

TEST REPORT

Test report no.: 1-9318-25-02-04_TR1-R02



Deutsche
Akkreditierungsstelle
D-PL-12047-01-00

Testing laboratory

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Accredited Testing Laboratory:

The testing laboratory (area of testing) is accredited according to DIN EN ISO/IEC 17025 (2018-03) by the Deutsche Akkreditierungsstelle GmbH (DAkkS).

The accreditation is valid for the scope of testing procedures as stated in the accreditation certificate with the registration number:

D-PL-12047-01-00.

ISED Testing Laboratory Recognized Listing Number: DE0001

FCC designation number: DE0002

Applicant

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Manufacturer

Panasonic Industrial Devices Europe GmbH

Zeppelinstrasse 19

21337 Lüneburg / GERMANY

Test standard/s

FCC 47 CFR Part 15

FCC - Title 47 of the Code of Federal Regulations; Chapter I; Part 15 - Radio frequency devices

RSS-247: Issue 4 (2025-07)

RSS-247 – Digital Transmission Systems, Frequency Hopping Systems and Licence-Exempt Local Area Network Devices in 902-928 MHz, 2400-2483.5 MHz, 5150-5350 MHz, and 5470-5895 MHz bands

For further applied test standards please refer to section 3 of this test report.

Test Item

Kind of test item: WiFi / BLE Module

Model name: PAN W602-2C
PAN W602-2B

FCC ID: T7V-W602

ISED certification number: 216Q-W602

Frequency: UNII bands: 5150 MHz to 5250 MHz; 5250 MHz to 5350 MHz; 5470 MHz to 5725 MHz; 5725 MHz to 5850 MHz

Technology tested: WLAN

Antenna: Integrated chip antenna

Power supply: 3.3 V DC by PCB

Temperature range: -40°C to +85°C

This test report is electronically signed and valid without handwritten signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

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2 General information

2.1 Notes and disclaimer

The test results of this test report relate exclusively to the test item specified in this test report. cetecom advanced GmbH does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item.

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This test report replaces the test report with the number 1-9318-25-02-04_TR1-R01 and dated 2026-06-26.

2.2 Application details

Date of receipt of order:	2026-05-11
Date of receipt of test item:	2026-05-28
Start of test:*	2026-05-28
End of test:*	2026-06-26
Person(s) present during the test:	-/-

*Date of each measurement, if not shown in the plot, can be requested. Dates are stored in the measurement software.

2.3 Test laboratories sub-contracted

None

3 Test standard/s, references and accreditations

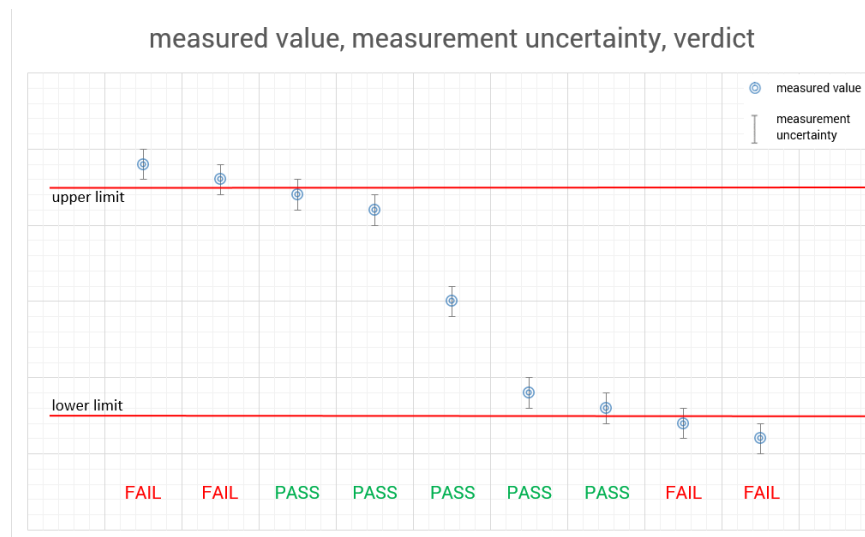
Test standard	Date	Description
FCC 47 CFR Part 15	-/-	FCC - Title 47 of the Code of Federal Regulations; Chapter I; Part 15 - Radio frequency devices
RSS-247: Issue 4 (2025-07)	2025-07-24	RSS-247 – Digital Transmission Systems, Frequency Hopping Systems and Licence-Exempt Local Area Network Devices in 902-928 MHz, 2400-2483.5 MHz, 5150-5350 MHz, and 5470-5895 MHz bands
RSS-Gen:Issue 5 (2018-04) + Amendment 1 (2019-03) + Amendment 2 (2021-02)	2021-02-01	General Requirements for Compliance of Radio Apparatus

Guidance	Version	Description
KDB 789033 D02	v02r01	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E
ANSI C63.10-2020	-/-	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
ANSI/USEMCSC C63.10a-2024 Amendment 1	2024-08-08	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices Amendment 1
ANSI/USEMCSC C63.10a-2024 Amendment 1 Errata	2024-11-18	Errata to American National Standard for Procedures for Compliance Testing of Unlicensed Wireless Devices Amendment 1 Correction Sheet

4 Reporting statements of conformity – decision rule

Only the measured values related to their corresponding limits will be used to decide whether the equipment under test meets the requirements of the test standards listed in chapter 3.

The measurement uncertainty is mentioned in this test report, see chapter 9, but is not taken into account - neither to the limits nor to the measurement results. Measurement results with a smaller margin to the corresponding limits than the measurement uncertainty have a potential risk of more than 5% that the decision might be wrong."



5 Test environment

Temperature	:	T _{nom} T _{max} T _{min}	+22 °C during room temperature tests No testing under extreme temperature conditions required No testing under extreme temperature conditions required
Relative humidity content	:		55 %
Barometric pressure	:		1021 hpa
Power supply	:	V _{nom} V _{max} V _{min}	3.3 V DC by PCB No testing under extreme voltage conditions required No testing under extreme voltage conditions required

6 Test item

6.1 General description

Kind of test item	:	WiFi / BLE Module
Model name	:	PAN W602-2C PAN W602-2B
HMN	:	N/A
PMN	:	PAN W602-2C PAN W602-2B
HVIN	:	ENWF9215A ENWF9215C
FVIN	:	N/A
S/N serial number	:	Rad. Board 4 (30 MHz to 1 GHz tests), Board 9 (all other radiated tests) Cond. Board 5
Hardware status	:	03
Software status	:	01
Firmware status	:	TBD
Frequency band	:	UNII bands: 5150 MHz to 5250 MHz; 5250 MHz to 5350 MHz; 5470 MHz to 5725 MHz; 5725 MHz to 5850 MHz
Type of radio transmission Use of frequency spectrum	:	OFDM, OFDMA
Type of modulation	:	(D)BPSK, (D)QPSK, 16 – QAM, 64 – QAM
Number of channels	:	24 with 20 MHz channel bandwidth
Antenna	:	Integrated chip antenna
Power supply	:	3.3 V DC by PCB
Temperature range	:	-40°C to +85°C

6.2 Additional information

The content of the following annexes is defined in the QA. It may be that not all of the listed annexes are necessary for this report, thus some values in between may be missing.

Test setup and EUT photos are included in test report:

1-9318-25-02-01_TR1-A101-R01
1-9318-25-02-01_TR1-A102-R01
1-9318-25-02-01_TR1-A104-R01

7 Description of the test setup

Typically, the calibrations of the test apparatus are commissioned to and performed by an accredited calibration laboratory. The calibration intervals are determined in accordance with the DIN EN ISO/IEC 17025. In addition to the external calibrations, the laboratory executes comparison measurements with other calibrated test systems or effective verifications. Weekly chamber inspections and range calibrations are performed. Where possible, RF generating and signaling equipment as well as measuring receivers and analyzers are connected to an external high-precision 10 MHz reference (GPS-based or rubidium frequency standard).

In order to simplify the identification of the equipment used at some special tests, some items of test equipment and ancillaries can be provided with an identifier or number in the equipment list below (Lab/Item).

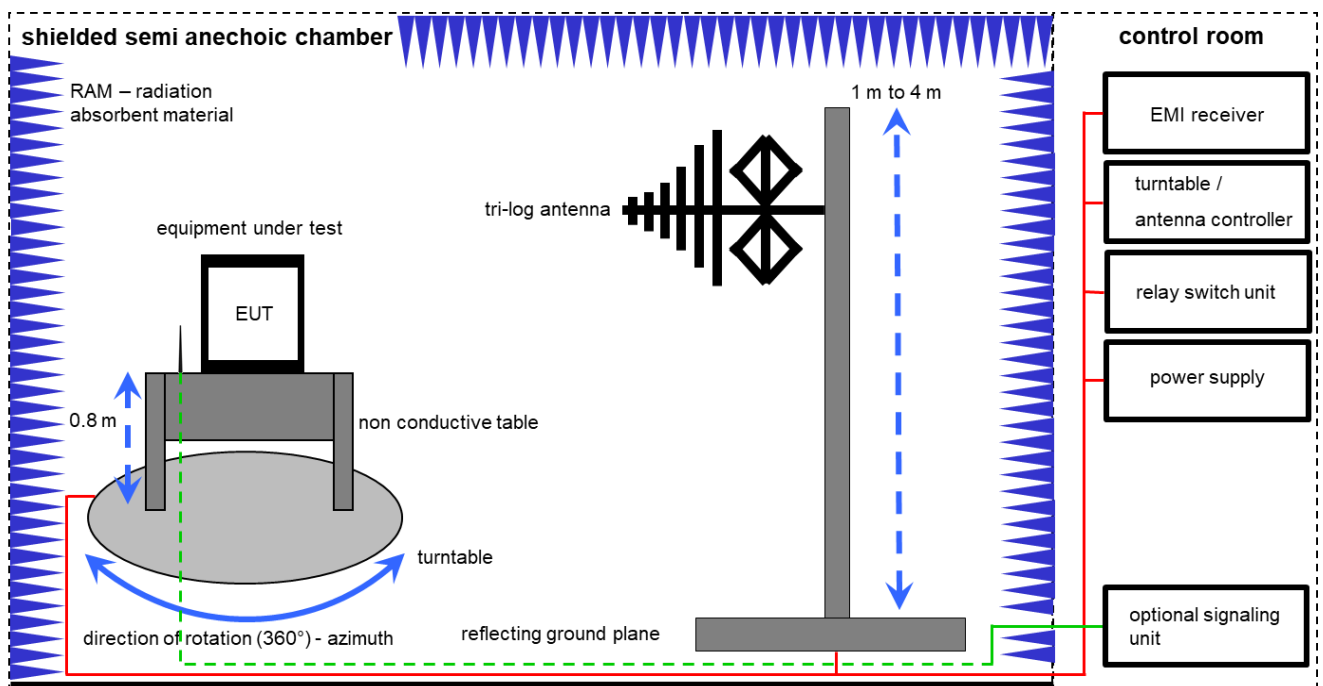
Each block diagram listed can contain several test setup configurations. All devices belonging to a test setup are identified with the same letter syntax. For example: Column Setup and all devices with an A.

Agenda: Kind of Calibration

k/cal	calibration / calibrated	EK	limited calibration
Ne/cnn	not required (k, ev, izw, zw not required)	zw	cyclical maintenance (external cyclical maintenance)
Ev/chk	periodic self verification	izw	internal cyclical maintenance
Ve	long-term stability recognized	g	blocked for accredited testing
vlk!	Attention: extended calibration interval		
NK!	Attention: not calibrated	*)	next calibration ordered / currently in progress
cpu	check prior usage		

7.1 Shielded semi anechoic chamber

The radiated measurements are performed in vertical and horizontal plane in the frequency range from 30 MHz to 1 GHz in semi-anechoic chambers. The EUT is positioned on a non-conductive support with a height of 0.80 m above a conductive ground plane that covers the whole chamber. The receiving antennas are conform to specifications ANSI C63. These antennas can be moved over the height range between 1.0 m and 4.0 m in order to search for maximum field strength emitted from EUT. The measurement distances between EUT and receiving antennas are indicated in the test setups for the various frequency ranges. For each measurement, the EUT is rotated in all three axes until the maximum field strength is received. The wanted and unwanted emissions are received by spectrum analyzers where the detector modes and resolution bandwidths over various frequency ranges are set according to requirement ANSI C63.



Measurement distance: tri-log antenna 10 meter; EMC32 software version: 10.59.00

$FS = UR + CL + AF$

(FS-field strength; UR-voltage at the receiver; CL-loss of the cable; AF-antenna factor)

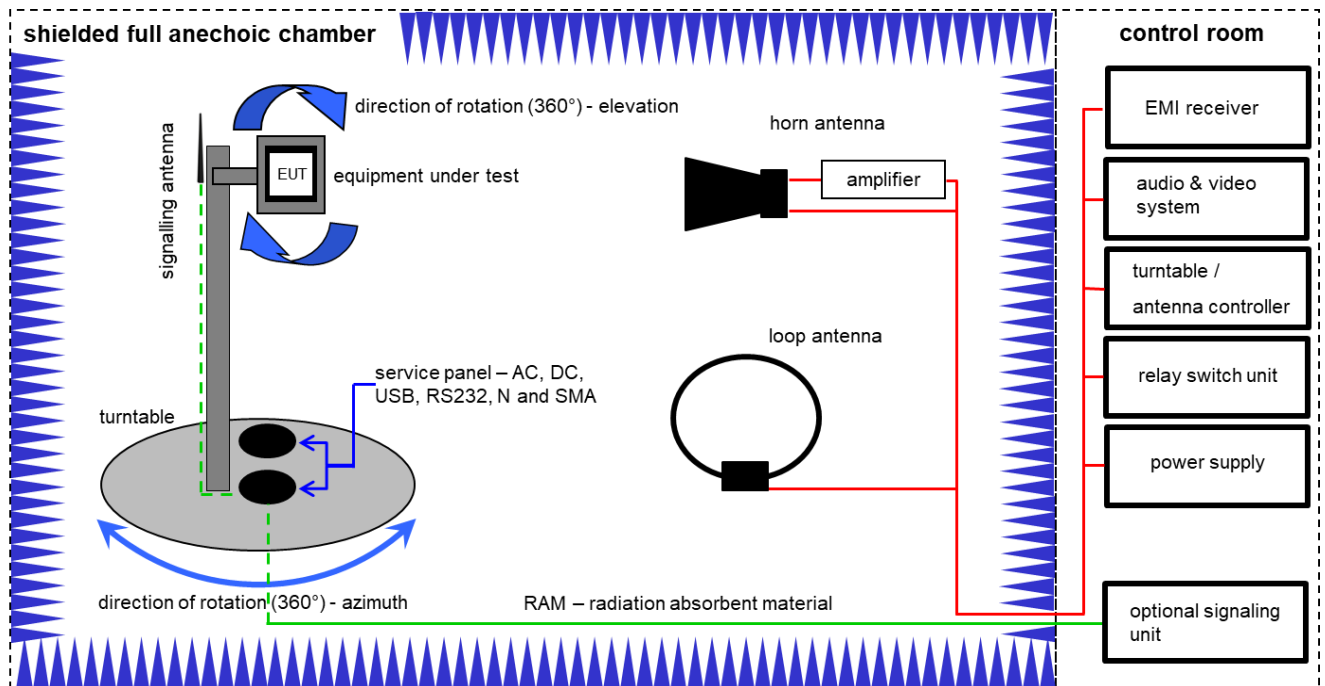
Example calculation:

$FS \text{ [dB}\mu\text{V/m]} = 12.35 \text{ [dB}\mu\text{V/m]} + 1.90 \text{ [dB]} + 16.80 \text{ [dB/m]} = 31.05 \text{ [dB}\mu\text{V/m]} \text{ (35.69 } \mu\text{V/m)}$

Equipment table:

No.	Setup	Equipment	Type	Manufacturer	Serial No.	INV. No.	Kind of Calibration	Last Calibration	Next Calibration
1	A	Switch-Unit	Switch-Unit 3488A	Hewlett Packard	2719A14505	50160	cpu	-/-	-/-
2	A	Positioning Controller	Positioning Controller 2090	ETS-Lindgren GmbH Taufkirchen	64672	50280	cnn	-/-	-/-
3	A	TRILOG Broadband Antenna	TRILOG Broadband Antenna VULB9163	Schwarzbeck MESS-ELEKTRONIK OHG Schönaun	1029	50403	cal	07.11.2025	30.11.2027
4	A	EMI Test Receiver	EMI Test Receiver ESR3 9kHz-3.6GHz	Rohde & Schwarz Messgerätebau GmbH Memmingen	102587	50417	cal	08.12.2025	31.12.2026

7.2 Shielded fully anechoic chamber



Measurement distance: horn antenna 3 meter; loop antenna 3 meter

$$FS = UR + CA + AF$$

(FS-field strength; UR-voltage at the receiver; CA-loss of the signal path; AF-antenna factor)

Example calculation:

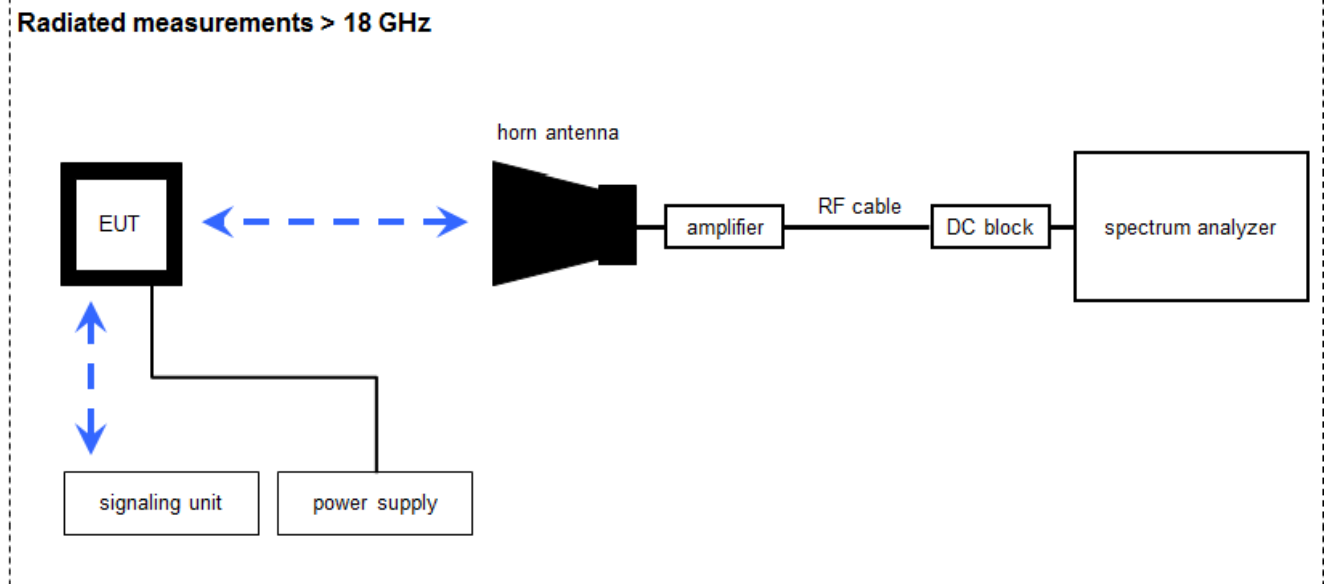
$$FS [dB\mu V/m] = 40.0 [dB\mu V/m] + (-35.8) [dB] + 32.9 [dB/m] = 37.1 [dB\mu V/m] (71.61 \mu V/m)$$

Equipment table:

No.	Setup	Equipment	Type	Manufacturer	Serial No.	INV. No.	Kind of Calibration	Last Calibration	Next Calibration
1	A, C	Double-Ridged Waveguide Horn Antenna	Double-Ridged Waveguide Horn Antenna 3115	EMCO Elektronik GmbH Gilching	9107-3696	40342	cal	15.04.2025	30.04.2027
2	A, B, C	Anechoic chamber	Anechoic chamber FAC 3/5m	MEC Import: MWB TDK	87400/02	40349	cpu	-/-	-/-
3	A, B, C	Switch / Control Unit	Switch / Control Unit 3488A	Hewlett Packard	*	40350	cnn	-/-	-/-
4	C	Highpass Filter	Highpass Filter WHK1.1/15G-10SS	Wainwright Instruments GmbH Andechs	3	40361	cpu	-/-	-/-
5	C	Highpass Filter	Highpass Filter WHKX7.0/18G-8SS	Wainwright Instruments GmbH Andechs	19	40365	cnn	-/-	-/-
6	C	High Pass Filter	High Pass Filter VHF-3500+	Mini-Circuits Brooklyn	-/-	40369	cnn	-/-	-/-
7	A, C	Broadband Amplifier 0.5-18 GHz	Broadband Amplifier 0.5-18 GHz CBLU5184540	MEC Import: CERNEX	22049	40373	cpu	-/-	-/-
8	A, B, C	4U RF Switch Platform	4U RF Switch Platform L4491A	Agilent Technologies Deutschland GmbH Böblingen	MY50000037	40375	cnn	-/-	-/-
9	A, B, C	NEXIO EMV-Software	NEXIO EMV-Software BAT EMC V2022.0.32.0	MEC Import: Nexio	-/-	40383	cnn	-/-	-/-
10	C	RF-Amplifier	RF-Amplifier AMF-6F06001800-30-10P-R	MEC Import: NARDA-MITEQ Inc	2011572	40400	cpu	-/-	-/-

11	B	Active Loop Antenna	Active Loop Antenna 6502	EMCO Elektronik GmbH Gilching	2210	50044	cal	07.07.2025	31.07.2027
12	A, B, C	EMI Test Receiver	EMI Test Receiver ESU26	Rohde & Schwarz Messgerätebau GmbH Memmingen	100037	50254	cal	11.12.2025	31.12.2026
13	C	Low Noise Amplifier	Low Noise Amplifier LNA-40-00100800- 15-10P	Miteq Inc.	2336093	50483	cnn	-/-	-/-
14	A	Band Reject Filter	Band Reject Filter WRCJV12-5120- 5150-5350-5380- 40SS	Wainwright Instruments GmbH Andechs	5	40395	cpu	-/-	-/-
15	A	Band Reject Filter	Band Reject Filter WRCJV12-5695- 5725-5850-5880- 40SS	Wainwright Instruments GmbH Andechs	5	40396	cpu	-/-	-/-
16	A	Band Reject Filter	Band Reject Filter WRCJV16-5440- 5470-5725-5755- 40SS	Wainwright Instruments GmbH Andechs	9	40397	cpu	-/-	-/-

7.3 Radiated measurements > 18 GHz



Measurement distance: horn antenna 50 cm

FS = UR + CA + AF

(FS-field strength; UR-voltage at the receiver; CA-loss signal path & distance correction; AF-antenna factor)

Example calculation:

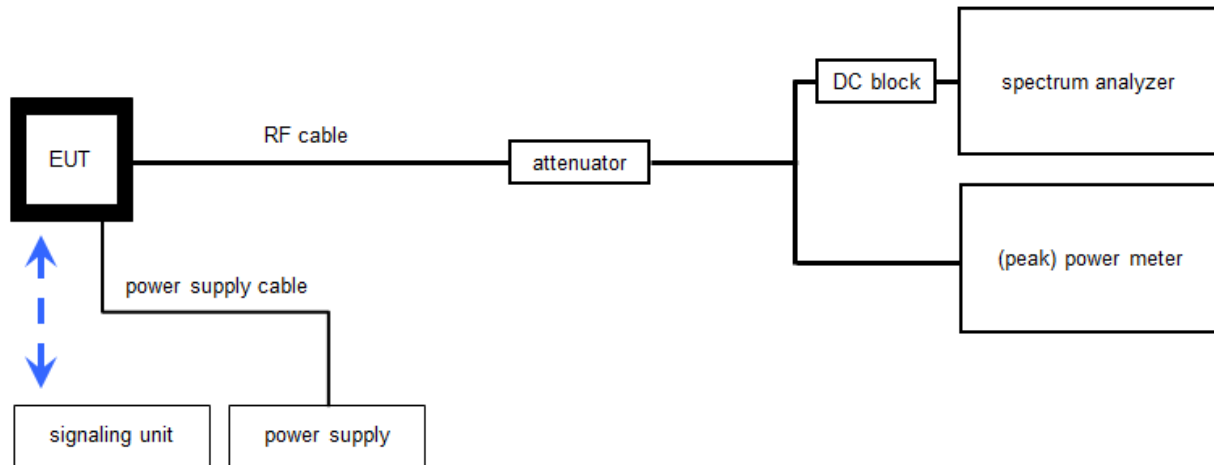
FS [dB μ V/m] = 40.0 [dB μ V/m] + (-60.1) [dB] + 36.74 [dB/m] = 16.64 [dB μ V/m] (6.79 μ V/m)

Equipment table:

No.	Setup	Equipment	Type	Manufacturer	Serial No.	INV. No.	Kind of Calibration	Last Calibration	Next Calibration
1	A	Horn Antenna 18,0-40,0 GHz	Horn Antenna 18,0-40,0 GHz LHAF180	MEC Import: Microw.Devel	39180-103-021	40170	cal	16.01.2026	31.01.2028
2	A	Low Noise Amplifier, Broadband 18-50 GHz	Low Noise Amplifier, Broadband 18-50 GHz BZT-18005000-550835-SL2525-SL	MEC Import: B&Z Technologies	27887-27889	40789	cpu	-/-	-/-
3	A	Signal- and Spectrum Analyzer	Signal- and Spectrum Analyzer FSW50	Rohde & Schwarz Messgerätebau GmbH Memmingen	101332	40010	cal	28.01.2026	31.01.2027

7.4 Conducted measurements

Conducted measurements normal conditions



WLAN tester version: 1.1.13

OP = AV + CA
(OP-output power; AV-analyzer value; CA-loss signal path)

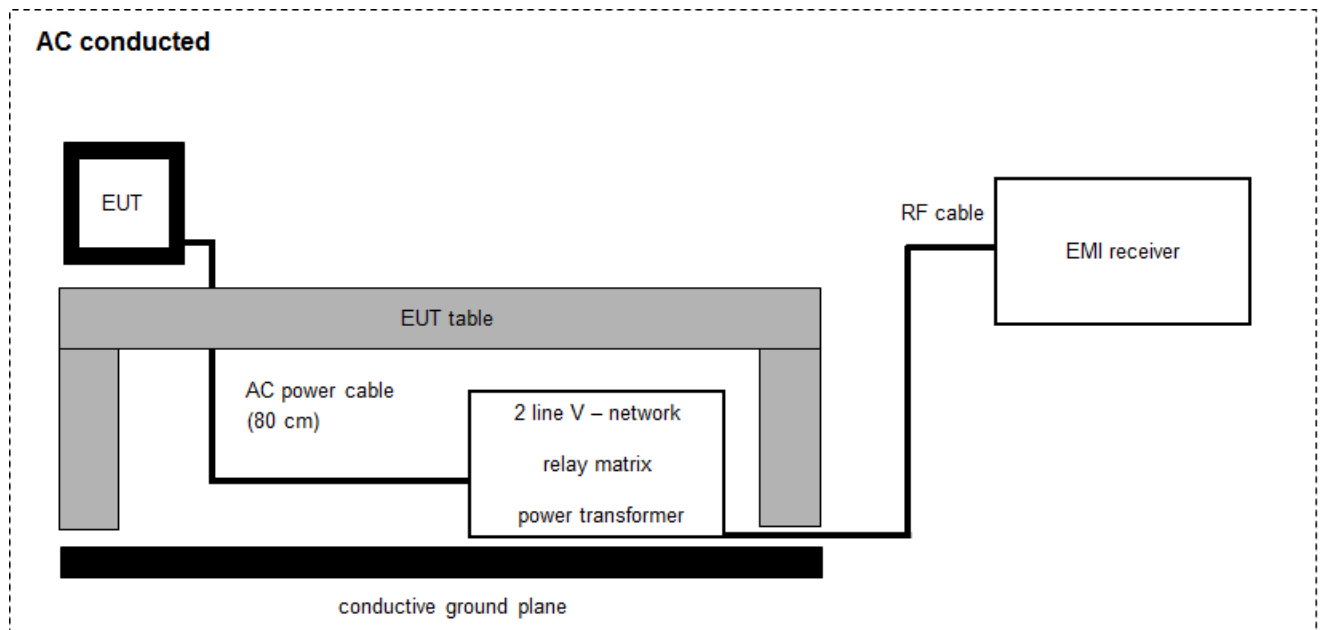
Example calculation:

OP [dBm] = 6.0 [dBm] + 11.7 [dB] = 17.7 [dBm] (58.88 mW)

Equipment table:

No.	Setup	Equipment	Type	Manufacturer	Serial No.	INV. No.	Kind of Calibration	Last Calibration	Next Calibration
1	A	Signal analyzer	Signal analyzer FSV40	Rohde & Schwarz Messgerätebau GmbH Memmingen	101042	40292	cal	08.01.2026	31.01.2027
2	A	RF-Cable	RF-Cable ST18/SMAM/SMAM /72	Huber & Suhner GmbH Unterhaching	Batch no. 699714	40389	cpu	-/-	-/-
3	A	DC-Blocker 0.1-40 GHz	DC-Blocker 0.1-40 GHz 8141A	MEC Import: Inmet	-/-	40390	cpu	-/-	-/-
4	A	Switch Matrix	Switch Matrix USM	cetecom advanced GmbH Saarbrücken	C001	40340	cnn	-/-	-/-
5	A	RF-Cable	RF-Cable ST18/SMAM/SMAM /48	Huber & Suhner GmbH Unterhaching	Batch no. 600918	40387	cpu	-/-	-/-
6	A	RF-Cable	RF-Cable ST18/SMAM/SMAM /48	Huber & Suhner GmbH Unterhaching	Batch no. 127377	40388	cpu	-/-	-/-
7	A	Coax Attenuator 10 dB 2W 0-40 GHz	Coax Attenuator 10 dB 2W 0-40 GHz MCL BW-K10-2W44+	Mini-Circuits Brooklyn	-/-	40391	cpu	-/-	-/-

7.5 AC conducted



Result = UR + CF + VC

(UR-voltage at the receiver; CR-loss of the cable and filter; VC-correction factor of the ISN)

Example calculation:

Result [dBμV] = 37.62 [dBμV] + 9.90 [dB] + 0.23 [dB] = 47.75 [dBμV] (244.06 μV)

E

Equipment table:

No.	Setup	Equipment	Type	Manufacturer	Serial No.	INV. No.	Kind of Calibration	Last Calibration	Next Calibration
1	A	EMI Test Receiver	EMI Test Receiver ESR3 9kHz-3.6GHz	Rohde & Schwarz Messgerätebau GmbH Memmingen	102981	40332	cal	05.12.2025	31.12.2026
2	A	Two-Line V-Network (LISN)	Two-Line V-Network (LISN) ESH3-Z5	Rohde & Schwarz Messgerätebau GmbH Memmingen	892475/017	50005	cal	09.12.2025	31.12.2027
3	A	Artificial Mains Network	Artificial Mains Network ESH2-Z5	Rohde & Schwarz Messgerätebau GmbH Memmingen	892602/0024	50147	cal	11.12.2024	31.12.2026
4	A	Impedance Stabilization Network	Impedance Stabilization Network ISN ST08C	Schaffner Deutschland GmbH Karlsruhe	22583	50239	cal	20.09.2024	30.09.2026
5	A	Impedance Stabilization Network	Impedance Stabilization Network ISN T200	Schaffner Deutschland GmbH Karlsruhe	19075	50251	cpu	-/-	-/-
6	A	Impedance Stabilization Network	Impedance Stabilization Network ISN T400	Schaffner Deutschland GmbH Karlsruhe	22325	50252	cpu	-/-	-/-
7	A	Impedance Stabilization Network	Impedance Stabilization Network ISN T800	Teseq GmbH Berlin	26113	50304	cal	23.07.2024	31.07.2026
8	A	Impedance Stabilization Network	Impedance Stabilization Network ISN T8-Cat6	Teseq GmbH Berlin	26374	50305	cal	23.07.2024	31.07.2026

8 Sequence of testing

8.1 Sequence of testing radiated spurious 9 kHz to 30 MHz

Setup

- The equipment is set up to simulate normal operation mode as described in the user manual or defined by the manufacturer.
- If the EUT is a tabletop system, it is placed on a table with 0.8 m height.
- If the EUT is a floor standing device, it is placed directly on the turn table.
- Auxiliary equipment and cables are positioned to simulate normal operation conditions as described in ANSI C 63.10.
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- Measurement distance is 3 m (see ANSI C 63.10) – see test details.
- EUT is set into operation.

Premeasurement*

- The turntable rotates from 0° to 315° using 45° steps.
- The antenna height is 1 m.
- At each turntable position the analyzer sweeps with positive-peak detector to find the maximum of all emissions.

Final measurement

- Identified emissions during the pre-measurement are maximized by the software by rotating the turntable from 0° to 360°.
- Loop antenna is rotated about its vertical axis for maximum response at each azimuth about the EUT. (For certain applications, the loop antenna plane may also need to be positioned horizontally at the specified distance from the EUT)
- The final measurement is done in the position (turntable and elevation) causing the highest emissions with quasi-peak (as described in ANSI C 63.10).
- Final levels, frequency, measuring time, bandwidth, turntable position, correction factor, margin to the limit and limit will be recorded. A plot with the graph of the premeasurement and the limit is stored.

*)Note: The sequence will be repeated three times with different EUT orientations.

8.2 Sequence of testing radiated spurious 30 MHz to 1 GHz

Setup

- The equipment is set up to simulate normal operation mode as described in the user manual or defined by the manufacturer.
- If the EUT is a tabletop system, a table with 0.8 m height is used, which is placed on the ground plane.
- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.
- Auxiliary equipment and cables are positioned to simulate normal operation conditions as described in ANSI C 63.10.
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- Measurement distance is 10 m or 3 m (see ANSI C 63.10) – see test details.
- EUT is set into operation.

Premeasurement

- The turntable rotates from 0° to 315° using 45° steps.
- The antenna is polarized vertical and horizontal.
- The antenna height changes from 1 m to 3 m.
- At each turntable position, antenna polarization and height the analyzer sweeps three times in peak to find the maximum of all emissions.

Final measurement

- The final measurement is performed for at least six highest peaks according to the requirements of the ANSI C63.4.
- Based on antenna and turntable positions at which the peak values are measured the software maximize the peaks by changing turntable position $\pm 45^\circ$ and antenna height between 1 and 4 m.
- The final measurement is done with quasi-peak detector (as described in ANSI C 63.10).
- Final levels, frequency, measuring time, bandwidth, antenna height, antenna polarization, turntable angle, correction factor, margin to the limit and limit are recorded. A plot with the graph of the premeasurement with marked maximum final results and the limit is stored.

8.3 Sequence of testing radiated spurious 1 GHz to 18 GHz

Setup

- The equipment is set up to simulate normal operation mode as described in the user manual or defined by the manufacturer.
- If the EUT is a tabletop system, a 2-axis positioner with 1.5 m height is used.
- If the EUT is a floor standing device, it is placed directly on the turn table.
- Auxiliary equipment and cables are positioned to simulate normal operation conditions as described in ANSI C 63.10.
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- Measurement distance is 3 m (see ANSI C 63.10) – see test details.
- EUT is set into operation.

Premeasurement

- The turntable rotates from 0° to 315° using 45° steps.
- The antenna is polarized vertical and horizontal.
- The antenna height is 1.5 m.
- At each turntable position and antenna polarization the analyzer sweeps with positive peak detector to find the maximum of all emissions.

Final measurement

- The final measurement is performed for at least six highest peaks according to the requirements of the ANSI C63.4.
- Based on antenna and turntable positions at which the peak values are measured the software maximizes the peaks by rotating the turntable from 0° to 360°. This measurement is repeated for different EUT-table positions (0° to 150° in 30°-steps) and for both antenna polarizations.
- The final measurement is done in the position (turntable, EUT-table and antenna polarization) causing the highest emissions with Peak and RMS detector (as described in ANSI C 63.10).
- Final levels, frequency, measuring time, bandwidth, turntable position, EUT-table position, antenna polarization, correction factor, margin to the limit and limit are recorded. A plot with the graph of the premeasurement with marked maximum final results and the limit is stored.

8.4 Sequence of testing radiated spurious above 18 GHz

Setup

- The equipment is set up to simulate normal operation mode as described in the user manual or defined by the manufacturer.
- Auxiliary equipment and cables are positioned to simulate normal operation conditions as described in ANSI C 63.10.
- The AC power port of the EUT (if available) is connected to a power outlet.
- The measurement distance is as appropriate (e.g. 0.5 m).
- The EUT is set into operation.

Premeasurement

- The test antenna is handheld and moved carefully over the EUT to cover the EUT's whole sphere and different polarizations of the antenna.

Final measurement

- The final measurement is performed at the position and antenna orientation causing the highest emissions with Peak and RMS detector (as described in ANSI C 63.10).
- Final levels, frequency, measuring time, bandwidth, correction factor, margin to the limit and limit are recorded. A plot with the graph of the premeasurement and the limit is stored.

9 Measurement uncertainty

Measurement uncertainty		
Test case	Uncertainty	
Antenna gain	± 3 dB	
Power spectral density	± 1.56 dB	
DTS bandwidth	± 100 kHz (depends on the used RBW)	
Occupied bandwidth	± 100 kHz (depends on the used RBW)	
Maximum output power conducted	± 1.56 dB	
Detailed spurious emissions @ the band edge - conducted	± 1.56 dB	
Band edge compliance radiated	± 3 dB	
Spurious emissions conducted	> 3.6 GHz	± 1.56 dB
	> 7 GHz	± 1.56 dB
	> 18 GHz	± 2.31 dB
	≥ 40 GHz	± 2.97 dB
Spurious emissions radiated below 30 MHz	± 3 dB	
Spurious emissions radiated 30 MHz to 1 GHz	± 4.1 dB	
Spurious emissions radiated 1 GHz to 12.75 GHz	± 3.7 dB	
Spurious emissions radiated above 12.75 GHz	± 4.5 dB	
Spurious emissions conducted below 30 MHz (AC conducted)	± 2.6 dB	

10 Summary of measurement results

☒	No deviations from the technical specifications were ascertained
☐	There were deviations from the technical specifications ascertained
☐	This test report is only a partial test report. The content and verdict of the performed test cases are listed below.

TC Identifier	Description	Verdict	Date	Remark
RF-Testing	CFR Title 47 Part 15 RSS 247, Issue 4	See table	2026-06-30	-/-

Test specification clause	Test case	C	NC	NA	NP	Remark
-/-	Output power verification (cond.)	-/-				Declared
-/-	Antenna gain	-/-				Declared
U-NII Part 15	Duty cycle	-/-				-/-
§15.407(a) RSS - 247 (6.2.x.1)	Maximum output power (conducted & radiated)	☒	☐	☐	☐	-/-
§15.407(a) RSS - 247 (6.2.x.1)	Power spectral density	☒	☐	☐	☐	-/-
RSS - 247 (6.2.4.1)	Spectrum bandwidth 6dB bandwidth	☒	☐	☐	☐	-/-
§15.407(a) RSS - 247 (6.2.x.2)	Spectrum bandwidth 26dB bandwidth	☒	☐	☐	☐	-/-
RSS Gen clause 6.6	Spectrum bandwidth 99% bandwidth	-/-				-/-
§15.205 RSS - 247 (6.2.x.2)	Band edge compliance radiated	☒	☐	☐	☐	-/-
§15.407(b) RSS - 247 (6.2.x.2)	TX spurious emissions radiated	☒	☐	☐	☐	-/-
§15.209(a) RSS-Gen	Spurious emissions radiated < 30 MHz	☒	☐	☐	☐	-/-
§15.107(a) §15.207	Spurious emissions conducted emissions< 30 MHz	☒	☐	☐	☐	-/-
§15.407 RSS - 247 (6.3)	DFS	-/-				See report 1-9318-25-02-05_TR1-R01

Notes:

C:	Compliant	NC:	Not compliant	NA:	Not applicable	NP:	Not performed
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11 Additional comments

Reference documents: DFS report: 1-9318-25-02-05_TR1-R01
Customer_Questionnaire_1-9318-25-01.docx
rf_ant_ant162442dt-2001a2_summary_en.pdf

Co-applicable documents: 1-9318-25-02-04_TR1-A201-R02.pdf (all tests)
1-9318-25-02-04_TR1-A202-R01.pdf (PSD tests with additional RU configurations)

Special test descriptions: Power settings:

Mode	All channels
OFDM / a – mode	Default
OFDM / nHT20 – mode	Default
OFDM / ac VHT20 – mode	Default
OFDM / ax HE20 – mode	Default
OFDM / ax HE20 – mode ER	Default
OFDM / ax HE20 – mode RU0, RU8, RU37, RU40, RU53, RU54, RU61	Default

Configuration descriptions: The DUT has been controlled using a web GUI and batch files. Only 20 MHz bandwidth is supported.

EUT selection: ☐ Only one device available
☒ Devices selected by the customer
☐ Devices selected by the laboratory (Randomly)

Provided channels:

Channels with 20 MHz channel bandwidth:

U-NII-1 & U-NII-2A (5150 MHz to 5250 MHz & 5250 MHz to 5350 MHz) channel number & center frequency											
channel	36	40	44	48	52	56	60	64			
f _c / MHz	5180	5200	5220	5240	5260	5280	5300	5320			
U-NII-2C (5470 MHz to 5725 MHz) channel number & center frequency											
channel	100	104	108	112	116	120	124	128	132	136	140
f _c / MHz	5500	5520	5540	5560	5580	5600	5620	5640	5660	5680	5700
U-NII-3 (5725 MHz to 5850 MHz) channel number & center frequency											
channel	149		153		157		161		165		
f _c / MHz	5745		5765		5785		5805		5825		

Note: The channels used for the tests were marked in bold in the list.

Test mode:

- ☐ No test mode available.
Iperf is used to transmit data to a companion device
- ☒ Special software is used.
EUT is transmitting pseudo random data by itself

Antennas and transmit operating modes:

- ☒ Operating mode 1 (single antenna)
- Equipment with 1 antenna,
 - Equipment with 2 diversity antennas operating in switched diversity mode by which at any moment in time only 1 antenna is used,
 - Smart antenna system with 2 or more transmit/receive chains, but operating in a mode where only 1 transmit/receive chain is used)
- ☐ Operating mode 2 (multiple antennas, no beamforming)
- Equipment operating in this mode contains a smart antenna system using two or more transmit/receive chains simultaneously but without beamforming.
- ☐ Operating mode 3 (multiple antennas, with beamforming)
- Equipment operating in this mode contains a smart antenna system using two or more transmit/receive chains simultaneously with beamforming.
In addition to the antenna assembly gain (G), the beamforming gain (Y) may have to be taken into account when performing the measurements.

12 Measurement results

12.1 Identify worst case data rate

Measurement:

All modes of the module will be measured with an average power meter to identify the maximum transmission power on mid channel. In the case that only one or two channels are available, only these will be measured.

In further tests only the identified worst case modulation scheme or bandwidth will be measured.

Measurement parameters:

Measurement parameter	
Detector:	Peak
Sweep time:	Auto
Resolution bandwidth:	3 MHz
Video bandwidth:	3 MHz
Trace mode:	Max hold
Used test setup:	See chapter 7.4 – A
Measurement uncertainty:	See chapter 9

Results:

OFDM – mode	Modulation scheme / bandwidth					
	U-NII-1 & U-NII-2A		U-NII-2C		U-NII-3	
	lowest channel	highest channel	lowest channel	highest channel	lowest channel	highest channel
a – mode	6 Mbit/s	6 Mbit/s	6 Mbit/s	6 Mbit/s	6 Mbit/s	6 Mbit/s
n HT20 – mode	MCS0	MCS0	MCS0	MCS0	MCS0	MCS0
ac VHT20 – mode	MCS0	MCS0	MCS0	MCS0	MCS0	MCS0
ax HE20 – mode	MCS0	MCS0	MCS0	MCS0	MCS0	MCS0

12.2 Antenna gain

Limits:

Antenna Gain
6 dBi / > 6 dBi output power and power density reduction required

Results: All values are extracted from the antenna datasheet.

U-NII-1 (5150 MHz to 5250 MHz)	Antenna gain		
	Lowest channel	Middle channel	Highest channel
Gain / dBi (declared)	1.0		

U-NII-2A (5250 MHz to 5350 MHz)	Antenna gain		
	Lowest channel	Middle channel	Highest channel
Gain / dBi (declared)	1.1		

U-NII-2C (5470 MHz to 5725 MHz)	Antenna gain		
	Lowest channel	Middle channel	Highest channel
Gain / dBi (declared)	1.5		

U-NII-3 (5725 MHz to 5850 MHz)	Antenna gain		
	Lowest channel	Middle channel	Highest channel
Gain / dBi (declared)	2.1		

12.3 Maximum output power

12.3.1 Maximum output power according to FCC requirements

Measurement:

Measurement parameter	
According to: KDB789033 D02, E.2.e.	
External result file(s)	1-9318-25-02-04_TR1-A201-R02.pdf FCC Part 15.407 Max Output Power and PSD
Used test setup:	See sub clause 7.4 – A
Measurement uncertainty:	See chapter 9

Limits:

Limits	
Radiated output power	Conducted output power
Band 5150 MHz – 5250 MHz	
For an outdoor access point: Conducted power + 6 dBi antenna gain For an indoor access point: Conducted power + 6 dBi antenna gain For fixed point-to-point access points Conducted power + 23 dBi antenna gain For client devices Conducted power + 6 dBi antenna gain (If the Antenna gain is greater than the Limit: 1dB reduction in the max. conducted output power for each 1 dB of antenna gain in excess of the Limit)	For an outdoor access point: output power $\leq 1\text{W}/30\text{dBm}$ The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm) For an indoor access point output power $\leq 1\text{W}/30\text{dBm}$ For fixed point-to-point access points output power $\leq 1\text{W}/30\text{dBm}$ For client devices output power $\leq 250\text{ mW}/24\text{dBm}$
Band 5250MHz – 5350 MHz	
Conducted power + 6 dBi antenna gain (Antenna gain higher than the Limit: 1dB reduction in the max. conducted output power for each 1 dB of antenna gain in excess of the Limit)	Output power $\leq$ lesser of 250mW or $11\text{dBm} + 10\log B$ (B is the 26 dB emission bandwidth in megahertz)
Band 5470MHz – 5725 MHz	
Conducted power + 6 dBi antenna gain (Antenna gain higher than the Limit: 1dB reduction in the max. conducted output power for each 1 dB of antenna gain in excess of the Limit)	Output power $\leq$ lesser of 250mW or $11\text{dBm} + 10\log B$ (B is the 26 dB emission bandwidth in megahertz)
Band 5725MHz – 5850 MHz	
Conducted power + 6 dBi antenna gain (Antenna gain higher than the Limit: 1dB reduction in the max. conducted output power for each 1 dB of antenna gain in excess of the Limit Exception: fixed point-to-point U-NII devices, no corresponding reduction in transmitter conducted power)	output power $\leq 1\text{W}/30\text{dBm}$

Results:

Conducted power [dBm]	Ch36	Ch40	Ch48	Ch52	Ch56	Ch64	Ch100	Ch120	Ch140	Ch149	Ch157	Ch165
a-mode	10.6	11.8	12.3	12.3	12.4	11.8	11.3	11.6	11.7	10.8	11.2	12.0
nHT20-mode	10.5	11.8	12.3	12.2	12.3	11.7	10.3	11.5	11.7	10.8	11.2	12.0
acVHT-mode	10.5	11.8	12.3	12.2	12.4	11.8	10.3	11.5	11.7	10.9	11.2	12.0
axHE20-SU-mode	10.6	11.9	12.3	12.3	12.4	11.8	10.5	14.5	11.3	10.6	11.1	11.8

12.3.2 Maximum output power according to ISED requirements

Description:

Measurement of the maximum output power conducted + radiated

Measurement:

Measurement parameter	
External result file(s)	1-9318-25-02-04_TR1-A201-R02.pdf ISED Max Output Power and PSD
Used test setup:	See sub clause 7.4 – A
Measurement uncertainty:	See chapter 9

Limits:

Radiated output power	Conducted output power for mobile equipment
The lesser one of 200 mW or 10 dBm + 10 log Bandwidth 5.150-5.250 GHz 1 W or 17 dBm + 10 log Bandwidth 5.250-5.350 GHz 1 W or 17 dBm + 10 log Bandwidth 5.470-5.725 GHz (where Bandwidth is the 99% Bandwidth [MHz]) Conducted power + 6dBi antenna gain 5.725-5.825 GHz	The lesser one of 250mW or 11 dBm + 10 log Bandwidth 5.250-5.350 GHz 250mW or 11 dBm + 10 log Bandwidth 5.470-5.725 GHz (where Bandwidth is the 99% Bandwidth [MHz]) 1W 5.725-5.825 GHz

Results:

Conducted power [dBm]	Ch36	Ch40	Ch48	Ch52	Ch56	Ch64	Ch100	Ch120	Ch140	Ch149	Ch157	Ch165
a-mode	10.0	11.8	12.3	12.2	12.4	11.7	10.2	11.5	11.7	10.8	11.2	12.0
nHT20-mode	10.4	11.6	12.2	12.2	12.3	11.7	10.2	11.4	11.6	10.7	11.1	11.9
acVHT20-mode	10.4	11.8	12.2	12.2	12.4	11.7	10.3	11.5	11.6	10.8	11.1	11.9
axHE20-SU-mode	10.5	11.9	12.3	12.3	12.4	11.8	10.4	11.6	11.5	10.6	10.9	11.8

Radiated power [dBm]	Ch36	Ch40	Ch48	Ch52	Ch56	Ch64	Ch100	Ch120	Ch140	Ch149	Ch157	Ch165
a-mode	12.1	13.9	14.4	14.3	14.5	13.8	12.3	13.6	13.8	12.9	13.3	14.1
nHT20-mode	12.5	13.7	14.3	14.3	14.4	13.8	12.3	13.5	13.7	12.8	13.2	14.0
acVHT20-mode	12.5	13.8	14.3	14.3	14.5	13.8	12.4	13.6	13.7	12.9	13.2	14.0
axHE20-SU-mode	12.6	14.0	14.4	14.4	14.5	13.9	12.5	13.7	13.6	12.7	13.0	13.9

12.4 Power spectral density

12.4.1 Power spectral density according to FCC requirements

Measurement:

Measurement parameter	
According to: KDB789033 D02, F.	
External result file(s)	1-9318-25-02-04_TR1-A201-R02.pdf 1-9318-25-02-04_TR1-A202-R01.pdf FCC Part 15.407 Max Output Power and PSD
Used test setup:	See sub clause 7.4 – A
Measurement uncertainty:	See chapter 9

Limits:

Power Spectral Density
Band 5150 MHz – 5250 MHz
For an outdoor access point power spectral density conducted ≤ 17 dBm in any 1 MHz band* For an indoor access point power spectral density conducted ≤ 17 dBm in any 1 MHz band* For fixed point-to-point access points power spectral density conducted ≤ 17 dBm in any 1 MHz band** For client devices point power spectral density conducted ≤ 11 dBm in any 1 MHz band* *If transmitting antennas of directional gain greater than 6 dBi are used the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi **Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi.
Band 5250MHz – 5350 MHz
power spectral density conducted ≤ 11 dBm in any 1 MHz band* *If transmitting antennas of directional gain greater than 6 dBi are used the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi
Band 5470MHz – 5725 MHz
power spectral density conducted ≤ 11 dBm in any 1 MHz band* *If transmitting antennas of directional gain greater than 6 dBi are used the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi
Band 5725MHz – 5850 MHz
power spectral density conducted ≤ 30 dBm in any 500 kHz band If transmitting antennas of directional gain greater than 6 dBi are used the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi

Results:

Power Spectral Density [dBm/MHz]	Ch36	Ch40	Ch48	Ch52	Ch56	Ch64	Ch100	Ch120	Ch140	Ch149	Ch157	Ch165
a-mode	0.1	1.3	1.8	1.8	1.9	1.2	-0.2	1.1	1.2	-2.7	-2.2	-1.4
nHT20-mode	-0.3	0.9	1.4	1.4	1.5	0.9	-0.7	0.7	0.9	-3.0	-2.6	-1.8
acVHT20-mode	-0.4	1.0	1.4	1.4	1.6	0.9	-0.6	0.7	0.9	-2.9	-2.6	-1.8
axHE20-SU-mode	-0.6	0.7	1.1	1.2	1.3	0.6	-0.7	0.2	0.4	-3.5	-3.0	-2.3

Results: Additional PSD tests with different RU configurations for axHE20-mode

Power Spectral Density [dBm/MHz]	Ch36	Ch40	Ch48	Ch52	Ch56	Ch64	Ch100	Ch120	Ch140	Ch149	Ch157	Ch165
axHE20-mode RU0		-1.2			-0.2			-2.1			-4.5	
axHE20-mode RU8		-0.6			-0.6			-1.4			-5.5	
axHE20-mode RU37		-0.3			0.8			-1.1			-3.9	
axHE20-mode RU40		0.4			0.4			-0.4			-4.7	
axHE20-mode RU53		0.0			1.0			-0.3			-3.2	
axHE20-mode RU54		0.4			0.7			0.2			-3.9	
axHE20-mode RU61		0.7			1.3			0.2			-3.1	
axHE20-mode ER54		-0.1			0.2			-0.4			-4.1	

12.4.2 Power spectral density according to ISED requirements

Description:

Measurement of the power spectral density of a digital modulated system. The measurement is repeated at the lowest, middle and highest channel.

Measurement:

Measurement parameter	
External result file(s)	1-9318-25-02-04_TR1-A201-R02.pdf ISED Max Output Power and PSD
Used test setup:	See sub clause 7.4 – A
Measurement uncertainty:	See chapter 9

Limits:

Power Spectral Density
power spectral density e.i.r.p. ≤ 10 dBm in any 1 MHz band (band 5150 – 5250 MHz)
power spectral density conducted ≤ 11 dBm in any 1 MHz band (band 5250 – 5350 MHz)
power spectral density conducted ≤ 11 dBm in any 1 MHz band (band 5470 – 5725 MHz)
power spectral density conducted ≤ 30 dBm in any 500 kHz band (band 5725 – 5850 MHz)

Results:

Power Spectral Density [dBm/MHz] e.i.r.p. for channel 36-48 conducted for all other channels	Ch36	Ch40	Ch48	Ch52	Ch56	Ch64	Ch100	Ch120	Ch140	Ch149	Ch157	Ch165
a-mode	1.7	3.4	3.9	1.8	1.9	1.3	-0.2	1.1	1.3	-2.6	-2.2	-1.4
nHT20-mode	1.7	2.9	3.5	1.4	1.5	0.9	-0.7	0.6	0.9	-3.0	-2.6	-1.8
acVHT20-mode	1.7	3.1	3.5	1.4	1.6	0.9	-0.6	0.7	0.9	-2.9	-2.5	-1.8
axHE20-SU-mode	1.5	2.9	3.3	1.2	1.4	0.7	-0.8	0.5	0.4	-3.6	-3.1	-2.3

12.5 Minimum emission bandwidth for the band 5.725-5.85 GHz

Description:

Measurement of the 6 dB bandwidth of the modulated signal.

Measurement:

Measurement parameter	
According to: KDB789033 D02, C.2.	
External result file(s)	1-9318-25-02-04_TR1-A201-R02.pdf FCC Part 15.407 & ISSED Minimum Emission BW
Used test setup:	See chapter 6.5 – A
Measurement uncertainty:	See chapter 9

Limits:

FCC	ISED
The minimum 6 dB bandwidth shall be at least 500 kHz.	

Results:

6 dB bandwidth [MHz]	Ch149	Ch157	Ch165
a-mode	15.2	15.2	15.2
nHT20-mode	15.2	15.7	15.3
acVHT20-mode	15.2	16.0	15.2
axHE20-SU-mode	18.1	18.4	18.7
axHE20-mode RU61	18.9	18.9	18.9

12.6 Spectrum bandwidth / 26 dB bandwidth

Description:

Measurement of the 26 dB bandwidth of the modulated signal.

Measurement:

Measurement parameter	
According to: KDB789033 D02, C.1.	
External result file(s)	1-9318-25-02-04_TR1-A201-R02.pdf FCC Part 15.407 & ISSED Bandwidths
Used test setup:	See sub clause 7.4 – A
Measurement uncertainty:	See chapter 9

Limits:

Spectrum Bandwidth – 26 dB Bandwidth
IC: Any unwanted emissions that fall into the band 5250-5350 MHz shall be attenuated below the channel power by at least 26 dB, when measured using a resolution bandwidth between 1 and 5% of the occupied bandwidth (i.e. 99% bandwidth), above 5250 MHz. The 26 dB bandwidth may fall into the 5250-5350 MHz band; however, if the occupied bandwidth also falls within the 5250-5350 MHz band, the transmission is considered as intentional and the devices shall comply with all requirements in the band 5250-5350 MHz including implementing dynamic frequency selection (DFS) and TPC, on the portion of the emission that resides in the 5250-5350 MHz band. FCC: Radar Detection Function of Dynamic Frequency Selection (DFS). U-NII devices operating with any part of its 26 dB emission bandwidth in the 5.25-5.35 GHz and 5.47-5.725 GHz bands shall employ a DFS radar detection mechanism to detect the presence of radar systems and to avoid co-channel operation with radar systems.

Results:

26 dB bandwidth [MHz]	Ch36	Ch40	Ch48	Ch52	Ch56	Ch64	Ch100	Ch120	Ch140	Ch149	Ch157	Ch165
a-mode	22.2	21.9	21.8	22.2	22.2	22.1	21.5	21.8	22.2	19.5	19.7	19.7
nHT20-mode	21.6	24.5	22.4	23.7	22.9	22.6	21.9	22.6	21.6	19.9	20.4	19.9
acVHT20-mode	21.5	26.0	22.5	23.1	23.3	22.1	22.3	22.2	22.0	20.0	20.0	20.0
axHE20-SU-mode	22.2	24.5	24.0	24.4	23.6	22.5	21.7	23.2	23.1	20.3	20.3	20.4
axHE20-mode RU61	22.7	25.3	24.3	24.7	23.5	23.7	22.4	23.0	23.4	20.3	20.6	20.5

12.7 Occupied bandwidth / 99% emission bandwidth

Description:

Measurement of the 99% bandwidth of the modulated signal acc. RSS-GEN.

Measurement:

Measurement parameter	
External result file(s)	1-9318-25-02-04_TR1-A201-R02.pdf FCC Part 15.407 & ISSED Bandwidths
Test setup:	See sub clause 7.4 – A
Measurement uncertainty:	See chapter 9

Usage:

-/-	ISED
OBW is necessary for Emission Designator	

Results:

99% bandwidth [kHz]	Ch36	Ch40	Ch48	Ch52	Ch56	Ch64	Ch100	Ch120	Ch140	Ch149	Ch157	Ch165
a-mode	16583	17333	17333	17183	17233	16683	16583	16933	16833	16733	16833	16683
nHT20-mode	17582	17832	17782	17832	17782	17632	17582	17632	17632	17682	17632	17682
acVHT20-mode	17582	17832	17782	17782	17732	17632	17682	17632	17632	17732	17732	17682
axHE20-SU-mode	18881	18931	18981	18981	18931	18931	18931	18931	18931	18931	18881	18931
axHE20-mode RU61	18931	18931	18931	18931	18931	18881	18931	18881	18881	18931	18931	18881

12.8 Undesirable emissions for transmitters operating in the 5725 MHz to 5850 MHz band (conducted)

Description:

Measurement of the spectrum mask as per FCC Part 15.407 (b)(4) and KDB 789033 II.G.2 (c) (ii). The measurement is repeated at the lowest, middle and highest channel and performed in a conducted way as defined in KDB 789033 II.G.3 (b).

The highest antenna gain is considered and was added to the Reference Level Offset. Emission levels are further adjusted to consider the number of antenna outputs (2).

Measurement:

Measurement parameter	
External result file(s)	1-9318-25-02-04_TR1-A201-R02.pdf Emission mask (eirp)
Detector:	Peak
Sweep time:	Auto
Resolution bandwidth:	1 MHz
Video bandwidth:	3 MHz
Trace mode:	Max Hold
Test setup:	See sub clause 7.4 – A
Measurement uncertainty:	See chapter 9

Limits:

FCC Part 15.407 (b)(4)
All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Result: Compliant (See external result file)

12.9 Band edge compliance radiated

Description:

Measurement of the radiated band edge compliance. The EUT is turned in the position that results in the maximum level at the band edge. Then a sweep over the corresponding restricted band is performed. The EUT is set to the lowest channel for the lower restricted band and to the highest channel for the upper restricted band. Measurement distance is 3m.

Measurement:

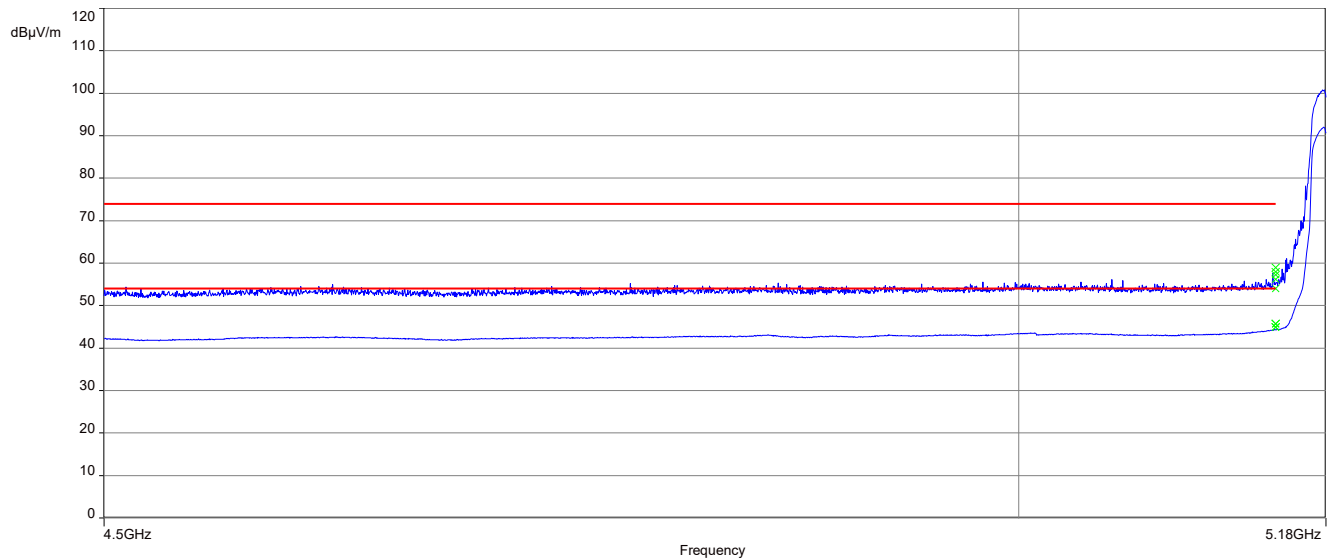
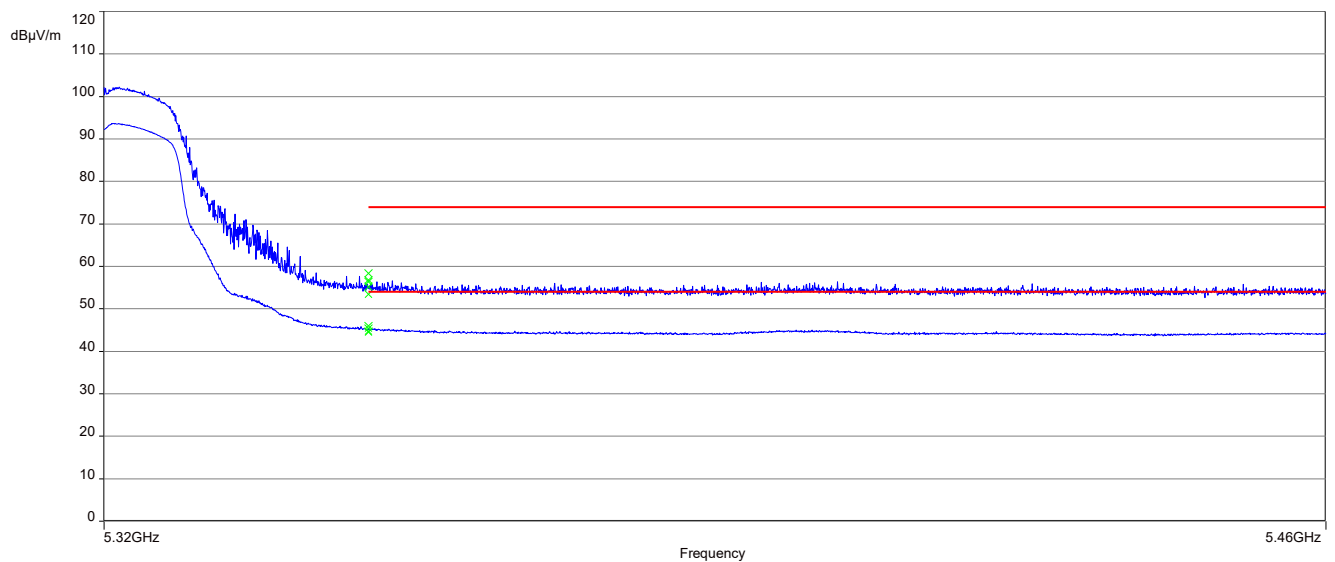
Measurement parameter	
Detector:	Peak / RMS
Sweep time:	Auto
Resolution bandwidth:	1 MHz
Video bandwidth:	$\geq 3 \times \text{RBW}$
Span:	See plots!
Trace mode:	Max Hold
Test setup:	See sub clause 7.2 – A
Measurement uncertainty:	See chapter 9

Limits:

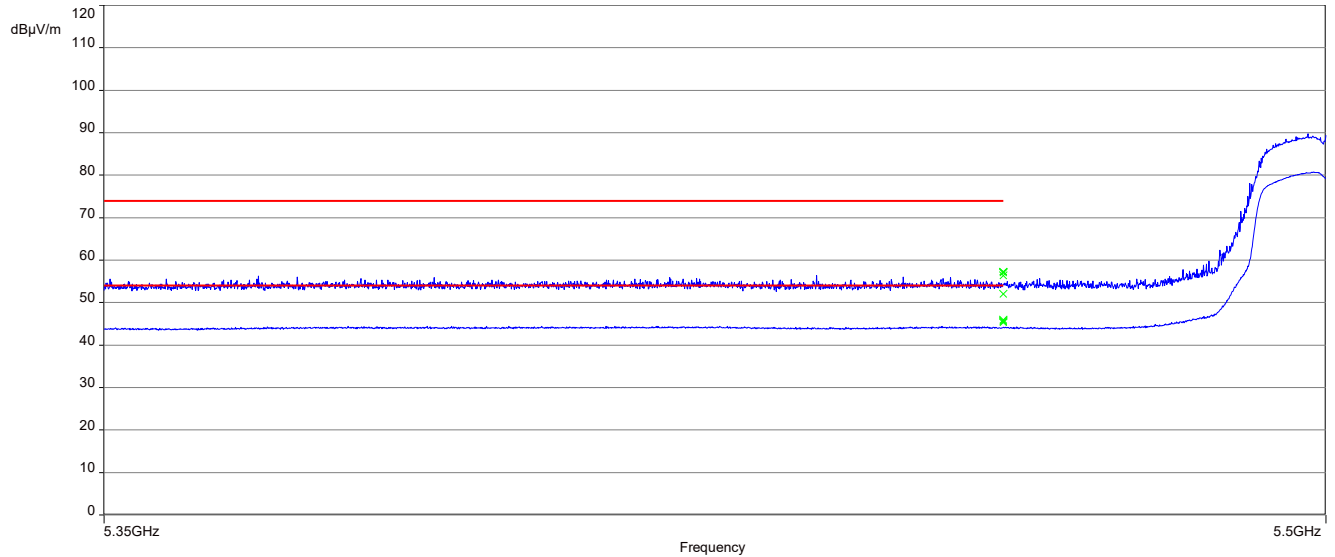
Band Edge Compliance Radiated
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 5.205(c)).
74 dB μ V/m (peak) 54 dB μ V/m (average)

Result:

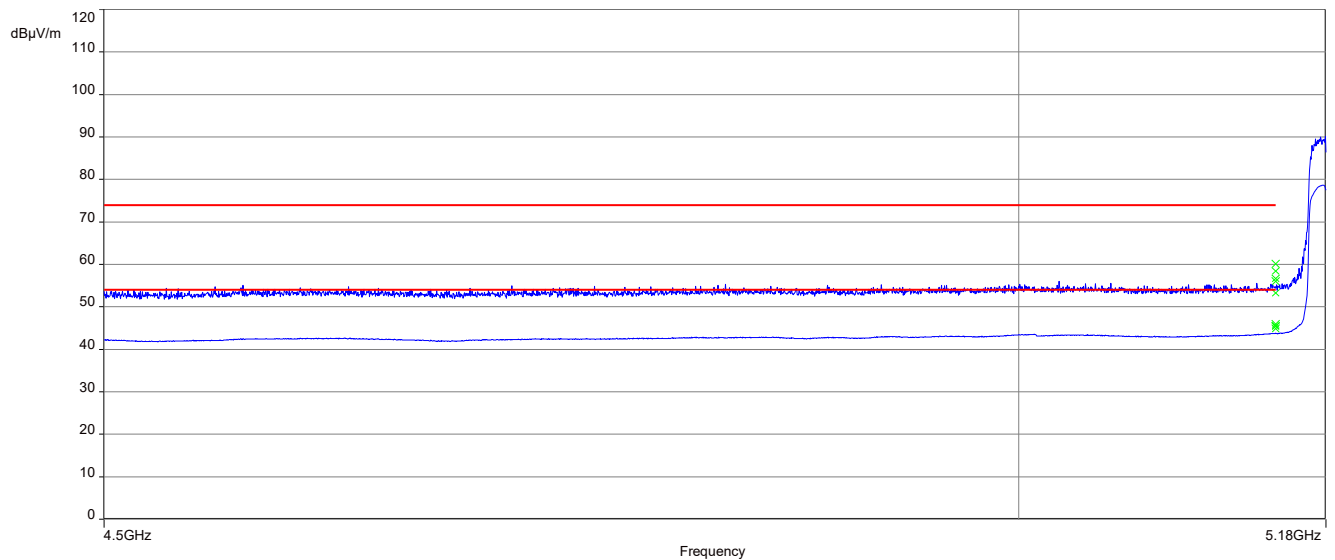
Scenario	Band Edge Compliance Radiated [dBµV/m]
a-mode Channel 36	59.0 dBµV/m (peak) 45.7 dBµV/m (average)
a-mode Channel 64	58.4 dBµV/m (peak) 46.0 dBµV/m (average)
a-mode Channel 100	57.3 dBµV/m (peak) 45.9 dBµV/m (average)
axHE20-SU-mode Channel 36	60.1 dBµV/m (peak) 46.0 dBµV/m (average)
axHE20-SU-mode Channel 64	64.4 dBµV/m (peak) 46.7 dBµV/m (average)
axHE20-SU-mode Channel 100	56.9 dBµV/m (peak) 45.7 dBµV/m (average)
axHE20-mode Channel 36 RU0	56.8 dBµV/m (peak) 44.9 dBµV/m (average)
axHE20-mode Channel 64 RU8	56.6 dBµV/m (peak) 44.5 dBµV/m (average)
axHE20-mode Channel 100 RU0	56.7 dBµV/m (peak) 44.9 dBµV/m (average)
axHE20-mode Channel 36 RU37	56.6 dBµV/m (peak) 44.9 dBµV/m (average)
axHE20-mode Channel 64 RU40	56.1 dBµV/m (peak) 44.7 dBµV/m (average)
axHE20-mode Channel 100 RU37	56.2 dBµV/m (peak) 44.8 dBµV/m (average)
axHE20-mode Channel 36 RU53	56.3 dBµV/m (peak) 45.2 dBµV/m (average)
axHE20-mode Channel 64 RU54	56.6 dBµV/m (peak) 44.7 dBµV/m (average)
axHE20-mode Channel 100 RU53	56.1 dBµV/m (peak) 44.7 dBµV/m (average)
axHE20-mode Channel 36 ER	56.3 dBµV/m (peak) 44.9 dBµV/m (average)
axHE20-mode Channel 64 ER	56.5 dBµV/m (peak) 45.0 dBµV/m (average)
axHE20-mode Channel 100 ER	56.3 dBµV/m (peak) 44.8 dBµV/m (average)

Plots:**Plot 1:** lower band edge; U-NII-1; lowest channel; a-mode**Plot 2:** upper band edge; U-NII-2A; highest channel; a-mode

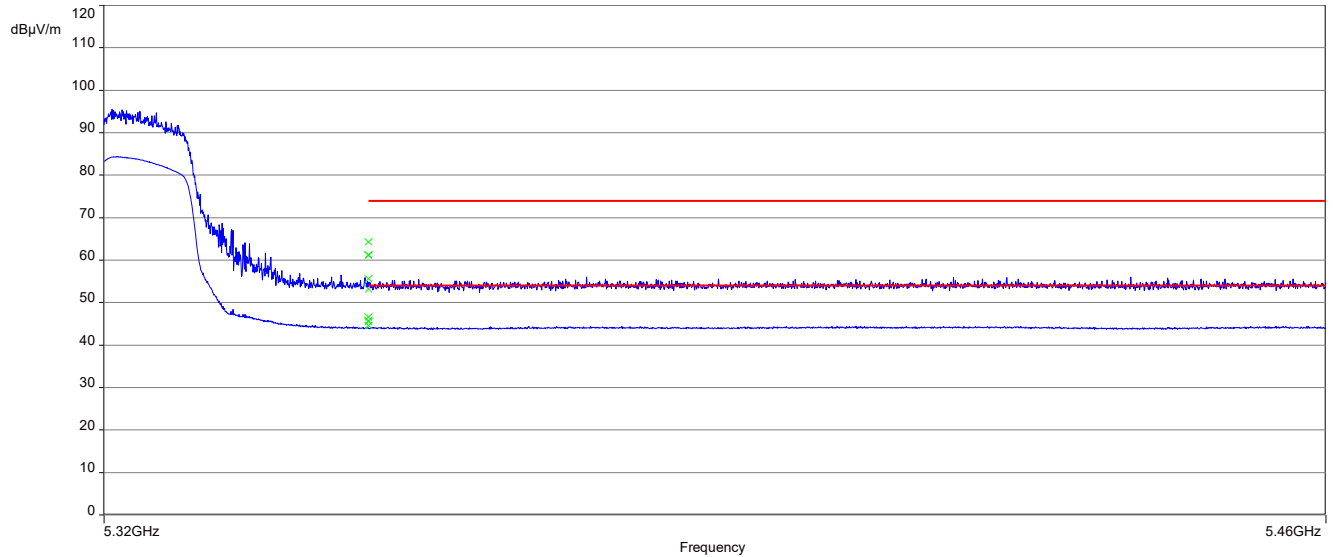
Plot 3: lower band edge; U-NII-2C; lowest channel; a-mode



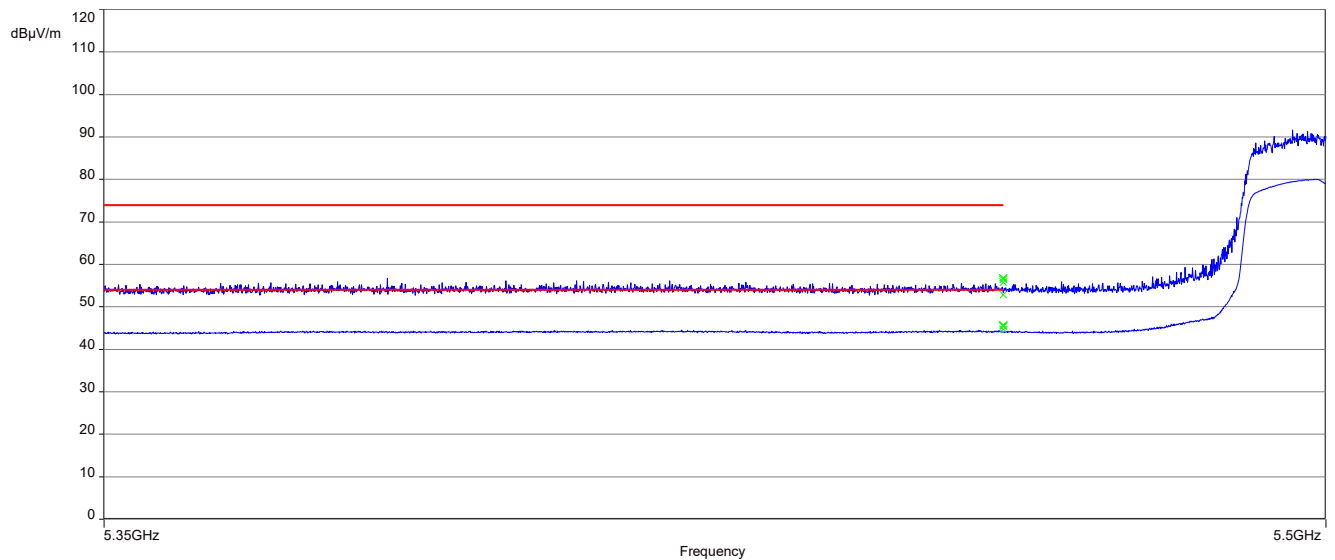
Plot 4: lower band edge; U-NII-1; lowest channel; axHE20-SU-mode



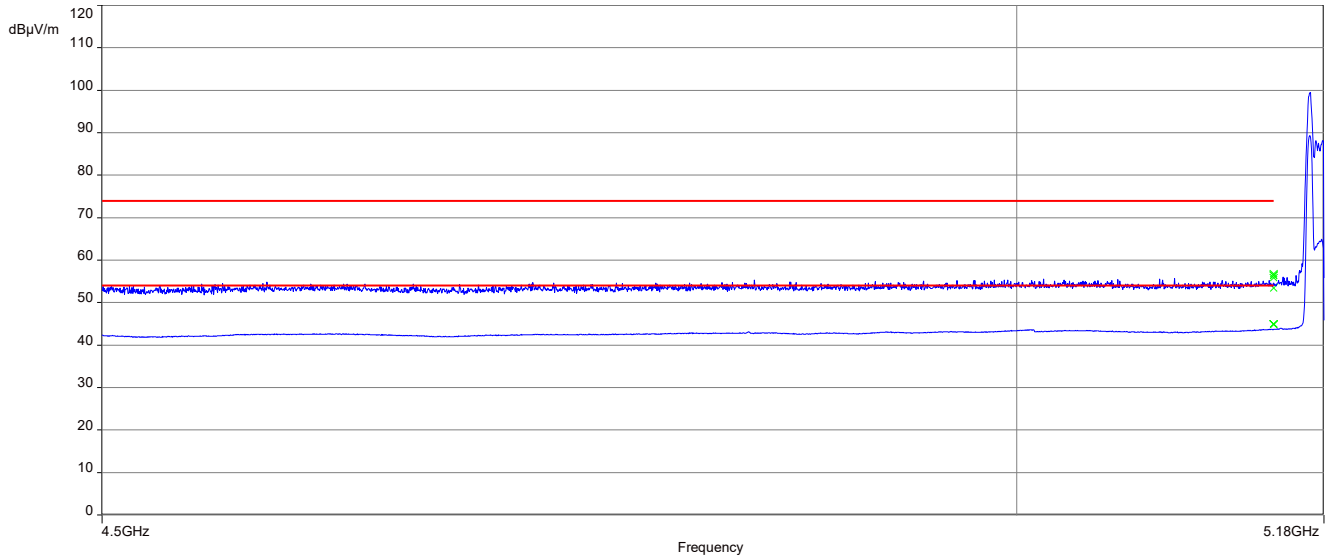
Plot 5: upper band edge; U-NII-2A; highest channel; axHE20-SU-mode



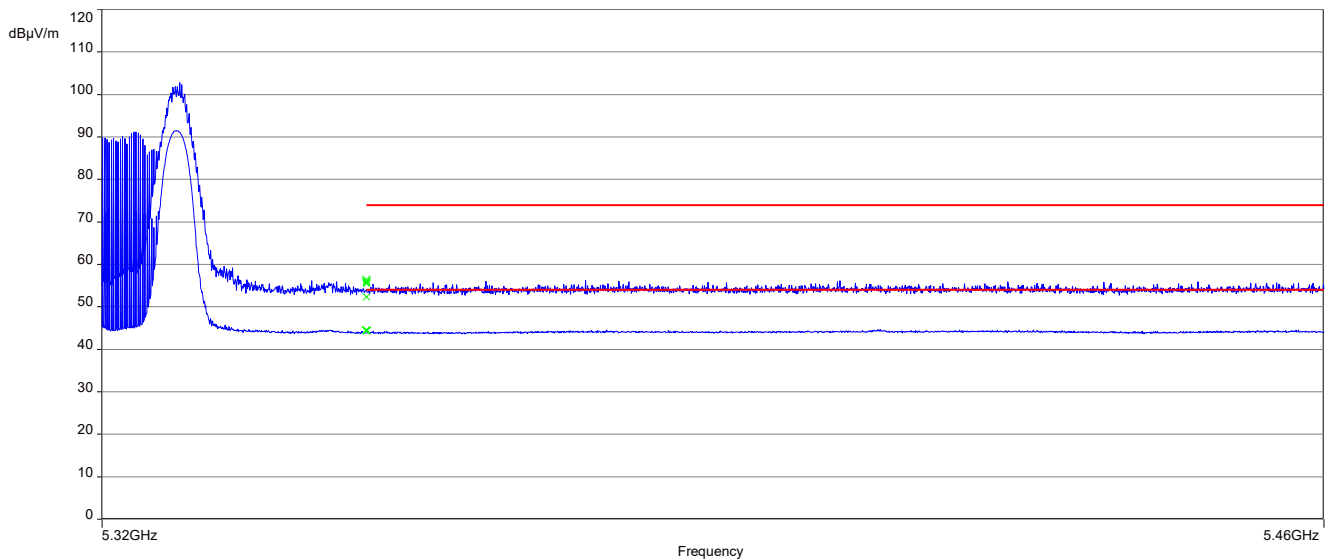
Plot 6: lower band edge; U-NII-2C; lowest channel; axHE20-SU-mode



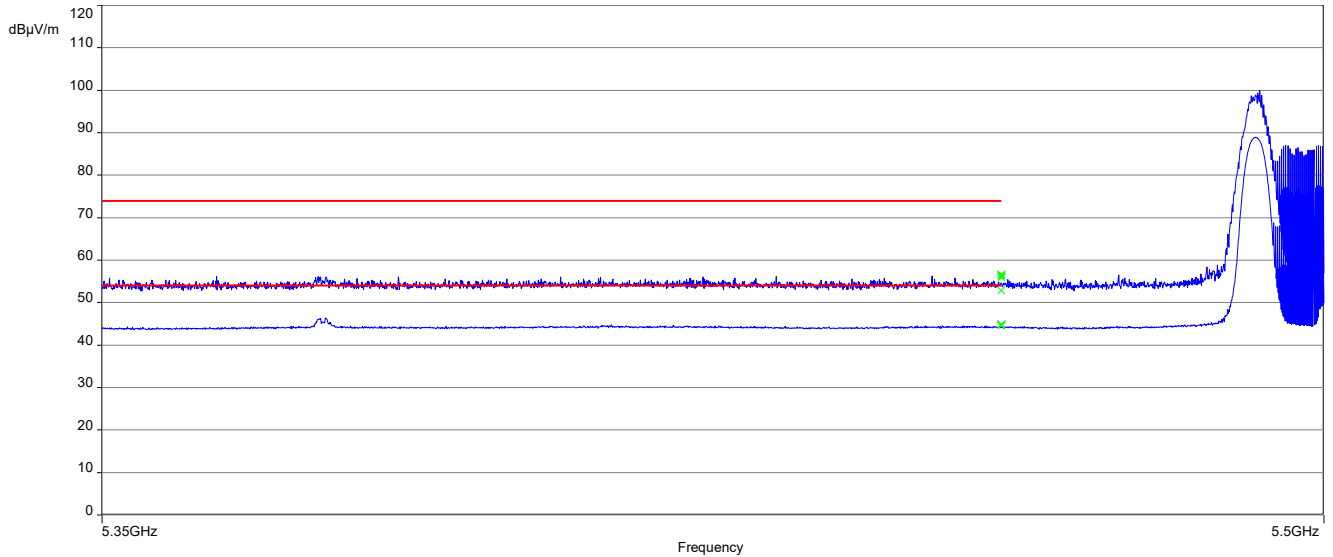
Plot 7: lower band edge; U-NII-1; lowest channel; axHE20-mode RU0



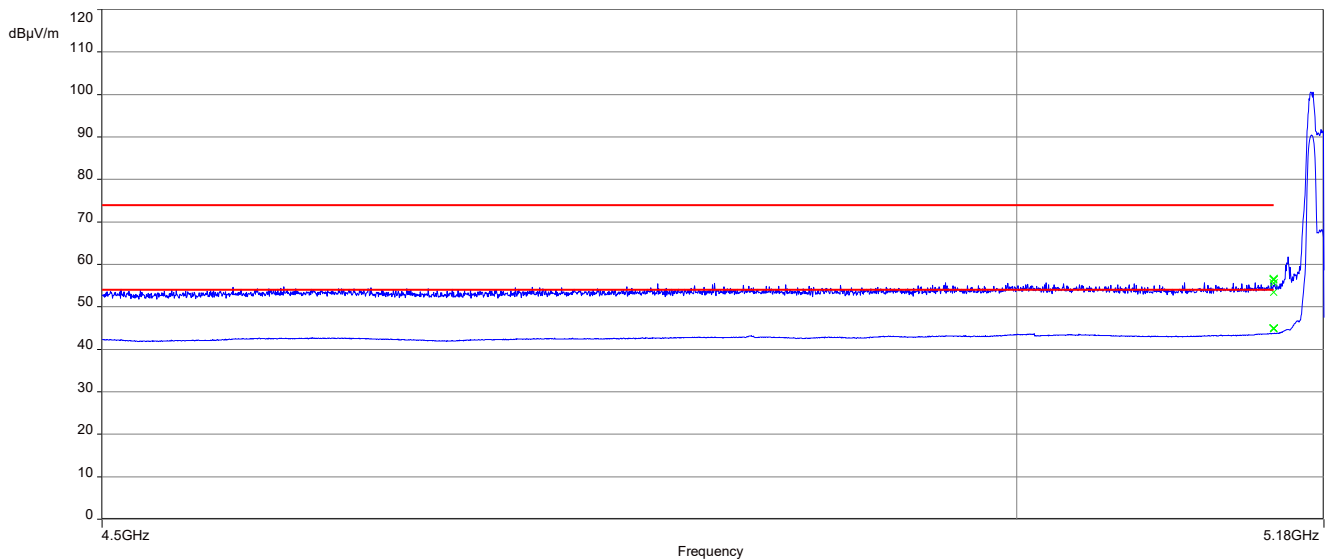
Plot 8: upper band edge; U-NII-2A; highest channel; axHE20-mode RU8



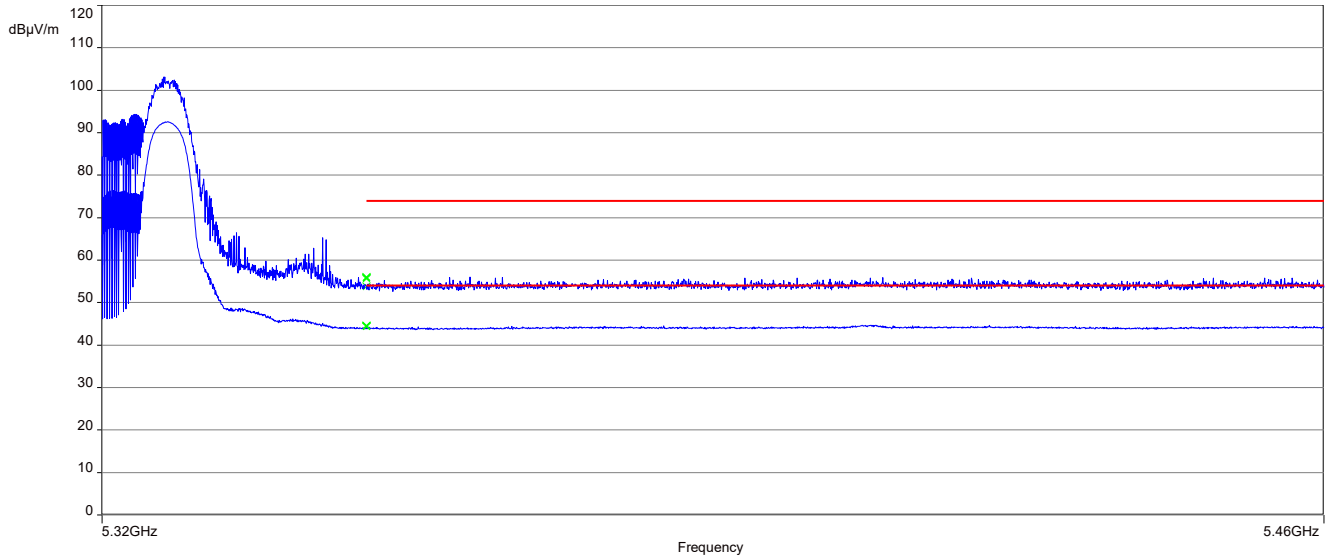
Plot 9: lower band edge; U-NII-2C; lowest channel; axHE20-mode RU0



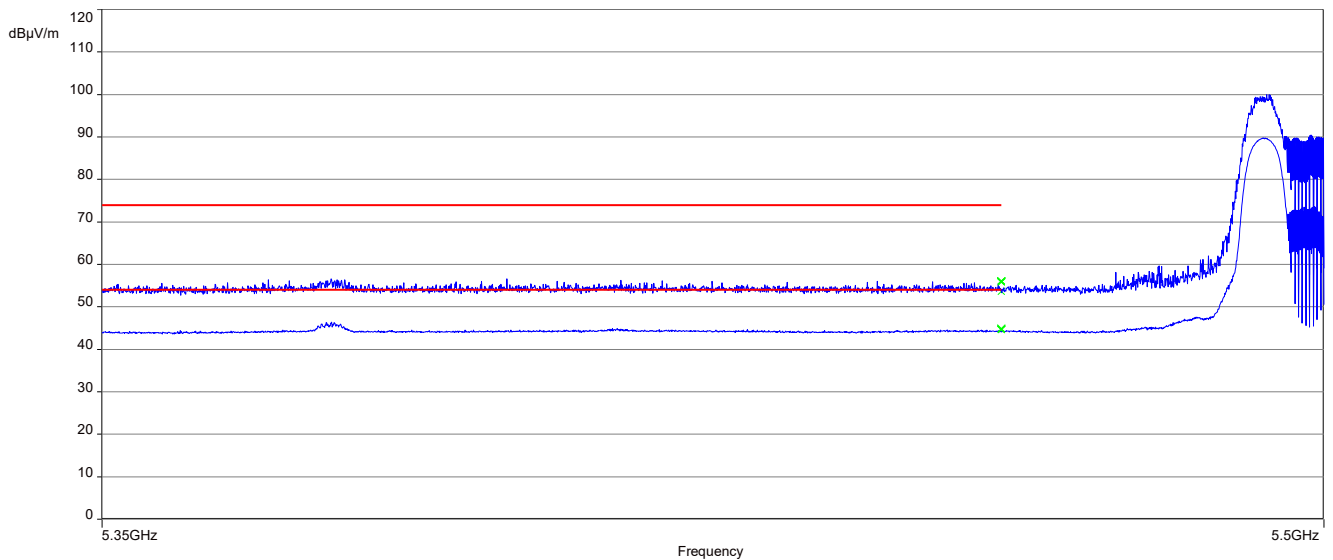
Plot 10: lower band edge; U-NII-1; lowest channel; axHE20-mode RU37



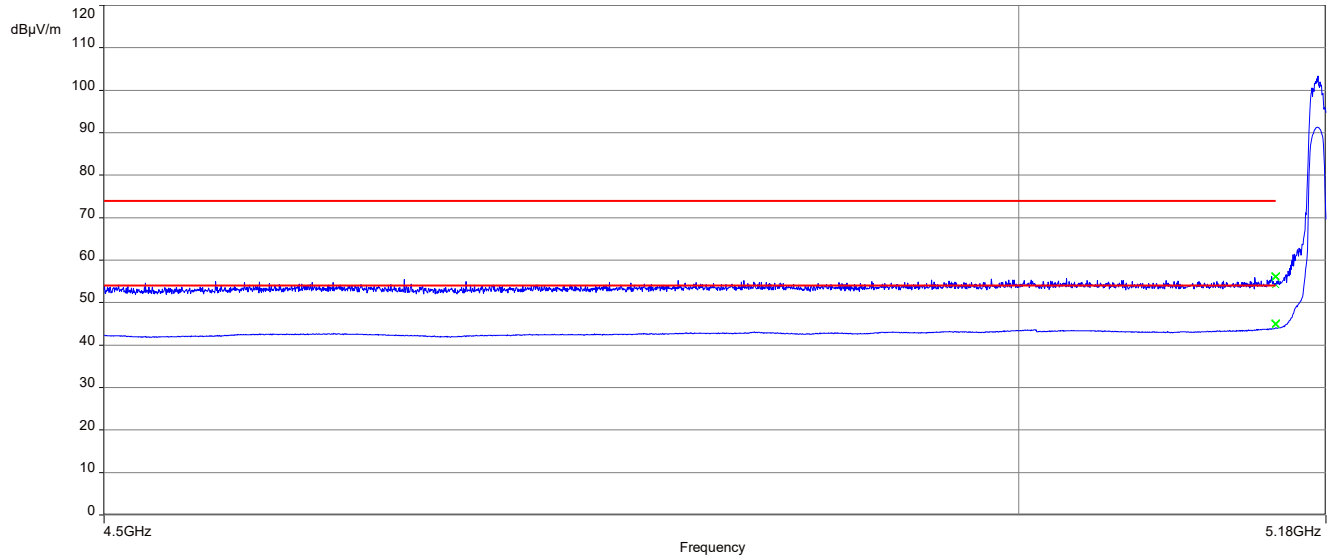
Plot 11: upper band edge; U-NII-2A; highest channel; axHE20-mode RU40



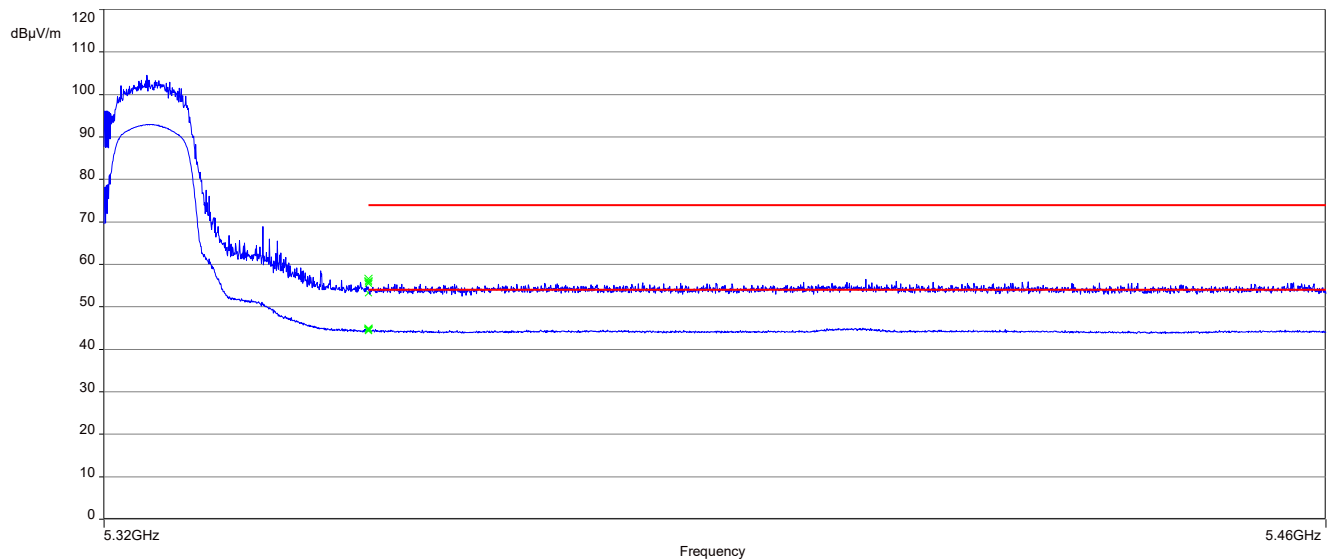
Plot 12: lower band edge; U-NII-2C; lowest channel; axHE20-mode RU37



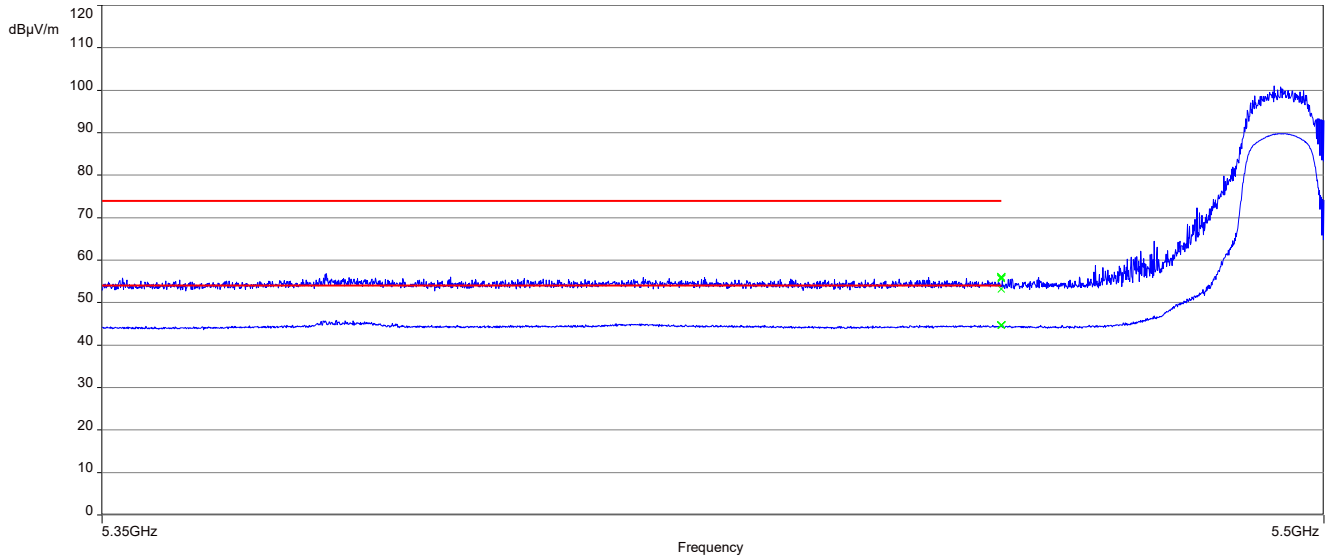
Plot 13: lower band edge; U-NII-1; lowest channel; axHE20-mode RU53



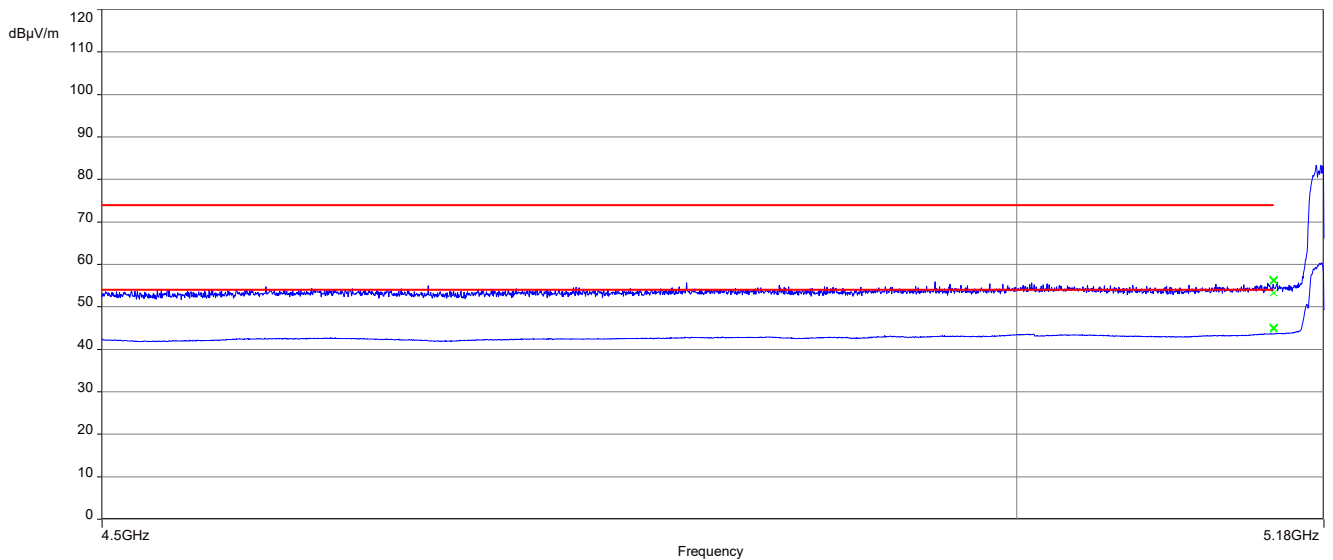
Plot 14: upper band edge; U-NII-2A; highest channel; axHE20-mode RU54



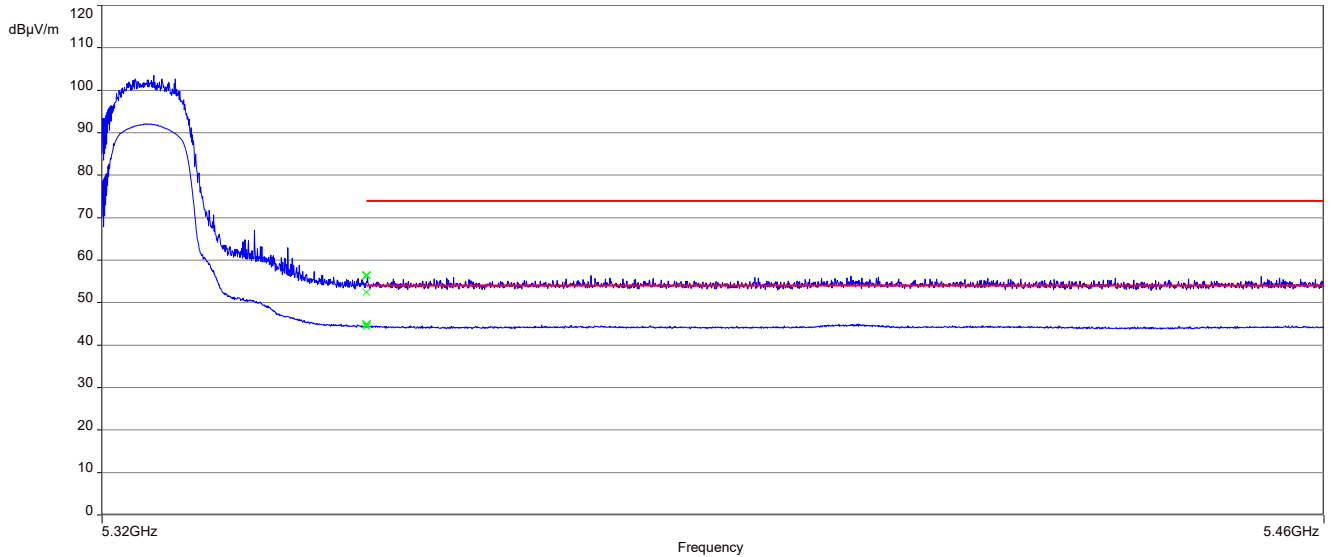
Plot 15: lower band edge; U-NII-2C; lowest channel; axHE20-mode RU53



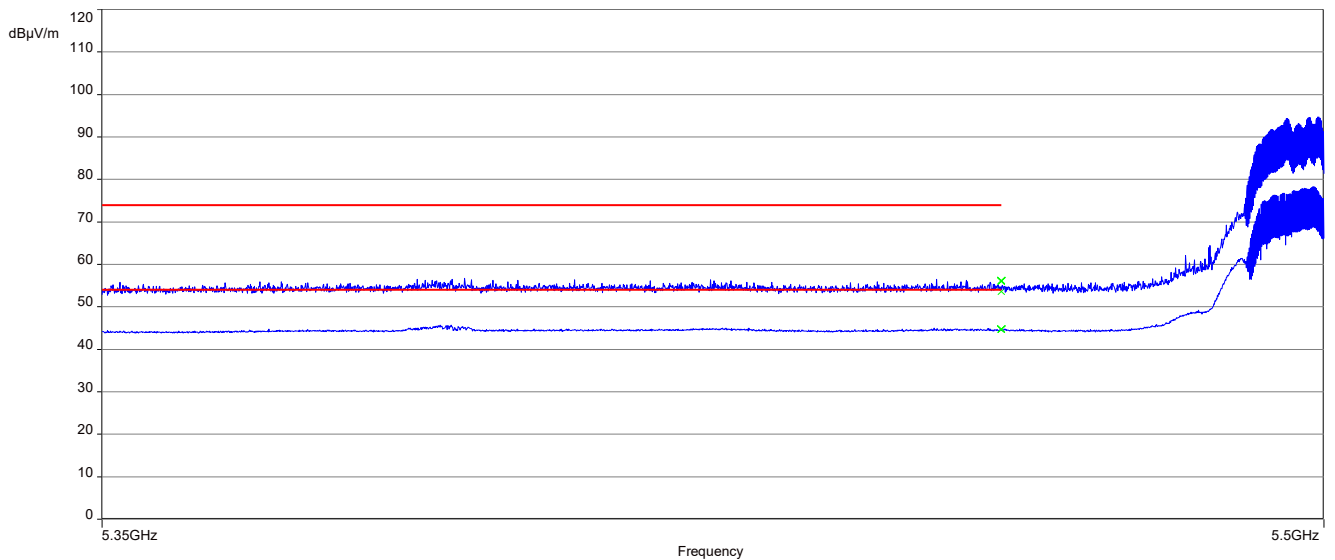
Plot 16: lower band edge; U-NII-1; lowest channel; axHE20-mode ER



Plot 17: upper band edge; U-NII-2A; highest channel; axHE20-mode ER



Plot 18: lower band edge; U-NII-2C; lowest channel; axHE20-mode ER



12.10 Spurious emissions radiated below 30 MHz

Description:

Measurement of the radiated spurious emissions in transmit mode below 30 MHz. The limits are re-calculated to a measurement distance of 3 m with 40 dB/decade according CFR Part 2.

Measurement:

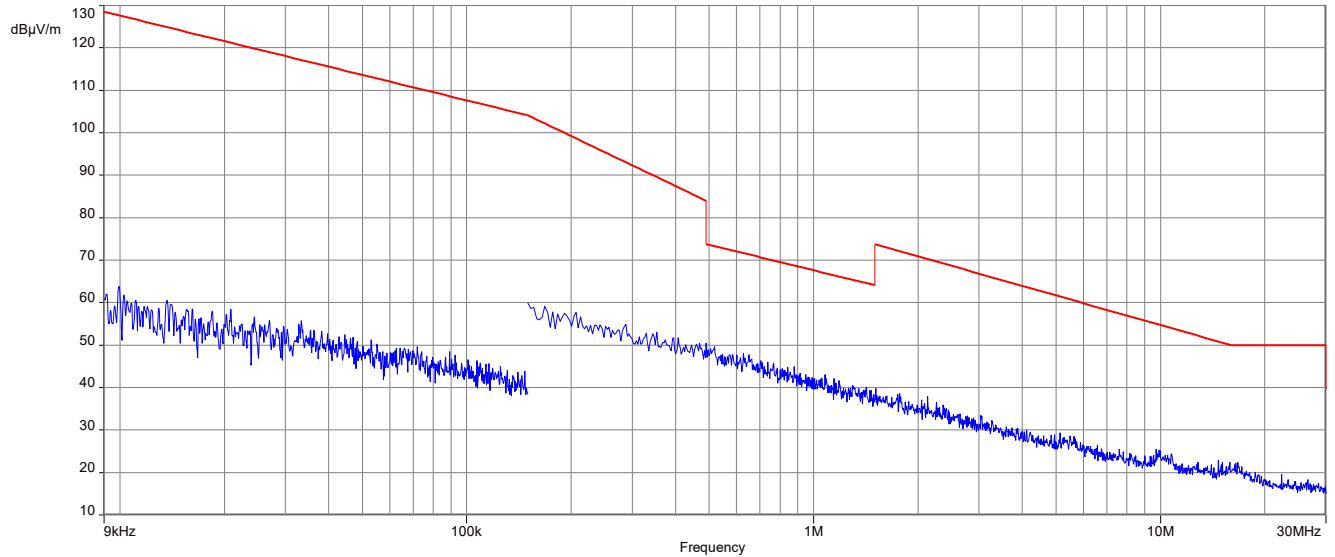
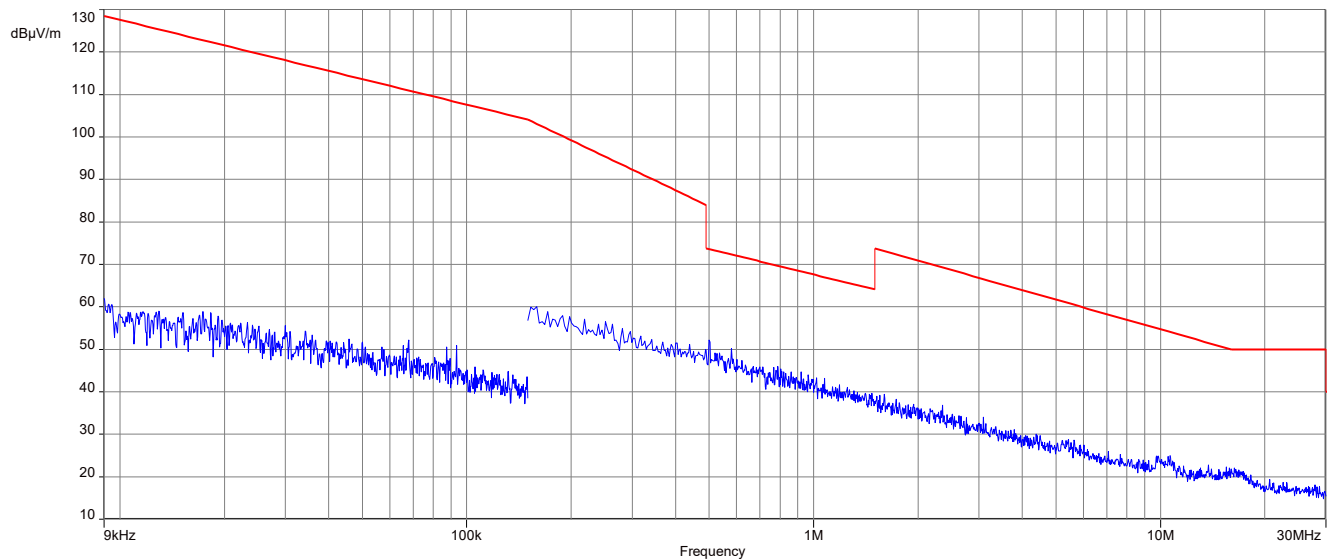
Measurement parameter	
Detector:	Peak / Quasi Peak
Sweep time:	Auto
Video bandwidth:	F < 150 kHz: 200 Hz F > 150 kHz: 9 kHz
Resolution bandwidth:	F < 150 kHz: 1 kHz F > 150 kHz: 100 kHz
Span:	9 kHz to 30 MHz
Trace mode:	Max Hold
Test setup:	See sub clause 7.2 – B
Measurement uncertainty:	See chapter 9

Limits:

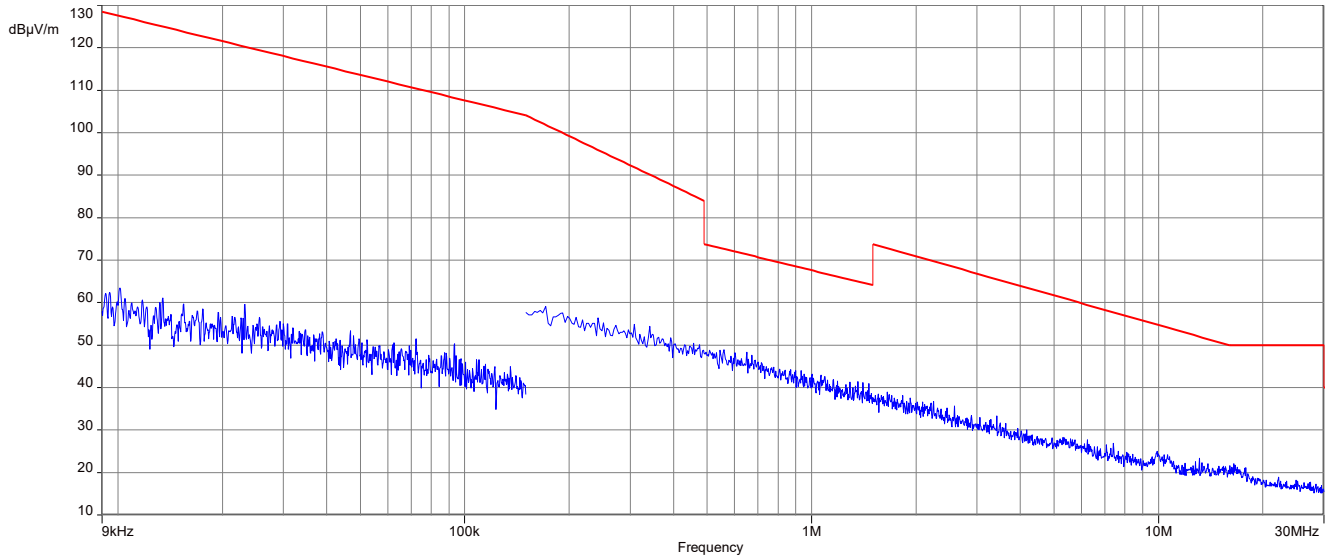
Spurious Emissions Radiated < 30 MHz		
Frequency (MHz)	Field Strength (μV/m)	Measurement distance
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30

Results:

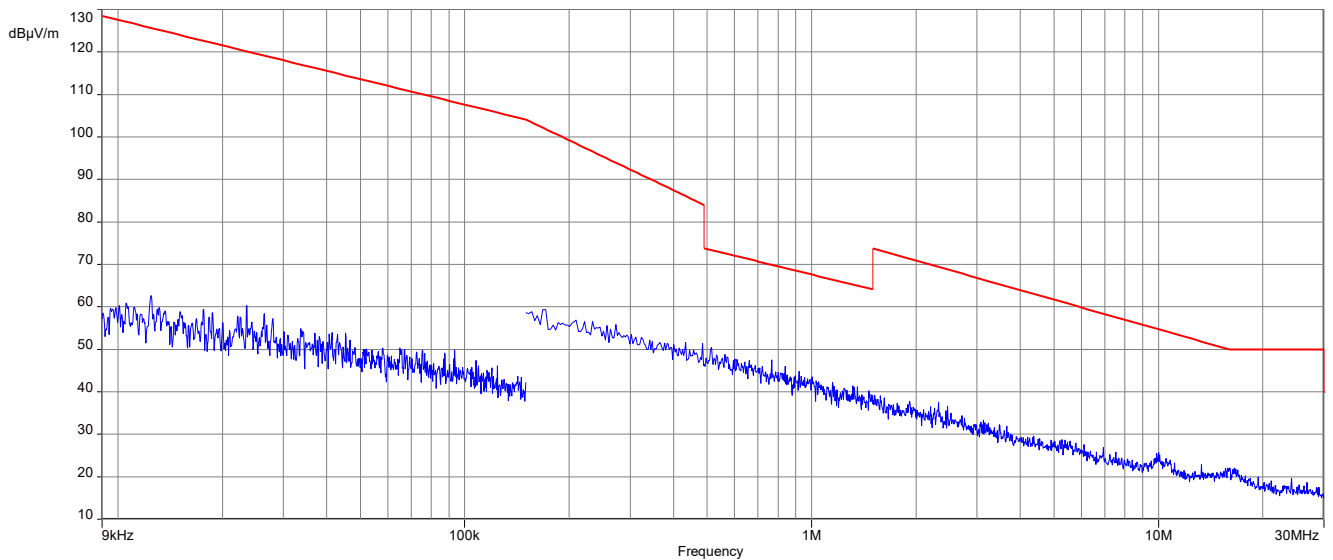
Spurious Emissions Radiated < 30 MHz [dBμV/m]		
F [MHz]	Detector	Level [dBμV/m]
All detected emissions are more than 20 dB below the limit.		

Plots: a-mode**Plot 1:** 9 kHz to 30 MHz, U-NII-1; lowest channel**Plot 2:** 9 kHz to 30 MHz, U-NII-1; middle channel

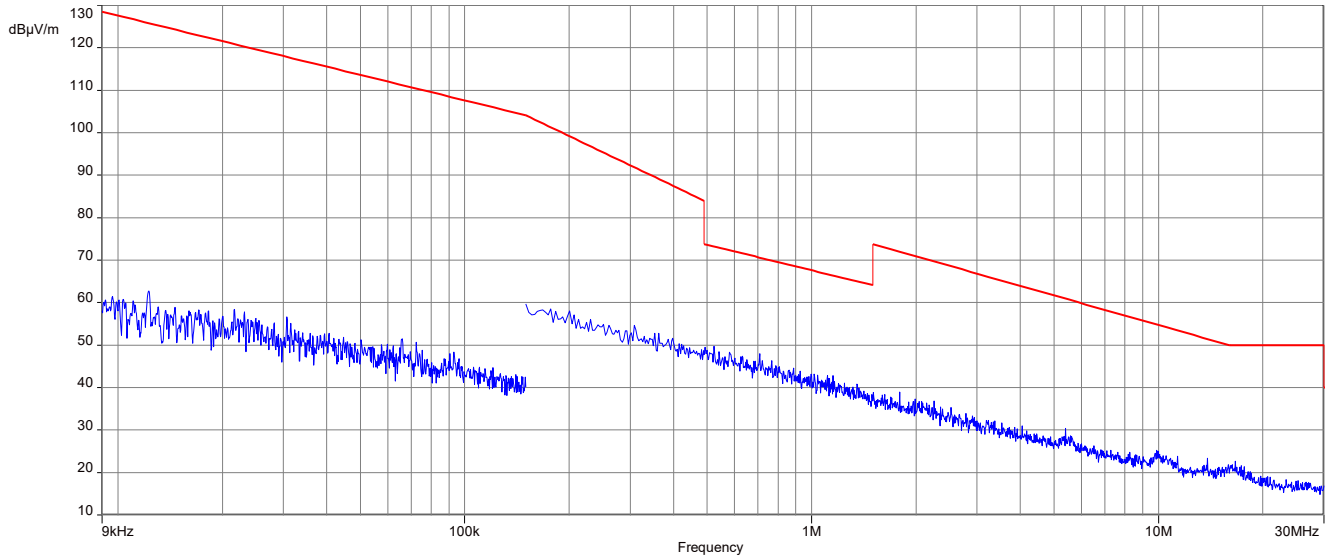
Plot 3: 9 kHz to 30 MHz, U-NII-1; highest channel



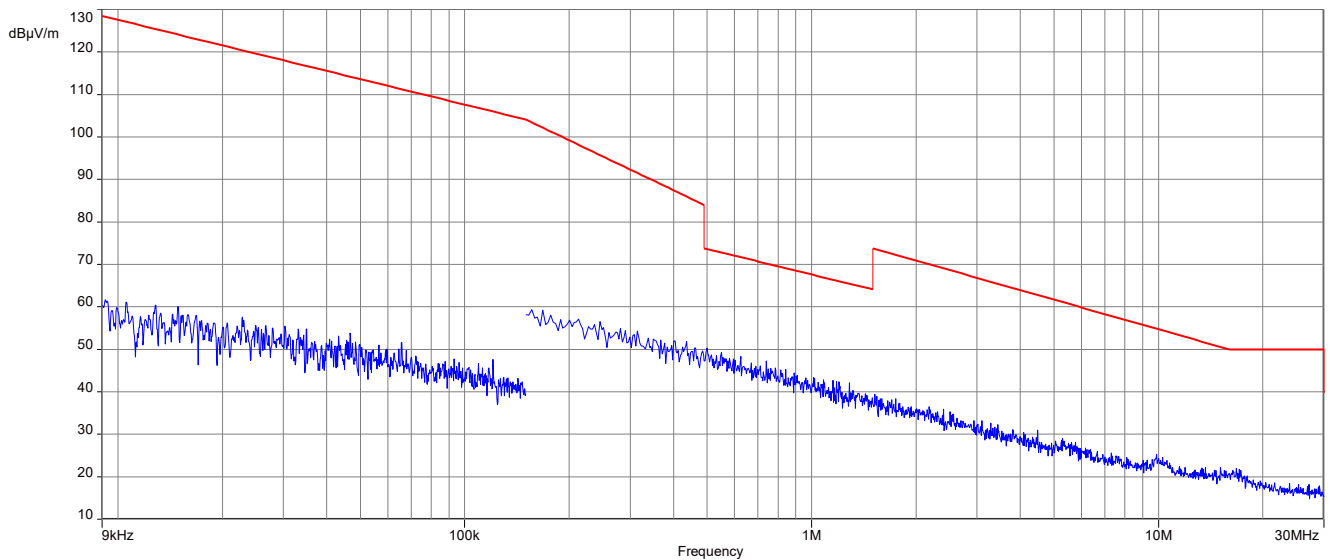
Plot 4: 9 kHz to 30 MHz, U-NII-2A; lowest channel



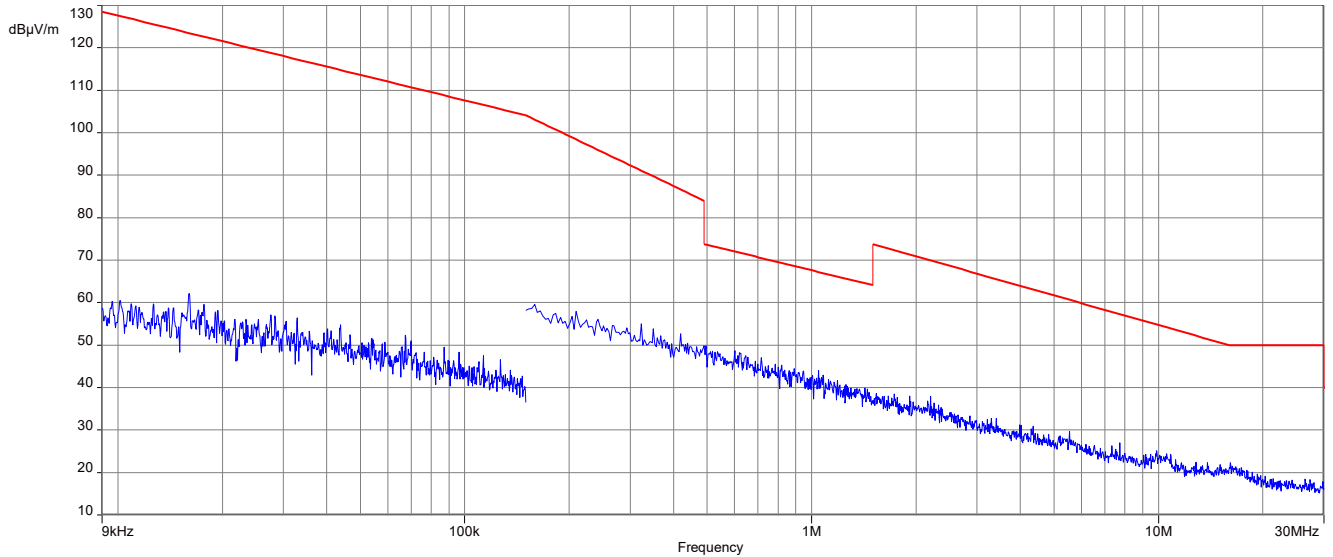
Plot 5: 9 kHz to 30 MHz, U-NII-2A; middle channel



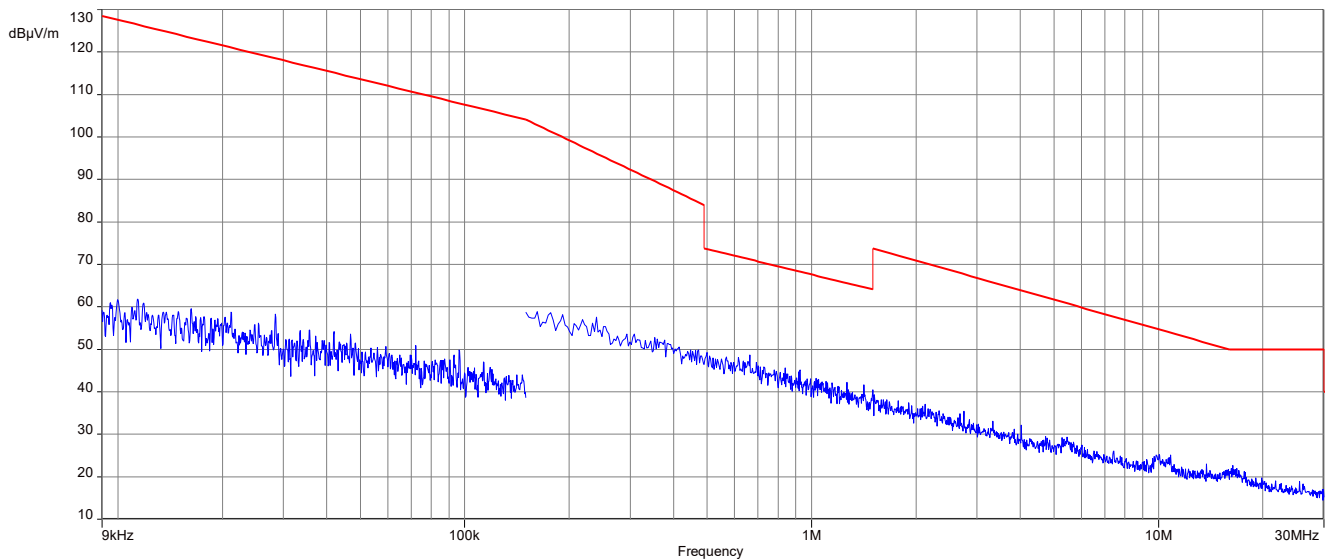
Plot 6: 9 kHz to 30 MHz, U-NII-2A; highest channel



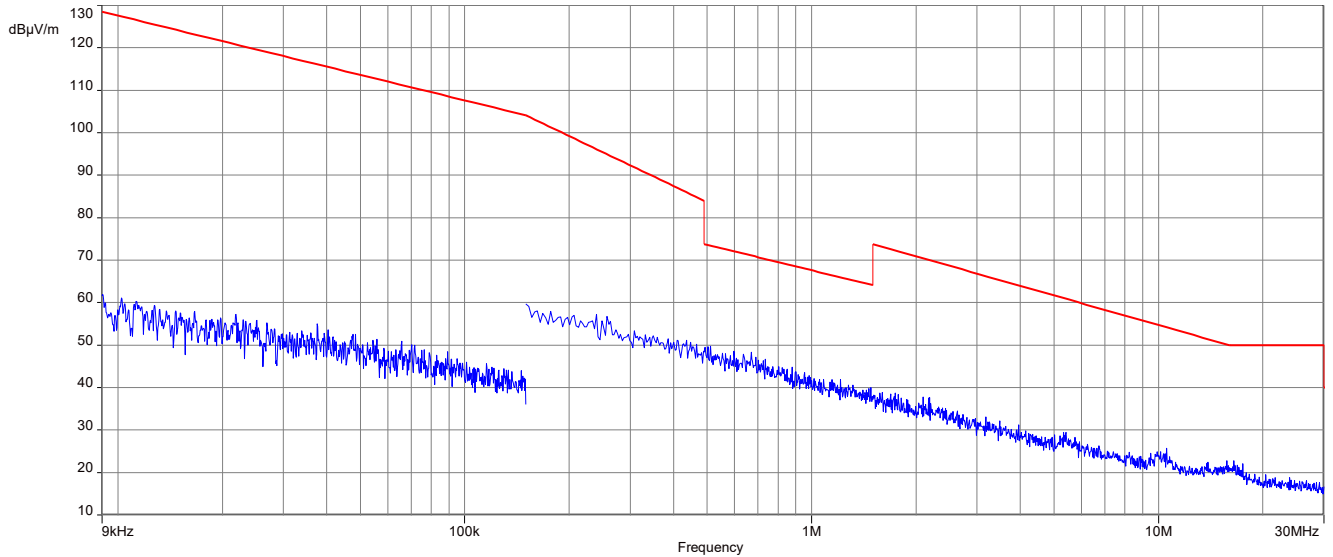
Plot 7: 9 kHz to 30 MHz, U-NII-2C; lowest channel



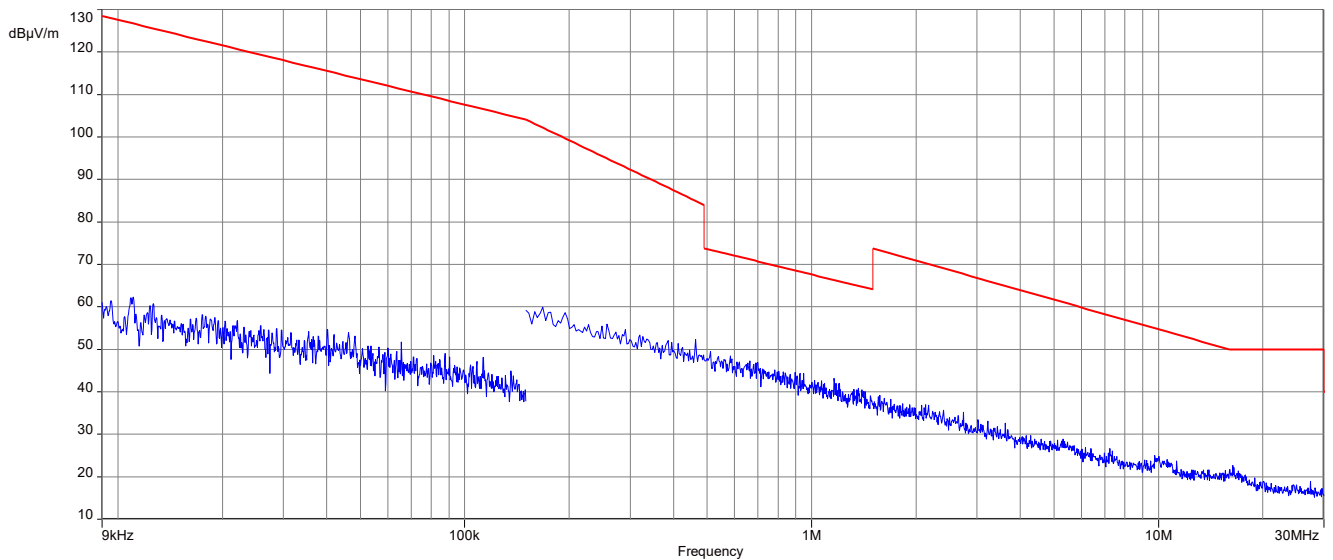
Plot 8: 9 kHz to 30 MHz, U-NII-2C; middle channel



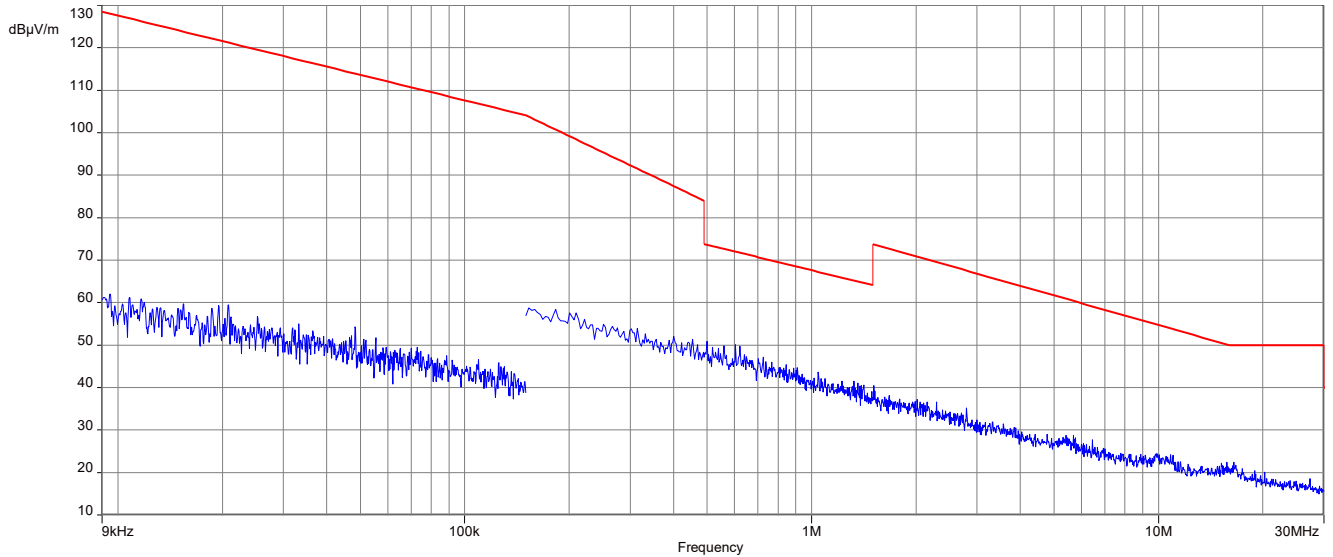
Plot 9: 9 kHz to 30 MHz, U-NII-2C; highest channel



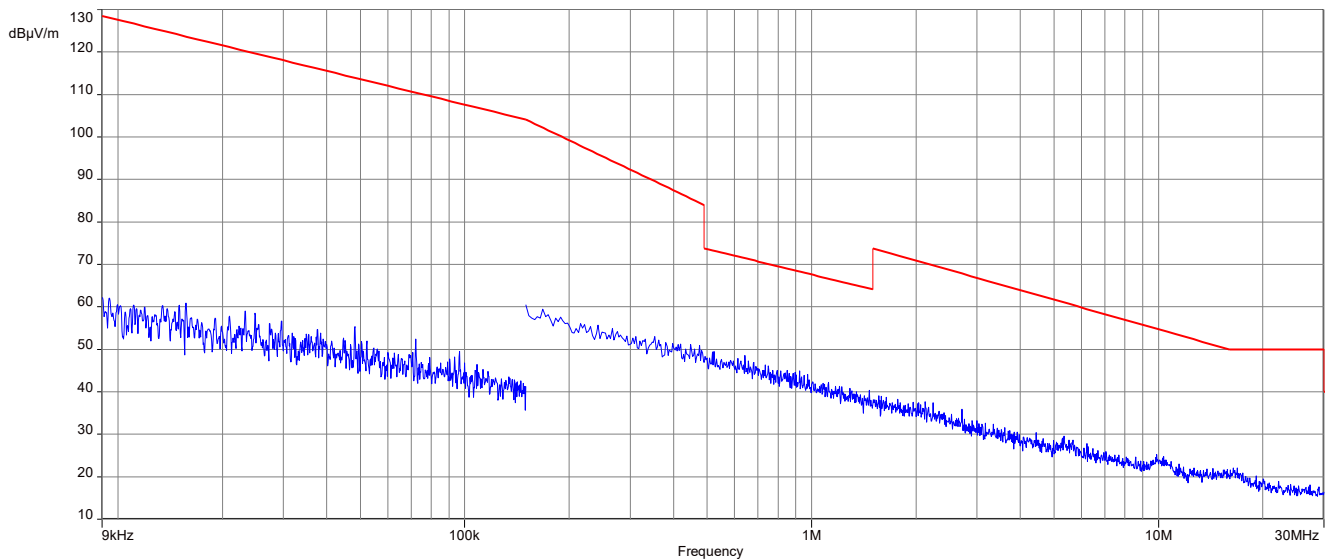
Plot 10: 9 kHz to 30 MHz, U-NII-3; lowest channel



Plot 11: 9 kHz to 30 MHz, U-NII-3; middle channel

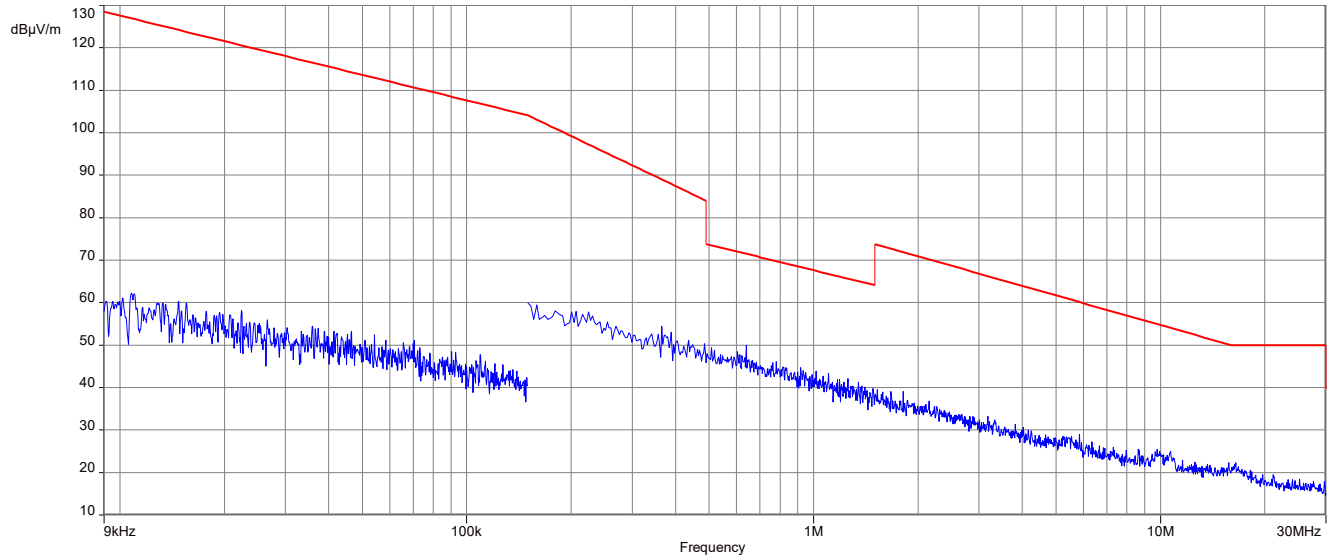


Plot 12: 9 kHz to 30 MHz, U-NII-3; highest channel

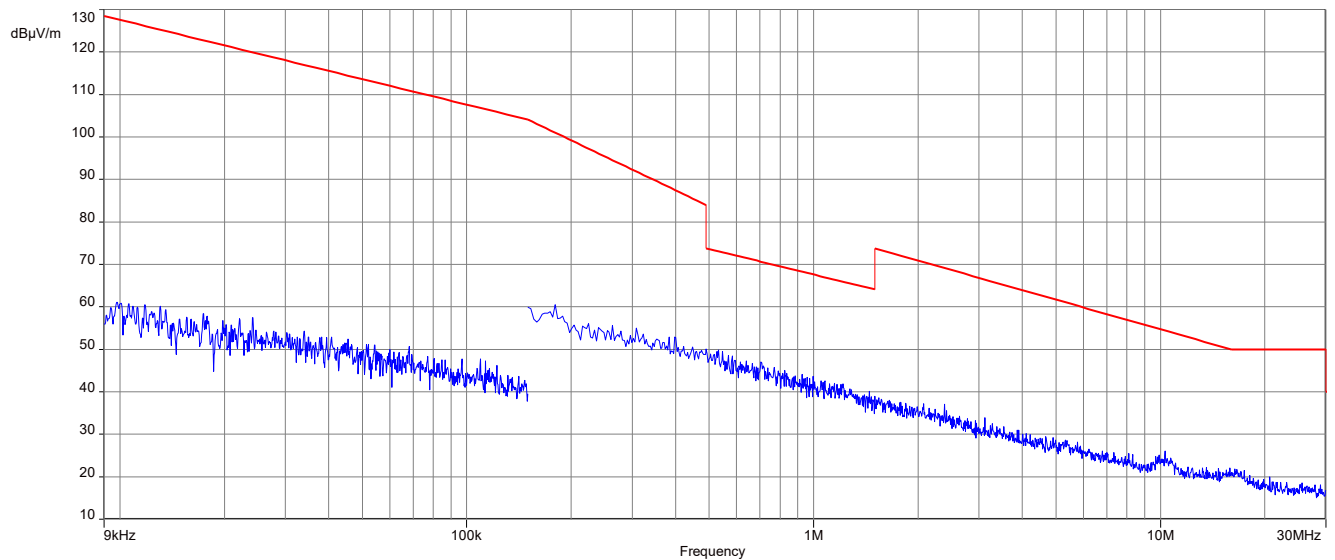


Plots: axHE20-SU-mode

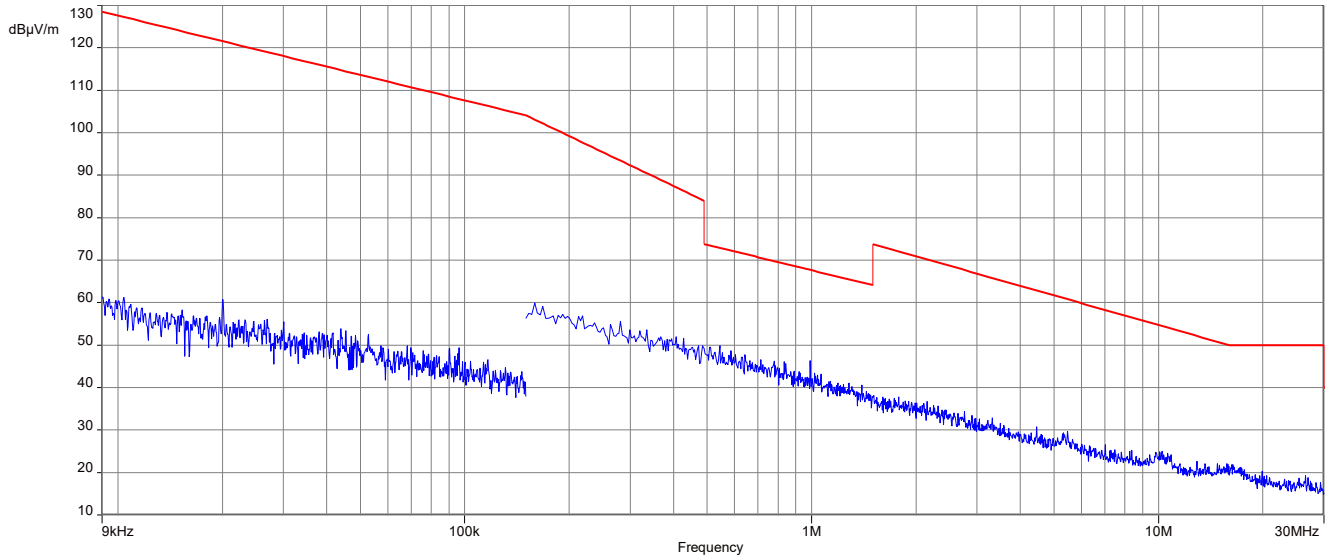
Plot 13: 9 kHz to 30 MHz, U-NII-1; lowest channel



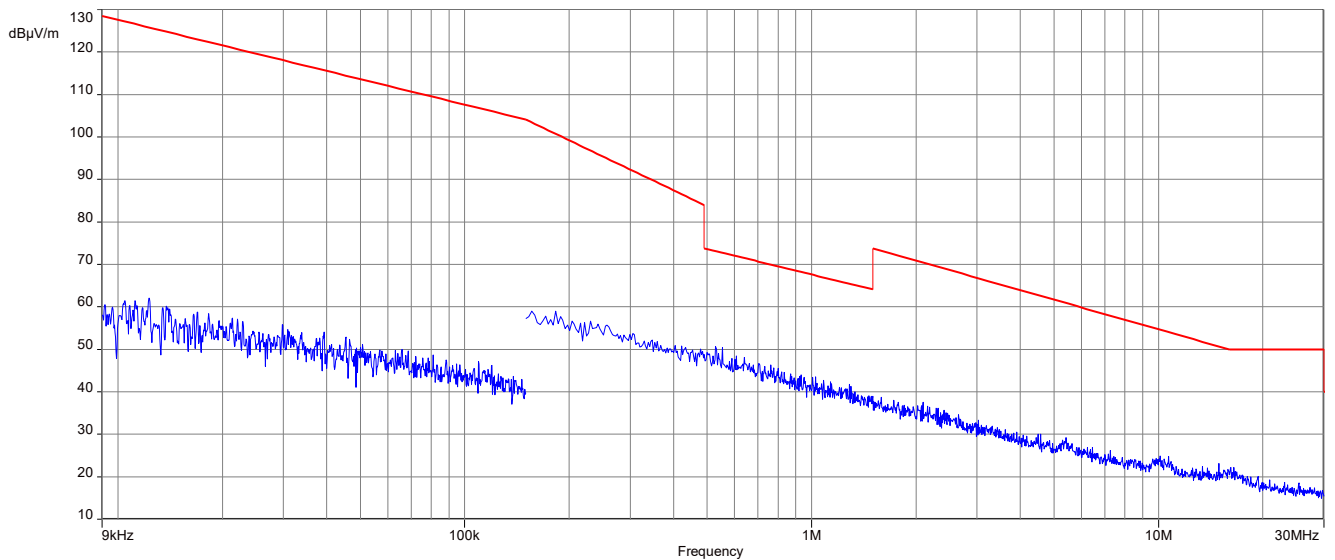
Plot 14: 9 kHz to 30 MHz, U-NII-1; middle channel



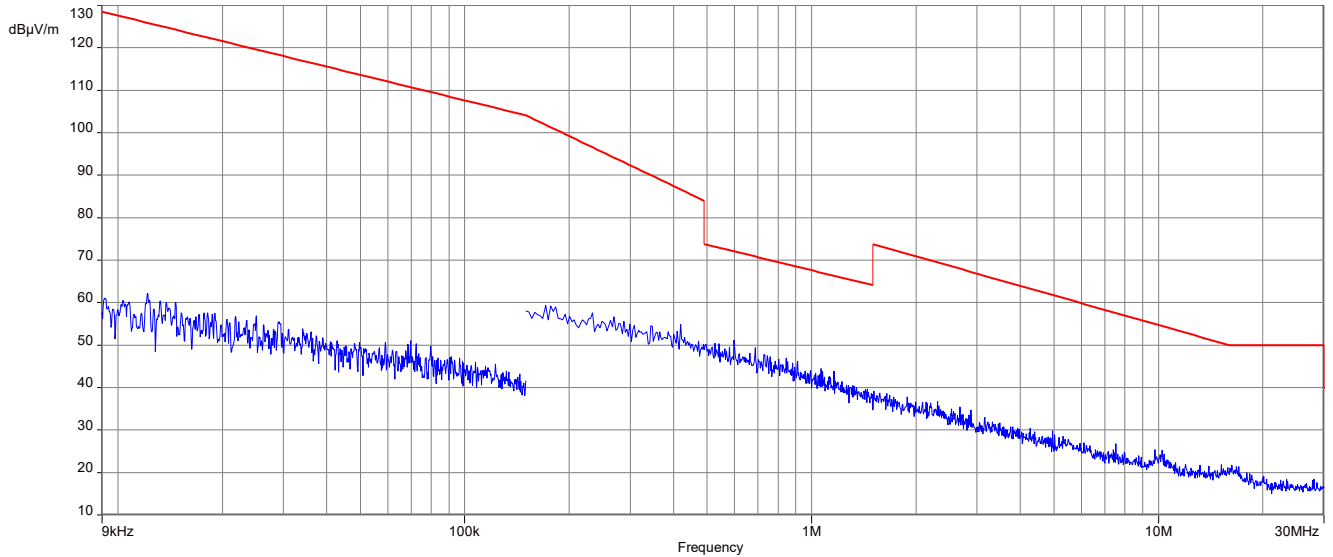
Plot 15: 9 kHz to 30 MHz, U-NII-1; highest channel



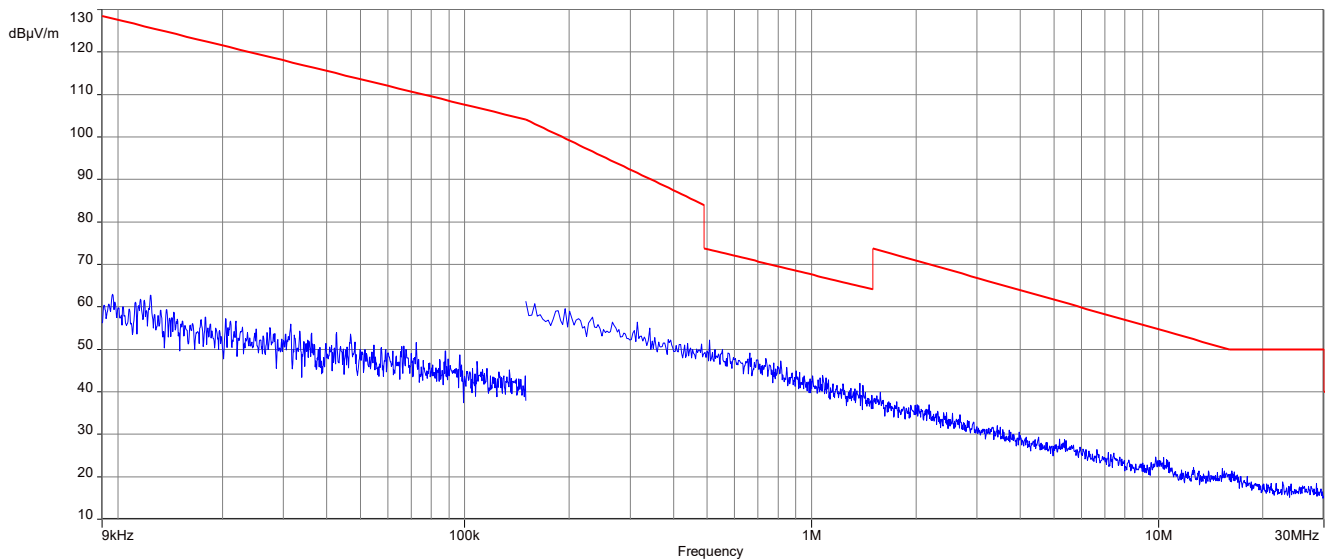
Plot 16: 9 kHz to 30 MHz, U-NII-2A; lowest channel



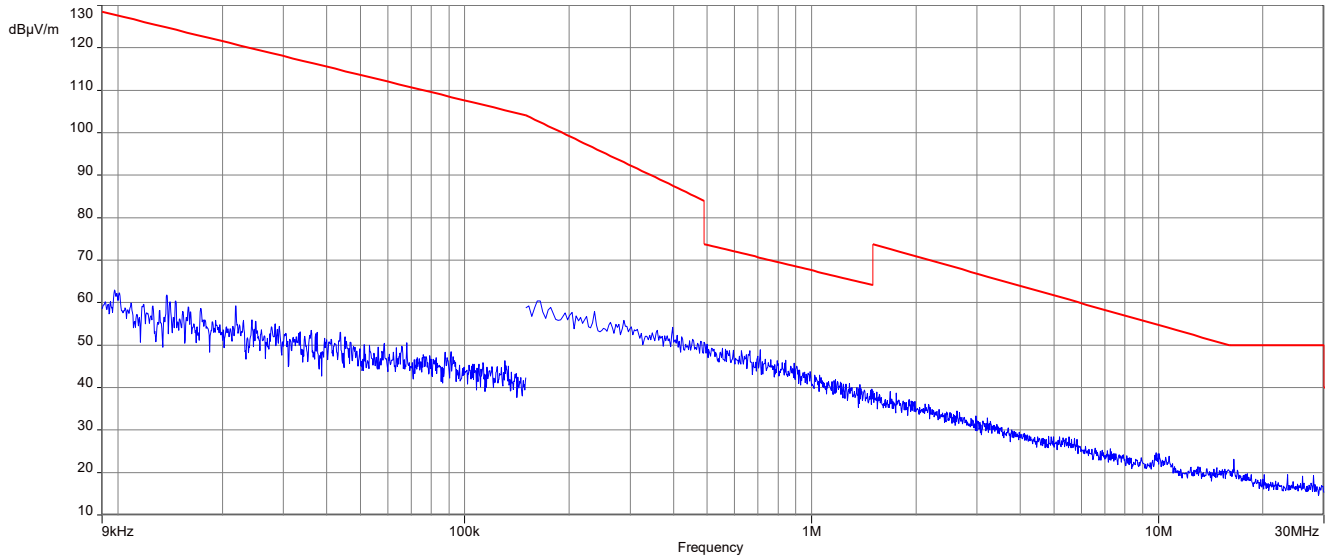
Plot 17: 9 kHz to 30 MHz, U-NII-2A; middle channel



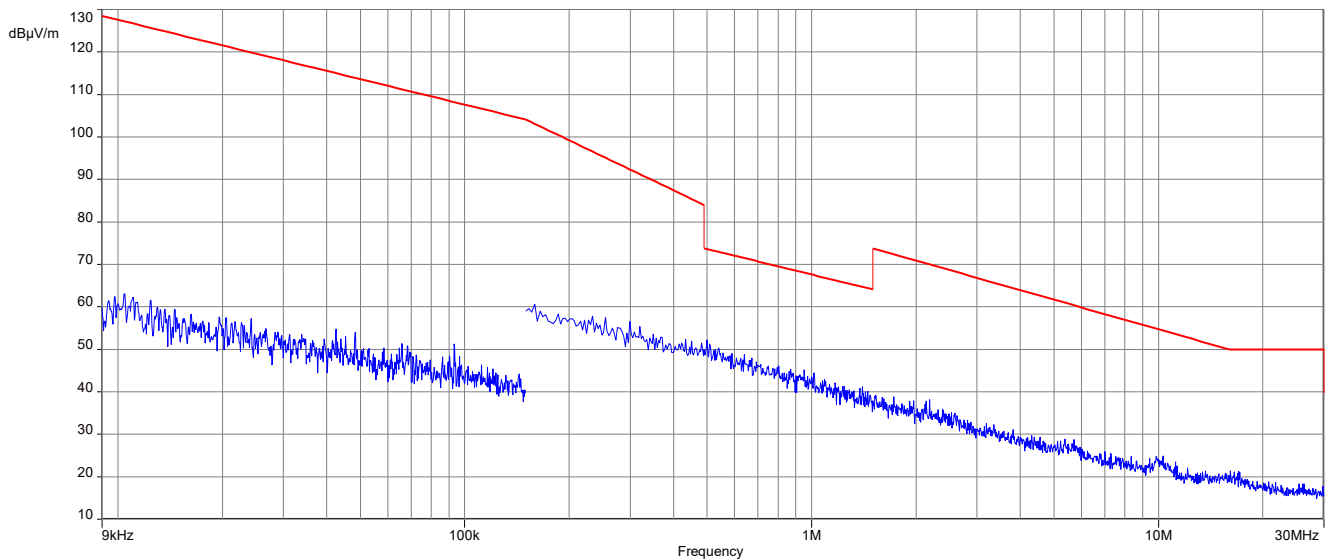
Plot 18: 9 kHz to 30 MHz, U-NII-2A; highest channel



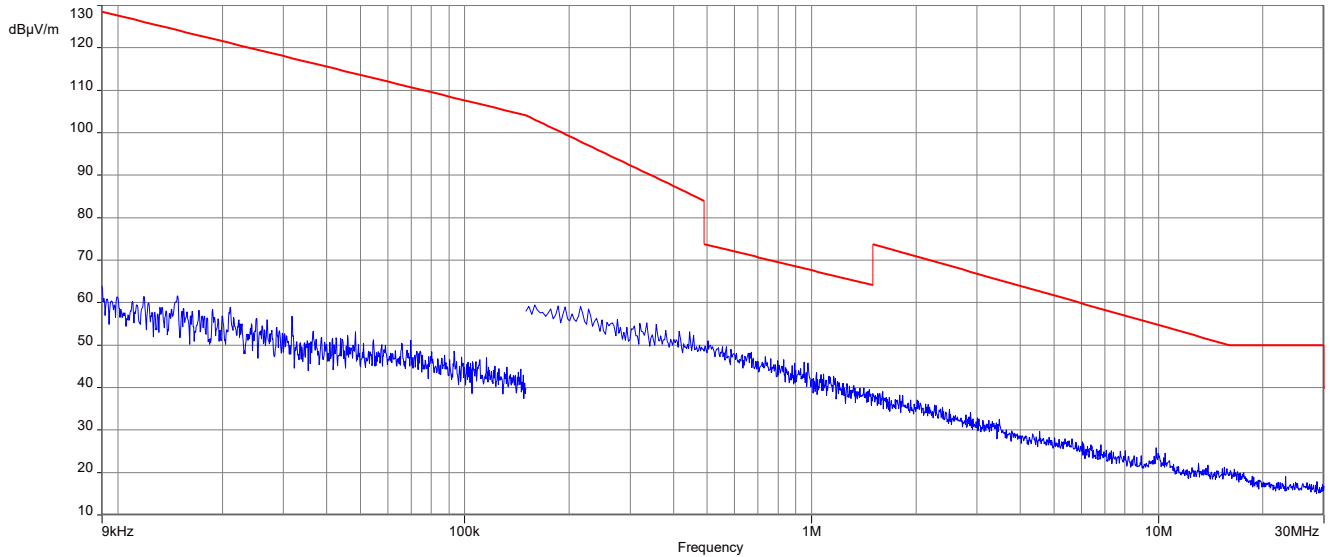
Plot 19: 9 kHz to 30 MHz, U-NII-2C; lowest channel



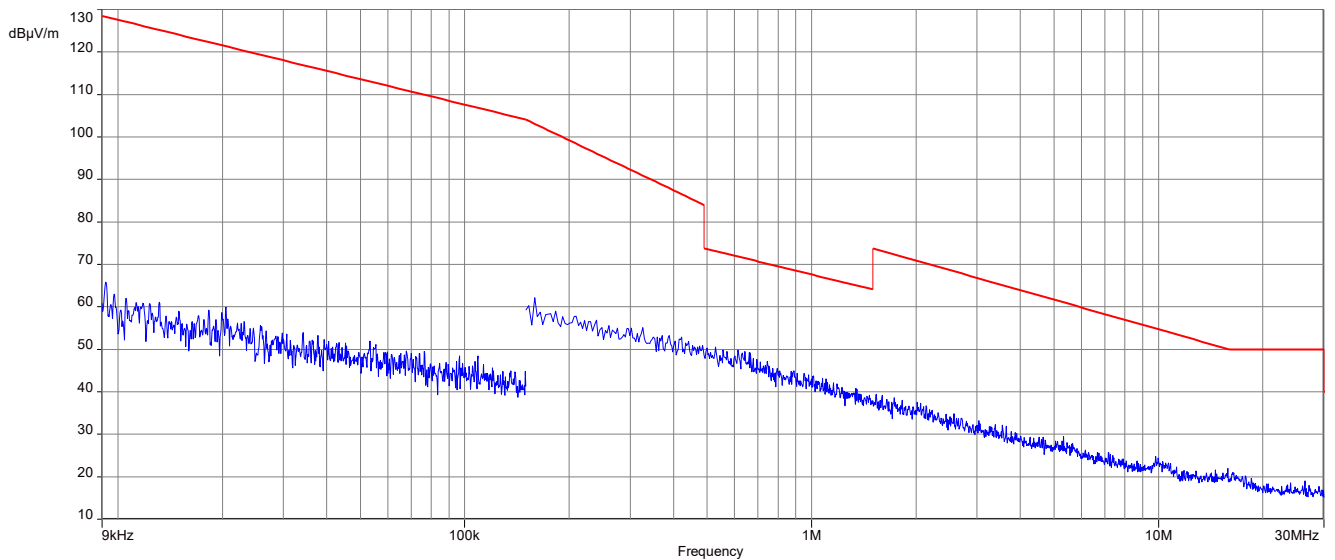
Plot 20: 9 kHz to 30 MHz, U-NII-2C; middle channel



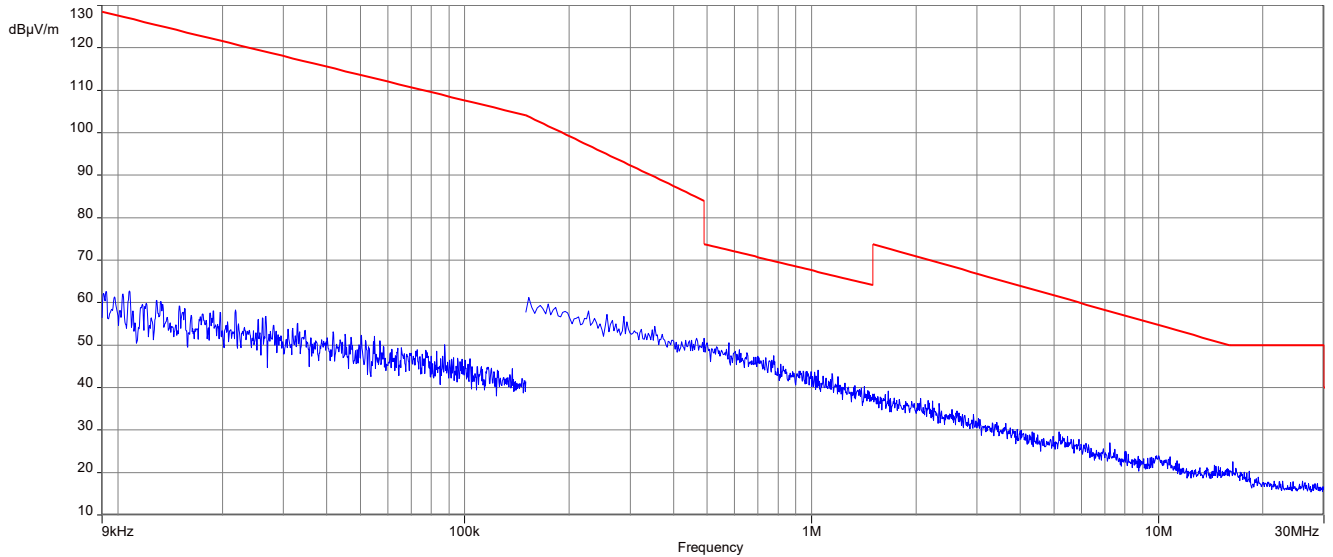
Plot 21: 9 kHz to 30 MHz, U-NII-2C; highest channel



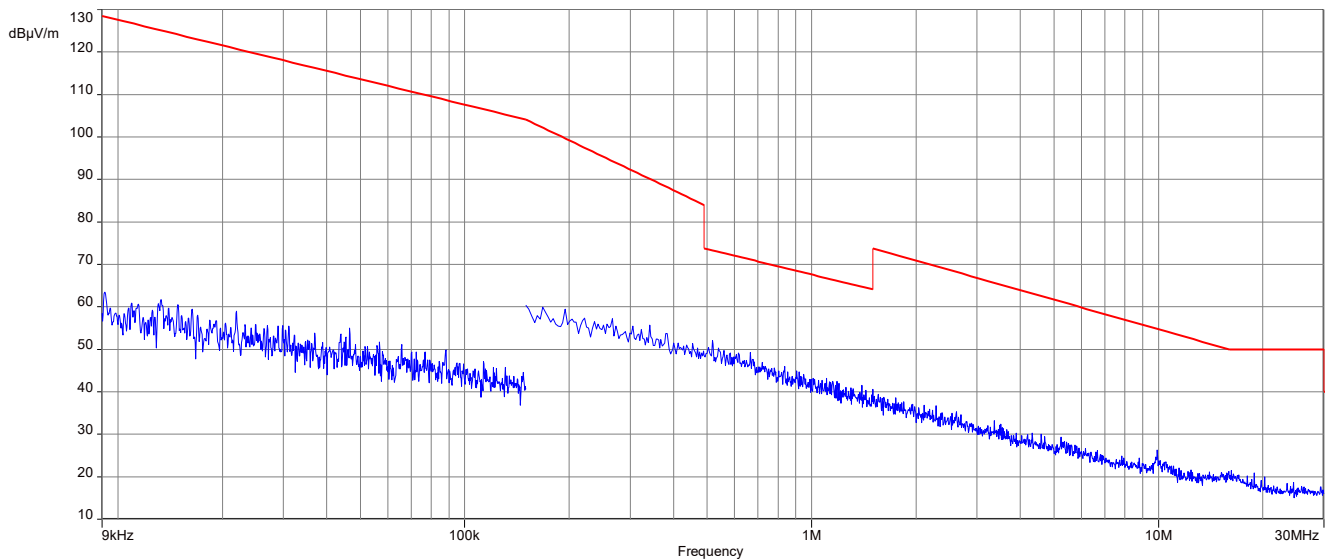
Plot 22: 9 kHz to 30 MHz, U-NII-3; lowest channel



Plot 23: 9 kHz to 30 MHz, U-NII-3; middle channel



Plot 24: 9 kHz to 30 MHz, U-NII-3; highest channel



12.11 Spurious emissions radiated 30 MHz to 1 GHz

Measurement:

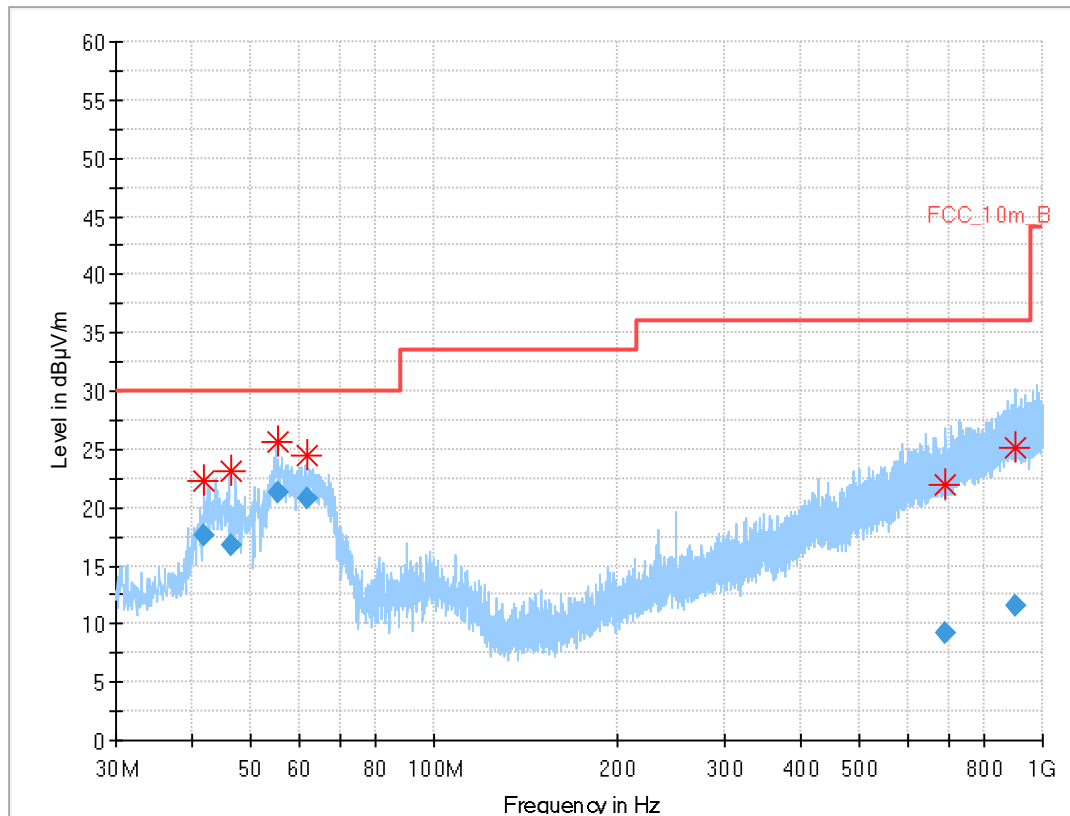
Measurement parameter	
Detector:	Quasi Peak
Sweep time:	Auto
Resolution bandwidth:	120 kHz
Video bandwidth:	500 kHz
Span:	30 MHz to 1 GHz
Test setup:	See sub clause 7.1 – A
Measurement uncertainty:	See chapter 9

Limits:

TX Spurious Emissions Radiated		
§15.209 / RSS-247		
Frequency (MHz)	Field Strength (dB μ V/m)	Measurement distance
30 - 88	30.0	10
88 – 216	33.5	10
216 – 960	36.0	10
Above 960	54.0	3
§15.407		
Outside the restricted bands!	-27 dBm / MHz	

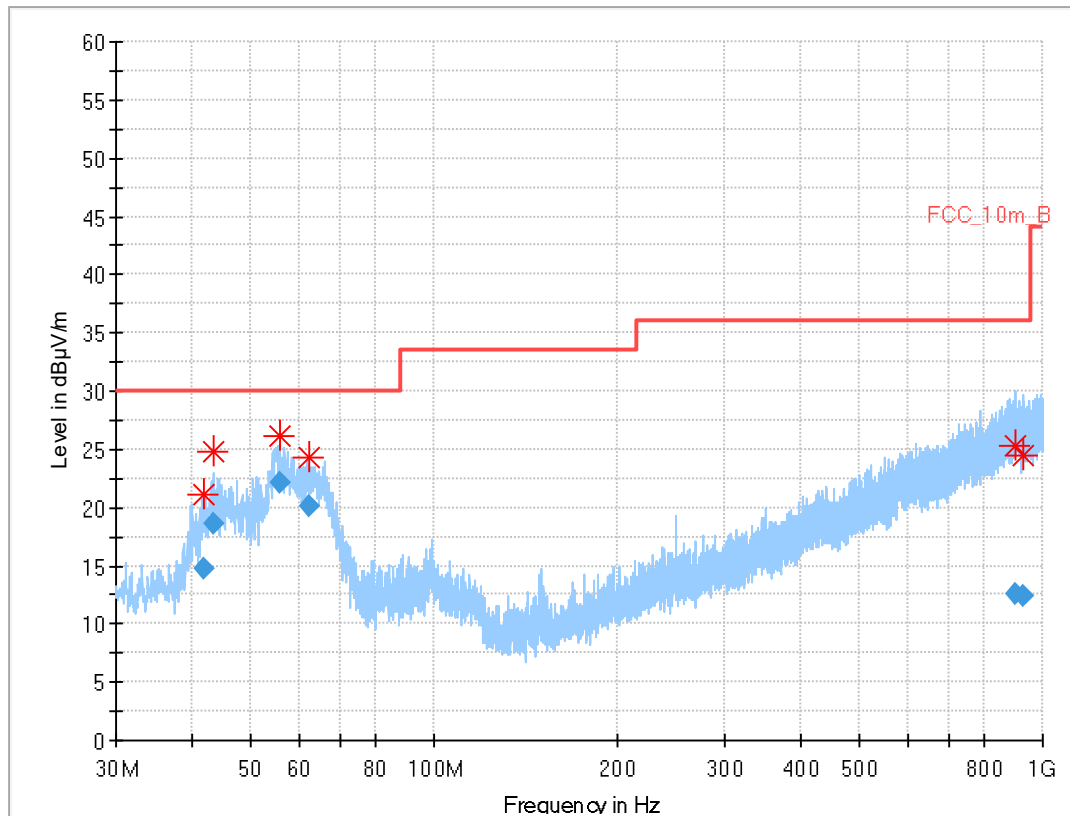
Plots:

Plot 1: 30 MHz to 1 GHz; vertical & horizontal polarization; U-NII-1; valid for all channels and OFDM modes

**Results:**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
41.854900	17.61	30.00	12.39	1000.0	120.000	98.0	V	280.0	13.9
46.227700	16.77	30.00	13.23	1000.0	120.000	170.0	V	10.0	14.3
55.164500	21.21	30.00	8.79	1000.0	120.000	102.0	V	261.0	14.8
62.003180	20.71	30.00	9.29	1000.0	120.000	170.0	V	10.0	12.5
693.205880	9.20	36.00	26.80	1000.0	120.000	98.0	H	190.0	21.8
903.128960	11.52	36.00	24.48	1000.0	120.000	170.0	H	280.0	24.8

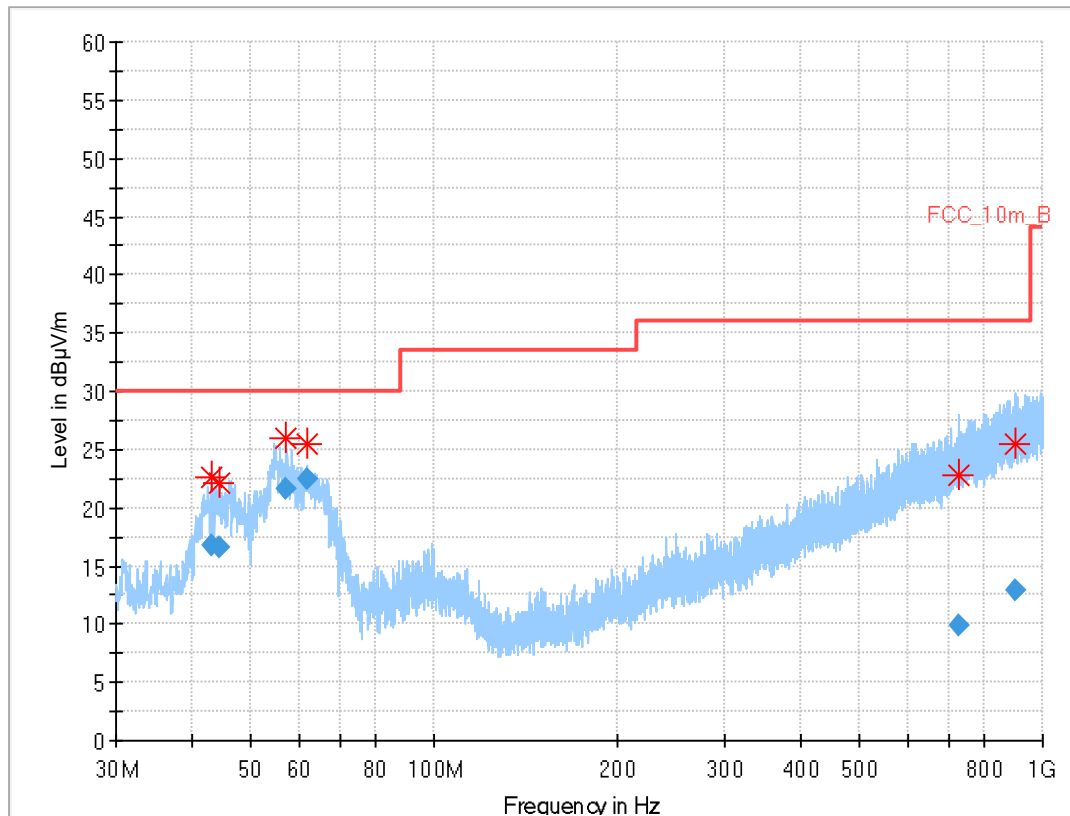
Plot 2: 30 MHz to 1 GHz; vertical & horizontal polarization; U-NII-2A; valid for all channels and OFDM modes



Results:

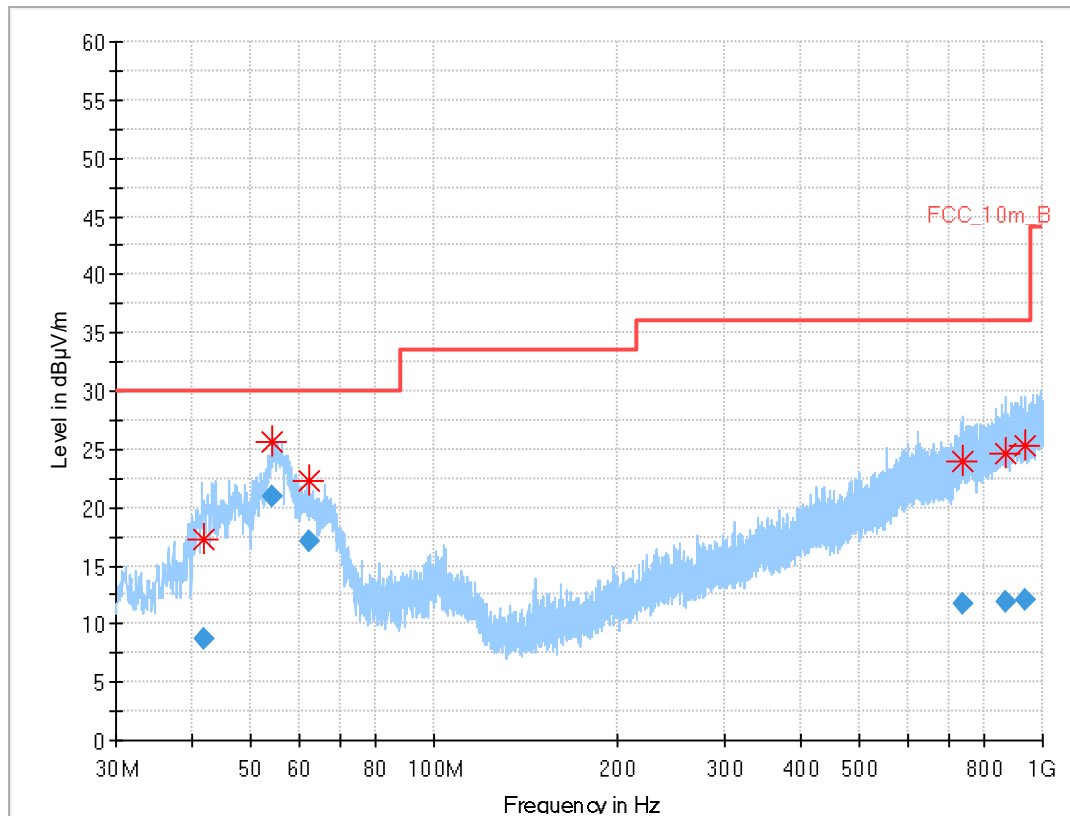
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
41.811560	14.83	30.00	15.17	1000.0	120.000	165.0	V	10.0	13.9
43.339400	18.68	30.00	11.32	1000.0	120.000	170.0	V	190.0	14.1
55.855740	22.06	30.00	7.94	1000.0	120.000	110.0	V	10.0	15.3
62.501480	20.16	30.00	9.84	1000.0	120.000	98.0	V	280.0	12.4
899.097260	12.57	36.00	23.43	1000.0	120.000	133.0	V	280.0	24.7
926.282600	12.40	36.00	23.60	1000.0	120.000	170.0	H	183.0	24.8

Plot 3: 30 MHz to 1 GHz; vertical & horizontal polarization; U-NII-2C; valid for all channels and OFDM modes

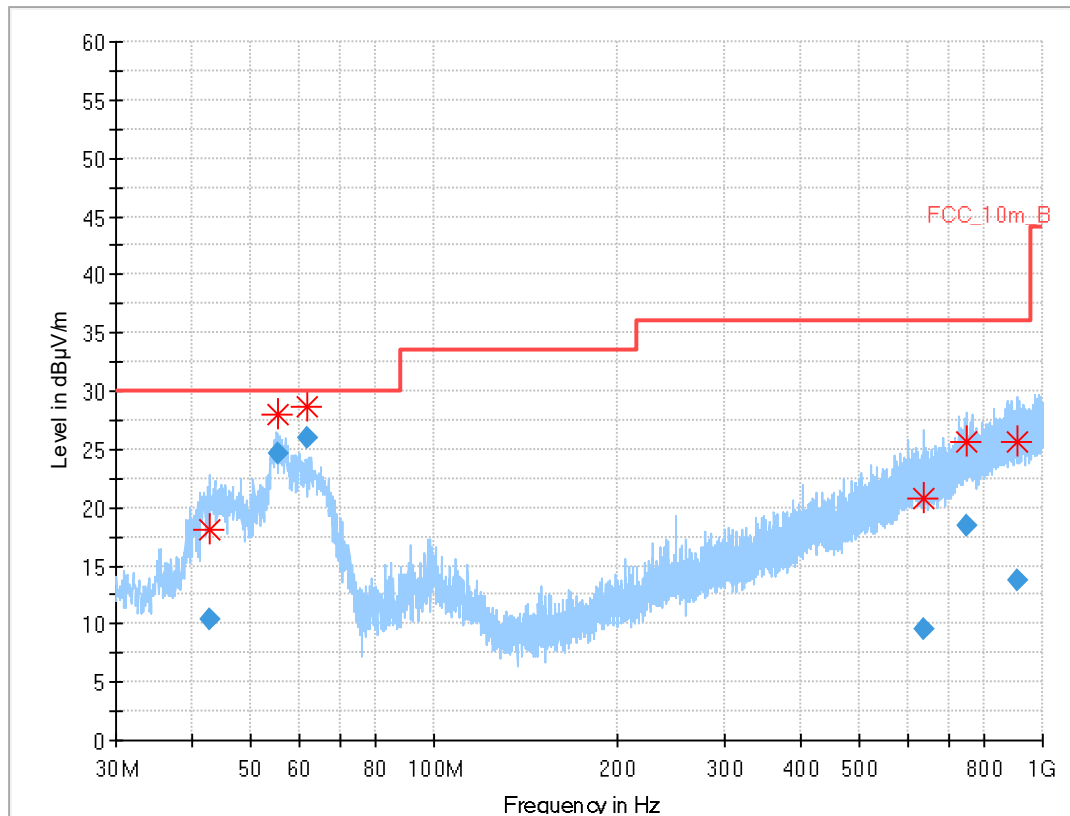


Results:

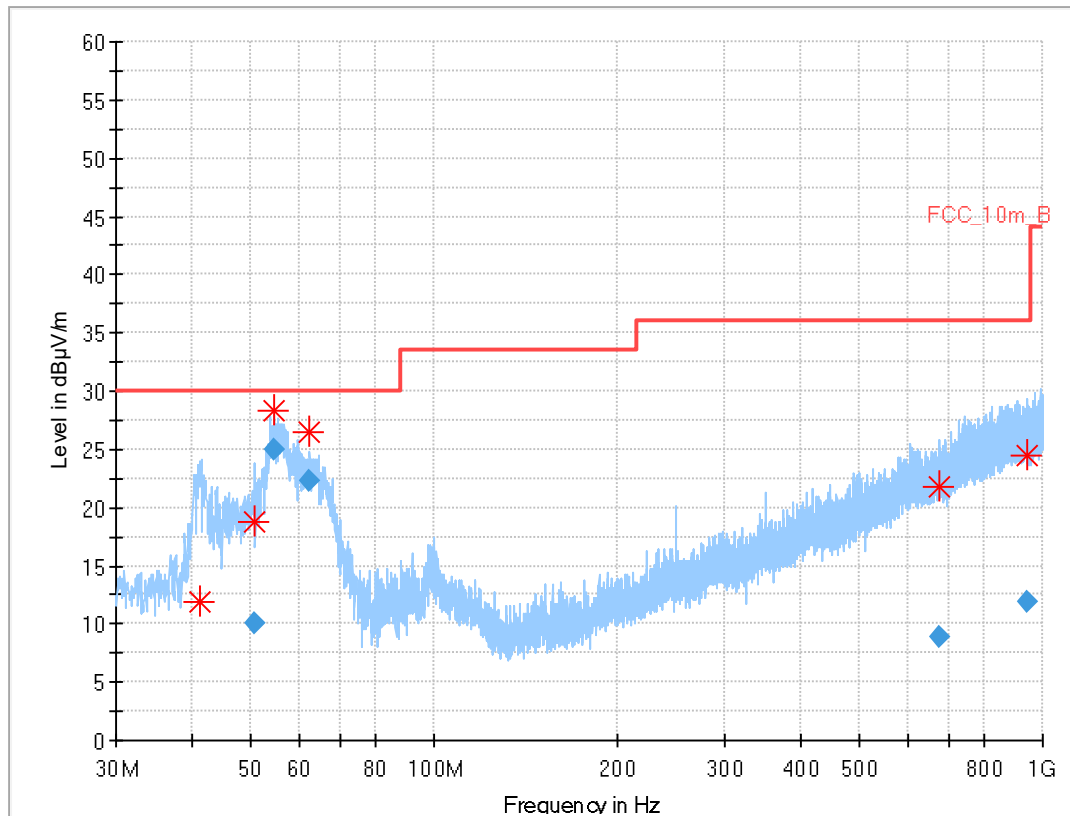
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
43.065840	16.79	30.00	13.21	1000.0	120.000	170.0	V	190.0	14.0
44.332100	16.54	30.00	13.46	1000.0	120.000	170.0	V	183.0	14.2
56.875140	21.66	30.00	8.34	1000.0	120.000	98.0	V	190.0	15.0
62.010800	22.53	30.00	7.47	1000.0	120.000	98.0	V	190.0	12.5
730.024420	9.90	36.00	26.10	1000.0	120.000	170.0	H	87.0	22.6
904.030720	12.87	36.00	23.13	1000.0	120.000	170.0	V	280.0	24.8

Plot 4: 30 MHz to 1 GHz; vertical & horizontal polarization; U-NII-3; valid for all channels and OFDM modes**Results:**

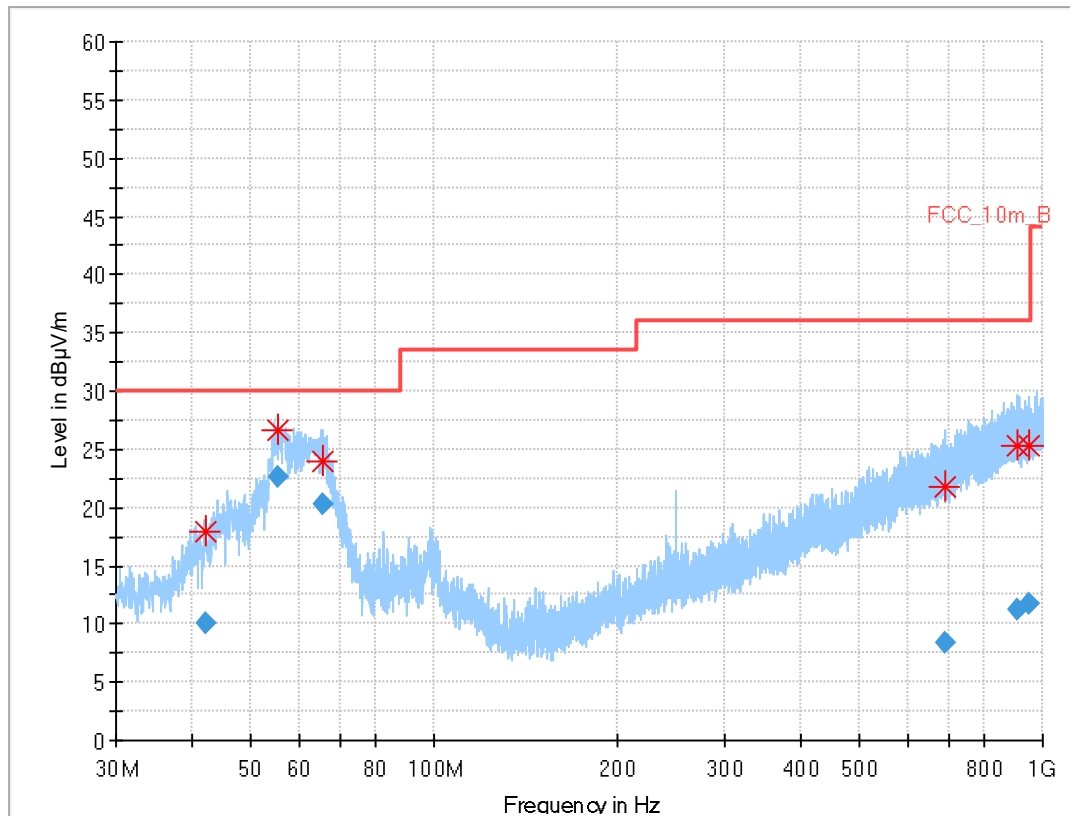
Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
41.955280	8.78	30.00	21.22	1000.0	120.000	159.0	V	3.0	13.9
54.337920	21.02	30.00	8.98	1000.0	120.000	114.0	V	265.0	14.4
62.263460	17.11	30.00	12.89	1000.0	120.000	140.0	V	280.0	12.5
741.142920	11.66	36.00	24.34	1000.0	120.000	122.0	H	10.0	23.1
869.353420	11.98	36.00	24.02	1000.0	120.000	98.0	H	10.0	24.3
934.591940	12.07	36.00	23.93	1000.0	120.000	170.0	H	100.0	24.8

Plot 5: 30 MHz to 1 GHz; vertical & horizontal polarization; U-NII-1; valid for all channels and OFDMA modes**Results:**

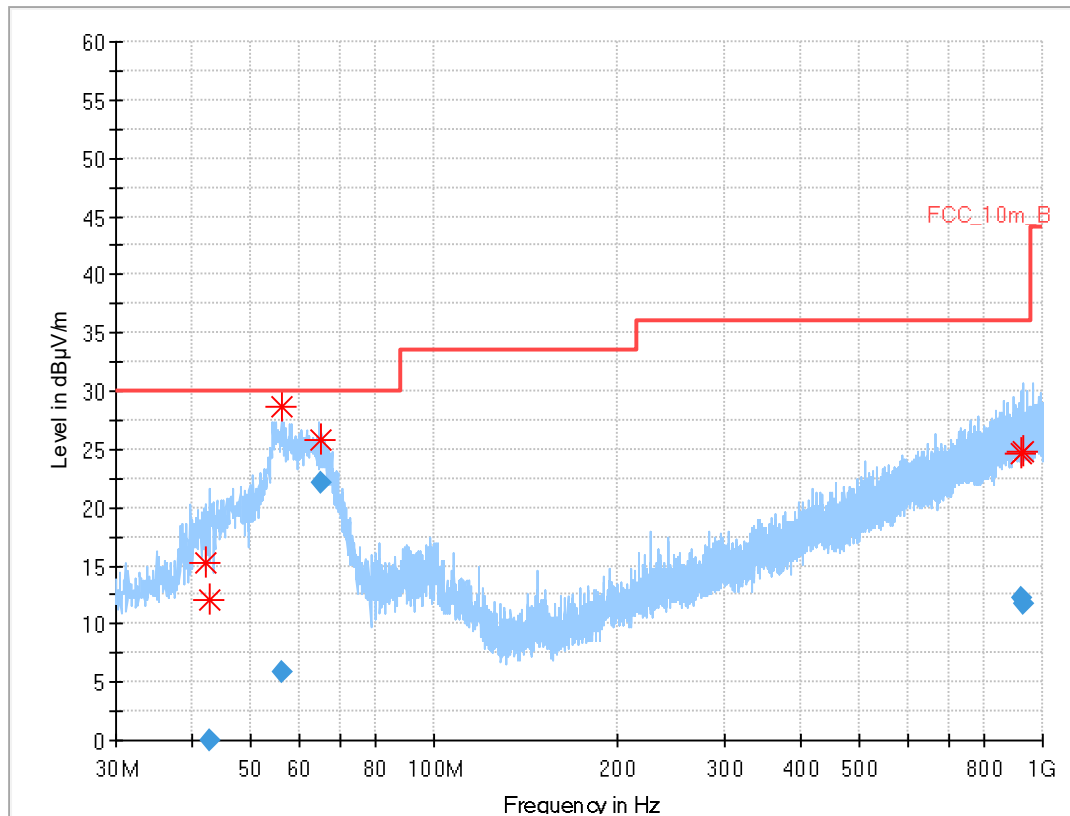
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
42.771080	10.38	30.00	19.62	1000.0	120.000	132.0	V	100.0	14.0
55.490920	24.72	30.00	5.28	1000.0	120.000	105.0	V	100.0	15.0
62.007280	26.05	30.00	3.95	1000.0	120.000	98.0	V	190.0	12.5
638.464520	9.52	36.00	26.48	1000.0	120.000	170.0	H	184.0	21.5
749.994980	18.40	36.00	17.60	1000.0	120.000	119.0	H	-9.0	23.1
911.345460	13.81	36.00	22.19	1000.0	120.000	170.0	V	92.0	24.8

Plot 6: 30 MHz to 1 GHz; vertical & horizontal polarization; U-NII-2A; valid for all channels and OFDMA modes**Results:**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
41.246780	-1.85	30.00	31.85	1000.0	120.000	170.0	V	82.0	13.8
50.772960	10.03	30.00	19.97	1000.0	120.000	170.0	V	100.0	14.5
54.752120	25.00	30.00	5.00	1000.0	120.000	114.0	V	-7.0	14.6
62.354240	22.37	30.00	7.63	1000.0	120.000	170.0	V	10.0	12.4
678.014540	8.83	36.00	27.17	1000.0	120.000	170.0	V	264.0	21.8
943.627240	11.97	36.00	24.03	1000.0	120.000	138.0	V	0.0	24.8

Plot 7: 30 MHz to 1 GHz; vertical & horizontal polarization; U-NII-2C; valid for all channels and OFDMA modes**Results:**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
42.280800	10.14	30.00	19.86	1000.0	120.000	146.0	V	183.0	13.9
55.184500	22.69	30.00	7.31	1000.0	120.000	117.0	V	10.0	14.8
65.791540	20.20	30.00	9.80	1000.0	120.000	111.0	V	10.0	11.3
693.051680	8.34	36.00	27.66	1000.0	120.000	170.0	V	4.0	21.8
907.568180	11.25	36.00	24.75	1000.0	120.000	170.0	V	-8.0	24.8
947.014820	11.80	36.00	24.20	1000.0	120.000	154.0	H	176.0	24.8

Plot 8: 30 MHz to 1 GHz; vertical & horizontal polarization; U-NII-3; valid for all channels and OFDMA modes**Results:**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
42.255940	-0.83	30.00	30.83	1000.0	120.000	103.0	V	100.0	13.9
42.789220	0.05	30.00	29.95	1000.0	120.000	166.0	V	83.0	14.0
56.120920	5.93	30.00	24.07	1000.0	120.000	98.0	V	10.0	15.4
64.939680	22.15	30.00	7.85	1000.0	120.000	170.0	V	-3.0	11.6
919.265900	12.23	36.00	23.77	1000.0	120.000	170.0	V	10.0	24.8
926.268520	11.77	36.00	24.23	1000.0	120.000	170.0	V	176.0	24.8

12.12 Spurious emissions radiated 1 GHz to 40 GHz

Measurement:

Measurement parameter	
Detector:	Peak / AVG
Sweep time:	Auto
Resolution bandwidth:	1 MHz
Video bandwidth:	3 MHz
Span:	1 GHz to 40 GHz
Test setup:	See sub clause 7.2 – C See sub clause 7.3 – A
Measurement uncertainty:	See chapter 9

Limits:

TX Spurious Emissions Radiated		
§15.209 / RSS-247		
Frequency (MHz)	Field Strength (dB μ V/m)	Measurement distance
Above 960	54.0	3
§15.407		
Outside the restricted bands	-27 dBm / MHz	

Results: a-mode

TX Spurious Emissions Radiated [dB μ V/m] / dBm								
U-NII-1 (5150 MHz to 5250 MHz)								
Lowest channel			Middle channel			Highest channel		
F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]
-/-	Peak	-/-	-/-	Peak	-/-	-/-	Peak	-/-
	AVG	-/-		AVG	-/-		AVG	-/-

TX Spurious Emissions Radiated [dB μ V/m] / dBm								
U-NII-2A (5250 MHz to 5350 MHz)								
Lowest channel			Middle channel			Highest channel		
F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]
-/-	Peak	-/-	-/-	Peak	-/-	7093	Peak	50.1
	AVG	-/-		AVG	-/-		AVG	46.4

TX Spurious Emissions Radiated [dB μ V/m] / dBm								
U-NII-2C (5470 MHz to 5725 MHz)								
Lowest channel			Middle channel			Highest channel		
F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]
7333	Peak	49.0	7466	Peak	50.0	7600	Peak	50.5
	AVG	44.1		AVG	45.7		AVG	47.0

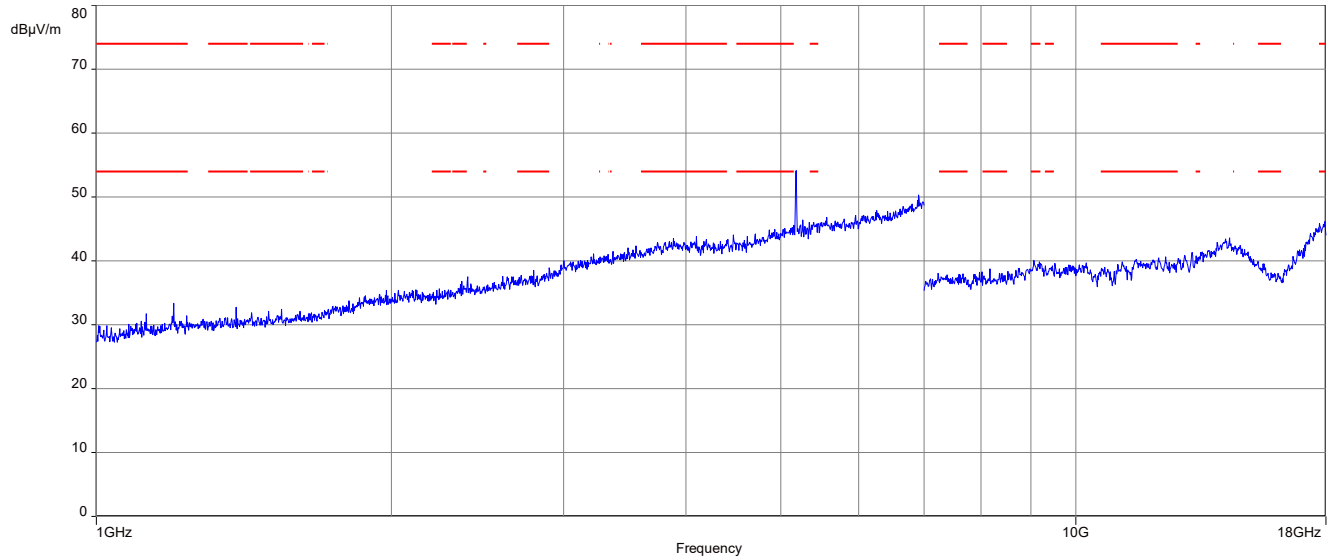
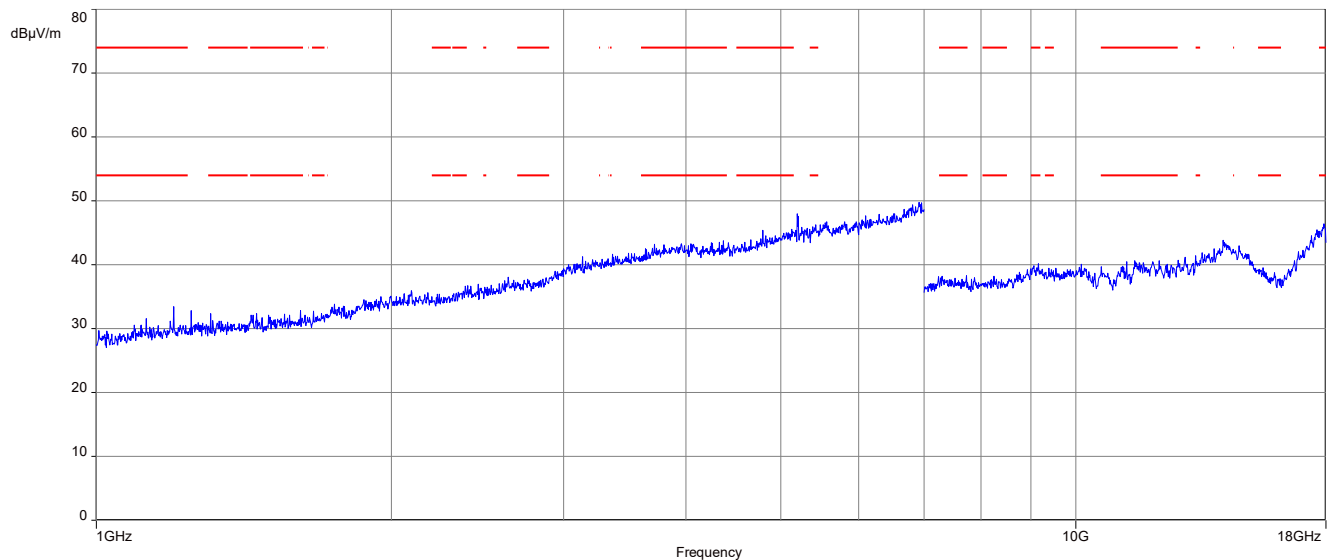
TX Spurious Emissions Radiated [dB μ V/m] / dBm								
U-NII-3 (5725 MHz to 5850 MHz)								
Lowest channel			Middle channel			Highest channel		
F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]
7660	Peak	51.8	7713	Peak	51.4	-/-	Peak	-/-
	AVG	48.2		AVG	48.3		AVG	-/-

Results: axHE20-SU-mode

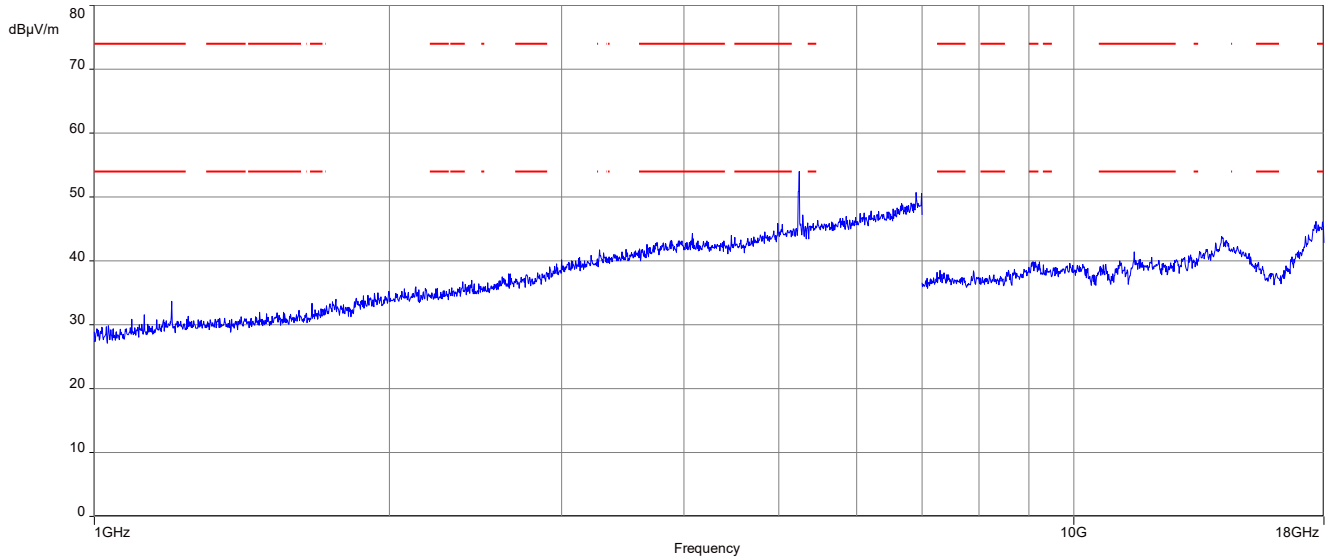
TX Spurious Emissions Radiated [dBµV/m] / dBm								
U-NII-1 (5150 MHz to 5250 MHz)								
Lowest channel			Middle channel			Highest channel		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
-/-	Peak	-/-	-/-	Peak	-/-	-/-	Peak	-/-
	AVG	-/-		AVG	-/-		AVG	-/-
TX Spurious Emissions Radiated [dBµV/m] / dBm								
U-NII-2A (5250 MHz to 5350 MHz)								
Lowest channel			Middle channel			Highest channel		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
-/-	Peak	-/-	-/-	Peak	-/-	-/-	Peak	-/-
	AVG	-/-		AVG	-/-		AVG	-/-

TX Spurious Emissions Radiated [dBµV/m] / dBm								
U-NII-2C (5470 MHz to 5725 MHz)								
Lowest channel			Middle channel			Highest channel		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
7333	Peak	49.5	7466	Peak	50.1	7600	Peak	51.0
	AVG	45.1		AVG	46.2		AVG	46.7

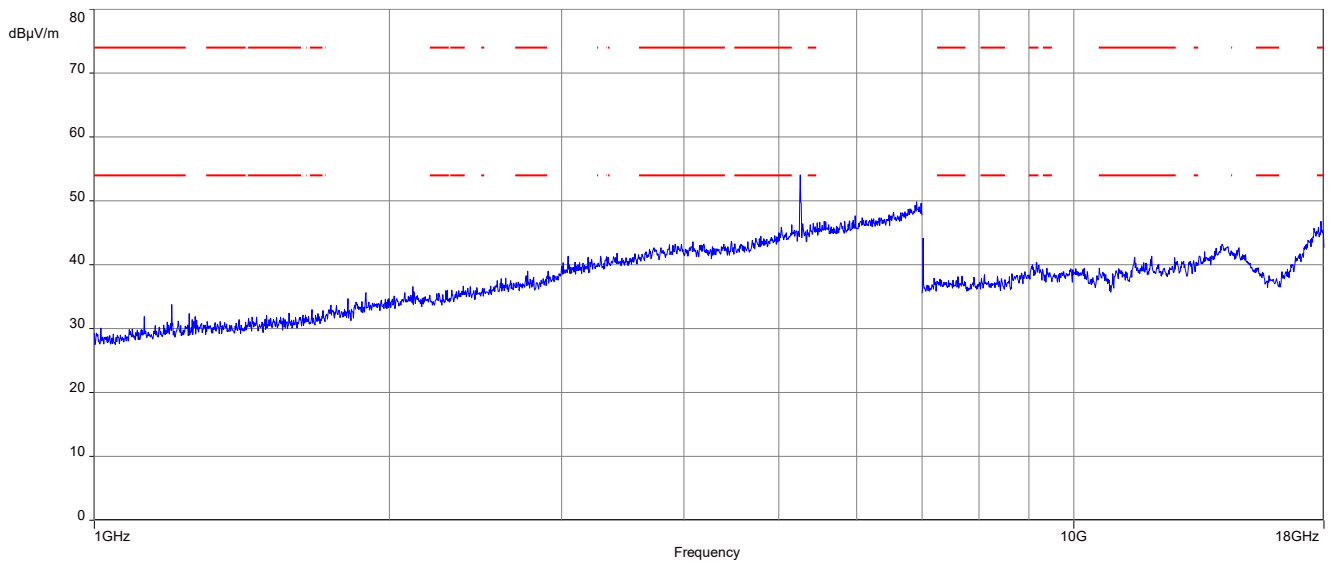
TX Spurious Emissions Radiated [dBµV/m] / dBm								
U-NII-3 (5725 MHz to 5850 MHz)								
Lowest channel			Middle channel			Highest channel		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
7660	Peak	51.3	7713	Peak	51.8	7766	Peak	51.6
	AVG	48.0		AVG	48.2		AVG	48.1

Plots: a-mode**Plot 1:** 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-1; lowest channel**Plot 2:** 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-1; middle channel

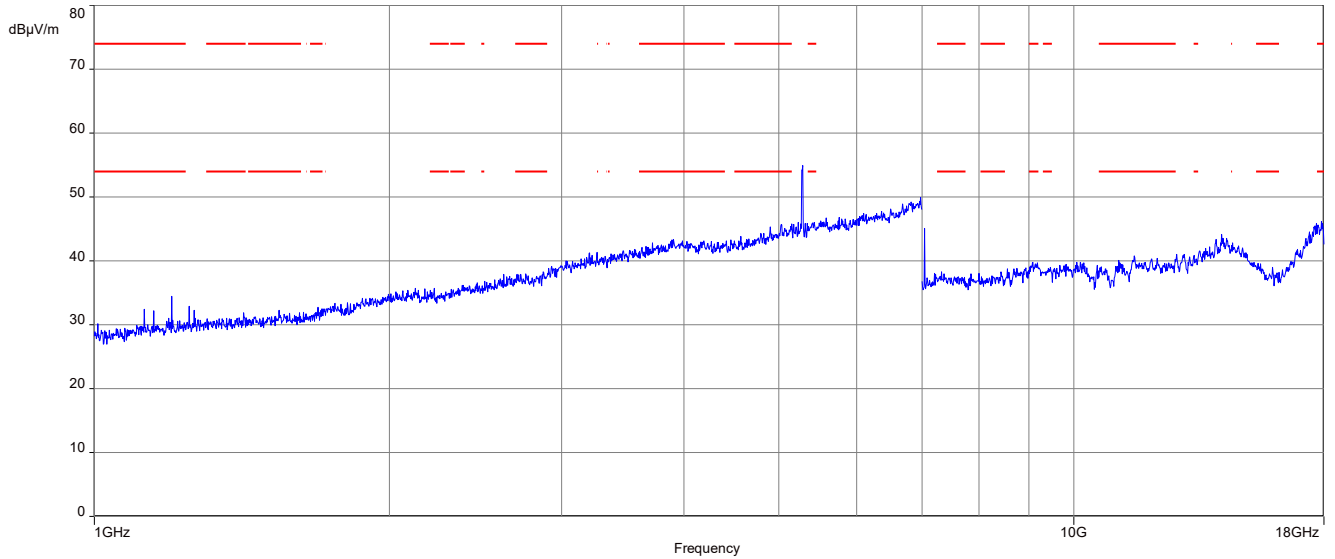
Plot 3: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-1; highest channel



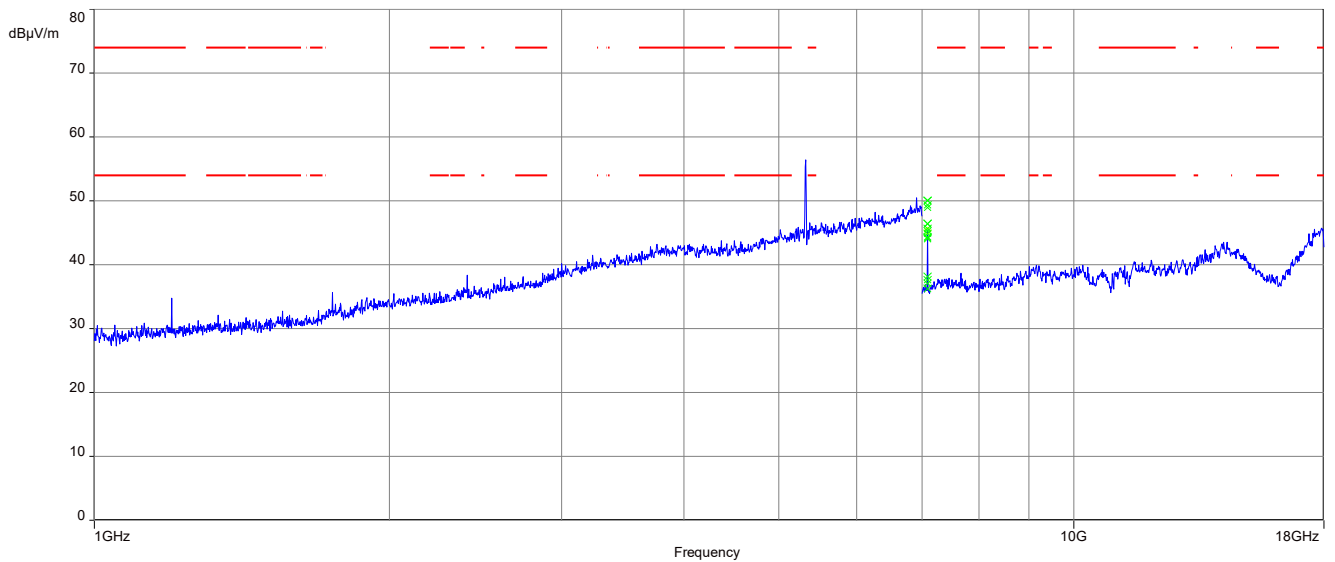
Plot 4: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2A; lowest channel



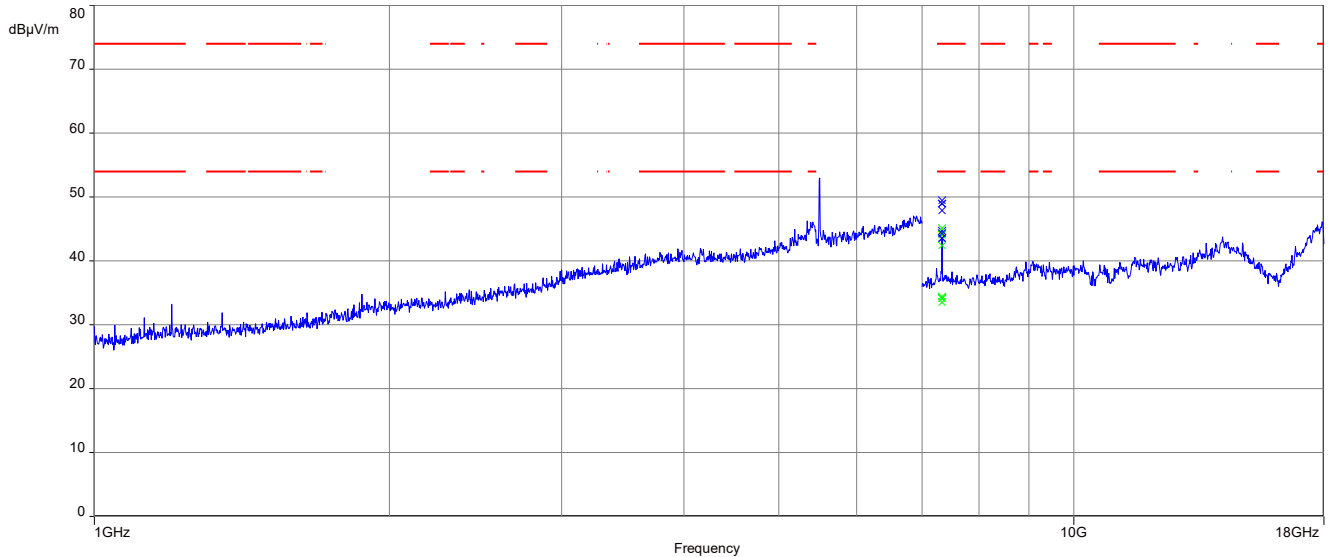
Plot 5: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2A; middle channel



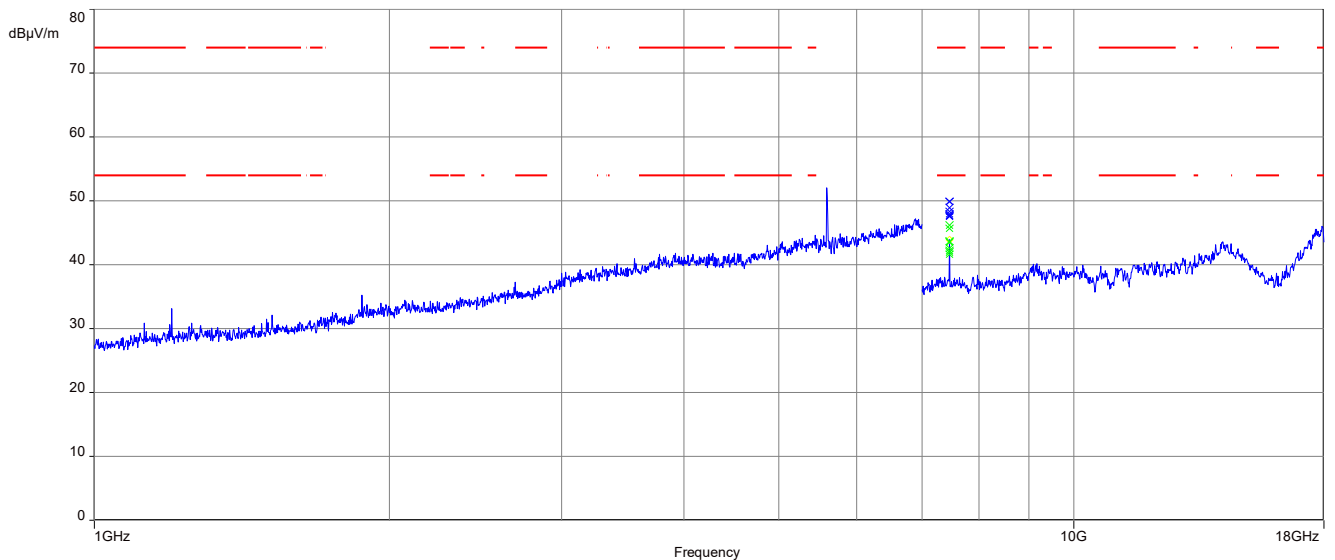
Plot 6: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2A; highest channel

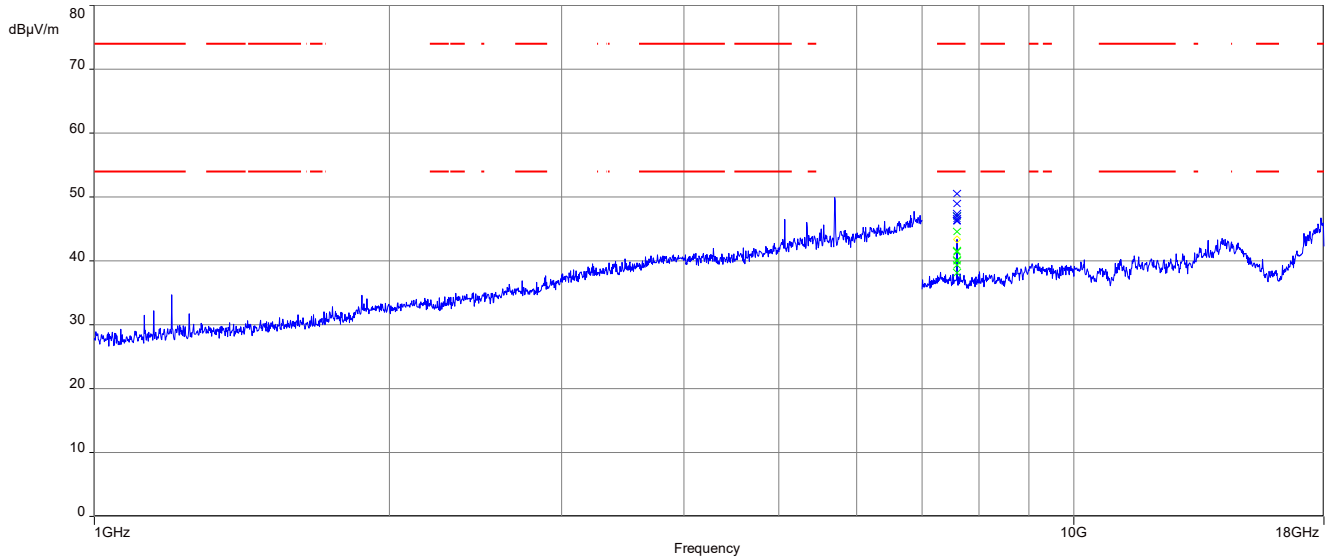
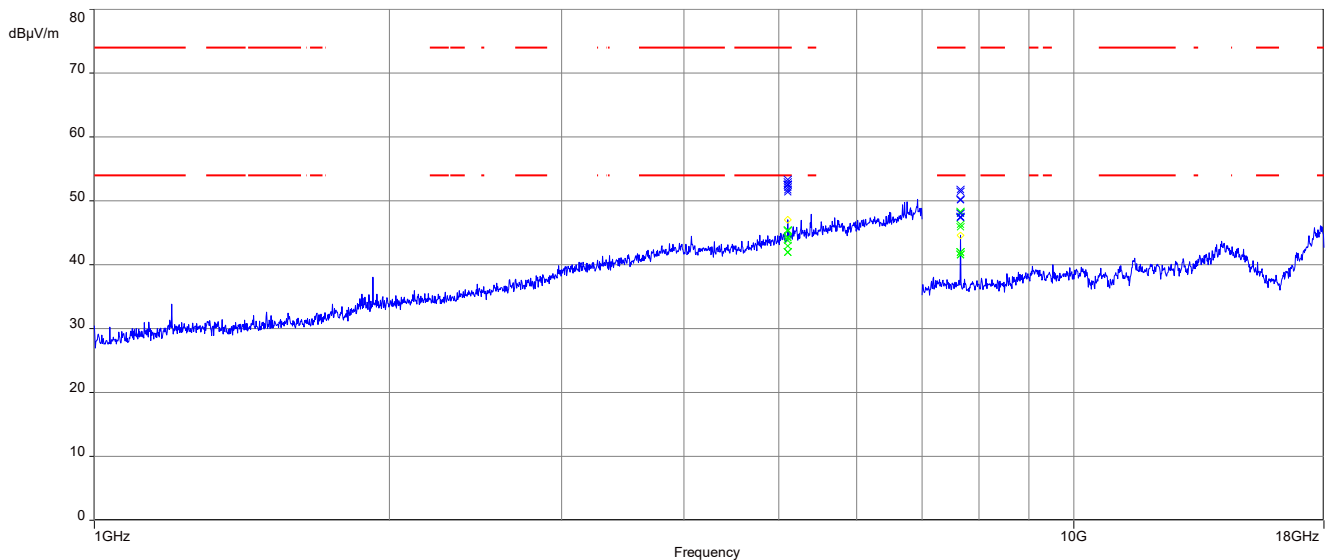


Plot 7: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2C; lowest channel

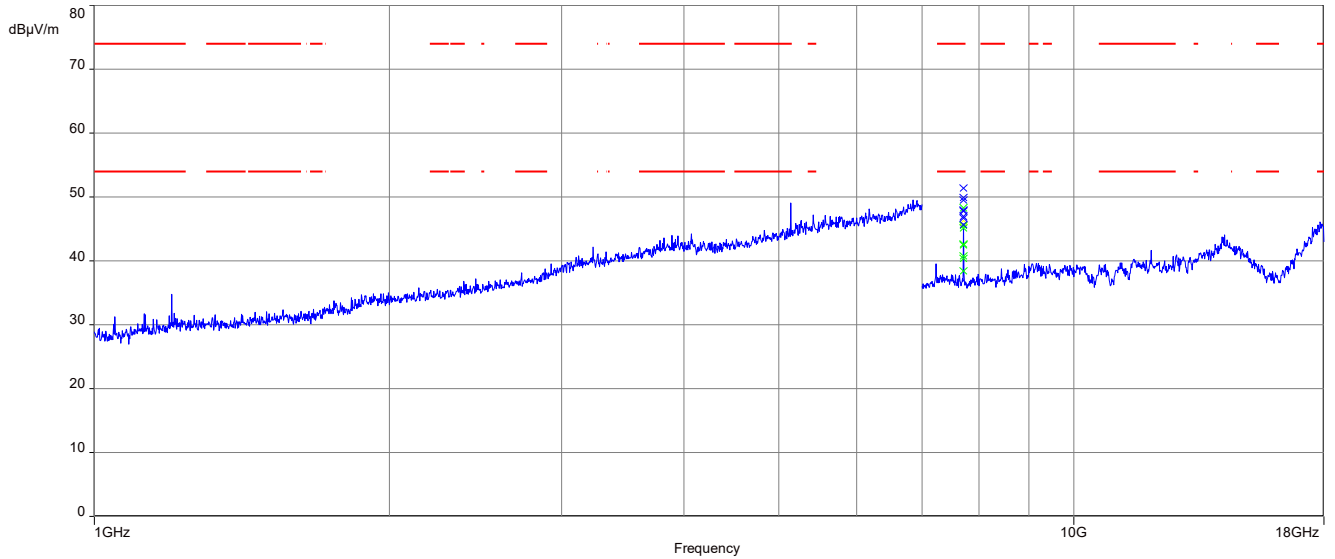


Plot 8: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2C; middle channel

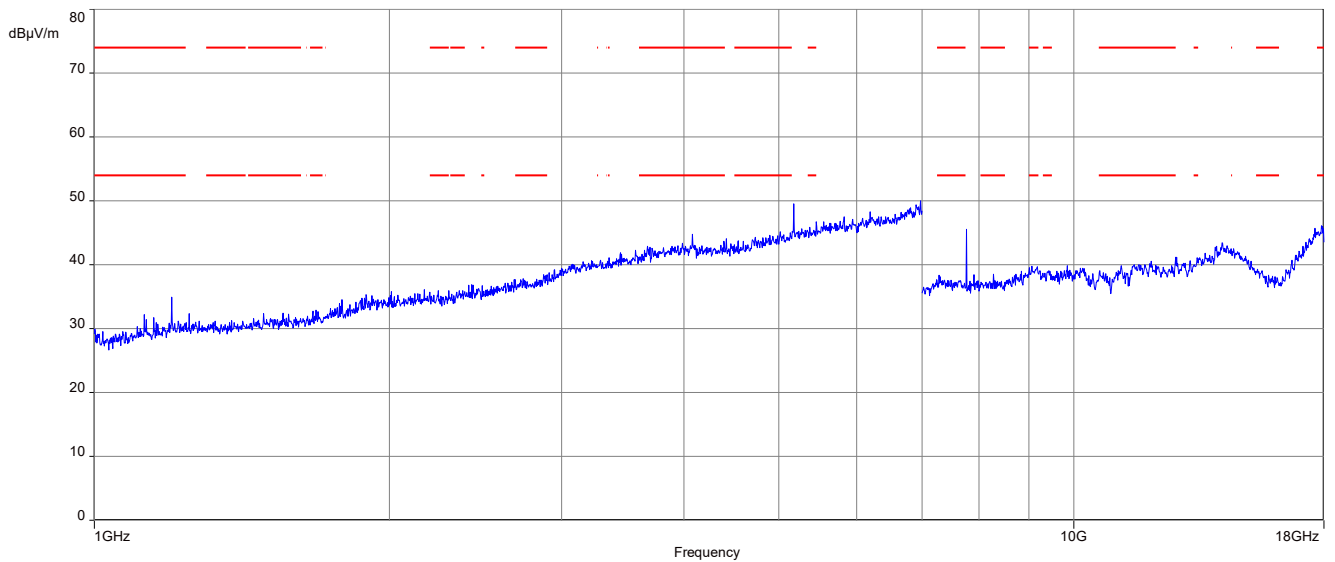


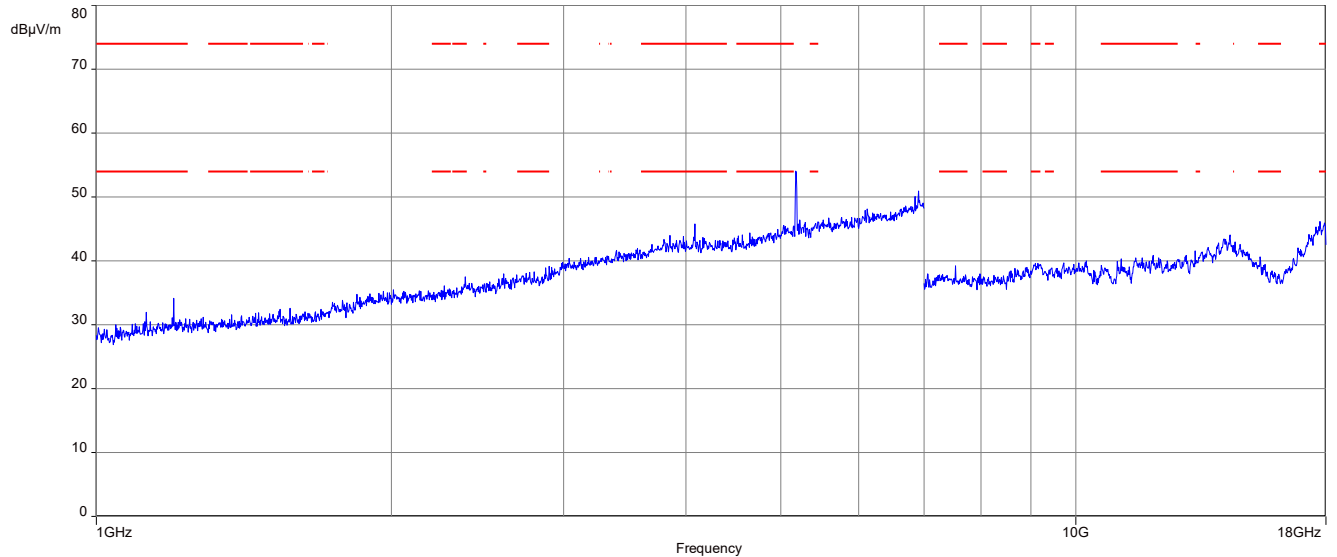
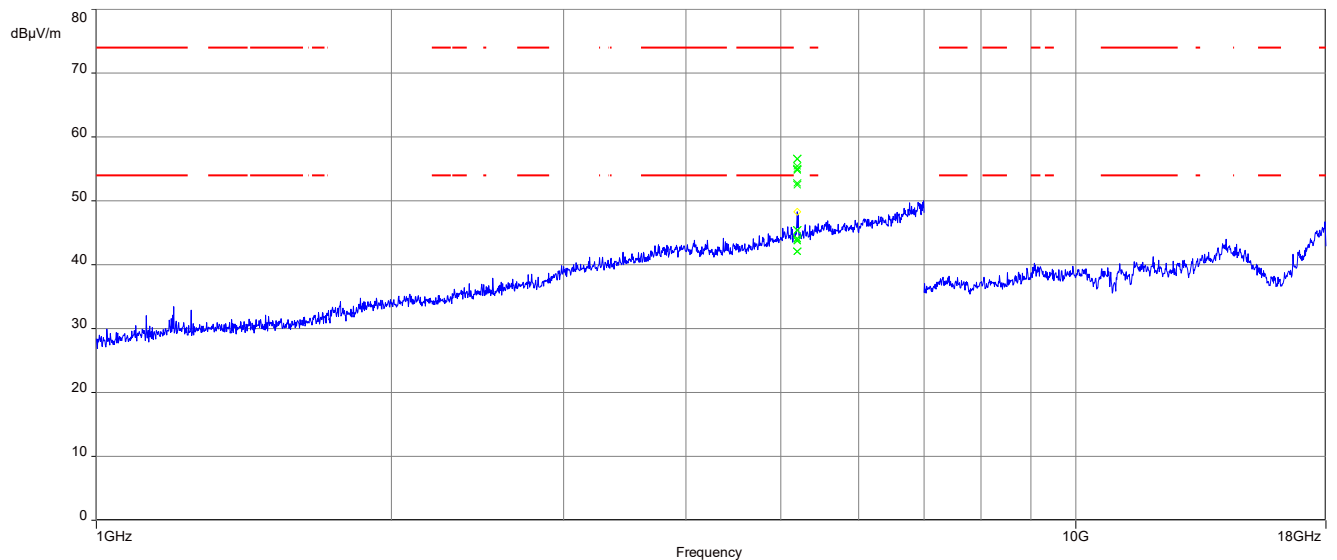
Plot 9: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2C; highest channel**Plot 10:** 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-3; lowest channel

Plot 11: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-3; middle channel

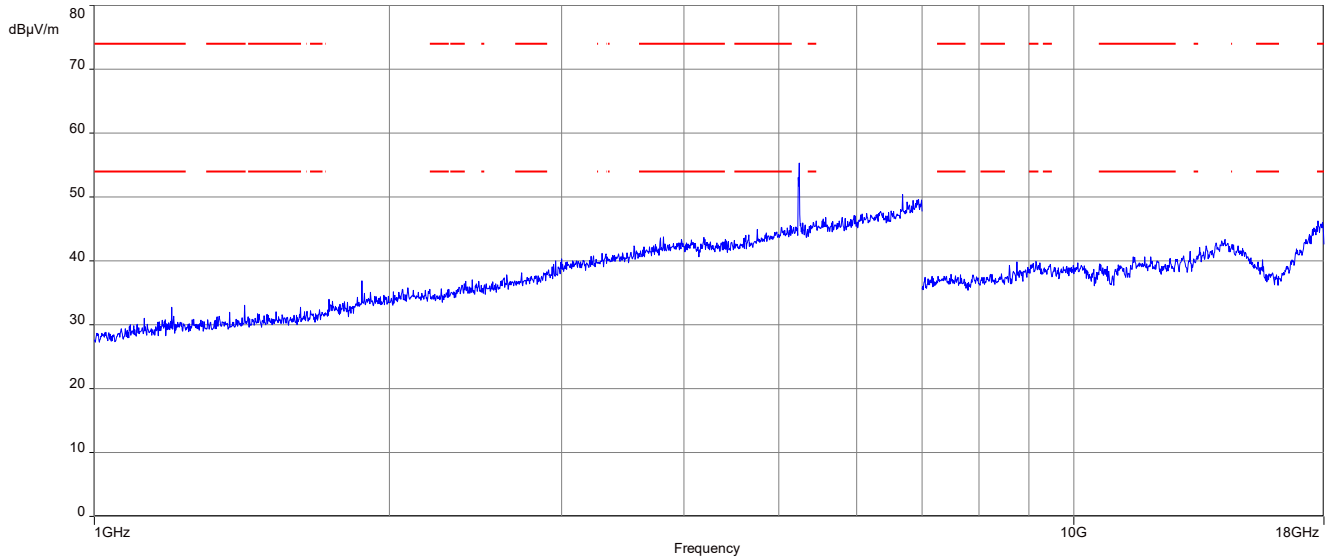


Plot 12: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-3; highest channel

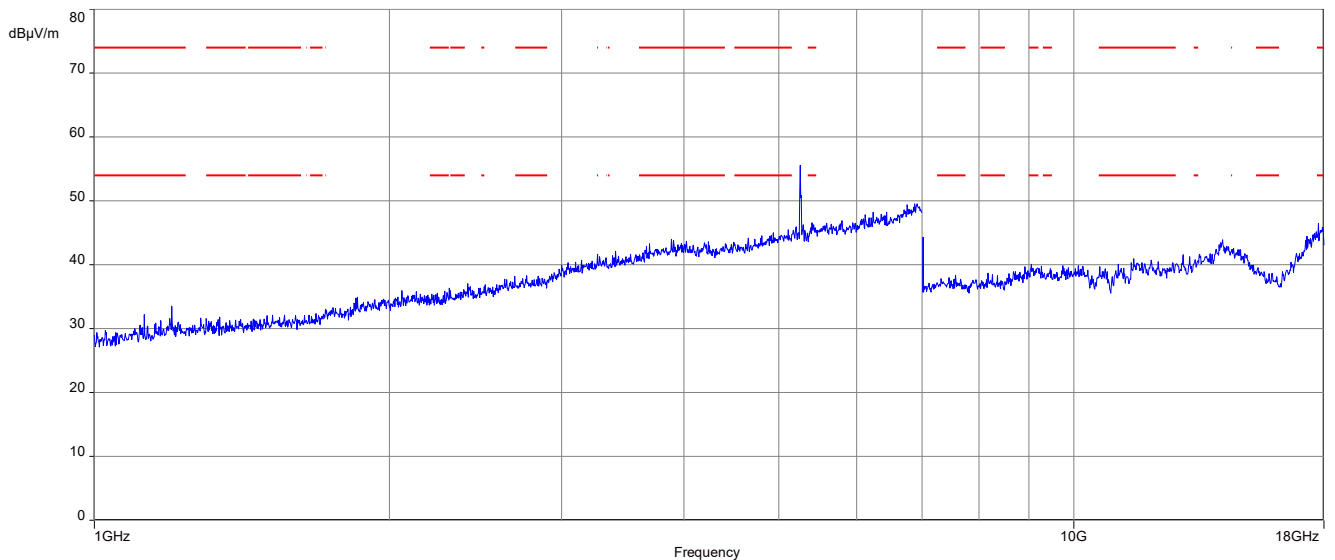


Plots: axHE20-SU-mode**Plot 13:** 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-1; lowest channel**Plot 14:** 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-1; middle channel

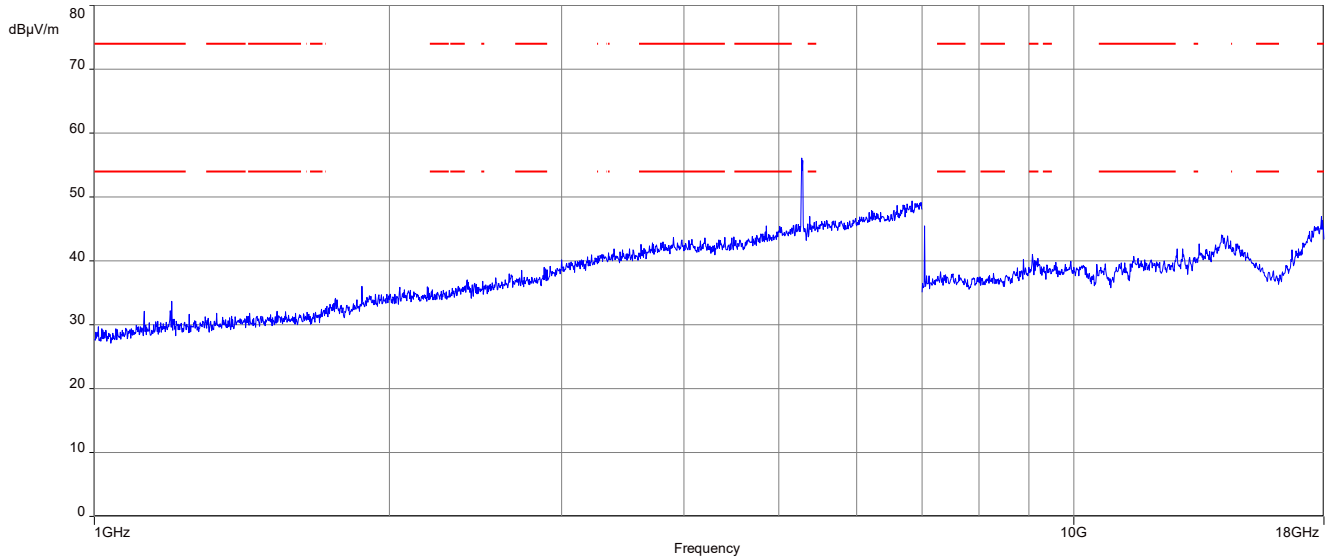
Plot 15: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-1; highest channel



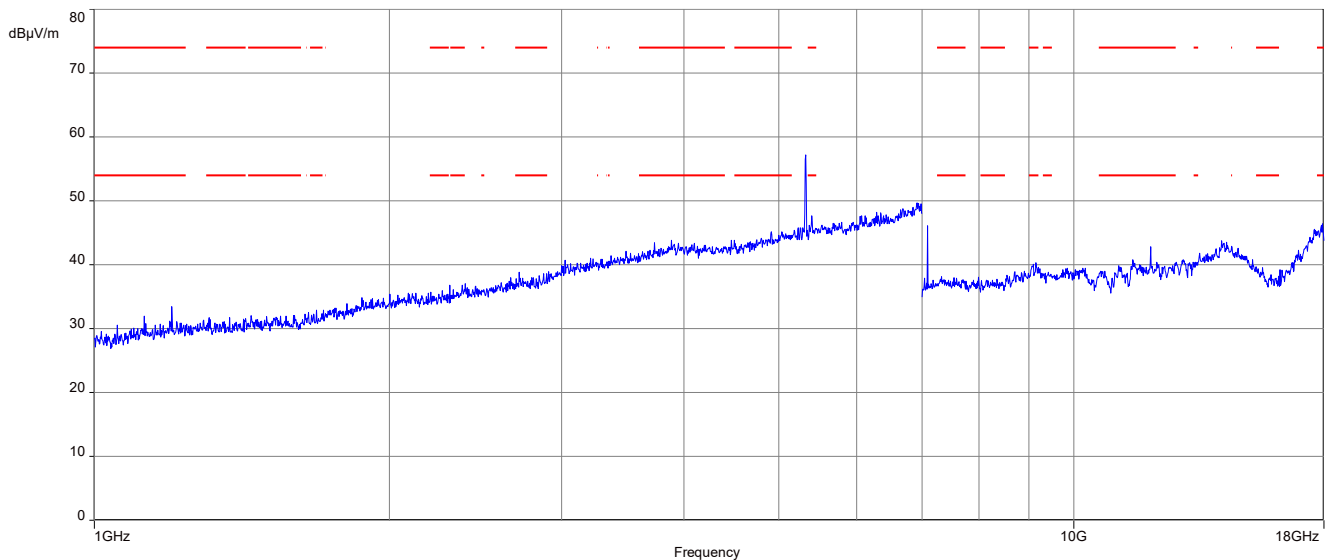
Plot 16: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2A; lowest channel



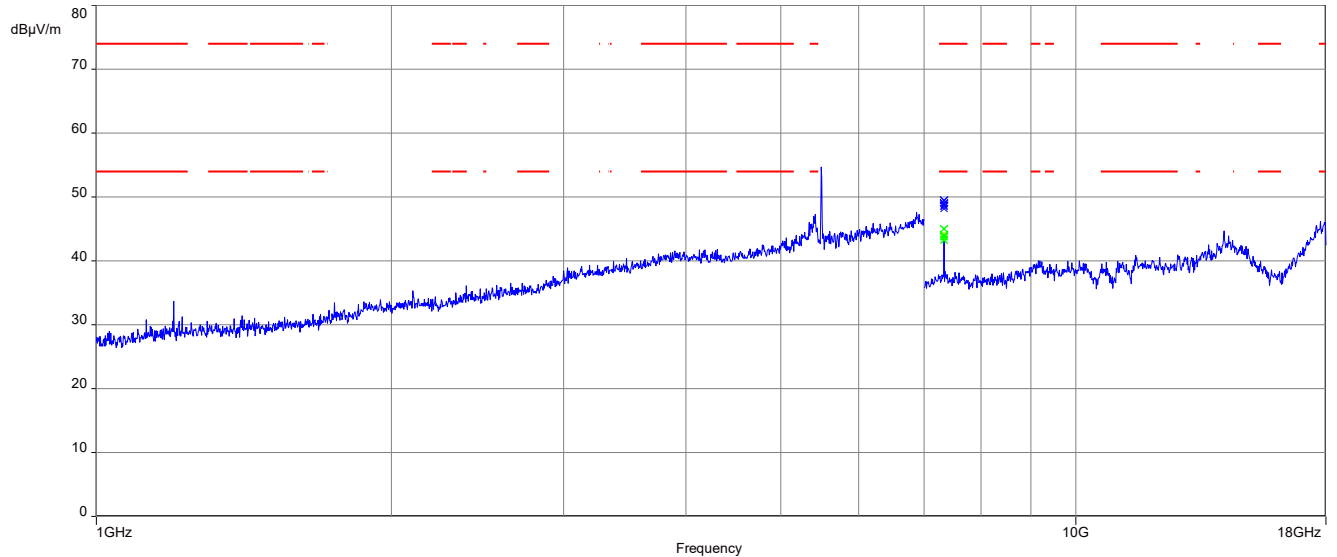
Plot 17: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2A; middle channel



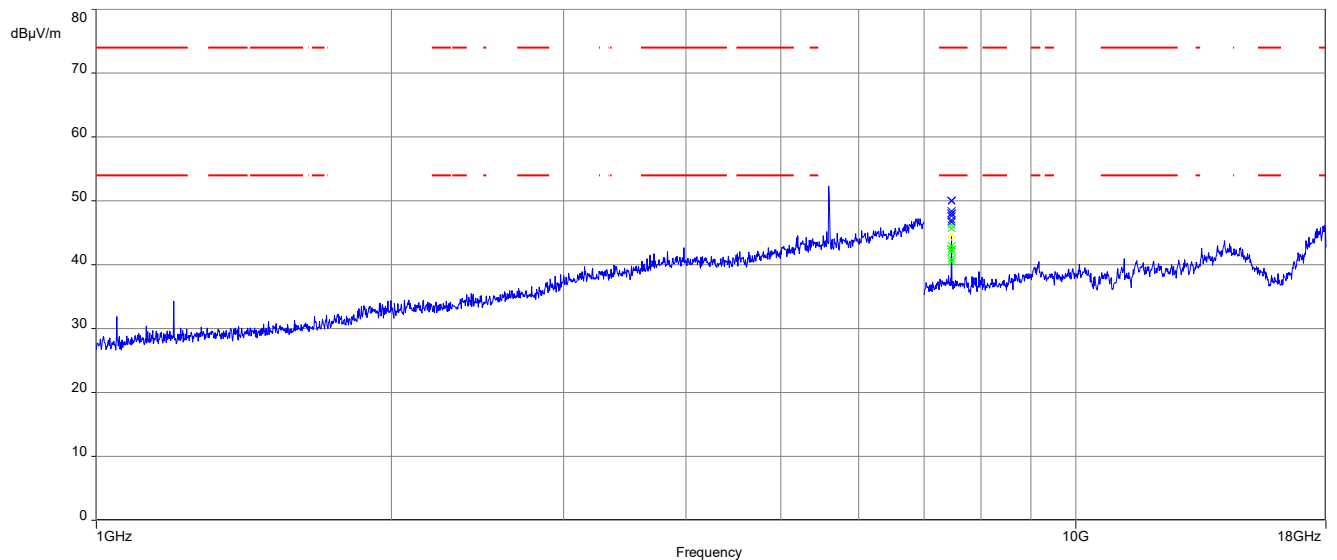
Plot 18: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2A; highest channel



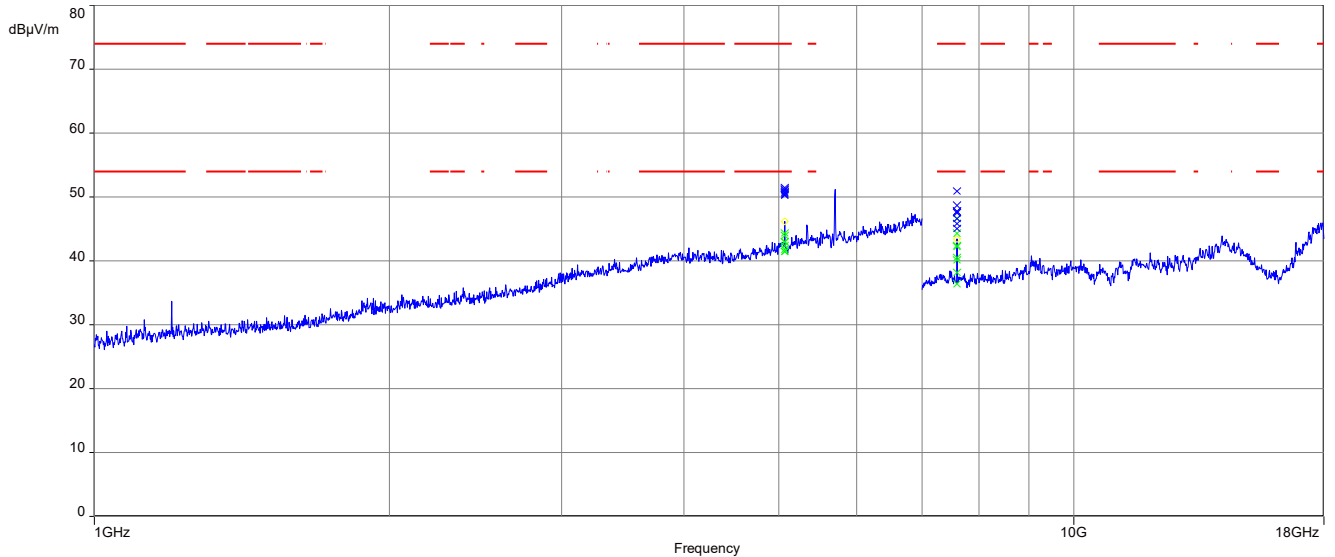
Plot 19: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2C; lowest channel



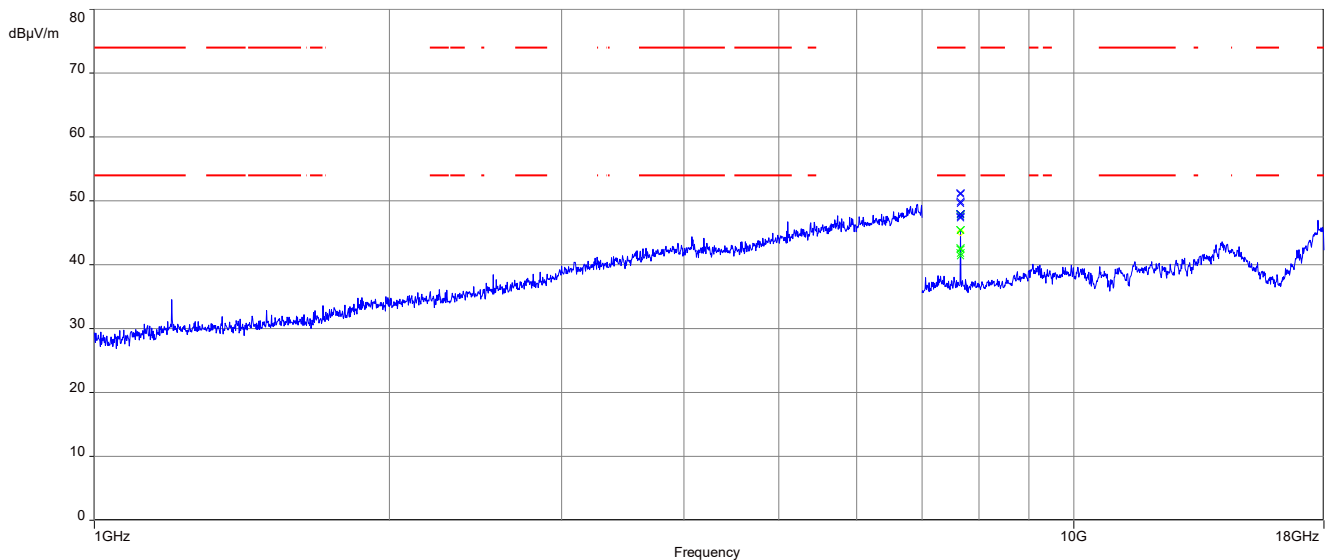
Plot 20: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2C; middle channel



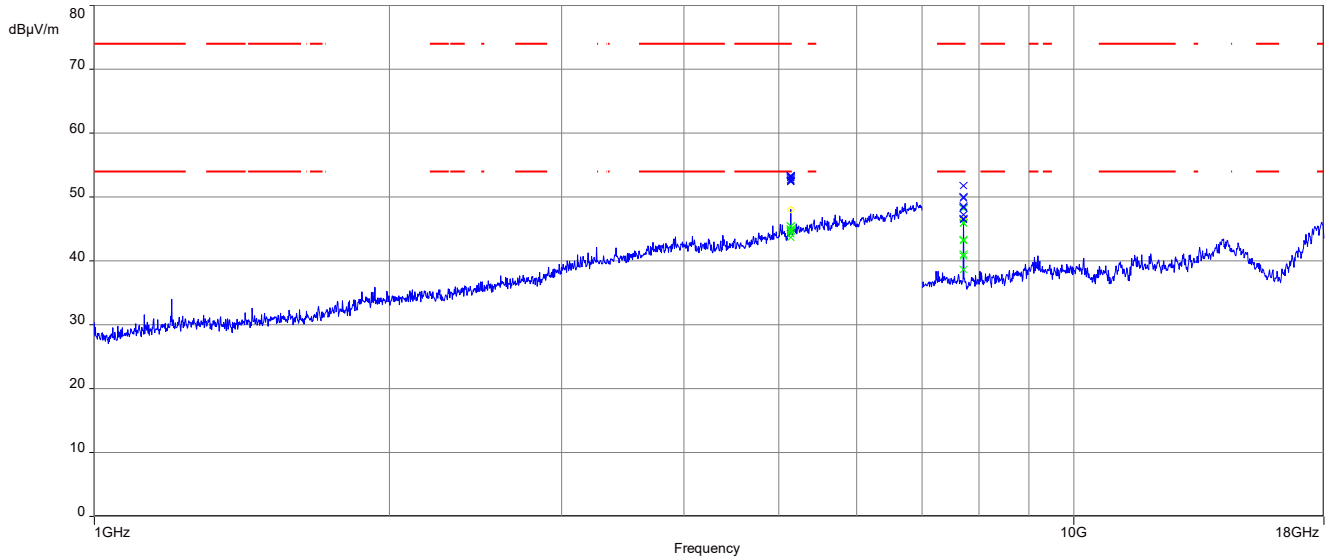
Plot 21: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2C; highest channel



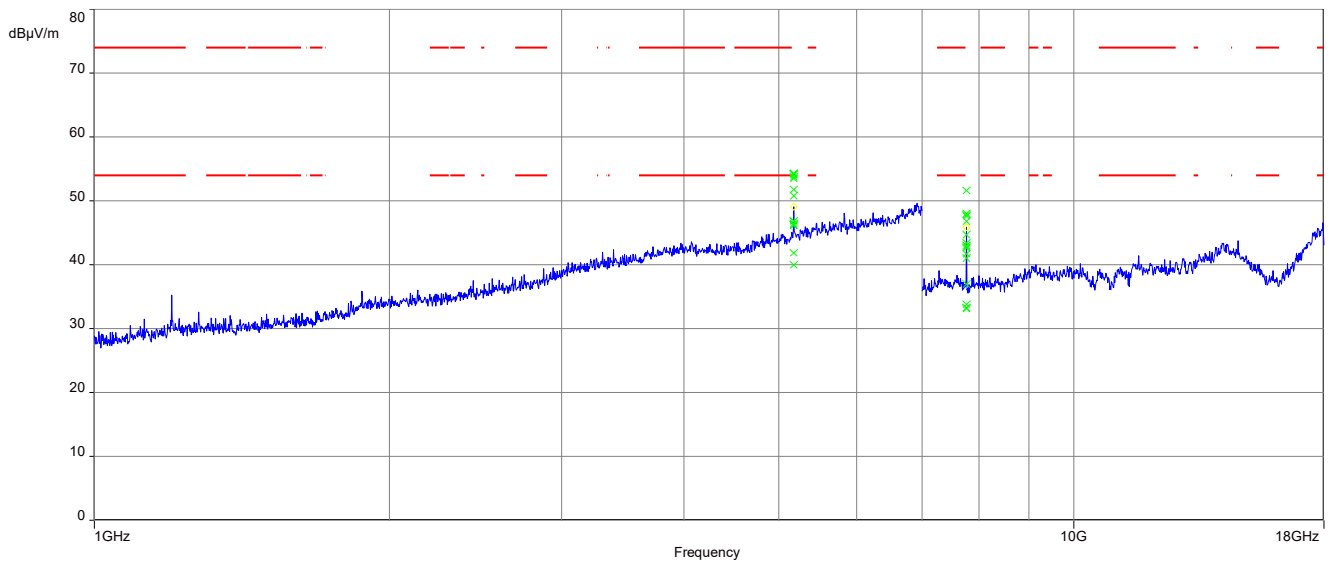
Plot 22: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-3; lowest channel



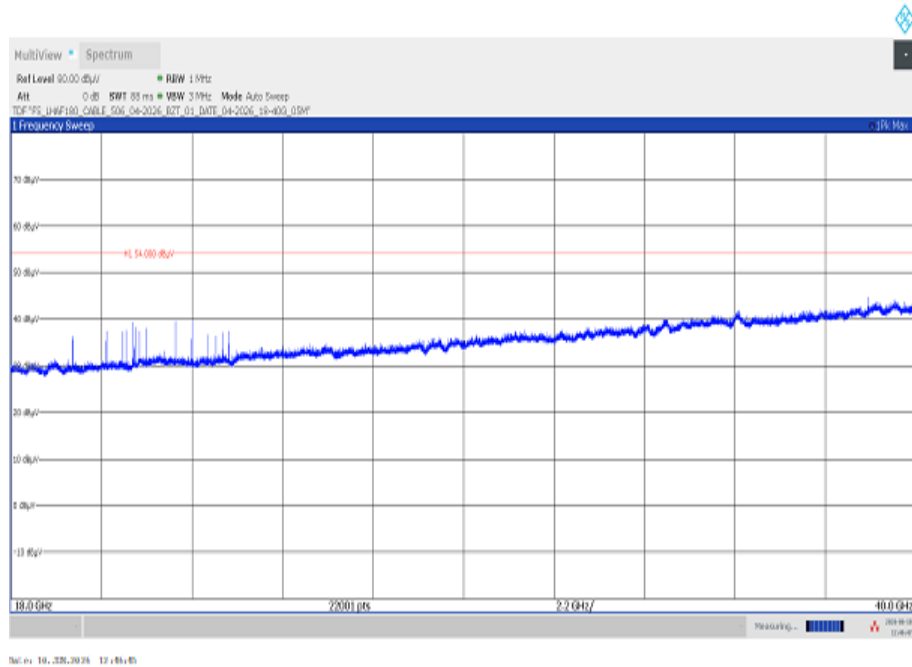
Plot 23: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-3; middle channel



Plot 24: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-3; highest channel



Plot 25: 18 GHz to 40 GHz; vertical & horizontal polarization; valid for all channels and modes



12.13 Spurious emissions conducted < 30 MHz

Description:

Measurement of the conducted spurious emissions in transmit mode below 30 MHz. The EUT is set to middle channel. If critical peaks are found the lowest channel and the highest channel will be measured too. Both power lines, phase and neutral line, are measured. Found peaks are re-measured with average and quasi peak detection to show compliance to the limits.

Measurement:

Measurement parameter	
Detector:	Peak - Quasi Peak / Average
Sweep time:	Auto
Video bandwidth:	9 kHz
Resolution bandwidth:	100 kHz
Span:	150 kHz to 30 MHz
Trace mode:	Max Hold
Test setup:	See sub clause 7.5 – A
Measurement uncertainty:	See chapter 9

Limits:

Spurious Emissions Conducted < 30 MHz		
Frequency (MHz)	Quasi-Peak (dBµV/m)	Average (dBµV/m)
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30.0	60	50

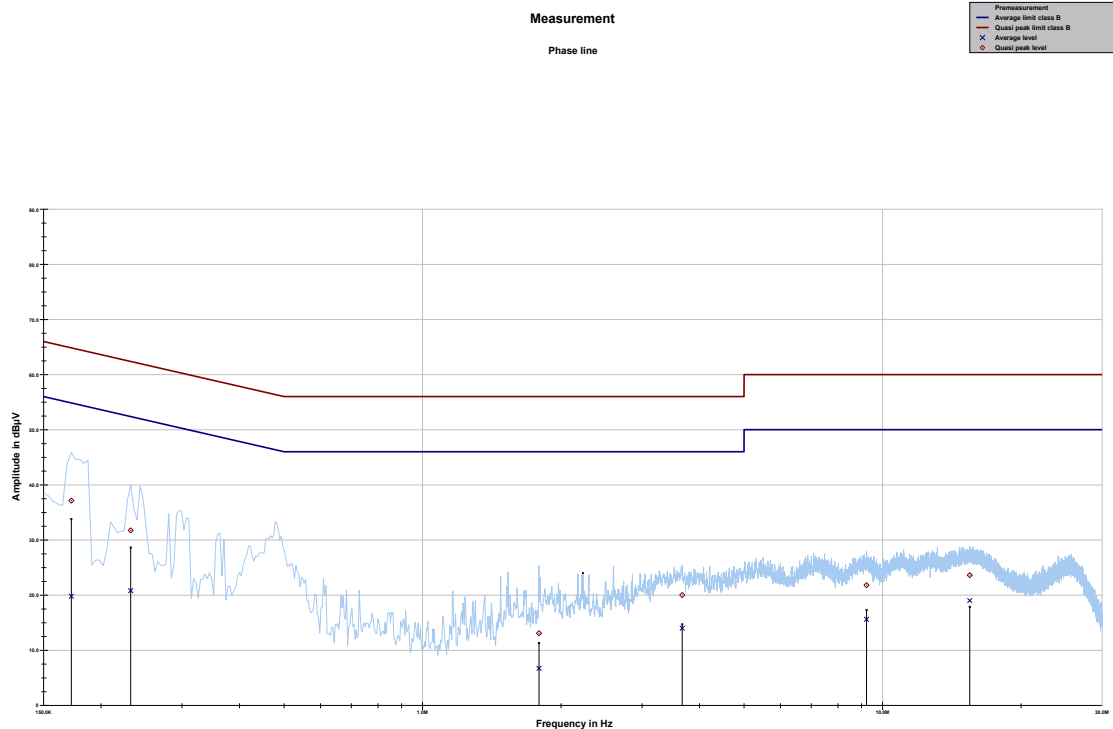
*Decreases with the logarithm of the frequency

Results:

Spurious Emissions Conducted < 30 MHz [dBµV/m]		
F [MHz]	Detector	Level [dBµV/m]
All detected emissions are more than 20 dB below the limit.		

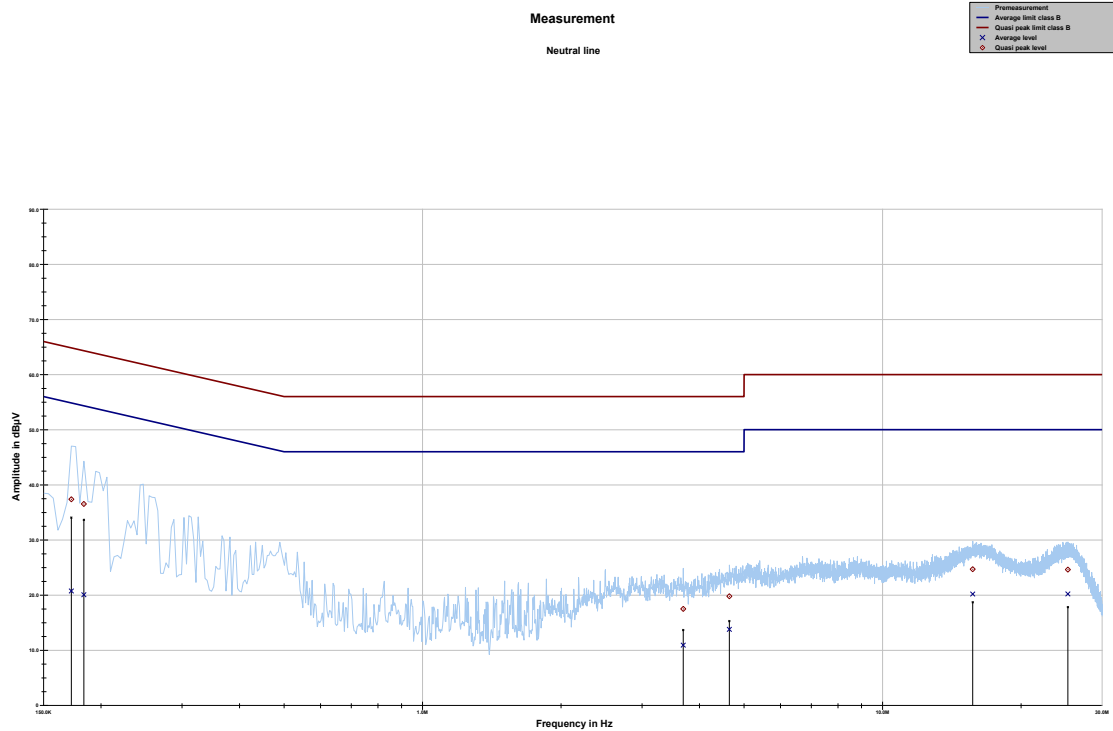
Plots: 120 V / 60 Hz

Plot 1: 150 kHz to 30 MHz, phase line



Project ID: 9318-25-02-02

Frequency	Quasi peak level	Margin quasi peak	Limit QP	Average level	Margin average	Limit AV
MHz	dBμV	dB	dBμV	dBμV	dB	dBμV
0.172387	37.13	27.71	64.845	19.78	35.58	55.360
0.232088	31.73	30.65	62.375	20.80	32.85	53.655
1.791750	13.08	42.92	56.000	6.71	39.29	46.000
3.668569	20.01	35.99	56.000	13.99	32.01	46.000
9.231863	21.80	38.20	60.000	15.62	34.38	50.000
15.470512	23.60	36.40	60.000	19.00	31.00	50.000

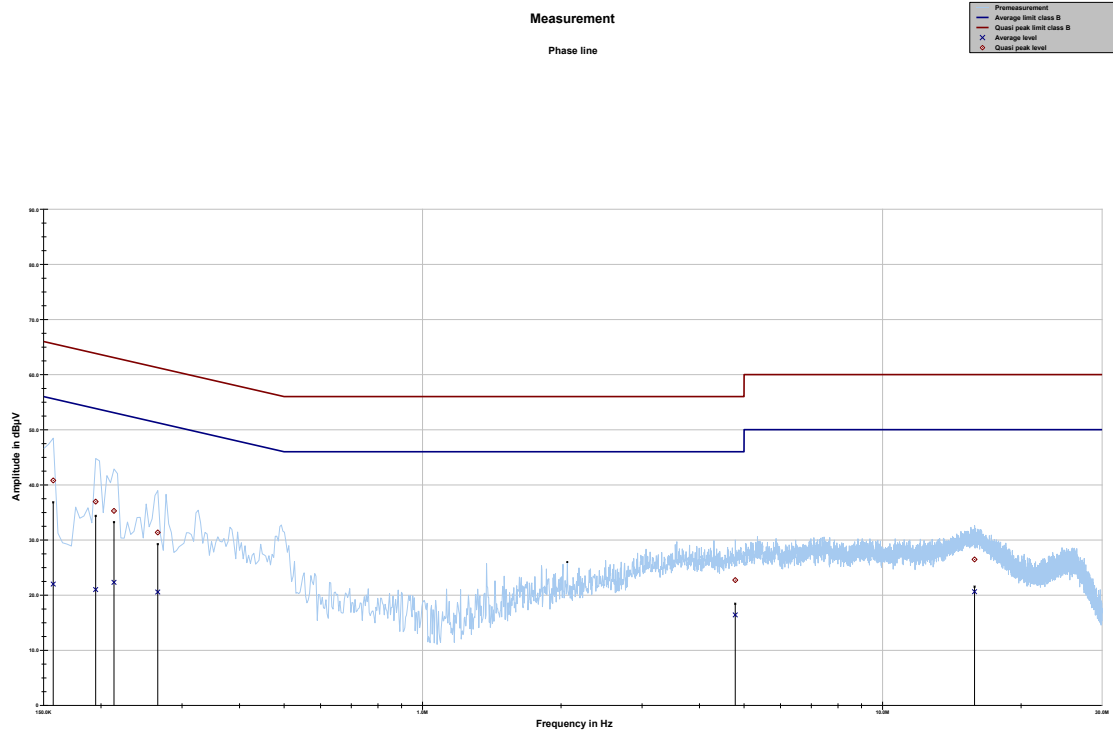
Plot 2: 150 kHz to 30 MHz, neutral line

Project ID: 9318-25-02-02

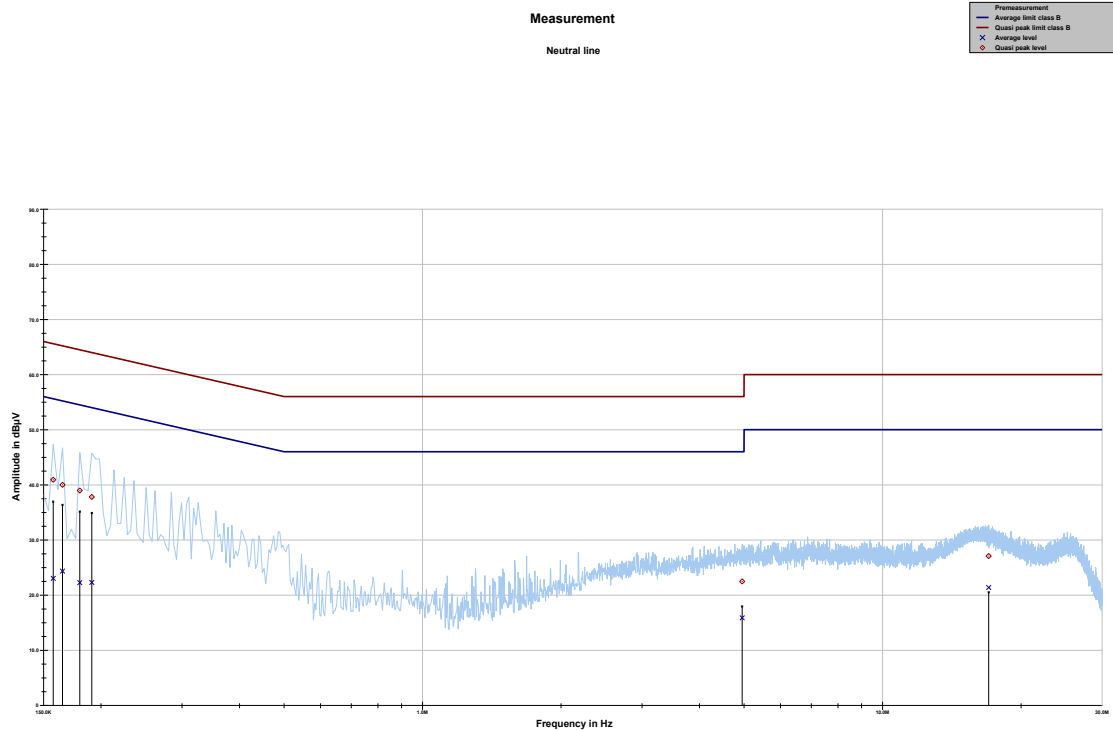
Frequency	Quasi peak level	Margin quasi peak	Limit QP	Average level	Margin Average	Limit AV
MHz	dBμV	dB	dBμV	dBμV	dB	dBμV
0.172387	37.38	27.47	64.845	20.74	34.62	55.360
0.183581	36.53	27.79	64.322	20.05	34.99	55.041
3.687225	17.49	38.51	56.000	10.91	35.09	46.000
4.646156	19.79	36.21	56.000	13.77	32.23	46.000
15.705581	24.70	35.30	60.000	20.19	29.81	50.000
25.291162	24.62	35.38	60.000	20.20	29.80	50.000

Plots: 230 V / 60 Hz

Plot 1: 150 kHz to 30 MHz, phase line



Frequency	Quasi peak level	Margin quasi peak	Limit QP	Average level	Margin average	Limit AV
MHz	dBμV	dB	dBμV	dBμV	dB	dBμV
0.157463	40.79	24.81	65.597	22.00	33.79	55.787
0.194775	36.96	26.87	63.830	21.00	33.72	54.721
0.213431	35.28	27.79	63.071	22.30	31.89	54.188
0.265669	31.35	29.90	61.252	20.56	32.13	52.695
4.784212	22.72	33.28	56.000	16.41	29.59	46.000
15.851100	26.46	33.54	60.000	20.60	29.40	50.000

Plot 2: 150 kHz to 30 MHz, neutral line

Frequency	Quasi peak level	Margin quasi peak	Limit QP	Average level	Margin Average	Limit AV
MHz	dBµV	dB	dBµV	dBµV	dB	dBµV
0.157463	40.92	24.67	65.597	23.03	32.76	55.787
0.164925	39.99	25.22	65.212	24.35	31.23	55.574
0.179850	38.95	25.54	64.493	22.26	32.89	55.147
0.191044	37.81	26.18	63.991	22.29	32.54	54.827
4.952119	22.48	33.52	56.000	15.87	30.13	46.000
17.015250	27.07	32.93	60.000	21.37	28.63	50.000

13 Glossary

AVG	Average
C	Compliant
C/N₀	Carrier to noise-density ratio, expressed in dB-Hz
CAC	Channel availability check
CW	Clean wave
DC	Duty cycle
DFS	Dynamic frequency selection
DSSS	Dynamic sequence spread spectrum
DUT	Device under test
EN	European Standard
ETSI	European Telecommunications Standards Institute
EMC	Electromagnetic Compatibility
EUT	Equipment under test
FCC	Federal Communications Commission
FCC ID	Combination of Grantee Code and Equipment Product Code
FHSS	Frequency hopping spread spectrum
FVIN	Firmware version identification number
GNSS	Global Navigation Satellite System
GUE	GNSS User Equipment
HMN	Host marketing name
HVIN	Hardware version identification number
HW	Hardware
ISED	Innovation, Science and Economic Development Canada
Inv. No.	Inventory number
MC	Modulated carrier
NA	Not applicable
NC	Not compliant
NOP	Non occupancy period
NP	Not performed
OBW	Occupied bandwidth
OC	Operating channel
OCW	Operating channel bandwidth
OFDM	Orthogonal frequency division multiplexing
OOB	Out of band
OP	Occupancy period
PER	Packet error rate
PMN	Product marketing name
PP	Positive peak
QP	Quasi peak
RLAN	Radio local area network
S/N or SN	Serial number
SW	Software
UUT	Unit under test
WLAN	Wireless local area network

14 Document history

Version	Applied changes	Date of release
R01	Initial release	2026-06-26
R02	HVIN revised	2026-06-30

END OF TEST REPORT