राष्ट्रीय परीक्षण और अंशशोधन प्रयोगशाला प्रत्यायन बोर्ड
NATIONAL ACCREDITATION BOARD FOR TESTING & CALIBRATION LABORATORIES
सचिवालय : प्लॉट नं॰ – 45, सेक्टर नं॰ – 44, गुड़गांव – 122 002, हरियाणा, भारत
Secretariat : Plot No. – 45, Sector No. – 44, Gurgaon – 122 002, Haryana, India
दूरभाष / Telephone : +91-124-4679700 (30 Lines), फैक्स / Fax : +91-124-4679799, वेबसाईट / 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: 24th & 25th 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) CISPR 25 edition 3.0:2008	30 MHz to 1000 MHz 150 kHz to 30 MHz 30 MHz to 2500 MHz	± 4.44 dB @ 270 MHz ± 3.49 dB @ 20 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. (SW vehicle & ISM RE)

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+ The value at which uncertainty of measurement estimated shall also be specified.

Laboratories performing site testing shall clearly identify the Specific tests on products(s) / material performed at permanent laboratory and / or at site. Refer NABL 130 for details.

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
25/9/16	25/9/16	25/9/16

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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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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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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		± 0.86 MΩ @10 MΩ

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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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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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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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