
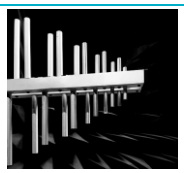
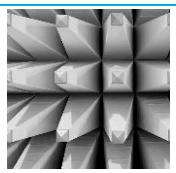

TEST REPORT

Test report no.: 1-6927-23-07-02_TR1-R01

DAkkS Deutsche Akkreditierungsstelle D-PL-12047-01-00

Testing laboratory

cetecom advanced GmbH
Untertuerkheimer Strasse 6 – 10
66117 Saarbruecken / Germany
Phone: + 49 681 5 98 - 0
Fax: + 49 681 5 98 - 9075
Internet: https://cetecomadvanced.com
e-mail: mail@cetecomadvanced.com

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

Acconeer AB
Västra Varvsgatan 19
211 77 Malmö / SWEDEN
Phone: +46 10 218 92 00
Contact: Mikael Rosenhed
e-mail: mikael.rosenhed@acconeer.com

Manufacturer

Acconeer AB
Västra Varvsgatan 19
211 77 Malmö / SWEDEN

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 3	Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices
RSS - 210 Issue 11	Spectrum Management and Telecommunications Radio Standards Specification - Licence-Exempt Radio Apparatus: Category I Equipment

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

Test Item

Kind of test item:	**IoT module**
Model name:	**XKA200**
FCC ID:	**2AQ6KXM002**
ISED certification number:	**24388-XM002**
Frequency:	2400 MHz to 2483.5 MHz 57 to 64 GHz
Technology tested:	Bluetooth® LE + 60 GHz Radar
Antenna:	Integrated antennas
Power supply:	100 V to 240 V AC, 50/60 Hz
Temperature range:	-40°C to +85°C

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

Test report authorized:

A. Curette

cn=Andreas Curette, o=cetecom advanced GmbH, ou=CUR-230601, email=andreas.curette@cetecomadvanced.com, c=DE
2025.09.10 14:36:33 +02'00'

Andreas Curette
Lab Manager
Radio Labs

Test performed:

cn=Michael Dorongovski, o=cetecom advanced GmbH, ou=DOR-230601, email=michael.dorongovski@cetecomadvanced.com, c=DE
2025.09.10 14:34:50 +02'00'

Michael Dorongovski
Lab Manager
Radio Labs

1 Table of contents

2 General information

2.1 Notes and disclaimer

The test results of this test report relate exclusively to the test item specified in this test report. cetecom advanced GmbH does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item.
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This test report 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:	2025-08-01
Date of receipt of test item:	2025-08-21
Start of test:*	2025-08-21
End of test:*	2025-09-02
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

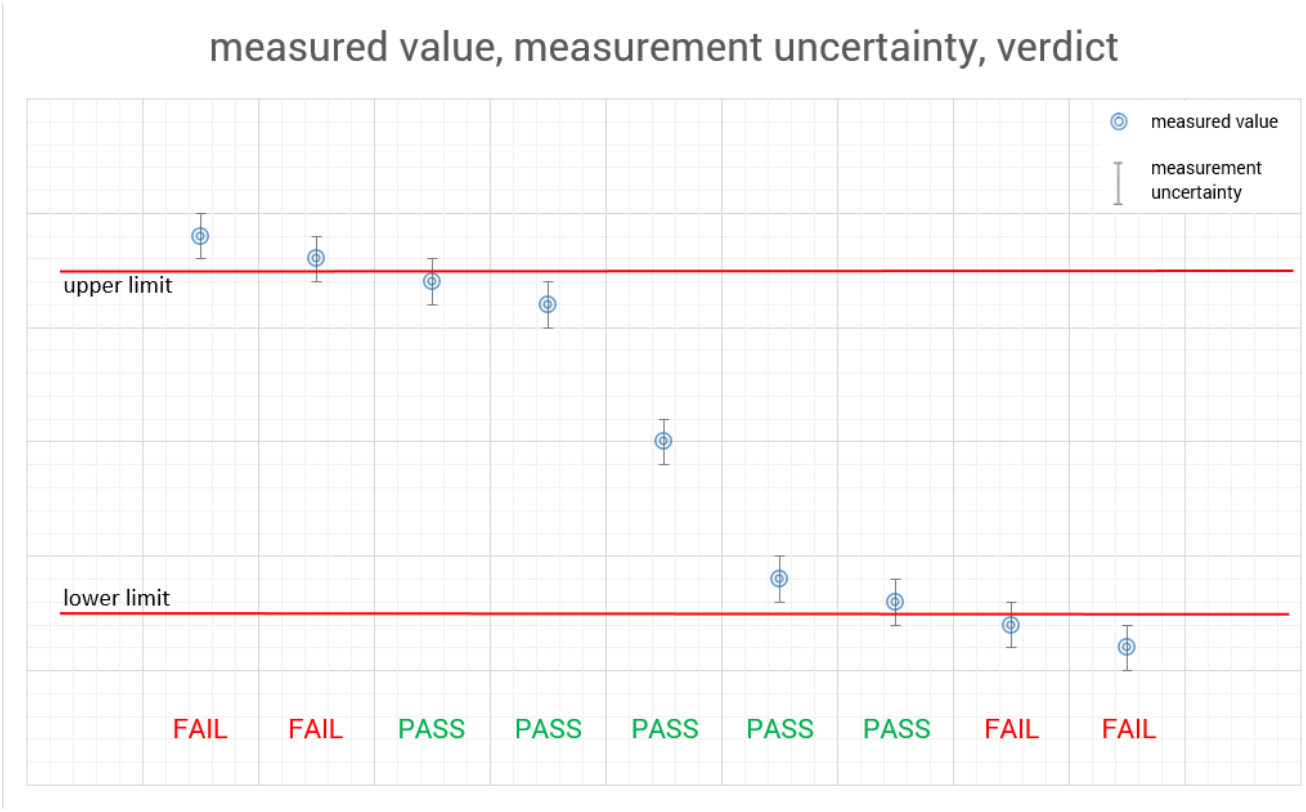
3 Test standard/s, references and accreditations

Test standard	Date	Description
FCC - Title 47 CFR Part 15	-/-	FCC - Title 47 of the Code of Federal Regulations; Chapter I; Part 15 - Radio frequency devices
RSS - 247 Issue 3	August 2023	Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices
RSS - 210 Issue 11	25.06.2024	Spectrum Management and Telecommunications Radio Standards Specification - Licence-Exempt Radio Apparatus: Category I Equipment
RSS - Gen Issue 5 incl. Amendment 1 & 2	February 2021	Spectrum Management and Telecommunications Radio Standards Specification - General Requirements for Compliance of Radio Apparatus

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 C63.4a-2017	-/-	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
ANSI C63.10-2020	-/-	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
KDB 996369 D04	v02	MODULAR TRANSMITTER INTEGRATION GUIDE GUIDANCE FOR HOST PRODUCT MANUFACTURERS

4 Reporting statements of conformity – decision rule

Only the measured values related to their corresponding limits will be used to decide whether the equipment under test meets the requirements of the test standards listed in chapter 3.
The measurement uncertainty is mentioned in this test report, see chapter 9, but is not taken into account - neither to the limits nor to the measurement results. Measurement results with a smaller margin to the corresponding limits than the measurement uncertainty have a potential risk of more than 5% that the decision might be wrong."



5 Test environment

Temperature	:	T_{nom} T_{max} T_{min}	+22 °C during room temperature tests No tests under extreme environmental conditions performed. No tests under extreme environmental conditions performed.
Relative humidity content	:		55 %
Barometric pressure	:		1021 hpa
Power supply	:	V_{nom} V_{max} V_{min}	120.0 V AC, 50/60 Hz No tests under extreme environmental conditions performed. No tests under extreme environmental conditions performed.

6 Test item

6.1 General description

Kind of test item	:	IoT module
Model name	:	XKA200
HMN	:	XKA200
PMN	:	XKA200
HVIN	:	XKA200
FVIN	:	-/-
S/N serial number	:	Rad. Normal sample, BT sample
Hardware status	:	R1B
Software status	:	v.1.4.0
Firmware status	:	n/a
Frequency band	:	2400 MHz to 2483.5 MHz 57 to 64 GHz
Type of radio transmission Use of frequency spectrum	: :	BTLE: DTS Radar: Pulse modulation
Type of modulation	:	BTLE: GFSK Radar: Pulse modulation
Number of channels	:	BTLE: 40 (1 Msps), 37 (2 Msps) Radar: 1
Antenna	:	Integrated antennas
Power supply	:	100 V to 240 V AC, 50/60 Hz by mains
Temperature range	:	-40°C to +85°C

6.2 Additional information

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

Test setup and EUT photos are included in test report: 1-6927-23-07-01_TR1-A101-R01
1-6927-23-07-01_TR1-A103-R01

7 Sequence of testing

7.1 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 ± 45° 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.

7.2 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.

7.3 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.

7.4 Sequence of testing radiated spurious above 50 GHz with external mixers

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 for far field (e.g. 0.25 m).
- The EUT is set into operation.

Premeasurement

- The test antenna with external mixer is handheld and moved carefully over the EUT to cover the EUT's whole sphere and different polarizations of the antenna.
- Caution is taken to reduce the possible overloading of the external mixer.

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).
- As external mixers may generate false images care is taken to ensure that any emission measured by the spectrum analyzer does indeed originate in the EUT. Signal identification feature of spectrum analyzer is used to eliminate false mixer images (i.e., it is not the fundamental emission or a harmonic falling precisely at the measured frequency).
- 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.

8 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).

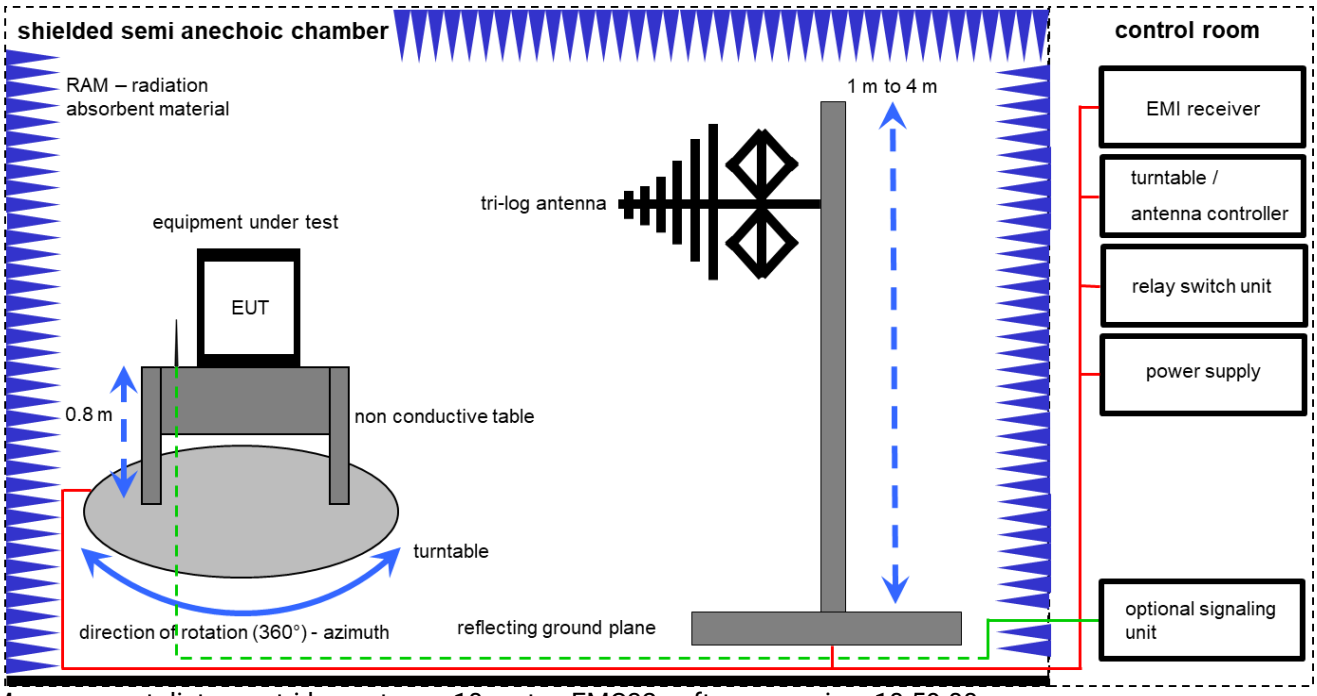
In order to simplify the identification of the equipment used at some special tests, some items of test equipment and ancillaries can be provided with an identifier or number in the equipment list below (Lab/Item).

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		
NK!	Attention: not calibrated	*)	next calibration ordered / currently in progress
cpu	check prior usage		

8.1 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

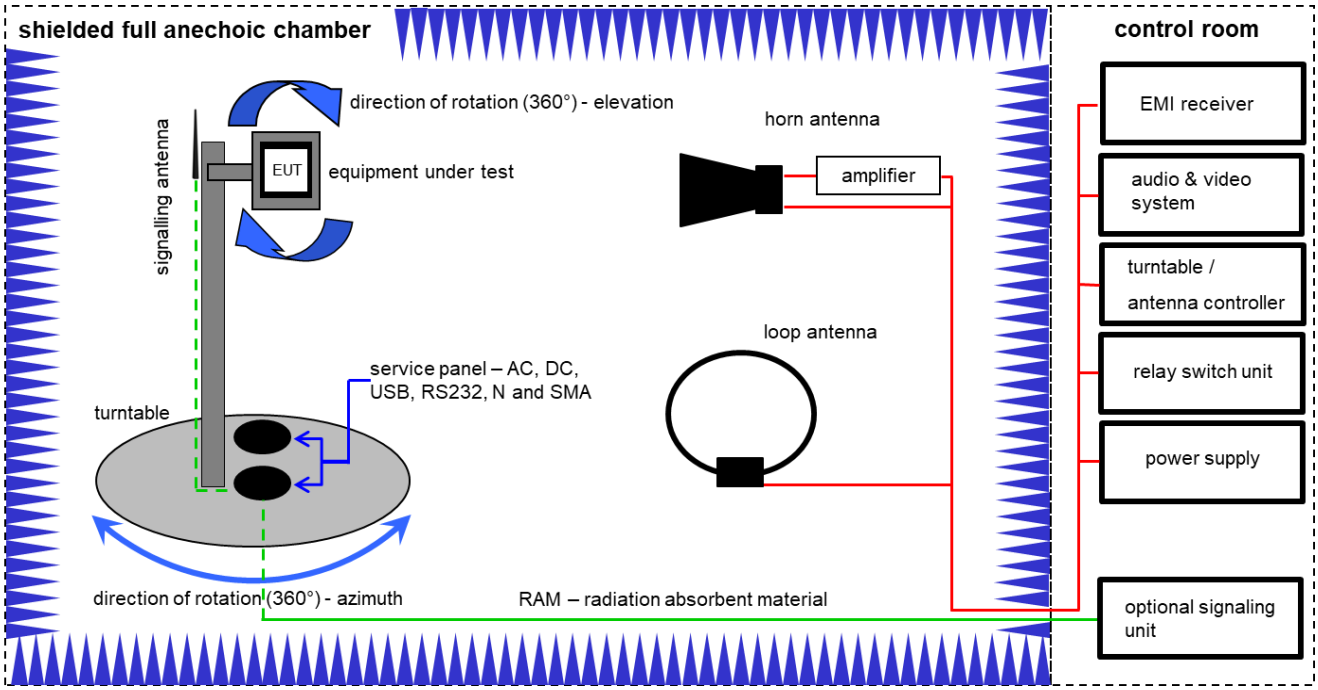
FS = UR + CL + AF
(FS-field strength; UR-voltage at the receiver; CL-loss of the cable; AF-antenna factor)

Example calculation:
FS [dBµV/m] = 12.35 [dBµV] + 1.90 [dB] + 16.80 [dB/m] = 31.05 [dBµV/m] (35.69 µV/m) @ distance

Equipment table:

No.	Setup	Equipment	Type	Manufacturer	Serial No.	INV. No.	Kind of Calibration	Last Calibration	Next Calibration
1	A	Semi anechoic chamber	Semi anechoic chamber 3000023	MEC Import: MWB AG	-/-	40797	cnn	-/-	-/-
2	A	Turntable	Turntable 2089-4.0	EMCO Elektronik GmbH / Gilching	-/-	40799	cnn	-/-	-/-
3	A	Switch-Unit	Switch-Unit 3488A	Hewlett Packard	2719A14505	50160	cpu	-/-	-/-
4	A	Antenna Tower	Antenna Tower 2175	ETS-Lindgren Gmbh / Taufkirchen	64762	50279	cnn	-/-	-/-
5	A	Positioning Controller	Positioning Controller 2090	ETS-Lindgren Gmbh / Taufkirchen	64672	50280	cnn	-/-	-/-
6	A	EMI Test Receiver	EMI Test Receiver ESR3	Rohde & Schwarz Messgerätebau GmbH / Memmingen	102587	50417	cal	05.12.2024	05.12.2025
7	A	TRILOG Broadband Antenna	TRILOG Broadband Antenna VULB9163	Schwarzbeck Mess-Elektronik OHG / Schönau	1029	50403	cal	25.09.2023	30.09.2025

8.2 Shielded fully anechoic chamber



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

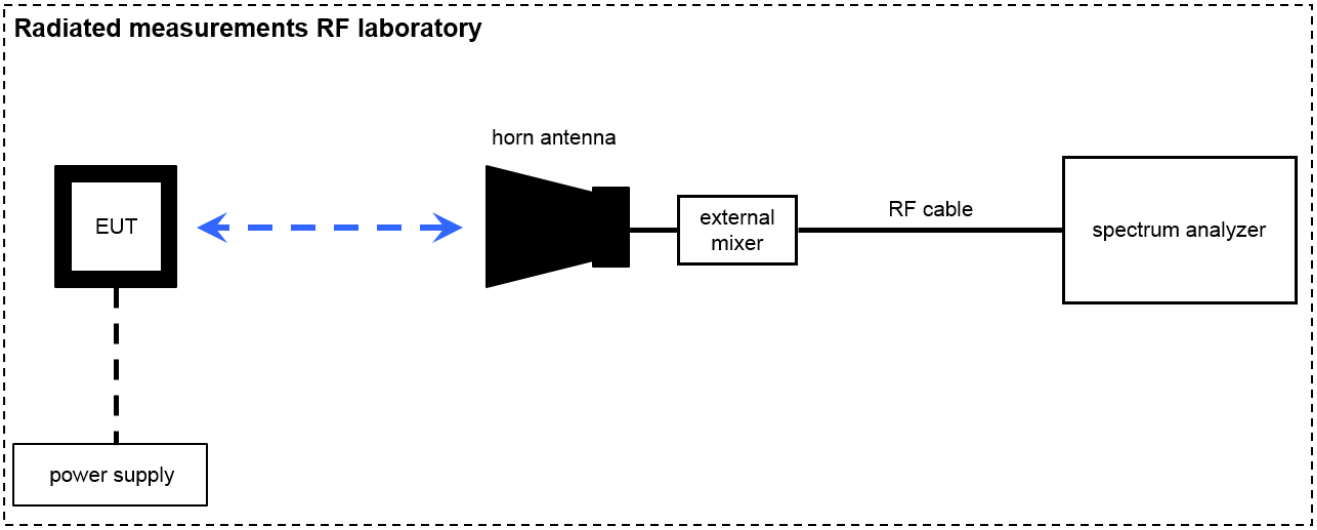
FS = UR + CA + AF
(FS-field strength; UR-voltage at the receiver; CA-loss of the signal path; AF-antenna factor)

Example calculation:
FS [dBµV/m] = 40.0 [dBµV] + (-35.8) [dB] + 32.9 [dB/m] = 37.1 [dBµV/m] (71.61 µV/m) @ distance

Equipment table:

No.	Setup	Equipment	Type	Manufacturer	Serial No.	INV. No.	Kind of Calibration	Last Calibration	Next Calibration
1	A, B	Double-Ridged Waveguide Horn Antenna	Double-Ridged Waveguide Horn Antenna 3115	EMCO Elektronik GmbH / Gilching	8812-3088	40341	cal	10.10.2023	31.10.2025
2	A, B	Anechoic chamber	Anechoic chamber FAC 3/5m	MEC Import: MWB / TDK	87400/02	40349	cpu	-/-	-/-
3	A, B	Switch / Control Unit	Switch / Control Unit 3488A	Hewlett Packard	*	40350	cnn	-/-	-/-
4	A	Band Reject filter	Band Reject filter WRCG2400/2483-2375/2505-50/10SS	Wainwright Instruments GmbH / Andechs	11	40356	cpu	-/-	-/-
5	A	Highpass Filter	Highpass Filter WHKX7.0/18G-8SS	Wainwright Instruments GmbH / Andechs	19	40365	cnn	-/-	-/-
6	A	High Pass Filter	High Pass Filter VHF-3500+	Mini-Circuits / Brooklyn	-/-	40369	cnn	-/-	-/-
7	A	Broadband Amplifier 0.5-18 GHz	Broadband Amplifier 0.5-18 GHz CBLU5184540	MEC Import: CERNEX	22049	40373	cpu	-/-	-/-
8	A, B	4U RF Switch Platform	4U RF Switch Platform L4491A	Agilent Technologies Deutschland GmbH / Böblingen	MY50000037	40375	cnn	-/-	-/-
9	A, B	NEXIO EMV-Software	NEXIO EMV-Software BAT EMC V2022.0.32.0	MEC Import: Nexio	-/-	40383	cnn	-/-	-/-
10	A, B	RF-Amplifier	RF-Amplifier AMF-6F06001800-30-10P-R	MEC Import: NARDA-MITEQ Inc	2011572	40400	cpu	-/-	-/-
11	A, B	EMI Test Receiver	EMI Test Receiver ESU26	Rohde & Schwarz Messgerätebau GmbH / Memmingen	100037	50254	cal	10.12.2024	10.12.2025

8.3 Radiated measurements > 50/85 GHz



Measurement distance: horn antenna e.g. 75 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)

OP = AV + D - G + CA
(OP-radiated output power; AV-analyzer value; D-free field attenuation of measurement distance;
G-antenna gain+amplifier gain; CA-loss signal path)

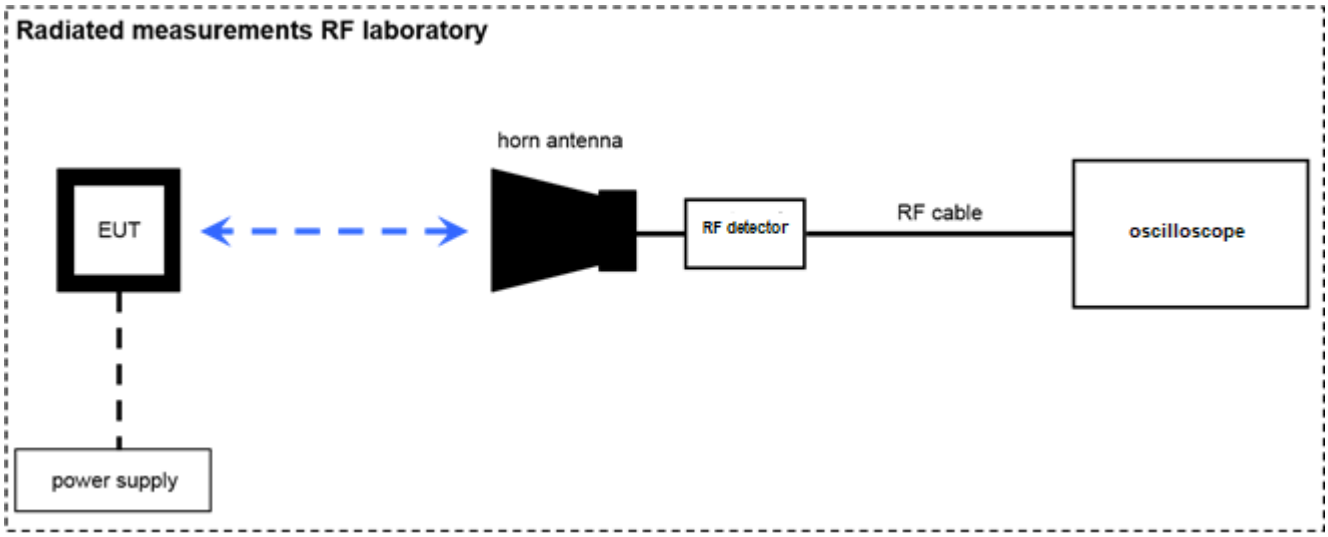
Example calculation:
OP [dBm] = -59.0 [dBm] + 44.0 [dB] - 20.0 [dBi] + 5.0 [dB] = -30 [dBm] (1 µW)

Note: conversion loss of mixer is already included in analyzer value.

Equipment table:

No.	Lab / Item	Equipment	Type	Manufacturer	Serial No.	INV. No.	Kind of Calibration	Last Calibration	Next Calibration
1	A	Signal- and Spectrum Analyzer 2 Hz - 85 GHz	Signal- and Spectrum Analyzer 2 Hz - 85 GHz FSW85	Rohde & Schwarz Messgerätebau GmbH / Memmingen	101333	300005568 -0000	cal	27.09.2024	27.09.2025
2	A	Std. Gain Horn Antenna 49.9-75.8 GHz	Std. Gain Horn Antenna 49.9-75.8 GHz 2524-20	Flann	*	300001983 -0000	cnn	-/-	-/-
3	A	Low Noise Amplifier, Waveguide, 50-75 GHz	Low Noise Amplifier, Waveguide, 50-75 GHz AFB-V30LN-02	Ducommun Incorporated	1026151-01	300005899 -0000	cpu	-/-	-/-

8.4 Radiated power measurements using RF detector according to ANSI C63.10-2020



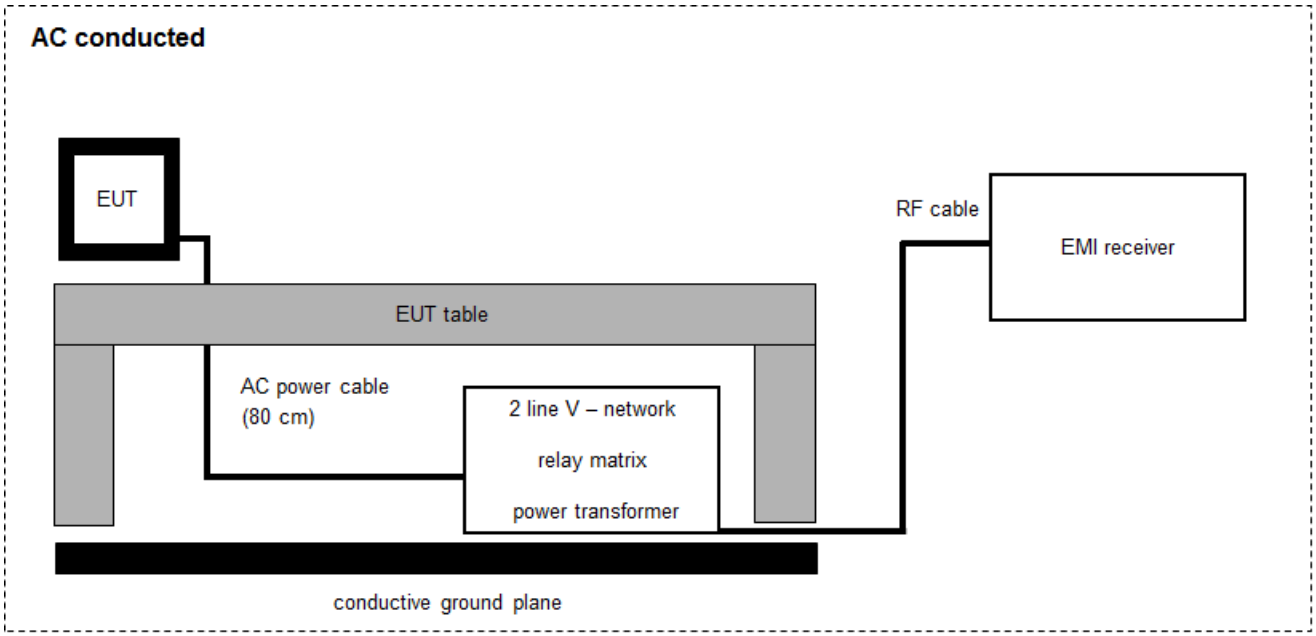
Note: EUT is replaced by reference source for substitution measurement

Measurement distance: horn antenna e.g. 50 cm

Equipment table:

No.	Lab / Item	Equipment	Type	Manufacturer	Serial No.	INV. No.	Kind of Calibration	Last Calibration	Next Calibration
1	A	Synthesized Sweeper 10 MHz - 40 GHz	Synthesized Sweeper 10 MHz - 40 GHz 83640A	Hewlett Packard	3119A00458	300002266 -0000	cal	-/-	31.12.2025
2	A	Std. Gain Horn Antenna 49.9-75.8 GHz	Std. Gain Horn Antenna 49.9-75.8 GHz 2524-20	Flann	*	300001983 -0000	cnn	-/-	-/-
3	A	Thermal Power Sensor, DC-110GHz, 300nW-100mW	Thermal Power Sensor, DC-110GHz, 300nW-100mW NRP-Z58	Rohde & Schwarz Messgerätebau GmbH / Memmingen	100913	300004808 -0000	cal	19.12.2023	31.12.2025
4	A	WG Rotary Attenuator	WG Rotary Attenuator 25110 UG-385/U-AC	Flann Microwave	266740	300005798 -0000	cpu	-/-	-/-
5	A	Std. Gain Horn Antenna 49.9-75.8 GHz	Std. Gain Horn Antenna 49.9-75.8 GHz 2524-20	Flann	*	300001986 -0000	cnn	-/-	-/-
6	A	SG Extension Module 50 - 75 GHz	SG Extension Module 50 - 75 GHz E8257DV15	VDI	US54250124	300005541 -0000	cpu	-/-	-/-
7	A	Low Noise Amplifier, Waveguide, 50-75 GHz	Low Noise Amplifier, Waveguide, 50-75 GHz AFB-V30LN-02	Ducommun Incorporated	1026151-01	300005899 -0000	cpu	-/-	-/-
8	A	V-Band Positive Amplitude Detector	V-Band Positive Amplitude Detector SFD-503753-15SF-P1	Sage Millimeter Inc.	07353-1	300006118 -0000	cpu	-/-	-/-
9	A	Digital Phosphor Oscilloscope	Digital Phosphor Oscilloscope DPO7254	Tektronix UK Ltd. / Berkshire	B022702	300003573	cal	04.12.2024	04.12.2026

8.5 AC conducted



FS = UR + CF + VC
(FS-field strength; UR-voltage at the receiver; CR-loss of the cable and filter; VC-correction factor of the ISN)

Example calculation:
FS [dBµV/m] = 37.62 [dBµV] + 9.90 [dB] + 0.23 [dB] = 47.75 [dBµV/m] (244.06 µV/m) @ distance

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	Rohde & Schwarz Messgerätebau GmbH / Memmingen	102981	40332	cal	03.12.2024	03.12.2025
2	A	Analyzer-Impedence-System	Analyzer-Impedence-System AIS16/1	MEC Import: Spitzenberger + Spies GmbH & Co. KG	UO2076 07/0 1023	40808	cal	19.10.2023	31.10.2025
3	A	Two-Line V-Network (LISN)	Two-Line V-Network (LISN) ESH3-Z5	Rohde & Schwarz Messgerätebau GmbH / Memmingen	892475/017	50005	cal	12.12.2023	31.12.2025
4	A	Hochpass 150 kHz	Hochpass 150 kHz EZ-25	Rohde & Schwarz Messgerätebau GmbH / Memmingen	100010	50286	cpu	-/-	-/-
5	A	Power Supply	Power Supply 6032A	Hewlett Packard	2920A04466	50161	cnn	-/-	-/-

9 Measurement uncertainty

Measurement uncertainty	
Test case	**Uncertainty**
Antenna gain	± 3 dB
Spectrum bandwidth	± 21.5 kHz absolute; ± 15.0 kHz relative
Maximum output power	± 1 dB
Detailed conducted spurious emissions @ the band edge	± 1 dB
Band edge compliance radiated	± 3 dB
Band edge compliance conducted	± 1.5 dB
Spurious emissions conducted	± 3 dB
Spurious emissions conducted below 30 MHz (AC conducted)	± 2.6 dB

Test case	Uncertainty
Equivalent isotropically radiated power (e.i.r.p.)	Conducted value ± 1 dB Radiated value ± 3 dB
Permitted range of operating frequencies	± 100 kHz
Conducted unwanted emissions in the spurious domain (up to 18 GHz)	± 1 dB
Radiated unwanted emissions in the spurious domain (up to 18 GHz)	± 3 dB
Conducted unwanted emissions in the spurious domain (18 to 40 GHz)	± 4 dB
Radiated unwanted emissions in the spurious domain (18 to 40 GHz)	± 4 dB
Conducted unwanted emissions in the spurious domain (40 to 50 GHz)	± 4.5 dB
Radiated unwanted emissions in the spurious domain (40 to 50 GHz)	± 4.5 dB
Conducted unwanted emissions in the spurious domain (above 50 GHz)	± 5 dB
Radiated unwanted emissions in the spurious domain (above 50 GHz)	± 5 dB
DC and low frequency voltages	± 3 %
Temperature	± 1 °C
Humidity	± 3 %

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 3 RSS – 210, Issue 11 KDB 996369 D04	See table	2025-09-10	-/-

Test specification clause	Test case	Guideline	Temperature conditions	Power source voltages	Mode	C	NC	NA	NP	Remark
§15.255(c)(3) RSS-210 J.2 & J.3, RSS-210 J.6	Occupied bandwidth & Peak EIRP power	-/-	Nominal	Nominal	Radar active	☒	☐	☐	☐	-/-
§15.205 RSS - 247 / 5.5 RSS - Gen	Band edge compliance rad.	-/-	Nominal	Nominal	BTLE + Radar active	☒	☐	☐	☐	-/-
15.247(d) RSS - 247 / 5.5 §15.109 RSS - Gen	Spurious emissions radiated 30 MHz to 1 GHz	-/-	Nominal	Nominal	BTLE + Radar active	☒	☐	☐	☐	-/-
§15.247(d) RSS - 247 / 5.5 §15.109 RSS - Gen	Spurious emissions radiated above 1 GHz	-/-	Nominal	Nominal	BTLE + Radar active	☒	☐	☐	☐	-/-
§15.107(a) §15.207	Conducted emissions below 30 MHz (AC conducted)	-/-	Nominal	Nominal	BTLE + Radar active	☒	☐	☐	☐	-/-

Note: C = Compliant; NC = Not compliant; NA = Not applicable; NP = Not performed

11 Additional comments

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Reference documents: None

Special test descriptions: Power setting 8 dBm was used for BTLE.
Module integration tests in a new host were performed with BTLE and radar in simultaneous transmission.

Configuration descriptions:

Bluetooth Low Energy	
Longest Supported payload (37 – 255 Byte)	Tx: 255, RX: 255
LE 1M PHY supported	Yes
LE 2M PHY supported	Yes
Stable Modulation Index supported (SMI)	No
LE Coded PHY supported (S=2)	No
LE Coded PHY supported (S=8)	No

Test mode: ☒ Special software is used.
EUT is transmitting pseudo random data by itself

12 Measurement results

12.1 Occupied bandwidth & emission bandwidth

Description:

Measurement of the bandwidth and the frequency stability of the wanted signal (fundamental emission) under temperature and supply voltage variations.

Test setup	See sub clause 8.3
Measurement uncertainty	See sub clause 9

Limits and provisions:

Bandwidth & Applicable limits of designated frequency band			
Applicable	**Rule part**	**Method of bandwidth measurement**	**Limit of designated frequency band**
☐	15.255(b)(2)(iii)	20 dB bandwidth or 99% bandwidth	59.3 - 71.0 GHz
☐	15.255(b)(3)	20 dB bandwidth or 99% bandwidth	60 - 64 GHz
☐	15.255(c)(1)(i)	20 dB bandwidth or 99% bandwidth	57 - 71 GHz
☐	15.255(c)(1)(ii)	20 dB bandwidth or 99% bandwidth	57 - 71 GHz
☐	15.255(c)(2)	20 dB bandwidth or 99% bandwidth	57 - 71 GHz
☐	15.255(c)(2)(i)	20 dB bandwidth or 99% bandwidth	57.0 - 59.4 GHz
☐	15.255(c)(2)(ii)	20 dB bandwidth or 99% bandwidth	57.0 - 61.56 GHz
☐	15.255(c)(2)(iii)	20 dB bandwidth or 99% bandwidth	57.0 - 64.0 GHz
☐	15.255(c)(2)(v)	20 dB bandwidth or 99% bandwidth	61.0 - 61.5 GHz
☒	15.255(c)(3)	10 dB bandwidth	57 - 64 GHz
☐	15.255(e)(2)	6 dB emission bandwidth (EBW_{6dB})	None

Note:

- Definition of 6dB emission bandwidth (15.255(e)(2)): the instantaneous frequency range occupied by a steady state radiated signal with modulation, outside which the radiated power spectral density never exceeds 6 dB below the maximum radiated power spectral density in the band, as measured with a 100 kilohertz resolution bandwidth spectrum analyzer. The center frequency must be stationary during the measurement interval, even if not stationary during normal operation (e.g., for frequency hopping devices).

Limits and provisions:

Bandwidth & Applicable limits of designated frequency band			
Applicable	**Rule part**	**Method of bandwidth measurement**	**Limit of designated frequency band**
☐	RSS-210 J.3.2(b)(iv)	99% bandwidth	59.3 - 71.0 GHz
☐	RSS-210 J.2(d)(i)	99% bandwidth	60 - 64 GHz
☐	RSS-210 J.3.3(a)	99% bandwidth	57 - 71 GHz
☐	RSS-210 J.3.3(b)	99% bandwidth	57 - 71 GHz
☐	RSS-210 J.3.2	99% bandwidth	57 - 71 GHz
☐	RSS-210 J.3.2(b)(i)	99% bandwidth	57.0 - 59.4 GHz
☐	RSS-210 J.3.2(b)(ii)	99% bandwidth	57.0 - 61.56 GHz
☐	RSS-210 J.3.2(b)(iii)	99% bandwidth	57.0 - 64.0 GHz
☐	RSS-210 J.3.2(a)	99% bandwidth	61.0 - 61.5 GHz
☒	RSS-210 J.3.2(c)	10 dB bandwidth	57 - 64 GHz
☐	RSS-210 J.3.3(d)	6 dB emission bandwidth (EBW_{6dB})	None (required for calculation)

Note:

- Definition of 6dB emission bandwidth (RSS-210 J.3.3(d)): the instantaneous frequency range occupied by a steady radiated signal with modulation, outside which the radiated power spectral density is 6 dB below the maximum radiated power spectral density in the band, as measured with a 100 kHz resolution bandwidth. The centre frequency shall be stationary during the measurement interval, even if not stationary during normal operation (e.g. for frequency hopping devices).

Measurement:

Measurement parameter	
Detector:	Pos-Peak
Resolution bandwidth:	50 MHz
Video bandwidth:	80 MHz
Trace-Mode:	Max Hold

Measurement procedures:

- Bandwidth: ANSI C63.10-2020 6.9 / 9.3 / 9.4

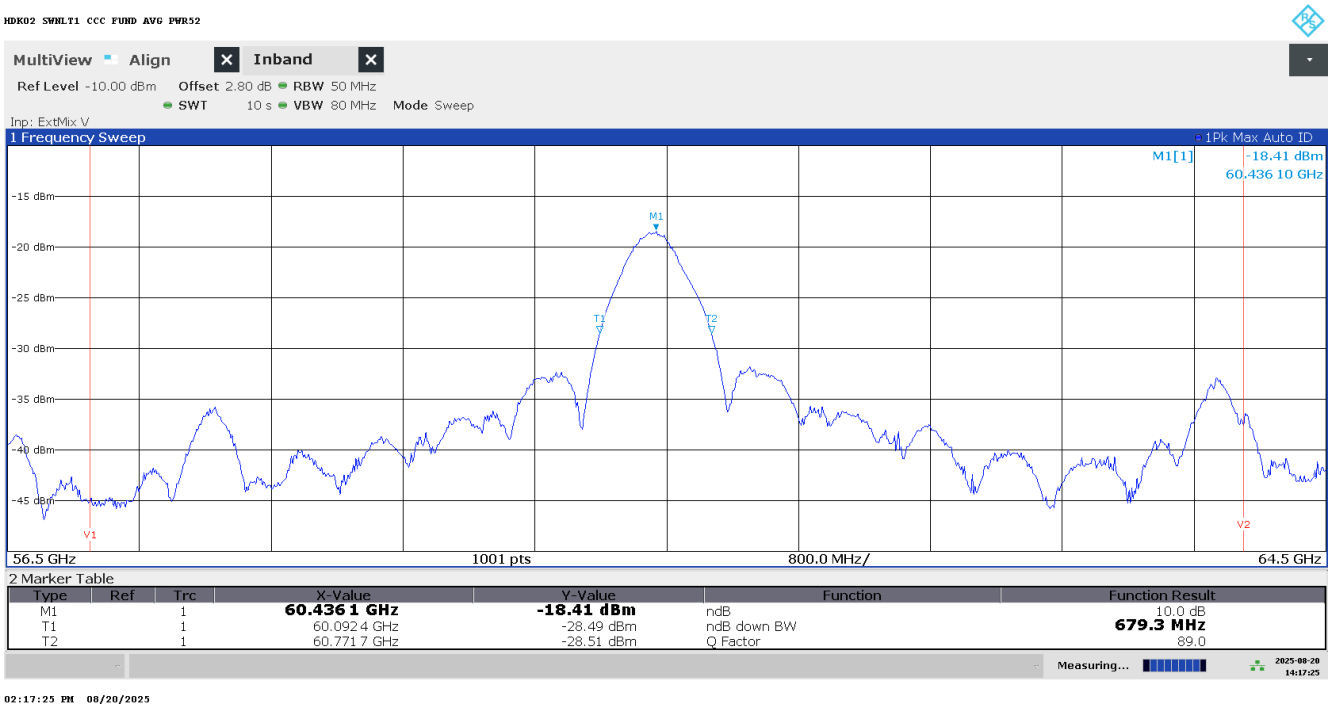
Measurement results:

10 dB bandwidth at normal conditions:

EUT	Mode	Test condition	f_L [GHz]	f_H [GHz]	Bandwidth [MHz]
1	Test mode	T_{nom} / V_{nom}	60.0924	60.7717	679.3

Verdict: Compliant

Plot 1: 10 dB bandwidth at normal condition



12.2 Radiated power (EIRP)

Description:

Measurement of the maximum radiated E.I.R.P. of the wanted signal.

Test setup	See sub clause 8.4
Measurement uncertainty	See sub clause 9

Limits and provisions:

Applicable limits of radiated power (EIRP)			
Applicable	**Rule part**	**Limit average EIRP**	**Limit peak EIRP**
☐	15.255(b)(3)	none	20 dBm
☐	15.255(c)(1)(i)	40 dBm (see note 1)	43 dBm
☐	15.255(c)(1)(ii)	Calculation depending on EUT antenna gain (see note 1, 2.1 & 2.3)	Depending on EUT antenna gain (see note 1, 2.2 & 2.3)
☐	15.255(c)(2)	none	10 dBm
☐	15.255(c)(2)(i)	none	20 dBm (indoor) 30 dBm (outdoor)
☐	15.255(c)(2)(ii)	none	3 dBm (general) 20 dBm (+ off-time requirement)
☐	15.255(c)(2)(iii)(A)	none	14 dBm (+ off-time requirement)
☐	15.255(c)(2)(iii)(B)	none	20 dBm (+ off-time requirement)
☐	15.255(c)(2)(v)	40 dBm (within 61-61.5 GHz) (see note 1) 10 dBm (outside 61-61.5 GHz, but within 57-71GHz) (see note 1)	43 dBm (within 61.0-61.5 GHz) 13 dBm (outside 61-61.5 GHz, but within 57-71GHz)
☒	15.255(c)(3)	13 dBm (average EIRP during any 0.3 µs time window) (+ time domain requirement) 5 dBm (average integrated EIRP within 61.5–64.0 GHz in any 0.3 µs time window)	applicable average limit + 20 dB

Note:

1. Measured during the transmit interval
2. Calculation depending on EUT antenna gain:
   - 2.1. The average power of any emission shall not exceed 82 dBm, and shall be reduced by 2 dB for every dB that the antenna gain is less than 51 dBi.
   - 2.2. The peak power of any emission shall not exceed 85 dBm, and shall be reduced by 2 dB for every dB that the antenna gain is less than 51 dBi.
   - 2.3. Reducing the transmit power based on the antenna gain shall not require that the power levels be reduced below the limits specified in 15.255(c)(1)(i).

Applicable limits of radiated power (EIRP)			
Applicable	**Rule part**	**Limit average EIRP**	**Limit peak EIRP**
☐	RSS-210 J.3.2(a)	none	20 dBm
☐	RSS-210 J.3.3(a)	40 dBm (see note 1)	43 dBm
☐	RSS-210 J.3.3(b)	Calculation depending on EUT antenna gain (see note 1, 2.1 & 2.3)	Depending on EUT antenna gain (see note 1, 2.2 & 2.3)
☐	RSS-210 J.3.2	none	10 dBm
☐	RSS-210 J.3.2(b)(i)	none	20 dBm (indoor) 30 dBm (outdoor)
☐	RSS-210 J.3.2(b)(ii)	none	3 dBm (general) 20 dBm (+ off-time requirement)
☐	RSS-210 J.3.2(b)(iii)(1)	none	14 dBm (+ off-time requirement)
☐	RSS-210 J.3.2(b)(iii)(2)	none	20 dBm (+ off-time requirement)
☐	RSS-210 J.3.2(a)	40 dBm (within 61-61.5 GHz) (see note 1)	43 dBm (within 61.0-61.5 GHz)
		10 dBm (outside 61-61.5 GHz, but within 57-71GHz) (see note 1)	13 dBm (outside 61-61.5 GHz, but within 57-71GHz)
☒	RSS-210 J.3.2(c)	13 dBm (average EIRP during any 0.3 µs time window) (+ time domain requirement)	applicable average limit + 20 dB
		5 dBm (average integrated EIRP within 61.5–64.0 GHz in any 0.3 µs time window)	

Note:

3. Measured during the transmit interval
4. Calculation depending on EUT antenna gain:
   - 4.1. The average power of any emission shall not exceed 82 dBm, and shall be reduced by 2 dB for every dB that the antenna gain is less than 51 dBi.
   - 4.2. The peak power of any emission shall not exceed 85 dBm, and shall be reduced by 2 dB for every dB that the antenna gain is less than 51 dBi.
   - 4.3. Reducing the transmit power based on the antenna gain shall not require that the power levels be reduced below the limits specified in J.3.3(a).

Measurement:

RF detector:

Measurement parameter	
Detector:	Pos-Peak (RF-Detector)
Video bandwidth:	≥ 10 MHz

Measurement procedures:

- Fundamental emission using a RF detector: ANSI C63.10-2020 9.9

Spectrum analyzer:

Measurement parameter	
Detector:	RMS
Resolution bandwidth:	1 MHz
Video bandwidth:	3 MHz
Trace-Mode:	Max Hold

Measurement procedures:

- Fundamental emission using a spectrum analyzer: ANSI C63.10-2020 9.8

Measurement results:

Parameter		Measurement result				Limit
		EUT / Mode				
		Test mode	-/-	-/-	-/-	
Peak EIRP ($P_{Peak,EIRP}$)	[dBm]	10.28	-/-	-/-	-/-	33 dBm
Average EIRP during any 0.3 µs time window ($P_{avg0.3µs,EIRP}$)	[dBm]	-/-	-/-	-/-	-/-	13 dBm
Average integrated EIRP within 61.5–64.0 GHz in any 0.3 µs time window	[dBm]	-/-	-/-	-/-	-/-	5 dBm

Note:

- Test conditions: T_{nom} / V_{nom}
- Details on measurements: see below

Verdict: Compliant

RF detector: Description of the E.I.R.P. measurement by substitution method

1) EUT emission measured with RF-detector:
   - Measurement distance: d_{EUT}
   - Readout of the measured voltage on the oscilloscope:
     - Maximum value: $V_{max,EUT}$
     - Average value (average over worst 0.3µs): $V_{avg0.3µs,EUT}$

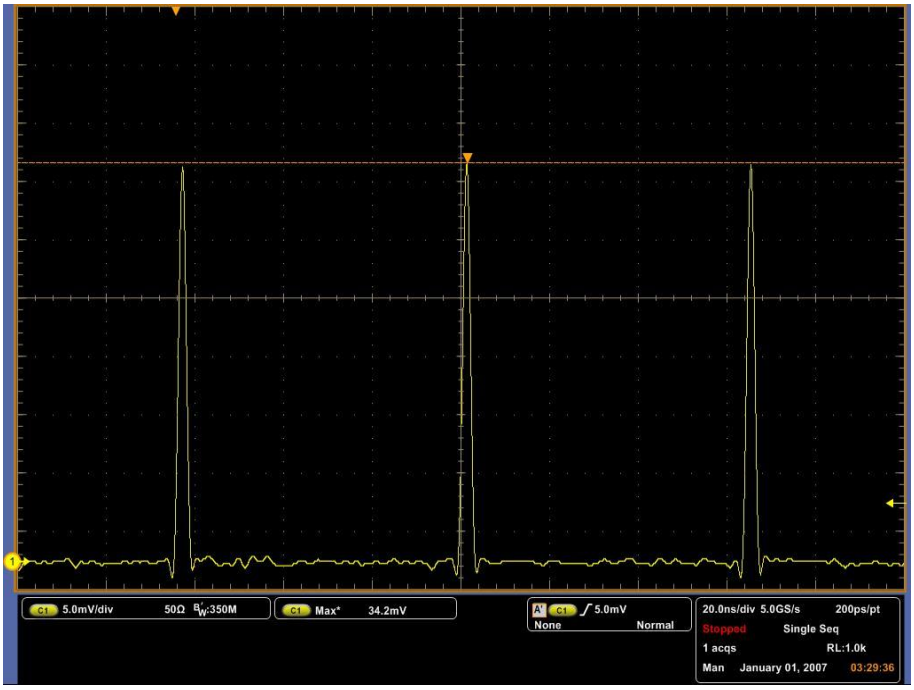
2) Substitution of EUT by a cw reference source with a frequency of f_{REF} and a fixed output power of P_{REF}
   - Positioning of the cw reference source at distance: d_{EUT}
   - Adjustment of the readout value on oscilloscope via the variable attenuator of the source:
     - $V_{max,REF} = V_{max,EUT}$
     - $V_{avg0.3µs,REF} = V_{avg,0.3µs,EUT}$

3) Measurement of the conducted output powers $P_{cond,REF}$ of the cw reference source (without horn antenna) using the power meter:
   - $P_{max,cond,REF}$
   - $P_{avg0.3µs,cond,REF}$

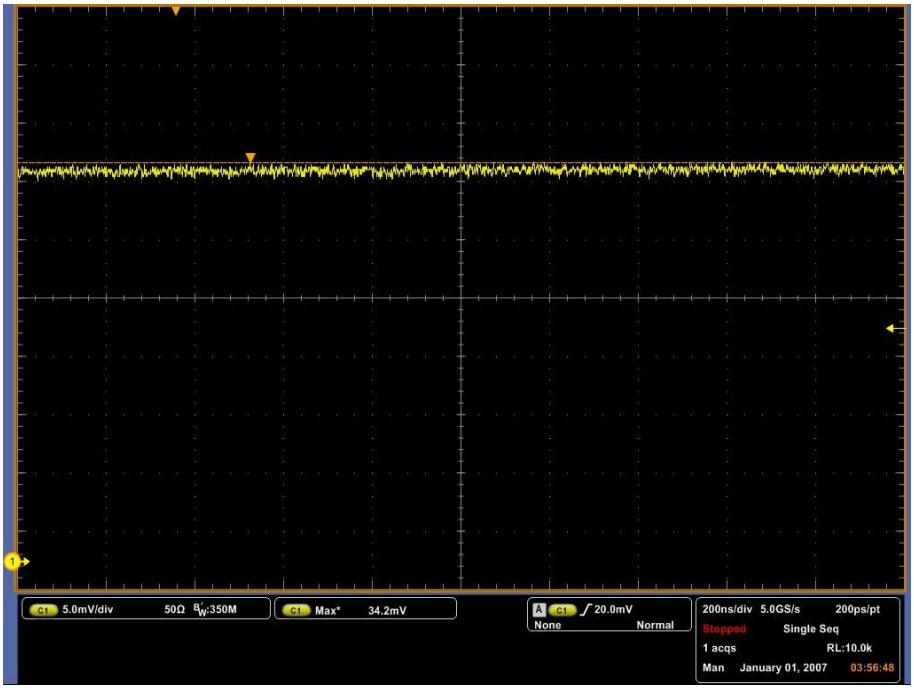
4) Calculation of the E.I.R.P. of the EUT taking into account the gain of the substitution antenna G_{REF}:
   - Peak EIRP: $P_{Peak,\ E.I.R.P.} = P_{max,cond,REF} + G_{REF}$
   - Average E.I.R.P. (average over worst 0.3µs): $P_{avg0.3µs,E.I.R.P.} = P_{avg0.3µs,cond,REF} + G_{REF}$

Measurement step	Measurement parameter		EUT Mode			
			Test mode	-/-	-/-	-/-
1	d_{EUT}	[m]	0.5	-/-	-/-	-/-
	$V_{max,EUT}$	[mV]	34.2	-/-	-/-	-/-
	$V_{avg0.3µs,EUT}$	[mV]	-/-	-/-	-/-	-/-
2	f_{REF}	[GHz]	60.436	-/-	-/-	-/-
3	$P_{max,cond,REF}$	[dBm]	9.97	-/-	-/-	-/-
	$P_{avg0.3µs,cond,REF}$	[dBm]	-/-	-/-	-/-	-/-
4	G_{REF}	[dBi]	19.913	-/-	-/-	-/-
	$P_{Peak,E.I.R.P.}$	[dBm]	10.283	-/-	-/-	-/-
	$P_{avg0.3µs,E.I.R.P.}$	[dBm]	-/-	-/-	-/-	-/-

Plot 1: Substitution result



Plot 2: Substitution result



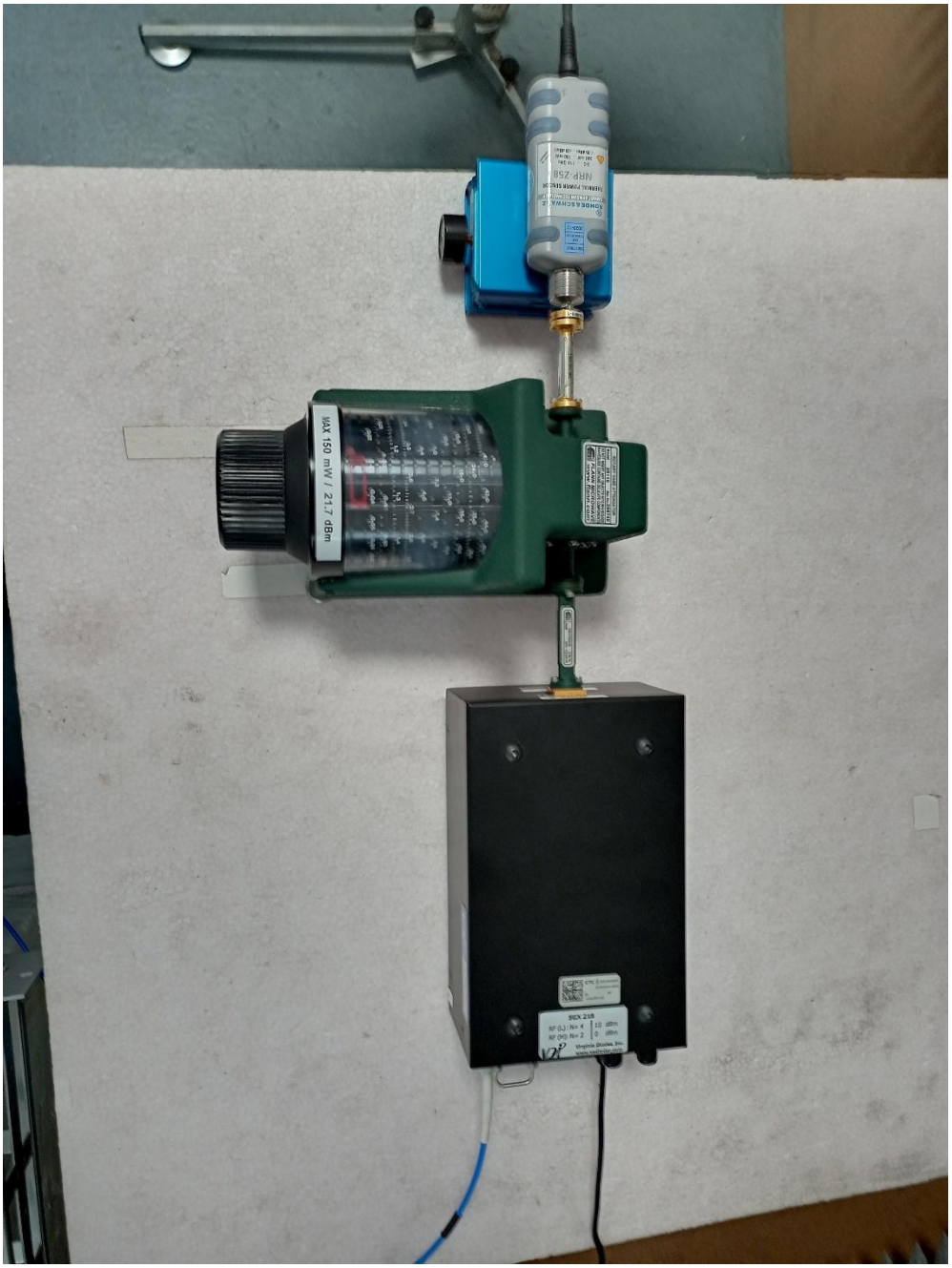
RF Detector: Setup of the substitution

Receiver:

- RF-Detector (V-Band Amplitude Detector)
- Low noise waveguide amplifier
- Horn Antenna 50-75 GHz

Transmitter (Reference source):

- Signal generator (not in picture)
- SG Extension Module 50 - 75 GHz (behind Rotary Attenuator)
- Rotary Attenuator
- Horn Antenna 50-75 GHz



Measurement of the conducted output power of the reference source:

- Power meter
- Rotary Attenuator
- SG Extension Module 50 - 75 GHz (connected to Signal Generator)

12.3 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 single channel mode and the transmit frequency 2402 MHz for the lower restricted band and 2480 MHz for the upper restricted band. Measurement distance is 3m.

Measurement parameters	
Detector	Peak / RMS
Sweep time	Auto
Resolution bandwidth	1 MHz
Video bandwidth	3 MHz
Span	Lower Band: 2300 – 2400 MHz higher Band: 2480 – 2500 MHz
Trace mode	Max hold
Test setup	See sub clause 8.2 B
Measurement uncertainty	See sub clause 9

Limits:

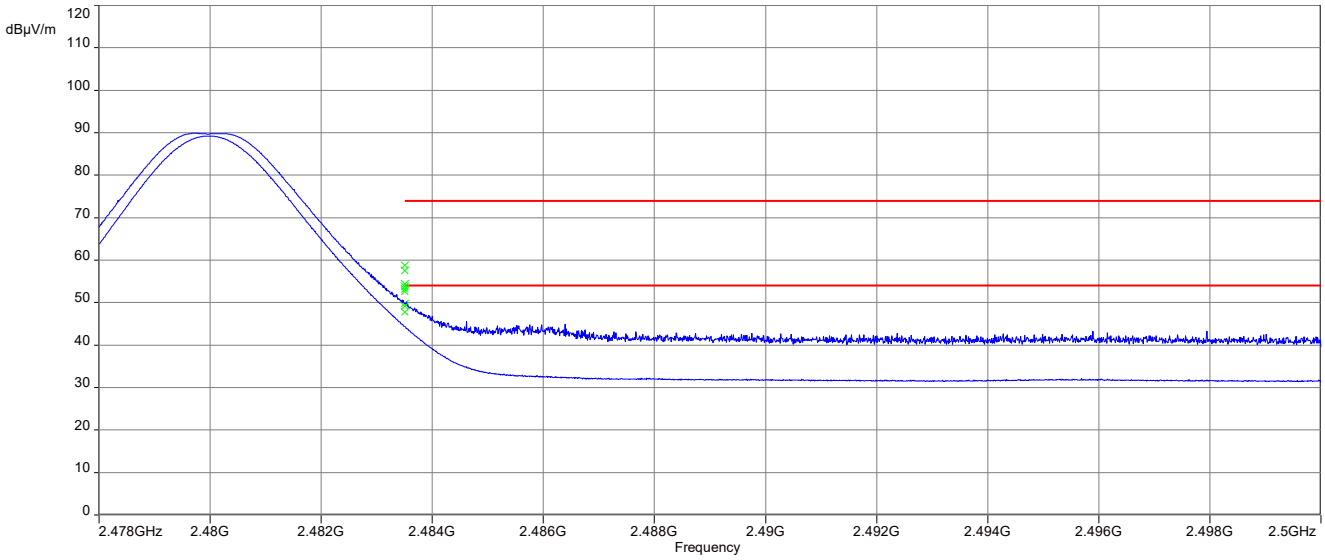
FCC	ISED
Band edge compliance radiated	
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth 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)).	
54 dBµV/m AVG 74 dBµV/m Peak	

Result: BTLE at 2480 MHz in 1 Msps mode + simultaneous Radar transmission

Scenario	Band edge compliance radiated [dBµV/m]
Data rate	1 Msps
Upper restricted band	52.0 dBµV/m AVG 58.8 dBµV/m Peak

Plots:

Plot 1: Upper restricted band, BTLE at 2480 MHz in 1 Msps mode + simultaneous Radar transmission



12.4 Spurious emissions radiated 30 MHz to 1 GHz

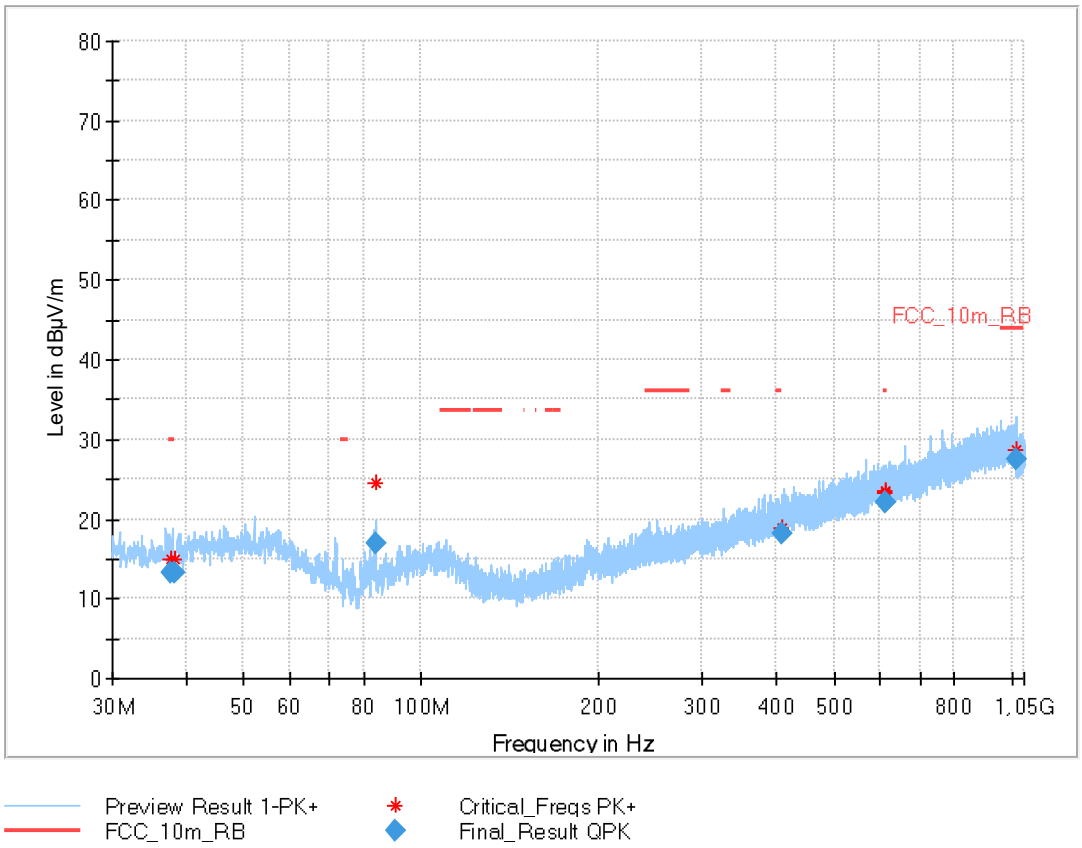
Measurement parameters	
Detector	Peak / Quasi Peak
Sweep time	Auto
Resolution bandwidth	120 kHz
Video bandwidth	3 x RBW
Span	30 MHz to 1 GHz
Trace mode	Max hold
Test setup	See sub clause 8.1 A
Measurement uncertainty	See sub clause 9

Limits:

FCC	ISED	
TX spurious emissions 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 §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).		
§15.209		
Frequency (MHz)	Field strength (dBµV/m)	Measurement distance (m)
30 - 88	30.0	10
88 – 216	33.5	10
216 – 960	36.0	10
Above 960	54.0	3

Plots: Transmit mode

Plot 1: 30 MHz to 1 GHz, BTLE at 2480 MHz in 1 Msps mode + simultaneous Radar transmission, vertical & horizontal polarization



Final results:

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
37.752	13.13	30.0	16.9	1000	120.0	164.0	V	185	14
38.155	13.24	30.0	16.8	1000	120.0	120.0	V	279	14
83.645	16.85	---	---	1000	120.0	170.0	V	173	9
407.418	18.04	36.0	18.0	1000	120.0	170.0	V	276	18
611.412	22.10	36.0	13.9	1000	120.0	132.0	H	22	22
613.419	22.18	36.0	13.8	1000	120.0	102.0	V	256	22
1016.130	27.54	44.0	16.5	1000	120.0	162.0	V	112	26

12.5 Spurious emissions radiated between 1 GHz and 18 GHz

Measurement parameters	
Detector	Peak / RMS
Sweep time	Auto
Resolution bandwidth	1 MHz
Video bandwidth	3 x RBW
Span	1 GHz to 18 GHz
Trace mode	Max hold
Test setup	See sub clause 8.2 A (1 GHz - 18 GHz)
Measurement uncertainty	See sub clause 9

Limits:

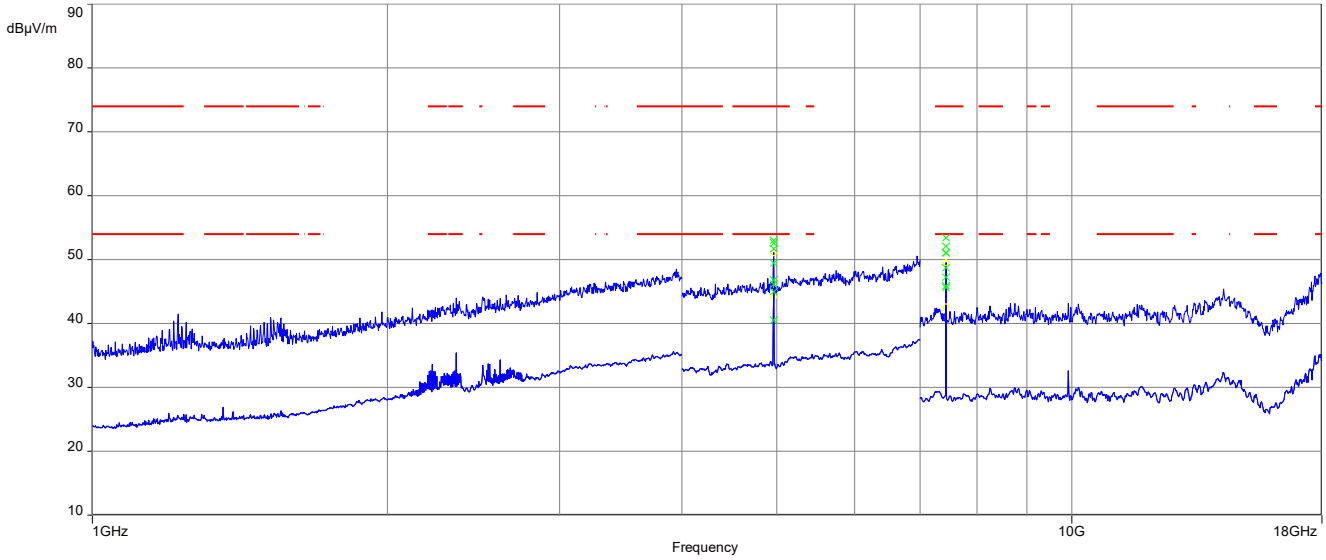
FCC	ISED	
TX spurious emissions radiated		
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz 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 §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).		
§15.209		
Frequency (MHz)	Field strength (dBµV/m)	Measurement distance (m)
Above 960	54.0 (Average)	3
Above 960	74.0 (Peak)	3

Results:

TX spurious emissions radiated [dBµV/m] BTLE at 2480 MHz in 1 Msps mode + simultaneous Radar transmission								
2402 MHz			2440 MHz			2480 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
	Peak			Peak		4960	Peak	53.0
	AVG			AVG			AVG	46.8
	Peak			Peak		7440	Peak	53.4
	AVG			AVG			AVG	48.8

Plots:

Plot 1: 1 GHz to 18 GHz, TX mode, vertical & horizontal polarization, BTLE at 2480 MHz in 1 Msps mode + simultaneous Radar transmission



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

12.6 Spurious emissions conducted below 30 MHz (AC conducted)

Description:

Both power lines, phase and neutral line, are measured. Found peaks are remeasured with average and quasi peak detection to show compliance to the limits.

Measurement parameters	
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 sub clause 8.5. A
Measurement uncertainty	See sub clause 9

Limits:

FCC		ISED
TX spurious emissions conducted < 30 MHz		
Frequency (MHz)	Quasi-peak (dBµV/m)	Average (dBµV/m)
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30.0	60	50

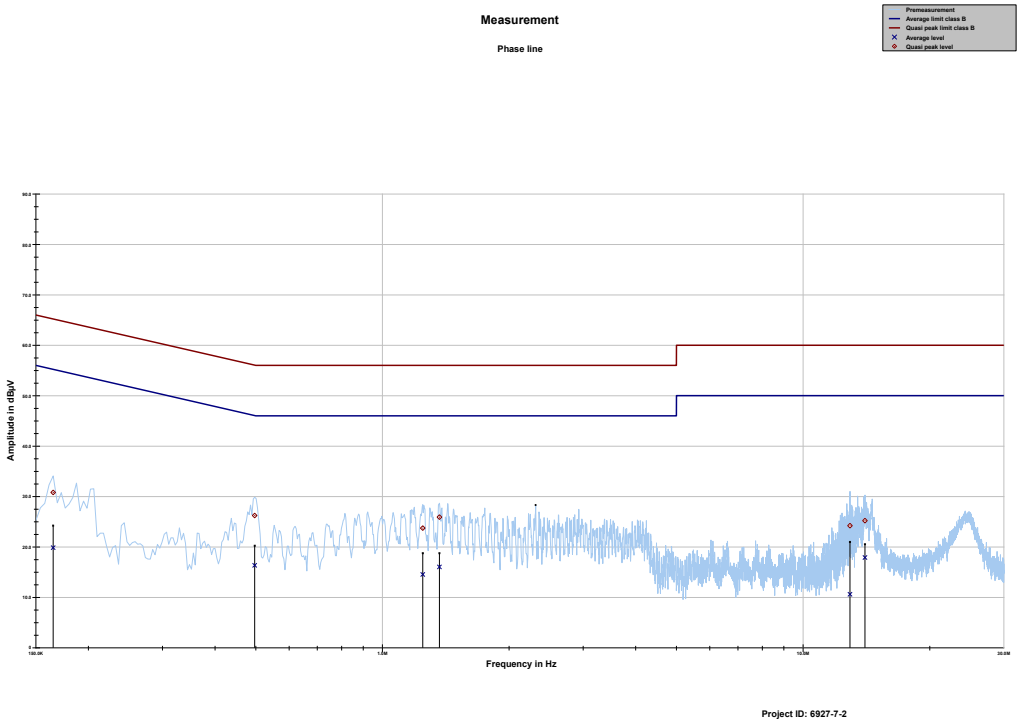
*Decreases with the logarithm of the frequency

Results:

Spurious emissions conducted < 30 MHz [dBµV/m]		
F [MHz]	Detector	Level [dBµV/m]
No emissions detected		

Plots: 120 V AC

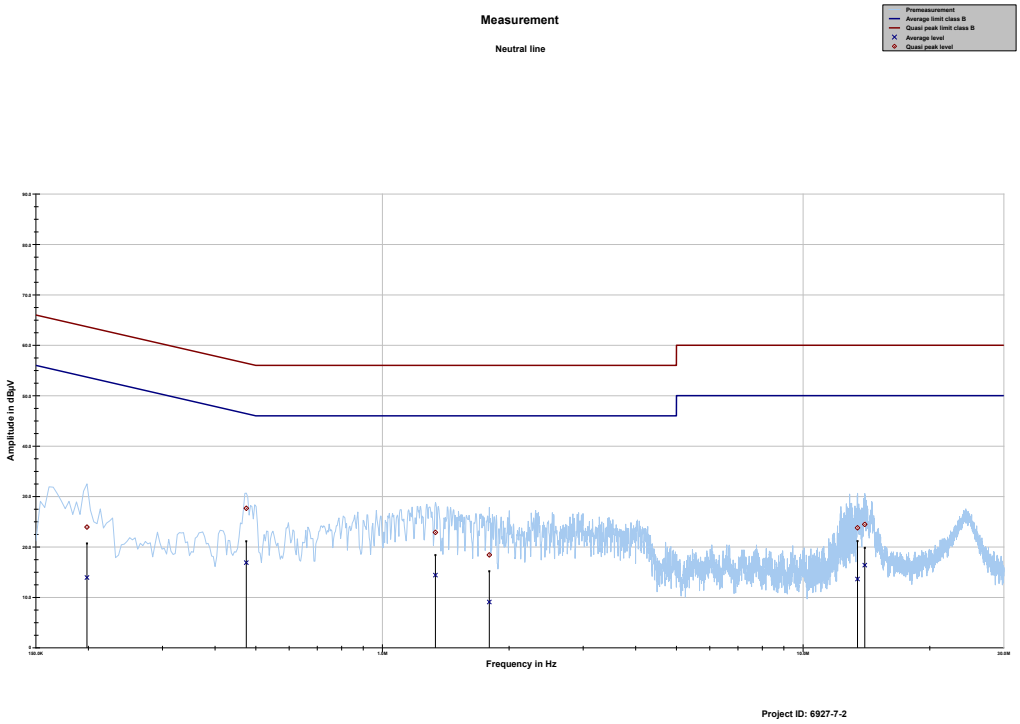
Plot 1: 150 kHz to 30 MHz, phase line



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	30.80	34.41	65.212	19.86	35.72	55.574
0.497006	26.23	29.82	56.050	16.35	29.74	46.086
1.246987	23.73	32.27	56.000	14.54	31.46	46.000
1.366388	25.91	30.09	56.000	16.03	29.97	46.000
12.925800	24.21	35.79	60.000	10.61	39.39	50.000
14.030250	25.21	34.79	60.000	17.90	32.10	50.000

Plot 2: 150 kHz to 30 MHz, neutral line

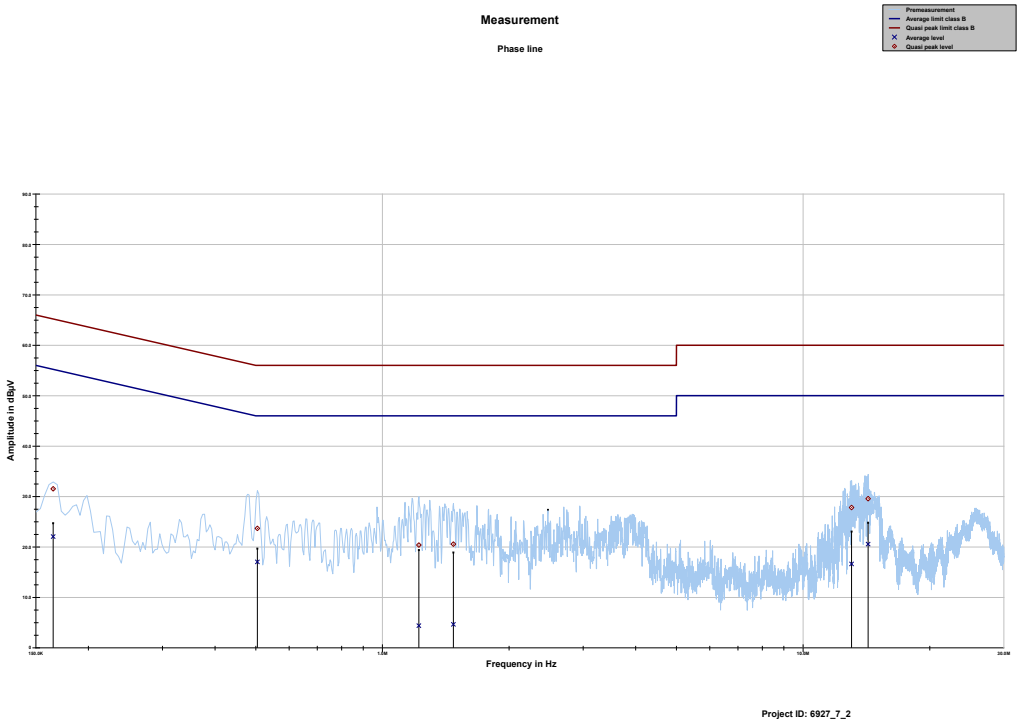


Final results:

Frequency	Quasi peak level	Margin quasi peak	Limit QP	Average level	Margin average	Limit AV
MHz	dBµV	dB	dBµV	dBµV	dB	dBµV
0.198506	23.94	39.74	63.673	13.92	40.69	54.614
0.474619	27.66	28.78	56.433	16.87	29.85	46.725
1.336537	22.88	33.12	56.000	14.41	31.59	46.000
1.795481	18.41	37.59	56.000	9.08	36.92	46.000
13.474294	23.80	36.20	60.000	13.64	36.36	50.000
14.019056	24.47	35.53	60.000	16.38	33.62	50.000

Plots: 240 V AC

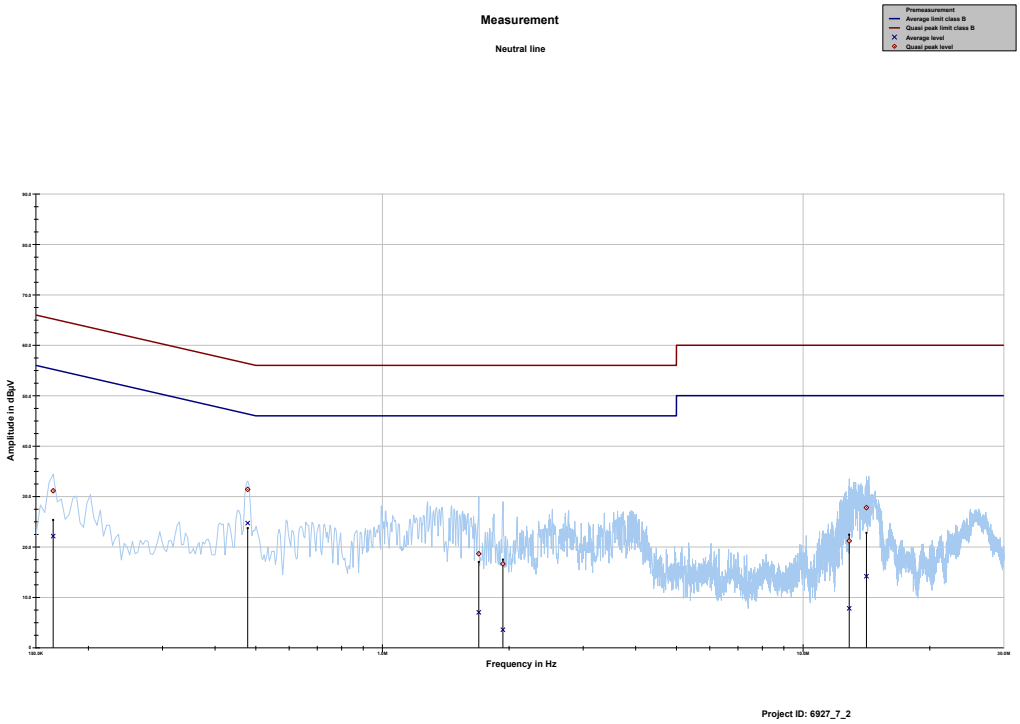
Plot 1: 150 kHz to 30 MHz, phase line



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	31.52	33.69	65.212	22.05	33.52	55.574
0.504469	23.68	32.32	56.000	17.04	28.96	46.000
1.220869	20.37	35.63	56.000	4.38	41.62	46.000
1.474594	20.55	35.45	56.000	4.64	41.36	46.000
13.041469	27.80	32.20	60.000	16.62	33.38	50.000
14.276513	29.57	30.43	60.000	20.56	29.44	50.000

Plot 2: 150 kHz to 30 MHz, neutral line



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	31.14	34.07	65.212	22.15	33.43	55.574
0.478350	31.41	24.95	56.368	24.74	21.88	46.619
1.694738	18.64	37.36	56.000	7.03	38.97	46.000
1.933537	16.64	39.36	56.000	3.57	42.43	46.000
12.877294	21.21	38.79	60.000	7.82	42.18	50.000
14.145919	27.80	32.20	60.000	14.18	35.82	50.000

13 Observations

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

14 Glossary

AVG	Average
C	Compliant
C/N_0	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	Company Identifier at FCC
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
IC	Industry 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

15 Document history

Version	Applied changes	Date of release
R01	Initial release	2025-09-10

########## END OF TEST REPORT ##########