SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005 [1]

BUREAU VERITAS ADT (SHANGHAI) CORPORATION
2F, Building C, No. 1618. Yishan Road
201103 Shanghai, CHINA
Ms. Mary Gu (Authorized Representative) Phone: 86 21 6195 7000 ext. 1169
Email: mary.gu@cn.bureauveritas.com
Mr. James Xu (Deputy Authorized Representative) Phone: 86 21 6465 9091 ext. 370

ELECTRICAL (EMC)

Valid to: August 31, 2017 Certificate Number: 2343.01

In recognition of the successful completion of the A2LA evaluation process (including an assessment of the organization's compliance with A2LA's EPA ENERGY STAR® Accreditation Program[2] requirements), accreditation is granted to the main laboratory location listed above, and the satellite laboratory listed below, to perform the following tests:

Test Technology:	**Test Method(s):**
Automotive EMC Tests	
Electrostatic Discharge (ESD)	SAE J1113-13; ISO 10605; Ford ES-XW7T-1A278-AB/AC; Ford EMC-CS-2009.1; GMW 3097 (2004/2006/2012); Hyundai/Kia ES 96200-00; Fiat 990110 01 (2007); Fiat 990111 01 (2010); Chrysler DC-10614; Chrysler CS-11979 (2010); Daimler MBN 10284-2 (2008); VW8246 (2009.06); BMW GS95002 (2004/2010); PSA B21 7110; Renault 36-00-808; Honda 7794Z_S3V_0000; DC-11224 (2007); Nissan 28401NDS02 [5]; MES PW 67602B; VW TL81000 (2013.02); VW TL81000 (2014.04); EMC-CS-2010JLR V1.2

Test Technology:	Test Method(s):
Automotive EMC Tests (Cont'd)	
Conducted Transient Emissions	ISO/IEC 7637-1 and -2; Daimler/Chrysler DC-10614 (2004); Chrysler CS-11979 (2010); Ford ES-XW7T-1A278-AB/AC; Ford EMC-CS-2009.1; GMW 3097 (2004/2006/2012); GMW3100 (2001); Fiat 990110 01 (2007); Fiat 990111 01 (2010); VW/Audi/Porsche TL82066 (2004/2006); BMW GS95002 (2004/2010); Renault 36-00-808; PSA B21 7110; Hyundai/Kia ES 96200-00; Daimler MBN 10284-2 (2008); Nissan 28401NDS02 [5]; VW TL81000 (2013.02); VW TL81000 (2014.04)
RF Conducted Emissions	CISPR 25; VW/Audi/Porsche TL965 (2004/2006/2009/2012); BMW GS95002 (2004/2010); Chrysler DC 11224 (2007); Chrysler CS-11979 (2010); Daimler MBN 10284-2 (2008); Ford ES-XW7T-1A278-AB/AC; Ford EMC-CS-2009.1; GMW 3097 (2004/2006/2012); Hyundai/Kia ES 96200-00; Fiat 990110 01 (2007); Fiat 990111 01 (2010); PSA B21 7110; Renault 36-00-808; Nissan 28401NDS02 [5]; MES PW 67602B; VW TL81000 (2013.02); VW TL81000 (2014.04); EMC-CS-2010JLR V1.2
RF Radiated Emissions	CISPR 25; VW/Audi/Porsche TL965 (2004/2006/2009/2012); BMW GS95002 (2004/2010); Chrysler DC 11224 (2007); Chrysler CS-11979 (2010); Daimler MBN 10284-2 (2008); Ford ES-XW7T-1A278-AB/AC; Ford EMC CS 2009.1; GMW 3097 (2004/2006/2012); Hyundai/Kia ES 96200-00; Fiat 990110 01 (2007); Fiat 990111 01 (2010); PSA B21 7110;

Test Technology:	**Test Method(s):**
Automotive EMC Tests (Cont'd)	
RF Radiated Emissions (Cont'd)	Renault 36-00-808; Nissan 28401NDS02 [5]; MES PW 67602B; VW TL81000 (2013.02); VW TL81000 (2014.04); EMC-CS-2010JLR V1.2
Bulk Current Injection (BCI) – *Substitution Method*	ISO/IEC 11452-4; Chrysler DC-10614 (2004); Chrysler CS-11979 (2010); Fiat 990110 01 (2007); Fiat 990111 01 (2010); Daimler MBN 10284-2 (2008); Ford ES-XW7T-1A278 –AB/ AC; EMC-CS-2009.1; GMW 3097 (2004/2006/2012); VW/Audi/Porsche TL82166 (2004/2009/2011); BMW GS95002 (2004/2010); Honda 7794Z_S3V_0000; DC-11224 (2007); MES PW 67602B; EMC-CS-2010JLR V1.2; VW TL81000 (2013.02); VW TL81000 (2014.04); EMC-CS-2010JLR V1.2
Bulk Current Injection (BCI) – *Closed Loop*	SAE J1113-4; ISO/IEC 11452-4; Hyundai/Kia ES 96200-00; Fiat 990110 01 (2007); Fiat 990111 01 (2010); Chrysler CS-11979 (2010); PSA B21 7110; Renault 36-00-808; Nissan 28401NDS02 [5]
Transverse Electromagnetic (TEM) Cell (*200 V/m up to 400 MHz*)	ISO 11452-3 (2001); SAE J1113-24
Absorber-Lined Shielded Enclosure (*80 MHz to 4.2 GHz, up to 200 V/meter*) *Substitution Method & Metallic Table Top*	ISO 11452-2 (2004); ES-XW7T-1A278-AC (RI 114); Ford EMC CS 2009.1 (RI 114); GMW3097 (2004/2006/2012) Section 3.4.2 ; VW/Audi/Porsche TL965 (2004/2006/2009/2012); VW 82166 (2011); BMW GS95002 (2004/2010); Chrysler DC 11224 (2007); Daimler MBN 10284-2 (2008); Hyundai/Kia ES 96200-00; Fiat 990110 01 (2007); Fiat 990111 01 (2010); PSA B21 7110;

Test Technology:	Test Method(s):
Automotive EMC Tests (Cont'd)	
Absorber-Lined Shielded Enclosure (Cont'd)	Renault 36-00-808; Honda 7794Z_S3V_0000; Nissan 28401NDS02 [5]; MES PW 67602B RI114; VW TL81000 (2013.02); VW TL81000 (2014.04); EMC-CS-2010JLR V1.2 (RI114)
Conducted Immunity on Power lines Supply Voltage transients	SAE J1113-11; SAE J1113-12; SAE J1113-42; ISO 7637-2; ISO/IEC 7637-3; VW/Audi/Porsche TL82066 (2004/2006), VW80000 (2009); BMW GS95002 (2004/2010); BMW GS95024-2-1 (2010); Chrysler DC 11224 (2007); Chrysler CS-11979 (2010); Daimler MBN 10284-2 (2008); GMW 3097, Sections 3.5.2, 3.5.3, 3.5.4, 3.5.5; Hyundai/Kia ES 96200-00; Fiat 990110 01 (2007); Fiat 990111 01 (2010); PSA B21 7110 (2008); Renault 36-00-808; Honda 7794Z-S3V-0000; Nissan 28401NDS02 [5]; MES PW 67602B; VW TL81000 (2013.02); VW TL81000 (2014.04)
Conducted Immunity on Signal Lines	ISO 7637-3; SAE J1113-2; VW/Audi/Porsche TL82366 (2008); BMW GS95002 (2004/2010); Chrysler DC-10615 (2007); Chrysler CS-11979 (2010); Daimler MBN 10284-2 (2008); Hyundai/Kia ES 96200-00; Fiat 990110 01 (2007); Fiat 990111 01 (2010); GMW 3097 (2004/2006/2012); PSA B21 7110; Renault 36-00-808; Nissan 28401NDS02 [5]; VW TL81000 (2013.02); VW TL81000 (2014.04)

Test Technology:	Test Method(s):
Automotive EMC Tests (Cont'd)	
Immunity to Voltage Fluctuations, Disturbances Of The Supply Voltage Lines (Dropouts, Dips, Cranking, Ramp Up/Down)	DC-10615; Ford ES-XW7T-1A278-AB/AC; Ford EMC CS (CI210, CI220, CI230, CI250, CI260, CI270, RI130, RI150); GMW 3172 (2012); Honda 7794Z_S3V_0000; Hyundai/Kia ES 96200-00; Fiat 990110 01 (2007); Fiat 990111 01 (2010); BMW GS95003-2; BMW GS95024-2-1 (2010); VW/Audi/Porsche VW80101 (2006/2009/2011); VW80000 (2009); Renault 36-00-808; PSA B21 7110; Nissan 28401NDS02-4; MES PW 67602B (CI210, CI220, CI230, CI250, CI260, CI270, CI290,RI130, RI150); EMC-CS-2010 JLR V1.2 (CI210, CI220, CI230, CI250, CI265, CI270, RI130, RI150)
Over/Under, Reverse, Jump Start, Defective Regulator Voltages, electrical stress	DC-10615; Ford ES-XW7T-1A278-AB/AC; Ford EMC-CS-2009.1; GMW 3172 (2012); Hyundai/Kia ES 96200-00; Fiat 990110 01 (2007); Fiat 990111 01 (2010); VW/Audi/Porsche VW80101 (2006/2009/2011); VW80000 (2009); Renault 36-00-808; PSA B21 7110; BMW GS95003-2, GS95024-2-1 (2010); Honda 7794Z_S3V_0000; Nissan 28401NDS02 [5]; VW TL81000 (2013.02); VW TL81000 (2014.04); EMC-CS-2010 JLR V1.2
Hand Portable Transmitter Immunity Exposure	Ford EMC CS 2009.1 (RI 115); ISO 11452-9; EMC-CS-2010 JLR V1.2 (RI115); PSA B21 7110

Test Technology:	**Test Method(s):**
Emissions	
Radiated and Conducted (*3m semi-anechoic chamber up to 1 GHz*)	CFR 47 FCC Part 15B (using ANSI C63.4:2014, 2009 2003), and Part 18 (using MP-5); CISPR 11; EN 55011; AS/NZS CISPR 11; CISPR 13; EN 55013; AS/NZS CISPR 13; CISPR 14-1; EN 55014-1; AS/NZS CISPR 14-1; CISPR 14-2; EN 55014-2; AS/NZS CISPR 14-2; CISPR 15; EN 55015; AS/NZS CISPR 15; CISPR 22; EN 55022; AS/NZS CISPR 22; CISPR 32; EN 55032; ICES-001; ICES-003; EN 60255-25; IEC 60255-25; GR-1089-CORE, Issue 4, Section 3.2
Current Harmonics	EN 61000-3-2; IEC 61000-3-2; EN 61000-3-12; IEC 61000-3-12
Voltage Fluctuation and Flicker	EN 61000-3-3; IEC 61000-3-3; EN 61000-3-11; IEC 61000-3-11
Immunity	
Electrostatic Discharge (ESD)	EN 61000-4-2; IEC 61000-4-2; EN 60255-22-2; IEC 60255-22-2; GR-1089-CORE, Issue 4, Section 2.1
Radiated Immunity (*10 V/m up to 4.2 GHz*)	EN 61000-4-3; IEC 61000-4-3; EN 60255-22-3; IEC 60255-22-3; GR-1089-CORE, Issue 4, Section 3.3
Electrical Fast Transient/Burst	EN 61000-4-4; IEC 61000-4-4; EN 60255-22-4; IEC EN 60255-22-4; GR-1089-CORE, Issue 4, Section 2.2
Surge Immunity	EN 61000-4-5; IEC 61000-4-5; EN 60255-22-5; IEC 60255-22-5; IEEE STD C62.45
Conducted Immunity	EN 61000-4-6; IEC 61000-4-6; EN 60255-22-6; IEC 60255-22-6
Power Frequency Magnetic Field Immunity	EN 61000-4-8; IEC 61000-4-8; Ford EMC-CS-2009.1 (RI140); PSA B21 7110; MES PW 67602B (RI140); EMC-CS-2010JLR V1.2 (RI140); ISO 11452-8; VW TL81000 (2013.02); VW TL81000 (2014.04)
Voltage Dips, Short Interruptions, and Line Voltage Variations	EN 61000-4-11; IEC 61000-4-11; EN 60255-11; IEC 60255-11

Test Technology:	**Test Method(s):**
Telecommunications	ETSI EN 300 386
Radio	CFR 47 FCC Part 15C (using ANSI C63.10:2013); RSS-210 (*excluding DFS testing)*; RSS-247; EN 300 328 (*excluding Adaptivity testing)*; EN 300 220-1/-2; EN 300 330-1/-2; EN 300 440-1/-2; AS/NZS 4268
Generic and Product Specific Standards	AS/NZS 61000.6.3; AS/NZS 61000.6.4; EN 301 489-3; EN 301 489-7; EN 301 489-17; EN 50121-1; EN 50121-2; EN 50121-3-1; EN 50121-3-2; EN 50121-4; EN 50121-5; EN 50130-4; EN 50155; EN 50293; EN 60255-26; EN 60974-10; EN 60601-1-2; EN 60669-2-1; EN 61000-6-1; EN 61000-6-2; EN 61000-6-3; EN 61000-6-4; EN 61131-2; EN 61204-3; EN 61326-1; EN 61326-2-1; EN 61326-2-2; EN 61326-2-3; EN 61326-2-4; EN 61326-2-5; EN 61543; EN 61547; EN 61800-3; EN 62040-2; IEC 60092-504; IEC 60255-26; IEC 60533; IEC 60601-1-2; IEC 60669-2-1; IEC 60974-10; IEC 61000-6-1; IEC 61000-6-2; IEC 61000-6-3; IEC 61000-6-4; IEC 61000-6-5; IEC 61131-2; IEC 61204-3; IEC 61326-1; IEC 61326-2-1; IEC 61326-2-2; IEC 61326-2-3; IEC 61326-2-4; IEC 61326-2-5; IEC 61543; IEC 61547; IEC 61800-3; IEC 62040-2; CISPR 24; EN 55024; GL 2003; IACS E10; ISO 16750-1:2007; ISO 16750-2:2010; ISO 16750-4:2010

[1] When the date or revision or edition number of a test method standard is not identified in the scope of accreditation, laboratories are expected to be competent in the use of the current version within one year of the date of publication or the mandatory recognition body compliance dates of the standard test method.

[2] A2LA provides accreditation to the U.S. EPA's *Conditions and Criteria for Recognition of Laboratories for the ENERGY STAR Program* by verifying an organization's compliance to A2LA document *R222 - Specific Requirements - EPA ENERGY STAR Accreditation Program* and to the related test methods listed on this laboratory's scope.

Accreditation by A2LA does not infer Recognition by the EPA for ENERGY STAR testing. Please verify this organization's recognition status by using the EPA's searchable database, located at http://www.energystar.gov/index.cfm?fuseaction=recognized_bodies_list.show_RCB_search_form

BUREAU VERITAS ADT (SHANGHAI) CORPORATION
Building 4, No. 518, Xin Zhuan Road,
Cao Hejing Songjiang High-Tech Park, Shanghai, China

Ms. Mary Gu (Authorized Representative) Phone: 86 21 6195 7000 ext. 1169
Email: mary.gu@cn.bureauveritas.com
Mr. Sam Shen (Deputy Authorized Representative) Phone: 86 21 6195 7000 ext. 7093

Test Technology:	**Test Method(s):**
EPA ENERGY STAR Testing	
Electronics and Office Equipment	
Telephony	ENERGY STAR Program Requirements for Telephony; ENERGY STAR Test Method for Telephony (Nov. 2013)
Televisions	ENERGY STAR Program Requirements for Televisions; 10 CFR 430, Subpart B, Appendix H – Uniform Test Method for Measuring the Energy Consumption of Television Sets
Computers	ENERGY STAR Program Requirements for Computers; ENERGY STAR Test Method for Computers (Aug 2014)
Displays	ENERGY STAR Program Requirements for Displays; ENERGY STAR Test Method for Determining Displays Energy Use V6.0 (Jan 2013)
Imaging Equipment	ENERGY STAR Program Requirements for Imaging Equipment; ENERGY STAR Imaging Equipment Test Method (Sept 2014)
Lighting Products	
Lamps (Light Bulbs)	ENERGY STAR Program Requirements for Lamps 1.1
• Directional	IES LM-66-11; 10 CFR Part 429 and Part 430 Appendix W to Subpart B; IES LM-79-08; IES LM-54-12; ENERGY STAR Elevated Temperature Light Output Ratio; CIE 15.2004; CIE Pub No 13.3:1995; ENERGY STAR Elevated Temperature Life Test; ENERGY STAR Ambient Temperature Life Test; IES LM-65-10; ANSI C82.2-2002; ANSI C82.77-2002; ENERGY STAR Start Time Test; ENERGY STAR Run Up Time Test; ANSI/IEEE C62.41.2-2002

Test Technology:	Test Method(s):
Lighting Products (cont'd)	
Lamps (Light Bulbs) *Cont'd*	ENERGY STAR Program Requirements for Lamps 1.1
• Omnidirectional	IES LM-66-11; 10 CFR Part 429 and Part 430 Appendix W to Subpart B; IES LM-79-08; IES LM-54-12; CIE 15.2004; CIE Pub No 13.3:1995; ENERGY STAR Elevated Temperature Life Test; ENERGY STAR Ambient Temperature Life Test; IES LM-65-10; ANSI C82.2-2002; ANSI C82.77-2002; ENERGY STAR Start Time Test; ENERGY STAR Run Up Time Test; ANSI/IEEE C62.41.2-2002
• Decorative	IES LM-66-11; 10 CFR Part 429 and Part 430 Appendix W to Subpart B; IES LM-79-08; IES LM-54-12; CIE 15.2004; CIE Pub No 13.3:1995; ENERGY STAR Elevated Temperature Life Test; ENERGY STAR Ambient Temperature Life Test; IES LM-65-10; ANSI C82.2-2002; ANSI C82.77-2002; ENERGY STAR Start Time Test; ENERGY STAR Run Up Time Test; ANSI/IEEE C62.41.2-2002
General Lighting Tests	
Electrical and Photometric Measurements of Solid-State Lighting Products	IES LM-79-08
Measuring Lumen Maintenance of LED Light Sources	IES LM-80-08
Photometric Testing of Reflector-Type Lamps	IES LM-20-13
Guide to Lamp Seasoning	IES LM-54-12
Life Testing of Compact Fluorescent Lamps	IES LM-65-10
Electrical and Photometric Measurements of Single-Ended Compact Fluorescent Lamps	IES LM-66-11
Projecting Long Term Lumen Maintenance of LED Light Sources	IES TM-21-11

Test Technology:	Test Method(s):
General Lighting Tests (cont'd)	
Approved method for life testing of incandescent filament lamps	IES LM-49-12
Test Method for Calculating the Energy Efficiency of Single-voltage External AC-DC and AC-AC Power Supplies	CSA C381.1

Accredited Laboratory

A2LA has accredited

BUREAU VERITAS ADT (SHANGHAI) CORPORATION

Shanghai, China

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 9th day of November 2015.

Senior Director of Quality & Communications
For the Accreditation Council
Certificate Number 2343.01
Valid to August 31, 2017

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