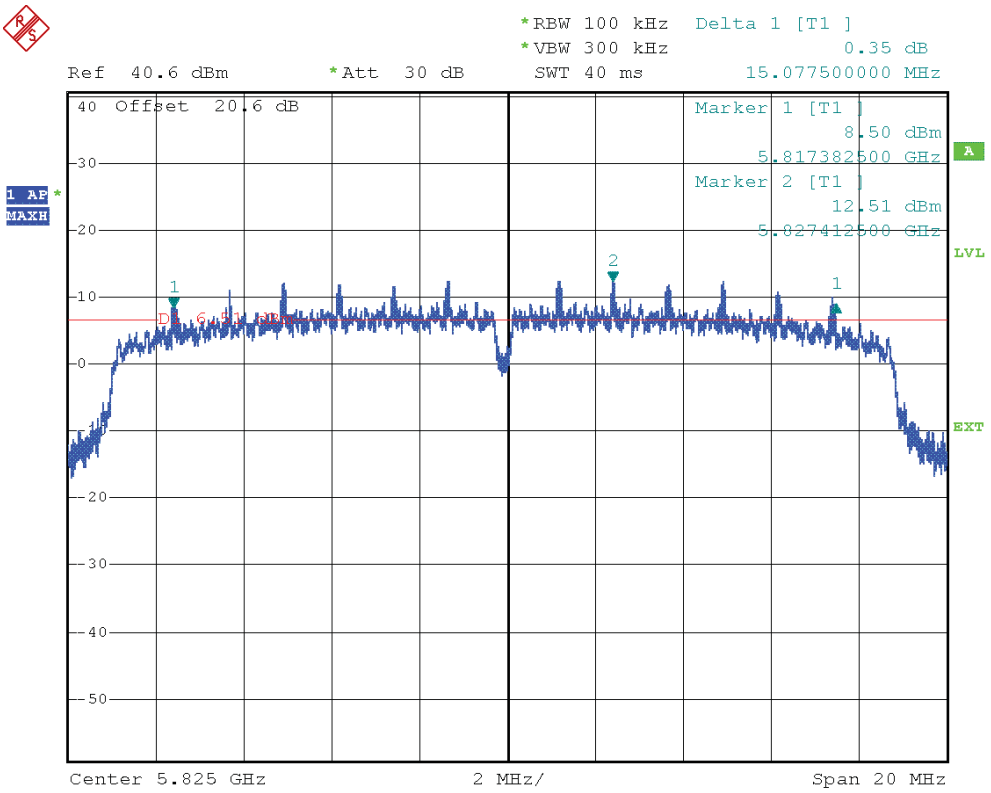
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11an – bandwidth 20 MHz – Back Right



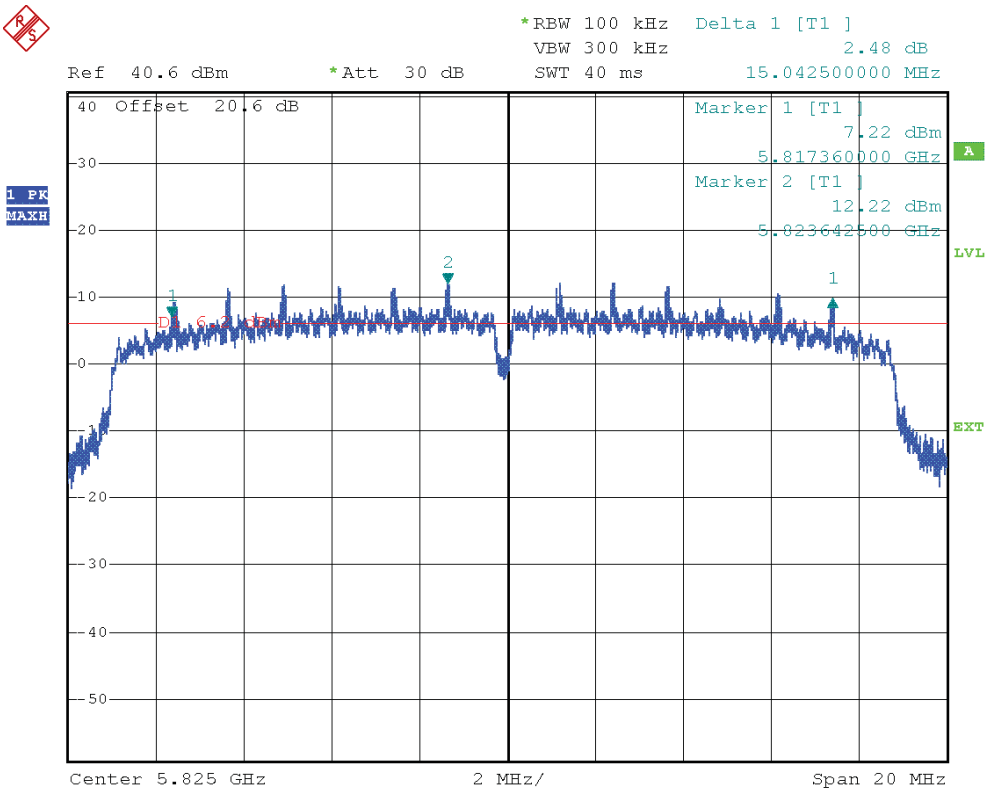
U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11an – bandwidth 20 MHz – Front Left



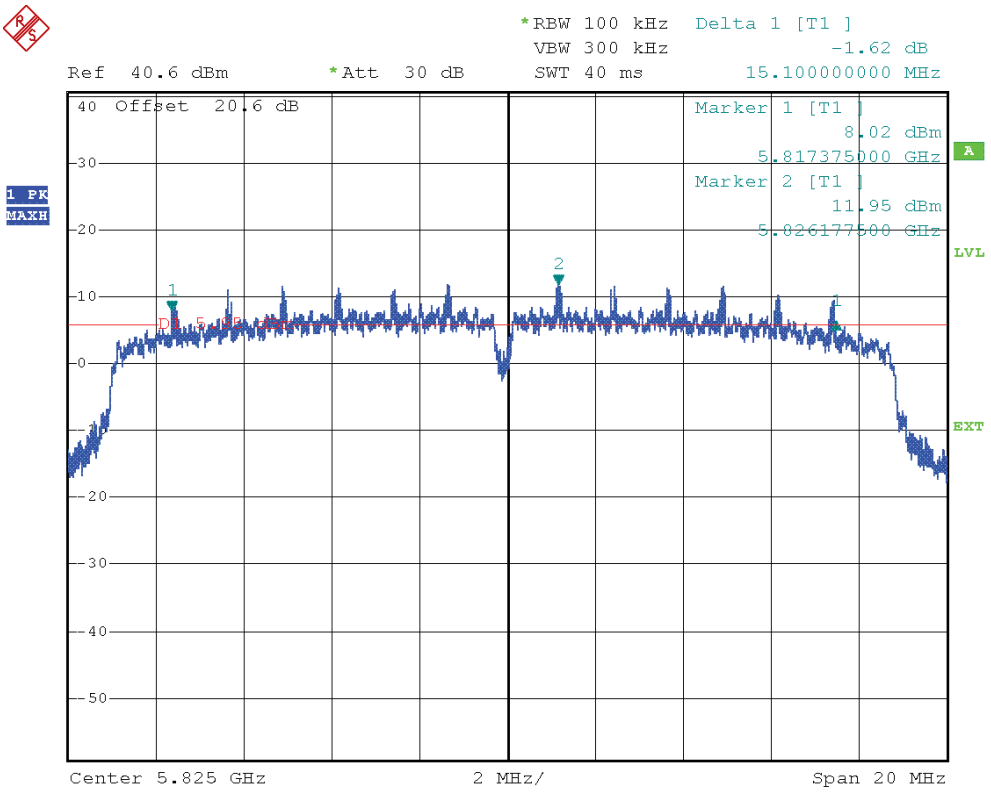
U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11an – bandwidth 20 MHz – Front Right



U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11an – bandwidth 20 MHz – Back Left

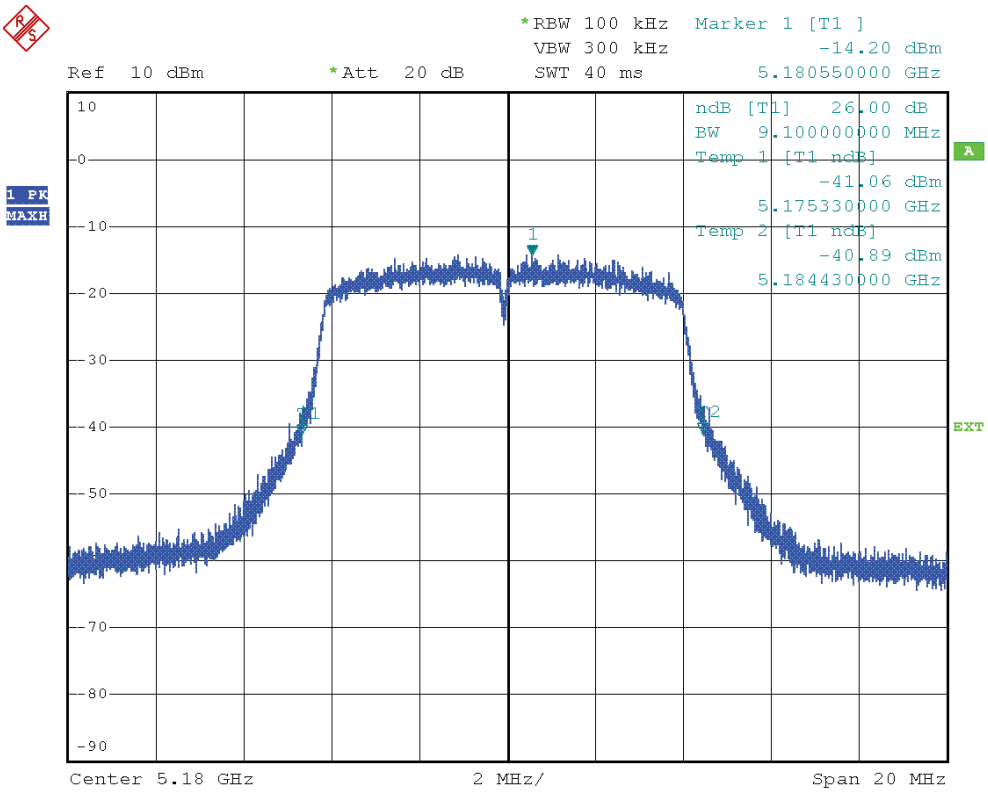


U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11an – bandwidth 20 MHz – Back Right

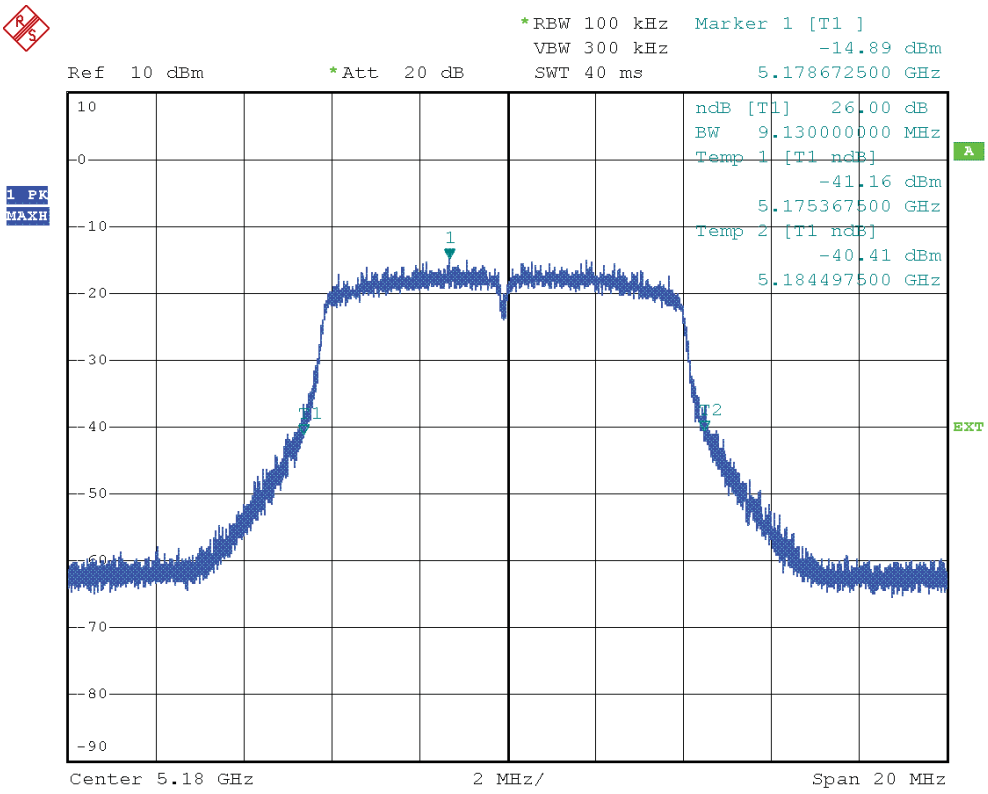


APPENDIX 3: 26 dB bandwidth

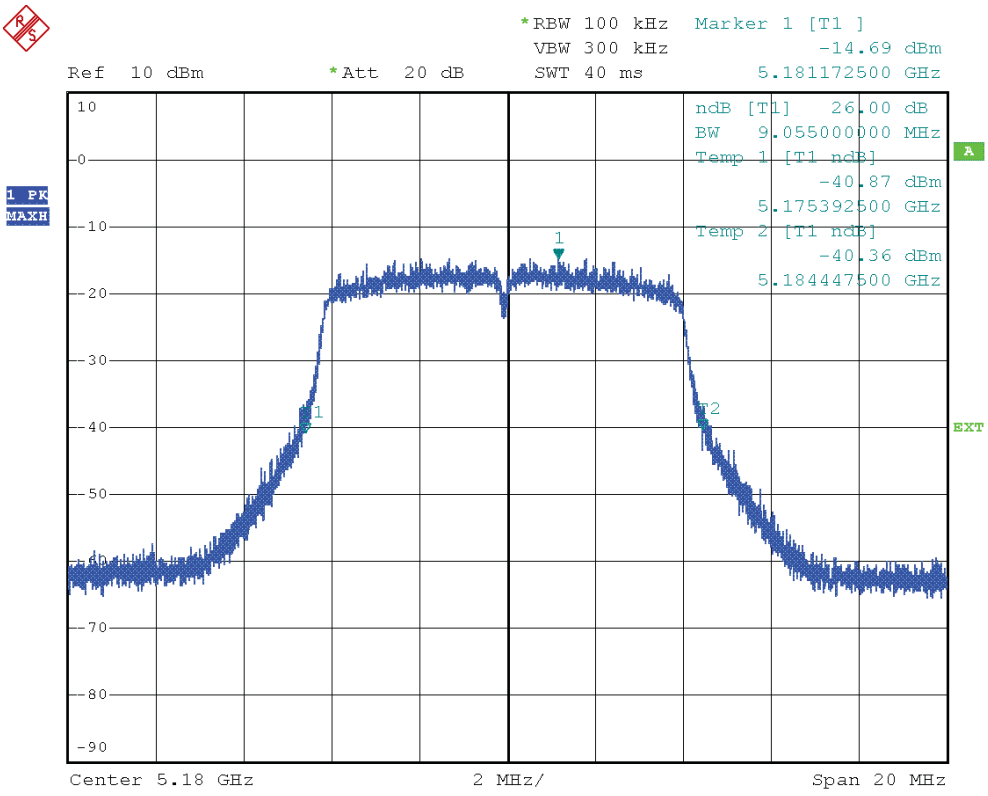
U-NII-1 band - Channel 36 (F = 5180 MHz) – Mode 802.11a – bandwidth 10 MHz – Front Left



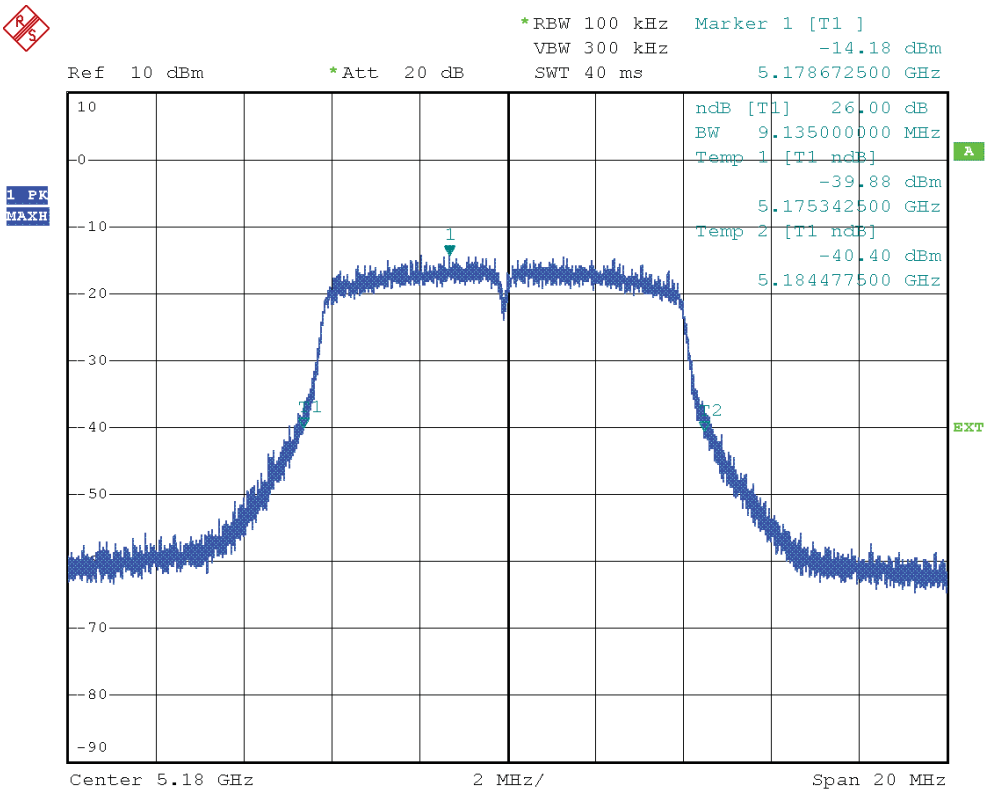
U-NII-1 band - Channel 36 (F = 5180 MHz) – Mode 802.11a – bandwidth 10 MHz – Front Right



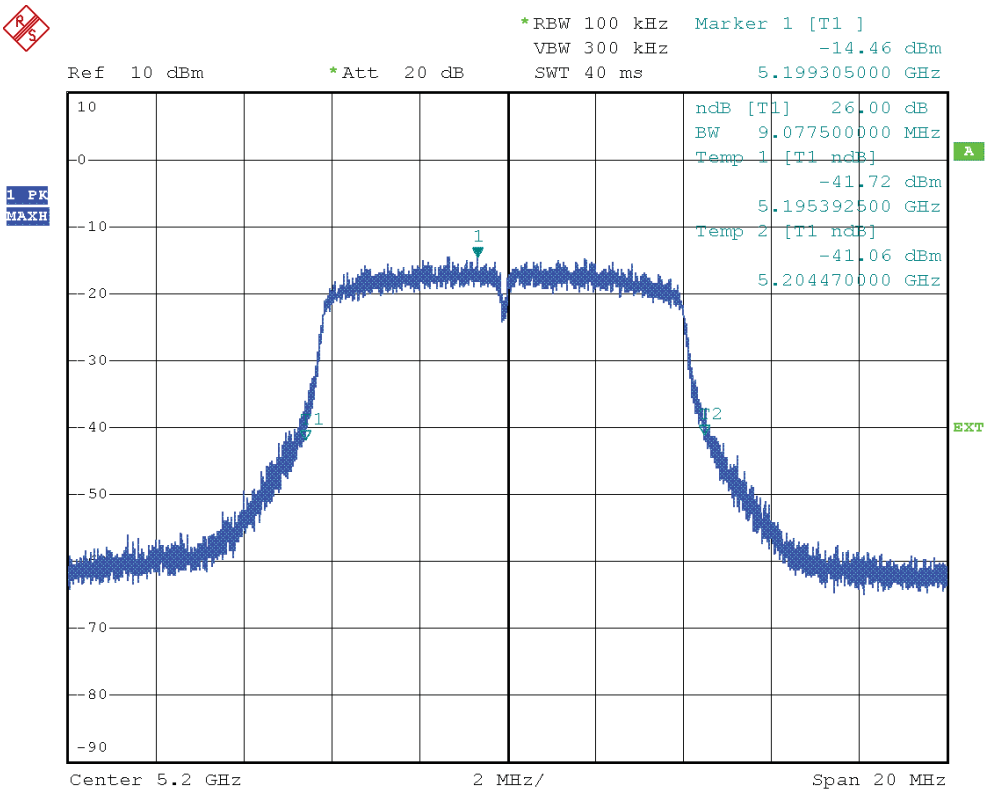
U-NII-1 band - Channel 36 (F = 5180 MHz) – Mode 802.11a – bandwidth 10 MHz – Back Left



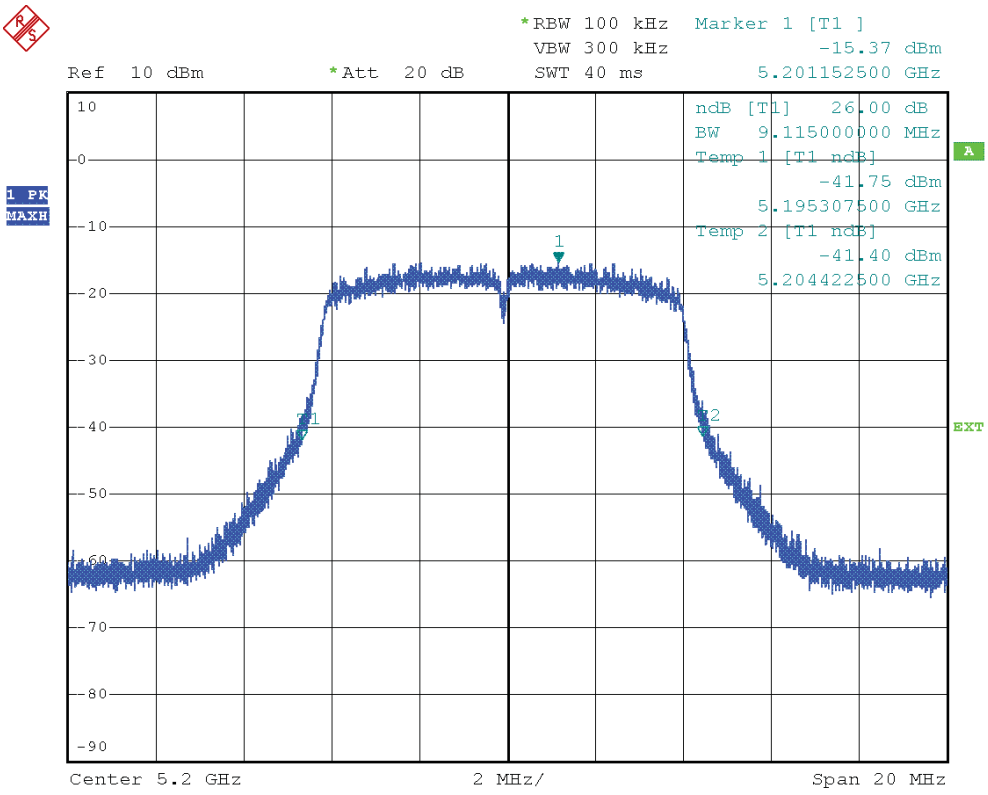
U-NII-1 band - Channel 36 (F = 5180 MHz) – Mode 802.11a – bandwidth 10 MHz – Back Right



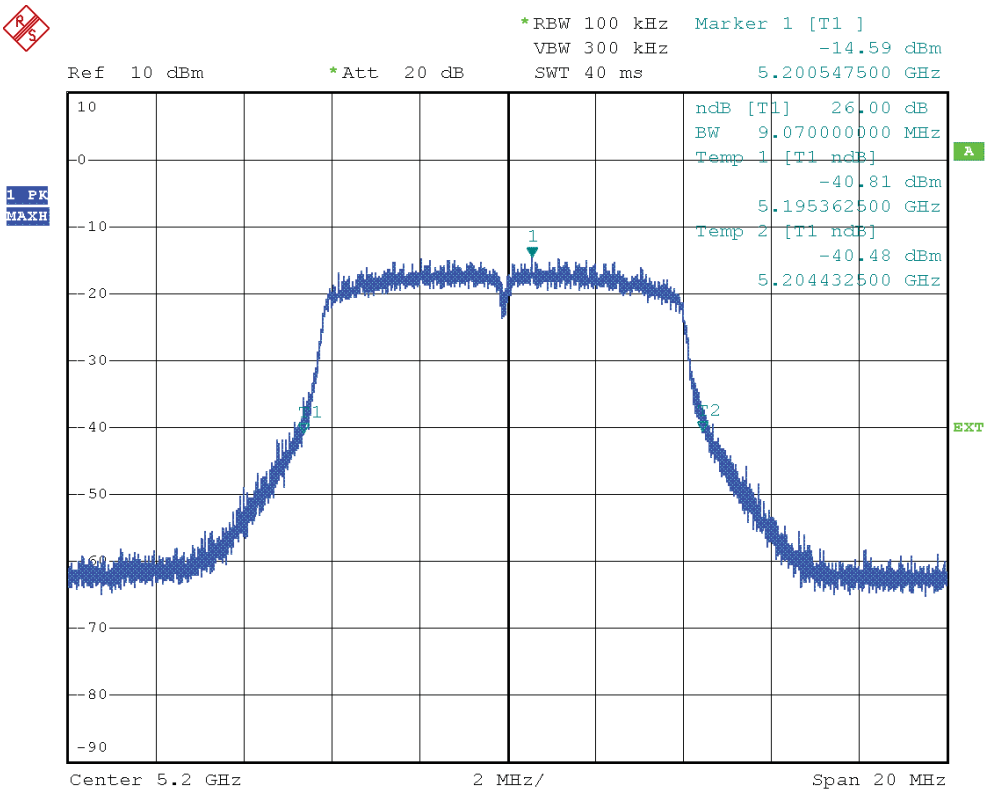
U-NII-1 band - Channel 40 (F = 5200 MHz) – Mode 802.11a – bandwidth 10 MHz – Front Left



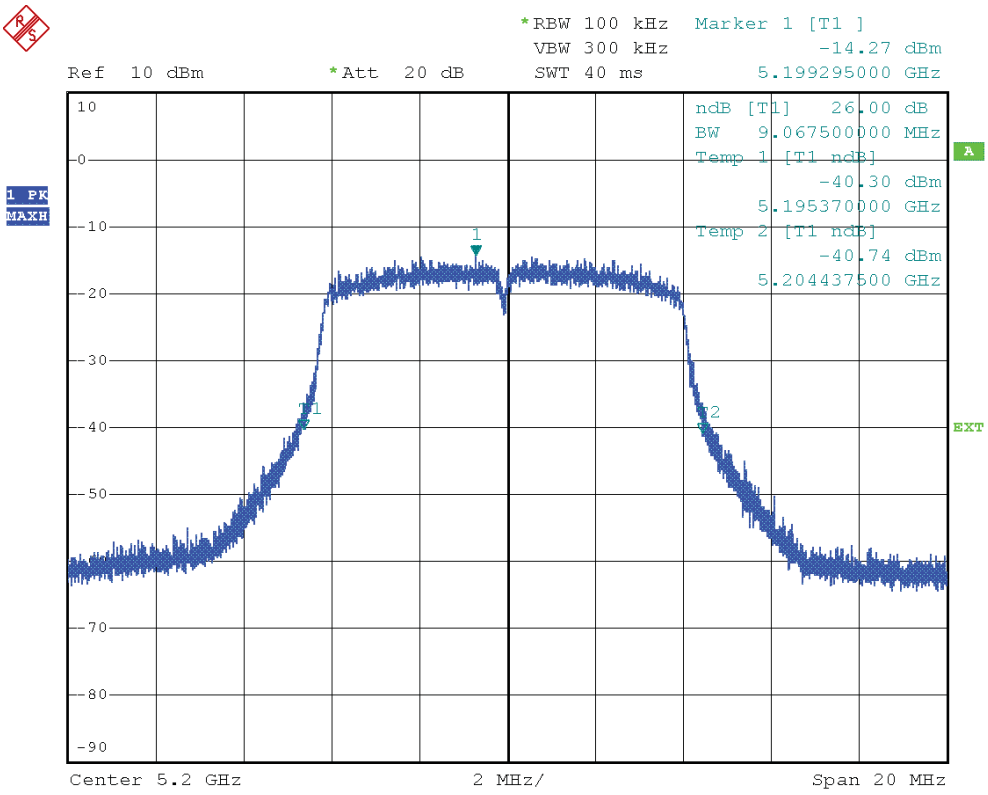
U-NII-1 band - Channel 40 (F = 5200 MHz) – Mode 802.11a – bandwidth 10 MHz – Front Right



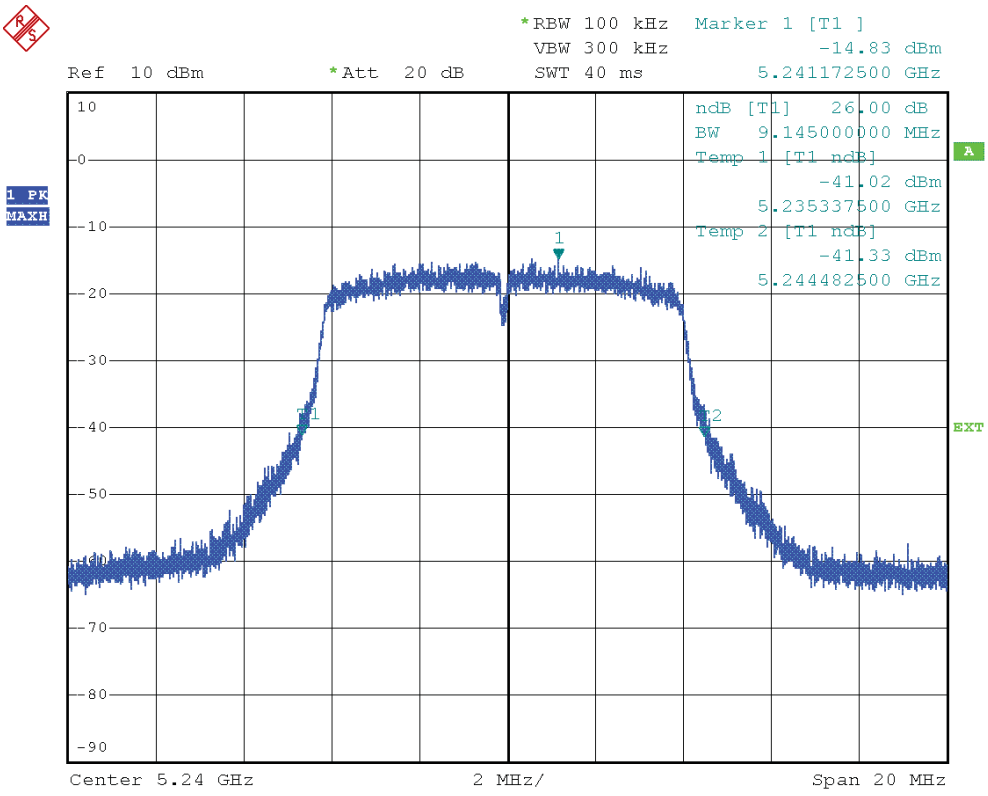
U-NII-1 band - Channel 40 (F = 5200 MHz) – Mode 802.11a – bandwidth 10 MHz – Back Left



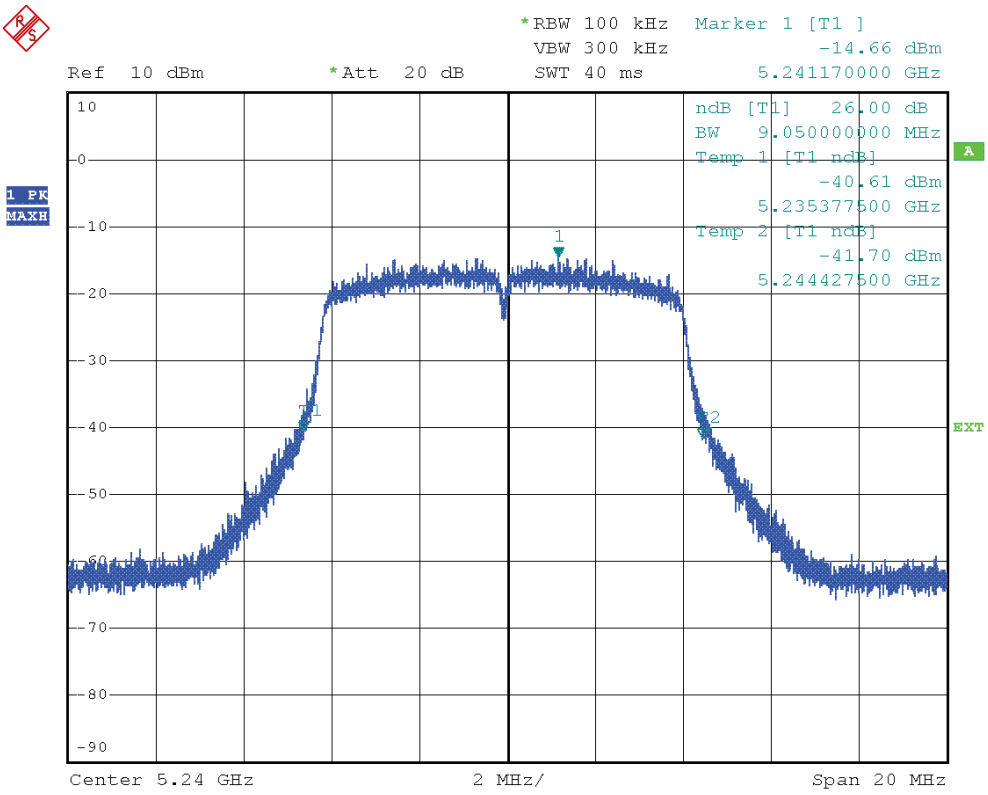
U-NII-1 band - Channel 40 (F = 5200 MHz) – Mode 802.11a – bandwidth 10 MHz – Back Right



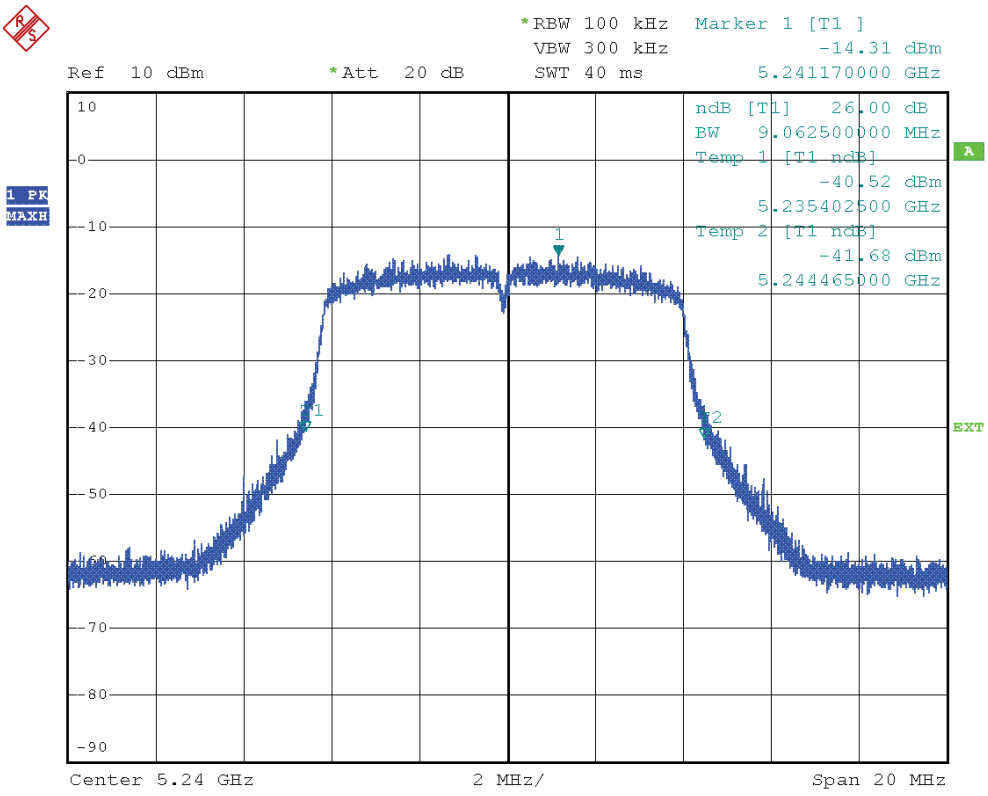
U-NII-1 band - Channel 48 (F = 5240 MHz) – Mode 802.11a – bandwidth 10 MHz – Front Left



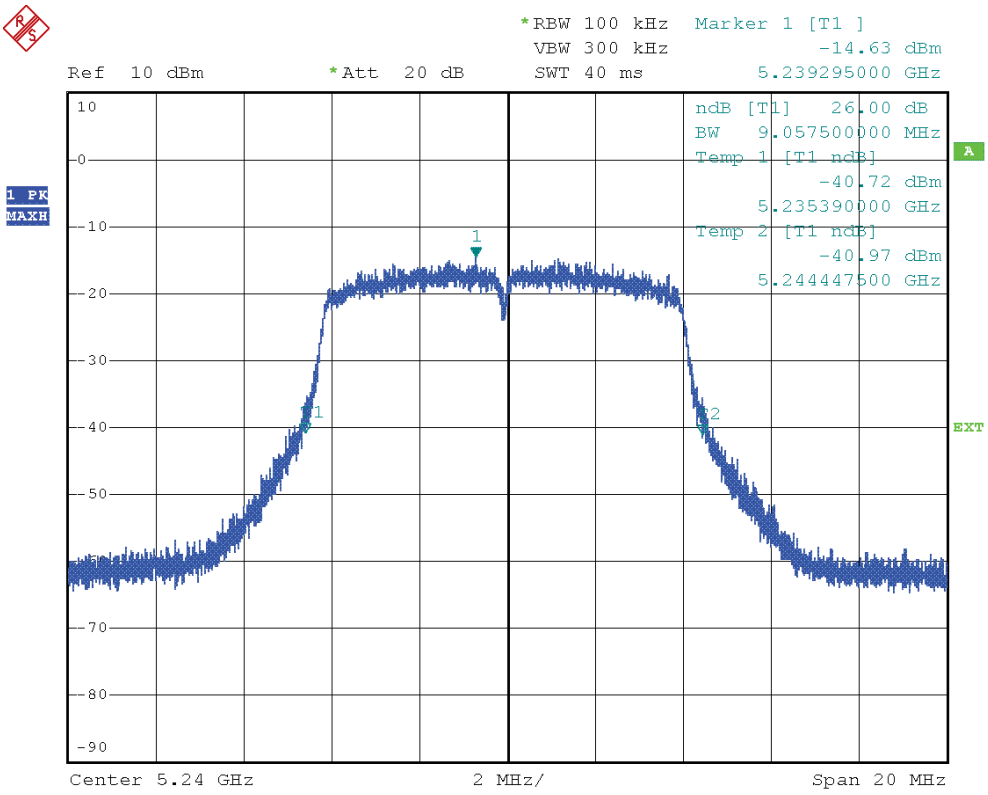
U-NII-1 band - Channel 48 (F = 5240 MHz) – Mode 802.11a – bandwidth 10 MHz – Front Right



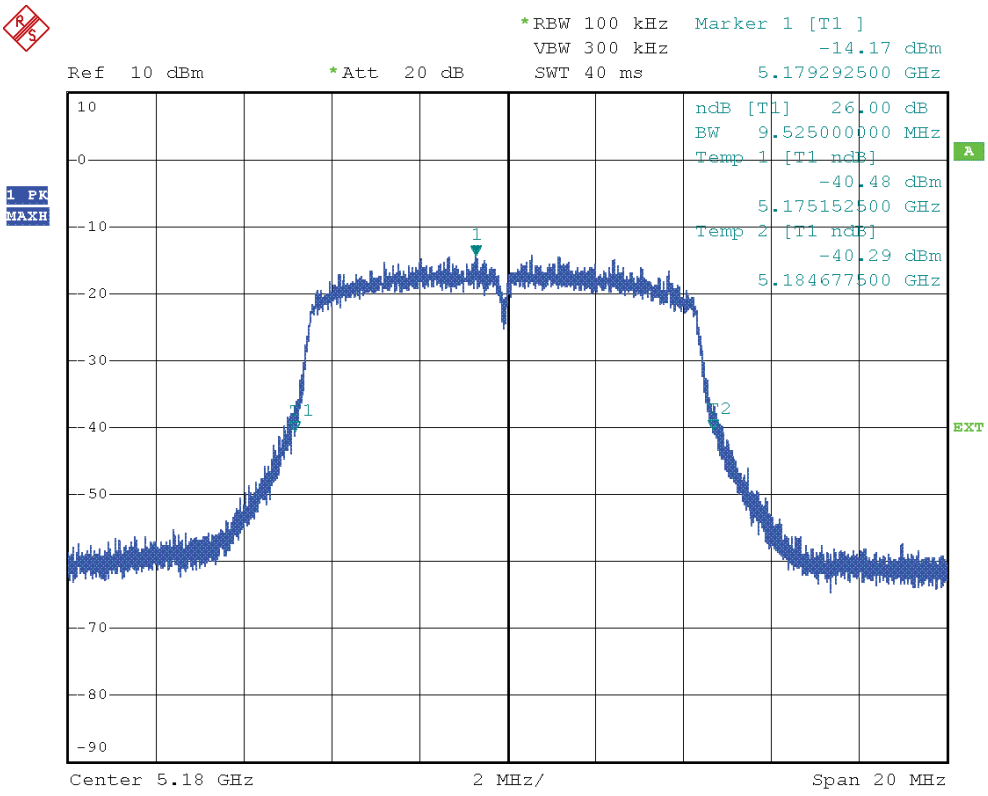
U-NII-1 band - Channel 48 (F = 5240 MHz) – Mode 802.11a – bandwidth 10 MHz – Back Left



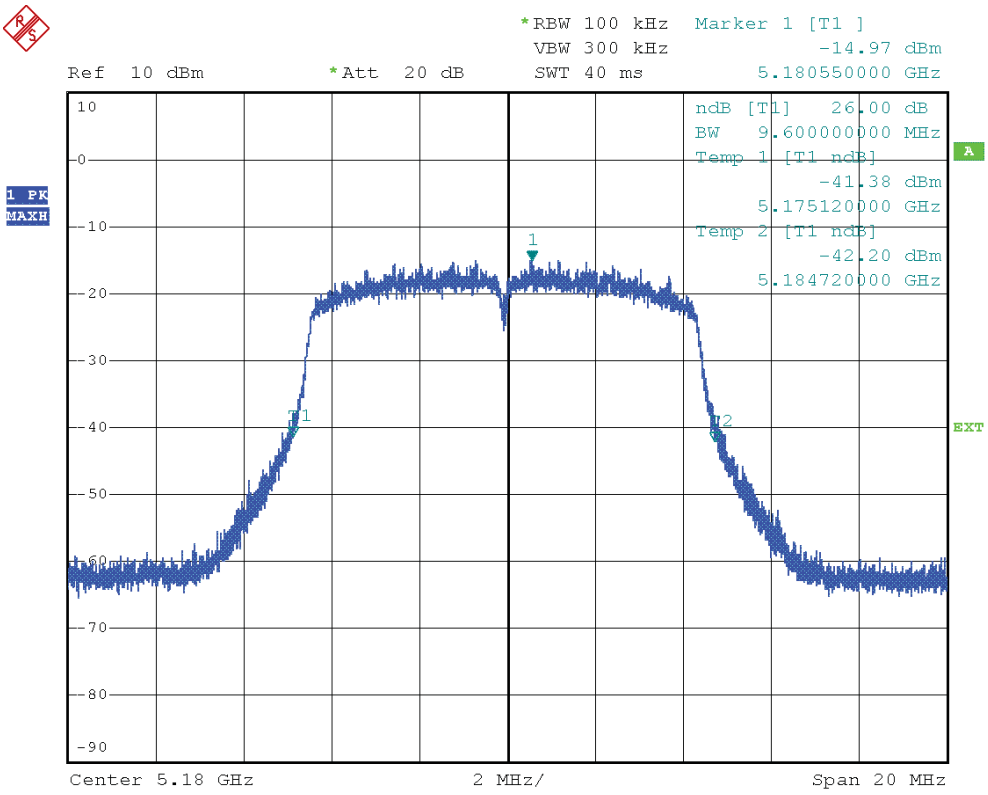
U-NII-1 band - Channel 48 (F = 5240 MHz) – Mode 802.11a – bandwidth 10 MHz – Back Right



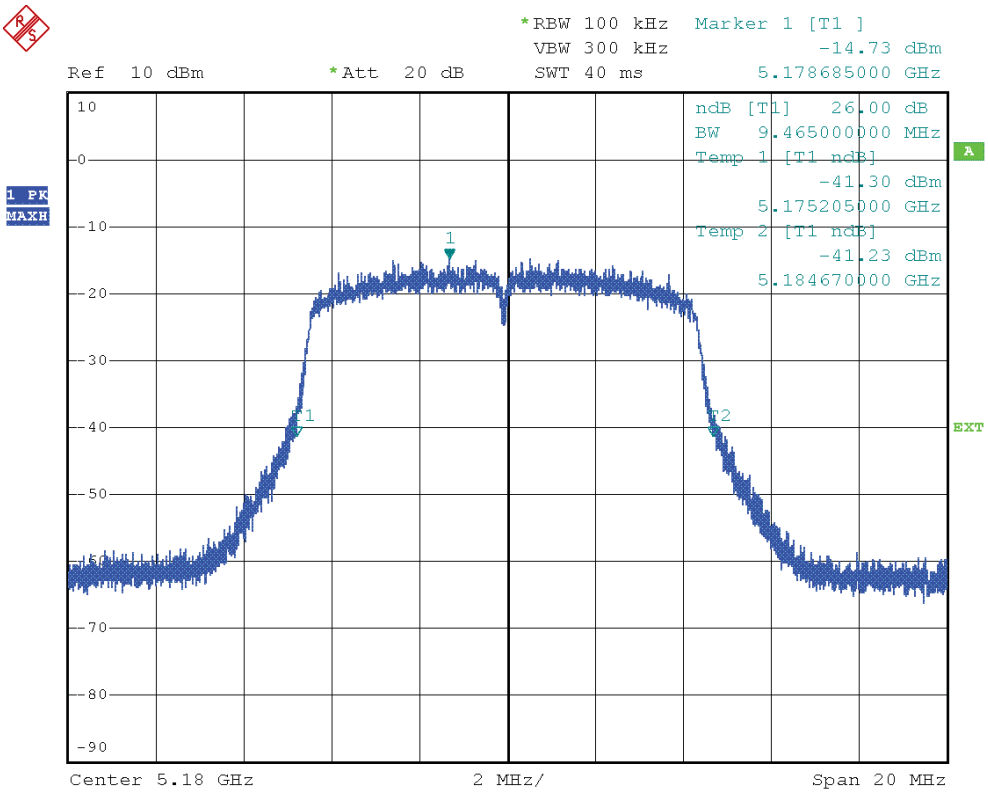
U-NII-1 band - Channel 36 (F = 5180 MHz) – Mode 802.11an – bandwidth 10 MHz – Front Left



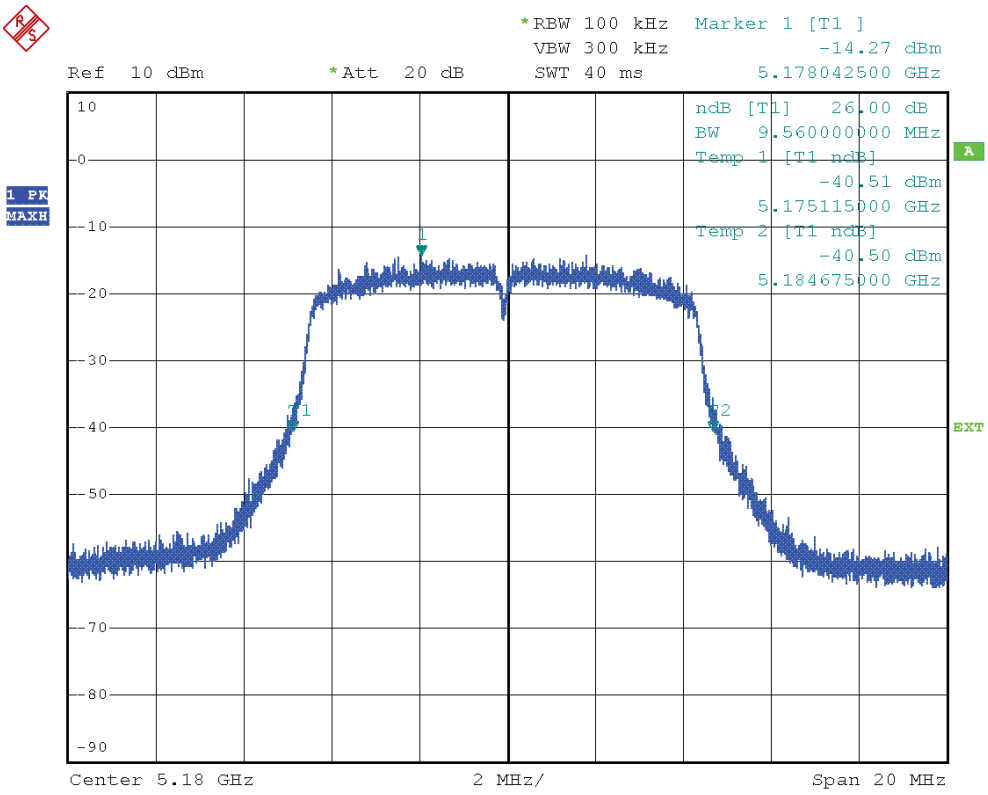
U-NII-1 band - Channel 36 (F = 5180 MHz) – Mode 802.11an – bandwidth 10 MHz – Front Right



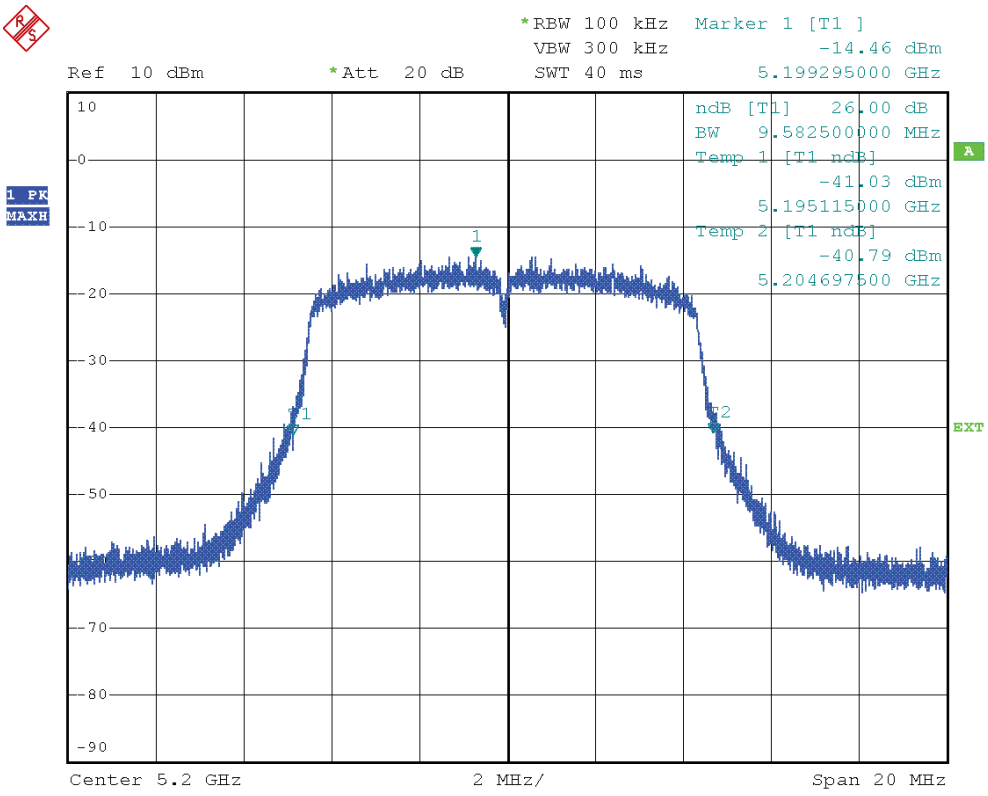
U-NII-1 band - Channel 36 (F = 5180 MHz) – Mode 802.11an – bandwidth 10 MHz – Back Left



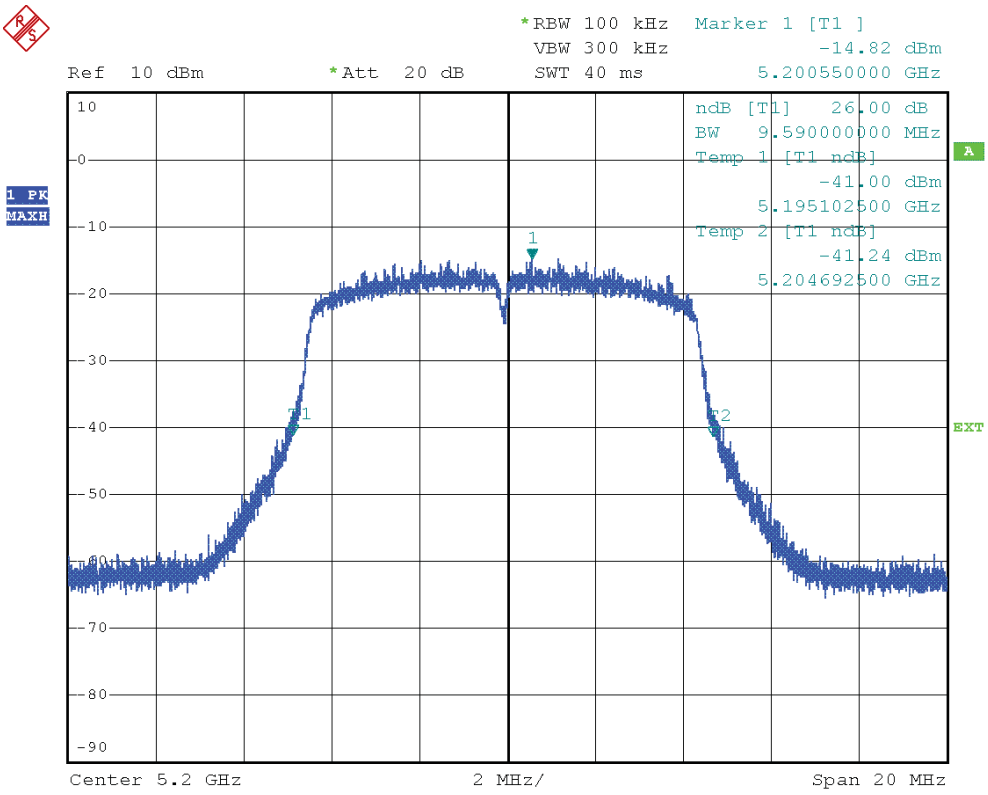
U-NII-1 band - Channel 36 (F = 5180 MHz) – Mode 802.11an – bandwidth 10 MHz – Back Right



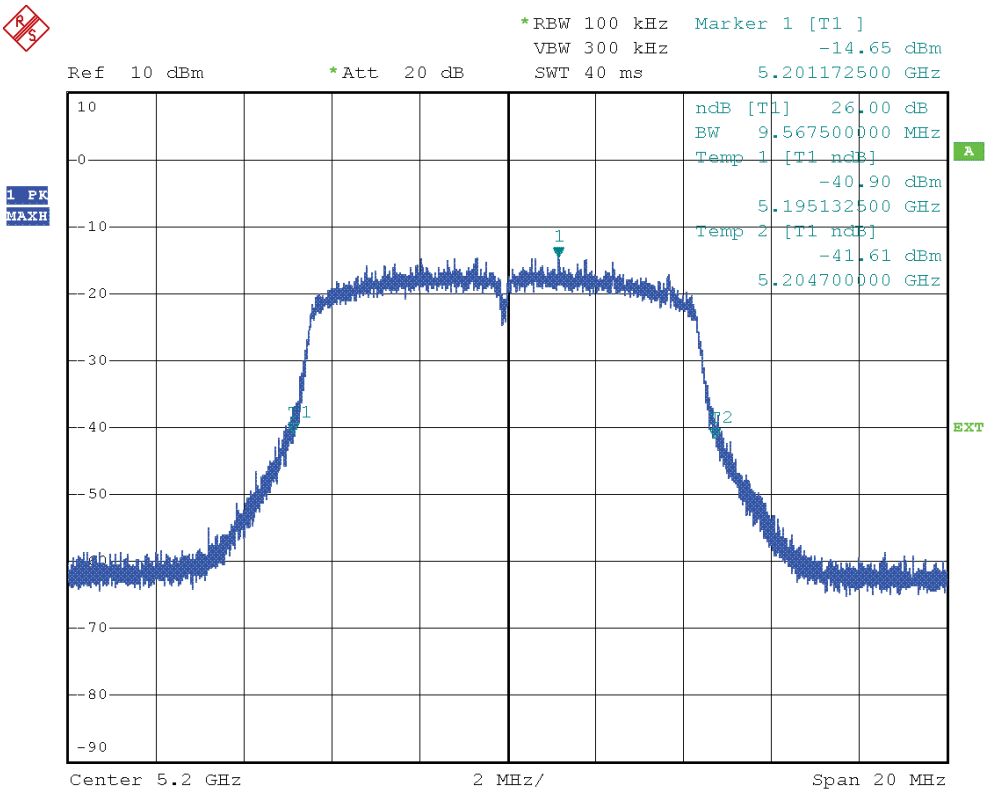
U-NII-1 band - Channel 40 (F = 5200 MHz) – Mode 802.11an – bandwidth 10 MHz – Front Left



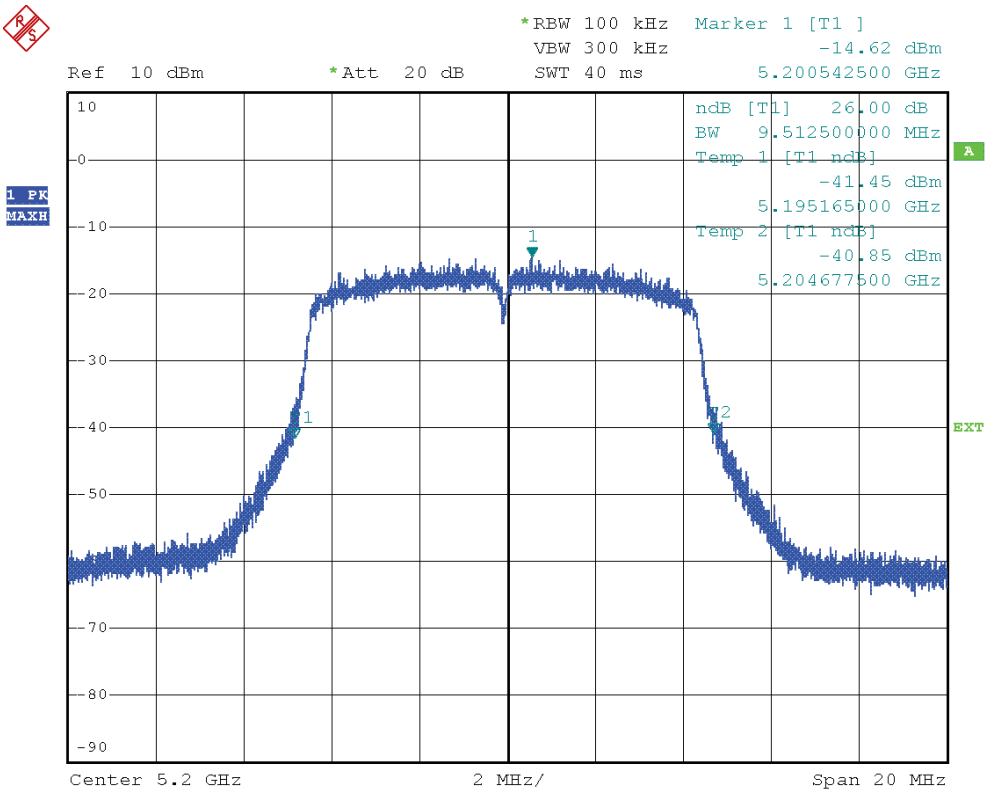
U-NII-1 band - Channel 40 (F = 5200 MHz) – Mode 802.11an – bandwidth 10 MHz – Front Right



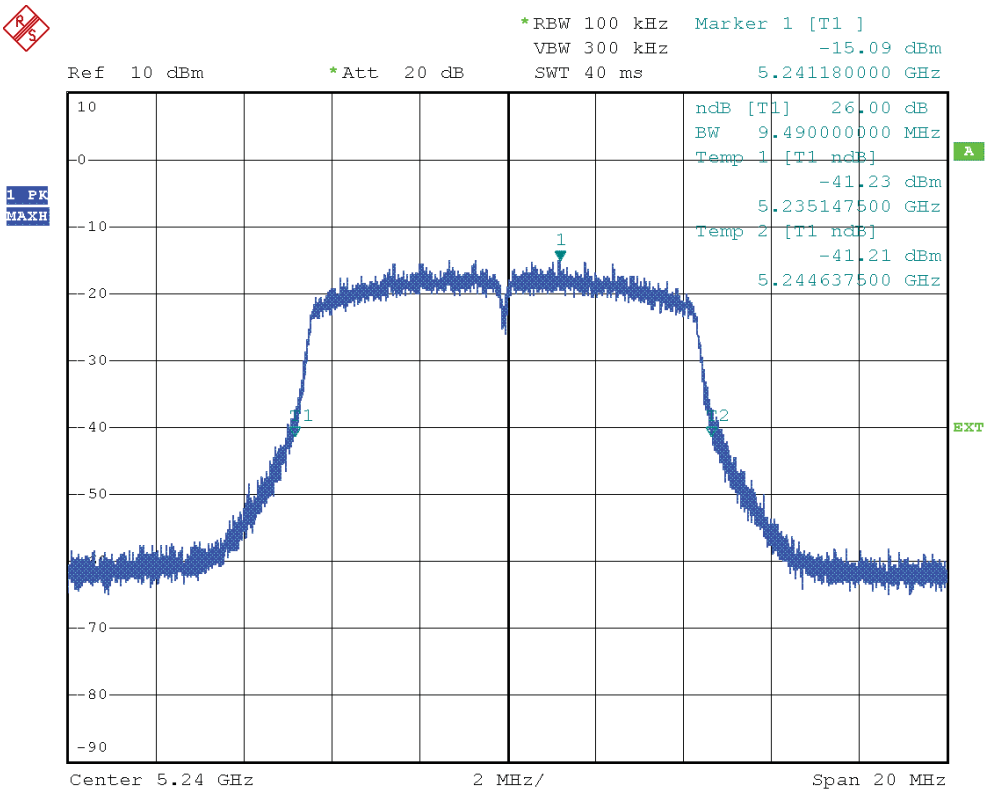
U-NII-1 band - Channel 40 (F = 5200 MHz) – Mode 802.11an – bandwidth 10 MHz – Back Left



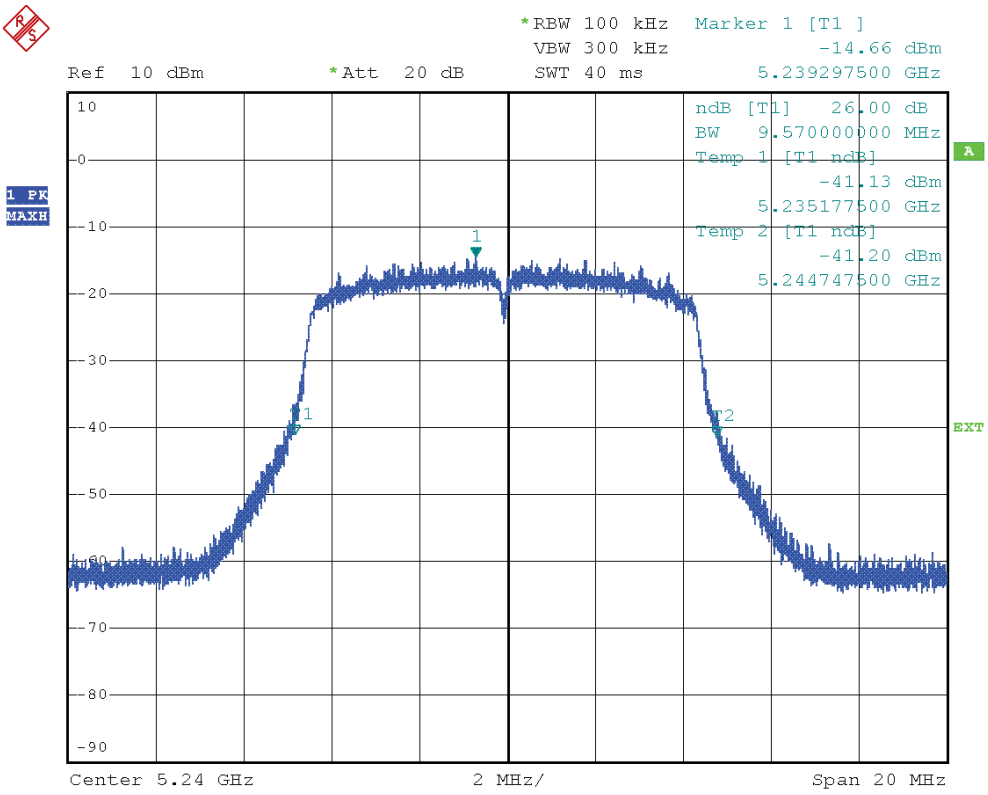
U-NII-1 band - Channel 40 (F = 5200 MHz) – Mode 802.11an – bandwidth 10 MHz – Back Right



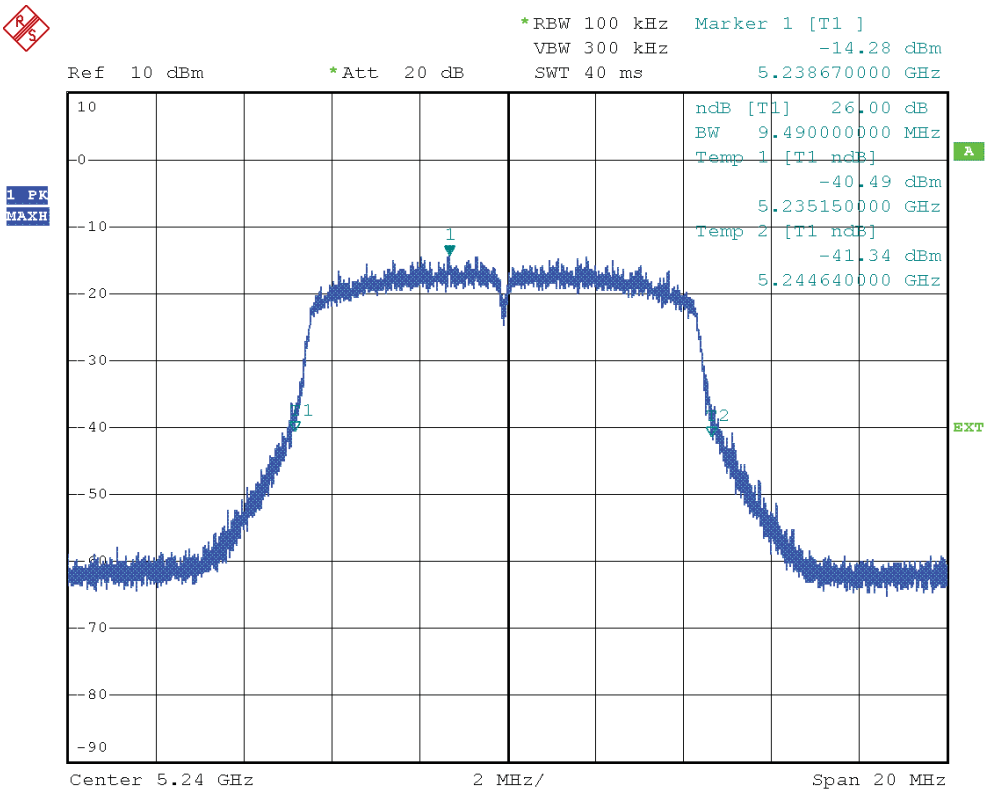
U-NII-1 band - Channel 48 (F = 5240 MHz) – Mode 802.11an – bandwidth 10 MHz – Front Left



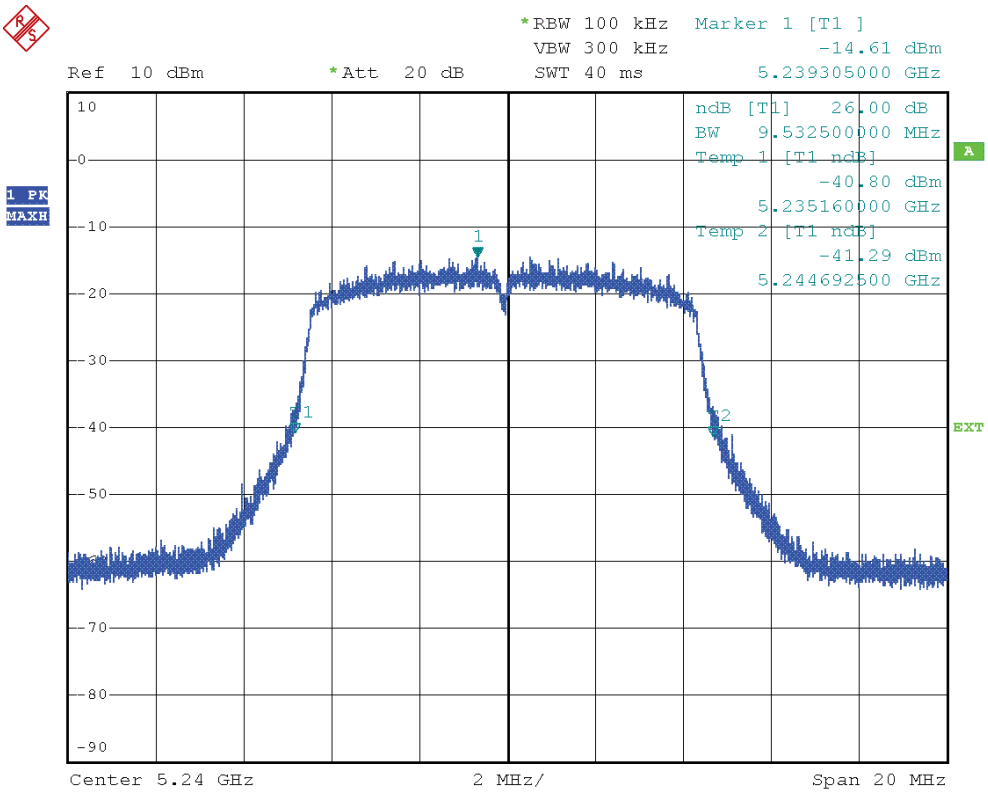
U-NII-1 band - Channel 48 (F = 5240 MHz) – Mode 802.11an – bandwidth 10 MHz – Front Right



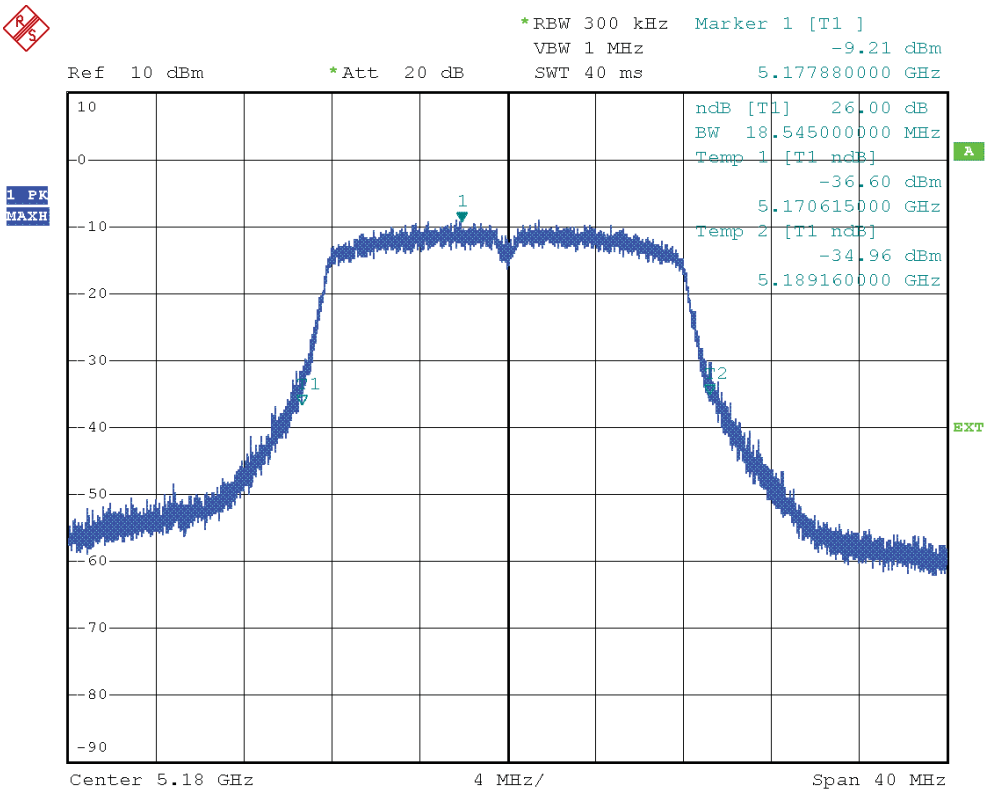
U-NII-1 band - Channel 48 (F = 5240 MHz) – Mode 802.11an – bandwidth 10 MHz – Back Left



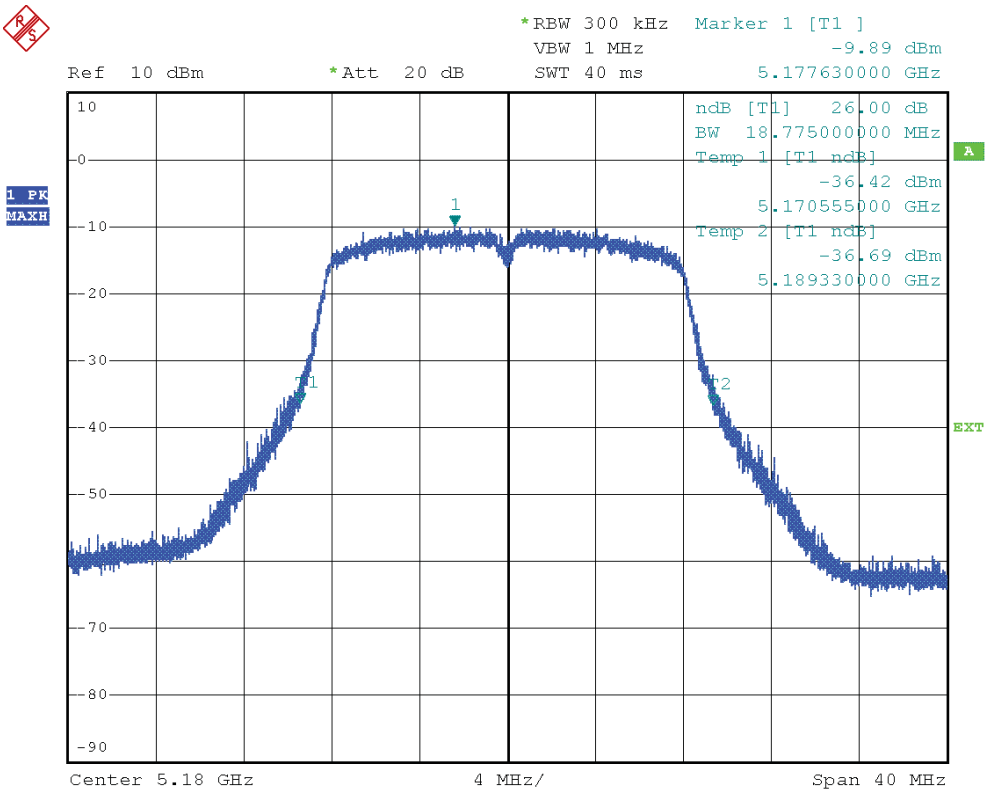
U-NII-1 band - Channel 48 (F = 5240 MHz) – Mode 802.11an – bandwidth 10 MHz – Back Right



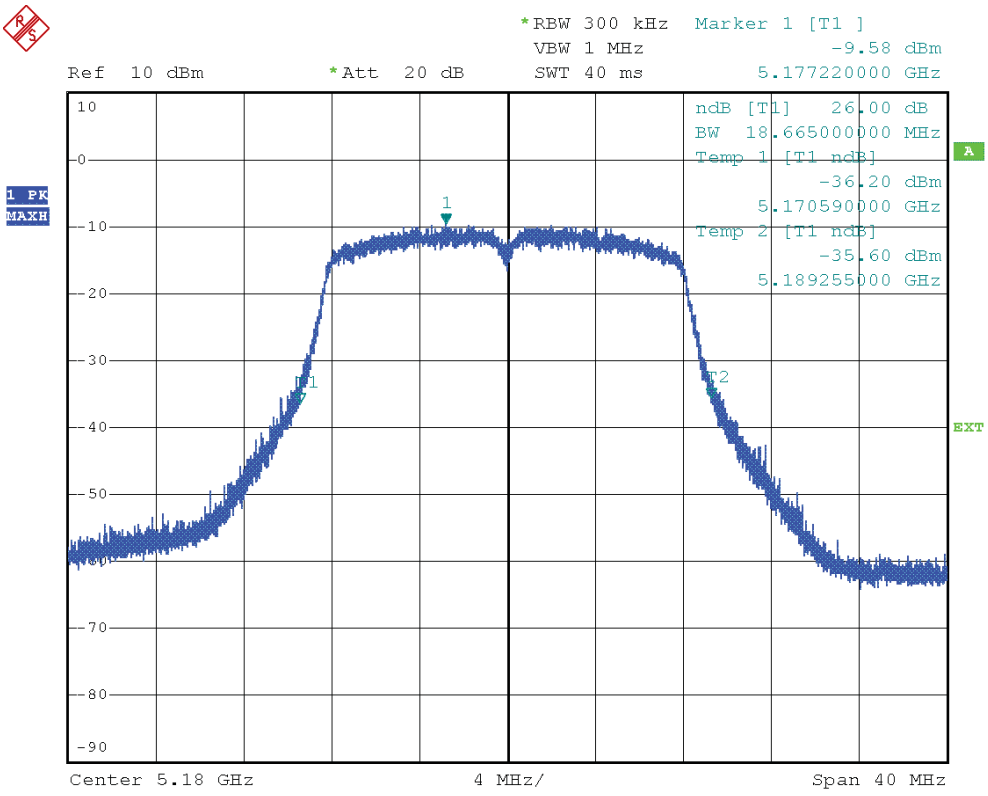
U-NII-1 band - Channel 36 (F = 5180 MHz) – Mode 802.11a – bandwidth 20 MHz – Front Left



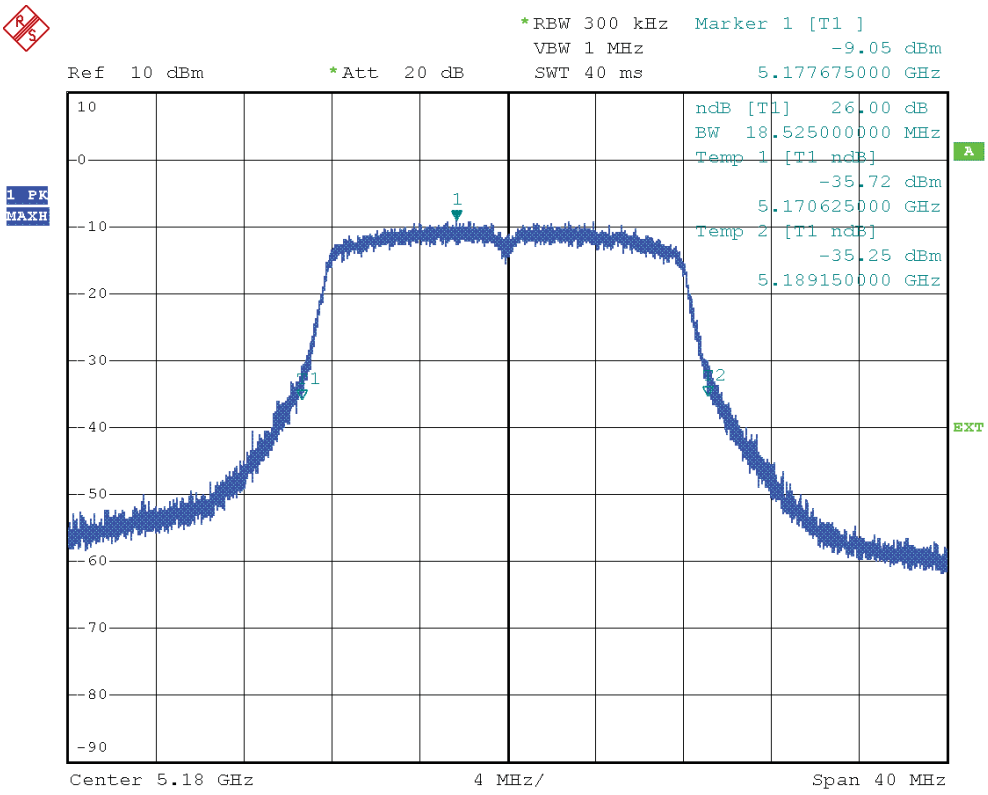
U-NII-1 band - Channel 36 (F = 5180 MHz) – Mode 802.11a – bandwidth 20 MHz – Front Right



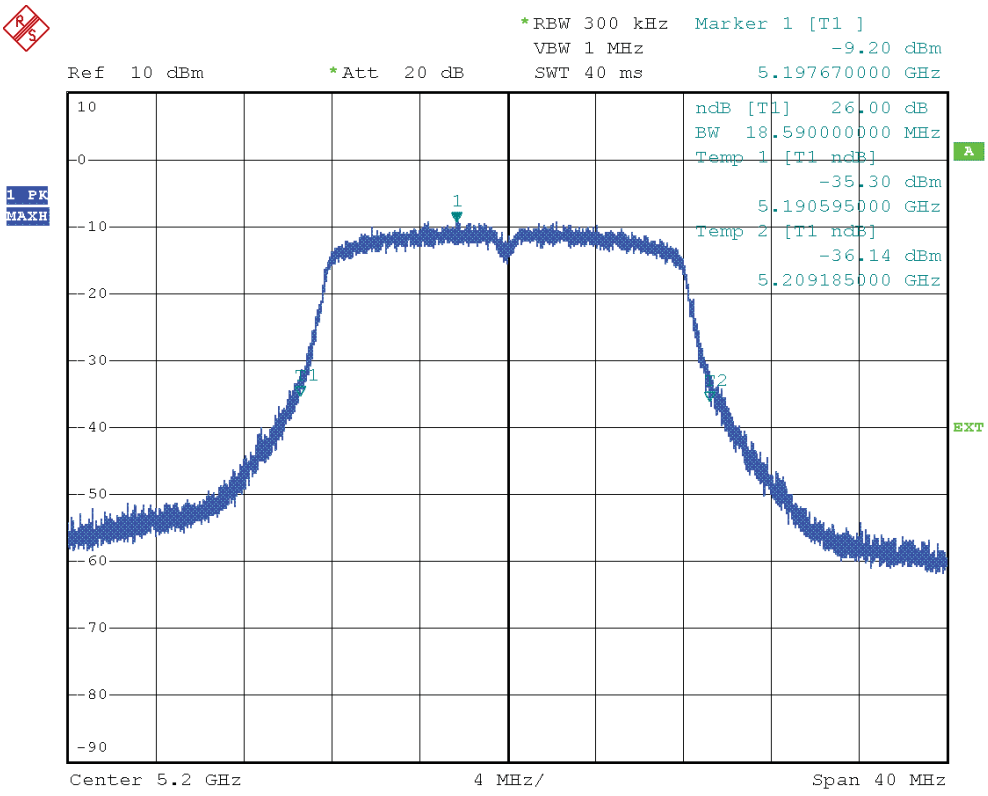
U-NII-1 band - Channel 36 (F = 5180 MHz) – Mode 802.11a – bandwidth 20 MHz – Back Left



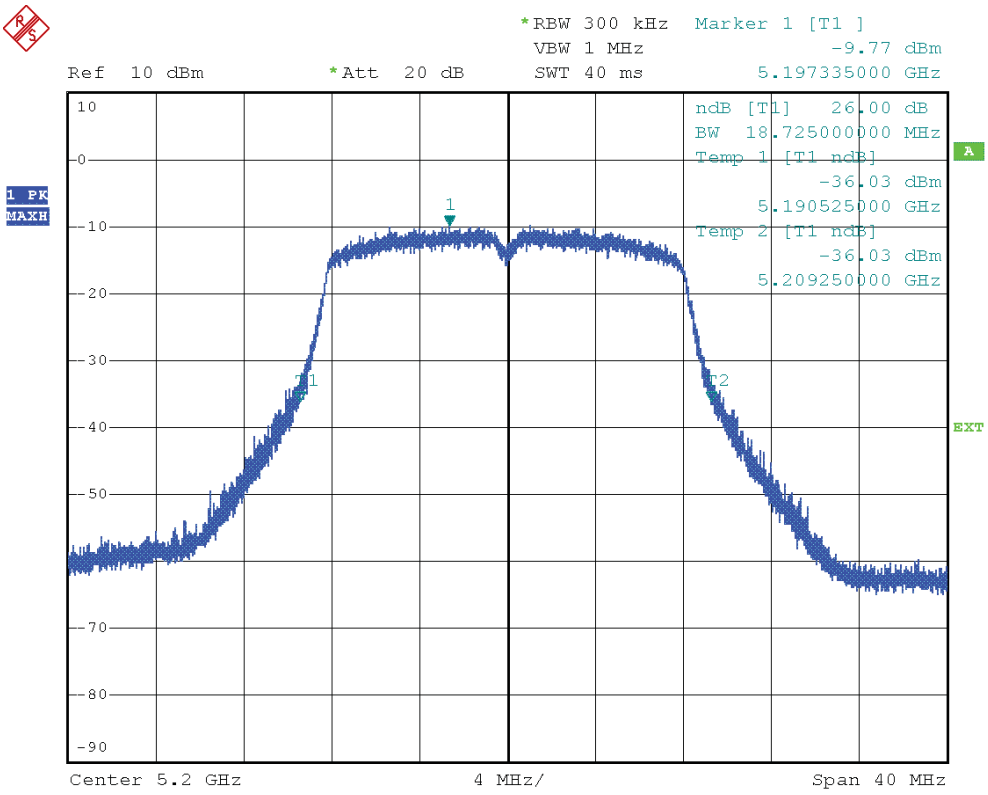
U-NII-1 band - Channel 36 (F = 5180 MHz) – Mode 802.11a – bandwidth 20 MHz – Back Right



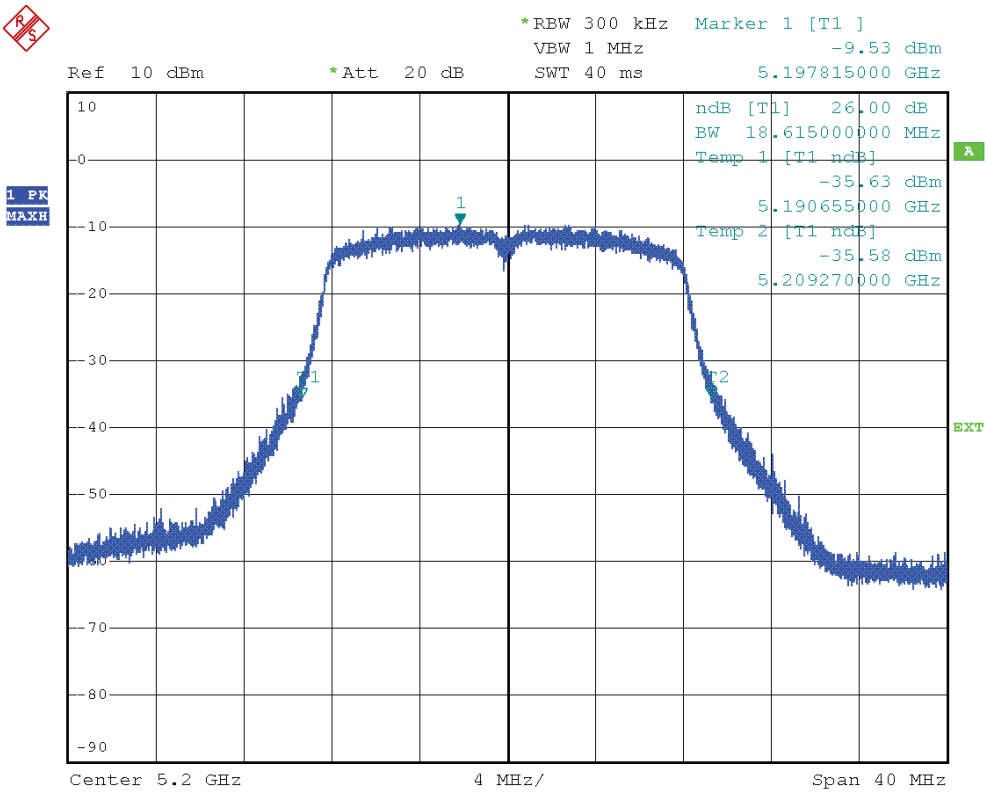
U-NII-1 band - Channel 40 (F = 5200 MHz) – Mode 802.11a – bandwidth 20 MHz – Front Left



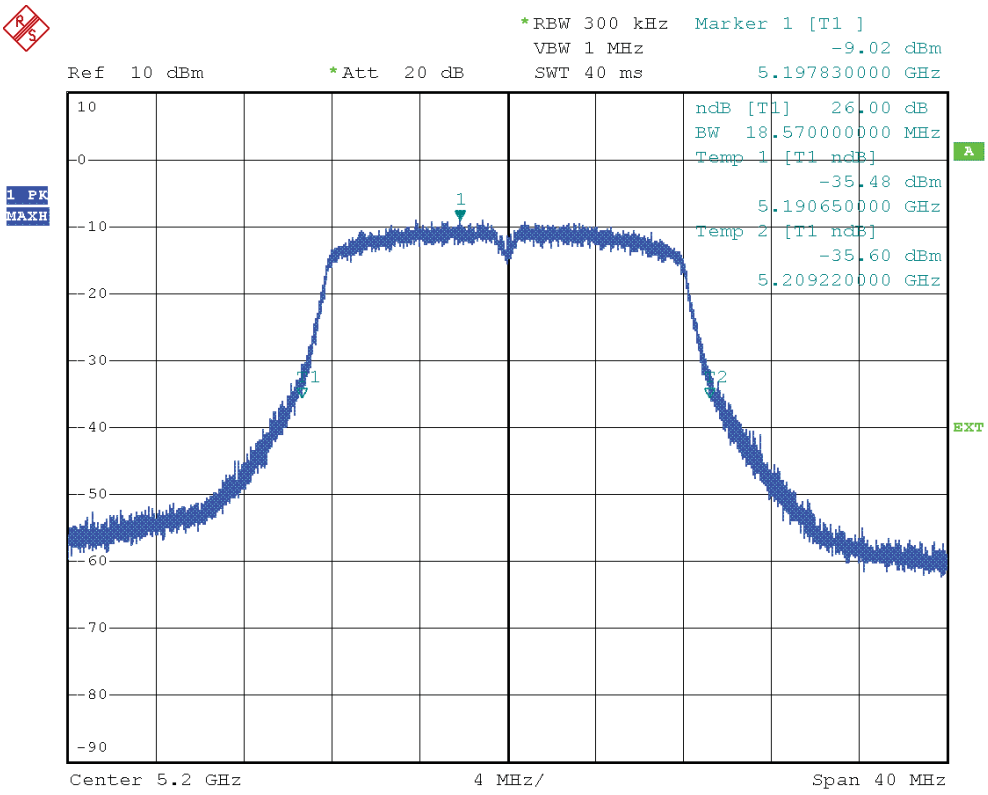
U-NII-1 band - Channel 40 (F = 5200 MHz) – Mode 802.11a – bandwidth 20 MHz – Front Right



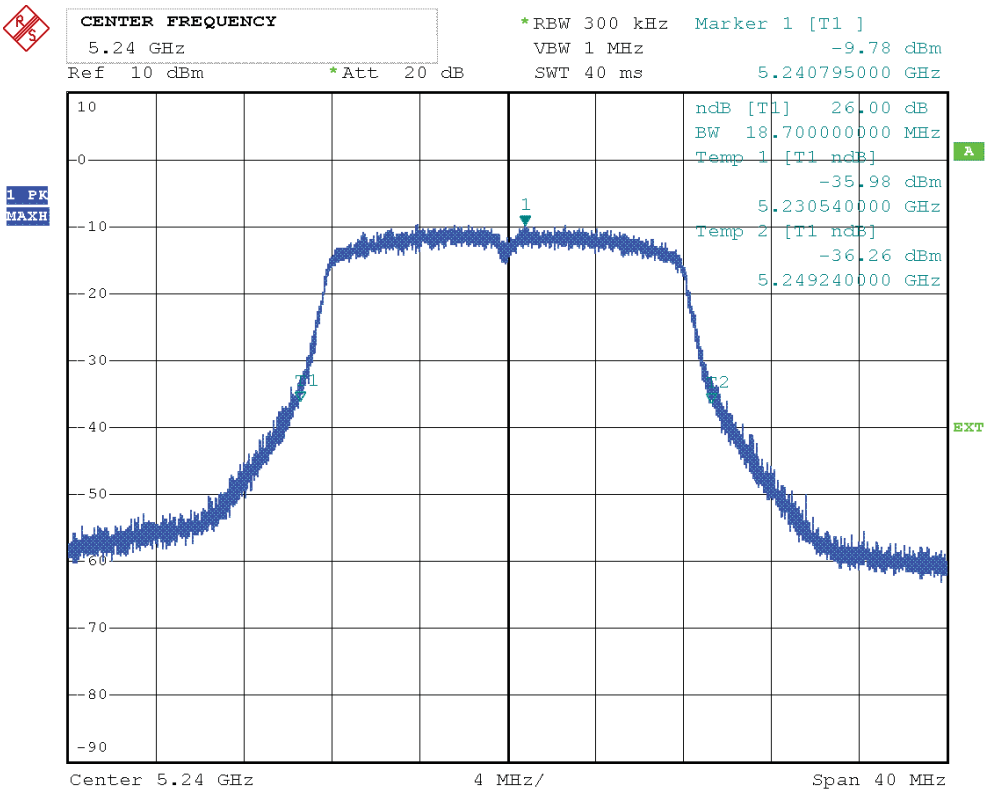
U-NII-1 band - Channel 40 (F = 5200 MHz) – Mode 802.11a – bandwidth 20 MHz – Back Left



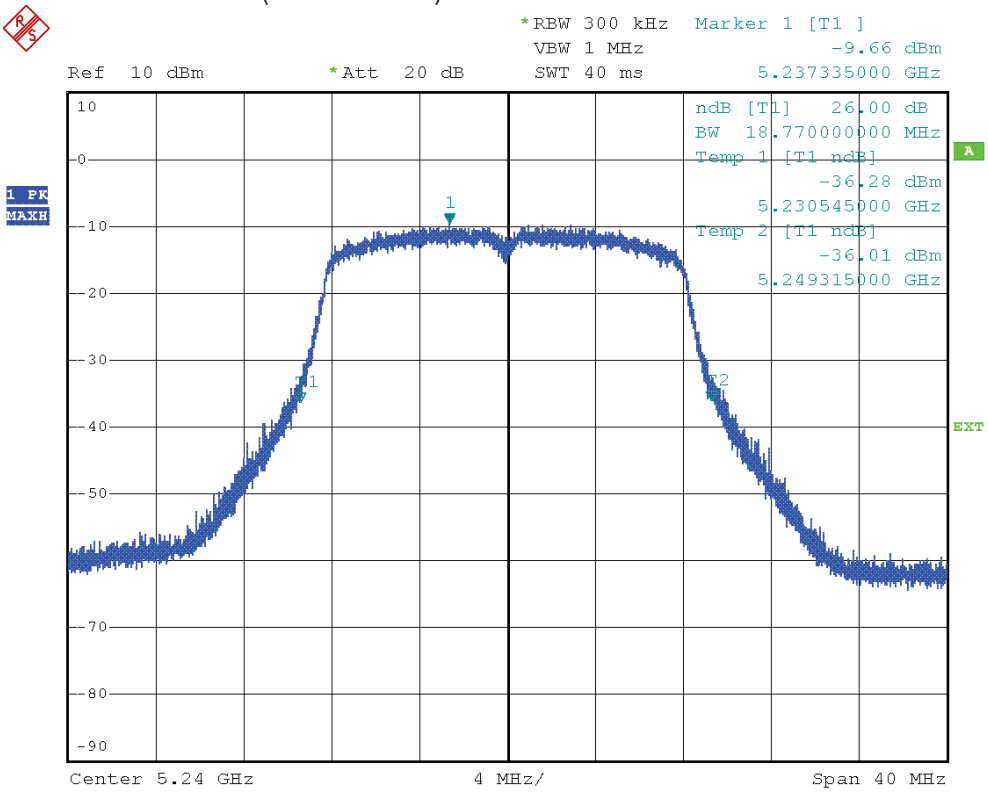
U-NII-1 band - Channel 40 (F = 5200 MHz) – Mode 802.11a – bandwidth 20 MHz – Back Right



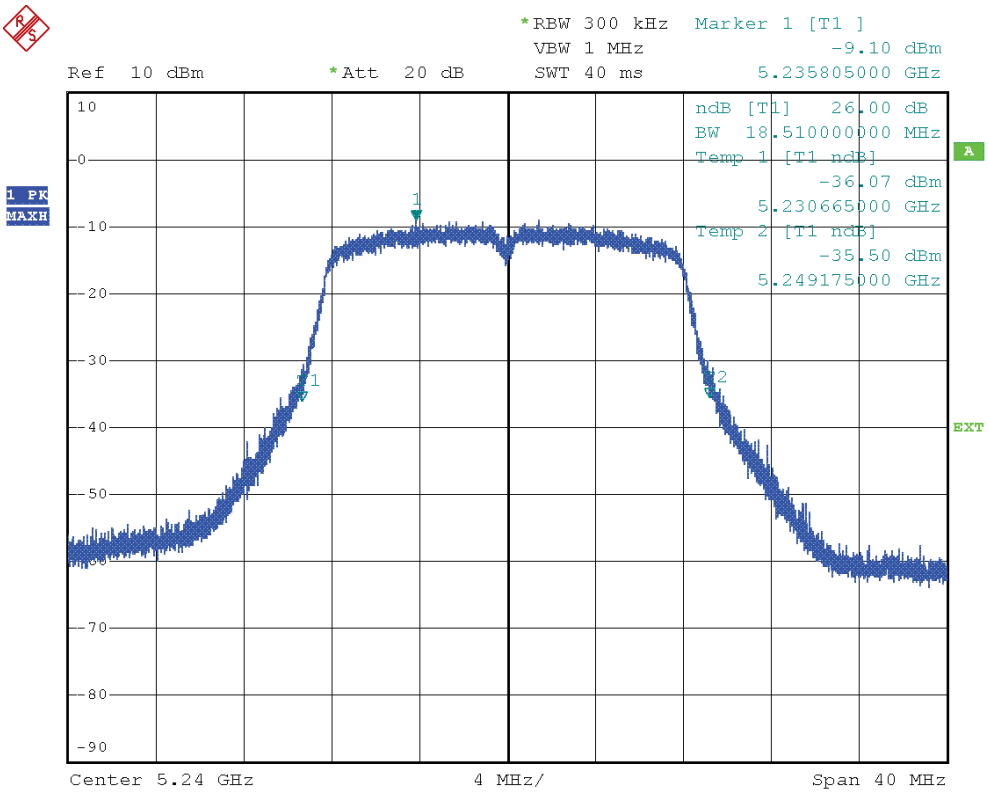
U-NII-1 band - Channel 48 (F = 5240 MHz) – Mode 802.11a – bandwidth 20 MHz – Front Left



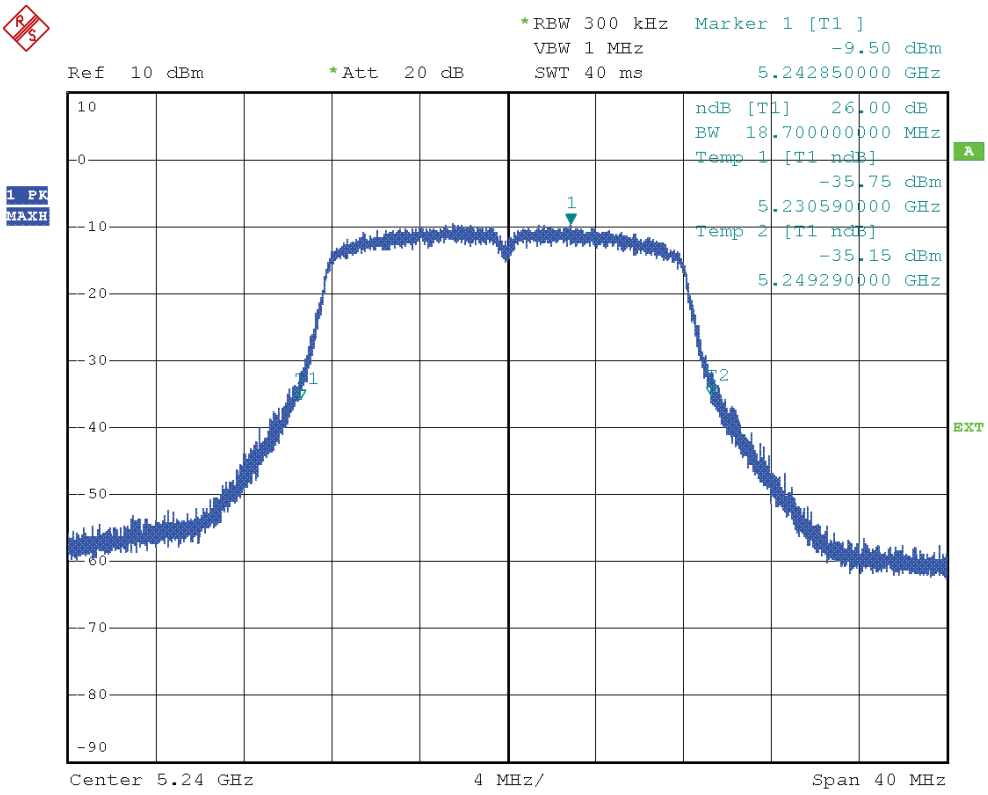
U-NII-1 band - Channel 48 (F = 5240 MHz) – Mode 802.11a – bandwidth 20 MHz – Front Right



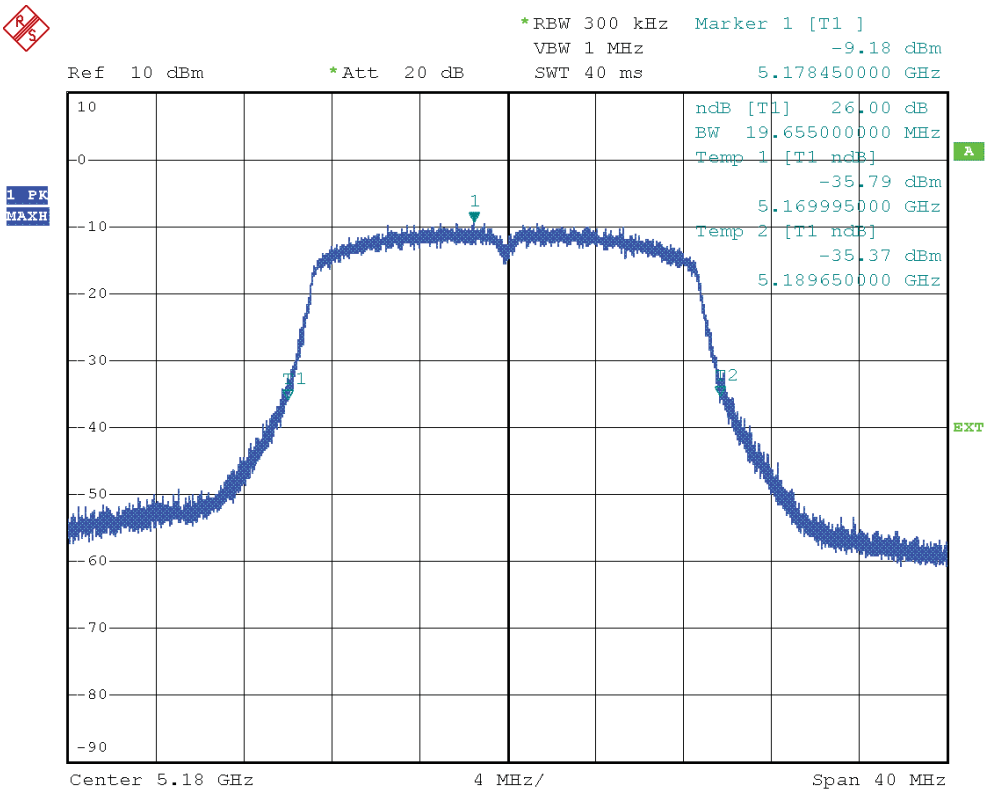
U-NII-1 band - Channel 48 (F = 5240 MHz) – Mode 802.11a – bandwidth 20 MHz – Back Left



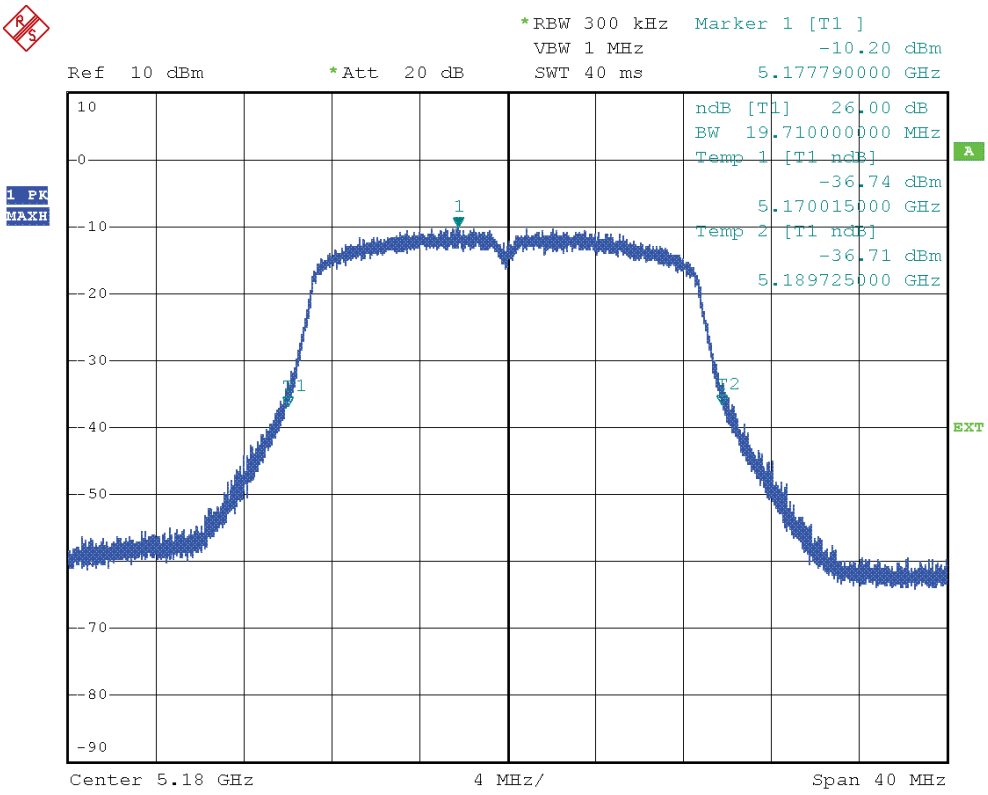
U-NII-1 band - Channel 48 (F = 5240 MHz) – Mode 802.11a – bandwidth 20 MHz – Back Right



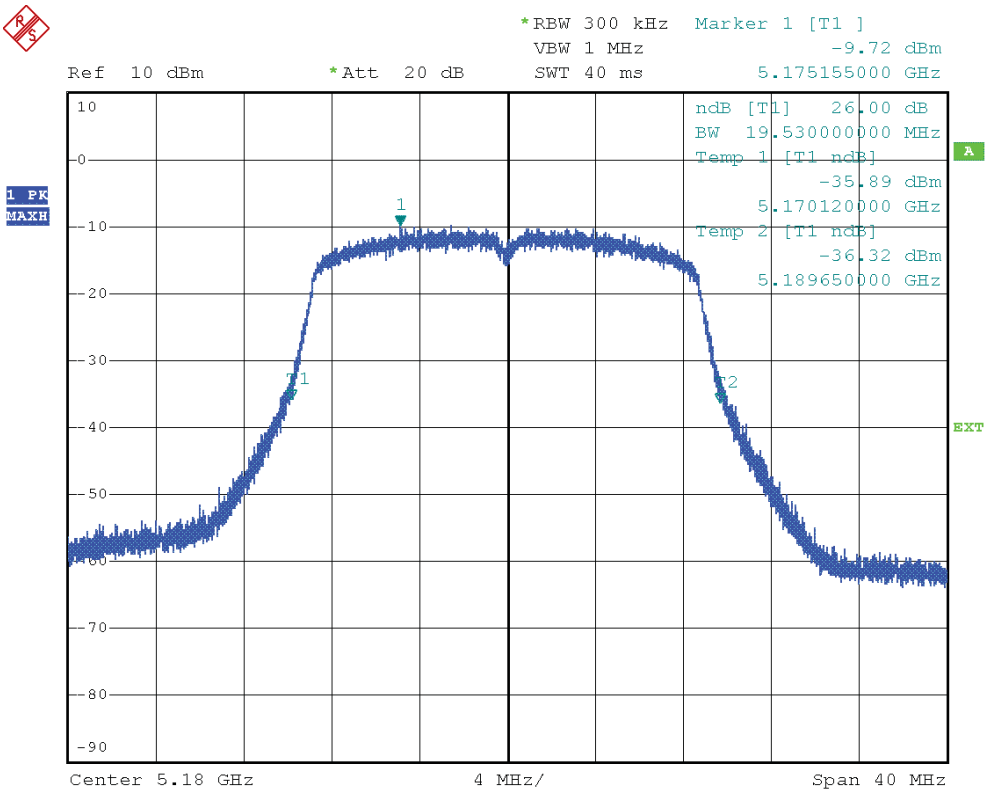
U-NII-1 band - Channel 36 (F = 5180 MHz) – Mode 802.11an – bandwidth 20 MHz – Front Left



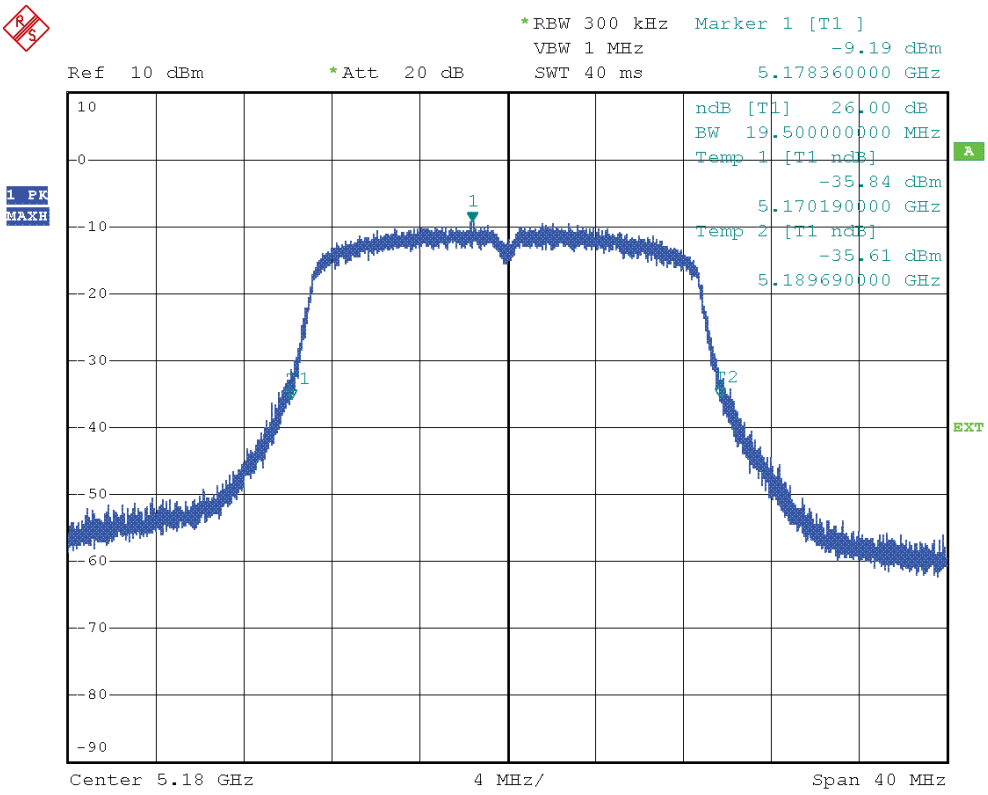
U-NII-1 band - Channel 36 (F = 5180 MHz) – Mode 802.11an – bandwidth 20 MHz – Front Right



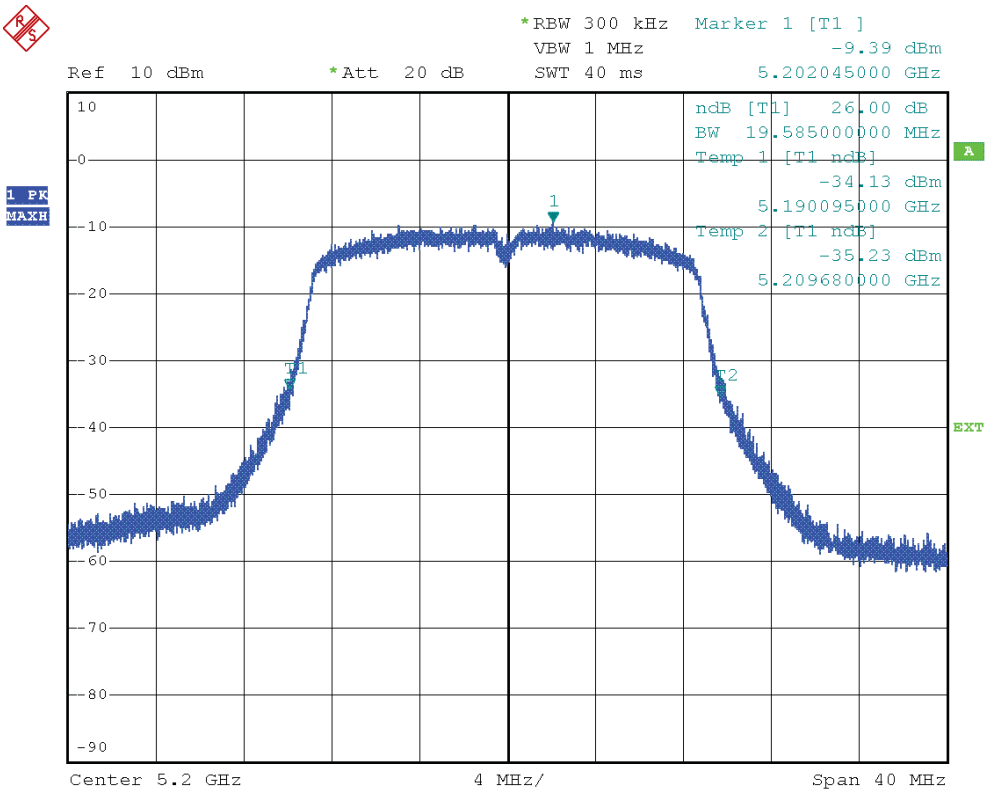
U-NII-1 band - Channel 36 (F = 5180 MHz) – Mode 802.11an – bandwidth 20 MHz – Back Left



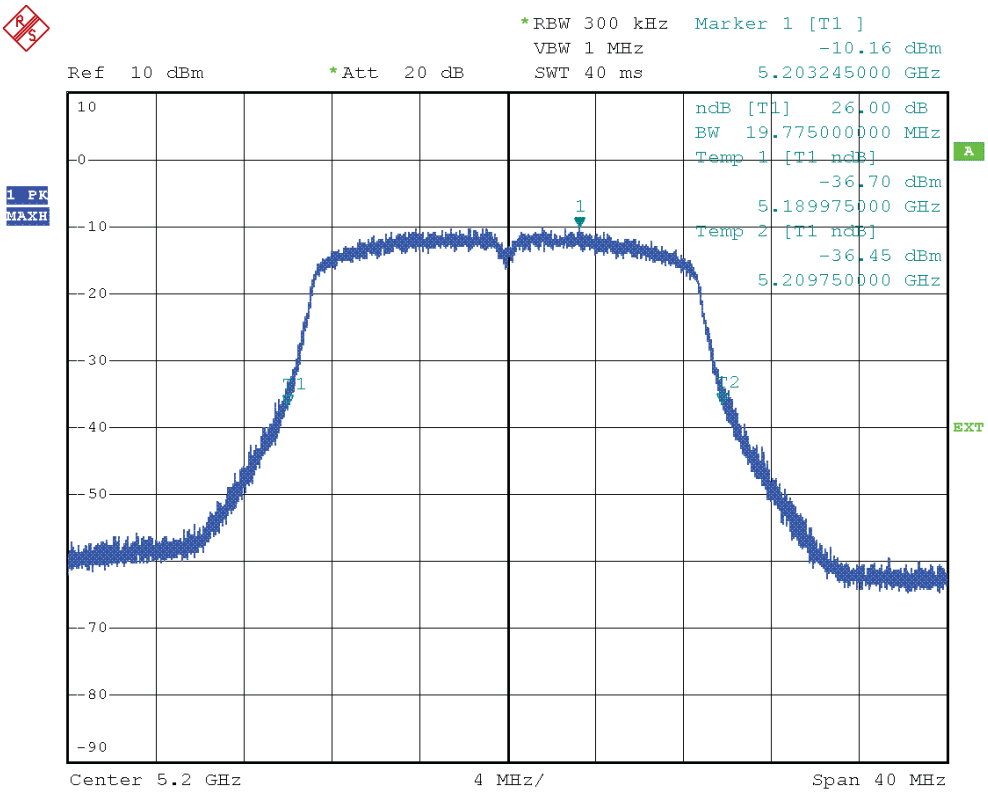
U-NII-1 band - Channel 36 (F = 5180 MHz) – Mode 802.11an – bandwidth 20 MHz – Back Right



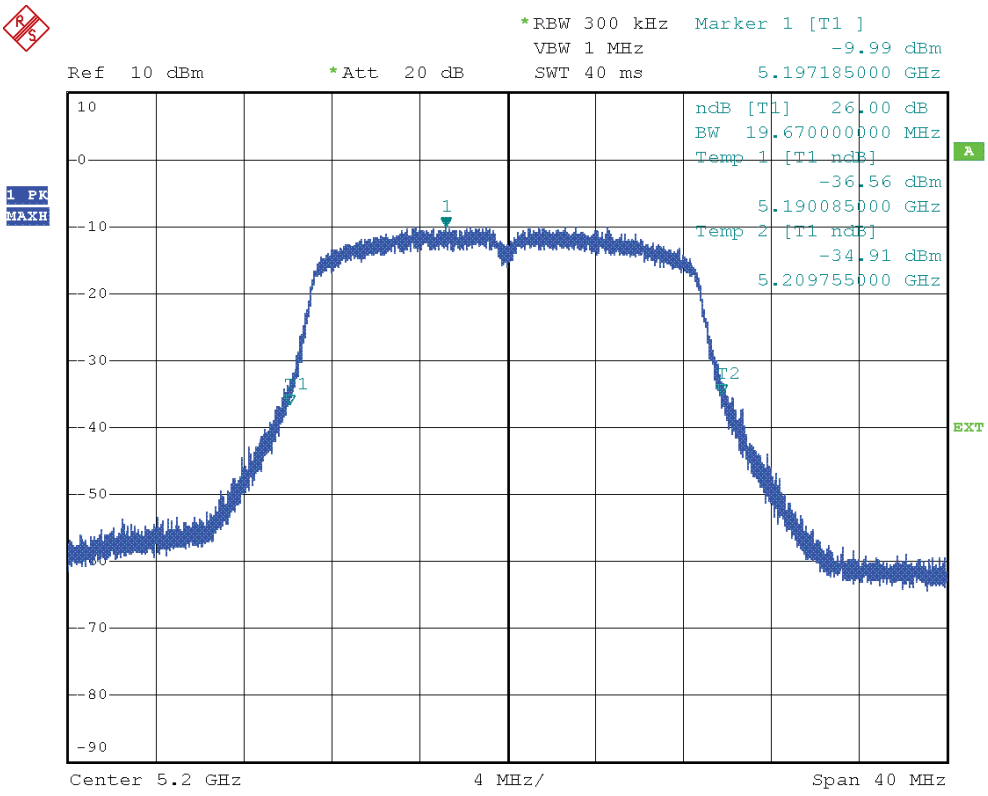
U-NII-1 band - Channel 40 (F = 5200 MHz) – Mode 802.11an – bandwidth 20 MHz – Front Left



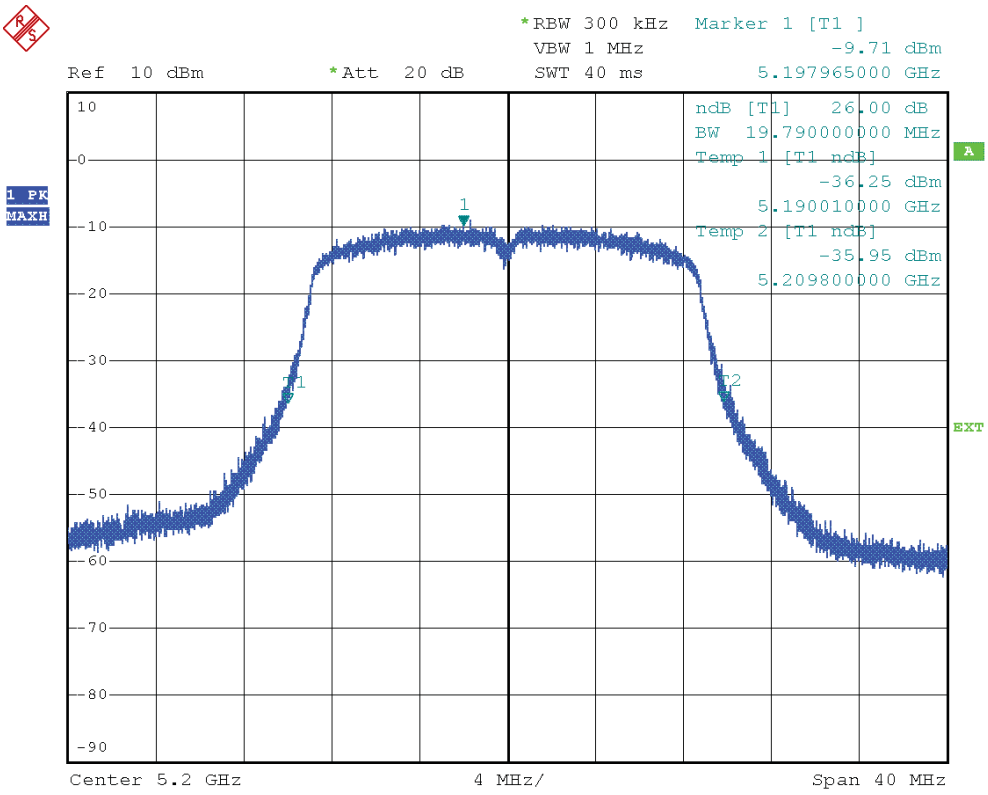
U-NII-1 band - Channel 40 (F = 5200 MHz) – Mode 802.11an – bandwidth 20 MHz – Front Right



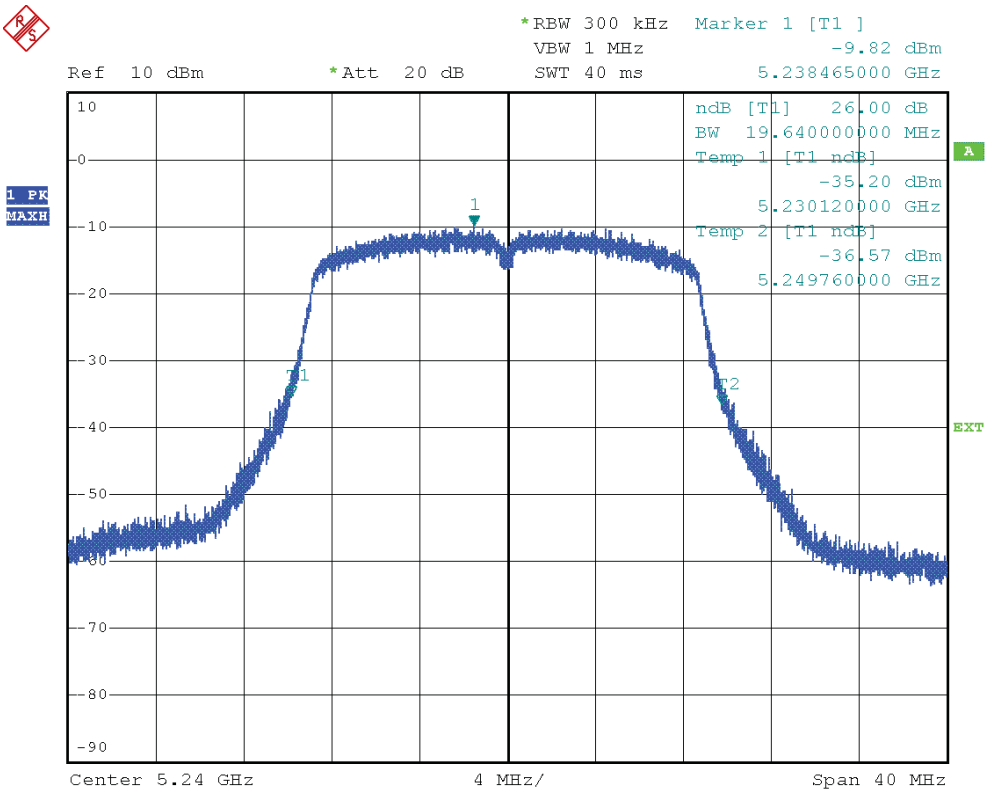
U-NII-1 band - Channel 40 (F = 5200 MHz) – Mode 802.11an – bandwidth 20 MHz – Back Left



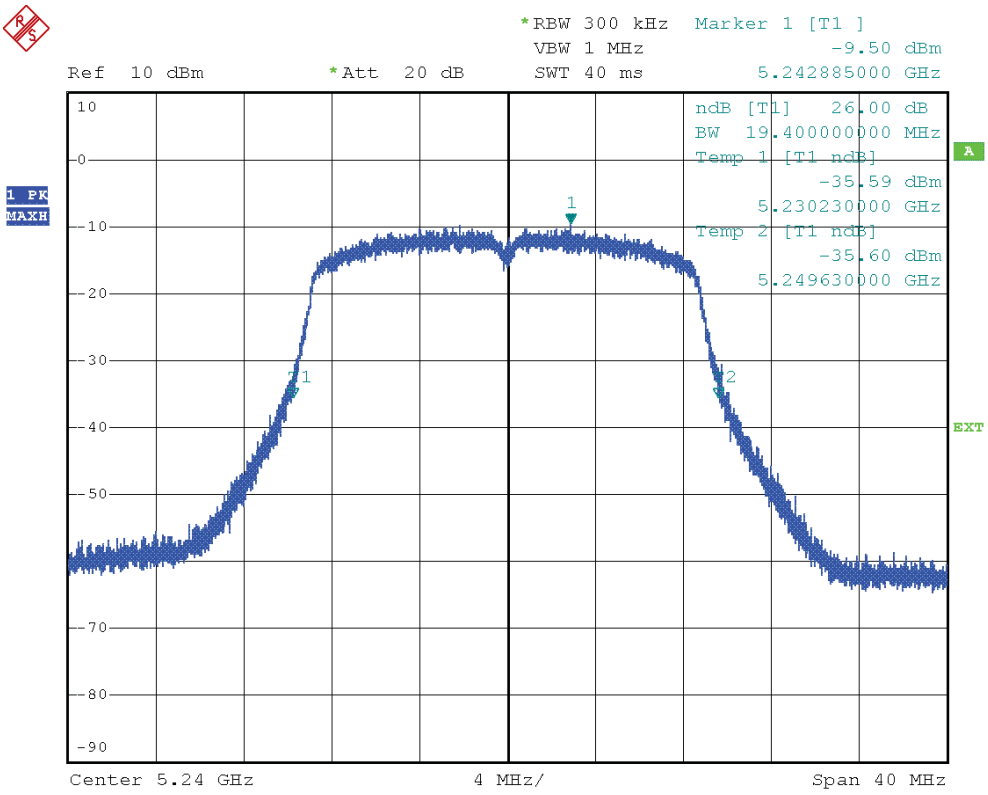
U-NII-1 band - Channel 40 (F = 5200 MHz) – Mode 802.11an – bandwidth 20 MHz – Back Right



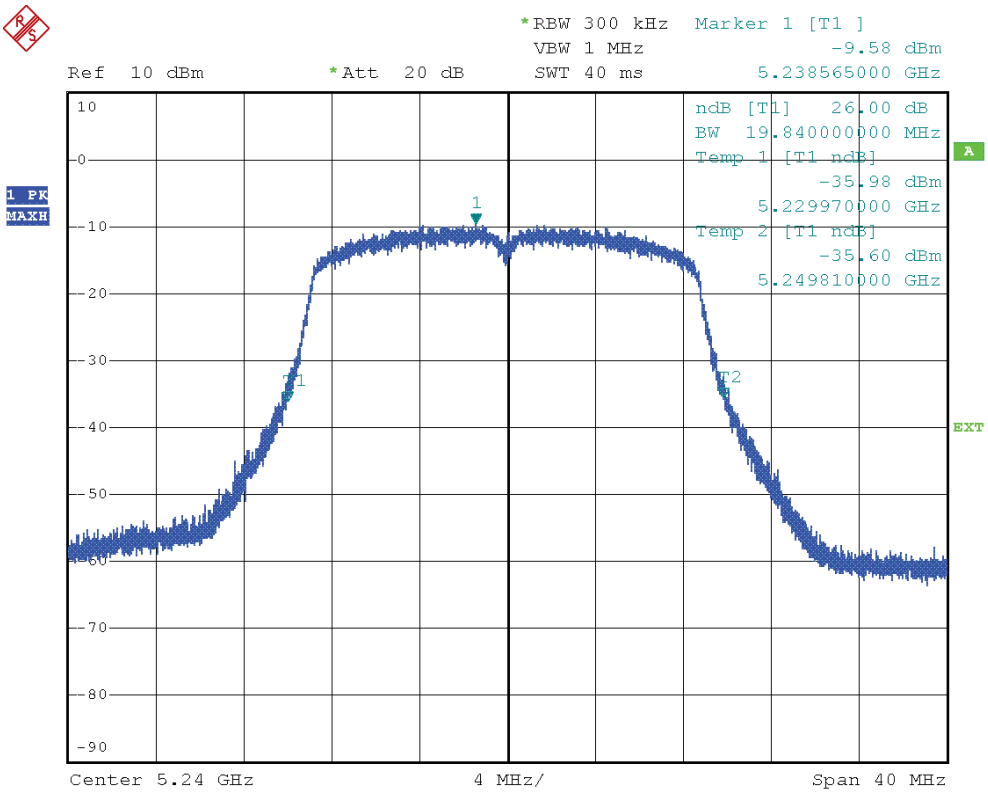
U-NII-1 band - Channel 48 (F = 5240 MHz) – Mode 802.11an – bandwidth 20 MHz – Front Left



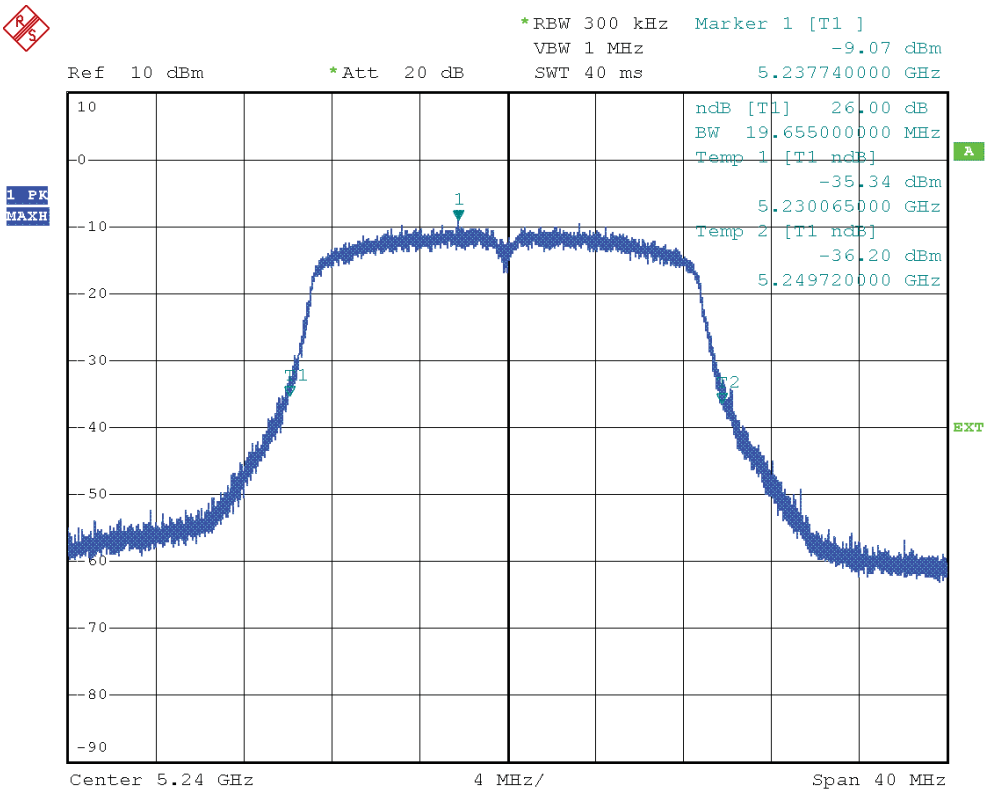
U-NII-1 band - Channel 48 (F = 5240 MHz) – Mode 802.11an – bandwidth 20 MHz – Front Right



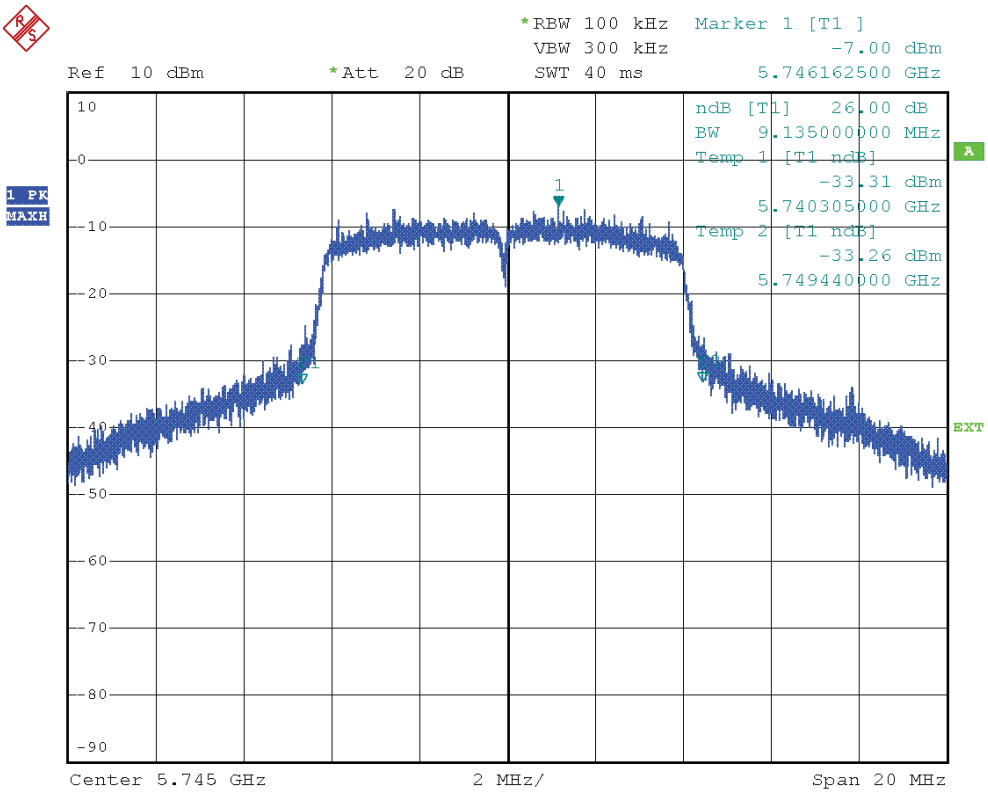
U-NII-1 band - Channel 48 (F = 5240 MHz) – Mode 802.11an – bandwidth 20 MHz – Back Left



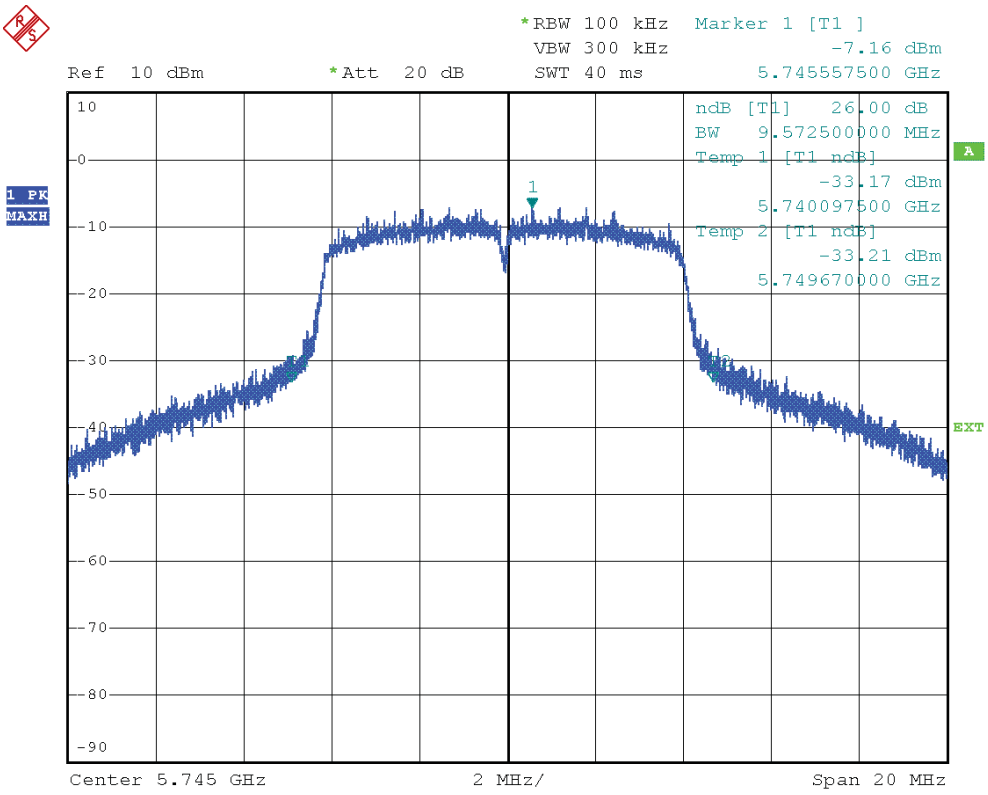
U-NII-1 band - Channel 48 (F = 5240 MHz) – Mode 802.11an – bandwidth 20 MHz – Back Right



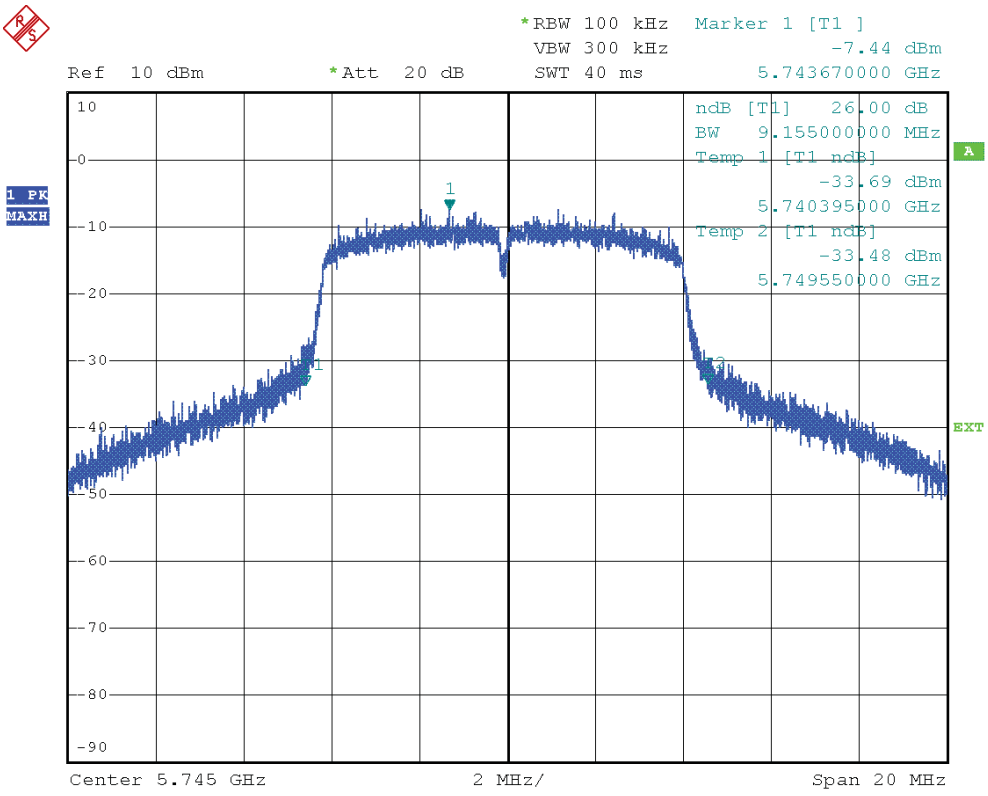
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11a – bandwidth 10 MHz – Front Left



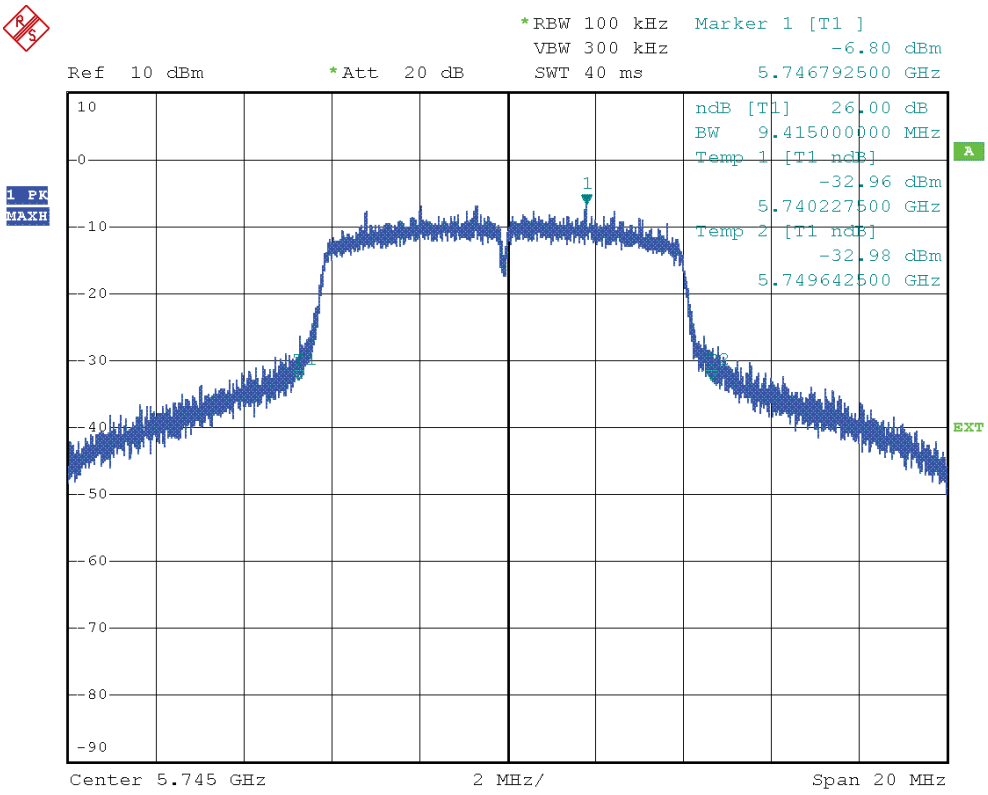
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11a – bandwidth 10 MHz – Front Right



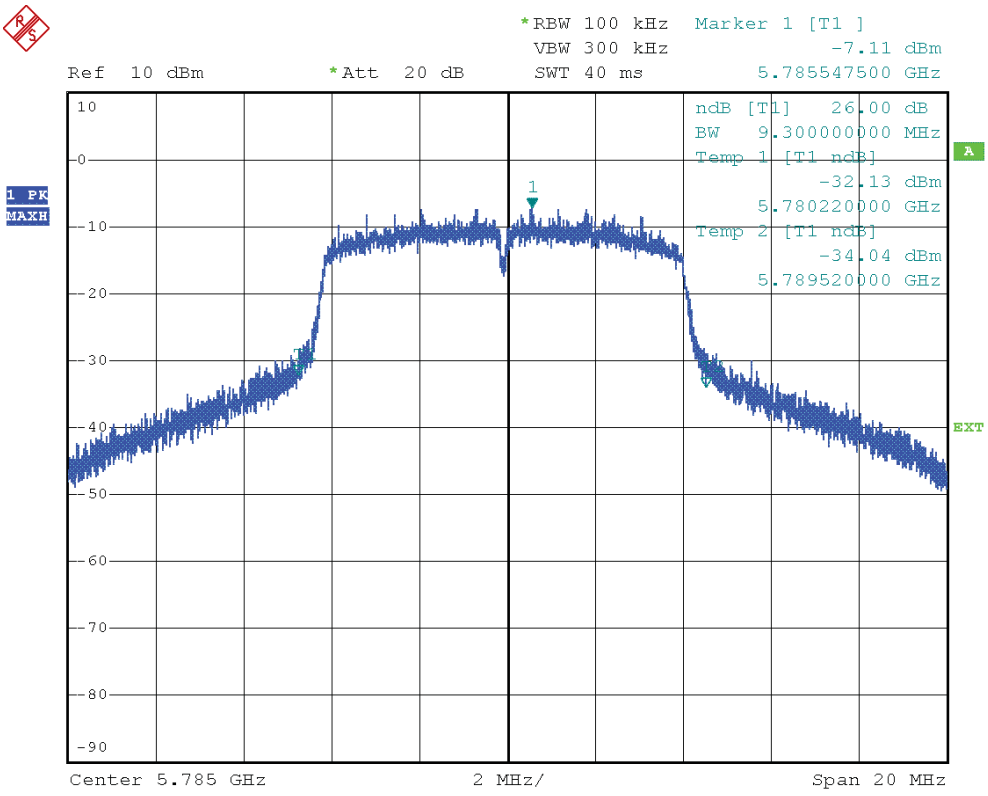
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11a – bandwidth 10 MHz – Back Left



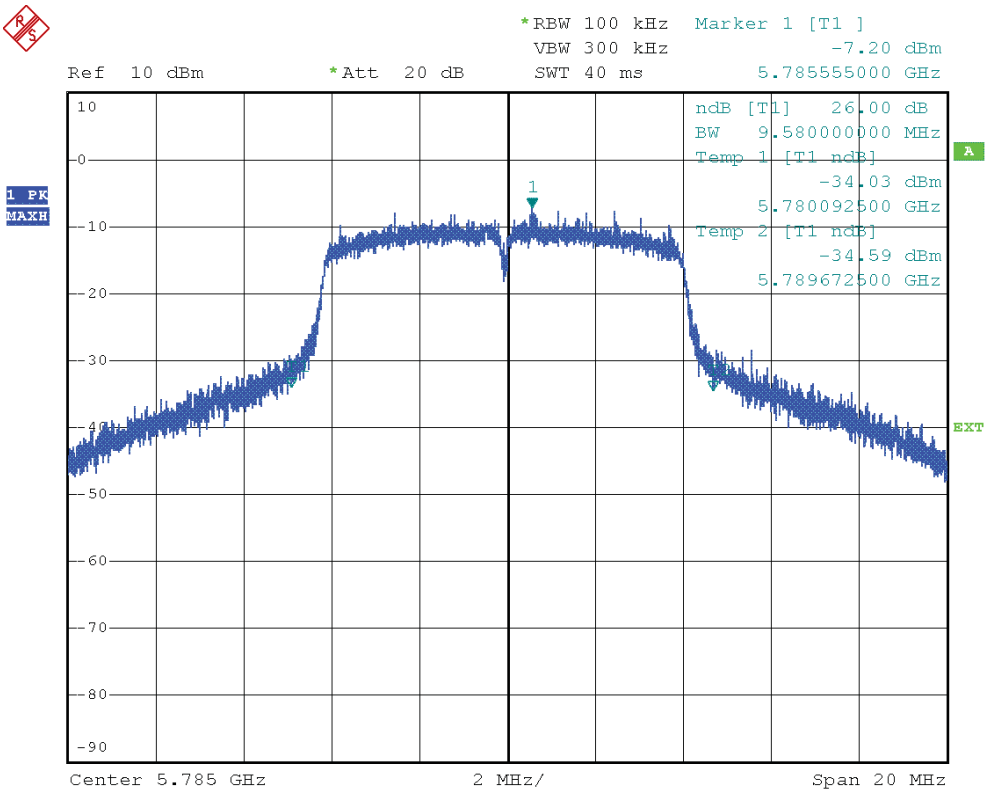
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11a – bandwidth 10 MHz – Back Right



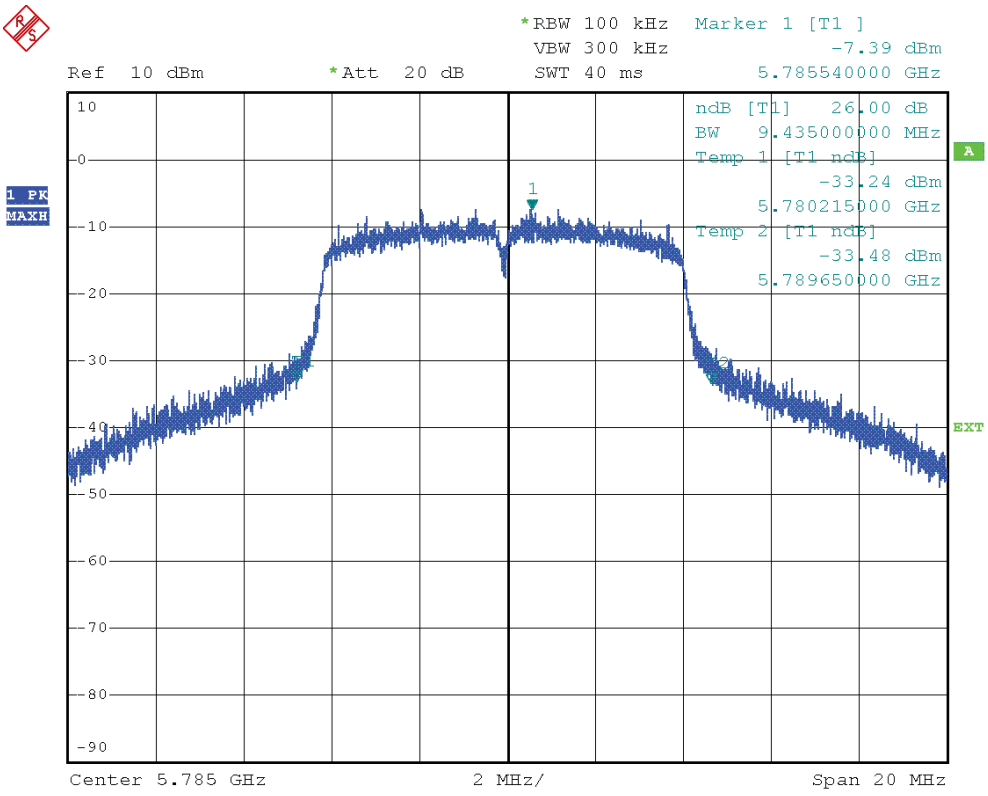
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11a – bandwidth 10 MHz – Front Left



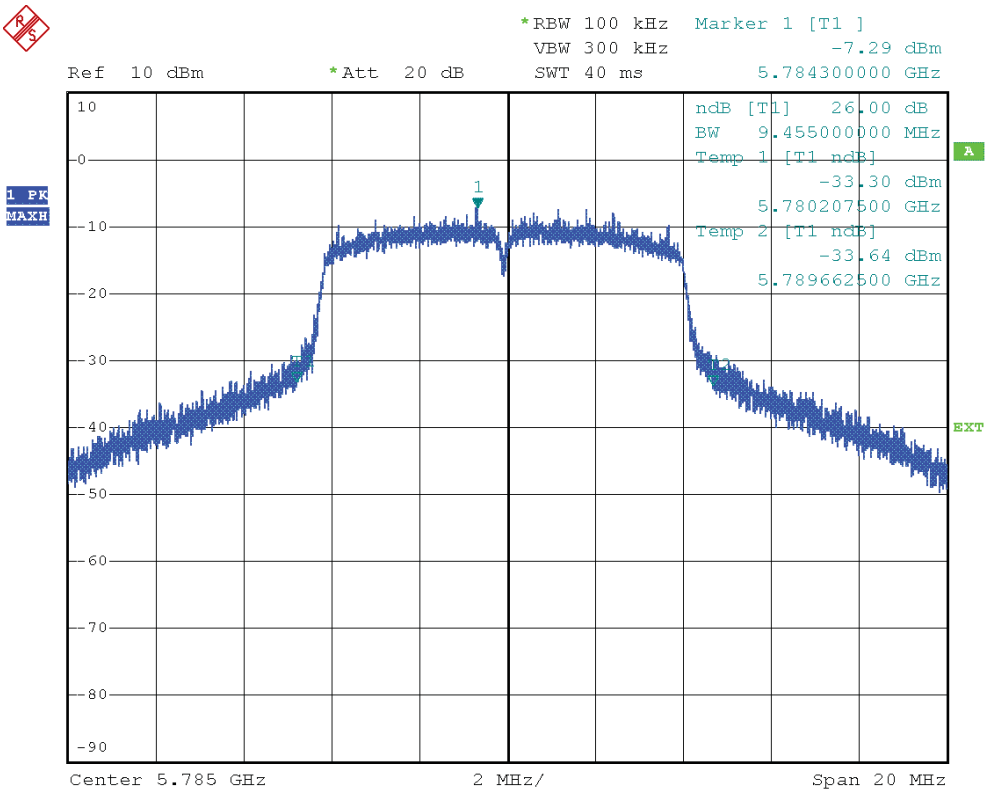
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11a – bandwidth 10 MHz – Front Right



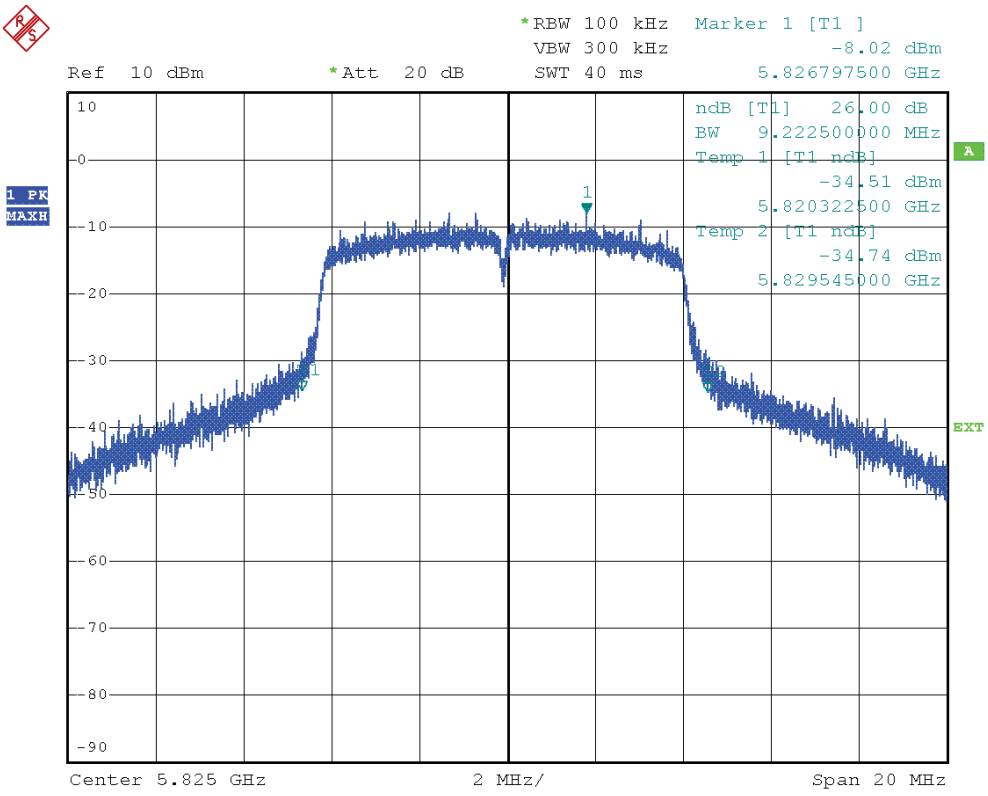
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11a – bandwidth 10 MHz – Back Left



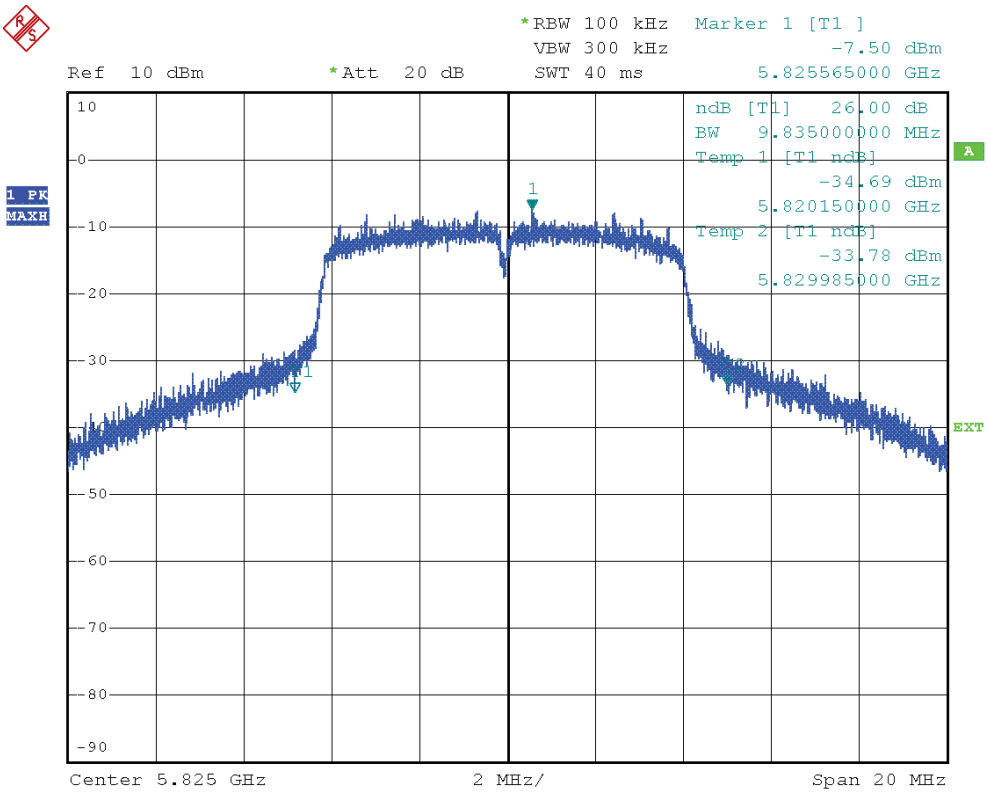
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11a – bandwidth 10 MHz – Back Right



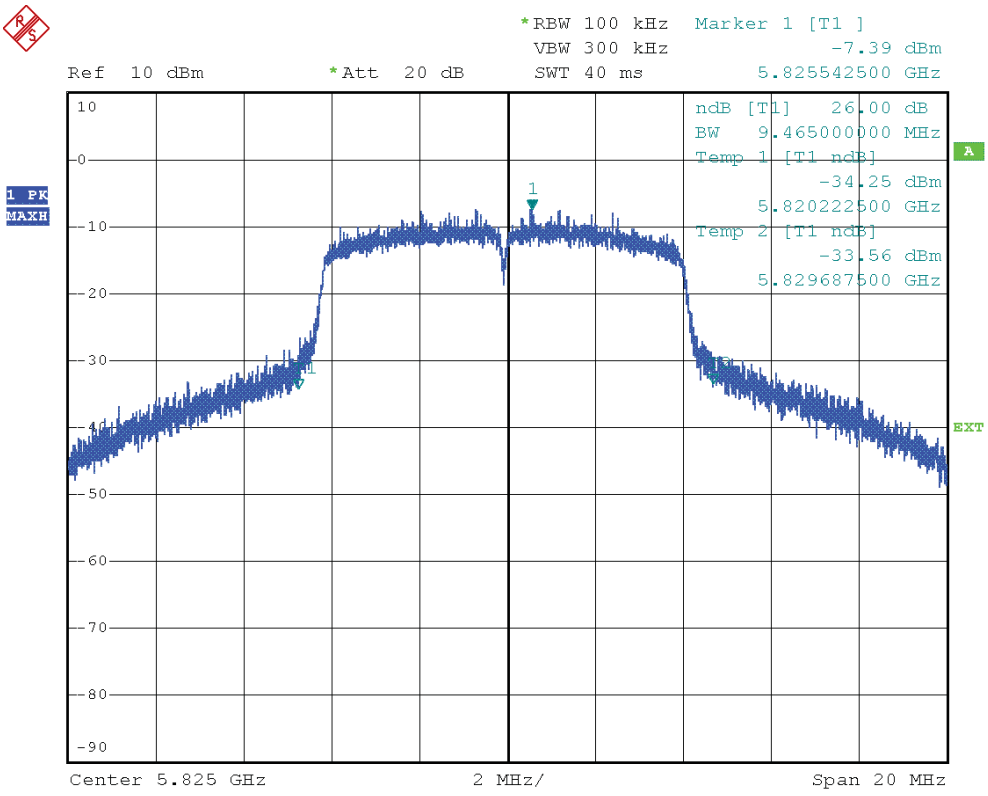
U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11a – bandwidth 10 MHz – Front Left



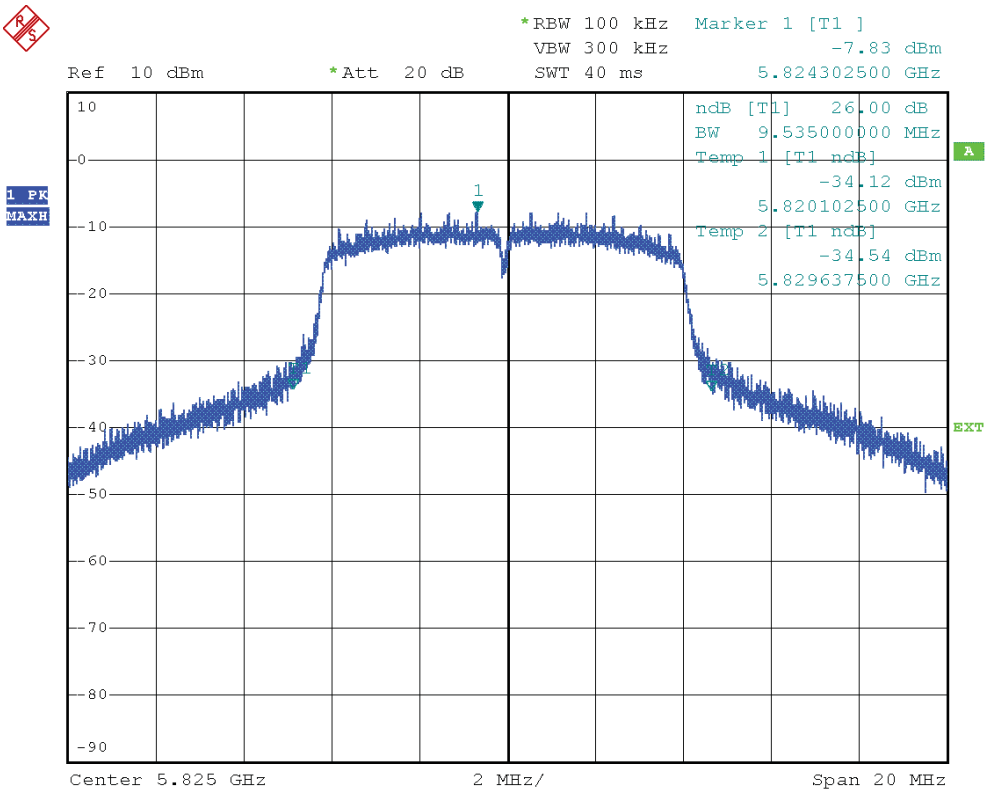
U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11a – bandwidth 10 MHz – Front Right



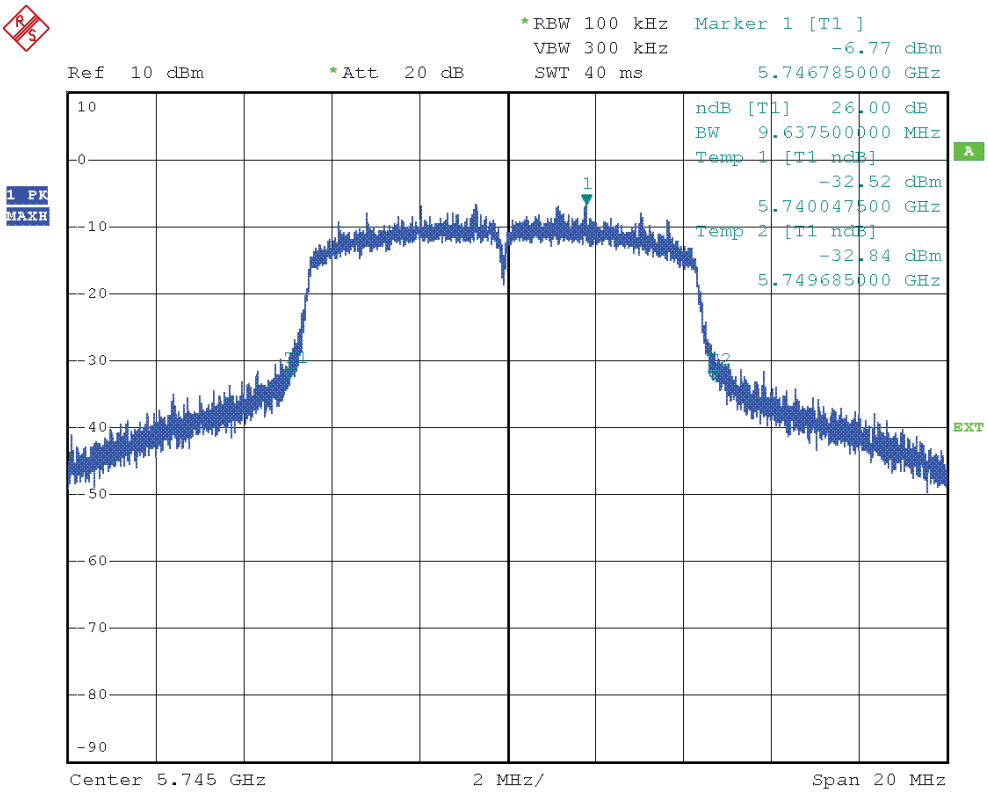
U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11a – bandwidth 10 MHz – Back Left



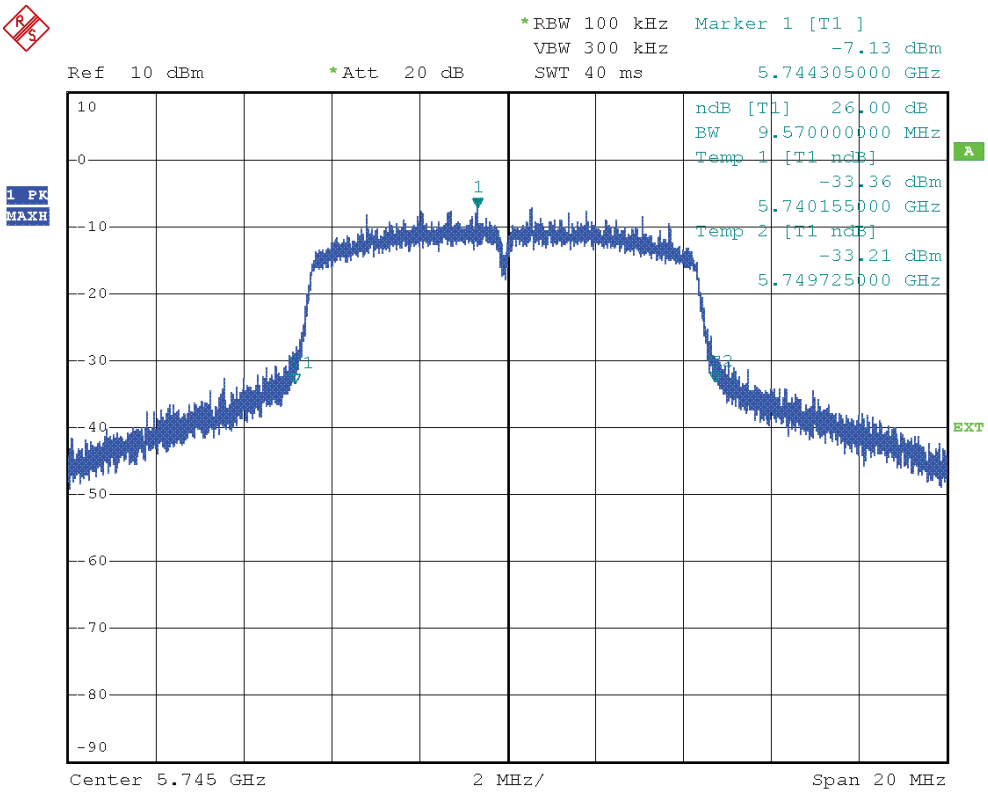
U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11a – bandwidth 10 MHz – Back Right



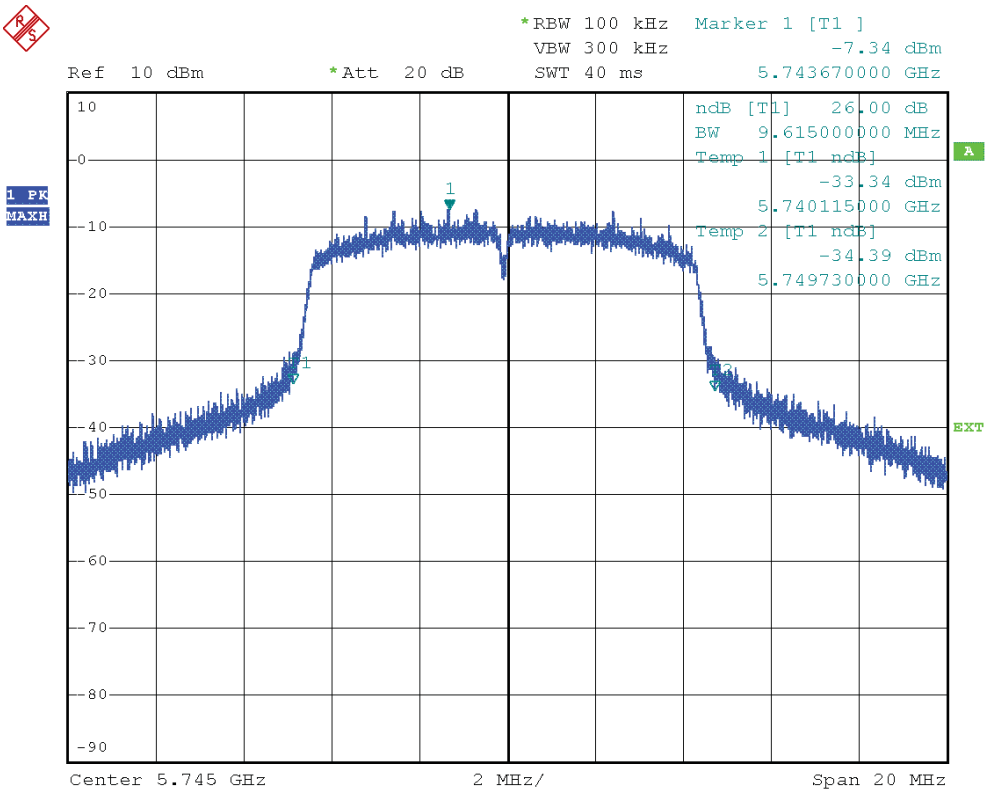
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11an – bandwidth 10 MHz – Front Left



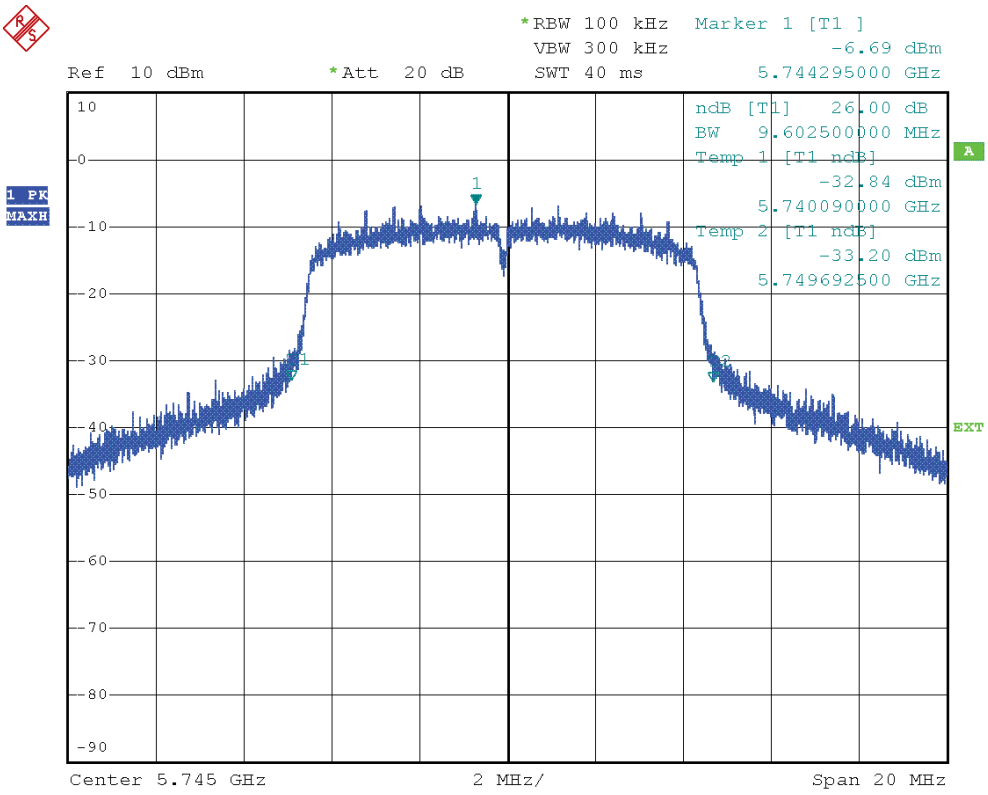
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11an – bandwidth 10 MHz – Front Right



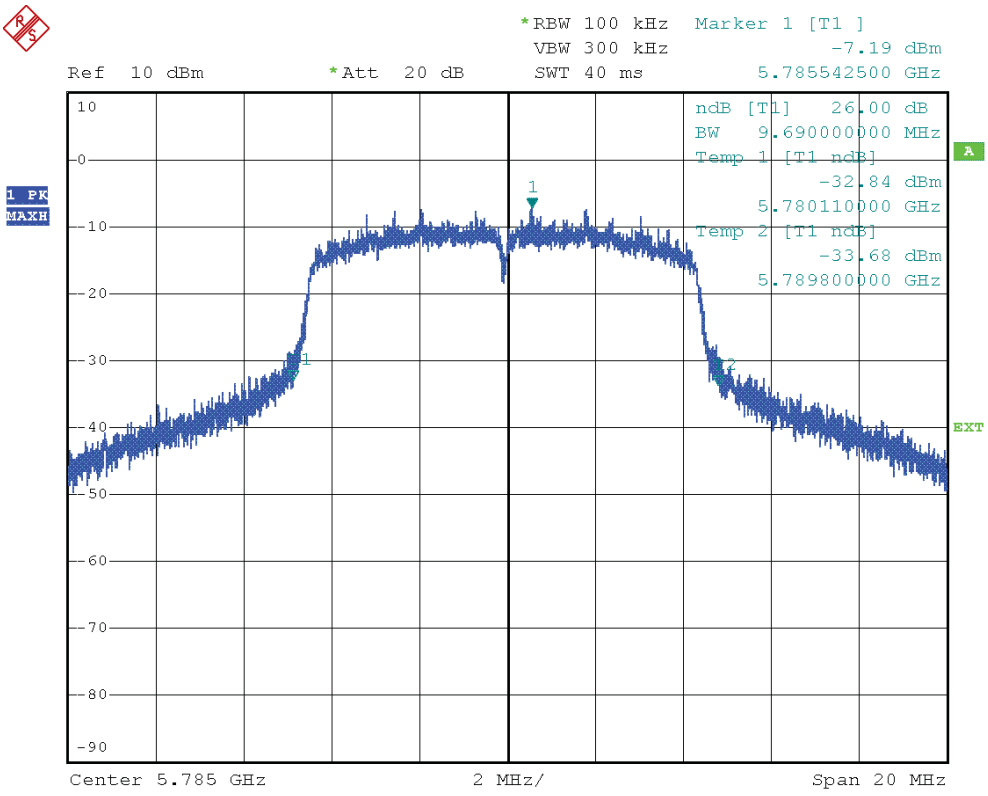
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11an – bandwidth 10 MHz – Back Left



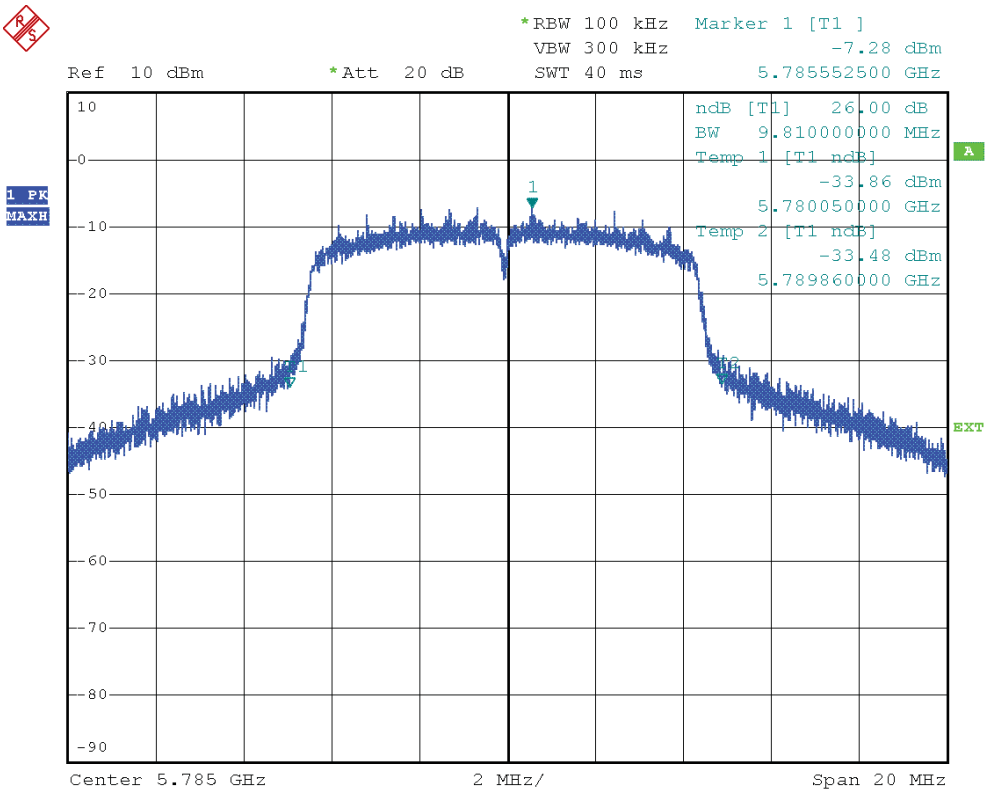
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11an – bandwidth 10 MHz – Back Right



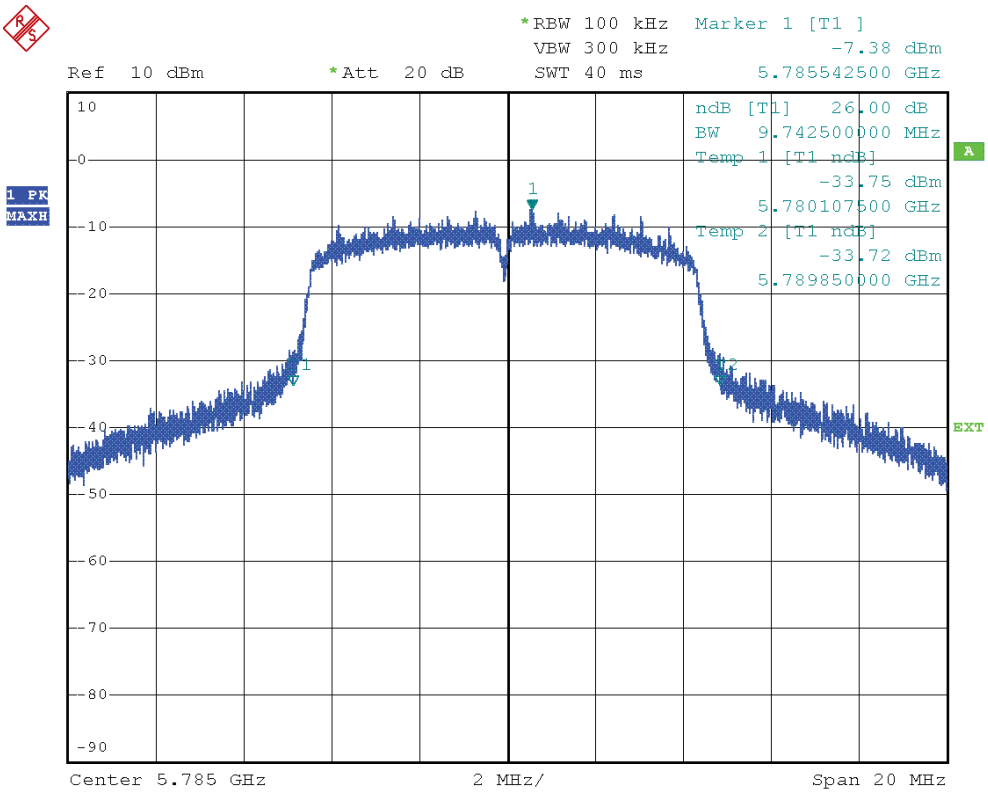
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11an – bandwidth 10 MHz – Front Left



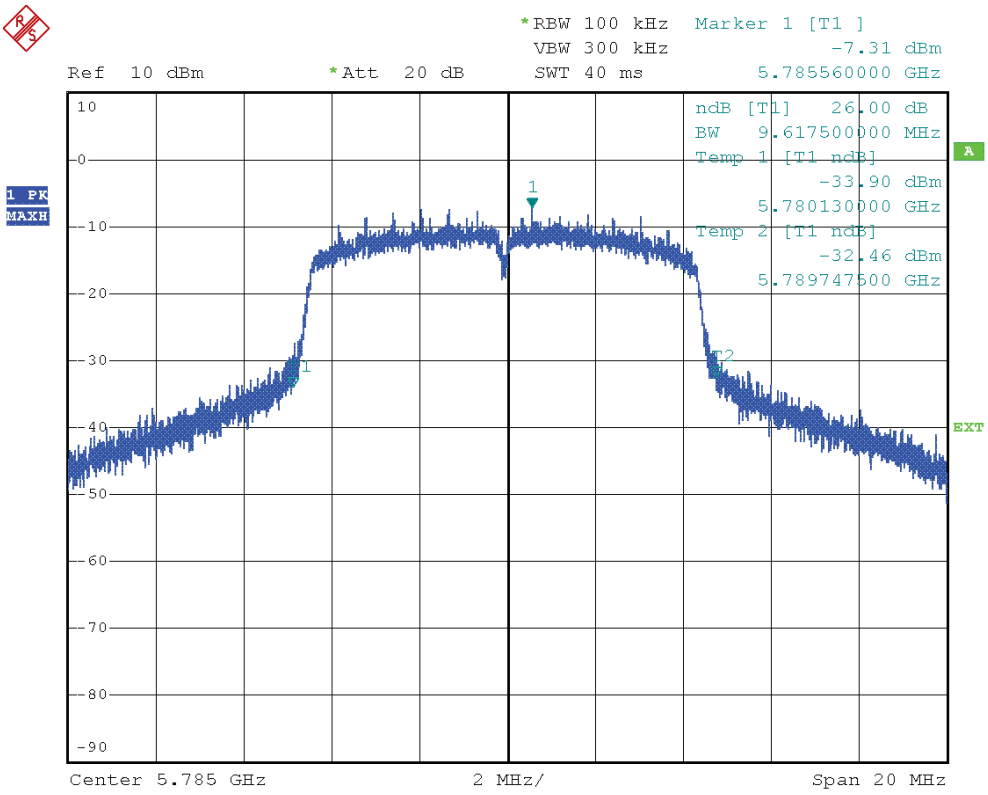
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11an – bandwidth 10 MHz – Front Right



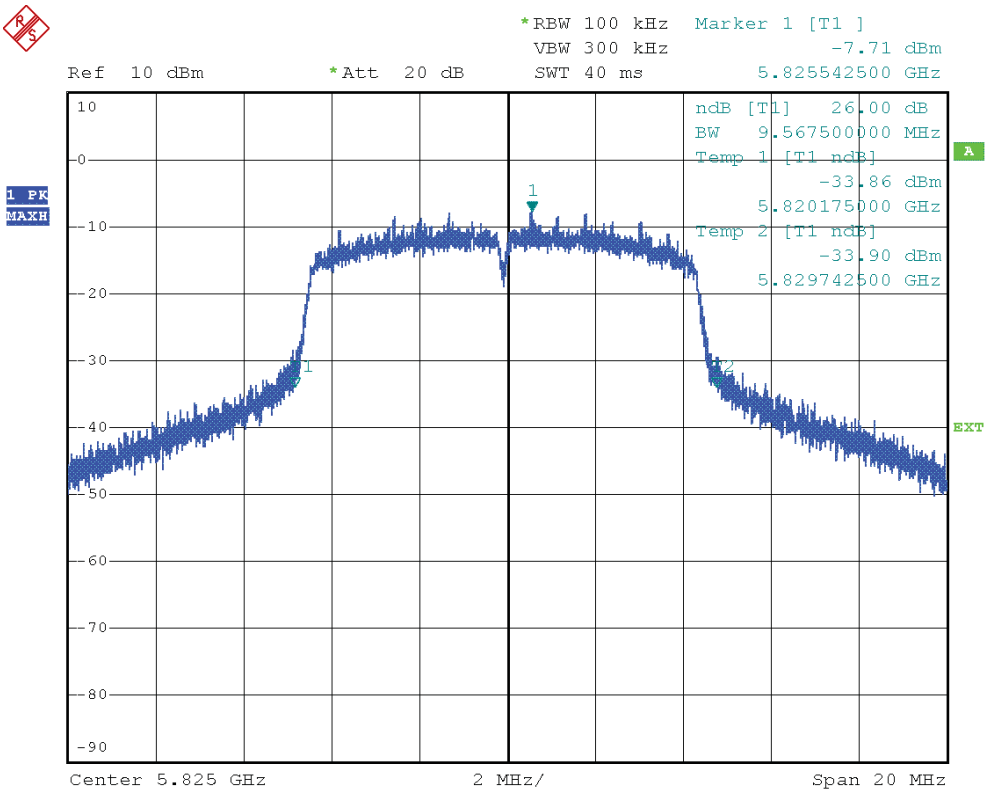
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11an – bandwidth 10 MHz – Back Left



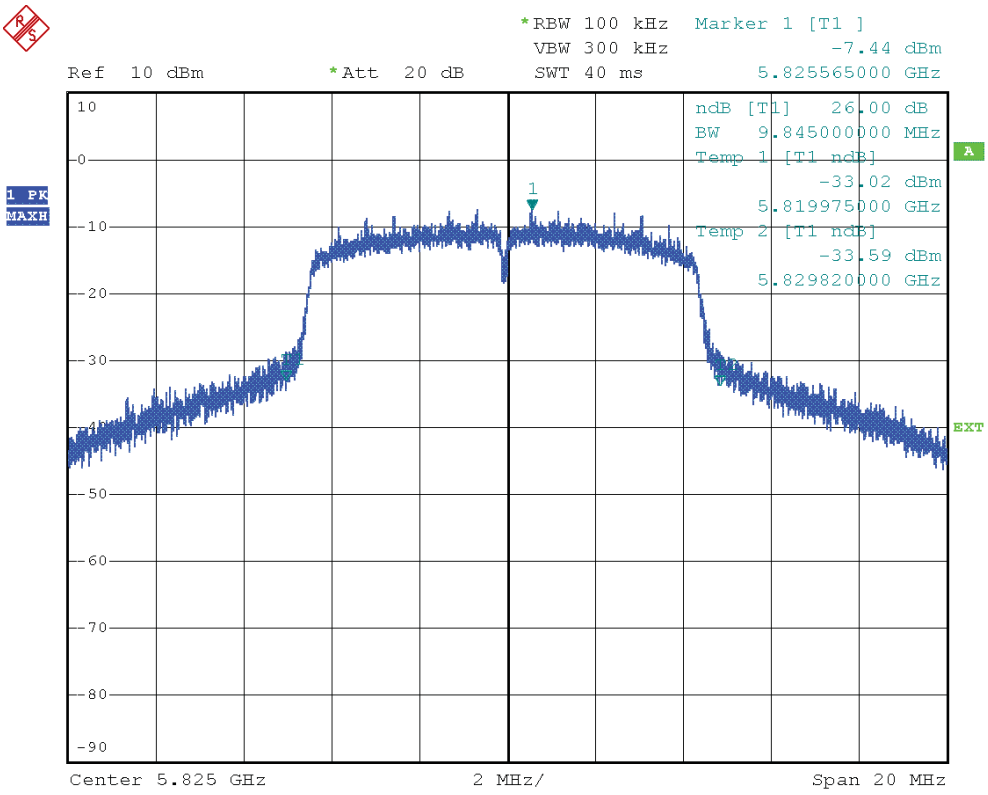
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11an – bandwidth 10 MHz – Back Right



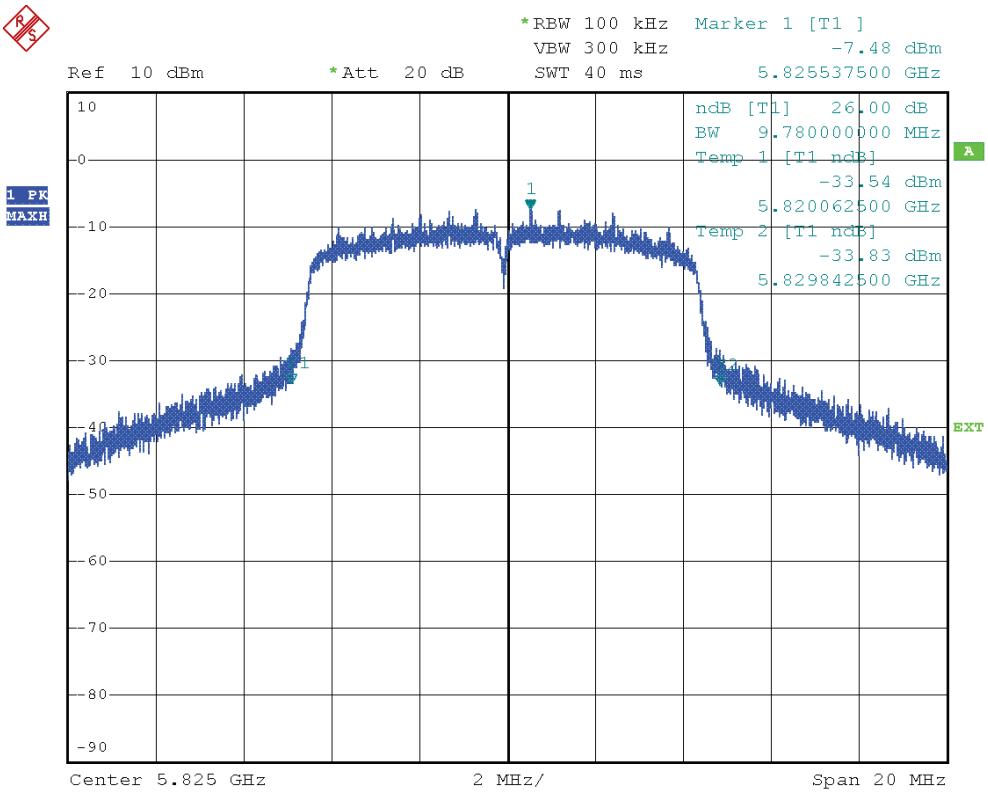
U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11an – bandwidth 10 MHz – Front Left



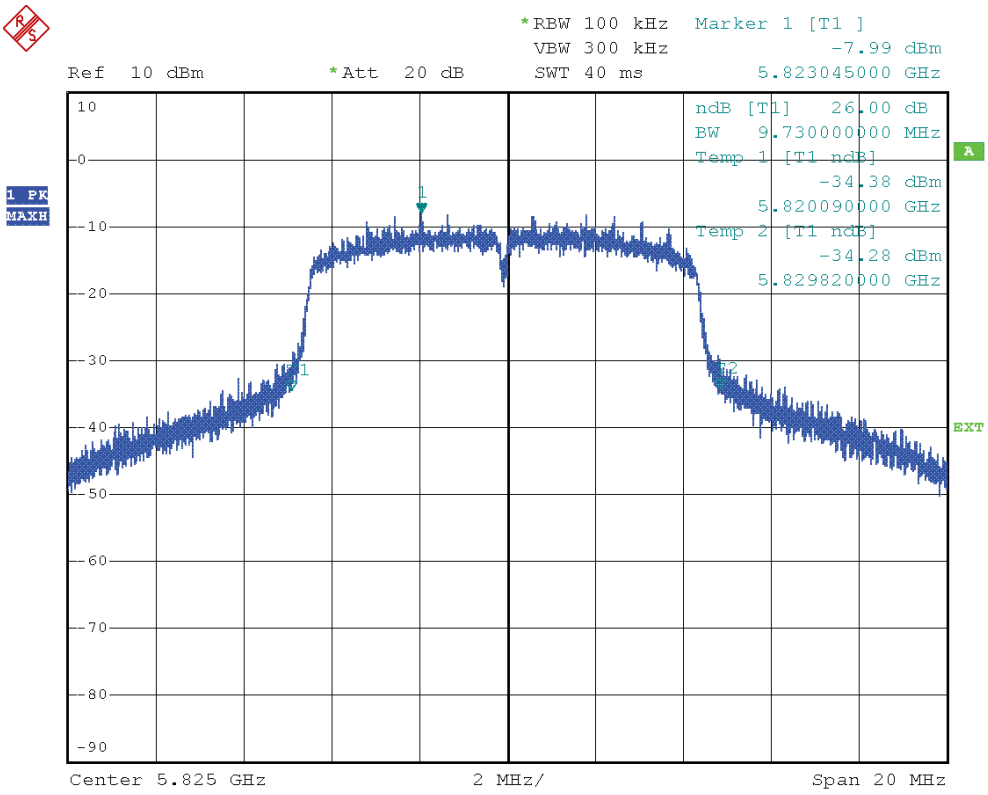
U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11an – bandwidth 10 MHz – Front Right



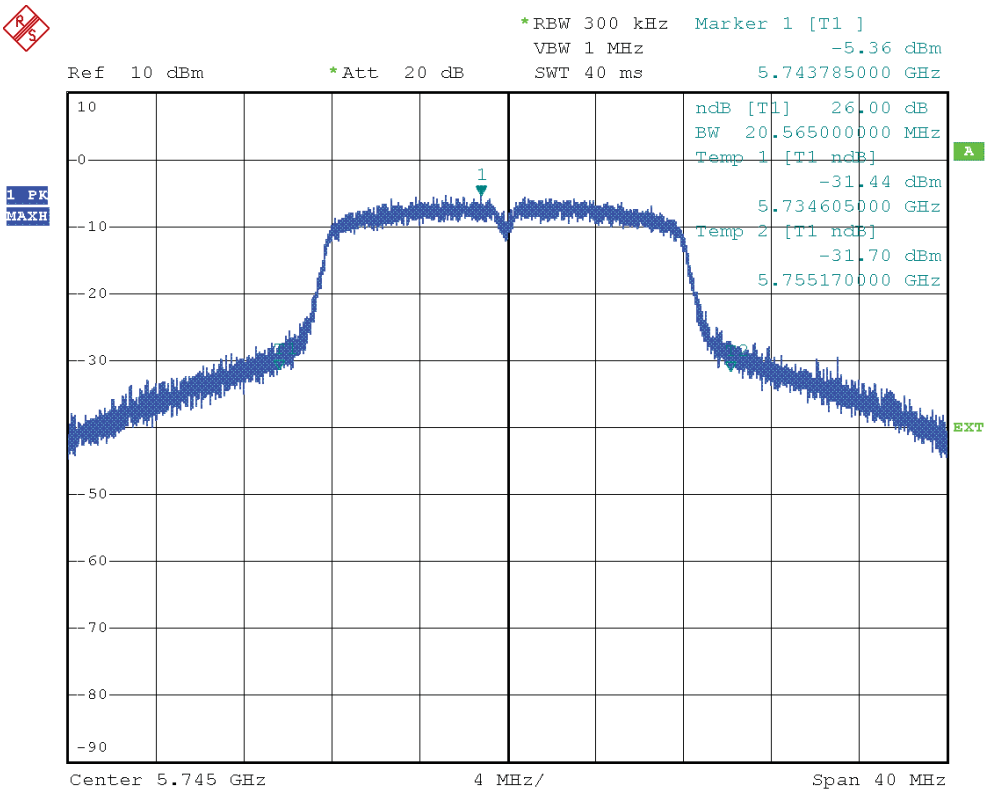
U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11an – bandwidth 10 MHz – Back Left



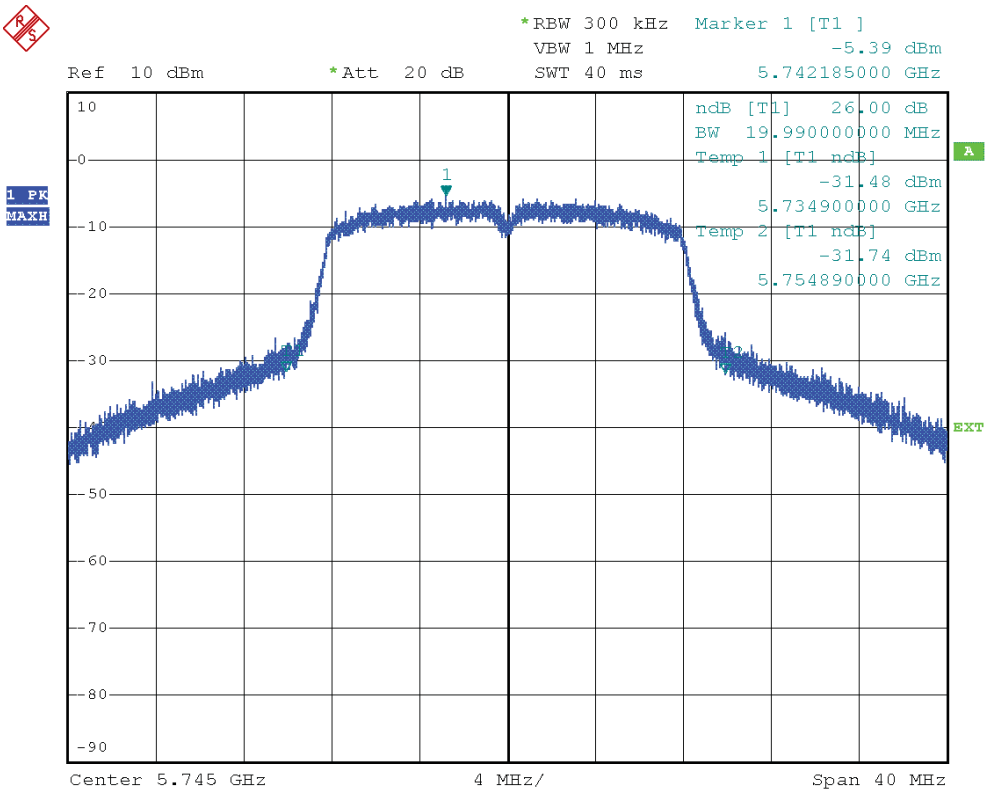
U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11an – bandwidth 10 MHz – Back Right



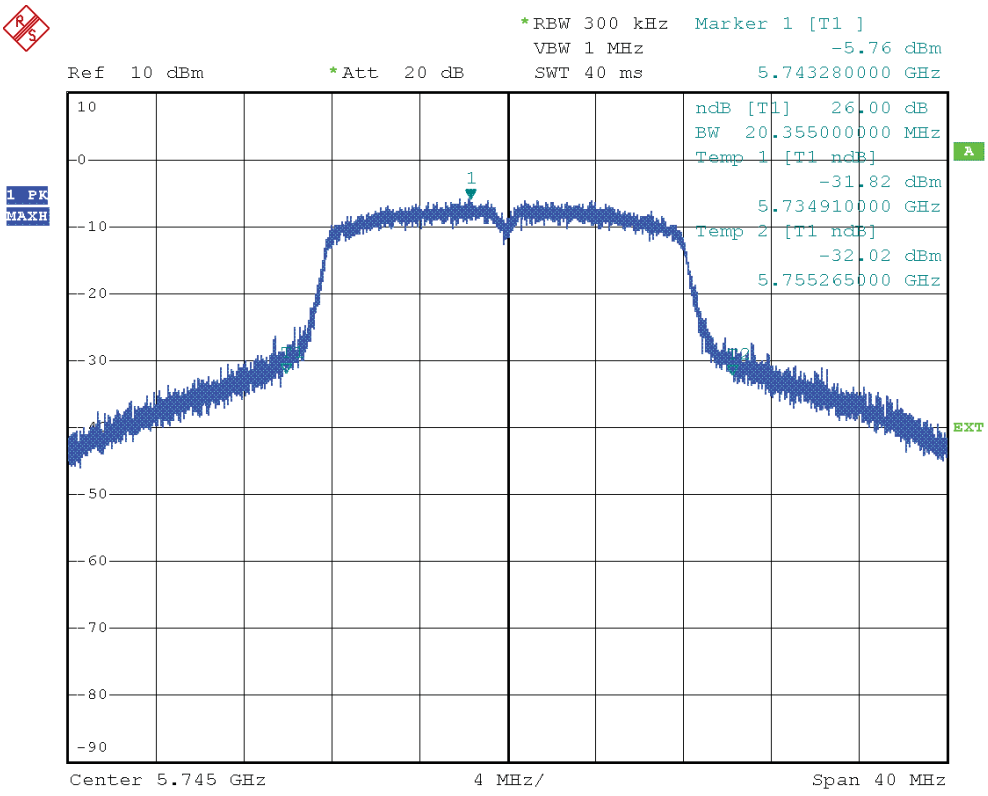
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11a – bandwidth 20 MHz – Front Left



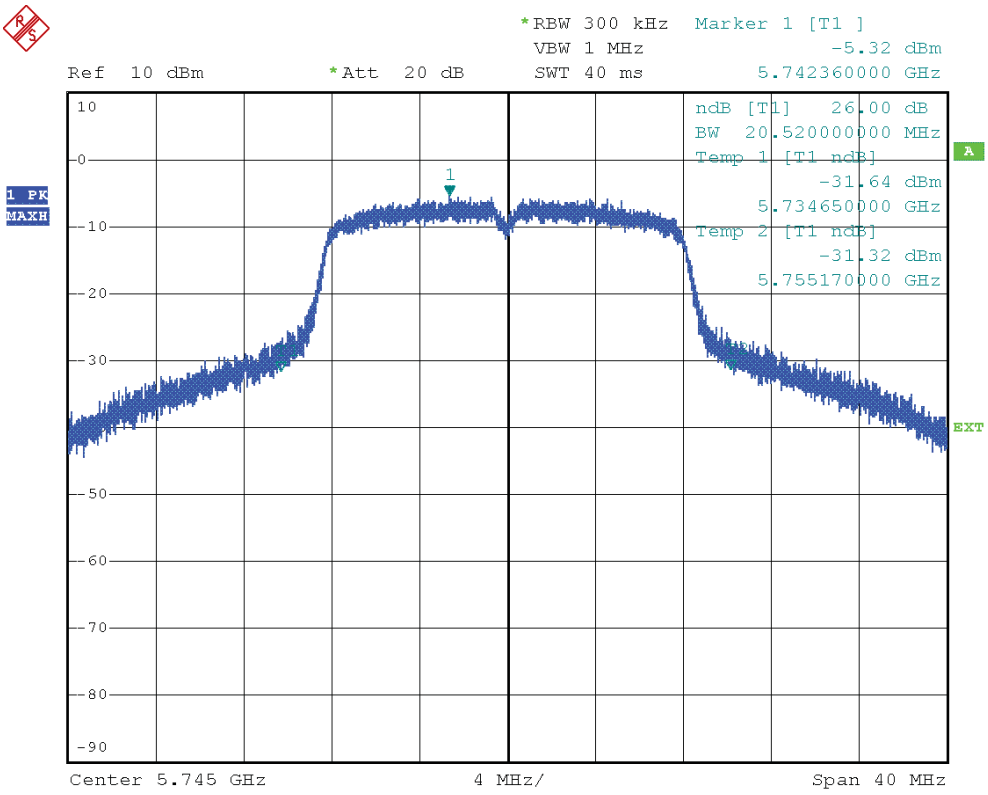
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11a – bandwidth 20 MHz – Front Right



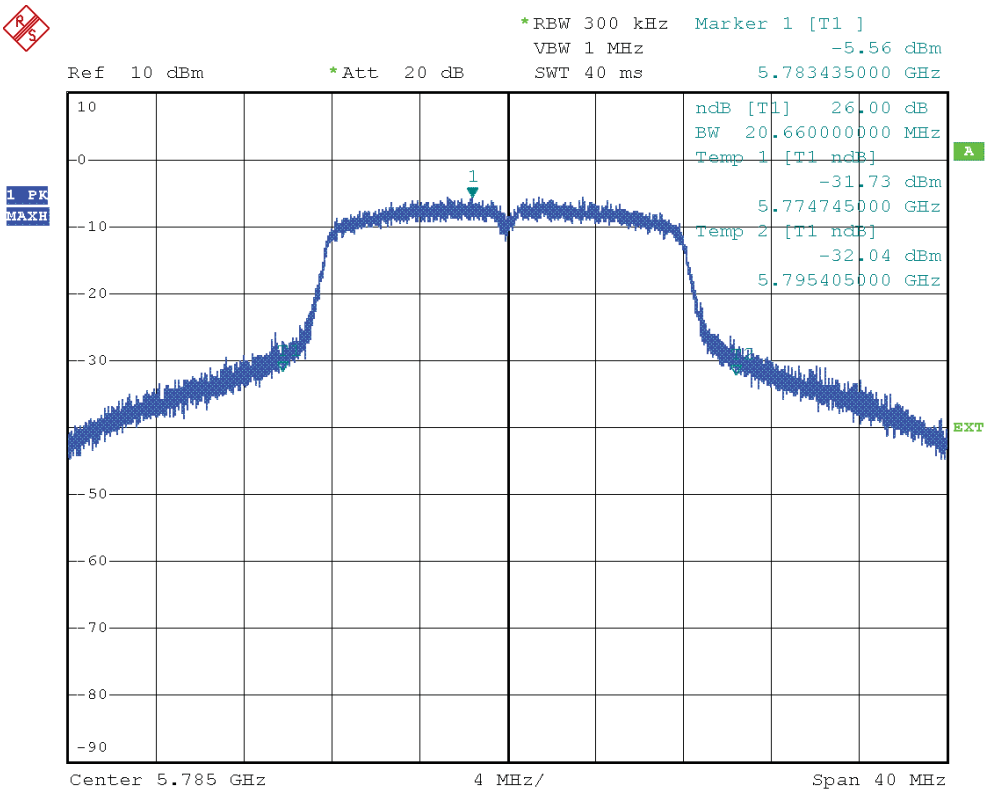
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11a – bandwidth 20 MHz – Back Left



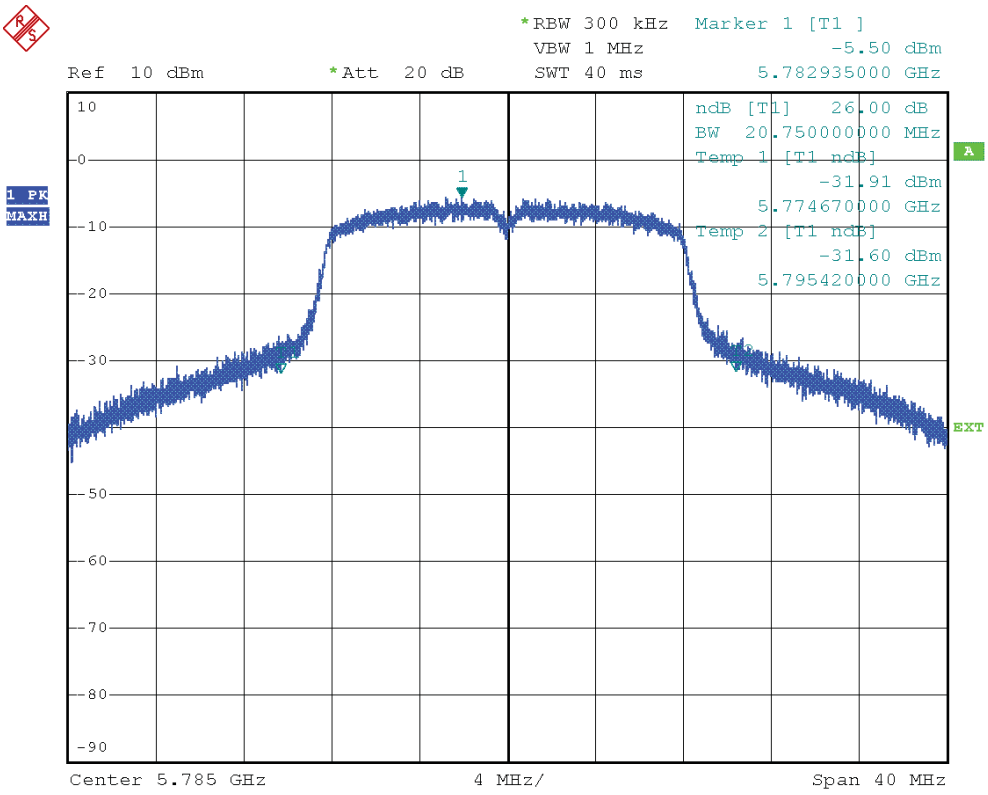
U-NII-3 band - Channel 149 (F = 5745 MHz) – Mode 802.11a – bandwidth 20 MHz – Back Right



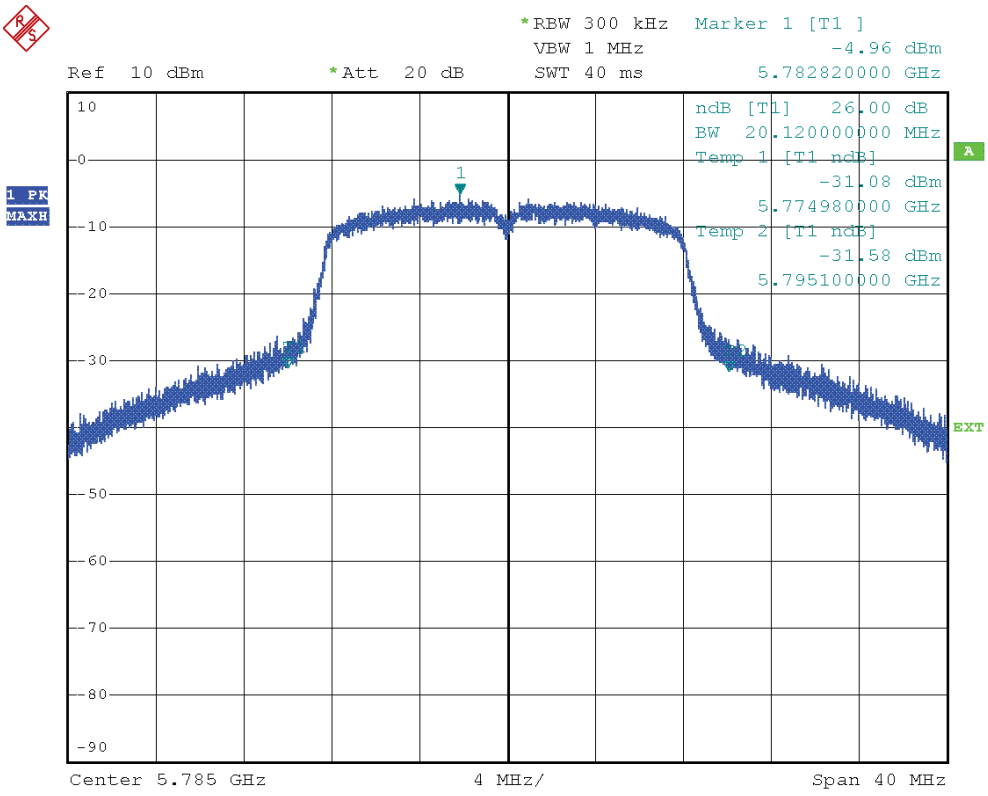
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11a – bandwidth 20 MHz – Front Left



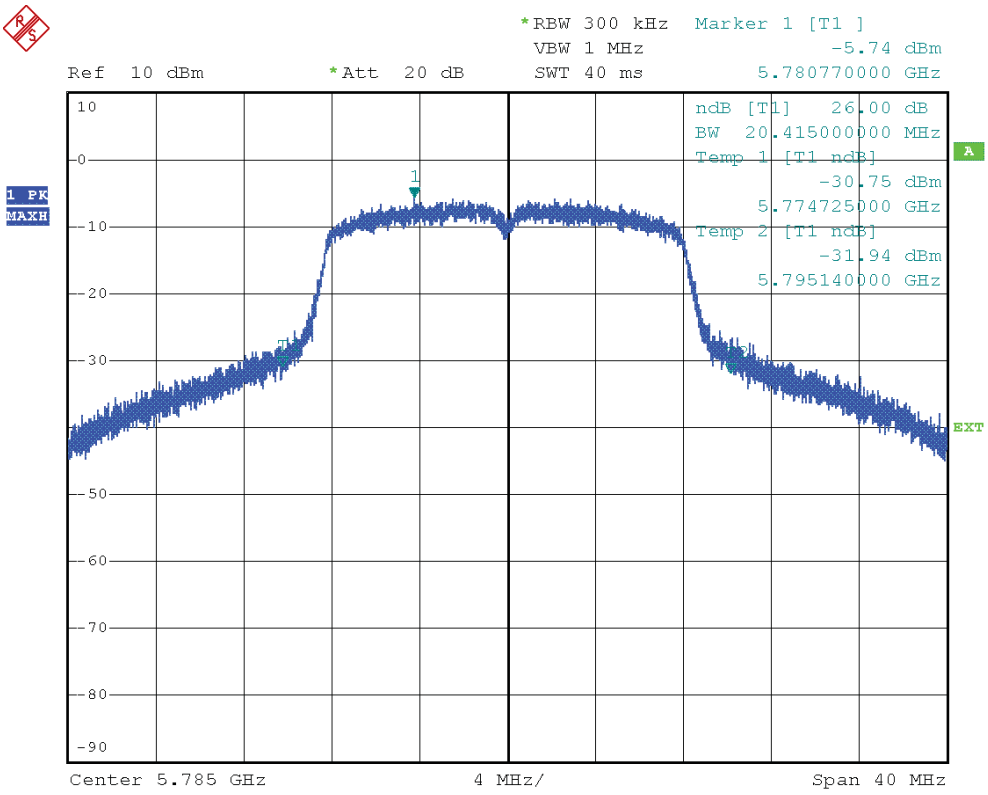
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11a – bandwidth 20 MHz – Front Right



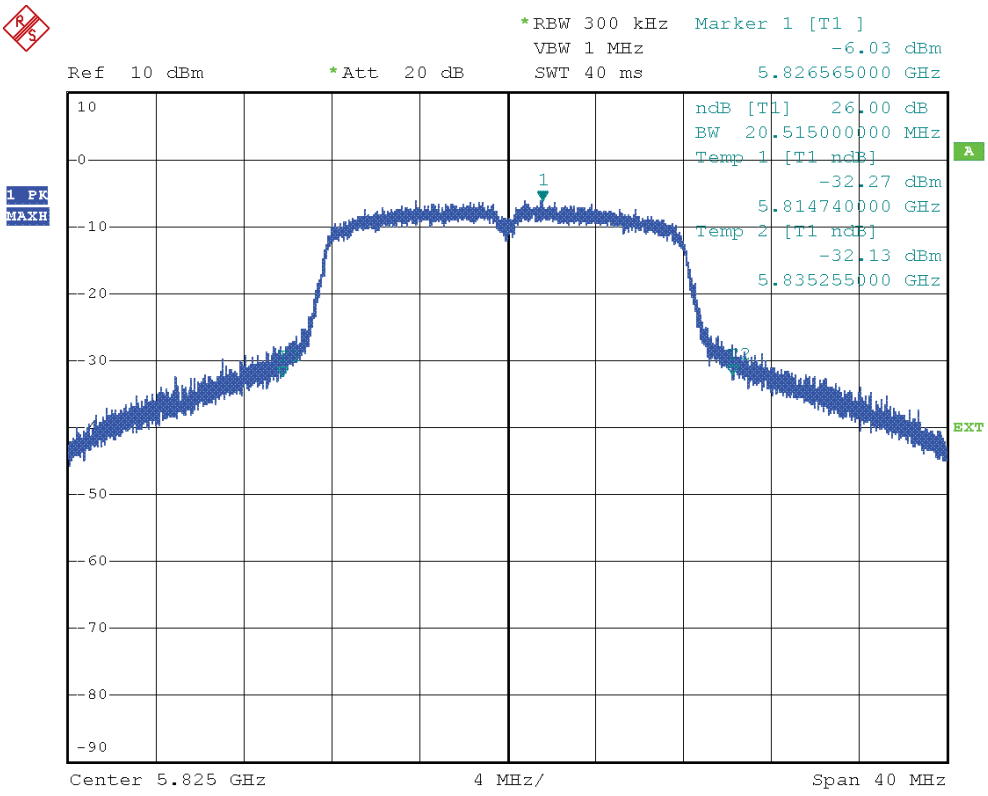
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11a – bandwidth 20 MHz – Back Left



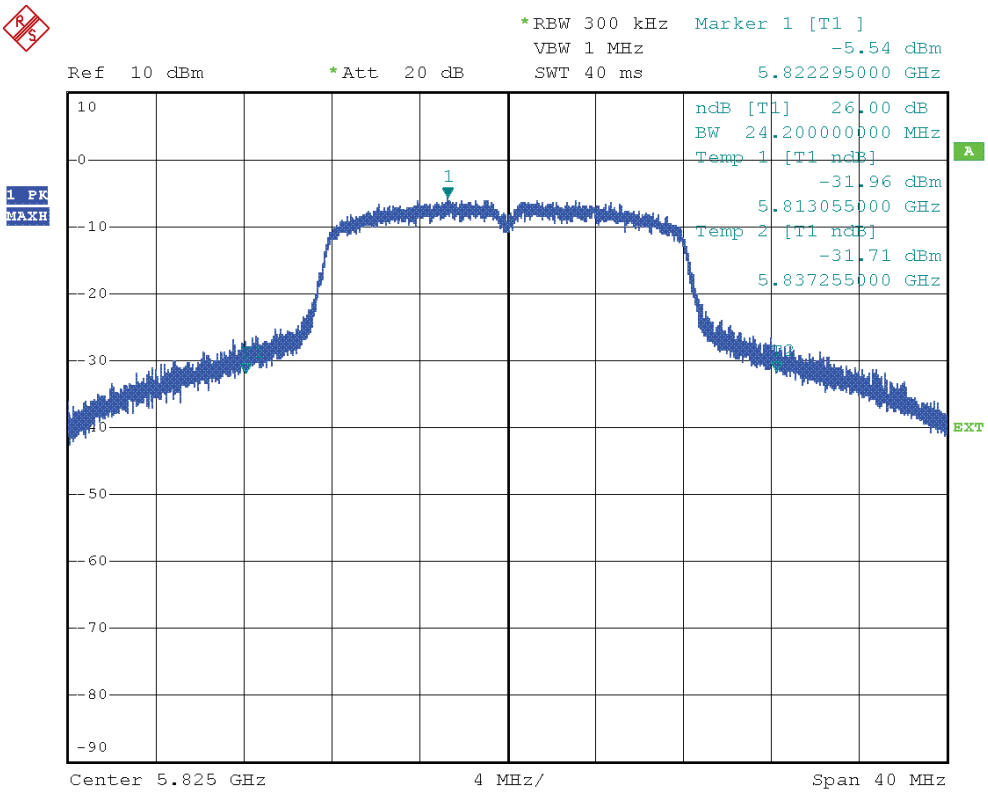
U-NII-3 band - Channel 157 (F = 5785 MHz) – Mode 802.11a – bandwidth 20 MHz – Back Right



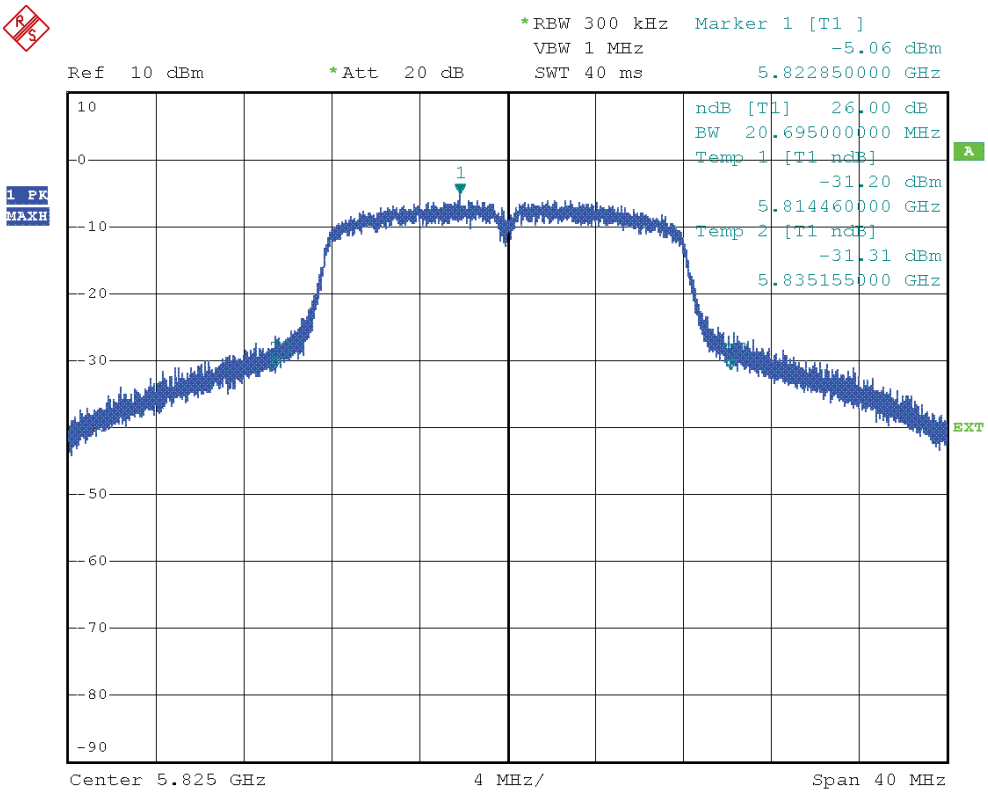
U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11a – bandwidth 20 MHz – Front Left



U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11a – bandwidth 20 MHz – Front Right



U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11a – bandwidth 20 MHz – Back Left



U-NII-3 band - Channel 165 (F = 5825 MHz) – Mode 802.11a – bandwidth 20 MHz – Back Right