



F2 Labs
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FCC SDoC/ISED Test Report

Manufacturer: Chameleon Smart Home Plc.
Óda u. 22,
Budapest, 1155 Hungary

Applicant: Same as Above

Product Description: Smart HUB Low Speed Bus Communication extension module with 8 switch inputs. A wall module that manages 8 digital inputs through the smart home system.

Operating Voltage/Freq. of EUT During Testing: 120V/60 Hz

Equipment Under Test: UpHome LS Alternative 8 Module
Trade Name: UpHome
Model: UpHome LS Alternative 8 Module

FCC Equipment Category: Digital Device

ISED Equipment Category: Information Technology Equipment (including Digital Apparatus)

Measurement Location: F2 Labs in Middlefield, Ohio. Site description and attenuation data are on file with the FCC's Sampling and Measurement Branch at the FCC Laboratory in Columbia, MD and with the Certification and Engineering Bureau, Industry Canada, Site Number 4730B.

Measurement Procedure:

FCC. Measurements were performed in accordance with ANSI C63.4:2014. A list of the measurement equipment is included with the test data.

ISED. All measurements were performed according to Industry Canada outlined in Interference-Causing Equipment Standard for Digital Apparatus, ICES-003, Issue 7:2020 Information Technology Equipment (including Digital Apparatus). A list of the measurement equipment is included with the test data.

Canadian Standards Association Standard CAN/CSA-CISPR 22-10, *Information technology equipment (including Digital Apparatus) — Radio disturbance characteristics — Limits and methods of measurement*

ANSI C63.4, *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 GHz²* (latest published edition)

Applicable Rules:

Federal Register CFR 47, Part 15, subpart B

- **Radiated Emissions, Part 15.109(a), Class B**
- **Conducted Emissions, Part 15.107(a), Class B**

ICES-003, Issue 7:2020 Information Technology Equipment (including Digital Apparatus), Class B

Testing Commenced:

2023-11-08

Testing Completed:

2023-11-10

Summary of Results:

In Compliance, with Modifications

The EUT complies with the EMC requirements when manufactured identically as the unit tested in this report, including any required modifications and/or manufacturer's statement. Any changes to the design or build of this unit subsequent to this testing may deem it non-compliant.



Evaluation Conducted by:

Anthony Romeo, EMC Engineer



Reviewed by:

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Note: Complies/Does Not Comply criteria are based upon the following condition: Where the results are compared to published test standard or manufacturer specified limits, the Complies or Does Not Comply opinion is considered without applying the stated measurement of uncertainty.

This report shall not be duplicated except in full without the written approval of F2 Labs.
Reports noted as a revision replace all previously issued reports and/or antecedent report revisions issued under this job number.

Table of Contents

- I. [Test Procedure and Data Calculation](#)
- II. [EUT Configuration and Cables](#)
- III. [Radiated Emissions](#)
- IV. [Conducted Emissions](#)
- V. [Modifications](#)
- VI. [Photographs](#)
- VII. [FCC Labeling & Manual Requirements](#)
- VIII. [ISED Labeling & Manual Requirements](#)

Document History:

| Document Number | Description | Issue Date | Approved By |
|--------------------|------------------------------------|------------|-------------|
| F2P29590D-03E | First Issue | 2023-11-20 | B. Coolbear |
| F2P29590D-03E Rev1 | Changed manufacturer in Exhibit II | 2023-12-12 | B. Coolbear |

Exhibit I

Test Procedure and Data Calculation

Test Item Condition:

The equipment to be tested was received in good condition.

Testing Algorithm:

The unit was connected to AC power. Using an ethernet cable the unit was connected to the internet. Using the on/off switches the unit could be started, using the software. The highest emissions were recorded in the data tables.

Radiated Emissions:

The EUT was tested at a distance of 3 meters. The emissions were maximized by rotating the table and raising/lowering the antenna mounted on a 4-meter mast. Cable and peripheral positions were also varied to produce maximum emissions. Both horizontal and vertical field components were measured. The output of the antenna was connected to the input of the receiver and emissions were measured in the range 80 MHz to 26000 MHz. For emissions measured below 1 GHz, a resolution bandwidth of 120kHz and a quasi-peak detector were used. If applicable, measurements above 1 GHz were made with a resolution bandwidth of 1 MHz and peak and average detectors. The raw measurements were corrected to allow for antenna factor and cable loss. All data for radiated emissions can be found in Exhibit III.

Conducted Emissions:

The EUT was placed on a 1.0 x 1.5 meter non-conductive table, 0.8 meter above a horizontal ground plane and 0.4 meter from a vertical ground plane. Power was provided to the EUT through a LISN bonded to a 3 x 2 meter ground plane. The LISN and peripherals were supplied power through a filtered AC power source. The output of the LISN was connected to the input of the receiver via a transient limiter, and emissions in the range 150 kHz to 30 MHz were measured. The measurements were recorded using the quasi-peak and average detectors as directed by the standard, and the resolution bandwidth during testing was 9 kHz. The raw measurements were corrected to allow for attenuation from the LISN, transient limiter and cables. All data for conducted emissions can be found in Exhibit IV.

Calculation of Data:

Radiated Emissions - The antenna factors of the biconilog antennas used, and the cable losses are added to the field strength reading recorded from the measurement receiver. The resultant field strength can then be compared to the FCC limits in dBμV/m.

The following equation is used to convert to μV/m: $E_{\mu V/m} = \text{antilog}(E_{dB\mu V/m} / 20)$

Sample of Field Strength calculation: $E_a = V_a + AF + A_e - AG$

Where E_a = Field Strength (dBμV/m)

$V_a = 20 \times \log_{10}$ (Measure RF voltage, μV)

A_e = Cable Loss Factor, dB

AF = Antenna Factor dB (m⁻¹)

AG = Amplifier Gain

I.e., If the reading is 57.0 dBμV, the antenna factor 8.0 dB, cable loss factor 1.0 dB and Amplifier gain is 25.0 dB, the field strength will be:

$E_a(\text{dB}\mu\text{V/m}) = 57 + 8 + 1 + (-25) = 41 \text{ dB}\mu\text{V/m}$ or

$E_a(\mu\text{V/m}) = 10^{(41/20)} = 112.20 \mu\text{V/m}$

Uncertainty Budget:

The uncertainty in EMC measurements arises from several factors which affect the results, some associated with environmental conditions in the measurement room, the test equipment being used, and the measurement techniques adopted.

The measurement uncertainty budgets detailed below are calculated from the test and calibration data and are expressed with a 95% confidence factor using a coverage factor of $k=2$. The Uncertainty for a laboratory is referred to as U_{lab} . For Radiated and Conducted Emissions, the Expanded Uncertainty is compared to the U_{cispr} values to determine if a specific margin is required to deem compliance.

U_{lab}

| Measurement Range | Combined Uncertainty | Expanded Uncertainty |
|---|----------------------|----------------------|
| Radiated Emissions <1 GHz @ 3m | 2.54dB | 5.07dB |
| Radiated Emissions <1 GHz @ 10m | 2.55dB | 5.09dB |
| Radiated Emissions 1 GHz to 2.7 GHz | 1.81dB | 3.62dB |
| Radiated Emissions 2.7 GHz to 18 GHz | 1.55dB | 3.10dB |
| AC Power Line Conducted Emissions, 150kHz to 30 MHz | 1.38dB | 2.76dB |
| AC Power Line Conducted Emissions, 9kHz to 150kHz | 1.66dB | 3.32dB |

U_{cispr}

| Measurement Range | Expanded Uncertainty |
|---|----------------------|
| Radiated Emissions <1 GHz @ 3m | 5.2dB |
| Radiated Emissions <1 GHz @ 10m | 5.2dB |
| Radiated Emissions 1 GHz to 2.7 GHz | Under Consideration |
| Radiated Emissions 2.7 GHz to 18 GHz | Under Consideration |
| AC Power Line Conducted Emissions, 150kHz to 30 MHz | 3.6dB |
| AC Power Line Conducted Emissions, 9kHz to 150kHz | 4.0dB |

If U_{lab} is less than or equal to U_{cispr} , then:

- compliance is deemed to occur if no measured disturbance exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance exceeds the disturbance limit.

If U_{lab} is greater than U_{cispr} in table 1, then:

- compliance is deemed to occur if no measured disturbance, increased by $(U_{lab} - U_{cispr})$, exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance, increased by $(U_{lab} - U_{cispr})$, exceeds the disturbance limit.

Note: Only measurements listed in the tables above that relate to tests included in this Test Report are applicable.

Exhibit II

EUT Configuration and Cables

Equipment Under Test (EUT):

Product Description: Smart HUB Low Speed Bus Communication extension module with 8 switch inputs. A wall module that manages 8 digital inputs through the smart home system.

| Device | Manufacturer | Model Number | Serial Number |
|--------------------------------|---------------------------|--------------------------------|---------------|
| UpHome LS Alternative 8 Module | Chameleon Smart Home Plc. | UpHome LS Alternative 8 Module | 928795290 |
| Software Version: | | V.4.4.11 Chameleon Controller | |

The EUT complies with the EMC requirements when manufactured identically as the unit tested in this report, including any required modifications and/or manufacturer's statement. Any changes to the design or build of this unit subsequent to this testing may deem it non-compliant.

Accessories (Support Equipment):

| Device | Manufacturer | Model Number | Serial Number |
|--|---------------------------|--|----------------|
| UpHome DIN Controller | Chameleon Smart Home Plc. | UpHome DIN Controller | 1955885758 |
| On/Off Switch | None Specified | None Specified | None Specified |
| UpHome DIN Access 2 Extension Module | Chameleon Smart Home Plc. | UpHome DIN Access 2 Extension Module | 468033672 |
| UpHome DIN Digital Input 24 Extension Module | Chameleon Smart Home Plc. | UpHome DIN Digital Input 24 Extension Module | 1819663939 |
| UpHome DIN Relay 10 Extension Module | Chameleon Smart Home Plc. | UpHome DIN Relay 10 Extension Module | 2366278438 |
| Power Supply | Meanwell | HDR-100-24N | None Specified |
| Laptop* | Dell | Latitude 7490 | 2KWSXT2 |

**Indicates F2 Labs- supplied equipment.*

Cables:

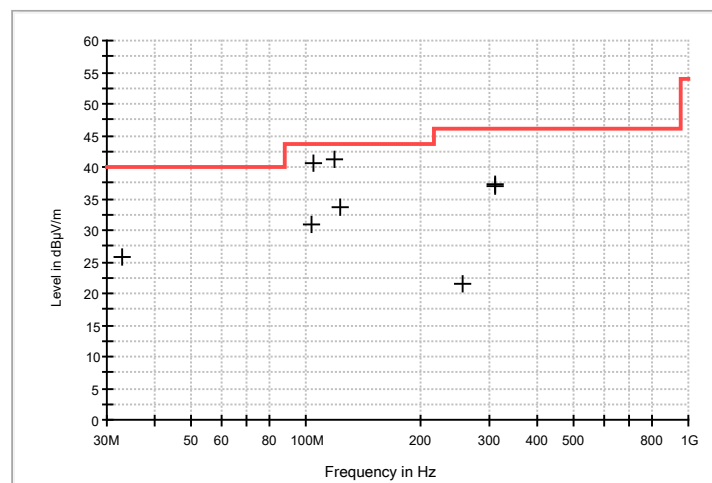
| Cable Function | Length | Shielded |
|----------------|--------|----------|
| AC Mains | >3m | No |

Exhibit III

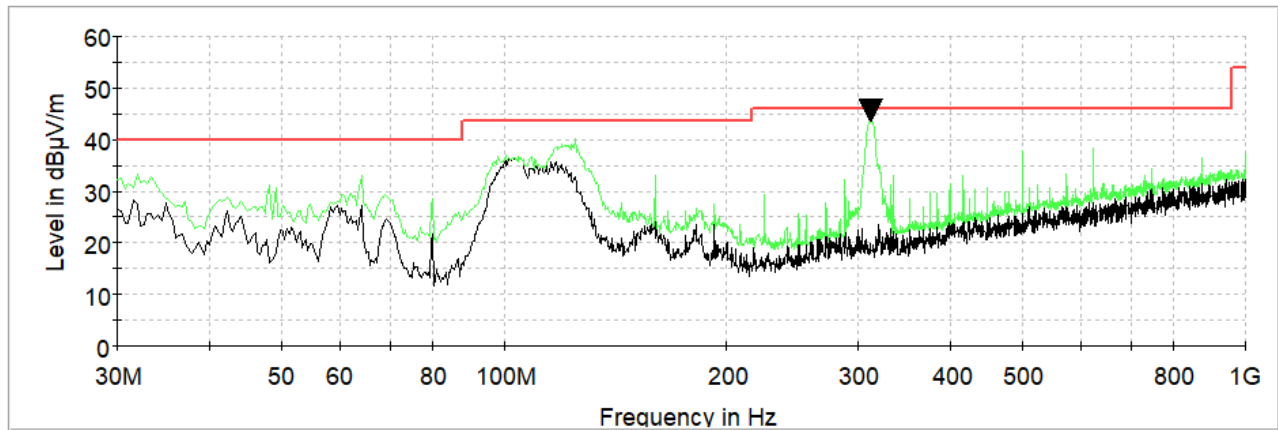
Radiated Emissions

| | | | |
|----------------------|--|---------------------------|----------|
| Test Date(s): | 2023-11-08 | Test Engineer(s): | A. Romeo |
| Rule(s): | FCC CFR 47, Part 15, subpart B, Radiated Emissions, Part 15.109(a), Class B; ICES-003, Class B | Air Temperature: | 22.4° C |
| Distance: | 3m | Relative Humidity: | 57% |
| Test Results: | Complies, with Modifications | | |

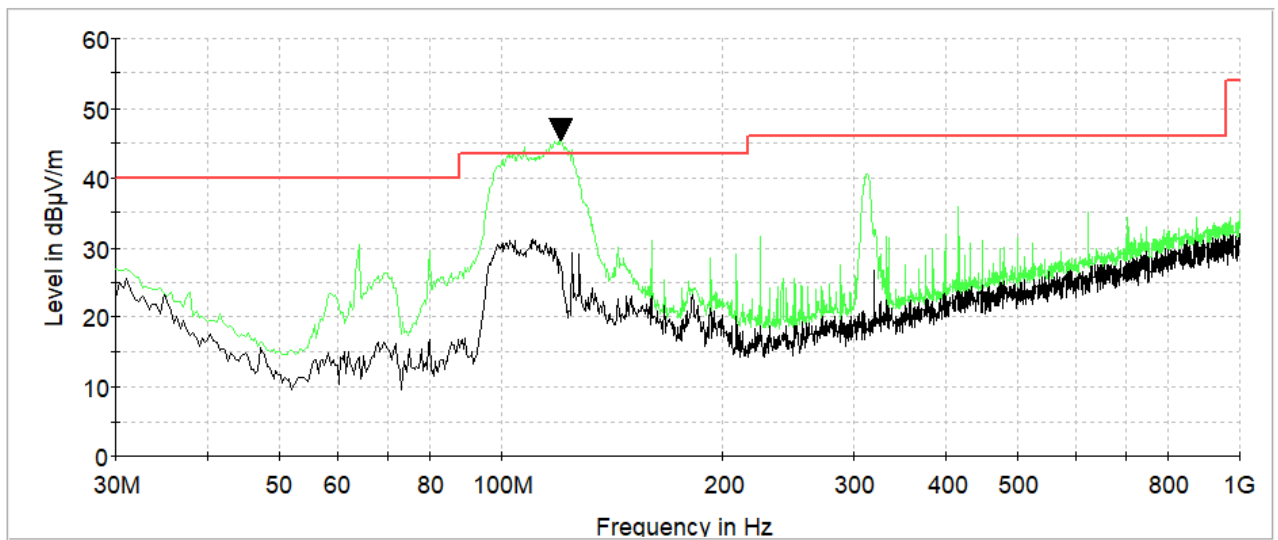
| Frequency (MHz) | Ant. Pol. | Ant. Height (cm) | Azimuth (degrees) | Reading (dBμV) | Corr. Factors (dB) | Emission (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
|-----------------|-----------|------------------|-------------------|----------------|--------------------|-------------------|----------------|-------------|
| 33.034615 | V | 200.00 | 168.00 | 47.2 | -21.5 | 25.70 | 40.00 | -14.3 |
| 103.411538 | V | 200.00 | 204.00 | 59.8 | -28.8 | 31.00 | 43.50 | -12.5 |
| 104.748077 | H | 250.00 | 104.00 | 69.0 | -28.5 | 40.50 | 43.50 | -3.0 |
| 117.717308 | H | 250.00 | 208.00 | 67.5 | -26.3 | 41.20 | 43.50 | -2.3 |
| 123.101923 | V | 200.00 | 117.00 | 59.6 | -25.9 | 33.70 | 43.50 | -9.8 |
| 255.021154 | H | 250.00 | 256.00 | 48.8 | -27.2 | 21.60 | 46.00 | -24.4 |
| 312.963462 | V | 200.00 | 186.00 | 62.3 | -24.9 | 37.40 | 46.00 | -8.6 |
| 313.601923 | H | 250.00 | 243.00 | 61.8 | -24.9 | 36.90 | 46.00 | -9.1 |



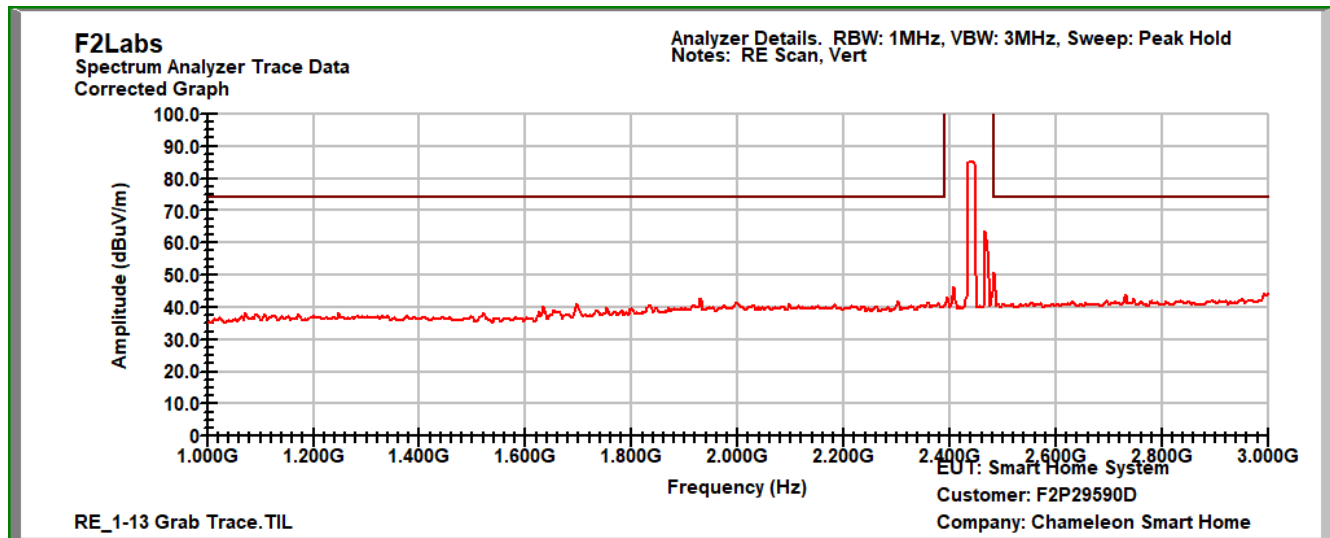
Characterization Scan: 30 MHz to 1000 MHz – Vertical



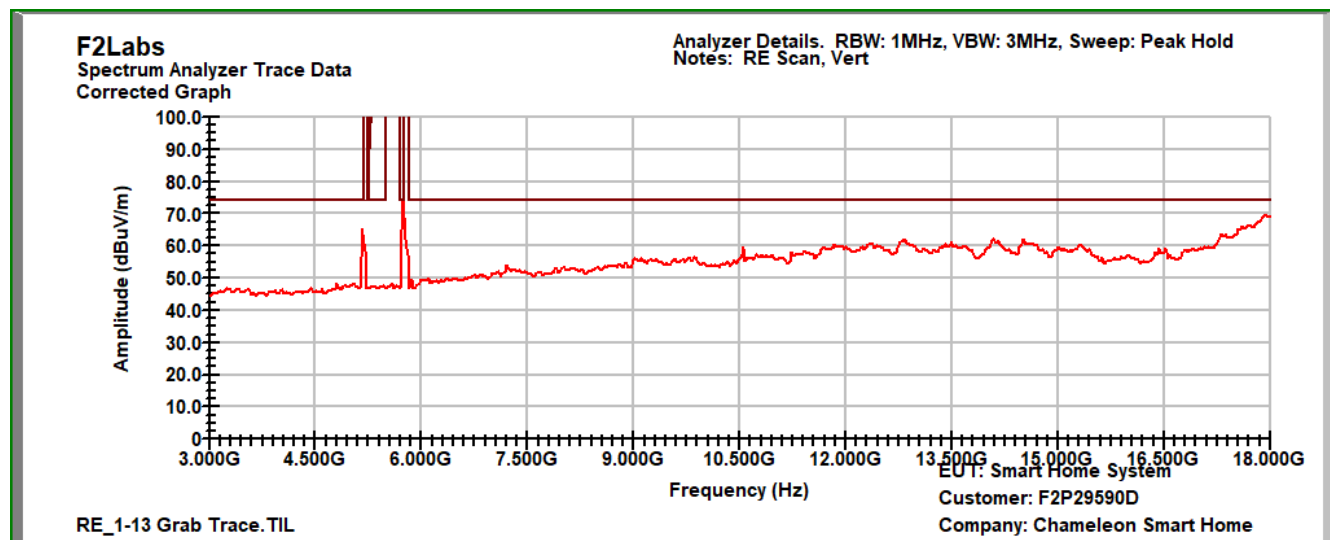
Characterization Scan: 30 MHz to 1000 MHz – Horizontal



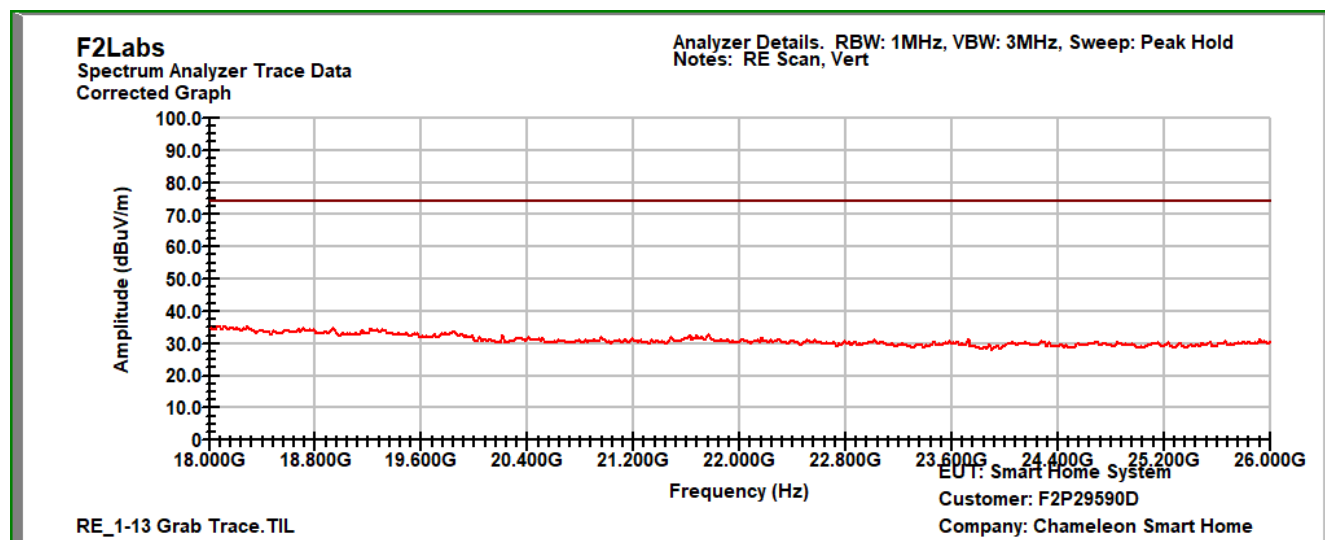
Characterization Scan: 1 GHz to 3 GHz – Vertical



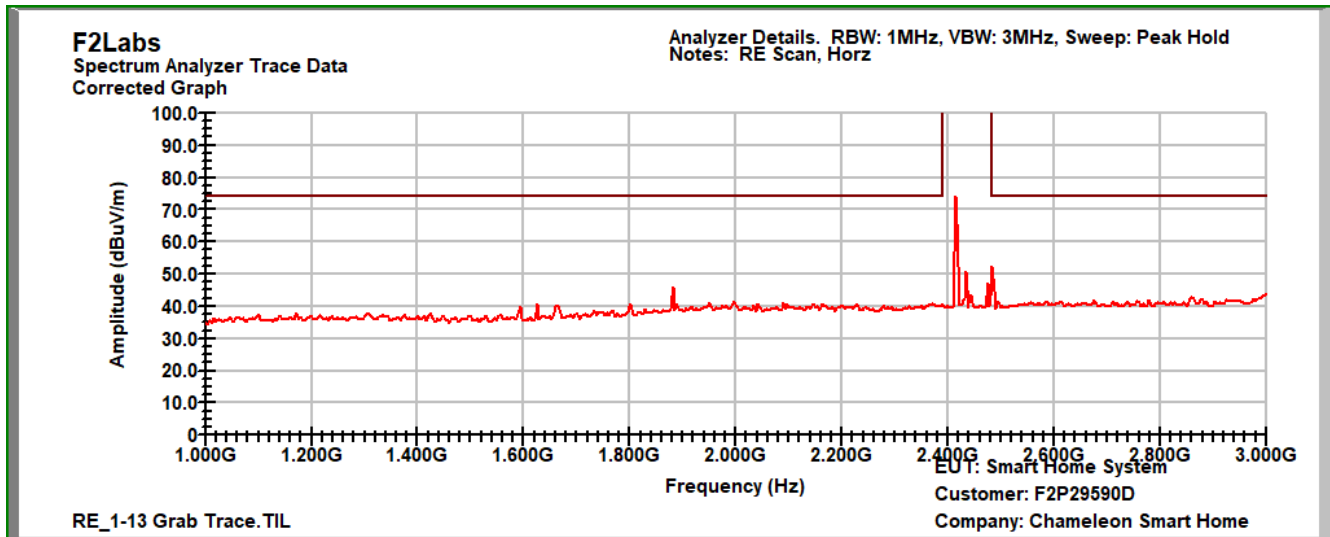
Characterization Scan: 3 GHz to 18 GHz – Vertical



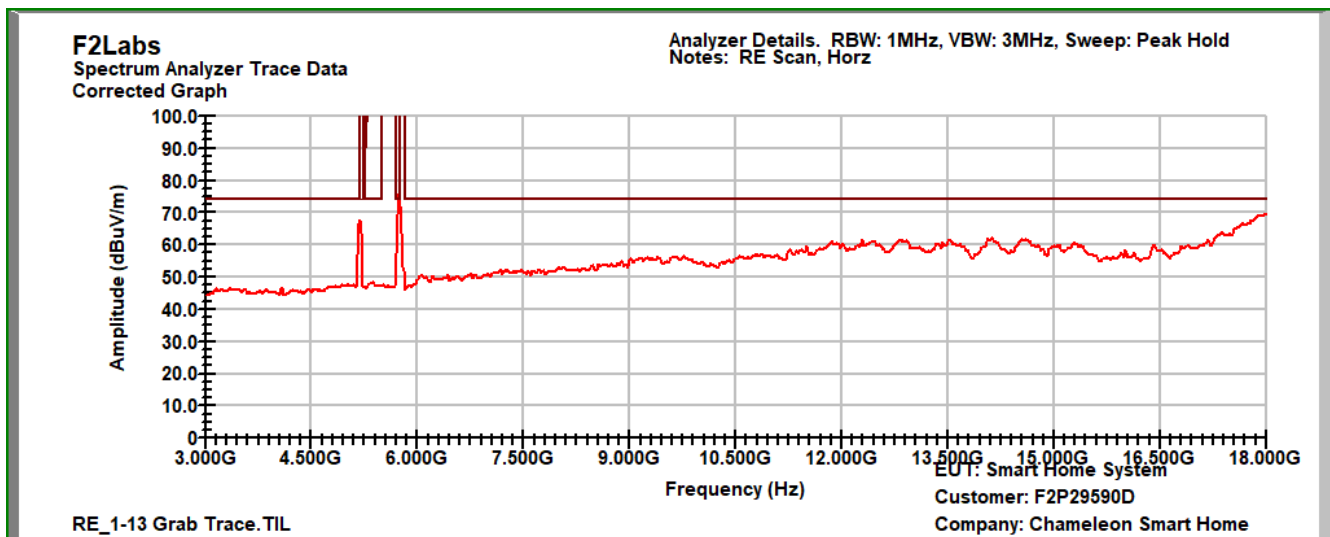
Characterization Scan: 18 GHz to 26 GHz – Vertical



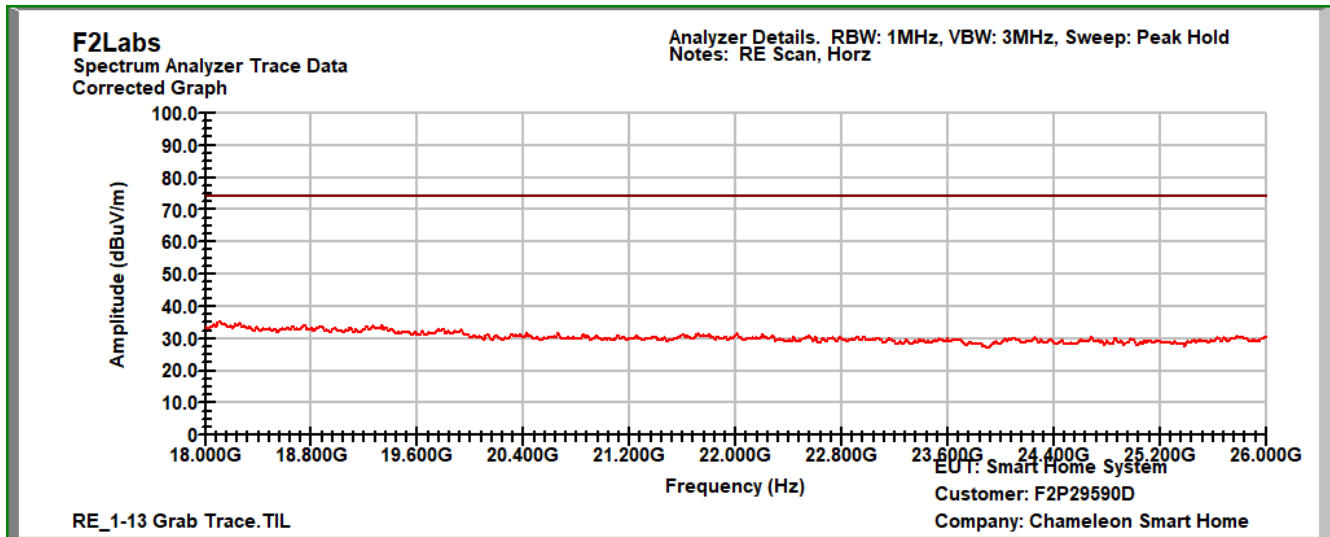
Characterization Scan: 1 GHz to 3 GHz – Horizontal



Characterization Scan: 3 GHz to 18 GHz – Horizontal



Characterization Scan: 18 GHz to 26 GHz – Horizontal



Test Equipment Used:

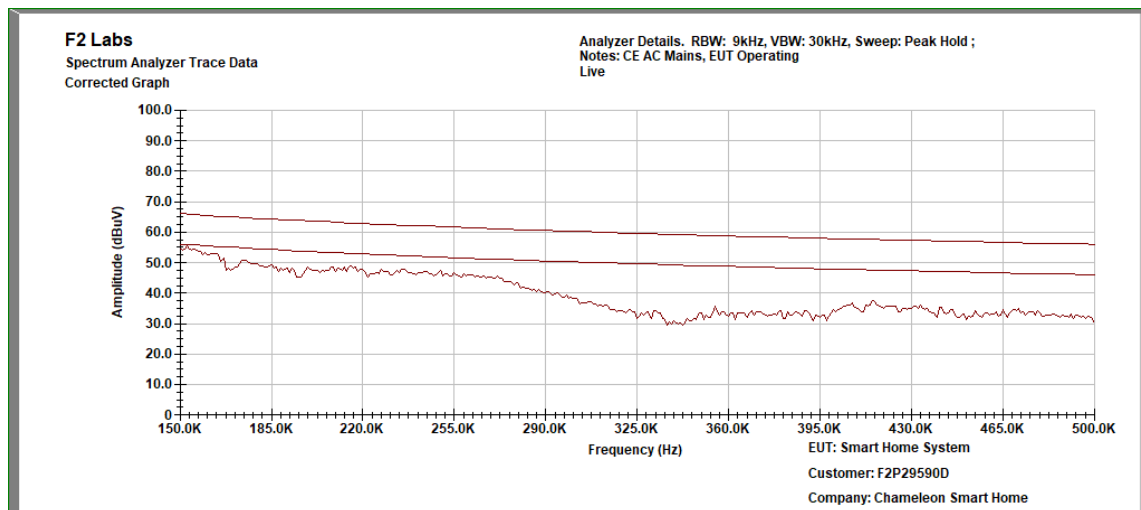
| Equipment Type | Asset Number | Manufacturer | Model | Serial Number | Calibration Due Date |
|--------------------------|------------------------|----------------------|-------------------------------|---------------|----------------------|
| Shielded Chamber 2014 | CL166-E | AlbatrossProjects | B83117-DF435-T261 | US140023 | 2023-11-30 |
| Receiver | CL204 | Rohde & Schwarz | ESR7 | 101714 | 2024-04-12 |
| Antenna, Bilog | CL211 | Sunol Sciences, Inc. | JB1 | A021017 | 2024-10-17 |
| Horn Antenna | CL098 | Emco | 3115 | 9809-5580 | 2024-01-19 |
| Pre-Amplifier | CL250 | Com-Power | PAM-118A | 18040011 | 2024-06-15 |
| Preamplifier | CL284 | A.H. Systems, Inc. | PAM-1001 | 131 | 2024-04-12 |
| Horn Antenna 18-26.5 GHz | CL114 | A.H. Systems, Inc. | SAS-572 | 237 | 2023-11-30 |
| Pre-Amplifier | CL189 | Com-Power | PAM-840A | 461303 | 2024-06-14 |
| Software: | Tile Version 3.4.B.3. | | Software Verified: 2023-11-08 | | |
| Software: | EMC 32, Version 8.53.0 | | Software Verified: 2023-11-08 | | |
| Temp/Hum Rec | CL293 | Thermpro | TP50 | 1 | 2025-05-31 |

Exhibit IV

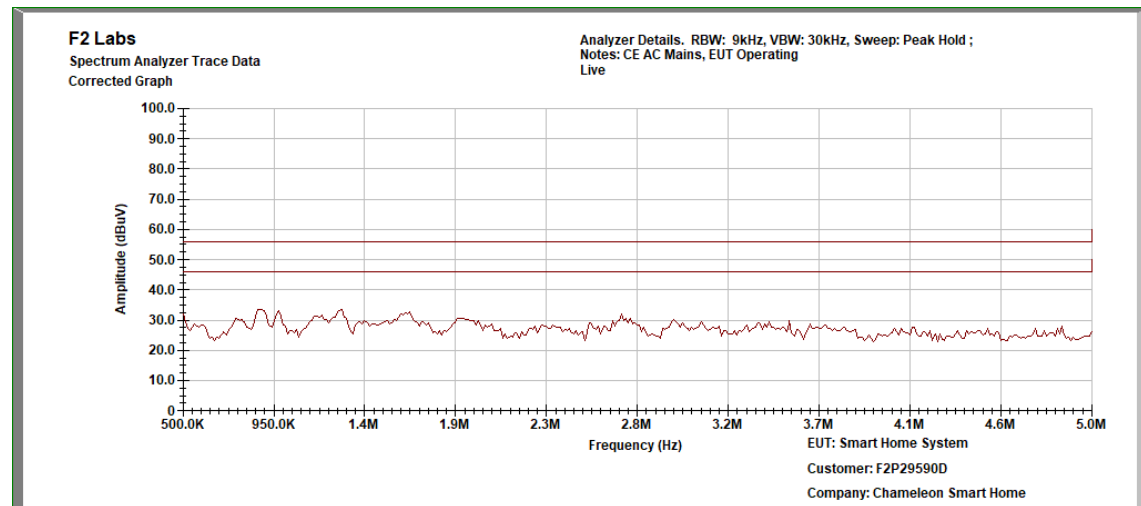
Conducted Emissions

| | | | |
|----------------------|---|---------------------------|----------|
| Test Date(s): | 2023-11-10 | Test Engineer(s): | A. Romeo |
| Rule(s): | FCC CFR 47, Part 15, subpart B, Conducted Emissions, Part 15.107(a), Class B; ICES-003, Class B | Air Temperature: | 21.4° C |
| Test Results: | Complies | Relative Humidity: | 39% |

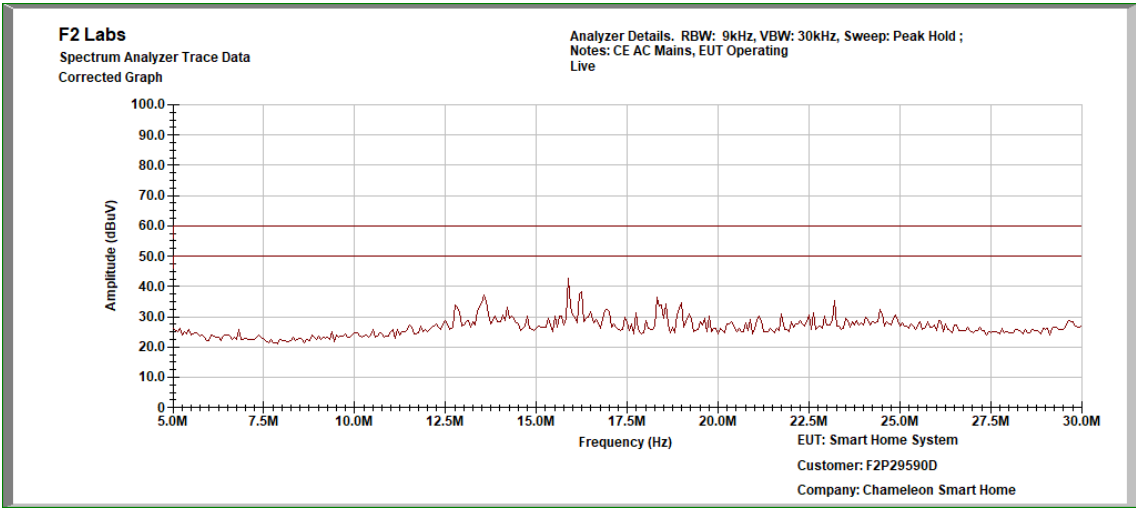
Conducted Test – Live: 0.15 MHz to 0.5 MHz



Conducted Test – Live: 0.5 MHz to 5.0 MHz

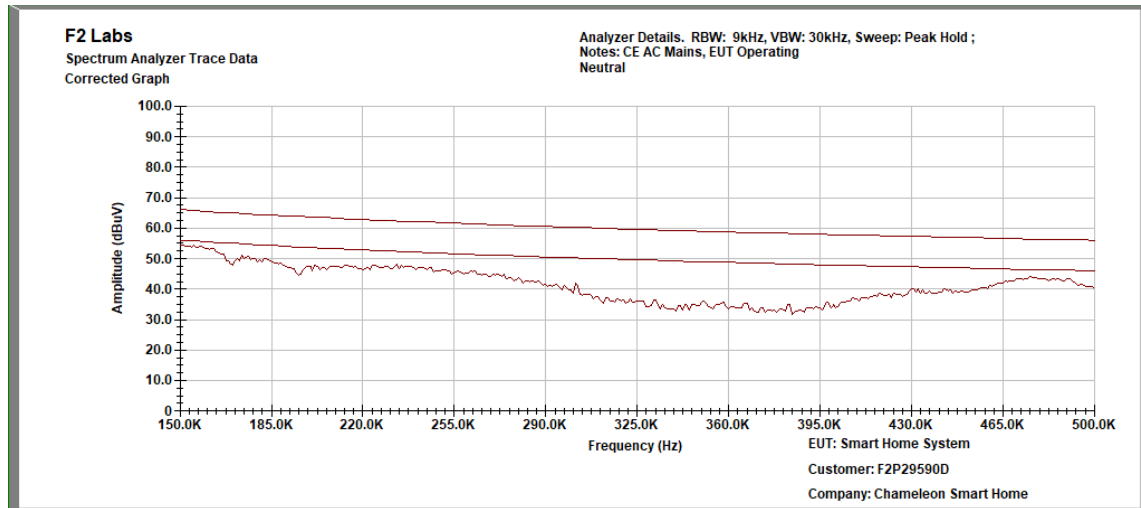


Conducted Test – Live: 5.0 MHz to 30.0 MHz

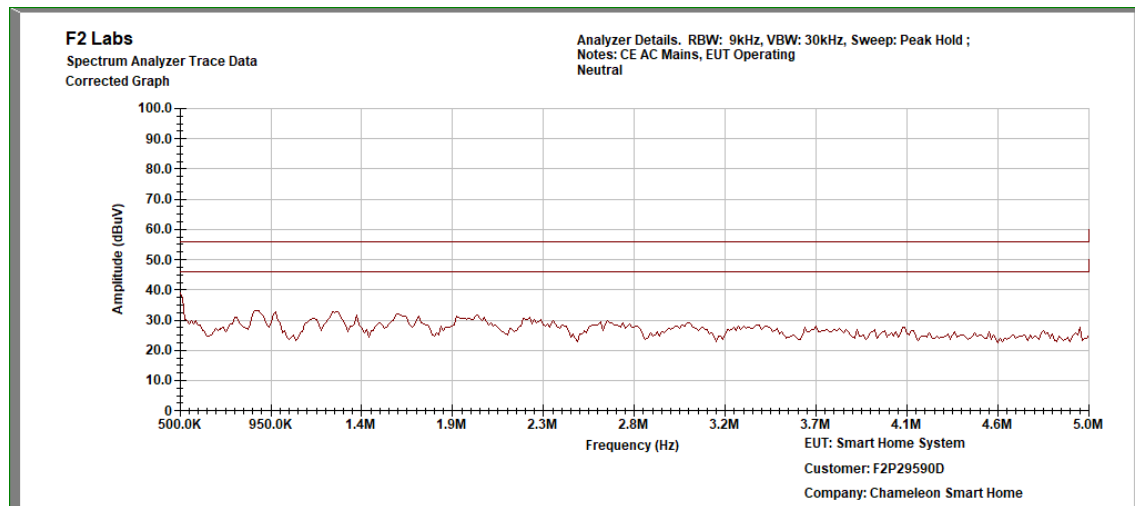


| Top Discrete Measurements | | | | | | | | |
|---------------------------|-----------|-----------------|------------|--------------|-----------------|----------------|--------------|-------------|
| No. | Conductor | Frequency (MHz) | Detector | Level (dBµV) | Adjustment (dB) | Results (dBµV) | Limit (dBµV) | Margin (dB) |
| 1 | Live | 0.153 | Quasi-Peak | 40.56 | 10.98 | 51.54 | 65.86 | -14.3 |
| | | | Average | 32.74 | 10.98 | 43.72 | 55.86 | -12.1 |

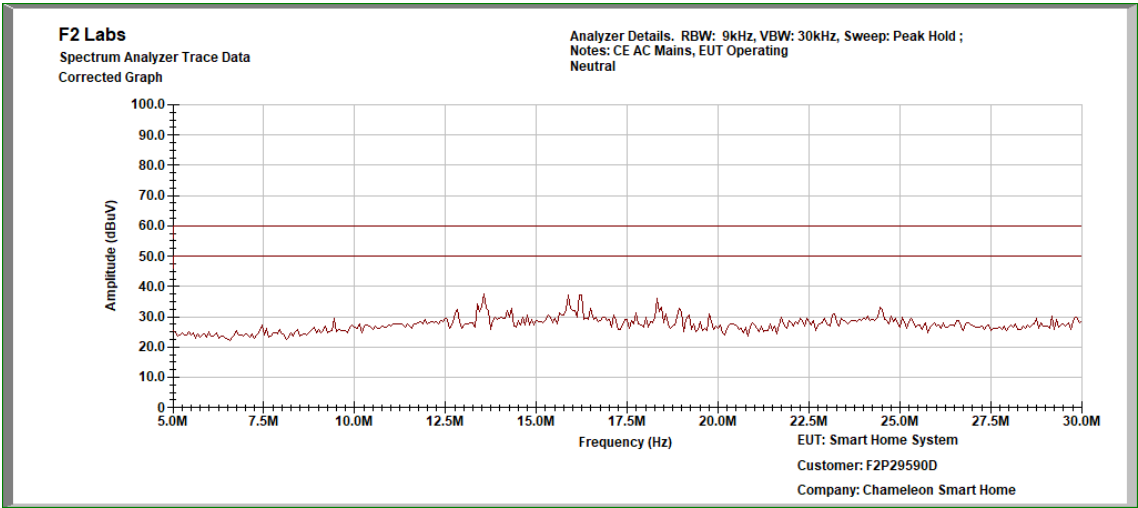
Conducted Test – Neutral: 0.15 MHz to 0.5 MHz



Conducted Test – Neutral: 0.5 MHz to 5.0 MHz



Conducted Test – Neutral: 5.0 MHz to 30.0 MHz



| Top Discrete Measurements | | | | | | | | |
|---------------------------|-----------|-----------------|------------|--------------|-----------------|----------------|--------------|-------------|
| No. | Conductor | Frequency (MHz) | Detector | Level (dBµV) | Adjustment (dB) | Results (dBµV) | Limit (dBµV) | Margin (dB) |
| 1 | Neutral | 0.155 | Quasi-Peak | 40.47 | 11.005 | 51.48 | 65.715 | -14.2 |
| | | | Average | 34.52 | 11.005 | 45.53 | 55.715 | -10.2 |

Test Equipment Used:

| Equipment Type | Asset Number | Manufacturer | Model | Serial Number | Calibration Due Date |
|-------------------|-----------------------|-----------------|-------------------------------|---------------|----------------------|
| Spectrum Analyzer | 0141 | Hewlett Packard | 8591E | 3520A04145 | 2024-04-11 |
| Transient Limiter | CL102 | Hewlett Packard | 11947A | 3107A03325 | 2024-04-11 |
| Software: | Tile Version 3.4.B.3. | | Software Verified: 2023-11-10 | | |
| LISN | CL184 | Com-Power | LI-125A | 191213 | 2023-11-02 |
| LISN | CL185 | Com-Power | LI-125A | 191214 | 2023-11-02 |
| Temp/Hum Rec | CL294 | Thermpro | TP50 | 2 | 2026-04-27 |

Exhibit V

Modifications

The following modifications were made to the EUT to meet radiated emissions requirements:

- A ferrite (Fair-Rite #0443167251) was added to outlet at power supply nearest power supply.

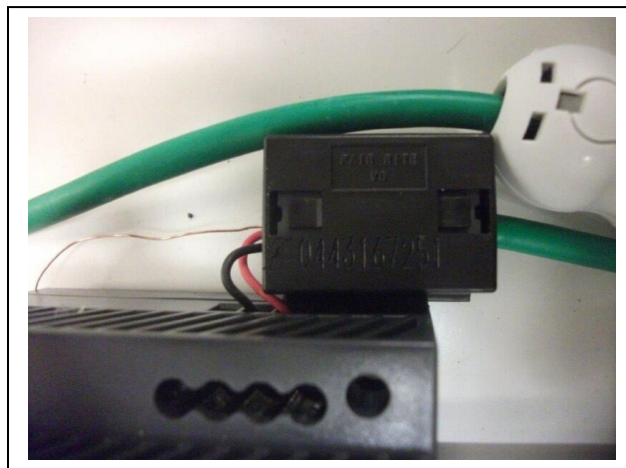
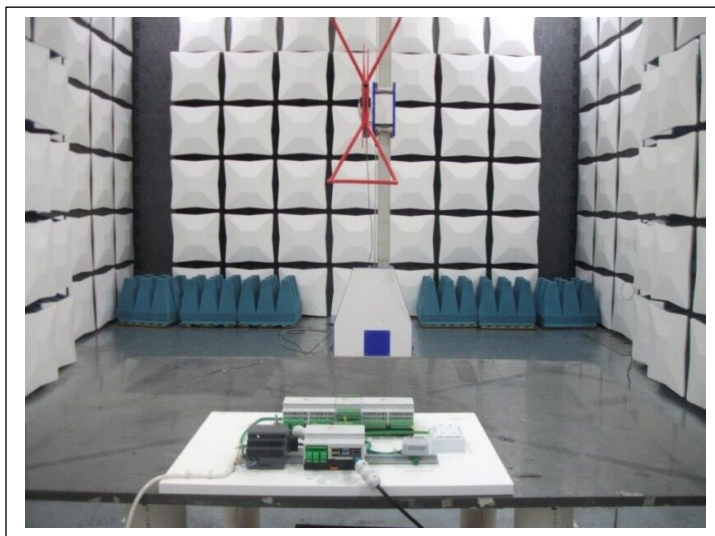


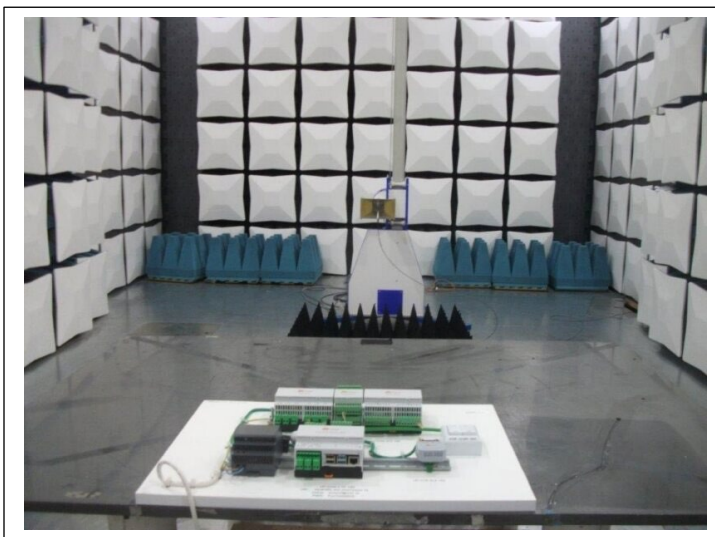
Exhibit VI

Photographs

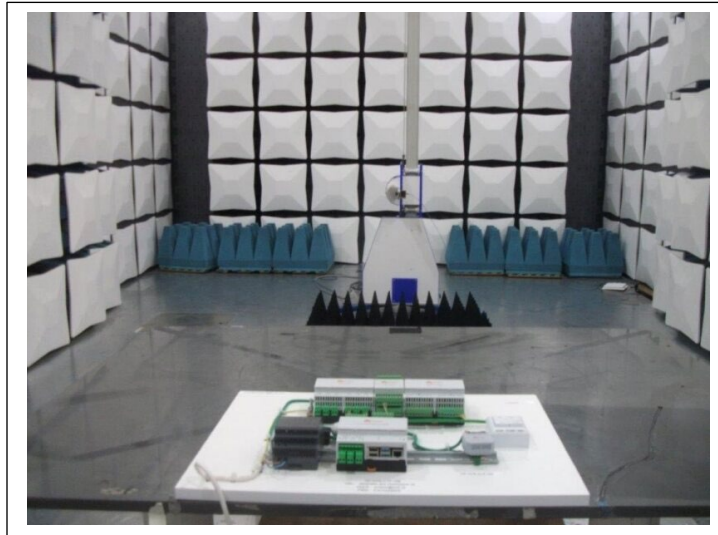
Radiated Emissions: Less Than 1 GHz



Radiated Emissions: 1 GHz to 18 GHz



Radiated Emissions: 18GHz to 26 GHz



Conducted Emissions

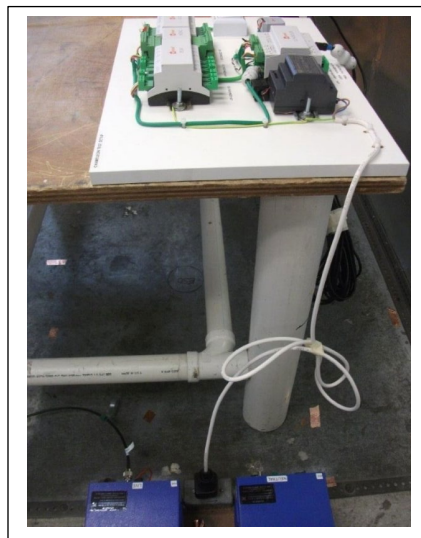


Exhibit VII

FCC Labeling & Manual Requirements

Labeling Requirements

It will be the responsibility of the manufacturer or importer to permanently affix the appropriate label when marketing the equipment.

The label shall bear the following statement per FCC 15.19(a)(1)-(5):

- (1) Receivers associated with the operation of a licensed radio service, e.g., FM broadcast under part 73 of this chapter, land mobile operation under part 90 of this chapter, etc., shall bear the following statement in a conspicuous location on the device:

This device complies with part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

- (2) A stand-alone cable input selector switch shall bear the following statement in a conspicuous location on the device:

This device complies with part 15 of the FCC Rules for use with cable television service.

- (3) **All other devices shall bear the following statement in a conspicuous location on the device:**

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.

- (4) Where a device is constructed in two or more sections connected by wires and marketed together, the statement specified under paragraph (a) of this section is required to be affixed only to the main control unit.

- (5) When the device is so small or for such use that it is impracticable to label it with the statement specified under paragraph (a) of this section 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.

Note: If the product contains a pre-approved wireless module, a label is also required to show the product contains an approved wireless module. The following is an example of what the label should state:

Contains FCC ID: XXXXXXXX §2.1074 Identification.

Devices subject to authorization under Supplier's Declaration of Conformity may be labeled with the following logo on a voluntary basis as a visual indication that the product complies with the applicable FCC requirements. The use of the logo on the device does not alleviate the requirement to provide the compliance information required by §2.1077.



§2.1077 Compliance information.

(a) If a product must be tested and authorized under Supplier's Declaration of Conformity, a compliance information statement shall be supplied with the product at the time of marketing or importation, containing the following information:

(1) Identification of the product, *e.g.*, name and model number;

(2) A compliance statement as applicable, *e.g.*, for devices subject to part 15 of this chapter as specified in §15.19(a)(3) of this chapter, that the product complies with the rules; and

(3) The identification, by name, address and telephone number or Internet contact information, of the responsible party, as defined in §2.909. The responsible party for Supplier's Declaration of Conformity must be located within the United States.

Manual Requirements

FCC Manual Statement: §15.21 Information to user.

Note: This requirement applies to all devices unless exempted by 15.103:

The user's manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Manual Statement: §15.105 Digital Devices Statement

For all Class A Digital Devices, the following statement must be included in the manual:

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

For all Class B Digital Devices, the following statement must be included in the manual:

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.

Exhibit VIII

ISED Labeling & Manual Requirements

The manufacturer, importer or supplier shall meet the labeling requirements set out in **ICES-003 Section 4.2 or ICES-001 Section 4.2, as applicable, and in ICES-Gen, Section 5.3 Annex B for electronic labeling**. Labeling requirements apply to every unit: (i) prior to marketing in Canada, for ITE manufactured in Canada and (ii) prior to importation into Canada, for imported ITE.

Note: If the product contains a certified module, labeling must include “Contains IC: XXXXXX-YYYYYYYYYYYY” where XXXXXX-YYYYYYYYYYYY is the module’s certification number.

Multiple certified modules in a host must be displayed as “Contains IC: XXXXXX-YYYYYYYYYYYY1, XXXXXX-YYYYYYYYYYYY2, etc. (listing each module’s IC number).

ICES-003/ICES-001, Section 4.2:

The requirements specified in ICES-Gen shall apply. An example ISED compliance label, to be placed on each unit of an equipment model (or in the user manual, if allowed), is given below:

CAN ICES-3(*)/NMB-3(*) or CAN ICES-1/NMB-1

*** Insert either “A” or “B” but not both, to identify the applicable Class of the device used for compliance verification.**

The above label is only an example. The specific format is left to the manufacturer to decide, as long as the label includes the required information, in accordance with ICES-Gen (see below).

ICES-Gen, Section 5.3:

The manufacturer, importer or distributor shall meet the labelling and user manual requirements for every unit of interference-causing equipment.

Requirements for equipment not incorporating radio apparatus or terminal equipment

These requirements are only applicable to equipment not incorporating radio apparatus or terminal equipment modules.

Each unit of an interference-causing equipment model shall bear a label, which represents the manufacturer's or importer's self-declaration of compliance with ISED's ICES standard applicable to the equipment. This label shall be permanently affixed to each unit of the equipment or displayed electronically as per annex B and its text must be indelible and clearly legible. However, if the equipment is too small or if it is not otherwise practical to place the label on the equipment and if e labelling has not been implemented, upon agreement with ISED, the label shall alternatively be placed in a prominent location in the user manual supplied with the equipment and/or on its packaging. If the label is placed

in the user manual and this manual is not supplied with the equipment, the user manual shall be readily available for the entire period in which the equipment is manufactured, imported, distributed, leased, offered for sale, or sold in Canada (e.g., on the manufacturer's website).

The ISED compliance label shall include the word "Canada" (or "CAN") and a reference to the applicable standard, in both English and French. If the applicable ICES standard differentiates between Class A and Class B equipment, the label shall also include the Class of the equipment.

An example is given below:

CAN ICES-00x (y) / NMB-00x (y)

Where x is the number of the applicable ICES standard and
y is either "A" or "B", but not both, to identify the applicable Class of the equipment

The Class must only be included on the ISED label if the applicable ICES standard has different limits for Class A and Class B equipment. Below is an example of a label for cases where the applicable ICES standard makes no such differentiation:

CAN ICES-00x / NMB-00x

Note

The actual format of the label is left at the manufacturer discretion. For example, any of the following label formats would be acceptable for digital interference-causing equipment, subject to ICES-003, [*Information Technology Equipment \(Including Digital Apparatus\) — Limits and Methods of Measurement*](#), which is not intended for residential applications:

- Canada ICES-003 (A) / NMB-003 (A)
- Canada ICES-3 (A) / NMB-3 (A)
- CAN ICES3(A)/NMB3(A)

Requirements for equipment incorporating radio apparatus or terminal equipment

These requirements are only applicable to equipment incorporating radio apparatus or terminal equipment modules or subassemblies/subcircuits.

Interference-causing equipment incorporating radio apparatus modules or subassemblies/subcircuits shall comply with the labelling and other administrative requirements (e.g. user manual notice, if applicable) set out in [*RSS-Gen*](#), [*RSP-100*](#) and the other RSS standard(s) applicable to the specific wireless technology and operating frequency used by the equipment.

Interference-causing equipment incorporating terminal equipment modules or subassemblies/subcircuits shall comply with the labelling and other administrative requirements (e.g. user manual notice, if applicable) set out in DC-01, [*Procedure for Declaration of Conformity and Registration of Terminal Equipment*](#).

E-labeling (per Annex B):

Instead of a physical label on the device itself, ISED allows devices with an integrated display screen to present the required label information electronically (e-label). Devices without an integrated display screen are allowed to present the e-labelling information through an audio message or a host device display screen, where such a host device is connected via physical connection, Bluetooth, Wi-Fi, etc., if this connection to a host device that incorporates a display is mandatory for use.

Information to be displayed

The e-label shall display the following information:

- a. the model identification number; and
- b. any other information required to be provided on the surface of the device unless such information is permitted to be included in the user manual or other packaging inserts.

Instructions to access the e-label

Users shall be provided clear instructions on how to access the regulatory information stored electronically (e-label). These instructions shall meet the following requirements:

- a. be provided in the user manual, operating instructions or packaging material (e.g. on the bags used to pack the device or on accompanying leaflets), or on a website related to the product
- b. not require the use of special access codes or accessories
- c. not include more than three steps from the device's main menu and
- d. the test report shall include the instructions for accessing information as part of the label exhibit (i.e., in the section demonstrating compliance with the labelling requirements).

Accessibility to the e-label

The e-label shall meet the following requirements:

- a. be easily accessible by the user and
- b. not be modifiable by the user (e.g., if stored in the firmware or software menus)

Labelling for importation and purchasing

Products utilizing e-labels are required to have a physical label on the product packaging at the time of importation, offering for sale and sale. The following conditions shall apply:

- a. For devices imported in bulk (not packaged individually), a removable adhesive label or, for devices in protective bags, a label on the bags is acceptable to meet the physical label requirement.
- b. Any removable label shall survive normal shipping and handling and may only be removed by the customer, after purchase. For devices already imported in individual packages ready for sale, the information may alternatively be provided on the package and shall contain:
 - i. the model identification number; and
 - ii. any other information required to be provided on the surface of the product unless such information is permitted to be included in the user manual or other packaging inserts.

Security

The information to be displayed on the e-label, shall meet the following security requirements:

- a. be programmed by the responsible party (e.g. manufacturer) and
- b. not be modifiable or removable during the course of normal authorized activities by a third-party (i.e., the typical user), such as installation of applications or accessing the menus.

User manual and packaging

All the information required to be on the packaging or in the user manual as per the applicable standards shall be provided, even if the packaging components and user manual are provided electronically. Such information may be included in the device's e-label. The following considerations shall apply when providing such information on the e-label:

- a. if the user manual is provided by other electronic media (e.g., CD or online) then, as an option, this information may also be provided as part of the e-label and
- b. the e-label format shall clearly differentiate between the information required to be on the surface of the device and the information required to be in the user manual or on packaging inserts.