



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)¹ evaluation process, accreditation is granted to this laboratory to perform the following automotive electromagnetic compatibility and other electrical tests:

Test Technology

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

Electrostatic Discharge (ESD)

Appendix D

(Chrysler, Ford, GM)

Test Set-up Designation:

RM13C

Pin Conducted Emissions

Appendix E

(Chrysler)

Test Set-up Designation:

RM17F, RM26A, RM28A

RF Conducted Emissions

Appendix F

(Chrysler, Ford, GM)

Test Set-up Designation:

RM17F, RM26A, RM28A

Test Method(s)

ISO 10605 (2001, 2008);

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

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

GMW 3097 (2006) Section 3.6

DC-11225 (2007/07) Annex A

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⁽¹⁾ (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) Sections 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⁽¹⁾ (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

Non-AEMCLAP Tests

Test Technology

Direct Injection

Electrostatic Discharge (ESD)

Radiated Emissions

ALSE, Substitution Method

Bulk Current Injection (BCI)

Substitution Method

Bulk Current Injections (BCI)

Closed Loop Method

***Road vehicles - Electrical Disturbances from
Conduction and Coupling***

Transverse Electromagnetic (TEM) Cell

Conducted Emissions

Whole Vehicle Radiated Emissions

Whole Vehicle Radiated Immunity Mode Stirred

Whole Vehicle Radiated Immunity (ALSE)

Dielectric Withstand Voltage

Insulation Resistance

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

Test Method(s)

DC-11225; SAE J11113-3

CS-11809; GM 9109P, GM 9119P;
EMC-CS-2009; SAE J1113-13

CS-11809; EMC-CS-2009; SAE J1113-41

SAE J1113-21; ISO 11452-2;
GMW 3097 / GMW 3100;
CS-11809; EMC-CS-2009; ES-XW7T-1A278-AC

SAE J1113-4; ISO 11452-4;
CS-11809; EMC-CS-2009

ISO 11452-4; SAE J1113-4

ISO 7637-2, ISO 7637-3; SAE J1113-11; SAE J1113-12

SAE J1113-24; ISO 11452-3; DC 11224

CISPR 25; CS-11809; EMC-CS-2009

CISPR 12:2007

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

ISO 11451-2

MIL-STD-202G, Method 301

MIL-STD-202G, Method 302

Test Technology

Non-AEMCLAP Tests (cont.)

Contact Resistance

DC Resistance

Contact Chatter

Temperature Rise Vs. Current

Test Method(s)

MIL-STD-202G, Method 307

MIL-STD-202G, Method 303

MIL-STD-202G, Method 310

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*;
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 197, RSS 199, RSS-210, RSS-213, RSS-215, RSS-220, RSS-243, RSS-287, and RSS-310

¹ 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). 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.



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.