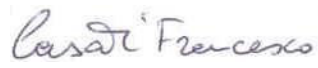
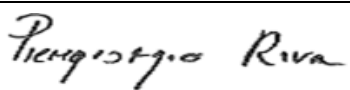


RF TEST REPORT

Test Report No:	25-4791433404-8-1-0-RAD-A	
UL Project No:	4791433404	
Date of issue:	2025-12-03	
Total number of pages:	31	
Applicant:	Finder S.p.A. con unico socio Via Drubiaglio, 14 10040 Almese (TO) – Italy	
Contact's person:	Rocco Didio (r.didio@findernet.com)	
Testing Laboratory:	UL International Italia S.r.l. Via delle Industrie, 6 20061 Carugate (MI) – Italy	
Testing location:	UL International Italia S.r.l. Via delle Industrie, 6 20061 Carugate (MI) – Italy	
Test specification:		
Regulations:	FCC	
Standards:	FCC 47 CFR - Part 15 Subpart C 1989 (Antenna Gain Measurement)	
TRF No.:	Base Radiation Pattern FCC_rev 00	
Test Report Form(s) Originator:	UL International Italia S.r.l.	
Master TRF	2025-09	
Tested by: (name, function, signature)	Casati Francesco Operations Leader 	
Approved by: (name, function, signature)	Riva Piergiorgio Senior Engineering Associate 	
General disclaimer: The test results presented in this test report relate only to the object tested, as received and not selected by UL. All technical records will be maintained by the Laboratory for minimum 10 years. This report shall not be reproduced, except in full, without the written approval of the issuing Testing Laboratory. This document contains data (of information) using color and if printed, should be printed in color to retain legibility and the information represented by the color.		
Declaration of responsibility: Data provided by the customer are clearly identified with (*). UL International Italia S.r.l. cannot be considered responsible for this information, for any other document sent by the Applicant/Manufacturer and for any difference between the software version present in the tested sample and that present in the object intended for final sale. In some cases, the software in the tested sample is in a version dedicated exclusively to the test, and therefore does not represent the software installed in the final version of the product.		

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Test Item Description:	Annual astro time switch with Bluetooth
Trade Mark: (*)	Finder 
Manufacturer: (*)	Finder S.p.A. con unico socio Via Drubiaglio, 14 10040 Almese (TO) – Italy
Model/Type reference: (*)	12B282300000
FCC ID: (*)	2A97G-12001
Ratings: (*)	IN: 110-230 V AC/DC (2.8 VA/0.9 W) OUT: 16 A, 250 Vac (2 x CO contacts)
Testing:	
Type of equipment considered in the present document:	☐ Non-radio product ☒ Combined equipment (non-radio product with radio function) ☐ Radio product ☐ Ancillary equipment
Date of receipt of test item:	2025-09-11
UL Sample Tag No.:	8885603 (conducted sample) 8804389 (radiated sample)
Status of sample upon receipt:	☐ New and operational ☒ Reconditioned ☐ Damaged ☐ Unknown
Date(s) of performance of tests:	2025-09-11
Name and address of factory(ies): (*)	Finder S.p.A. con unico socio Via Drubiaglio, 14 10040 Almese (TO) – Italy
General remarks: A cross ☒ in a rectangular shape means that this option is applied. ☒ Indicates that the listed condition, standard or equipment is applicable for this report. ☐ Indicates that the listed condition, standard or equipment is not applicable for this report. Throughout this report a ☐ comma / ☒ point is used as decimal separator. Where not otherwise specified or communicated in writing, statements of conformity (e.g. Pass/Fail) are established according to the following decision rule: considering that the applied test standards take measurement uncertainty into account, acceptance limit equals the tolerance limit (simple acceptance). This leads to a maximum 50% of false accept or false reject when the measured value equals the tolerance limit. See ILAC-G8:09/2019 for further details.	

General product information: (*) Configurable Time switch with 2 output relays. Multifunction.
--

Document history

Test Report No.	Reason for change	Date of issue
25-4791433404-8-1-0-RAD-A	Original release	2025-12-03

NOTE: New test report issue cancels and replaces the previous one.

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1 Test Item Description

Serial number: (*)		No information available							
Date of production: (*)		No information available							
Ports: (*)									
Port name	Description	Max. length (m)	Attached during test	Shielded	Symmetric	Outdoor use			
AC Mains	Product power supply input	n.d.	☒	☐	☐	☐			
Relay	Two contact relays floating (CON, NO, NC)	n.d.	☐	☐	☐	☐			
Supplementary information to the ports:		n.d. = not defined "Symmetric" and "Outdoor use" refer to signal/control port only							
Rated power supply: (*)		Voltage and frequency			Reference poles				
					N	L1	L2	L3	
		☒	AC: 110-230 V			☐	☐	☐	☐
		☒	DC: 110-230 V						
		☐	Protective Earth (PE)						
		☐	Functional Earth						
Rated power: (*)		1 W (maximum)							
Working frequencies: (*)		2.4 GHz band (BLE) 32.768 kHz, 32 MHz (clock) 64 MHz (max internal frequency)							
Other parameters: (*)		Weight: 0.11 kg							
Firmware/Software version: (*)		63							
Hardware version: (*)		1.0							
Dimensions in cm (W x H x D): (*)		3.5 x 8.88 x 6.08							
Modules/parts: (*)		Module/parts of test item		Type		Manufacturer			
		---		---		---			

Operating modes:				
No.	Description			
1	Transmitter / Modulated Carrier Continuous Transmission Mode 1 Mbps, Bottom Channel (2402 MHz), Power: -4 dBm, 90 % Duty Cycle			
2	Transmitter / Modulated Carrier Continuous Transmission Mode 1 Mbps, Advertising Channel (2426 MHz), Power: -4 dBm, 90 % Duty Cycle			
3	Transmitter / Modulated Carrier Continuous Transmission Mode 1 Mbps, Middle Channel (2440 MHz), Power: -4 dBm, 90 % Duty Cycle			
4	Transmitter / Modulated Carrier Continuous Transmission Mode 1 Mbps, Top Channel (2480 MHz), Power: -4 dBm, 90 % Duty Cycle			
Supplemental information to the operating mode:		Setup  The diagram illustrates the test setup. A green circle labeled 'PSN' is connected via red curved lines to a green box labeled '12V'. The '12V' box is connected to a green box labeled 'PCAN', which is in turn connected to a green box labeled 'PC'. A black box labeled 'Antenna' is connected to a black box labeled 'PVR-C'. The '12V' box is also connected to the 'PVR-C' box.		
Auxiliary equipment (AuxEq): <i>Peripheral equipment that is part of the system under test</i>		Description	Manufacturer	Type
		---	---	---
Associated equipment (AE): <i>Equipment that is not part of the system under test but needed to exercise and/or monitor the EUT</i>		Description	Manufacturer	Type
		---	---	---
Documents as provided by the applicant: (*)		Description	File name	Issue date
		---	---	---
Modifications to the test item during testing:		None		

Copy of marking plate: (*)

NOT AVAILABLE

1.1 Additional Information of EUT Radio Function(s) (*)

Technology Tested:	RF 2.4 GHz (custom module)		
Type of Radio Device:	☐ Receiver	☐ Transmitter	☒ Transceiver
Power Supply Requirement(s):	Nominal	120 V; 60 Hz	
Tested Data rate:	1 Mbps		
Nominal Channel Bandwidth:	1 MHz		
Channel Spacing	2 MHz		
Duty Cycle	90%		
Modulation	GFSK		
Software	proprietary Finder – ver. 63		
Antenna Type	PCB trace		
Antenna Details:	Integral antenna		
Declared Antenna Gain:	No information available		
Transmit Frequency Range:	2402 MHz to 2480 MHz		
Transmit Channels Tested:	Channel ID	Channel Number	Frequency (MHz)
	Bottom	37	2402
	Advertising	38	2426
	Middle	17	2440
	Top	39	2480

2 Summary of Testing

2.1 Summary of Test Results

Clause	Measurement	Accreditation	Verdict	Note
Part 15.247(b)(3) ANSI C63.10:2020/Cor1:2023, Annex G	Antenna Gain Measurement	Accredia	P	
Notes: ---				

Possible test case verdicts:

Test case not performed: N/P

Test case does not apply to test object: N/A

Test object does meet requirement: Pass (P)

Test object does not meet requirement: Fail (F)

2.2 Methods and Procedures

Reference	Title
ANSI C63.10:2020/Cor1:2023	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
KDB 558074 D01 15.247 Meas Guidance 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

2.3 Deviations from the Test Specification

For the measurements contained within this test report, there were no deviations from, additions to, or exclusion from the test specification identified above.

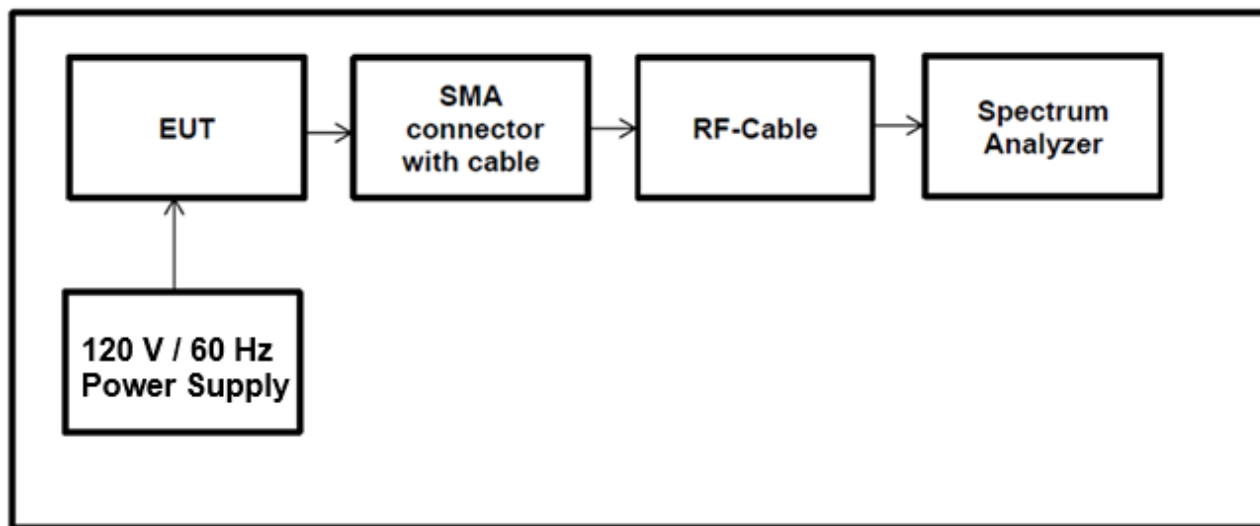
The only addition was requested by the Applicant to test additional channel (Advertising channel).

3 Test Results

3.1 Transmitter Maximum (Peak) Output Power

Tested by:	Casati Francesco
Test date:	2025-09-11
Test location (stand):	Laboratory Area
Ambient temperature:	23 °C
Relative humidity:	58 %
Atmospheric pressure:	993 mbar
FCC Reference:	Part 15.247(b)(3)
Test Method Used:	FCC KDB 558074 Section 8.3.1.1 referencing ANSI C63.10 Section 11.9.1.1
Notes:	The RF port on the EUT was connected to the spectrum analyzer using suitable attenuation and RF cable. The measured values take into consideration the external attenuation correction factors. The RF cable attenuation maximum 1.62 dB from the EUT to spectrum analyzer. Therefore, total a reference level offset 1.62 dB was set into spectrum analyzer.

Test Setup



Spectrum Analyzer settings

Parameter	Requirement	Actual Setting
RBW	$\geq$ DTS bandwidth	2 MHz
VBW	$\geq [3 \times \text{RBW}]$	10 MHz
Span	$\geq [3 \times \text{RBW}]$	10 MHz
Sweep Time	Auto couple	Auto
Detector	Peak	Peak
Filter Type	-	Normal (3 dB)
Trace Mode	Max Hold	Max Hold

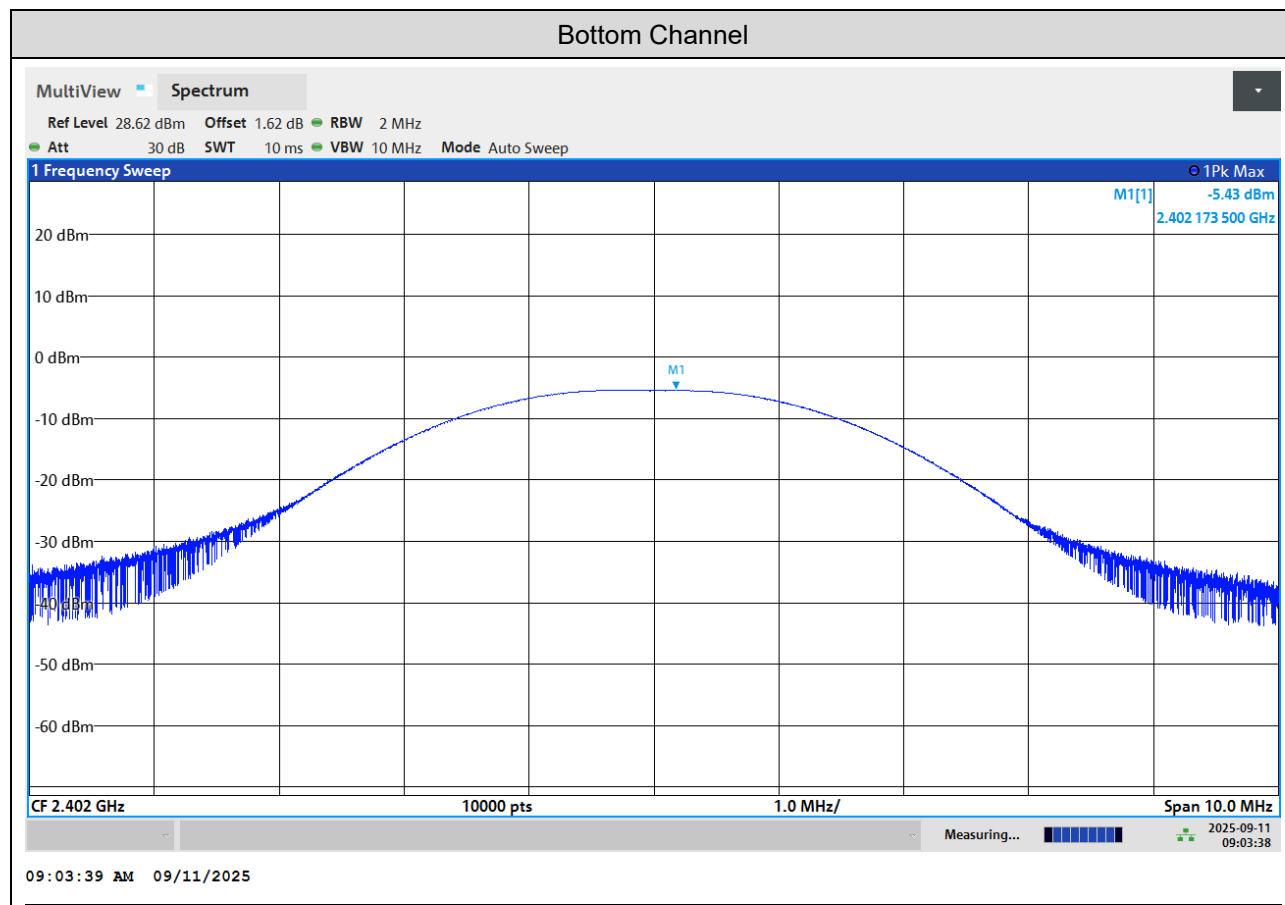
Results

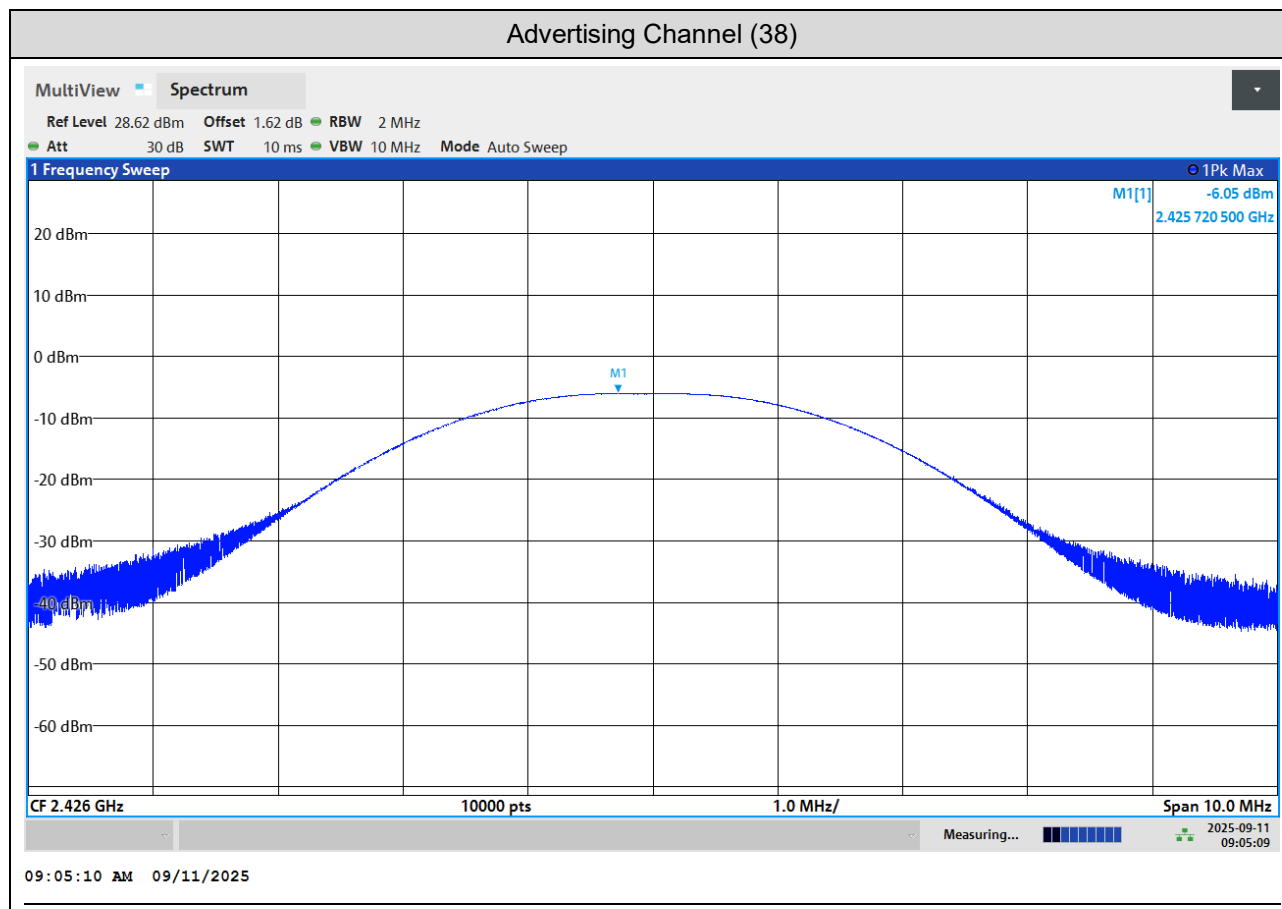
UL Sample Tag No.: 8885603

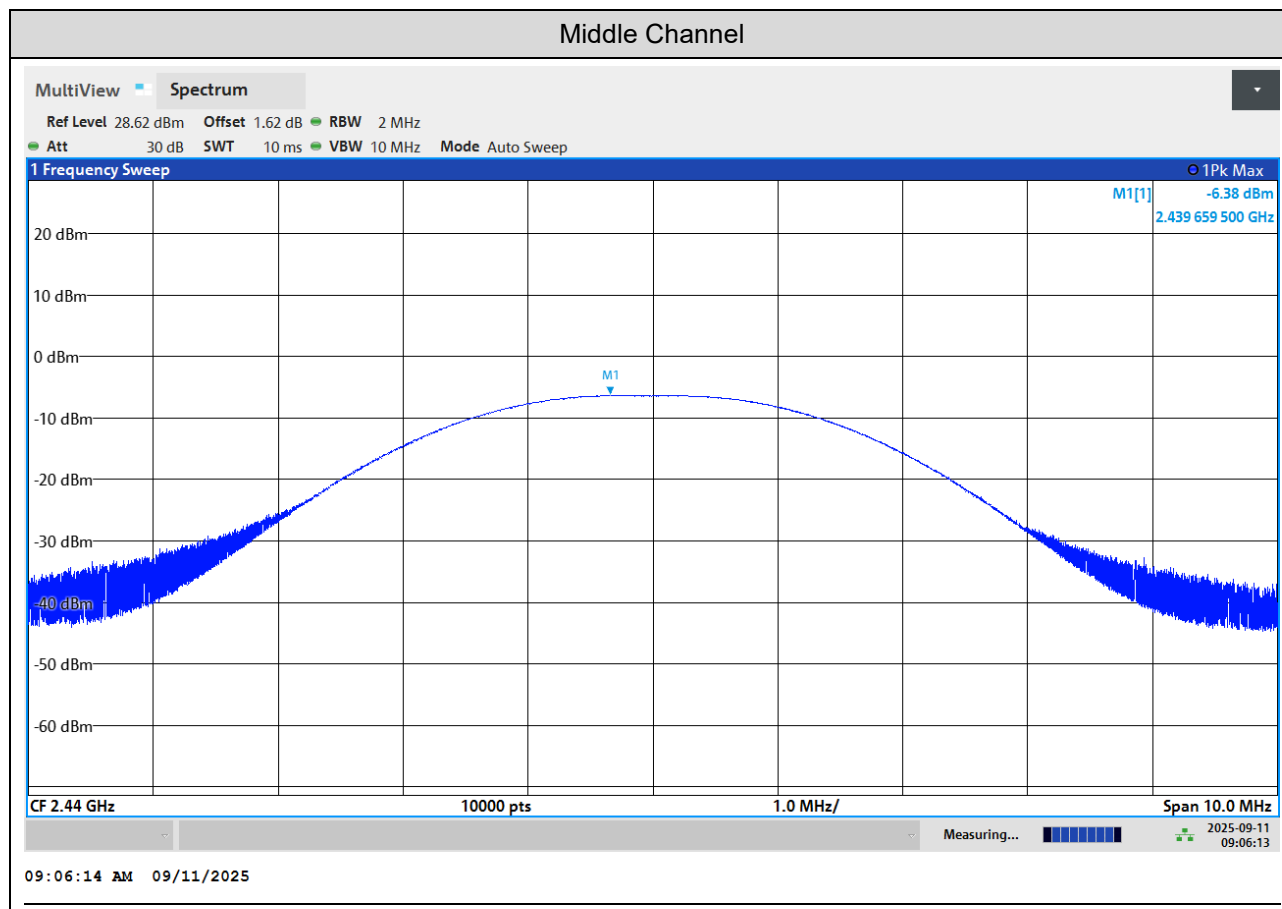
Channel	Nominal Frequency (MHz)	Conducted Peak Power (dBm)
Bottom	2402	-5.43
Advertising (38)	2426	-6.05
Middle	2440	-6.38
Top	2480	-6.76

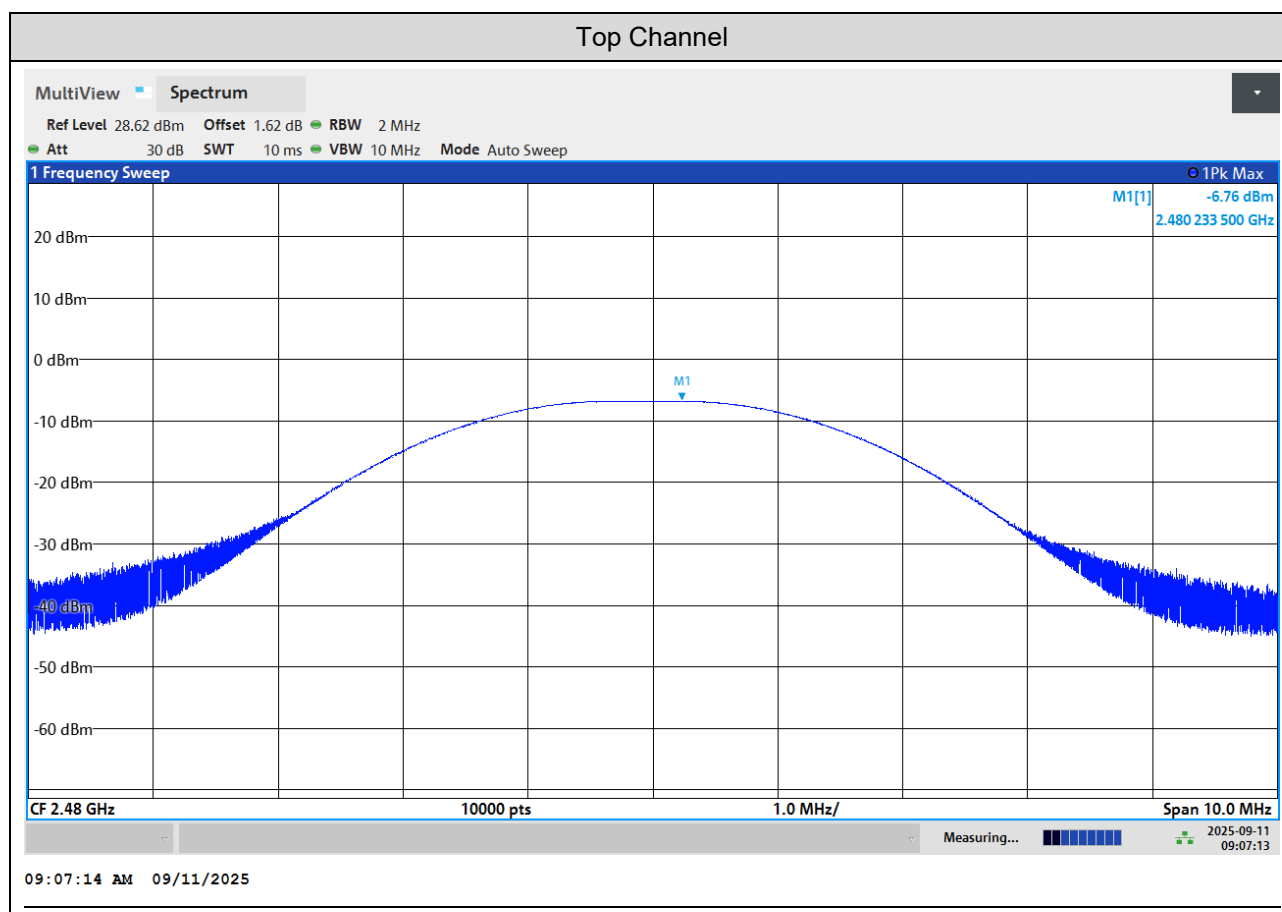
Plots

UL Sample Tag No.: 8885603





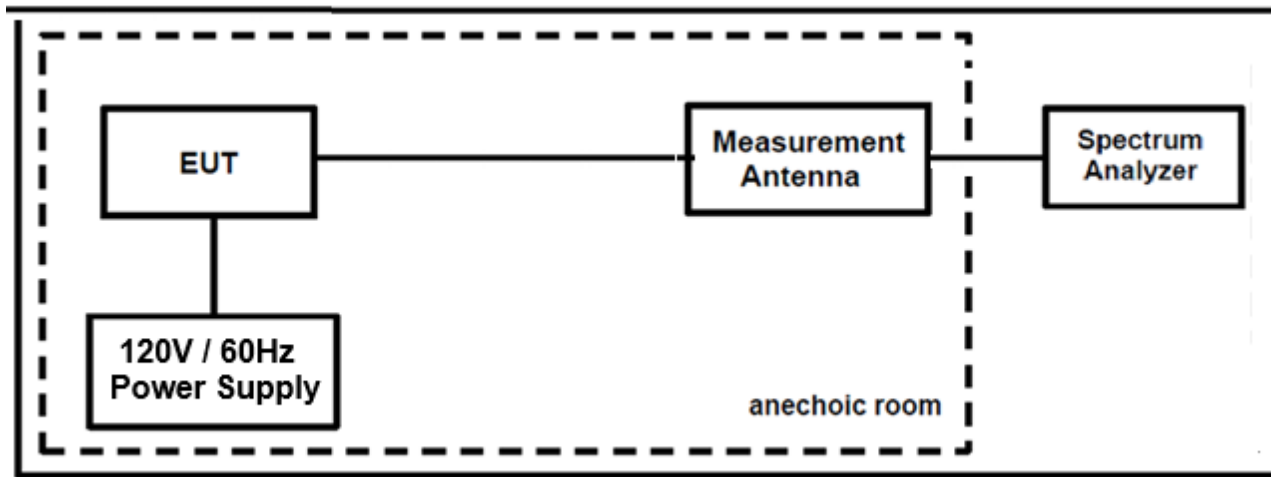




3.2 Transmitter Radiated Output Power

Tested by:	Casati Francesco
Test date:	2025-09-11
Test location (stand):	Area 12: FAR 3-1.2 (RF emission)
Ambient temperature:	24 °C
Relative humidity:	55 %
Atmospheric pressure:	Not measured
FCC Reference:	Part 15.247(b)(3)
Test Method Used:	ANSI C63.10 Annex G
Notes:	The spectrum analyzer was set as in Transmitter Maximum (Peak) Output Power test. ERP/EIRP was measured by Substitution method, as described in ANSI C63.10 Clause 11.3 and Annex G.5.3. A pre-calibrated test site was used, with EUT position at 1.5 m height and receiving antenna at 1.55 m. The EUT with its antenna is positioned on XY, YZ, ZX planes, and measuring radiated power at specific steps with the vertical and horizontal antenna polarizations placed at 1.55 m. The antenna of EUT was placed at a fixed height of 1.5 m from the ground plane, the turntable was rotated 360° in 5° steps and the worst-case emissions at every axis of EUT and antenna polarization were measured and recorded. Antenna Gain in dBi was calculated according to ANSI C63.10 Annex G.3: $ERP/EIRP = P_T + G_T - L_C$ Rearranged: $G_T = ERP/EIRP - P_T + L_C$ L_C is ignored since there is no cable connected between transmitter and antenna.

Test Setup



Spectrum Analyzer settings

Parameter	Actual Setting
RBW	2 MHz
VBW	10 MHz
Span	10 MHz
Sweep Time	Auto
Detector	Peak
Filter Type	Normal (3 dB)
Trace Mode	Max Hold

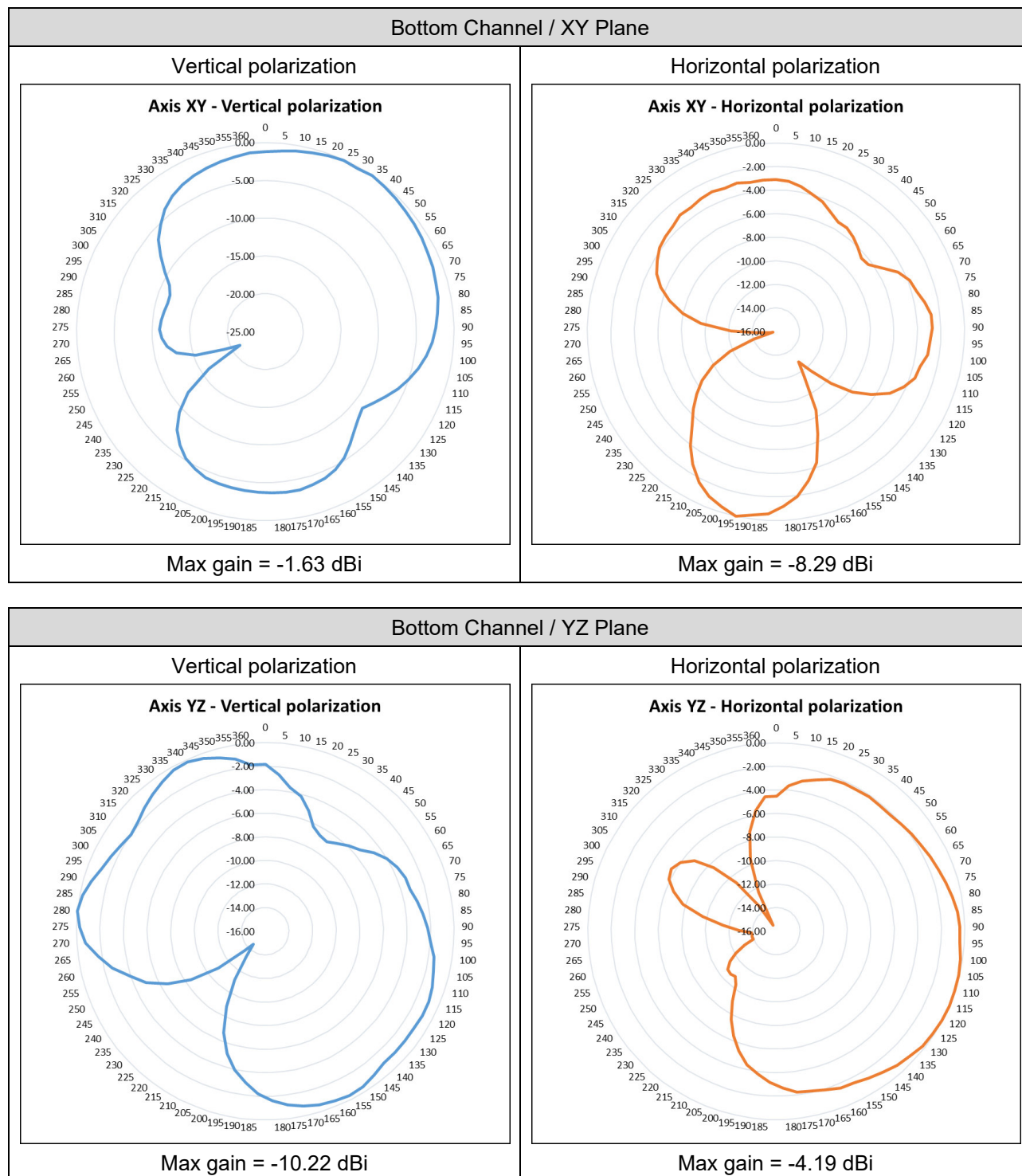
Results

UL Sample Tag No.: 8804389

Channel	Nominal Frequency (MHz)	Conducted Output Power (dBm)	Max. EIRP (dBm)	Calculated Gain (dBi)
Bottom	2402	-5.43	-7.06	-1.63
Advertising (38)	2426	-6.05	-6.87	-0.82
Middle	2440	-6.38	-8.41	-2.03
Top	2480	-6.76	-9.36	-2.60

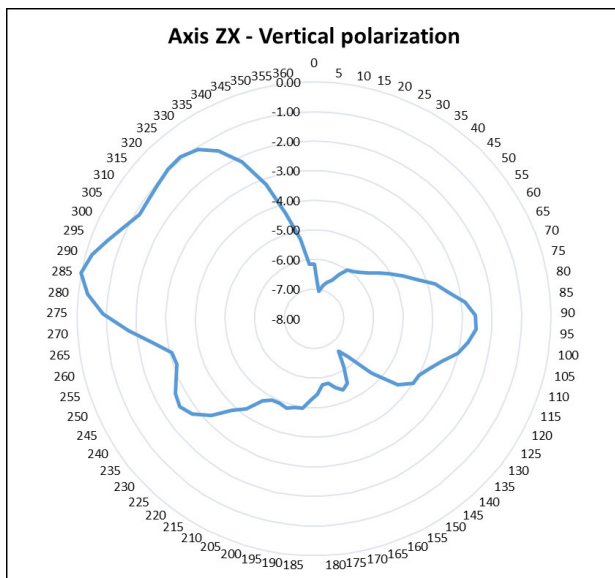
Plots

UL Sample Tag No.: 8804389



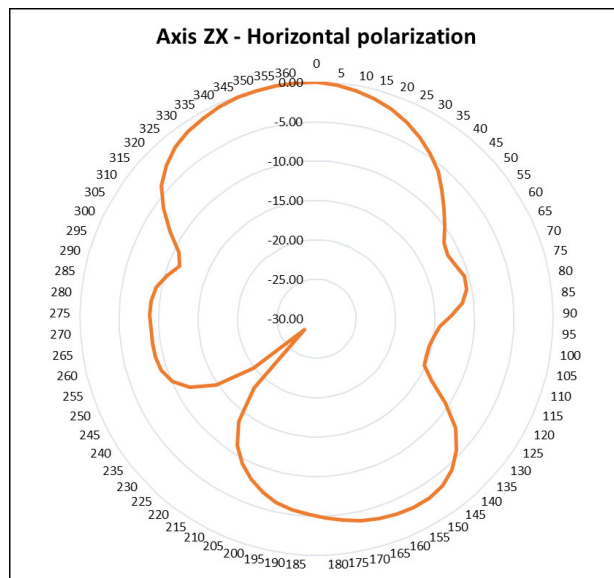
Bottom Channel / ZX Plane

Vertical polarization



Max gain = -5.31 dBi

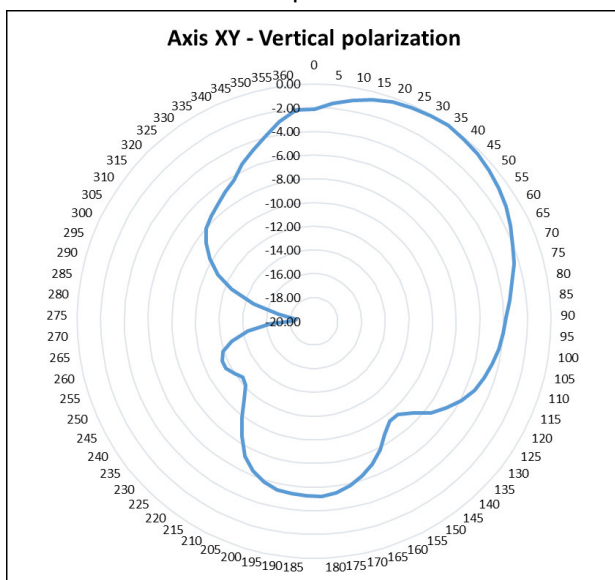
Horizontal polarization



Max gain = -1.88 dBi

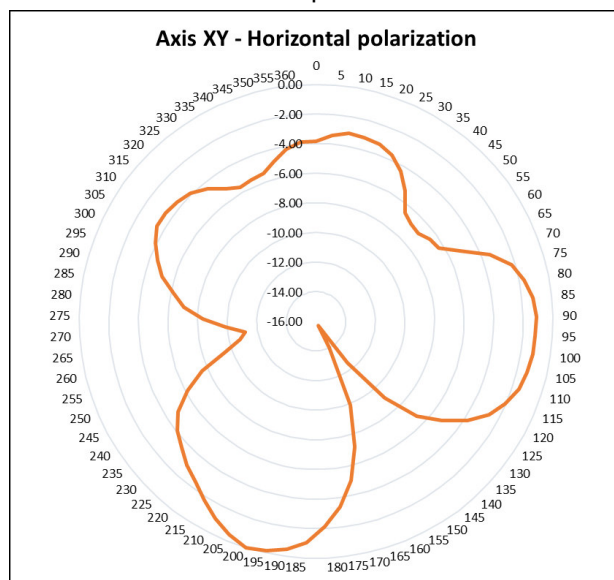
Advertising Channel (38) / XY Plane

Vertical polarization



Max gain = -0.82 dBi

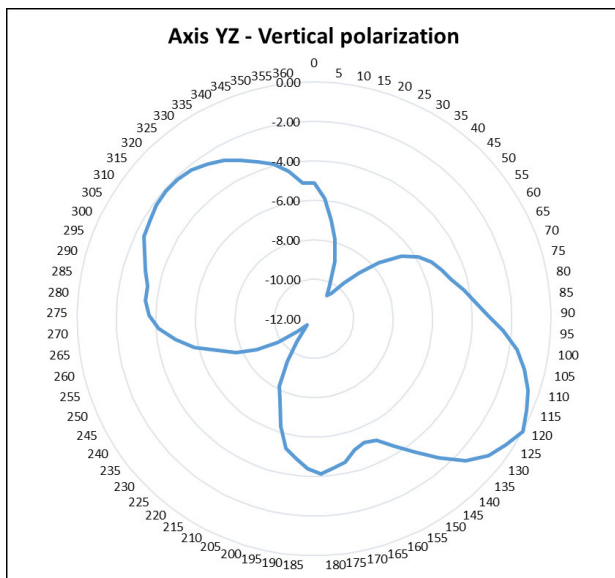
Horizontal polarization



Max gain = -9.89 dBi

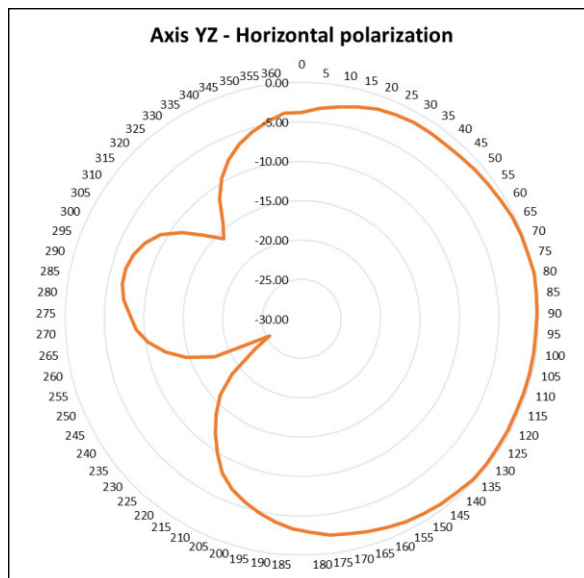
Advertising Channel (38) / YZ Plane

Vertical polarization



Max gain = -8.58 dBi

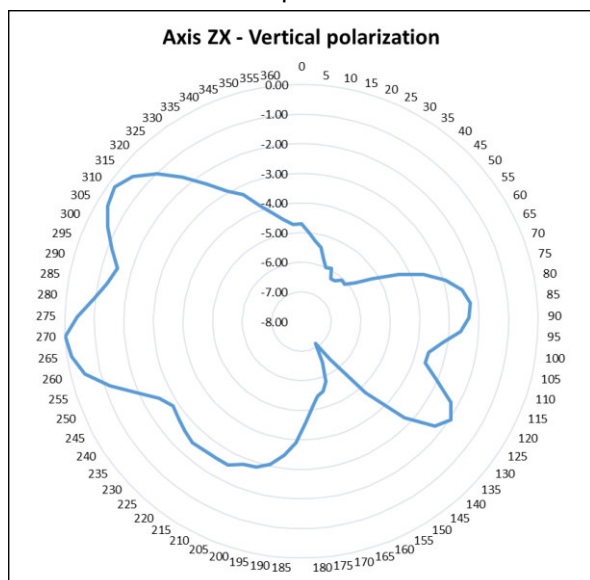
Horizontal polarization



Max gain = -5.04 dBi

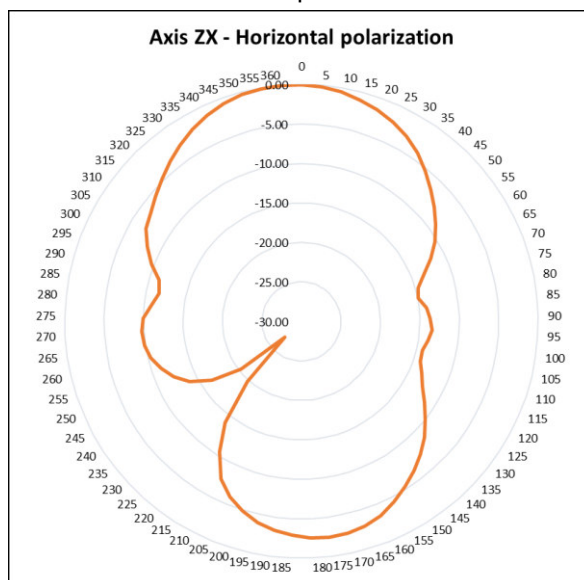
Advertising Channel (38) / ZX Plane

Vertical polarization



Max gain = -5.85 dBi

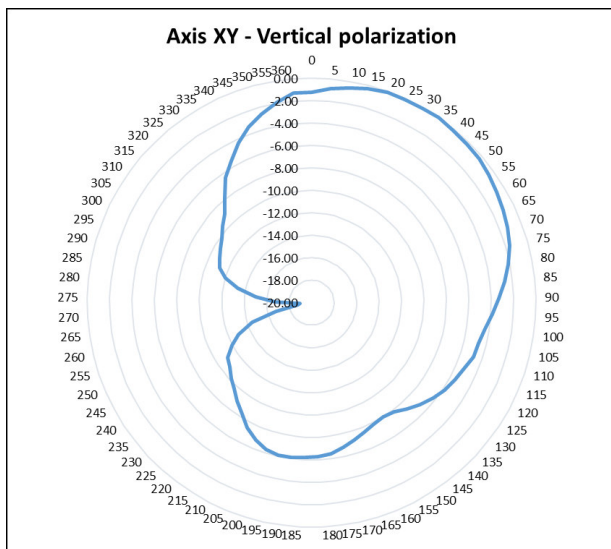
Horizontal polarization



Max gain = -1.80 dBi

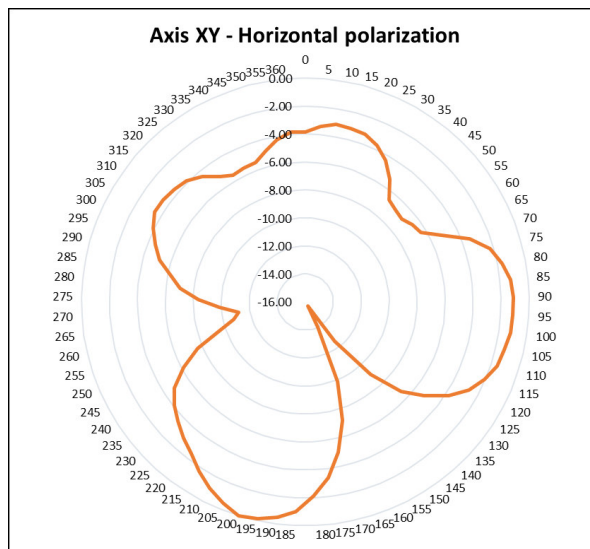
Middle Channel / XY Plane

Vertical polarization



Max gain = -2.03 dBi

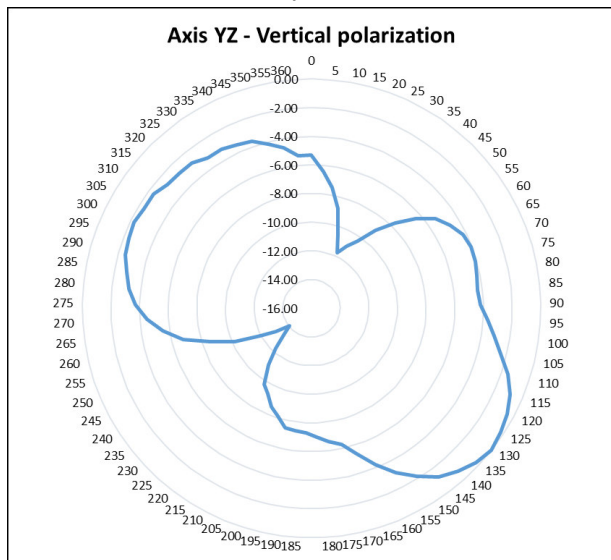
Horizontal polarization



Max gain = -9.83 dBi

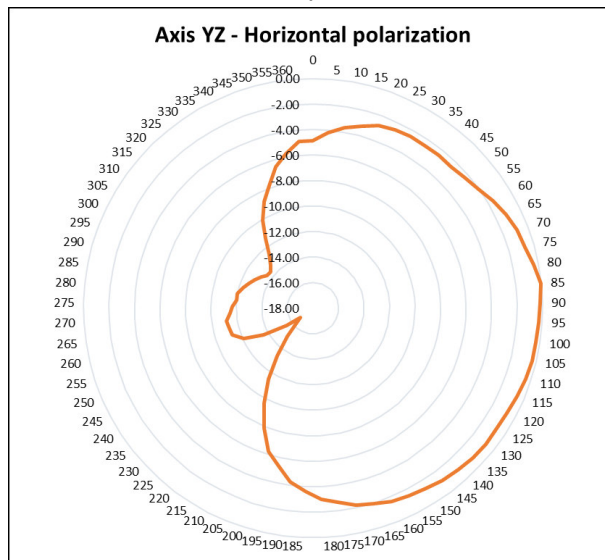
Middle Channel / YZ Plane

Vertical polarization



Max gain = -9.56 dBi

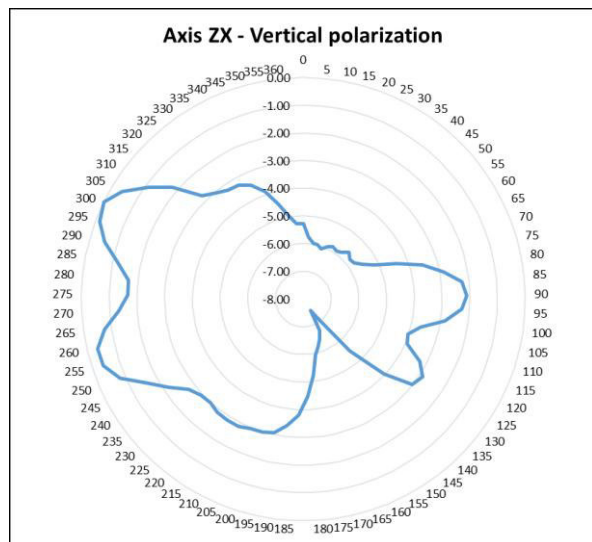
Horizontal polarization



Max gain = -4.79 dBi

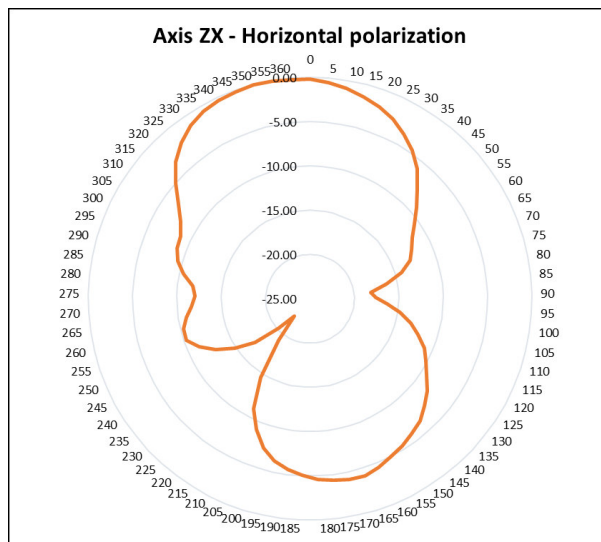
Middle Channel / ZX Plane

Vertical polarization



Max gain = -5.99 dBi

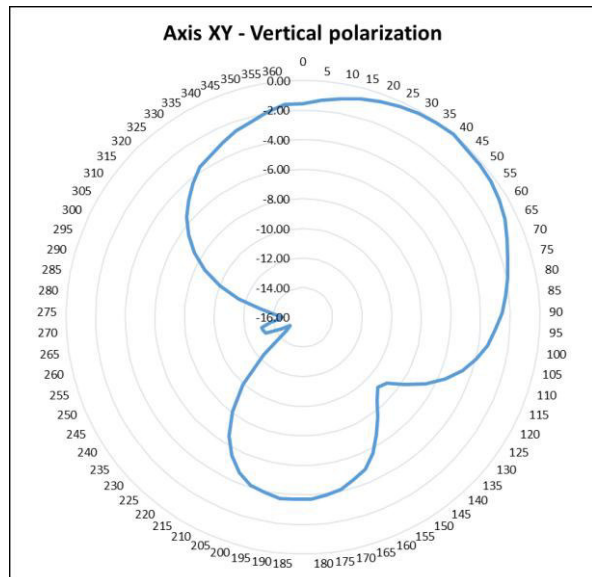
Horizontal polarization



Max gain = -2.17 dBi

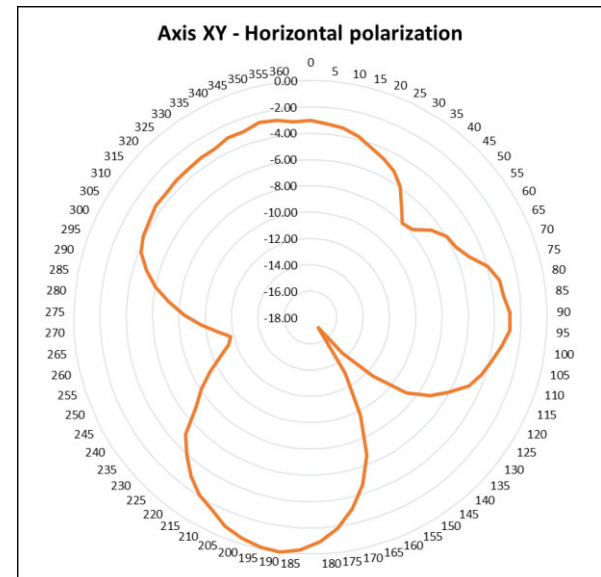
Top Channel / XY Plane

Vertical polarization



Max gain = -2.91 dBi

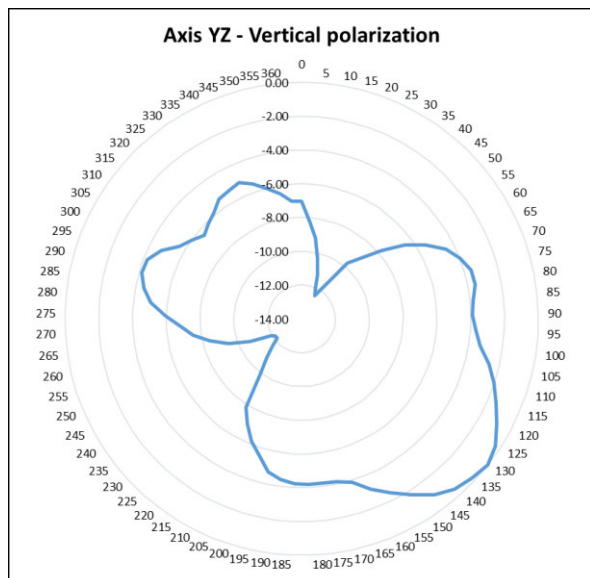
Horizontal polarization



Max gain = -9.64 dBi

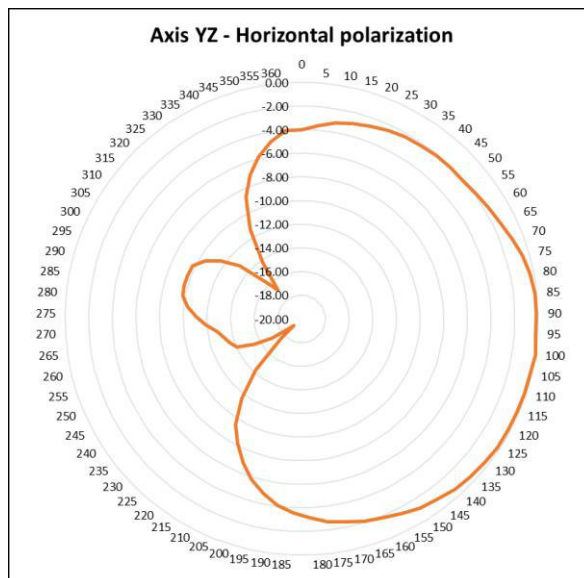
Top Channel / YZ Plane

Vertical polarization



Max gain = -10.54 dBi

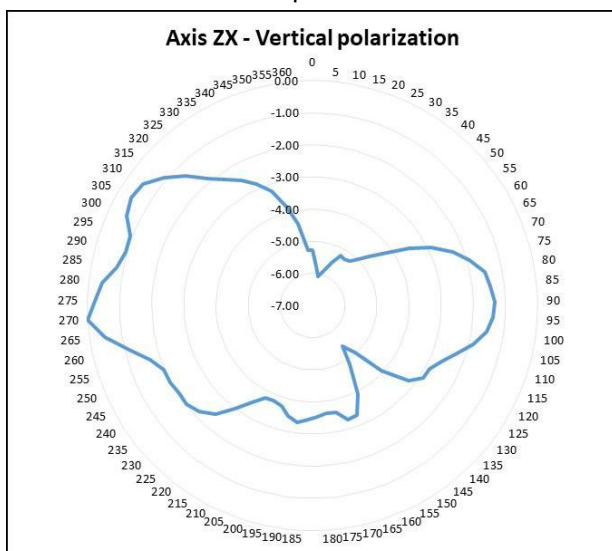
Horizontal polarization



Max gain = -4.59 dBi

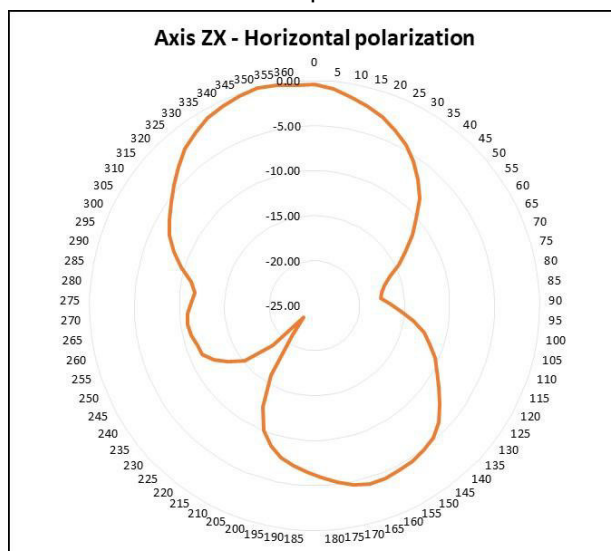
Top Channel / ZX Plane

Vertical polarization



Max gain = -6.92 dBi

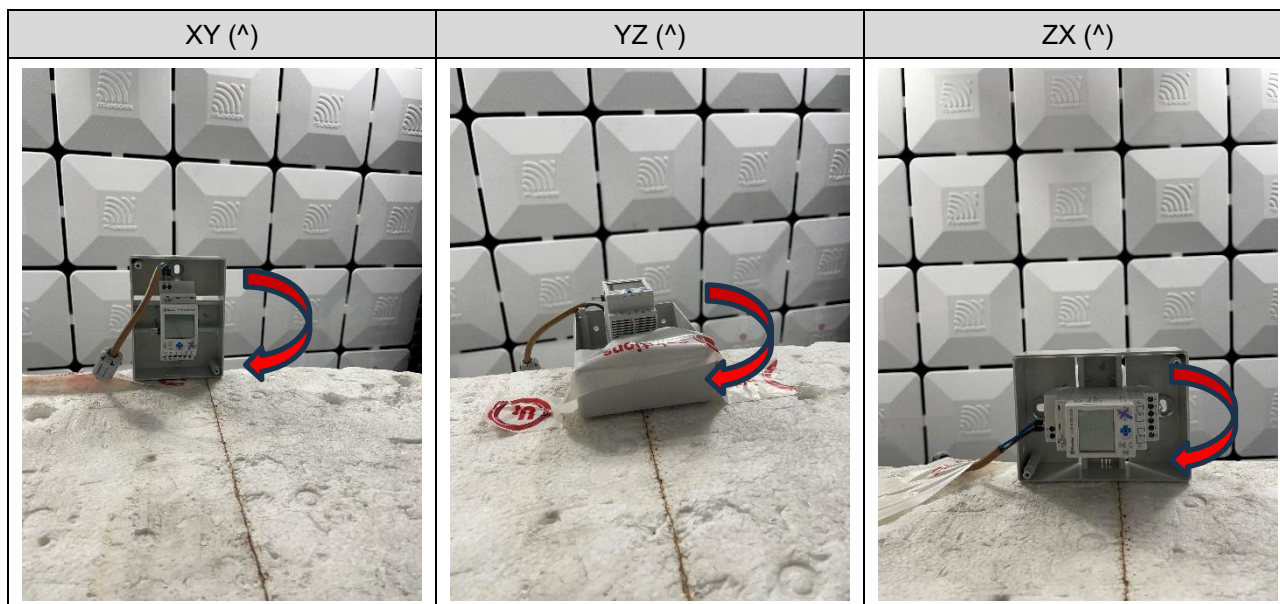
Horizontal polarization



Max gain = -2.60 dBi

Description of measurement axis

UL Sample Tag No.: 8804389



(^) 0°, antenna point of view, clockwise rotation

4 List of test equipment

Equipment	Type	Inventory Number	Manufacturer	Serial Number	Last Calibration Date	Calibration Due Date
Test Stand: Transmitter Maximum (Peak) Output Power						
Signal and Spectrum Analyzer 44 GHz	FSV3044	213658	Rohde & Schwarz	101224	2025-06-12	2026-03-28
Cable SK252 40GHz	SF102/11SK/11SK/900mm	213660	Huber+Suhner	40421/2	2025-01-09	2026-01-28
RF Cable Assemblies 150MM IPEX TO SMA FEMALE BULKHEAD 1.13 MM CABLE	ASMG015X113S17	234871	Siretta	-	2025-03-24	2026-03-28
Test Stand: Transmitter Radiated Output Power						
Double Ridged Broadband Horn Antenna	BBHA 9120 D	216967	Schwarzbeck Mess-Elektronik OHG	02653	2025-02-14	2028-02-28
Cable 2000m - 18GHz	SF126/11N/11SMA/2000MM	235357	Huber+Suhner	505352	2025-04-28	2026-04-28
Cable 6000mm - 0.04 to 18 GHz	SF126E/600-2X11N47	216879	Huber+Suhner	583800/126E	2025-03-24	2026-03-28
Center, Modular RF Platform	7000-011	216970	ETS-Lindgren	00242554	-	-
Anechoic Chamber	FAR 3-1.2	216963	ETS-Lindgren	-	-	-
Absorber High Frequency	EHP-12	212616	ETS-Lindgren	-	-	-
Radio Site	Radio Site FAR 3-1.2	217182	ETS-Lindgren	None	2025-05-28	2026-05-28
Signal and Spectrum Analyzer 44 GHz	FSV3044	213658	Rohde & Schwarz	101224	2025-06-12	2026-03-28
Software - EMC	BAT-EMC	156535	Nexio Technologies	-	-	-
SVSWR Anechoic Chamber	SVSWR FAR 3-1.2	216965	ETS-Lindgren	None	2025-08-28	2028-08-28
Test Stand: Auxiliary						
Isolated voltage variac (60 Hz)	T40NC-6	80699	BELOTTI VARIATORI	-	-	-
CLIMATIC CENTRAL UNIT (SACs side)	iBTHX-W	70611	Omega Engineering Inc.	1040495	2025-04-28	2026-04-28
Laser Measure	RSLDM-50H	224436	RS Pro	210743764	2023-11-10	2025-11-28
TRUE-RMS DIGITAL MULTIMETER	289	169495	Fluke Corporation	40780217	2025-04-28	2027-04-28
Tape Measure	5.0 m	173756	TAJIMA	None	2022-11-07	2025-11-28
Mini Datalogger (FAR3)	174H	217568	Testo	83293318	2025-04-28	2026-04-28

5 Measurement Uncertainty

The Uncertainty of Measurement (UoM) for each unit measured in this Test Report was estimated in accordance with the UL International Italia document No. ULID-005850 and is retained on file. Details of the estimation of UoM may be made available upon request, in particular for quantities not listed.

Measurement	Range	Ulab	Unit
Frequency	9 kHz to 40 GHz	0.5	kHz
Time	0.7 μ s to 16000 s	3.00	%
Conducted power, by spectrum analyzer	9 kHz to 40 GHz	0.51	dB
Conducted power, by fast power meter	9 kHz to 8 GHz	0.49	dB
Temperature (ambient)	15 to 35 $^{\circ}$ C	0.72	$^{\circ}$ C
Temperature (climatic chamber)	-40 to 100 $^{\circ}$ C	1.63	$^{\circ}$ C
Humidity (ambient)	30 to 70 %	5.76	%RH
Humidity (climatic chamber)	30 to 95 %	3.95	%RH
Supply voltage (AC)	0 to 500 V	3.00	%
Supply voltage (DC)	0 to 15 V	0.28	%
Conducted disturbance at mains and other port power using V-AMN	9 kHz to 150 kHz	3.71	dB
Conducted disturbance at mains and other port power using V-AMN	150 kHz to 30 MHz	3.36	dB
Radiated disturbance (magnetic field using a loop antenna)	9 kHz to 30 MHz	3.16	dB
Radiated disturbance (electric field strength in SAC 3, hybrid antenna, Hor)	30 MHz to 1000 MHz	4.22	dB
Radiated disturbance (electric field strength in SAC 3, hybrid antenna, Ver)	30 MHz to 1000 MHz	5.64	dB
Radiated disturbance (electric field strength in SAC 5, hybrid antenna, Hor)	30 MHz to 1000 MHz	3.98	dB
Radiated disturbance (electric field strength in SAC 5, hybrid antenna, Ver)	30 MHz to 1000 MHz	5.66	dB
Radiated disturbance (electric field strength in FSOATS 3) (1)	1 GHz to 6 GHz	5.43	dB
Radiated disturbance (electric field strength in FSOATS 3) (2)	1 GHz to 6 GHz	4.29	dB
Radiated disturbance (electric field strength in FSOATS 3) (1)	6 GHz to 18 GHz	5.18	dB
Radiated disturbance (electric field strength in FSOATS 3) (2)	6 GHz to 18 GHz	4.22	dB
Radiated disturbance (electric field strength in FSOATS 5) (1)	1 GHz to 6 GHz	5.12	dB
Radiated disturbance (electric field strength in FSOATS 5) (2)	1 GHz to 6 GHz	4.13	dB
Radiated disturbance (electric field strength in FSOATS 5) (1)	6 GHz to 18 GHz	5.63	dB
Radiated disturbance (electric field strength in FSOATS 5) (2)	6 GHz to 18 GHz	4.54	dB
Radiated disturbance (electric field strength in FSOATS 3) (1)	18 GHz to 40 GHz	7.63	dB
Radiated disturbance (electric field strength in FSOATS 5) (1)	18 GHz to 40 GHz	7.63	dB
Radiated Spurious Emission (ERP/EIRP, Substitution Method)	25 MHz to 26 GHz	5.97	dB

Legend/Remarks:

n.d.: not defined

(1) Using external EMI preamplifier.

(2) Not using external EMI preamplifier.

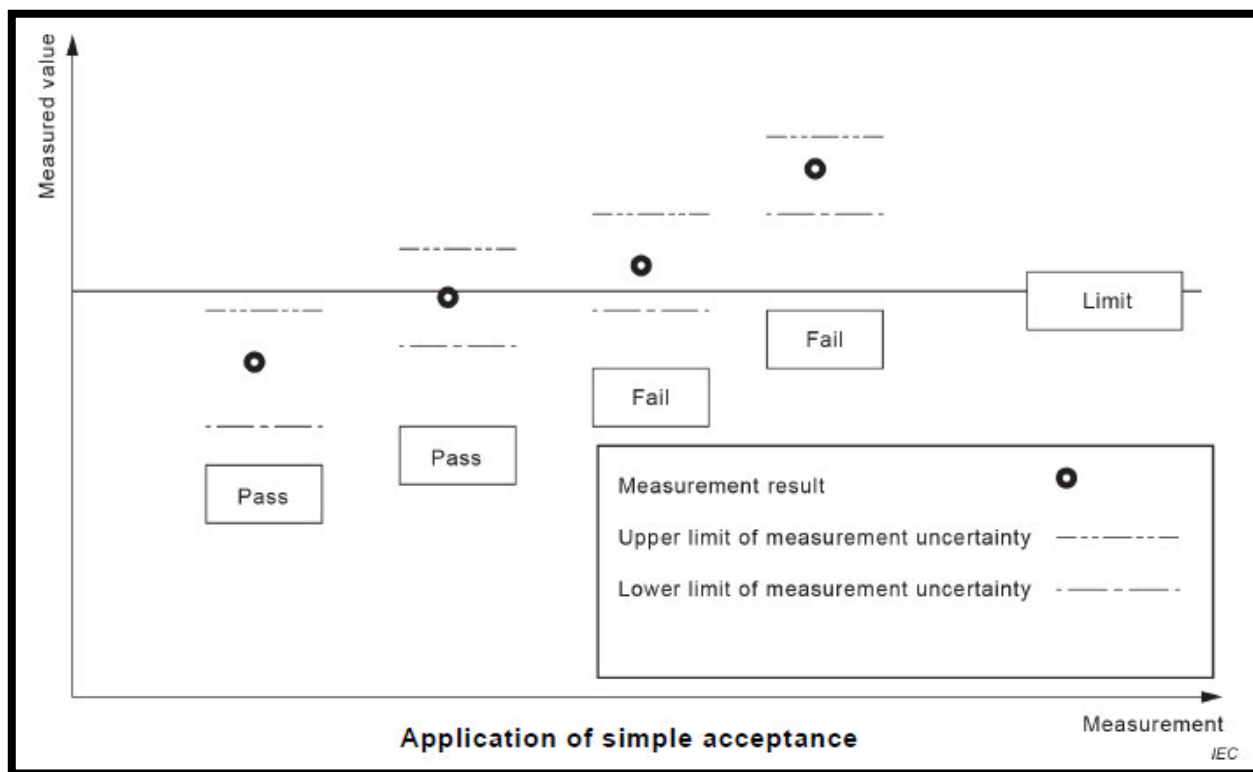
Supplementary information:

- The measurement uncertainty values are calculated and correspond to an expansion factor (coverage factor) $k = 2$ (which provide confidence level of 95.45 % in the case where the distributions characterizing the actual measurement uncertainties are normal (Gaussian)).

- Listed values are intended with prefix " $\pm$ ".

Decision Rule

Conformity statements in this report are decided in accordance with IEC Guide 115:2023, Simple Acceptance.



6 Photos of EUT

Photo 1 (front side)



Photo 2 (right side)



Photo 3 (rear side)



Photo 4 (left side)



Photo 5 (top side)

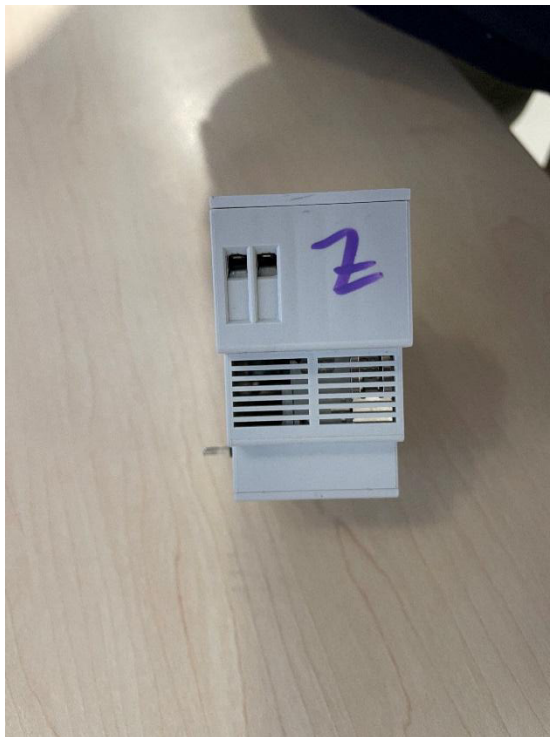


Photo 6 (bottom side)



< END OF TEST REPORT >