

TEST REPORT

Test report no.: 1-2152-25-01-09_TR1-R01



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

Haivision Systems Inc.

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Test standard/s

FCC - Title 47 CFR Part 15	FCC - Title 47 of the Code of Federal Regulations; Chapter I; Part 15 - Radio frequency devices
RSS - 247 Issue 4	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 incl. Amendment 1 & 2	Spectrum Management and Telecommunications Radio Standards Specification - General Requirements for Compliance of Radio Apparatus
For further applied test standards please refer to section 3 of this test report.	

Test Item

Kind of test item:	Video Transmitters
Model name:	Falkon X2
FCC ID:	2BTDD-AX210NG
ISED certification number:	31632-AX210NG
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:	Two integrated PCB antennas
Power supply:	10.8 V DC by battery pack
Temperature range:	-5°C to +45°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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2.2 Application details

Date of receipt of order:	2026-02-02
Date of receipt of test item:	2026-03-16
Start of test:*	2026-03-16
End of test:*	2026-06-30
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

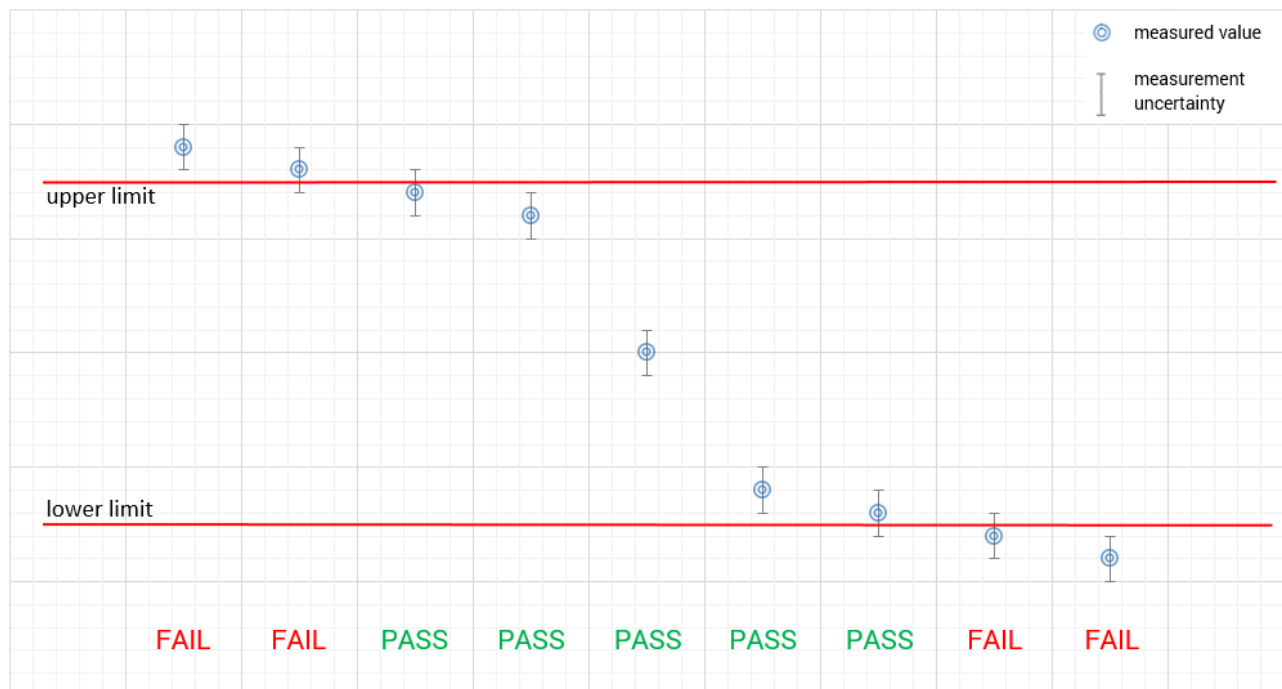
Test standard	Date	Description
FCC - Title 47 CFR Part 15	PS1_Datum	FCC - Title 47 of the Code of Federal Regulations; Chapter I; Part 15 - Radio frequency devices
RSS - 247 Issue 4	PS2_Datum	Digital Transmission Systems, Frequency Hopping Systems and Licence-Exempt Local Area Network Devices in 902-928 MHz, 2400-2483.5 MHz, 5150-5350 MHz, and 5470-5895 MHz bands
RSS - Gen Issue 5 incl. Amendment 1 & 2	PS3_Datum	Spectrum Management and Telecommunications Radio Standards Specification - 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
KDB 662911 D01	v02r01	Emissions Testing of Transmitters with Multiple Outputs in the Same Band
KDB 174176 D01	V01r02	AC POWER LINE CONDUCTED EMISSIONS FREQUENTLY ASKED QUESTIONS

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."

measured value, measurement uncertainty, verdict



5 Test environment

Temperature	:	T_{nom} T_{max} T_{min}	+22 °C during room temperature tests No tests under extreme temperature conditions required. No tests under extreme temperature conditions required.
Relative humidity content	:		42 %
Barometric pressure	:		1021 hpa
Power supply	:	V_{nom} V_{max} V_{min}	10.8 V DC by battery pack No tests under extreme voltage conditions required. No tests under extreme voltage conditions required.

6 Test item

6.1 General description

Kind of test item	:	Video Transmitters
Model name	:	Falkon X2
HMN	:	-/-
PMN	:	Intel Wi-Fi 6E AX210
HVIN	:	AX210NGW
FVIN	:	-/-
S/N serial number	:	Rad. HAIFKX20326011790 Cond. HAIFKX20126011730
Hardware status	:	2.0.0-2
Software status	:	DRTU_08119_23.130.0
Firmware status	:	-/-
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	:	OFDM, OFDMA
Use of frequency spectrum	:	
Type of modulation	:	(D)BPSK, (D)QPSK, 16 – QAM, 64 – QAM, 256 – QAM, 1024 – QAM
Number of channels	:	25 with 20 MHz channel bandwidth 12 with 40 MHz channel bandwidth 6 with 80 MHz channel bandwidth 2 with 160 MHz channel bandwidth
Antenna	:	Two integrated PCB antennas
Power supply	:	10.8 V DC by battery pack
Temperature range	:	-5°C to +45°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:

1-2152-25-01-01_TR1-A101-R01
1-2152-25-01-01_TR1-A102-R01
1-2152-25-01-01_TR1-A103-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).

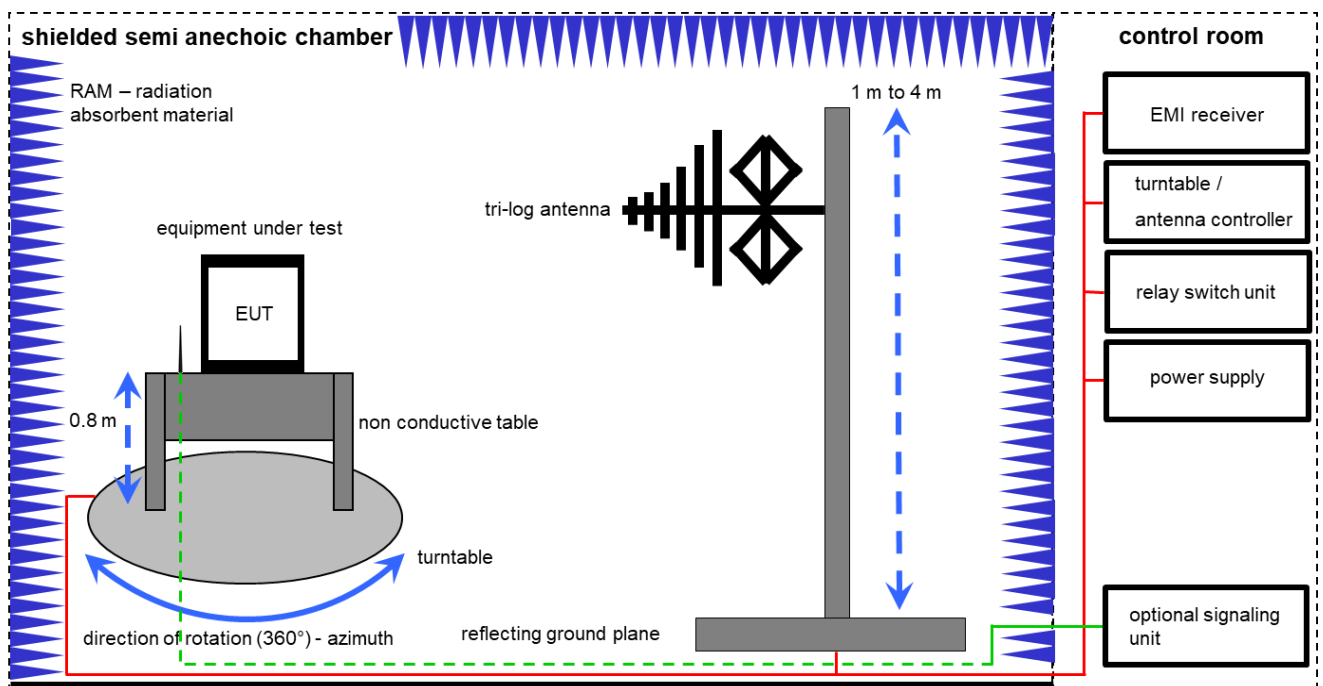
Each block diagram listed can contain several test setup configurations. All devices belonging to a test setup are identified with the same letter syntax. For example: Column Setup and all devices with an A.

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
vlkl!	Attention: extended calibration interval	*)	next calibration ordered / currently in progress
NK!	Attention: not calibrated		
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)

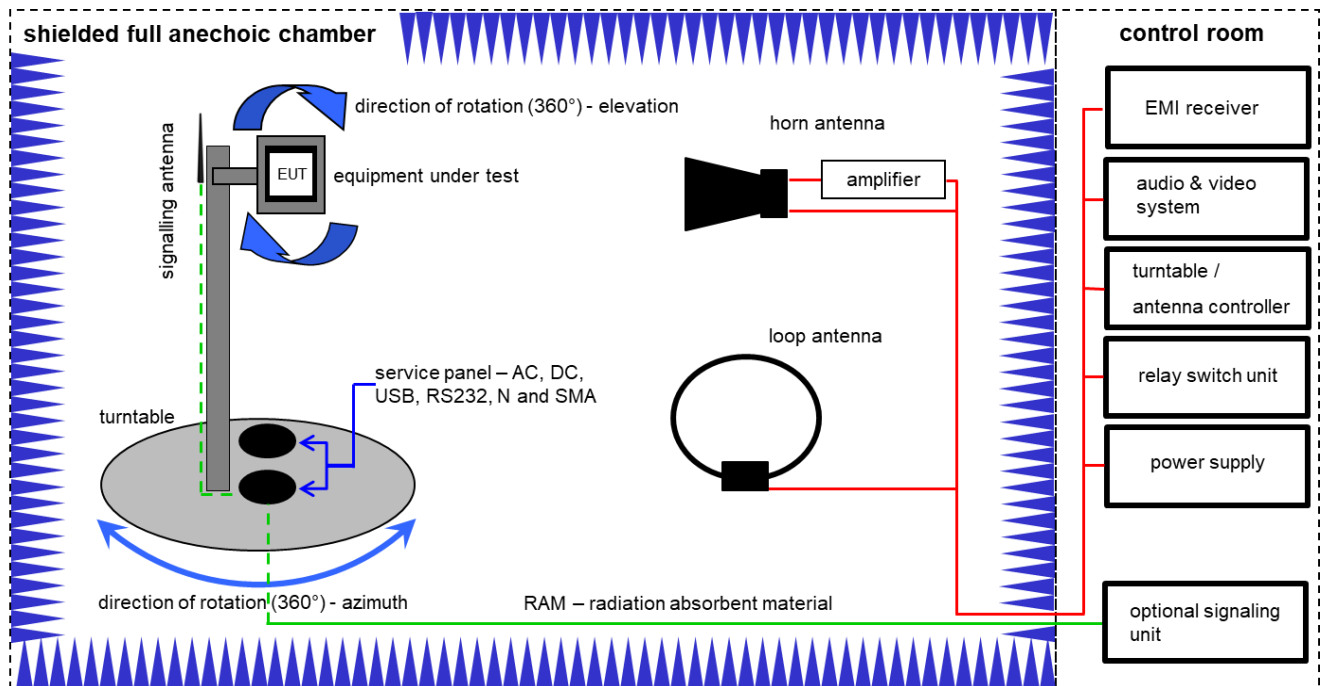
Example calculation:

FS [dB μ V/m] = 12.35 [dB μ V] + 1.90 [dB] + 16.80 [dB/m] = 31.05 [dB μ V/m] (35.69 μ V/m) @ distance

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	Antenna Tower	Antenna Tower 2175	ETS-Lindgren Gmbh Taufkirchen	64762	50279	cnn	-/-	-/-
3	A	Positioning Controller	Positioning Controller 2090	ETS-Lindgren Gmbh Taufkirchen	64672	50280	cnn	-/-	-/-
4	A	TRILOG Broadband Antenna	TRILOG Broadband Antenna VULB9163	Schwarzbeck Mess-Elektronik OHG Schönaun	1029	50403	cal	07.11.2025	30.11.2027
5	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:

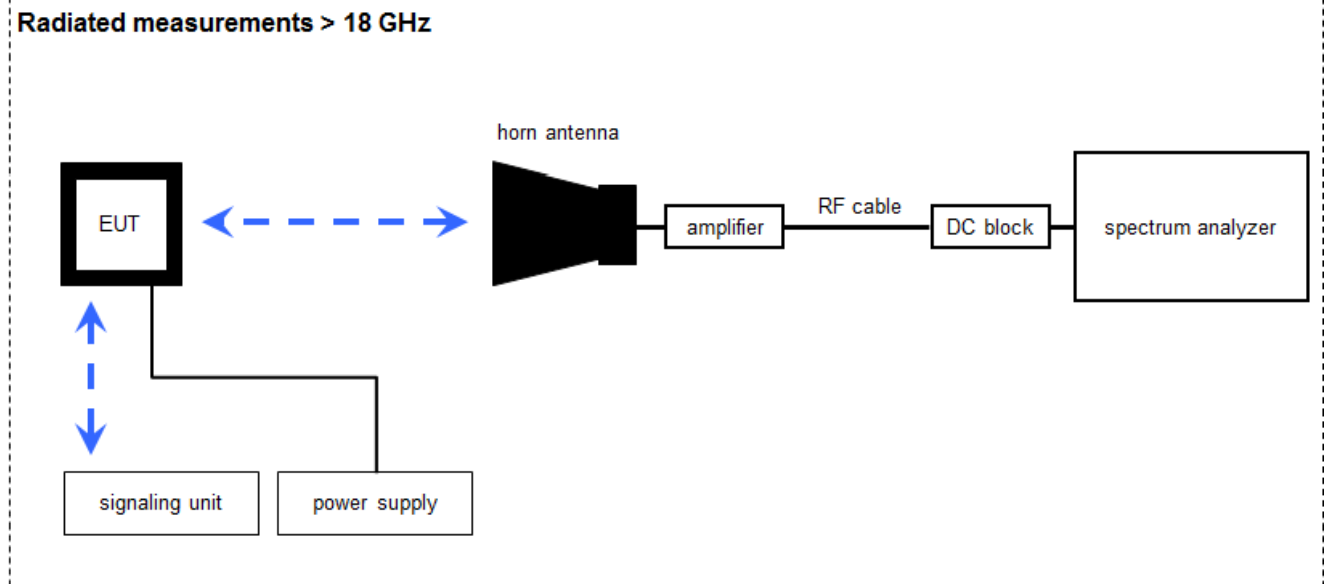
FS [dB μ V/m] = 40.0 [dB μ V] + (-35.8) [dB] + 32.9 [dB/m] = 37.1 [dB μ V/m] (71.61 μ V/m) @ distance

Equipment table:

No.	Setup	Equipment	Type	Manufacturer	Serial No.	INV. No.	Kind of Calibration	Last Calibration	Next Calibration
1	A, B, C	Double-Ridged Waveguide Horn Antenna	Double-Ridged Waveguide Horn Antenna 3115	EMCO Elektronik GmbH Gilching	8812-3089	40344	cal	09.07.2024	31.07.2026
2	A, B	Highpass Filter	Highpass Filter WHK1.1/15G-10SS	Wainwright Instruments GmbH Andechs	37	40362	cnn	-/-	-/-
3	A, B	Highpass Filter	Highpass Filter WHKX7.0/18G-8SS	Wainwright Instruments GmbH Andechs	18	40364	cpu	-/-	-/-
4	A, B	Broadband Amplifier 0.5-18 GHz	Broadband Amplifier 0.5-18 GHz CBLU5184540	MEC Import: CERNEX	22050	40374	cpu	-/-	-/-
5	A, B, C	4U RF Switch Platform	4U RF Switch Platform L4491A	Agilent Technologies Deutschland GmbH Böblingen	MY50000032	40376	cnn	-/-	-/-
6	A, B, C	NEXIO EMV-Software	NEXIO EMV-Software BAT EMC V2022.0.32.0	MEC Import: Nexio	-/-	40383	cnn	-/-	-/-
7	A, B, C	Anechoic chamber	Anechoic chamber	MEC Import: TDK	-/-	40385	cnn	-/-	-/-
8	A, B, C	Signal- and Spectrum Analyzer	Signal- and Spectrum Analyzer FSW26	Rohde & Schwarz Messgerätebau GmbH Memmingen	104533	41044	cal	30.12.2025	30.12.2026
9	C	Active Loop Antenna	Active Loop Antenna 6502	EMCO Elektronik GmbH Gilching	2210	50044	cal	07.07.2025	31.07.2027
10	B	Band Reject Filter	Band Reject Filter WRCJV12-5120-5150-5350-5380-40SS	Wainwright Instruments GmbH Andechs	5	40395	cpu	-/-	-/-

11	B	Band Reject Filter	Band Reject Filter WRCJV12-5695- 5725-5850-5880- 40SS	Wainwright Instruments GmbH Andechs	5	40396	cpu	-/-	-/-
12	B	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)

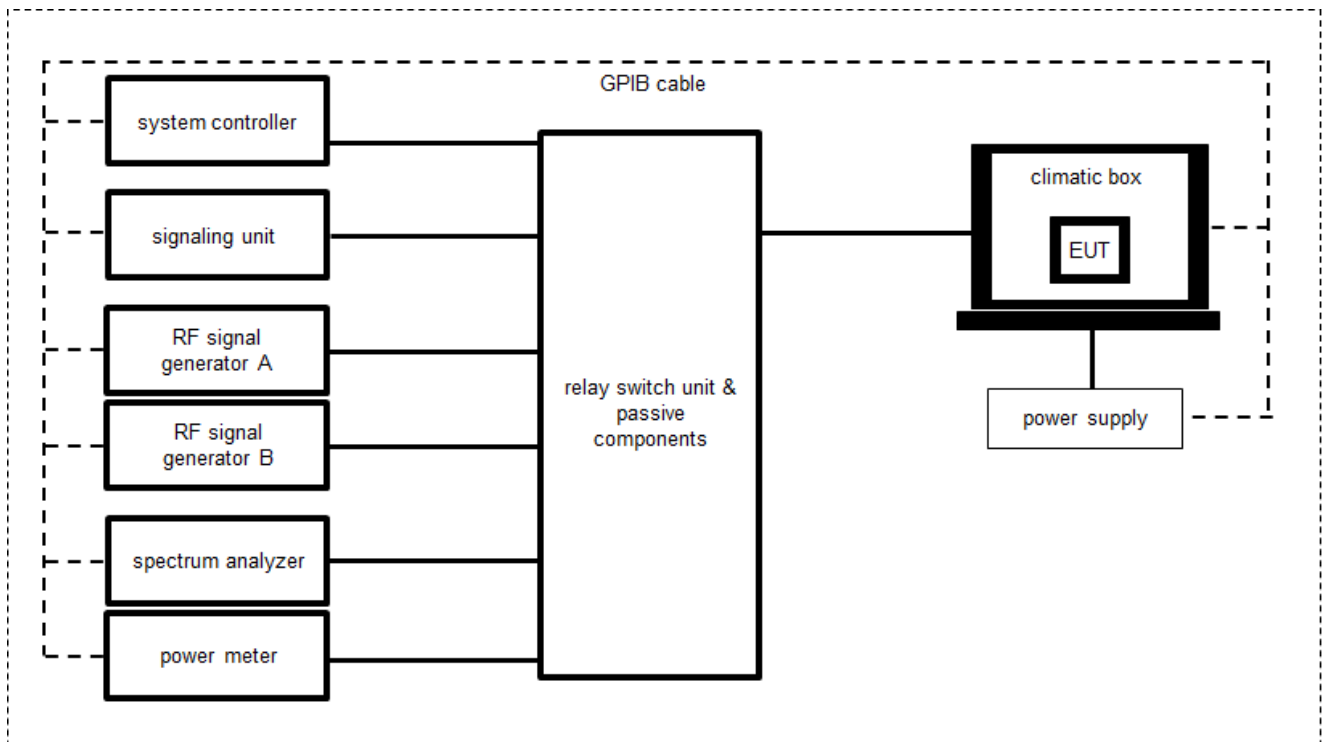
Example calculation:

FS [dBμV/m] = 40.0 [dBμV] + (-60.1) [dB] + 36.74 [dB/m] = 16.64 [dBμV/m] (6.79 μV/m) @ distance

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-180050000-550835-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 tests



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

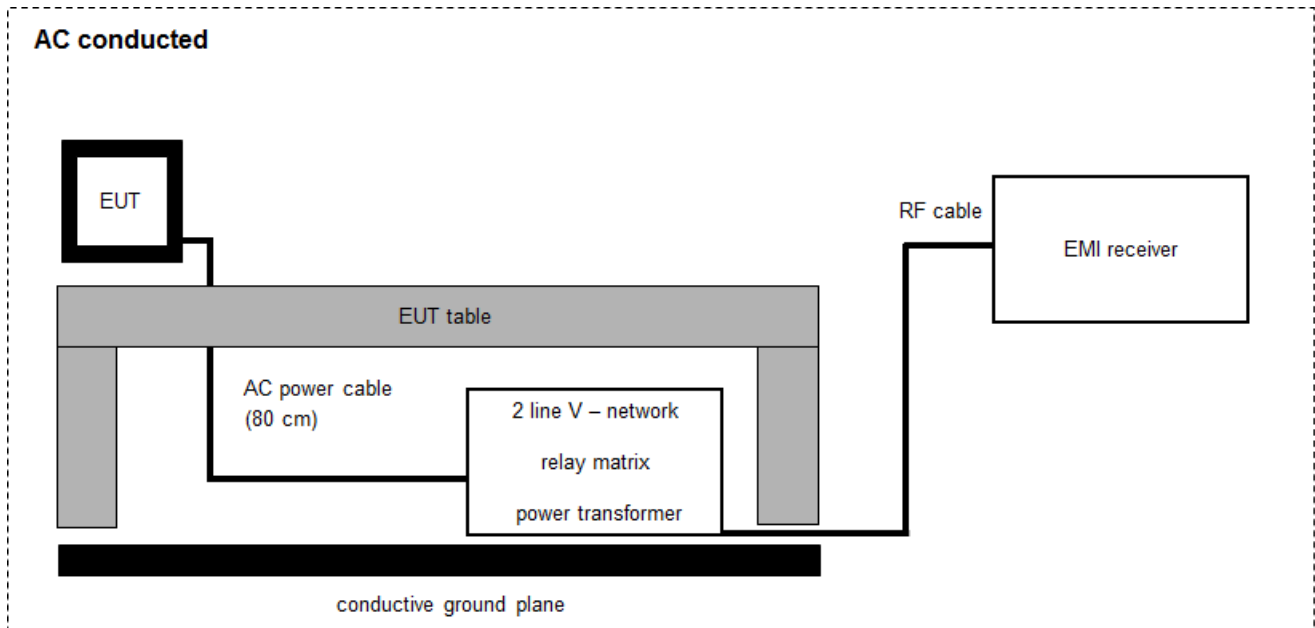
Example calculation:

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 FSV30	Rohde & Schwarz Messgerätebau GmbH Memmingen	1321.3008K30/103170	18373	cal	15.01.2025	15.01.2027
2	A	Switch Matrix	USM/RSM	cetecom advanced GmbH Saarbrücken	A001	40338	chk	13.08.2025	13.08.2026
3	A	Hygro-Thermometer	Hygro-Thermometer -/-, 5-45°C, 20-100%rF	Adolf Thies GmbH & Co. KG, Meteorologie - Umweltmesstechnik Göttingen	without	40353	chk	25.09.2024	25.09.2026
4	A	Test software RadioStar (C.BER2 for BT LE RFPHY)	Test software RadioStar (C.BER2 for BT LE RFPHY)	cetecom advanced GmbH Saarbrücken	1	40407	cnn	-/-	-/-

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)

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

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	2026-07-07	Reduced tests due to pre- certified module

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 (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	☐	☐	☐	☒	

Notes:

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

Reference documents: Gain antennae WiFi Falcon X2.xlsx
 1-2152-25-01-09_TR1-A201-R01.pdf (SISO power results)
 1-2152-25-01-09_TR1-A202-R01.pdf (MIMO power results)

Special test descriptions: Power settings:

Channel	All channels
OFDM / a – mode, SISO/MIMO	Default (Set by Intel module test GUI)
OFDM / n HT20 – mode, SISO/MIMO	Default (Set by Intel module test GUI)
OFDM / n HT40 – mode, SISO/MIMO	Default (Set by Intel module test GUI)
OFDM / ac VHT20 – mode, SISO/MIMO	Default (Set by Intel module test GUI)
OFDM / ac VHT40 – mode, SISO/MIMO	Default (Set by Intel module test GUI)
OFDM / ac VHT80 – mode, SISO/MIMO	Default (Set by Intel module test GUI)
OFDM / ax HE20 – mode, SISO/MIMO	Default (Set by Intel module test GUI)
OFDM / ax HE40 – mode, SISO/MIMO	Default (Set by Intel module test GUI)
OFDM / ax HE80 – mode, SISO/MIMO	Default (Set by Intel module test GUI)
OFDM / ax HE160 – mode, SISO/MIMO	Default (Set by Intel module test GUI)

Configuration descriptions: The device has two Chains A and B and supports SISO and MIMO for all modes. Based on the module reports and the power settings from the module reports, testing was done in worst case modes, where the modes are spectrally identical and the power settings are the same.

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

Channels with 40 MHz channel bandwidth:

U-NII-1 & U-NII-2A (5150 MHz to 5250 MHz & 5250 MHz to 5350 MHz) channel number & center frequency				
channel	38	46	54	62
f _c / MHz	5190	5230	5270	5310

U-NII-2C (5470 MHz to 5725 MHz) channel number & center frequency					
channel	102	110	118	126	134
f _c / MHz	5510	5550	5590	5630	5670

U-NII-3 (5725 MHz to 5850 MHz) channel number & center frequency		
channel	151	159
f _c / MHz	5755	5795

Channels with 80 MHz channel bandwidth:

U-NII-1 & U-NII-2A (5150 MHz to 5250 MHz & 5250 MHz to 5350 MHz) channel number & center frequency		
channel	42	58
f _c / MHz	5210	5290

U-NII-2C (5470 MHz to 5725 MHz) channel number & center frequency		
channel	106	122
f _c / MHz	5530	5610

U-NII-3 (5725 MHz to 5850 MHz) channel number & center frequency		
channel	155	
f _c / MHz	5775	

Channels with 160 MHz channel bandwidth:

U-NII-1 & U-NII-2A (5150 MHz to 5250 MHz & 5250 MHz to 5350 MHz) channel number & center frequency		
channel	50	
f _c / MHz	5250	

U-NII-2C (5470 MHz to 5725 MHz) channel number & center frequency		
channel	114	
f _c / MHz	5570	

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

Test mode:

- ☐ No test mode available.
lperf 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

Set automatically by the Intel module test GUI software.

12.2 Antenna gain

Limits:

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

Results:

U-NII-1 (5150 MHz to 5250 MHz)	Antenna gain		
	Lowest channel	Middle channel	Highest channel
Chain A Gain / dBi (declared)	2.9		
Chain B Gain / dBi (declared)	2.2		

U-NII-2A (5250 MHz to 5350 MHz)	Antenna gain		
	Lowest channel	Middle channel	Highest channel
Chain A Gain / dBi (declared)	2.9		
Chain B Gain / dBi (declared)	2.2		

U-NII-2C (5470 MHz to 5725 MHz)	Antenna gain		
	Lowest channel	Middle channel	Highest channel
Chain A Gain / dBi (declared)	1.9		
Chain B Gain / dBi (declared)	2.7		

U-NII-3 (5725 MHz to 5850 MHz)	Antenna gain		
	Lowest channel	Middle channel	Highest channel
Chain A Gain / dBi (declared)	1.5		
Chain B Gain / dBi (declared)	4.2		

12.3 Duty cycle

Set automatically to > 98% by the Intel module test GUI software.

12.4 Maximum output power according to FCC requirements

Description:

Measurement of the maximum output power conducted

Measurement:

Measurement parameter	
According to: KDB789033 D02, E.2.e.	
External result file(s)	1-2152-25-01-09_TR1-A201-R01.pdf 1-2152-25-01-09_TR1-A202-R01.pdf FCC Part 15.407 Max Output Power and PSD
Used test setup:	See chapter 7.4 – A
Measurement uncertainty:	See chapter 9
Standard parts:	FCC: § 15.407 (a)

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 11dBm +10logB (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 $\leq$ 1W/30dBm

Results: SISO

Conducted power [dBm]	Ch36	Ch40	Ch48	Ch52	Ch56	Ch64	Ch100	Ch120	Ch140	Ch149	Ch157	Ch165
a-mode Power Chain 1	14.6	16.5	17.3	16.8	16.5	15.1	17.4	17.9	16.8	17.3	17.4	18.3
a-mode Power Chain 2	15.4	16.4	17.2	17.3	17.2	16.3	17.0	17.8	17.0	17.1	17.0	17.8
nHT20-mode Power Chain 1	14.1	16.4	17.2	16.5	16.2	14.8	17.2	17.7	16.7	17.1	17.2	18.1
nHT20-mode Power Chain 2	15.1	16.3	17.1	17.1	17.0	16.1	16.9	17.7	16.9	17.1	16.9	17.7
axHE20-mode Power Chain 1	14.2	15.9	16.9	16.4	16.1	14.7	17.4	17.9	17.1	17.2	17.3	18.2
axHE20-mode Power Chain 2	15.4	16.7	17.5	17.3	17.1	16.3	16.9	17.8	17.1	17.1	17.0	17.7

Conducted power [dBm]	Ch38		Ch46	Ch54		Ch62	Ch102	Ch118	Ch134	Ch151		Ch159
nHT40-mode Power Chain 1	14.4		17.5	16.8		13.2	15.3	18.2	17.1	17.9		17.8
nHT40-mode Power Chain 2	13.2		17.0	16.5		14.0	15.8	18.1	16.9	17.7		17.6
axHE40-mode Power Chain 1	13.2		16.9	16.3		12.6	15.6	18.1	17.4	17.6		17.6
axHE40-mode Power Chain 2	13.6		17.0	16.3		13.7	15.5	17.9	16.9	17.5		17.3

Conducted power [dBm]		Ch42			Ch58		Ch106	Ch122		Ch155	
acVHT80-mode Power Chain 1		14.2			13.1		15.8	18.3		16.9	
acVHT80-mode Power Chain 2		14.8			13.8		15.3	18.0		16.7	
axHE80-mode Power Chain 1		14.0			12.8		16.0	18.4		16.7	
axHE80-mode Power Chain 2		14.5			13.7		15.1	17.9		16.5	

Conducted power [dBm]		Ch42			Ch50			Ch114
acVHT160-mode Power Chain 1		11.1			10.9			13.4
acVHT160-mode Power Chain 2		11.5			11.5			12.9
axHE160-mode Power Chain 1		10.8			10.5			13.8
axHE160-mode Power Chain 2		11.4			11.5			12.9

Results: MIMO

Conducted power [dBm]	Ch36	Ch40	Ch48	Ch52	Ch56	Ch64	Ch100	Ch120	Ch140	Ch149	Ch157	Ch165
nHT20-mode Power Chain 1	14.1	14.8	15.1	14.5	14.1	13.4	15.0	15.8	15.7	17.1	17.1	18.0
nHT20-mode Power Chain 2	13.8	14.6	14.9	14.9	14.9	14.3	14.5	15.3	15.6	16.9	19.5	17.5
axHE20-mode Power Chain 1	13.7	14.5	14.8	14.4	14.1	13.3	15.1	15.8	15.8	17.2	17.3	18.1
axHE20-mode Power Chain 2	13.5	14.5	14.9	15.1	15.0	14.4	14.6	15.5	15.7	17.0	16.9	17.6
nHT20-mode Power Chain 1+2	17.0	17.7	18.0	17.7	17.5	16.9	17.8	18.6	18.7	20.0	21.5	20.8
axHE20-mode Power Chain 1+2	16.6	17.5	17.9	17.8	17.6	16.9	17.9	18.7	18.8	20.1	20.1	20.9

Conducted power [dBm]	Ch38		Ch46	Ch54		Ch62	Ch102	Ch118	Ch134	Ch151		Ch159
nHT40-mode Power Chain 1	11.1		16.3	14.3		12.0	14.4	17.9	15.4	17.5		17.7
nHT40-mode Power Chain 2	10.9		16.0	14.7		13.0	14.0	17.4	15.1	17.2		17.2
axHE40-mode Power Chain 1	10.3		15.7	13.9		11.6	14.1	17.6	15.2	17.2		17.6
axHE40-mode Power Chain 2	10.8		15.8	14.5		12.8	13.7	17.1	14.7	16.9		17.1
nHT40-mode Power Chain 1+2	14.0		19.2	17.5		15.5	17.2	20.7	18.3	20.4		20.5
axHE40-mode Power Chain 1+2	13.6		18.8	17.2		15.3	16.9	20.4	18.0	20.1		20.4

Conducted power [dBm]		Ch42			Ch58		Ch106	Ch122		Ch155	
acVHT80-mode Power Chain 1		12.3			10.6		13.9	17.7		15.8	
acVHT80-mode Power Chain 2		13.3			11.5		13.4	17.5		15.5	
axHE80-mode Power Chain 1		13.0			10.3		13.6	17.5		15.6	
axHE80-mode Power Chain 2		13.0			11.3		13.1	17.2		15.3	
acVHT80-mode Power Chain 1+2		15.8			14.1		16.7	20.6		18.7	
axHE80-mode Power Chain 1+2		16.0			13.8		16.4	20.4		18.5	

Conducted power [dBm]		Ch42			Ch50			Ch114
acVHT160-mode Power Chain 1		9.3			9.0			12.0
acVHT160-mode Power Chain 2		9.9			9.9			11.5
axHE160-mode Power Chain 1		9.3			8.7			11.9
axHE160-mode Power Chain 2		9.8			9.8			11.4
acVHT160-mode Power Chain 1+2		12.6			12.5			14.8
axHE160-mode Power Chain 1+2		12.6			12.3			14.7

12.5 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:

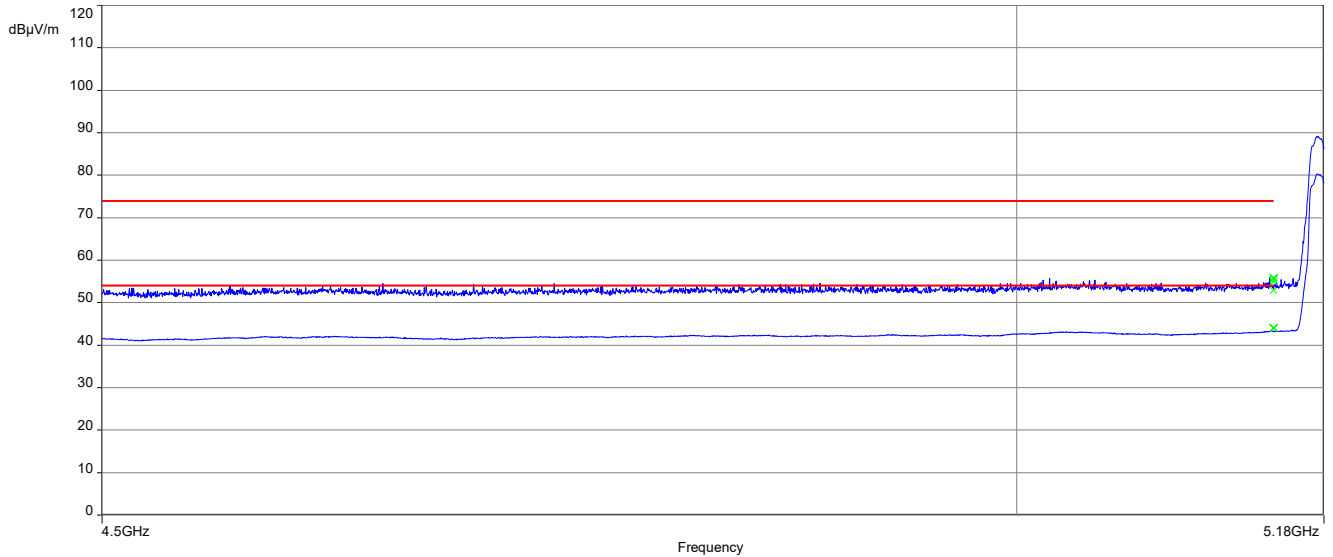
Band Edge Compliance Radiated
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within 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:

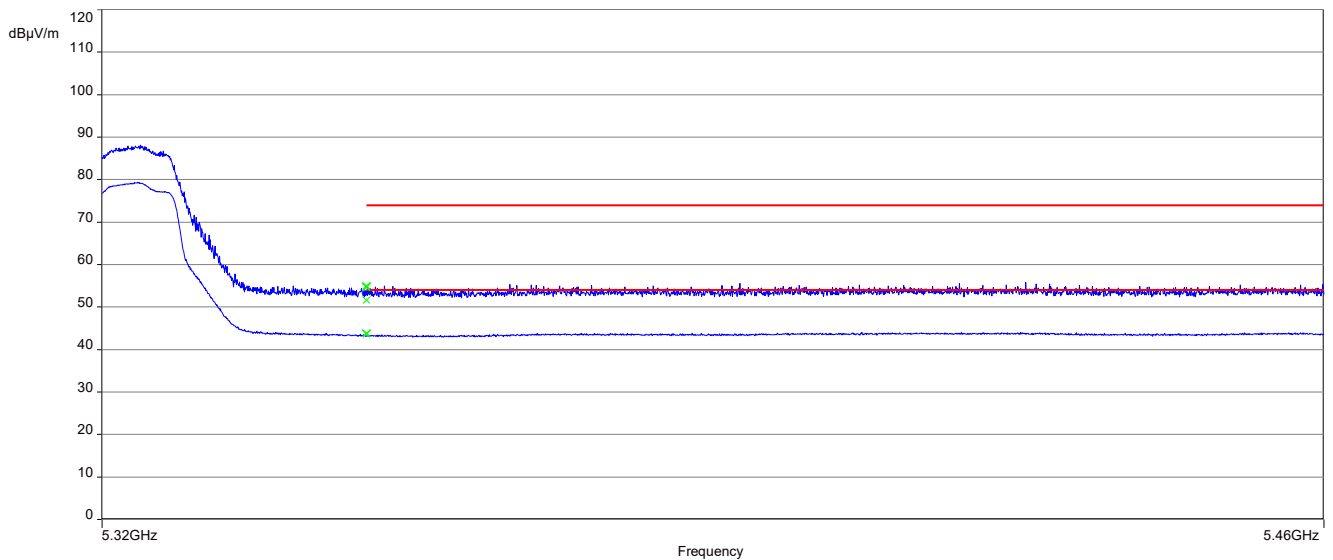
Scenario	Band Edge Compliance Radiated [dB μ V/m]
Band edge / a-mode / Chain A / Channel 36	55.9 dB μ V/m (peak) 44.1 dB μ V/m (average)
Band edge / a-mode / Chain A / Channel 64	55.0 dB μ V/m (peak) 43.8 dB μ V/m (average)
Band edge / a-mode / Chain A / Channel 100	56.0 dB μ V/m (peak) 44.2 dB μ V/m (average)
Band edge / nHT20-mode / Chain A / Channel 36	56.4 dB μ V/m (peak) 44.0 dB μ V/m (average)
Band edge / nHT20-mode / Chain A / Channel 64	55.1 dB μ V/m (peak) 44.0 dB μ V/m (average)
Band edge / nHT20-mode / Chain A / Channel 100	55.9 dB μ V/m (peak) 44.2 dB μ V/m (average)
Band edge / axHE20-mode / Chain A+B / Channel 36	56.5 dB μ V/m (peak) 45.2 dB μ V/m (average)
Band edge / axHE20-mode / Chain A+B / Channel 64	55.6 dB μ V/m (peak) 44.1 dB μ V/m (average)
Band edge / axHE20-mode / Chain A+B / Channel 100	55.9 dB μ V/m (peak) 44.1 dB μ V/m (average)
Band edge / nHT40-mode / Chain A+B / Channel 38	56.3 dB μ V/m (peak) 44.4 dB μ V/m (average)
Band edge / nHT40-mode / Chain A+B / Channel 62	55.5 dB μ V/m (peak) 43.8 dB μ V/m (average)
Band edge / nHT40-mode / Chain A+B / Channel 102	55.5 dB μ V/m (peak) 44.2 dB μ V/m (average)
Band edge / axHE40-mode / Chain A+B / Channel 38	55.8 dB μ V/m (peak) 44.1 dB μ V/m (average)
Band edge / axHE40-mode / Chain A+B / Channel 62	55.3 dB μ V/m (peak) 43.8 dB μ V/m (average)
Band edge / axHE40-mode / Chain A+B / Channel 102	55.9 dB μ V/m (peak) 44.2 dB μ V/m (average)
Band edge / axHE80-mode / Chain A+B / Channel 42	56.2 dB μ V/m (peak) 44.3 dB μ V/m (average)
Band edge / axHE80-mode / Chain A+B / Channel 58	55.2 dB μ V/m (peak) 43.9 dB μ V/m (average)
Band edge / axHE80-mode / Chain A+B / Channel 106	55.9 dB μ V/m (peak) 44.3 dB μ V/m (average)
Band edge / axHE160-mode / Chain A+B / Channel 50	56.7 dB μ V/m (peak) 45.2 dB μ V/m (average)
Band edge / axHE160-mode / Chain A+B / Channel 114	55.9 dB μ V/m (peak) 44.7 dB μ V/m (average)

Plots:

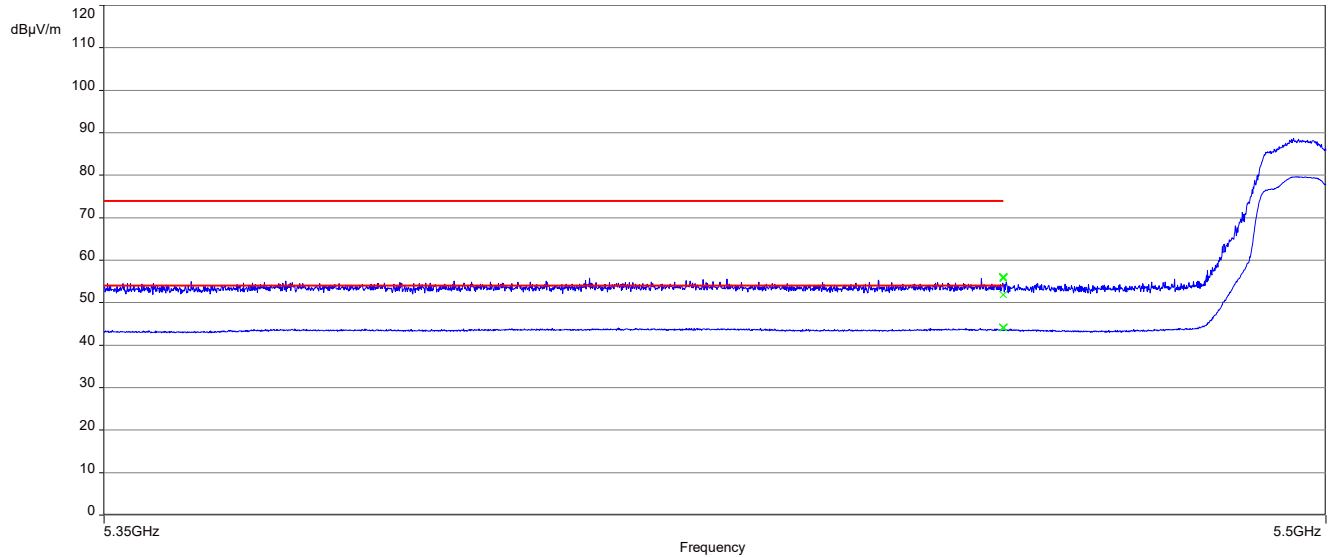
Plot 1: Band edge / a-mode / Chain A / Channel 36



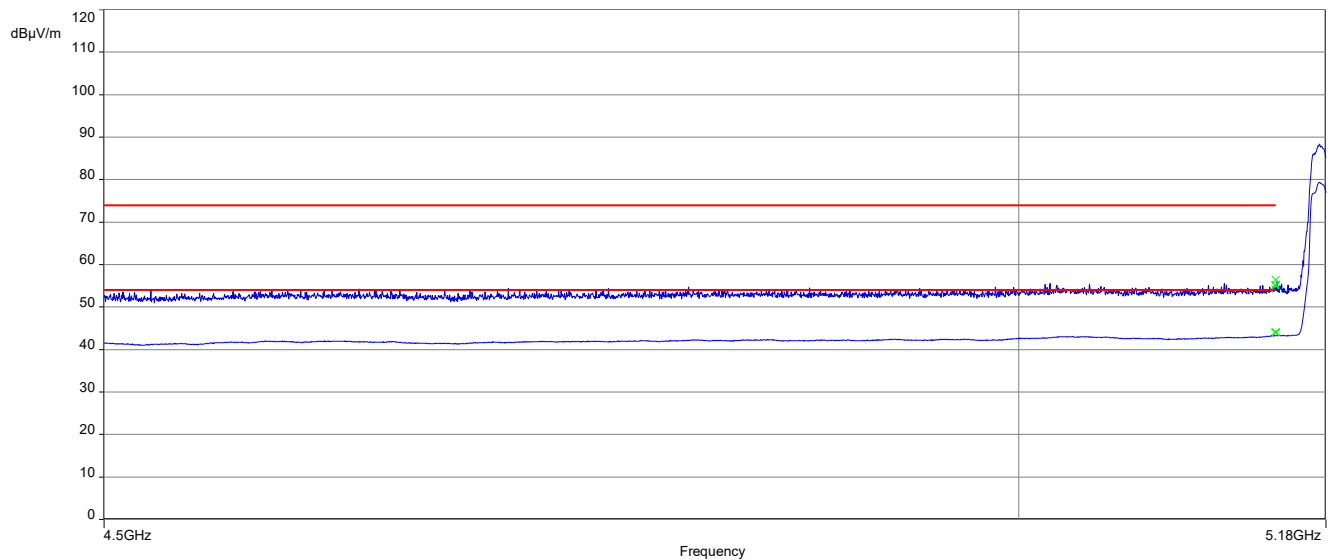
Plot 2: Band edge / a-mode / Chain A / Channel 64



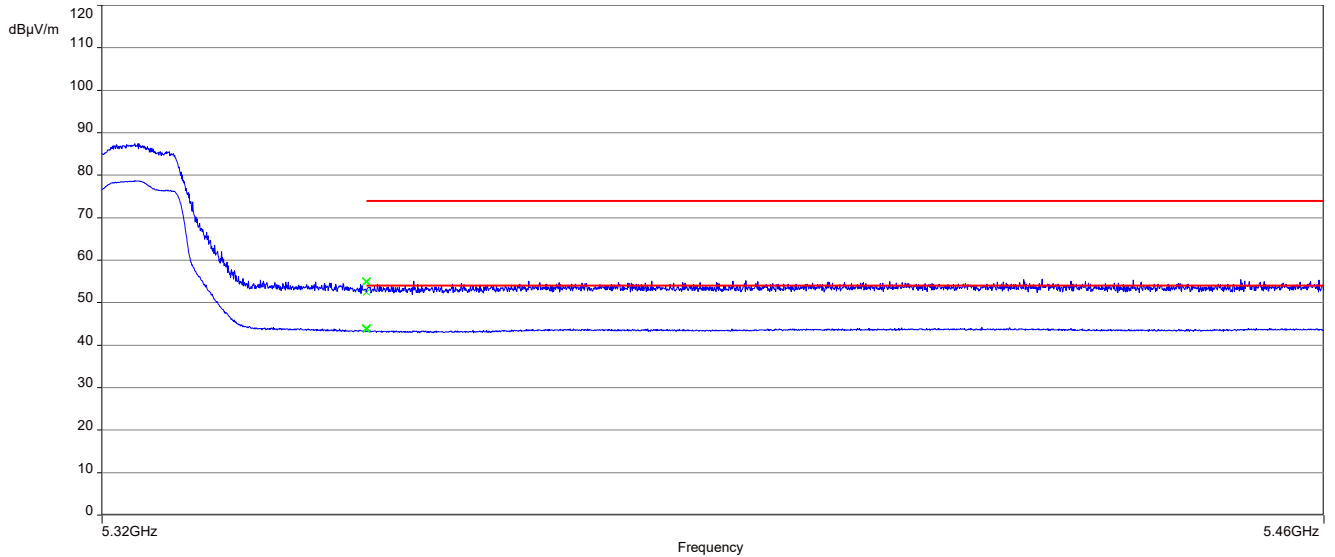
Plot 3: Band edge / a-mode / Chain A / Channel 100



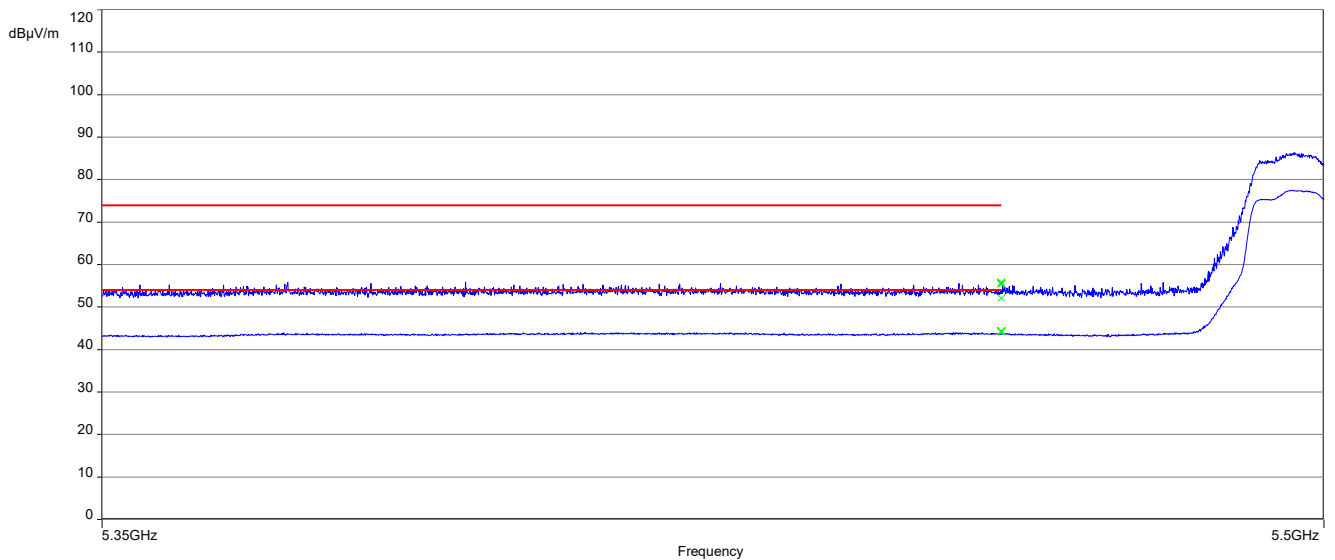
Plot 4: Band edge / nHT20-mode / Chain A / Channel 36



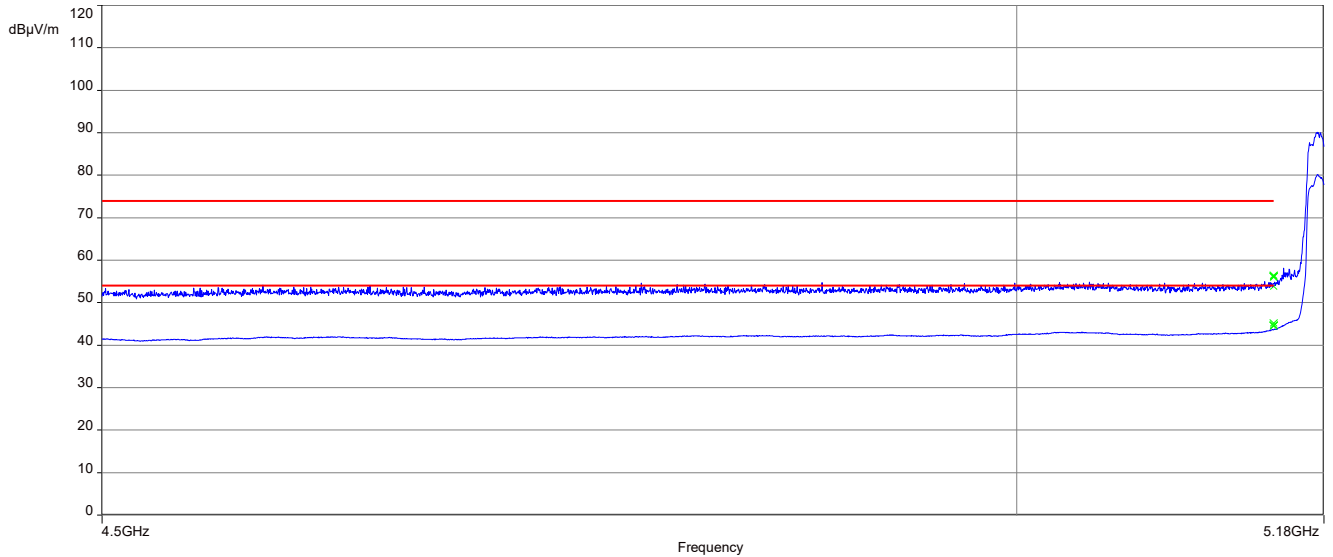
Plot 5: Band edge / nHT20-mode / Chain A / Channel 64



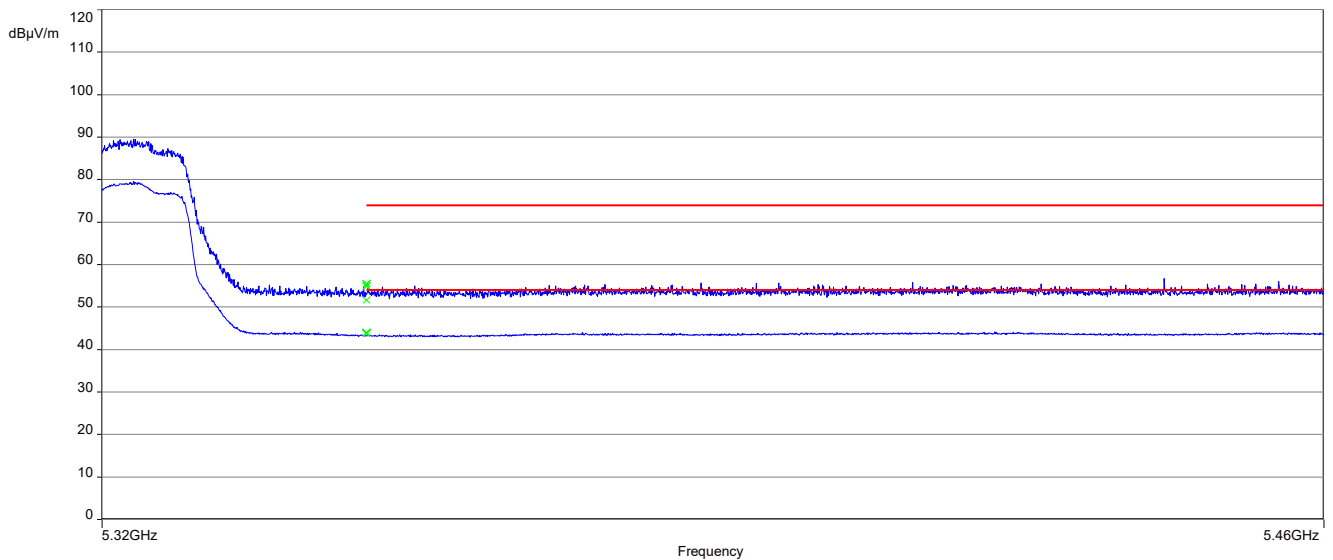
Plot 6: Band edge / nHT20-mode / Chain A / Channel 100



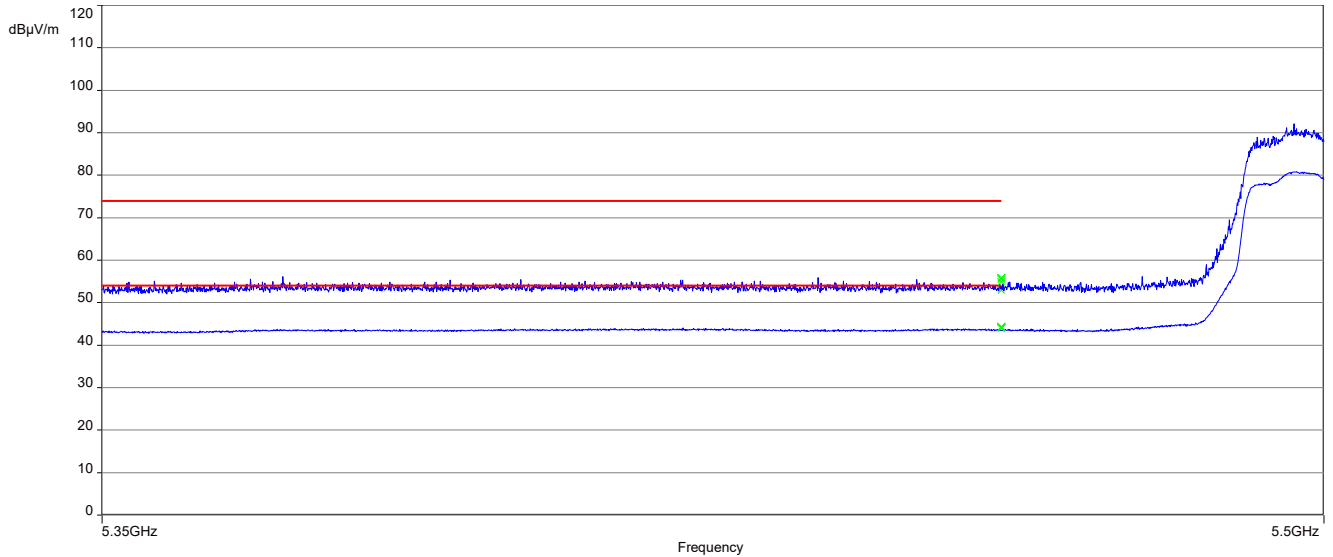
Plot 7: Band edge / axHE20-mode / Chain A+B / Channel 36



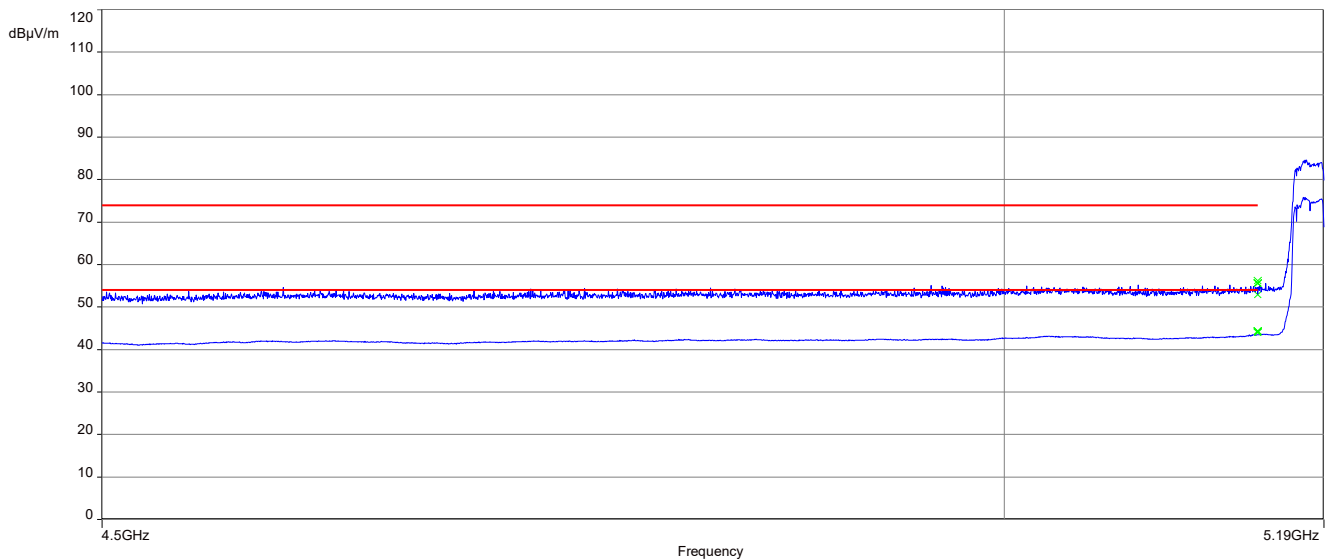
Plot 8: Band edge / axHE20-mode / Chain A+B / Channel 64



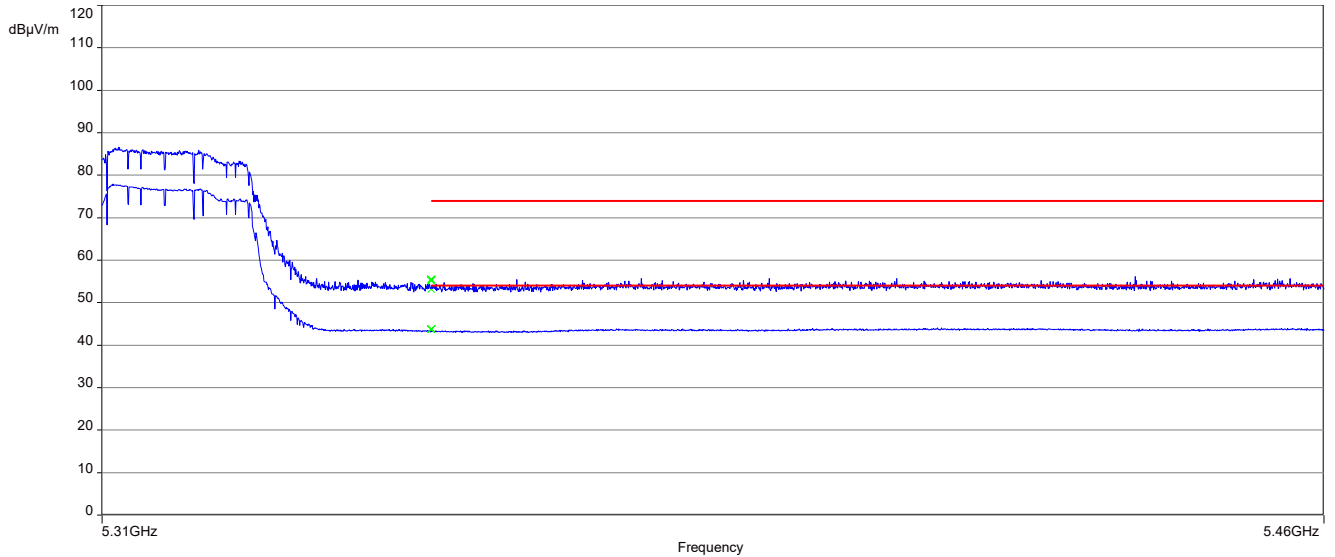
Plot 9: Band edge / axHE20-mode / Chain A+B / Channel 100



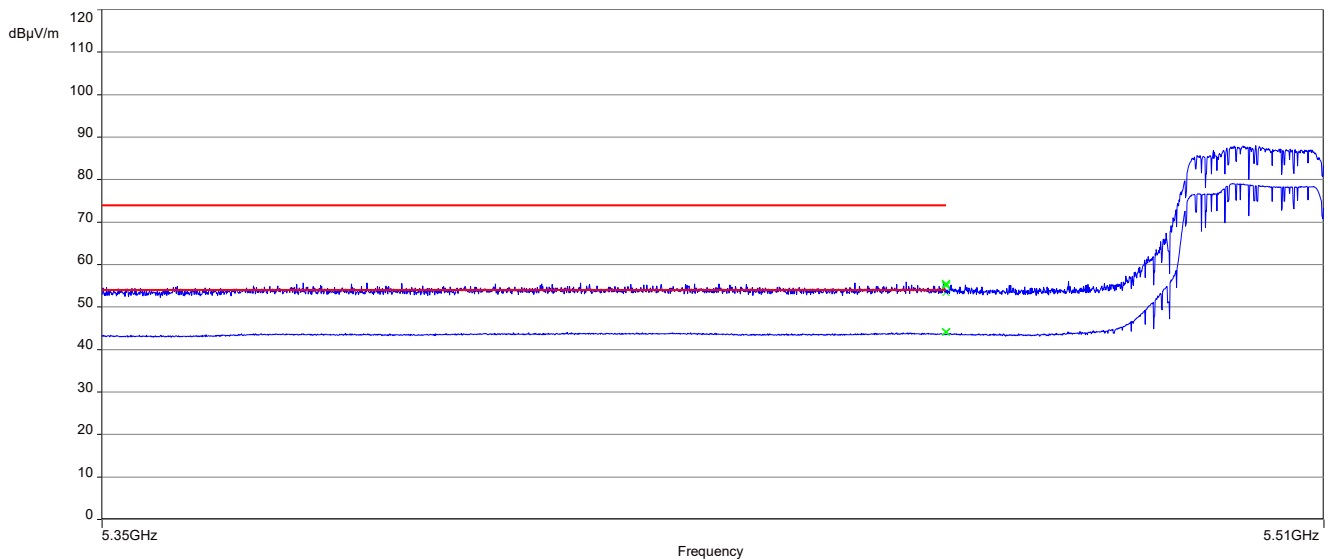
Plot 10: Band edge / nHT40-mode / Chain A+B / Channel 38



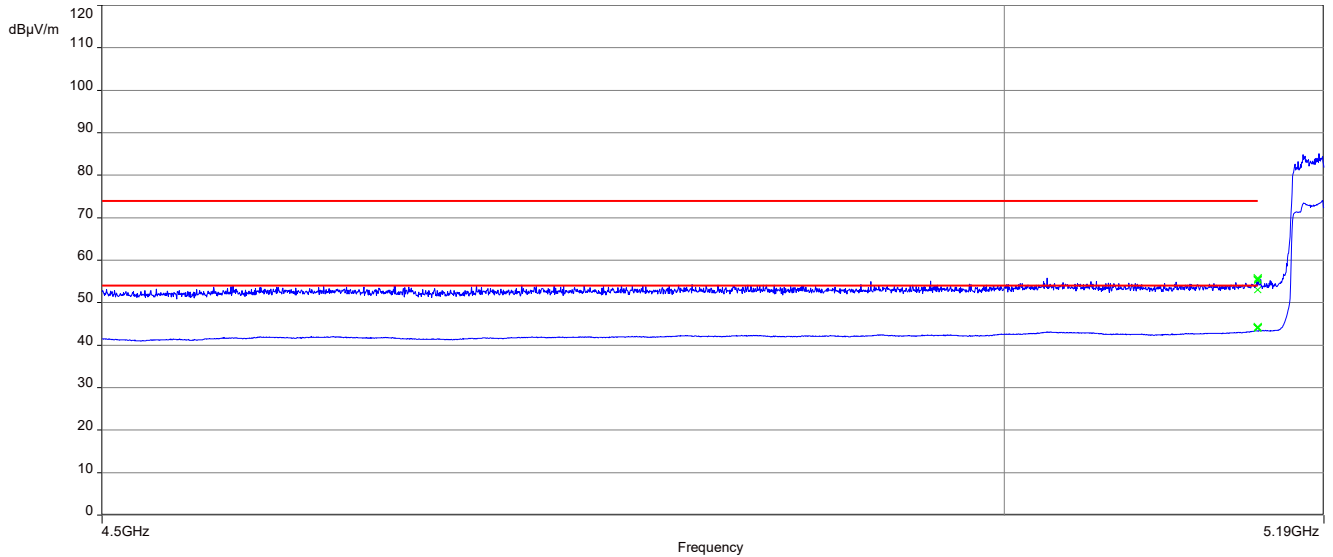
Plot 11: Band edge / nHT40-mode / Chain A+B / Channel 62



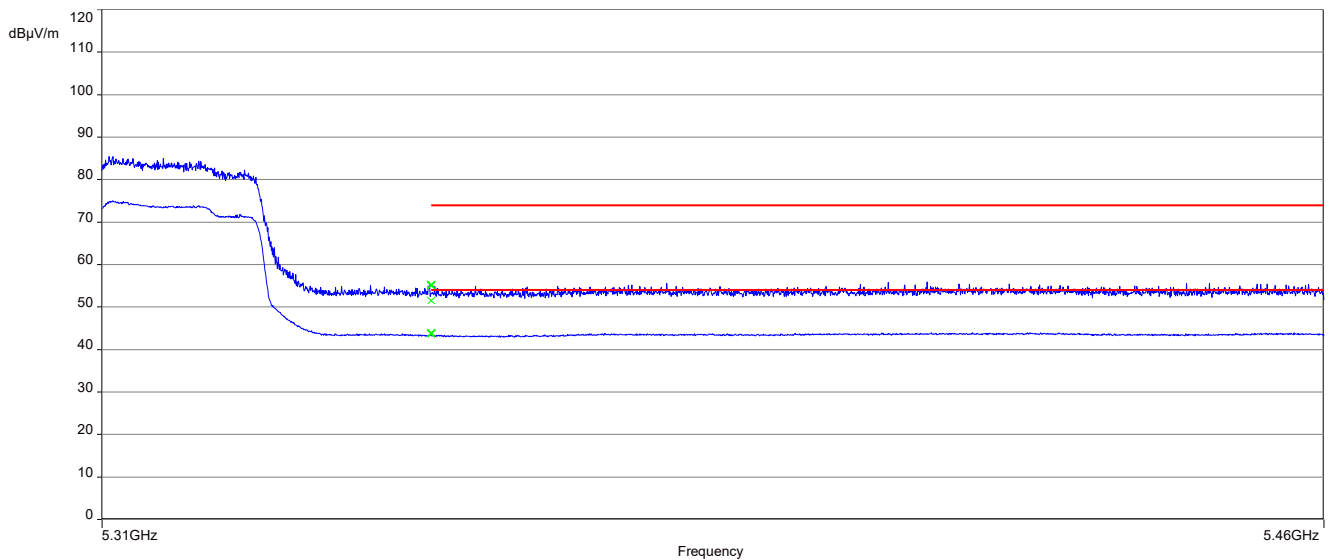
Plot 12: Band edge / nHT40-mode / Chain A+B / Channel 102



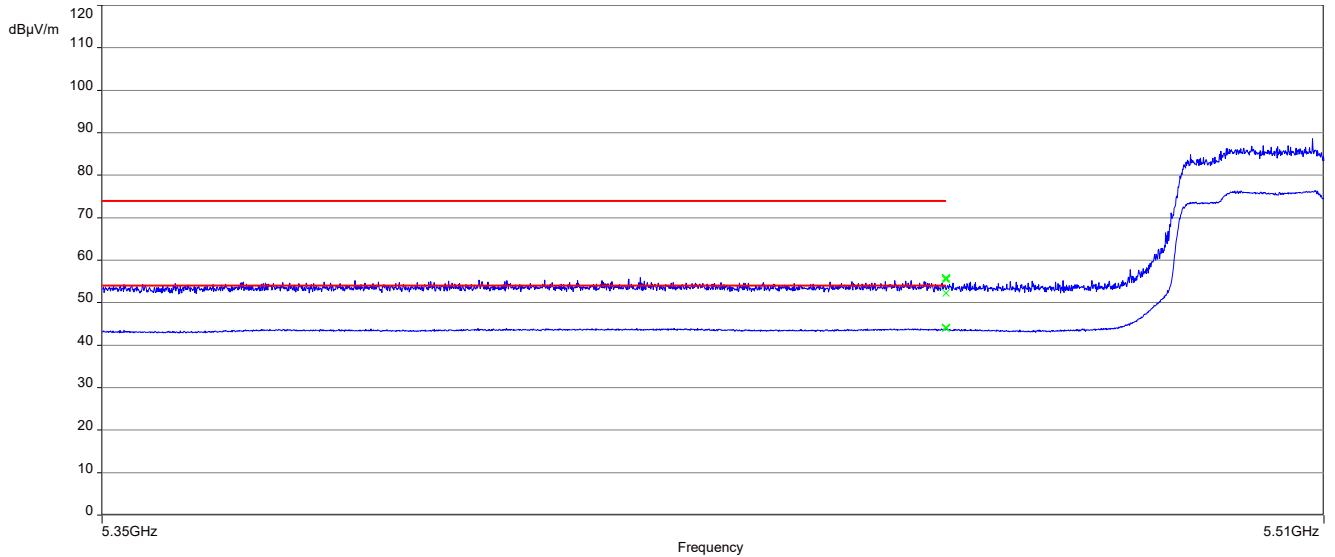
Plot 13: Band edge / axHE40-mode / Chain A+B / Channel 38



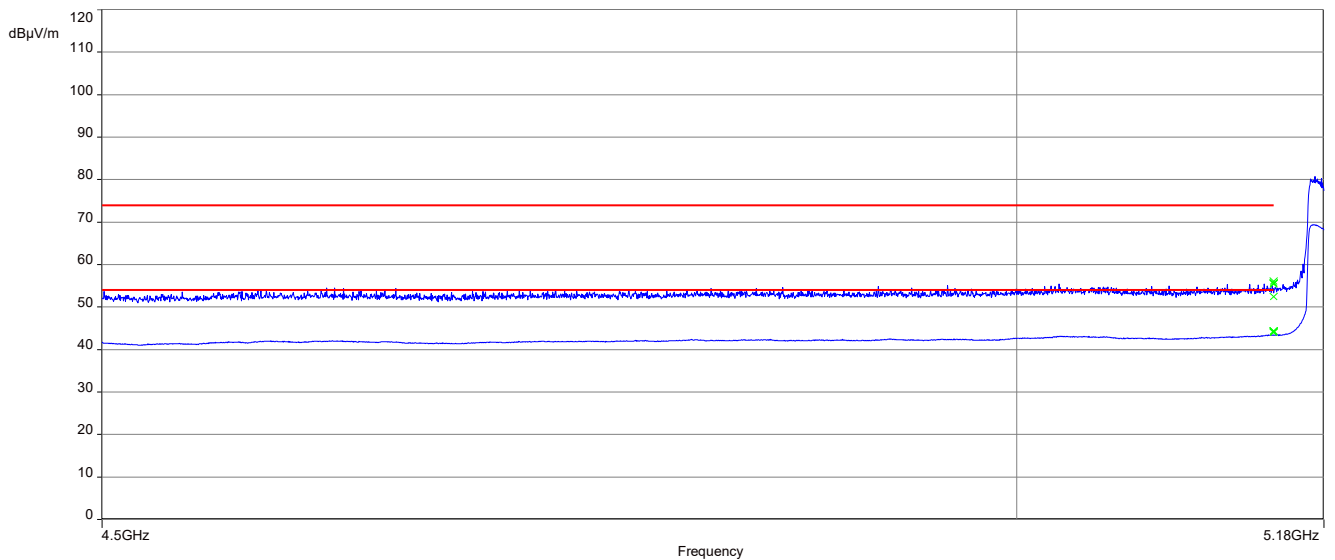
Plot 14: Band edge / axHE40-mode / Chain A+B / Channel 62



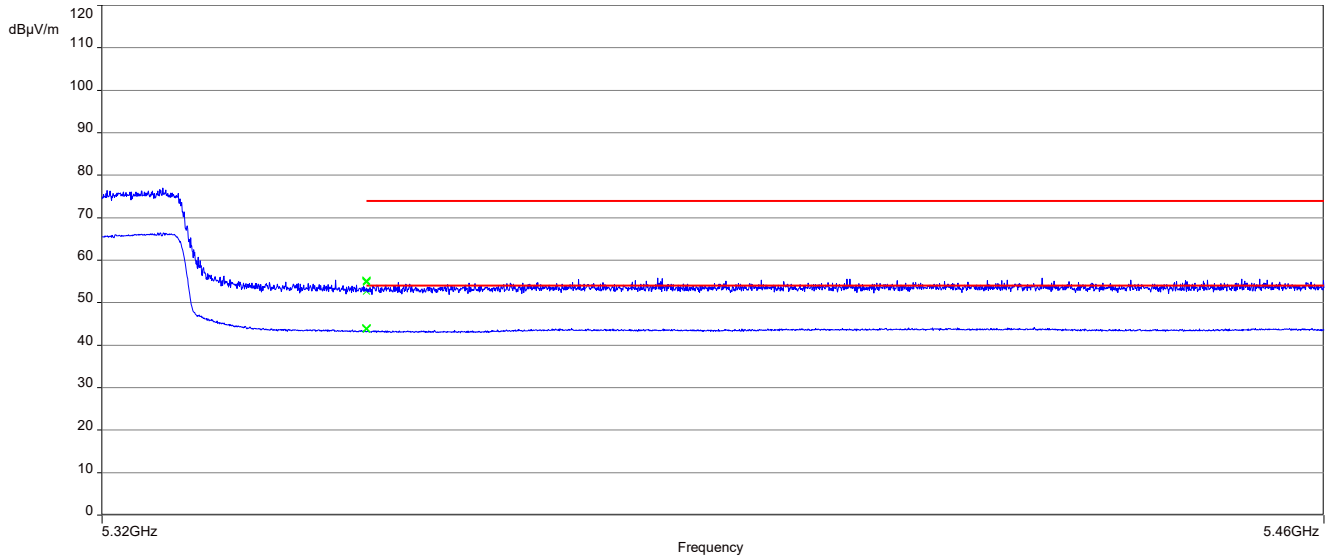
Plot 15: Band edge / axHE40-mode / Chain A+B / Channel 102



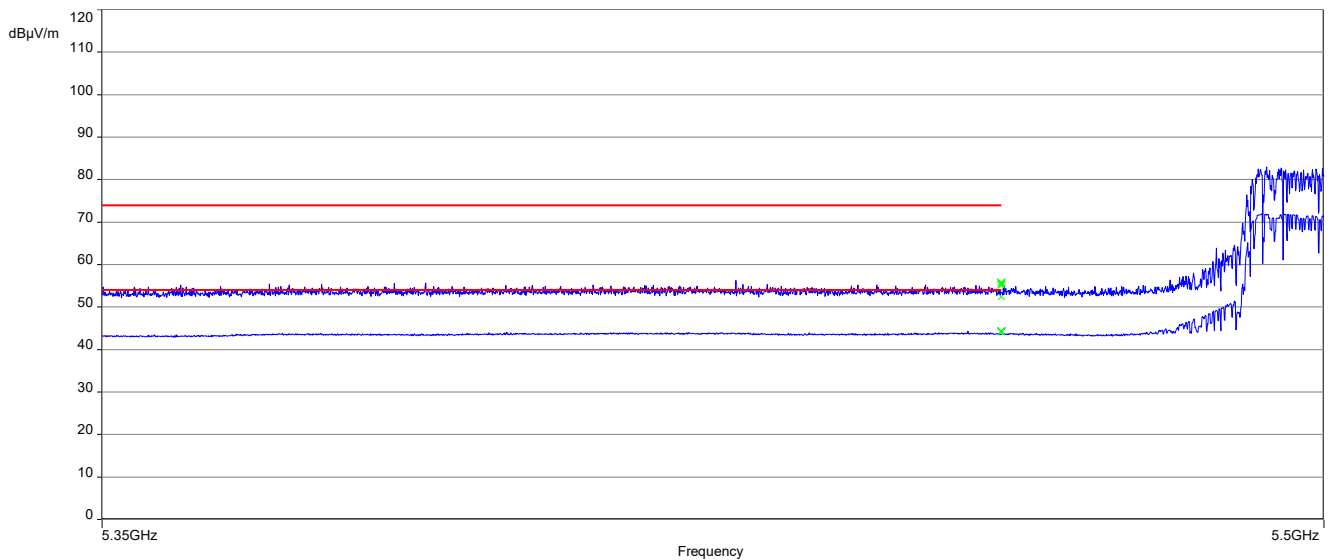
Plot 16: Band edge / axHE80-mode / Chain A+B / Channel 42



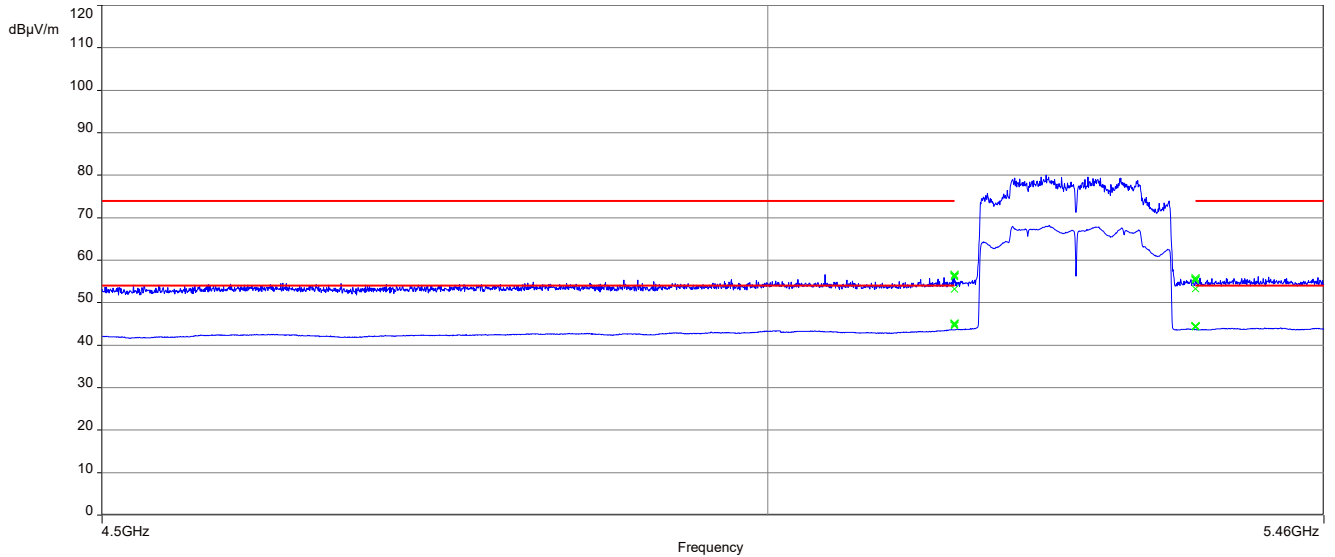
Plot 17: Band edge / axHE80-mode / Chain A+B / Channel 58



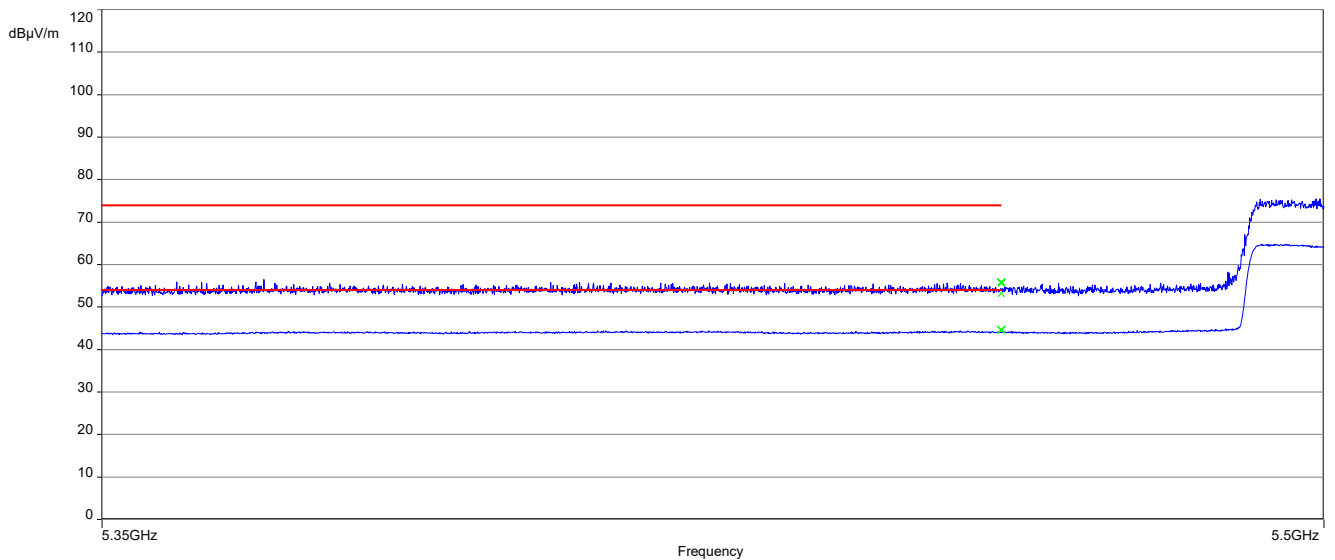
Plot 18: Band edge / axHE80-mode / Chain A+B / Channel 106



Plot 19: Band edge / axHE160-mode / Chain A+B / Channel 50



Plot 20: Band edge / axHE160-mode / Chain A+B / Channel 114



12.6 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:

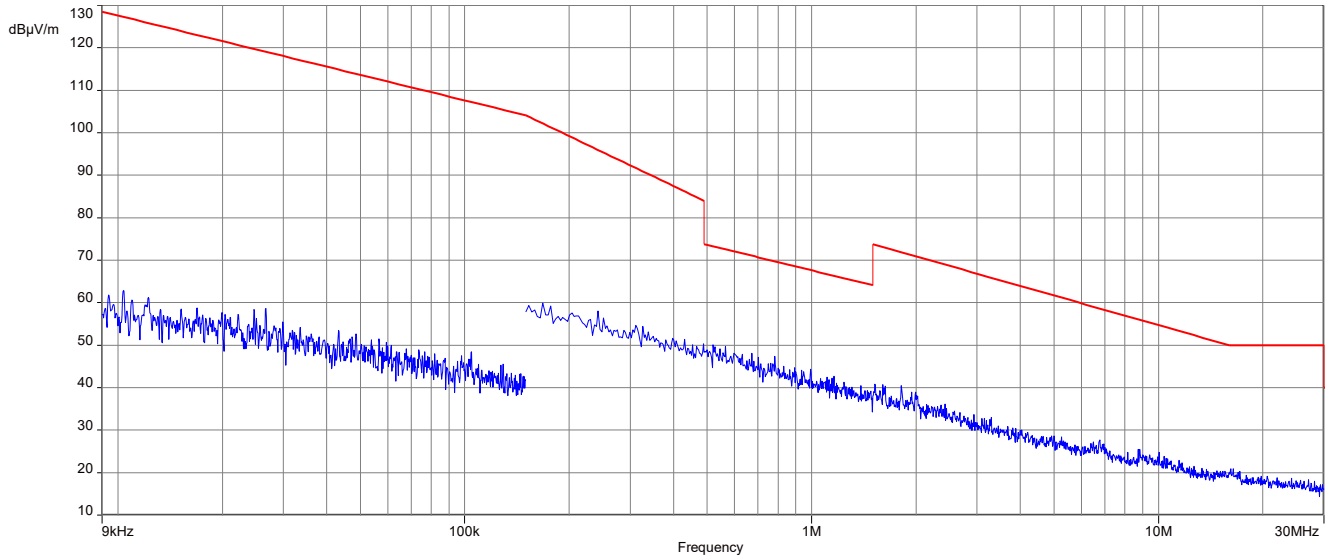
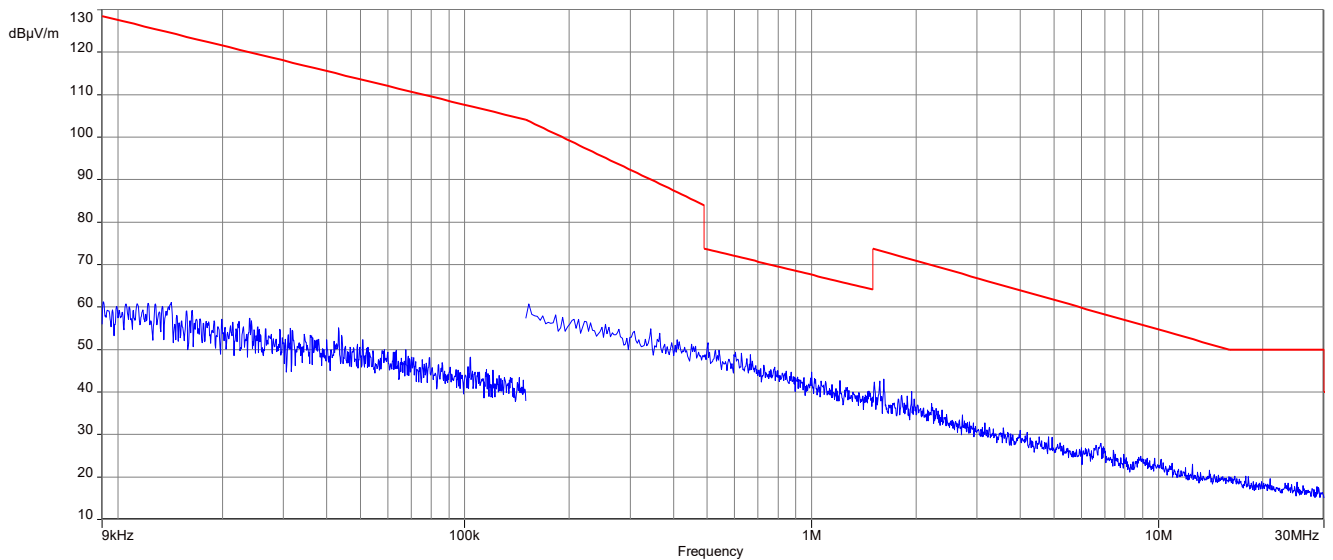
Measurement parameter	
Detector:	Peak / Quasi Peak
Sweep time:	Auto
Video bandwidth:	F < 150 kHz: 200 Hz F > 150 kHz: 9 kHz
Resolution bandwidth:	F < 150 kHz: 1 kHz F > 150 kHz: 100 kHz
Span:	9 kHz to 30 MHz
Trace mode:	Max Hold
Test setup:	See sub clause 7.2 – C
Measurement uncertainty:	See chapter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

Limits:

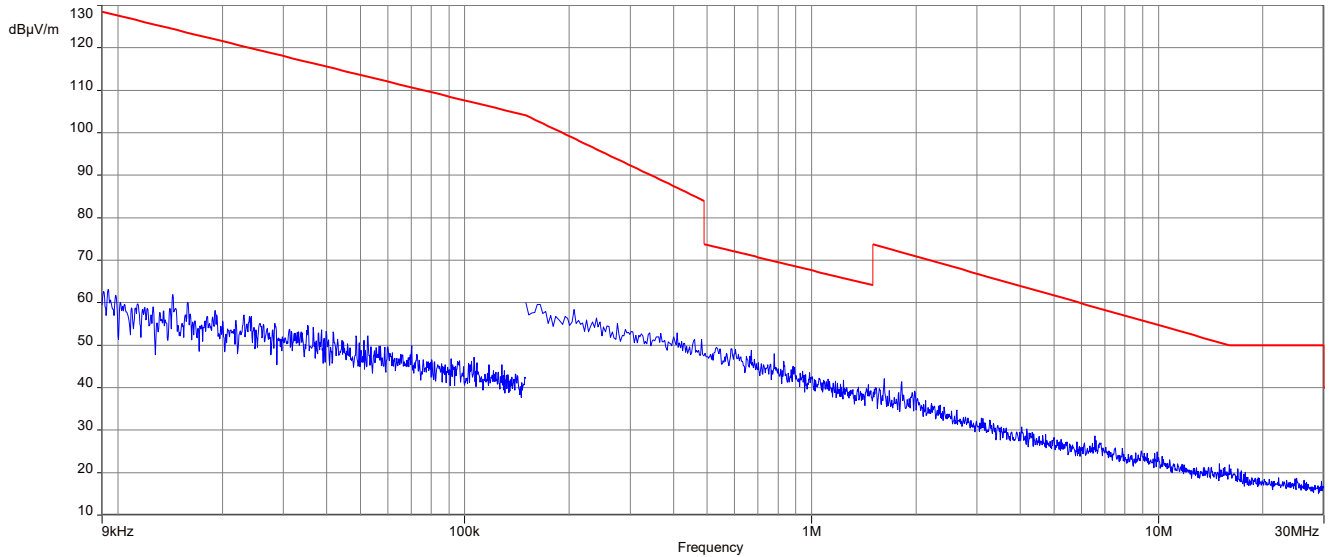
Spurious Emissions Radiated < 30 MHz		
Frequency (MHz)	Field Strength (μV/m)	Measurement distance
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30

Results:

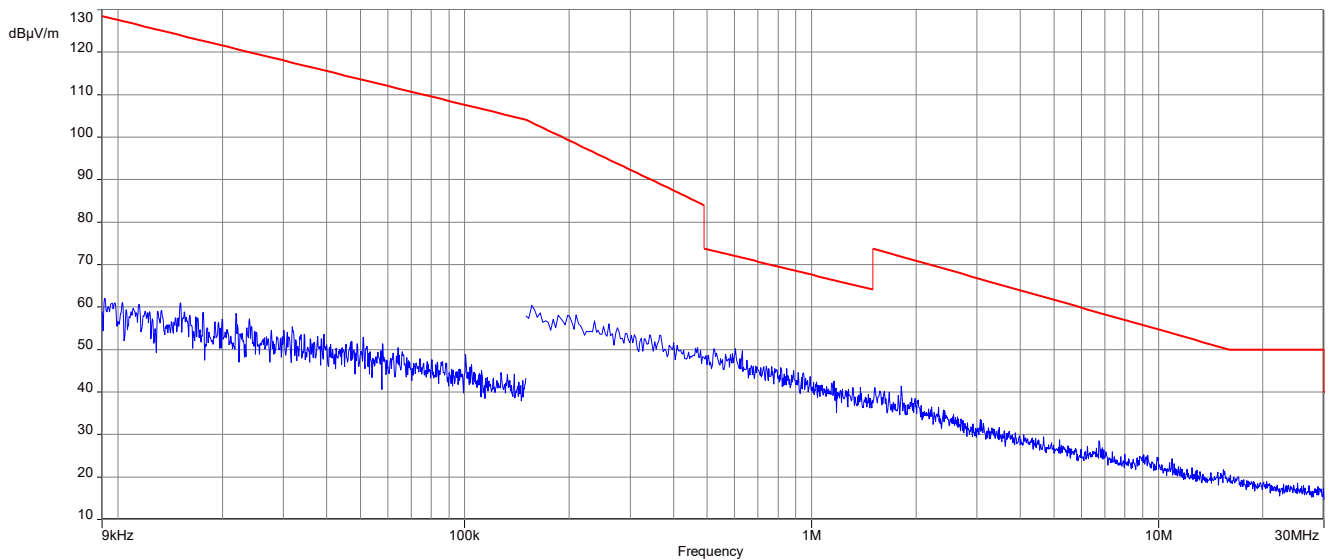
Spurious Emissions Radiated < 30 MHz [dBμV/m]		
F [MHz]	Detector	Level [dBμV/m]
All detected emissions are more than 20 dB below the limit.		

Plots:**Plot 1:** 9 kHz to 30 MHz, valid for all 20 MHz modes and channels**Plot 2:** 9 kHz to 30 MHz, valid for all 40 MHz modes and channels

Plot 3: 9 kHz to 30 MHz, valid for all 80 MHz modes and channels



Plot 4: 9 kHz to 30 MHz, valid for all 160 MHz modes and channels



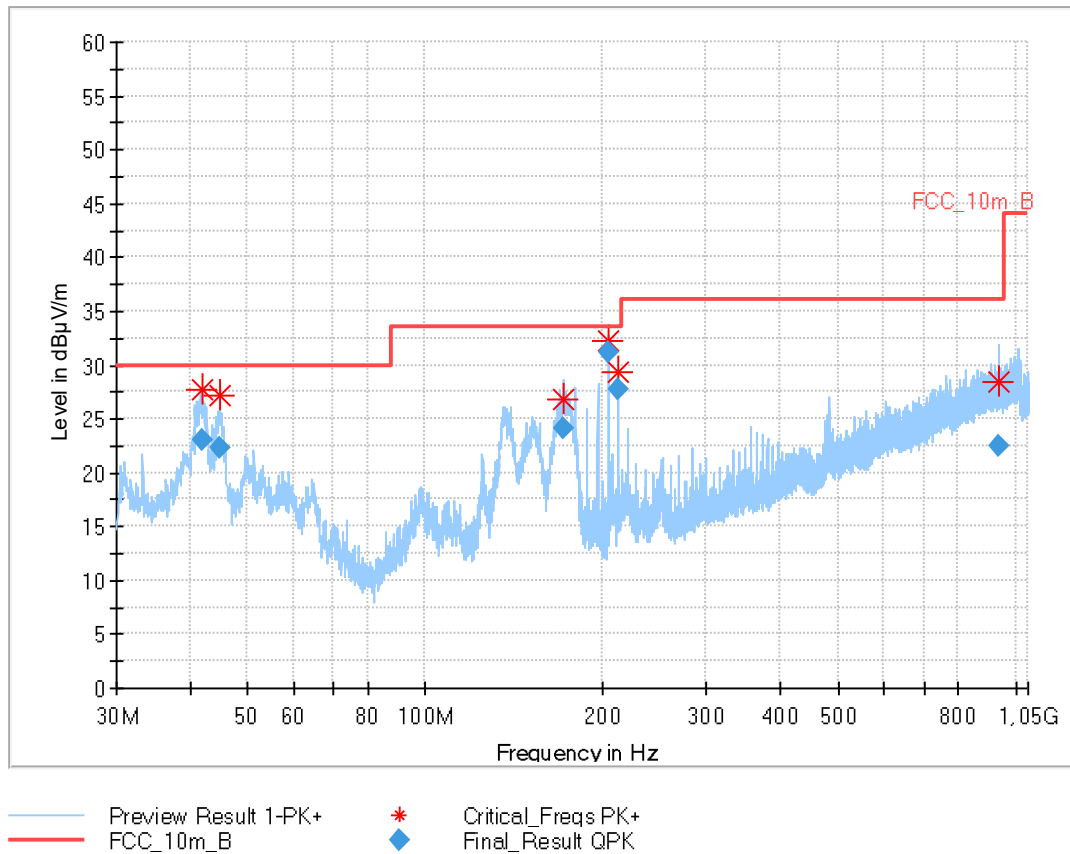
12.7 Spurious emissions radiated 30 MHz to 1 GHz

Measurement:

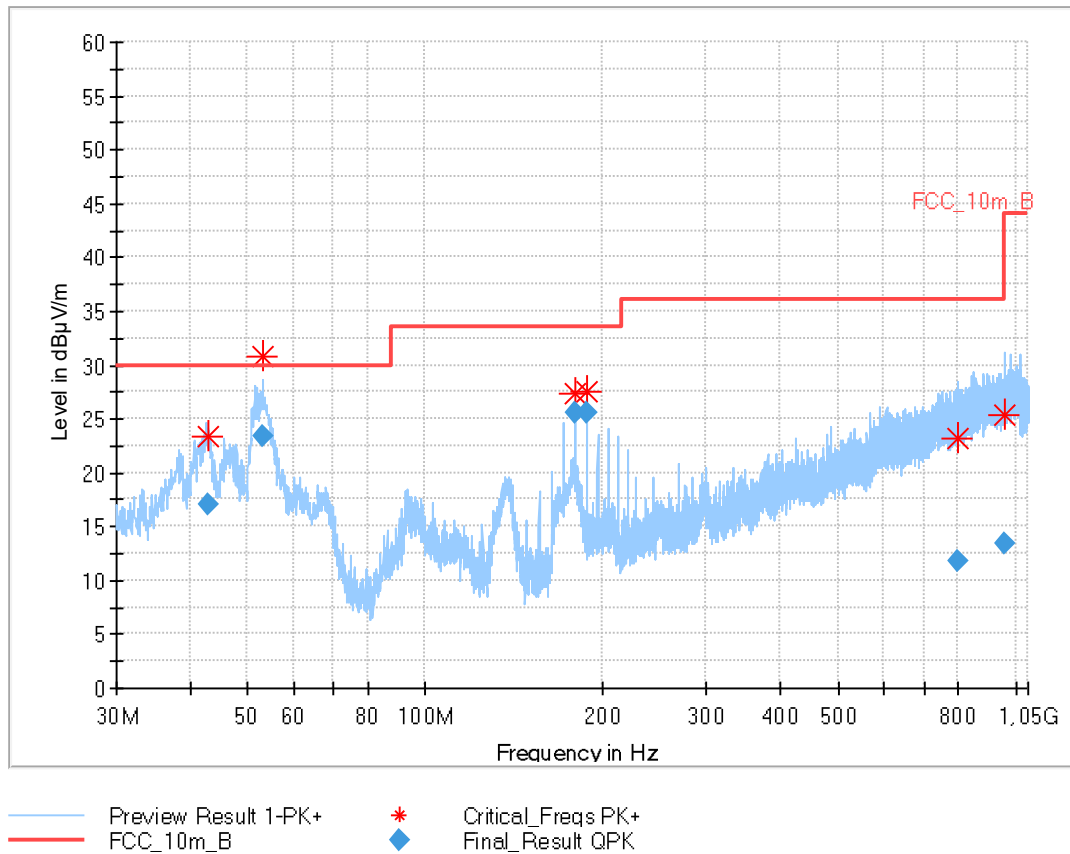
Measurement parameter	
Detector:	Quasi Peak
Sweep time:	Auto
Resolution bandwidth:	120 kHz
Video bandwidth:	500 kHz
Span:	30 MHz to 1 GHz
Test setup:	See sub clause 7.1 – A
Measurement uncertainty:	See chapter 9

Limits:

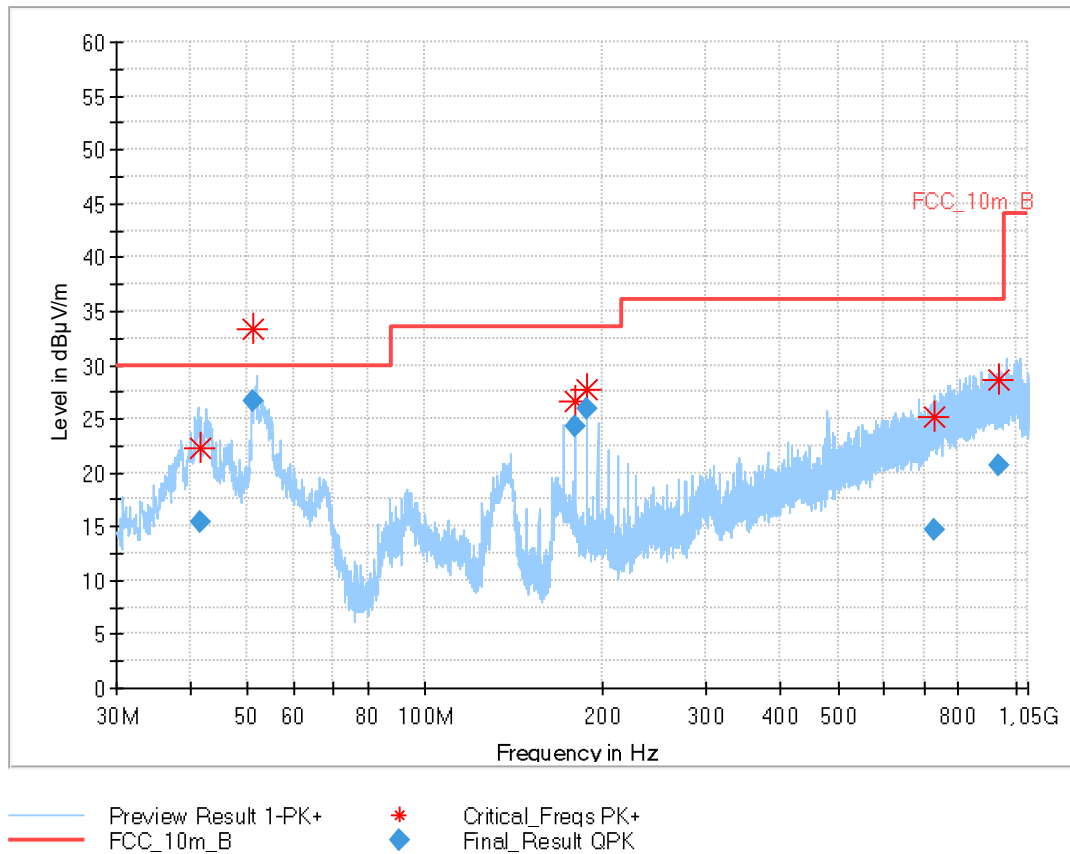
TX Spurious Emissions Radiated		
§15.209 / RSS-247		
Frequency (MHz)	Field Strength (dB μ V/m)	Measurement distance
30 - 88	30.0	10
88 – 216	33.5	10
216 – 960	36.0	10
Above 960	54.0	3
§15.407		
Outside the restricted bands!	-27 dBm / MHz	

Plots:**Plot 1:** 30 MHz to 1 GHz; valid for all channels and modes of U-NII-1, Chain A**Results:**

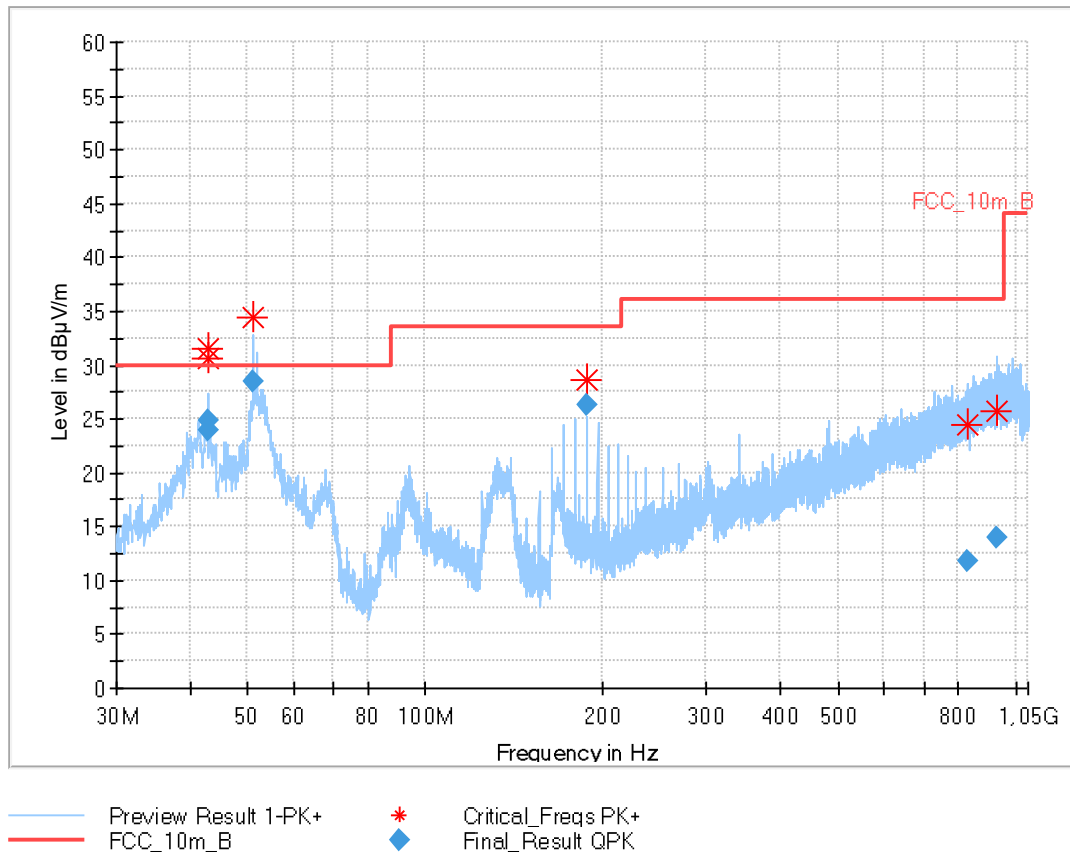
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
41.887	23.07	30.0	6.9	1000	120.0	101.0	V	300	14
45.059	22.29	30.0	7.7	1000	120.0	204.0	V	290	14
171.995	24.19	33.5	9.3	1000	120.0	103.0	V	295	10
204.003	31.19	33.5	2.3	1000	120.0	101.0	V	306	12
211.990	27.65	33.5	5.9	1000	120.0	400.0	H	323	12
934.191	22.55	36.0	13.5	1000	120.0	116.0	H	170	25

Plot 2: 30 MHz to 1 GHz; valid for all channels and modes of U-NII-2A, Chain A**Results:**

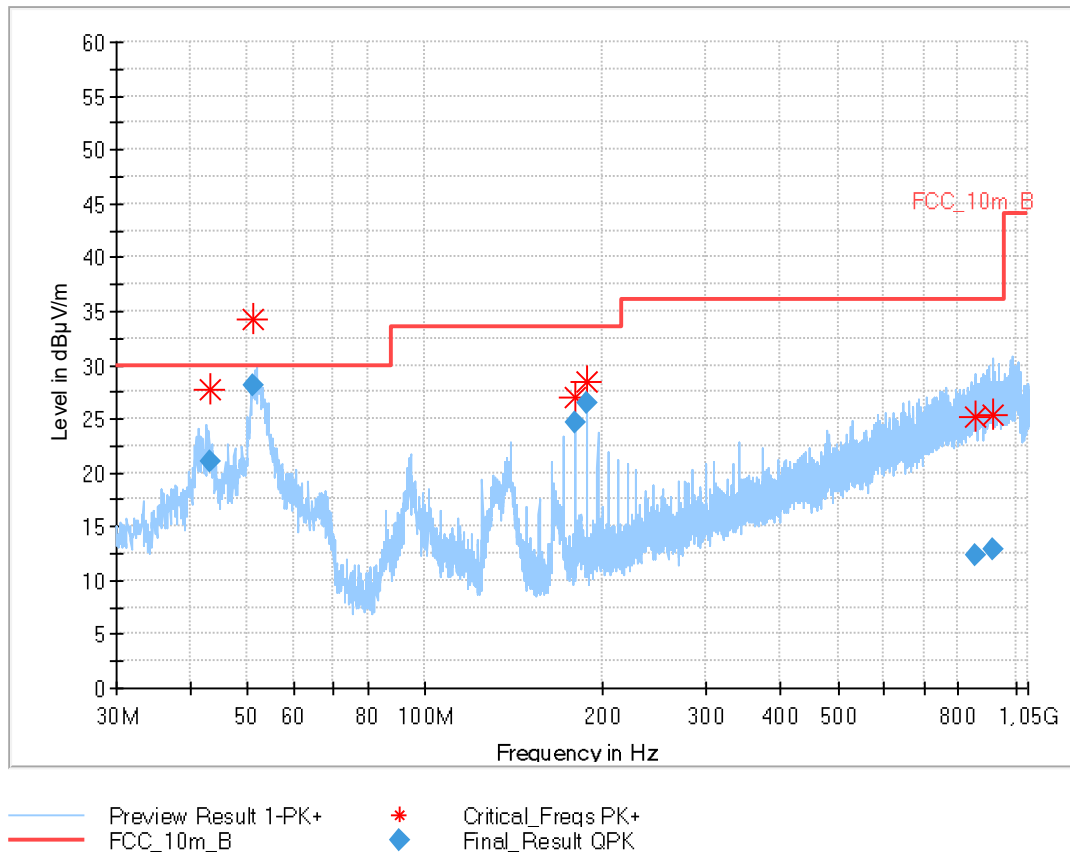
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
43.035	16.96	30.0	13.0	1000	120.0	98.0	V	7	14
53.022	23.37	30.0	6.6	1000	120.0	102.0	V	167	14
180.000	25.52	33.5	8.0	1000	120.0	98.0	V	-12	10
187.998	25.48	33.5	8.0	1000	120.0	195.0	V	-23	11
796.049	11.83	36.0	24.2	1000	120.0	114.0	V	191	23
959.308	13.40	36.0	22.6	1000	120.0	195.0	V	150	25

Plot 3: 30 MHz to 1 GHz; valid for all channels and modes of U-NII-2C, Chain A**Results:**

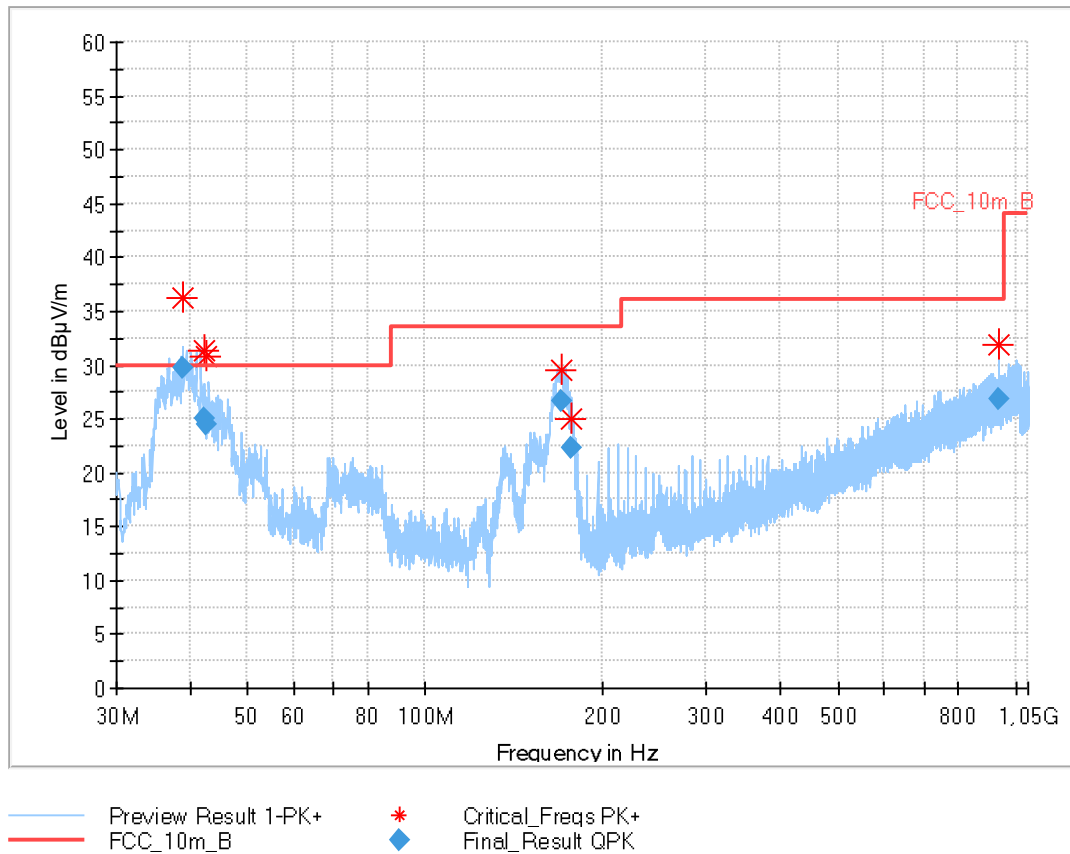
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
41.713	15.48	30.0	14.5	1000	120.0	195.0	V	183	14
51.181	26.67	30.0	3.3	1000	120.0	195.0	V	111	15
179.994	24.37	33.5	9.1	1000	120.0	195.0	V	-21	10
187.995	25.86	33.5	7.6	1000	120.0	195.0	V	-8	11
727.966	14.62	36.0	21.4	1000	120.0	116.0	H	301	22
934.556	20.71	36.0	15.3	1000	120.0	172.0	V	37	25

Plot 4: 30 MHz to 1 GHz; valid for all channels and modes of U-NII-3, Chain A**Results:**

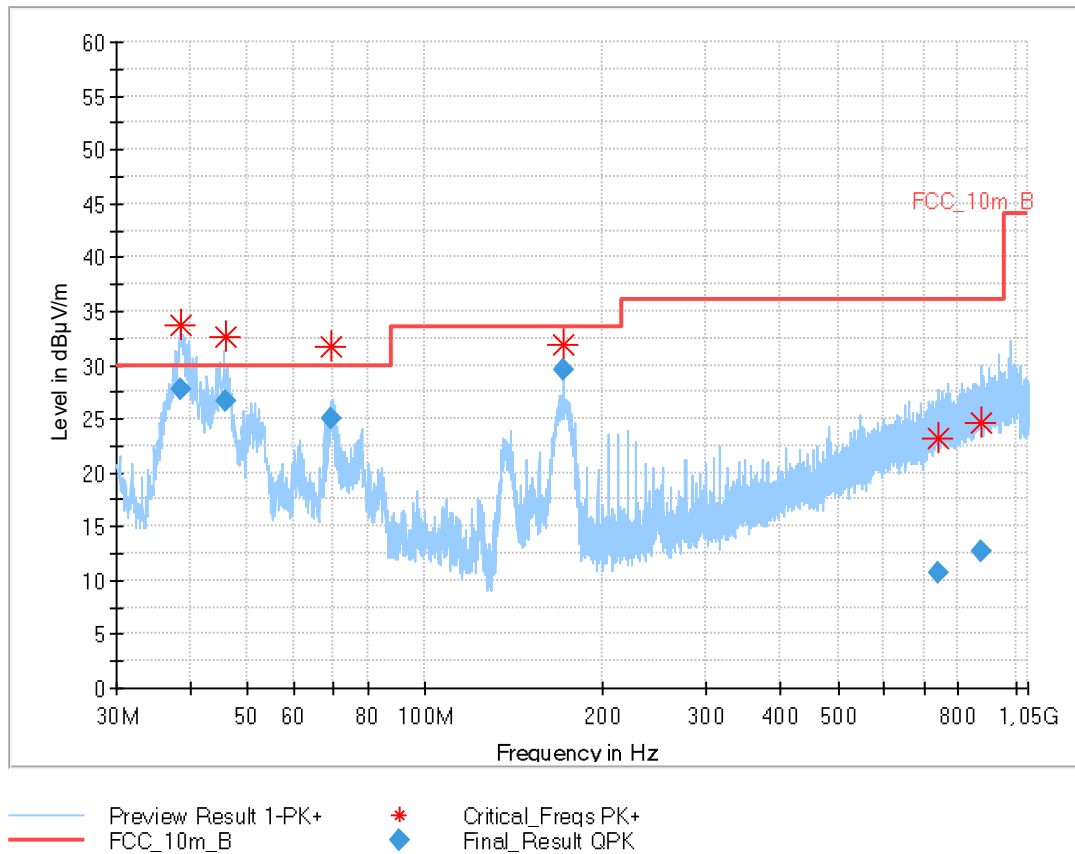
Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
42.798	24.75	30.0	5.3	1000	120.0	143.0	V	307	14
42.897	23.96	30.0	6.0	1000	120.0	183.0	V	307	14
51.145	28.48	30.0	1.5	1000	120.0	145.0	V	-3	15
187.999	26.31	33.5	7.2	1000	120.0	167.0	V	-3	11
830.833	11.80	36.0	24.2	1000	120.0	98.0	V	80	24
929.911	13.99	36.0	22.0	1000	120.0	163.0	H	233	25

Plot 5: 30 MHz to 1 GHz; valid for all channels and modes of U-NII-1, Chain B**Results:**

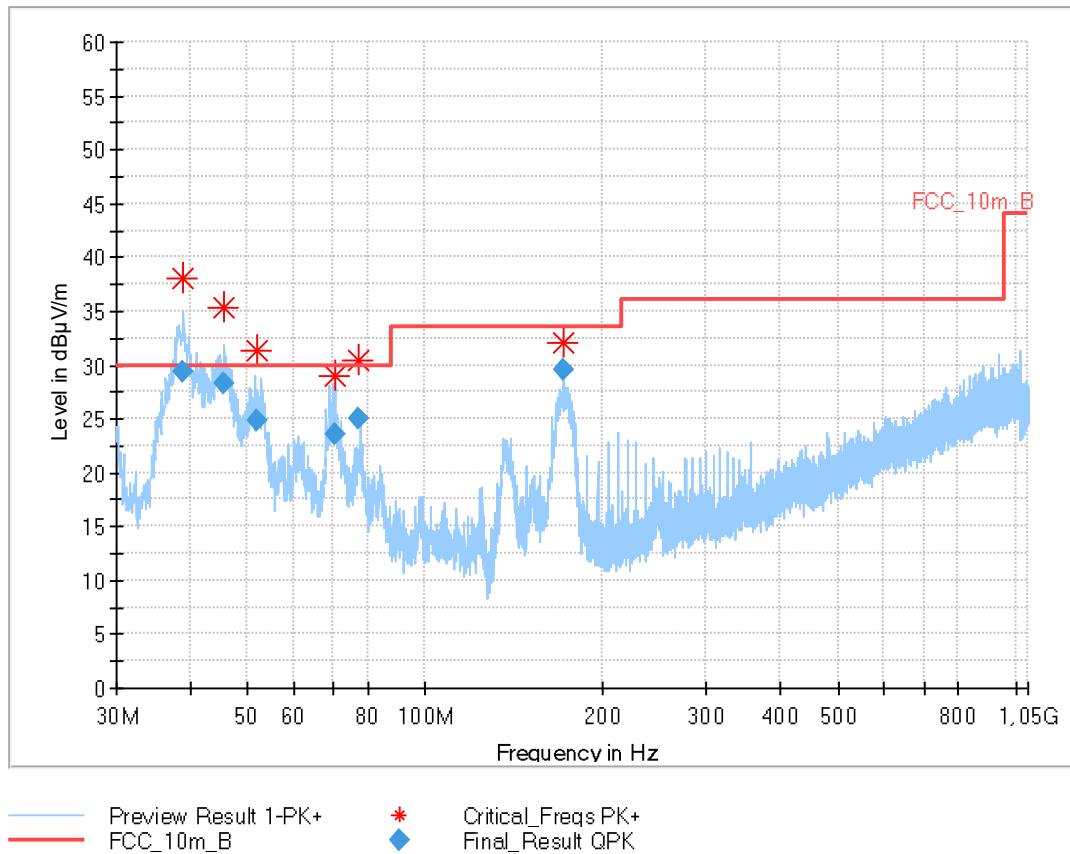
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
43.158	21.10	30.0	8.9	1000	120.0	98.0	V	37	14
51.153	28.17	30.0	1.8	1000	120.0	137.0	V	-36	15
180.005	24.74	33.5	8.8	1000	120.0	130.0	V	-25	10
187.995	26.41	33.5	7.1	1000	120.0	195.0	V	4	11
857.839	12.28	36.0	23.7	1000	120.0	195.0	H	52	24
918.712	12.95	36.0	23.1	1000	120.0	195.0	V	0	25

Plot 6: 30 MHz to 1 GHz; valid for all channels and modes of U-NII-2A, Chain B**Results:**

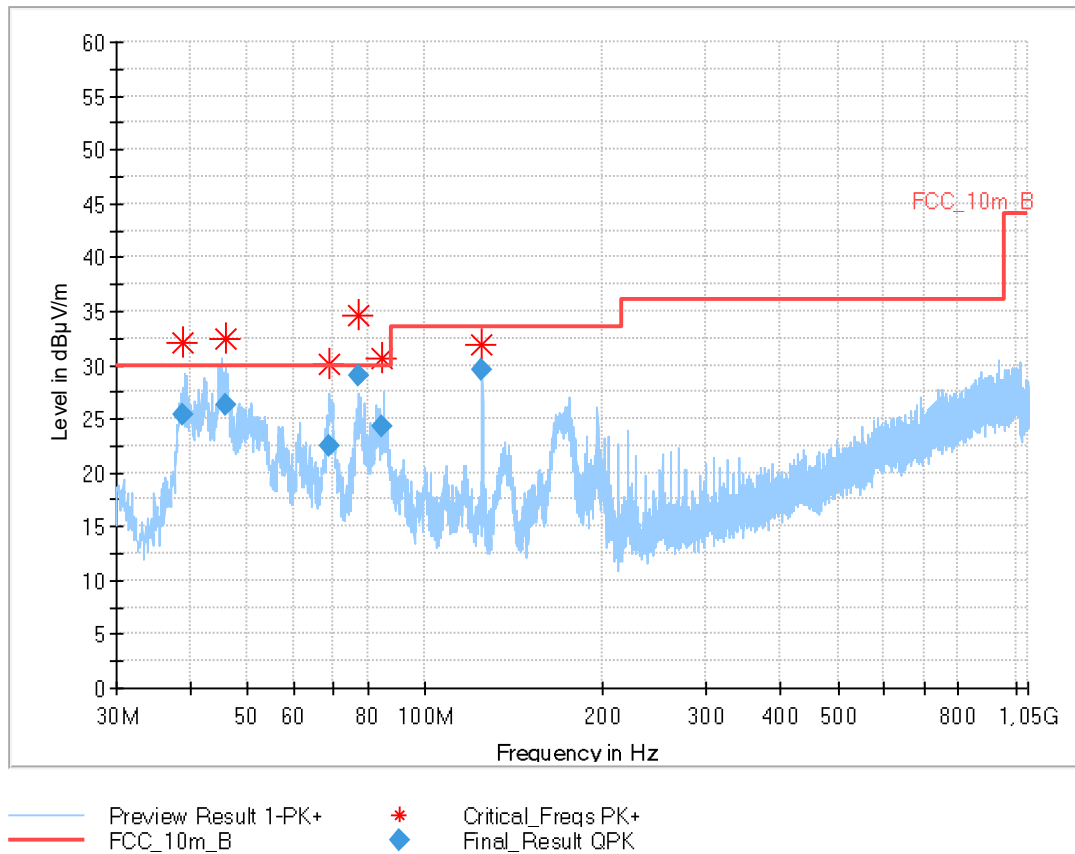
Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
38.949	29.80	30.0	0.2	1000	120.0	98.0	V	149	13
42.166	24.96	30.0	5.0	1000	120.0	101.0	V	155	14
42.482	24.40	30.0	5.6	1000	120.0	160.0	V	172	14
170.668	26.56	33.5	6.9	1000	120.0	100.0	V	97	10
177.427	22.35	33.5	11.2	1000	120.0	98.0	V	86	10
934.600	26.87	36.0	9.1	1000	120.0	110.0	H	-27	25

Plot 7: 30 MHz to 1 GHz; valid for all channels and modes of U-NII-2C, Chain B**Results:**

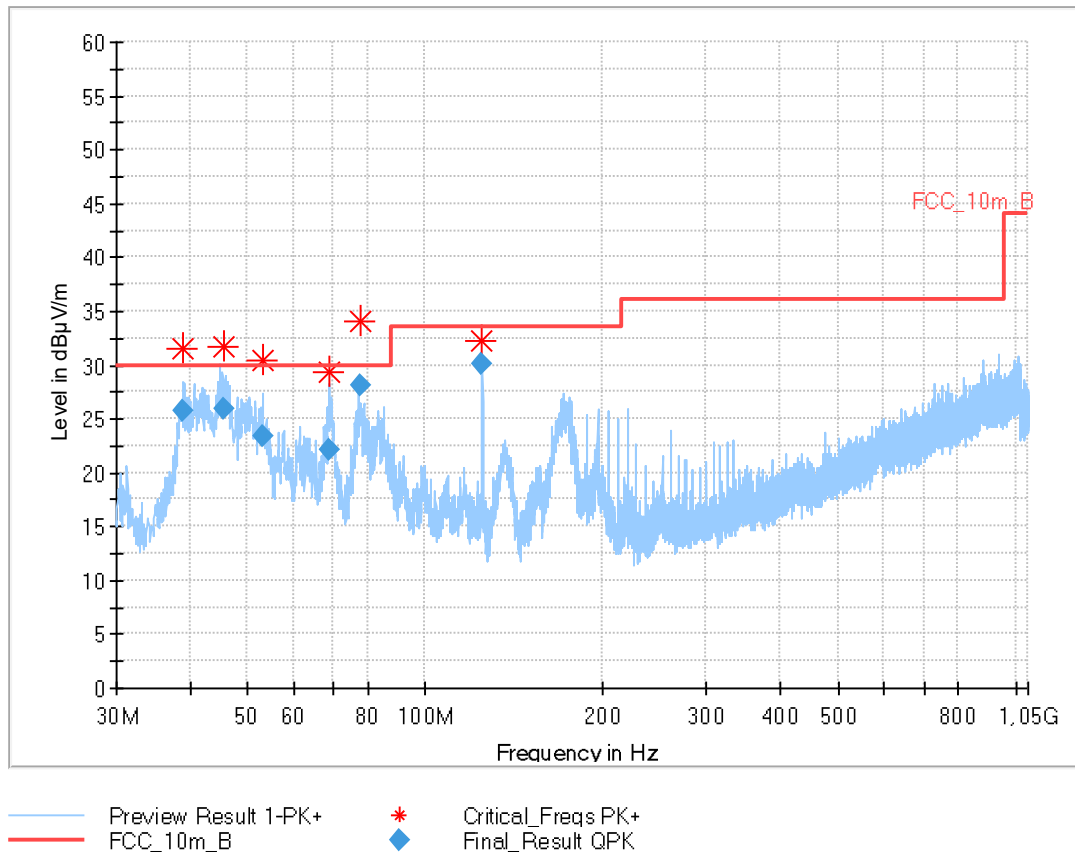
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
38.670	27.68	30.0	2.3	1000	120.0	113.0	V	294	13
45.785	26.70	30.0	3.3	1000	120.0	108.0	V	291	14
69.186	25.06	30.0	4.9	1000	120.0	195.0	V	119	10
171.999	29.51	33.5	4.0	1000	120.0	101.0	V	-20	10
738.372	10.71	36.0	25.3	1000	120.0	160.0	V	77	23
876.506	12.68	36.0	23.3	1000	120.0	132.0	H	170	24

Plot 8: 30 MHz to 1 GHz; valid for all channels and modes of U-NII-3, Chain B**Results:**

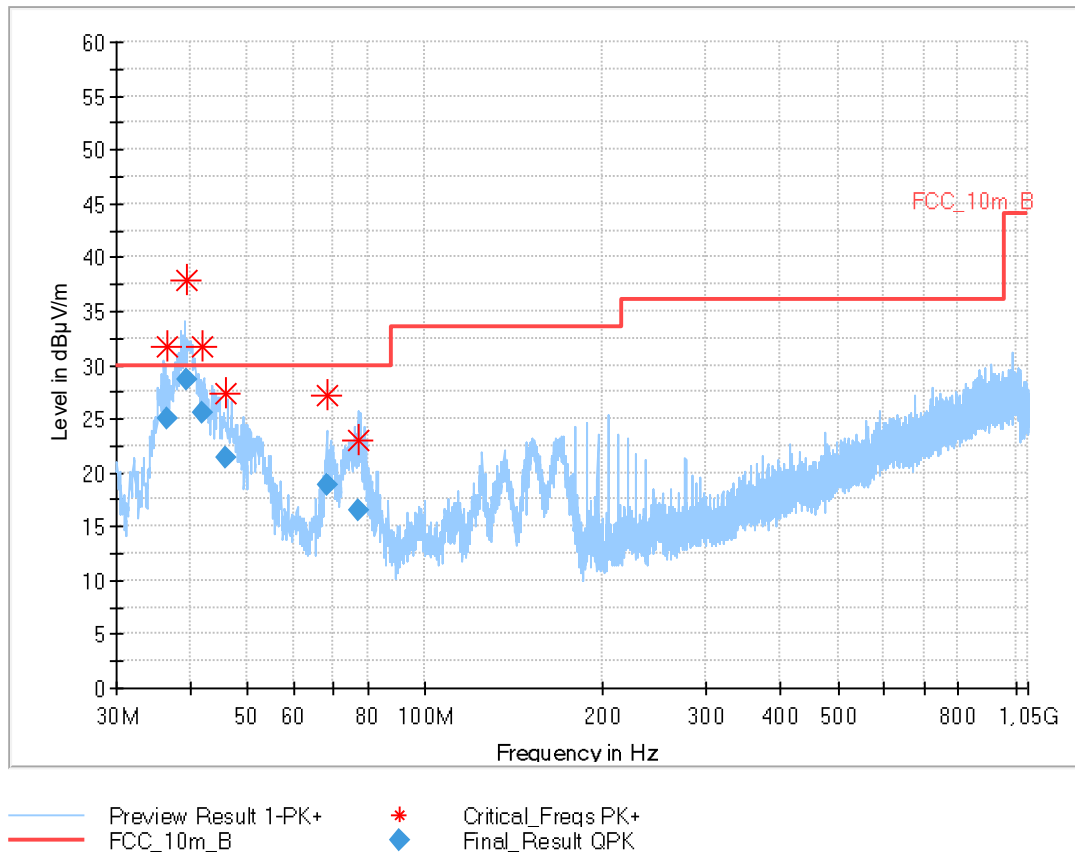
Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
38.864	29.42	30.0	0.6	1000	120.0	102.0	V	-26	13
45.620	28.35	30.0	1.7	1000	120.0	188.0	V	31	14
51.972	24.90	30.0	5.1	1000	120.0	131.0	V	59	14
70.139	23.56	30.0	6.4	1000	120.0	129.0	V	93	10
77.207	24.96	30.0	5.0	1000	120.0	195.0	V	87	8
172.005	29.47	33.5	4.0	1000	120.0	102.0	V	-22	10

Plot 9: 30 MHz to 1 GHz; valid for all channels and modes of U-NII-1, Chain A+B**Results:**

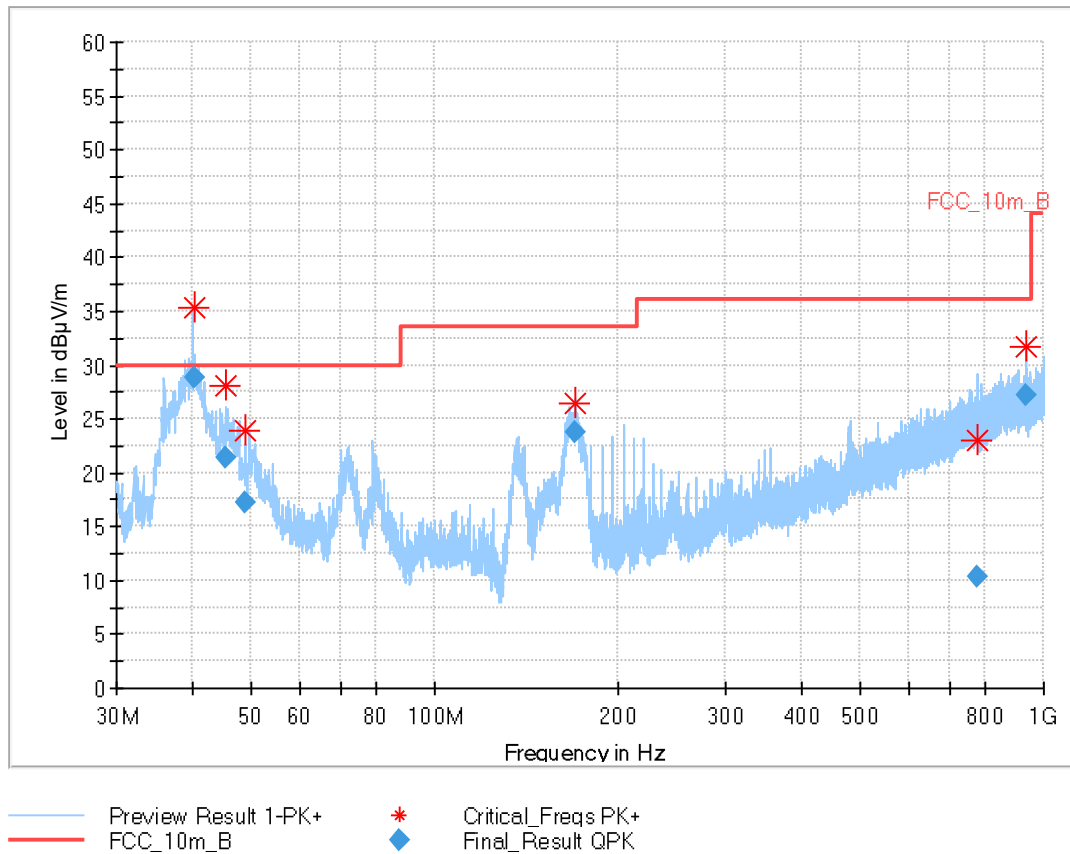
Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
38.888	25.36	30.0	4.6	1000	120.0	139.0	V	180	13
45.947	26.34	30.0	3.7	1000	120.0	137.0	V	198	14
69.036	22.42	30.0	7.6	1000	120.0	112.0	V	108	10
77.292	28.95	30.0	1.1	1000	120.0	195.0	V	114	8
84.653	24.34	30.0	5.7	1000	120.0	195.0	V	127	9
125.011	29.63	33.5	3.9	1000	120.0	105.0	V	90	10

Plot 10: 30 MHz to 1 GHz; valid for all channels and modes of U-NII-2A, Chain A+B**Results:**

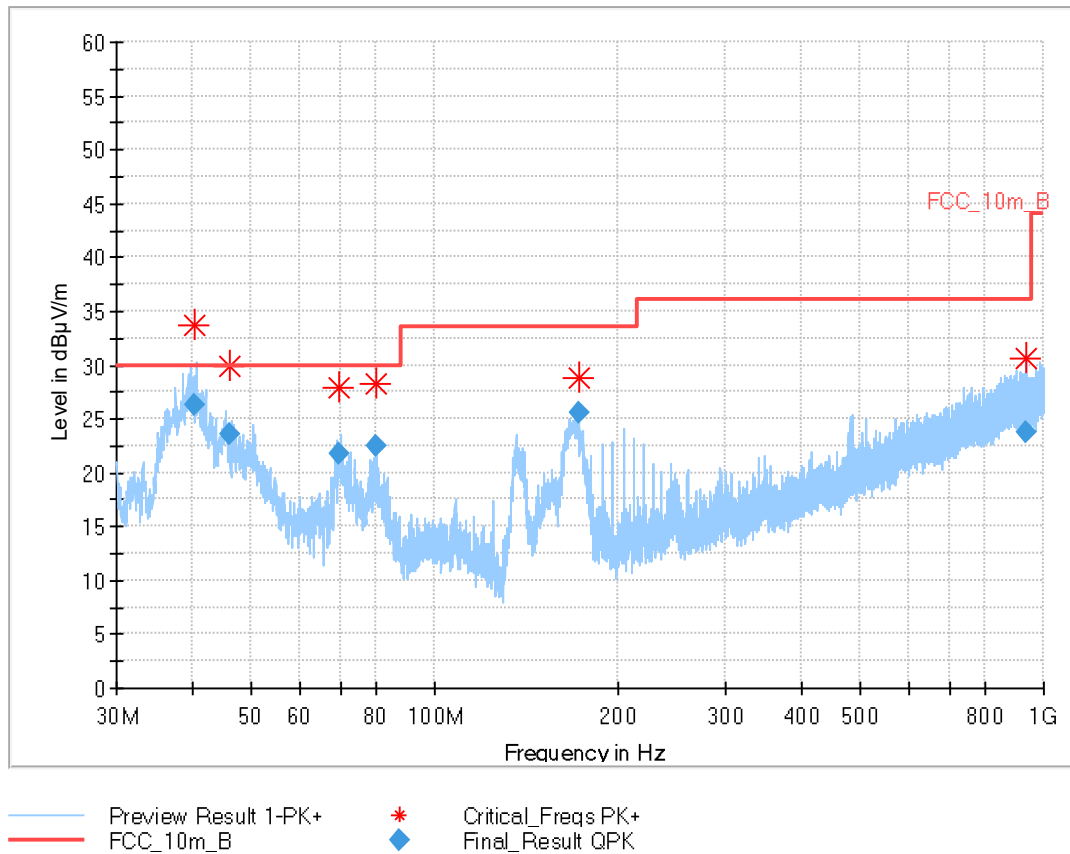
Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
38.882	25.69	30.0	4.3	1000	120.0	105.0	V	-34	13
45.469	25.85	30.0	4.2	1000	120.0	136.0	V	22	14
53.019	23.42	30.0	6.6	1000	120.0	195.0	V	11	14
68.910	22.20	30.0	7.8	1000	120.0	115.0	V	13	10
77.926	28.02	30.0	2.0	1000	120.0	178.0	V	118	8
124.999	30.03	33.5	3.5	1000	120.0	110.0	V	93	10

Plot 11: 30 MHz to 1 GHz; valid for all channels and modes of U-NII-2C, Chain A+B**Results:**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
36.574	25.10	30.0	4.9	1000	120.0	128.0	V	260	13
39.587	28.61	30.0	1.4	1000	120.0	124.0	V	307	14
41.992	25.56	30.0	4.4	1000	120.0	195.0	V	291	14
46.065	21.48	30.0	8.5	1000	120.0	98.0	V	246	14
68.291	18.83	30.0	11.2	1000	120.0	144.0	V	4	11
77.247	16.43	30.0	13.6	1000	120.0	195.0	V	287	8

Plot 12: 30 MHz to 1 GHz; valid for all channels and modes of U-NII-3, Chain A+B**Results:**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
40.228	28.75	30.0	1.2	1000	120.0	98.0	V	190	14
45.457	21.35	30.0	8.6	1000	120.0	98.0	V	181	14
48.981	17.28	30.0	12.7	1000	120.0	170.0	V	190	14
170.521	23.78	33.5	9.7	1000	120.0	103.0	V	10	10
778.558	10.42	36.0	25.6	1000	120.0	170.0	V	280	23
934.608	27.16	36.0	8.8	1000	120.0	115.0	H	190	25

Plot 13: 30 MHz to 1 GHz; valid for all channels and 160 MHz-modes, Chain A+B**Results:**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
40.372	26.20	30.0	3.8	1000	120.0	170.0	V	-5	14
45.973	23.60	30.0	6.4	1000	120.0	113.0	V	264	14
69.787	21.69	30.0	8.3	1000	120.0	124.0	V	86	10
79.880	22.39	30.0	7.6	1000	120.0	170.0	V	85	8
171.989	25.63	33.5	7.9	1000	120.0	101.0	V	10	10
934.638	23.78	36.0	12.2	1000	120.0	158.0	H	272	25

12.8 Spurious emissions radiated 1 GHz to 40 GHz

Measurement:

Measurement parameter	
Detector:	Peak / RMS
Sweep time:	Auto
Resolution bandwidth:	1 MHz
Video bandwidth:	3 MHz
Span:	1 GHz to 40 GHz
Test setup:	See sub clause 7.2 – B 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: 20 MHz channel bandwidth

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]
All detected peak emissions are below the average limit.								
	Peak			Peak			Peak	
	AVG			AVG			AVG	
For emissions above 18 GHz please take look at the plots.			For emissions above 18 GHz please take look at the plots.			For emissions above 18 GHz please take look at the plots.		

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]
All detected peak emissions are below the average limit.								
	Peak			Peak			Peak	
	AVG			AVG			AVG	
For emissions above 18 GHz please take look at the plots.			For emissions above 18 GHz please take look at the plots.			For emissions above 18 GHz please take look at the plots.		

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]
All detected peak emissions are below the average limit.								
	Peak			Peak			Peak	
	AVG			AVG			AVG	
For emissions above 18 GHz please take look at the plots.			For emissions above 18 GHz please take look at the plots.			For emissions above 18 GHz please take look at the plots.		

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]
All detected peak emissions are below the average limit.								
	Peak			Peak			Peak	
	AVG			AVG			AVG	
For emissions above 18 GHz please take look at the plots.			For emissions above 18 GHz please take look at the plots.			For emissions above 18 GHz please take look at the plots.		

Results: 40 MHz channel bandwidth

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]
All detected peak emissions are below the average limit.								
	Peak			Peak			Peak	
	AVG			AVG			AVG	
For emissions above 18 GHz please take look at the plots.			For emissions above 18 GHz please take look at the plots.			For emissions above 18 GHz please take look at the plots.		

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]
All detected peak emissions are below the average limit.								
	Peak			Peak			Peak	
	AVG			AVG			AVG	
For emissions above 18 GHz please take look at the plots.			For emissions above 18 GHz please take look at the plots.			For emissions above 18 GHz please take look at the plots.		

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]
All detected peak emissions are below the average limit.								
	Peak			Peak			Peak	
	AVG			AVG			AVG	
For emissions above 18 GHz please take look at the plots.			For emissions above 18 GHz please take look at the plots.			For emissions above 18 GHz please take look at the plots.		

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]
All detected peak emissions are below the average limit.								
	Peak			Peak			Peak	
	AVG			AVG			AVG	
For emissions above 18 GHz please take look at the plots.			For emissions above 18 GHz please take look at the plots.			For emissions above 18 GHz please take look at the plots.		

Results: 80 MHz channel bandwidth

TX Spurious Emissions Radiated [dB μ V/m] / dBm		
U-NII-1 (5150 MHz to 5250 MHz)		
Middle channel		
F [MHz]	Detector	Level [dB μ V/m]
All detected peak emissions are below the average limit.		
	Peak	
	AVG	
For emissions above 18 GHz please take look at the plots.		

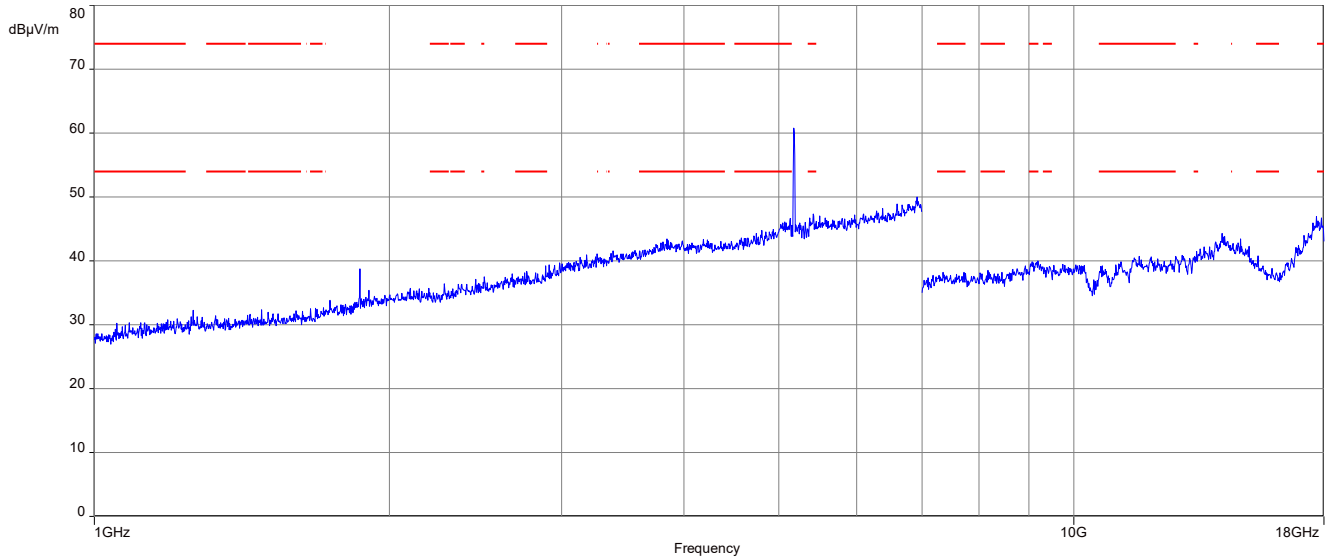
TX Spurious Emissions Radiated [dB μ V/m] / dBm		
U-NII-2A (5250 MHz to 5350 MHz)		
Middle channel		
F [MHz]	Detector	Level [dB μ V/m]
All detected peak emissions are below the average limit.		
	Peak	
	AVG	
For emissions above 18 GHz please take look at the plots.		

TX Spurious Emissions Radiated [dBμV/m] / dBm					
U-NII-2C (5470 MHz to 5725 MHz)					
Lowest channel			Highest channel		
All detected peak emissions are below the average limit.					
	Peak			Peak	
	AVG			AVG	
For emissions above 18 GHz please take look at the plots.			For emissions above 18 GHz please take look at the plots.		

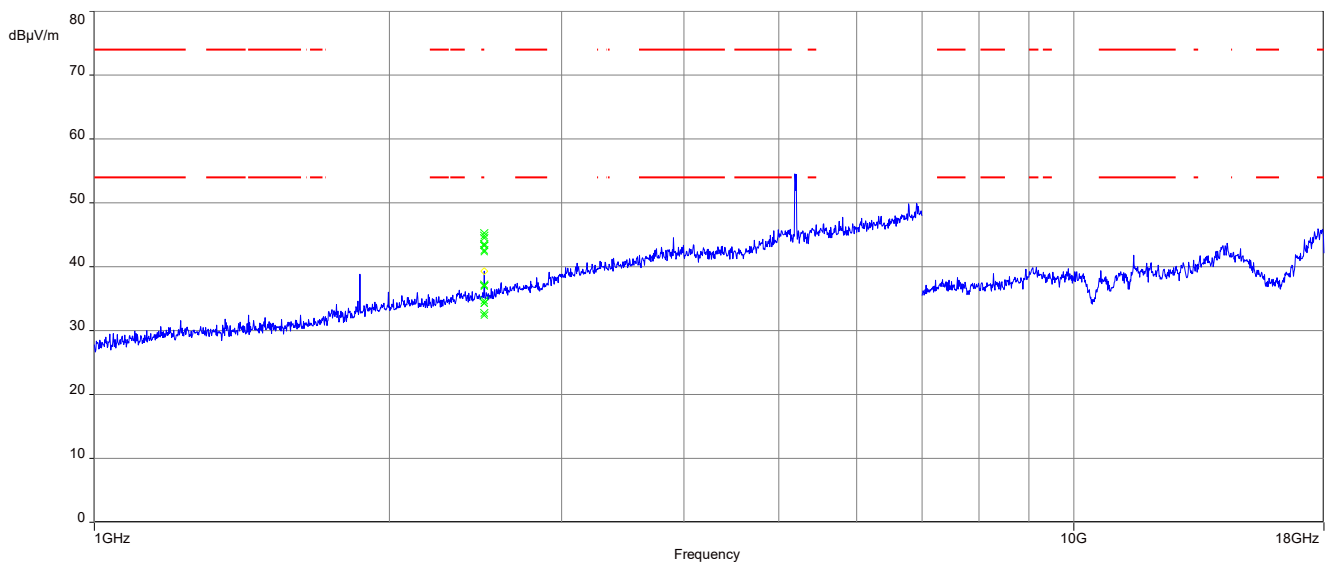
TX Spurious Emissions Radiated [dB μ V/m] / dBm		
U-NII-3 (5725 MHz to 5850 MHz)		
Middle channel		
F [MHz]	Detector	Level [dB μ V/m]
All detected peak emissions are below the average limit.		
	Peak	
	AVG	
For emissions above 18 GHz please take look at the plots.		

Plots: 20 MHz channel bandwidth

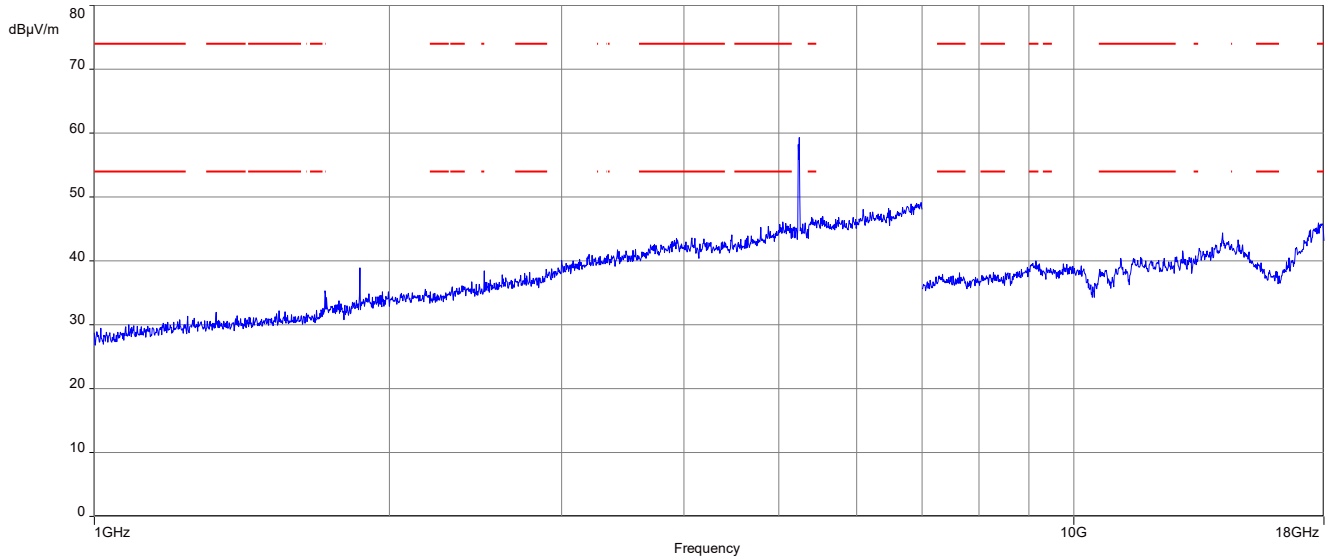
Plot 1: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-1; lowest channel



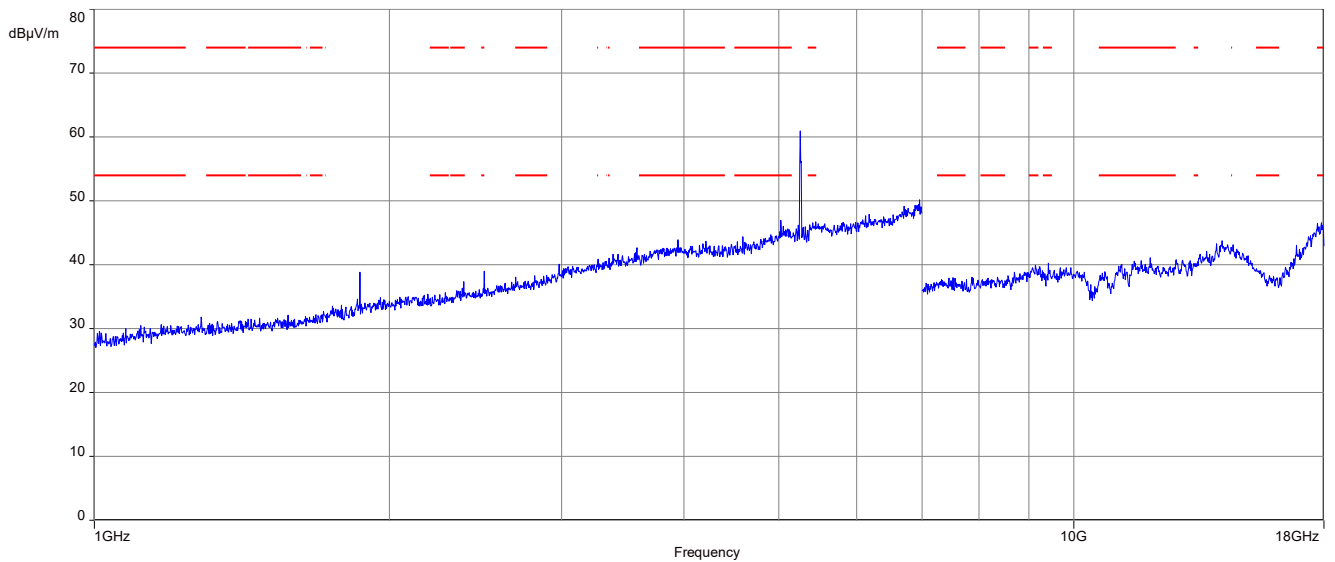
Plot 2: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-1; middle channel



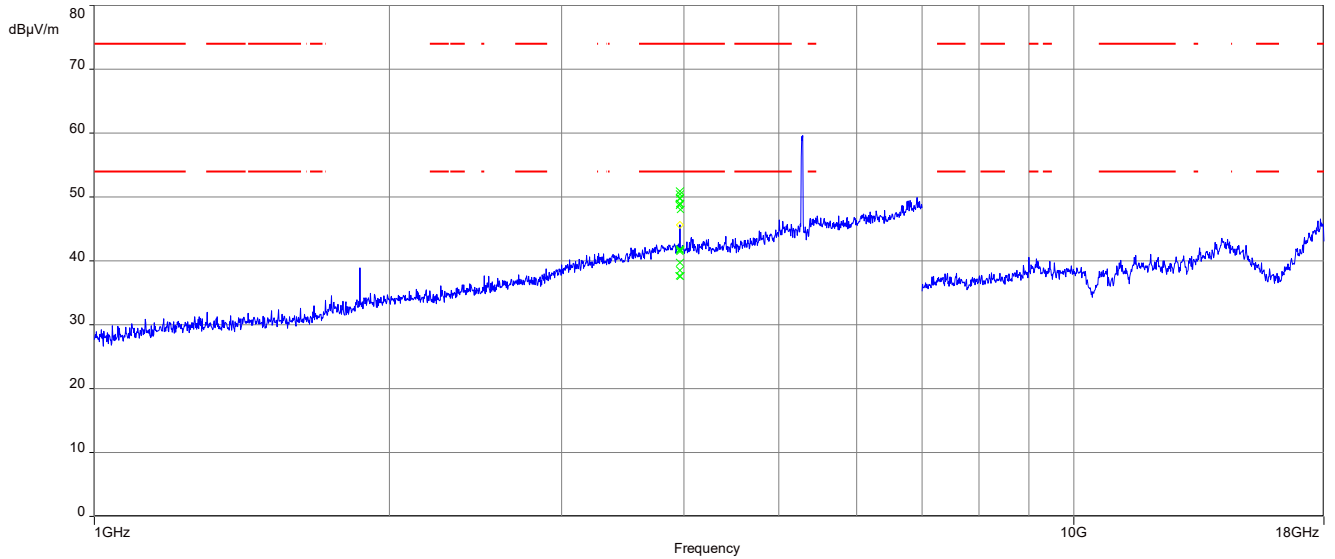
Plot 3: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-1; highest channel



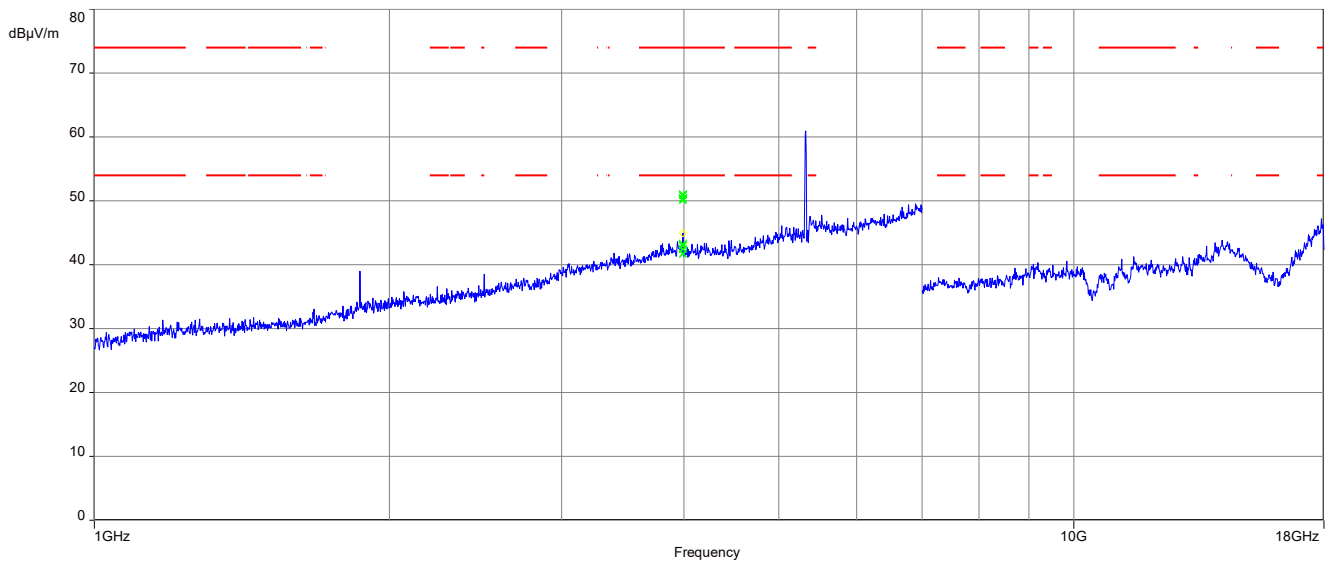
Plot 4: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2A; lowest channel



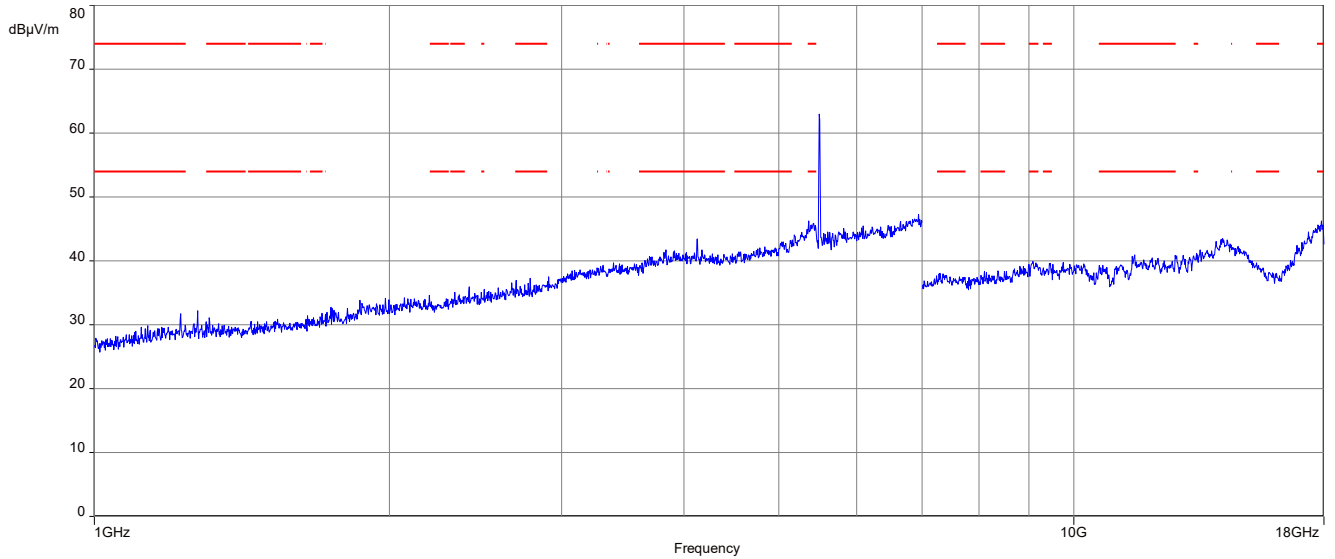
Plot 5: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2A; middle channel



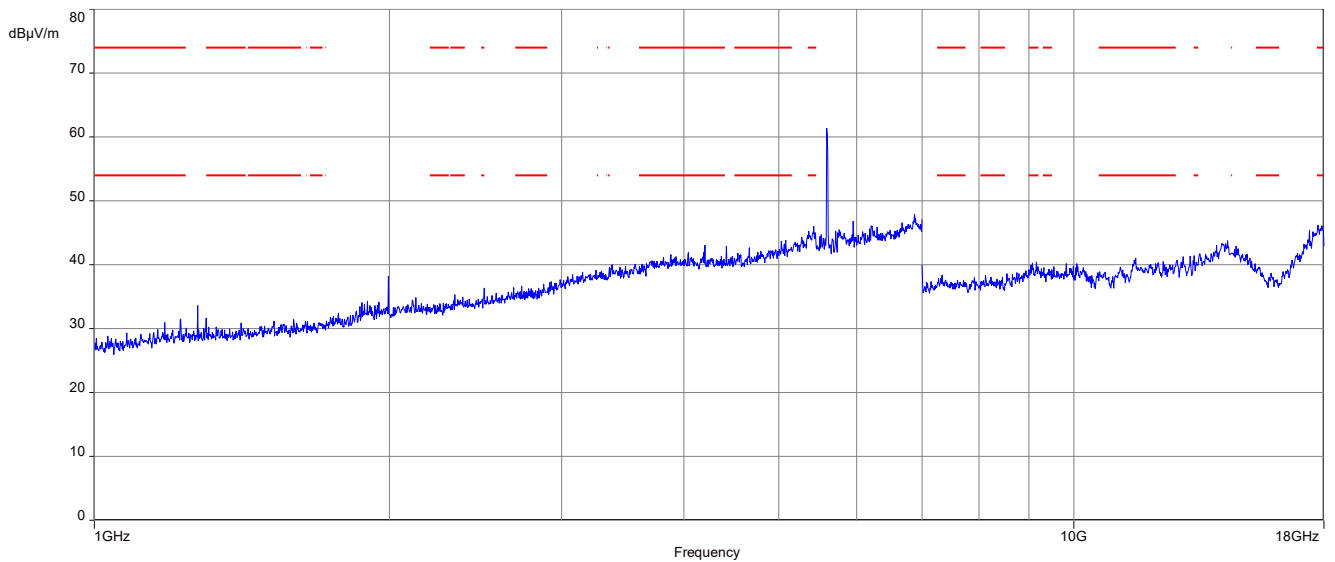
Plot 6: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2A; highest channel



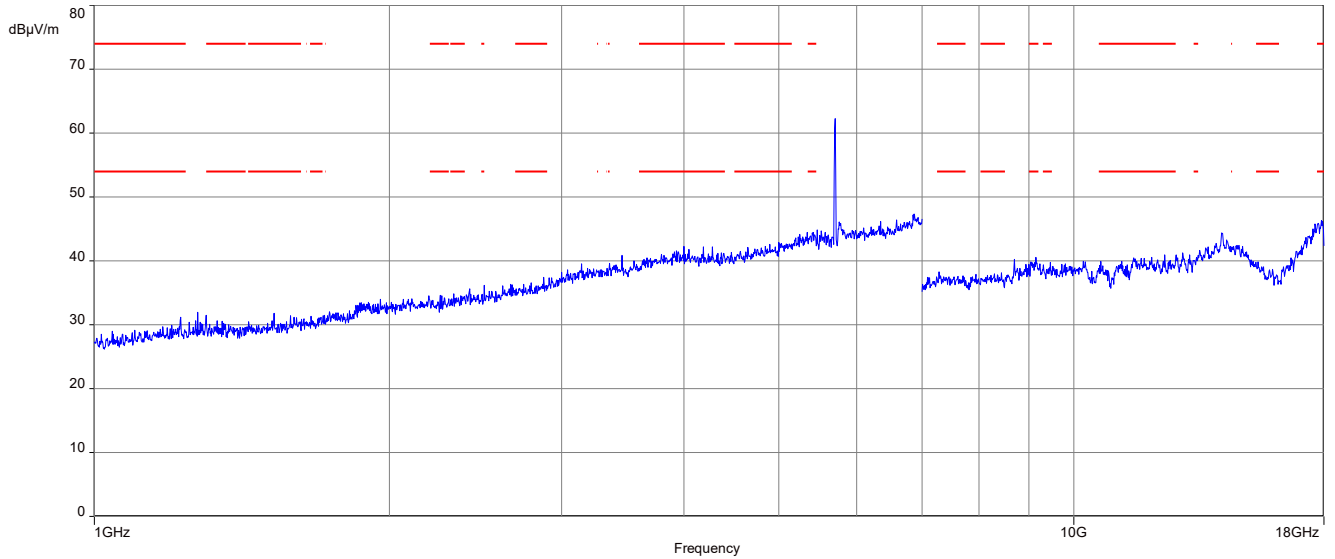
Plot 7: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2C; lowest channel



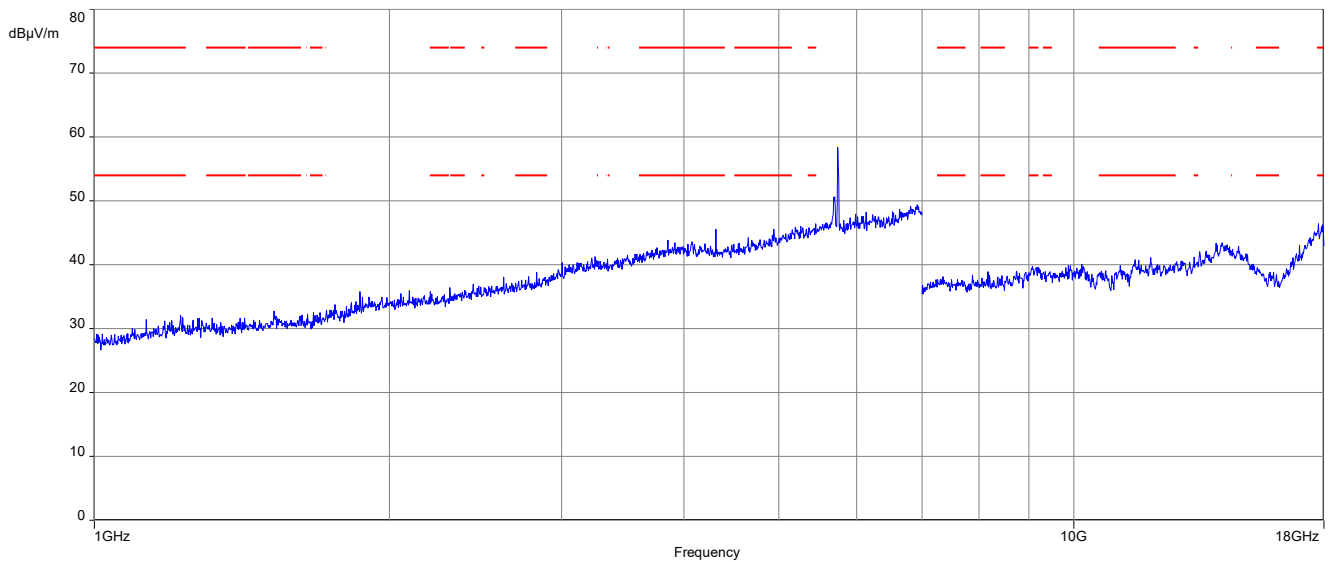
Plot 8: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2C; middle channel



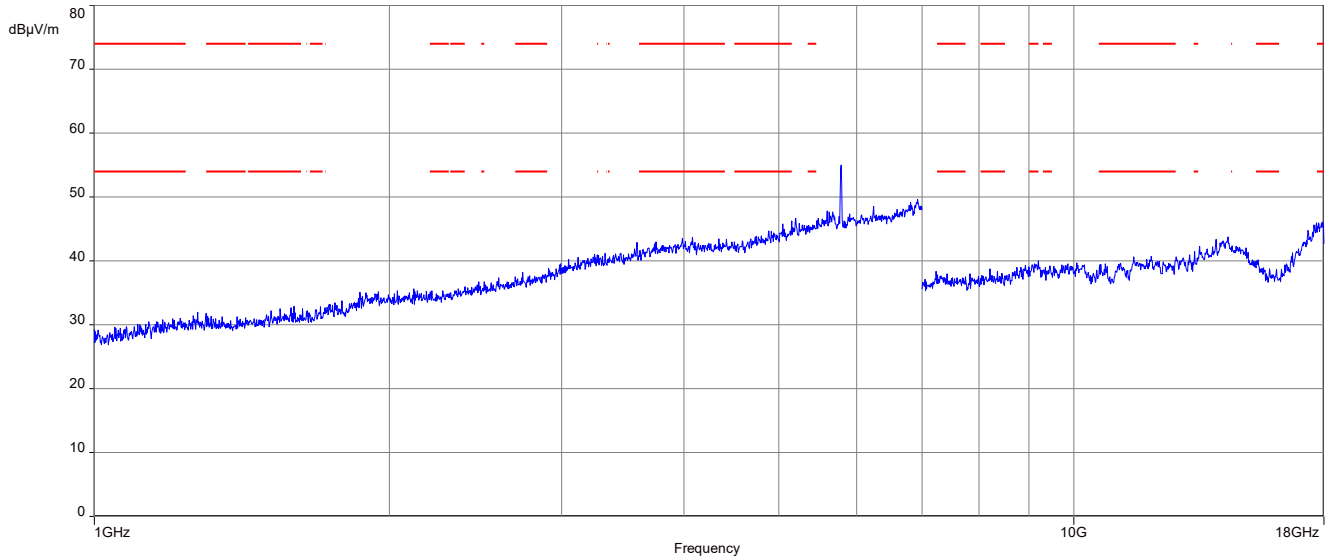
Plot 9: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2C; highest channel



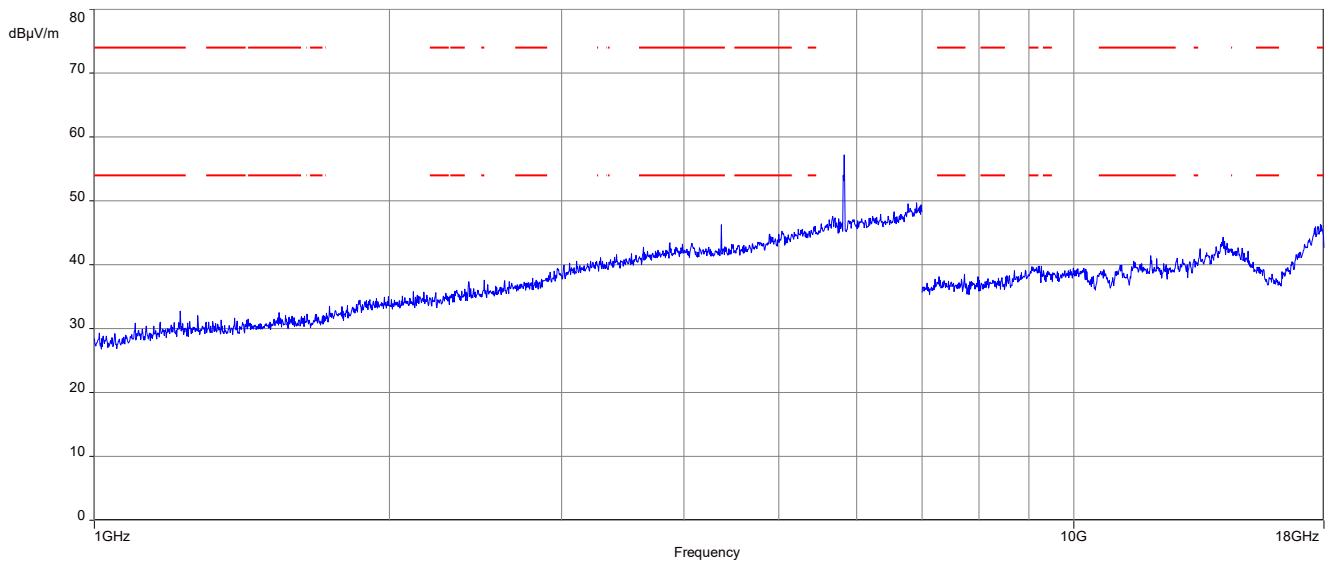
Plot 10: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-3; lowest channel



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

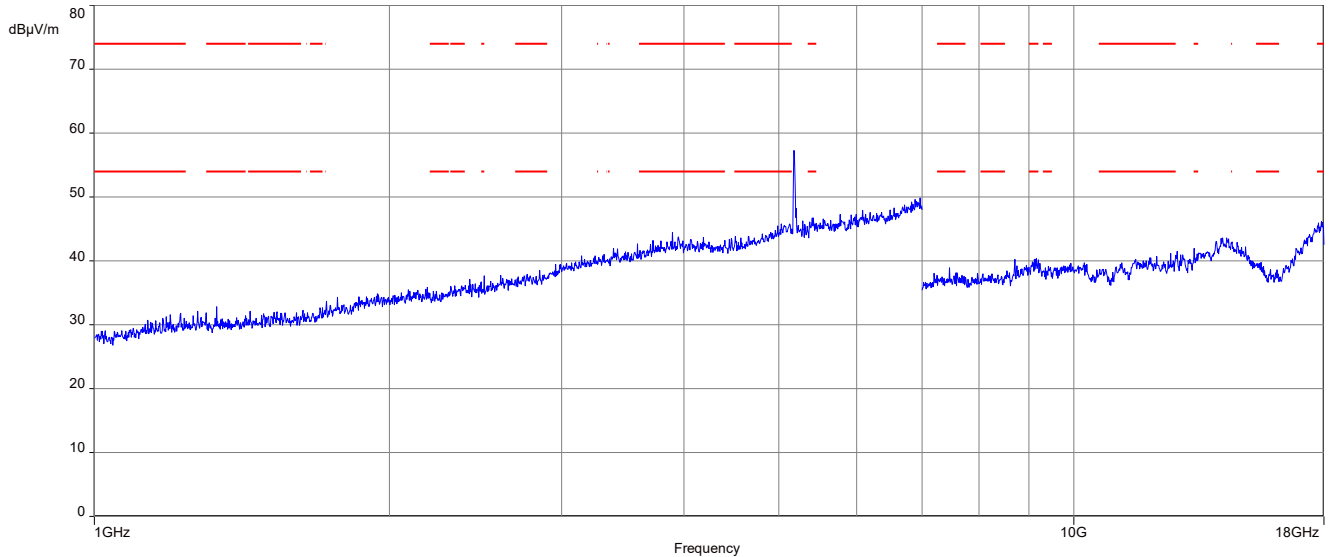


Plot 12: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-3; highest channel

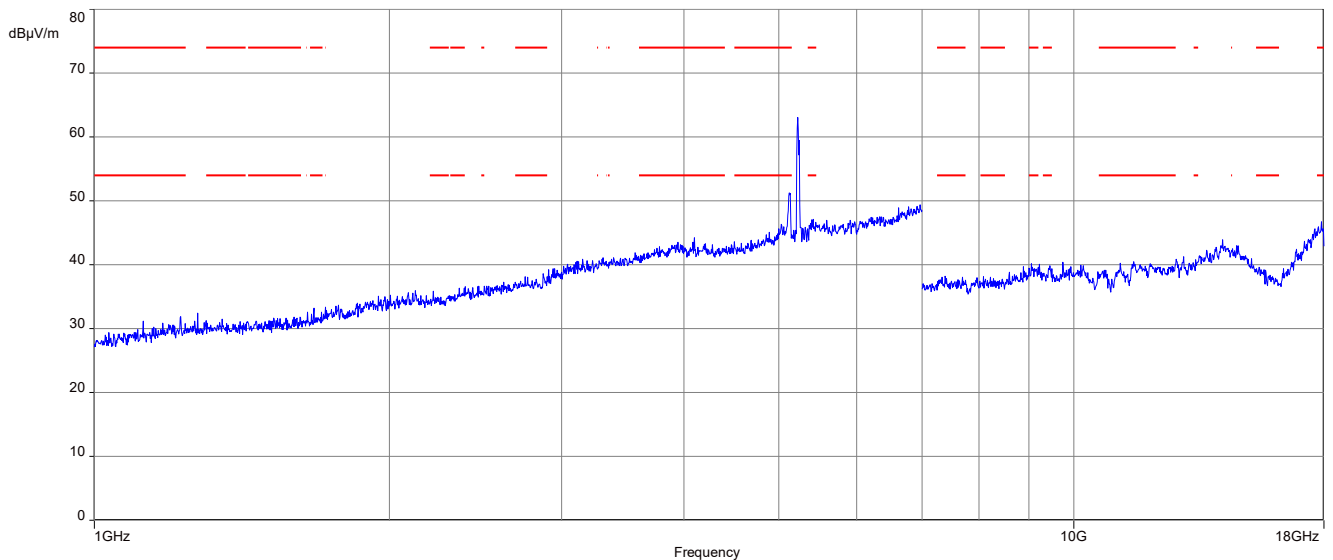


Plots: 40 MHz channel bandwidth

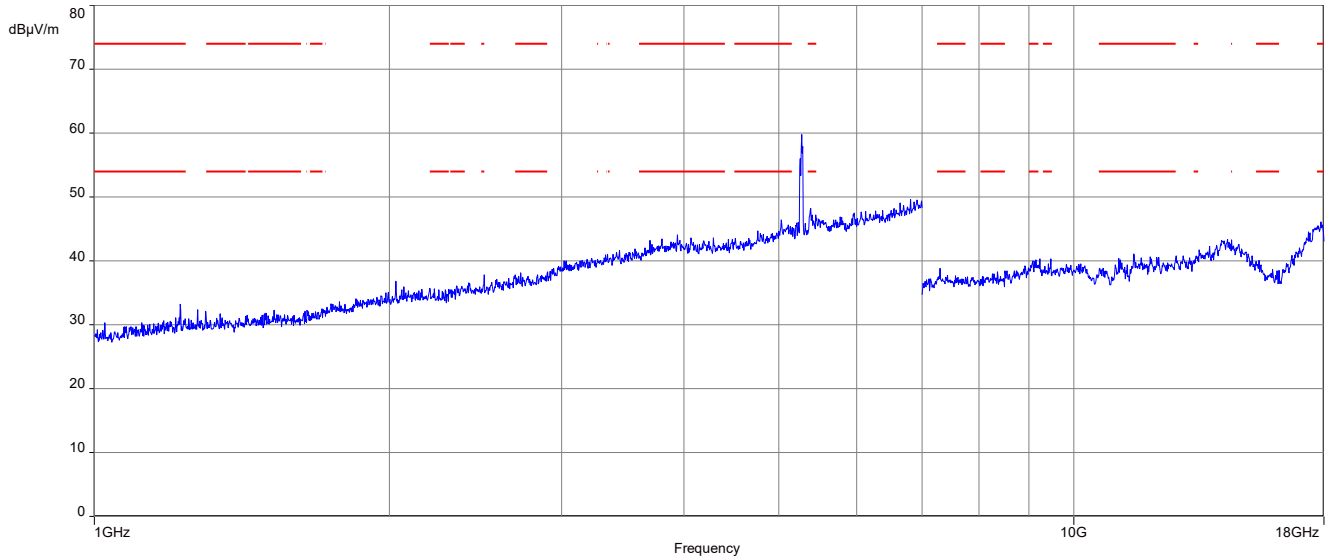
Plot 1: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-1; lowest channel



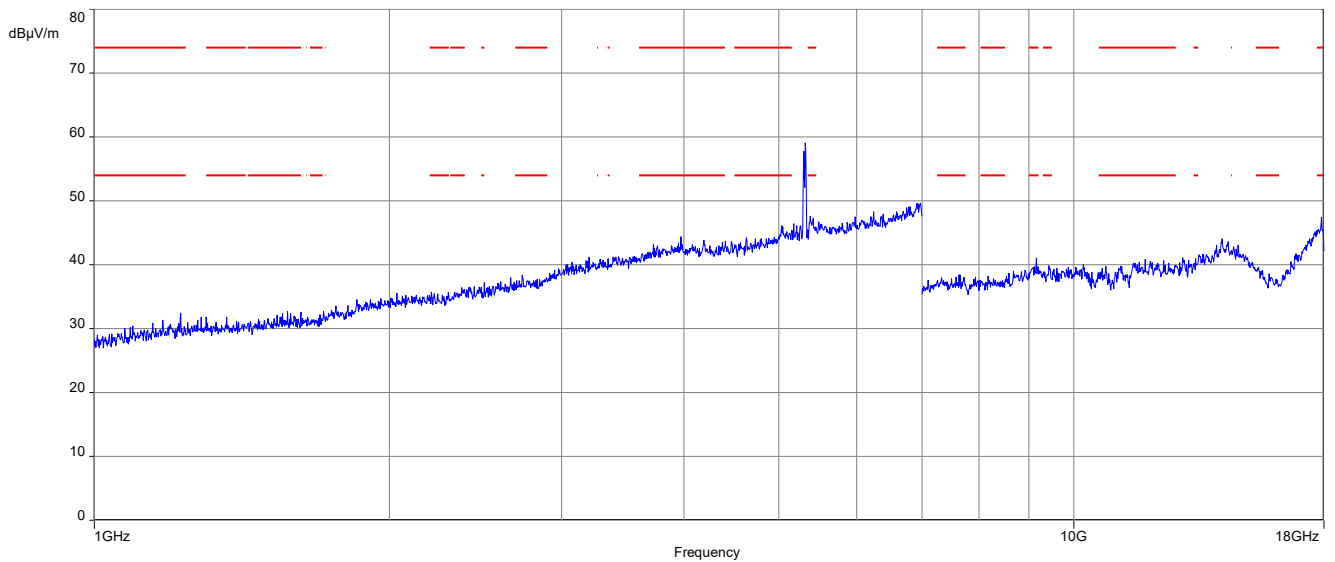
Plot 2: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-1; highest channel



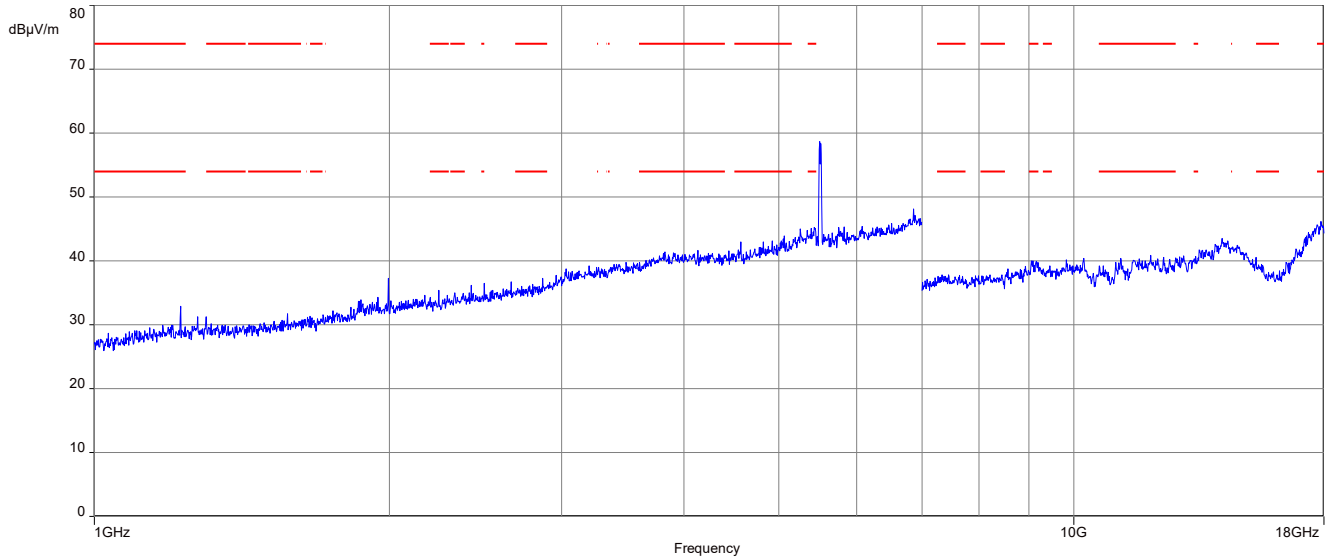
Plot 3: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2A; lowest channel



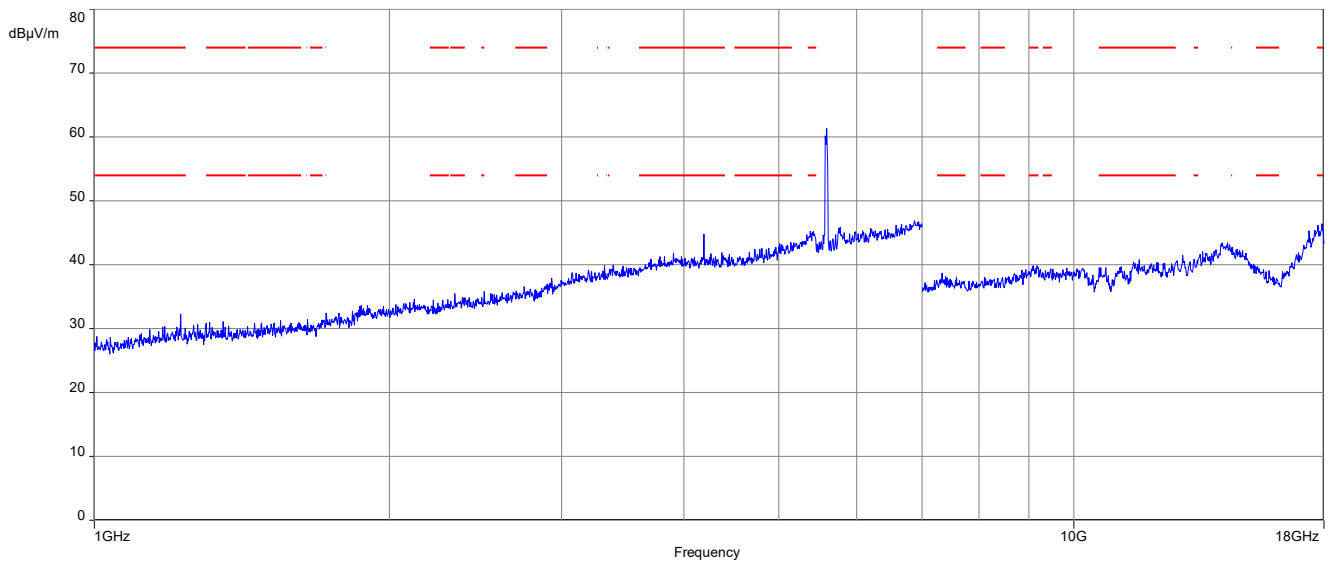
Plot 4: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2A; highest channel



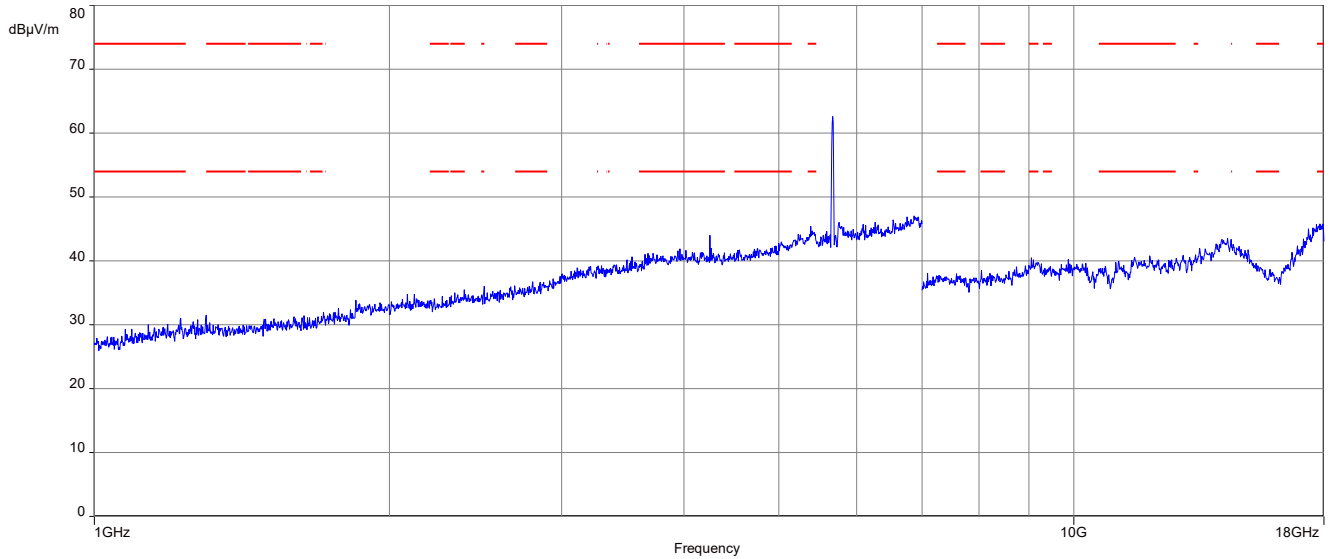
Plot 5: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2C; lowest channel



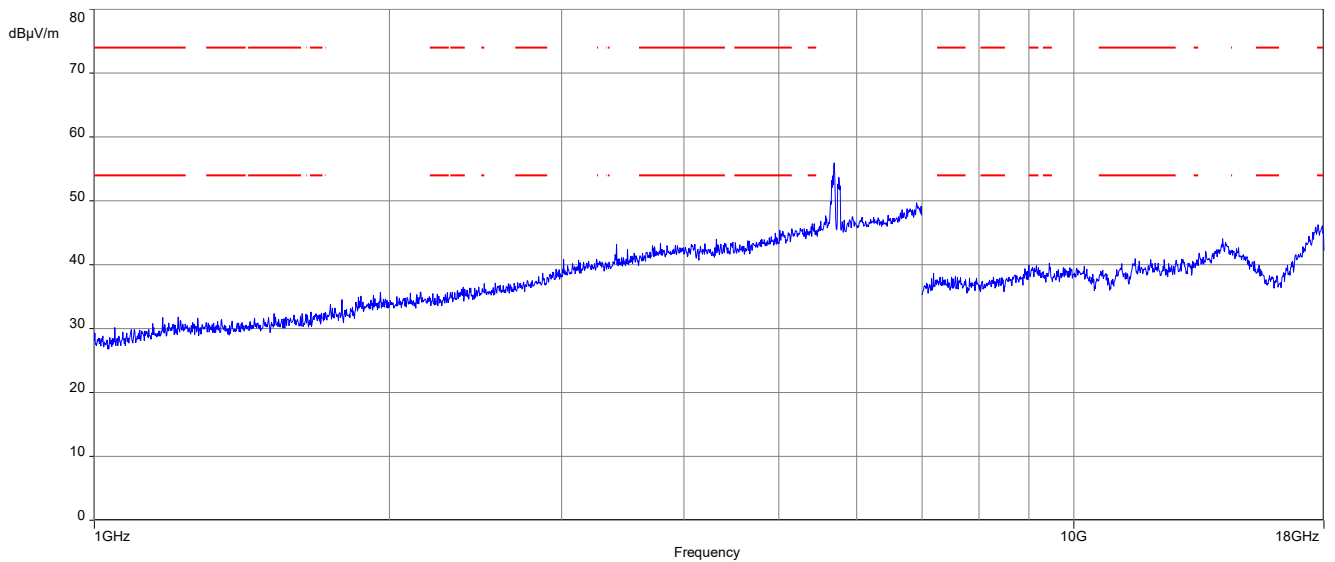
Plot 6: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2C; middle channel



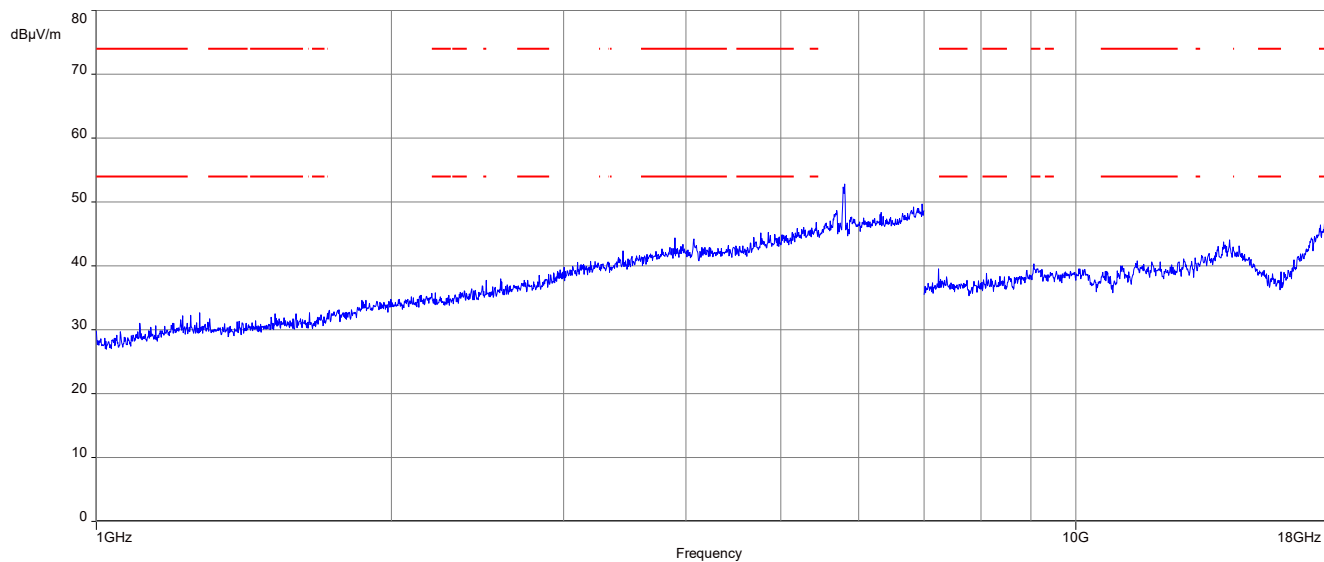
Plot 7: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2C; highest channel



Plot 8: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-3; lowest channel

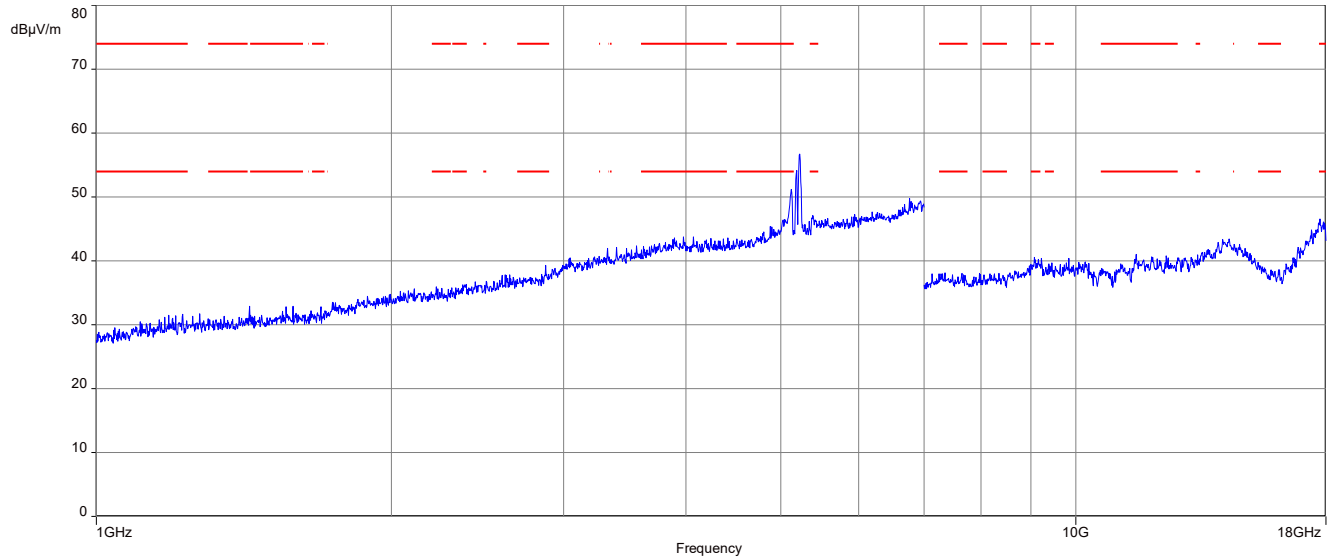


Plot 9: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-3; highest channel

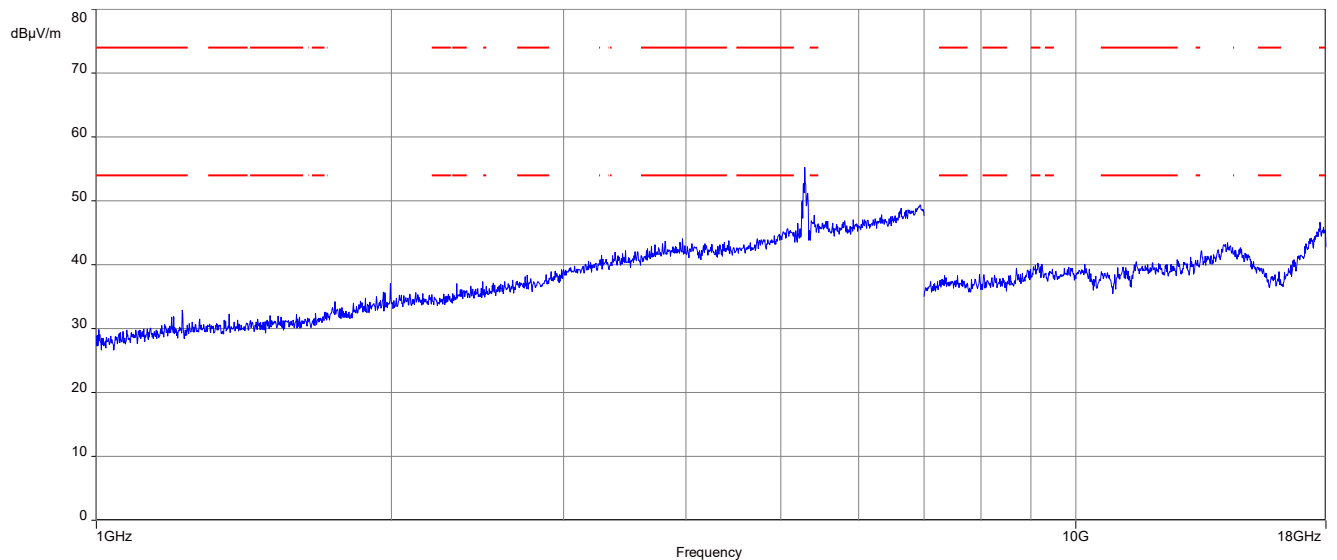


Plots: 80 MHz channel bandwidth

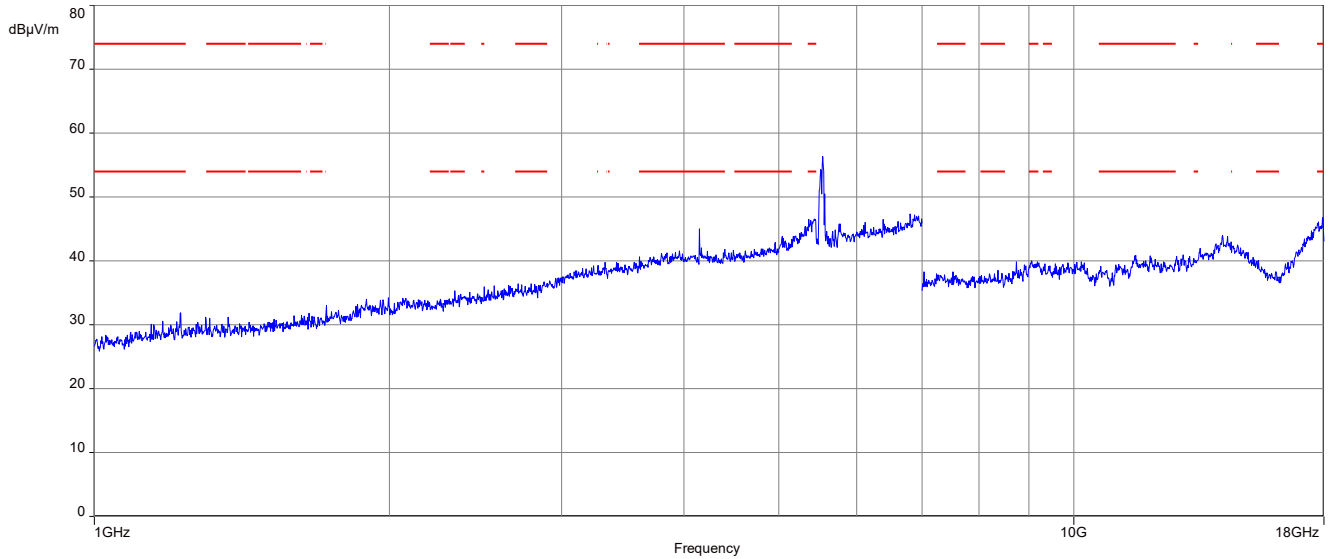
Plot 1: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-1; middle channel



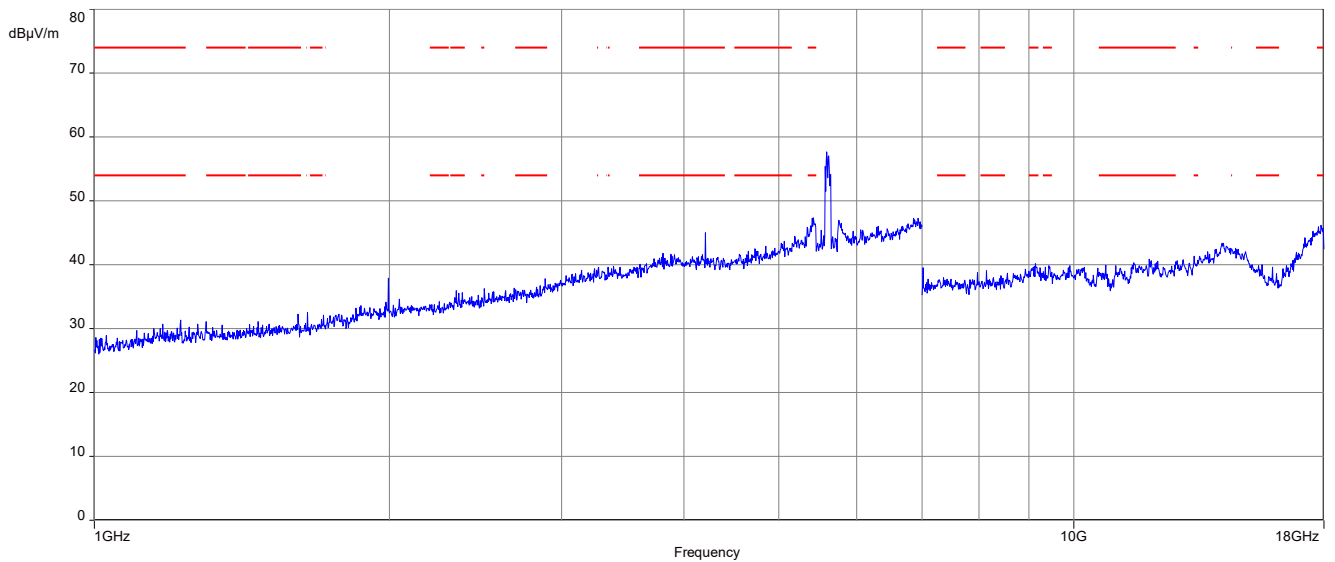
Plot 2: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2A; middle channel

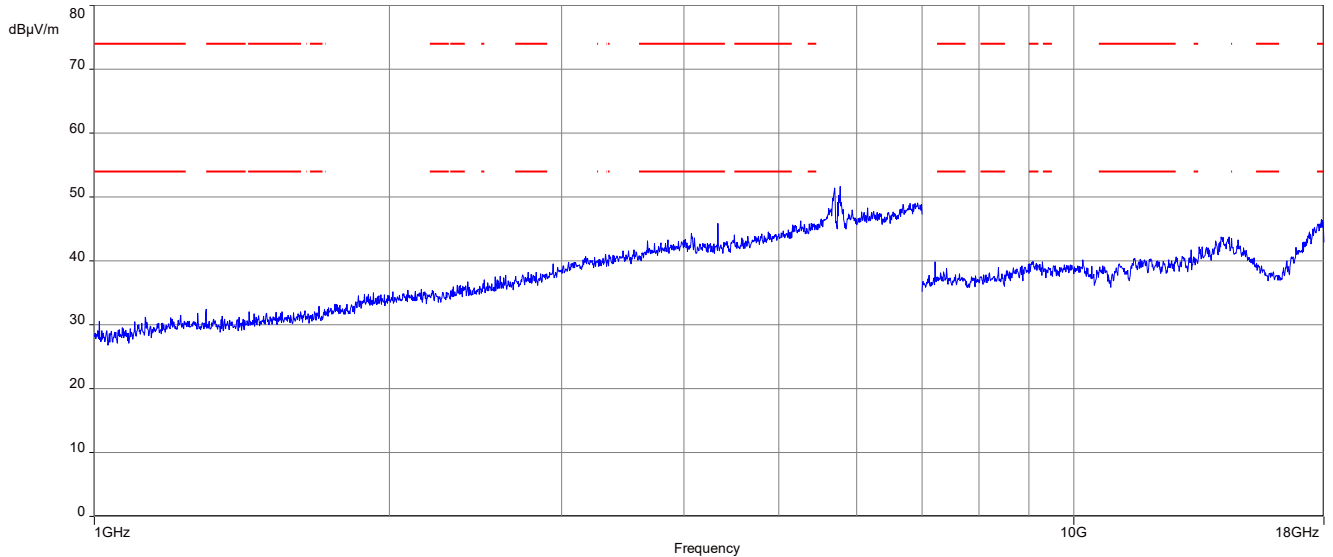
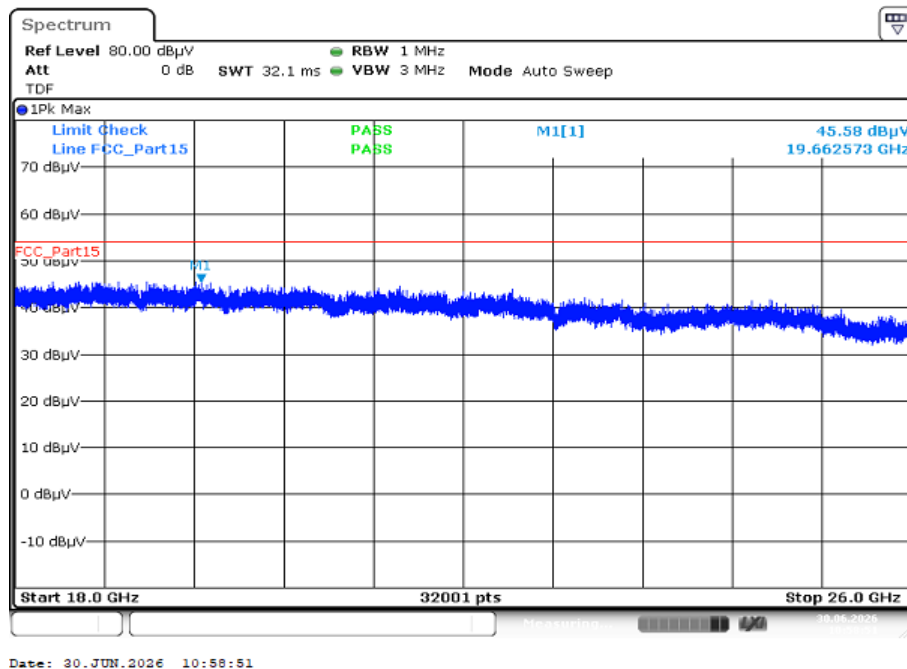


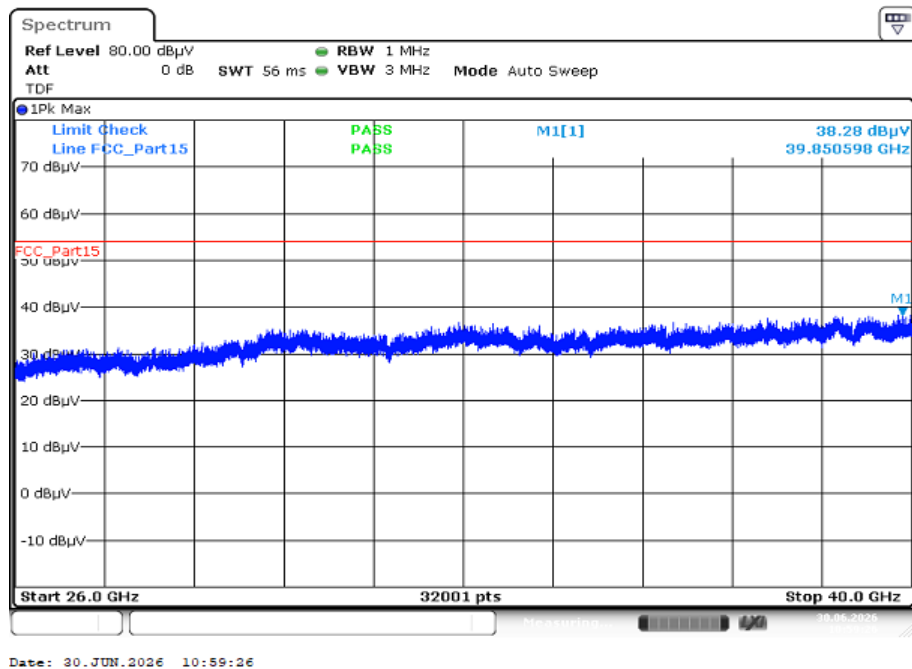
Plot 3: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-2C; lowest channel



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



Plot 5: 1 GHz to 18 GHz; vertical & horizontal polarization; U-NII-3; middle channel**Plot 6:** 18 GHz to 26 GHz; vertical & horizontal polarization; worst case of all channels and modes

Plot 7: 26 GHz to 40 GHz; vertical & horizontal polarization; worst case of all channels and modes

12.9 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

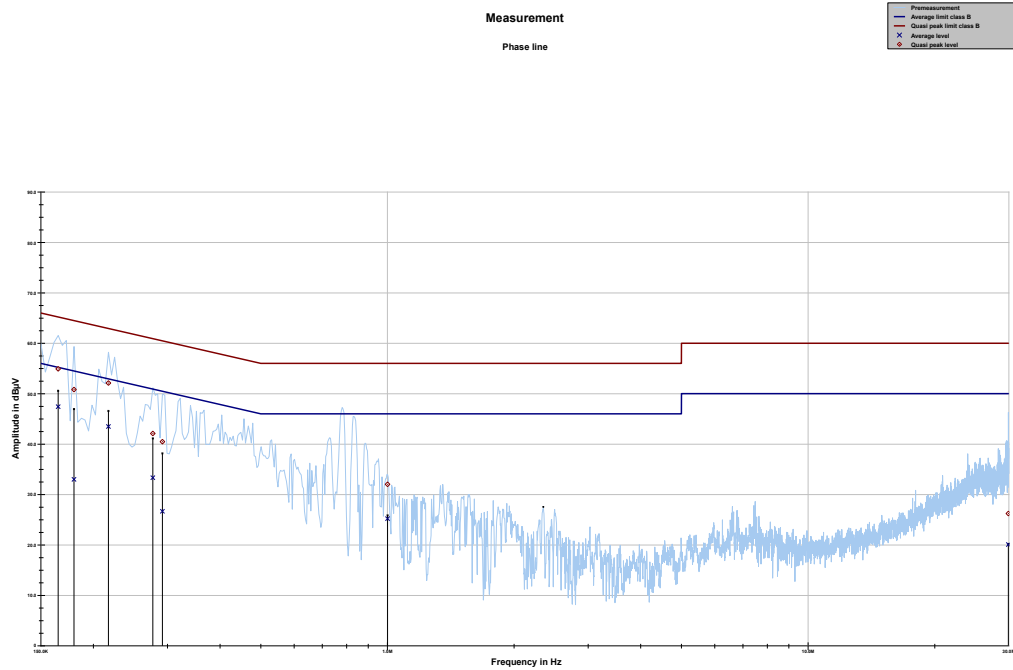
Limits:

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

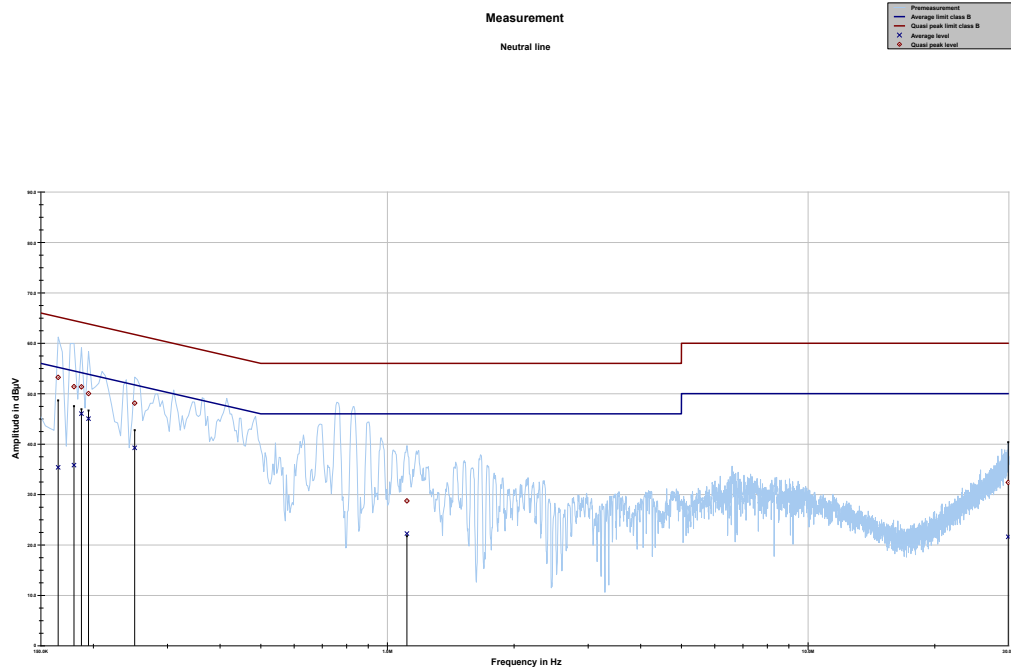
*Decreases with the logarithm of the frequency

Results:

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

Plots:**Plot 1:** 150 kHz to 30 MHz, phase line (240 VAC)**Final results:**

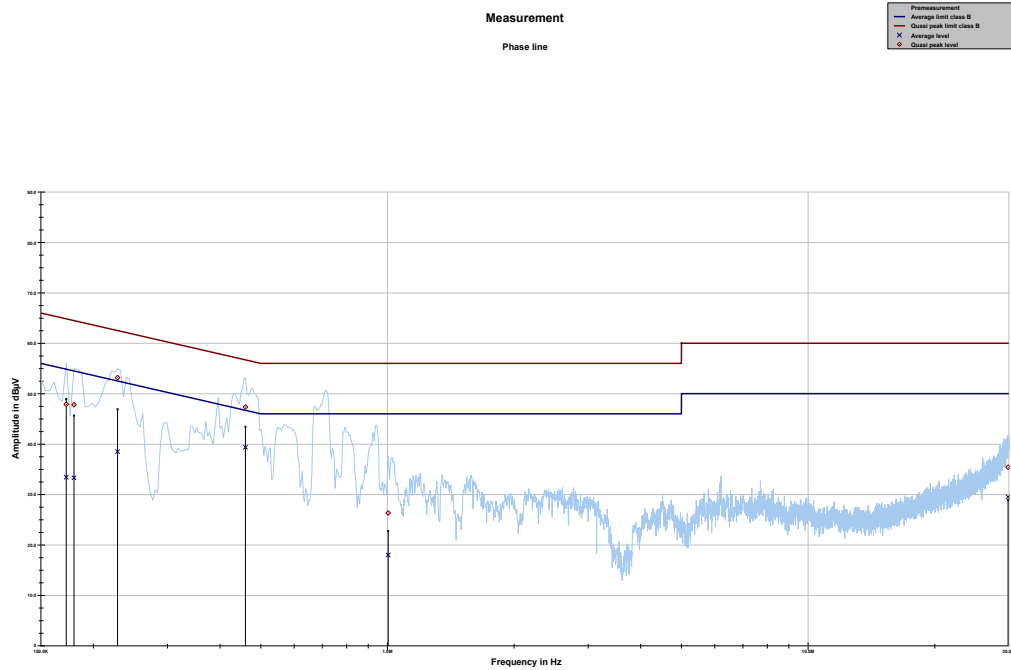
Frequency	Quasi peak level	Margin quasi peak	Limit QP	Average level	Margin average	Limit AV
MHz	dBμV	dB	dBμV	dBμV	dB	dBμV
0.164925	54.91	10.30	65.212	47.41	8.16	55.574
0.179850	50.82	13.67	64.493	33.00	22.14	55.147
0.217163	52.11	10.82	62.927	43.50	10.59	54.081
0.276863	42.10	18.81	60.909	33.33	19.05	52.375
0.291787	40.48	19.99	60.473	26.68	25.27	51.949
1.000725	32.03	23.97	56.000	25.21	20.79	46.000
29.932838	26.22	33.78	60.000	20.08	29.92	50.000

Plot 2: 150 kHz to 30 MHz, neutral line (240 VAC)

Project ID: 2152_01_09

Final results:

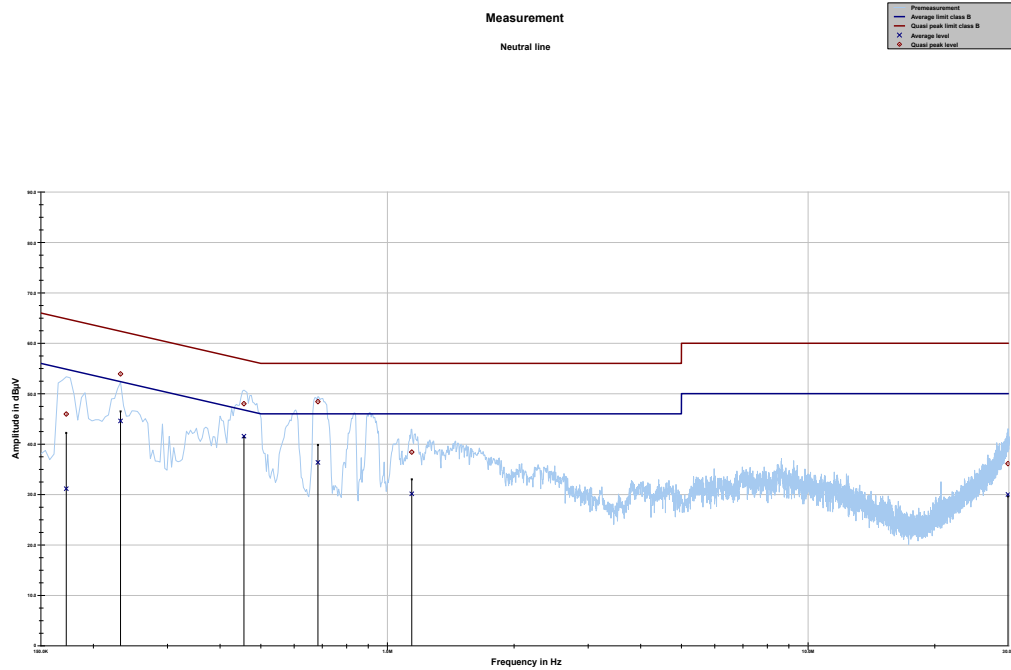
Frequency	Quasi peak level	Margin quasi peak	Limit QP	Average level	Margin Average	Limit AV
MHz	dBμV	dB	dBμV	dBμV	dB	dBμV
0.164925	53.24	11.97	65.212	35.39	20.18	55.574
0.179850	51.39	13.10	64.493	35.83	19.32	55.147
0.187312	51.35	12.81	64.155	46.04	8.89	54.934
0.194775	50.02	13.81	63.830	45.04	9.68	54.721
0.250744	48.12	13.62	61.732	39.26	13.86	53.122
1.112663	28.74	27.26	56.000	22.25	23.75	46.000
29.910450	32.38	27.62	60.000	21.60	28.40	50.000

Plot 3: 150 kHz to 30 MHz, phase line (120 VAC)

Project ID: 2152_01_11

Final results:

Frequency	Quasi peak level	Margin quasi peak	Limit QP	Average level	Margin average	Limit AV
MHz	dBμV	dB	dBμV	dBμV	dB	dBμV
0.172387	47.90	16.94	64.845	33.43	21.93	55.360
0.179850	47.81	16.68	64.493	33.31	21.84	55.147
0.228356	53.18	9.33	62.509	38.50	15.26	53.761
0.459694	47.34	9.36	56.698	39.36	7.79	47.152
1.004456	26.34	29.66	56.000	17.99	28.01	46.000
29.888063	35.41	24.59	60.000	29.50	20.50	50.000

Plot 4: 150 kHz to 30 MHz, neutral line (120 VAC)

Project ID: 2152_01_11

Final results:

Frequency	Quasi peak level	Margin quasi peak	Limit QP	Average level	Margin average	Limit AV
MHz	dBμV	dB	dBμV	dBμV	dB	dBμV
0.172387	45.96	18.89	64.845	31.16	24.20	55.360
0.232088	53.92	8.46	62.375	44.59	9.06	53.655
0.455962	48.02	8.75	56.766	41.57	5.69	47.258
0.683569	48.41	7.59	56.000	36.36	9.64	46.000
1.142513	38.41	17.59	56.000	30.13	15.87	46.000
29.876869	36.13	23.87	60.000	30.01	19.99	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	2026-07-07

END OF TEST REPORT