



The American Association for Laboratory Accreditation

World Class Accreditation

Accredited Laboratory

A2LA has accredited

UNDERWRITERS LABORATORIES INC.

Novi, MI

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 6th day of April 2009.



A handwritten signature in black ink, reading "Peter Abney", written over a horizontal line.

President & CEO
For the Accreditation Council
Certificate Number 0751.04
Valid to September 30, 2010

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

UNDERWRITERS LABORATORIES INC.
25175 Regency Drive (Unit 6)
Novi, MI 48375
Mr. Andrew Harding Phone: 248 427 5323

ELECTRICAL (AEMCLAP)

Valid to: September 30, 2010

Certificate Number: 0751.04

In recognition of the successful completion of the A2LA and the Automotive EMC Laboratory Accreditation Program (AEMCLAP) evaluation process, accreditation is granted to this laboratory to perform the following automotive electromagnetic compatibility 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/Location Designation:

ESD1 and ESD2

ISO 10605 (2001);

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

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

GMW 3097 (2006) Section 3.6

Pin Conducted Emissions (PCE)

Appendix E

(Chrysler)

Test Set-up/Location Designation:

CISPR 25 Chamber and CE#2

DC-11225 (2007/07) Annex A

RF Conducted Emissions

Appendix F

(Chrysler, Ford, GM)

Test Set-up/Location Designation:

CISPR 25 Chamber and CE#2

CISPR 25(2008) Section 6.2 and 6.3;

DC-11224 (2007/06) Section 6.2 and 6.3;

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

GMW 3097 (2006) Section 3.3.2

RF Radiated Emissions

Appendix G

(Chrysler, Ford, GM)

Test Set-up/Location Designation:

CISPR 25 Chamber

CISPR 25 (2008) Section 6.4;

DC-11224 (2007/06) Section 6.4;

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)***

Test Method(s)

Direct Injection (DRFI)

Appendix H

(Chrysler)

Test Set-up/Location Designation:

DRFI1

ISO 11452-7 (2003);

DC-11225 (2007/07) Appendix B

Bulk Current Injection (BCI)

Appendix I

Substitution Method

(Chrysler, Ford, GM)

Test Set-up/Location Designation:

BCI 1A and BCI2

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

Up to 200 V/m From 1 to 100 MHz

Test Set-up/Location Designation:

TEM1

ISO 11452-3 (2001);

DC-11224 (2007/06) Section 7.5

Absorber-Lined Shielded Enclosure (ALSE)

Appendix K

(Chrysler, Ford, GM)

Test Set-up//Location Designation:

ALSE Chamber

ISO 11452-2 (2004);

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

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

GMW3097 (2006) Section 3.4.2

Reverberation Radiated Immunity Mode Tuned

Appendix L

(Ford, GM)

Test Set-up Designation/Location:

Mode Tuned Chamber

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

GMW3097 (2006) Section 3.4.3;

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

Absorber-lined Shielded Enclosure

Radar Pulse Only

Appendix M

(Chrysler, Ford, GM)

Test Set-up//Location Designation:

ALSE Chamber (up to 300V/m)

Mode Tuned Chamber (up to 600 V/m)

ISO 11452-2 (2004)

DC 11224 (2007/06) Sections 7.3 and 7.4;

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

GMW 3097 (2006) Section 3.4.2

Test Technology

Other Non-AEMCLRP EMC/EMI Tests

Test Method(s)

Audio Frequency Conducted Immunity	SAE J1113-2; LP 388C-33
Bulk Current Injection (BCI) Closed Loop Method	ISO 11452-4; SAE J1113-4; GMW 3097 (2004); GM 9112P; Ford RI 112
Bulk Current Injection (BCI) Substitution Method	SAE J1113-4; GMW 3097 (2004) Section 3.4.1; DC 10614; LP 388C-65; CS-11809 Section 6.1
Electrostatic Discharge	SAE J1113-13; GMW 3097 (2004) Section 3.6; DC 10614; LP 388C-65; CS-11809 Sections 7.1 and 7.2
Conducted Emissions	GMW 3097 (2004) Section 3.3.2; SAE J1113-41; DC 10614; LP 388C-65; MIL-STD-461D/462D, 461E, 461F (CE101, CE102, CE106); CS-11809 Sections 5.1 and 5.2
Radiated Emissions	SAE J1113-41; GMW 3097 (2004) Section 3.3.1; DC 10614; LP 388C-65; MIL-STD-461D/462D, 461E, 461F (RE101, RE102, RE103); CS-11809 Section 5.3
DRFI Conducted Emissions	SAE J1113-3; DC 10614; LP 388C-65
Transverse Electromagnetic (TEM) Cell	SAE J1113-24; DC 10614; LP 388C-65
Absorber-Lined Shielded Enclosure (ALSE)	SAE J1113-21; GMW 3097 (2004) Section 3.4.2; DC 10614; LP 388C-65; CS-11809 Section 6.2
Absorber-Lined Shielded Enclosure (ALSE) RI Radar Pulse	GMW 3097 (2004) Section 3.4.3; DC 10614; LP 388C-65; CS-11809 Section 6.2
Radiated Immunity (up to 18 GHz)	MIL-STD-461D/462D, 461E, 461F (RS101, RS103)
Radiated Immunity – Reverberation Method (up to 18 GHz)	GMW 3097 (2004) Section 3.4.3 ; MIL-STD-461D/462D, 461E, 461F (RS103)
Radiated Immunity – Tri-Plate	Ford RI 110; SAE J1113-25

Test Technology

Other Non-AEMCLRP EMC/EMI Tests

Test Method(s)

Conducted Immunity	MIL-STD-461D/462D, 461E, 461F (CS101, CS103, CS104, CS105, CS114, CS115, CS116); MIL-STD-461F (CS106)
Electrical Transient Conduction on Supply Lines	ISO 7637-2
Electrical Interference by Conduction and Coupling	SAE J1113-12
Electrical Transient Lines other than Supply Lines	ISO 7637-3
Immunity to Magnetic Fields	SAE J1113-22
Immunity to Radiated Electromagnetic Fields 10 kHz to 200 MHz Strip Line Method	ISO 11452-5; SAE J1113-23
Conducted Transient Emissions	SAE J1113-42
Pin Conducted Emissions	DC 10614; LP 388C-65
Radiated Emissions from Integrated Circuit 150 kHz to 1000 MHz, TEM Cell	SAE J1752-3
Measurement of Radio Frequency Radiated Emission	Nissan 28401NDS02 EQ/MR 01 (Revisions 2 and 3)
Measurement of Audio Frequency Conducted Emission / Measurement of Conducted Current Emission	Nissan 28401NDS02 EQ/MC 02 (Revisions 2 and 3)
Measurement of Radio Frequency Conducted Emission	Nissan 28401NDS02 EQ/MC 03 (Revisions 2 and 3)
Electric Noise Tests Power Supply Voltage Characteristics Floating Ground Induction Noise Resistance Load Dump Overvoltage Ignition Pulse Reversed Polarity	Toyota TSC7001G
Susceptibility Tests Broadband Antenna Nearby Radio Equipment Antenna Nearby Mobile Phone Antenna Nearby	Toyota TSC7006G

Test Technology

Other Non-AEMCLRP EMC/EMI Tests

Test Method(s)

Electrostatic Discharge (ESD)

Toyota TSC7018G

Radiated and Conducted Emissions

Toyota TSC7508G

Conducted Noise in FM and TV Bands (Voltage Probe Method)

Conducted Noise in LW, AM, and SW Bands (Current Probe Method)

Radiated Noise in FM and TV Bands (Electric Field Antenna Method)

Radiated Noise in AM, SW and LW Bands (Measuring Box and Rod Antenna Methods)

Broadband Emissions

Toyota TSC7027G

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.