



EMC Test Report

For

Cooper Industries (Electrical) Inc.

Bldg. 74 - 1833 Coast Meridian Road, Port Coquitlam BC V3C-6G5

Equipment:	Antenna
Model Number:	ACAB-2804-03
Project No.:	25-5543
Report No.:	20.01.25-5543-2
Revision No.:	0
Date:	2026-01-06

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ISO 17025 ACCREDITED

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205 – 8291 92 Street, Delta, BC
V4G 0A4, Canada
Phone: 604-247-0444
Fax: 604-247-0442 www.labtestcert.com

ISO 17065 ACCREDITED

Prepared by: LabTest Certification Inc.
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RF Test Report		
Report Reference No.	20.01.25-5543-2	
Compiled by	Jack Qin	
Approved by	Zara Vali	
Date of issue	2026-01-06	
Total number of pages	12	
Testing Laboratory	LabTest Certification Inc.	
Address	Delta Lab: Unit 205 – 8291 92 St., Delta, BC, V4G 0A4 Canada Richmond Lab: 3128 – 20800 Westminster HWY, Richmond, B.C.	
Lab's Registration No.	721268	
FCC Site Registration No.	CA5970	
IC Site Registration No.	5970A-2	
Applicant's name	Cooper Industries (Electrical) Inc.	
Address	Bldg. 74 - 1833 Coast Meridian Road, Port Coquitlam BC V3C-6G5	
Standard	ANSI/IEEE C63.10-2020	
Verdict Summary	In- compliance according to the test cases in the verdict summary. Accredited test report	

Competences and Guarantees:

We, LabTest, are a testing laboratory competent to carry out the tests described in this report. To assure the traceability to other national and international laboratories, we have a calibration and maintenance program for its measurement equipment. We guarantee the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at LabTest at the time of performance of all tests. We are liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of our test. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.

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Document History

Revision	Date	Reason for Change	Author
0	2026-01-06	Initial Data	Jack Qin

Abbreviations

For the purpose of the present document, the following abbreviations apply:

Ant. Pol.: Antenna Polarization
AF: Antenna Factor
AVG: Average
BW: Bandwidth
CAV: CISPR Average
CDN: Coupling Decoupling Network
EUT: Equipment Under Test
FAC: Fully Anechoic Chamber
GRP: Ground Reference Plane
HCP: Horizontal Coupling Plane
NA: Not Applicable
QP: Quasi-Peak
RBW: Resolution Bandwidth
SAC: Semi-Anechoic Chamber
 U_N : Nominal Voltage
VBW: Video Bandwidth
VCP: Vertical Coupling Plane

1.0 Test Conditions

1.1 Measurement uncertainties

For all measurements where guidance for the calculation of the instrumentation uncertainty of a measurement is specified in CISPR 16-4-2/EN55016-4-2, IEC/EN 61000-4 series or a product standard, the measurement instrumentation uncertainty has been calculated and applied in accordance with these standards.

The tables below show measurement uncertainties of each test set-ups. Uncertainties have been calculated according to the LabTest internal documents. The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%.

Emission Tests	Uncertainty	U _{CISPR}
Radiated Emissions; 300MHz – 1000MHz (Horz.)	± 4.79 dB	5.34 dB
Radiated Emissions; 300MHz – 1000MHz (Vert.)	± 4.79 dB	6.32 dB

1.2 Environmental reference conditions

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment. If explicitly required in the basic standard or applied product standard the climatic values are recorded and documented separately in this test report. The climatic conditions during the tests were within the following limits:

Temperature	Humidity	Atmospheric pressure
15 °C – 35 °C	30 % - 60 %	860 kPa – 1060 hPa

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2.0 EUT (Equipment Under Test) Information

2.1 General description of EUT

EUT Name	Antenna
Model Number	ACAB-2804-03
Serial Number	N/A
Manufacturer	Cooper Industries (Electrical) Inc
Frequency	900 MHz
EUT Picture	



3.0 Verdict Summary

The tables provided outline the test items and their respective results, conducted in accordance with the standards specified in quote “2550”, which represents an agreement between LabTest and Cooper Industries (Electrical) Inc. It is important to note that the listed tests may not cover all aspects of the standards’ requirements. For test methods, the latest versions are referenced unless otherwise stated. The detailed test results are presented in the following section.

Test Description	Test Standards	Result
Maximum Antenna gain at 900 MHz	ANSI/IEEE C63.10-2020	-2.03 dBi

4.0 Emission Test Results

4.1 Maximum Antenna gain at 900 MHz

Standards	ANSI/IEEE C63.10-2020
Test Engineer	Jack Qin
Test date	2025-11-05
Maximum Antenna gain	-2.03 dBi

Test method

The AUT (Antennas Under Test) is mounted on a non-conductive turntable with 80 cm high to allow full rotation in azimuth and tilt in elevation. The input power, P_{in} , is applied from a signal generator through a low-loss cable, with all line losses carefully measured. A field probe or calibrated measurement antenna is placed at the standard 3 m distance to capture the radiated field. The chamber should be verified for minimal reflections and proper absorption, ensuring that measurements approximate free-space conditions.

The measurement procedure involves scanning the AUT through all orientations to locate the direction of **maximum radiated power**. The received power at this point, $P_{r,max}$, is corrected for cable losses, amplifier gain, and probe calibration factor. This gives the maximum **EIRP**:

$$EIRP_{max} = P_{r,max} \cdot 4\pi R^2.$$

or $EIRP_{max} \text{ (dBm)} = P_{r,max} \cdot (\text{dBuV/m}) - 95.23 \text{ at } R = 3 \text{ meters}$

The maximum antenna gain is then calculated using:

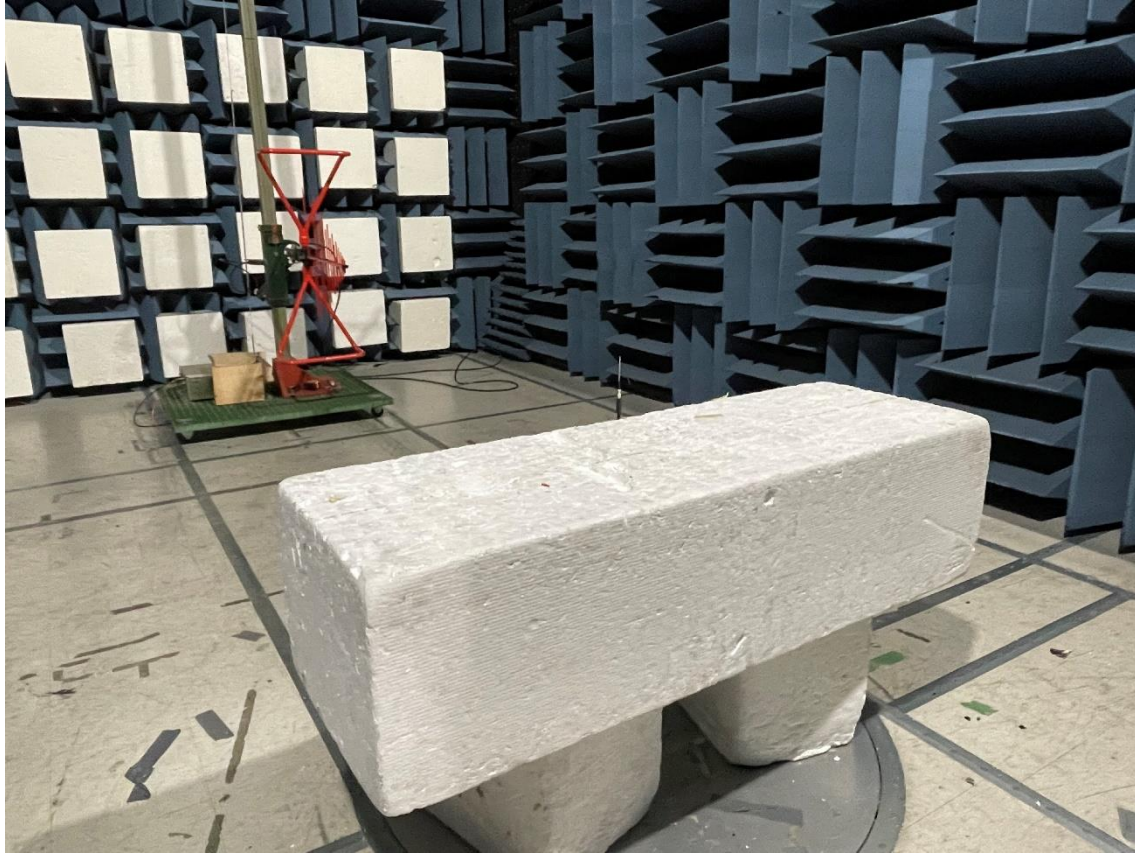
$$G_{max} = \frac{EIRP_{max}}{P_{in}}.$$

or $G_{max} \text{ (dB)} = EIRP_{max} \text{ (dBm)} - P_{in} \text{ (dBm)}$

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Test setup



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Test results

Horizontal Position

Frequency	Antenna Polarization	Raw Peak	Antenna Factor	Cable Loss	RF Peak Power at 3 m	EIRP	Conducted Power at Antenna Port	Antenna Gain
MHz	V/H	dBuV	dB/m	dB	dBuV/m	dBm	dBm	dBi
910	V	75.32	25.6	4.7	105.62	10.39	14	-3.61
910	H	76.9	25.6	4.7	107.2	11.97	14	-2.03

Vertical Position

Frequency	Antenna Polarization	Raw Peak	Antenna Factor	Cable Loss	RF Peak Power at 3 m	EIRP	Conducted Power at Antenna Port	Antenna Gain
MHz	V/H	dBuV	dB/m	dB	dBuV/m	dBm	dBm	dBi
910	V	72.91	25.6	4.7	103.21	7.98	14	-6.02
910	H	64.9	25.6	4.7	95.2	-0.03	14	-14.03

Remark: 1) RF Peak Power = Raw Peak + Antenna Factor + Cable loss
2) EIRP = RF Peak Power -95.23
3) Antenna Gain = EIRP - Conducted Power

Appendix A. List of Test Equipment

Equipment	Manufacturer	Model	LabTest ID	Last calibration	Calibration due*
Broadband Antenna	Sunol	JB1	371	2025-01-13	2027-01-13
EMC Analyzer	Keysight	N9038A	702	2025-10-22	2026-10-22
Motion Controller	Sunol	SC104V	235A	IHC	IHC
Antenna Tower	Sunol	TWR95-4	235B	IHC	IHC
Turn Table	Sunol	SM46C	235C	IHC	IHC
EMC Shielded Enclosure	USC	USC-26	374	IHC	IHC
RF Cable	A.H. Systems	SAC-26G-3	227D	IHC	IHC
RF Cable	MRO	NA	NA	IHC	IHC

* Calibration interval extended based on enough calibration data and experience of use (see IECEE OD5011:2015 clause 8.3)

Appendix B. ISO 17025 Accreditation Certificate

For complete scope of certification use:

https://labtestcert.com/wp-content/uploads/2024/04/LabTest-Certification-Inc-Cert-and-Scope-File-03-122024_1710259791.pdf

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