UltraTech
Group of Labs

Accreditations:

Lab Code: 0685

APEC TEL CA0001

1309

CA 0001/2049

AT-1945

SL2-IN-E-1119R

**Korea KCC-RRA**
CA0001

3000 Bristol Circle,
Oakville, Ontario,
Canada L6H 6G4

Tel.: (905) 829-1570
Fax.: (905) 829-8050

Website: www.ultratech-labs.com
Email: vic@ultratech-labs.com

January 8, 2025

**Elprotronic Inc.**
35 Austin Rumble Court
King City, Ontario
Canada, L7B 0B2

**Attn.:** **Mr. Gregory Czajkowski**

**Subject:** **Supplier's Declaration of Conformity (SDoC) Authorization under FCC PART15, SUBPART B, Class A - Unintentional Radiators.**

**Product:** **Universal Gang Programmer**
**Model No.:** **C-GANG**

Dear Mr. Czajkowski,

The product sample, as provided by you, has been tested and found to comply **FCC PART 15, SUBPART B, Class A - Unintentional Radiators.**

Enclosed you will find a copy of the engineering report. If you have any queries, please do not hesitate to contact us.

Yours truly,

Tri Minh Luu BASc.
V.P., Engineering

Encl

# SUPPLIERS DECLARATION OF CONFORMITY (SDoC)

| | |
|---|---|
| **Equipment Type:** | Digital Device - Unintentional Radiators. |
| **Trade Name:** | Elprotronic Inc |
| **Product Name:** | Universal Gang Programmer |
| **Model No.:** | C-GANG |
| **Manufacturer:** | Elprotronic Inc |
| **Standard(s) to which Conformity is Declared:** | FCC Part 15, Subpart B - Class A |

**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 not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.**

- *The following test report is subject to this declaration, UltraTech File No.: 24ELP018_FCC15A*
- *The following manufacturer/Importer/Entity (located in the USA) is responsible for this declaration.*

**Company Name:**

**Address:**

Name of legal Representative:
Title:
Phone :
Fax #:
Email Address:
Date:
Signature:

# VERIFICATION CERTIFICATE

**NOT TRANSFERABLE**

This Verification Certificate is hereby issued to the named GRANTEE and is VALID ONLY for the equipment identified hereon for use under the rules and regulations listed below:

| | | |
|---|---|---|
| **GRANTEE:** | Address: | **Elprotronic Inc**<br>35 Austin Rumble Court<br>King City, Ontario<br>Canada, L7B 0B2 |
| **Equipment Type:** | | Unintentional Radiators for Use in Non-Residential Areas |
| **Product Name:** | | Universal Gang Programmer |
| **Model No.:** | | C-GANG |
| **The above product was tested by UltraTech Engineering Labs Inc. and found to comply with:** | | FCC Part 15, Subpart B - Class A Unintentional Radiators for Use in Commercial and Industrial Areas. |
| **Date of Authorization:** | | January 8, 2025 |

- **Note(s):** *See attached report, UltraTech's File No.:* 24ELP018_FCC15A *for details and conditions of Verification Compliance.*

*Approved by: Tri M. Luu BASc.*
*V.P. – Engineering*


**UltraTech**

3000 Bristol Circle, Oakville, Ontario, Canada, L6H 6G4
Tel.: (905) 829-1570 Fax. (905) 829-8050
Website: www.ultratech-labs.com, Email: vic@ultratech-labs.com, Email: tri@ultratech-labs.com


0685 | APEC TEL CA0001 | 1309 | CA 0001/2049 | AT-1945 | SL2-IN-E-1119R | CA0001

# ENGINEERING TEST REPORT

## Universal Gang Programmer
## Model No.: C-GANG

*Applicant:* **Elprotronic Inc.**
*35 Austin Rumble Court*
*King City, Ontario*
*Canada, L7B 0B2*

***Tested in Accordance With***

**Federal Communications Commission (FCC)**
**CFR 47, Part 15, Subpart B**
**Class A Unintentional Radiators**

**UltraTech's File No.: 24ELP018_FCC15A**

| | |
|---|---|
| This Test report is Issued under the Authority of<br>Tri M. Luu BASc.<br>Vice President of Engineering<br>UltraTech Group of Labs<br><br>Date: January 8, 2025 | |
| Report Prepared by: Phuong Ho<br><br>Issued Date: January 8, 2025 | Tested by: Kendrick Luu & Christian Luu<br><br>Test Date: November 12, 2024 |

- *The results in this Test Report apply only to the sample(s) tested, and the sample tested is randomly selected.*
- *This report must not be used by the client to claim product endorsement by any agency of the US Government.*
- *This test report shall not be reproduced, except in full, without a written approval from UltraTech.*


**UltraTech**

3000 Bristol Circle, Oakville, Ontario, Canada, L6H 6G4
Tel.: (905) 829-1570 Fax. (905) 829-8050
Website: www.ultratech-labs.com, Email: vic@ultratech-labs.com, Email: tri@ultratech-labs.com

# TABLE OF CONTENTS

# EXHIBIT 1. INTRODUCTION

## 1.1. SCOPE

| | |
|---|---|
| **Reference:** | FCC Part 15, Subpart B, Sections 15.107 & 15.109 |
| **Title** | Telecommunication - Code of Federal Regulations, CFR 47, Part 15 |
| **Purpose of Test:** | To gain FCC Supplier's Declaration of Conformity (SDoC) Authorization for a Class A Unintentional Radiator. |
| **Test Procedures** | Both conducted and radiated emissions measurements were conducted in accordance with American National Standards Institute 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 GHz. |
| **Environmental Classification:** | Light-industry, Commercial & Industry |

## 1.2. REVISION HISTORY

| Document | Issue Date | Description |
|---|---|---|
| 24ELP018_FCC15A | January 8, 2025 | Original document |
| | | |

## 1.3. RELATED SUBMITTAL(S)/GRANT(S)

None.

## 1.4. NORMATIVE REFERENCES

| Publication | Year | Title |
|---|---|---|
| FCC 47 CFR 15 | 2023 | Code of Federal Regulations – Telecommunication |
| ANSI C63.4 | 2014 | 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 |

# EXHIBIT 2. PERFORMANCE ASSESSMENT

## 2.1. CLIENT INFORMATION

| APPLICANT/ MANUFACTURER: | |
|---|---|
| **Name:** | **Elprotronic Inc.** |
| **Address:** | 35 Austin Rumble Court<br>King City, Ontario<br>Canada, L7B 0B2 |

## 2.2. EQUIPMENT UNDER TEST (EUT) INFORMATION

The following information (with the exception of the Date of Receipt) has been supplied by the applicant.

| | |
|---|---|
| **Product Name** | Universal Gang Programmer |
| **Model Name or Number** | C-GANG |
| **Firmware Version Identification Number :** | BS063X01-1.04, CS063X01-1.06 |
| **Serial Number:** | SN: 630100523 |
| **CPU Frequencies:** | 12 MHz, 192 MHz, 480 MHz |
| **Type of Equipment** | Unintentional Radiators |
| **Power input source:** | 5VDC Host device |
| **Typical Equipment Usage:** | Indoor |

## 2.3. LIST OF ACCESSORIES OF THE EUT

| | Name, Make, Model of Component / Part | Short Description of Use |
|---|---|---|
| 1 | C-GANG | Gang Programmer for MCUs |

## 2.4. LIST OF EUT'S PORTS

| Port # | EUT's Port Description | Number of Identical Ports | Connector/ Interface Type | Connected Cabling Length / Type | Cable Type |
|---|---|---|---|---|---|
| 1 | USB-C | 1 | USB-C | Not allow longer than 3m | Shielded |
| 2 | To Gang Splitter | 1 | 56 pins | Not allow longer than 3m | Non-shielded |
| 3 | To single target device | 1 | 10 pins | Not allow longer than 3m | Non-shielded |

## 2.5. ANCILLARY EQUIPMENT

The EUT was tested while connected to the following representative configuration of ancillary equipment necessary to exercise the ports during tests:

| Ancillary Equipment # 1 | |
|---|---|
| Equipment Make and Name: | Gang splitter |
| Model Name or Number: | C-GANG-SP rev-0 |
| Connected to EUT's Port #: *(See above table)* | To Gang Splitter |

| Ancillary Equipment # 2 | |
|---|---|
| Equipment Make and Name: | PC |
| Connected to EUT's Port #: *(See above table)* | USB-C |

# EXHIBIT 3. EUT OPERATING CONDITIONS AND CONFIGURATIONS DURING TESTS

## 3.1. CLIMATE TEST CONDITIONS

The climate conditions of the test environment are as follows:

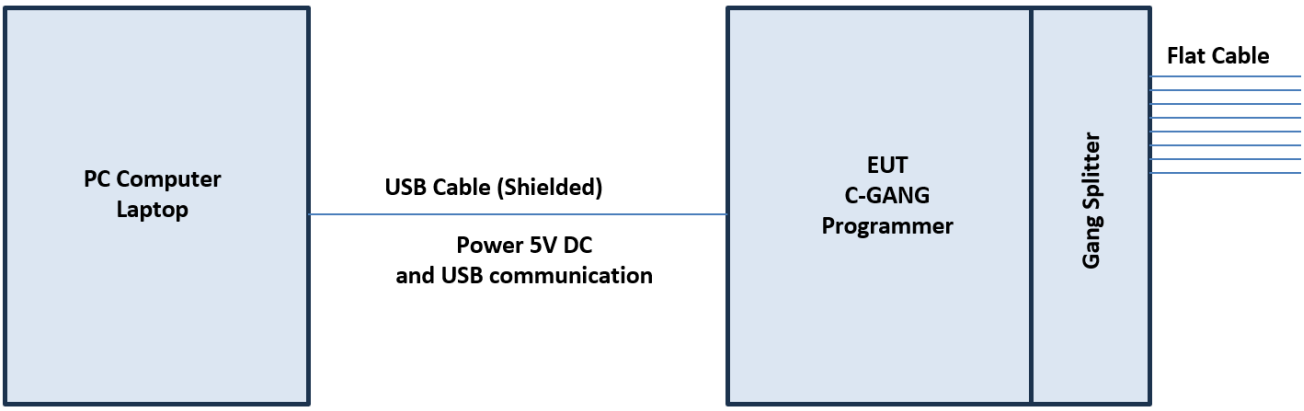
| | |
|---|---|
| Temperature: | 23.7°C |
| Humidity: | 30% |
| Pressure: | 100.9 kPa |
| Power input source: | 5 VDC |

## 3.2. OPERATIONAL TEST CONDITIONS & ARRANGEMENT FOR TEST SIGNALS

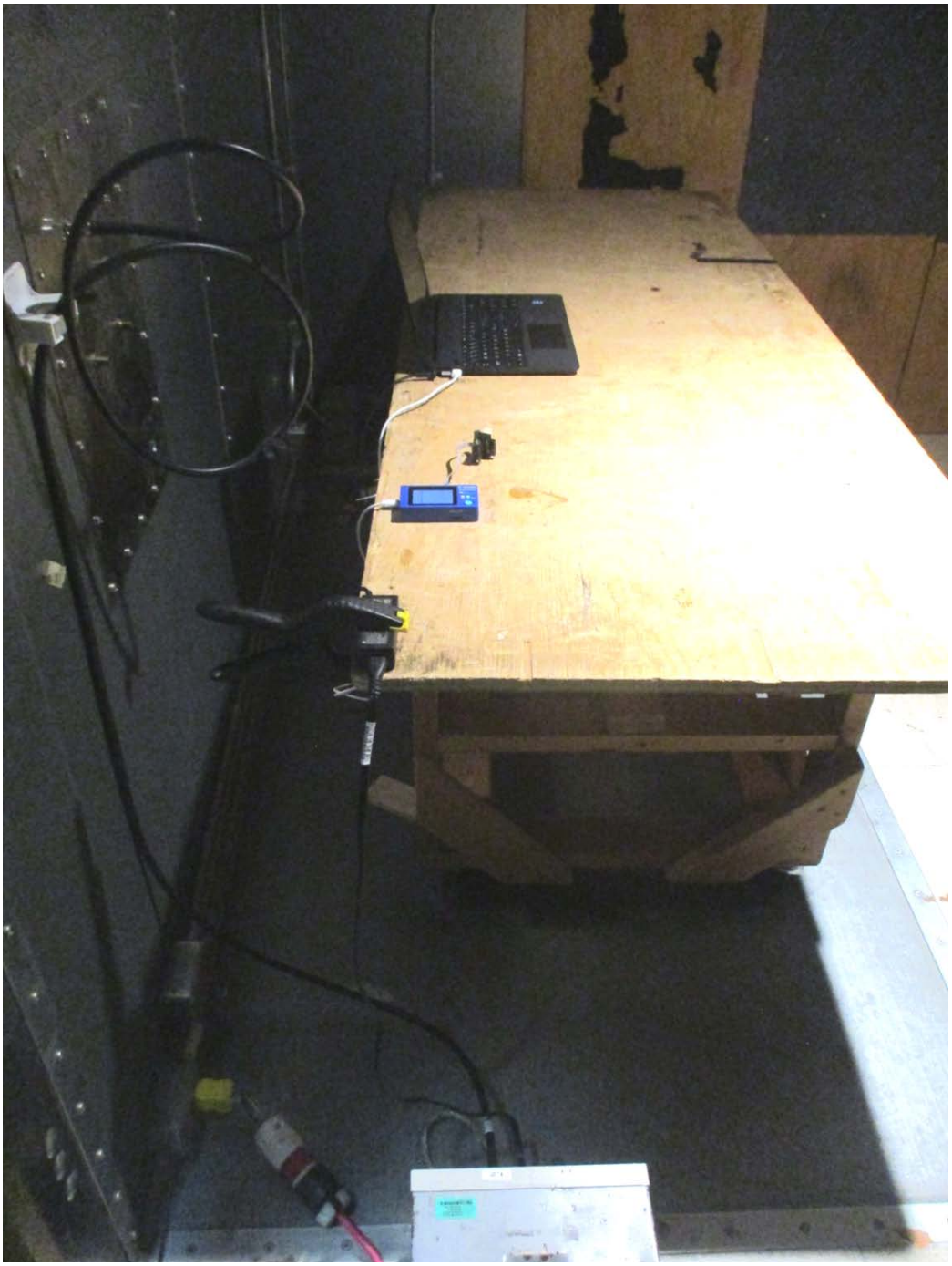
**1) Equipment Setup / operating instructions:**
Connect programmer via USB cable to PC. Connect target to be programmed via C-GANG. Run software on PC.

**2) Description of normal operation during tests:**
Connect programmer via USB cable to PC. Connect target to be programmed via C-GANG. Run software on PC.

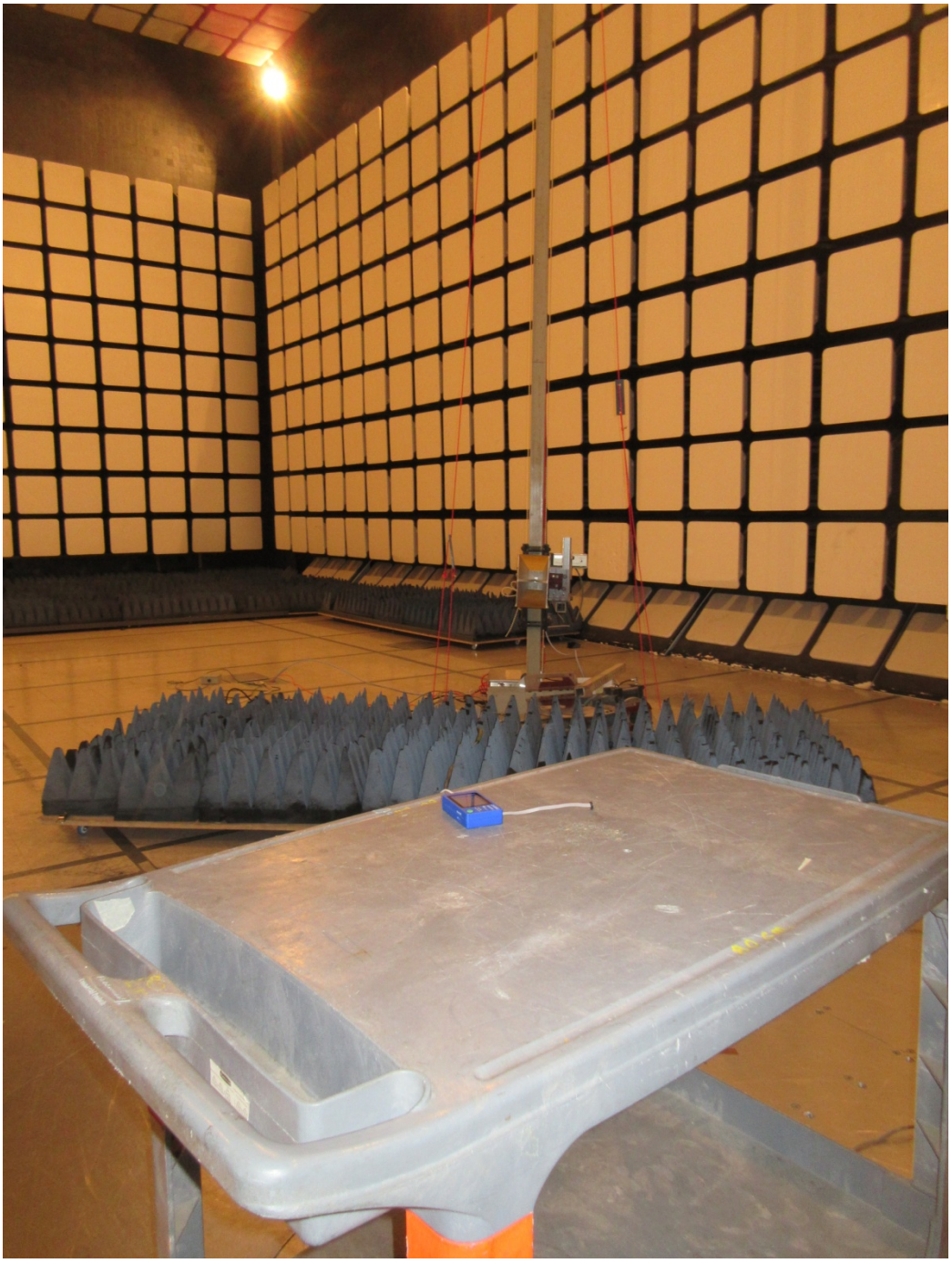
## 3.3. BLOCK DIAGRAM OF TEST SETUP



## 3.4. PHOTOGRAPHS OF TEST SETUP FOR AC CONDUCTED EMISSIONS



## 3.5. PHOTOGRAPHS OF TEST SETUP FOR RADIATED EMISSION MEASUREMENTS



# EXHIBIT 4. SUMMARY OF TEST RESULTS

## 4.1. LOCATION OF TESTS

All of the measurements described in this report were performed at Ultratech Group of Labs located in the city of Oakville, Province of Ontario, Canada.

- AC Powerline Conducted Emissions were performed in UltraTech's shielded room, 24'(L) by 16'(W) by 8'(H).

- Radiated Emissions were performed at the Ultratech's 3-10 TDK Semi-Anechoic Chamber situated in the city of Oakville, province of Ontario. This test site been calibrated in accordance with ANSI C63.4, and found to be in compliance with the requirements of Sec. 2.948 of the FCC Rules. The descriptions and site measurement data of the Oakville 3-10 TDK Semi-Anechoic Chamber has been filed with ANAB File No.: AT-1945.

## 4.2. APPLICABILITY & SUMMARY OF EMC EMISSION TEST RESULTS

| FCC PART 15, SUBPART B | TEST REQUIREMENTS | MARGIN BELOW (-) / ABOVE (+) THE LIMITS | COMPLIANCE (YES/NO) |
|---|---|---|---|
| 15.107(b), Class A | AC Power Line Conducted Emissions Measurements | - 35.0 dB @ 0.181 MHz | Yes |
| 15.109(b), Class A | Radiated Emissions from Computing Devices (Digital Devices) | - 4.8 dB @ 79.74 MHz | Yes |

## 4.3. MODIFICATIONS REQUIRED FOR COMPLIANCE

None.

## 4.4. DEVIATION OF THE STANDARD TEST PROCEDURES

None.

# EXHIBIT 5. MEASUREMENT DATA

## 5.1. AC POWERLINE CONDUCTED EMISSIONS @ FCC PART 15, SUBPART B, PARA.15.107 (B)

### 5.1.1. Limits

The equipment shall meet the limits of the following table:

| | CLASS A LIMITS | | |
|---|---|---|---|
| **Test Frequency Range (MHz)** | **Quasi-Peak (dBµV)** | **Average* (dBµV)** | **Measuring Bandwidth** |
| 0.15 to 0.5 | 79 | 66 | RBW = 9 kHz<br>VBW ≥ 9 kHz for QP<br>VBW = 10 Hz for Average |
| 0.5 to 30 | 73 | 60 | RBW = 9 kHz<br>VBW ≥ 9 kHz for QP<br>VBW = 10 Hz for Average |

### 5.1.2. Method of Measurements

Refer to Ultratech Test Procedures ULTR-P001-2004 & ANSI C63.4 for method of measurements.

**Calculation of Conducted Emission Voltage (dBµV)**:

This is calculated by adding the L.I.S.N factor, Cable loss factor, and Attenuator factor to the measured reading. The basic equation with a sample calculation is as follows:

$$\text{Voltage (dB}\mu\text{V)} = RA + AF + CF + LF$$

Where

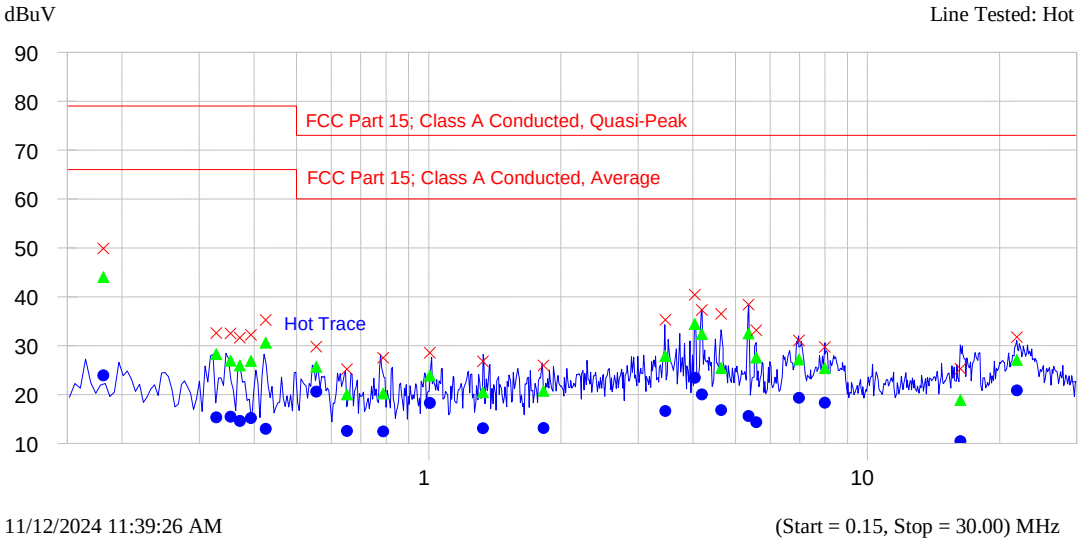
RA = Receiver/Analyzer Reading in dBµV
AF = Attenuation Factor in dB
CF = Cable loss Factor in dB
LF = L.I.S.N Factor in dB

### 5.1.3. Test Instruments

Refer to Exhibit 6 for Test Instruments & Measurement Uncertainty.

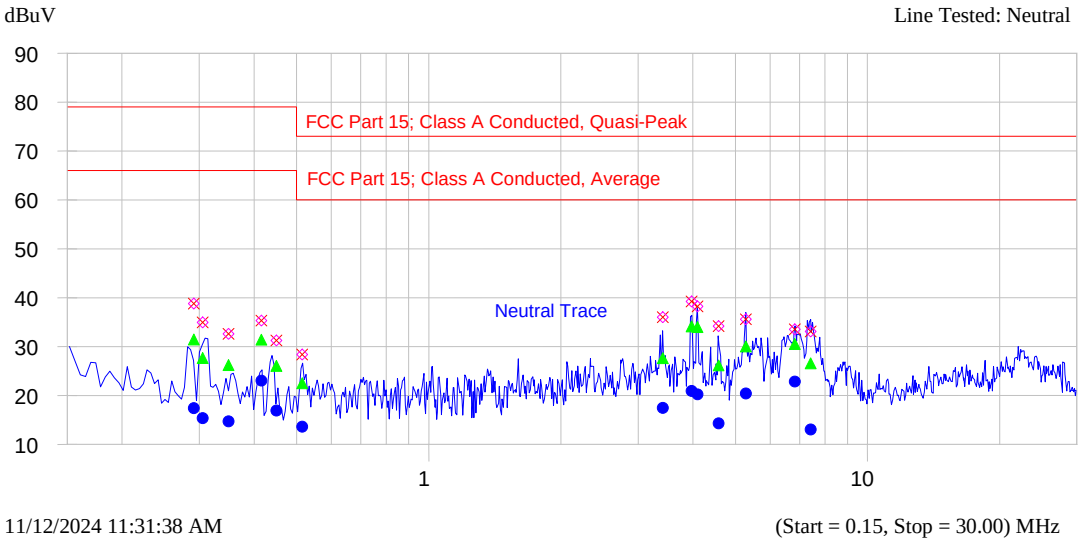
## 5.1.4. Test Results

Description: Line Voltage:120Vac
Mode Tested: H pattern
Setup Name: FCC 15 Class A
Customer Name: Elprotronics
Project Number: ELP-018Q
Operator Name: Kendrick
EUT Name: Universal Gang Programmer, M/N: C-GANG




| Frequency MHz | Peak dBuV | QP dBuV | QP-QP Limit dB | Avg dBuV | Avg-Avg Limit dB | Trace Name |
|---|---|---|---|---|---|---|
| **0.181** | **49.9** | **44.0** | **-35.0** | 23.9 | -42.1 | Hot Trace |
| 0.328 | 32.6 | 28.3 | -50.7 | 15.3 | -50.7 | Hot Trace |
| 0.354 | 32.5 | 26.9 | -52.1 | 15.5 | -50.5 | Hot Trace |
| 0.371 | 31.6 | 25.9 | -53.1 | 14.6 | -51.4 | Hot Trace |
| 0.394 | 32.2 | 26.9 | -52.1 | 15.2 | -50.8 | Hot Trace |
| 0.425 | 35.2 | 30.6 | -48.4 | 13.0 | -53.0 | Hot Trace |
| 0.554 | 29.8 | 25.7 | -47.3 | 20.6 | -39.4 | Hot Trace |
| 0.651 | 25.2 | 20.0 | -53.0 | 12.6 | -47.4 | Hot Trace |
| 0.788 | 27.5 | 20.2 | -52.8 | 12.5 | -47.5 | Hot Trace |
| 1.007 | 28.5 | 23.9 | -49.1 | 18.3 | -41.7 | Hot Trace |
| 1.330 | 26.8 | 20.5 | -52.5 | 13.1 | -46.9 | Hot Trace |
| 1.827 | 25.9 | 20.8 | -52.2 | 13.2 | -46.8 | Hot Trace |
| 3.461 | 35.3 | 27.9 | -45.1 | 16.7 | -43.3 | Hot Trace |
| 4.041 | 40.4 | 34.4 | -38.6 | 23.4 | -36.6 | Hot Trace |
| 4.191 | 37.3 | 32.4 | -40.6 | 20.0 | -40.0 | Hot Trace |
| 4.640 | 36.5 | 25.4 | -47.6 | 16.8 | -43.2 | Hot Trace |
| 5.356 | 38.4 | 32.5 | -40.5 | 15.6 | -44.4 | Hot Trace |
| 5.576 | 33.1 | 27.6 | -45.4 | 14.4 | -45.6 | Hot Trace |
| 6.977 | 31.1 | 27.2 | -45.8 | 19.3 | -40.7 | Hot Trace |
| 7.996 | 29.7 | 25.4 | -47.6 | 18.3 | -41.7 | Hot Trace |
| 16.282 | 25.3 | 18.9 | -54.1 | 10.5 | -49.5 | Hot Trace |
| 21.911 | 31.7 | 27.1 | -45.9 | 20.9 | -39.1 | Hot Trace |

Description: Line Voltage:120Vac
Mode Tested: H pattern
Setup Name: FCC 15 Class A
Customer Name: Elprotronics
Project Number: ELP-018Q
Operator Name: Kendrick
EUT Name: Universal Gang Programmer, M/N: C-GANG




| Frequency MHz | Peak dBuV | QP dBuV | QP-QP Limit dB | Avg dBuV | Avg-Avg Limit dB | Trace Name |
|---|---|---|---|---|---|---|
| 0.291 | 38.8 | 31.5 | -47.5 | 17.4 | -48.6 | Neutral Trace |
| 0.305 | 34.9 | 27.7 | -51.3 | 15.4 | -50.6 | Neutral Trace |
| 0.350 | 32.6 | 26.2 | -52.8 | 14.7 | -51.3 | Neutral Trace |
| 0.416 | 35.3 | 31.4 | -47.6 | 23.0 | -43.0 | Neutral Trace |
| 0.450 | 31.2 | 26.1 | -52.9 | 16.9 | -49.1 | Neutral Trace |
| 0.515 | 28.4 | 22.5 | -50.5 | 13.6 | -46.4 | Neutral Trace |
| 3.416 | 36.0 | 27.6 | -45.4 | 17.5 | -42.5 | Neutral Trace |
| 3.974 | 39.2 | 34.1 | -38.9 | 20.9 | -39.1 | Neutral Trace |
| 4.101 | 38.2 | 34.0 | -39.0 | 20.2 | -39.8 | Neutral Trace |
| 4.577 | 34.2 | 26.2 | -46.8 | 14.3 | -45.7 | Neutral Trace |
| 5.281 | 35.6 | 30.0 | -43.0 | 20.4 | -39.6 | Neutral Trace |
| 6.830 | 33.5 | 30.5 | -42.5 | 22.9 | -37.1 | Neutral Trace |
| 7.424 | 33.1 | 26.6 | -46.4 | 13.1 | -46.9 | Neutral Trace |

## 5.2. RADIATED EMISSIONS (DIGITAL DEVICES) @ FCC 15.109(B)

### 5.2.1. Limits

The equipment shall meet the limits of the following table:

| Test Frequency Range (MHz) | Class A Limits (dBμV/m) | EMI Detector Used | Measurement Distance (meters) |
|---|---|---|---|
| 30 – 88 | 39.0 | Quasi-Peak | 10 |
| 88 – 216 | 43.5 | Quasi-Peak | 10 |
| 216 – 960 | 46.4 | Quasi-Peak | 10 |
| 960 -1000 | 49.5 | Quasi-Peak | 10 |
| Above 1000 | 60.0<br>80.0 | Average<br>Peak | 3 |

### 5.2.2. Method of Measurements

Refer to Ultratech Test Procedures ULTR-P001-2004 & ANSI C63.4 for method of measurements.

The spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a radiated emission limit is specified, up to the frequency shown in the following table:

| Highest frequency generated or used in the device or on which the device operates or tunes (MHz) | Upper frequency of measurement range (MHz) |
|---|---|
| Below 1.705 | 30 |
| 1.705 – 108 | 1000 |
| 108 – 500 | 2000 |
| 500 -1000 | 5000 |
| Above 1000 | $5^{th}$ harmonic of the highest frequency or 40 GHz, whichever is lower |

**Calculation of Field Strength**:

The field strength is calculated by adding the calibrated antenna factor and cable factor, and subtracting the Amplifier gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CF - AG$$

Where FS = Field Strength
RA = Receiver/Analyzer Reading
AF = Antenna Factor
CF = Cable Attenuation Factor
AG = Amplifier Gain

### 5.2.3. Test Instruments

Refer to Exhibit 6 for Test Instruments & Measurement Uncertainty.

### 5.2.4. Test Results

**Mode tested: H Pattern**

| The emissions were scanned from 30 MHz to 1 GHz at 10 Meters distance and all emissions below the limits were recorded. | | | | | | |
|---|---|---|---|---|---|---|
| **FREQUENCY (MHz)** | **RF LEVEL (dBuV/m)** | **DETECTOR USED (PEAK/QP)** | **ANTENNA PLANE (H/V)** | **LIMIT (dBuV/m)** | **MARGIN (dB)** | **PASS/ FAIL** |
| 31.55 | 31.3 | QP | V | 39.0 | -7.7 | PASS |
| 31.55 | 24.3 | PEAK | H | 39.0 | -14.7 | PASS |
| 62.64 | 34.13 | PEAK | V | 39.0 | -4.9 | PASS |
| **79.74** | 34.24 | PEAK | V | 39.0 | **-4.8** | PASS |
| 101.5 | 21.8 | PEAK | H | 43.5 | -21.7 | PASS |
| 145.03 | 27.41 | PEAK | V | 43.5 | -16.1 | PASS |
| 291.09 | 33.84 | PEAK | H | 46.4 | -12.6 | PASS |
| 320.63 | 33.04 | PEAK | H | 46.4 | -13.4 | PASS |
| 367.26 | 34.4 | PEAK | H | 46.4 | -12.1 | PASS |
| 640.91 | 40.32 | PEAK | V | 46.4 | -6.1 | PASS |
| 640.91 | 37.02 | PEAK | H | 46.4 | -9.4 | PASS |
| 682.88 | 38.46 | PEAK | V | 46.4 | -7.9 | PASS |
| 682.88 | 35.13 | PEAK | H | 46.4 | -11.3 | PASS |
| 720.19 | 36.77 | PEAK | V | 46.4 | -9.6 | PASS |
| 720.19 | 33.1 | PEAK | H | 46.4 | -13.3 | PASS |
| 782.37 | 35.22 | PEAK | V | 46.4 | -11.2 | PASS |

| The emissions were scanned from 1 to 3 GHz at 3 Meters distance and all emissions below the limits were recorded. | | | | | | |
|---|---|---|---|---|---|---|
| **FREQUENCY (MHz)** | **RF LEVEL (dBuV/m)** | **DETECTOR USED (PEAK/AVG)** | **ANTENNA PLANE (H/V)** | **LIMIT (dBuV/m)** | **MARGIN (dB)** | **PASS/ FAIL** |
| 1028 | 33.6 | PEAK | H | 60.0 | -26.4 | PASS |
| 1083 | 35.2 | PEAK | V | 60.0 | -24.8 | PASS |
| 1160 | 32.5 | PEAK | H | 60.0 | -27.5 | PASS |
| 1996 | 38.0 | PEAK | V | 60.0 | -22.0 | PASS |
| 1996 | 38.4 | PEAK | H | 60.0 | -21.6 | PASS |
| 2128 | 41.1 | PEAK | V | 60.0 | -18.9 | PASS |
| 2128 | 39.9 | PEAK | H | 60.0 | -20.1 | PASS |

# EXHIBIT 6. TEST INSTRUMENTS & MEASUREMENT UNCERTAINTY

## 6.1. MEASUREMENT UNCERTAINITY

The measurement uncertainties stated were calculated in accordance with the requirements of CISPR 16-4-2 @ IEC: 2011 and JCGM 100:2008 (GUM 1995) – Guide to the Expression of Uncertainty in Measurement.

Expanded measurement uncertainty is specified with a coverage factor of k=2 for a 95% Confidence level.

| Test description | Expanded Uncertainty (dB) | |
|---|---|---|
| | $U_{LAB}$ | $U_{CISPR}$ |
| Power Line Conducted Emission Uncertainty(150 KHz – 30 MHz) | ±2.62 | 3.4 |
| Radiated Emissions Measurement Uncertainty (30-1000 MHz) | ± 4.82 | 6.3 |
| Radiated Emissions Measurement Uncertainty (above 1 GHz) | ± 3.43 | 5.2 |

## 6.2. TEST EQUIPMENT LIST

### 6.2.1. Line Conducted Emissions

| Test Instrument | Manufacturer | Model No. | Serial No. | Cal Due Date |
|---|---|---|---|---|
| EMI Analyzer | Agilent | 8593EM | 3710A00223 | 9-May-2025 |
| LISN | EMCO | 3825/2 | 8907-1531 | 6-Mar-2025 |
| Attenuator | Rohde & Schwarz | EZ-25 | 100064 | 9-Nov-2025 |
| Test Software: Agilent (HP) E7415A EMI Test Measurement Software, version A.01.40 | | | | |

Test Date: Nov. 12, 2024

### 6.2.2. Radiated Emissions

| Test Instrument | Manufacturer | Model No. | Serial No. | Freq. Range | Cal Due Date |
|---|---|---|---|---|---|
| EMI Receiver | Rohde & Schwarz | ESU40 | 100037 | 20 Hz to 40 GHz | 18-Sep-25 |
| Biconilog Antenna | EMCO | 3142C | 34792 | 26 – 3000 MHz | 16-Dec-25 |
| Pre-Amplifier | Com-Power | PAM-118A | 550152 | 500 MHz to 18 GHz | 07-Oct-25 |
| Horn Antenna | EMCO | 3115 | 9701-5061 | 1GHz – 18 GHz | 4-Sep-26 |

Test Date: Nov. 12, 2024

# EXHIBIT 7. LABELING & FCC AUTHORIZATION REQUIREMENTS

## 7.1. SECTION 15.19 - LABELING REQUIREMENTS

For a digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent 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.***

(1) 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, as described in FCC 2.925(d). "Permanently" affixed means that the label is etched, engraved, stamped, silk-screened, 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 life-time of the equipment in the environment in which the equipment may be operated and must not be readily detachable.

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

(3) When the device is so small or for such use that it is not practicable to place the statement specified in this Section on it, the information required by these paragraphs shall be placed in the instruction manual or pamphlet supplied to the user or, alternatively, shall be placed on the container in which the device is marketed. However, the FCC identifier or the unique identifier, as appropriate, must be displayed on the device.

## 7.2. SECTIONS 15.21 & 15.105 - INFORMATION TO USER

The users 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.

(a) For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual.

> **NOTE:** ***This equipment has been tested and found to comply with the limits for a Class B digital devices, 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 instruction manual, 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 of 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.***
>
> **Warning: Changes or modifications not expressly approved by <manufacturer> could void the user's authority to operate the equipment.**

## 7.3. SECTION 2.906 - SUPPLIER'S DECLARATION OF CONFORMITY.

(a) Supplier's Declaration of Conformity (SDoC) is a procedure where the responsible party, as defined in § 2.909, makes measurements or completes other procedures found acceptable to the Commission to ensure that the equipment complies with

the appropriate technical standards and other applicable requirements. Submittal to the Commission of a sample unit or representative data demonstrating compliance is not required unless specifically requested pursuant to § 2.945.

(b) Supplier's Declaration of Conformity is applicable to all items subsequently marketed by the manufacturer, importer, or the responsible party that are identical, as defined in § 2.908, to the sample tested and found acceptable by the manufacturer.

(c) The responsible party may, if it desires, apply for Certification of a device subject to the Supplier's Declaration of Conformity. In such cases, all rules governing certification will apply to that device.

(d) Notwithstanding other parts of this section, equipment otherwise subject to the Supplier's Declaration of Conformity process that is produced by any entity identified on the Covered List, established pursuant to § 1.50002 of this chapter, as producing covered communications equipment is prohibited from obtaining equipment authorization through that process. The rules governing certification apply to authorization of such equipment.

## 7.4. SECTION 2.909 - RESPONSIBLE PARTY

**(b)** For equipment subject to Supplier's Declaration of Conformity the party responsible for the compliance of the equipment with the applicable standards, who must be located in the United States (see § 2.1077), is set forth as follows:

(1) The manufacturer or, if the equipment is assembled from individual component parts and the resulting system is subject to authorization under Supplier's Declaration of Conformity, the assembler.

(2) If the equipment by itself, or, a system is assembled from individual parts and the resulting system is subject to Supplier's Declaration of Conformity and that equipment or system is imported, the importer.

(3) Retailers or original equipment manufacturers may enter into an agreement with the responsible party designated in paragraph (b)(1) or (b)(2) of this section to assume the responsibilities to ensure compliance of equipment and become the new responsible party.

(4) If the radio frequency equipment is modified by any party not working under the authority of the responsible party, the party performing the modifications, if located within the U.S., or the importer, if the equipment is imported subsequent to the modifications, becomes the new responsible party.

(c) If the end product or equipment is subject to both certification and Supplier's Declaration of Conformity (*i.e.,* composite system), all the requirements of paragraphs (a) and (b) of this section apply.

(d) If, because of modifications performed subsequent to authorization, a new party becomes responsible for ensuring that a product complies with the technical standards and the new party does not obtain a new equipment authorization, the equipment shall be labeled, following the specifications in § 2.925(d), with the following: “This product has been modified by [insert name, address and telephone number or internet contact information of the party performing the modifications].”

(e) In the case of transfer of control of equipment, as in the case of sale or merger of the responsible party, the new entity shall bear the responsibility of continued compliance of the equipment.

## 7.5. SECTION2.925- IDENTIFICATION OF EQUIPMENT.

(a) Each equipment covered in an application for equipment authorization shall bear a label listing the following:

(1) FCC Identifier consisting of the two elements in the exact order specified in § 2.926. The FCC Identifier shall be preceded by the term FCC ID in capital letters on a single line, and shall be of a type size large enough to be legible without the aid of magnification.

(2) Any other statements or labeling requirements imposed by the rules governing the operation of the specific class of equipment, except that such statement(s) of compliance may appear on a separate label at the option of the applicant/grantee.

(3) The information required may be provided electronically pursuant to § 2.935.

(b) Any device subject to more than one equipment authorization procedure may be assigned a single FCC Identifier. However, a single FCC Identifier is required to be assigned to any device consisting of two or more sections assembled in a common enclosure, on a common chassis or circuit board, and with common frequency controlling circuits. Devices to which a single FCC Identifier has been assigned shall be identified pursuant to paragraph (a) of this section.

(1) Separate FCC Identifiers may be assigned to a device consisting of two or more sections assembled in a common enclosure, but constructed on separate sub-units or circuit boards with independent frequency controlling circuits. The FCC Identifier assigned to any transmitter section shall be preceded by the term *TX FCC ID,* the FCC Identifier assigned to any receiver section shall be preceded by the term *RX FCC ID* and the identifier assigned to any remaining section(s) shall be preceded by the term *FCC ID.*

(2) Where terminal equipment subject to part 68 of this chapter, and a radiofrequency device subject to equipment authorization requirements are assembled in a common enclosure, the device shall be labeled in accordance with the Hearing Aid Compatibility-related requirements in part 68 of this chapter and the requirements published by the Administrative Council for Terminal Attachments, and shall also display the FCC Identifier in the format specified in paragraph (a) of this section.

(3) For a transceiver, the receiver portion of which is subject to Supplier's Declaration of Conformity pursuant to § 15.101 of this chapter, and the transmitter portion is subject to certification, the FCC Identifier required for the transmitter portion shall be preceded by the term FCC ID.

(c) [Reserved]

(d) In order to validate the grant of equipment authorization, the nameplate or label shall be permanently affixed to the equipment and shall be readily visible to the purchaser at the time of purchase.

(1) As used here, *permanently affixed* means that the required nameplate data is etched, engraved, stamped, indelibly printed, or otherwise permanently marked on a permanently attached part of the equipment enclosure. Alternatively, the required information may be permanently marked on a nameplate of metal, plastic, or other material fastened to the equipment enclosure by welding, riveting, etc., or with a permanent adhesive. Such a nameplate must be able to last the expected lifetime of the equipment in the environment in which the equipment will be operated and must not be readily detachable.

(2) As used here, *readily visible* means that the nameplate or nameplate data must be visible from the outside of the equipment enclosure. It is preferable that it be visible at all times during normal installation or use, but this is not a prerequisite for grant of equipment authorization.

(e) A software defined radio may be equipped with a means such as a user display screen to display the FCC identification number normally contained in the nameplate or label. The information must be readily accessible, and the user manual must describe how to access the electronic display.

(f) The FCC Identifier including the term *"FCC ID"* shall be in a size of type large enough to be readily legible, consistent with the dimensions of the equipment and its label. However, the type size for the FCC Identifier is not required to be larger than eight-point. If a device is so small that it is impractical to label it with the FCC Identifier in a font that is four-point or larger, and the device does not have a display that can show electronic labeling, then the FCC Identifier 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 to paragraph (f):

As an example, a device intended to be implanted within the body of a test animal or person would probably require an alternate method of identification.

## 7.6. SECTION 2.939 -REVOCATION OR WITHDRAWAL OF EQUIPMENT AUTHORIZATION.

(a) The Commission may revoke any equipment authorization:

(1) For false statements or representations made either in the application or in materials or response submitted in connection therewith or in records required to be kept by § 2.938.

(2) If upon subsequent inspection or operation it is determined that the equipment does not conform to the pertinent technical requirements or to the representations made in the original application.

(3) If it is determined that changes have been made in the equipment other than those authorized by the rules or otherwise expressly authorized by the Commission.

(4) Because of conditions coming to the attention of the Commission which would warrant it in refusing to grant an original application.

(b) Revocation of an equipment authorization shall be made in the same manner as revocation of radio station licenses, except as provided in paragraph (d) of this section.

(c) The Commission may withdraw any equipment authorization in the event of changes in its technical standards. The procedure to be followed will be set forth in the order promulgating such new technical standards (after appropriate rulemaking proceedings) and will provide a suitable amortization period for equipment in hands of users and in the manufacturing process.

(d) Notwithstanding other provisions of § 2.939, to the extent a false statement or representation is made in the equipment certification application (see §§ 2.911(d)(5)-(7), 2.932, 2.1033, and 2.1043), or in materials or responses submitted in connection therewith, that the equipment in the subject application is not prohibited from receiving an equipment authorization pursuant to § 2.903, and the equipment certification or modification was granted, if the Commission subsequently determines that the equipment is covered communications equipment, the Commission will revoke such authorization.

(1) If the Office of Engineering and Technology and the Public Safety and Homeland Security Bureau determine that particular authorized equipment is covered communications equipment, and that the certification application for that equipment contained a false statement or representation that the equipment was not covered communications equipment, they will provide written notice to the grantee that a revocation proceeding is being initiated and the grounds under consideration for such revocation.

(2) The grantee will have 10 days in which to respond in writing to the reasons cited for initiating the revocation proceeding. The Office of Engineering and Technology and the Public Safety and Homeland Security Bureau will then review the submissions, request additional information as may be appropriate, and make their determination as to whether to revoke the authorization, providing the reasons for such decision.

## 7.7. SECTION 2.945- SUBMISSION OF EQUIPMENT FOR TESTING AND EQUIPMENT RECORDS.

**(b)*Subsequent to equipment authorization.***

(1) The Commission may request that the responsible party or any other party marketing equipment subject to this chapter submit a sample of the equipment, or provide a voucher for the equipment to be obtained from the marketplace, to determine the extent to which production of such equipment continues to comply with the data filed by the applicant or on file with the responsible party for equipment subject to Supplier's Declaration of Conformity. The Commission may request that a sample or voucher to obtain a product from the marketplace be submitted to the Commission, or in the case of equipment subject to certification, to the TCB that certified the equipment.

(2) A TCB may request samples of equipment that it has certified from the grantee of certification, or request a voucher to obtain a product from the marketplace, for the purpose of performing post-market surveillance as described in § 2.962. TCBs must document their sample requests to show the date they were sent and provide this documentation to the Commission upon request.

(3) The cost of shipping the equipment to the Commission's laboratory and back to the party submitting the equipment shall be borne by the party from which the Commission requested the equipment.

(4) In the event a party believes that shipment of the sample to the Commission's laboratory or the TCB is impractical because of the size or weight of the equipment, or the power requirement, or for any other reason, that party may submit a written explanation why such shipment is impractical and should not be required.

(5) Failure of a responsible party or other party marketing equipment subject to this chapter to comply with a request from the Commission or TCB for equipment samples or vouchers within 21 days may be cause for actions such as such as suspending action on applications for certification submitted by a grantee or forfeitures pursuant to § 1.80 of this chapter. The Commission or TCB requesting the sample may consider extensions of time upon submission of a showing of good cause.

(c) ***Submission of records.*** Upon request by the Commission, each responsible party shall submit copies of the records required by § 2.938 to the Commission. Failure of a responsible party or other party marketing equipment subject to this chapter to comply with a request from the Commission for records within 21 days may be cause for forfeiture, pursuant to § 1.80 of this chapter. The Commission may consider extensions of time upon submission of a showing of good cause.

(d) ***Inspection by the Commission.*** Upon request by the Commission, each responsible party shall make its manufacturing plant and facilities available for inspection.

## 7.8. SECTION 2.931- RESPONSIBILITIES.

(a) The responsible party warrants that each unit of equipment marketed under its grant of certification and bearing the identification specified in the grant will conform to the unit that was measured and that the data (design and rated operational characteristics) filed with the application for certification continues to be representative of the equipment being produced under such grant within the variation that can be expected due to quantity production and testing on a statistical basis.

(b)-(c) [Reserved]

(d) In determining compliance for devices subject to Supplier's Declaration of Conformity, the responsible party warrants that each unit of equipment marketed under Supplier's Declaration of Conformity will be identical to the unit tested and found acceptable with the standards and that the records maintained by the responsible party continue to reflect the equipment being produced under such Supplier's Declaration of Conformity within the variation that can be expected due to quantity production and testing on a statistical basis.

(e) For equipment subject to Supplier's Declaration of Conformity, the responsible party must reevaluate the equipment if any modification or change adversely affects the emanation characteristics of the modified equipment. The responsible party bears responsibility for continued compliance of subsequently produced equipment.

## 7.9. RETENTION OF RECORDS: SECTION -2.938

(a) For equipment subject to the equipment authorization procedures in this part, the responsible party shall maintain the records listed as follows:

(1) A record of the original design drawings and specifications and all changes that have been made that may affect compliance with the standards and the requirements of § 2.931.

(2) A record of the procedures used for production inspection and testing to ensure conformance with the standards and the requirements of § 2.931.

(3) A record of the test results that demonstrate compliance with the appropriate regulations in this chapter.

(b) For equipment subject to Supplier's Declaration of Conformity, the responsible party shall, in addition to the requirements in paragraph (a) of this section, maintain the following records:

(1) Measurements made on an appropriate test site that demonstrates compliance with the applicable regulations in this chapter. The record shall:

(i) Indicate the actual date all testing was performed;

(ii) State the name of the test laboratory, company, or individual performing the testing. The Commission may request additional information regarding the test site, the test equipment or the qualifications of the company or individual performing the tests;

(iii) Contain a description of how the device was actually tested, identifying the measurement procedure and test equipment that was used;

(iv) Contain a description of the equipment under test (EUT) and support equipment connected to, or installed within, the EUT;

(v) Identify the EUT and support equipment by trade name and model number and, if appropriate, by FCC Identifier and serial number;

(vi) Indicate the types and lengths of connecting cables used and how they were arranged or moved during testing;

(vii) Contain at least two drawings or photographs showing the test set-up for the highest line conducted emission and showing the test set-up for the highest radiated emission. These drawings or photographs must show enough detail to confirm other information contained in the test report. Any photographs used must clearly show the test configuration used;

(viii) List all modifications, if any, made to the EUT by the testing company or individual to achieve compliance with the regulations in this chapter;

(ix) Include all of the data required to show compliance with the appropriate regulations in this chapter;

(x) Contain, on the test report, the signature of the individual responsible for testing the product along with the name and signature of an official of the responsible party, as designated in § 2.909; and

(xi) A copy of the compliance information, as described in § 2.1077, required to be provided with the equipment.

(2) A written and signed certification that, as of the date of first importation or marketing of the equipment, the equipment for which the responsible party maintains Supplier's Declaration of Conformity is not produced by any entity identified on the Covered List, established pursuant to § 1.50002 of this chapter, as producing covered communications equipment.

(c) The provisions of paragraph (a) of this section shall also apply to a manufacturer of equipment produced under an agreement with the original responsible party. The retention of the records by the manufacturer under these circumstances shall satisfy the grantee's responsibility under paragraph (a) of this section.

(d) For equipment subject to more than one equipment authorization procedure, the responsible party must retain the records required under all applicable provisions of this section.

(e) For equipment subject to rules that include a transition period, the records must indicate the particular transition provisions that were in effect when the equipment was determined to be compliant.

(f) For equipment subject to certification, records shall be retained for a one year period after the marketing of the associated equipment has been permanently discontinued, or until the conclusion of an investigation or a proceeding if the responsible party (or, under paragraph (c) of this section, the manufacturer) is officially notified that an investigation or any other administrative proceeding involving its equipment has been instituted. For all other records kept pursuant to this section, a two-year period shall apply.

(g) If radio frequency equipment is modified by any party other than the original responsible party, and that party is not working under the authorization of the original responsible party, the party performing the modifications is not required to obtain the original design drawings specified in paragraph (a)(1) of this section. However, the party performing the modifications must maintain records showing the changes made to the equipment along with the records required in paragraph (a)(3) of this section. A new equipment authorization may also be required.

** END OF REPORT **