



राष्ट्रीय परीक्षण और अंशशोधन प्रयोगशाला प्रत्यायन बोर्ड
NATIONAL ACCREDITATION BOARD FOR TESTING & CALIBRATION LABORATORIES

सचिवालय : प्लॉट नं. – 45, सेक्टर नं. – 44, गुडगांव – 122 002, हरियाणा, भारत
Secretariat : Plot No. – 45, Sector No. – 44, Gurgaon – 122 002, Haryana, India
दूरभाष / Telephone : +91-124-4679700 (30 Lines), फ़ैक्स / Fax : +91-124-4679799, वेबसाइट / Website: www.nabl-india.org

NABL/T-0135/C, M, P, L

30-12-2016

To

Mr. Vijay K. Jadhav (A.R.A.I., Pune)

The Automotive Research Association of India

Survey No.-102, Vetal Hill, Off.-Paud Road

Kothrud, Pune (Maharashtra) – 411038

Phone/Fax: 020-30231111/25434190, 9975581051

e-mail ID: jadhav.qmd@araiindia.com, director@araiindia.com

Subject: Renewal of accreditation

Dear Sir,

With reference to re-assessment (held during 21st to 25th September 2016) of your Testing Laboratory, NABL is pleased to inform the renewal of accreditation as per ISO/IEC 17025: 2005 to the Chemical, Mechanical, Photometry and Electronics facilities.

However, your laboratory is required to address the following within 30 days:

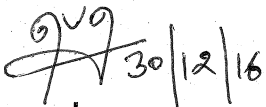
- Lab to provide the observed value at which MU has been calculated wherever not given in the Photometry and Mechanical scopes.
- Lab to provide the range of testing for Colour and Illumination Area in the Photometry scope.
- Lab to review the MU along with observed value for Chromium under Low Alloy Steel as it is given beyond range of testing in the Chemical scope.
- Lab to provide Standard Method / SOP with Issue No. and Issue Date wherever CPCB Test on Off Road Diesel Engines is given under Mechanical scope.
- Lab to provide test name under Front & Rear Bumper of Vehicle (Vehicle test) in Mechanical scope
- Lab to clarify the Test Method GSR and GTR under Test on Vehicles in the Mechanical scope.
- Lab to provide the SI units instead of ppm in the Mechanical scope.

Being an accredited laboratory of NABL, you must fulfill all Terms & Conditions laid down in document NABL 131. You shall refer & follow NABL 133 while using NABL symbol (claiming NABL Accreditation).

Accreditation Certificates bearing No.: T-1160, T-0158, T-0159 and T-1537 for Chemical, Mechanical, Photometry and Electronics disciplines of testing field with an issue date 31-10-2016 (amendment date 29-12-2016) and valid till 30-10-2018 is under preparation, which will be forwarded to you shortly.

I'll appreciate, if you send soft copy (in Word Format) of recommended scope (Form 72) through e-mail.

Yours sincerely,

 30/12/16

Naveen Jangra

Accreditation Officer

Phone +91 124 4679731

naveenhr.nabl@gmail.com

RECOMMENDED SCOPE OF ACCREDITATION (For Testing Laboratories)

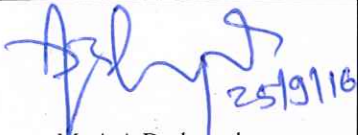

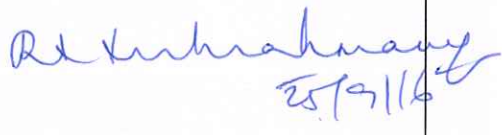
Laboratory: Automotive Electronics Lab.			Date(s) of Visit: 24 th & 25 th Sept. 2016		
Discipline: Electronics Testing					
Sl	Product(s) / Material of test	Specific tests performed	* Test Method / Standard against which tests are performed	Range of Testing/ Limits of detection	Uncertainty of Measurement [†] (±) at Value
1.	Motor Vehicles (2/3 Wheelers) ★	Radiated Emissions (In ALSE chamber)	CISPR 12:2009 AIS004(Part 1)/1999 AIS004(Part 3)/2009 (Annex 2 & 3) ECE R-10 Rev.05 (Annex 4 & 5) 97/24/EC Chapter 8 (Annex 2 & 3) SANS 20010:2010 (Annex 4 & 5)	30 MHz to 1000 MHz	±5.21 dB @ 38 MHz
2.	Motor Vehicle (2/3 Wheelers) ★	Radiated Immunity (In ALSE chamber)	ISO 11451-2:2005 AIS004(Part 3)/2009 (Annex 4) ECE R-10 Rev.05 (Annex 6) 97/24/EC Chapter 8 (Annex 4) SANS 20010:2010 (Annex 6)	20 MHz to 2000 MHz 30V/m	Qualitative N.A.
3.	Vehicle Electronic Systems / Sub-systems	Radiated Emissions (In ALSE chamber)	AIS:004(Part 1)/1999 AIS004 (Part 3)/2009 (Annex 5 & 6) ECE R-10 Rev.05 (Annex 7 & 8) 97/24/EC Chapter 8 (Annex 5 & 6) SANS 20010:2010 (Annex 7 & 8)	30 MHz to 1000 MHz	± 4.44 dB @ 270 MHz
			CISPR 25 edition 3.0:2008	150 kHz to 30 MHz	± 3.49 dB @ 20 MHz
				30 MHz to 2500 MHz	± 4.44 dB @ 270 MHz
4	★ ISM equipment	Radiated Emissions (In ALSE chamber)	CISPR 11:2015 CISPR 22:2008	30 MHz to 1000 MHz	± 4.34 dB @ 900 MHz

★ Newly added in scope. (3W vehicle & ISM RE)

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 Mr. A.A. Deshpande Signature, Date & Name of Lab Representative	 Mr. G. Mahesh Signature, Date & Name of Assessor(s)	 Ms. Rajalakshmi Subramanyam Signature, Date & Name of Lead Assessor
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National Accreditation Board for Testing and Calibration Laboratories				
Doc. No: NABL 215	Assessment Forms and Checklist (based on ISO/IEC 17025: 2005)			
Issue No: 06	Issue Date: 19-Apr-2016	Amend No: 01	Amend Date: 13-May-2016	Page No: 61/63

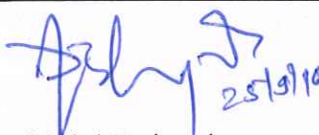
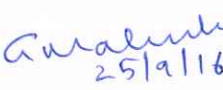

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Discipline: Electronics Testing					
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5.	Vehicle Electronic Systems / Sub-systems	Radiated Immunity (In ALSE chamber / BCI/ Strip-Line)	AIS004:Part 3/2009 (Annex 7) ECE R-10 Rev.05 (Annex 9) 97/24/EC Chapter 8 (Annex 7) SANS 20010:2010 (Annex 9) ISO 11452-2 second edition 2004 (ALSE) SAE J1113-21:2005 (with ground Ref. plane method only) ISO 11452-4 third edition 2005 (BCI) ISO 11452-5 second edition 2002 (Stripline)	200 MHz to 2000 MHz, 30 V/m (ALSE Method) 200 MHz to 3100 MHz, 100 V/m 1 MHz to 400 MHz, 200 mA 100 kHz to 400 MHz, 200 V/m	Qualitative N.A.
6.	Vehicle Electronic Systems / Sub-systems operating on vehicle battery supply	Conducted Emissions	CISPR 25 edition 3.0:2008	150 kHz to 108 MHz	± 3.01 dB @ 20 MHz
7.	ISM equipment	Conducted Emissions	CISPR 11 :2015 CISPR 22:2008	150kHz to 30MHz	± 3.00 dB @ 20 MHz

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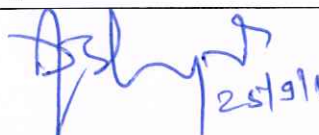
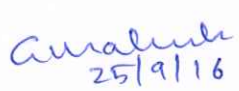
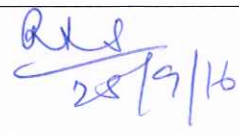
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8.	Vehicle Electronic Systems / Sub-systems operating on vehicle battery supply	Immunity to conducted transient disturbances on power supply lines Test pulse 1 (12/24 V system) Test pulse 2a (12/24 V system) Test pulse 2b (12/24 V system) Test pulse 3a & 3b (12/24 V system) Load dump test pulse (12/24 V system)	ISO 7637-2:2011(E) AIS004:Part 3/2009 (Annex 8) ECE R-10 Rev.05 (Annex 10) SANS 20010:2010 (Annex 10) ISO 16750-2: 2010 (For Load dump)	Battery Supply Voltage up to 12V/24V DC, 16 A	Qualitative N.A.
9.	Vehicle Electronic Systems / Sub-systems operating on vehicle battery supply	Immunity to coupled transient disturbances on lines other than power supply lines Positive and negative test pulse (fast/slow) (12 V and 24 V system)	ISO 7637-3:2007(E)	Battery Supply Voltage up to 12V /24VDC, 16 A	Qualitative N.A.
10.	Vehicle Electronic Systems / Sub-systems operating on vehicle battery supply	Conducted transient emissions on power supply lines	ISO 7637-2:2011(E) AIS004:Part 3/2009 (Annex 8) ECE R-10 Rev.05 (Annex 10) SANS 20010:2010 (Annex 10)	Battery Supply Voltage up to 12/24V DC, 50 A	For voltage : ±1.06 V @ 19.4V

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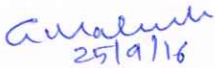
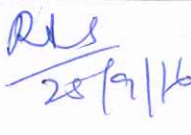
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11.	Vehicle Electronic Systems / Sub-systems operating on vehicle battery supply	Electrostatic Discharge (Air and Contact Discharge)	ISO 10605:2008 IEC 61000-4-2:2008 SAE J1113-13:2004	Discharge voltage up to 25 kV	Qualitative N.A.
12.	Vehicle Electronic Systems / Sub-systems operating on vehicle battery supply	Immunity to narrowband radiated electromagnetic energy. Portable/Handy transmitters	ISO 11452-9:2012	28 MHz to 1950 MHz Net power up to 50W	Qualitative N.A.
13.	Vehicle Electronic Systems / Sub-systems operating on vehicle battery supply	Superimposed alternating voltage. Slow decrease and increase of supply voltage. Discontinuities in supply voltage Withstand voltage	ISO 16750-2:2012	Battery Supply Voltage up to 12/24V DC, 16 A	Qualitative N.A.
		Insulation resistance	ISO 16750-2:2012		

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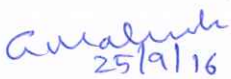
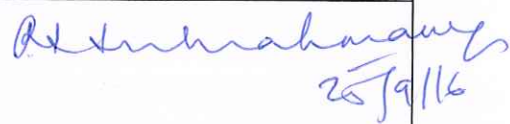
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14.	ISM equipment	i) Radiated Immunity	IEC 61000-4-3:2006, IS 14700 (Part 4/Sec 3):2008	80MHz to 2000 MHz Up to 10V/m Field Uniformity Area 0.5m x 0.5m	Qualitative N.A.
		ii) Burst on power / signal lines	IEC 61000-4-4:2012 IS 14700 (Part 4/Sec 4): 2008	Up to 4kV	
		iii) Surge on power supply	IEC 61000-4-5: 2005	Up to 4kV (1.2/50 µs)	
		iv) Conducted RF immunity on Power lines	IEC 61000-4-6:2013	Up to 10Vrms	
		v) Power frequency magnetic field	IEC 61000-4-8:2009, IS 14700 (Part 4/Sec 8):2008	Up to 30A/m	
		vi) Power fail simulation	IEC 61000-4-11: 2004	0%, 40%, 70%, 100%	

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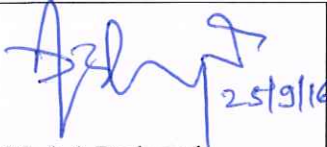

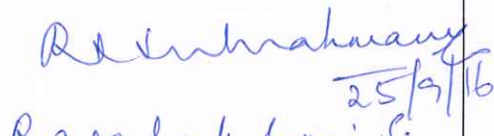
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15	Vehicle Electronic Systems / Sub-systems and other Components	Thermal Shock Test/ Rapid change of temperature with prescribed time of transfer.	IEC-60068-2-14 Na:2009 IS 9000(Part 14/Sec 1):1988 SAE J1455:2006 JASO D 001:1994 ISO 16750-4:2010(E)	Temp: -40°C to 150°C. Transfer Time < 10 sec. Chamber Size: 0.5m x 0.6m x 0.45m	Qualitative N.A.
16	Vehicle Electronic Systems / Sub-systems and other Components	Cold Test	IEC 60068-2-1:2007 IS 9000(Part 2):1977	Temperature: -40°C to 150°C. Humidity: 30 to 98% R.h. for Temperature range (30°C to 85°C) Max. Ramp rate: 5°C/min. Chamber Size: 1m X 1m X 1m	Qualitative N.A.
		Dry Heat Test	IEC 60068-2-2:2007 IS 9000(Part 3):1977		
		Composite temperature/humidity cyclic test	IEC 60068-2-38:2009 IS 9000(Part 6):1978		
		Temperature Cycling	ISO 16750-4:2010(E)		
		Thermal Cycling Change of temperature with specified change of temperature	SAE J1455:2006 IEC-60068-2-14 Nb:2009 IS 9000(Part 14/Sec 2):1988		
		Damp Heat, cyclic (12 h + 12h cycle)	IEC 60068-2-30:2005 IS 9000(Part 5/Sec 2):1981		
		Damp Heat, Steady State	IEC 60068-2-78:2012 IS 9000(Part 4):2008		
		Composite temperature/humidity cyclic test	IEC 60068-2-38:2009 IS 9000(Part 6):1978		

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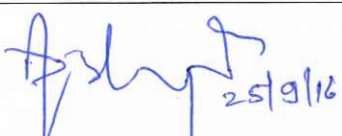

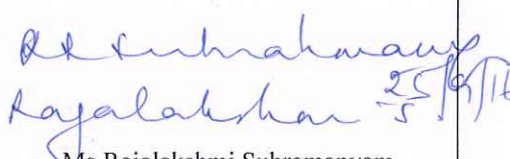
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17.	Vehicle Electronic Systems / Sub-systems and other Components	Vibration Testing Sine, Random and Shock.	JIS D 1601:1995 IEC-60068-2-64 :2008 SAE J1455:2006 SAE J1211:2009 IS 9000 (Part VIII):2003 IEC 60068-2-6:2007 IEC-60068-2-27 :2008 ISO 16750-3:2007(E) JASO D 001-94 IEC 61373:2013	Frequency: 5 Hz to 2.5 kHz; Velocity: 1800 mm/sec. X, Y Axis 30 G (Bare Table). Z Axis 82 G (Bare Table). Shock 100 g 6 ms with a mass of 1 kg	Qualitative N.A.
18.	Vehicle Electronic Systems / Sub-systems and other Components	Combined Temperature and Vibration Test	ISO 16750-3:2007 IEC 60068-2-64:2008	Frequency: 10 Hz to 2000 Hz; Velocity: 1200 mm/sec. Z Axis - 25 g Temperature: - 40°C to 150°C max. ramp rate 4 °C/min Humidity: 10 to 95% R.H. Chamber Size: 1m x 1m x 1m Test possible in Z Axis only.	Qualitative N.A.

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