



The American Association for Laboratory Accreditation

World Class Accreditation

# *Accredited Laboratory*

A2LA has accredited

## **ELITE ELECTRONIC ENGINEERING INC.**

*Downers Grove, IL*

for technical competence in the field of

### **Electrical Testing**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General Requirements for the Competence of Testing and Calibration Laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009*).

Presented this 29th day of December 2009.



A handwritten signature in black ink, reading "Peter Abney".

President & CEO  
For the Accreditation Council  
Certificate Number 1786.01  
Valid to June 30, 2011

*For the tests or types of tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.*



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

ELITE ELECTRONIC ENGINEERING, INC.

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ELECTRICAL (AEMCLAP)

Valid to: June 30, 2011

Certificate Number: 1786.01

In recognition of the successful completion of the A2LA and the Automotive EMC Laboratory Accreditation Program (AEMCLAP)<sup>1</sup> evaluation process, accreditation is granted to this laboratory to perform the following automotive electromagnetic compatibility and other electrical tests:

**Test Technology**

*AEMCLRP<sup>(1)</sup> (Rev. 4) Recognized Tests  
and Addendum May 25, 2007*

**Test Method(s)**

Electrostatic Discharge (ESD)

*Appendix D*

(Chrysler, Ford, GM)

**Test Set-up Designation:**

RM13C

ISO 10605 (2001, 2008);

DC-11224 (2007/06) Section 10.1, 10.2;

ES-XW7T-1A278-AC (CI 280);

GMW 3097 (2006) Section 3.6

Pin Conducted Emissions

*Appendix E*

(Chrysler)

**Test Set-up Designation:**

RM17F, RM26A, RM28A

DC-11225 (2007/07) Annex A

RF Conducted Emissions

*Appendix F*

(Chrysler, Ford, GM)

**Test Set-up Designation:**

RM17F, RM26A, RM28A

CISPR 25 (2002, 2008) Sections 6.2, 6.3;

DC-11224 (2007/06) Sections 6.2, 6.3;

ES-XW7T-1A278-AC (CE 420);

GMW 3097 (2006) Section 3.3.2

**Test Technology**

*AEMCLRP<sup>(1)</sup> (Rev. 4) Recognized Tests  
and Addendum May 25, 2007)*

**Test Method(s)**

RF Radiated Emissions

*Appendix G*

(Chrysler, Ford, GM)

**Test Set-up Designation:**

RM27U, RM16U, RM25P

CISPR 25 (2002, 2008) Section 6.4;

DC-11224 (2007/06) Section 6.4;

ES-XW7T-1A278-AC (RE 310);

GMW 3097 (2006) Section 3.3.1

Direct Injection

*Appendix H*

(Chrysler)

**Test Set-up Designation:**

Test Stand #6, RM17F, RM26A, RM28A

ISO 11452-7 (2003);

DC-11225 (2007/07) Appendix B

Bulk Current Injection (BCI)

Substitution Method

*Appendix I*

(Chrysler, Ford, GM)

**Test Set-up Designation:**

RM17F, RM26A, RM28A

ISO 11452-4 (2005);

DC-11224 (2007/06) Section 7.2;

ES-XW7T-1A278-AC (RI 112);

GMW 3097 (2006) Section 3.4.1

Transverse Electromagnetic (TEM) Cell

*Appendix J*

(Chrysler)

Up to 200 V3m from 1 to 200 MHz

**Test Set-up Designation:**

Test Stand #3

ISO 11452-3 (2001);

DC-11224 (2007/06) Section 7.5

Absorber-Lined Shielded Enclosure

*Appendix K*

(Chrysler, Ford, GM)

**Test Set-up Designation:**

RM16U, RM25U & RM27U for metallic bench

RM25U & RM14N for non-metallic bench

ISO 11452-2 (2004);

DC-11224 (2007/06) Section 7.3, 7.4;

ES-XW7T-1A278-AC (RI 114);

GMW 3097 (2006) Section 3.4.2

Radiated Immunity

Reverberation Method- Mode tuned

*Appendix L*

(Ford, GM)

**Test Set-up Designation:**

Chamber ID: Mode Tuned Chamber RM24S

Monitor Chamber RM24P

ISO/IEC 61000-4-21 (2003);

GMW 3097 (2006) Section 3.4.3;

ES-XW7T-1A278-AC (RI 114)

**Test Technology**

*AEMCLRP<sup>(1)</sup> (Rev. 4) Recognized Tests  
and Addendum May 25, 2007)*

Absorber-Lined Shielded Enclosure RI  
Radar Pulse Only  
*Appendix M*  
(Ford, GM)

**Test Set-up Designation:**  
RM25U & RM27U

**Test Method(s)**

ISO 11452-2 (2004);  
DC 11224 (2007/06) Section 7.2;  
ES-XW7T-1A278-AC (RI 114);  
GMW 3097 (2006) Section 3.4.2

**Non-AEMCLAP Tests**

**Test Technology**

Direct Injection

Electrostatic Discharge (ESD)

Radiated Emissions

Absorption Chamber, Substitution Method

Bulk Current Injection (BCI)  
Substitution Method

Bulk Current Injections (BCI)  
Closed Loop Method

Road vehicles -- Electrical Disturbances from  
Conduction and Coupling  
Absorption Chamber

Transverse Electromagnetic (TEM) Cell

Conducted Emissions

Whole Vehicle Radiated Emissions

Whole Vehicle Radiated Immunity Mode Stirred

Dielectric Withstand Voltage

Insulation Resistance

**Test Method(s)**

DC PF-10540; SAE J11113-3

DC PF-10540; GM 9109P, GM 9119P;  
ES-XW7T-1A278-AB; SAE J1113-13

ES-XW7T-1A278-AB; SAE J1113-41

SAE J1113-21; ISO 11452-2;  
DC-10614; GMW 3097 / GMW 3100;  
ES-XW7T-1A278-AB,  
ES-XW7T-1A278-AC

ES-XW7T-1A278-AB; SAE J1113-4

ISO 11452-4; SAE J1113-4;  
GMW 3097:1999/GMW 3100:1999;  
ES-XW7T-1A278-AB

ISO 7637-2, ISO 7637-3

DC PF-10540

DC PF-10540; SAE J1113-24

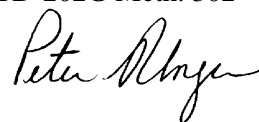
DC PF-10540

CISPR 12: 2007

SAE J551-16: 2005 (Mode stirred – hybrid method  
– only)

MIL-STD-202G Meth. 301

MIL-STD-202G Meth. 302



**Test Technology**

**Test Method(s)**

**Non-AEMCLAP Tests (cont.)**

Contact Resistance

MIL-STD-202G Meth. 307

DC Resistance

MIL-STD-202G Meth. 303

Contact Chatter

MIL-STD-202G Meth. 310

Temperature Rise Vs. Current

EIA-364, 70B

**Electrical Tests**

**Test Technology**

Unlicensed Radio Frequency Devices

**Test Method(s)**

47 CFR Parts 11 (*Emergency Alert System (EAS)*), Part 15 (*Radio Frequency Devices*) and Part 18 (*Industrial, Scientific, and Medical Equipment*); FCC MP-5, (February 1986) *FCC Methods of Measurements of Radio Noise Emissions From Industrial, Scientific, and Medical Equipment*; ANSI C63.4-2003, *American National Standard for Methods of Measurement of Radio- Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9kHz to 40 GHz*; ANSI C63.17-1998, *American National Standard for Methods of Measurement of the Electromagnetic and Operational Compatibility of Unlicensed Personal Communications Services (UPCS) Devices*.

Unlicensed Radio Frequency Devices (continued)

FCC KDB Publication No. 200443, *Millimeter Wave Test Procedures*;  
FCC Public Notice, DA 00-705, March 30, 2000, *Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems*;  
FCC Public Notice, DA 02-2138, August 30, 2002, *Measurement Guidelines for U-NII Devices*;  
FCC KDB Publication, 558074, March 23, 2005, *New Guidance on Measurement for Digital Transmission Systems in Section 15.247*



**Test Technology**

**Test Method(s)**

**Electrical Tests (cont.)**

Licensed Radio Service Equipment

47 CFR Parts 2 (*Frequency Allocations and Radio Treaty Matters; General Rules and Regulations*), Part 22 (*Public Mobile Services*), 24 (*Personal Communications Services*), Part 25 (*Satellite Communications*), Part 27 (*Miscellaneous Wireless Communications Services*), Part 74 (*Experimental Radio Auxiliary, Special Broadcast and Other Program Distributional Services*), Part 80 (*Stations in the Maritime Services*) Part 87 (*Aviation Services*) Part 90 (*Private Land Mobile Radio Services*), Part 95 (*Personal Radio Services*), Part 97 (*Amateur Radio Services*), and Part 101 (*Fixed Microwave Services*);  
ANSI/TIA-603-C (2004), *Land Mobile FM or PM Communications Equipment Measurement and Performance Standards (except sections 2.2.18, 2.4.1 and 2.4.9)*

European Radio Test Standards

ETSI EN 300 086-1, ETSI EN 300 086-2  
ETSI EN 300 113-1, ETSI EN 300 113-2  
ETSI EN 300 220-1, ETSI EN 300 220-2  
ETSI EN 300 330-1, ETSI EN 300 330-2  
ETSI EN 300 440-1, ETSI EN 300 440-2  
ETSI EN 300 422-1, ETSI EN 300 422-2  
ETSI EN 300 328

Canadian Radio Tests

RSS-GEN, RSS-102, RSS 111, RSS-112,  
RSS-117, RSS-118, RSS-119, RSS-123, RSS-125,  
RSS-127, RSS-129, RSS-131, RSS-132, RSS-133,  
RSS-134, RSS-135, RSS-136, RSS-137, RSS-138,  
RSS-139, RSS-141, RSS-142, RSS-170, RSS-181,  
RSS-182, RSS-188, RSS-191, RSS-192, RSS-193,  
RSS-194, RSS-195, RSS-210, RSS-213, RSS-215,  
RSS-220, RSS-243, RSS-287 and RSS-310

<sup>1</sup> A2LA provides Accreditation for the Automotive EMC Laboratory Recognition Program (AEMCLRP) which is designated as the Automotive EMC Laboratory Accreditation Program (AEMCLAP). Chrysler, Ford Motor Company (Ford) and General Motors Corporation (GM) provide overall recognition as part of the AEMCLRP document (Fourth Edition, 01/27/06 and Addendum May 25, 2007 with Chrysler Addendum to DC-11224 (2007/06) and DC-11225 (2007/07) with Addendum to DC-11224/5 Rev A dated April, 2008 and Ford Corrections or Requirements to ES-XW7T-1A278-AC Updated June 7, 2006 and September 18 2007).

The AEMCLRP document is available on the A2LA web site ([www.A2LA.org](http://www.A2LA.org)). Accreditation to the A2LA AEMCLAP requirements does not ensure recognition by the aforementioned organizations. Confirmation of recognition can be obtained from these organizations directly. If any items are not covered by AEMCLRP Rev.4 or there are any conflicts among the documents, the actual issued test method standards of Chrysler, Ford Motor Company and General Motors Corporation and OEM issued corrections/addendums these will supersede AEMCLRP Rev. 4 and Addendum May 25, 2007.

