



**GOVERNMENT OF INDIA  
MINISTRY OF COMMUNICATIONS  
DEPARTMENT OF TELECOMMUNICATIONS  
TELECOMMUNICATION ENGINEERING CENTRE**  
Gate No. 5, Khurshid Lal Bhawan, Janpath, New Delhi-110001

## **CERTIFICATE OF DESIGNATION**

**M/S GRANITE RIVER LABS INDIA SERVICES PRIVATE LIMITED,  
BENGALURU**

has been assessed and designated as Conformity Assessment Body (CAB)  
for its facilities at

**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5, Outer Ring Road,  
Doddanekundi, K R Puram Hobli, Bengaluru-560 037**

**In the field of Testing**

**Certificate No. TEC/MRA/CAB/IND-D/88**

**Issue Date: 15/01/2024**

**Validity: 15/01/2024 to 14/01/2027**

**This Certificate remains valid for the Scope of Designation as specified in the Annexure subject to the continued validity of NABL Accreditation and satisfied compliance to the Standards/specifications against which lab has been designated and strict compliance to the relevant terms and conditions of TEC CAB Designation Scheme.**

**(To see the scope of designation of this laboratory, you may also visit TEC website [www.tec.gov.in](http://www.tec.gov.in))**

**Signed for and on behalf of TEC**

**Signed by Vijay Dixit**

**Date: 15/01/2024 11:55:41**

**Director (CA)**

**For Designating Authority**

**TEC**

**Certificate No: TEC/MRA/CAB/IND-D/88 dated 15/01/2024 issued to  
M/S Granite River Labs India Services Private Limited, Bengaluru  
Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,  
Outer Ring Road, Doddanekundi, K R Puram Hobli,  
Bengaluru-560037**



**Validity: - 15/01/2024 to 14/01/2027**

### **Terms & Conditions**

This certificate is issued as per the terms and conditions stipulated in the TEC SCHEME FOR DESIGNATING DOMESTIC CONFORMITY ASSESEMENT BODIES AND CERTIFICATION BODIES FOR CONFORMITY ASSESEMENT AND CERTIFICATION OF TELECOMMUNICATION EQUIPMENT ISSUE 3 NO. TEC 04019:2023.

Some of the conditions are reiterated as under:

#### **A. Obligations of the Designated CAB.**

1. It shall ensure that it maintains its accreditation status from any recognised Indian accreditation body like NABL during validity period of certificate.
2. It shall follow the stipulated procedures, rules and policies laid down by Designating Authority (DA) or Mutual Recognition Agreement (MRA)\* partner for testing and evaluation.
3. In respect of tests for which it is seeking designation, it shall have no interest whatsoever in any business to carry on testing in an unfair or biased manner.
4. It shall fully indemnify DA from and against all liabilities, damages, claims, costs, and expenses incurred or sustained by DA as a result of any action taken or omitted by DA relating to the process of designation.
5. It shall comply with DA's or MRA partner's terms and conditions for designation and recognition as modified from time to time.
6. It shall be under obligation to participate in the online process prescribed by TEC for test and certification against TEC's GR/IR/ER and standards.
7. It shall have a record system which shall have a retention period of at least 5 years for documents related to the equipment testing. It shall maintain all the relevant documents including list of products submitted for testing, product-wise testing and evaluation reports. These documents shall be produced before the DA within seven days, as and when required.
8. It shall ensure the Intellectual Property Rights of the customers in the course of testing by maintaining professional ethics, secrecy and keeping all the product related information confidential.

\*Applicable only if recognized by MRA (Mutual Recognition Agreement) partner.

9. It shall notify the DA in writing of occurrence of any of the following incident(s) within 2 weeks of its occurrence
  - a) Cessation of its business of conformity assessment for which it is Designated or accredited
  - b) Changes in its legal, commercial, or Organisational status
  - c) Changes, which may affect continuing compliance with any of the criteria or requirement specified by DA or MRA partner.
  - d) Change of premises

## **B. REFERENCE TO DESIGNATION STATUS**

1. Designated CABs may advertise their designation status with regard to standards or parts thereof which are included in the scope of designation.
2. The advertisement should not imply, or otherwise suggest that DA or MRA Partner has endorsed the product or imply that the designated CAB is an agent or representative of DA or MRA Partner.
3. CABs whose designations have been suspended or withdrawn for any reason, shall discontinue advertisement of their designated status and not make any misleading statements regarding their designation status.

## **C. POST-DESIGNATION SURVEILLANCE**

As and when required, DA shall conduct surveillance assessments and other non-routine assessments on the Designated CABs to ensure that standards of practices are maintained as well as to investigate complaints made against them.

## **D. SUSPENSION OR WITHDRAWAL OF DESIGNATION**

1. DA shall suspend or withdraw the designation of a CAB if
  - a. Its accreditation is withdrawn.
  - b. It is found that the CAB is not complying with the stipulated criteria or requirements.
  - c. It is guilty of any offence involving fraud or dishonesty.
  - d. DA concludes that there is a just cause for withdrawing the designation.
2. A CAB whose designation, and recognition in case of MRA, has been suspended or withdrawn shall be removed from the list of designated CABs, in case it fails to take corrective measures.
3. DA shall keep the designation of a Designated CAB under suspension, until the completion of formal review process.

## **E. AMENDMENT TO THE SCHEME**

DA reserves the rights to amend the scheme, as and when required, for the purpose of streamlining designation process.

## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 1 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification
<b>1.</b>	<b>Router</b>	<b>Parameters Linked with Product Variant</b>	
		BGP4 RFC 4271 and MBGP RFC 4271, RFC 4760, Annex-P11	TEC ER No. TEC 37682308
		Dynamic Routing Annex-P11	TEC ER No. TEC 37682308
		IPv4 Parameters Set-D RFC 791, Annex-P11	TEC ER No. TEC 37682308
		IPv6 Dual Stack RFC 4213 clause 2.1 and 2.2, Annex-P6	TEC ER No. TEC 37682308
		Manageability SNMPV2 or V3 RFC 3410, RFC 3416, Annex-P11	TEC ER No. TEC 37682308
		OSPFv2 RFC 2328, Annex-P11	TEC ER No. TEC 37682308
		OSPFv3 for IPv6 RFC 2740, Annex-P11	TEC ER No. TEC 37682308
		PPPoE RFC 2516, Annex-P11	TEC ER No. TEC 37682308
		Radius RFC 2865, Annex-P11	TEC ER No. TEC 37682308
		Static Routing Annex-P11	TEC ER No. TEC 37682308
TCP Parameters RFC 793, Annex-P11	TEC ER No. TEC 37682308		
LDP RFC 5036, Annex-P11	TEC ER No. TEC 37682308		

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 2 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
	<b>Router</b>	<b>Interface: 1 G Optical Ethernet</b>	Average Launch power IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC 37682308
			Receiver Sensitivity IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC 37682308
			Wavelength IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC 37682308
		<b>Interface: 10 G Optical Ethernet</b>	Average Launch power IEEE 802.3ae Cl. 52, Annex-H	TEC ER No. TEC 37682308
			Receiver Sensitivity IEEE 802.3ae Cl. 52, Annex-H	TEC ER No. TEC 37682308
			Wavelength IEEE 802.3ae Cl. 52, Annex-H	TEC ER No. TEC 37682308
		<b>Interface: 25 G Optical Ethernet</b>	Average Launch power IEEE 802.3-2018 Cl. 114, Annex-H	TEC ER No. TEC 37682308
			Receiver Sensitivity IEEE 802.3-2018 Cl. 114, Annex-H	TEC ER No. TEC 37682308
			Wavelength IEEE 802.3-2018 Cl. 114, Annex-H	TEC ER No. TEC 37682308
		<b>Interface: 40 G Optical Ethernet</b>	Average Launch power IEEE 802.3ba Cl. 86 87, Annex-H	TEC ER No. TEC 37682308
			Receiver Sensitivity IEEE 802.3ba Cl. 86 87, Annex-H	TEC ER No. TEC 37682308
			Wavelength IEEE 802.3ba Cl. 86 87, Annex-H	TEC ER No. TEC 37682308

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 3 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
	<b>Router</b>	<b>Interface: 100 G Optical Ethernet</b>	Average Launch power IEEE 802.3ba Cl. 86 88, Annex-H	TEC ER No. TEC 37682308
			Receiver Sensitivity IEEE 802.3ba Cl. 86 88, Annex-H	TEC ER No. TEC 37682308
			Wavelength IEEE 802.3ba Cl. 86 88, Annex-H	TEC ER No. TEC 37682308
		<b>Interface: 200 G Optical Ethernet</b>	Average Launch power IEEE 802.3cn Cl 121 122, Annex-H	TEC ER No. TEC 37682308
			Receiver Sensitivity IEEE 802.3cn Cl 121 122, Annex-H	TEC ER No. TEC 37682308
			Wavelength IEEE 802.3cn Cl 121 122, Annex-H	TEC ER No. TEC 37682308
		<b>Interface: 400 G Optical Ethernet</b>	Average Launch power IEEE 802.3cn Cl 122 124, Annex-H	TEC ER No. TEC 37682308
			Receiver Sensitivity IEEE 802.3cn Cl 122 124, Annex-H	TEC ER No. TEC 37682308
			Wavelength IEEE 802.3cn Cl 122 124 Annex-H	TEC ER No. TEC 37682308
		<b>Interface: 10/100/1000 BASE-T Ethernet</b>	Link Speed and Auto Negotiation Test GE IEEE 802.3, Annex-H	TEC ER No. TEC 37682308

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 4 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification
---------	-----------------------------	-----------------------------------	-------------------------

<b>Router</b>	<b>Interface: 10/100 BASE-T Ethernet</b>	Link Speed and Auto Negotiation Test FE IEEE 802.3, Annex-H	TEC ER No. TEC 37682308
	<b>Interface: STM-1 Electrical</b>	Nominal Bit Rate with Tolerance ITU-T G.703, Annex-K	TEC ER No. TEC 37682308
	<b>Interface: STM-1 Optical</b>	Mean Launched Power ITU-T G.957, Annex-K	TEC ER No. TEC 37682308
		Nominal Bit Rate with Tolerance ITU-T G.957, Annex-K	TEC ER No. TEC 37682308
		Operating Wavelength Range ITU-T G.957, Annex-K	TEC ER No. TEC 37682308
		Receiver Overload ITU-T G.957, Annex-K	TEC ER No. TEC 37682308
		Receiver Sensitivity ITU-T G.957, Annex-K	TEC ER No. TEC 37682308
	<b>Interface: STM-4 Optical</b>	Mean Launched Power ITU-T G.957, Annex-K	TEC ER No. TEC 37682308
		Nominal Bit Rate with Tolerance ITU-T G.957, Annex-K	TEC ER No. TEC 37682308
		Operating Wavelength Range ITU-T G.957, Annex-K	TEC ER No. TEC 37682308
		Receiver Overload ITU-T G.957, Annex-K	TEC ER No. TEC 37682308

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**



## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 5 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification
	<b>Router</b>	<b>Interface: STM-4 Optical</b>	Receiver Sensitivity ITU-T G.957, Annex-K TEC ER No. TEC 37682308
		<b>Interface: STM-16 Optical</b>	Mean Launched Power ITU-T G.957, Annex-K TEC ER No. TEC 37682308
			Nominal Bit Rate with Tolerance ITU-T G.957, Annex-K TEC ER No. TEC 37682308
			Operating Wavelength Range ITU-T G.957, Annex-K TEC ER No. TEC 37682308
			Receiver Overload ITU-T G.957, Annex-K TEC ER No. TEC 37682308
			Receiver Sensitivity ITU-T G.957, Annex-K TEC ER No. TEC 37682308
			<b>Interface: STM-64 Optical</b>
		Nominal Bit Rate with Tolerance ITU-T G.707, Annex-K TEC ER No. TEC 37682308	
		Operating Wavelength Range ITU-T G.691, Annex-K TEC ER No. TEC 37682308	
		Receiver Overload ITU-T G.691, Annex-K TEC ER No. TEC 37682308	
		Receiver Sensitivity ITU-T G.691, Annex-K TEC ER No. TEC 37682308	

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**



## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 6 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
2.	<b>LAN Switch</b>	<b>Parameters linked with Product Variant</b>	Dynamic Routing Functional Test Annex-P11	TEC ER No. TEC 37942308
			IPv4 Set-D RFC 791, Annex-P11	TEC ER No. TEC 37942308
			Mac Learning and Packet Forwarding Annex-P11	TEC ER No. TEC 37942308
			Manageability SNMP V2 or V3 RFC 3410, RFC 3416, Annex-P11	TEC ER No. TEC 37942308
			Spanning Tree Protocol IEEE 802.1d, Annex-P11	TEC ER No. TEC 37942308
			Static Routing Annex-P11	TEC ER No. TEC 37942308
			<b>Interface: 1 G Optical Ethernet</b>	Average Launch power IEEE 802.3z Cl. 38, Annex-H
		Receiver Sensitivity IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC 37942308	
		Wavelength IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC 37942308	
		<b>Interface: 10 G Optical Ethernet</b>	Average Launch power IEEE 802.3ae Cl. 52, Annex-H	TEC ER No. TEC 37942308
		Receiver Sensitivity IEEE 802.3ae Cl. 52, Annex-H	TEC ER No. TEC 37942308	
		Wavelength IEEE 802.3ae Cl. 52, Annex-H	TEC ER No. TEC 37942308	

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 7 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
	<b>LAN Switch</b>	<b>Interface: 40 G Optical Ethernet</b>	Average Launch power IEEE 802.3ba Cl. 86 87, Annex-H	TEC ER No. TEC 37942308
			Receiver Sensitivity IEEE 802.3ba Cl. 86 87, Annex-H	TEC ER No. TEC 37942308
			Wavelength IEEE 802.3ba Cl. 86 87, Annex-H	TEC ER No. TEC 37942308
		<b>Interface: 100 G Optical Ethernet</b>	Average Launch power IEEE 802.3ba Cl. 86 88, Annex-H	TEC ER No. TEC 37942308
			Receiver Sensitivity IEEE 802.3ba Cl. 86 88, Annex-H	TEC ER No. TEC 37942308
			Wavelength IEEE 802.3ba Cl. 86 88, Annex-H	TEC ER No. TEC 37942308
		<b>Interface: 10/100/1000 BASE-T Ethernet</b>	Link Speed and Auto Negotiation Test GE IEEE 802.3, Annex-H	TEC ER No. TEC 37942308
		<b>Interface: 10/100 BASE-T Ethernet</b>	Link Speed and Auto Negotiation Test FE IEEE 802.3, Annex-H	TEC ER No. TEC 37942308
		<b>Interface: STM-1 Optical</b>	Mean Launched Power ITU-T G.957, Annex-K	TEC ER No. TEC 37942308
			Nominal Bit Rate with Tolerance ITU-T G.957, Annex-K	TEC ER No. TEC 37942308
			Operating Wavelength Range ITU-T G.957, Annex-K	TEC ER No. TEC 37942308

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 8 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
	<b>LAN Switch</b>	<b>Interface: STM-1 Optical</b>	Receiver Overload ITU-T G.957, Annex-K	TEC ER No. TEC 37942308
			Receiver Sensitivity ITU-T G.957, Annex-K	TEC ER No. TEC 37942308
		<b>Interface: STM-4 Optical</b>	Mean Launched Power ITU-T G.957, Annex-K	TEC ER No. TEC 37942308
			Nominal Bit Rate with Tolerance ITU-T G.957, Annex-K	TEC ER No. TEC 37942308
			Operating Wavelength Range ITU-T G.957, Annex-K	TEC ER No. TEC 37942308
			Receiver Overload ITU-T G.957, Annex-K	TEC ER No. TEC 37942308
			Receiver Sensitivity ITU-T G.957, Annex-K	TEC ER No. TEC 37942308
		<b>Interface: STM-16 Optical</b>	Mean Launched Power ITU-T G.957, Annex-K	TEC ER No. TEC 37942308
			Nominal Bit Rate with Tolerance ITU-T G.957, Annex-K	TEC ER No. TEC 37942308
			Operating Wavelength Range ITU-T G.957, Annex-K	TEC ER No. TEC 37942308
			Receiver Overload ITU-T G.957, Annex-K	TEC ER No. TEC 37942308
			Receiver Sensitivity ITU-T G.957, Annex-K	TEC ER No. TEC 37942308

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 9 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
<b>3.</b>	<b>IP Security Equipment</b>	<b>Parameters linked with Product Variant</b>	IDS Functional test Annex-P11	TEC ER No. TEC 34732401
		IPS Functional test Annex-P11	TEC ER No. TEC 34732401	
		IPSec Functional test Annex-P11	TEC ER No. TEC 34732401	
		IPv4 Set-D RFC 791, Annex-P11	TEC ER No. TEC 34732401	
		LDP RFC 5036, Annex-P11	TEC ER No. TEC 34732401	
		Manageability SNMP V2 or V3 RFC 3410, RFC 3416, Annex P11	TEC ER No. TEC 34732401	
		NAT Functional Test Annex-P11	TEC ER No. TEC 34732401	
		Policy Functional Test Annex-P11	TEC ER No. TEC 34732401	
		UTM URL Content & Anti-virus Filtering Annex-P11	TEC ER No. TEC 34732401	
		<b>Interface: 1 G Optical Ethernet</b>	Average Launch power IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC 34732401
	Receiver Sensitivity IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC 34732401		
	Wavelength IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC 34732401		

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 10 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
	<b>IP Security Equipment</b>	<b>Interface: 10 G Optical Ethernet</b>	Average Launch power IEEE 802.3ae Cl. 52, Annex-H	TEC ER No. TEC 34732401
			Receiver Sensitivity IEEE 802.3ae Cl. 52, Annex-H	TEC ER No. TEC 34732401
			Wavelength IEEE 802.3ae Cl. 52, Annex-H	TEC ER No. TEC 34732401
		<b>Interface: 40 G Optical Ethernet</b>	Average Launch power IEEE 802.3ba Cl. 86 87, Annex-H	TEC ER No. TEC 34732401
			Receiver Sensitivity IEEE 802.3ba Cl. 86 87, Annex-H	TEC ER No. TEC 34732401
			Wavelength IEEE 802.3ba Cl. 86 87, Annex-H	TEC ER No. TEC 34732401
		<b>Interface: 100 G Optical Ethernet</b>	Average Launch power IEEE 802.3ba Cl. 86 88, Annex-H	TEC ER No. TEC 34732401
			Receiver Sensitivity IEEE 802.3ba Cl. 86 88, Annex-H	TEC ER No. TEC 34732401
			Wavelength IEEE 802.3ba Cl. 86 88, Annex-H	TEC ER No. TEC 34732401
		<b>Interface: 10/100/1000 BASE-T Ethernet</b>	Link Speed and Auto Negotiation Test GE IEEE 802.3, Annex-H	TEC ER No. TEC 34732401
		<b>Interface: 10/100 BASE-T Ethernet</b>	Link Speed and Auto Negotiation Test FE IEEE 802.3, Annex-H	TEC ER No. TEC 34732401

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 11 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
<b>4.</b>	<b>Hybrid Set Top Box</b>	<b>Parameters linked with Product Variant</b>	IPv6 Dual Stack as per RFC 4213 RFC 4213 Clause 2.1 and 2.2, Annex-P6	TEC ER No. TEC30042401
			TCP Parameters RFC 793, Annex-P11	TEC ER No. TEC30042401
			TCP Parameters RFC 793, Annex-P4	TEC ER No. TEC30042401
			UDP Parameters RFC 768, Annex-P5	TEC ER No. TEC30042401
		<b>Interface: USB 2.0</b>	Data Transfer rates USB 2.0	TEC ER No. TEC30042401
			Maximum Power Output USB 2.0	TEC ER No. TEC30042401
		<b>Interface: 10/100 BASE-T Ethernet</b>	Link Speed and Auto Negotiation Test FE IEEE 802.3, Annex-H	TEC ER No. TEC30042401
		<b>Interface: 1 G Optical Ethernet</b>	Average Launch power IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC30042401
			Receiver Sensitivity IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC30042401
			Wavelength IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC30042401

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 12 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification		
<b>5.</b>	<b>Session Border Controller</b>	<b>Parameters linked with Product Variant</b>	Dual IP Layer Operation RFC 4213 Address RFC 4213 Cl. 2.1, Annex-P6	TEC ER No. TEC67222401	
			Dual IP Layer Operation RFC 4213 – DNS RFC 4213 Cl. 2.1 and 2.2, Annex-P6	TEC ER No. TEC67222401	
			RTCP Parameters RFC 3551 Set-B RFC 3551, Annex-P3	TEC ER No. TEC67222401	
			RTP Parameters RFC 3550 Set-C RFC 3550, Annex-P2	TEC ER No. TEC67222401	
			SIP Parameters Set-C RFC 3261, Annex-P1	TEC ER No. TEC67222401	
			TCP Parameters RFC 793, Annex-P4	TEC ER No. TEC67222401	
			UDP Parameters RFC 768, Annex-P5	TEC ER No. TEC67222401	
		<b>Interface: 10/100/1000 BASE-T Ethernet</b>	Link Speed and Auto Negotiation Test GE IEEE 802.3, Annex-H	TEC ER No. TEC67222401	
			<b>Interface: 1 G Optical Ethernet</b>	Average Launch power IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC67222401
				Receiver Sensitivity IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC67222401
Wavelength IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC67222401				

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**



## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 13 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification
	<b>Session Border Controller</b>	<b>Interface: 10 G Optical Ethernet</b>	Average Launch power IEEE 802.3ae Cl. 52, Annex-H TEC ER No. TEC67222401
			Receiver Sensitivity IEEE 802.3ae Cl. 52, Annex-H TEC ER No. TEC67222401
			Wavelength IEEE 802.3ae Cl. 52, Annex-H TEC ER No. TEC67222401
<b>6.</b>	<b>Media Gateway</b>	<b>Parameters linked with Product Variant</b>	DTMF Parameters Set-A RFC 4733, Annex-P8 TEC ER No. TEC66492401
			IPV4 Parameters Set-A RFC 791, Annex-P6 TEC ER No. TEC66492401
			RTP Parameters RFC 3550 Set-B RFC 3550, Annex-P2 TEC ER No. TEC66492401
			SCTP Parameters Set- A RFC 4960, Annex-P9 TEC ER No. TEC66492401
			SIP Parameters Set-B RFC 3261, Annex-P1 TEC ER No. TEC66492401
			TCP Parameters RFC 793, Annex-P4 TEC ER No. TEC66492401
			UDP Parameters RFC 768, Annex-P5 TEC ER No. TEC66492401
			MGCP Connection Model H.248 Cl. 6, Annex-P5 TEC ER No. TEC66492401

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 14 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
	<b>Media Gateway</b>	<b>Interface: 10/100/1000 BASE-T Ethernet</b>	Link Speed and Auto Negotiation Test GE IEEE 802.3, Annex-H	TEC ER No. TEC66492401
		<b>Interface: 10/100 BASE-T Ethernet</b>	Link Speed and Auto Negotiation Test FE IEEE 802.3, Annex-H	TEC ER No. TEC66492401
		<b>Interface: 1 G Optical Ethernet</b>	Average Launch power IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC66492401
			Receiver Sensitivity IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC66492401
			Wavelength IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC66492401
		<b>Interface: 10 G Optical Ethernet</b>	Average Launch power IEEE 802.3ae Cl. 52, Annex-H	TEC ER No. TEC66492401
			Receiver Sensitivity IEEE 802.3ae Cl. 52, Annex-H	TEC ER No. TEC66492401
			Wavelength IEEE 802.3ae Cl. 52, Annex-H	TEC ER No. TEC66492401
		<b>Interface: STM-1 Electrical</b>	Nominal Bit Rate with Tolerance ITU-T G.703, Annex-K	TEC ER No. TEC66492401

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 15 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
	<b>Media Gateway</b>	<b>Interface: STM-1 Optical</b>	Mean Launched Power ITU-T G.957, Annex-K	TEC ER No. TEC66492401
			Nominal Bit Rate with Tolerance ITU-T G.957, Annex-K	TEC ER No. TEC66492401
			Operating Wavelength Range ITU-T G.957, Annex-K	TEC ER No. TEC66492401
			Receiver Overload ITU-T G.957, Annex-K	TEC ER No. TEC66492401
			Receiver Sensitivity ITU-T G.957, Annex-K	TEC ER No. TEC66492401
<b>7.</b>	<b>IP Terminal</b>	<b>Parameters linked with Product Variant</b>	Dual IP Layer Operation RFC 4213 – Address RFC4213 Cl. 2.1, Annex-P6	TEC ER No. TEC67472401
			Dual IP Layer Operation RFC 4213 – DNS RFC 4213 Cl. 2.1 and 2.2, Annex-P6	TEC ER No. TEC67472401
			RTCP Parameters RFC 3551 Set-A RFC 3551, Annex-P3	TEC ER No. TEC67472401
			RTP Parameters RFC 3550 Set-A RFC 3550, Annex-P2	TEC ER No. TEC67472401
			SIP Parameters Set-A RFC 3261, Annex-P1	TEC ER No. TEC67472401
			TCP Parameters RFC 793, Annex-P4	TEC ER No. TEC67472401

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 16 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
	<b>IP Terminal</b>	<b>Interface: 10/100/1000 BASE-T Ethernet</b>	Link Speed and Auto Negotiation Test GE IEEE 802.3, Annex-H	TEC ER No. TEC67472401
		<b>Interface: 10/100 BASE-T Ethernet</b>	Link Speed and Auto Negotiation Test FE IEEE 802.3, Annex-H	TEC ER No. TEC67472401
		<b>Interface: 1 G Optical Ethernet</b>	Average Launch power IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC67472401
			Receiver Sensitivity IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC67472401
			Wavelength IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC67472401
		<b>8.</b>	<b>PON Family of Broadband Equipment</b>	<b>Parameters linked with Product Variant</b>
Dual IP Layer Operation RFC 4213 – Address RFC 4213 Cl. 2.1, Annex-P6	TEC ER No. TEC14762401			
Dual IP Layer Operation RFC 4213 – DNS RFC 4213 Cl. 2.1 and 2.2, Annex-P6	TEC ER No. TEC14762401			

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 17 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification
	<b>PON Family of Broadband Equipment</b>	Parameters linked with Product Variant	
		Frame loss of PON RFC 2544, Annex-J3	TEC ER No. TEC14762401
		IPv4 Parameters Set-A RFC 791, Annex-P6	TEC ER No. TEC14762401
		Latency of PON RFC 2544, Annex-J3	TEC ER No. TEC14762401
		MAC Address Learning and Aging Control G.984.1, Annex-J3	TEC ER No. TEC14762401
		MAC Address Limitation in PON IEEE 802.3, Annex-J3	TEC ER No. TEC14762401
		MAC Learning Support at OLT G.984.1, Annex-J3 IEEE 802.3	TEC ER No. TEC14762401
		Max Throughput of PON RFC 2544, Annex-J3	TEC ER No. TEC14762401
		MAC Based 802.1x Authentication in PON IEEE 802.1x., Annex-J3	TEC ER No. TEC14762401
		Minimum Two Classifications in PON Annex-J3	TEC ER No. TEC14762401
		Minimum Guaranteed Bandwidth in PON Annex-J3	TEC ER No. TEC14762401
	Maximum Bandwidth Limiting in PON ITU-T-REC-G.984.3-200803 Section 7.5, Annex-J3	TEC ER No. TEC14762401	

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 18 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
	<b>PON Family of Broadband Equipment</b>	<b>Parameters linked with Product Variant</b>	Password Based Authentication in PON ITU-T G.984.3 section 9.2.2 12, Annex- J3	TEC ER No. TEC14762401
			Port-id Based VLAN Support at OLT G.984.1 IEEE 802.1Q (testing procedure), Annex-J3	TEC ER No. TEC14762401
			Switch Fabric Throughput Capability OLT Annex-J3	TEC ER No. TEC14762401
			VLAN Stacking to Network Support at OLT IEEE802.1ad and IEEE 802.1Q (testing procedure), Annex-J3	TEC ER No. TEC14762401
		<b>Interface: GPON</b>	Operating Wavelength in Upstream direction G.984.2, Annex-J2	TEC ER No. TEC14762401
			Operating Wavelength in downstream direction G.984.2, Annex-J2	TEC ER No. TEC14762401
			Opt Output Power for GPON Int. at OLT G.984.2, Annex-J2	TEC ER No. TEC14762401
			Opt Output Power for GPON Int. at ONT G.984.2, Annex-J2	TEC ER No. TEC14762401
			Receiver Sensitivity for GPON Int. at OLT G.984.2, Annex-J2	TEC ER No. TEC14762401

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 19 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
	<b>PON Family of Broadband Equipment</b>	<b>Interface: GPON</b>	Receiver Sensitivity for GPON Int. at ONT G.984.2, Annex-J2	TEC ER No. TEC14762401
			Throughput for GPON Interface G.984.1, RFC 2544, Annex-J3	TEC ER No. TEC14762401
		<b>Interface: EPON</b>	Operating Wavelength in Upstream direction for EPON Int. IEEE 802.3ah, Annex-J2	TEC ER No. TEC14762401
			Operating Wavelength in downstream direction for EPON Int. IEEE 802.3ah, Annex-J2	TEC ER No. TEC14762401
			Optical Output Power for EPON Int. at OLT IEEE 802.3ah, Annex-J2	TEC ER No. TEC14762401
			Optical Output Power for EPON Int. at ONT IEEE 802.3ah, Annex-J2	TEC ER No. TEC14762401
			Receiver Sensitivity for EPON Int. at OLT IEEE 802.3ah, Annex-J2	TEC ER No. TEC14762401
			Receiver Sensitivity for EPON Int. at ONT IEEE 802.3ah, Annex-J2	TEC ER No. TEC14762401
			Throughput IEEE 802.3ah, RFC 2544, Annex-J2	TEC ER No. TEC14762401

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**



## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 20 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
	<b>PON Family of Broadband Equipment</b>	<b>Interface: XGPON</b>	Operating Wavelength in downstream direction for XGPON Interface ITU-T G987.2, Annex-J2	TEC ER No. TEC14762401
			Operating Wavelength in upstream direction for XGPON Interface ITU-T G987.2, Annex-J2	TEC ER No. TEC14762401
			Opt Output Power for XGPON Interface at OLT G987.2, Annex-J2	TEC ER No. TEC14762401
			Opt Output Power for XGPON Int. at ONT G987.2, Annex-J2	TEC ER No. TEC14762401
			Receiver Sensitivity for XGPON Int. at OLT G.987.2, Annex-J2	TEC ER No. TEC14762401
			Receiver Sensitivity for XGPON Int. at ONT G.987.2, Annex-J2	TEC ER No. TEC14762401
			Throughput G.987.1, RFC 2544, Annex-J3	TEC ER No. TEC14762401
		<b>Interface: XGSPON</b>	Operating wavelength in upstream direction for XGSPON Interface G9807.1, Annex-J2	TEC ER No. TEC14762401
			Operating wavelength in downstream direction for XGSPON Interface G9807.1, Annex-J2	TEC ER No. TEC14762401

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 21 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
	<b>PON Family of Broadband Equipment</b>	<b>Interface: XGSPON</b>	Optical Output Power for XGSPON Interface at OLT G9807.1, Annex-J2	TEC ER No. TEC14762401
			Opt Output Power for XGSPON Interface at ONT G9807.1, Annex-J2	TEC ER No. TEC14762401
			Receiver Sensitivity for XGSPON Int. at OLT G.9807.1, Annex-J2	TEC ER No. TEC14762401
			Receiver Sensitivity for XGSPON Int. at ONT G.9807.1, Annex-J2	TEC ER No. TEC14762401
			Throughput G.9807.1, RFC 2544, Annex-J3	TEC ER No. TEC14762401
		<b>Interface: NGPON2</b>	Operating Wavelength in downstream direction for NGPON2 Interface G.989.2, Annex-J2	TEC ER No. TEC14762401
			Operating Wavelength in upstream direction for NGPON2 Interface G.989.2, Annex-J2	TEC ER No. TEC14762401
			Optical Output Power for NGPON2 Interface at OLT G.989.2, Annex-J2	TEC ER No. TEC14762401
			Optical Output Power for NGPON2 Interface at ONT G.989.2, Annex-J2	TEC ER No. TEC14762401

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 22 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
	<b>PON Family of Broadband Equipment</b>	<b>Interface: NGPON2</b>	Receiver Sensitivity for NGPON2 Interface at OLT G.989.2, Annex-J2	TEC ER No. TEC14762401
			Receiver Sensitivity for NGPON2 Interface at ONT G.989.2, Annex-J2	TEC ER No. TEC14762401
			Throughput G.989.2, RFC 2544, Annex-J3	TEC ER No. TEC14762401
		<b>Interface: WDMPON</b>	Operating Wavelength in Upstream direction for WDMPON Interface ITU-T G.694.1, Annex-J2	TEC ER No. TEC14762401
			Operating Wavelength in downstream direction for WDMPON Interface ITU-T G.694.1, Annex-J2	TEC ER No. TEC14762401
			Opt Output Power for WDMPON Int. at OLT ITU-T G.694.1, Annex-J2	TEC ER No. TEC14762401
			Opt Output Power for WDMPON Int. at ONT ITU-T G.694.1, Annex-J2	TEC ER No. TEC14762401
			Receiver Sensitivity for WDMPON Int. at OLT ITU-T G.694.1, Annex-J2	TEC ER No. TEC14762401
			Receiver Sensitivity for WDMPON Int. at ONT ITU-T G.694.1, Annex-J2	TEC ER No. TEC14762401

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

**GOVERNMENT OF INDIA**  
**MINISTRY OF COMMUNICATIONS**  
**DEPARTMENT OF TELECOMMUNICATIONS**  
**TELECOMMUNICATION ENGINEERING CENTRE**  
Gate No. 5, Khurshid Lal Bhawan, Janpath, New Delhi - 110 001



**SCOPE OF DESIGNATION**  
**(ANNEXURE)**

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 23 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
	<b>PON Family of Broadband Equipment</b>	<b>Interface: WDMPON</b>	Throughput for WDMPON Int. ITU-T G.694.1, RFC 2544, Annex-J3	TEC ER No. TEC14762401
		<b>Interface: 1 G Optical Ethernet</b>	Average Launch power IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC14762401
			Receiver Sensitivity IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC14762401
			Wavelength IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC14762401
		<b>Interface: 10 G Optical Ethernet</b>	Average Launch power IEEE 802.3ae Cl. 52, Annex-H	TEC ER No. TEC14762401
			Receiver Sensitivity IEEE 802.3ae Cl. 52, Annex-H	TEC ER No. TEC14762308
			Wavelength IEEE 802.3ae Cl. 52, Annex-H	TEC ER No. TEC14762401
		<b>Interface: 10 BASE-T Ethernet</b>	Link Speed IEEE 802.3. Annex-H	TEC ER No. TEC14762401
		<b>Interface: 10/100/1000 BASE-T Ethernet</b>	Link Speed and Auto Negotiation Test GE IEEE 802.3, Annex-H	TEC ER No. TEC14762401
		<b>Interface: 10/100 BASE-T Ethernet</b>	Link Speed and Auto Negotiation Test FE IEEE 802.3, Annex-H	TEC ER No. TEC14762401

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 24 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification
	<b>PON Family of Broadband Equipment</b>	<b>Interface: STM-1 Optical</b>	Mean Launched Power for STM-1 Optical Interface ITU-T G.957, Annex-K TEC ER No. TEC14762401
			Nominal Bit Rate with Tolerance for STM-1 Optical Interface ITU-T G.957, Annex-K TEC ER No. TEC14762401
			Operating Wavelength Range for STM-1 Optical Interface ITU-T G.957, Annex-K TEC ER No. TEC14762401
			Receiver Sensitivity for STM-1 Optical Interface ITU-T G.957, Annex-K TEC ER No. TEC14762401
<b>9.</b>	<b>Transmission Terminal Equipment-2</b>	<b>Interface: STM-1 Electrical</b>	Nominal Bit Rate with Tolerance for STM-1 Electrical Interface ITU-T G.703 TEC ER No. TEC70122401
		<b>Interface: STM-1 Optical</b>	Mean Launched Power for STM-1 Optical Interface ITU-T G.957 TEC ER No. TEC70122401
			Nominal Bit Rate with Tolerance for STM-1 Optical Interface ITU-T G.957 TEC ER No. TEC70122401
			Operating Wavelength Range for STM-1 Optical Interface ITU-T G.957 TEC ER No. TEC70122401
		Receiver Overload for STM-1 Optical Interface ITU-T G.957 TEC ER No. TEC70122401	

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 25 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification
	<b>Transmission Terminal Equipment-2</b>	<b>Interface: STM-1 Optical</b>	Receiver Sensitivity for STM-1 Optical Interface (ITU-T G.957) TEC ER No. TEC70122401
		<b>Interface: STM-4 Optical</b>	Mean Launched Power for STM-4 Optical Interface ITU-T G.957, G.691 TEC ER No. TEC70122401
			Nominal Bit Rate with Tolerance for STM-4 Optical Interface ITU-T G.957 TEC ER No. TEC70122401
			Operating Wavelength Range for STM-4 Optical Interface ITU-T G.957 TEC ER No. TEC70122401
			Receiver Overload for STM-4 Optical Interface ITU-T G.957 TEC ER No. TEC70122401
			Receiver Sensitivity for STM-4 Optical Interface ITU-T G.957 TEC ER No. TEC70122401
		<b>Interface: STM-16 Optical</b>	Mean Launched Power for STM-16 Optical Interface ITU-T G.957 TEC ER No. TEC70122401
			Nominal Bit Rate with Tolerance for STM-16 Optical Interface ITU-T G.957 TEC ER No. TEC70122401

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 26 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
	<b>Transmission Terminal Equipment-2</b>	<b>Interface: STM-16 Optical</b>	Operating Wavelength Range for STM-16 Optical Interface ITU-T G.957	TEC ER No. TEC70122401
			Receiver Overload for STM-16 Optical Interface ITU-T G.957	TEC ER No. TEC70122401
			Receiver Sensitivity for STM-16 Optical Interface ITU-T G.957	TEC ER No. TEC70122401
		<b>Interface: STM-64 Optical</b>	Mean Launched Power for STM-64 Optical Interface ITU-T G.691	TEC ER No. TEC70122401
			Nominal Bit Rate with Tolerance for STM-64 Optical Interface ITU-T G.707	TEC ER No. TEC70122401
			Operating Wavelength Range for STM-64 Optical Interface ITU-T G.691	TEC ER No. TEC70122401
			Receiver Overload for STM-64 Optical Interface ITU-T G.691	TEC ER No. TEC70122401
			Receiver Sensitivity for STM-64 Optical Interface ITU-T G.691	TEC ER No. TEC70122401
			<b>Interface: OTU-1</b>	Central frequency for OTU-1 Interface ITU-T G959.1, G.693, Annex-L

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**



## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 27 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
	<b>Transmission Terminal Equipment-2</b>	<b>Interface: OTU-1</b>	Mean Total Input Power for OTU-1 Interface ITU-T G.959.1, G.693, Annex-L	TEC ER No. TEC70122401
			Mean Total Output Power for OTU-1 Interface ITU-T G.959.1, G.693, Annex-L	TEC ER No. TEC70122401
			Receiver Sensitivity for OTU-1 Interface ITU-T G.959.1, G.693, Annex-L	TEC ER No. TEC70122401
			Nominal Bit Rate with Tolerance for OTU-1 Interface ITU-T G.709, Annex-L	TEC ER No. TEC70122401
		<b>Interface: OTU-2</b>	Central frequency for OTU-2 Interface ITU-T G.959.1, G.693, Annex-L	TEC ER No. TEC70122401
			Mean Total Input Power for OTU-2 Interface ITU-T G.959.1, G.693, Annex-L	TEC ER No. TEC70122401
			Mean Total Output Power for OTU-2 Interface ITU-T G.959.1, G.693, Annex-L	TEC ER No. TEC70122401
			Minimum Receiver Overload for OTU-2 Interface ITU-T G.959.1, G.693, Annex-L	TEC ER No. TEC70122401
			Nominal Bit Rate with Tolerance for OTU-2 Interface ITU-T G.709, Annex-L	TEC ER No. TEC70122401

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 28 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
	<b>Transmission Terminal Equipment-2</b>	<b>Interface: OTU-2</b> Receiver Sensitivity for OTU-2 Interface ITU-T G.959.1 (Clause No. 7, 8), G.693 (Clause No. 6, 7), Annex-L	TEC ER No. TEC70122401	
		<b>Interface: OTU-3</b>	Central frequency for OTU-3 Interface ITU-T G959.1, G.693, Annex-L	TEC ER No. TEC70122401
			Maximum Mean total Input Power for OTU-3 Interface ITU-T G959.1, G.693, Annex-L	TEC ER No. TEC70122401
			Minimum Mean Total output Power for OTU-3 Interface ITU-T G.959.1, G.693, Annex-L	TEC ER No. TEC70122401
			Minimum Receiver Overload for OTU-3 Interface ITU-T G.959.1, G.693, Annex-L	TEC ER No. TEC70122401
			Receiver Sensitivity for OTU-3 Interface ITU-T G.959.1, G.693, Annex-L	TEC ER No. TEC70122401
			Nominal Bit Rate with Tolerance for OTU-3 Interface ITU-T G.709, Annex-L	TEC ER No. TEC70122401
		<b>Interface: OTU-4</b>	Central frequency for OTU-4 Interface ITU-T G959.1, G.695.1, Annex-L	TEC ER No. TEC70122401
			Maximum Mean Total Input Power for OTU-4 Interface ITU-T G.959.1, G.695, Annex-L	TEC ER No. TEC70122401

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 29 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
	<b>Transmission Terminal Equipment-2</b>	<b>Interface: OTU-4</b>	Mean Total Output Power for OTU-4 Interface ITU-T G.959.1, G.695, Annex-L	TEC ER No. TEC70122401
			Receiver Sensitivity for OTU-4 Interface ITU-T G.959.1, G. 695, Annex-L	TEC ER No. TEC70122401
			Nominal Bit Rate with Tolerance for OTU-4 Interface ITU-T G.709, Annex-L	TEC ER No. TEC70122401
		<b>Interface: 1 G Optical Ethernet</b>	Average Launch power IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC70122401
			Receiver Sensitivity IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC70122401
			Wavelength IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC70122401
		<b>Interface: 10 G Optical Ethernet</b>	Average Launch power IEEE 802.3ae Cl. 52, Annex-H	TEC ER No. TEC70122401
			Receiver Sensitivity IEEE 802.3ae Cl. 52, Annex-H	TEC ER No. TEC70122401
			Wavelength IEEE 802.3ae Cl. 52, Annex-H	TEC ER No. TEC70122401
		<b>Interface: 40 G Optical Ethernet</b>	Average Launch power IEEE 802.3ba Cl. 86 87, Annex-H	TEC ER No. TEC70122401
			Receiver Sensitivity IEEE 802.3ba Cl. 86 87, Annex-H	TEC ER No. TEC70122401

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 30 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification
	<b>Transmission Terminal Equipment-2</b>	<b>Interface: 40 G Optical Ethernet</b>	Wavelength IEEE 802.3ba Cl. 86 87, Annex-H TEC ER No. TEC70122401
		<b>Interface: 100 G Optical Ethernet</b>	Average Launch power IEEE 802.3ba Cl. 86 88, Annex-H TEC ER No. TEC70122401
			Receiver Sensitivity IEEE 802.3ba Cl. 86 88, Annex-H TEC ER No. TEC70122401
			Wavelength IEEE 802.3ba Cl. 86 88, Annex-H TEC ER No. TEC70122401
		<b>Interface: 10/100/1000 BASE-T Ethernet</b>	Link Speed and Auto Negotiation Test GE IEEE 802.3, Annex-H TEC ER No. TEC70122401
		<b>Interface: 10/100 BASE-T Ethernet</b>	Link Speed and Auto Negotiation Test FE IEEE 802.3, Annex-H TEC ER No. TEC70122401
<b>10.</b>	<b>Transmission Terminal Equipment-1</b>	<b>Interface: GPON</b>	Operating Wavelength in Upstream direction for GPON Interface G.984.2, Annex-J2 TEC ER No. TEC78832401
			Operating Wavelength in downstream direction for GPON Interface G.984.2, Annex-J2 TEC ER No. TEC78832401

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

**GOVERNMENT OF INDIA**  
**MINISTRY OF COMMUNICATIONS**  
**DEPARTMENT OF TELECOMMUNICATIONS**  
**TELECOMMUNICATION ENGINEERING CENTRE**  
Gate No. 5, Khurshid Lal Bhawan, Janpath, New Delhi - 110 001



**SCOPE OF DESIGNATION**  
**(ANNEXURE)**

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 31 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
	<b>Transmission Terminal Equipment-1</b>	<b>Interface: GPON</b> Opt Output Power for GPON Int. at OLT G.984.2, Annex-J2	TEC ER No. TEC78832401	
		Opt Output Power for GPON Int. at ONT G.984.2, Annex-J2	TEC ER No. TEC78832401	
		Receiver Sensitivity for GPON Int. at OLT G.984.2, Annex-J2	TEC ER No. TEC78832401	
		Receiver Sensitivity for GPON Int. at ONT G.984.2, Annex-J2	TEC ER No. TEC78832401	
<b>11.</b>	<b>Equipment's Operating in 2.4 GHz and 5 GHz Band</b>	<b>Parameters link with product Variant</b> Dual IP Layer Operation RFC 4213 – Address RFC 4213 Cl. 2.1, Annex-P6	TEC ER No. TEC59432308	
		<b>Interface: Fast Ethernet Electrical</b> Link Speed and Auto negotiation Test FE IEEE 802.3, Annex-H	TEC ER No. TEC59432308	
		<b>Interface: Gigabit Ethernet Electrical</b> Link Speed and Auto negotiation Test GE IEEE 802.3, Annex-H	TEC ER No. TEC59432308	
		<b>Interface: 1 G Optical Ethernet</b>	Average Launch power IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC59432308
			Receiver Sensitivity IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC59432308
			Wavelength IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC59432308

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 32 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
	<b>Equipment's Operating in 2.4 GHz and 5 GHz Band</b>	<b>Interface: 10 G Optical Ethernet</b>	Average Launch power IEEE 802.3ae Cl. 52, Annex-H	TEC ER No. TEC59432308
			Receiver Sensitivity IEEE 802.3ae Cl. 52, Annex-H	TEC ER No. TEC59432308
			Wavelength IEEE 802.3ae Cl. 52, Annex-H	TEC ER No. TEC59432308
		<b>Interface: STM-1 Optical</b>	Mean Launched Power ITU-T G.957, Annex-K	TEC ER No. TEC59432308
			Nominal Bit Rate with Tolerance ITU-TG.957, Annex-K	TEC ER No. TEC59432308
			Operating Wavelength Range ITU-T G.957, Annex-K	TEC ER No. TEC59432308
			Receiver Overload ITU-T G.957, Annex-K	TEC ER No. TEC59432308
			Receiver Sensitivity ITU-T G.957, Annex-K	TEC ER No. TEC59432308
		<b>Interface: STM-1 Electrical</b>	Nominal Bit Rate with Tolerance ITU-T G.703, Annex-K	TEC ER No. TEC59432308
		<b>Interface: STM-16 Optical</b>	Mean Launched Power ITU-T G.957, Annex-K	TEC ER No. TEC59432308
			Nominal Bit Rate with Tolerance ITU-T G.957, Annex-K	TEC ER No. TEC59432308

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 33 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification		
	<b>Equipment's Operating in 2.4 GHz and 5 GHz Band</b>	<b>Interface: STM-16 Optical</b>	Operating Wavelength Range ITU-T G.957, Annex-K	TEC ER No. TEC59432308	
			Receiver Overload ITU-T G.957, Annex-K	TEC ER No. TEC59432308	
			Receiver Sensitivity ITU-T G.957, Annex-K	TEC ER No. TEC59432308	
		<b>Interface: STM-4 Optical</b>	Mean Launched Power ITU-T G.957, Annex-K	TEC ER No. TEC59432308	
			Nominal Bit Rate with Tolerance ITU-T G.957, Annex-K	TEC ER No. TEC59432308	
			Operating Wavelength Range ITU-T G.957, Annex-K	TEC ER No. TEC59432308	
			Receiver Overload ITU-T G.957, Annex-K	TEC ER No. TEC59432308	
			Receiver Sensitivity ITU-T G.957, Annex-K	TEC ER No. TEC59432308	
			<b>Parameters linked with Product Variant</b>	TCP Parameters RFC 793, Annex-P4	TEC ER No. TEC67792401
				UDP Parameters RFC 768, Annex-P5	TEC ER No. TEC67792401
<b>Interface: 10/100/1000 BASE-T Ethernet</b>	Link Speed and Auto Negotiation Test GE IEEE 802.3, Annex-H	TEC ER No. TEC67792401			

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**



## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name: M/S Granite River Labs India Services Private Limited,  
Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,  
Outer Ring Road, Doddanekundi, K R Puram,  
Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 34 of 34**

**Validity: 15/01/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification
---------	-----------------------------	-----------------------------------	-------------------------

	<b>Soft Switch</b>	<b>Interface: 1 G Optical Ethernet</b>	Average Launch power IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC67792401
			Receiver Sensitivity IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC67792401
			Wavelength IEEE 802.3z Cl. 38, Annex-H	TEC ER No. TEC67792401
		<b>Interface: 10 G Optical Ethernet</b>	Average Launch power IEEE 802.3ae Cl. 52 Annex-H	TEC ER No. TEC67792401
			Receiver Sensitivity IEEE 802.3ae Cl. 52 Annex-H	TEC ER No. TEC67792401
			Wavelength IEEE 802.3ae Cl. 52 Annex-H	TEC ER No. TEC67792401

**Signed by Sanjay Bhardwaj**  
Date: 15-01-2024 12:05:36

**AD (CA), TEC**

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

**Government of India**  
**Department of Telecommunications**  
**Telecommunication Engineering Centre**  
**Gate No. 5, Khurshid Lal Bhawan, Janpath, New Delhi – 110001**



**No. 1-106/2023-CA/TEC**

**Dated: 22.03.2024**

To,

**M/s Granite River Labs India Services Private Limited, Bengaluru**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram Hobli, Bengaluru – 560 037**  
**Mob: +91- 9620288828, E-Mail Id: kvarma@graniteriverlabs.com**

[Kind attention to **Shri Kalyan Varma, Director**)]

**Subject: Enhancement of Scope of CAB Designation of M/s Granite River Labs India Services Private Limited, Bengaluru**

- Ref: 1. TEC CAB Designation Certificate no. TEC/MRA/CAB/IND-D/88 dated 15.01.2024**  
**2. This office forwarding letter no. 1-106/2023-CA/TEC dated 15.01.2024**  
**3. This office letter no. 1-106/2023-CA/TEC dated 26.02.2024 for site visit of remaining IP V6 Testing Parameters**

This is in reference to this office letter no. **1-106/2023-CA/TEC dated 26.02.2024 for site visit of remaining IP V6 Test Parameters** in respect of CAB Designation Certificate No. TEC/MRA/CAB/IND-D/88 dated 15.01.2024, valid up to 14.01.2024.

2. In reference to the recommendations of Site visit assessment team, the Scope of Designation of CAB Certificate no. referred above is hereby enhanced in respect of test parameters of IP V6 as per detail mentioned in Annexure attached.

3. All other details, terms and conditions and validity of CAB Designation Certificate no. TEC/MRA/CAB/IND-D/88 dated 15.01.2024 shall remain unchanged.

4. This is issued with the approval of Competent Authority.

**Signed by Vijay Dixit**  
**Date: 22-03-2024 14:55:56**

Encl: as above.

(Vijay Dixit)  
Director (CA), TEC

Copy to:

1. DDG (TC), TEC, New Delhi for kind information and necessary action
2. DDG (NR)/DDG(ER)/DDG (WR)/DDG (SR) TEC for kind information

**GOVERNMENT OF INDIA**  
**MINISTRY OF COMMUNICATIONS**  
**DEPARTMENT OF TELECOMMUNICATIONS**  
**TELECOMMUNICATION ENGINEERING CENTRE**  
Gate No. 5, Khurshid Lal Bhawan, Janpath, New Delhi - 110 001



**SCOPE OF DESIGNATION**  
**(ANNEXURE)**

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 1 of 3**

**Validity: 22/03/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification	
1.	Router	Parameters Linked with Product Variant	BGP for IPv6 RFC 2545. Annex- P11	TEC ER No. TEC37682308
			IPv6 Complete suite RFC 2460 or 8200, RFC 4861, RFC 4862, RFC 1981, RFC 4443, Annex- P11	TEC ER No. TEC37682308
2.	LAN Switch	Parameters linked with Product Variant	IPV6 RFC 2460 or RFC 8200 Annex-P11	TEC ER No. TEC37942403
3.	Hybrid Set Top Box	Parameters linked with Product Variant	IPv6 Complete suite RFC 2460 or 8200, RFC 4861, RFC 4862, RFC 1981, RFC 4443 , Annex- P11	TEC ER No. TEC30042401
			IPV6 Destination Options Header RFC 2460 or RFC 8200 Clause No. 4.6 Annexure-P7	TEC ER No. TEC30042401
			IPV6 Extension Header Order RFC 2460 or RFC 8200 Clause No. 4.1 RFC 4213 Clause No. 5 Annexure-P7	TEC ER No. TEC30042401
			IPV6 Extension headers RFC 2460 or RFC 8200 Clause No 4	TEC ER No. TEC30042401
			IPV6 Extn. Header Parameters RFC 2460 or RFC 8200. Annex-P7	TEC ER No. TEC30042401
			IPV6 Fragment Header RFC 2460 or RFC 8200 Clause No. 4.5 Annexure-P7	TEC ER No. TEC30042401

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

**GOVERNMENT OF INDIA**  
**MINISTRY OF COMMUNICATIONS**  
**DEPARTMENT OF TELECOMMUNICATIONS**  
**TELECOMMUNICATION ENGINEERING CENTRE**  
Gate No. 5, Khurshid Lal Bhawan, Janpath, New Delhi - 110 001



**SCOPE OF DESIGNATION**  
**(ANNEXURE)**

**Laboratory Name: M/S Granite River Labs India Services Private Limited,**  
**Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,**  
**Outer Ring Road, Doddanekundi, K R Puram,**  
**Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 2 of 3**

**Validity: 22/03/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification
	<b>Hybrid Set Top Box</b>	<b>Parameters linked with Product Variant</b>	
		IPV6 Header Parameters RFC 2460 / RFC 8200. Annex-P7	TEC ER No. TEC30042401
		IPV6 No Next Header RFC 2460 or RFC 8200 Clause No. 4.7 Annexure-P7	TEC ER No. TEC30042401
		IPV6 Options RFC 2460 or RFC 8200 Clause No. 4.2 Annexure-P7	TEC ER No. TEC30042401
		IPV6 Packet Size issues RFC 2460 or RFC 8200 Clause No. 5 Annexure-P7	TEC ER No. TEC30042401
		IPV6 Parameters RFC 2460 / 8200. Annex-P7	TEC ER No. TEC30042401
		IPV6 Responding to Packets Carrying Routing Headers RFC 2460 or RFC 8200 Clause No. 8.4, Annexure-P7	TEC ER No. TEC30042401
		IPV6 Routing Header RFC 2460 or RFC 8200 Clause No. 4.4, Annexure-P7	TEC ER No. TEC30042401
		IPV6 Upper-Layer Checksums RFC 2460 or RFC 8200 Clause No. 8.1, Annexure-P7	TEC ER No. TEC30042401
IPV6 as per RFC 2460 or 8200 (RFC 2460 or RFC 8200 Annex-P11)	TEC ER No. TEC30042401		

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**

**GOVERNMENT OF INDIA  
MINISTRY OF COMMUNICATIONS  
DEPARTMENT OF TELECOMMUNICATIONS  
TELECOMMUNICATION ENGINEERING CENTRE**

Gate No. 5, Khurshid Lal Bhawan, Janpath, New Delhi - 110 001



**SCOPE OF DESIGNATION**  
**(ANNEXURE)**

**Laboratory Name: M/S Granite River Labs India Services Private Limited,  
Unit No.10, 1st Floor, ROACH ICON, Survey No 28 & 36/5,  
Outer Ring Road, Doddanekundi, K R Puram,  
Hobli, Bengaluru-560037**

**Certificate Number: TEC/MRA/CAB/IND-D/88**

**Page 3 of 3**

**Validity: 22/03/2024 to 14/01/2027**

**Last Amended on: ----**

Sl. No.	Telecom Equipment / Product	Test Parameter or Type of Testing	Standard/ Specification
	Hybrid Set Top Box	Parameters linked with Product Variant	IPV6 as per RFC 2460 or 8200 4861 4862 1981 4443 Annex-P11
			IPv6 as per RFC 2460 (RFC 2460 / RFC 8200) Annex-P7
4.	Session Border Controller	Parameters linked with Product Variant	IPV6 Header Parameters RFC 2460 / RFC 8200. Annex-P7
5.	IP Terminal	Parameters linked with Product Variant	IPV6 Header Parameters RFC 2460 / RFC 8200. Annex-P7
6.	Equipment's Operating in 2.4 GHz and 5 GHz Band	Parameters linked with Product Variant	IPV6 Extn Header Parameters RFC 2460 or RFC 8200, Annex-P7
			IPV6 Header Parameters (RFC 2460 / RFC 8200. Annex-P7)

**Signed by Sanjay Bhardwaj  
Date: 22-03-2024 14:59:32**

**AD (CA), TEC**

**\*The validity of Certificate is up to 14/01/2027 or the continued validity of NABL Accreditation, whichever is earlier.**