

TEST REPORT

Test report no.: 1-1335-25-02-04_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

Parrot Drones SAS

174 Quai de Jemmapes

75010 Paris / FRANCE

Phone: +33 1 48 03 60 60

Contact: Arezki Guerrab

e-mail: arezki.guerrab@parrot.com

Manufacturer

Parrot Drones SAS

174 Quai de Jemmapes

75010 Paris / FRANCE

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

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: SKYCONTROLLER UKR

Model name: MPP U2 GOV

FCC ID: 2AG6IMPPU2GOV

ISED certification number: 21053-MPPU2GOV

Frequency: 2400 MHz to 2483.5 MHz

Technology tested: WLAN

Antenna: Two integrated antennas

Power supply: 7.2 V DC by Li-Ion battery
120/230 V AC by mains

Temperature range: -36°C to +50°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.

Test report authorized:

On behalf of



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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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In no case this test report can be considered as a Letter of Approval.

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.

2.2 Application details

Date of receipt of order:	2026-01-14
Date of receipt of test item:	2026-04-06
Start of test:*	2026-04-15
End of test:*	2026-05-27
Person(s) present during the test:	Mr. Arezki Guerrab

*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

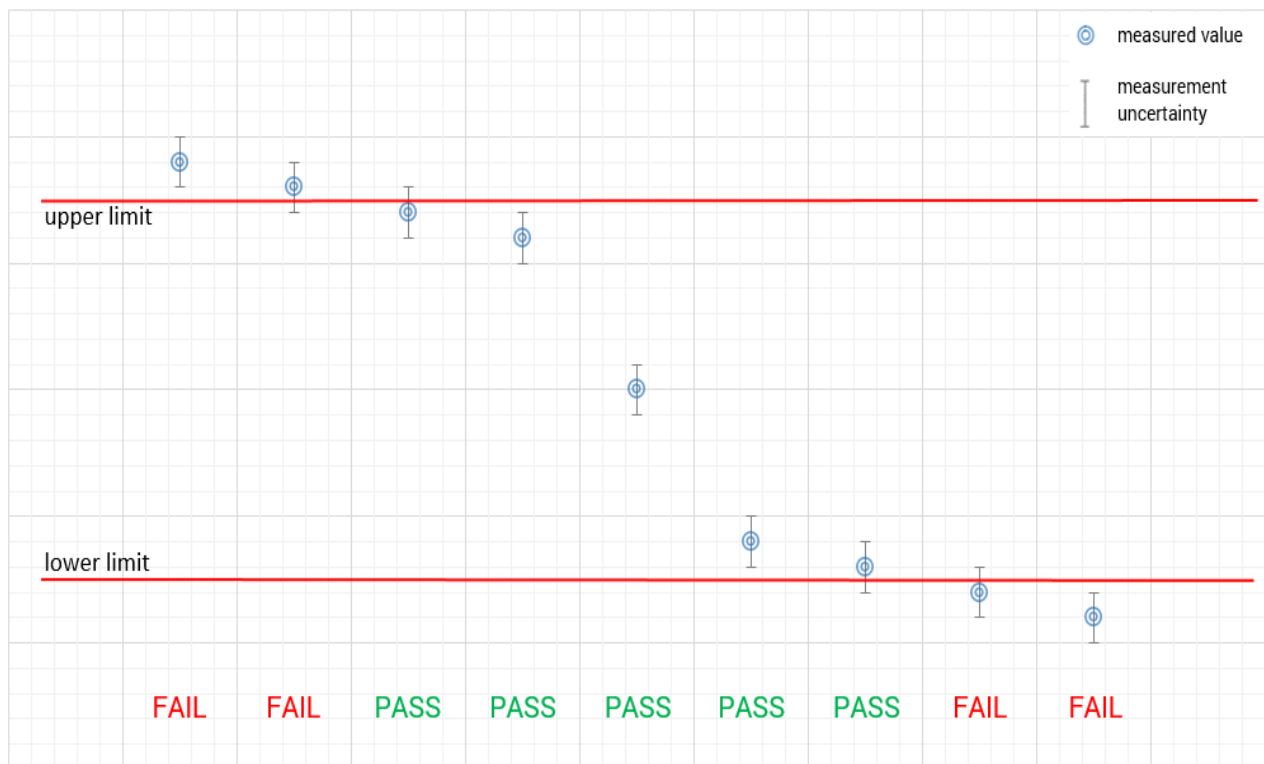
Test standard	Date	Description
FCC 47 CFR Part 15	-/-	FCC - Title 47 of the Code of Federal Regulations; Chapter I; Part 15 - Radio frequency devices
RSS-247:Issue 4 (2025-07)	2025-07-24	RSS-247 – Digital Transmission Systems, Frequency Hopping Systems and Licence-Exempt Local Area Network Devices in 902-928 MHz, 2400-2483.5 MHz, 5150-5350 MHz, and 5470-5895 MHz bands
Guidance	Version	Description
KDB 558074 D01	v05r02	GUIDANCE FOR COMPLIANCE MEASUREMENTS ON DIGITAL TRANSMISSION SYSTEM, FREQUENCY HOPPING SPREAD SPECTRUM SYSTEM, AND HYBRID SYSTEM DEVICES OPERATING UNDER SECTION 15.247 OF THE FCC RULES
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
KDB 662911 D01	v02r01	Correction Sheet
KDB 174176 D01	V01r02	Emissions Testing of Transmitters with Multiple Outputs in the Same Band
		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}	21 °C during room temperature tests No testing under extreme temperature conditions required No testing under extreme temperature conditions required
Relative humidity content :		40 %
Barometric pressure :		Not relevant for this kind of testing
Power supply :	V_{nom} V_{max} V_{min}	7.2 V DC by Li-Ion battery 5.0 V DC by mains adapter PD6008 120/230 V AC by mains 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 :	SKYCONTROLLER UKR	
Model name :	MPP U2 GOV	
HMN :	-/-	
PMN :	SKYCONTROLLER UKR	
HVIN :	MPP U2 GOV	
FVIN :	-/-	
S/N serial number :	Radiated unit:	163
	Conducted unit:	163
Hardware status :	HW_06	
Software status :	8.5.0-alpha2	
Firmware status :	8.5.0-alpha2	
Frequency band :	2400 MHz to 2483.5 MHz	
Type of radio transmission :	DSSS, OFDM	
Use of frequency spectrum :		
Type of modulation :	CCK, (D)BPSK, (D)QPSK, 16 – QAM, 64 – QAM, 256 – QAM, 1024 – QAM	
Number of channels :	11	
Antenna :	Two integrated antennas	
Power supply :	7.2 V DC by Li-Ion battery 120/230 V AC by mains	
Temperature range :	-36°C to +50°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:

1-1335-25-02-01_TR1-A101-R01
 1-1335-25-02-01_TR1-A102-R01
 1-1335-25-02-01_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).

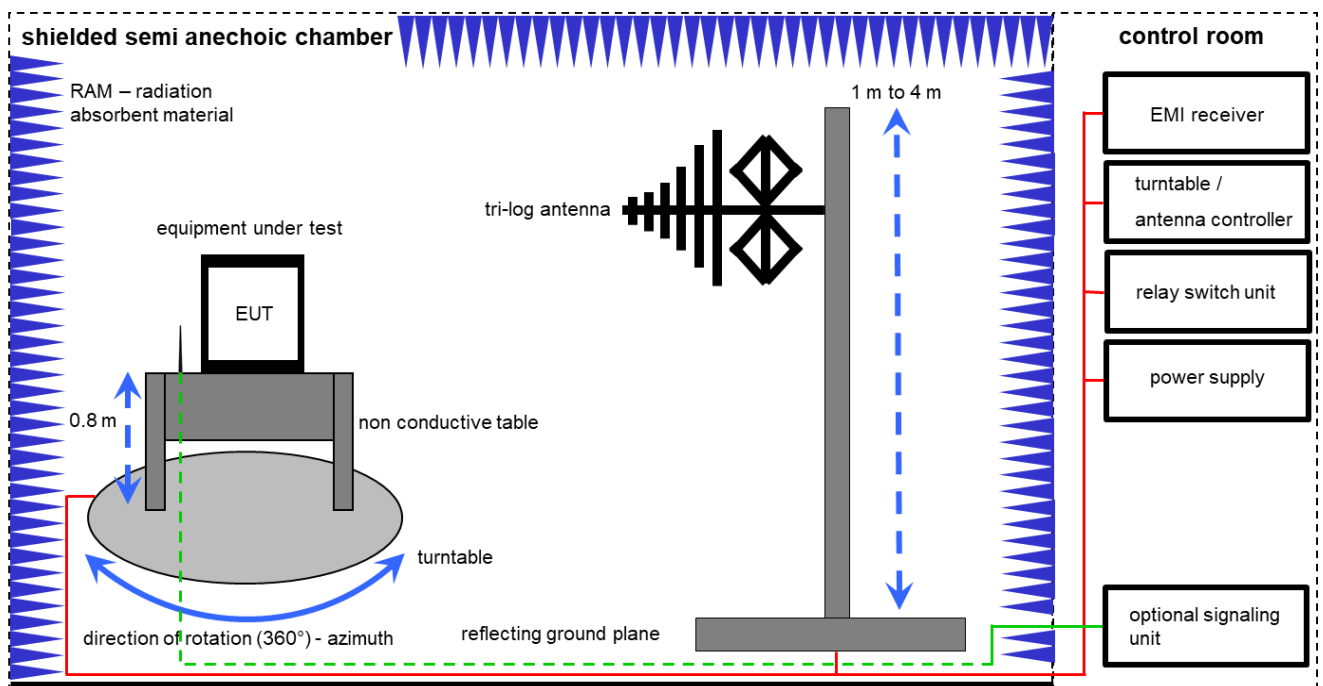
Each block diagram listed can contain several test setup configurations. All devices belonging to a test setup are identified with the same letter syntax. For example: Column Setup and all devices with an A.

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)

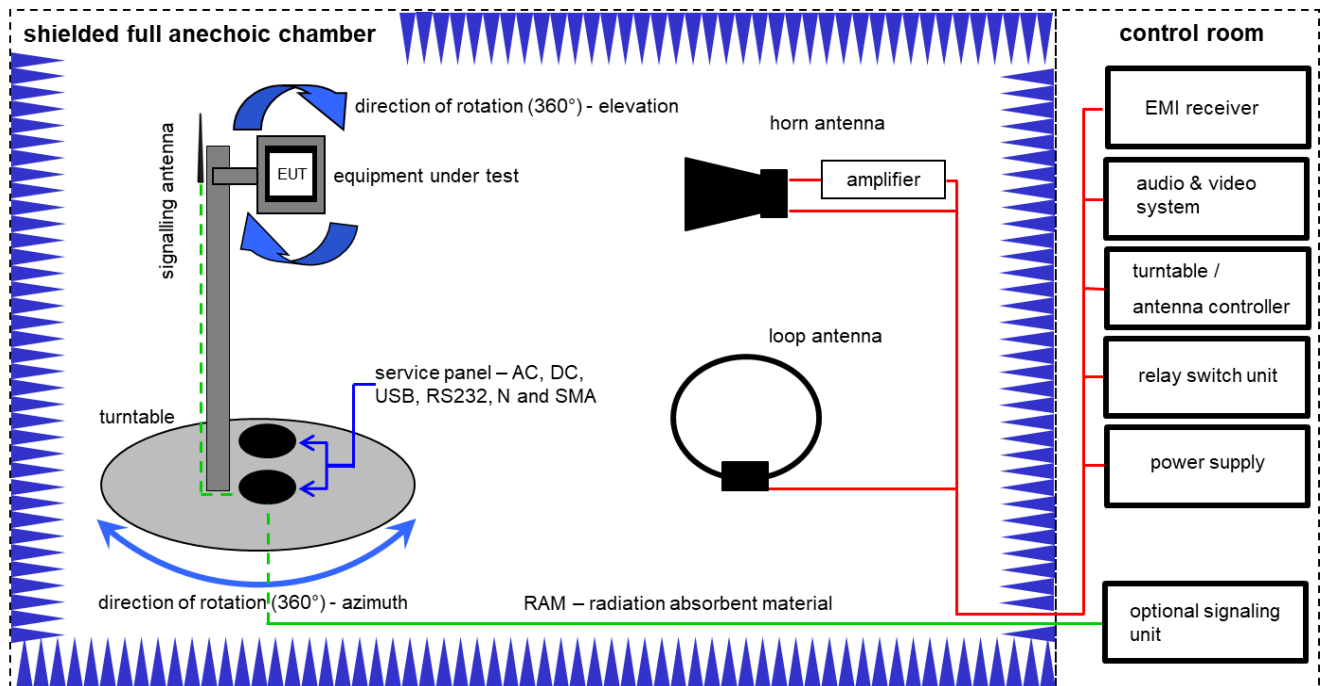
Example calculation:

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

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	cnr	-/-	-/-
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:

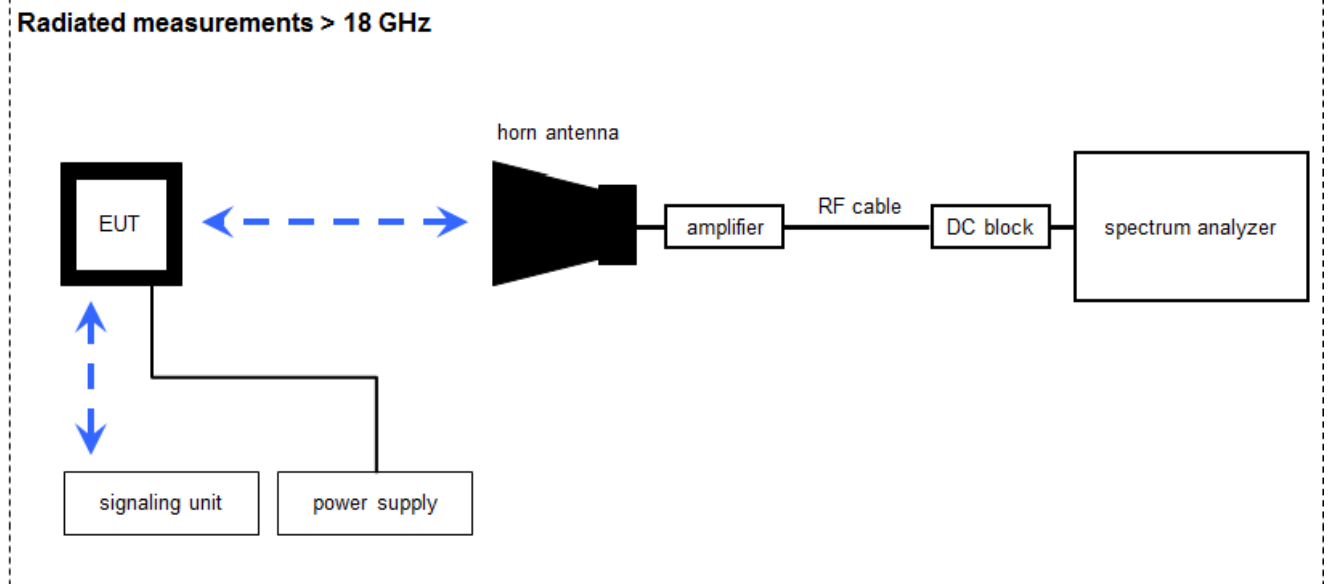
FS [dBμV/m] = 40.0 [dBμV/m] + (-35.8) [dB] + 32.9 [dB/m] = 37.1 [dBμV/m] (71.61 μV/m)

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	Band Reject filter	Band Reject filter WRCG2400/2483-2375/2505-50/10SS	Wainwright Instruments GmbH Andechs	11	40356	cpu	-/-	-/-
5	C	Highpass Filter	Highpass Filter WHK1.1/15G-10SS	Wainwright Instruments GmbH Andechs	3	40361	cpu	-/-	-/-
6	C	Highpass Filter	Highpass Filter WHKX7.0/18G-8SS	Wainwright Instruments GmbH Andechs	19	40365	cnn	-/-	-/-
7	C	High Pass Filter	High Pass Filter VHF-3500+	Mini-Circuits Brooklyn	-/-	40369	cnn	-/-	-/-
8	A, C	Broadband Amplifier 0.5-18 GHz	Broadband Amplifier 0.5-18 GHz CBLU5184540	MEC Import: CERNEX	22049	40373	cpu	-/-	-/-
9	A, B, C	4U RF Switch Platform	4U RF Switch Platform L4491A	Agilent Technologies Deutschland GmbH Böblingen	MY50000037	40375	cnn	-/-	-/-
10	A, B, C	NEXIO EMV-Software	NEXIO EMV-Software BAT EMC V2022.0.32.0	MEC Import: Nexio	-/-	40383	cnn	-/-	-/-

11	C	RF-Amplifier	RF-Amplifier AMF-6F06001800-30-10P-R	MEC Import: NARDA-MITEQ Inc	2011572	40400	cpu	-/-	-/-
12	B	Active Loop Antenna	Active Loop Antenna 6502	EMCO Elektronik GmbH Gilching	2210	50044	cal	07.07.2025	31.07.2027
13	A, B, C	EMI Test Receiver	EMI Test Receiver ESU26	Rohde & Schwarz Messgerätebau GmbH Memmingen	100037	50254	cal	11.12.2025	31.12.2026
14	C	Low Noise Amplifier	Low Noise Amplifier LNA-40-00100800-15-10P	Miteq Inc.	2336093	50483	cnn	-/-	-/-

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:

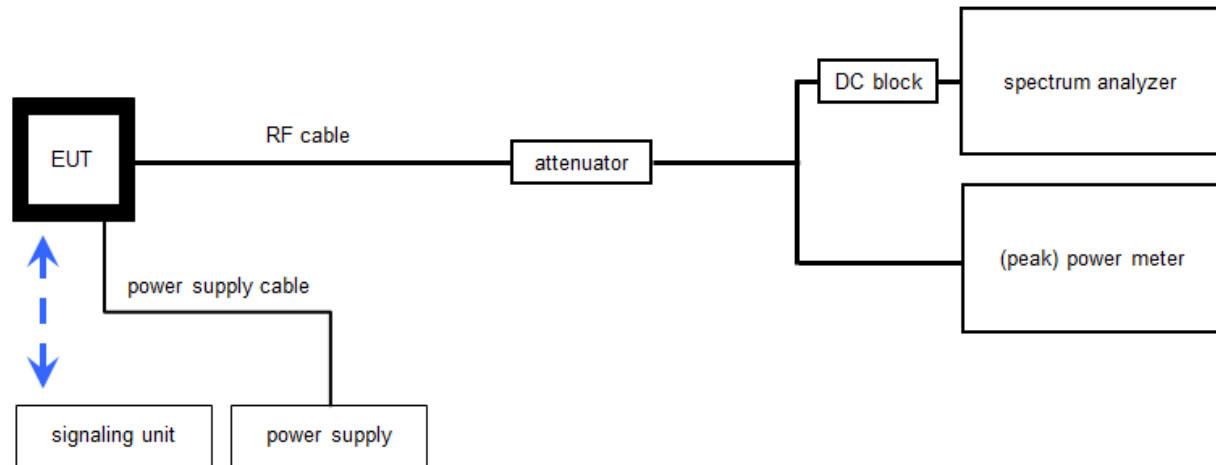
FS [dBμV/m] = 40.0 [dBμV/m] + (-60.1) [dB] + 36.74 [dB/m] = 16.64 [dBμV/m] (6.79 μV/m)

Equipment table:

No.	Setup	Equipment	Type	Manufacturer	Serial No.	INV. No.	Kind of Calibration	Last Calibration	Next Calibration
1	A	Microwave System Amplifier, 0.5-26.5 GHz	Microwave System Amplifier, 0.5-26.5 GHz 83017A	Hewlett Packard	00419	40014	cpu	-/-	-/-
2	A	Std. Gain Horn Antenna 18.0-26.5 GHz	Std. Gain Horn Antenna 18.0-26.5 GHz 638	Narda Microwave	8205	40085	cal	16.01.2026	31.01.2028
3	A	Signal analyzer	Signal analyzer FSV40	Rohde & Schwarz Messgerätebau GmbH Memmingen	101042	40292	cal	08.01.2026	31.01.2027
4	A	RF-Cable	RF-Cable ST18/SMAM/SMAM /72	Huber & Suhner GmbH Unterhaching	Batch no. 699714	40389	cpu	-/-	-/-
5	A	DC-Blocker 0.1-40 GHz	DC-Blocker 0.1-40 GHz 8141A	MEC Import: Inmet	-/-	40390	cpu	-/-	-/-

7.4 Conducted measurements with peak power meter & spectrum analyzer

Conducted measurements normal conditions



WLAN tester version: 1.1.13

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

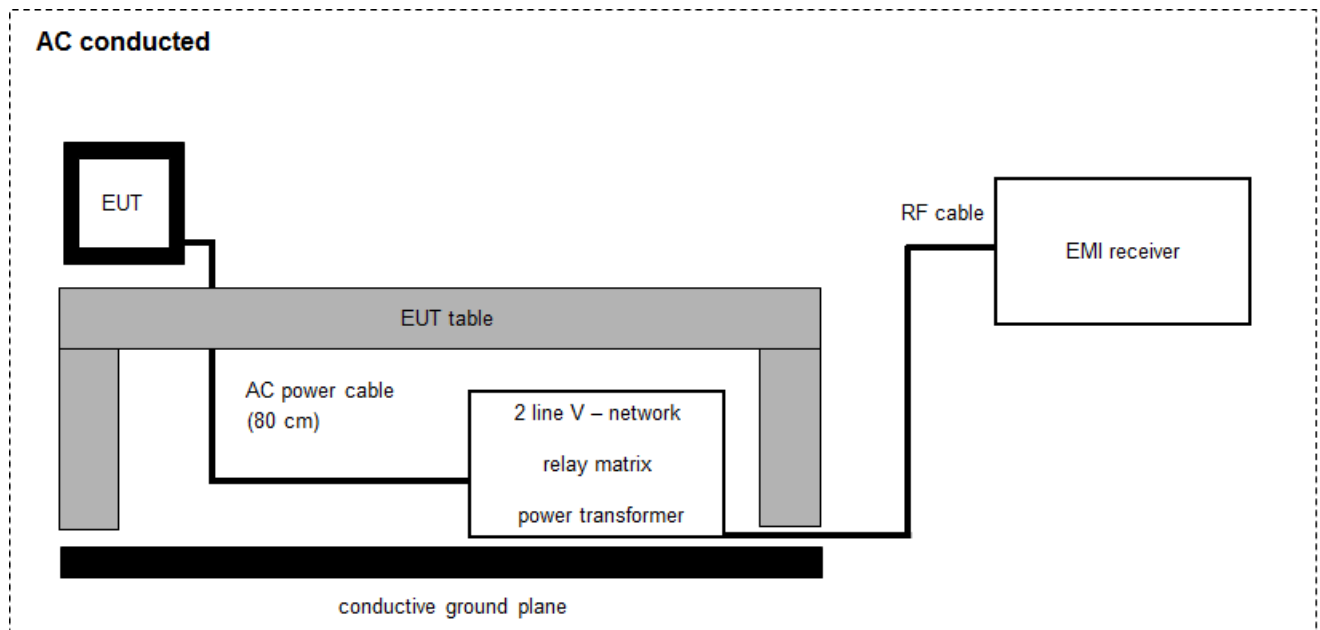
Example calculation:

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, B	RF-Cable	RF-Cable ST18/SMAM/SMAM /72	Huber & Suhner GmbH Unterhaching	Batch no. 699714	40389	cpu	-/-	-/-
3	A, B	DC-Blocker 0.1-40 GHz	DC-Blocker 0.1-40 GHz 8141A	MEC Import: Inmet	-/-	40390	cpu	-/-	-/-
4	B	USB Wideband Power Sensor (50MHz - 18GHz)	USB Wideband Power Sensor (50MHz - 18GHz) U2021XA	Keysight Technologies Deutschland GmbH Böblingen	MY591900010	40317	cal	08.12.2025	31.12.2026
5	A, B	Switch Matrix	Switch Matrix USM	cetecom advanced GmbH Saarbrücken	C001	40340	cnn	-/-	-/-
6	A, B	RF-Cable	RF-Cable ST18/SMAM/SMAM /48	Huber & Suhner GmbH Unterhaching	Batch no. 600918	40387	cpu	-/-	-/-
7	A, B	RF-Cable	RF-Cable ST18/SMAM/SMAM /48	Huber & Suhner GmbH Unterhaching	Batch no. 127377	40388	cpu	-/-	-/-
8	A, B	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 63.4.
- 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 63.4) – 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 63.4).
- 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 63.4.
- 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 63.4) – 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 63.4).
- 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 63.4.
- 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 63.4) – 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 63.4).
- 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 63.4.
- 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 63.4).
- 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 Part 15 RSS - 247, Issue 4	See table!	2026-06-02	-/-

Test specification clause	Test case	Guideline	Temperature & voltage conditions	C	NC	NA	NP	Remark
§15.247(b)(4) RSS - 247 / 6.4 (f)(ii)	Antenna gain	-/-	Nominal	-/-				-/-
§15.35	Duty cycle	-/-	Nominal	-/-				-/-
§15.247(e) RSS - 247 / 6.2 (b)	Power spectral density	KDB 558074 DTS clause: 8.4	Nominal	☒	☐	☐	☐	-/-
§15.247(a)(2) RSS - 247 / 6.2 (a)	DTS bandwidth	KDB 558074 DTS clause: 8.2	Nominal	☒	☐	☐	☐	-/-
RSS Gen clause 4.6.1	Occupied bandwidth	-/-	Nominal	☒	☐	☐	☐	-/-
§15.247(b)(3) RSS - 247 / 6.4 (d)	Maximum output power	KDB 558074 DTS clause: 8.3.1.3	Nominal	☒	☐	☐	☐	-/-
§15.247(d) RSS - 247 / 6.5	Detailed spurious emissions @ the band edge – cond.	-/-	Nominal	☒	☐	☐	☐	-/-
§15.205 RSS - 247 / 6.5 RSS - Gen	Band edge compliance cond. or rad.	KDB 558074 DTS clause: 8.7.3	Nominal	☒	☐	☐	☐	-/-
§15.247(d) RSS - 247 / 6.5	TX spurious emissions cond.	KDB 558074 DTS clause: 8.5	Nominal	☒	☐	☐	☐	-/-
§15.209(a) RSS-Gen	TX spurious emissions rad. below 30 MHz	-/-	Nominal	☒	☐	☐	☐	-/-
§15.247(d) RSS - 247 / 6.5 RSS-Gen	TX spurious emissions rad. 30 MHz to 1 GHz	-/-	Nominal	☒	☐	☐	☐	-/-
§15.247(d) RSS - 247 / 6.5 RSS-Gen	TX spurious emissions rad. above 1 GHz	-/-	Nominal	☒	☐	☐	☐	-/-
§15.107(a) §15.207	Conducted emissions < 30 MHz	-/-	Nominal	☒	☐	☐	☐	-/-

Notes:

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

Reference documents: Power Settings Wifi.xlsx

Co-applicable documents: 1-1335-25-02-04_TR1-A201-R01

Special test descriptions: Power settings:

Test mode:	Data rate:	Power setting:
b-mode (MIMO)	1	16
DSSS (MIMO)	Half rate	16
DSSS (MIMO)	Quarter rate	16
g-mode (MIMO)	6	16
n HT20-mode (MIMO)	MCS0	16
ac VHT20-mode (MIMO)	MCS0	16
ax HE20-mode (MIMO)	MCS0	16
OFDM (MIMO)	Half rate	16
OFDM (MIMO)	Quarter rate	16

Configuration descriptions: None

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:

channel number & center frequency													
channel	1	2	3	4	5	6	7	8	9	10	11	12	13
f _c / MHz	2412	2417	2422	2427	2432	2437	2442	2447	2452	2457	2462	2467	2472

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

12 Additional EUT parameter

- Test mode:
- ☐ No test mode available
Iperf was used to ping another device with the largest support packet size
 - ☒ Test mode available
Special software is used.
EUT is transmitting pseudo random data by itself
- Modulation types:
- ☒ Wide Band Modulation (None Hopping – e.g. DSSS, OFDM)
 - ☐ Frequency Hopping Spread Spectrum (FHSS)
- 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.

13 Measurement results

13.1 Antenna gain

Antenna gain as declared by the manufacturer:

Gain Max 3D (dBi)	Antenne 1	Antenne 2	Antenne 1	Antenne 2
2G4	8.10	7.92	NO	NO

13.2 Maximum output power verification (conducted)

Worst case data rates and operating modes as declared by the manufacturer (see section 11.).

13.3 Maximum output power

Description:

Measurement of the maximum conducted peak/avg output power. The measurements are performed using the data rate identified in the previous chapter.

Measurement:

Measurement parameter	
According to ANSI C63.10-2013 Chapter 11.9.2.2.2	
External result file(s)	See chapter 11
Test setup	See chapter 7.5 setup B
Measurement uncertainty	See chapter 9
Detector	RMS
Resolution bandwidth	500 kHz
Video bandwidth	2 MHz
Trace mode	Max hold

Limits:

FCC	ISED
Conducted 1.0 W / 30 dBm with an antenna gain of max. 6 dBi	
Conducted limit with an gain of 8.1 dBi = 27.9 dBm	

Results:

antenna port 1	maximum output power / dBm		
	lowest channel	middle channel	highest channel
Output power conducted DSSS / b – mode	17.09	15.92	16.29
Output power conducted DSSS / 10 MHz HR	16.83	15.59	16.37
Output power conducted DSSS / 5 MHz QR	15.66	14.60	15.34
Output power conducted OFDM / g – mode	16.26	15.19	15.69
Output power conducted OFDM / n HT20 – mode	16.06	15.17	15.51
Output power conducted OFDM / ac VHT20 – mode	16.02	15.15	15.48
Output power conducted OFDM / ax HE20 – mode	16.51	15.72	15.88
Output power conducted OFDM / 10 MHz HR	16.55	15.39	15.88
Output power conducted OFDM / 5 MHz QR	16.70	15.67	16.20

antenna port 2	maximum output power / dBm		
	lowest channel	middle channel	highest channel
Output power conducted DSSS / b – mode	16.89	15.66	15.33
Output power conducted DSSS / 10 MHz HR	14.63	13.32	13.08
Output power conducted DSSS / 5 MHz QR	16.83	15.69	15.40
Output power conducted OFDM / g – mode	16.28	15.30	15.24
Output power conducted OFDM / n HT20 – mode	15.92	14.81	14.50
Output power conducted OFDM / ac VHT20 – mode	15.71	14.58	14.23
Output power conducted OFDM / ax HE20 – mode	16.33	15.17	14.61
Output power conducted OFDM / 10 MHz HR	16.25	15.37	15.09
Output power conducted OFDM / 5 MHz QR	16.57	15.33	15.09

antenna port 1 + 2 calculated	maximum output power / dBm		
	lowest channel	middle channel	highest channel
Output power conducted DSSS / b – mode	20.00	18.80	18.85
Output power conducted DSSS / 10 MHz HR	18.88	17.61	18.04
Output power conducted DSSS / 5 MHz QR	19.29	18.19	18.38
Output power conducted OFDM / g – mode	19.28	18.26	18.48
Output power conducted OFDM / n HT20 – mode	19.00	18.00	18.04
Output power conducted OFDM / ac VHT20 – mode	18.88	17.88	17.91
Output power conducted OFDM / ax HE20 – mode	19.43	18.46	18.30
Output power conducted OFDM / 10 MHz HR	19.41	18.39	18.51
Output power conducted OFDM / 5 MHz QR	19.65	18.51	18.69

13.4 Duty cycle

Description:

Measurement of the timing behavior.

Measurement:

Measurement parameter	
Detector	Peak
Sweep time	Depends on the signal see plot
Resolution bandwidth	10 MHz
Video bandwidth	10 MHz
Trace mode	Max hold
External result file(s)	See chapter 11
Test setup	See chapter 7.4 setup A
Measurement uncertainty	See chapter 9

Limits:

FCC	ISED
No limitation!	

Results:

T_{nom}	V_{nom}	lowest channel	middle channel	highest channel
DSSS / b – mode		DC > 98 % / 0.0 dB	DC > 98 % / 0.0 dB	DC > 98 % / 0.0 dB
DSSS / 10 MHz HR		DC > 98 % / 0.0 dB	DC > 98 % / 0.0 dB	DC > 98 % / 0.0 dB
DSSS / 5 MHz QR		DC > 98 % / 0.0 dB	DC > 98 % / 0.0 dB	DC > 98 % / 0.0 dB
OFDM / g – mode		DC > 98 % / 0.0 dB	DC > 98 % / 0.0 dB	DC > 98 % / 0.0 dB
OFDM / n HT20 – mode		DC > 98 % / 0.0 dB	DC > 98 % / 0.0 dB	DC > 98 % / 0.0 dB
OFDM / ac HT20 – mode		DC > 98 % / 0.0 dB	DC > 98 % / 0.0 dB	DC > 98 % / 0.0 dB
OFDM / ax HE20 – mode		DC > 98 % / 0.0 dB	DC > 98 % / 0.0 dB	DC > 98 % / 0.0 dB
OFDM / 10 MHz HR		DC > 98 % / 0.0 dB	DC > 98 % / 0.0 dB	DC > 98 % / 0.0 dB
OFDM / 5 MHz QR		DC > 98 % / 0.0 dB	DC > 98 % / 0.0 dB	DC > 98 % / 0.0 dB

13.5 Average power spectral density

Description:

Measurement of the peak power spectral density of a digital modulated system. The PSD shows the strength of the variations as a function of the frequency.

Measurement:

Measurement parameter	
According to ANSI C63.10-2013 Chapter 11.10.5	
Detector	RMS
Sweep time	Auto
Resolution bandwidth	100 kHz
Video bandwidth	300 kHz
Span	30 MHz
Trace mode	Max. hold (allow trace to fully stabilize)
External result file(s)	See chapter 11
Test setup	See chapter 7.5 setup A
Measurement uncertainty	See chapter 9

Limits:

FCC	ISED
8 dBm / 3 kHz (conducted)	

Results:

antenna port 1	Average power spectral density / dBm @ 3 kHz		
	Lowest channel	Middle channel	Highest channel
DSSS / b – mode	-14.18	-15.88	-15.12
DSSS / 10 MHz HR	-11.81	-12.72	-12.11
DSSS / 5 MHz QR	-8.75	-11.03	-9.93
OFDM / g – mode	-17.84	-18.81	-17.74
OFDM / n HT20 – mode	-18.70	-19.18	-18.25
OFDM / ac VHT20 – mode	-18.35	-19.18	-18.41
OFDM / ax HE20 – mode	-19.42	-19.86	-19.31
OFDM / 10 MHz HR	-14.65	-15.75	-14.67
OFDM / 5 MHz QR	-11.73	-12.91	-11.98

Results:

antenna port 2	Average power spectral density / dBm @ 3 kHz		
	Lowest channel	Middle channel	Highest channel
DSSS / b – mode	-14.48	-16.03	-16.16
DSSS / 10 MHz HR	-13.84	-14.06	-14.67
DSSS / 5 MHz QR	-8.84	-9.82	-9.72
OFDM / g – mode	-16.37	-17.69	-19.33
OFDM / n HT20 – mode	-16.93	-18.37	-20.55
OFDM / ac VHT20 – mode	-17.18	-18.69	-20.50
OFDM / ax HE20 – mode	-18.08	-18.98	-21.42
OFDM / 10 MHz HR	-14.11	-15.38	-16.14
OFDM / 5 MHz QR	-11.82	-13.33	-13.06

Results: antenna port 1 + 2

calculated	Average power spectral density / dBm @ 3 kHz		
	Lowest channel	Middle channel	Highest channel
DSSS / b – mode	-11.32	-12.94	-12.60
DSSS / 10 MHz HR	-9.70	-10.33	-10.19
DSSS / 5 MHz QR	-5.78	-7.38	-6.81
OFDM / g – mode	-14.03	-15.20	-15.45
OFDM / n HT20 – mode	-14.72	-15.75	-16.24
OFDM / ac VHT20 – mode	-14.72	-15.92	-16.32
OFDM / ax HE20 – mode	-15.69	-16.39	-17.23
OFDM / 10 MHz HR	-11.36	-12.55	-12.33
OFDM / 5 MHz QR	-8.76	-10.10	-9.48

13.6 6 dB DTS bandwidth

Description:

Measurement of the 6 dB bandwidth of the modulated signal.

Measurement:

Measurement parameter	
According to DTS clause: 8.2	
Detector	Peak
Sweep time	Auto
Resolution bandwidth	100 kHz
Video bandwidth	500 kHz
Span	30 MHz / 50 MHz
Trace mode	Single count with 200 counts
External result file(s)	See chapter 11
Test setup	See chapter 7.4 setup A
Measurement uncertainty	See chapter 9

Limits:

FCC	ISED
Systems using digital modulation techniques may operate in the 2400–2483.5 MHz band. The minimum 6 dB bandwidth shall be at least 500 kHz.	

Results:

antenna port 1	6 dB DTS bandwidth / kHz		
	lowest channel	middle channel	highest channel
DSSS / b – mode	7528	8028	8036
DSSS / 10 MHz HR	3804	4036	3800
DSSS / 5 MHz QR	2040	2040	1936
OFDM / g – mode	15716	16348	15724
OFDM / n HT20 – mode	16328	17588	16320
OFDM / ac VHT20 – mode	16276	17584	16296
OFDM / ax HE20 – mode	18392	19056	17792
OFDM / 10 MHz HR	8176	8216	8168
OFDM / 5 MHz QR	4120	4132	4120

antenna port 2	6 dB DTS bandwidth / kHz		
	lowest channel	middle channel	highest channel
DSSS / b – mode	8080	8012	8044
DSSS / 10 MHz HR	3812	3804	3808
DSSS / 5 MHz QR	2028	2032	2036
OFDM / g – mode	15700	15716	16284
OFDM / n HT20 – mode	16336	17172	17244
OFDM / ac VHT20 – mode	16312	16676	17148
OFDM / ax HE20 – mode	17036	18748	18880
OFDM / 10 MHz HR	8092	8176	8184
OFDM / 5 MHz QR	4116	4136	4116

13.7 Occupied bandwidth – 99% emission bandwidth

Description:

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

Measurement:

Measurement parameter	
Detector	Peak
Sweep time	Auto
Resolution bandwidth	300 kHz
Video bandwidth	1 MHz
Span	30 MHz / 50 MHz
Measurement procedure	Measurement of the 99% bandwidth using the integration function of the analyzer
Trace mode	Single count with 200 counts
External result file(s)	See chapter 11
Test setup	See chapter 7.4 setup A
Measurement uncertainty	See chapter 9

Usage:

-/-	ISED
OBW is necessary for Emission Designator	

Results:

antenna port 1	99% emission bandwidth / kHz		
	lowest channel	middle channel	highest channel
DSSS / b – mode	12407	13243	12683
DSSS / 10 MHz HR	6411	6583	6463
DSSS / 5 MHz QR	3396	3408	3388
OFDM / g – mode	16598	16930	16710
OFDM / n HT20 – mode	17806	18234	17926
OFDM / ac VHT20 – mode	17786	18178	17878
OFDM / ax HE20 – mode	19042	19366	19122
OFDM / 10 MHz HR	8699	8811	8759
OFDM / 5 MHz QR	4660	4668	4660

antenna port 2	99% emission bandwidth / kHz		
	lowest channel	middle channel	highest channel
DSSS / b – mode	13007	13191	12579
DSSS / 10 MHz HR	6543	6575	6479
DSSS / 5 MHz QR	3400	3404	3400
OFDM / g – mode	16930	17102	16754
OFDM / n HT20 – mode	18134	18238	17894
OFDM / ac VHT20 – mode	18154	18274	17906
OFDM / ax HE20 – mode	19246	19338	19082
OFDM / 10 MHz HR	8759	8819	8727
OFDM / 5 MHz QR	4652	4664	4652

13.8 Occupied bandwidth – 20 dB bandwidth

Description:

Measurement of the 20 dB bandwidth of the modulated carrier.

Measurement:

Measurement parameter	
Detector	Peak
Sweep time	Auto
Resolution bandwidth	100 kHz
Video bandwidth	500 kHz
Span	30 MHz / 50 MHz
Trace mode	Single count with min. 200 counts
External result file(s)	See chapter 11
Test setup	See chapter 7.4 setup A
Measurement uncertainty	See chapter 9

Usage:

-/-	ISED
The complete bandwidth has to be within the frequency range of the band.	

Results:

antenna port 1	20 dB bandwidth / kHz		
	lowest channel	middle channel	highest channel
DSSS / b – mode	14296	15384	14776
DSSS / 10 MHz HR	7572	7728	7616
DSSS / 5 MHz QR	3916	3928	3908
OFDM / g – mode	18276	19008	18316
OFDM / n HT20 – mode	19648	20628	19752
OFDM / ac VHT20 – mode	19648	20456	19484
OFDM / ax HE20 – mode	20652	21156	20676
OFDM / 10 MHz HR	9792	9912	9916
OFDM / 5 MHz QR	5444	5380	5368

antenna port 2	20 dB bandwidth / kHz		
	lowest channel	middle channel	highest channel
DSSS / b – mode	14900	14976	14412
DSSS / 10 MHz HR	7672	7696	7612
DSSS / 5 MHz QR	3920	3920	3912
OFDM / g – mode	18816	19216	18784
OFDM / n HT20 – mode	20016	20396	19828
OFDM / ac VHT20 – mode	20236	20228	19860
OFDM / ax HE20 – mode	20736	20976	20740
OFDM / 10 MHz HR	10064	10096	10008
OFDM / 5 MHz QR	5420	5404	5396

13.9 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 3 meter.

Measurement:

	Measurement parameter for peak measurements	Measurement parameter for average measurements
		According to DTS clause: 8.7.3
Detector	Peak	RMS
Sweep time	Auto	Auto
Resolution bandwidth	1 MHz	100 kHz
Video bandwidth	3 MHz	300 kHz
Span	See plot	2 MHz
Trace mode	Max. hold	RMS Average over 101 sweeps
Analyzer function	-/-	Band power function (Compute the power by integrating the spectrum over 1 MHz)
Test setup	See chapter 7.2 setup A	
Measurement uncertainty	See chapter 9	

Limits:

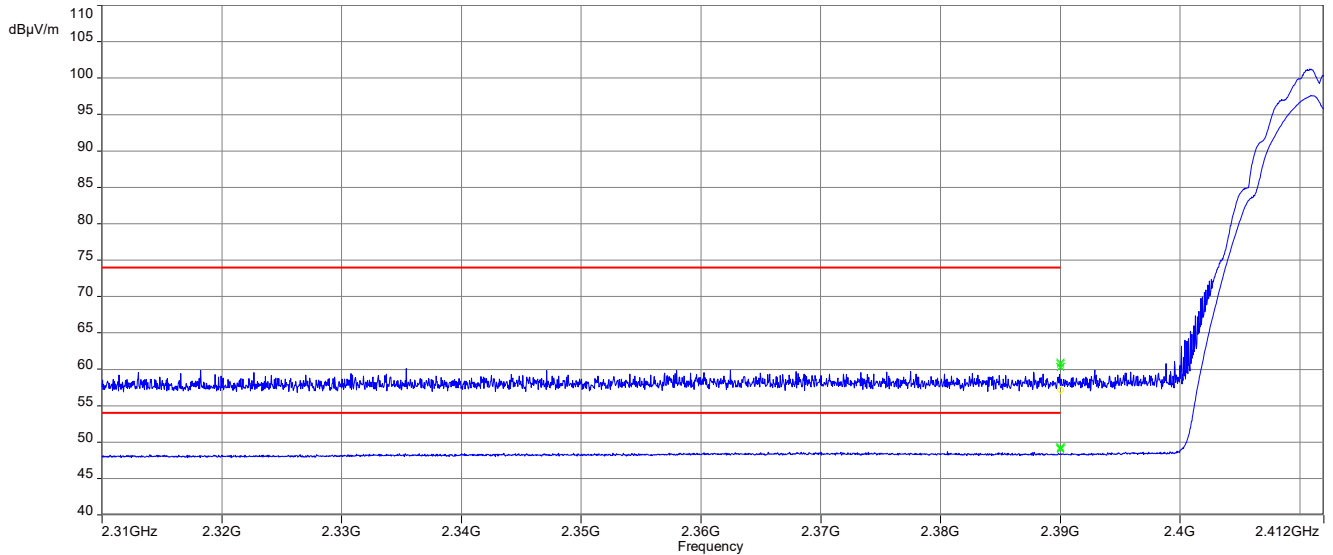
FCC	ISED
74 dB μ V/m @ 3 m (Peak) 54 dB μ V/m @ 3 m (AVG)	

Results:

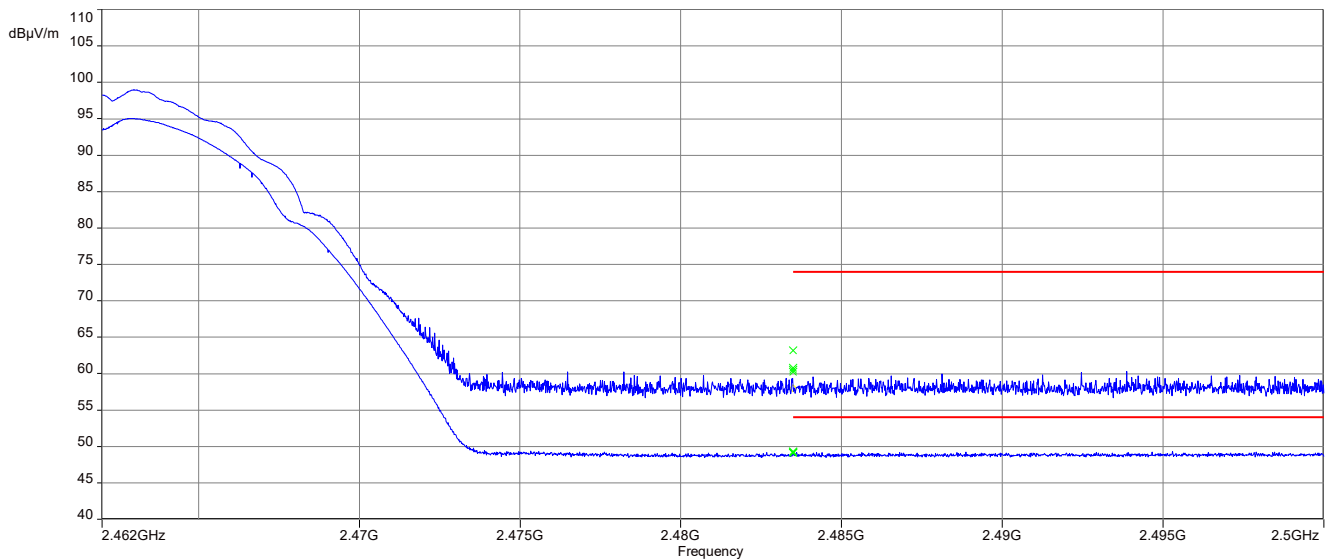
band edge compliance radiated / (dBμV / m) @ 3 m			
	DSSS / b – mode (FR)	DSSS / b – mode (HR)	DSSS / b – mode (QR)
Lower band edge	60.9 (Peak) 49.1 (AVG)	60.6 (Peak) 49.3 (AVG)	61.3 (Peak) 49.4 (AVG)
Upper band edge	63.2 (Peak) 49.3 (AVG)	61.3 (Peak) 49.3 (AVG)	60.9 (Peak) 49.3 (AVG)
	OFDM / g – mode (FR)	OFDM / OFDM – mode (HR)	OFDM / OFDM – mode (QR)
Lower band edge	66.2 (Peak) 52.9 (AVG)	60.9 (Peak) 49.4 (AVG)	60.7 (Peak) 49.3 (AVG)
Upper band edge	63.1 (Peak) 50.9 (AVG)	60.5 (Peak) 49.2 (AVG)	61.6 (Peak) 48.7 (AVG)
	OFDM / n HT20 – mode	OFDM / ac VHT20 – mode	OFDM / ax HE20 – mode
Lower band edge	66.8 (Peak) 53.3 (AVG)	67.1 (Peak) 53.0 (AVG)	66.9 (Peak) 52.4 (AVG)
Upper band edge	64.0 (Peak) 50.9 (AVG)	66.1 (Peak) 52.0 (AVG)	65.8 (Peak) 51.8 (AVG)

Plots: DSSS (FR) - peak / average

Plot 1: TX mode, lower band edge, vertical & horizontal polarization

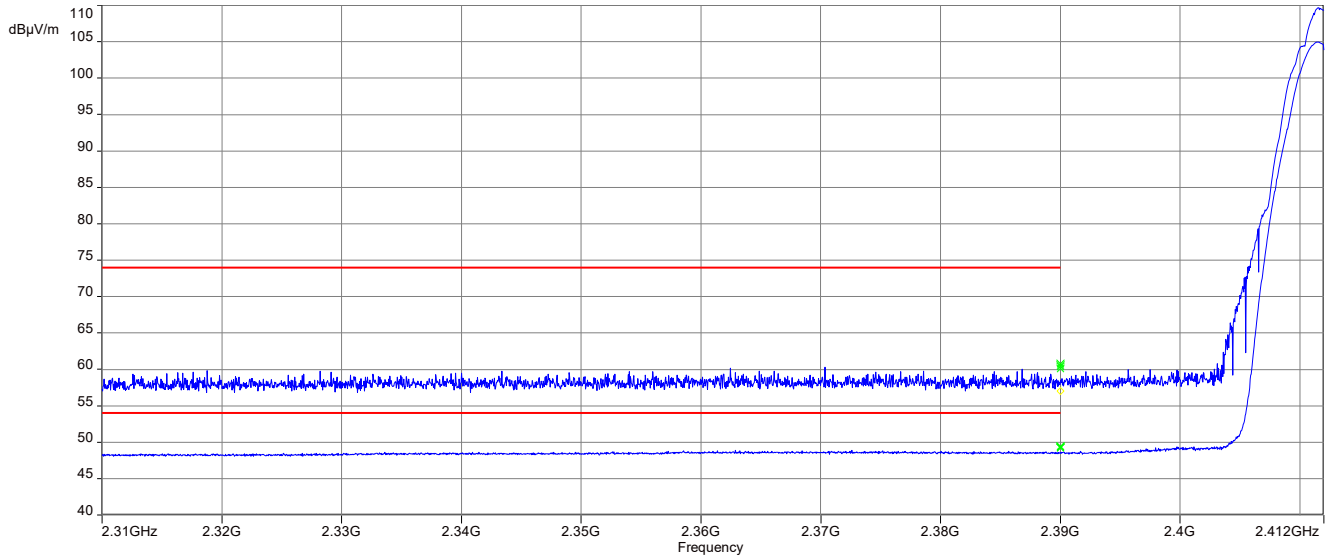


Plot 2: TX mode, upper band edge, vertical & horizontal polarization

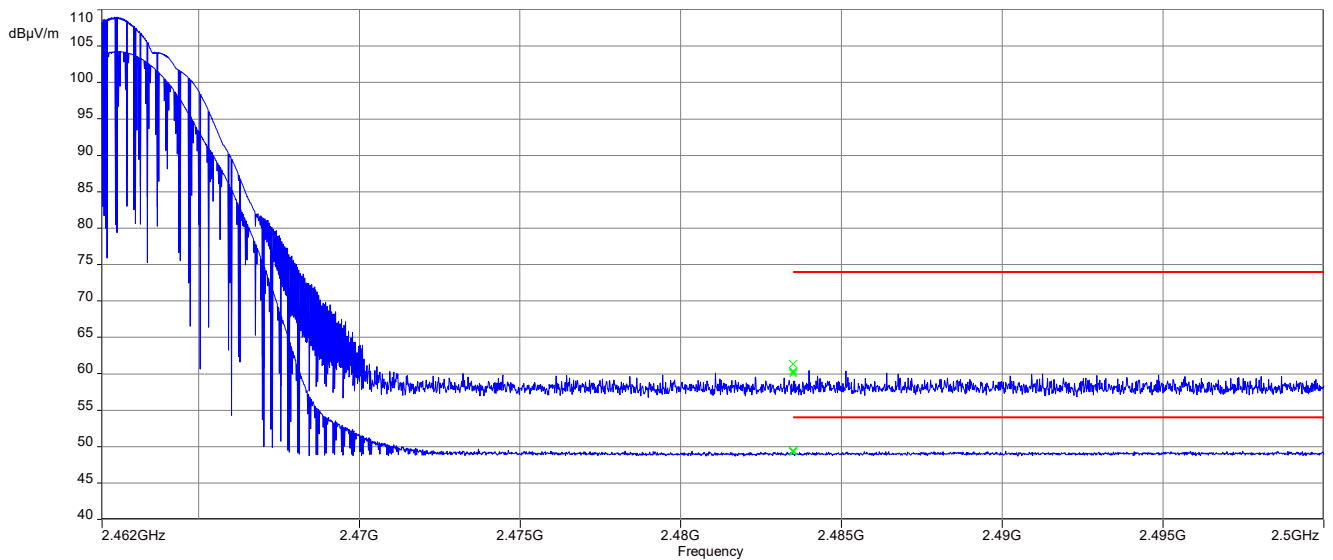


Plots: DSSS (HR) - peak / average

Plot 1: TX mode, lower band edge, vertical & horizontal polarization

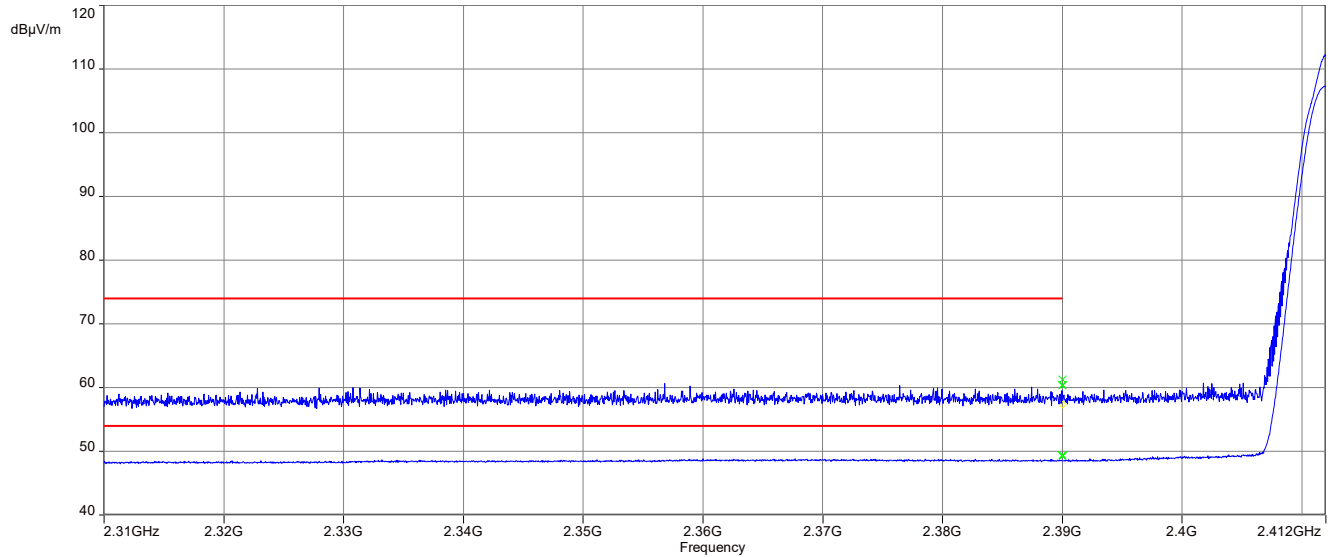


Plot 2: TX mode, upper band edge, vertical & horizontal polarization

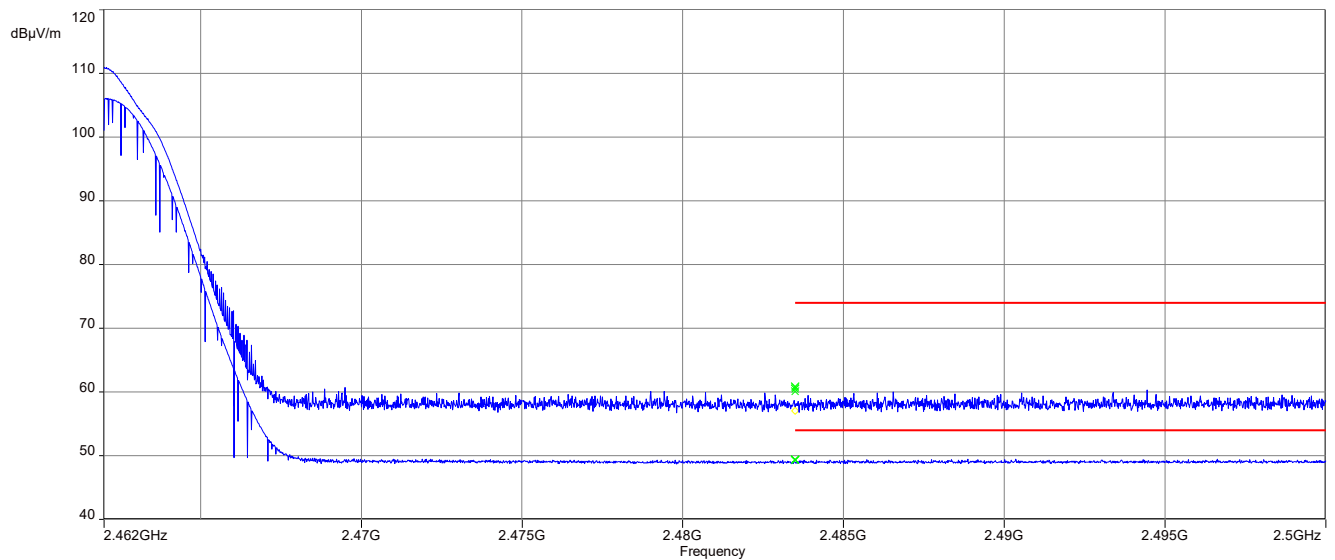


Plots: DSSS (QR) - peak / average

Plot 1: TX mode, lower band edge, vertical & horizontal polarization

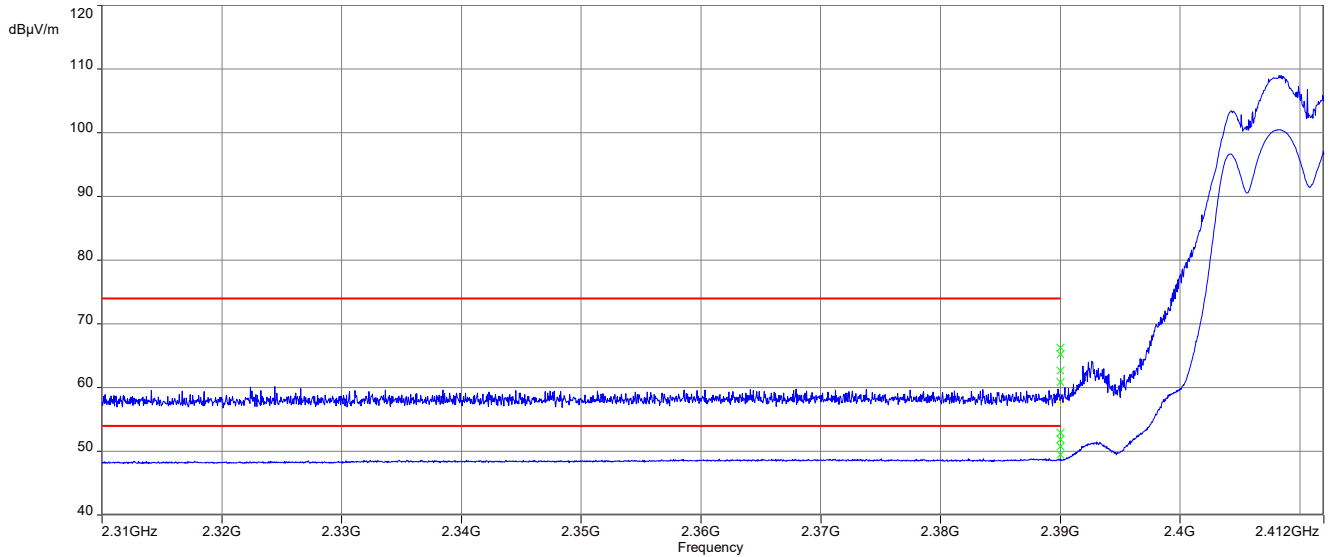


Plot 2: TX mode, upper band edge, vertical & horizontal polarization

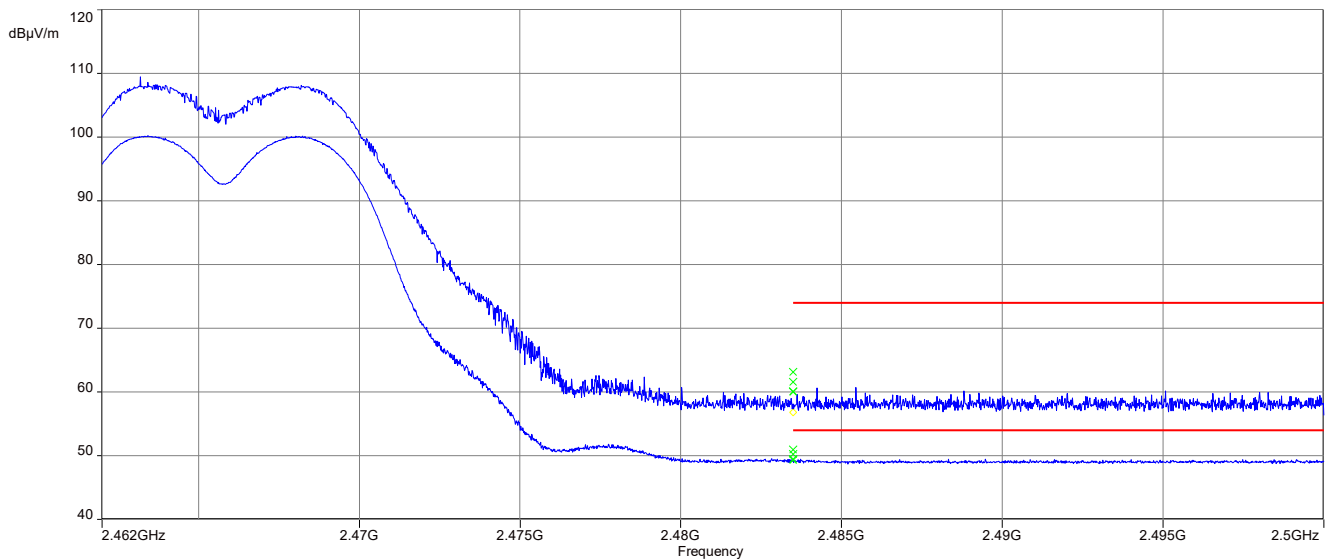


Plots: OFDM (FR) / g – mode - peak / average

Plot 1: TX mode, lower band edge, vertical & horizontal polarization

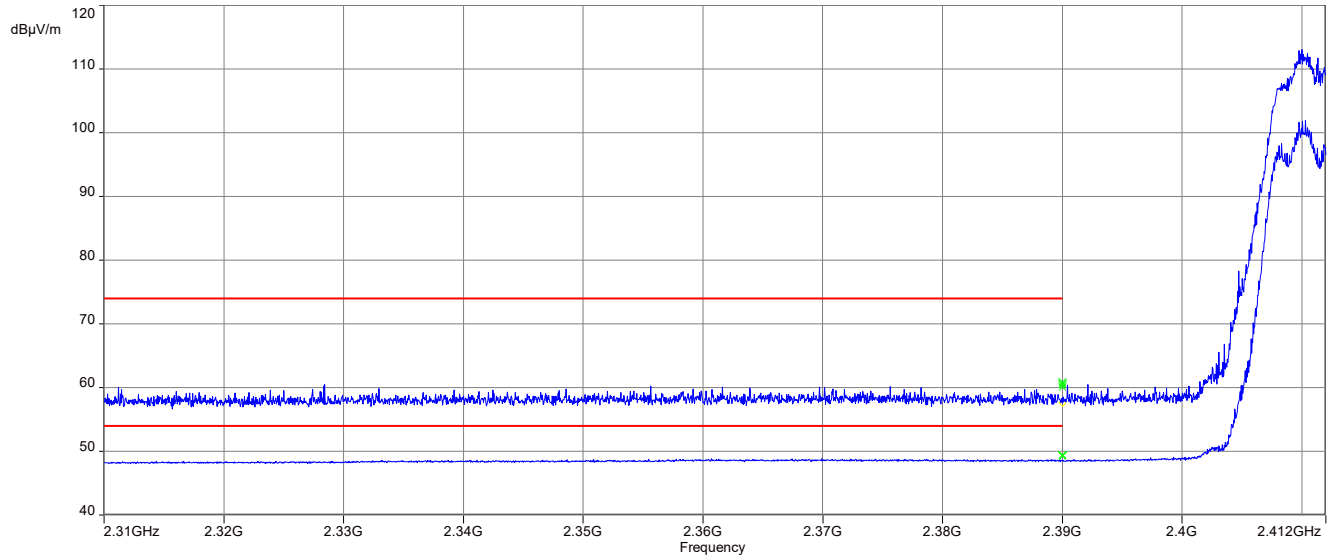


Plot 2: TX mode, upper band edge, vertical & horizontal polarization

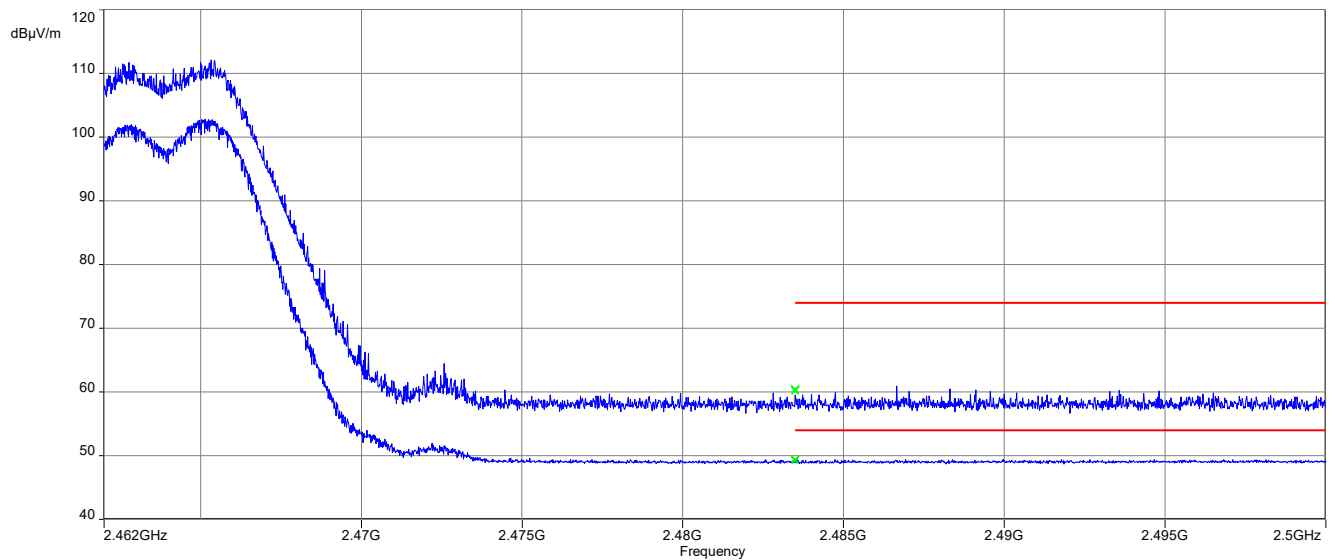


Plots: OFDM (HR) / g – mode - peak / average

Plot 1: TX mode, lower band edge, vertical & horizontal polarization

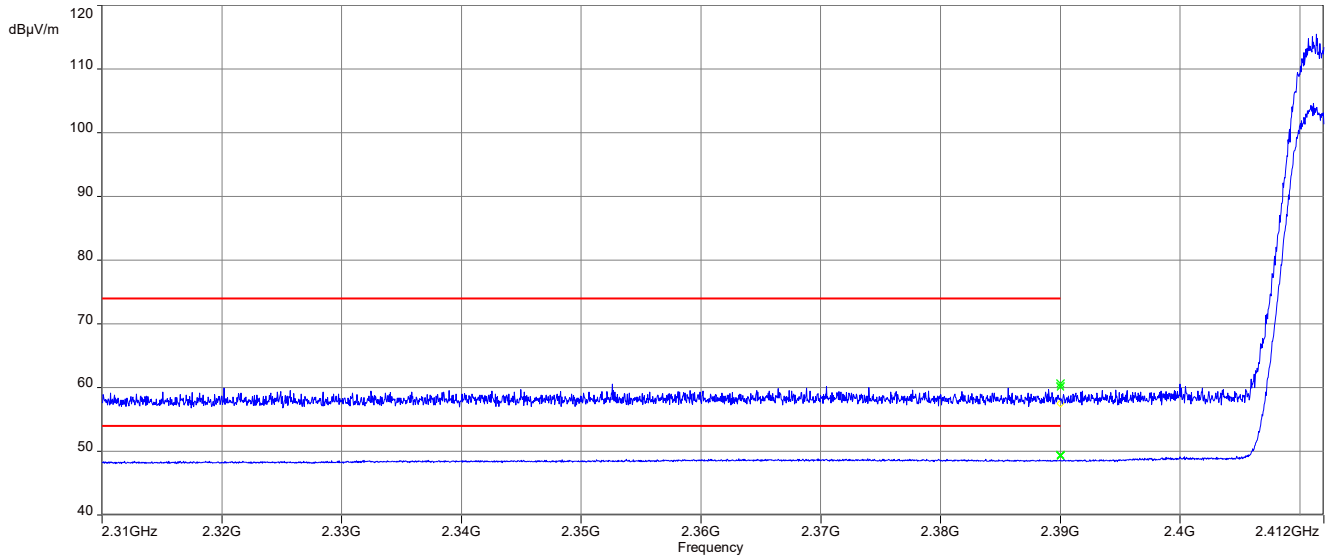


Plot 2: TX mode, upper band edge, vertical & horizontal polarization

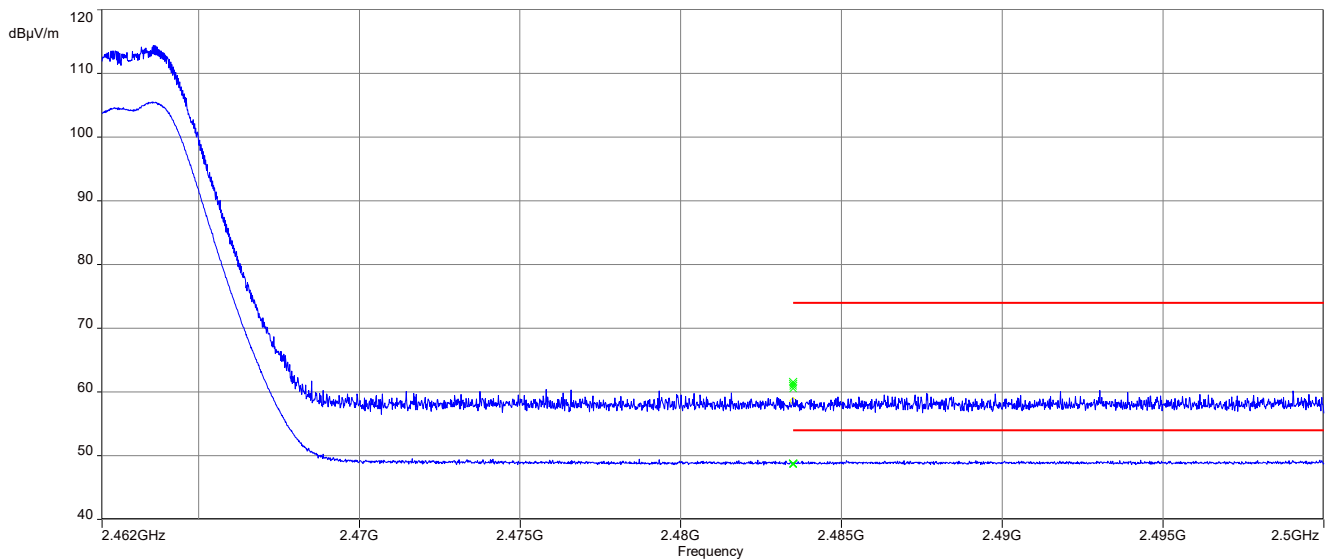


Plots: OFDM (QR) / g – mode - peak / average

Plot 1: TX mode, lower band edge, vertical & horizontal polarization

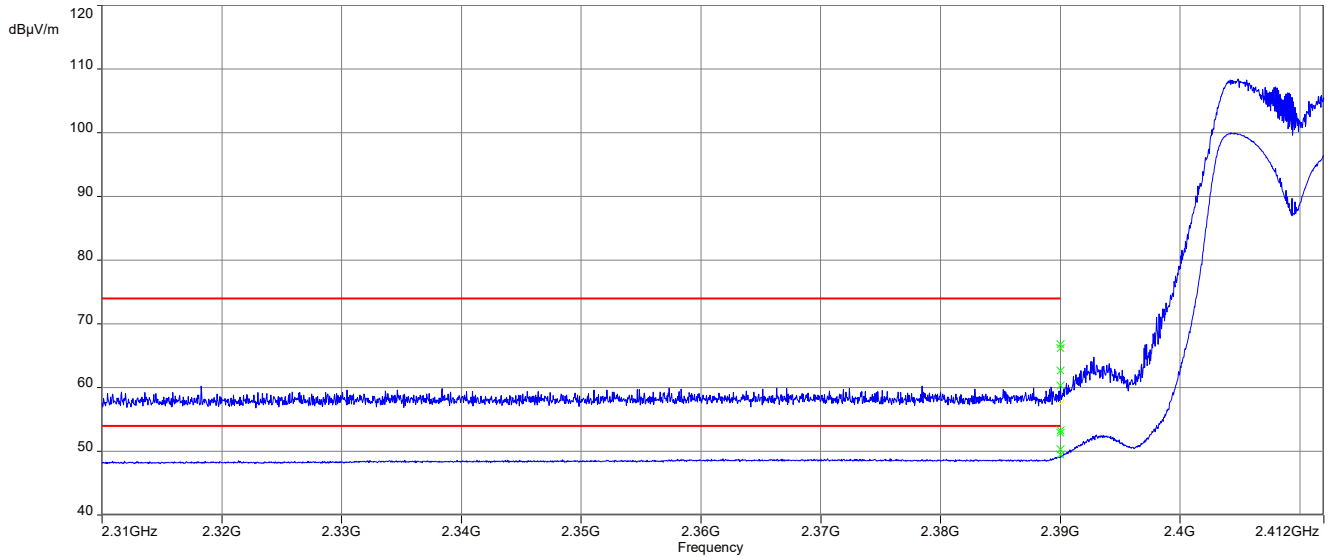


Plot 2: TX mode, upper band edge, vertical & horizontal polarization

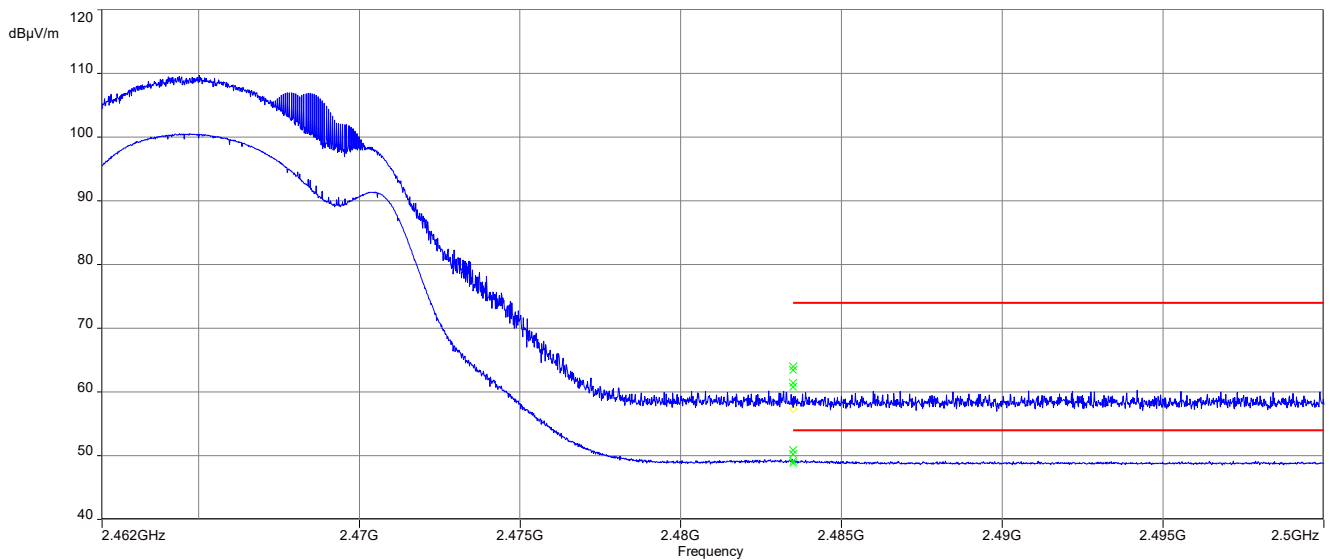


Plots: OFDM / n HT20 – mode - peak / average

Plot 1: TX mode, lower band edge, vertical & horizontal polarization

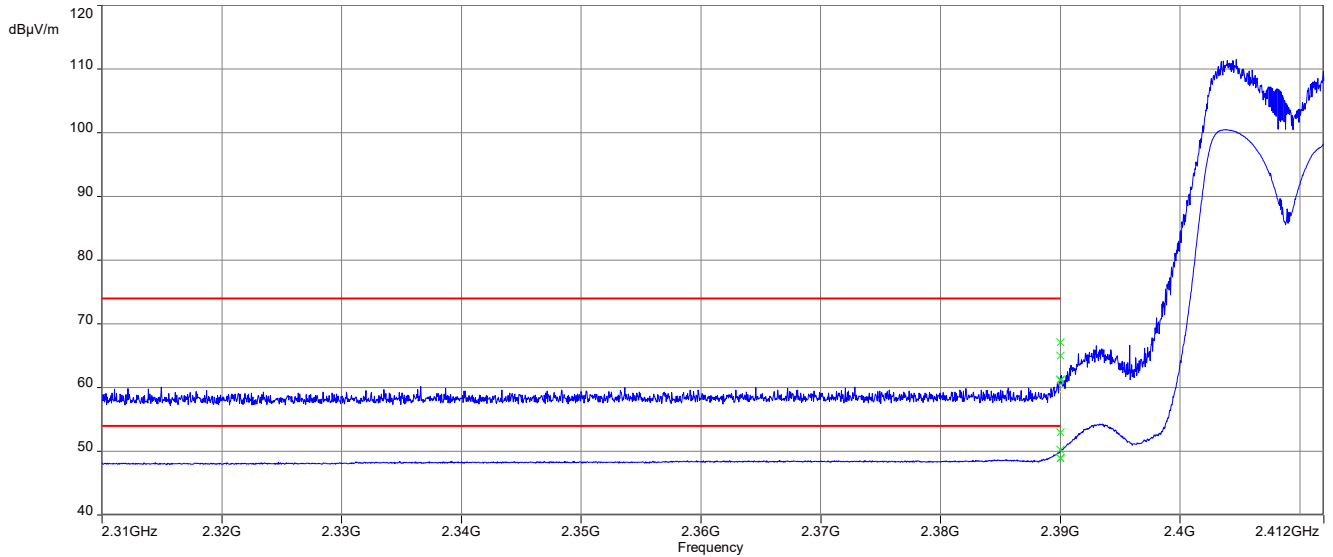


Plot 2: TX mode, upper band edge, vertical & horizontal polarization

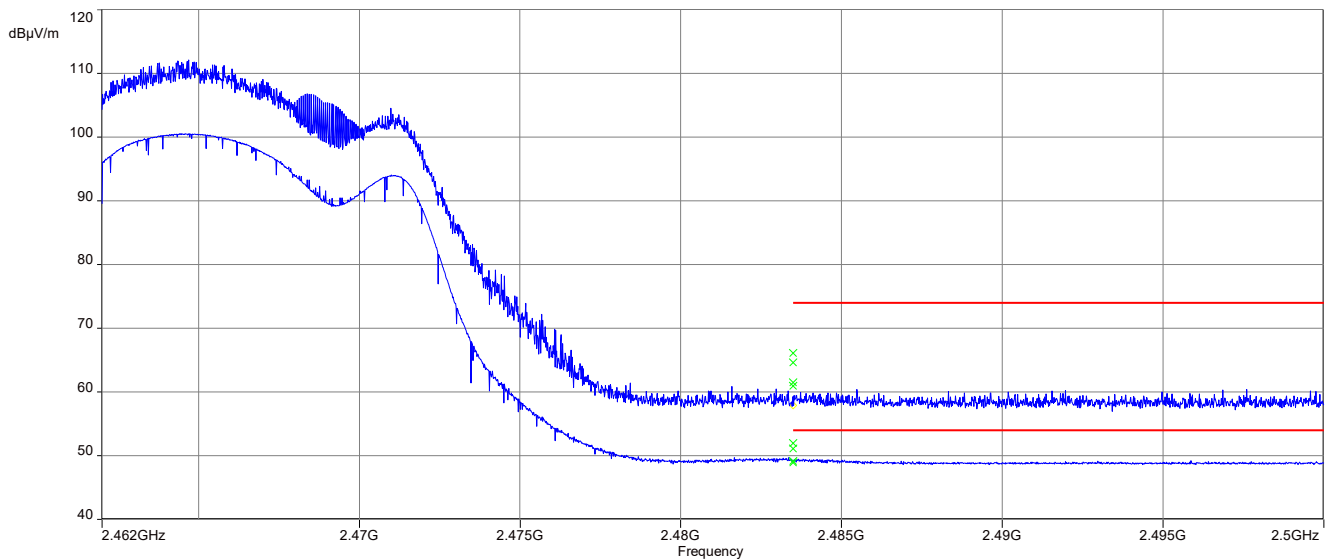


Plots: OFDM / ac VHT20 – mode - peak / average

Plot 1: TX mode, lower band edge, vertical & horizontal polarization

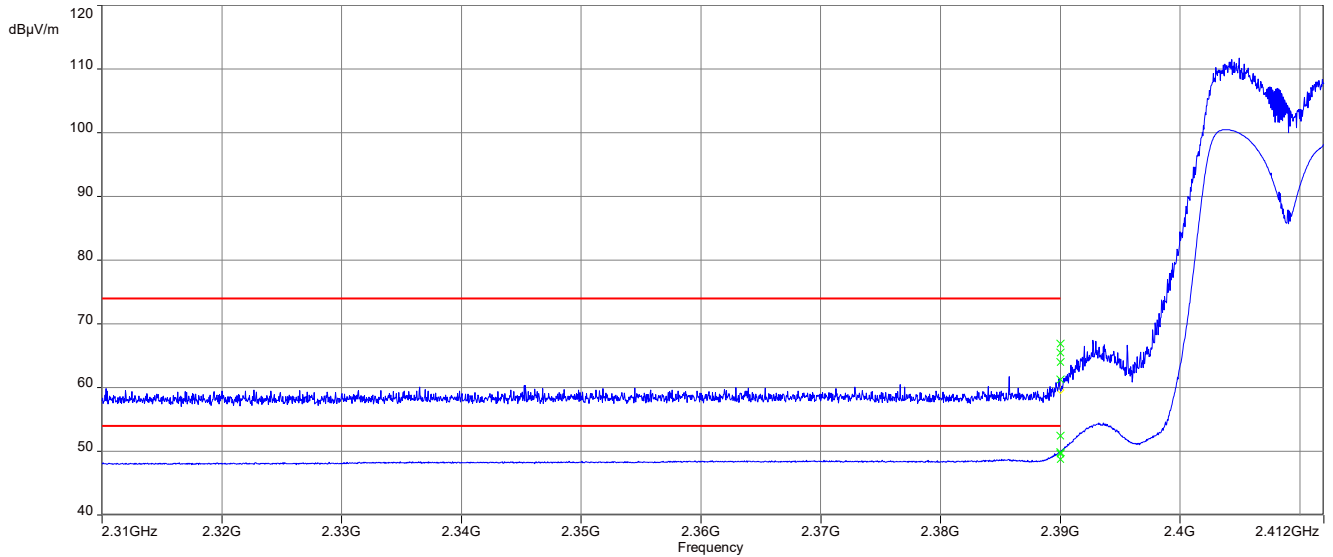


Plot 2: TX mode, upper band edge, vertical & horizontal polarization

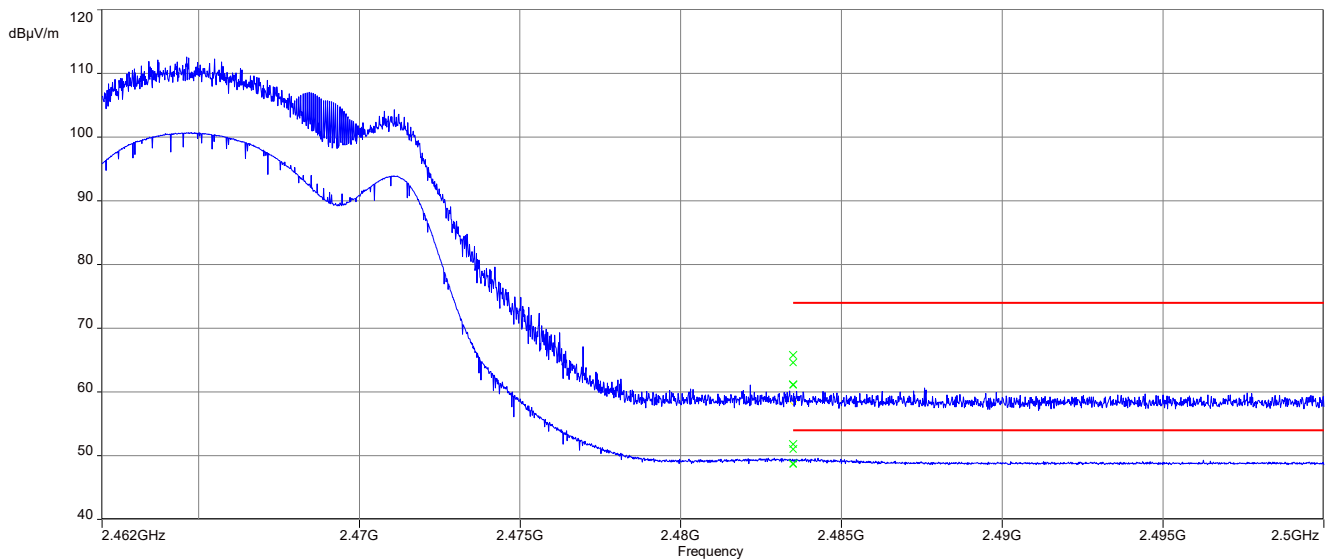


Plots: OFDM / ax HE20 – mode - peak / average

Plot 1: TX mode, lower band edge, vertical & horizontal polarization



Plot 2: TX mode, upper band edge, vertical & horizontal polarization



13.10 Spurious emissions conducted

Description:

Measurement of the conducted spurious emissions in transmit mode. The measurement is performed at the lowest; the middle and the highest channel.

Measurement:

Measurement parameter	
Detector	Peak
Sweep time	Auto
Resolution bandwidth	100 kHz
Video bandwidth	500 kHz
Span	9 kHz to 25 GHz
Trace mode	Max Hold
External result file(s)	See chapter 11
Test setup	See chapter 7.4 setup A
Measurement uncertainty	See chapter 9

Limits:

FCC	ISED
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 30 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	

Results: Compliant (see external results files)

13.11 Spurious emissions radiated below 30 MHz

Description:

Measurement of the radiated spurious emissions in transmit mode below 30 MHz. The limits are recalculated 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
Resolution bandwidth	F < 150 kHz: 200 Hz F > 150 kHz: 9 kHz
Video bandwidth	F < 150 kHz: 1 kHz F > 150 kHz: 100 kHz
Span	9 kHz to 30 MHz
Trace mode	Max Hold
Measured modulation	☒ DSSS b – mode (FR; HR, QR) ☒ OFDM g – mode(FR; HR, QR) ☒ OFDM n HT20 – mode ☒ OFDM ac VHT20 – mode ☒ OFDM ax HE20 – mode
Test setup	See chapter 7.2 setup A
Measurement uncertainty	See chapter 9

Limits:

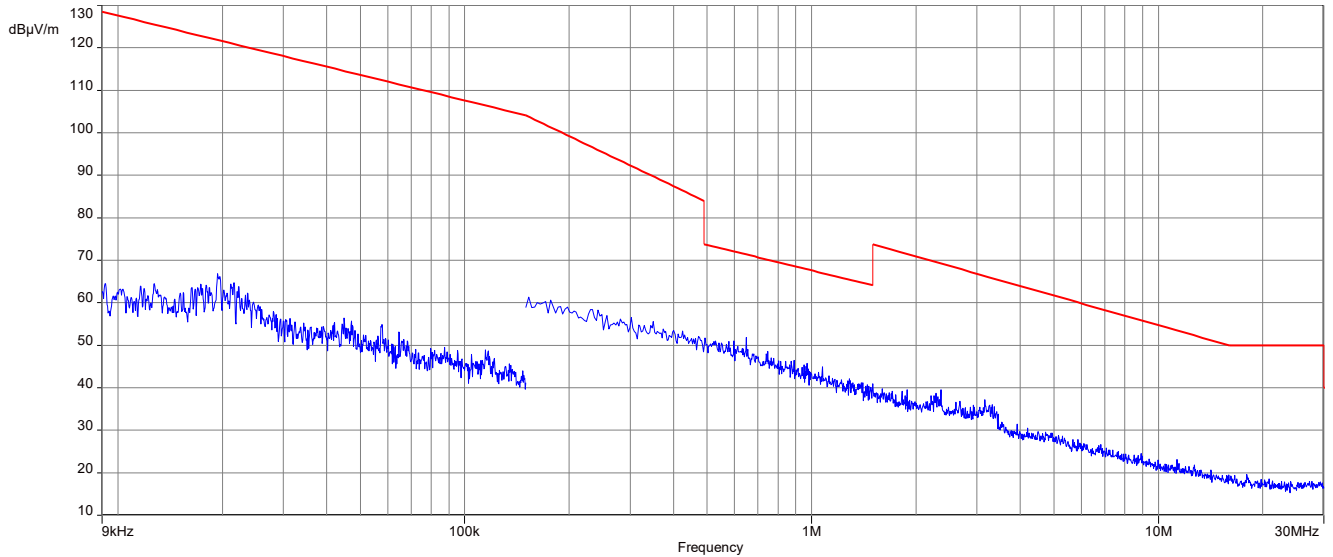
FCC		ISED
Frequency / MHz	Field Strength / ($\mu\text{V} / \text{m}$)	Measurement distance / m
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30

Results:

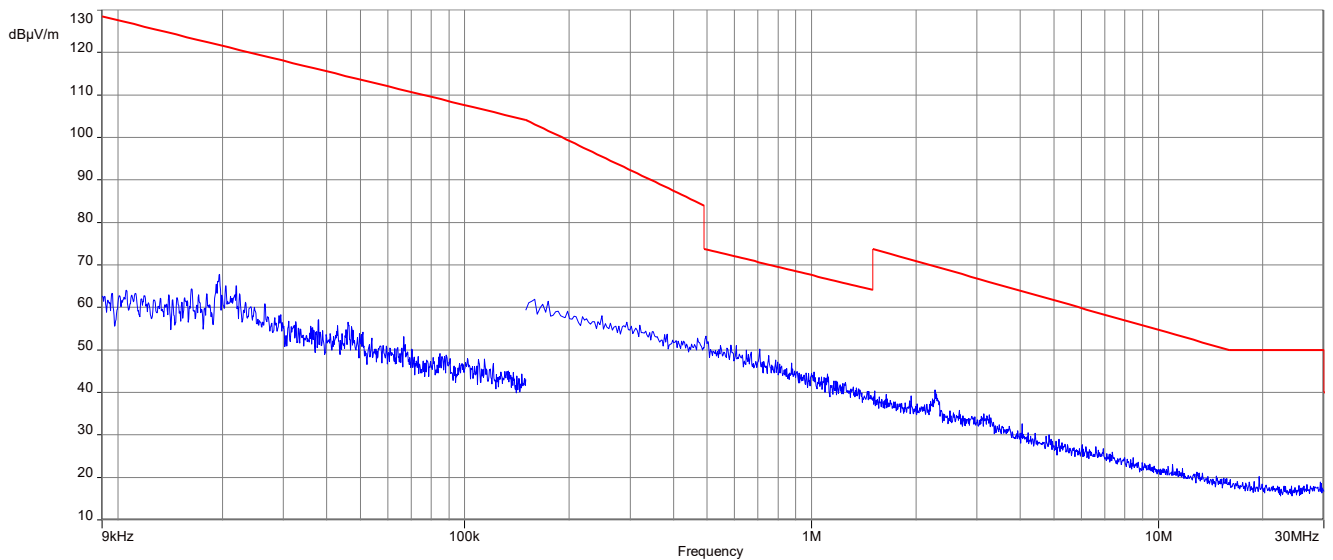
TX spurious emissions radiated < 30 MHz / (dB μV / m) @ 3 m		
Frequency / MHz	Detector	Level / (dB μV / m)
All detected peaks are more than 20 dB below the limit.		

Plots: DSSS b-mode (FR)

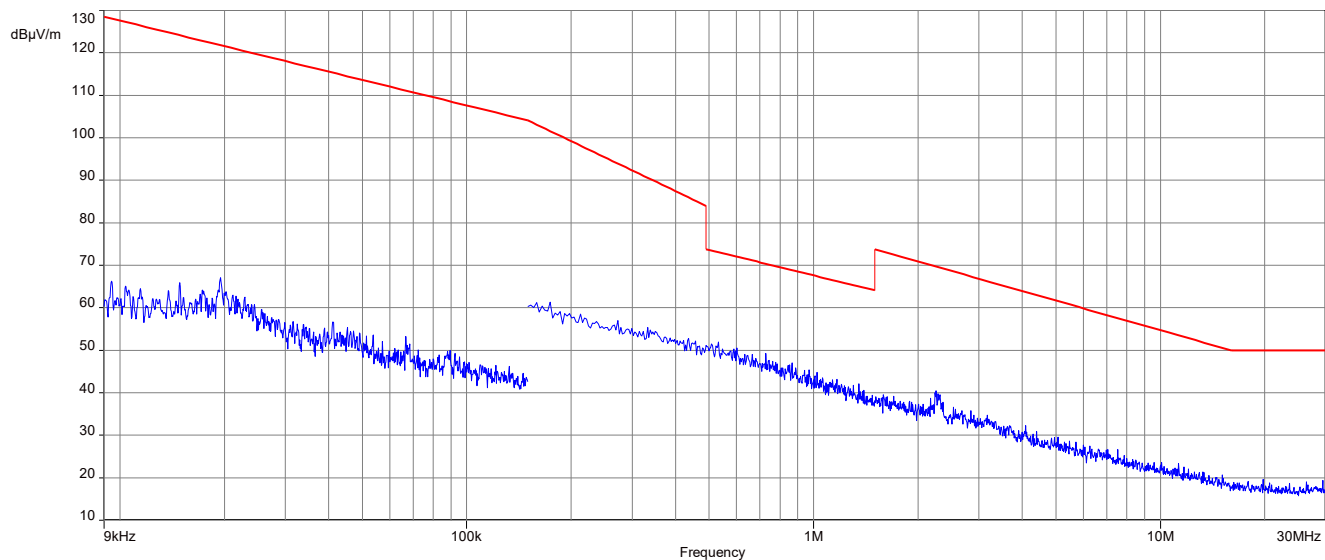
Plot 1: 9 kHz to 30 MHz, lowest channel



Plot 2: 9 kHz to 30 MHz, middle channel

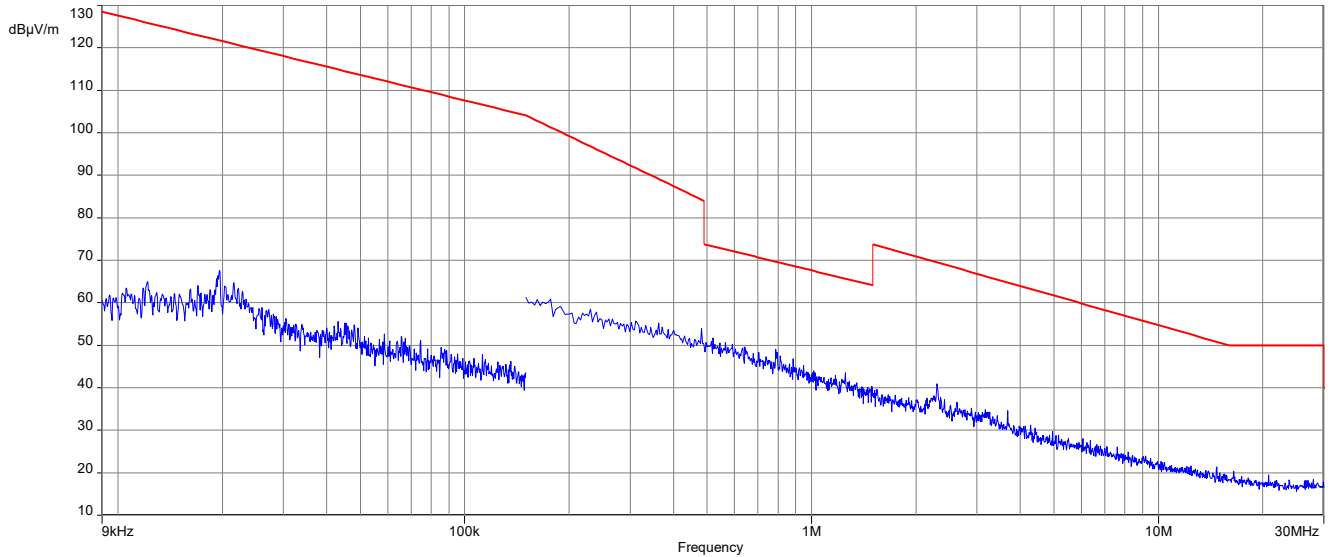


Plot 3: 9 kHz to 30 MHz, highest channel

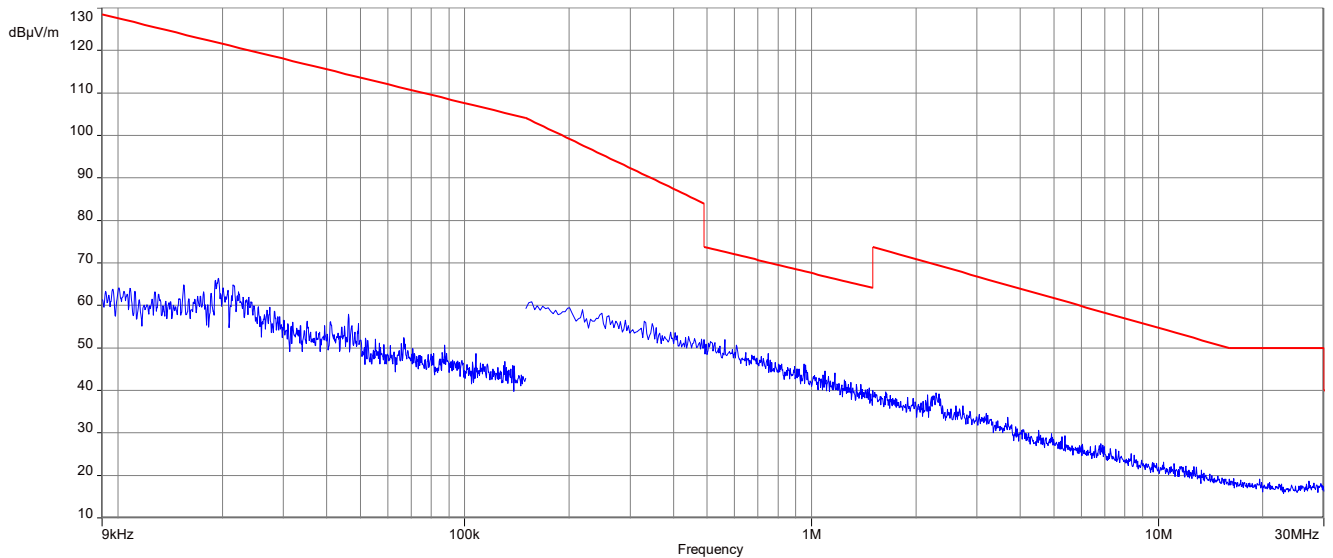


Plots: DSSS b-mode (HR)

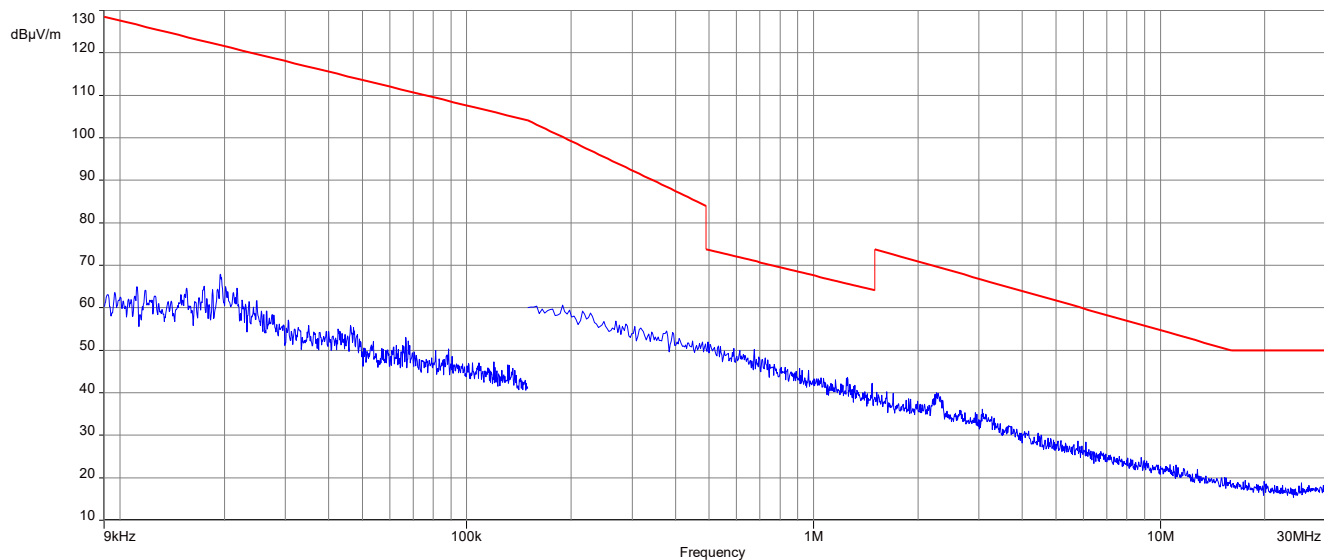
Plot 1: 9 kHz to 30 MHz, lowest channel



Plot 2: 9 kHz to 30 MHz, middle channel

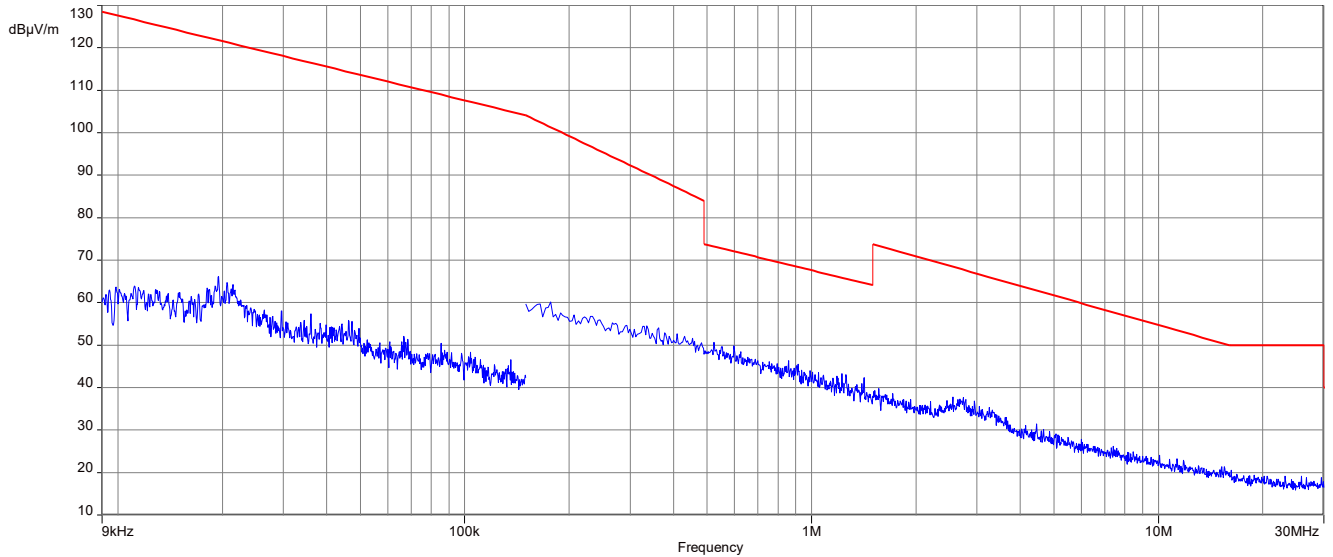


Plot 3: 9 kHz to 30 MHz, highest channel

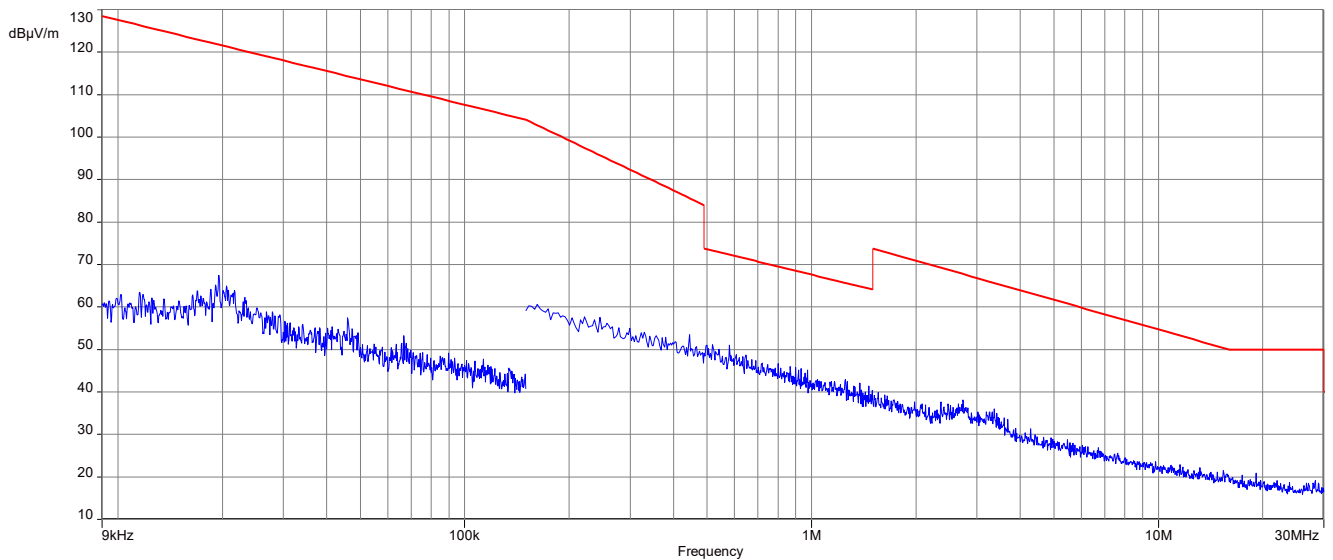


Plots: DSSS b-mode (QR)

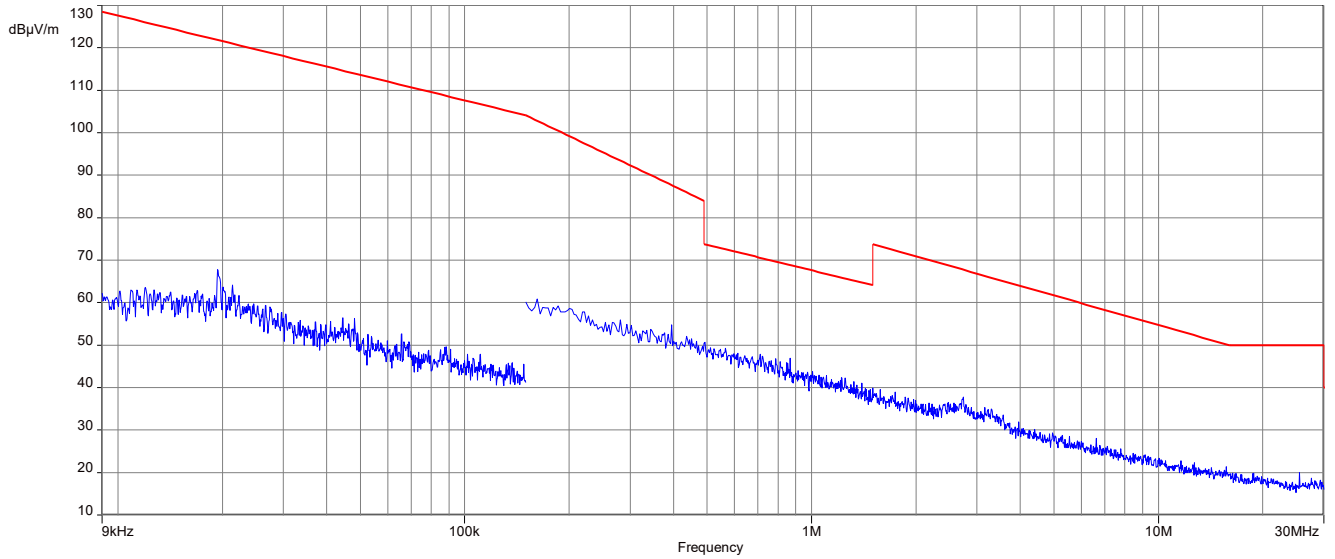
Plot 1: 9 kHz to 30 MHz, lowest channel



Plot 2: 9 kHz to 30 MHz, middle channel

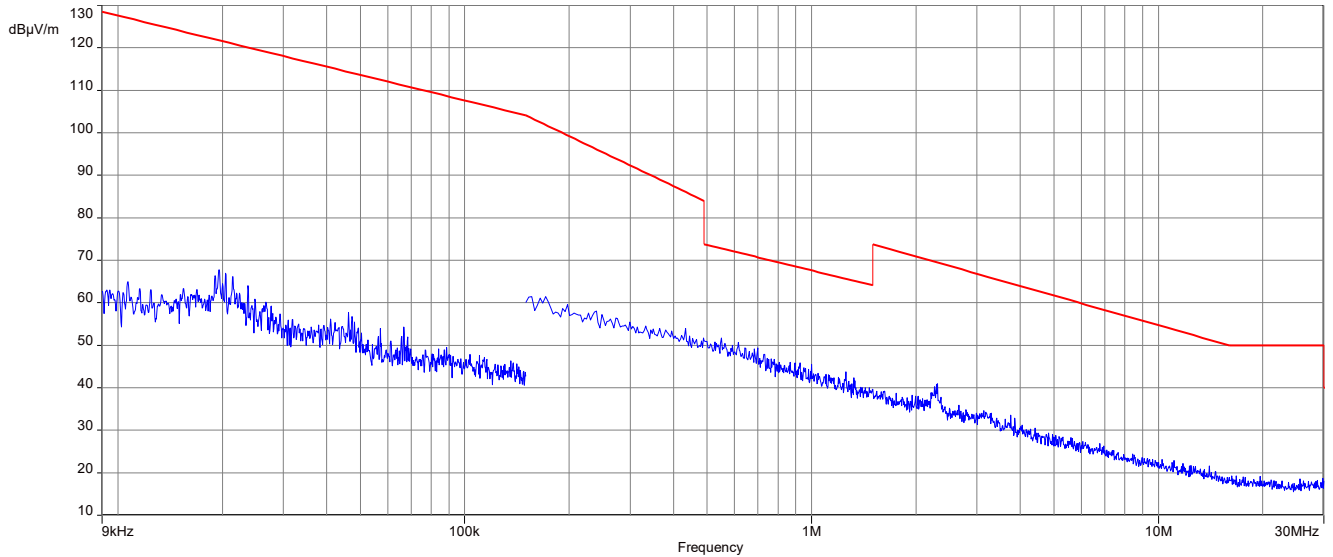


Plot 3: 9 kHz to 30 MHz, highest channel

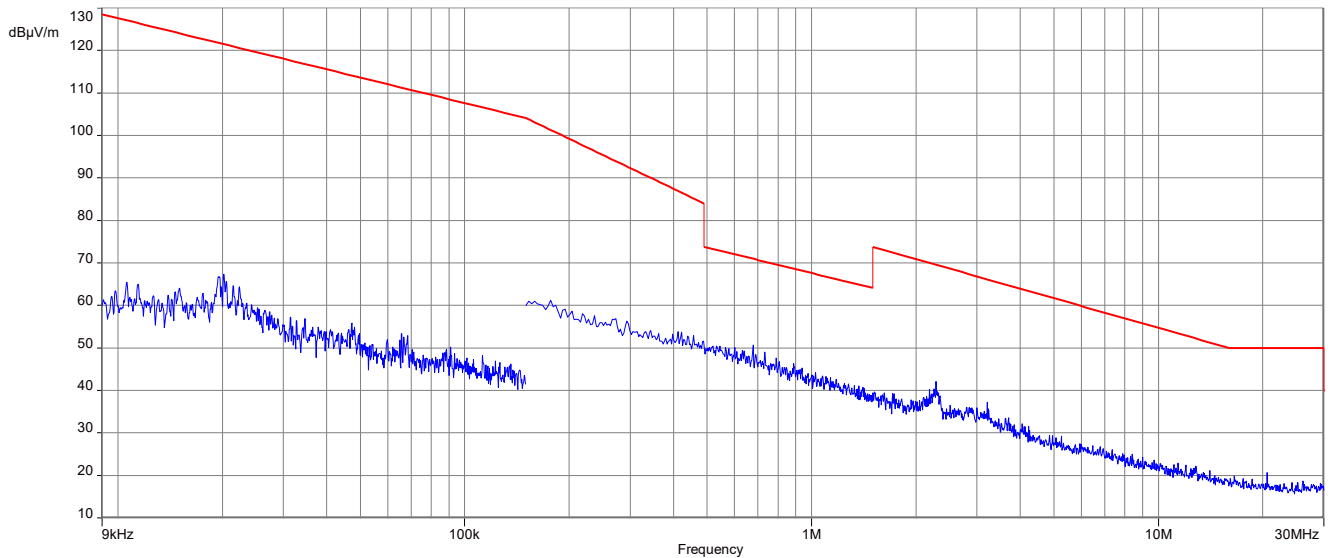


Plots: OFDM g-mode (FR)

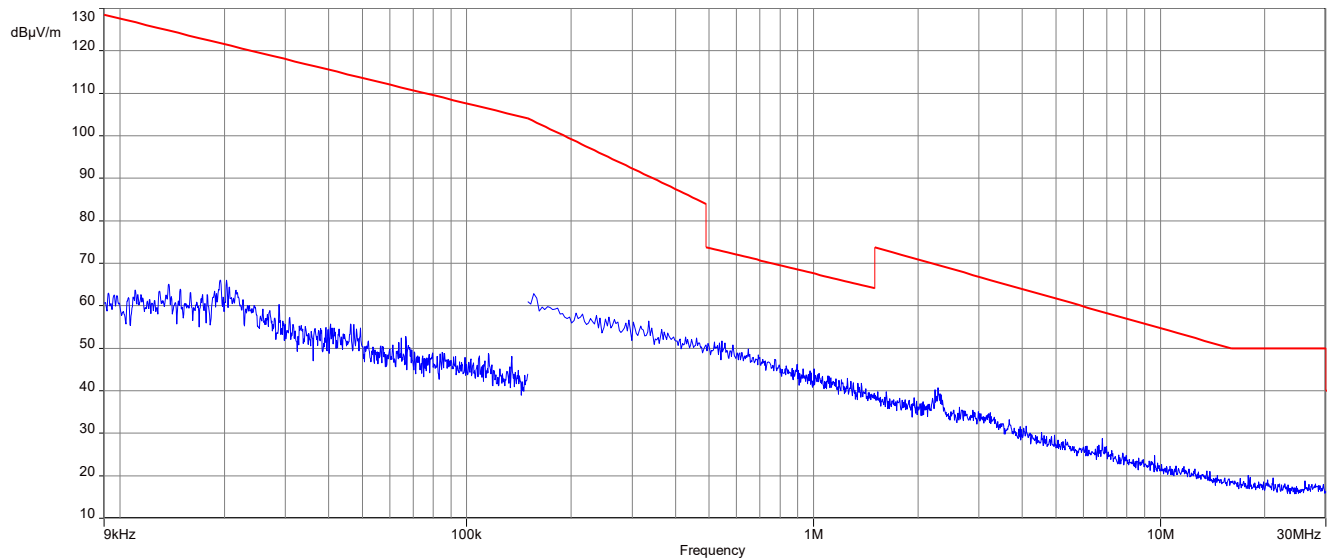
Plot 1: 9 kHz to 30 MHz, lowest channel



Plot 2: 9 kHz to 30 MHz, middle channel

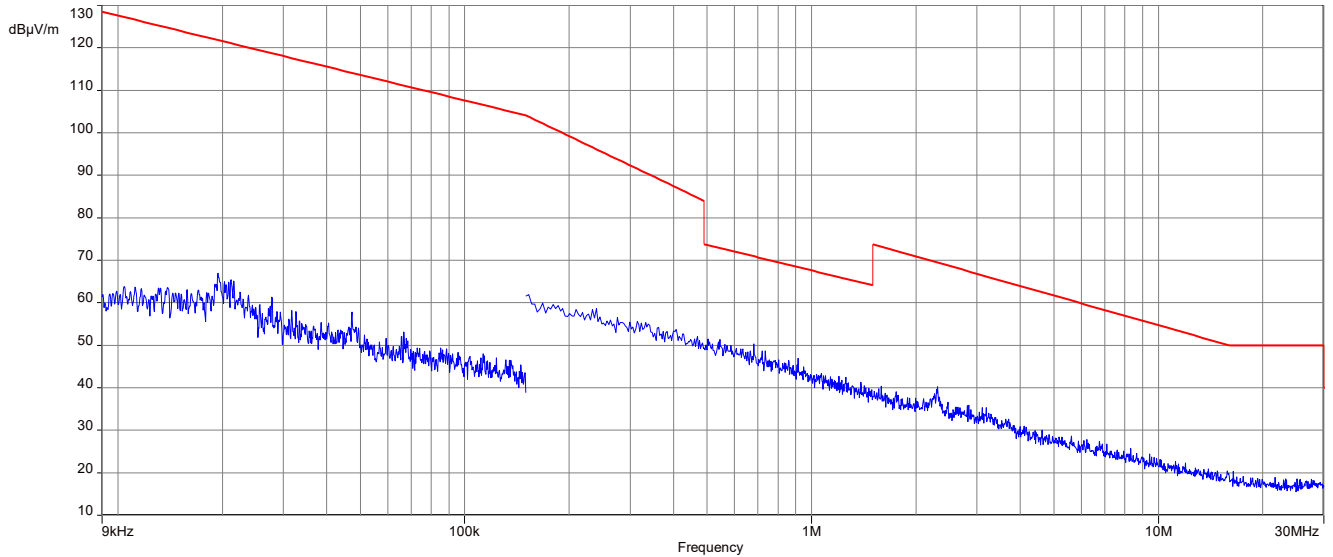


Plot 3: 9 kHz to 30 MHz, highest channel

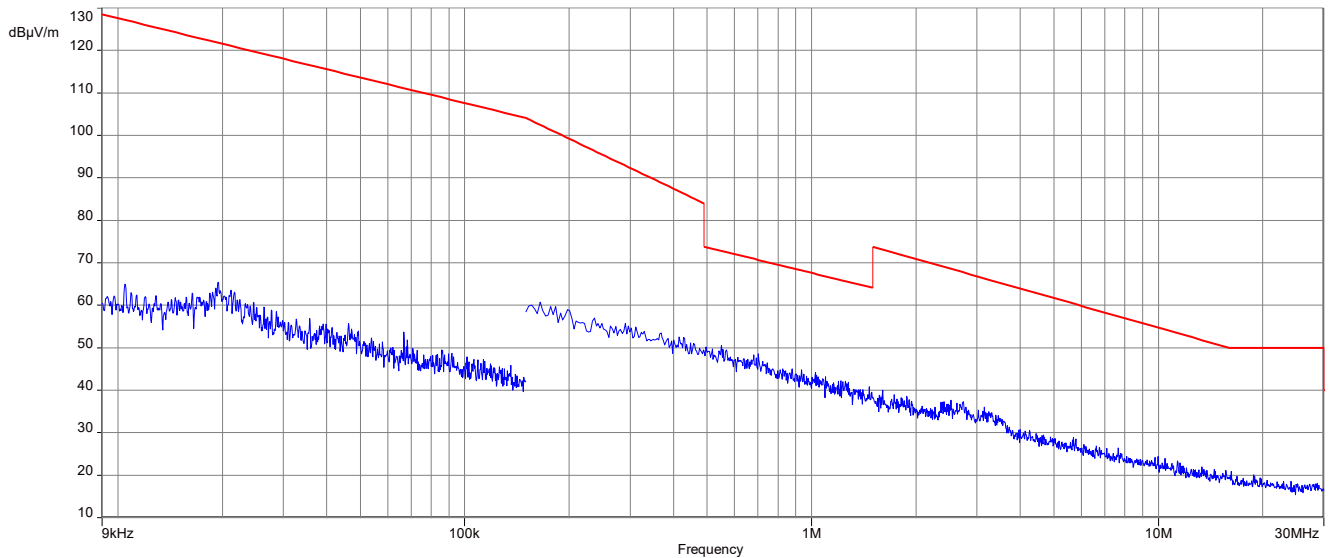


Plots: OFDM mode (HR)

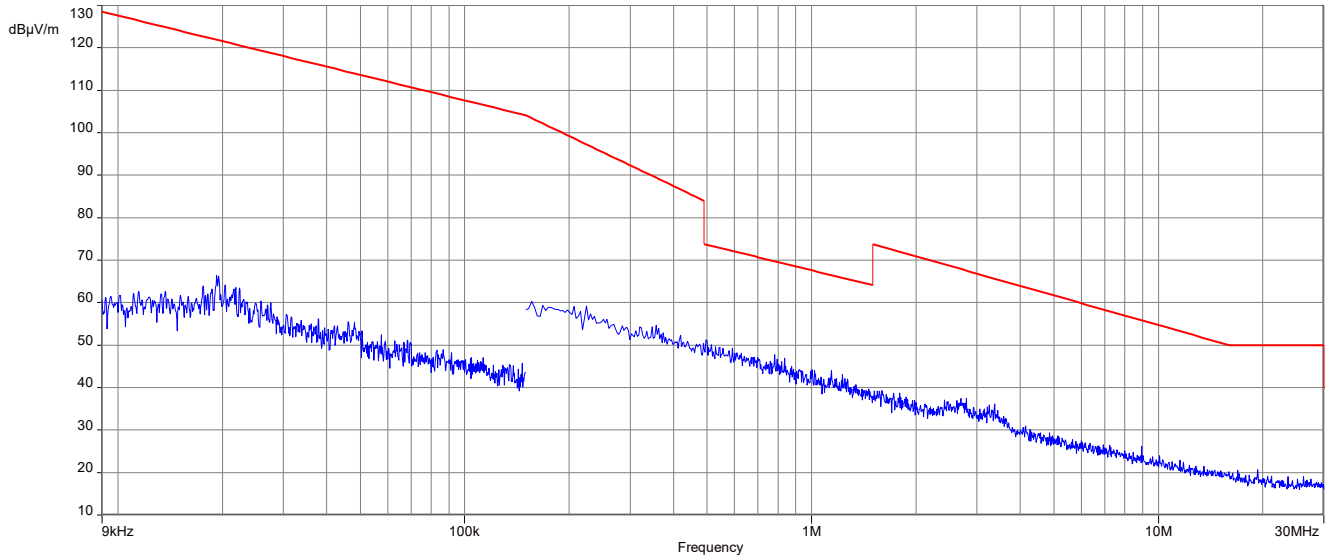
Plot 1: 9 kHz to 30 MHz, lowest channel



Plot 2: 9 kHz to 30 MHz, middle channel

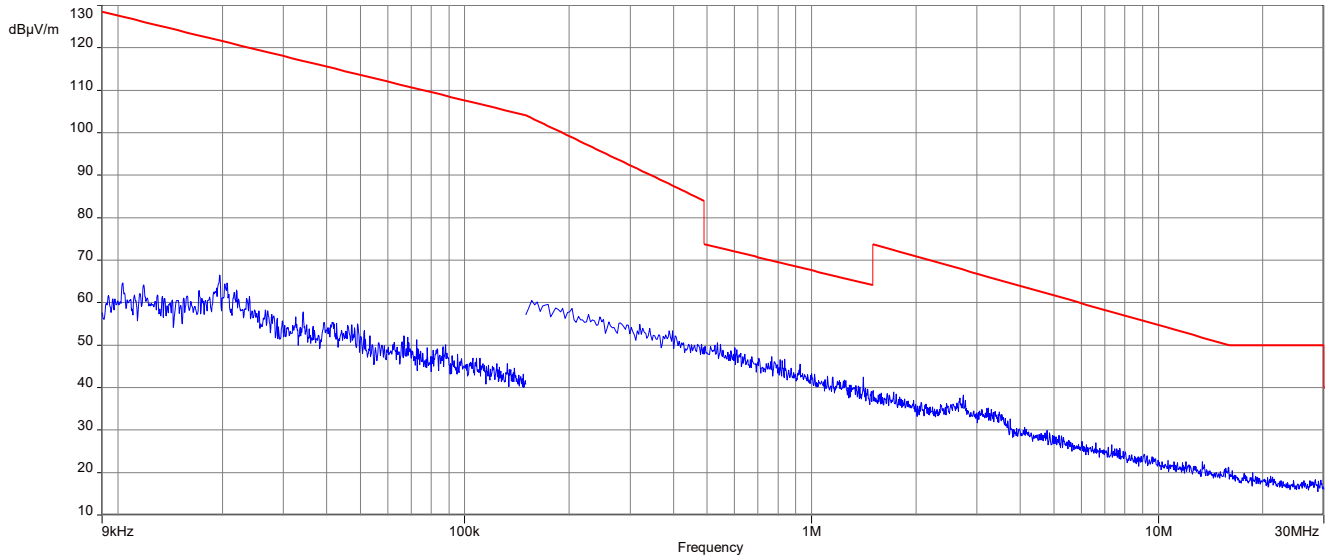


Plot 3: 9 kHz to 30 MHz, highest channel

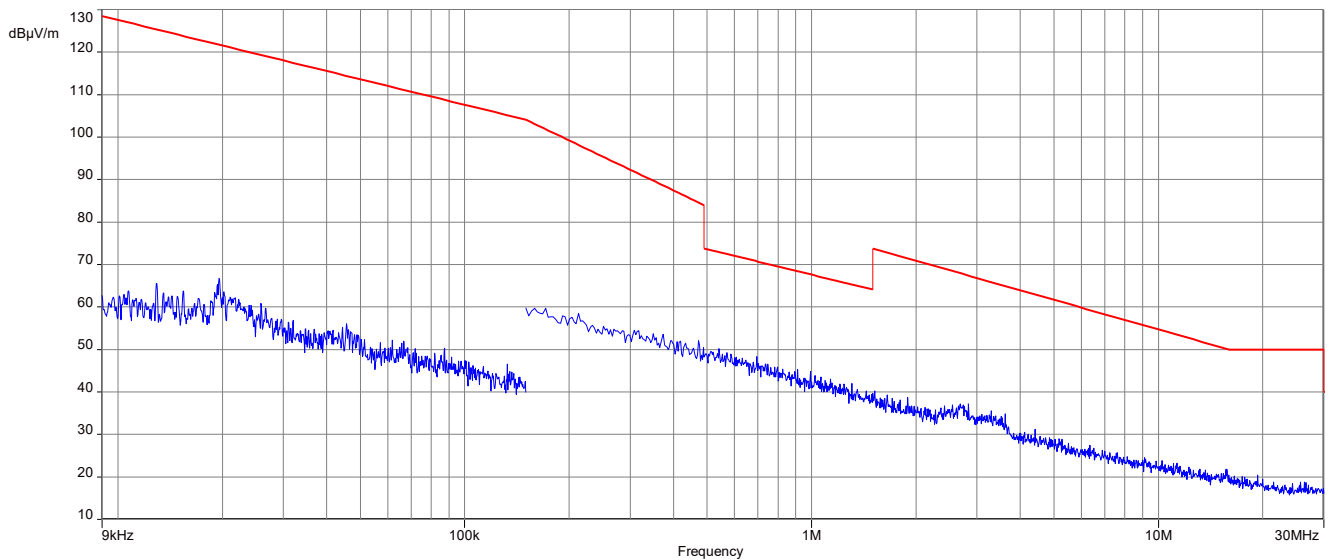


Plots: OFDM mode (QR)

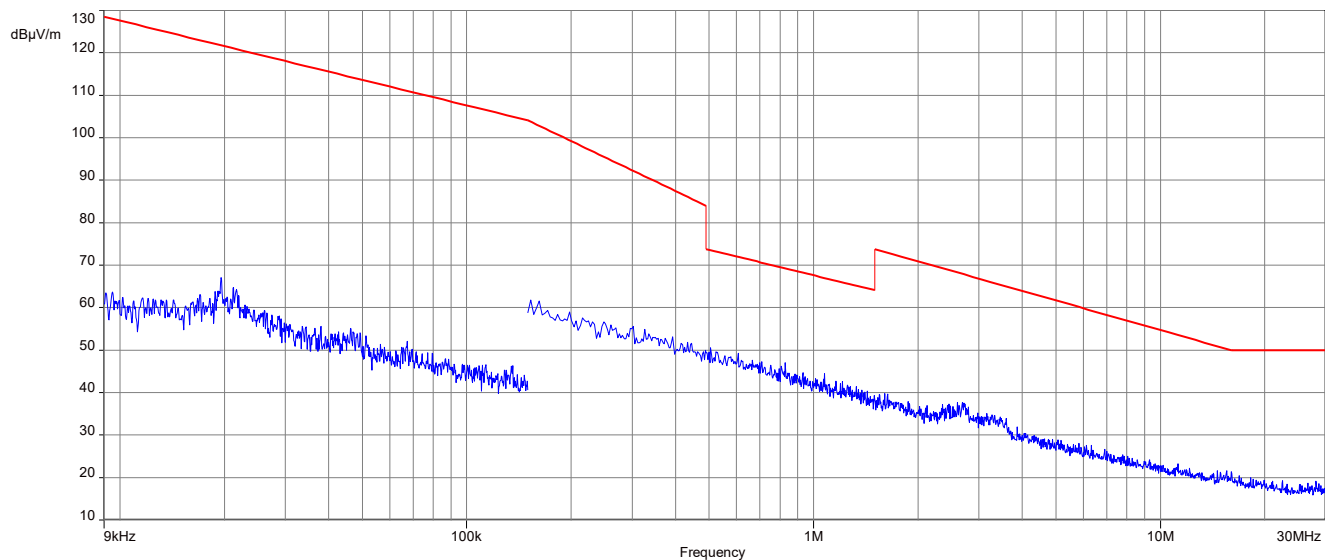
Plot 1: 9 kHz to 30 MHz, lowest channel



Plot 2: 9 kHz to 30 MHz, middle channel

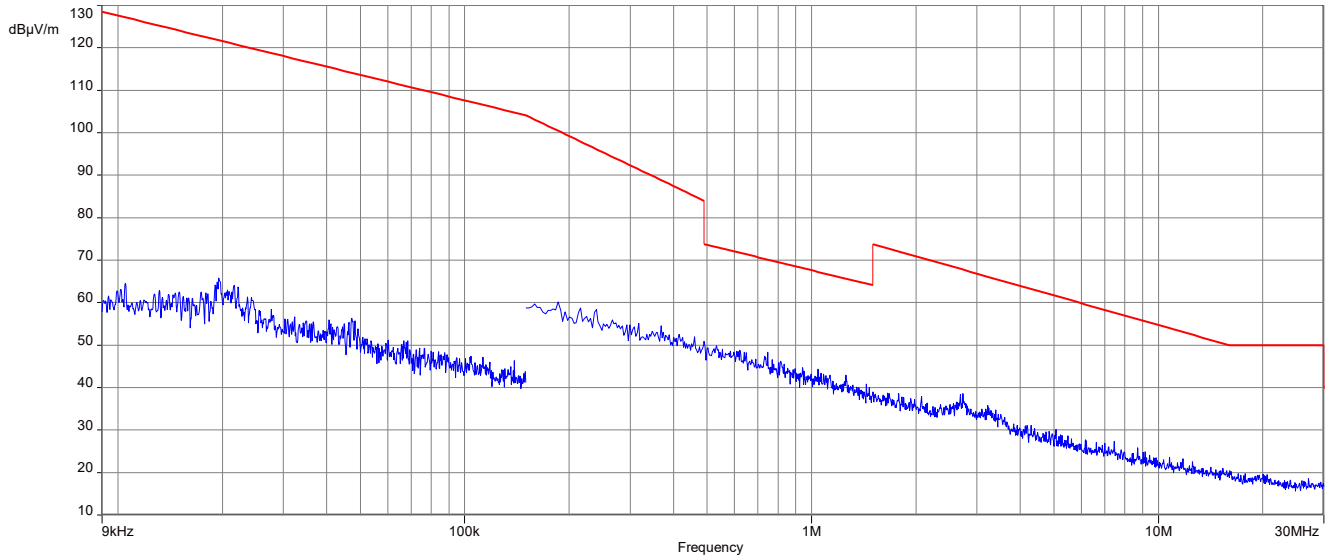


Plot 3: 9 kHz to 30 MHz, highest channel

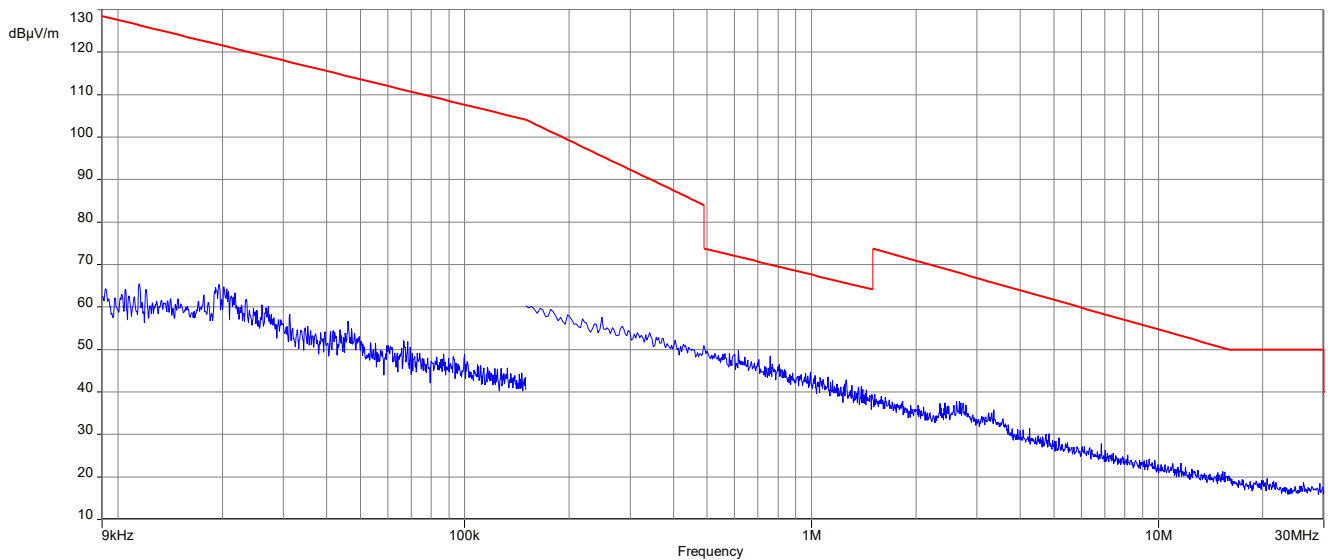


Plots: OFDM n HT20-mode

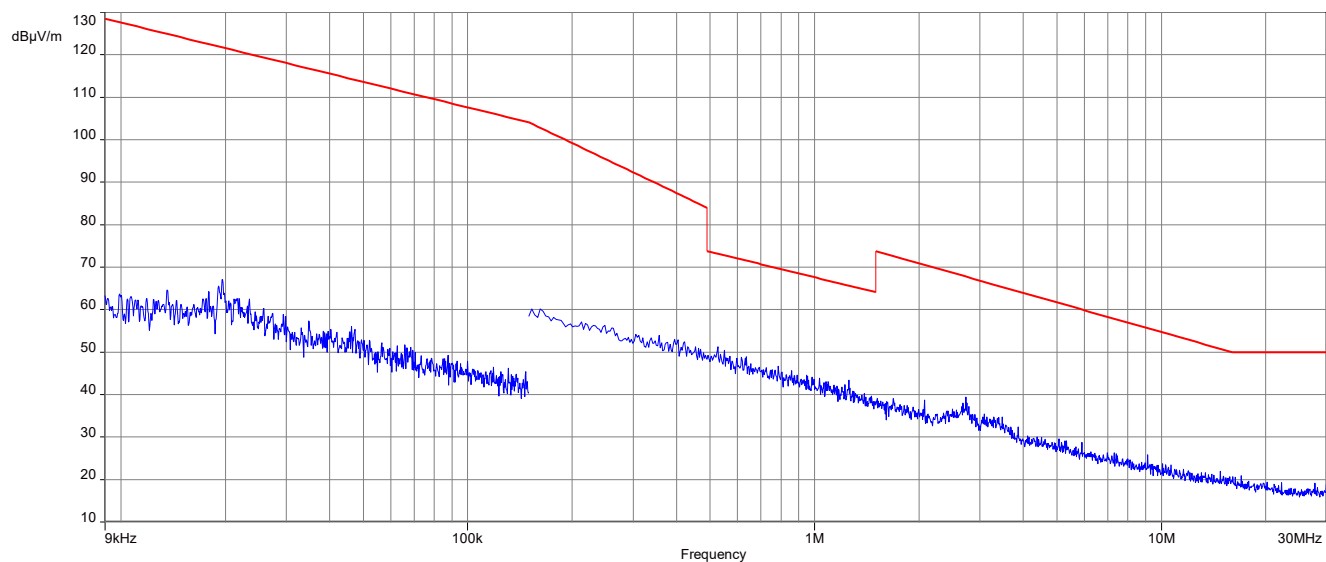
Plot 1: 9 kHz to 30 MHz, lowest channel



Plot 2: 9 kHz to 30 MHz, middle channel

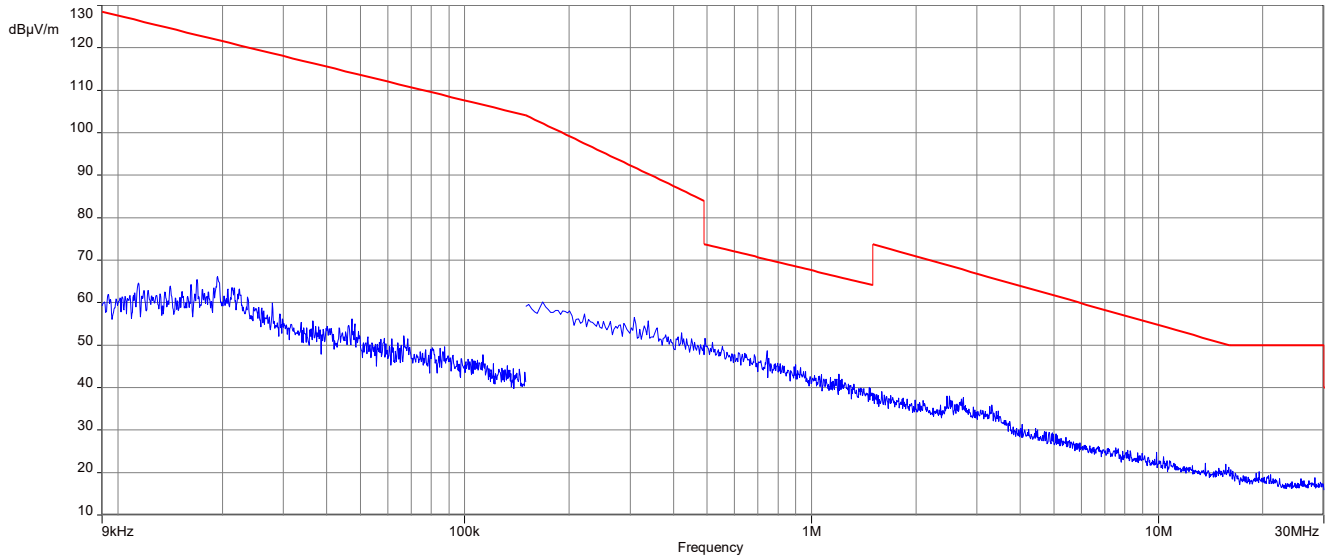


Plot 3: 9 kHz to 30 MHz, highest channel

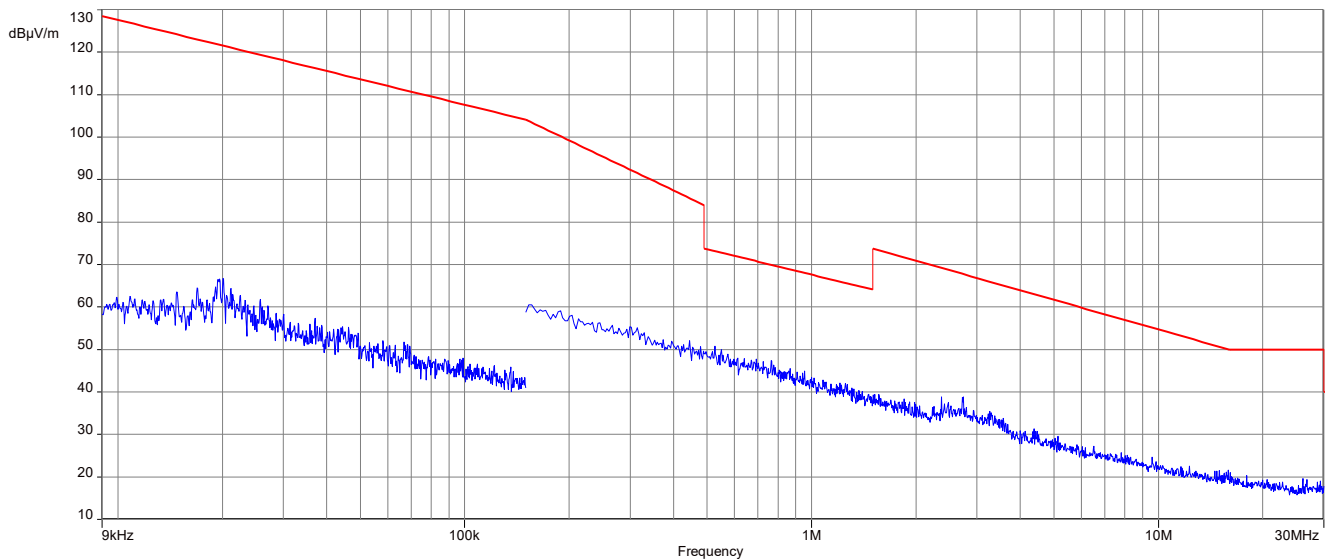


Plots: OFDM ac VHT20-mode

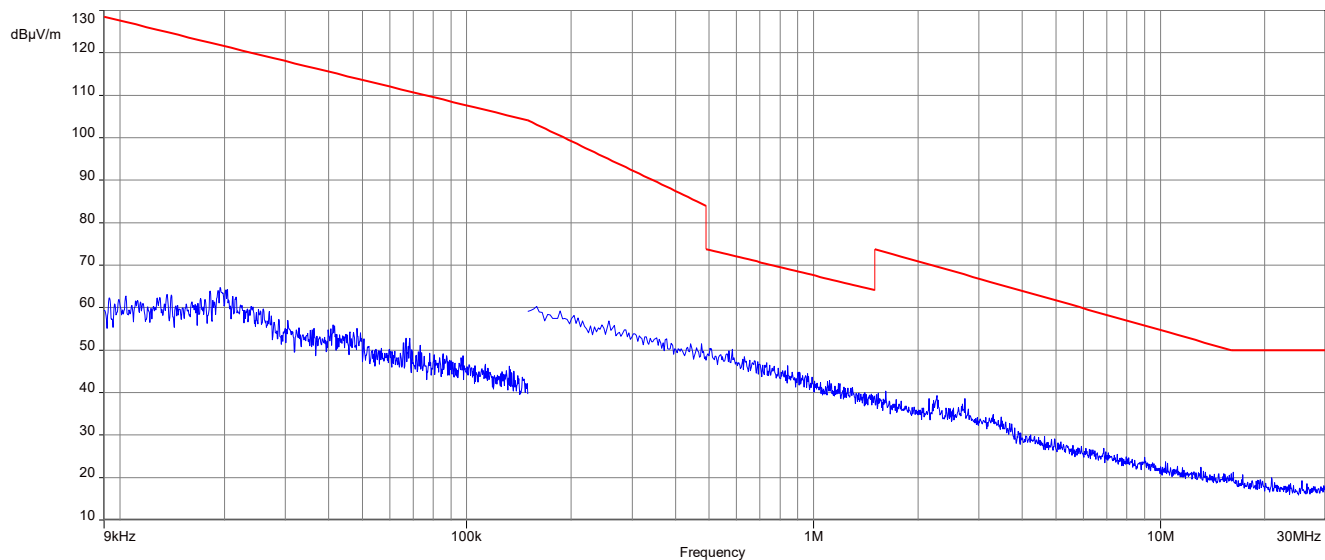
Plot 1: 9 kHz to 30 MHz, lowest channel



Plot 2: 9 kHz to 30 MHz, middle channel

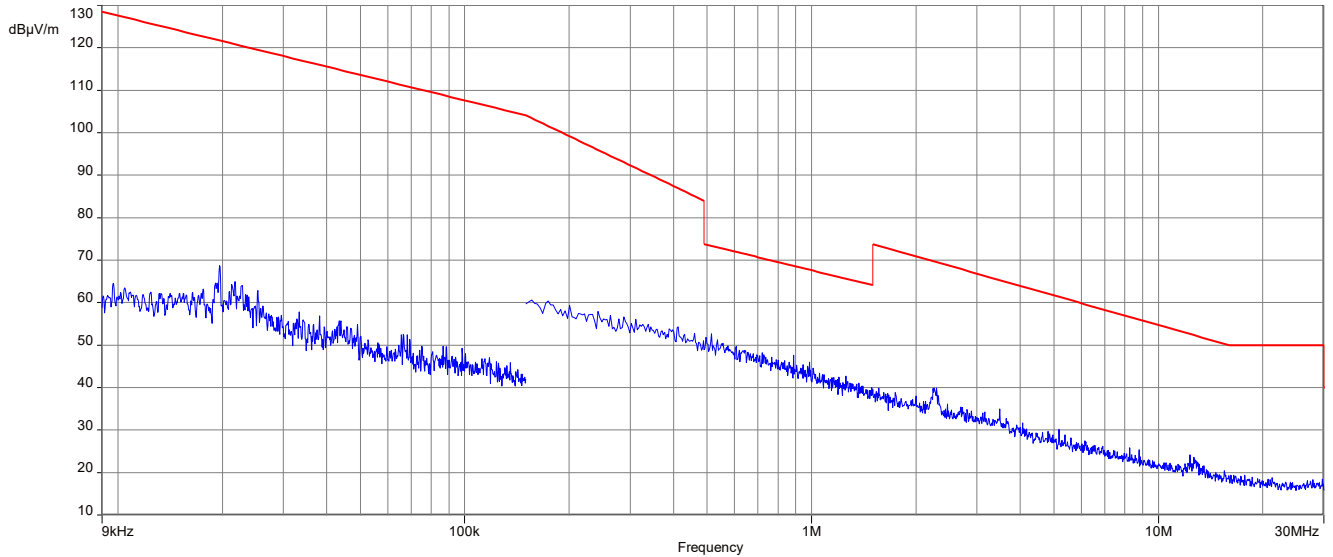


Plot 3: 9 kHz to 30 MHz, highest channel

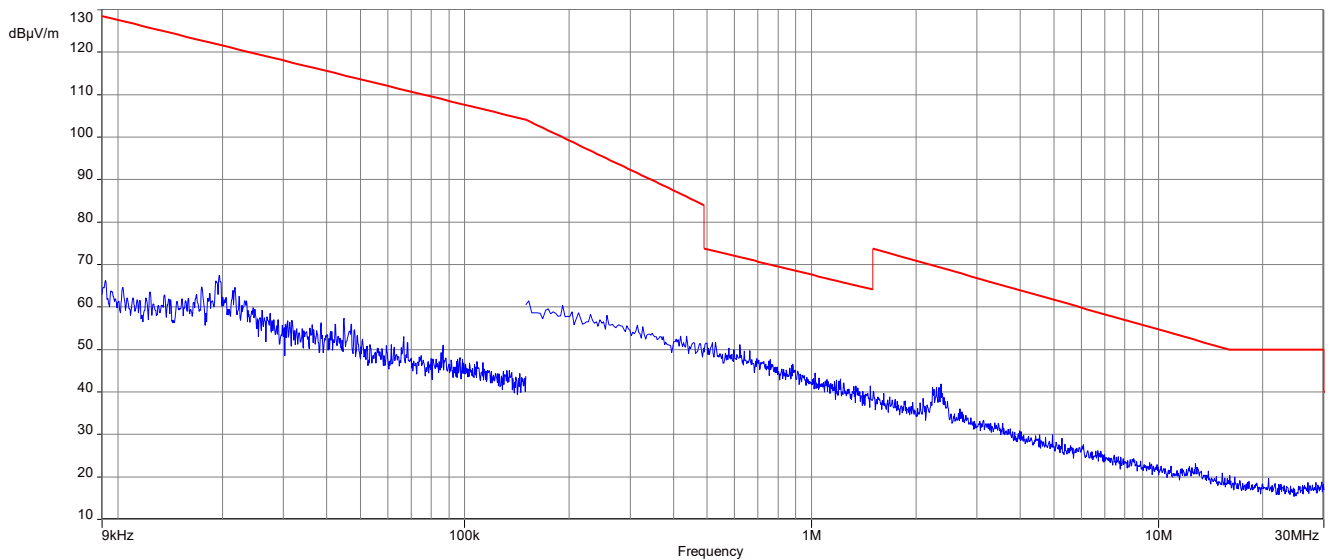


Plots: OFDM ax HE20-mode

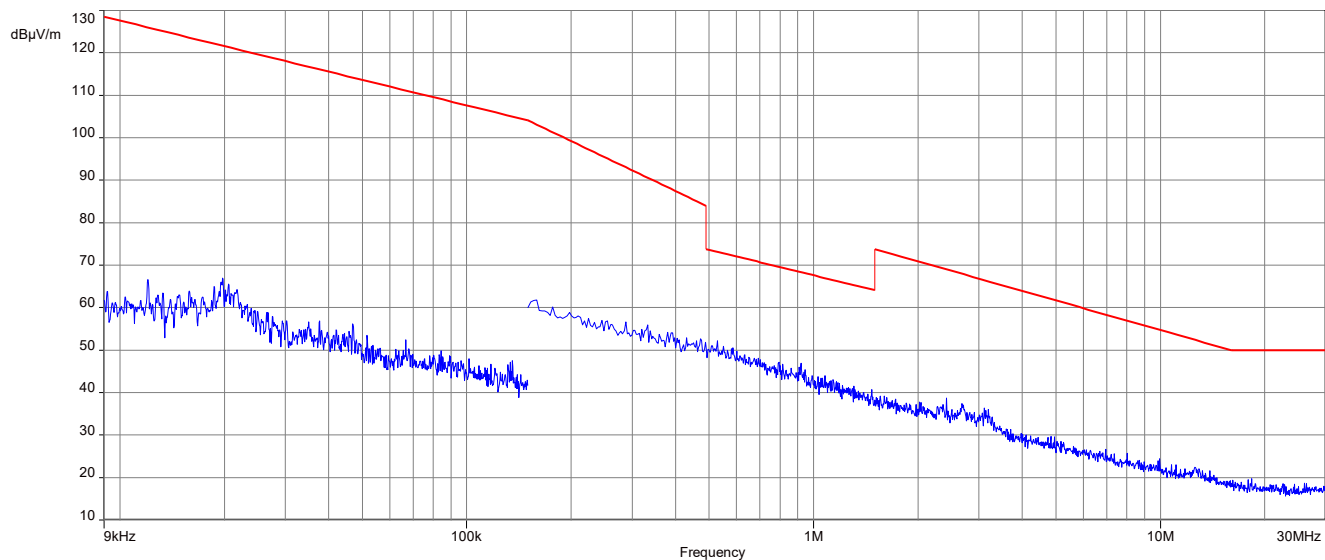
Plot 1: 9 kHz to 30 MHz, lowest channel



Plot 2: 9 kHz to 30 MHz, middle channel



Plot 3: 9 kHz to 30 MHz, highest channel



13.12 Spurious emissions radiated 30 MHz to 1 GHz

Description:

Measurement of the radiated spurious emissions and cabinet radiations below 1 GHz.

Measurement:

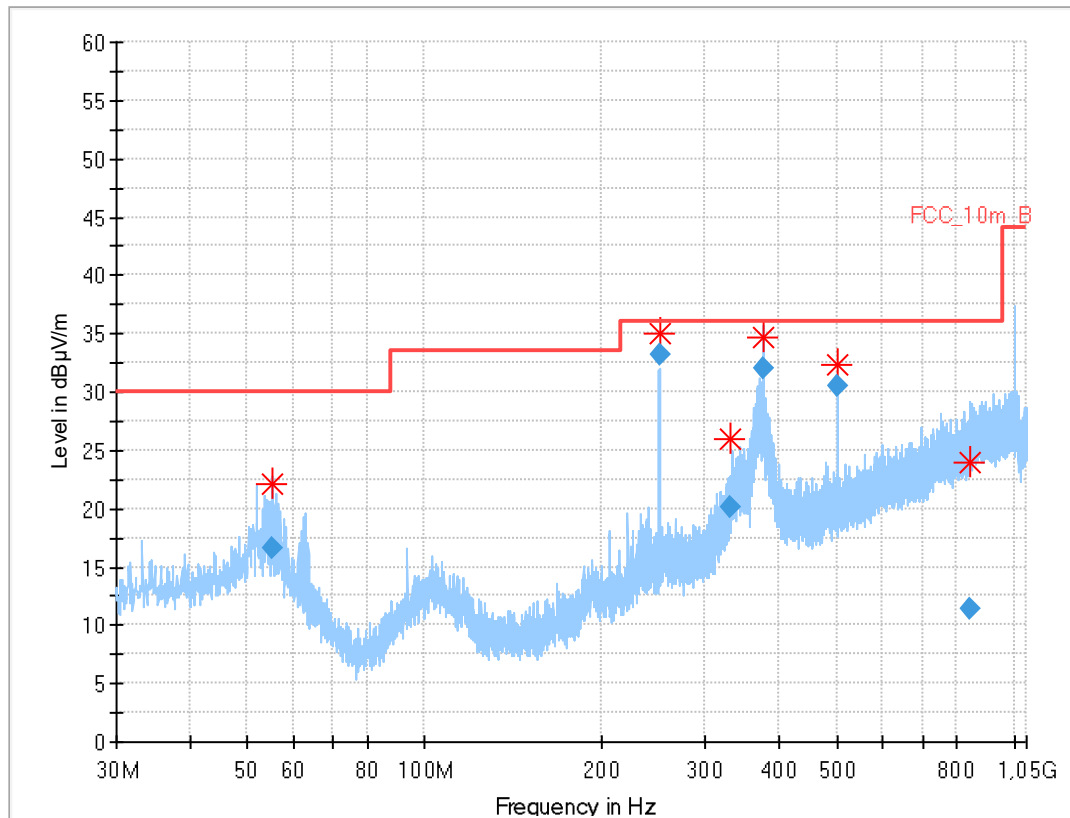
Measurement parameter	
Detector	Peak / Quasi Peak
Sweep time	Auto
Resolution bandwidth	120 kHz
Video bandwidth	3 x RBW
Span	30 MHz to 1 GHz
Trace mode	Max Hold
Measured modulation	☒ DSSS b – mode (FR; HR, QR) ☒ OFDM g – mode (FR; HR, QR) ☒ OFDM n HT20 – mode ☒ OFDM ac VHT20 – mode ☒ OFDM ax HE20 – mode
Test setup	See chapter 7.1 setup A
Measurement uncertainty	See chapter 9

Limits:

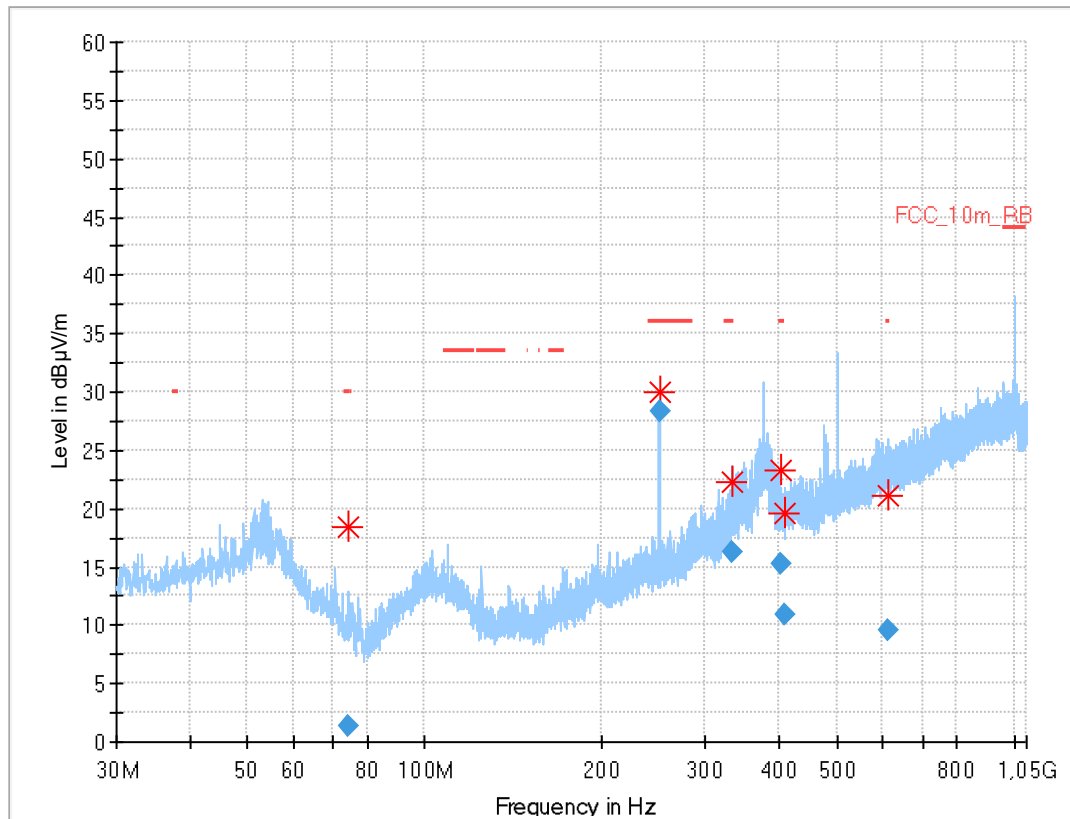
FCC		ISED
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that 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 §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).		
Frequency / MHz	Field Strength / (dBμV / m)	Measurement distance / m
30 – 88	30.0	10
88 – 216	33.5	10
216 – 960	36.0	10

Plots:

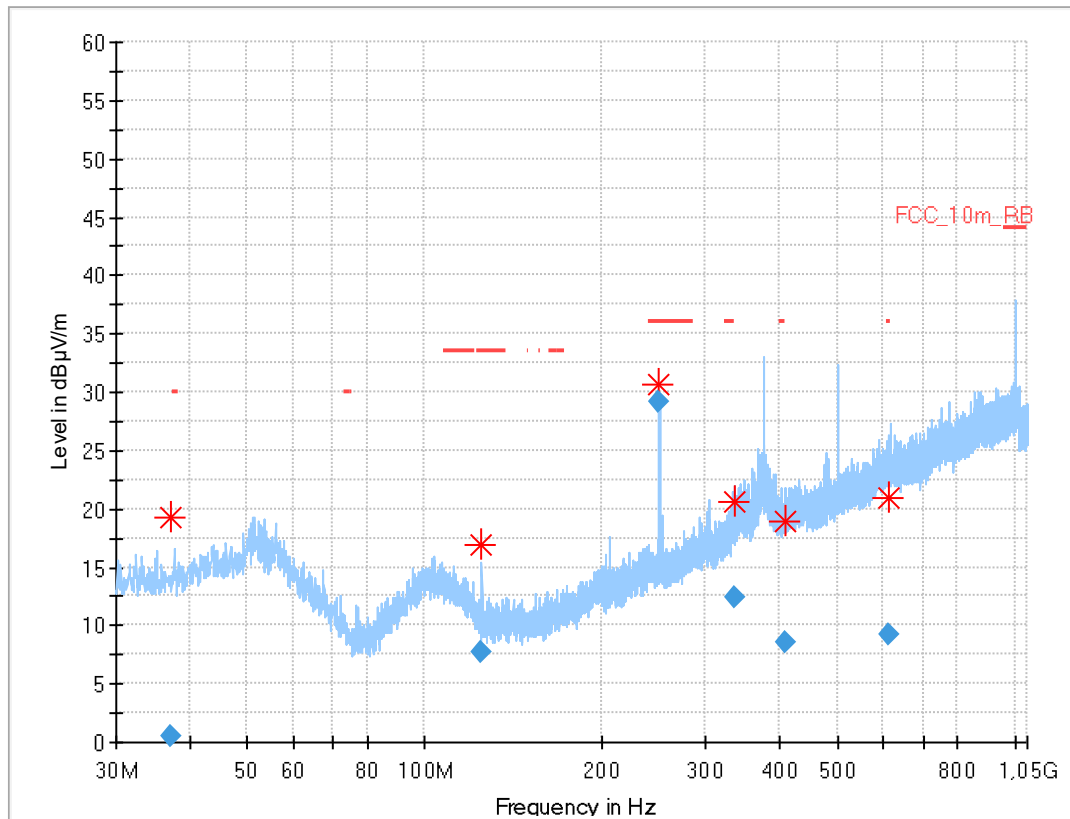
Plot 1: 30 MHz to 1 GHz, b-mode (FR) vertical & horizontal polarization, valid for all channels

**Final results:**

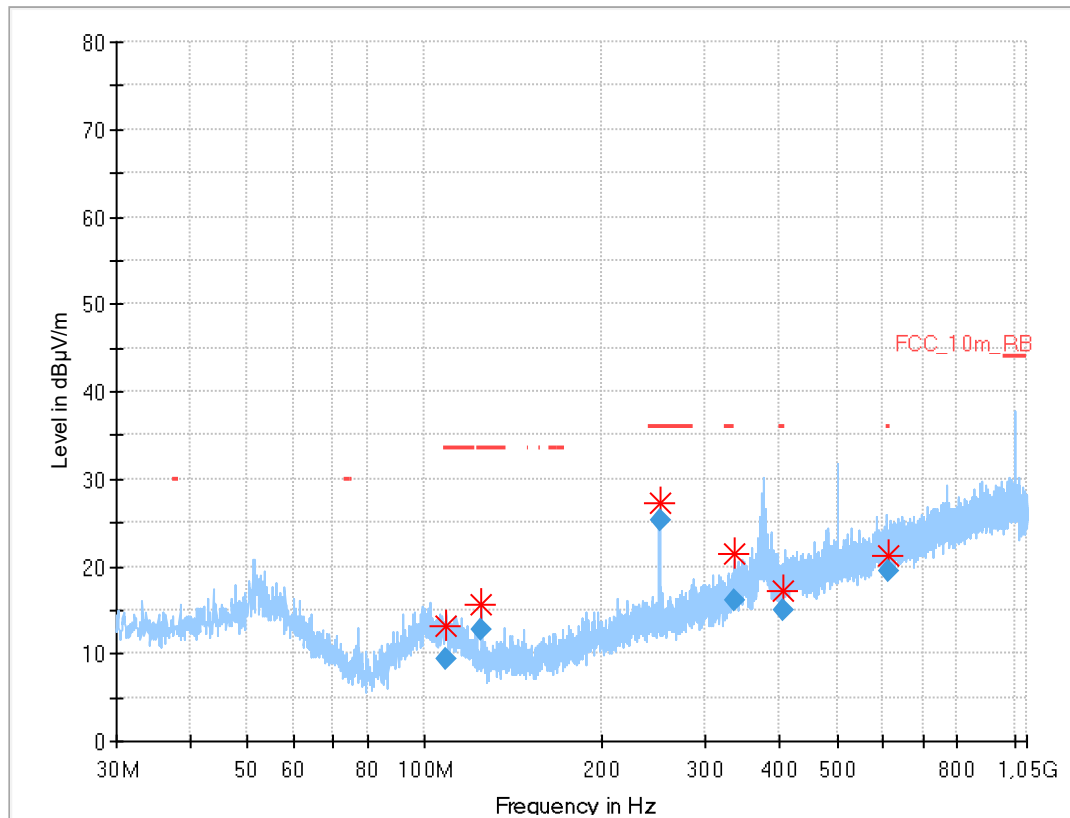
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
55.300200	16.58	30.00	13.42	1000.0	120.000	185.0	V	-2.0	14.9
250.009320	33.19	36.00	2.81	1000.0	120.000	195.0	H	104.0	13.8
331.328280	20.18	36.00	15.82	1000.0	120.000	183.0	H	6.0	15.7
375.011280	32.07	36.00	3.93	1000.0	120.000	195.0	H	59.0	16.6
500.020440	30.57	36.00	5.43	1000.0	120.000	151.0	H	204.0	19.1
844.333920	11.44	36.00	24.56	1000.0	120.000	188.0	V	269.0	24.0

Plot 2: 30 MHz to 1 GHz, b-mode (HR) vertical & horizontal polarization, valid for all channels**Final results:**

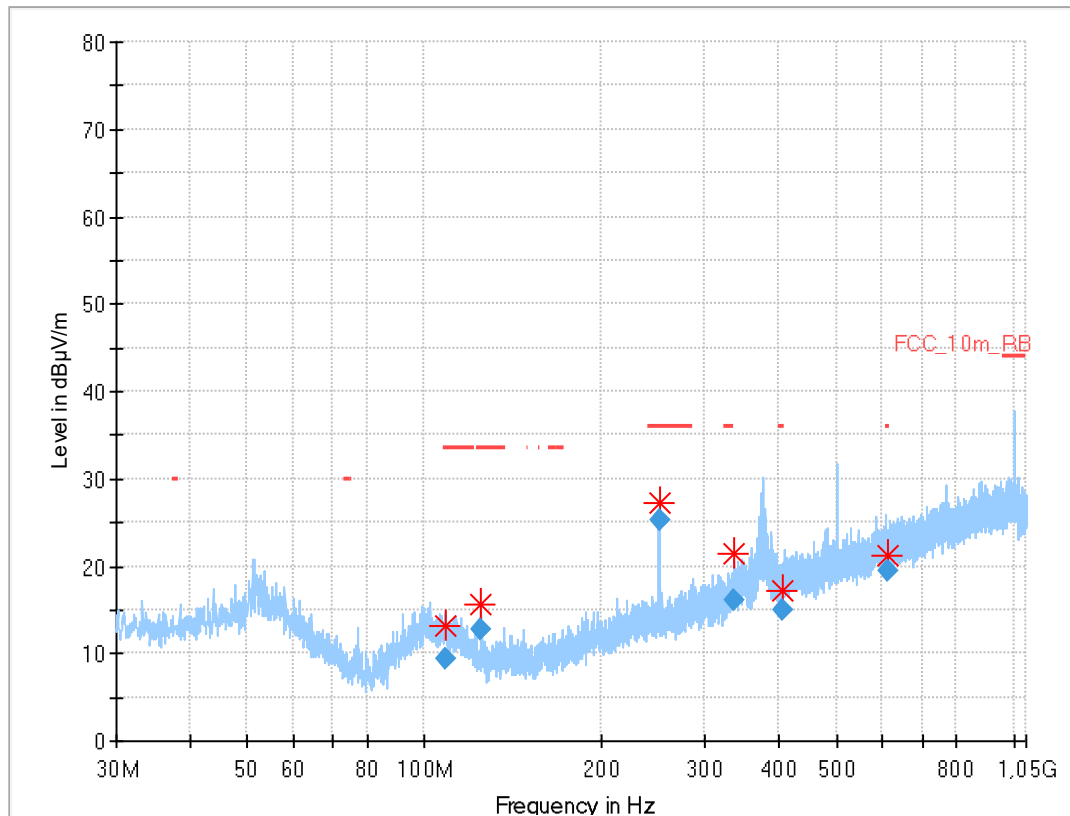
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
73.970640	1.37	30.00	28.63	1000.0	120.000	380.0	V	83.0	8.5
250.007400	28.36	36.00	7.64	1000.0	120.000	400.0	H	132.0	13.8
332.931240	16.34	36.00	19.66	1000.0	120.000	294.0	H	192.0	15.8
402.169680	15.27	36.00	20.73	1000.0	120.000	220.0	H	26.0	17.6
408.970080	10.88	36.00	25.12	1000.0	120.000	208.0	H	141.0	17.8
612.826560	9.60	36.00	26.40	1000.0	120.000	142.0	H	166.0	21.6

Plot 3: 30 MHz to 1 GHz, b-mode (QR) vertical & horizontal polarization, valid for all channels**Final results:**

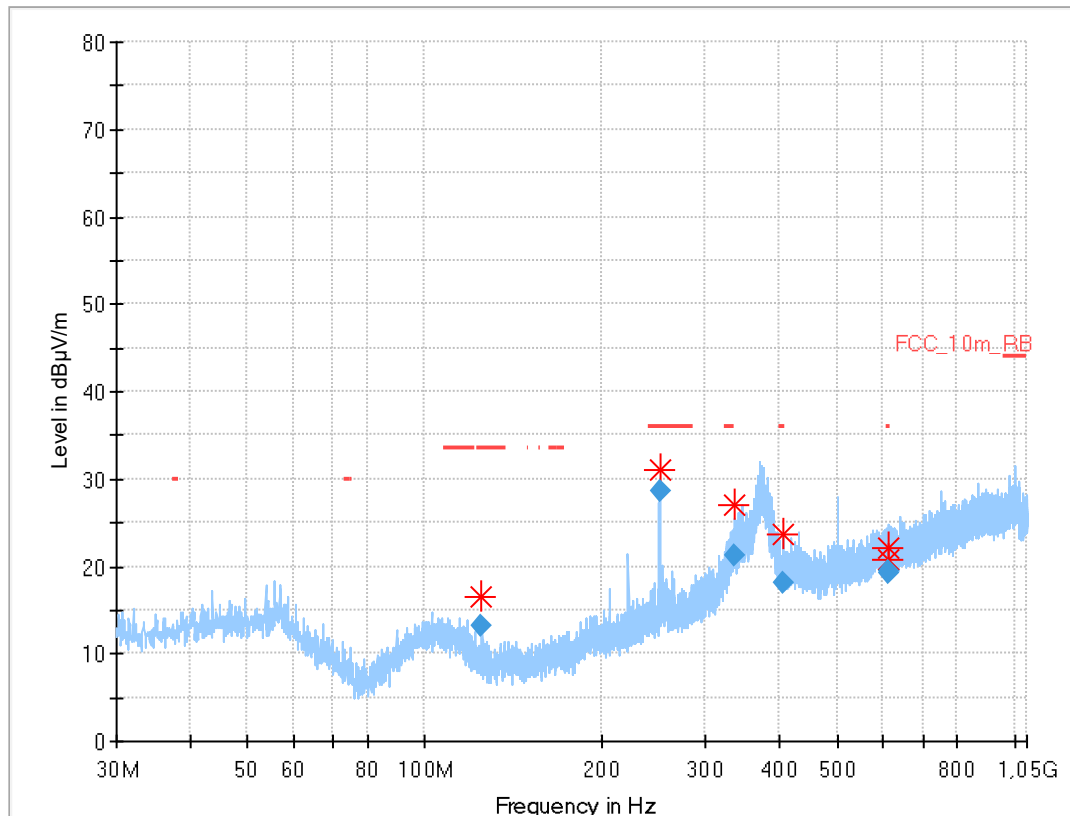
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
37.073160	0.54	---	---	1000.0	120.000	400.0	H	6.0	12.9
125.017200	7.66	33.50	25.84	1000.0	120.000	400.0	V	122.0	9.7
249.995880	29.14	36.00	6.86	1000.0	120.000	400.0	H	120.0	13.8
334.252920	12.42	36.00	23.58	1000.0	120.000	320.0	H	-23.0	15.9
409.074360	8.56	36.00	27.44	1000.0	120.000	232.0	H	289.0	17.8
612.902040	9.22	36.00	26.78	1000.0	120.000	174.0	V	243.0	21.6

Plot 4: 30 MHz to 1 GHz, g-mode (FR) vertical & horizontal polarization, valid for all channels**Final results:**

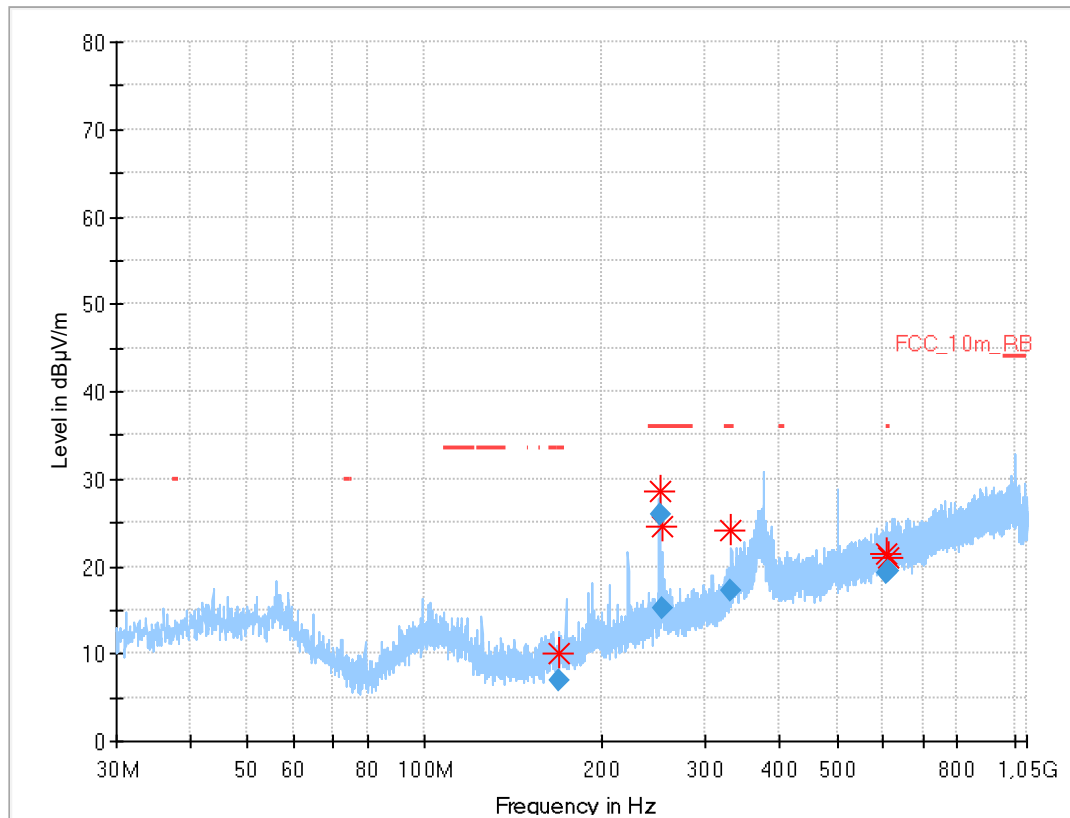
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
108.804600	9.38	33.50	24.12	1000.0	120.000	114.0	V	175.0	12.8
125.007720	12.68	33.50	20.82	1000.0	120.000	170.0	V	68.0	9.7
250.001760	25.14	36.00	10.86	1000.0	120.000	101.0	V	202.0	13.8
334.500600	16.04	36.00	19.96	1000.0	120.000	170.0	H	193.0	15.9
406.793760	14.94	36.00	21.06	1000.0	120.000	98.0	V	71.0	17.7
609.999120	19.43	36.00	16.57	1000.0	120.000	106.0	V	22.0	21.5

Plot 5: 30 MHz to 1 GHz, g-mode (HR) vertical & horizontal polarization, valid for all channels**Final results:**

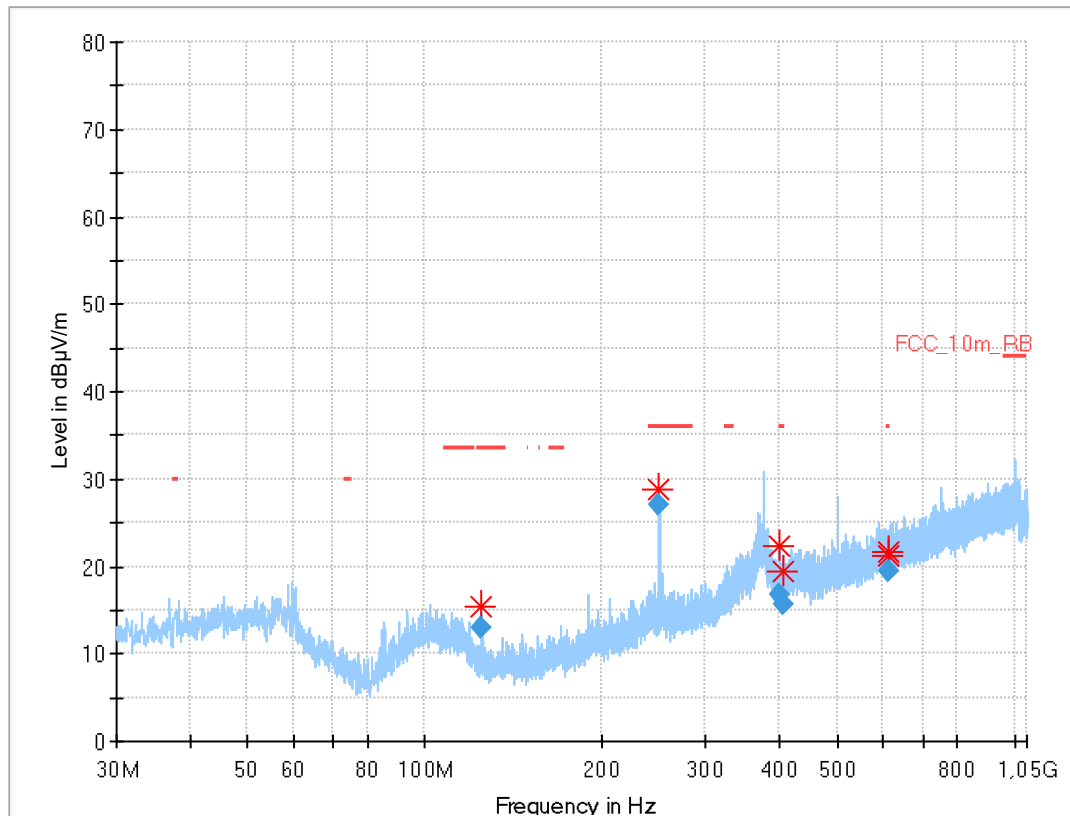
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
108.804600	9.38	33.50	24.12	1000.0	120.000	114.0	V	175.0	12.8
125.007720	12.68	33.50	20.82	1000.0	120.000	170.0	V	68.0	9.7
250.001760	25.14	36.00	10.86	1000.0	120.000	101.0	V	202.0	13.8
334.500600	16.04	36.00	19.96	1000.0	120.000	170.0	H	193.0	15.9
406.793760	14.94	36.00	21.06	1000.0	120.000	98.0	V	71.0	17.7
609.999120	19.43	36.00	16.57	1000.0	120.000	106.0	V	22.0	21.5

Plot 6: 30 MHz to 1 GHz, g-mode (QR) vertical & horizontal polarization, valid for all channels**Final results:**

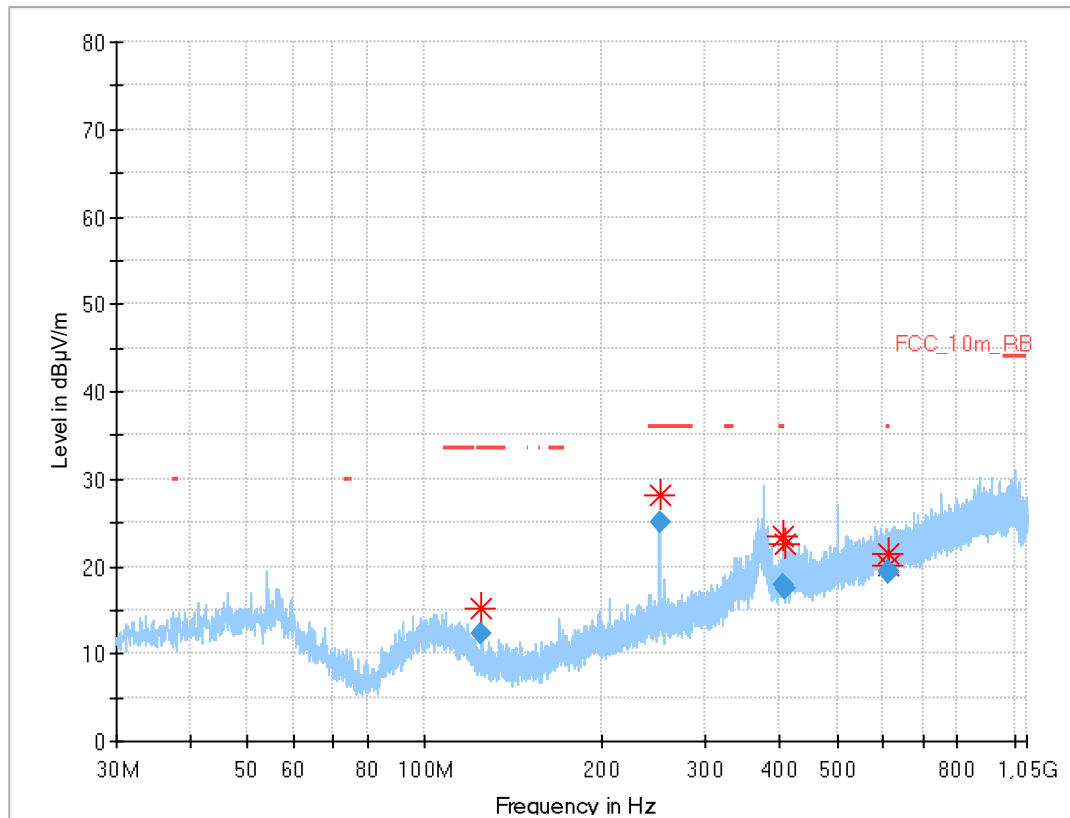
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
125.013960	13.18	33.50	20.32	1000.0	120.000	170.0	V	12.0	9.7
250.002600	28.52	36.00	7.48	1000.0	120.000	103.0	V	3.0	13.8
335.347800	21.12	36.00	14.88	1000.0	120.000	170.0	H	15.0	15.9
405.212280	18.15	36.00	17.85	1000.0	120.000	170.0	H	68.0	17.7
610.580520	19.26	36.00	16.74	1000.0	120.000	170.0	V	68.0	21.5
613.565400	19.39	36.00	16.61	1000.0	120.000	170.0	V	-9.0	21.6

Plot 7: 30 MHz to 1 GHz, n HT20-mode vertical & horizontal polarization, valid for all channels**Final results:**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
169.089600	7.02	33.50	26.48	1000.0	120.000	170.0	V	-17.0	10.2
250.001280	26.02	36.00	9.98	1000.0	120.000	170.0	V	5.0	13.8
253.261680	15.20	36.00	20.80	1000.0	120.000	135.0	V	22.0	13.7
331.057440	17.28	36.00	18.72	1000.0	120.000	170.0	H	15.0	15.6
607.900200	19.17	---	---	1000.0	120.000	116.0	H	96.0	21.5
612.809640	19.42	36.00	16.58	1000.0	120.000	170.0	H	86.0	21.6

Plot 8: 30 MHz to 1 GHz, ac VHT20-mode vertical & horizontal polarization, valid for all channels**Final results:**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
125.006040	12.85	33.50	20.65	1000.0	120.000	170.0	V	88.0	9.7
249.996600	27.15	36.00	8.85	1000.0	120.000	170.0	H	71.0	13.8
400.751640	16.67	36.00	19.33	1000.0	120.000	170.0	H	22.0	17.5
405.524880	15.61	36.00	20.39	1000.0	120.000	170.0	H	272.0	17.7
613.221120	19.42	36.00	16.58	1000.0	120.000	166.0	H	279.0	21.6
613.409160	19.47	36.00	16.53	1000.0	120.000	170.0	H	-6.0	21.6

Plot 9: 30 MHz to 1 GHz, ax HE20-mode vertical & horizontal polarization, valid for all channels**Final results:**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
124.994400	12.23	33.50	21.27	1000.0	120.000	98.0	V	22.0	9.7
250.020360	25.05	36.00	10.95	1000.0	120.000	101.0	V	22.0	13.8
405.910440	17.89	36.00	18.11	1000.0	120.000	170.0	H	68.0	17.7
409.538520	17.36	36.00	18.64	1000.0	120.000	170.0	H	70.0	17.8
609.526320	19.29	36.00	16.71	1000.0	120.000	170.0	V	256.0	21.5
613.489440	19.48	36.00	16.52	1000.0	120.000	170.0	H	22.0	21.6

13.13 Spurious emissions radiated above 1 GHz

Description:

Measurement of the radiated spurious emissions above 1 GHz in transmit mode and receiver / idle mode.

Measurement:

Measurement parameter	
Detector	Peak / RMS
Sweep time	Auto
Resolution bandwidth	1 MHz
Video bandwidth	3 x RBW
Span	1 GHz to 26 GHz
Trace mode	Max Hold
Measured modulation	☒ DSSS b – mode (FR; HR, QR) ☒ OFDM g – mode (FR; HR, QR) ☒ OFDM n HT20 – mode ☒ OFDM ac VHT20 – mode ☒ OFDM ax HE20 – mode
Test setup	See chapter 7.2 setup C & 7.3 setup A
Measurement uncertainty	See chapter 9

Limits:

FCC		ISED
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 30 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 §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).		
Frequency / MHz	Field Strength / (dB μ V / m)	Measurement distance / m
Above 960	54.0 (AVG)	3
	74.0 (peak)	

Results: DSSS b-mode (FR)

TX spurious emissions radiated / dB μ V/m @ 3 m								
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
4824	Peak	56.6	4874	Peak	56.3	4924	Peak	55.8
	AVG	53.5		AVG	53.7		AVG	52.9
All other detected peak emissions are below the average limit.			All other detected peak emissions are below the average limit.			All other detected peak emissions are below the average limit.		

Results: DSSS b-mode (HR)

TX spurious emissions radiated / dB μ V/m @ 3 m								
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
4824	Peak	55.8	4874	Peak	56.3	4924	Peak	53.6
	AVG	52.8		AVG	53.5		AVG	48.7
All other detected peak emissions are below the average limit.			All other detected peak emissions are below the average limit.			All other detected peak emissions are below the average limit.		

Results: DSSS b-mode (QR)

TX spurious emissions radiated / dB μ V/m @ 3 m								
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
4824	Peak	57.4	All detected peak emissions are below the average limit.			4924	Peak	58.3
	AVG	52.3					AVG	52.5
All other detected peak emissions are below the average limit.						All other detected peak emissions are below the average limit.		

Results: OFDM g-mode (FR)

TX spurious emissions radiated / dBμV/m @ 3 m								
lowest channel			middle channel			highest channel		
f / MHz	Detector	Level / dBμV/m	f / MHz	Detector	Level / dBμV/m	f / MHz	Detector	Level / dBμV/m
4824	Peak	57.0	All detected peak emissions are below the average limit.			All detected peak emissions are below the average limit.		
	AVG	46.7						
All other detected peak emissions are below the average limit.								

Results: OFDM mode (HR)

TX spurious emissions radiated / dBμV/m @ 3 m								
lowest channel			middle channel			highest channel		
f / MHz	Detector	Level / dBμV/m	f / MHz	Detector	Level / dBμV/m	f / MHz	Detector	Level / dBμV/m
4824	Peak	60.6	All detected peak emissions are below the average limit.			All detected peak emissions are below the average limit.		
	AVG	48.1						
All other detected peak emissions are below the average limit.								

Results: OFDM mode (QR)

TX spurious emissions radiated / dBμV/m @ 3 m								
lowest channel			middle channel			highest channel		
f / MHz	Detector	Level / dBμV/m	f / MHz	Detector	Level / dBμV/m	f / MHz	Detector	Level / dBμV/m
4824	Peak	64.8	4874	Peak	63.7	All detected peak emissions are below the average limit.		
	AVG	51.6		AVG	50.5			
All other detected peak emissions are below the average limit.			All other detected peak emissions are below the average limit.					

Results: OFDM n HT20-mode (FR)

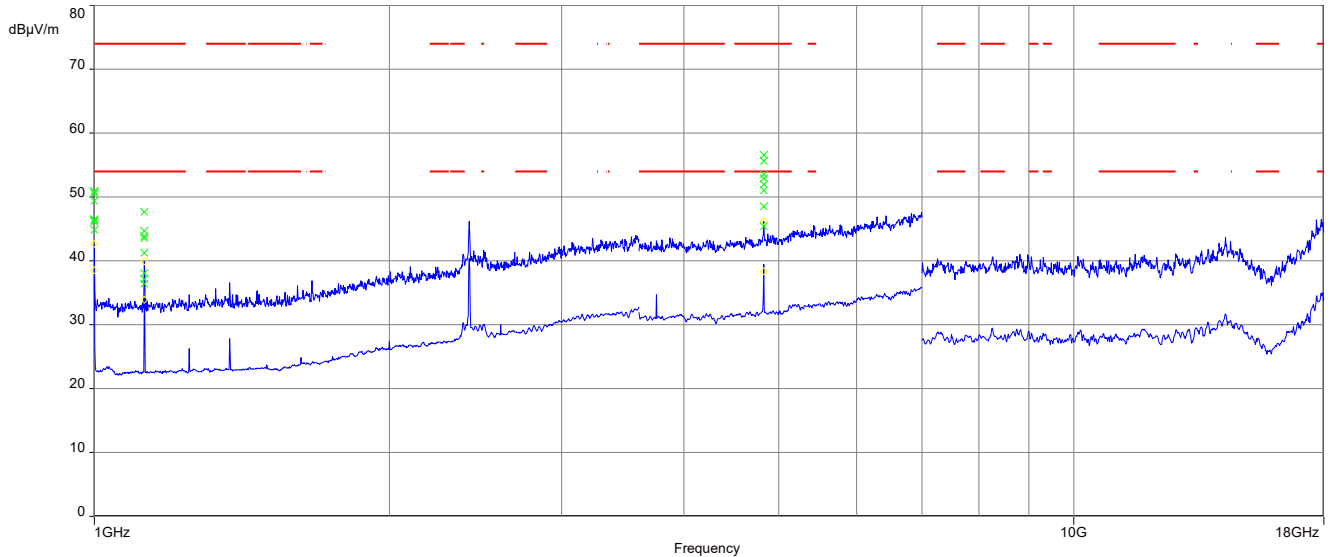
TX spurious emissions radiated / dB μ V/m @ 3 m								
lowest channel			middle channel			highest channel		
f / MHz	Detector	Level / dB μ V/m	f / MHz	Detector	Level / dB μ V/m	f / MHz	Detector	Level / dB μ V/m
4824	Peak	60.9	All detected peak emissions are below the average limit.			4924	Peak	59.8
	AVG	48.3					AVG	46.5
All other detected peak emissions are below the average limit.						All other detected peak emissions are below the average limit.		

Results: OFDM ac VHT20 mode (FR)

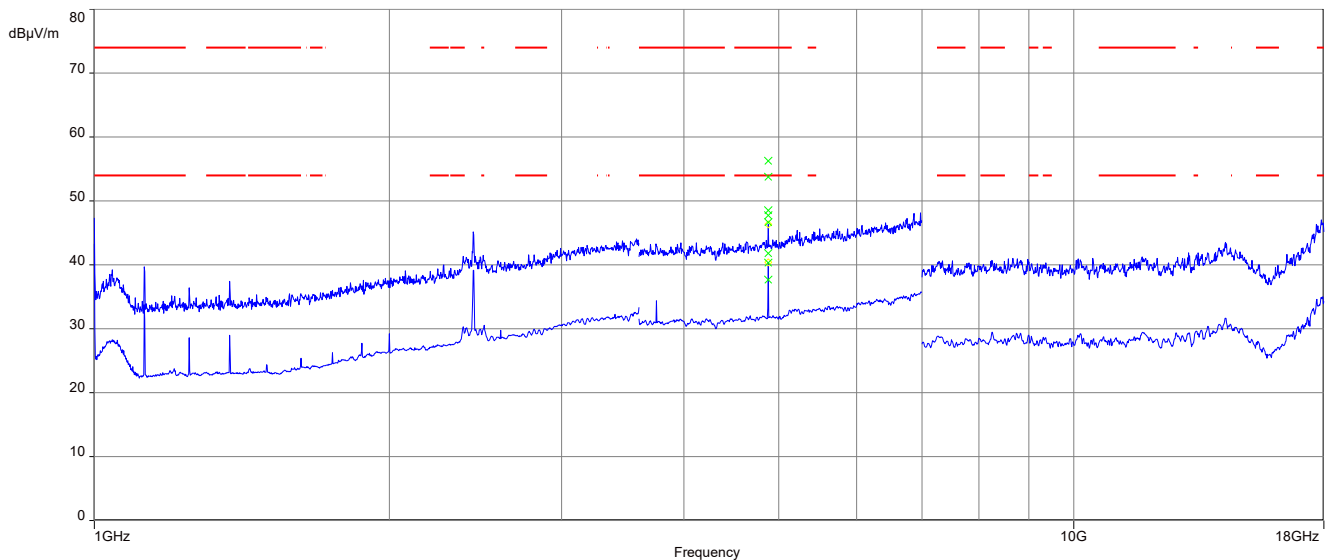
TX spurious emissions radiated / dB μ V/m @ 3 m								
lowest channel			middle channel			highest channel		
f / MHz	Detector	Level / dB μ V/m	f / MHz	Detector	Level / dB μ V/m	f / MHz	Detector	Level / dB μ V/m
4824	Peak	60.0	4874	Peak	54.5	4924	Peak	60.4
	AVG	48.3		AVG	41.2		AVG	49.0
All other detected peak emissions are below the average limit.			All other detected peak emissions are below the average limit.			All other detected peak emissions are below the average limit.		

Results: OFDM ax HE20 mode (FR)

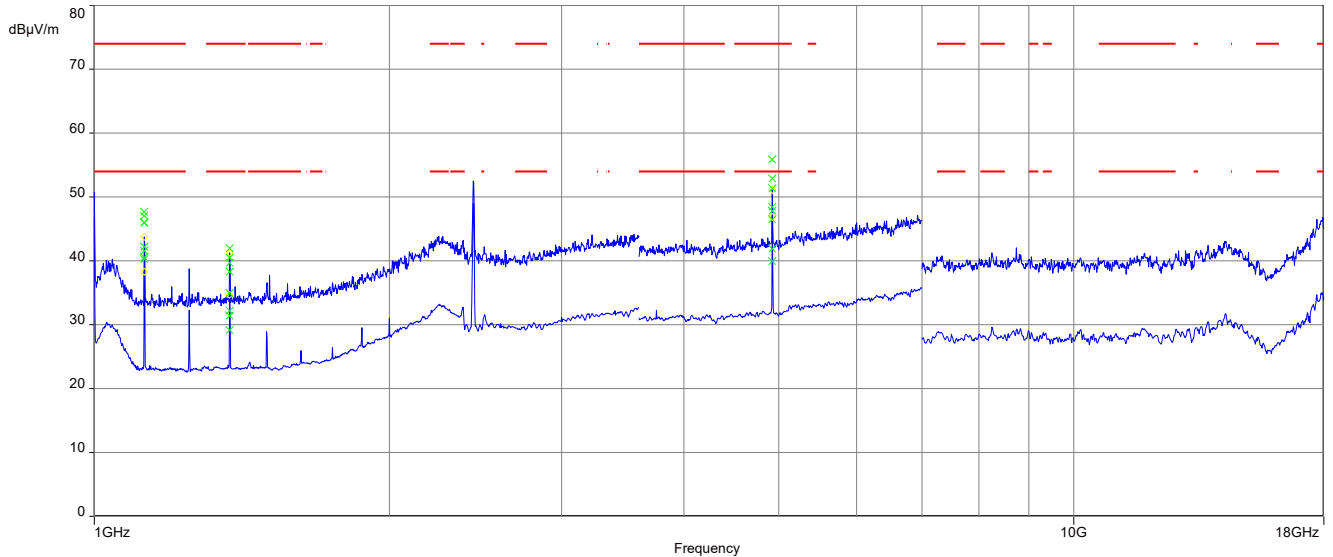
TX spurious emissions radiated / dB μ V/m @ 3 m								
lowest channel			middle channel			highest channel		
f / MHz	Detector	Level / dB μ V/m	f / MHz	Detector	Level / dB μ V/m	f / MHz	Detector	Level / dB μ V/m
4824	Peak	64.2	4874	Peak	59.0	4924	Peak	60.9
	AVG	49.5		AVG	44.7		AVG	47.1
All other detected peak emissions are below the average limit.			All other detected peak emissions are below the average limit.			All other detected peak emissions are below the average limit.		

Plots: DSSS b-mode (FR)**Plot 1:** Lowest channel, 1 GHz to 18 GHz, vertical & horizontal polarization

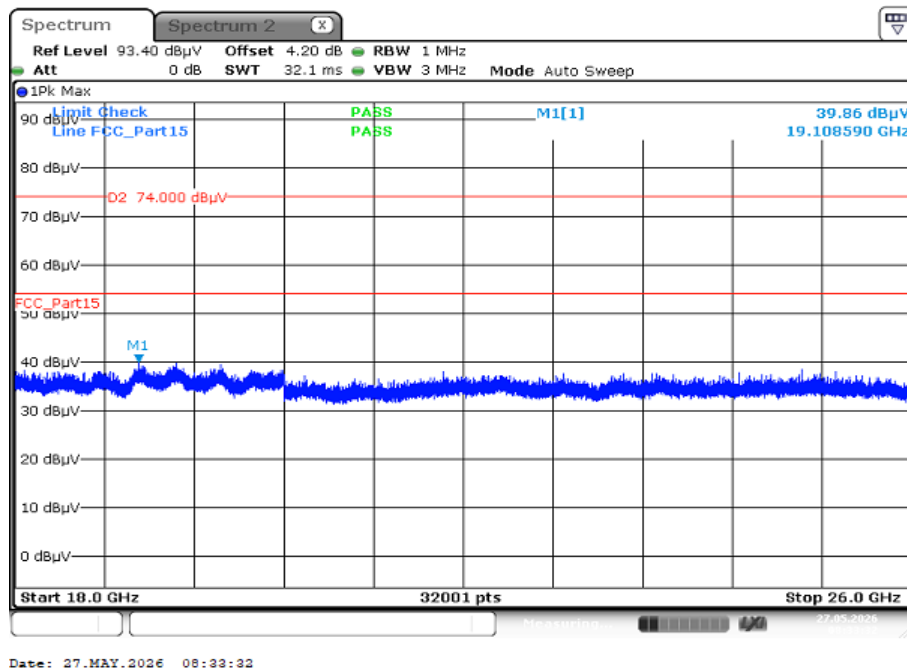
The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 2: Middle channel, 1 GHz to 18 GHz, vertical & horizontal polarization

The carrier signal is notched with a 2.4 GHz band rejection filter.

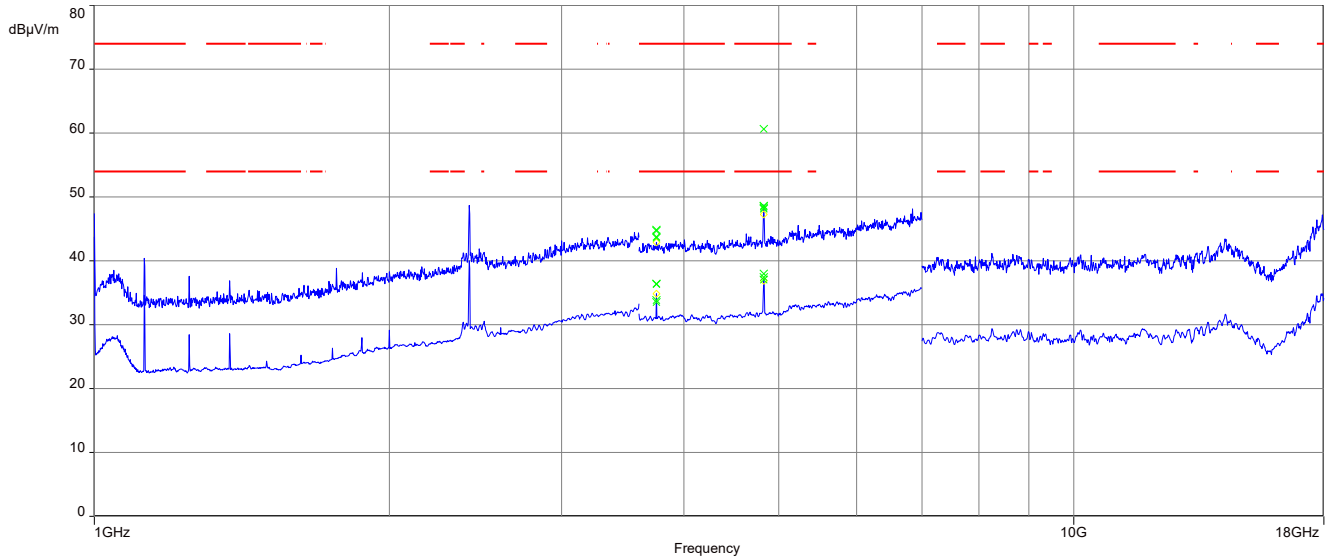
Plot 3: Highest channel, 1 GHz to 18 GHz, vertical & horizontal polarization

The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 4: Highest channel, 18 GHz to 26 GHz, vertical & horizontal polarization

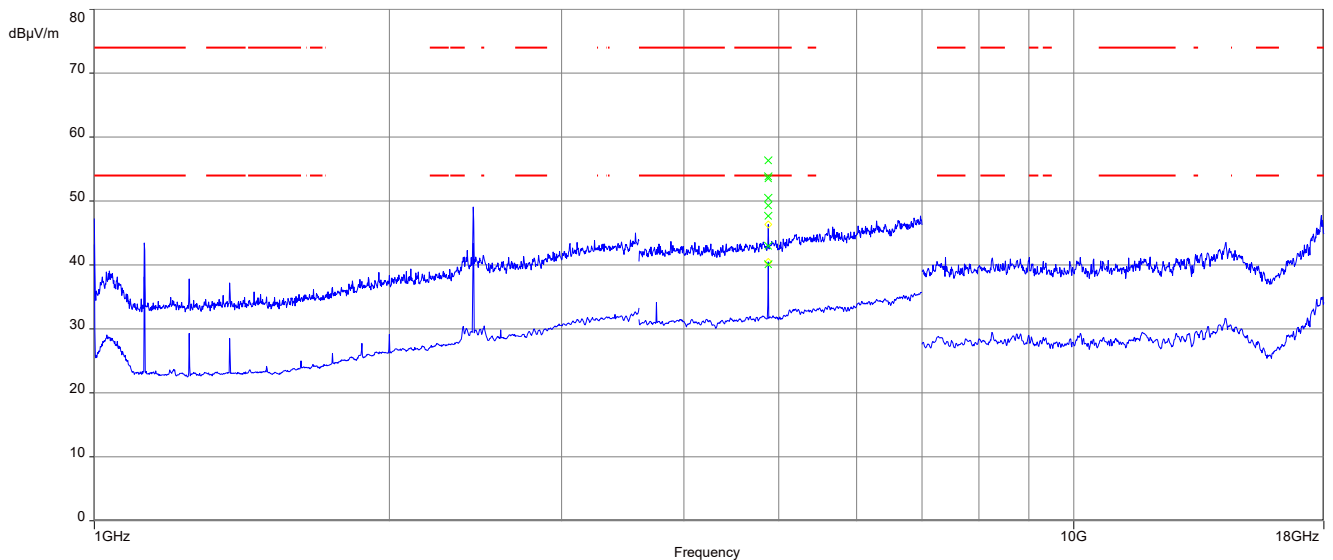
Plots: DSSS b-mode mode (HR)

Plot 1: Lowest channel, 1 GHz to 18 GHz, vertical & horizontal polarization

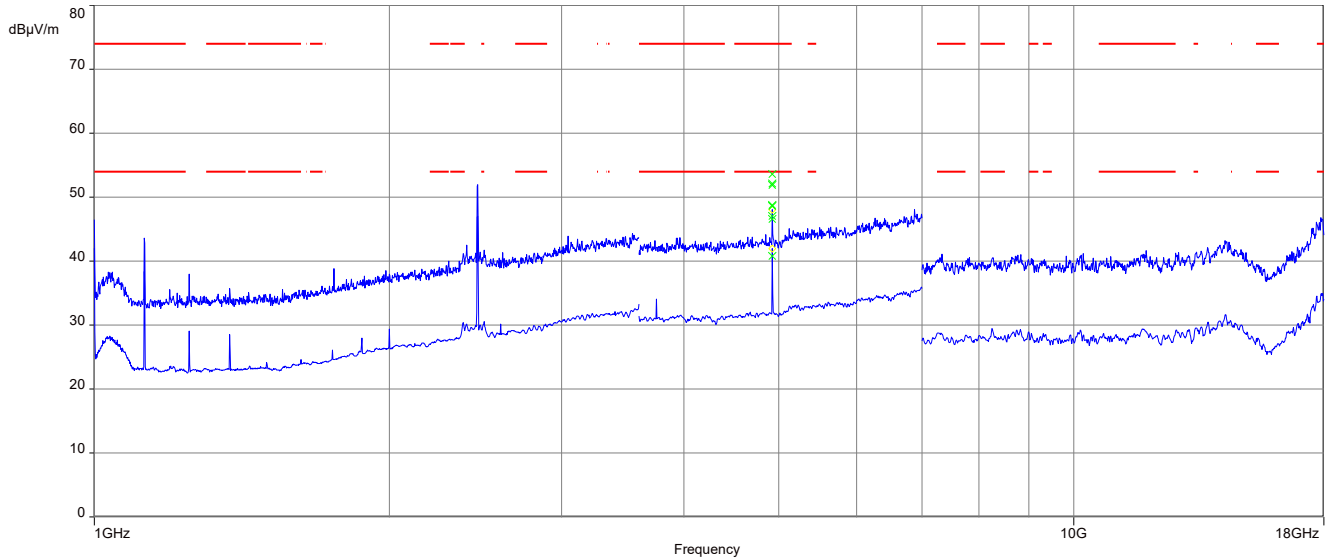


The carrier signal is notched with a 2.4 GHz band rejection filter.

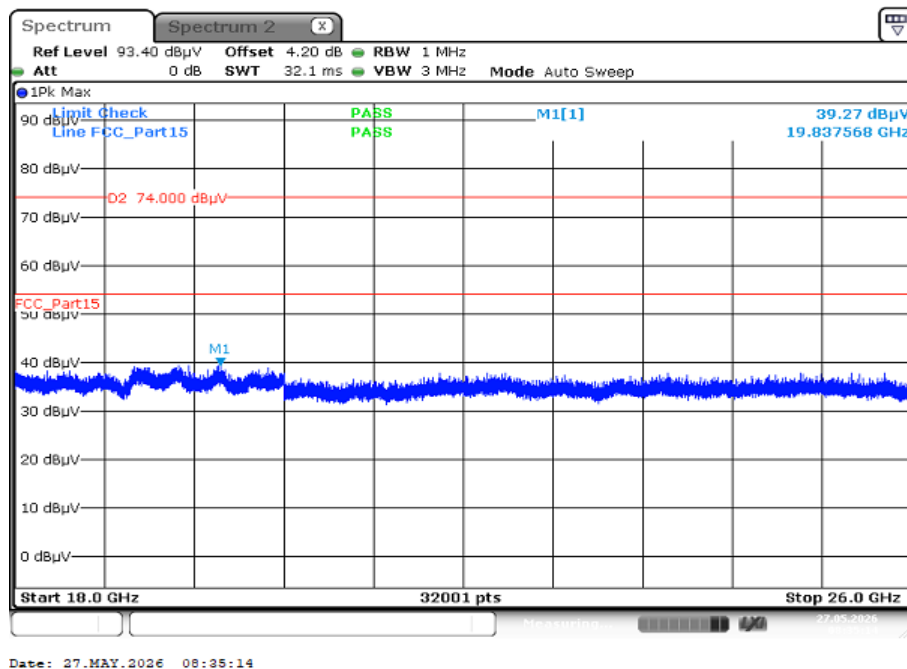
Plot 2: Middle channel, 1 GHz to 18 GHz, vertical & horizontal polarization



The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 3: Highest channel, 1 GHz to 18 GHz, vertical & horizontal polarization

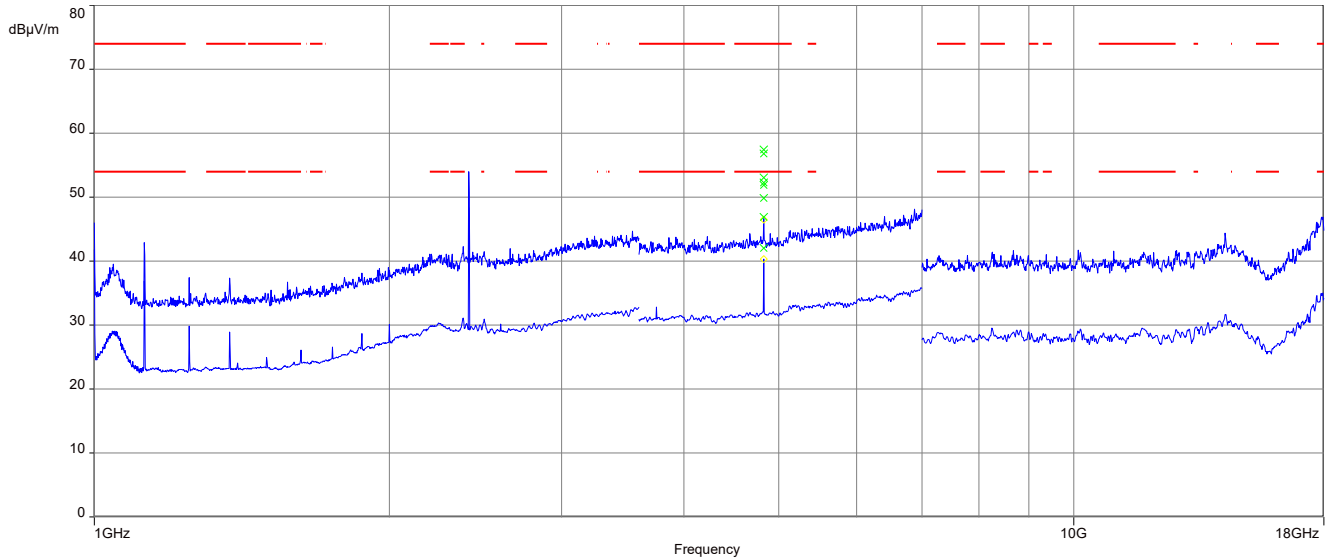
The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 4: Highest channel, 18 GHz to 26 GHz, vertical & horizontal polarization

Date: 27.MAY.2026 08:35:14

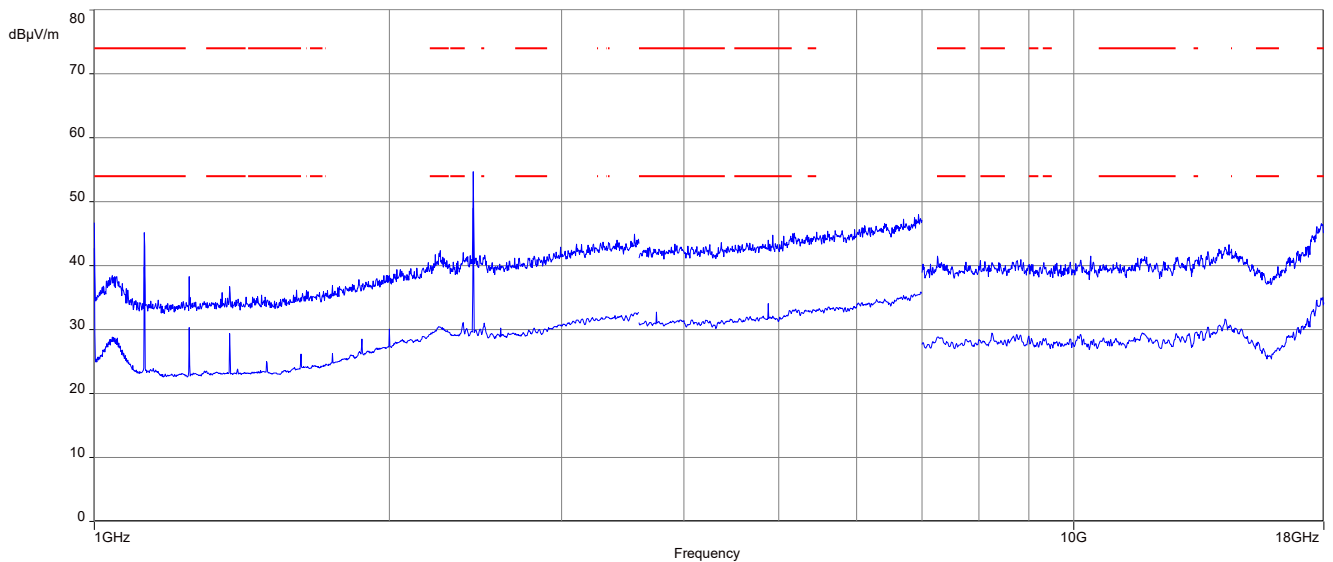
Plots: DSSS b-mode mode (QR)

Plot 1: Lowest channel, 1 GHz to 18 GHz, vertical & horizontal polarization

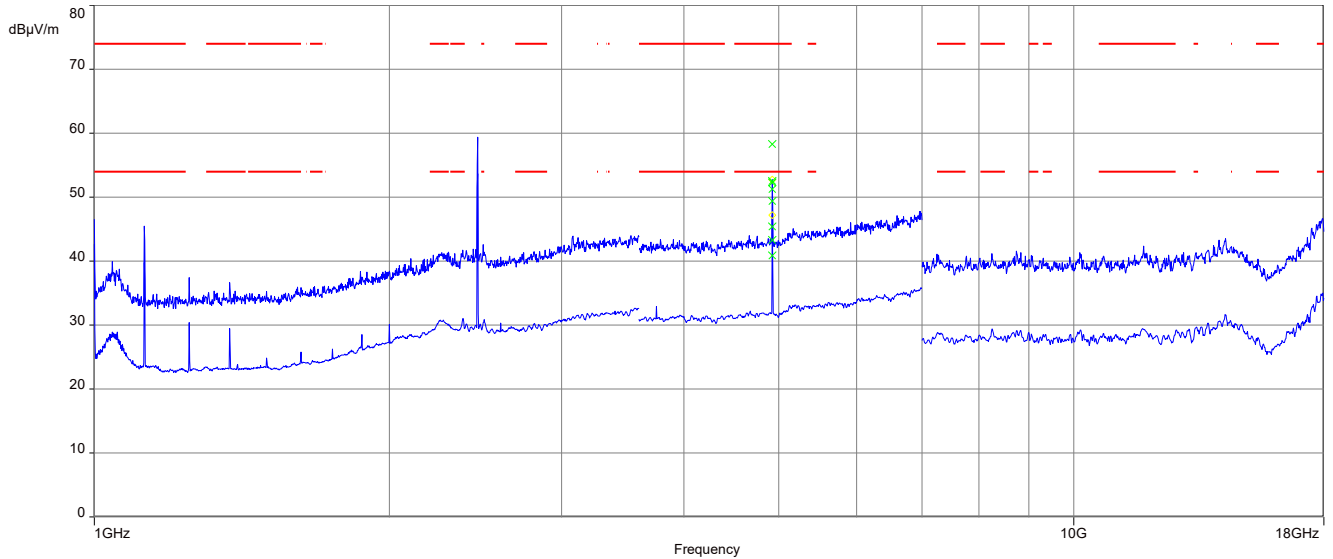


The carrier signal is notched with a 2.4 GHz band rejection filter.

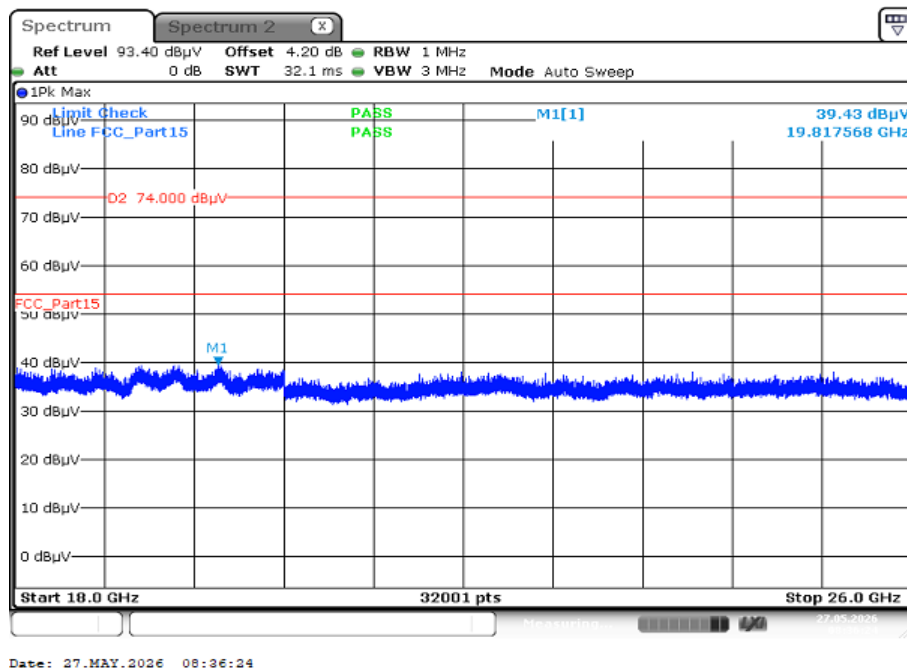
Plot 2: Middle channel, 1 GHz to 18 GHz, vertical & horizontal polarization



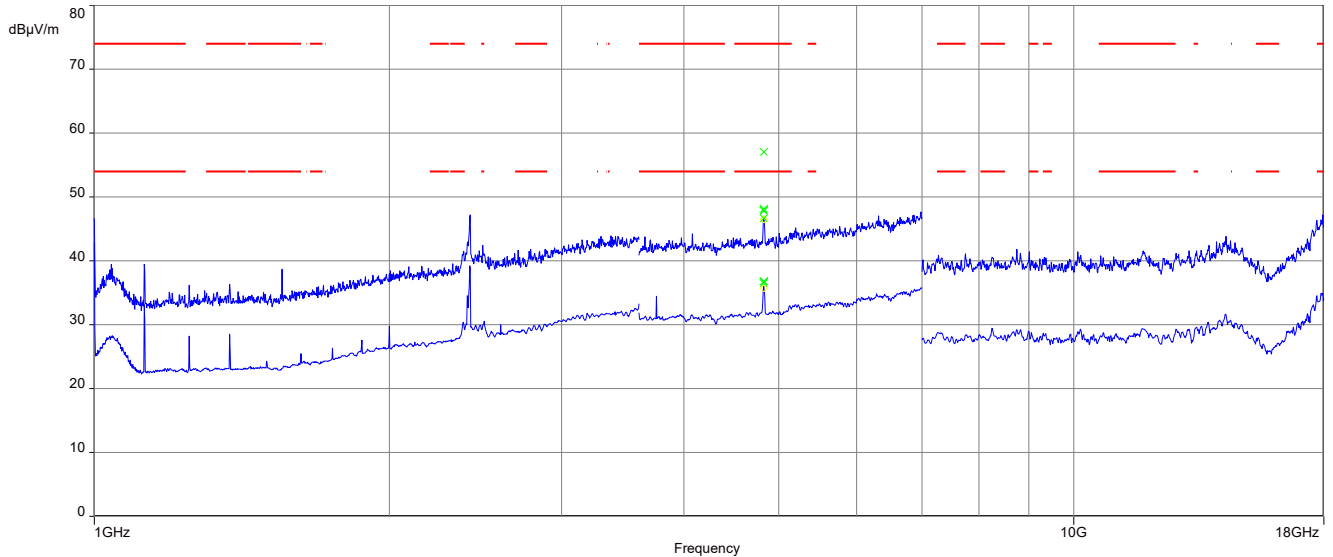
The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 3: Highest channel, 1 GHz to 18 GHz, vertical & horizontal polarization

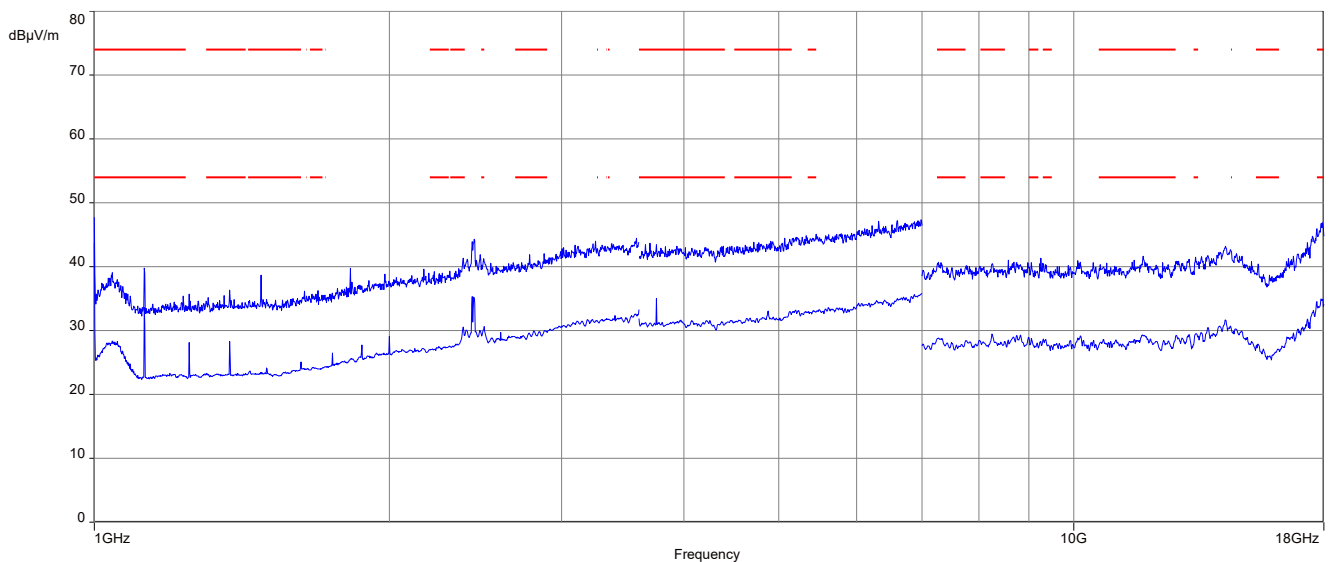
The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 4: Highest channel, 18 GHz to 26 GHz, vertical & horizontal polarization

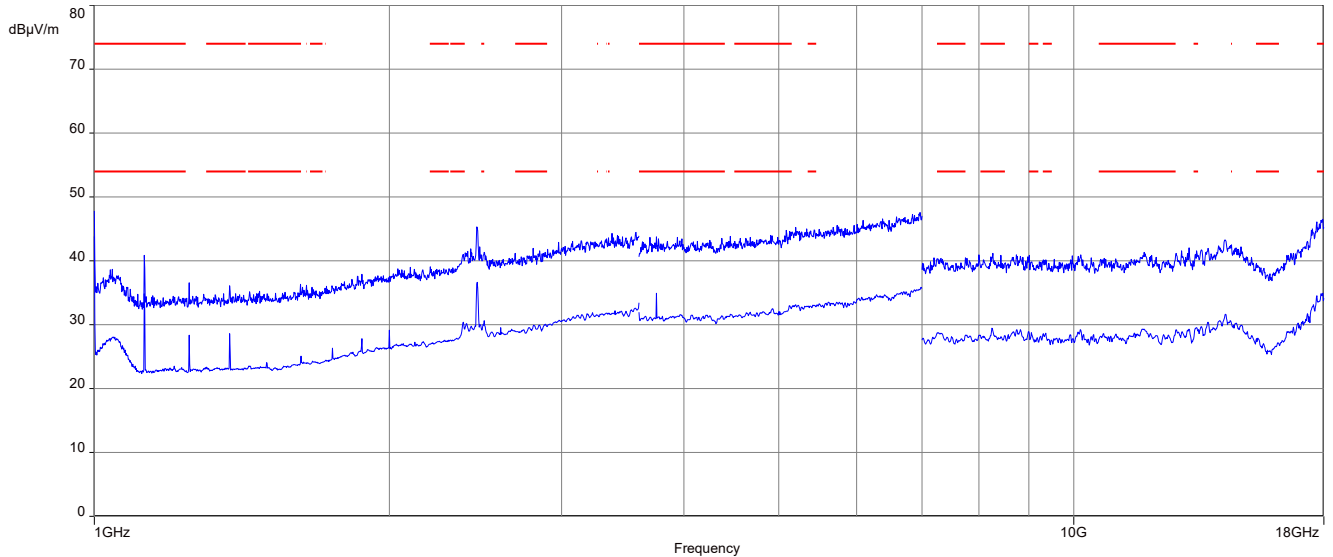
Date: 27.MAY.2026 08:36:24

Plots: OFDM g-mode (FR)**Plot 1:** Lowest channel, 1 GHz to 18 GHz, vertical & horizontal polarization

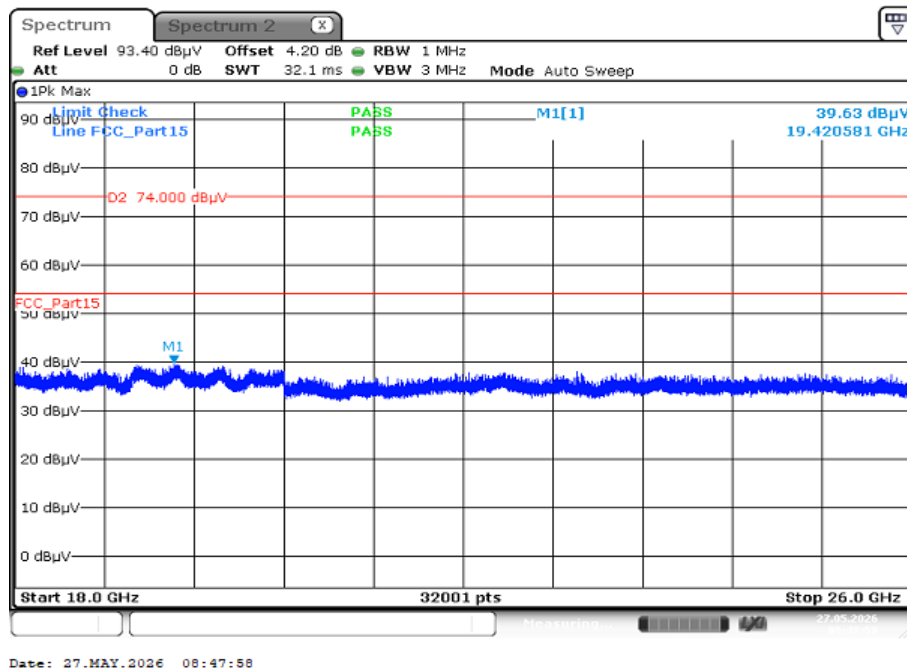
The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 2: Middle channel, 1 GHz to 18 GHz, vertical & horizontal polarization

The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 3: Highest channel, 1 GHz to 18 GHz, vertical & horizontal polarization

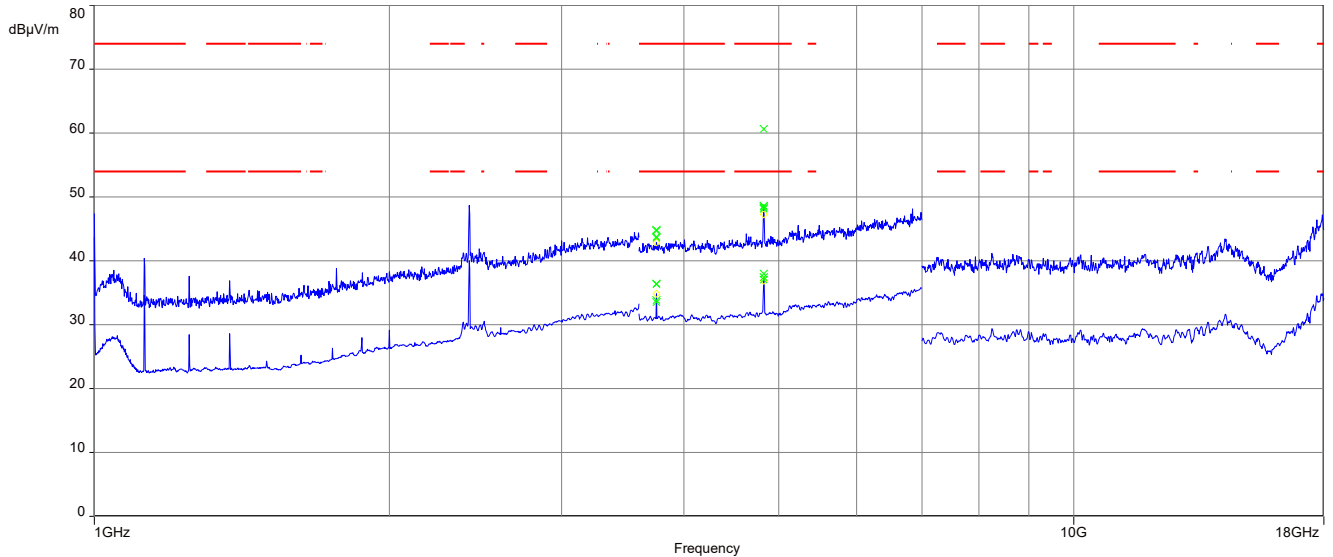
The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 4: Highest channel, 18 GHz to 26 GHz, vertical & horizontal polarization

Date: 27.MAY.2026 08:47:58

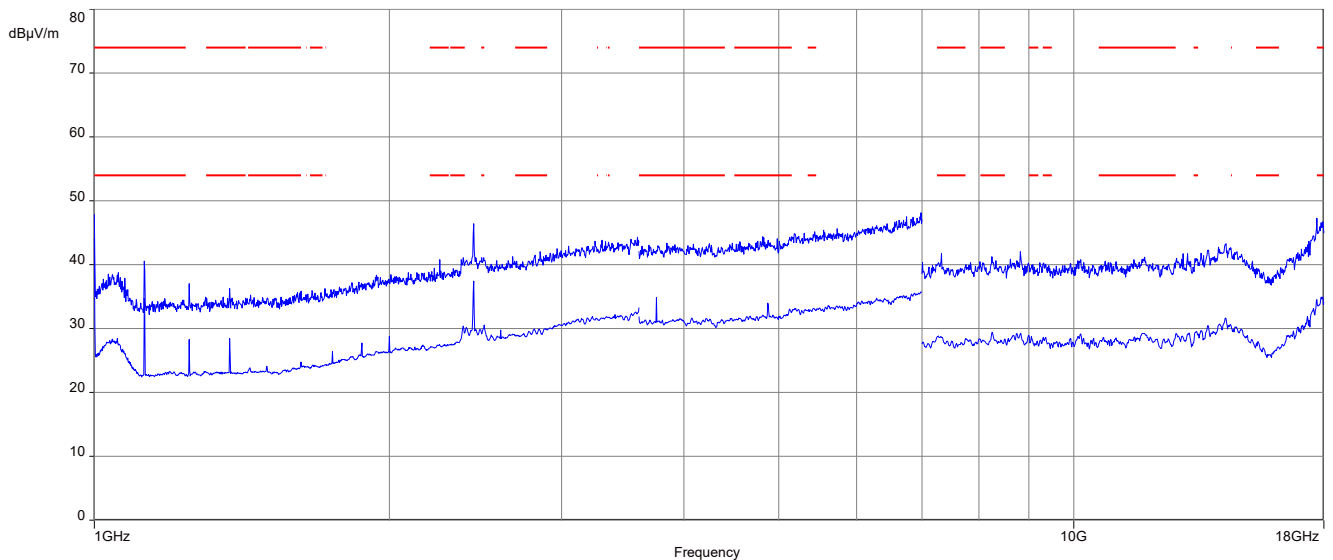
Plots: OFDM mode (HR)

Plot 1: Lowest channel, 1 GHz to 18 GHz, vertical & horizontal polarization

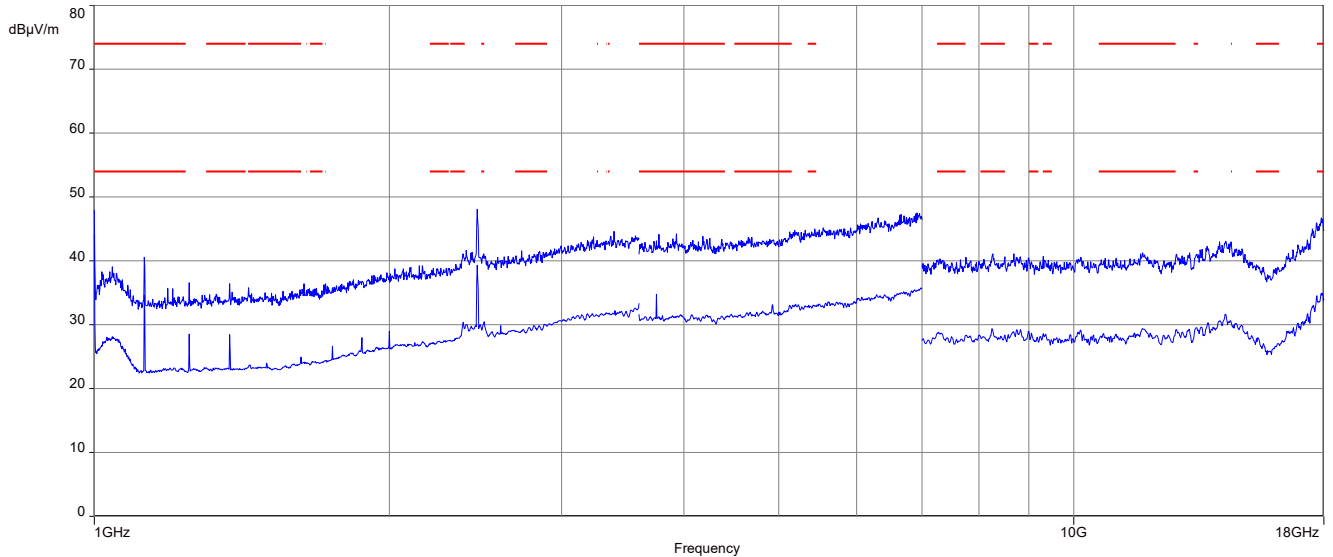


The carrier signal is notched with a 2.4 GHz band rejection filter.

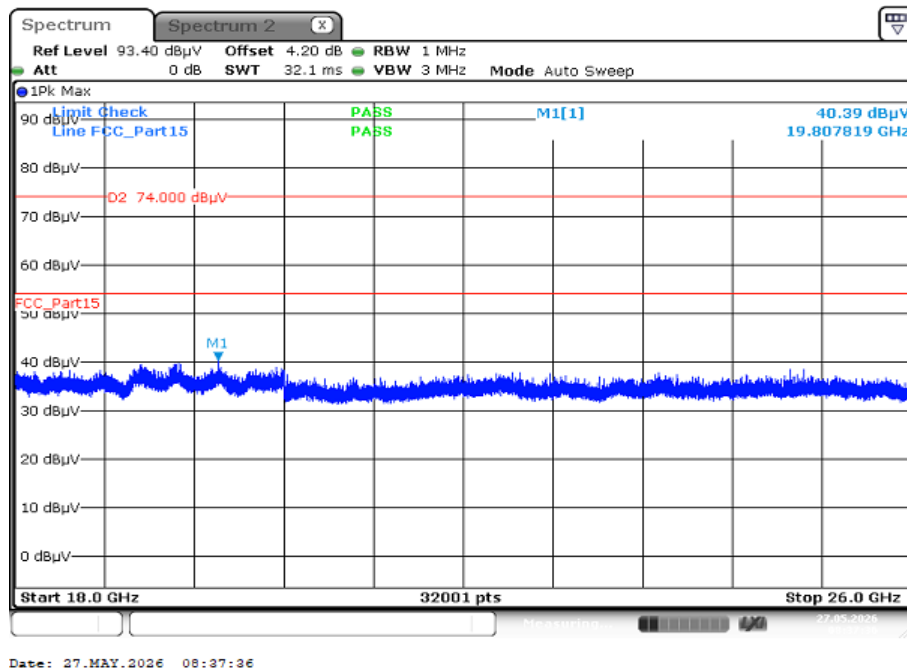
Plot 2: Middle channel, 1 GHz to 18 GHz, vertical & horizontal polarization



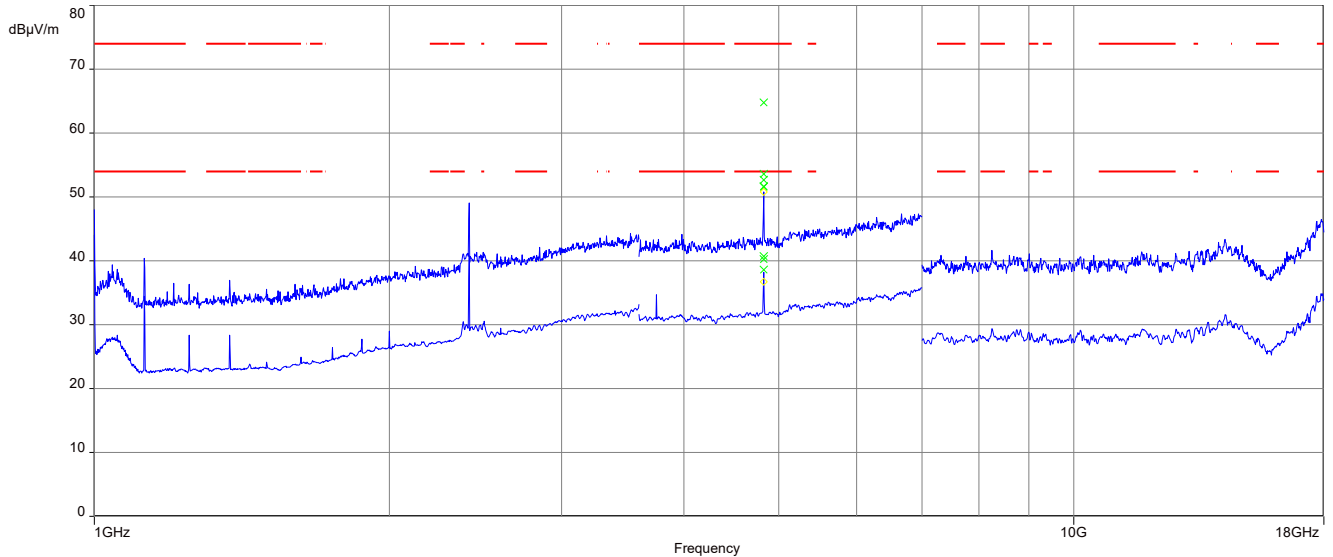
The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 3: Highest channel, 1 GHz to 18 GHz, vertical & horizontal polarization

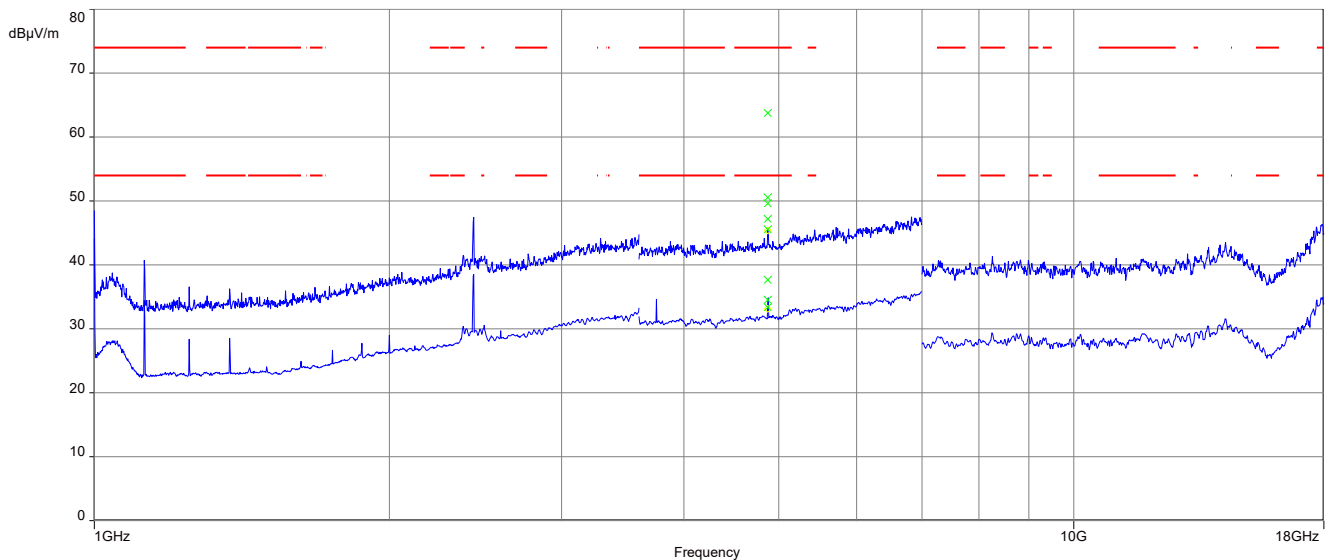
The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 4: Highest channel, 18 GHz to 26 GHz, vertical & horizontal polarization

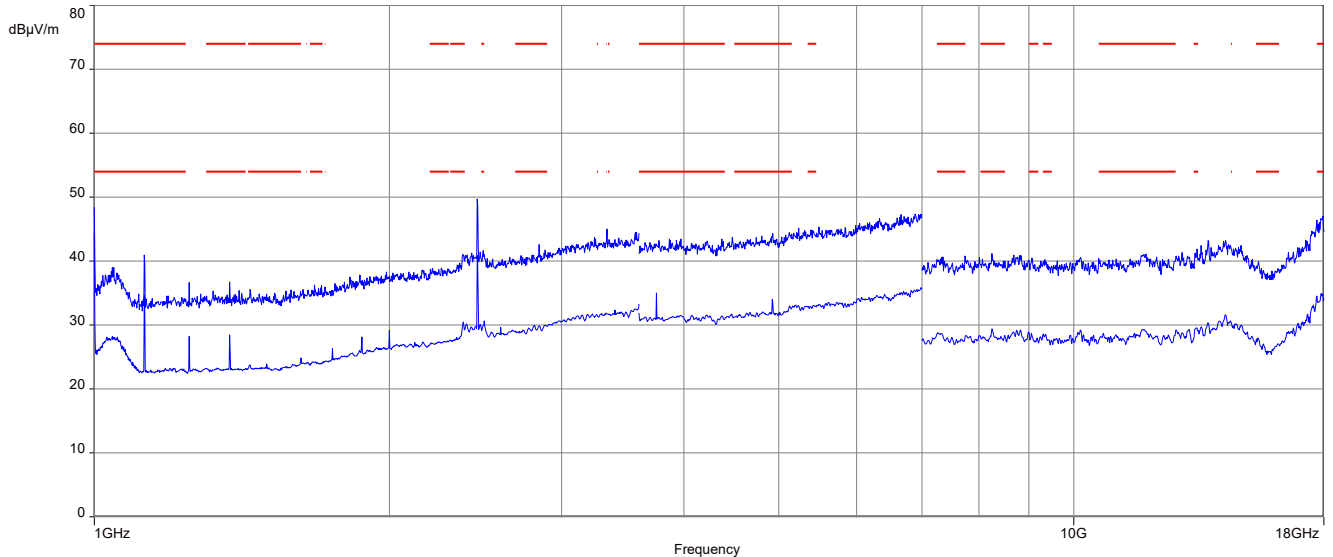
Date: 27.MAY.2026 08:37:36

Plots: OFDM mode (QR)**Plot 1:** Lowest channel, 1 GHz to 18 GHz, vertical & horizontal polarization

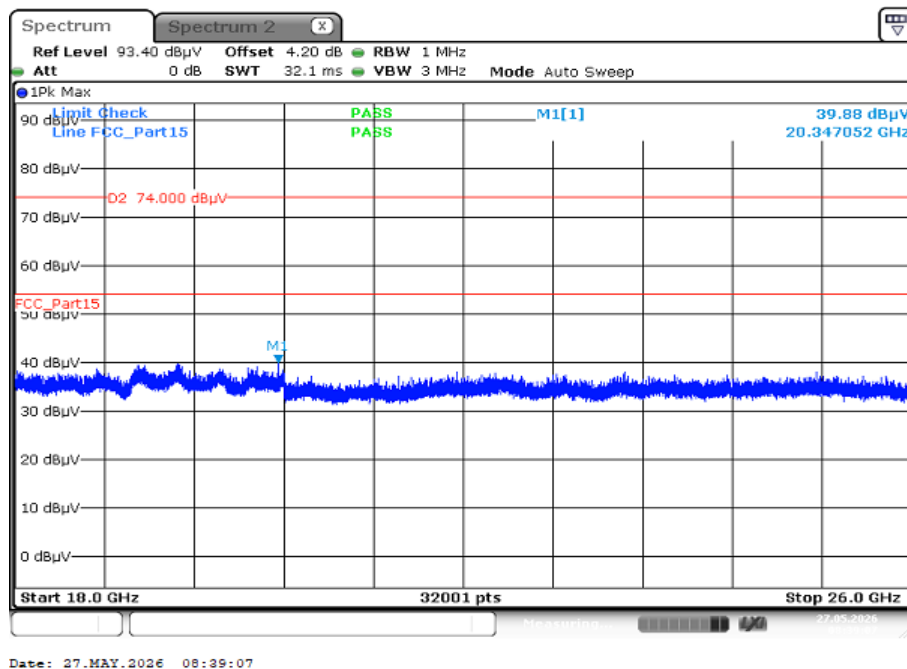
The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 2: Middle channel, 1 GHz to 18 GHz, vertical & horizontal polarization

The carrier signal is notched with a 2.4 GHz band rejection filter.

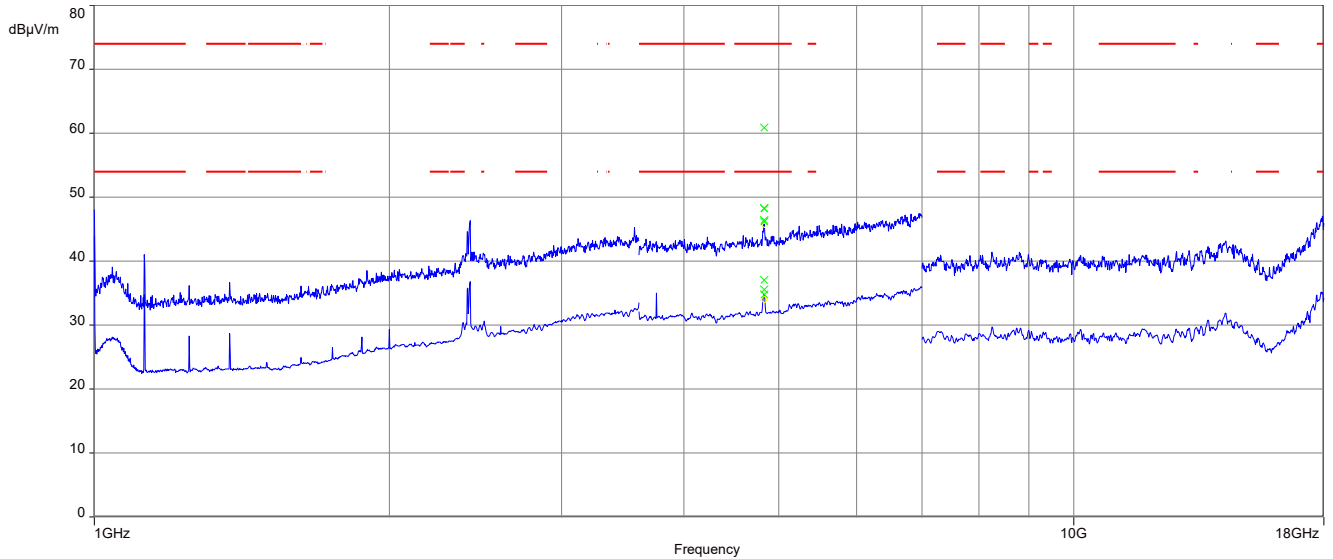
Plot 3: Highest channel, 1 GHz to 18 GHz, vertical & horizontal polarization

The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 4: Highest channel, 18 GHz to 26 GHz, vertical & horizontal polarization

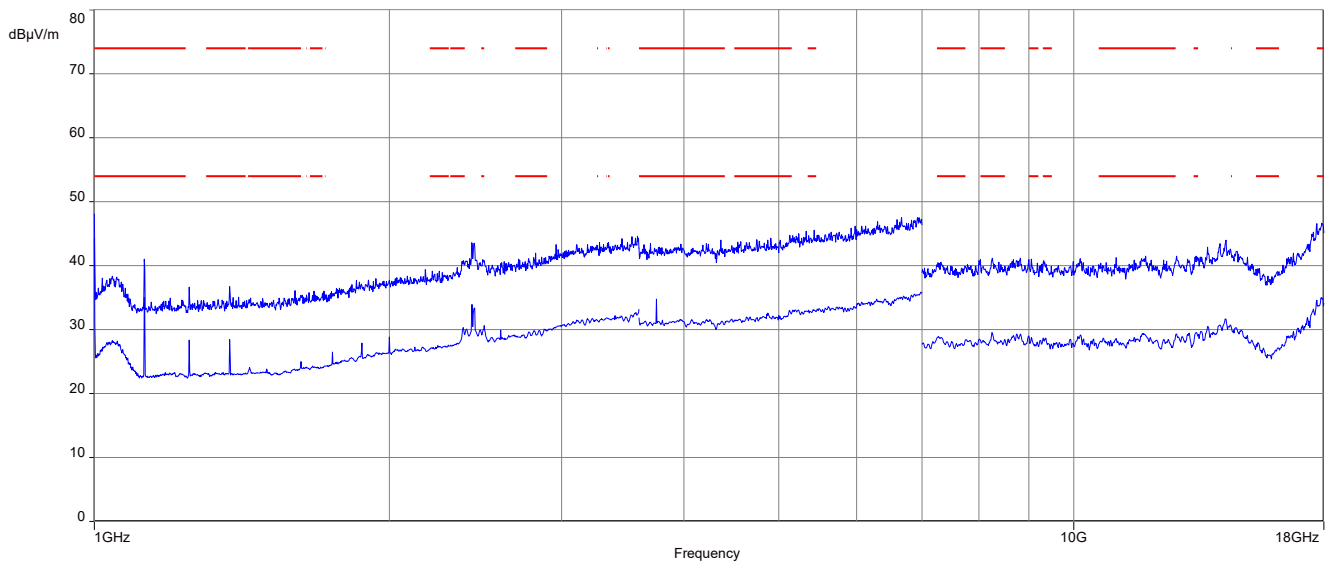
Plots: OFDM n HT20 mode

Plot 1: Lowest channel, 1 GHz to 18 GHz, vertical & horizontal polarization

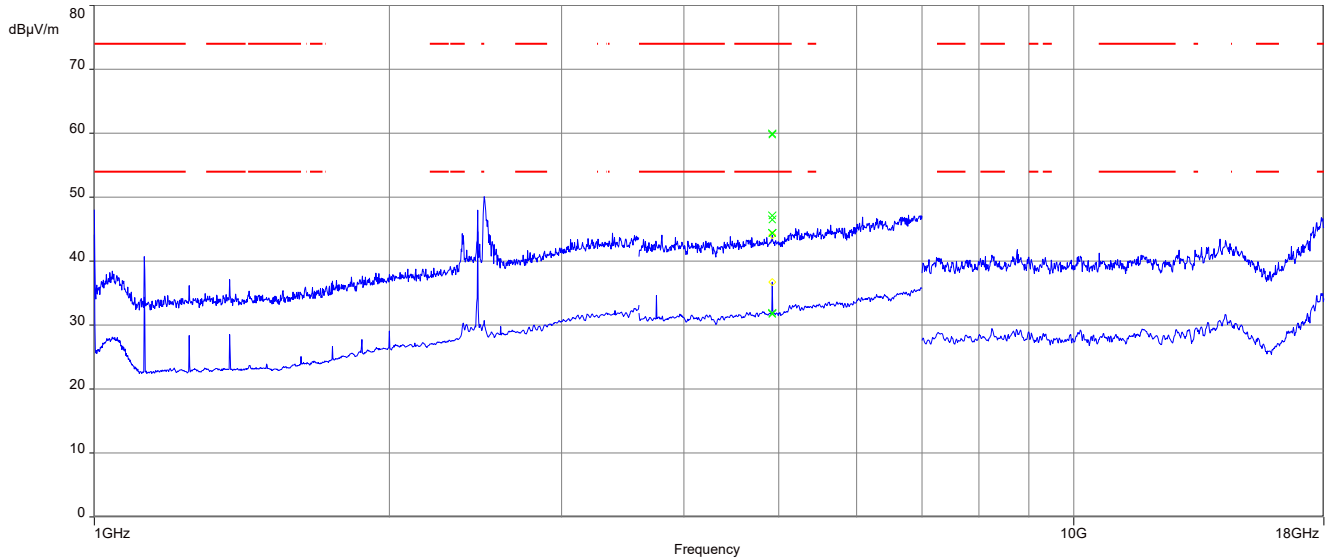


The carrier signal is notched with a 2.4 GHz band rejection filter.

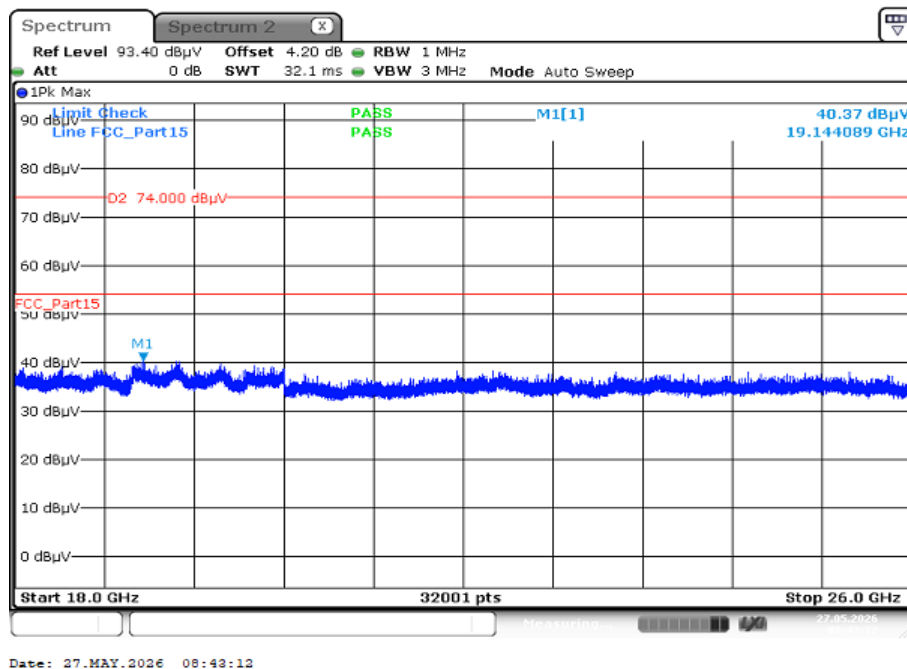
Plot 2: Middle channel, 1 GHz to 18 GHz, vertical & horizontal polarization



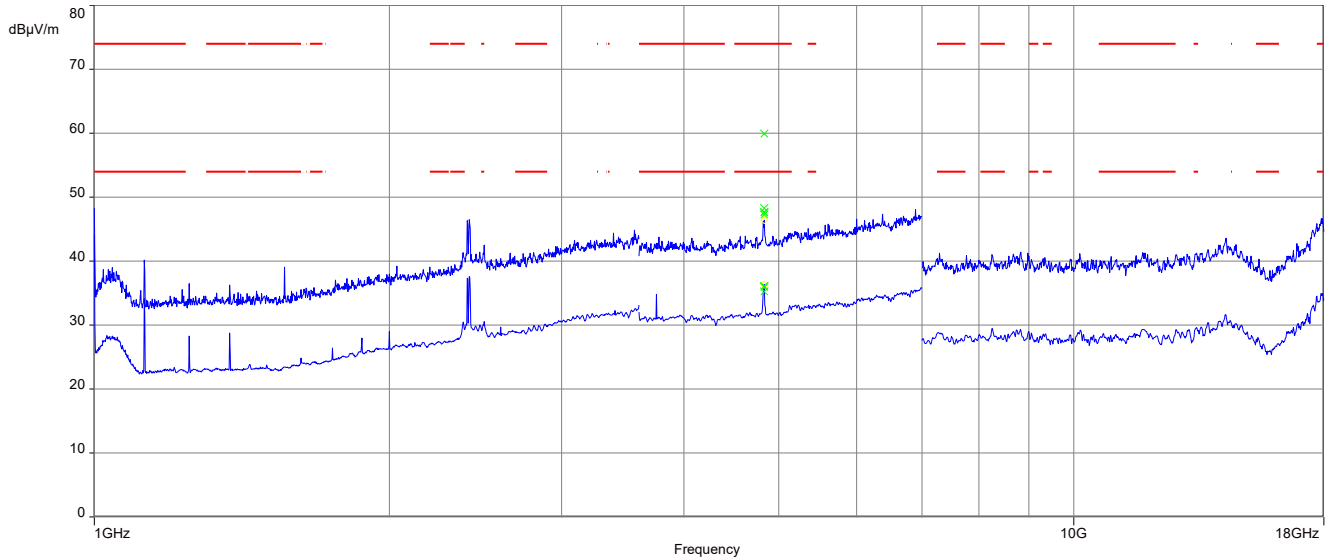
The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 3: Highest channel, 1 GHz to 18 GHz, vertical & horizontal polarization

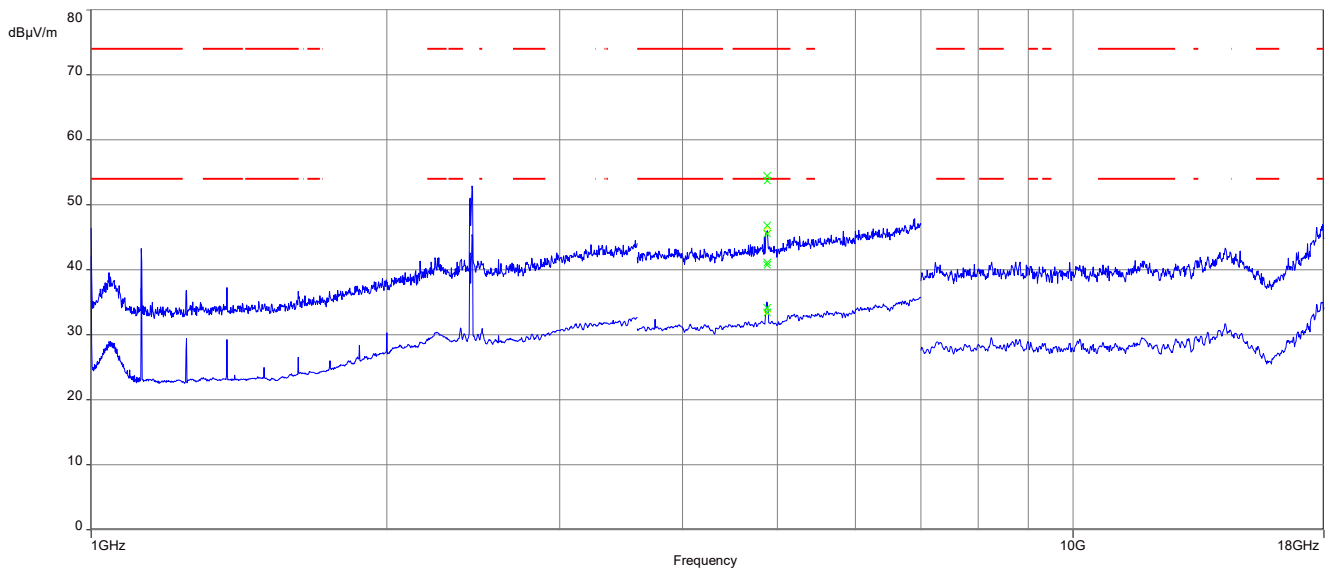
The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 4: Highest channel, 18 GHz to 26 GHz, vertical & horizontal polarization

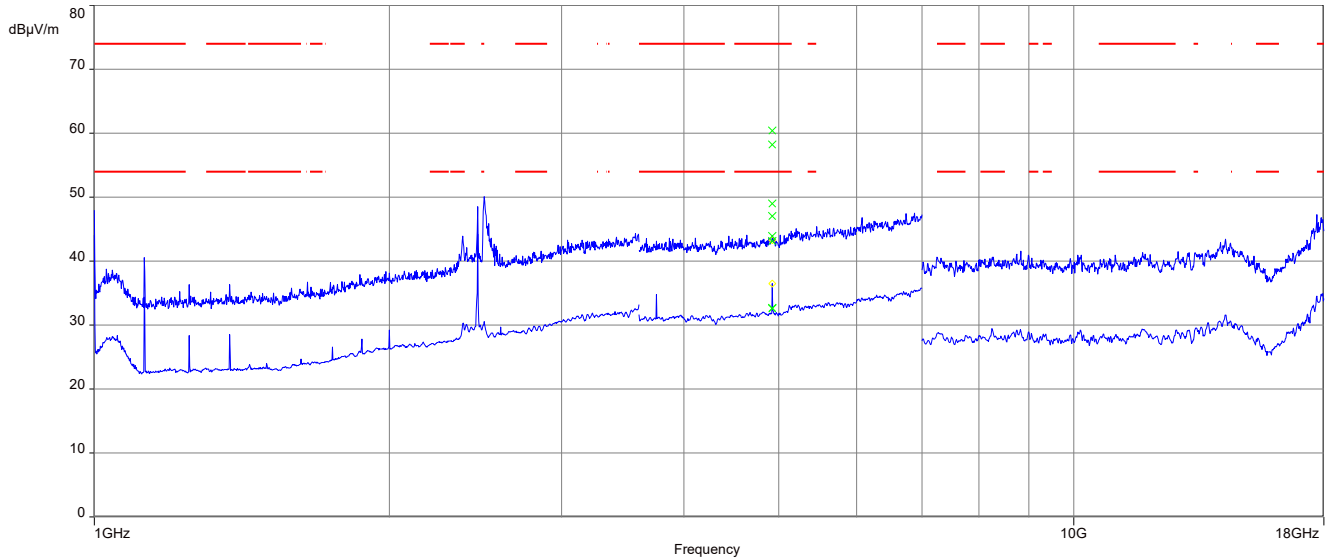
Date: 27.MAY.2026 08:43:12

Plots: OFDM ac VHT20 mode**Plot 1:** Lowest channel, 1 GHz to 18 GHz, vertical & horizontal polarization

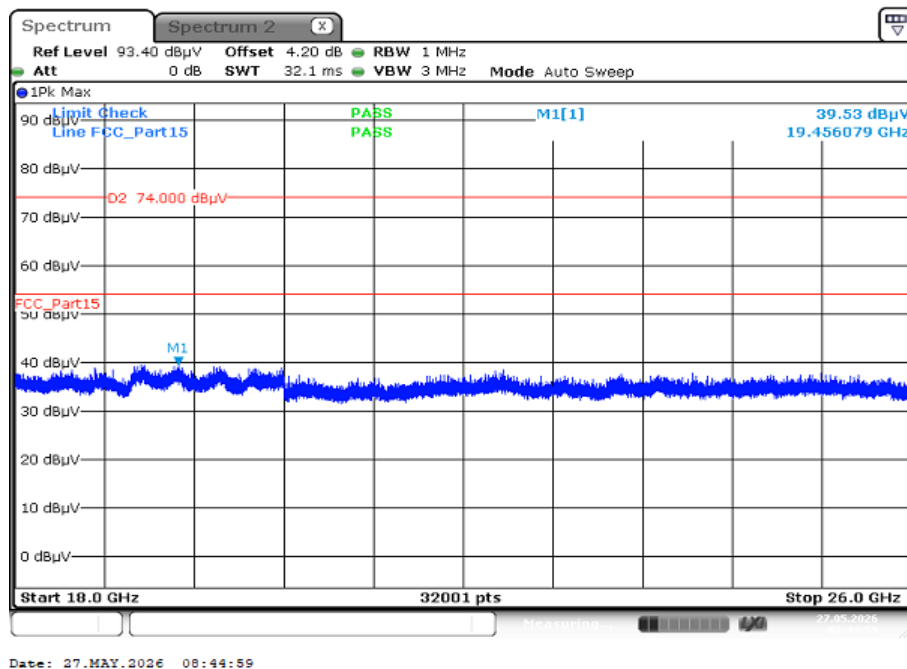
The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 2: Middle channel, 1 GHz to 18 GHz, vertical & horizontal polarization

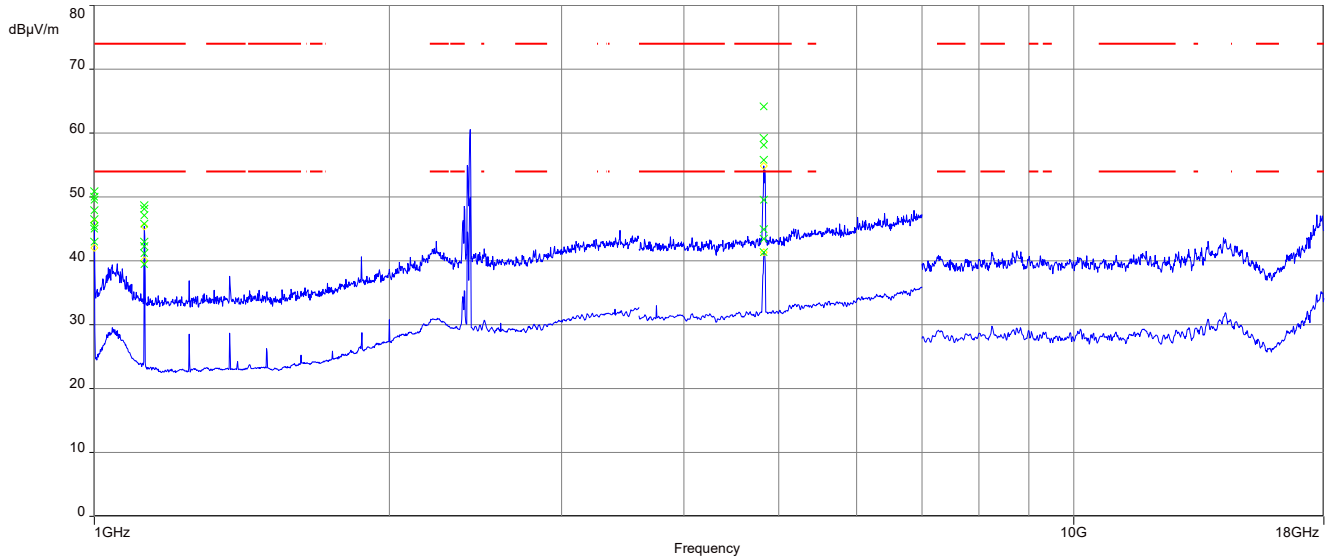
The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 3: Highest channel, 1 GHz to 18 GHz, vertical & horizontal polarization

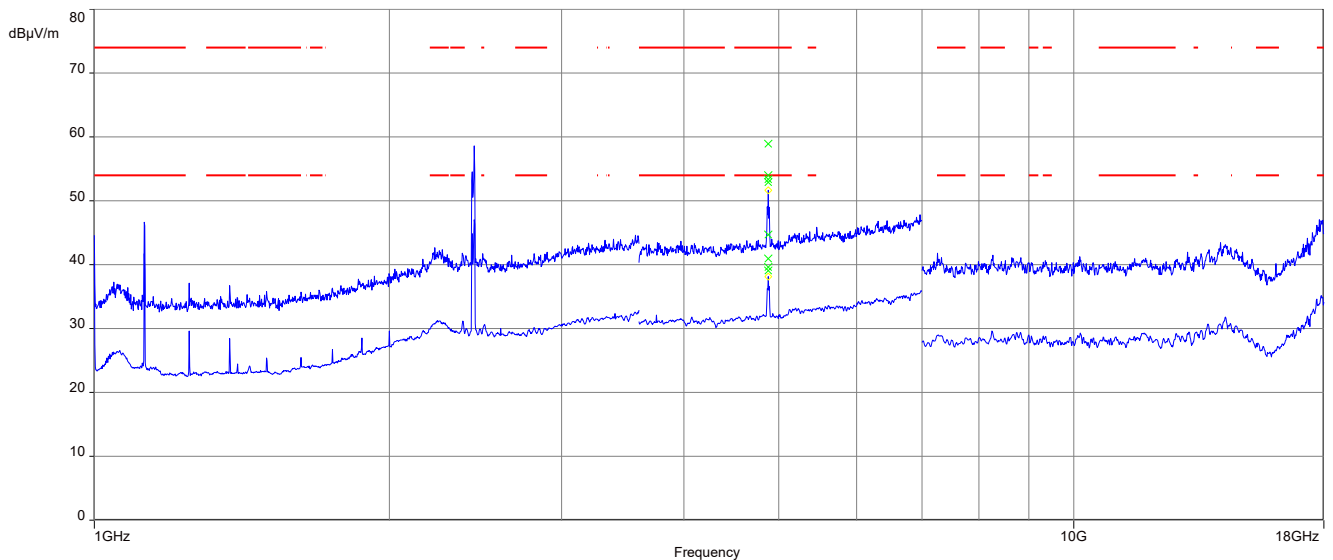
The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 4: Highest channel, 18 GHz to 26 GHz, vertical & horizontal polarization

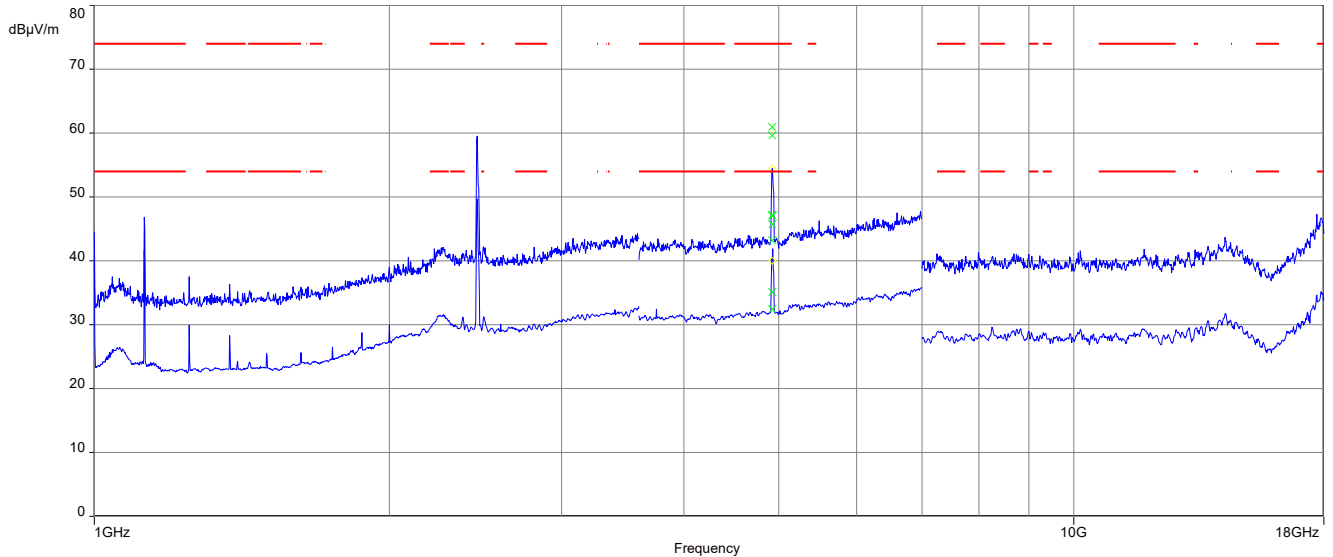
Date: 27.MAY.2026 08:44:59

Plots: OFDM ax HE20 mode**Plot 1:** Lowest channel, 1 GHz to 18 GHz, vertical & horizontal polarization

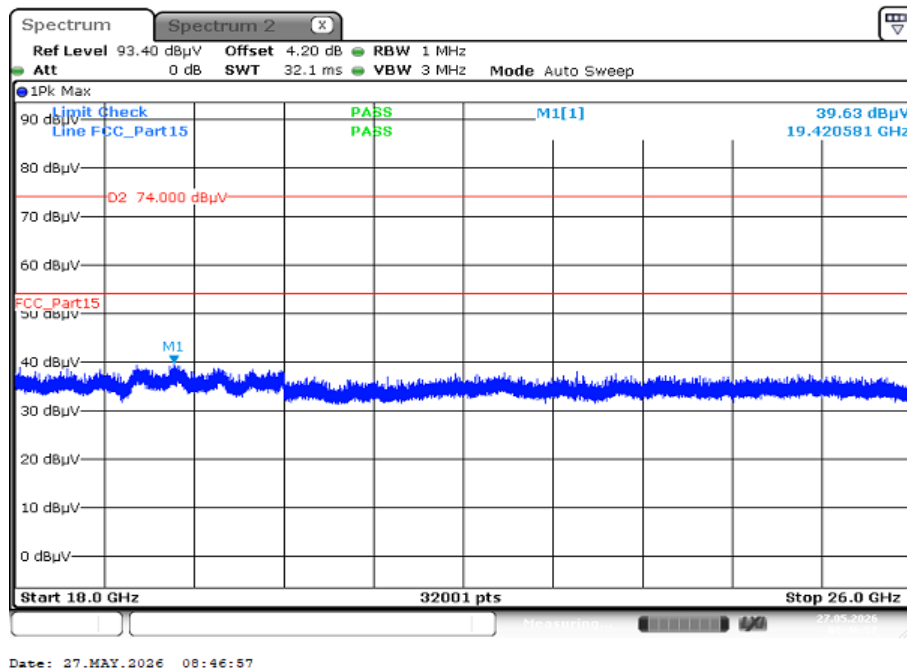
The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 2: Middle channel, 1 GHz to 18 GHz, vertical & horizontal polarization

The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 3: Highest channel, 1 GHz to 18 GHz, vertical & horizontal polarization

The carrier signal is notched with a 2.4 GHz band rejection filter.

Plot 4: Highest channel, 18 GHz to 26 GHz, vertical & horizontal polarization

Date: 27.MAY.2026 08:46:57

13.14 Spurious emissions conducted below 30 MHz (AC conducted)

Description:

Measurement of the conducted spurious emissions in transmit mode below 30 MHz. 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
Resolution bandwidth	F < 150 kHz: 200 Hz F > 150 kHz: 9 kHz
Video bandwidth	F < 150 kHz: 1 kHz F > 150 kHz: 100 kHz
Span	9 kHz to 30 MHz
Trace mode	Max. hold
Test setup	See chapter 7.5 setup A
Measurement uncertainty	See chapter 9

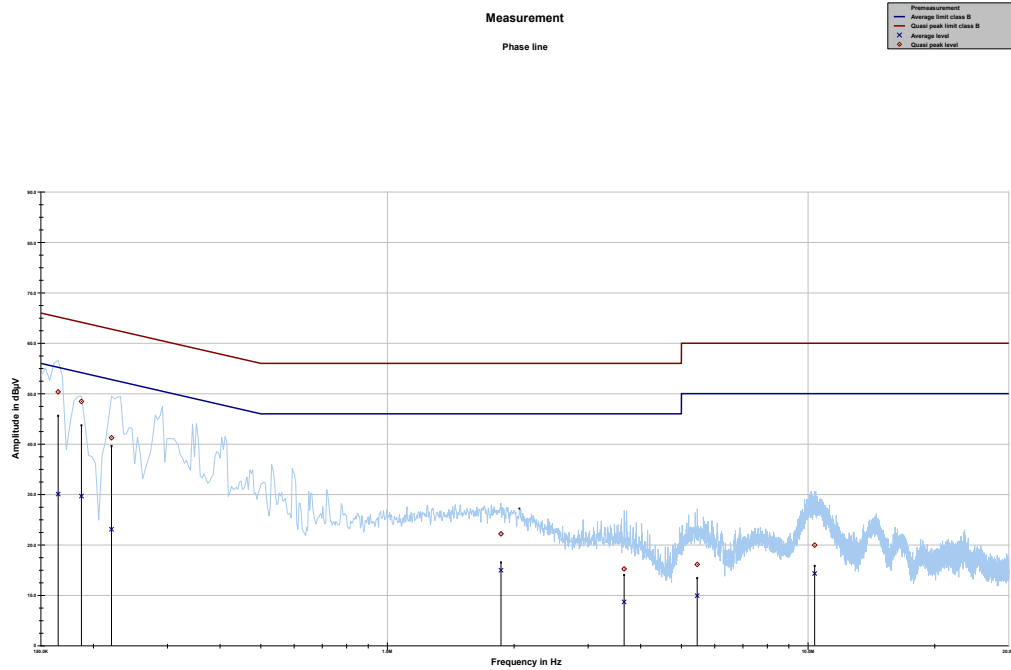
Limits:

FCC		ISED
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

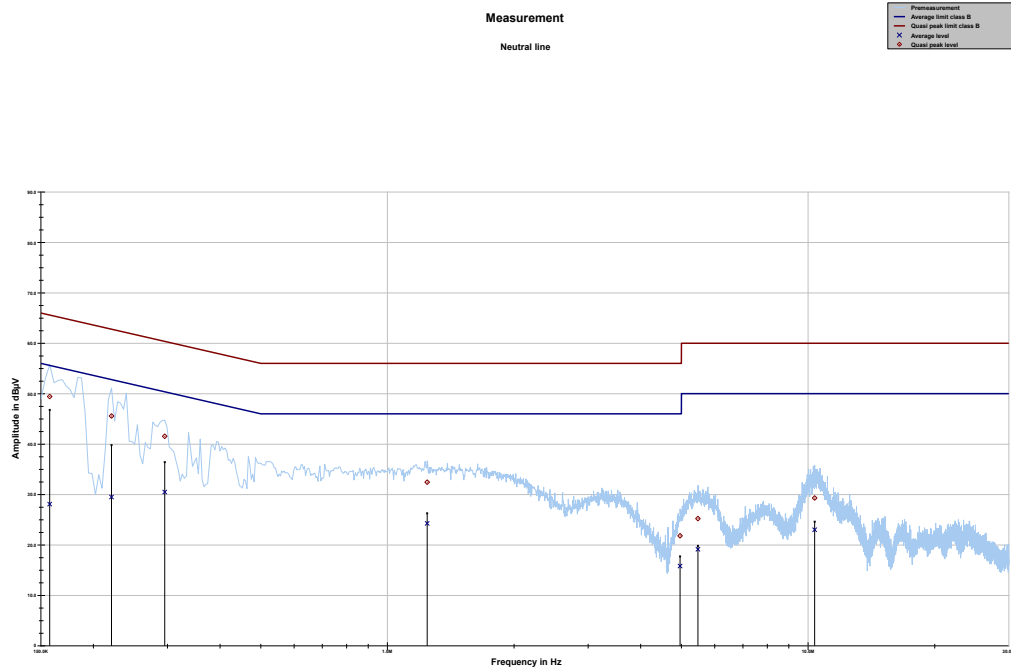
*Decreases with the logarithm of the frequency

Plots: 120 V / 60 Hz

Plot 1: 150 kHz to 30 MHz, phase line



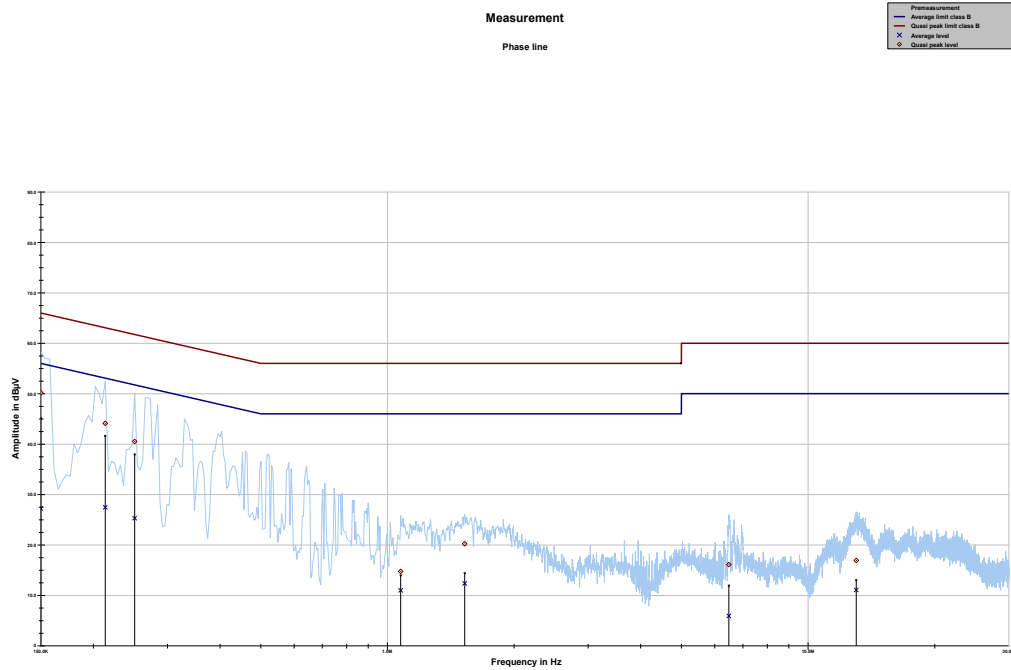
Frequency	Quasi peak level	Margin quasi peak	Limit QP	Average level	Margin average	Limit AV
MHz	dBμV	dB	dBμV	dBμV	dB	dBμV
0.164925	50.36	14.85	65.212	30.09	25.48	55.574
0.187312	48.45	15.71	64.155	29.68	25.26	54.934
0.220894	41.25	21.53	62.785	23.11	30.87	53.974
1.862644	22.21	33.79	56.000	14.99	31.01	46.000
3.653644	15.23	40.77	56.000	8.71	37.29	46.000
5.452106	16.13	43.87	60.000	9.95	40.05	50.000
10.366162	19.96	40.04	60.000	14.34	35.66	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	49.42	16.17	65.597	28.09	27.70	55.787
0.220894	45.58	17.20	62.785	29.48	24.49	53.974
0.295519	41.54	18.83	60.368	30.48	21.36	51.842
1.243256	32.45	23.55	56.000	24.28	21.72	46.000
4.963312	21.81	34.19	56.000	15.81	30.19	46.000
5.474494	25.23	34.77	60.000	19.13	30.87	50.000
10.369894	29.31	30.69	60.000	23.01	26.99	50.000

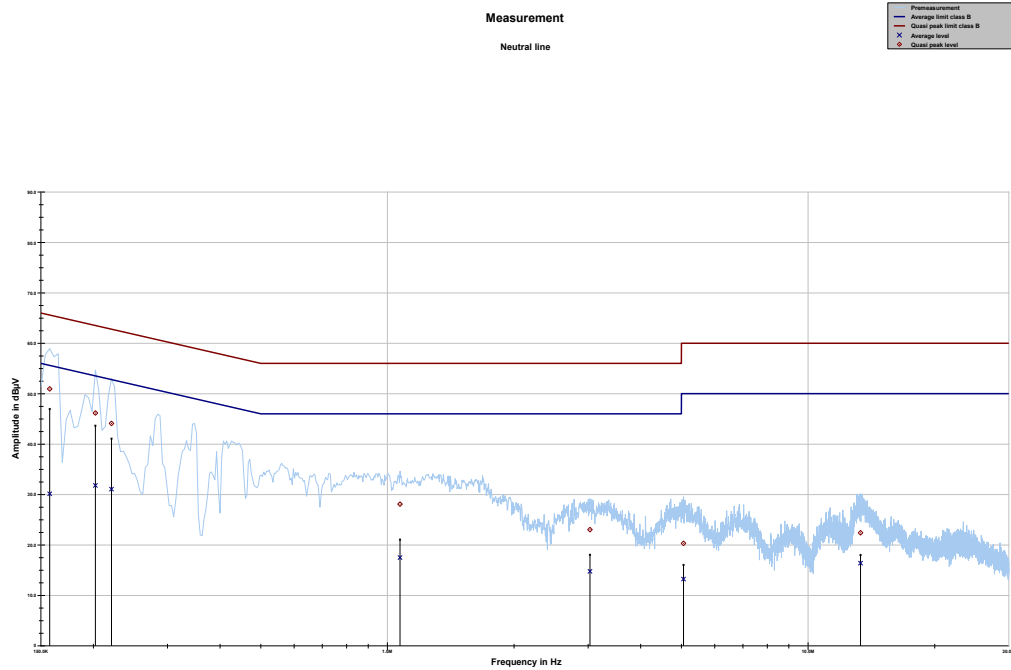
Plots: 230 V / 60 Hz

Plot 1: 150 kHz to 30 MHz, phase line



Project ID: 1335_02_04

Frequency	Quasi peak level	Margin quasi peak	Limit QP	Average level	Margin average	Limit AV
MHz	dBμV	dB	dBμV	dBμV	dB	dBμV
0.164925	50.36	14.85	65.212	30.09	25.48	55.574
0.187312	48.45	15.71	64.155	29.68	25.26	54.934
0.220894	41.25	21.53	62.785	23.11	30.87	53.974
1.862644	22.21	33.79	56.000	14.99	31.01	46.000
3.653644	15.23	40.77	56.000	8.71	37.29	46.000
5.452106	16.13	43.87	60.000	9.95	40.05	50.000
10.366162	19.96	40.04	60.000	14.34	35.66	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	49.42	16.17	65.597	28.09	27.70	55.787
0.220894	45.58	17.20	62.785	29.48	24.49	53.974
0.295519	41.54	18.83	60.368	30.48	21.36	51.842
1.243256	32.45	23.55	56.000	24.28	21.72	46.000
4.963312	21.81	34.19	56.000	15.81	30.19	46.000
5.474494	25.23	34.77	60.000	19.13	30.87	50.000
10.369894	29.31	30.69	60.000	23.01	26.99	50.000

14 Observations

No observations except those reported with the single test cases have been made.

15 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
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
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

16 Document history

Version	Applied changes	Date of release
R01	Initial release	2026-06-02

END OF TEST REPORT