



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)

Signed for and on behalf of TEC

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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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 39

Sl. No.	Telecom Equipment/ Product	Test Parameter or Type of Testing	Standard/ Specification
110.	Troudet		Specification
1.	Audio/Video, Information and communication	Accessibility to Electrical Energy Sources and Safeguards Clause 5.3.2	IEC 62368-1:2018
	technology Equipment-Safety	Antenna Terminal Insulation Clause 5.4.5	IEC 62368-1:2018
	requirements	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

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

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Sl.	Telecom Equipment/	Test Parameter or Type of Testing	Standard/
No.	Product		Specification
	Audio/Video, Information and communication	Equipment for Direct Insertion into Mains Socket-Outlets Clause 4.7	IEC 62368-1:2018
	technology Equipment-Safety requirements	Equipment Mounted to a Wall or Ceiling Clause 8.7	IEC 62368-1:2018
	requirements	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
	Audio/Video, Information and	(Temperature Measurement)	IEC 62368-1:2018
	communication technology Equipment-Safety	Clause 5.4.1.4 Power Source Circuit Classification Clause 6.2.2	IEC 62368-1:2018
	requirements	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	
		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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Sl. No.	Telecom Equipment/ Product	Test Parameter or Type of Testing	Standard/ Specification
	Audio/Video, Information and communication	Test) Clause 5.4.10.2.3	IEC 62368-1:2018
	technology Equipment-Safety requirements	Stress Relief Test Annex T.8 Test for the Permanence of Marking Annex F.3.9	IEC 62368-1:2018 IEC 62368-1:2018
		Vicat Softening Test Clause 5.4.1.10.2	IEC 62368-1:2018
2.	Information Technology Equipment- Requirement	Cord Anchorage and Strain Relief (Mechanical Strength) Clause. 3.2.6 Impulse Test Clause. 6.2.2.1 Resistance to Abnormal Heat (Ball Pressure Test) Clause. 4.5.5 Termination of Conductors Clause. 3.1.9 Conductor Sizes to be Connected / Wiring Terminal Sizes Clause. 3.3.4 / 3.3.5 Limited Current Circuits Clause. 2.4 Permanently Connected Equipment Clause. 3.2.3 Protection Requirements Clause. 2.8.2/2.8.3	IEC 60950-1:2005+ A1:2009 +A2:2013 I IEC 60950-1:2005+ A1:2009 +A2:2013 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
	Information	Protective Earthing and Bonding	IEC 60950-1:2005+
	Technology	Terminals	A1:2009 +A2:2013
	Equipment- Safety	Clause. 2.6.4.2	
	Requirement	Electric Strength (High Voltage test)	IEC 60950-1:2005+
	_	Clause. 5.2	A1:2009 +A2:2013
		Markings & Instructions (Marking)	IEC 60950-1:2005+
		Clause 1.7	A1:2009 +A2:2013
		Power Input and Current	IEC 60950-1:2005+
		Clause 1.6	A1:2009 +A2:2013
		Protection from Electric Shock &	IEC 60950-1:2005+
		Energy Hazards (Protection Against	A1:2009 +A2:2013
		Access to Live Parts)	
		Clause. 2.1	
		Thermal Requirements (Temperature	IEC 60950-1:2005+
		Rise)	A1:2009 +A2:2013
		Clause.4.5	
		Touch Current & Protective Conductor	IEC 60950-1:2005+
		Current (Leakage Current)	A1:2009 +A2:2013
		Clause. 5.1	
		Abnormal Operating and Fault	IEC 60950-1:2005+
		Conditions / Transformers / Motor	A1:2009 +A2:2013
		Tests Under Abnormal Conditions	
		Clause. 5.3 / Annex C/Annex B	
		Adhesives for Constructional Purposes	IEC 60950-1:2005+
		Clause. 4.6.5	A1:2009 +A2:2013
		Clearances, Creepage Distances and	IEC 60950-1:2005+
		Distances through Insulation	A1:2009 +A2:2013
		Clause.2.10	
		Compliance Criteria (Insulation	IEC 60950-1:2005+
		Resistance)	A1:2009 +A2:2013
		Clause.6.2.2.3	

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

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Sl.	Telecom Equipment/	Test Parameter or Type of Testing	Standard/
No.	Product		Specification
	Information	RMS Working Voltage / Peak Working	IEC 60950-1:2005+
	Technology	Voltage (Working Voltage)	A1:2009 +A2:2013
	Equipment- Safety	Clause.2.10.2.2/2.10.2.3	
	Requirement	Stability	IEC 60950-1:2005+
		Clause. 4.1	A1:2009 +A2:2013
		Steady Force Test, 10N	IEC 60950-1:2005+
		Clause. 4.2.2	A1:2009 +A2:2013
		Steady Force Test, 250 N	IEC 60950-1:2005+
		Clause. 4.2.4	A1:2009 +A2:2013
		Steady Force Test, 30N	IEC 60950-1:2005+
		Clause. 4.2.3	A1:2009 +A2:2013
		Stress Relief Test	IEC 60950-1:2005+
		Clause. 4.2.7	A1:2009 +A2:2013
		Test for Operating Voltages Generated	IEC 60950-1:2005+
		Externally	A1:2009 +A2:2013
		Clause. 2.3.5	
		Tests for Resistance to Heat and Fire	IEC 60950-1:2005+
		Clause. Annex A	A1:2009 +A2:2013
		Voltage Surge Test	IEC 60950-1:2005+
		Clause. 7.4.2	A1:2009 +A2:2013
		Voltage Under Fault Conditions/	IEC 60950-1:2005+
		Connection of SELV Circuits to Other	A1:2009 +A2:2013
		Circuits	
		Clause.2.2.3/2.2.4	TEG (0050 1 2005
		Voltage Under Normal Conditions	IEC 60950-1:2005+
		Clause. 2.2.2	A1:2009 +A2:2013
		Wall or Ceiling Mounted Equipment	IEC 60950-1:2005+
		Clause.4.2.10	A1:2009 +A2:2013

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

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Sl.	Telecom Equipment/	Test Parameter or Type of Testing	Standard/
No.	Product		Specification
	Information Technology Equipment- Requirement	Protection of the Telecommunication Wiring System from Overheating Clause. 6.3 Separation of TNV Circuits from Other Circuits and From Accessible Parts Clause. 2.3.2 Size of Protective Bonding Conductors	IEC 60950-1:2005+ A1:2009 +A2:2013 IEC 60950-1:2005+ A1:2009 +A2:2013 IEC 60950-1:2005+
		Clause. 2.6.3.3 Switches, Relays and their Related Circuits Clause. 2.8.7 Telecommunication Network Clause. 6.1.2/6.2/ 6.2.1/ 6.2.2	A1:2009 +A2:2013 IEC 60950-1:2005+ A1:2009 +A2:2013 IEC 60950-1:2005+ A1:2009 +A2:2013
		Thermal Cycling Clause.2.10.9 Top and Side Openings/ Bottom of Fire Enclosure Clause.4.6.1/4.6.2	IEC 60950-1:2005+ A1:2009 +A2:2013 IEC 60950-1:2005+ A1:2009 +A2:2013
		Transient Voltages Clause 2.10.3.2 Handles and Manual Controls Clause. 4.3.2	IEC 60950-1:2005+ A1:2009 +A2:2013 IEC 60950-1:2005+ A1:2009 +A2:2013
3.	Equipment operating in 2.4 GHz and 5 GHz Frequency Bands	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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Sl. No.	Telecom Equipment/ Product	Test Parameter or Type of Testing	Standard/ Specification
	Equipment operating in 2.4 GHz and 5GHz Frequency Bands	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
	Trequency Bunds	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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Sl. No.	Telecom Equipment/ Product	Test Parameter or Type of Testing	Standard/ Specification
	Equipment operating in 2.4 GHz and 5GHz Frequency Bands	Bandwidth Occupancy (20 dB Bandwidth) FCC Part 15 Subpart C Clause15.247(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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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,

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Sl. No.	Telecom Equipment/ Product	Test Parameter or Type of Testing	Standard/ Specification
	Equipment operating in 2.4 GHz and 5GHz Frequency Bands	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
	Equipment operating in 2.4 GHz and 5GHz Frequency Bands	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
4.	SAR Testing for telecom equipment	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
5.	Indian Language Support for Mobile	Inputting of Text Clause 5/5.1	IS 16333 Part 3:2017
	Phone handsets	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.	Telecom Equipment/	Test Paran	neter or Type of Testing	Standard/
No.	Product			Specification
6.	Mobile User	Interface:	Transmitter Maximum	TEC ER No.
	Equipment	GSM/	Output Power	TEC47722408
		GPRS/	ETSI EN 301 511 (GSM)	
		EDGE	Clause 4.2.5	
			Transmitter Maximum	TEC ER No.
			Output Power	TEC47722408
			ETSI EN 301 511 (GSM)	
			Clause 4.2.10	
			Output RF Spectrum	TEC ER No.
			ETSI EN 301 511 (GSM)	TEC47722408
			Clause 4.2.6	
			Output RF Spectrum	TEC ER No.
			ETSI EN 301 511 (GSM)	TEC47722408
			Clause 4.2.11	
			Spurious Emissions	TEC ER No.
			(MS Allocated a Channel)	TEC47722408
			ETSI EN 301 511 (GSM)	
			Clause 4.2.12	
			Spurious Emission	TEC ER No.
			(MS in Idle Mode)	TEC47722408
			ETSI EN 301 511 (GSM)	
			Clause 4.2.13	
			Frequency Error and	TEC ER No.
			Phase Error	TEC47722408
			ETSI EN 301 511 (GSM)	
			Clause 4.2.1	
			Frequency Error and	TEC ER No.
			Phase Error	TEC47722408
			ETSI EN 301 511 (GSM)	
			Clause 4.2.4	

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Sl. No.	Telecom Equipment/ Product	Test Param	neter or Type of Testing	Standard/ Specification
	Mobile User Equipment	Interface: GSM/ GPRS/ EDGE	Reference Sensitivity Level (Speech Channels) ETSI EN 301 511 (GSM) Clause 4.2.42	TEC ER No. TEC47722408
		LDGE	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
		Interface : WCDMA or HSPA	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 Param	neter or Type of Testing	Standard/ Specification
	Mobile User Equipment	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	TEC ER No. TEC47722408

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Sl.	Telecom Equipment/	Test Param	eter or Type of Testing	Standard/
No.	Product			Specification
	Mobile User	Interface:	Spectrum Emissions Mask	TEC ER No.
	Equipment	LTE or	ETSI EN 301 908-13	TEC47722408
		LTE-A	(LTE)	
			Clause 4.2.3	
			Spurious Emissions	TEC ER No.
			ETSI EN 301 908-13	TEC47722408
			(LTE)	
			Clause 4.2.4	
			Receiver Spurious	TEC ER No.
			Emission	TEC47722408
			ETSI EN 301 908-13	
			(LTE)	
			Clause 4.2.10	
			Receiver Reference	TEC ER No.
			Sensitivity Level	TEC47722408
			ETSI EN 301 908-13	
			(LTE)	
			Clause 4.2.12	
			Receiver Adjacent	TEC ER No.
			Channel Selectivity (ACS)	TEC47722408
			ETSI EN 301 908-13	
			(LTE)	
			Clause 4.2.6	
			Receiver In-Band	TEC ER No.
			Blocking	TEC47722408
			ETSI EN 301 908-13	
			(LTE)	
			Clause 4.2.7	
7.	Safety Requirements for	Continuous	Charging at Constant	IEC 62133-2:2017
	secondary cells and	Voltage (Cel	11)	
	batteries (Lithium ion	Clause 7.2.1		
	system)			

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Sl. No.	Telecom Equipment/ Product	Test Parameter or Type of Testing	Standard/ Specification
	Safety Requirements for secondary cells and batteries (Lithium ion	Case Stress at High Ambient Temperature Clause 7.2.2	IEC 62133-2:2017
	system)	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
8.	Uninterruptible Power System (UPS) Part 1:-	Power Interface Clause 4.6	IEC 62040-1:2008
	General and Safety Requirements for UPS	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
	Uninterruptible	Protection Against Electric Shock and	IEC 62040-1:2008
	Power System (UPS)	Energy Hazards	
	Part 1:- General and	Clause 5.1	
	Safety Requirements for UPS	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
	Uninterruptible	General Provisions for Connection to	IEC 62040-1:2008
	Power System (UPS)	Power (Cord Anchorage and Strain	
	Part 1:- General and	Relief)	
	Safety Requirements	Clause 6.2.1	
	for UPS	Wiring Terminals for External Power	IEC 62040-1:2008
		Conductors	
		Clause 6.3	
		Stability	IEC 62040-1:2008
		Clause 7.2	
		Mechanical Strength	IEC 62040-1:2008
		Clause 7.3	
		Construction Details	IEC 62040-1:2008
		Clause 7.4	
		Resistance to Fire	IEC 62040-1:2008
		Clause 7.5	
		Ventilation	IEC 62040-1:2008
		Clause 7.6.7	
		Temperature Rise	IEC 62040-1:2008
		Clause 7.7	
		General Provisions for Earth Leakage	IEC 62040-1:2008
		Clause 8.1	
		Electric Strength	IEC 62040-1:2008
		Clause 8.2	
		Abnormal Operating and Fault	IEC 62040-1:2008
		Conditions	
		Clause 8.3	
		Motor tests Under Abnormal Conditions	IEC 62040-1:2008
		Annex B	

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Sl. No.	Telecom Equipment/ Product	Test Paramete	er or Type of Testing	Standard/ Specification
	Uninterruptible Power System (UPS) Part 1:- General and Safety Requirements for UPS	Transformer Annex C Guidance on Protection Against Ingress of Water and Foreign Objects Annex H		IEC 62040-1:2008 IEC 62040-1:2008
9.	•	Parameters linked with product variants	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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Validity: 03/02/2025 to 02/02/2028 Last Amended on: ----

Sl. No.	Telecom Equipment/ Product	Test Paramete	er or Type of Testing	Standard/ Specification
	Cordless Telephone	Parameters linked with product variants	Transmitted Frequency by Handset ETSI EN 300 220-2 Maximum Frequency Deviation	TEC ER No. TEC12672407 TEC ER No. TEC12672407
10.	Smart Watch	Interface: BLE	ETSI EN 300 220-2 EIRP for BLE Interface ETSI EN 300 328 V2.2.2 (2019-07)	TEC ER No.TEC28982407
			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	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 Paramet	er or Type of Testing	Standard/ Specification
	Smart Watch	Interface:	Transmitten Harranted	TEC ER
	Smart watch	BLE	Transmitter Unwanted Emissions in the	TEC ER No.TEC28982407
		DLE	Spurious Domain	NO.1EC20302407
			ETSI EN 300 328	
			V2.2.2 (2019-07)	
			Clause 4.3.1.10 &	
			4.3.2.9	
		Interface:	Frequency of Operation	TEC ER
		NFC	for NFC Interface	No.TEC28982407
			ETSI EN 300 330	
			V2.1.1 (2017-02)	
			Clause 6.2.2	TEL C
			Modulation Bandwidth	TEC ER
			ETSI EN 300 330 V2.1.1 (2017-02)	No.TEC28982407
			V2.1.1 (2017-02) Clause 4.3.3	
			Transmitter Conducted	TEC ER
			Spurious Emissions	No.TEC28982407
			ETSI EN 300 330	
			V2.1.1 (2017-02)	
			Clause 4.3.7	
			Transmitter Radiated	TEC ER
			Spurious Domain	No.TEC28982407
			Emission Limits < 30	
			MHz & Transmitter	
			Radiated Spurious Domain Emission	
			Limits > 30 MHz	
			LIIIIIS > 30 MITZ	

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Sl. No.	Telecom Equipment/ Product	Test Paramet	ter or Type of Testing	Standard/ Specification
	Smart Watch	Interface: NFC	ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.8 & 4.3.9	
		Interface: 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.	Telecom Equipment/	Test Paramet	er or Type of Testing	Standard/
No.	Product			Specification
	Consult Wotoh	Interfere	Transmitter Radiated	TEC ER
	Smart Watch	Interface:		
		RFID	Spurious Domain	No.TEC28982407
			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	
11.	IoT Gateway	Interface:	EIRP for BLE Interface	TEC ER
		BLE	ETSI EN 300 328	No.TEC24492408
			V2.2.2 (2019-07)	
			Clause 4.3.1.2 & 4.3.2.2	
			Maximum Transmit	TEC ER
			Power for BLE	No.TEC24492408
			Interface	
			ETSI EN 300 328	
			V2.2.2 (2019-07)	
			Clause 4.3.1.2 & 4.3.2.2	
			Occupied Channel	TEC ER
			Bandwidth	No.TEC24492408
			ETSI EN 300 328	
			V2.2.2 (2019-07)	
			Clause 4.3.1.8 & 4.3.2.7	
<u> </u>	1	1		

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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.

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Sl. No.	Telecom Equipment/ Product	Test Paramet	ter or Type of Testing	Standard/ Specification
	IoT Gateway	Interface:	Transmitter Unwanted	TEC ER
		BLE	Emissions in the OOB Domain ETSI EN 300 328	No.TEC24492408
			V2.2.2 (2019-07) Clause 4.3.1.9 & 4.3.2.8	
			Transmitter Unwanted Emissions in the Spurious Domain	TEC ER No.TEC24492408
			ETSI EN 300 328 V2.2.2 (2019-07)	
		T	Clause 4.3.1.10 & 4.3.2.9	
		Interface: NFC	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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Sl.	Telecom Equipment/	Test Paramet	er or Type of Testing	Standard/	
No.	Product			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 E No.TEC24492408	ER
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 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 N TEC56782407	Jo.

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Sl. No.	Telecom Equipment/ Product	Test Paramet	er or Type of Testing	Standard/ Specification
	M-L!L D-L'	T4	T	TEC ED N
	Mobile Radio	Interface: BLE	Transmitter Unwanted	TEC ER No. TEC56782407
	Trunking System	DLE	Emissions in the OOB Domain	1EC30/6240/
			ETSI EN 300 328	
			V2.2.2 (2019-07)	
			Clause 4.3.1.9 & 4.3.2.8	
			Transmitter Unwanted	TEC ER No.
			emissions in the	TEC56782407
			Spurious Domain	
			ETSI EN 300 328	
			V2.2.2 (2019-07)	
			Clause 4.3.1.10 &	
			4.3.2.9	
		Interface:	Frequency of Operation	TEC ER No.
		NFC	for NFC Interface	TEC56782407
			ETSI EN 300 330	
			V2.1.1 (2017-02)	
			Clause 6.2.2	TEC ER No.
			Modulation Bandwidth ETSI EN 300 330	TEC ER No. TEC56782407
			V2.1.1 (2017-02)	1EC30782407
			clause 4.3.3	
			Transmitter Conducted	TEC ER No.
			Spurious Emissions	TEC56782407
			ETSI EN 300 330	
			V2.1.1 (2017-02)	
			Clause 4.3.7	

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Sl. No.	Telecom Equipment/ Product	Test Paramet	er or Type of Testing	Standard/ Specification
	Mobile Radio	Interface:	Transmitter Radiated	TEC ER No.
	Trunking System	NFC	Spurious Domain Emission Limits < 30	TEC56782407
			MHz & Transmitter Radiated Spurious	
			Domain Emission Limits > 30 MHz	
			ETSI EN 300 330 V2.1.1 (2017-02)	
10		T 4 0	Clause 4.3.8 & 4.3.9	TEC ED V
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 Maximum Transmit Power for BLE Interface	TEC ER No. TEC28822407 TEC ER No. TEC28822407
			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. TEC28822407

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

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Sl. No.	Telecom Equipment/ Product	Test Paramet	er or Type of Testing	Standard/ Specification
				•
	Smart Camera	Interface: NFC	Transmitter Radiated Spurious Domain Emission Limits < 30 MHz & Transmitter Radiated Spurious Domain Emission	TEC ER No. TEC28822407
			Limits > 30 MHz ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.8 & 4.3.9	
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 Channe Bandwidth ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.8 & 4.3.2.7	TEC28732408

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Sl. No.	Telecom Equipment/ Product	Test Paramete	er or Type of Testing	Standard/ Specification
110.	Troduct			Specification
	Tracking Device	Interface: BLE	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
15.	VHF UHF Radio System Equipment	Interface: BLE	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	TEC ER No. TEC58432407 TEC ER No. TEC58432407
			Interface ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.2 & 4.3.2.2	1EC30432407

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

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27/B, 2nd Cross Road, Electronic City,

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Sl. No.	Telecom Equipment/ Product	Test Paramete	er or Type of Testing	Standard/ Specification
	VIIIE Dadio	Intenferen	Transmitter Conducted	TEC ED No
	VHF UHF Radio	Interface: NFC		TEC ER No.
	System Equipment	NFC	Spurious Emissions ETSI EN 300 330	TEC58432407
			V2.1.1 (2017-02)	
			Clause 4.3.7	
			Transmitter radiated	TEC ER No.
			spurious domain	TEC58432407
			emission limits < 30	1LC30432407
			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	
16.	HF Radio	Interface:	EIRP for BLE Interface	TEC ER No.
		BLE	ETSI EN 300 328	TEC54372501
			V2.2.2 (2019-07)	
			Clause 4.3.1.2 &	
			4.3.2.2	
			Maximum Transmit	TEC ER No.
			Power for BLE	TEC54372501
			Interface	
			ETSI EN 300 328	
			V2.2.2 (2019-07) Clause 4.3.1.2 &	
			4.3.2.2 4.5.1.2 &	
			4.3.2.2	

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Sl.	Telecom Equipment/	Test Parameter or Type of Testing		Standard/
No.	Product			Specification
	HF Radio	Interface:	Occupied Channel	TEC ER No.
	TI Tauly	BLE	Bandwidth ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.8 &	TEC54372501
			4.3.2.7 Transmitter Unwanted Emissions in the OOB Domain ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.9 &	TEC ER No. TEC54372501
			4.3.2.8 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
		Interface: NFC	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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Sl. No.	Telecom Equipment/ Product	Test Paramet	er or Type of Testing	Standard/ Specification
	HF Radio	Interface: NFC	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
17.	Point of Sales	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. 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 Occupied Channel	TEC ER No. TEC17672407 TEC ER No.
			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	Interface:	V2.2.2 (2019-07)		
	1 omt of Sales	BLE	Clause 4.3.1.8 &		
		BLE	4.3.2.7		
			Transmitter Unwanted	TEC ER No.	
			Emissions in the OOB	TEC17672407	
			Domain		
			ETSI EN 300 328		
			V2.2.2 (2019-07)		
			Clause 4.3.1.9 &		
			4.3.2.8		
			Transmitter Unwanted	TEC ER No.	
			Emissions in the	TEC17672407	
			Spurious Domain		
			ETSI EN 300 328		
			V2.2.2 (2019-07)		
			Clause 4.3.1.10 &		
			4.3.2.9		
		Interface:	Frequency of Operation	TEC ER No.	
		NFC	for NFC Interface	TEC17672407	
			ETSI EN 300 330 V2.1.1 (2017-02)		
			V2.1.1 (2017-02) Clause 6.2.2		
			Modulation Bandwidth	TEC ER No.	
			ETSI EN 300 330	TEC17672407	
			V2.1.1 (2017-02)	1LC17072+07	
			Clause 4.3.3		
			Transmitter Conducted	TEC ER No.	
			Spurious Emissions	TEC17672407	
			ETSI EN 300 330		
			V2.1.1 (2017-02)		
			Clause 4.3.7		

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Sl. No.	Telecom Equipment/ Product	Test Parameter or Type of Testing		Standard/ Specification	
	D-1-4 - F C-1	T4	T	TEC ED M-	
	Point of Sales	Interface:	Transmitter Radiated	TEC ER No.	
		NFC	Spurious Domain Emission Limits < 30	TEC17672407	
			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		
		Interface:	TX Occupied	TEC ER No.	
		RFID	Bandwidth / Carrier	TEC17672407	
			Bandwidth		
			ETSI EN 300 220-2		
			V3.2.1		
			Clause 4.3.4		
			Modulation Bandwidth	TEC ER No.	
			ETSI EN 300 330	TEC17672407	
			V2.1.1 (2017-02)		
			Clause 4.3.3	med ED M	
			TX Out of Band	TEC ER No.	
			Emissions	TEC17672407	
			ETSI EN 300 330		
			V2.1.1 (2017-02) Clause 4.3.5		
			Transmitter Conducted	TEC ER No.	
			Spurious Emissions	TEC ER No. TEC17672407	
			ETSI EN 300 330	1EC1/0/240/	
			V2.1.1 (2017-02)		
			Clause 4.3.7		
			C1445C 1.5.7		

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

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