Ets Georges Renault

TEST REPORT

SCOPE OF WORK
FCC Testing–SCAN2D-P, SCAN2D-A, SCAN2D-AE

REPORT NUMBER
220325038SZN-001

ISSUE DATE **[REVISED DATE]**

13 May 2022 [----------]

PAGES
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TEST REPORT

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Intertek Report No.: 220325038SZN-001

LABORATORY MEASUREMENTS

Pursuant To
FCC 47 CFR Part 15: 2020,
and ANSI C63.4: 2014, ICES-003: 2020
Supplier's Declaration of Conformity Report

Applicant / Company:	Ets Georges Renault 38, rue Bobby Sands 44818 Saint-Herblain FRANCE
Equipment Under Test (EUT):	
Product Description:	Scanner
Model:	SCAN2D-P, SCAN2D-A, SCAN2D-AE
Brand Name:	Desoutter
Equipment Type:	Class B Device
Sample Receipt Date:	01 April 2022
Test Conducted Date:	01 April 2022 to 08 April 2022
Issue Date:	13 May 2022
Test Site and Location:	Intertek Testing Services Shenzhen Ltd. Longhua Branch 101, 201, Building B, No. 308 Wuhe Avenue, Zhangkengjing Community, GuanHu Subdistrict, LongHua District, Shenzhen, P.R. China
Conclusion:	The sample as received complied with the FCC 47 CFR Part 15 requirement. The test results of digital device portion in FCC test report are deemed satisfactory evidence of compliance with Industry Canada Interference – Causing Equipment Standard ICES-003.

Prepared and Checked by:

Karot Huang
Assistant Engineer

Approved by:

Peter Kang
Senior Technical Supervisor

TABLE OF CONTENTS

1. GENERAL INFORMATION

1.1 Client Information

Applicant:	Ets Georges Renault

1.2 General Description of EUT

Product Description:	Scanner
Model No.:	SCAN2D-P
Serial No.:	Not Labelled

1.3 Details of EUT

Rated Voltage:	DC 5V
Battery Voltage:	N/A
Support Equipment:	DC Power Supply DELL Laptop (Latitude 3410) (Provided by Intertek)
Cables:	Not Applicable
Adaptor:	Not Applicable

For more detail features, please refer to user's Manual.

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2. TEST SUMMARY

Test	Standard	Class	Result
Radiated Emission	FCC 47 CFR Part 15 Section 15.109 ICES-003: 2020 Clause 3.2.2	Class B	Pass

Remark:

1. The Model: SCAN2D-A, SCAN2D-AE are the same as the Model: SCAN2D-P in hardware aspect. The difference in model number serves as marketing strategy.

2. EUT is attached to a battery nutunner to provide power supply and send specific commands from using a eDock module and an external computer. Conformity of eDock module and battery nutunner is not evaluated.

3. Enclosed please find the FCC and Canadian Labelling and Instruction Manual and Canadian Emissions Requirements.

3.1 Standards

The radiated emission test was performed according to the procedures in ANSI C63.4: 2014. Test results are in compliance with the requirements of FCC Part 15: 2020. The EUT is battery operating device, the conducted emission is unnecessary. (DC)

The EUT setup configuration please refers to the photo of test configuration in item.

3.2 Definition of Device Classification

Unintentional radiator:
A device which is not intended to emit RF energy by radiation or induction.

Class A Digital Device:
A digital device which is marketed for use in commercial or business environment.

Class B Digital Device:
A digital device which is marketed for use by the general public or in a residential environment.

Note:
A manufacturer may also qualify a device intended to be marketed in a commercial, business or industrial environment as a Class B digital device, and in fact is encouraged to do so, provided the device complies with the technical specifications for a Class B Digital Device. In the event that a particular type of device has been found to repeatedly cause harmful interference to radio communications, the Commission may classify such a digital device as a Class B Digital Device, Regardless of its intended use.

3.3 EUT Operation Condition

The EUT was powered by DC 5V with battery and was running in accordance with the manufacturer's operation manual.

3.4 Test Software

Description	Manufacturer	Model No.
EMI Test Software	R&S	EMC32-ME+

4. RADIATED EMISSION MEASUREMENTS (FCC 15.109)

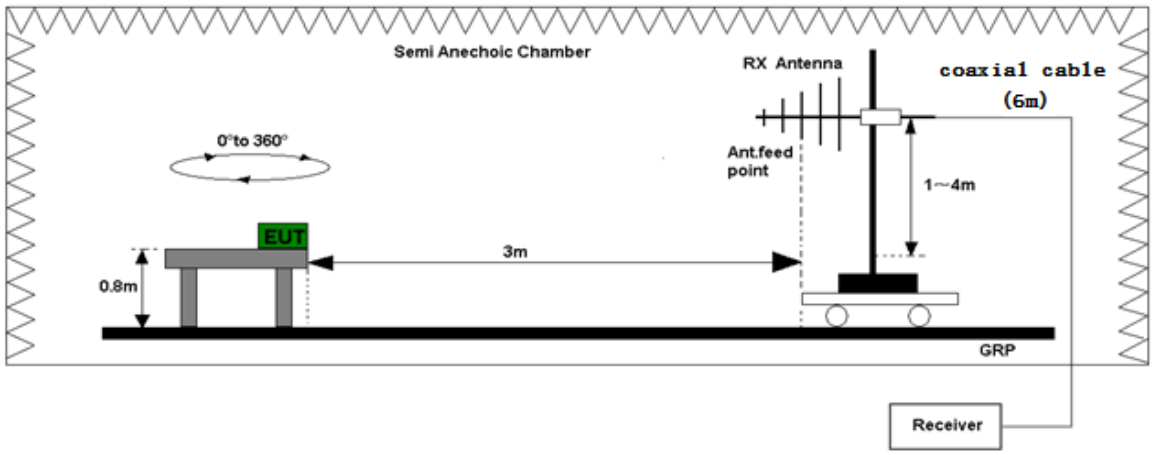
4.1 Operating Environment

Temperature: 21.9°C Test Voltage: 120 VAC, 60 Hz

4.2 Test Setup and Procedure

The figure below shows the test setup, which is utilized to make these measurements.

The frequency spectrum from 30MHz to 1000MHz was investigated.



(Radiated Emission Measurements Test Setup for 30MHz to 1GHz)

For tabletop equipment, the equipment under test was placed on the top of rotation table 0.8 meter above ground plane. For floor-standing equipment, the EUT and all cables were insulated, if required, from the ground plane by up to 12 mm of insulating material.

The table was 360 degrees to determine the position of the highest radiation.

EUT is set 3 meters from the EMI receiving antenna, which is mounted on a variable height mast. The antenna height is varied between one meter and four meters above ground to find the maximum value of the field strength. Both horizontal polarization and vertical polarization of the antenna are set to make the measurement. The bandwidth was setting on the EMI meter 120 kHz for 30MHz to 1GHz.

The levels are quasi peak value readings. The frequency spectrum from 30MHz to 1000MHz was investigated.

The EUT setup configuration please refers to the photo of test configuration in Appendix B.

4.3 Test Equipment

Equip No.	Description	Manufacturer	Model No.	Cal. Date	Due Date
SZ185-03	EMI Receiver	R & S	ESCI	20 Dec 2021	20 Dec 2022
SZ061-12	Biconilog Antenna	ETS	3142E	04 Aug 2021	04 Aug 2024
SZ188-01	Anechoic Chamber	ETS	RFD-F/A-100	12 Dec 2021	12 Dec 2024

4.4 Radiated Emission Limits

According to FCC 15.109, except for Class A digital device, the field strength of radiated emission from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Class B Radiated Emission Limits:

Frequency MHz	Field Strength dBμV/m
30-88	40.0
88-216	43.5
216-960	46.0
Above 960	54.0

According to ICES-003: 2020 Clause 3.2.2, except for Class A ITE, the field strength of radiated emission from ITE at a distance of 3 meters shall not exceed the following values:

Class B Radiated Emission Limits:

Frequency MHz	Field Strength dBμV/m
30-88	40.0
88-216	43.5
216-230	46.0
230-960	47.0
Above 960	54.0

4.5 Uncertainty of Radiated Emission

When determining the test conclusion, the Measurement Uncertainty of test has been considered. The measurement uncertainty is 4.8dB at a level of confidence of 95%.

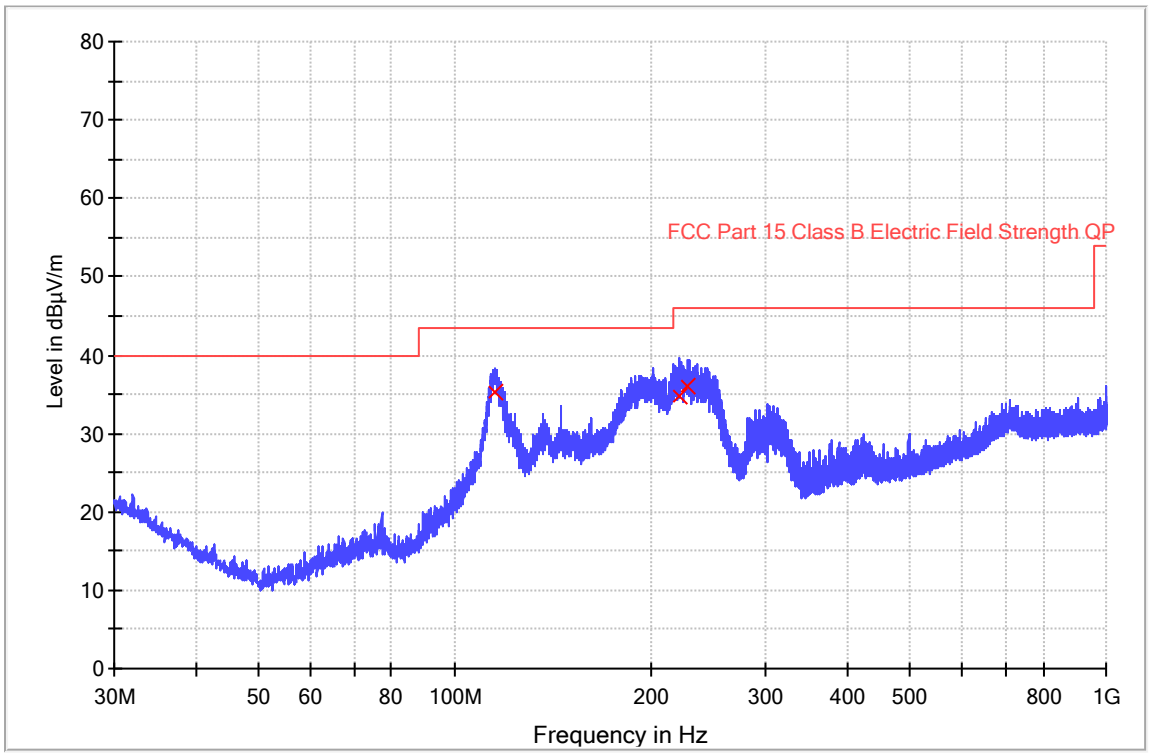
4.6 Radiated Emission Test Data

The graphic and data table consisting of the worst-case testing result were attached in the following pages.

Graphic / Data Table

Radiated Scan
Pursuant to FCC 15.109: Emissions Requirement (30MHz-1000MHz)

Horizontal



Limit and Margin

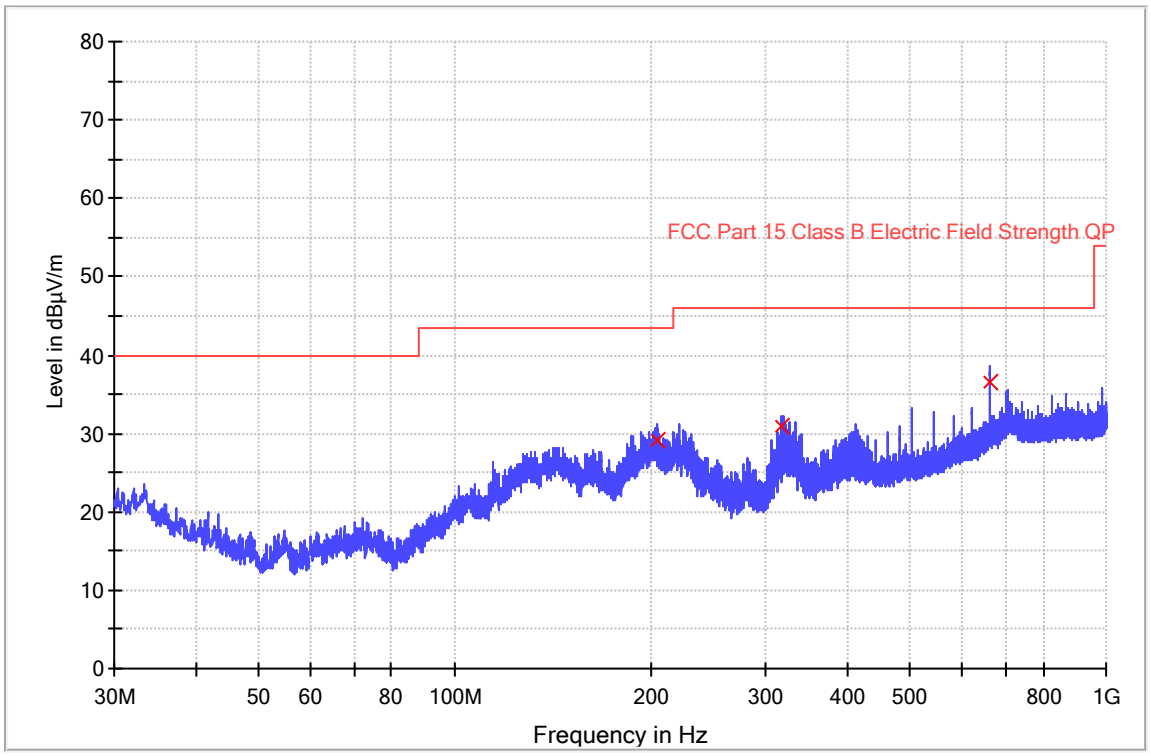
Frequency (MHz)	Quasi Peak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
115.618667	35.3	1000.0	120.000	H	14.6	8.2	43.5
221.639667	34.9	1000.0	120.000	H	19.7	11.1	46.0
228.300333	36.0	1000.0	120.000	H	19.8	10.0	46.0

Remark:
1. Corr.(dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)
2. Quasi Peak (dBµV/m) = Corr. (dB/m) + Read Level (dBµV)
3. Margin (dB) = Limit Line (dBµV/m) – Level (dBµV/m)

Graphic / Data Table

Radiated Scan
Pursuant to FCC 15.109: Emissions Requirement (30MHz-1000MHz)

Vertical

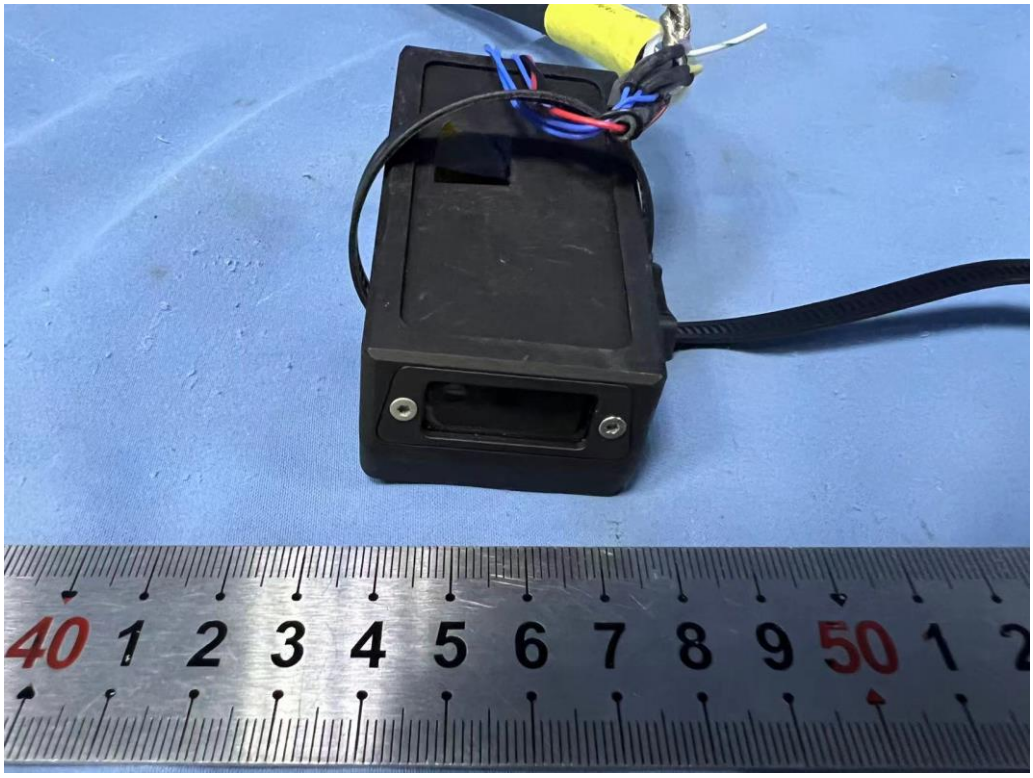


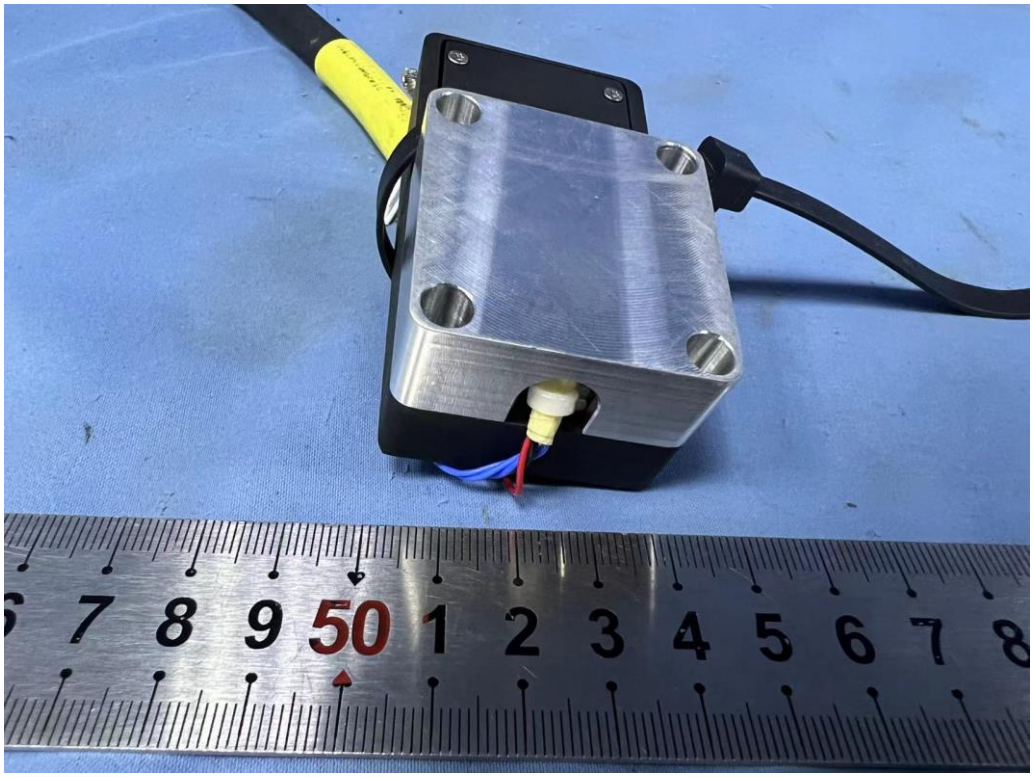
Limit and Margin

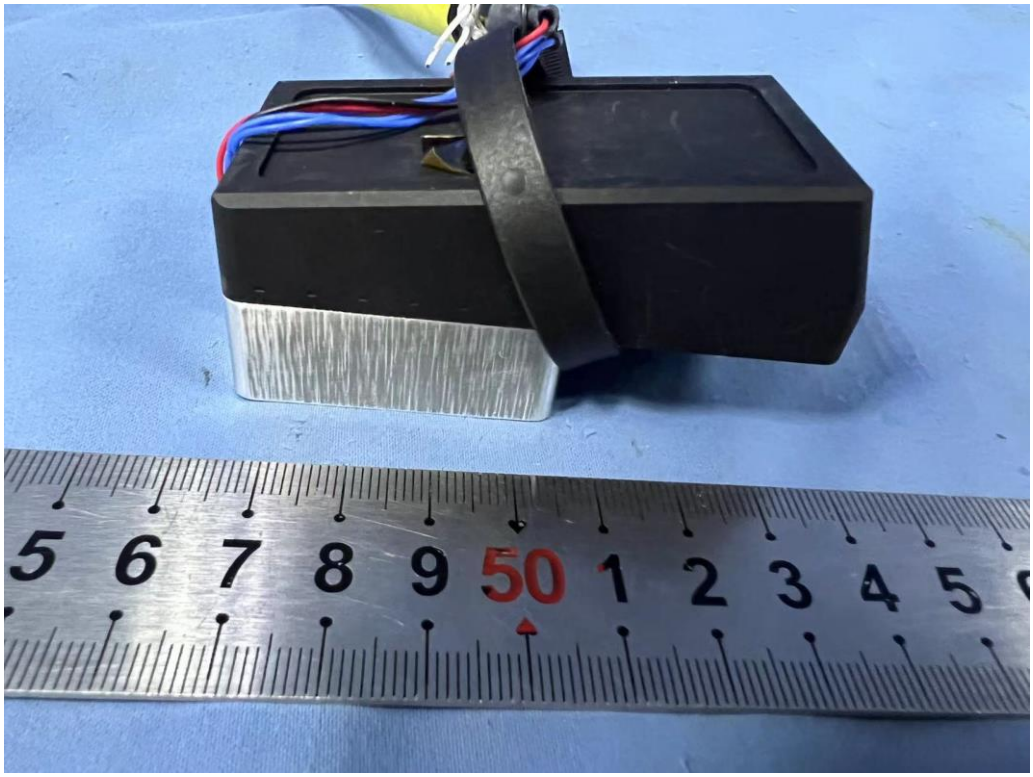
Frequency (MHz)	Quasi Peak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
204.309000	29.2	1000.0	120.000	V	19.6	14.3	43.5
318.348667	30.9	1000.0	120.000	V	21.2	15.1	46.0
664.153667	36.5	1000.0	120.000	V	30.7	9.5	46.0

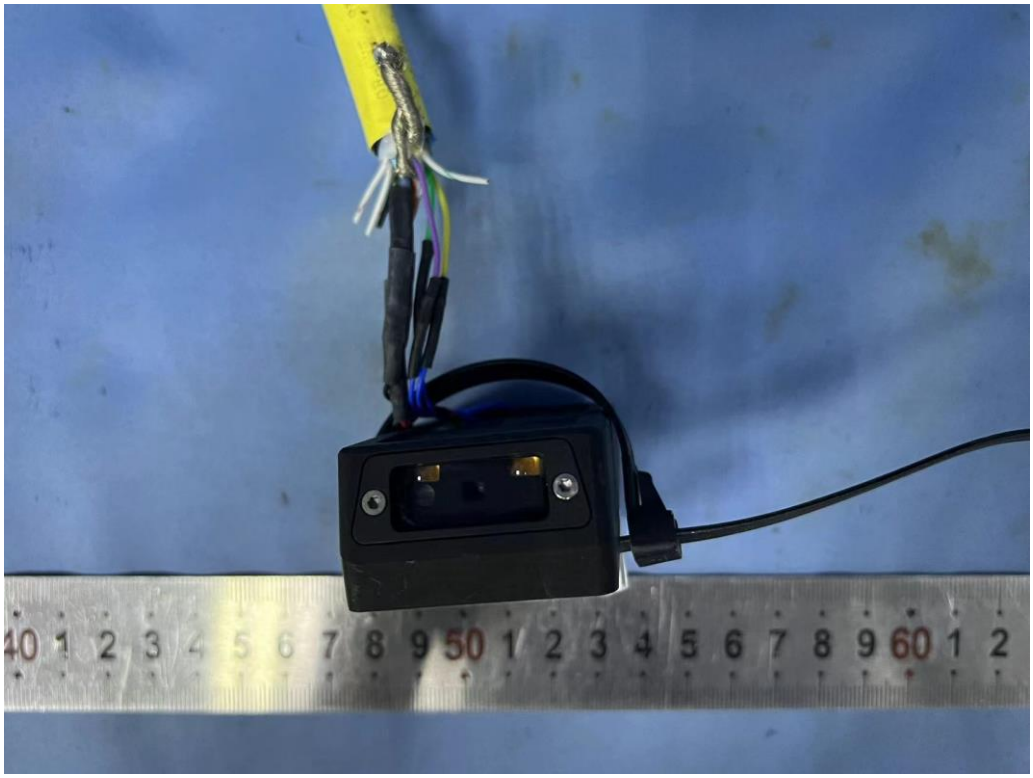
Remark:
1. Corr.(dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)
2. Quasi Peak (dBµV/m) = Corr. (dB/m) + Read Level (dBµV)
3. Margin (dB) = Limit Line (dBµV/m) – Level (dBµV/m)

APPENDIX A1: EXTERNAL PHOTO OF EUT

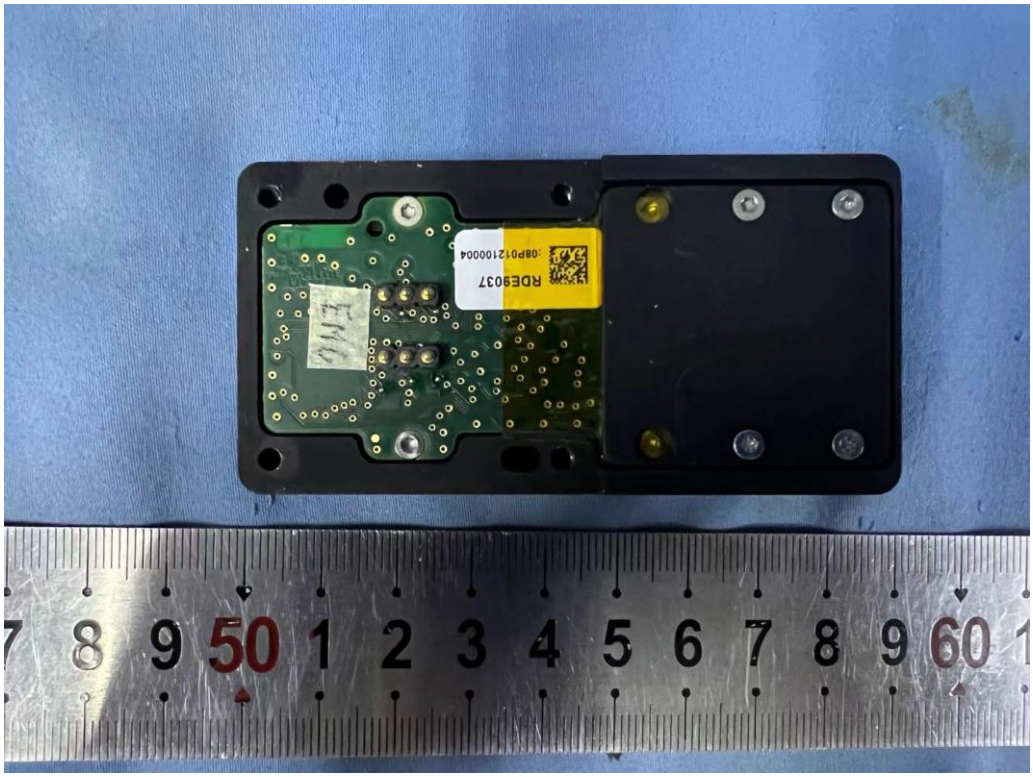


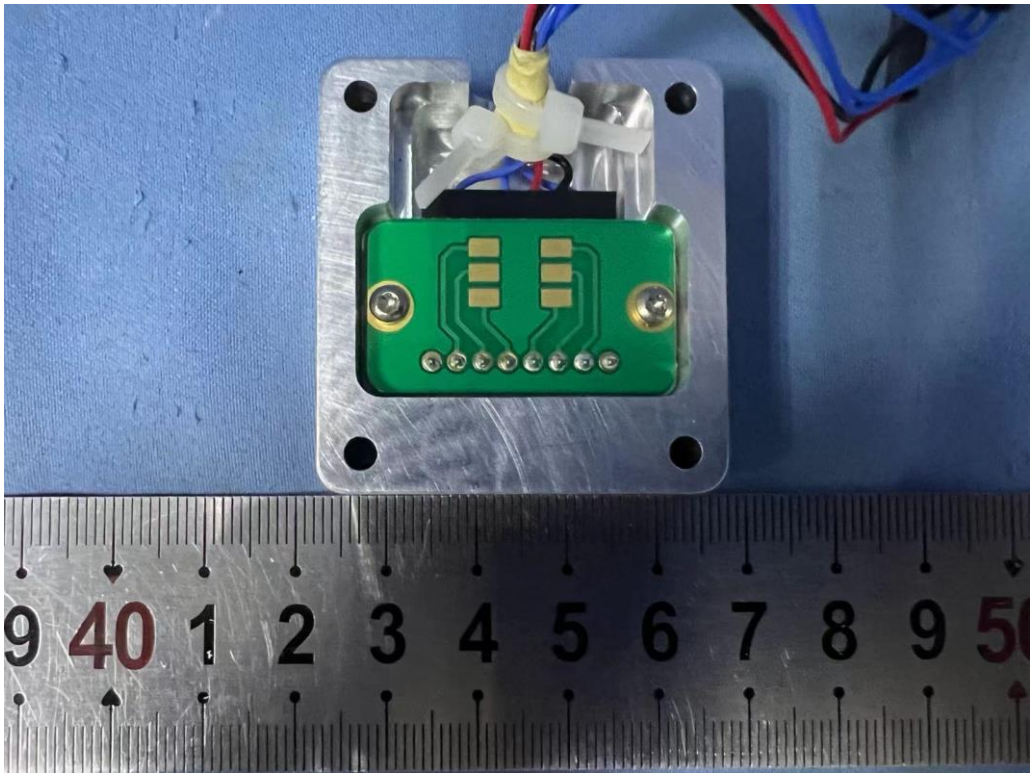



5 6 7 8 9 50 1 2 3 4 5


40 1 2 3 4 5 6 7 8 9 50 1 2 3 4 5 6 7 8 9 60 1 2

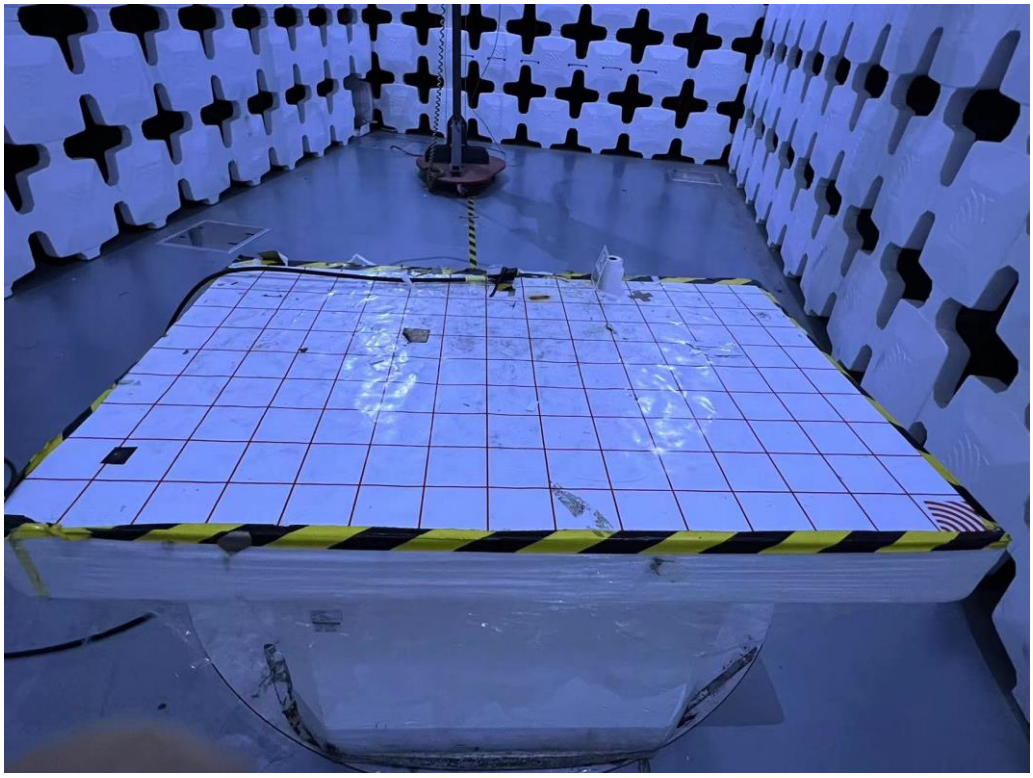
APPENDIX A2: INTERNAL PHOTO OF EUT



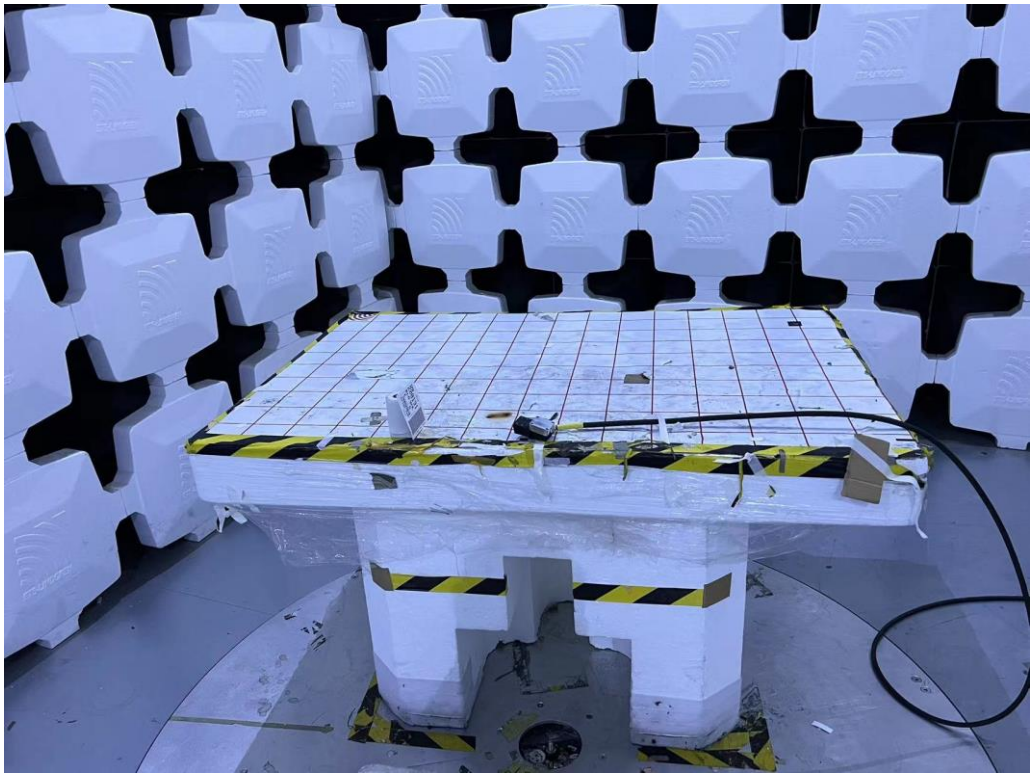


APPENDIX B: RADIATED EMISSION TEST SET-UP

Front View



Back View



********** End of Report**********

Supplier's Declaration of Conformity Procedure Instruction Manual Requirements

The user's manual or instruction manual shall include the following statement in a prominent location in the text of the manual:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- **Reorient or relocate the receiving antenna.**
- **Increase the separation between the equipment and receiver.**
- **Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.**
- **Consult the dealer or an experienced radio/ TV technician for help.**

And the following additional information shall be contained in the user or instruction manual:

1) The Responsible (located within the United States) party information: Name, Address, Telephone Number or Internet contact information
2) The name and model number of the product

Notes: For systems incorporating several digital devices, the above statement needs to be contained only in the user manual for the main control unit.

If shielded cables or other specialized accessories are necessary for the unit to achieve compliance, a statement similar to the following should be added:

Shielded cables must be used with this unit to ensure compliance with the Class B FCC limits.

The compliance information statement shall be included in the user's manual or as a separate sheet. In cases where the manual is provided only in a form other than paper, such as on a computer disk or over the Internet, the information required by this section
may be included in the manual in that alternative form, provided the user can reasonably be expected to have the capability to access information in that form

Supplier's Declaration of Conformity Labelling Requirements

Devices subject to FCC Part 15, Subpart B Supplier's Declaration of Conformity (S-DOC) must be labelled with the following statement. The label can be affixed at any space external to the product except the battery door or detachable parts.:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC logo on a voluntary basis as a visual indication that the product complies with the applicable FCC requirements

Where a device is constructed in two or more sections connected by wires and marketed together, the statement specified under Sections 2.1074 and 2.1077 are required to be affixed only to the main control unit.

When the device is so small or for such use that it is impracticable to label it with the statement specified under Sections 2.1074 and 2.1077 in a font that is four-point or larger, and the device does not have a display that can show electronic labeling, then the information required by this paragraph shall be placed in the user manual and must also either be placed on the device packaging or on a removable label attached to the device.

The label shall not be a stick-on paper label. The label on these products shall be permanently affixed to the product and shall be readily visible to the purchaser at the time of purchase. “Permanently affixed” means that the label is etched, engraved, stamped, silkscreened, indelibly printed, or otherwise permanently marked on a permanently attached part of the equipment or on a nameplate of metal, plastic, or other material fastened to the equipment by welding, riveting, or a permanent adhesive. The label must be designed to last the expected lifetime of the equipment in the environment in which the equipment may be operated and must not be readily detachable.

CANADIAN EMISSIONS REQUIREMENTS

The Canadian Government has announced an amendment of the radio act which will require computing equipment to comply with EMI specifications in Canada. The effective date for products imported into Canada is January 31, 1989.

The intent of the amendment is to establish Canadian Regulations which are harmonized with the existing FCC Regulations. As such, no retesting is required and devices which have been tested and comply with the FCC Specifications (Class B) also comply with the Canadian Specification (Class B).

LABELLING REQUIREMENTS

The manufacturer, importer or supplier shall meet the labelling requirements set out in this section and in Notice 2014-DRS1003 for electronic labelling for every unit:

(i) prior to marketing in Canada, for ITE manufactured in Canada and
(ii) prior to importation into Canada, for imported ITE.

Each unit of an ITE model shall bear a label (see below) that represents the manufacturer's or the importer's SDoC with Innovation, Science and Economic Development Canada's ICES-003. This label shall be permanently affixed to the ITE or displayed electronically and its text must be clearly legible. If the dimensions of the device are too small or if it is not practical to place the label on the ITE and electronic labelling has not been implemented, the label shall be, upon agreement with Innovation, Science and Economic Development Canada, placed in a prominent location in the user manual supplied with the ITE. The user manual may be in an electronic format and must be readily available.

Innovation, Science and Economic Development Canada ICES-003 Compliance Label: *CAN ICES-3 (*)/NMB-3(*)*
* Insert either "A" or "B" but not both to identify the applicable Class of ITE.