



**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 TUV RHINELAND INDIA PVT. LTD., BENGALURU**  
has been assessed and designated as Conformity Assessment Body (CAB)  
for its facilities at

**27/B, 2nd Cross Road, Electronic City, Phase-1, Bengaluru- 560100,  
Karnataka, India**

### **In the field of Testing**

**Certificate No. TEC/MRA/CAB/IND-D/10-I**

**Issue Date: 30/01/2025**

**Validity: 03/02/2025 to 02/02/2028**

**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**

**Digitally signed by  
Sanjeev Kumar Arya  
Date: 30-01-2025  
15:34:59 Sanjeev Arya  
Director (CA)  
For Designating Authority  
TEC**

**Certificate No: TEC/MRA/CAB/IND-D/10-I dated 30/01/2025 issued to  
M/S Tuv Rhineland India Pvt. Ltd., Bengaluru  
27/B, 2nd Cross Road, Electronic City, Phase-1,  
Bengaluru- 560100, Karnataka, India.**



**Validity: - 03/02/2025 to 02/02/2028**

### **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 recognized 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 Organizational 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.

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

**Laboratory Name:** M/s TUV Rhineland India Pvt. Ltd., Bengaluru  
27/B, 2nd Cross Road, Electronic City,  
Phase-1, Bengaluru- 560100, Karnataka, India.

**Certificate Number:** TEC/MRA/CAB/IND-D/10-I

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**Validity:** 03/02/2025 to 02/02/2028

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

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification
1.	Audio/Video, Information and communication technology Equipment-Safety requirements	Accessibility to Electrical Energy Sources and Safeguards Clause 5.3.2	IEC 62368-1:2018
		Antenna Terminal Insulation Clause 5.4.5	IEC 62368-1:2018
		Ball Pressure Test Clause 5.4.1.10.3	IEC 62368-1:2018
		Capacitor Discharge Clause 5.5.2.2	IEC 62368-1:2018
		Cart, Stand or Carrier Loading Test Clause 8.10.3	IEC 62368-1:2018
		Clearance, Creepage Clause 5.4.2, 5.4.3	IEC 62368-1:2018
		Compliance Criteria (Force Test) Clause 4.8.5	IEC 62368-1:2018
		Criteria for Telephone Ringing Signals (TNV Circuit Test) Annex H	IEC 62368-1:2018
		Crush Test Clause 4.8.4.6	IEC 62368-1:2018
		Drop Test Annex T.7	IEC 62368-1:2018
		Electric Strength Test Clause 5.4.9	IEC 62368-1:2018
		Enclosure Impact Test Annex T.6	IEC 62368-1:2018

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification
	<b>Audio/Video, Information and communication technology Equipment-Safety requirements</b>	Equipment for Direct Insertion into Mains Socket-Outlets Clause 4.7	IEC 62368-1:2018
		Equipment Mounted to a Wall or Ceiling Clause 8.7	IEC 62368-1:2018
		Fixing Conductor Clause 4.6	IEC 62368-1:2018
		Handle Strength Clause 8.8	IEC 62368-1:2018
		Horizontal Force Test Clause 8.6.5	IEC 62368-1:2018
		Humidity Conditioning Clause 5.4.8	IEC 62368-1:2018
		Impact Test Annex T.9	IEC 62368-1:2018
		Impulse Test Clause 5.4.10.2.2	IEC 62368-1:2018
		Input Test Annex B.2.5	IEC 62368-1:2018
		Leakage Current Annex M.6.2	IEC 62368-1:2018
		Limited Power Source Annex Q.1	IEC 62368-1:2018
		Mains Supply Connection (Cord Anchorage) Annex G.7	IEC 62368-1:2018

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification
	<b>Audio/Video, Information and communication technology Equipment-Safety requirements</b>	Maximum Operating Temperature (Temperature Measurement) Clause 5.4.1.4	IEC 62368-1:2018
		Power Source Circuit Classification Clause 6.2.2	IEC 62368-1:2018
		Prospective Touch Voltage, Touch Current and Protective Conductor Current Clause 5.7	IEC 62368-1:2018
		Resistance of the Protective Bonding System (Earth Bond Test) Clause 5.6.6	IEC 62368-1:2018
		RMS Working Voltage / Peak Working Voltage (Working Voltage) Clause 5.4.1.8.2 / 5.4.1.8.3	IEC 62368-1:2018
		Simulated Abnormal Operating Conditions / Simulated Single Fault Conditions Annex B.2.5	IEC 62368-1:2018
		Static Stability Clause 8.6.2	IEC 62368-1:2018
		Steady Force Test Annex T.2	IEC 62368-1:2018
		Steady Force Test Annex T.3	IEC 62368-1:2018
		Steady Force Test Annex T.4	IEC 62368-1:2018
	Steady Force Test Annex T.5	IEC 62368-1:2018	

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**Validity:** 03/02/2025 to 02/02/2028

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification
	<b>Audio/Video, Information and communication technology Equipment-Safety requirements</b>	Steady-State Test (Electric Strength Test) Clause 5.4.10.2.3	IEC 62368-1:2018
		Stress Relief Test Annex T.8	IEC 62368-1:2018
		Test for the Permanence of Marking Annex F.3.9	IEC 62368-1:2018
		Vicat Softening Test Clause 5.4.1.10.2	IEC 62368-1:2018
2.	<b>Information Technology Equipment-Safety Requirement</b>	Cord Anchorage and Strain Relief (Mechanical Strength) Clause. 3.2.6	IEC 60950-1:2005+ A1:2009 +A2:2013
		Impulse Test Clause. 6.2.2.1	I IEC 60950-1:2005+ A1:2009 +A2:2013
		Resistance to Abnormal Heat (Ball Pressure Test) Clause. 4.5.5	IEC 60950-1:2005+ A1:2009 +A2:2013
		Termination of Conductors Clause. 3.1.9	IEC 60950-1:2005+ A1:2009 +A2:2013
		Conductor Sizes to be Connected / Wiring Terminal Sizes Clause. 3.3.4 / 3.3.5	IEC 60950-1:2005+ A1:2009 +A2:2013
		Limited Current Circuits Clause. 2.4	IEC 60950-1:2005+ A1:2009 +A2:2013
		Permanently Connected Equipment Clause. 3.2.3	IEC 60950-1:2005+ A1:2009 +A2:2013
		Protection Requirements Clause. 2.8.2/2.8.3	IEC 60950-1:2005+ A1:2009 +A2:2013

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**Validity:** 03/02/2025 to 02/02/2028

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

Sl. No.	Telecom Equipment/ Product	Test Parameter or Type of Testing	Standard/ Specification
	<b>Information Technology Equipment-Requirement Safety</b>	Protective Earthing and Bonding Terminals Clause. 2.6.4.2	IEC 60950-1:2005+ A1:2009 +A2:2013
		Electric Strength (High Voltage test) Clause. 5.2	IEC 60950-1:2005+ A1:2009 +A2:2013
		Markings & Instructions (Marking) Clause 1.7	IEC 60950-1:2005+ A1:2009 +A2:2013
		Power Input and Current Clause 1.6	IEC 60950-1:2005+ A1:2009 +A2:2013
		Protection from Electric Shock & Energy Hazards (Protection Against Access to Live Parts) Clause. 2.1	IEC 60950-1:2005+ A1:2009 +A2:2013
		Thermal Requirements (Temperature Rise) Clause.4.5	IEC 60950-1:2005+ A1:2009 +A2:2013
		Touch Current & Protective Conductor Current (Leakage Current) Clause. 5.1	IEC 60950-1:2005+ A1:2009 +A2:2013
		Abnormal Operating and Fault Conditions / Transformers / Motor Tests Under Abnormal Conditions Clause. 5.3 / Annex C/Annex B	IEC 60950-1:2005+ A1:2009 +A2:2013
		Adhesives for Constructional Purposes Clause. 4.6.5	IEC 60950-1:2005+ A1:2009 +A2:2013
		Clearances, Creepage Distances and Distances through Insulation Clause.2.10	IEC 60950-1:2005+ A1:2009 +A2:2013
		Compliance Criteria (Insulation Resistance) Clause.6.2.2.3	IEC 60950-1:2005+ A1:2009 +A2:2013

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification
	<b>Information Technology Equipment-Requirement Safety</b>	Cord Anchorages and Strain Relief Clause. 3.2.6	IEC 60950-1:2005+ A1:2009 +A2:2013
		Direct Plug-in Equipment Clause. 4.3.6	IEC 60950-1:2005+ A1:2009 +A2:2013
		Discharge of Capacitors in Equipment (Capacitor Discharge) Clause.2.1.1.7	IEC 60950-1:2005+ A1:2009 +A2:2013
		Drop Test Clause.4.2.6	IEC 60950-1:2005+ A1:2009 +A2:2013
		Humidity Conditioning (Humidity Test) Clause. 2.9.2	IEC 60950-1:2005+ A1:2009 +A2:2013
		Impact Test (Ball Impact Test) Clause. 4.2.5	IEC 60950-1:2005+ A1:2009 +A2:2013
		Impulse Test Clause.6.2.2.1	IEC 60950-1:2005+ A1:2009 +A2:2013
		Limited Power Sources Clause. 2.5	IEC 60950-1:2005+ A1:2009 +A2:2013
		Limits/Connection of TNV Circuits to Other Circuits (Limits of TNV Circuits) Clause.2.3.1/2.3.4	IEC 60950-1:2005+ A1:2009 +A2:2013
		Protection in Operator Access Area (Protection Against Moving Parts) Clause. 4.4.2	IEC 60950-1:2005+ A1:2009 +A2:2013
		Protection in Restricted Access Area (Protection Against Hazardous Moving Parts) Clause. 4.4.3	IEC 60950-1:2005+ A1:2009 +A2:2013
		Resistance of Earthing Conductors and there Terminations (Earth Bond Test) Clause.2.6.3.4	IEC 60950-1:2005+ A1:2009 +A2:2013

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**Validity:** 03/02/2025 to 02/02/2028

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

Sl. No.	Telecom Equipment/ Product	Test Parameter or Type of Testing	Standard/ Specification
	<b>Information Technology Equipment-Requirement</b>  <b>Safety</b>	RMS Working Voltage / Peak Working Voltage (Working Voltage) Clause.2.10.2.2/2.10.2.3	IEC 60950-1:2005+ A1:2009 +A2:2013
		Stability Clause. 4.1	IEC 60950-1:2005+ A1:2009 +A2:2013
		Steady Force Test, 10N Clause. 4.2.2	IEC 60950-1:2005+ A1:2009 +A2:2013
		Steady Force Test, 250 N Clause. 4.2.4	IEC 60950-1:2005+ A1:2009 +A2:2013
		Steady Force Test, 30N Clause. 4.2.3	IEC 60950-1:2005+ A1:2009 +A2:2013
		Stress Relief Test Clause. 4.2.7	IEC 60950-1:2005+ A1:2009 +A2:2013
		Test for Operating Voltages Generated Externally Clause. 2.3.5	IEC 60950-1:2005+ A1:2009 +A2:2013
		Tests for Resistance to Heat and Fire Clause. Annex A	IEC 60950-1:2005+ A1:2009 +A2:2013
		Voltage Surge Test Clause. 7.4.2	IEC 60950-1:2005+ A1:2009 +A2:2013
		Voltage Under Fault Conditions/ Connection of SELV Circuits to Other Circuits Clause.2.2.3/2.2.4	IEC 60950-1:2005+ A1:2009 +A2:2013
		Voltage Under Normal Conditions Clause. 2.2.2	IEC 60950-1:2005+ A1:2009 +A2:2013
		Wall or Ceiling Mounted Equipment Clause.4.2.10	IEC 60950-1:2005+ A1:2009 +A2:2013

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**Validity:** 03/02/2025 to 02/02/2028

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

Sl. No.	Telecom Equipment/ Product	Test Parameter or Type of Testing	Standard/ Specification
	<b>Information Technology Equipment-Requirement Safety</b>	Abrasion Resistance Test Clause.2.10.8.4	IEC 60950-1:2005+ A1:2009 +A2:2013
		Batteries Clause. 4.3.8	IEC 60950-1:2005+ A1:2009 +A2:2013
		Beads and Ceramic Insulators Clause. 3.1.5	IEC 60950-1:2005+ A1:2009 +A2:2013
		Criteria for Telephone Ringing Signals Annex M	IEC 60950-1:2005+ A1:2009 +A2:2013
		Guidance on Protection Against Ingress of Water Annex T	IEC 60950-1:2005+ A1:2009 +A2:2013
		Household and Home/ Office Document / Media Shredders Annex EE	IEC 60950-1:2005+ A1:2009 +A2:2013
		Material Group and Comparative Tracking Index Clause.2.10.4.2	IEC 60950-1:2005+ A1:2009 +A2:2013
		Mounting Means for Rack Mounting Equipment Annex DD	IEC 60950-1:2005+ A1:2009 +A2:2013
		Moving Parts Clause. 2.8.5	IEC 60950-1:2005+ A1:2009 +A2:2013
		Non-Separable Thin Sheet Material / Mandrel Test Clause 2.10.5.8 / Annex AA	IEC 60950-1:2005+ A1:2009 +A2:2013
		Openings in Transportable Equipment Clause. 4.6.4	IEC 60950-1:2005+ A1:2009 +A2:2013
		Permanently Connected Equipment Clause. 3.2.3	IEC 60950-1:2005+ A1:2009 +A2:2013

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

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification
	<b>Information Technology Equipment-Requirement Safety</b>	Protection of the Telecommunication Wiring System from Overheating Clause. 6.3	IEC 60950-1:2005+ A1:2009 +A2:2013
		Separation of TNV Circuits from Other Circuits and From Accessible Parts Clause. 2.3.2	IEC 60950-1:2005+ A1:2009 +A2:2013
		Size of Protective Bonding Conductors Clause. 2.6.3.3	IEC 60950-1:2005+ A1:2009 +A2:2013
		Switches, Relays and their Related Circuits Clause. 2.8.7	IEC 60950-1:2005+ A1:2009 +A2:2013
		Telecommunication Network Clause.6.1.2/6.2/ 6.2.1/ 6.2.2	IEC 60950-1:2005+ A1:2009 +A2:2013
		Thermal Cycling Clause.2.10.9	IEC 60950-1:2005+ A1:2009 +A2:2013
		Top and Side Openings/ Bottom of Fire Enclosure Clause.4.6.1/ 4.6.2	IEC 60950-1:2005+ A1:2009 +A2:2013
		Transient Voltages Clause 2.10.3.2	IEC 60950-1:2005+ A1:2009 +A2:2013
		Handles and Manual Controls Clause. 4.3.2	IEC 60950-1:2005+ A1:2009 +A2:2013
<b>3.</b>	<b>Equipment operating in 2.4 GHz and 5 GHz Frequency Bands</b>	RF Output Power ETSI EN 300 328 V2.1.1 (2016-11) Clause 4.3.1.2 & 4.3.2.2	TEC ER No. TEC59432407
		Maximum Spectral Power Density ETSI EN 300 328 V2.1.1 (2016-11) Clause 4.3.2	TEC ER No. TEC59432407

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

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification
	<b>Equipment operating in 2.4 GHz and 5GHz Frequency Bands</b>	Duty cycle, Tx Sequence Tx gap ETSI EN 300 328 V2.1.1 (2016-11) Clause 4.3.1.3 & 4.3.2.4	TEC ER No. TEC59432407
		Dwell time, Minimum Frequency Occupation/ Accumulated Transmit Time & Hopping Sequence ETSI EN 300 328 V2.1.1 (2016-11) Clause 4.3.1.4	TEC ER No. TEC59432407
		Hopping Frequency Separation ETSI EN 300 328 V2.1.1 (2016-11) Clause 4.3.1.5	TEC ER No. TEC59432407
		Medium Utilization ETSI EN 300 328 V2.1.1 (2016-11) Clause 4.3.1.6 & 4.3.2.5	TEC ER No. TEC59432407
		Adaptivity ETSI EN 300 328 V2.1.1 (2016-11) Clause 4.3.1.7 & 4.3.2.6	TEC ER No. TEC59432407
		Occupied Channel Bandwidth ETSI EN 300 328 V2.1.1 (2016-11) Clause 4.3.1.8 & 4.3.2.7	TEC ER No. TEC59432407
		Transmitter Unwanted Emissions in the OOB Domain ETSI EN 300 328 V2.1.1 (2016-11) Clause 4.3.1.9 & 4.3.2.8	TEC ER No. TEC59432407
		Receiver Blocking ETSI EN 300 328 V2.1.1 (2016-11) Clause 4.3.1.12 & 4.3.2.11	TEC ER No. TEC59432407
		6dB Bandwidth & Occupied Bandwidth FCC Part 15 Subpart C Clause 15.247(a)(2)	TEC ER No. TEC59432407

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

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification
	<b>Equipment operating in 2.4 GHz and 5GHz Frequency Bands</b>	Bandwidth Occupancy (20 dB Bandwidth) FCC Part 15 Subpart C Clause 15.247(a)(1)/15.215(c)/ 15.231(c)	TEC ER No. TEC59432407
		Maximum Conducted Output Power FCC Part 15 Subpart C Clause 15.247(b)(3)	TEC ER No. TEC59432407
		Number of Hopping Channel FCC Part 15 Subpart C Clause 15.247 (a)(1)(ii)	TEC ER No. TEC59432407
		Band Edge Compliance (Emissions in the Non Restricted Frequency Band) FCC Part 15 Subpart C Clause 15.247(d)	TEC ER No. TEC59432407
		Maximum Power Spectral Density FCC Part 15 Subpart C Clause 15.247(e)	TEC ER No. TEC59432407
		Time of Occupancy FCC Part 15 Subpart C Clause 15.247(a)(1)(iii)	TEC ER No. TEC59432407
		Carrier Frequency Separation FCC Part 15 Subpart C Clause 15.247(a)(1)	TEC ER No. TEC59432407
		Carrier Frequencies ETSI EN 301 893 V2.1.1 (2017-05) Clause 4.2.1	TEC ER No. TEC59432407
		Nominal and Occupied Channel Bandwidth ETSI EN 301 893 V2.1.1 (2017-05) Clause 4.2.2	TEC ER No. TEC59432407

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## SCOPE OF DESIGNATION

### (ANNEXURE)

**Laboratory Name:** M/s TUV Rhineland India Pvt. Ltd., Bengaluru  
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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification
	<b>Equipment operating in 2.4 GHz and 5GHz Frequency Bands</b>	RF Output Power Transmit Power Control (TPC) Power Density ETSI EN 301 893 V2.1.1 (2017-05) Clause 4.2.3	TEC ER No. TEC59432407
		Transmitter Unwanted Emissions Within the 5 GHz RLAN Bands ETSI EN 301 893 V2.1.1 (2017-05) Clause 4.2.4.2	TEC ER No. TEC59432407
		Dynamic Frequency Selection (DFS) ETSI EN 301 893 V2.1.1 (2017-05) Clause 4.2.6	TEC ER No. TEC59432407
		Receiver Blocking ETSI EN 301 893 V2.1.1 (2017-05) Clause 4.2.8	TEC ER No. TEC59432407
		Maximum Power Spectral Density FCC Part 15 Subpart E Clause 15.407(a)	TEC ER No. TEC59432407
		Dynamic Frequency Selection (DFS) FCC Part 15 Subpart E Clause.15.407(h)(2))	TEC ER No. TEC59432407
		Emission Bandwidth FCC Part 15 Subpart E Clause 15.407(a)	TEC ER No. TEC59432407
		Maximum Conducted Output Power FCC Part 15 Subpart E Clause 15.407(a)	TEC ER No. TEC59432407
		6 dB Bandwidth & Occupied Bandwidth FCC Part 15 Subpart E Clause 15.407(a)	TEC ER No. TEC59432407

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification
	<b>Equipment operating in 2.4 GHz and 5GHz Frequency Bands</b>	Designation of Centre Frequencies & Frequency Error ETSI EN 302 502 V2.1.1 (2017-03) Clause 4.2.1	TEC ER No. TEC59432407
		Transmitter RF Output Power, EIRP, TPC and EIRP Spectral Density ETSI EN 302 502 V2.1.1 (2017-03) Clause 4.2.2	TEC ER No. TEC59432407
		Transmitter Power Control ETSI EN 302 502 V2.1.1 (2017-03) Clause 4.2.4	TEC ER No. TEC59432407
		Dynamic Frequency Selection (DFS) ETSI EN 302 502 V2.1.1 (2017-03) Clause no: 4.2.6	TEC ER No. TEC59432407
		Receiver Blocking ETSI EN 302 502 V2.1.1 (2017-03) Clause 4.2.7	TEC ER No. TEC59432407
<b>4.</b>	<b>SAR Testing for telecom equipment</b>	SAR for hand-held devices used in closed proximity to the ear	IEC 62209-1528
		SAR for wireless communication devices used in close proximity to the human body	IEC 62209-1528
<b>5.</b>	<b>Indian Language Support for Mobile Phone handsets</b>	Inputting of Text Clause 5/5.1	IS 16333 Part 3:2017
		Marking Clause 6/6.1/6.2/6.2.1	IS 16333 Part 3:2017
		Message Readability Clause 5/5.2	IS 16333 Part 3:2017

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Sl. No.	Telecom Equipment/ Product	Test Parameter or Type of Testing	Standard/ Specification	
<b>6.</b>	<b>Mobile Equipment</b>	<b>User Interface: GSM/ GPRS/ EDGE</b>	Transmitter Maximum Output Power ETSI EN 301 511 (GSM) Clause 4.2.5	TEC ER No. TEC47722408
			Transmitter Maximum Output Power ETSI EN 301 511 (GSM) Clause 4.2.10	TEC ER No. TEC47722408
			Output RF Spectrum ETSI EN 301 511 (GSM) Clause 4.2.6	TEC ER No. TEC47722408
			Output RF Spectrum ETSI EN 301 511 (GSM) Clause 4.2.11	TEC ER No. TEC47722408
			Spurious Emissions (MS Allocated a Channel) ETSI EN 301 511 (GSM) Clause 4.2.12	TEC ER No. TEC47722408
			Spurious Emission (MS in Idle Mode) ETSI EN 301 511 (GSM) Clause 4.2.13	TEC ER No. TEC47722408
			Frequency Error and Phase Error ETSI EN 301 511 (GSM) Clause 4.2.1	TEC ER No. TEC47722408
			Frequency Error and Phase Error ETSI EN 301 511 (GSM) Clause 4.2.4	TEC ER No. TEC47722408

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification	
	<b>Mobile Equipment</b>	<b>Interface: GSM/GPRS/EDGE</b>	Reference Sensitivity Level (Speech Channels) ETSI EN 301 511 (GSM) Clause 4.2.42	TEC ER No. TEC47722408
			Adjacent Channel Rejection (Speech Channels) ETSI EN 301 511 (GSM) Clause 4.2.38	TEC ER No. TEC47722408
			Receiver Blocking ETSI EN 301 511 (GSM) Clause 4.2.20	TEC ER No. TEC47722408
		<b>Interface : WCDMA or HSPA</b>	Transmitter Maximum Output Power ETSI EN 301 908-2 (UMTS) Clause 4.2.2	TEC ER No. TEC47722408
			Transmitter Spectrum Emissions Mask ETSI EN 301 908-2 (UMTS) Clause 4.2.3	TEC ER No. TEC47722408
			Transmitter Spurious Emissions ETSI EN 301 908-2 (UMTS) Clause 4.2.4	TEC ER No. TEC47722408

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification	
	Mobile Equipment	User Interface : WCDMA or HSPA	Receiver Spurious Emission ETSI EN 301 908-2 (UMTS) Clause 4.2.10	TEC ER No. TEC47722408
			Transmitter Minimum Output Power ETSI EN 301 908-2 (UMTS) Clause 4.2.5	TEC ER No. TEC47722408
			Receiver Reference Sensitivity Level ETSI EN 301 908-2 (UMTS) Clause 4.2.13	TEC ER No. TEC47722408
			Receiver Adjacent Channel Selectivity (ACS) ETSI EN 301 908-2 (UMTS) Clause 4.2.6	TEC ER No. TEC47722408
			Receiver In-band Blocking 3GPP TS 34.121-1 Clause 6.5.2.1 ETSI EN 301 908-2 (UMTS) Clause 4.2.7	TEC ER No. TEC47722408
			Interface: LTE or LTE-A	Maximum Output Power ETSI EN 301 908-13 (LTE) Clause 4.2.2

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification
	<b>Mobile User Equipment</b>	<b>Interface: LTE or LTE-A</b> Spectrum Emissions Mask ETSI EN 301 908-13 (LTE) Clause 4.2.3	TEC ER No. TEC47722408
		Spurious Emissions ETSI EN 301 908-13 (LTE) Clause 4.2.4	TEC ER No. TEC47722408
		Receiver Spurious Emission ETSI EN 301 908-13 (LTE) Clause 4.2.10	TEC ER No. TEC47722408
		Receiver Reference Sensitivity Level ETSI EN 301 908-13 (LTE) Clause 4.2.12	TEC ER No. TEC47722408
		Receiver Adjacent Channel Selectivity (ACS) ETSI EN 301 908-13 (LTE) Clause 4.2.6	TEC ER No. TEC47722408
		Receiver In-Band Blocking ETSI EN 301 908-13 (LTE) Clause 4.2.7	TEC ER No. TEC47722408
<b>7.</b>	<b>Safety Requirements for secondary cells and batteries (Lithium ion system)</b>	Continuous Charging at Constant Voltage (Cell) Clause 7.2.1	IEC 62133-2:2017

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification
	<b>Safety Requirements for secondary cells and batteries (Lithium ion system)</b>	Case Stress at High Ambient Temperature Clause 7.2.2	IEC 62133-2:2017
		External Short Circuit (Cell) Clause 7.3.1	IEC 62133-2:2017
		External Short Circuit (Battery) Clause.7.3.2	IEC 62133-2:2017
		Free Fall Clause.7.3.3	IEC 62133-2:2017
		Thermal Abuse (Cell) Clause 7.3.4	IEC 62133-2:2017
		Crush (Cells) Clause 7.3.5	IEC 62133-2:2017
		Overcharging of Battery Clause 7.3.6	IEC 62133-2:2017
		Forced Discharge (Cells) Clause 7.3.7	IEC 62133-2:2017
		Vibration Clause 7.3.8.1	IEC 62133-2:2017
		Mechanical Shock Clause 7.3.8.2	IEC 62133-2:2017
<b>8.</b>	<b>Uninterruptible Power System (UPS) Part 1:- General and Safety Requirements for UPS</b>	Power Interface Clause 4.6	IEC 62040-1:2008
		Durability of Markings Clause 4.7.16	IEC 62040-1:2008

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification
	<b>Uninterruptible Power System (UPS) Part 1:- General and Safety Requirements for UPS</b>	Protection Against Electric Shock and Energy Hazards Clause 5.1	IEC 62040-1:2008
		Protection Against Access to Live Part Clause 5.1.1	IEC 62040-1:2008
		Protection for UPS Intended to be Used in Service Access Areas Clause 5.1.2	IEC 62040-1:2008
		Protection for UPS Intended to be Used in Restricted Access Areas Clause 5.1.3	IEC 62040-1:2008
		Back Feed Protection Clause 5.1.4	IEC 62040-1:2008
		Telephone Network Voltage Circuits-TNV Circuit Clause 5.2.2	IEC 62040-1:2008
		Limited Current Circuits Clause 5.2.3	IEC 62040-1:2008
		Limited Power Source Clause 5.2.5	IEC 62040-1:2008
		Protective Earthing and Bonding Clause 5.4	IEC 62040-1:2008
		Over Current and Earth Fault Protection Clause 5.5.1/5.5.2	IEC 62040-1:2008
		Clearance, Creepage Distance and Distance Through Insulation Clause 5.7	IEC 62040-1:2008

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification
	<b>Uninterruptible Power System (UPS) Part 1:- General and Safety Requirements for UPS</b>	General Provisions for Connection to Power (Cord Anchorage and Strain Relief) Clause 6.2.1	IEC 62040-1:2008
		Wiring Terminals for External Power Conductors Clause 6.3	IEC 62040-1:2008
		Stability Clause 7.2	IEC 62040-1:2008
		Mechanical Strength Clause 7.3	IEC 62040-1:2008
		Construction Details Clause 7.4	IEC 62040-1:2008
		Resistance to Fire Clause 7.5	IEC 62040-1:2008
		Ventilation Clause 7.6.7	IEC 62040-1:2008
		Temperature Rise Clause 7.7	IEC 62040-1:2008
		General Provisions for Earth Leakage Clause 8.1	IEC 62040-1:2008
		Electric Strength Clause 8.2	IEC 62040-1:2008
		Abnormal Operating and Fault Conditions Clause 8.3	IEC 62040-1:2008
		Motor tests Under Abnormal Conditions Annex B	IEC 62040-1:2008

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification	
	<b>Uninterruptible Power System (UPS) Part 1:- General and Safety Requirements for UPS</b>	Transformer Annex C	IEC 62040-1:2008	
		Guidance on Protection Against Ingress of Water and Foreign Objects Annex H	IEC 62040-1:2008	
<b>9.</b>	<b>Cordless Telephone</b>	<b>Parameters linked with product variants</b>	Frequency Band of Operation and Transmit Power – Base Unit only ETSI EN 300 330	TEC ER No. TEC12672407
			Maximum Frequency Deviation ETSI EN 300 330	TEC ER No. TEC12672407
			Frequency Band of Operation and Transmit Power – Base and Remote Unit ETSI EN 300 220-2	TEC ER No. TEC12672407
			Frequency Band of Operation and Transmit Power – Remote Unit only ETSI EN 300 220-2	TEC ER No. TEC12672407
			Transmitted Frequency by Base Unit ETSI EN 300 220-2	TEC ER No. TEC12672407

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification
	Cordless Telephone	Parameters linked with product variants	Transmitted Frequency by Handset ETSI EN 300 220-2 TEC ER No. TEC12672407
			Maximum Frequency Deviation ETSI EN 300 220-2 TEC ER No. TEC12672407
10.	Smart Watch	Interface: BLE	EIRP for BLE Interface ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.2 & 4.3.2.2 TEC ER No. TEC28982407
			Maximum Transmit Power for BLE Interface ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.2 & 4.3.2.2 TEC ER No. TEC28982407
			Occupied Channel Bandwidth ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.8 & 4.3.2.7 TEC ER No. TEC28982407
			Transmitter Unwanted Emissions in the OOB Domain ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.9 & 4.3.2.8 TEC ER No. TEC28982407

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification
	Smart Watch	<b>Interface: BLE</b> Transmitter Unwanted Emissions in the Spurious Domain ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.10 & 4.3.2.9	TEC ER No.TEC28982407
		<b>Interface: NFC</b> Frequency of Operation for NFC Interface ETSI EN 300 330 V2.1.1 (2017-02) Clause 6.2.2	TEC ER No.TEC28982407
		Modulation Bandwidth ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.3	TEC ER No.TEC28982407
		Transmitter Conducted Spurious Emissions ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.7	TEC ER No.TEC28982407
		Transmitter Radiated Spurious Domain Emission Limits < 30 MHz & Transmitter Radiated Spurious Domain Emission Limits > 30 MHz	TEC ER No.TEC28982407

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification	
	Smart Watch	<b>Interface:</b> NFC	ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.8 & 4.3.9	
		<b>Interface:</b> RFID	TX Occupied Bandwidth / Carrier Bandwidth ETSI EN 300 220-2 V3.2.1 Clause 4.3.4	TEC ER No.TEC28982407
		Modulation Bandwidth	ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.3	TEC ER No.TEC28982407
		TX out of Band Emissions	ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.5	TEC ER No.TEC28982407
		Transmitter Conducted Spurious Emissions	ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.7	TEC ER No.TEC28982407
		Unwanted Emissions in the Spurious Domain	ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.2.2	TEC ER No.TEC28982407

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification
	<b>Smart Watch</b>	<b>Interface: RFID</b>	Transmitter Radiated Spurious Domain Emission Limits < 30 MHz & Transmitter Radiated Spurious Domain Emission Limits > 30 MHz ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.8 & 4.3.9 TEC ER No.TEC28982407
<b>11.</b>	<b>IoT Gateway</b>	<b>Interface: BLE</b>	EIRP for BLE Interface ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.2 & 4.3.2.2 Maximum Transmit Power for BLE Interface ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.2 & 4.3.2.2 Occupied Channel Bandwidth ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.8 & 4.3.2.7 TEC ER No.TEC24492408

**\*The validity of Certificate is up to 02/02/2028 or the continued validity of NABL Accreditation, whichever is earlier.**

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

**Laboratory Name:** M/s TUV Rhineland India Pvt. Ltd., Bengaluru  
27/B, 2nd Cross Road, Electronic City,  
Phase-1, Bengaluru- 560100, Karnataka, India.

**Certificate Number:** TEC/MRA/CAB/IND-D/10-I

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**Validity:** 03/02/2025 to 02/02/2028

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

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification	
	IoT Gateway	<b>Interface:</b> <b>BLE</b>	Transmitter Unwanted Emissions in the OOB Domain ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.9 & 4.3.2.8	TEC ER No.TEC24492408
			Transmitter Unwanted Emissions in the Spurious Domain ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.10 & 4.3.2.9	TEC ER No.TEC24492408
		<b>Interface:</b> <b>NFC</b>	Frequency of Operation for NFC Interface ETSI EN 300 330 V2.1.1 (2017-02) Clause 6.2.2	TEC ER No.TEC24492408
			Modulation bandwidth ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.3	TEC ER No.TEC24492408
		Transmitter Conducted Spurious Emissions ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.7	TEC ER No.TEC24492408	

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**Validity:** 03/02/2025 to 02/02/2028

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

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification
	IoT Gateway	Interface: NFC	Transmitter Radiated Spurious Domain Emission Limits < 30 MHz & Transmitter Radiated Spurious Domain emission Limits > 30 MHz ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.8 & 4.3.9 TEC ER No.TEC24492408
12.	Mobile Radio Trunking System	Interface: BLE	EIRP for BLE Interface ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.2 & 4.3.2.2 TEC ER No. TEC56782407
			Maximum Transmit Power for BLE Interface ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.2 & 4.3.2.2 TEC ER No. TEC56782407
			Occupied Channel Bandwidth ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.8 & 4.3.2.7 TEC ER No. TEC56782407

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**Validity:** 03/02/2025 to 02/02/2028

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification
	<b>Mobile Radio Trunking System</b>	<b>Interface: BLE</b> Transmitter Unwanted Emissions in the OOB Domain ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.9 & 4.3.2.8	TEC ER No. TEC56782407
		Transmitter Unwanted emissions in the Spurious Domain ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.10 & 4.3.2.9	TEC ER No. TEC56782407
		<b>Interface: NFC</b> Frequency of Operation for NFC Interface ETSI EN 300 330 V2.1.1 (2017-02) Clause 6.2.2	TEC ER No. TEC56782407
		Modulation Bandwidth ETSI EN 300 330 V2.1.1 (2017-02) clause 4.3.3	TEC ER No. TEC56782407
		Transmitter Conducted Spurious Emissions ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.7	TEC ER No. TEC56782407

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**Validity:** 03/02/2025 to 02/02/2028

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

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification
	Mobile Radio Trunking System	Interface: NFC	Transmitter Radiated Spurious Domain Emission Limits < 30 MHz & Transmitter Radiated Spurious Domain Emission Limits > 30 MHz ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.8 & 4.3.9 TEC ER No. TEC56782407
13.	Smart Camera	Interface: BLE	EIRP for BLE Interface ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.2 & 4.3.2.2 TEC ER No. TEC28822407
			Maximum Transmit Power for BLE Interface ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.2 & 4.3.2.2 TEC ER No. TEC28822407
			Occupied Channel Bandwidth ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.8 & 4.3.2.7 TEC ER No. TEC28822407

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### (ANNEXURE)

**Laboratory Name:** M/s TUV Rhineland India Pvt. Ltd., Bengaluru  
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**Validity:** 03/02/2025 to 02/02/2028

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

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification	
	<b>Smart Camera</b>	<b>Interface: BLE</b>	Transmitter Unwanted Emissions in the OOB Domain ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.9 & 4.3.2.8	TEC ER No. TEC28822407
			Transmitter Unwanted Emissions in the Spurious Domain ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.10 & 4.3.2.9	TEC ER No. TEC28822407
		<b>Interface: NFC</b>	Frequency of Operation for NFC Interface ETSI EN 300 330 V2.1.1 (2017-02) Clause 6.2.2	TEC ER No. TEC28822407
			Modulation Bandwidth ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.3	TEC ER No. TEC28822407
			Transmitter Conducted Spurious Emissions ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.7	TEC ER No. TEC28822407

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**Validity:** 03/02/2025 to 02/02/2028

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification
	Smart Camera	Interface: NFC	Transmitter Radiated Spurious Domain Emission Limits < 30 MHz & Transmitter Radiated Spurious Domain Emission Limits > 30 MHz ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.8 & 4.3.9 TEC ER No. TEC28822407
14.	Tracking Device	Interface: BLE	EIRP for BLE Interface ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.2 & 4.3.2.2 TEC ER No. TEC28732408
			Maximum Transmit Power for BLE Interface ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.2 & 4.3.2.2 TEC ER No. TEC28732408
			Occupied Channel Bandwidth ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.8 & 4.3.2.7 TEC ER No. TEC28732408

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**Validity:** 03/02/2025 to 02/02/2028

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

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification
	<b>Tracking Device</b>	<b>Interface:</b> <b>BLE</b> Transmitter Unwanted Emissions in the OOB Domain ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.9 & 4.3.2.8	TEC ER No. TEC28732408
		Transmitter Unwanted Emissions in the Spurious Domain ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.10 & 4.3.2.9	TEC ER No. TEC28732408
<b>15.</b>	<b>VHF UHF Radio System Equipment</b>	<b>Interface:</b> <b>BLE</b> EIRP for BLE Interface ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.2 & 4.3.2.2	TEC ER No. TEC58432407
		Maximum Transmit Power for BLE Interface ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.2 & 4.3.2.2	TEC ER No. TEC58432407

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

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification	
	VHF UHF Radio System Equipment	Interface: BLE	Occupied Channel Bandwidth ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.8 & 4.3.2.7	TEC ER No. TEC58432407
			Transmitter Unwanted Emissions in the OOB Domain ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.9 & 4.3.2.8	TEC ER No. TEC58432407
			Transmitter Unwanted Emissions in the Spurious Domain ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.10 & 4.3.2.9	TEC ER No. TEC58432407
		Interface: NFC	Frequency of Operation for NFC Interface ETSI EN 300 330 V2.1.1 (2017-02) Clause 6.2.2	TEC ER No. TEC58432407
		Modulation Bandwidth ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.3	TEC ER No. TEC58432407	

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**Validity:** 03/02/2025 to 02/02/2028

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

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification	
	<b>VHF UHF Radio System Equipment</b>	<b>Interface:</b> NFC	Transmitter Conducted Spurious Emissions ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.7	TEC ER No. TEC58432407
			Transmitter radiated spurious domain emission limits < 30 MHz & Transmitter radiated spurious domain emission limits > 30 MHz ETSI EN 300 330 V2.1.1 (2017-02) clause 4.3.8 & 4.3.9	TEC ER No. TEC58432407
<b>16.</b>	<b>HF Radio</b>	<b>Interface:</b> BLE	EIRP for BLE Interface ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.2 & 4.3.2.2	TEC ER No. TEC54372501
			Maximum Transmit Power for BLE Interface ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.2 & 4.3.2.2	TEC ER No. TEC54372501

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

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification	
	<b>HF Radio</b>	<b>Interface: BLE</b>	Occupied Channel Bandwidth ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.8 & 4.3.2.7	TEC ER No. TEC54372501
			Transmitter Unwanted Emissions in the OOB Domain ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.9 & 4.3.2.8	TEC ER No. TEC54372501
			Transmitter Unwanted Emissions in the Spurious Domain ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.10 & 4.3.2.9	TEC ER No. TEC54372501
		<b>Interface: NFC</b>	Frequency of Operation for NFC Interface ETSI EN 300 330 V2.1.1 (2017-02) Clause 6.2.2	TEC ER No. TEC54372501
		Modulation Bandwidth ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.3	TEC ER No. TEC54372501	

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**Validity:** 03/02/2025 to 02/02/2028

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

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification	
	<b>HF Radio</b>	<b>Interface: NFC</b>	Transmitter Conducted Spurious Emissions ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.7	TEC ER No. TEC54372501
			Transmitter Radiated Spurious Domain Emission Limits < 30 MHz & Transmitter Radiated Spurious Domain Emission Limits > 30 MHz ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.8 & 4.3.9	TEC ER No. TEC54372501
<b>17.</b>	<b>Point of Sales</b>	<b>Interface: BLE</b>	EIRP for BLE Interface ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.2 & 4.3.2.2	TEC ER No. TEC17672407
			Maximum Transmit Power for BLE Interface ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.2 & 4.3.2.2	TEC ER No. TEC17672407
			Occupied Channel Bandwidth ETSI EN 300 328	TEC ER No. TEC17672407

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification		
	Point of Sales	<b>Interface: BLE</b>	V2.2.2 (2019-07) Clause 4.3.1.8 & 4.3.2.7	TEC ER No. TEC17672407	
			Transmitter Unwanted Emissions in the OOB Domain ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.9 & 4.3.2.8		TEC ER No. TEC17672407
		<b>Interface: NFC</b>	Transmitter Unwanted Emissions in the Spurious Domain ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.10 & 4.3.2.9	TEC ER No. TEC17672407	
			Frequency of Operation for NFC Interface ETSI EN 300 330 V2.1.1 (2017-02) Clause 6.2.2		TEC ER No. TEC17672407
			Modulation Bandwidth ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.3		
Transmitter Conducted Spurious Emissions ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.7	TEC ER No. TEC17672407				

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**Validity:** 03/02/2025 to 02/02/2028

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

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification	
	Point of Sales	<b>Interface:</b> NFC	Transmitter Radiated Spurious Domain Emission Limits < 30 MHz & Transmitter Radiated Spurious Domain Emission Limits > 30 MHz ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.8 & 4.3.9	TEC ER No. TEC17672407
		<b>Interface:</b> RFID	TX Occupied Bandwidth / Carrier Bandwidth ETSI EN 300 220-2 V3.2.1 Clause 4.3.4	TEC ER No. TEC17672407
			Modulation Bandwidth ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.3	TEC ER No. TEC17672407
			TX Out of Band Emissions ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.5	TEC ER No. TEC17672407
			Transmitter Conducted Spurious Emissions ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.7	TEC ER No. TEC17672407

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

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification
	Point of Sales	Interface: RFID	Unwanted Emissions in the Spurious Domain ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.2.2
		Transmitter Radiated Spurious Domain Emission Limits < 30 MHz & Transmitter Radiated Spurious Domain Emission Limits > 30 MHz ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.8 & 4.3.9	TEC ER No. TEC17672407  TEC ER No. TEC17672407

Digitally signed by  
Rajeev Ranjan  
Date: 30-01-2025  
15:37:59

**AD (CA), TEC**

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

स. 1-9/2025-सी.ए. /टी. ई. सी.

Dated: - 18.03.2026

To,  
Mr. Guruprasad BR, Regional Head - AQM  
M/s TUV Rheinland India Pvt. Ltd., Bangalore  
27/B, 2nd Cross Road, Electronic City, Phase-1, Karnataka - 560100  
Mob: +91 9620288803

**Subject: Application for enhancement of CAB Designation- M/s TUV Rheinland India Pvt. Ltd., Bangalore, 27/B, 2nd Cross Road, Electronic City, Phase-1, Karnataka - 560100-regarding.**

**Ref.:-** (i) CAB Designation Certificate No. TEC/MRA/CAB/IND-D/10-I dated 03.02.2025, valid up to 02.02.2028.  
(ii) NSWS Portal Application ID No. SW3915622906-M008\_D001\_A194-1746441447595 dated 05.05.2025.

This is in reference to your application for enhancement of Scope of CAB Designation of Certificate No. TEC/MRA/CAB/IND-D/10-I dated 03.02.2025, valid up to 02.02.2028, submitted vide Application ID No. SW3915622906-M008\_D001\_A194-1746441447595 dated 05.05.2025 in online mode on NSWS CAB Designation Portal.

2. In reference to the recommendations of Site visit assessment report, the scope of designation of CAB Certificate no. referred under ref. (i) above is hereby enhanced in respect of test parameters of Equipment's Operating in 2.4 GHz and 5 GHz Band as per detail mentioned in Annexure attached below.

3. All other details, terms and conditions and validity of CAB Designation Certificate no. TEC/MRA/CAB/IND-D/10-I dated 03.02.2025 shall remain unchanged.

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

**Encl: as above**

Digitally signed by  
Buddha Priya Rahul  
Date: 18-03-2026  
17:08:51

(B. P. Rahul)  
AD (CA-II), TEC

Copy to:

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



**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 TUV RHINELAND INDIA PVT. LTD., BENGALURU**  
has been assessed and designated as Conformity Assessment Body (CAB)  
for its facilities at

**27/B, 2<sup>nd</sup> Cross Road, Electronic City, Phase-1, Bengaluru-560100, Karnataka,  
India**

**In the field of Testing**

**Certificate No. TEC/MRA/CAB/IND-D/10-I**

**Issue Date: 18/03/2026**

**Validity: 18/03/2026 to 02/02/2028**

**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**

Digitally signed by  
Sanjeev Kumar Arya  
Date: 18-03-2026  
17:01:40

**Sanjeev Kumar Arya  
Director (CA)  
For Designating Authority  
TEC**

**Certificate No: TEC/MRA/CAB/IND-D/10-I dated 18/03/2026 issued to  
M/s TUV Rhineland India Pvt. Ltd., Bengaluru  
27/B, 2nd Cross Road, Electronic City, Phase-1,  
Bengaluru- 560100,**



**Validity: - 18/03/2026 to 02/02/2028**

### **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.

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**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 TUV Rhineland India Pvt. Ltd., Bengaluru  
27/B, 2nd Cross Road, Electronic City,  
Phase-1, Bengaluru- 560100, Karnataka, India

**Certificate Number:** TEC/MRA/CAB/IND-D/10-I

**Page 1 of 2**

**Validity:** 18/03/2026 to 02/02/2028

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

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification
1.	Equipment's Operating in 2.4 GHz and 5 GHz Band	Frequency band Clause No.3 : WPC GSR No. 45 E	TEC ER No. TEC34732410
		Maximum Effective Radiated Power Clause No.3 : WPC GSR No. 45 E	TEC ER No. TEC34732410
		Maximum power of transmitter Clause No.3 : WPC GSR No. 45 E	TEC ER No. TEC34732410
		Maximum Conducted O/P Power Clause 3 : WPC GSR No. 1048 E	TEC ER No. TEC34732410
		Maximum EIRP Clause 3 : WPC GSR No. 1048 E	TEC ER No. TEC34732410
		Dynamic Frequency Selection (DFS) Clause 3 : WPC GSR No. 1048 E	TEC ER No. TEC34732410
		Out of band emission Clause 4 : WPC GSR No. 1048 E	TEC ER No. TEC34732410
		TPC Clause 3 : WPC GSR No. 1048 E	TEC ER No. TEC34732410
		Transmitter unwanted emissions in the spurious domain Clause-4.3.2.9 (ETSI EN 300 328)	TEC ER No. TEC34732410
		Receiver spurious emissions Clause-4.3.2.10 (ETSI EN 300 328)	TEC ER No. TEC34732410
		Transmitter unwanted emissions outside the 5 GHz RLAN bands Clause-4.2.4.1 (ETSI EN 301 893)	TEC ER No. TEC34732410
		Receiver spurious emissions Clause-4.2.5 (ETSI EN 301 893)	TEC ER No. TEC34732410
		Transmitter unwanted emissions Clause-4.2.3 (ETSI EN 302 502)	TEC ER No. TEC34732410

**\*The validity of Certificate is up to 02/02/2028 or the continued validity of NABL Accreditation, whichever is earlier.**

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

**Laboratory Name:** M/s TUV Rhineland India Pvt. Ltd., Bengaluru  
27/B, 2nd Cross Road, Electronic City,  
Phase-1, Bengaluru- 560100, Karnataka, India

**Certificate Number:** TEC/MRA/CAB/IND-D/10-I

**Page 2 of 2**

**Validity:** 18/03/2026 to 02/02/2028

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

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/Specification
	Equipment's Operating in 2.4 GHz and 5 GHz Band	Receiver spurious emissions Clause-4.2.5 (ETSI EN 302 502)	TEC ER No. TEC34732410

Digitally signed by  
Buddha Priya Rahul  
Date: 18-03-2026  
17:07:26

**AD (CA-II), TEC**

**\*The validity of Certificate is up to 02/02/2028 or the continued validity of NABL Accreditation, whichever is earlier.**