



सत्यमेव जयते



ISO
9001:2015

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

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: 03/02/2022

Valid Until: 02/02/2025

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

Prasanth Kumar
Deputy Director General (MTCTE)
For Designating Authority
TEC

Certificate No: TEC/MRA/CAB/IND-D/10-I dated 03/02/2022 issued to
M/s TUV Rhineland India Pvt. Ltd.,
27/B, 2nd Cross Road, Electronic City,
Phase-1, Bengaluru- 560100, Karnataka, India

Validity: - 03/02/2022 to 02/02/2025

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 2 NO. TEC/DES-01/02.DEC.2017.

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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Gate No. 5, Khurshid Lal Bhawan, Janpath, New Delhi - 110 001 **9001:2015**

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

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Validity: 03/02/2022 to 02/02/2025

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)	IEC 62368-1:2018
		Crush test Clause 4.8.4.6	IEC 62368-1:2018

Director (CA), TEC

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AD (CA), TEC

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification
	Audio/Video, Information and communication technology equipment-Safety requirements	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
		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


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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification
	Audio/Video, Information and communication technology equipment-Safety requirements	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
		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

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification
	Audio/Video, Information and communication technology equipment-Safety 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	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


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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification
	Audio/Video, Information and communication technology equipment-Safety requirements	Steady force test Annex T.4	IEC 62368-1:2018
		Steady force test Annex T.5	IEC 62368-1:2018
		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.	Information Technology Equipment- Safety Requirement	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


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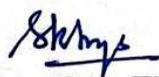
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Sl. No.	Telecom Equipment/ Product	Test Parameter or Type of Testing	Standard/ Specification
	Information Technology Equipment- Safety Requirement	Termination of conductors Clause. 3.1.9	IEC 60950-1:2005+ A1:2009 +A2:2013
		Conductor sizes to be connected / 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
		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


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Sl. No.	Telecom Equipment/ Product	Test Parameter or Type of Testing	Standard/ Specification
	Information Technology Equipment- Safety Requirement	Power input and current	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



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


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


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

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

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification
	Information Technology Equipment- Safety Requirement	Permanently connected equipment Clause. 3.2.3	IEC 60950-1:2005+ A1:2009 +A2:2013
		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 IEC 60950-1: 2 Clause.2.10.9	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 Technology Equipment- Safety Requirement	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
3.	Equipment operating in 2.4 GHz and 5 GHz Frequency Bands	RF Output Power Clause 4.3.1.2 & 4.3.2.2	ETSI EN 300 328 V2.1.1 (2016-11)
		Maximum Spectral power density Clause 4.3.2	ETSI EN 300 328 V2.1.1 (2016-11)
		Duty cycle, Tx Sequence Tx gap Clause 4.3.1.3 & 4.3.2.4	ETSI EN 300 328 V2.1.1 (2016-11)
		Dwell time, Minimum Frequency Occupation/ Accumulated Transmit Time & Hopping Sequence Clause 4.3.1.4	ETSI EN 300 328 V2.1.1 (2016-11)
		Hopping Frequency Separation Clause 4.3.1.5	ETSI EN 300 328 V2.1.1 (2016-11)



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SCOPE OF DESIGNATION
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Laboratory Name: M/s TUV Rhineland India Pvt. Ltd., Bengaluru
27/B, 2nd Cross Road, Electronic City,
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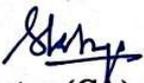
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Last Amended on: ____

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification
	Equipment operating in 2.4 GHz and 5GHz Frequency Bands	Medium Utilization Clause 4.3.1.6 & 4.3.2.5	ETSI EN 300 328 V2.1.1 (2016-11)
		Adaptivity Clause 4.3.1.7 & 4.3.2.6	ETSI EN 300 328 V2.1.1 (2016-11)
		Occupied Channel Bandwidth Clause 4.3.1.8 & 4.3.2.7	ETSI EN 300 328 V2.1.1 (2016-11)
		Transmitter unwanted emissions in the OOB domain Clause 4.3.1.9 & 4.3.2.8	ETSI EN 300 328 V2.1.1 (2016-11)
		Receiver Blocking Clause 4.3.1.12 & 4.3.2.11	ETSI EN 300 328 V2.1.1 (2016-11)
		6dB Bandwidth & Occupied Bandwidth Clause 15.247(a)(2)	FCC Part 15 Subpart C
		Bandwidth Occupancy (20 dB Bandwidth) Clause 15.247(a)(1)/15.215(c)/15.231(c)	FCC Part 15 Subpart C


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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	Maximum conducted output power Clause 15.247(b)(3)	FCC Part 15 Subpart C
		Number of hopping channel Clause 15.247 (a)(1)(ii)	FCC Part 15 Subpart C
		Band Edge Compliance (Emissions in the Non Restricted Frequency Band) Clause 15.247(d)	FCC Part 15 Subpart C
		Maximum power spectral density Clause 15.247(e)	FCC Part 15 Subpart C
		Time of occupancy Clause 15.247(a)(1)(iii)	FCC Part 15 Subpart C
		Carrier frequency separation Clause 15.247(a)(1)	FCC Part 15 Subpart C
		Carrier frequencies Clause 4.2.1	ETSI EN 301 893 V2.1.1 (2017-05)
		Nominal and occupied channel bandwidth Clause 4.2.2	ETSI EN 301 893 V2.1.1 (2017-05)


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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 Clause 4.2.3	ETSI EN 301 893 V2.1.1 (2017-05)
		Transmitter unwanted emissions within the 5 GHz RLAN bands Clause 4.2.4.2	ETSI EN 301 893 V2.1.1 (2017-05)
		Dynamic Frequency Selection (DFS) Clause 4.2.6	ETSI EN 301 893 V2.1.1 (2017-05)
		Receiver Blocking Clause 4.2.8	ETSI EN 301 893 V2.1.1 (2017-05)
		Maximum power spectral density Clause 15.407(a)	FCC Part 15 Subpart E
		Dynamic Frequency Selection (DFS) Clause.15.407(h)(2))	FCC Part 15 Subpart E
		Emission Bandwidth Clause 15.407(a)	FCC Part 15 Subpart E
		Maximum conducted output power Clause 15.407(a)	FCC Part 15 Subpart E


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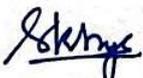
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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification
	Equipment operating in 2.4 GHz and 5GHz Frequency Bands	6 dB Bandwidth & Occupied Bandwidth Clause 15.407(a)	FCC Part 15 Subpart E
		Designation of Centre Frequencies & frequency error Clause 4.2.1	ETSI EN 302 502 V2.1.1 (2017-03)
		Transmitter RF Output Power, EIRP, TPC and EIRP Spectral Density Clause 4.2.2	ETSI EN 302 502 V2.1.1 (2017-03)
		Transmitter Power control Clause 4.2.4	ETSI EN 302 502 V2.1.1 (2017-03)
		Dynamic Frequency Selection (DFS) Clause no: 4.2.6	ETSI EN 302 502 V2.1.1 (2017-03)
		Receiver Blocking Clause 4.2.7	ETSI EN 302 502 V2.1.1 (2017-03)
4.	SAR Testing for telecom equipment	SAR for hand-held devices used in closed proximity to the ear	IEC 62209-1: 2016


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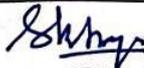
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Sl. No.	Telecom Equipment/ Product	Test Parameter or Type of Testing	Standard/ Specification
	SAR Testing for telecom equipment	SAR for wireless communication devices used in close proximity to the human body	IEC 62209-2: 2010
5.	Indian Language Support for Mobile Phone handsets	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
6.	Mobile User Equipment	Interface : GSM/ GPRS/ EDGE	
		Transmitter Maximum output power EN 301 511 (GSM) Clause 4.2.5	TEC ER No. TEC47722108
		Transmitter Maximum output power EN 301 511 (GSM) Clause 4.2.10	TEC ER No. TEC47722108
		Output RF Spectrum EN 301 511 (GSM) Clause 4.2.6	TEC ER No. TEC47722108


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Sl. No.	Telecom Equipment/ Product	Test Parameter or Type of Testing	Standard/ Specification	
	Mobile User Equipment	Interface : GSM/ GPRS/ EDGE	Output RF Spectrum EN 301 511 (GSM) Clause 4.2.11	TEC ER No. TEC47722108
		Spurious emissions (MS allocated a channel) EN 301 511 (GSM) Clause 4.2.12	TEC ER No. TEC47722108	
		Spurious emission (MS in idle mode) EN 301 511 (GSM) Clause 4.2.13	TEC ER No. TEC47722108	
		Frequency Error and Phase error EN 301 511 (GSM) Clause 4.2.1	TEC ER No. TEC47722108	
		Frequency Error and Phase error EN 301 511 (GSM) Clause 4.2.4	TEC ER No. TEC47722108	


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Sl. No.	Telecom Equipment/ Product	Test Parameter or Type of Testing	Standard/ Specification	
	Mobile User Equipment	Interface : GSM/ GPRS/ EDGE	Reference sensitivity level (speech channels) EN 301 511 (GSM) Clause 4.2.42	TEC ER No. TEC47722108
			Adjacent Channel Rejection (speech channels) EN 301 511 (GSM) Clause 4.2.38	TEC ER No. TEC47722108
			Receiver blocking EN 301 511 (GSM) Clause 4.2.20	TEC ER No. TEC47722108
		Interface : WCDMA or HSPA	Transmitter Maximum output power EN 301 908-2 (UMTS) Clause 4.2.2	TEC ER No. TEC47722108
			Transmitter Spectrum emissions mask EN 301 908-2 (UMTS) Clause 4.2.3	TEC ER No. TEC47722108


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Sl. No.	Telecom Equipment/ Product	Test Parameter or Type of Testing	Standard/ Specification	
	Mobile User Equipment	Interface : WCDMA or HSPA	Transmitter spurious emissions EN 301 908-2 (UMTS) Clause 4.2.4	TEC ER No. TEC47722108
		Receiver spurious emission EN 301 908-2 (UMTS) Clause 4.2.10	TEC ER No. TEC47722108	
		Transmitter Minimum Output Power EN 301 908-2 (UMTS) Clause 4.2.5	TEC ER No. TEC47722108	
		Receiver Reference sensitivity level EN 301 908-2 (UMTS) Clause 4.2.13	TEC ER No. TEC47722108	
		Receiver Adjacent Channel Selectivity(ACS) EN 301 908-2 (UMTS) Clause 4.2.6	TEC ER No. TEC47722108	


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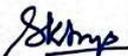
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Validity: 03/02/2022 to 02/02/2025

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Sl. No.	Telecom Equipment/ Product	Test Parameter or Type of Testing	Standard/ Specification	
	Mobile User Equipment	Interface : WCDMA or HSPA	Receiver In-band blocking 3GPP TS 34.121-1 Clause 6.5.2.1 EN 301 908-2 (UMTS) Clause 4.2.7	TEC ER No. TEC47722108
		Interface : LTE or LTE-A	Maximum output power EN 301 908-13 (LTE) Clause 4.2.2	TEC ER No. TEC47722108
			Spectrum emissions mask EN 301 908-13 (LTE) Clause 4.2.3	TEC ER No. TEC47722108
			Spurious emissions EN 301 908-13 (LTE) Clause 4.2.4	TEC ER No. TEC47722108
			Receiver spurious emission EN 301 908-13 (LTE) Clause 4.2.10	TEC ER No. TEC47722108


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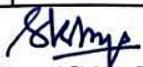
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Last Amended on: ____

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification
	Mobile User Equipment	Interface : LTE or LTE-A	Receiver Reference Sensitivity level EN 301 908-13 (LTE) Clause 4.2.12 TEC ER No. TEC47722108
			Receiver Adjacent Channel Selectivity(ACS) EN 301 908-13 (LTE) Clause 4.2.6 TEC ER No. TEC47722108
			Receiver In-band blocking EN 301 908-13 (LTE) Clause 4.2.7 TEC ER No. TEC47722108
7.	Safety Requirements for secondary cells and batteries (Lithium ion system)	Insulation resistance test (Clause 5.2)	IEC 62133-2:2017
		Charging procedure for test purpose (Clause 7.1)	IEC 62133-2:2017
		Continuous Charging at constant voltage (Cell) (Clause 7.2.1)	IEC 62133-2:2017
		case stress at high ambient Temperature (Clause 7.2.2)	IEC 62133-2:2017


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



ISO

Gate No. 5, Khurshid Lal Bhawan, Janpath, New Delhi - 110 001 **9001:2015**

SCOPE OF DESIGNATION
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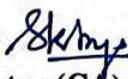
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Sl. No.	Telecom Equipment/ Product	Test Parameter or Type of Testing	Standard/ Specification
	Safety Requirements for secondary cells and batteries (Lithium ion system)	External short circuit (Cell) (Clause 7.3.1)	IEC 62133-2:2017
		External short 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


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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification
8.	Uninterruptible Power System (UPS) Part 1:- General and Safety Requirements for UPS	Power Interface Clause 4.6	IEC 62040-1:2008
		Durability of markings Clause 4.7.16	IEC 62040-1:2008
		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
		Safety extra low voltage-SELV circuit Clause 5.2.1	IEC 62040-1:2008


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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification
	Uninterruptible Power System (UPS) Part 1:- General and Safety Requirements for UPS	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
		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


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Sl. No.	Telecom Equipment/ Product	Test Parameter or Type of Testing	Standard/ Specification
	Uninterruptible Power System (UPS) Part 1:- General and Safety Requirements for UPS	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

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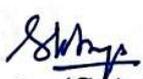
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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification
	Uninterruptible Power System (UPS) Part 1:- General and Safety Requirements for UPS	Connection to Telecommunication Networks Clause 9	IEC 62040-1:2008
		Motor tests under abnormal conditions Annex B	IEC 62040-1:2008
		Transformer Annex C	IEC 62040-1:2008
		Guidance on protection against ingress of water and foreign objects Annex H	IEC 62040-1:2008
9.	Cordless Telephone	Parameters linked with product variants Frequency band of Operation and Transmit Power – Base Unit only ETSI EN 300 330	TEC ER No. TEC12672108
		Maximum Frequency Deviation ETSI EN 300 330	TEC ER No. TEC12672108


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Sl. No.	Telecom Equipment/ Product	Test Parameter or Type of Testing	Standard/ Specification	
	Cordless Telephone	Parameters linked with product variants	Frequency band of Operation and Transmit Power – Base and Remote Unit ETSI EN 300 220-2	TEC ER No. TEC12672108
		Frequency band of Operation and Transmit Power – Remote Unit only ETSI EN 300 220-2	TEC ER No. TEC12672108	
		Transmitted frequency by Base Unit ETSI EN 300 220-2	TEC ER No. TEC12672108	
		Transmitted frequency by Handset ETSI EN 300 220-2	TEC ER No. TEC12672108	
		Maximum Frequency Deviation ETSI EN 300 220-2	TEC ER No. TEC12672108	



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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification
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.TEC28982110
		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.TEC28982110
		Occupied Channel Bandwidth ETSI EN 300 328 V2.2.2 (2019-07) clause 4.3.1.8 & 4.3.2.7	TEC ER No.TEC28982110
		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.TEC28982110


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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: 03/02/2022 to 02/02/2025

Last Amended on: ____

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification
	Smart Watch	Interface : BLE 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.TEC28982110
		Interface : NFC Frequency of Operation for NFC Interface ETSI EN 300 330 V2.1.1 (2017-02) clause 6.2.2	TEC ER No.TEC28982110
		Modulation bandwidth ETSI EN 300 330 V2.1.1 (2017-02) clause 4.3.3	TEC ER No.TEC28982110
		Transmitter conducted spurious emissions ETSI EN 300 330 V2.1.1 (2017-02) clause 4.3.7	TEC ER No.TEC28982110


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(ANNEXURE)

Laboratory Name: M/s TUV Rhineland India Pvt. Ltd., Bengaluru
 27/B, 2nd Cross Road, Electronic City,
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Validity: 03/02/2022 to 02/02/2025

Last Amended on: ____

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification	
	Smart Watch	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.TEC28982110
		Interface : RFID	TX Occupied bandwidth / Carrier bandwidth ETSI EN 300 220-2 V3.2.1 clause 4.3.4	TEC ER No.TEC28982110
			Modulation bandwidth ETSI EN 300 330 V2.1.1 (2017-02) clause 4.3.3	TEC ER No.TEC28982110
			TX out of band emissions ETSI EN 300 330 V2.1.1 (2017-02) clause 4.3.5	TEC ER No.TEC28982110

(Signature)
 Director (CA), TEC

(Signature)
 AD (CA), TEC

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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

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Validity: 03/02/2022 to 02/02/2025

Last Amended on: ____

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification
	Smart Watch	Interface : RFID Transmitter conducted spurious emissions ETSI EN 300 330 V2.1.1 (2017-02) clause 4.3.7	TEC ER No.TEC28982110
		Unwanted emissions in the spurious domain ETSI EN 300 330 V2.1.1 (2017-02) clause 4.2.2	TEC ER No.TEC28982110
		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.TEC28982110

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27/B, 2nd Cross Road, Electronic City,
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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification	
11.	IoT Gateway	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.TEC24492108
		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.TEC24492108	
		Occupied Channel Bandwidth ETSI EN 300 328 V2.2.2 (2019-07) clause 4.3.1.8 & 4.3.2.7	TEC ER No.TEC24492108	
		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.TEC24492108	


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SCOPE OF DESIGNATION
(ANNEXURE)

Laboratory Name: M/s TUV Rhineland India Pvt. Ltd., Bengaluru
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Last Amended on: ____

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification
	IoT Gateway	Interface : BLE 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.TEC24492108
		Interface : NFC Frequency of Operation for NFC Interface ETSI EN 300 330 V2.1.1 (2017-02) clause 6.2.2	TEC ER No.TEC24492108
		Modulation bandwidth ETSI EN 300 330 V2.1.1 (2017-02) clause 4.3.3	TEC ER No.TEC24492108
		Transmitter conducted spurious emissions ETSI EN 300 330 V2.1.1 (2017-02) clause 4.3.7	TEC ER No.TEC24492108

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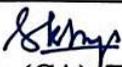
Certificate Number: TEC/MRA/CAB/IND-D/10-I

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification	
	IoT Gateway		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.TEC24492108
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. TEC56782108
			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. TEC56782108
			Occupied Channel Bandwidth ETSI EN 300 328 V2.2.2 (2019-07) clause 4.3.1.8 & 4.3.2.7	TEC ER No. TEC56782108


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Sl. No.	Telecom Equipment/ Product	Test Parameter or Type of Testing	Standard/ Specification	
	Mobile Radio Trunking System	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. TEC56782108
			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. TEC56782108
		Interface : NFC	Frequency of Operation for NFC Interface ETSI EN 300 330 V2.1.1 (2017-02) clause 6.2.2	TEC ER No. TEC56782108
			Modulation bandwidth ETSI EN 300 330 V2.1.1 (2017-02) clause 4.3.3	TEC ER No. TEC56782108


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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	
	Mobile Radio Trunking System	Interface : NFC	Transmitter conducted spurious emissions ETSI EN 300 330 V2.1.1 (2017-02) clause 4.3.7	TEC ER No. TEC56782108
			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. TEC56782108
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. TEC28822108
			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. TEC28822108



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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification	
	Smart Camera	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. TEC28822108
			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. TEC28822108
			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. TEC28822108
		Interface : NFC	Frequency of Operation for NFC Interface ETSI EN 300 330 V2.1.1 (2017-02) clause 6.2.2	TEC ER No. TEC28822108



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SCOPE OF DESIGNATION
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Laboratory Name: M/s TUV Rhineland India Pvt. Ltd., Bengaluru
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Phase-1, Bengaluru- 560100, Karnataka, India

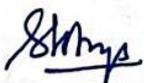
Certificate Number: TEC/MRA/CAB/IND-D/10-I

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification
	Smart Camera	Interface : NFC Modulation bandwidth ETSI EN 300 330 V2.1.1 (2017-02) clause 4.3.3	TEC ER No. TEC28822108
		Transmitter conducted spurious emissions ETSI EN 300 330 V2.1.1 (2017-02) clause 4.3.7	TEC ER No. TEC28822108
		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. TEC28822108
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. TEC28732108


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SCOPE OF DESIGNATION
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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
	Tracking Device	Interface : BLE 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. TEC28732108
		Occupied Channel Bandwidth ETSI EN 300 328 V2.2.2 (2019-07) clause 4.3.1.8 & 4.3.2.7	TEC ER No. TEC28732108
		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. TEC28732108
		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. TEC28732108


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Sl. No.	Telecom Equipment/ Product	Test Parameter or Type of Testing	Standard/ Specification	
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	TEC ER No. TEC58432108
			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. TEC58432108
			Occupied Channel Bandwidth ETSI EN 300 328 V2.2.2 (2019-07) clause 4.3.1.8 & 4.3.2.7	TEC ER No. TEC58432108
			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. TEC58432108



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SCOPE OF DESIGNATION
(ANNEXURE)

Laboratory Name: M/s TUV Rhineland India Pvt. Ltd., Bengaluru
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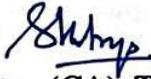
Certificate Number: TEC/MRA/CAB/IND-D/10-I

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification
	VHF UHF Radio System Equipment	Interface : BLE 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. TEC58432108
		Interface : NFC Frequency of Operation for NFC Interface ETSI EN 300 330 V2.1.1 (2017-02) clause 6.2.2	TEC ER No. TEC58432108
		Modulation bandwidth ETSI EN 300 330 V2.1.1 (2017-02) clause 4.3.3	TEC ER No. TEC58432108
		Transmitter conducted spurious emissions ETSI EN 300 330 V2.1.1 (2017-02) clause 4.3.7	TEC ER No. TEC58432108


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SCOPE OF DESIGNATION
(ANNEXURE)

Laboratory Name: M/s TUV Rhineland India Pvt. Ltd., Bengaluru
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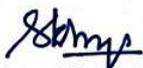
Certificate Number: TEC/MRA/CAB/IND-D/10-I

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification	
		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. TEC58432108
16.	HF Radio	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. TEC54372108
			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. TEC54372108
			Occupied Channel Bandwidth ETSI EN 300 328 V2.2.2 (2019-07) clause 4.3.1.8 & 4.3.2.7	TEC ER No. TEC54372108


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SCOPE OF DESIGNATION
(ANNEXURE)

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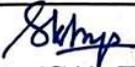
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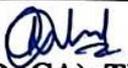
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Last Amended on: ____

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification	
	HF Radio	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. TEC54372108
			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. TEC54372108
		Interface : NFC	Frequency of Operation for NFC Interface ETSI EN 300 330 V2.1.1 (2017-02) clause 6.2.2	TEC ER No. TEC54372108
			Modulation bandwidth ETSI EN 300 330 V2.1.1 (2017-02) clause 4.3.3	TEC ER No. TEC54372108
			Transmitter conducted spurious emissions ETSI EN 300 330 V2.1.1 (2017-02) clause 4.3.7	TEC ER No. TEC54372108


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27/B, 2nd Cross Road, Electronic City,
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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification
		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. TEC54372108
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. TEC17672201
		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. TEC17672201
		Occupied Channel Bandwidth ETSI EN 300 328 V2.2.2 (2019-07) clause 4.3.1.8 & 4.3.2.7	TEC ER No. TEC17672201


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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification	
	Point of Sales	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. TEC17672201
			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. TEC17672201
		Interface : NFC	Frequency of Operation for NFC Interface ETSI EN 300 330 V2.1.1 (2017-02) clause 6.2.2	TEC ER No. TEC17672201
			Modulation bandwidth ETSI EN 300 330 V2.1.1 (2017-02) clause 4.3.3	TEC ER No. TEC17672201
			Transmitter conducted spurious emissions ETSI EN 300 330 V2.1.1 (2017-02) clause 4.3.7	TEC ER No. TEC17672201



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Sl. No.	Telecom Equipment/ Product	Test Parameter or Type of Testing	Standard/ Specification	
	Point of Sales	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. TEC17672201
		Interface : RFID	TX Occupied bandwidth / Carrier bandwidth ETSI EN 300 220-2 V3.2.1 clause 4.3.4	TEC ER No. TEC17672201
			Modulation bandwidth ETSI EN 300 330 V2.1.1 (2017-02) clause 4.3.3	TEC ER No. TEC17672201
			TX out of band emissions ETSI EN 300 330 V2.1.1 (2017-02) clause 4.3.5	TEC ER No. TEC17672201

Director (CA), TEC

AD (CA), TEC

***The validity of Certificate is up to 02/02/2025 or the continued validity of NABL Accreditation, whichever is earlier.**

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: 03/02/2022 to 02/02/2025

Last Amended on: ____

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification	
	Point of Sales	Interface : RFID	Transmitter conducted spurious emissions ETSI EN 300 330 V2.1.1 (2017-02) clause 4.3.7	TEC ER No. TEC17672201
			Unwanted emissions in the spurious domain ETSI EN 300 330 V2.1.1 (2017-02) clause 4.2.2	TEC ER No. TEC17672201
			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. TEC17672201



Director (CA), TEC

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AD (CA), TEC