



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

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ELECTRICAL (AEMCLAP)

Valid to: June 30, 2013

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*

Test Method(s)

Electrostatic Discharge (ESD)

Appendix D

(Chrysler, Ford, GM)

Test Set-up Designation:

RM13C

ISO 10605 (2001, 2008);

CS-11979 Section 7.0;

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

GMW 3097 (2006) Section 3.6

RF Conducted Emissions

Appendix F

(Chrysler, Ford, GM)

Test Set-up Designation:

RM24S, RM26A, RM28A

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

CS-11979 Section 5.1;

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

GMW 3097 (2006) Section 3.3.2

RF Radiated Emissions

Appendix G

(Chrysler, Ford, GM)

Test Set-up Designation:

RM27U, RM16U, RM25P

CISPR 25 (2002, 2008) Section 6.4;

CS-11979 Section 5.3;

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

GMW 3097 (2006) Section 3.3.1

Test Technology

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

Bulk Current Injection (BCI)

Substitution Method

Appendix I

(Chrysler, Ford, GM)

Test Set-up Designation:

RM24S, RM26A, RM28A

Absorber-Lined Shielded Enclosure

Appendix K

(Chrysler, Ford, GM)

Test Set-up Designation:

RM16U, RM25U & RM27U for metallic bench

RM25U, RM27U for non-metallic bench

Radiated Immunity

Reverberation Method - Mode tuned

Appendix L

(Ford, GM)

Test Set-up Designation:

Mode Tuned Chamber RM24S

Monitor Chamber RM24P

Absorber-Lined Shielded Enclosure RI

Radar Pulse Only

Appendix M

(Chrysler, Ford, GM)

Test Set-up Designation:

RM25U & RM27U

Non-AEMCLAP Tests

Electrostatic Discharge (ESD)

Radiated Emissions

Test Method(s)

ISO 11452-4 (2005);
CS-11979 Section 6.1;
ES-XW7T-1A278-AC (RI 112);
GMW 3097 (2006) Section 3.4.1

ISO 11452-2 (2004);
CS-11979 Section 6.2;
ES-XW7T-1A278-AC (RI 114);
GMW 3097 (2006) Section 3.4.2

ISO/IEC 61000-4-21 (2003);
GMW 3097 (2006) Section 3.4.3;
ES-XW7T-1A278-AC (RI 114)

ISO 11452-2 (2004);
CS-11979 Section 6.2;
ES-XW7T-1A278-AC (RI 114);
GMW 3097 (2006) Section 3.4.2

GM 9109P, GM 9119P;
DC-11224 (2007/06) Sections 10.1, 10.2;
EMC-CS-2009.1 (CI 280); SAE J1113-13

DC-11224 (2007/06) Section 6.4;
EMC-CS-2009.1 (RE 310); SAE J1113-41

Non-AEMCLAP Tests (cont.)

Test Technology

ALSE, Substitution Method

Test Method(s)

SAE J1113-21; ISO 11452-2;
GMW 3097, GMW 3100;
DC-11224 (2007/06) Sections 7.3, 7.4;
EMC-CS-2009.1 (RI 114); ES-XW7T-1A278-AC

Radiated Immunity

Reverberation Method - Mode Tuned

EMC-CS-2009.1 (RI 114)

Absorber-Lined Shielded Enclosure RI

Radar Pulse Only

DC 11224 (2007/06) Section 7.2;
EMC-CS-2009.1 (RI 114)

Bulk Current Injection (BCI)

Substitution Method

SAE J1113-4; ISO 11452-4;
DC-11224 (2007/06) Section 7.2;
EMC-CS-2009.1 (RI 112)

Bulk Current Injections (BCI)

Closed Loop Method

ISO 11452-4; SAE J1113-4

Road vehicles - Electrical Disturbances from

Conduction and Coupling

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

Conducted Emissions

CISPR 25; DC-11224 (2007/06) Sections 6.2, 6.3;
EMC-CS-2009.1 (CE 420)

Whole Vehicle Radiated Emissions

CISPR 12(2007)

Whole Vehicle Radiated Immunity Mode Stirred

(Mode stirred - hybrid method - only)

SAE J551-16(2005)

Whole Vehicle Radiated Immunity (ALSE)

ISO 11451-2

Dielectric Withstand Voltage

MIL-STD-202G, Method 301

Insulation Resistance

MIL-STD-202G, Method 302

Contact Resistance

MIL-STD-202G, Method 307

DC Resistance

MIL-STD-202G, Method 303

Contact Chatter

MIL-STD-202G, Method 310

Temperature Rise Vs. Current

EIA-364, 70B

Electrical Tests

Test Technology

Unlicensed Radio Frequency Devices
(3 Meter Semi-Anechoic Room-R21F)

Test Method(s)

47 CFR Parts 11 (*Emergency Alert System (EAS)*), Part 15 (*Radio Frequency Devices up to 40GHz, excluding DFS and SAR testing*) 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 and ANSI C63.4-2009, *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 C63.10-2009, *American National Standard for Testing Unlicensed Wireless Devices*;
ANSI C63.17-2006, *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*

Licensed Radio Service Equipment

47 CFR Part 2 (*Frequency Allocations and Radio Treaty Matters; General Rules and Regulations*);
Part 22 (*Public Mobile Services*);
Part 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*);
Part 101 (*Fixed Microwave Services*);
47 CFR Part 68, *Connection of Terminal Equipment to the Telephone Network*;
TIA-968-B (2009), *Telecommunication – Telephone Terminal Equipment- Technical Requirements for Connection of Terminal Equipment to the Telephone Network*;
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)*

Electrical Tests (cont.)

Test Technology

European Radio Test Standards

Test Method(s)

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-196, RSS-197, RSS-199,
RSS-210, RSS-213, RSS-215, RSS-220, RSS-243,
RSS-287, and RSS-310

Japan Radio Tests

Radio Law No. 131, Ordinance of MPT No. 37, 1981,
MIC Notification No. 88:2004, Table No. 22-11;
ARIB STD-T66, Regulation 18

Taiwan Radio Tests

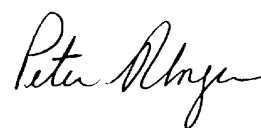
LP-0002

Australia/New Zealand Radio Tests

AS/NZS 4268

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, January 27, 2006) and Addendum (May 25, 2007), with Chrysler Changes to CS-11979 (April 13, 2010) 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 to 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 28th day of July 2011.





Peter Abney

President & CEO
For the Accreditation Council
Certificate Number 1786.01
Valid to June 30, 2013

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