



CERTIFICATE OF DESIGNATION

M/s AA Electro Magnetic Test Laboratory Private Limited, Gurugram has been assessed and designated as Conformity Assessment Body (CAB) for its facilities at

Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

In the field of Testing

Certificate No. TEC/MRA/CAB/IND-D/63-II

Issue Date: 05/04/2022

Valid Until: 04/04/2025

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

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



Certificate No: TEC/MRA/CAB/IND-D/63-II dated 05/04/2022 issued to M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Validity: - 05/04/2022 to 04/04/2025

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.

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- 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.
- 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 nonroutine assessments on the Designated CABs to ensure that standards of practices are maintained as well as to investigate complaints made against them.

D. SUSPENSION OR WITHDRAWAL OF DESIGNATION

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 - a. Its accreditation is withdrawn.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 A CAB whose designation, and recognition in case of MRA, has been suspended or withdrawn shall be removed from the list of designated CABs, in case it fails to take corrective measures.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

E. AMENDMENT TO THE SCHEME

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

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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Validity: 05/04/2022 to 04/04/2025

Last Amended on:

SI. No.	Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification
1.	Equipment Operating in 2.4 GHz, 5 GHz	RF Output Power (Conductive only) Clause- 4.3.1.2 & 4.3.2.2, 5.3.2	ETSI EN 300 328 V 2.2.2
	frequency bands	Power Spectral Density (Conductive only) Clause- 4.3.2.3 & 5.3.3	ETSI EN 300 328 V 2.2.2
	아이는 말 아이는 것이 같아.	Duty Cycle, Tx sequence, Tx-gap Clause- 4.3.1.3,4.3.2.4 & 5.3.2	ETSI EN 300 328 V 2.2.2
		Geo Location Capability Clause- 4.3.1.13, 4.3.2.12	ETSI EN 300 328 V 2.2.2
		Accumulated Transmit Time, Frequency occupation and Hopping sequence Clause- 4.3.1.4 & 5.3.4	ETSI EN 300 328 V 2.2.2
		Hoping Frequency Separation Clause- 4.3.1.5 & 5.3.5	ETSI EN 300 328 V 2.2.2
		Medium Utilization Clause- 4.3.1.6, 4.3.2.5 & 5.3.2	ETSI EN 300 328 V 2.2.2
		Adaptivity Clause- 4.3.1.7 or 4.3.2.6 & 5.3.7	ETSI EN 300 328 V 2.2.2
11		Occupied Channel bandwidth Clause- 4.3.1.8, 4.3.2.7 & 5.3.8	ETSI EN 300 328 V 2.2.2

Director (CA), TEC

(CA), TEC



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SI. Telecom **Test Parameter or Type of Testing** Standard/ Specification No. **Equipment/Product** Transmitter Unwanted emissions in **Equipment Operating** ETSI EN 300 328 V 2.2.2 **OOB** Domain in 2.4 GHz, 5 GHz Clause- 4.3.1.9, 4.3.2.8 & 5.3.9 frequency bands Transmitter unwanted emissions in the ETSI EN 300 328 V 2.2.2 spurious domain Clause- 4.3.1.10, 4.3.2.9 & 5.3.10 **Receiver Spurious Emission** ETSI EN 300 328 V 2.2.2 Clause 4.3.1.11, 4.3.2.10 & 5.3.11 **Receiver Blocking** ETSI EN 300 328 V 2.2.2 Clause- 4.3.1.12, 4.3.2.11 & 5.3.7 **Carrier Frequencies** ETSI EN 301 893 V2.1.1 Clause-4.2.1 Nominal and Occupied Channel ETSI EN 301 893 V2.1.1 Bandwidth Clause-4.2.2 RF Output Power, Transmit Power ETSI EN 301 893 V2.1.1 Control (TPC), Power Density Clause- 4.2.3 ETSI EN 301 893 V2.1.1 Transmitter unwanted Emissions outside the 5 GHz RLAN Bands Clause- 4.2.4.1

AD (CA), TEC

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SI. Telecom **Test Parameter or Type of Testing** Standard/ Specification No. **Equipment/Product** Equipment Transmitter unwanted Emissions ETSI EN 301 893 V2.1.1 within the 5 GHz RLAN Bands operating in 2.4 Clause- 4.2.4.2 GHz, 5 GHz **Receiver Spurious Emission** ETSI EN 301 893 V2.1.1 frequency bands Clause- 4.2.5 Geo Location Capability ETSI EN 301 893 V2.1.1 Clause- 4.2.10 Dynamic Frequency Selection (DFS) ETSI EN 301 893 V2.1.1 Clause- 4.2.6.2 Adaptivity ETSI EN 301 893 V2.1.1 Clause- 4.2.7 **Receiver Blocking** ETSI EN 301 893 V2.1.1 Clause- 4.2.8 **Designation of Centre Frequencies** ETSI EN 302 502 V2.1.1 and Frequency error Clause-4.2.1 Transmitter RF Output Power, EIRP ETSI EN 302 502 V2.1.1 and EIRP Spectral Density Clause- 4.2.2, 5.4.3 Transmitter Unwanted Emission ETSI EN 302 502 V2.1.1 Clause- 4.2.3, 5.4.4

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Standard/ Specification **Test Parameter or Type of Testing** Telecom SI. **Equipment/Product** No. ETSI EN 302 502 v2.1.1 **Equipment Operating** Transmitter Power Control (TPC) Clause-4.2.4 in 2.4 GHz, 5 GHz frequency bands ETSI EN 302 502 v2.1.1 **Receiver Spurious Emission** Clause- 4.2.5, 5.4.5 Dynamic Frequency Selection (DFS) ETSI EN 302 502 v2.1.1 Clause- 4.2.6, 5.4.6 ETSI EN 302 502 v2.1.1 **Receiver Blocking** Clause- 4.2.7, 5.4.7 ETSI EN 302 502 v2.1.1 Frequency Error Clause- 5.4.2 Voltage Dips, short interruption and IEC 61000-4-29 2. **EMI/EMC** testing of Voltage variations immunity Test on **Telecom Products** DC input power port immunity test

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Test Parameter or Type of Testing SI. Telecom Standard/ Specification No. **Equipment/Product** 3. **Mobile User Parameters** Mobile Device Indian TEC ER No. Linked TEC47722105 Equipment Language Support with IS 16333 (Part 3) Product Inputting of Text Variant Clause 5/5.1 Marking 6/6.1/6.2/6.2.1 Message readability Clause 5/5.2 Mobile Emergency TEC ER No. TEC47722105 Support - Call on 112DoT 16-04/2015-AS-III/NP/67/120 dt 4.5.16, 3GPP2 C.S0023 for CDMA2000, 3GPP TS 22.101 and TS 24.008 for GSM/ UMTS/ LTE.

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SI. No.	Telecom Equipment/Product	Test Paramet	er or Type of Testing	Standard/ Specification
	Mobile User Equipment	Parameters Linked with Product Variant	Mobile Emergency Support - GPS Location G.S.R. No. 1441 (E)	TEC ER No. TEC47722105
			Mobile Emergency Support - Panic Button G.S.R. No. 436 (E) dated 22-04-2016, 3GPP TS 22.101 for	TEC ER No. TEC47722105
			GSM/ UMTS/ LTE, 3GPP2 C.S0023 for CDMA	
		Interface: GSM/GPRS / EDGE	Transmitter Maximum Output Power for GSM 3GPP TS 51 010-1 Clause- 13.3 or EN 301 511 (GSM) Clause- 4.2.5	TEC ER No. TEC47722105

Kuby AD (CA), TEC Director (CA'), TEC *The validity of Certificate is up to 04/04/2025 or the continued validity of NABL Accreditation, whichever is earlier.



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Telecom SI. **Test Parameter or Type of Testing** Standard/ Specification No. **Equipment/Product** Mobile User Interface: **Transmitter Output** TEC ER No. **GSM/GPRS** Power for Equipment TEC47722105 / EDGE GPRS/EDGE 3GPP TS 51 010-1 Clause- 13.16.2 or EN 301 511 (GSM) Clause- 4.2.10 **Output RF Spectrum** TEC ER No. for GSM TEC47722105 3GPP TS 51 010-1 Clause-13.4 or EN 301 511 (GSM) Clause-4.2.6 **Output RF Spectrum** TEC ER No. for GPRS/EDGE TEC47722105 3GPP TS 51 010-1 Clause- 13.16.3 or EN 301 511 (GSM) Clause- 4.2.11

Show Director (CA), TEC AD (CA), TEC



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Sl. Telecom No. Equipment/Product Mobile User Equipment	Telecom Equipment/Product	Test Paramet	ter or Type of Testing	Standard/ Specification
		Interface: GSM/GPRS / EDGE	Spurious Emissions - MS allocated a channel 3GPP TS 51 010-1 Clause- 12.1.1 or EN 301 511 (GSM) Clause- 4.2.12	TEC ER No. TEC47722105
			Spurious Emissions - MS in idle mode 3GPP TS 51 010-1 Clause- 12.1.2 or EN 301 511 (GSM) Clause- 4.2.13	TEC ER No. TEC47722105
			Frequency Error and Phase Error for GSM 3GPP TS 51 010-1	TEC ER No. TEC47722105

Clause-13.1 or EN 301 511 (GSM)

Clause-4.2.1

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SI. No.	Telecom Equipment/Product	Test Paramet	ter or Type of Testing	Standard/ Specification	
	Mobile User Equipment	Interface: GSM/GPRS / EDGE	Frequency Error and Phase Error for GPRS/EDGE 3GPP TS 51 010-1 Clause- 13.16.1 or EN 301 511(GSM) Clause- 4.2.4	TEC ER No. TEC47722105	
			Reference Sensitivity Level (Speech Channels) 3GPP TS 51 010-1 Clause- 14.2.1 or EN 301 511 (GSM) Clause- 4.2.42	TEC ER No. TEC47722105	
			Adjacent Channel Rejection (Speech channels) 3GPP TS 51 010-1 Clause- 14.5.1 or EN 301 511 (GSM) Clause- 4.2.38	TEC ER No. TEC47722105	

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Standard/ Specification **Test Parameter or Type of Testing** SI. Telecom **Equipment/Product** No.

Mobile User Equipment	Interface: GSM/GPRS / EDGE	Receiver Blocking 3GPP TS 51 010-1 Clause- 14.7.1 or EN 301 511 (GSM) Clause- 4.2.20	TEC ER No. TEC47722105
	Interface : WCDMA or HSPA	Transmitter Maximum Output Power 3GPP TS 34.121-1 Clause- 5.2 OR EN 301 908-2 (UMTS)Clause- 4.2.2.1	TEC ER No. TEC47722105
		Spectrum Emissions Mask 3GPP TS 34.121-1 Clause- 5.9 OR EN 301 908-2 (UMTS)Clause- 4.2.3.1	TEC ER No. TEC47722105
		Transmitter Spurious Emissions 3GPP TS 34.121-1 Clause- 5.11 OR EN 301 908-2 (UMTS) Clause- 4.2.4.1	TEC ER No. TEC47722105

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Sl. Telecom No. Equipment/Product Mobile User Equipment	Telecom Equipment/Product	Test Parame	ter or Type of Testing	Standard/ Specification	
	Construction of the second s	Interface : WCDMA or HSPA	Receiver Spurious Emission 3GPP TS 34.121-1 Clause- 6.8 OR EN 301 908-2 (UMTS) Clause- 4.2.10	TEC ER No. TEC47722105	
			Transmitter Minimum Output Power 3GPP TS 34.121-1 Clause- 5.4.3 OR EN 301 908-2 (UMTS) Clause- 4.2.5.1	TEC ER No. TEC47722105	
			Receiver Reference Sensitivity level 3GPP TS 34.121-1 Clause- 6.2 OR EN 301 908-2 (UMTS) Clause- 4.2.13	TEC ER No. TEC47722105	

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TEC **Director** (CA



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SI. No.	Telecom Equipment/Product	Test Parame	neter or Type of Testing Standard/ Specificatio	
	Mobile User Equipment	Interface : WCDMA or HSPA	Receiver Adjacent Channel Selectivity(ACS) 3GPP TS 34.121-1 Clause- 6.4 OR EN 301 908-2 (UMTS) Clause- 4.2.6	TEC ER No. TEC47722105
			Receiver In-band blocking 3GPP TS 34.121- 1Clause- 6.5.2.1 OR EN 301 908-2 (UMTS) Clause- 4.2.7	TEC ER No. TEC47722105
		Interface: LTE or LTE-A	Maximum Output Power 3GPP TS 36.521-1 Clause- 6.2.2 OR EN 301 908-13 (LTE) Clause- 4.2.2.1	TEC ER No. TEC47722105

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Standard/ Specification **Test Parameter or Type of Testing** SI. Telecom **Equipment/Product** No. TEC ER No. Spectrum Emissions **Mobile User** Interface: Mask LTE or TEC47722105 Equipment LTE-A 3GPP TS 36.521-1Clause 6.6.2.1 OR EN 301 908-13 (LTE) Clause- 4.2.3.1 TEC ER No. **Spurious Emissions** 3GPP TS 36.521-1 TEC47722105 Clauses-6.6.3.1,6.6.3.2, 6.6.3.3 OR EN 301 908-13 (LTE) Clause- 4.2.4.1 TEC ER No. **Receiver Spurious** Emission TEC47722105 3GPP TS 36.521-1 Clause- 7.9 OR EN 301 908-13 (LTE) Clause- 4.2.10.1

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SI. No.	Telecom Equipment/Product	Test Parameter or Type of Testing		Standard/ Specification	
	Mobile User Equipment	Interface: LTE or LTE-A	Receiver Reference Sensitivity level 3GPP TS 36.521-1 Clause- 7.3 OR EN 301 908-13 (LTE) Clause- 4.2.12	TEC ER No. TEC47722105	
			Receiver Adjacent Channel Selectivity(ACS) 3GPP TS 36.521-1 Clause- 7.5 OR EN 301 908-13 (LTE) Clause- 4.2.6.1	TEC ER No. TEC47722105	
			Receiver In-band blocking 3GPP TS 36.521-1 Clause-7.6.1 OR EN 301 908-13 (LTE) Clause- 4.2.7.1	TEC ER No. TEC47722105	

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Standard/ Specification SI. Telecom **Test Parameter or Type of Testing Equipment/Product** No. **Mobile User RF** Output TEC ER No. Interface: Power(EIRP) Wi-Fi TEC47722105 Equipment ETSI EN 300 328 V 2.2.2 (EIRP for Wi-Fi Interface) Clause No.4.3.1.2 & 4.3.2.2,5.3.2 Power Spectral Density TEC ER No. (Conductive only) TEC47722105 ETSI EN 300 328 V 2.2.2 Clause 4.3.2 & 5.3.3 Duty Cycle, Tx TEC ER No. sequence, Tx-gap TEC47722105 ETSI EN 300 328 V 2.2.2 Clause 4.3.1.3, 4.3.2.4 & 5.3.2

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing		Standard/ Specification	
	Mobile User Equipment	Interface: Wi-Fi	Geo Location Capability ETSI EN 300 328 V 2.2.2 Clause 4.3.1.13, 4.3.2.12	TEC ER No. TEC47722105	
			Accumulated Transmit Time, Frequency occupation and Hopping sequence ETSI EN 300 328 V 2.2.2 Clause 4.3.1.4 & 5.3.4	TEC ER No. TEC47722105	
			Hoping Frequency Separation ETSI EN 300 328 V 2.2.2 Clause 4.3.1.5 & 5.3.5	TEC ER No. TEC47722105	

AD (CA), TEC

Director (CA), TEC



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Sl. No.	Telecom Equipment/Product	Test Parame	eter or Type of Testing	Standard/ Specification TEC ER No. TEC47722105
	Mobile User Equipment	Interface: Wi-Fi	Medium Utilization ETSI EN 300 328 V 2.2.2 Clause 4.3.1.6, 4.3.2.5 & 5.3.2	
			Adaptivity ETSI EN 300 328 V 2.2.2 Clause 4.3.1.7 or 4.3.2.6 & 5.3.7	TEC ER No. TEC47722105
			Occupied Channel bandwidth ETSI EN 300 328 V 2.2.2 Clause 4.3.1.8, 4.3.2.7 & 5.3.8	TEC ER No. TEC47722105

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	Mobile User Equipment	Interface: Wi-Fi	Transmitter Unwanted emissions in OOB Domain ETSI EN 300 328 V 2.2.2 Clause 4.3.1.9, 4.3.2.8 & 5.3.9	TEC ER No. TEC47722105
			Transmitter unwanted emissions in the Spurious domain ETSI EN 300 328 V 2.2.2 Clause 4.3.1.10, 4.3.2.9 & 5.3.10	TEC ER No. TEC47722105
			Receiver Spurious Emission ETSI EN 300 328 V 2.2.2 Clause 4.3.1.11, 4.3.2.10 & 5.3.11	TEC ER No. TEC47722105

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Sl. No.	Telecom Equipment/Product	Test Parame	eter or Type of Testing	Standard/ Specification	
	Mobile User Equipment	Interface: Wi-Fi	Receiver Blocking ETSI EN 300 328 V 2.2.2 Clause 4.3.1.12, 4.3.2.11 & 5.3.7	TEC ER No. TEC47722105	
			Carrier Frequencies ETSI EN 301 893 V 2.1.1 Clause 4.2.1	TEC ER No. TEC47722105	
			Nominal and Occupied Channel Bandwidth ETSI EN 301 893 V 2.1.1 Clause 4.2.2	TEC ER No. TEC47722105	
			RF Output Power, Transmit Power Control (TPC), Power Density ETSI EN 301 893 V 2.1.1 Clause 4.2.3	TEC ER No. TEC47722105	

AD (CA), TEC

Director (CA), TEC



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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Validity: 05/04/2022 to 04/04/2025

Telecom Standard/ Specification SI. **Test Parameter or Type of Testing** No. **Equipment/Product Mobile User** Transmitter Unwanted TEC ER No. Interface: Wi-Fi Emissions outside the 5 Equipment TEC47722105 GHz RLAN bands ETSI EN 301 893 V 2.1.1 Clause 4.2.4.1 Transmitter Unwanted TEC ER No. Emissions within the 5 TEC47722105 GHz RLAN bands ETSI EN 301 893 V 2.1.1 Clause 4.2.4.2 **Receiver Spurious** TEC ER No. Emission TEC47722105 ETSI EN 301 893 V 2.1.1 Clause 4.2.5

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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SI. Telecom **Test Parameter or Type of Testing** Standard/ Specification No. **Equipment/Product** Mobile User Interface: Geo Location TEC ER No. Wi-Fi Capability Equipment TEC47722105 ETSI EN 301 893 V 2.1.1 Clause 4.2.10 Dynamic Frequency TEC ER No. Selection (DFS) TEC47722105 ETSI EN 301 893 V 2.1.1 Clause 4.2.6.2 Adaptivity TEC ER No. ETSI EN 301 893 TEC47722105 V211 Clause 4.2.7 **Receiver Blocking** TEC ER No. ETSI EN 301 893 TEC47722105 V 2.1.1 Clause 4.2.8

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Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Sl. No.	Telecom Equipment/Product	Test Paramet	ter or Type of Testing	Standard/ Specification
4.	Smart Watch	Interface: GSM/GPRS / EDGE	Transmitter Maximum Output Power for GSM 3GPP TS 51 010-1 Clause- 13.3 or EN 301 511 (GSM) Clause- 4.2.5	TEC ER No. TEC 28982106
			Transmitter Output Power for GPRS/EDGE 3GPP TS 51 010-1 Clause- 13.16.2 or EN 301 511 (GSM) Clause- 4.2.10	TEC ER No. 'TEC 28982106
			Output RF Spectrum for GSM 3GPP TS 51 010-1 Clause- 13.4 or EN 301 511 (GSM) Clause- 4.2.6	TEC ER No. TEC 28982106

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Director (CA), TEC



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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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Sl. No.	Telecom Equipment/Product	a cost i utumeter of Type of Testing		Standard/ Specification
	Smart Watch	Interface: GSM/GPRS / EDGE	Output RF Spectrum for GPRS/EDGE 3GPP TS 51 010-1 Clause- 13.16.3 or EN 301 511 (GSM) Clause- 4.2.11	TEC ER No. TEC 28982106
			Spurious Emissions - MS allocated a channel 3GPP TS 51 010-1 Clause- 12.1.1 or EN 301 511 (GSM) Clause- 4.2.12	TEC ER No. TEC 28982106
			Spurious Emissions - MS in idle mode 3GPP TS 51 010-1 Clause- 12.1.2 or EN 301 511 (GSM) Clause- 4.2.13	TEC ER No. TEC 28982106

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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Validity: 05/04/2022 to 04/04/2025

Standard/ Specification **Test Parameter or Type of Testing** SI. Telecom **Equipment/Product** No. TEC ER No. Frequency Error and **Smart Watch** Interface: TEC 28982106 Phase Error for GSM **GSM/GPRS** / EDGE 3GPP TS 51 010-1 Clause-13.1 or EN 301 511 (GSM) Clause-4.2.1 TEC ER No. Frequency Error and Phase Error for TEC 28982106 **GPRS/EDGE** 3GPP TS 51 010-1 Clause- 13.16.1 or EN 301 511(GSM) Clause- 4.2.4 TEC ER No. **Reference Sensitivity** TEC 28982106 Level (Speech Channels) 3GPP TS 51 010-1 Clause- 14.2.1 or EN 301 511 (GSM) Clause- 4.2.42

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Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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Last Amended on:

Sl. No.	TelecomTest Parameter or Type of TestingStandaEquipment/Product		Standard/ Specification	
	Smart Watch	Interface: GSM/GPRS / EDGE	Adjacent Channel Rejection (Speech channels) 3GPP TS 51 010-1 Clause- 14.5.1 or EN 301 511 (GSM) Clause- 4.2.38	TEC ER No. TEC 28982106
			Receiver Blocking 3GPP TS 51 010-1 Clause- 14.7.1 or EN 301 511 (GSM) Clause- 4.2.20	TEC ER No. TEC 28982106
		Interface : WCDMA or HSPA	Transmitter Maximum Output Power 3GPP TS 34.121-1 Clause- 5.2 OR EN 301 908-2 (UMTS) Clause- 4.2.2.1	TEC ER No. TEC 28982106

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Director (CA), TEC



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Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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Certificate Number: TEC/MRA/CAB/IND-D/63-II

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No.	Equipment/Product	Test Parame	ter or Type of Testing	Testing Standard/ Specification	
	Smart Watch	Interface : WCDMA or HSPA	Spectrum Emissions Mask 3GPP TS 34.121-1 Clause- 5.9 OR EN 301 908-2 (UMTS) Clause- 4.2.3.1	TEC ER No. TEC 28982106	
			Transmitter Spurious Emissions 3GPP TS 34.121-1 Clause- 5.11 OR EN 301 908-2 (UMTS) Clause- 4.2.4.1	TEC ER No. TEC 28982106	
			Receiver Spurious Emission 3GPP TS 34.121-1 Clause- 6.8 OR EN 301 908-2 (UMTS) Clause- 4.2.10	TEC ER No. TEC 28982106	

TEC **Director** (CA



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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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Standard/ Specification **Test Parameter or Type of Testing** SI. Telecom No. **Equipment/Product** TEC ER No. **Smart Watch** Interface : Transmitter Minimum WCDMA **Output Power** TEC 28982106 3GPP TS 34.121-1 or HSPA Clause- 5.4.3 OR EN 301 908-2 (UMTS) Clause- 4.2.5.1 **Receiver Reference** TEC ER No. Sensitivity level TEC 28982106 3GPP TS 34.121-1 Clause- 6.2 OR EN 301 908-2 (UMTS) Clause- 4.2.13 **Receiver** Adjacent TEC ER No. Channel TEC 28982106 Selectivity(ACS) 3GPP TS 34.121-1 Clause- 6.4 OR EN 301 908-2 (UMTS) Clause-4.2.6

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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SI. No.	Telecom Equipment/Product	Test Parameter or Type of Testing		Standard/ Specification
	Smart Watch	Interface : WCDMA or HSPA	Receiver In-band blocking 3GPP TS 34.121- 1Clause- 6.5.2.1 OR EN 301 908-2 (UMTS) Clause- 4.2.7	TEC ER No. TEC 28982106
		Interface: LTE or LTE-A	Maximum Output Power 3GPP TS 36.521-1 Clause- 6.2.2 OR EN 301 908-13 (LTE) Clause- 4.2.2.1	TEC ER No. TEC 28982106
			Spectrum Emissions Mask 3GPP TS 36.521- 1Clause 6.6.2.1 OR EN 301 908-13 (LTE) Clause- 4.2.3.1	TEC ER No. TEC 28982106

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Director (CA), TEC



SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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SI. Telecom Test Parameter or Type of Testing Standard/ Specification No. **Equipment/Product**

Smart Watch	Interface: LTE or LTE-A	Spurious Emissions 3GPP TS 36.521-1 Clauses- 6.6.3.1,6.6.3.2, 6.6.3.3 OR EN 301 908-13 (LTE) Clause- 4.2.4.1	TEC ER No. TEC 28982106
		Receiver Spurious Emission 3GPP TS 36.521-1 Clause- 7.9 OR EN 301 908-13 (LTE) Clause- 4.2.10.1	TEC ER No. TEC 28982106
		Receiver Reference Sensitivity level 3GPP TS 36.521-1 Clause- 7.3 OR EN 301 908-13 (LTE) Clause- 4.2.12	TEC ER No. TEC 28982106

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SCOPE OF DESIGNATION

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Standard/ Specification Test Parameter or Type of Testing Telecom SI. Equipment/Product No. TEC ER No. Receiver Adjacent Interface: Smart Watch LTE or Channel TEC 28982106 Selectivity(ACS) LTE-A 3GPP TS 36.521-1 Clause- 7.5 OR EN 301 908-13 (LTE) Clause- 4.2.6.1 TEC ER No. Receiver In-band blocking TEC 28982106 3GPP TS 36.521-1 Clause-7.6.1 OR EN 301 908-13 (LTE) Clause- 4.2.7.1 TEC ER No. Interface: Frequency of Operation for BLE Interface BLE TEC 28982106 WPC GSR 45(E), ETSI EN 300 328 V2.2.2 (2019-07)

AD (CA), TEC

Khim Director (CA), TEC

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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Last Amended on: ____

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

Smart Watch	Interface:	Maximum Transmit	TEC ER No.
	BLE	Power for BLE Interface	TEC 28982106
	Sec. An et al.	ETSI EN 300 328	
		V2.2.2 (2019-07)	
		Clause 5.4.2.2	
		EIRP for BLE Interface	TEC ER No.
		ETSI EN 300 328 V2.2.2 (2019-07)	TEC 28982106
		Clause 5.4.2.2	
		Power Spectral Density	TEC ER No.
		ETSI EN 300 328 V2.2.2 (2019-07)	TEC 28982106
		Clause 4.3.2.3 & 5.4.3	
		Duty cycle, Tx-	TEC ER No.
	1	Sequence, Tx-gap	TEC 28982106
		ETSI EN 300 328	
		V2.2.2 (2019-07)	
		Clause 4.3.1.4, 4.3.2.4 & 5.4.2	

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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Last Amended on:

1		Test Parameter or Type of Testing	Standard/ Specification
No.	Equipment/Product		

Smart Watch	Interface: BLE	Accumulated Transmit time, Frequency Occupation & Hopping Sequence ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.4 & 5.4.4	TEC ER No. TEC 28982106
		Hopping Frequency Separation ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.6 or 4.3.2.5 & 5.4.5	TEC ER No. TEC 28982106
		Medium Utilization (MU) factor ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.6, 4.3.2.5 & 5.4.2	TEC ER No. TEC 28982106

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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Telecom Equipment/Product	Test Parameter or Type of Testing	Standard/ Specification

Smart Watch	Interface: BLE	Adaptivity ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.7 or 4.3.2.6 & 5.4.6	TEC ER No. TEC 28982106
		Occupied Channel Bandwidth ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.8 or 4.3.2.7 & 5.4.7	TEC ER No. TEC 28982106
		Transmitter Unwanted Emission in the OOB domain ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.9 or 4.3.2.8 & 5.4.8	TEC ER No. TEC 28982106

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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SI. No.	Telecom Equipment/Product	Test Parame	eter or Type of Testing	Standard/ Specification
Smart Watch	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 or 4.3.2.9 & 5.4.9	TEC ER No. TEC 28982106
			Receiver Spurious Emissions ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.11 or 4.3.2.10 & 5.4.10	TEC ER No. TEC 28982106
			Receiver Blocking ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.12 or 4.3.2.11 & 5.4.11.2	TEC ER No. TEC 28982106

TEC Director

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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SI. No.	Telecom Equipment/Product	Test Parameter or Type of Testing		Standard/ Specification
	Smart Watch	Interface: BLE	Geo-location Capability ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.13, 4:3.2.12(Only for equipment with Geo- location Capability)	TEC ER No. TEC 28982106
		Interface: NFC	Frequency of Operation for NFC Interface ETSI EN 300 330 V2.1.1 (2017-02) Clause 6.2.2	TEC ER No. TEC 28982106
			Permitted Range of Operating Frequencies ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.1	TEC ER No. TEC 28982106

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Director (CA), TEC



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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Test Devemptor or Type of Testing

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Standard/Specification

SI. No.	Telecom Equipment/Product	Test Param	eter or Type of Testing	Standard/ Specification
	Smart Watch	Interface: NFC	Modulation Bandwidth ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.3	TEC ER No. TEC 28982106
			Transmitter H-Field Requirements ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.4	TEC ER No. TEC 28982106
			Transmitter RF Carrier Current ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.5	TEC ER No. TEC 28982106
			Transmitter Radiated E- Field ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.6	TEC ER No. TEC 28982106

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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SI. Telecom **Test Parameter or Type of Testing** Standard/ Specification No. **Equipment/Product** Interface: TEC ER No. Transmitter Conducted NFC Spurious Emissions TEC 28982106 ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.7 Transmitter Radiated TEC ER No. Spurious domain TEC 28982106 **Emission Limits** ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.8 Transmitter Radiated TEC ER No. Spurious domain TEC 28982106 Emission Limits>30MHz ETSI EN 300 330 V2.1.1 (2017-02)Clause 4.3.9

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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Validity: 05/04/2022 to 04/04/2025

Standard/ Specification Test Parameter or Type of Testing Telecom SI. Equipment/Product No. TEC ER No. Transmitter Frequency Interface: **Smart Watch** TEC 28982106 Stability NFC ETSI EN 300 330 V2.1.1 (2017-02)Clause 4.3.4 TEC ER No. **Receiver Spurious** TEC 28982106 Emissions ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.4.2 TEC ER No. Adjacent Channel Selectivity TEC 28982106 ETSI EN 300 330 V2.1.1 (2017-02)Clause 4.4.3 TEC ER No. Receiver Blocking or desensitization TEC 28982106 ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.4.4

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SCOPE OF DESIGNATION (ANNEXURE)

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Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Test Parameter or Type of Testing

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Standard/ Specification

No.	Equipment/Product			
	Smart Watch	Interface: RFID	Frequency of Operation for RFID Int. ETSI EN 300 330 V2.1.1 (2017-02) Clause 6.2.2	TEC ER No. TEC 28982106
			Permitted Range of Operating Frequencies ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.1	TEC ER No. TEC 28982106
			Modulation Bandwidth ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.3	TEC ER No. TEC 28982106
			Transmitter H-Field Requirements ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.4	TEC ER No. TEC 28982106

AD (CA), TEC

Director (CA TEC



SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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Standard/ Specification **Test Parameter or Type of Testing** SI. Telecom Equipment/Product No. Transmitter RF Carrier TEC ER No. Interface: **Smart Watch** TEC 28982106 RFID Current ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.5 Transmitter Radiated E-TEC ER No. field TEC 28982106 ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.6 Transmitter Conducted TEC ER No. **Spurious Emissions** TEC 28982106 ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.7 Transmitter Radiated TEC ER No. Spurious domain TEC 28982106 **Emission Limits** ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.8

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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Standard/ Specification Test Parameter or Type of Testing Telecom SI. No. Equipment/Product TEC ER No. Transmitter Radiated Smart Watch Interface: Spurious domain RFID TEC 28982106 Emission Limits > 30 MHz ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.9 Transmitter Frequency TEC ER No. Stability TEC 28982106 ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.10 **Receiver Spurious** TEC ER No. Emissions TEC 28982106 ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.4.2

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Last Amended on: ____

Validity: 05/04/2022 to 04/04/2025

SI. Telecom **Test Parameter or Type of Testing** Standard/ Specification No. **Equipment/Product** TEC ER No. Smart Watch **Interface:** Adjacent Channel **RFID** Selectivity TEC 28982106 ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.4.3 Receiver Blocking or TEC ER No. desensitization TEC 28982106 ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.4.4 Unwanted Emissions in TEC ER No. the Spurious domain TEC 28982106 ETSI EN 300 220-1 V 3.1.1 Clause 5.9.3 TEC ER No. TX Maximum e.r.p Spectral density TEC 28982106 ETSI EN 300 220-1 V 3.1.1 Clause 5.3.2

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Validity: 05/04/2022 to 04/04/2025

SI. Telecom **Test Parameter or Type of Testing** Standard/ Specification No. Equipment/Product Smart Watch Interface: TX Duty Cycle TEC ER No. RFID ETSI EN 300 220-1 TEC 28982106 V 3.1.1 Clause 5.5.2 Occupied Bandwidth TEC ER No. ETSI EN 300 220-1 TEC 28982106 V 3.1.1 Clause 5.6.3 TX Out of Band TEC ER No. Emissions TEC 28982106 ETSI EN 300 220-1 V 3.1.1 Clause 5.8.3 Transient Power TEC ER No. ETSI EN 300 220-1 TEC 28982106 V 3.1.1 Clause 5.10.3

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SCOPE OF DESIGNATION (ANNEXURE)

SI. Telecom

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Test Parameter or Type of Testing

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Last Amended on: ____

Standard/ Specification

No.	Equipment/Product	I est I al all	cter of Type of Testing		
	Smart Watch	Interface: RFID	Adjacent Channel Power ETSI EN 300 220-1 V 3.1.1 Clause 5.11.3	TEC ER No. TEC 28982106	
			TX behaviour under low Voltage Conditions ETSI EN 300 220-1 V 3.1.1 Clause 5.12.3	TEC ER No. TEC 28982106	
			Adaptive Power Control ETSI EN 300 220-1 V 3.1.1 Clause 5.13.3	TEC ER No. TEC 28982106	
			RX Sensitivity ETSI EN 300 220-1 V 3.1.1 Clause 5.14.3	TEC ER No. TEC 28982106	

TEC Director (CA),

whichever is earlier.

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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Last Amended on:

Validity: 05/04/2022 to 04/04/2025

SI. No.	Telecom Equipment/Product	Test Parame	eter or Type of Testing	Standard/ Specification TEC ER No. TEC 28982106
	Smart Watch	Interface: RFID	Polite Spectrum access ETSI EN 300 220-1 V 3.1.1 Clause 5.21.3.2	
			Blocking ETSI EN 300 220-1 V 3.1.1 Clause 5.18.6	TEC ER No. TEC 28982106
		Interface: Wi-Fi	RF Output Power (EIRP) ETSI EN 300 328 V 2.2.2 (EIRP for Wi- Fi Interface) Clause No. 4.3.1.2 & 4.3.2.2, 5.3.2	TEC ER No. TEC 28982106
			Power Spectral Density (Conductive only) ETSI EN 300 328 V 2.2.2 Clause 4.3.2 & 5.3.3	TEC ER No. TEC 28982106

AD (CA), TEC

Director (CA), TEC



SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Validity: 05/04/2022 to 04/04/2025

SI. Telecom Test Parameter or Type of Testing Standard/ Specification No. **Equipment/Product** Smart Watch Interface: Duty Cycle, Tx TEC ER No. Wi-Fi sequence, Tx-gap TEC 28982106 ETSI EN 300 328 V 2.2.2 Clause 4.3.1.3, 4.3.2.4 & 5.3.2 Geo Location TEC ER No. Capability TEC 28982106 ETSI EN 300 328 V 2.2.2 Clause 4.3.1.13, 4.3.2.12 Accumulated Transmit TEC ER No. Time, Frequency TEC 28982106 Occupation and Hopping Sequence ETSI EN 300 328 V 2.2.2 Clause 4.3.1.4 & 5.3.4

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Last Amended on:

Validity: 05/04/2022 to 04/04/2025

Standard/ Specification SI. Telecom **Test Parameter or Type of Testing** No. **Equipment/Product Smart Watch** Interface: Hoping Frequency TEC ER No. Separation TEC 28982106 Wi-Fi ETSI EN 300 328 V 2.2.2 Clause 4.3.1.5 & 5.3.5 Medium Utilization TEC ER No. ETSI EN 300 328 TEC 28982106 V 2.2.2 Clause 4.3.1.6, 4.3.2.5 & 5.3.2 Adaptivity TEC ER No. ETSI EN 300 328 TEC 28982106 V 2.2.2 Clause 4.3.1.7 or 4.3.2.6 & 5.3.7 Occupied Channel TEC ER No. Bandwidth TEC 28982106 ETSI EN 300 328 V 2.2.2 Clause 4.3.1.8, 4.3.2.7 & 5.3.8

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Last Amended on: ____

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing		Standard/ Specification
	Smart Watch	Interface: Wi-Fi	Transmitter Unwanted emissions in OOB Domain ETSI EN 300 328 V 2.2.2 Clause 4.3.1.9, 4.3.2.8 & 5.3.9	TEC ER No. TEC 28982106
			Transmitter Unwanted Emissions in the Spurious domain ETSI EN 300 328 V 2.2.2 Clause 4.3.1.10, 4.3.2.9 & 5.3.10	TEC ER No. TEC 28982106
			Receiver Spurious Emission ETSI EN 300 328 V 2.2.2 Clause 4.3.1.11, 4.3.2.10 & 5.3.11	TEC ER No. TEC 28982106

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Validity: 05/04/2022 to 04/04/2025

Standard/ Specification **Test Parameter or Type of Testing** SI. Telecom Equipment/Product No. TEC ER No. **Receiver Blocking Smart Watch** Interface: ETSI EN 300 328 TEC 28982106 Wi-Fi V 2.2.2 Clause 4.3.1.12, 4.3.2.11 & 5.3.7 TEC ER No. **Carrier Frequencies** ETSI EN 301 893 TEC 28982106 V 2.1.1 Clause 4.2.1 Nominal and Occupied TEC ER No. Channel Bandwidth TEC 28982106 ETSI EN 301 893 V 2.1.1 Clause 4.2.2 RF Output Power, TEC ER No. **Transmit Power** TEC 28982106 Control (TPC), Power Density ETSI EN 301 893 V 2.1.1 Clause 4.2.3

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Standard/ Specification **Test Parameter or Type of Testing** Telecom SI. No. Equipment/Product TEC ER No. Transmitter Unwanted **Smart Watch** Interface: Emissions Outside the TEC 28982106 Wi-Fi 5 GHz RLAN bands ETSI EN 301 893 V 2.1.1 Clause 4.2.4.1 Transmitter Unwanted TEC ER No. Emissions within the 5 TEC 28982106 GHz RLAN bands ETSI EN 301 893 V 2.1.1 Clause 4.2.4.2 **Receiver Spurious** TEC ER No. Emission TEC 28982106 ETSI EN 301 893 V 2.1.1 Clause 4.2.5 Geo Location Capability TEC ER No. ETSI EN 301 893 TEC 28982106 V 2.1.1 Clause 4.2.10

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing		Standard/ Specification
	Smart Watch	Interface: Wi-Fi	Dynamic Frequency Selection (DFS) ETSI EN 301 893 V 2.1.1 Clause 4.2.6.2	TEC ER No. TEC 28982106
			Adaptivity ETSI EN 301 893 V 2.1.1 Clause 4.2.7	TEC ER No. TEC 28982106
			Receiver Blocking ETSI EN 301 893 V 2.1.1 Clause 4.2.8	TEC ER No. TEC 28982106
			Designation of Centre Frequencies and Frequency Error ETSI 302 502 V 2.1.1 Clause 4.2.1	TEC ER No. TEC 28982106

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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Validity: 05/04/2022 to 04/04/2025

Standard/ Specification SI. Telecom **Test Parameter or Type of Testing** No. **Equipment/Product** Transmitter RF Output TEC ER No. **Smart Watch** Interface: Power, EIRP and EIRP Wi-Fi TEC 28982106 Spectral Density ETSI 302 502 V 2.1.1 Clause 4.2 Transmitter Unwanted TEC ER No. Emission TEC 28982106 ETSI 302 502 V 2.1.1 Clause 4.3, 5.4.4 Transmitter Power TEC ER No. Control TEC 28982106 ETSI 302 502 V 2.1.1 Clause 4.4 Transmitter Power TEC ER No. Control(TPC) TEC 28982106 ETSI 302 502 V 2.1.1 Clause 4.2.4 TEC ER No. **Receiver Spurious** Emissions TEC 28982106 ETSI 302 502 V 2.1.1 Clause 4.5

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Last Amended on:

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-			

Smart Watch	Interface: Wi-Fi	Dynamic Frequency Selection (DFS) ETSI 302 502 V 2.1.1 Clause 4.6, 4.2.6, 5.4.6	TEC ER No. TEC 28982106
		Frequency Error ETSI 302 502 v 2.1.1 Clause 5.4.2	TEC ER No. TEC 28982106
		Receiver Blocking ETSI 302 502 v 2.1.1 Clause 4.2.7, 5.4.7	TEC ER No. TEC 28982106
		Receiver Spurious Emission ETSI 302 502 v 2.1.1 Clause 4.2.5, 5.4.5	TEC ER No. TEC 28982106
		Transmitter RF Output Power, EIRP and EIRP Spectral Density ETSI 302 502 v 2.1.1 Clause 4.2.2, 5.4.3	TEC ER No. TEC 28982106

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Director (CA). TEC



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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Validity: 05/04/2022 to 04/04/2025

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing		Standard/ Specification
5	IoT Gateway	Interface: GSM/GPRS / EDGE	Transmitter Maximum Output Power for GSM 3GPP TS 51 010-1 Clause- 13.3 or EN 301 511 (GSM) Clause- 4.2.5	TEC ER No. TEC 24492106
			Transmitter Output Power for GPRS/EDGE 3GPP TS 51 010-1 Clause- 13.16.2 or EN 301 511 (GSM) Clause- 4.2.10	TEC ER No. TEC 24492106
			Output RF Spectrum for GSM 3GPP TS 51 010-1 Clause- 13.4 or EN 301 511 (GSM) Clause- 4.2.6	TEC ER No. TEC 24492106

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Validity: 05/04/2022 to 04/04/2025

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing		Standard/ Specification
	IoT Gateway	Interface: GSM/GPRS / EDGE	Output RF Spectrum for GPRS/EDGE 3GPP TS 51 010-1 Clause- 13.16.3 or EN 301 511 (GSM) Clause- 4.2.11	TEC ER No. TEC 24492106
			Spurious Emissions - MS allocated a channel 3GPP TS 51 010-1 Clause- 12.1.1 or EN 301 511 (GSM) Clause- 4.2.12	TEC ER No. TEC 24492106
			Spurious Emissions - MS in idle mode 3GPP TS 51 010-1 Clause- 12.1.2 or EN 301 511 (GSM) Clause- 4.2.13	TEC ER No. TEC 24492106

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<u>SCOPE OF DESIGNATION</u> (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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No.	Equipment/Product	Test rarame	st rarameter or Type of Testing Standard/ Spec	
200	IoT Gateway	Interface: GSM/GPRS / EDGE	Frequency Error and Phase Error for GSM 3GPP TS 51 010-1 Clause- 13.1 or EN 301 511 (GSM) Clause- 4.2.1	TEC ER No. TEC 24492106
			Frequency Error and Phase Error for GPRS/EDGE 3GPP TS 51 010-1 Clause- 13.16.1 or EN 301 511(GSM) Clause- 4.2.4	TEC ER No. TEC 24492106
			Reference Sensitivity Level (Speech Channels) 3GPP TS 51 010-1 Clause- 14.2.1 or EN 301 511 (GSM) Clause- 4.2.42	TEC ER No. TEC 24492106

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Validity: 05/04/2022 to 04/04/2025

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SI. No.	Telecom Equipment/Product	Test Parame	ter or Type of Testing	Standard/ Specification
	IoT Gateway	Interface: GSM/GPRS / EDGE	Adjacent channel rejection (Speech channels) 3GPP TS 51 010-1 Clause- 14.5.1 or EN 301 511 (GSM) Clause- 4.2.38	TEC ER No. TEC 24492106
			Receiver Blocking 3GPP TS 51 010-1 Clause- 14.7.1 or EN 301 511 (GSM) Clause- 4.2.20	TEC ER No. TEC 24492106
		Interface : WCDMA or HSPA	Transmitter Maximum Output Power 3GPP TS 34.121-1 Clause- 5.2 OR EN 301 908-2 (UMTS) Clause- 4.2.2.1	TEC ER No. TEC 24492106

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Standard/ Specification **Test Parameter or Type of Testing** SI. Telecom No. **Equipment/Product**

	IoT Gateway	Interface : WCDMA or HSPA	Spectrum Emissions Mask 3GPP TS 34.121-1 Clause- 5.9 OR EN 301 908-2 (UMTS) Clause- 4.2.3.1	TEC ER No. TEC 24492106
			Transmitter Spurious Emissions 3GPP TS 34.121-1 Clause- 5.11 OR EN 301 908-2 (UMTS) Clause- 4.2.4.1	TEC ER No. TEC 24492106
			Receiver Spurious Emission 3GPP TS 34.121-1 Clause- 6.8 OR EN 301 908-2 (UMTS) Clause- 4.2.10	TEC ER No. TEC 24492106

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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SI. No.	Telecom Equipment/Product	Test Parame	eter or Type of Testing	Standard/ Specification
	IoT Gateway	Interface : WCDMA or HSPA	Transmitter Minimum Output Power 3GPP TS 34.121-1 Clause- 5.4.3 OR EN 301 908-2 (UMTS) Clause- 4.2.5.1	TEC ER No. TEC 24492106
			Receiver Reference Sensitivity level 3GPP TS 34.121-1 Clause- 6.2 OR EN 301 908-2 (UMTS) Clause- 4.2.13	TEC ER No. TEC 24492106
			Receiver Adjacent Channel Selectivity(ACS) 3GPP TS 34.121-1 Clause- 6.4 OR EN 301 908-2 (UMTS) Clause- 4.2.6	TEC ER No. TEC 24492106

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Standard/ Specification **Test Parameter or Type of Testing** SI. Telecom Equipment/Product No. TEC ER No. Receiver In-band Interface : **IoT Gateway** blocking TEC 24492106 WCDMA 3GPP TS 34.121or HSPA 1Clause- 6.5.2.1 OR EN 301 908-2 (UMTS) Clause- 4.2.7 TEC ER No. Maximum Output Interface: Power TEC 24492106 LTE or 3GPP TS 36.521-1 LTE-A Clause- 6.2.2 OR EN 301 908-13 (LTE) Clause- 4.2.2.1 Spectrum Emissions TEC ER No. Mask TEC 24492106 3GPP TS 36.521-1Clause 6.6.2.1 OR EN 301 908-13 (LTE) Clause- 4.2.3.1

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Validity: 05/04/2022 to 04/04/2025

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Standard/ Specification

No.	Equipment/Product	i cot i aram	eter of Type of Testing	Standard, Specification
	IoT Gateway	Interface: LTE or LTE-A	Spurious Emissions 3GPP TS 36.521-1 Clause- 6.6.3.1,6.6.3.2, 6.6.3.3 OR EN 301 908-13 (LTE) Clause- 4.2.4.1	TEC ER No. TEC 24492106
			Receiver Spurious Emission 3GPP TS 36.521-1 Clause- 7.9 OR EN 301 908-13 (LTE) Clause- 4.2.10.1	TEC ER No. TEC 24492106
			Receiver Reference Sensitivity level 3GPP TS 36.521-1 Clause- 7.3 OR EN 301 908-13 (LTE) Clause- 4.2.12	TEC ER No. TEC 24492106

Test Parameter or Type of Testing

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Sl. No.	Telecom Equipment/Product	Test Parame	eter or Type of Testing	Standard/ Specification
	IoT Gateway	Interface: LTE or LTE-A	Receiver Adjacent Channel Selectivity (ACS) 3GPP TS 36.521-1 Clause- 7.5 OR EN 301 908-13 (LTE) Clause- 4.2.6.1	TEC ER No. TEC 24492106
			Receiver In-band blocking 3GPP TS 36.521-1 Clause-7.6.1 OR EN 301 908-13 (LTE) Clause- 4.2.7.1	TEC ER No. TEC 24492106
		Interface: BLE	Frequency of Operation for BLE Interface WPC GSR 45(E), ETSI EN 300 328 V2.2.2 (2019-07)	TEC ER No. TEC 24492106

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Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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Standard/ Crasification

SI. No.	Telecom Equipment/Product	Test Parame	eter or Type of Testing	Standard/Specification
	IoT Gateway	Interface: BLE	Maximum Transmit Power for BLE Interface ETSI EN 300 328 V2.2.2 (2019-07) Clause 5.4.2.2	TEC ER No. TEC 24492106
			EIRP for BLE Interface ETSI EN 300 328 V2.2.2 (2019-07) Clause 5.4.2.2	TEC ER No. TEC 24492106
			Power Spectral Density ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.2.3 & 5.4.3	TEC ER No. TEC 24492106
			Duty cycle, Tx- Sequence, Tx-gap ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.4, 4.3.2.4 & 5.4.2	TEC ER No. TEC 24492106

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Sl. No.	Telecom Equipment/Product	Test Parame	eter or Type of Testing	Standard/ Specification
	IoT Gateway	Interface: BLE	Accumulated Transmit time, Frequency Occupation & Hopping Sequence ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.4 & 5.4.4	TEC ER No. TEC 24492106
			Hopping Frequency Separation ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.6 or 4.3.2.5 & 5.4.5	TEC ER No. TEC 24492106
			Medium Utilization (MU) factor ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.6, 4.3.2.5 & 5.4.2	TEC ER No. TEC 24492106

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Kings Director (CA), TEC



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Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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Last Amended on: ____

SI. No.	Telecom Equipment/Product	Test Parame	eter or Type of Testing	Standard/ Specification
	IoT Gateway	Interface: BLE	Adaptivity ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.7 or 4.3.2.6 & 5.4.6	TEC ER No. TEC 24492106
			Occupied Channel Bandwidth ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.8 or 4.3.2.7 & 5.4.7	TEC ER No. TEC 24492106
			Transmitter unwanted emission in the OOB domain ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.9 or 4.3.2.8 & 5.4.8	TEC ER No. TEC 24492106

AD (CA), TEC

Director (CA), TEC



SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Last Amended on:

Validity: 05/04/2022 to 04/04/2025

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 or 4.3.2.9 & 5.4.9	TEC ER No. TEC 24492106	
			Receiver Spurious emissions ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.11 or 4.3.2.10 & 5.4.10	TEC ER No. TEC 24492106	
			Receiver Blocking ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.12 or 4.3.2.11 & 5.4.11.2	TEC ER No. TEC 24492106	

AD (CA), TEC

SkA mys Director (CA), TEC



SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Harvana

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Last Amended on:

SI. No.	Telecom Equipment/Product	Test Parame	eter or Type of Testing	Standard/ Specification
	IoT Gateway	Interface: BLE	Geo-location capability ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.13, 4.3.2.12 (Only for equipment with geo-location capability)	TEC ER No. TEC 24492106
		Interface: NFC	Frequency of Operation for NFC Interface ETSI EN 300 330 V2.1.1 (2017-02) Clause 6.2.2	TEC ER No. TEC 24492106
			Permitted range of operating frequencies ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.1	TEC ER No. TEC 24492106
			Modulation bandwidth ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.3	TEC ER No. TEC 24492106

Director (CA), TEC whichever is earlier.

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SCOPE OF DESIGNATION (ANNEXURE)

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Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Validity: 05/04/2022 to 04/04/2025

Sl. No.	Telecom Equipment/Product	Test Param	eter or Type of Testing	Standard/ Specification
	IoT Gateway	Interface: NFC	Transmitter H-field requirements ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.4	TEC ER No. TEC 24492106
			Transmitter RF carrier current ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.5	TEC ER No. TEC 24492106
			Transmitter radiated E-field ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.6	TEC ER No. TEC 24492106
			Transmitter conducted spurious emissions ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.7	TEC ER No. TEC 24492106

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Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Validity: 05/04/2022 to 04/04/2025

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing		Standard/ Specification
	IoT Gateway	Interface: NFC	Transmitter radiated spurious domain emission limits ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.8	TEC ER No. TEC 24492106
			Transmitter radiated spurious domain emission limits >30MHz ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.9	TEC ER No. TEC 24492106
			Transmitter Frequency Stability ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.3.4	TEC ER No. TEC 24492106

AD (CA), TEC

Director (CA). TEC



SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Last Amended on: _

Validity: 05/04/2022 to 04/04/2025

SI. No.	Telecom Equipment/Product	Test Parame	eter or Type of Testing	Standard/ Specification	
	IoT Gateway	Interface: NFC	Receiver Spurious Emissions ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.4.2	TEC ER No. TEC 24492106	
			Adjacent Channel Selectivity ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.4.3	TEC ER No. TEC 24492106	
			Receiver blocking or desensitization ETSI EN 300 330 V2.1.1 (2017-02) Clause 4.4.4	TEC ER No. TEC 24492106	

AD (CA), TEC

Director (CA), TEC

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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SI. No.	Telecom Equipment/Product	Test Parameter or Type of Testing		Standard/ Specification
	IoT Gateway	Interface: Wi-Fi	RF Output Power (EIRP) ETSI EN 300 328 V 2.2.2 (EIRP for Wi- Fi Interface) Clause 4.3.1.2 &	TEC ER No. TEC 24492106
			4.3.2.2, 5.3.2 Power Spectral Density (Conductive only) ETSI EN 300 328 V 2.2.2 Clause 4.3.2 & 5.3.3	TEC ER No. TEC 24492106
			Duty Cycle, Tx sequence, Tx-gap ETSI EN 300 328 V 2.2.2 Clause 4.3.1.3,4.3.2.4 & 5.3.2	TEC ER No. TEC 24492106

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SCOPE OF DESIGNATION (ANNEXURE)

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Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Validity: 05/04/2022 to 04/04/2025

Last Amended on:

SI. No.	Telecom Equipment/Product	Test Parameter or Type of Testing		Standard/ Specification
c	IoT Gateway	Interface: Wi-Fi	Geo Location Capability ETSI EN 300 328 V 2.2.2 Clause 4.3.1.13,4.3.2.12	TEC ER No. TEC 24492106
			Accumulated Transmit Time, Frequency Occupation and Hopping sequence ETSI EN 300 328 V 2.2.2 Clause 4.3.1.4&5.3.4	TEC ER No. TEC 24492106
			Hoping Frequency Separation ETSI EN 300 328 V 2.2.2 Clause 4.3.1.5 & 5.3.5	TEC ER No. TEC 24492106

AD (CA), TEC

Director (CA), TEC



SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Last Amended on: ____

Sl. No.	Telecom Equipment/Product	Test Param	eter or Type of Testing	Standard/ Specification
	IoT Gateway	Interface: Wi-Fi	Medium Utilization ETSI EN 300 328 V 2.2.2 Clause 4.3.1.6, 4.3.2.5 & 5.3.2	TEC ER No. TEC 24492106
			Adaptivity ETSI EN 300 328 V 2.2.2 Clause 4.3.1.7 or 4.3.2.6 & 5.3.7	TEC ER No. TEC 24492106
			Occupied Channel bandwidth ETSI EN 300 328 V 2.2.2 Clause 4.3.1.8,4.3.2.7 & 5.3.8	TEC ER No. TEC 24492106

Director (CA), TEC



SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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SI. No.	Telecom Equipment/Product	Test Param	eter or Type of Testing	Standard/ Specification	
	IoT Gateway	Interface: Wi-Fi	Transmitter Unwanted emissions in OOB Domain ETSI EN 300 328 V 2.2.2 Clause 4.3.1.9,4.3.2.8 & 5.3.9	TEC ER No. TEC 24492106	
			Transmitter unwanted emissions in the spurious domain ETSI EN 300 328 V 2.2.2 Clause 4.3.1.10,4.3.2.9 & 5.3.10	TEC ER No. TEC 24492106	
			Receiver Spurious Emission ETSI EN 300 328 V 2.2.2 Clause 4.3.1.11,4.3.2.10 & 5.3.11	TEC ER No. TEC 24492106	

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Validity: 05/04/2022 to 04/04/2025

Telecom SI. **Test Parameter or Type of Testing** Standard/ Specification No. Equipment/Product **IoT Gateway** Interface: **Receiver Blocking** TEC ER No. ETSI EN 300 328 Wi-Fi TEC 24492106 V2.2.2 Clause 4.3.1.12,4.3.2.11 & 5.3.7 **Carrier Frequencies** TEC ER No. ETSI EN 301 893 TEC 24492106 V 2.1.1 Clause 4.2.1 Nominal and Occupied TEC ER No. Channel Bandwidth TEC 24492106 ETSI EN 301 893 V 2.1.1 Clause 4.2.2 RF output power, TEC ER No. Transmit Power TEC 24492106

Control (TPC), Power

ETSI EN 301 893

Density

V 2.1.1 Clause 4.2.3

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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Validity: 05/04/2022 to 04/04/2025

Last Amended on:

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing		Standard/ Specification
	IoT Gateway	Interface: Wi-Fi	Transmitter unwanted emissions outside the 5 GHz RLAN bands ETSI EN 301 893 V 2.1.1 Clause 4.2.4.1	TEC ER No. TEC 24492106
			Transmitter unwanted emissions within the 5 GHz RLAN bands ETSI EN 301 893 V 2.1.1 Clause 4.2.4.2	TEC ER No. TEC 24492106
			Receiver Spurious Emission ETSI EN 301 893 V 2.1.1 Clause 4.2.5	TEC ER No. TEC 24492106
			Geo Location Capability ETSI EN 301 893 v 2.1.1 Clause 4.2.10	TEC ER No. TEC 24492106

AD (CA), TEC

Director (CA), TEC



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Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Last Amended on:

Validity: 05/04/2022 to 04/04/2025

Telecom SI. **Test Parameter or Type of Testing** Standard/ Specification No. Equipment/Product **IoT Gateway** Interface: Dynamic Frequency TEC ER No. Selection(DFS) Wi-Fi TEC 24492106 ETSI EN 301 893 V 2.1.1 Clause 4.2.6.2 Adaptivity TEC ER No. ETSI EN 301 893 TEC 24492106 V 2.1.1 Clause 4.2.7 **Receiver Blocking** TEC ER No. ETSI EN 301 893 TEC 24492106 V 2.1.1 Clause 4.2.8 Designation of Centre TEC ER No. Frequencies and TEC 24492106 Frequency error ETSI 302 502 V 2.1.1 Clause 4.2.1 Transmitter RF output TEC ER No. Power, EIRP and EIRP TEC 24492106 Spectral Density

Shim Director (CA), TEC AD'(CA), TEC

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ETSI 302 502 V 2.1.1

Clause 4.2

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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Validity: 05/04/2022 to 04/04/2025

Last Amended on: ____

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

IoT Gateway	Interface: Wi-Fi	Transmitter unwanted emission ETSI 302 502 V 2.1.1 Clause 4.3, 5.4.4	TEC ER No. TEC 24492106
		Transmitter Power Control ETSI 302 502 V 2.1.1 Clause 4.4	TEC ER No. TEC 24492106
		Transmitter Power Control(TPC) ETSI 302 502 V 2.1.1 Clause 4.2.4	TEC ER No. TEC 24492106
		Receiver Spurious Emissions ETSI 302 502 V 2.1.1 Clause 4.5	TEC ER No. TEC 24492106
		Dynamic Frequency Selection (DFS) ETSI 302 502 V 2.1.1 Clause 4.6, 4.2.6, 5.4.6	TEC ER No. TEC 24492106

AD (CA), TEC

Director (CA), TEC



SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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Validity: 05/04/2022 to 04/04/2025

Last Amended on:

Sl. No.	Telecom Equipment/Product	Test Parame	eter or Type of Testing	Standard/ Specification
	IoT Gateway	Interface: Wi-Fi	Frequency Error ETSI 302 502 V 2.1.1 Clause 5.4.2	TEC ER No. TEC 24492106
			Receiver Blocking ETSI 302 502 V 2.1.1 Clause 4.2.7, 5.4.7	TEC ER No. TEC 24492106
			Receiver Spurious Emission ETSI 302 502 V 2.1.1 Clause 4.2.5, 5.4.5	TEC ER No. TEC 24492106
			Transmitter RF Output Power, EIRP and EIRP Spectral Density ETSI 302 502 V 2.1.1 Clause 4.2.2, 5.4.3	TEC ER No. TEC 24492106
		Interface: Zig Bee	Frequency of Operation for Zig Bee Interface WPC GSR 45(E), ETSI EN 300 328 V2.2.2 (2019-07)	TEC ER No. TEC 24492106

Director (C TEC whichever is earlier.

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SCOPE OF DESIGNATION (ANNEXURE)

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Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Validity: 05/04/2022 to 04/04/2025

Telecom SI. **Test Parameter or Type of Testing** Standard/ Specification No. Equipment/Product **IoT Gateway** Interface: Maximum Transmit TEC ER No. Power for Zig Bee TEC 24492106 Zig Bee Interface ETSI EN 300 328 V2.2.2 (2019-07) Clause 5.4.2.2 EIRP for Zig Bee TEC ER No. Interface TEC 24492106 ETSI EN 300 328 V2.2.2 (2019-07) Clause 5.4.2.2 Power Spectral Density TEC ER No. ETSI EN 300 328 TEC 24492106 V2.2.2 (2019-07) Clause 4.3.2.3 & 5.4.3 Duty cycle, Tx-TEC ER No. Sequence, Tx-gap TEC 24492106 ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.4, 4.3.2.4 & 5.4.2

AD (CA), TEC

Johnys Director (CA), TEC



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Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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Validity: 05/04/2022 to 04/04/2025

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing		Standard/ Specification
	IoT Gateway	Interface: Zig Bee	Accumulated Transmit time, Frequency Occupation & Hopping Sequence ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.4 & 5.4.4	TEC ER No. TEC 24492106
			Hopping Frequency Separation ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.6 or 4.3.2.5 & 5.4.5	TEC ER No. TEC 24492106
			Medium Utilization (MU) factor ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.6, 4.3.2.5 & 5.4.2	TEC ER No. TEC 24492106

AD (CA), TEC

Director (CA), TEC



SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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

IoT Gateway	Interface: Zig Bee	Adaptivity ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.7 or 4.3.2.6 & 5.4.6	TEC ER No. TEC 24492106
		Occupied Channel Bandwidth ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.8 or 4.3.2.7 & 5.4.7	TEC ER No. TEC 24492106
		Transmitter unwanted emission in the OOB domain ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.9 or 4.3.2.8 & 5.4.8	TEC ER No. TEC 24492106

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Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Telecom SI. **Test Parameter or Type of Testing** Standard/ Specification No. Equipment/Product **IoT Gateway** Interface: Transmitter unwanted TEC ER No. emissions in the TEC 24492106 Zig Bee spurious domain ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.10 or 4.3.2.9 & 5.4.9 **Receiver Spurious** TEC ER No. Emissions TEC 24492106 ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.11 or 4.3.2.10 & 5.4.10 **Receiver Blocking** TEC ER No. ETSI EN 300 328 TEC 24492106 V2.2.2 (2019-07) Clause 4.3.1.12 or 4.3.2.11 & 5.4.11.2

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Director (CA), TEC



SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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SI. No.	Telecom Equipment/Product	Test Parameter or Type of Testing		Standard/ Specification	
	IoT Gateway	Interface: Zig Bee	Geo-location capability ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.13, 4.3.2.12(Only for equipment with geo- location capability)	TEC ER No. TEC 24492106	
		Interface: 6 LoWPAN	Frequency of Operation for 6 LoWPAN Interface WPC GSR 45(E), ETSI EN 300 328 V2.2.2 (2019-07)	TEC ER No. TEC 24492106	
			Maximum Transmit Power for 6 LoWPAN Interface ETSI EN 300 328 V2.2.2 (2019-07) Clause 5.4.2.2	TEC ER No. TEC 24492106	

AD (CA), TEC

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SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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Sl. No.	Telecom Equipment/Product	Test Parame	ter or Type of Testing	Standard/ Specification	
	IoT Gateway	Interface: 6 LoWPAN	EIRP for 6 LoWPAN Interface ETSI EN 300 328 V2.2.2 (2019-07) Clause 5.4.2.2	TEC ER No. TEC 24492106	
			Power Spectral Density ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.2.3 & 5.4.3	TEC ER No. TEC 24492106	
			Duty cycle, Tx- Sequence, Tx-gap ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.4, 4.3.2.4 & 5.4.2	TEC ER No. TEC 24492106	
			Accumulated Transmit time, Frequency Occupation & Hopping Sequence ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.4 & 5.4.4	TEC ER No. TEC 24492106	

TEC **Director** (CA

AD (CA), TEC



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Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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AD (CA), TEC

Validity: 05/04/2022 to 04/04/2025

Standard/ Specification **Test Parameter or Type of Testing** SI. Telecom **Equipment/Product** No. TEC ER No. Hopping Frequency IoT Gateway Interface: Separation TEC 24492106 **6 LoWPAN** ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.6 or 4.3.2.5 & 5.4.5 Medium Utilization TEC ER No. (MU) factor TEC 24492106 ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.6, 4.3.2.5 & 5.4.2 Adaptivity TEC ER No. ETSI EN 300 328 TEC 24492106 V2.2.2 (2019-07) Clause 4.3.1.7 or 4.3.2.6 & 5.4.6 Occupied Channel TEC ER No. Bandwidth TEC 24492106 ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.8 or 4.3.2.7 & 5.4.7

Stomp **Director (CÁ), TEC**



SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

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

IoT Gateway	Interface:	Transmitter unwanted	TEC ER No.
	6 LoWPAN	emission in the OOB domain ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.9 or 4.3.2.8 & 5.4.8	TEC 24492106
		4.3.2.8 & 5.4.8Transmitter unwantedemissions in thespurious domainETSI EN 300 328V2.2.2 (2019-07)Clause 4.3.1.10 or4.3.2.9 & 5.4.9	TEC ER No. TEC 24492106
		Receiver Spurious Emissions ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.11 or 4.3.2.10 & 5.4.10	TEC ER No. TEC 24492106

AD (CA), TEC

Director (C TEC



SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Validity: 05/04/2022 to 04/04/2025

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing		Standard/ Specification	
	IoT Gateway	Interface: 6 LoWPAN	Receiver Blocking ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.12 or 4.3.2.11 & 5.4.11.2 Geo-location capability	TEC ER No. TEC 24492106 TEC ER No.	
		-	ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.13, 4.3.2.12 (Only for equipment with geo-location capability	TEC 24492106	
		Interface: LPWAN- LoRa	Frequency of Operation for LoRa Interface WPC GSR 564(E), ETSI EN 300 220-1 V 3.1.1	TEC ER No. TEC 24492106	
			Maximum Transmit Power for LoRa Interface ETSI EN 300 220-1 V 3.1.1 Clause 5.2.2	TEC ER No. TEC 24492106	

AD (CA), TEC

Director (CA), TEC



SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Validity: 05/04/2022 to 04/04/2025

SI. Telecom Test Parameter or Type of Testing Standard/ Specification No. Equipment/Product **IoT Gateway** Interface: **EIRP** for LoRa TEC ER No. Interface LPWAN-TEC 24492106 ETSI EN 300 220-1 LoRa V 3.1.1 Clause 5.2.2 Unwanted emissions in TEC ER No. the Spurious domain TEC 24492106 ETSI EN 300 220-1 V 3.1.1 Clause 5.9.3 TX Maximum e.r.p TEC ER No. Spectral density TEC 24492106 ETSI EN 300 220-1 V 3.1.1 Clause 5.3.2 TX Duty Cycle TEC ER No. ETSI EN 300 220-1 TEC 24492106 V 3.1.1 Clause 5.5.2

Director (CA), TEC

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



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

SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Validity: 05/04/2022 to 04/04/2025

Standard/ Specification SI. Telecom **Test Parameter or Type of Testing** No. Equipment/Product TEC ER No. Occupied bandwidth **IoT Gateway** Interface: ETSI EN 300 220-1 TEC 24492106 LPWAN-V 3.1.1 LoRa Clause 5.6.3 TX out of Band TEC ER No. Emissions TEC 24492106 ETSI EN 300 220-1 V 3.1.1 Clause 5.8.3 TEC ER No. Transient power ETSI EN 300 220-1 TEC 24492106 V 3.1.1 Clause 5.10.3 TEC ER No. Adjacent Channel Power TEC 24492106 ETSI EN 300 220-1 V 3.1.1 Clause 5.11.3

AD (CA), TEC

Skinge Director (CA), TEC



SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Harvana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Validity: 05/04/2022 to 04/04/2025

SI. Telecom **Test Parameter or Type of Testing** Standard/ Specification Equipment/Product No. **IoT Gateway** Interface: TX behaviour under TEC ER No. LPWANlow voltage conditions TEC 24492106 ETSI EN 300 220-1 LoRa V 3.1.1 Clause 5.12.3 Adaptive Power TEC ER No. Control TEC 24492106 ETSI EN 300 220-1 V 3.1.1 Clause 5.13.3 **RX** Sensitivity TEC ER No. ETSI EN 300 220-1 TEC 24492106 V 3.1.1 Clause 5.14.3 Polite Spectrum access TEC ER No. ETSI EN 300 220-1 TEC 24492106 V 3.1.1 Clause 5.21.3.2 Blocking TEC ER No. ETSI EN 300 220-1 TEC 24492106 V 3.1.1 Clause 5.18.6

18km Director (CA), TEC

AD (CA), TEC



SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Validity: 05/04/2022 to 04/04/2025

SI. No.	Telecom Equipment/Product	Test Param	eter or Type of Testing	Standard/ Specification	
	IoT Gateway	Interface: LPWAN- SigFox	Frequency of Operation for SigFox Interface WPC GSR 564(E), ETSI EN 300 220-1 V 3.1.1	TEC ER No. TEC 24492106	
			Maximum Transmit Power for SigFox Interface ETSI EN 300 220-1 V 3.1.1 Clause 5.2.2	TEC ER No. TEC 24492106	
			EIRP for SigFox Interface ETSI EN 300 220-1 V 3.1.1 Clause 5.2.2	TEC ER No. TEC 24492106	
			Unwanted Emissions in the Spurious domain ETSI EN 300 220-1 V 3.1.1 Clause 5.9.3	TEC ER No. TEC 24492106	

AD (CA), TEC

Director (CA), TEC



SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Validity: 05/04/2022 to 04/04/2025

Sl. No.	Telecom Equipment/Product	Test Param	eter or Type of Testing	Standard/ Specification
	IoT Gateway	Interface: LPWAN- SigFox	TX Maximum e.r.p Spectral density ETSI EN 300 220-1 V 3.1.1 Clause 5.3.2	TEC ER No. TEC 24492106
			TX Duty cycle ETSI EN 300 220-1 V 3.1.1 Clause 5.5.2	TEC ER No. TEC 24492106
			Occupied bandwidth ETSI EN 300 220-1 V 3.1.1 Clause 5.6.3	TEC ER No. TEC 24492106
			TX out of band Emissions ETSI EN 300 220-1 V 3.1.1 Clause 5.8.3	TEC ER No. TEC 24492106
			Transient Power ETSI EN 300 220-1 V 3.1.1 Clause 5.10.3	TEC ER No. TEC 24492106

AD (CA), TEC

Director (CA), TEC



SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Validity: 05/04/2022 to 04/04/2025

Last Amended on: ____

Sl. No.	Telecom Equipment/Product	Test Parame	eter or Type of Testing	Standard/ Specification	
	IoT Gateway	Interface: LPWAN- SigFox	Adjacent channel Power ETSI EN 300 220-1 V 3.1.1 Clause 5.11.3	TEC ER No. TEC 24492106	
			TX behaviour under low voltage conditions ETSI EN 300 220-1 V 3.1.1 Clause 5.12.3	TEC ER No. TEC 24492106	
			Adaptive Power Control ETSI EN 300 220-1 V 3.1.1 Clause 5.13.3	TEC ER No. TEC 24492106	
			RX Sensitivity ETSI EN 300 220-1 V 3.1.1 Clause 5.14.3	TEC ER No. TEC 24492106	

AD (CA), TEC

Director (CA), TEC

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



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

SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122 016, Haryana

Certificate Number: TEC/MRA/CAB/IND-D/63-II

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Validity: 05/04/2022 to 04/04/2025

Sl. No.	Telecom Equipment/Product	Test Parameter or Type of Testing		Standard/ Specification
	IoT Gateway	Interface: LPWAN- SigFox	Polite Spectrum access ETSI EN 300 220-1 V 3.1.1 Clause 5.21.3.2	TEC ER No. TEC 24492106
			Blocking ETSI EN 300 220-1 V 3.1.1 Clause 5.18.6	TEC ER No. TEC 24492106

AD (CA), TEC

Director





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 AA Electro Magnetic Test Laboratory Private Limited, Gurugram

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

Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122016, Haryana

In the field of Testing

Certificate No. TEC/MRA/CAB/IND-D/63

Issue Date: 09/08/2023

Validity: 10/08/2023 to 09/08/2026

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

Signed by Vijay Dixit Date: 09-08-2023 16:44:48 Reason: Approved Vijay Dixit Director (CA) For Designating Authority TEC

Certificate No: TEC/MRA/CAB/IND-D/63 dated 09/08/2023 issued to M/s AA Electro Magnetic Test Laboratory Private Limited, Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122016

Validity: - 10/08/2023 to 09/08/2026

Terms & Conditions

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

Some of the conditions are reiterated as under:

A. Obligations of the Designated CAB.

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

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

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

B. REFERENCE TO DESIGNATION STATUS

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

C. POST-DESIGNATION SURVEILLANCE

As and when required, DA shall conduct surveillance assessments and other nonroutine 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.

1-72/2023-CA/TEC

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



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

SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited, Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122016

Certificate Number: TEC/MRA/CAB/IND-D/63

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Validity: 10/08/2023 to 09/08/2026

Last Amended on: ----

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

1.	Information	Power Interface	IEC:60950-1: 2005+
	Technology	(Clause 1.6)	A1:2009+A2:2013
	Equipment- Safety	Verification of Markings and instructions	IEC:60950-1: 2005+ A1:2009+A2:2013
	Requirement	(Clause 1.7)	A1.2009+A2.2013
		Protection from hazards (Clause 2.1)	IEC:60950-1: 2005+ A1:2009+A2:2013
		SELV Circuits	IEC:60950-1: 2005+
		(Clause 2.2)	A1:2009+A2:2013
		TNV Circuit	IEC:60950-1: 2005+
		(Clause 2.3)	A1:2009+A2:2013
		Limited current circuit	IEC:60950-1: 2005+
		(Clause 2.4)	A1:2009+A2:2013
		Limited Power sources	IEC:60950-1: 2005+
		(Clause 2.5)	A1:2009+A2:2013
		Provisions for Earthing and bonding	IEC:60950-1: 2005+
		(Clause 2.6)	A1:2009+A2:2013
		Over current and earth fault protection	IEC:60950-1: 2005+
		in primary circuits (Clause 2.7)	A1:2009+A2:2013
		Safety Interlocks	IEC:60950-1: 2005+
		(Clause 2.8.1, 2.8.4, 2.8.6, 2.8.8)	A1:2009+A2:2013
		Electrical Insulation	IEC:60950-1: 2005+
		(Clause 2.9)	A1:2009+A2:2013
		Clearances and Creepage distances and	IEC:60950-1: 2005+
		distance through insulation (Clause 2.10)	A1:2009+A2:2013

1-72/2023-CA/TEC

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



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

SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited, Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122016

Certificate Number: TEC/MRA/CAB/IND-D/63

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Validity: 10/08/2023 to 09/08/2026

Last Amended on: ----

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

Information	Wiring, connections and supply	IEC:60950-1: 2005+
Technology	(Clause 3.0, 3.1, 3.2, 3.3, 3.4, 3.5)	A1:2009+A2:2013
Equipment-		
Safety	Stability	IEC:60950-1: 2005+
Requirement	(Clause 4.1)	A1:2009+A2:2013
	Mechanical strength (impact, Drop,	IEC:60950-1: 2005+
	Stress relief) & Design and construction	A1:2009+A2:2013
	(Clause 4.2, 4.3)	111.2009 1112.2013
	Protection against hazardous moving	IEC:60950-1: 2005+
	parts	A1:2009+A2:2013
	(Clause 4.4)	
	Thermal Requirements	IEC:60950-1: 2005+
	(Clause 4.5)	A1:2009+A2:2013
		JEC (0050 1 2005)
	Opening in enclosure	IEC:60950-1: 2005+
	(Clause 4.6)	A1:2009+A2:2013
	Resistance to fire	IEC:60950-1: 2005+
	(Clause 4.7)	A1:2009+A2:2013
	Touch current and protective conductor	IEC:60950-1: 2005+
	current	A1:2009+A2:2013
	(Clause 5.1)	
	Electric strength	IEC:60950-1: 2005+
	(Clause 5.2)	A1:2009+A2:2013
	Abnormal operating and fault	IEC:60950-1: 2005+
	conditions	A1:2009+A2:2013
	(Clause 5.3)	
	Connection to telecommunication	IEC:60950-1: 2005+
	network	A1:2009+A2:2013
	(Clause 6.0)	

1-72/2023-CA/TEC

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



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

SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited, Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122016

Certificate Number: TEC/MRA/CAB/IND-D/63

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Validity: 10/08/2023 to 09/08/2026

Last Amended on: ----

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

	1		
	Information	Connection to cable distribution	IEC:60950-1: 2005+
	Technology	networks	A1:2009+A2:2013
	Equipment-	(Clause 7.0)	
	Safety		
	Requirement		
2.	Audio/video,	Electric Strength	IEC-62368-1: 2018
	information and	(Clause 5.4.9)	(Ed.2.0)
	communication		
	technology	Equipment for direct insertion into	IEC-62368-1: 2018
	Equipment-Safety	mains socket-outlets	(Ed.2.0)
	Requirements	(Clause 4.7)	
	1	Equipment having an Electro-	IEC-62368-1: 2018
		mechanical device for destruction of	(Ed.2.0)
		media	
		(Clause 8.5.4.2)	
		Equipment mounted to a wall or ceiling	IEC-62368-1: 2018
		(Clause 8.7 to 8.12)	(Ed.2.0)
		Glass slide test	IEC-62368-1: 2018
		(Clause 8.6.4)	(Ed.2.0)
		Handle strength method	IEC-62368-1: 2018
		(Clause 8.8)	(Ed.2.0)
		Horizontal force test	IEC-62368-1: 2018
		(Clause 8.6.5)	(Ed.2.0)
		Humidity Treatment	IEC-62368-1: 2018
		(Clause 5.4.8)	(Ed.2.0)
		Max operating temperatures for	IEC-62368-1: 2018
		materials, component and systems (Clause 5.4.1.4, 9.2.5)	(Ed.2.0)

1-72/2023-CA/TEC

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



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

SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited, Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122016

Certificate Number: TEC/MRA/CAB/IND-D/63

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Validity: 10/08/2023 to 09/08/2026

Last Amended on: ----

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

Audio/video,	Mechanical energy source classification	IEC-62368-1: 2018
information and	(Clause 8.2)	(Ed.2.0)
communication	Power source circuit classification	IEC-62368-1: 2018
technology Equipment-Safety	(Clause 6.2.2)	(Ed.2.0)
Requirements	Duran ation to a la sulta en tra el servert	IEC (22(9, 1, 2019
	Preventive touch voltage, touch current	IEC-62368-1: 2018
	& protective conductor current (Clause 5.7)	(Ed.2.0)
	Protection against energy sources	IEC-62368-1: 2018
	(Clause 4.3)	(Ed.2.0)
	Resistance of protective conductors and	IEC-62368-1: 2018
	their terminations	(Ed.2.0)
	(Clause 5.6.4.1)	
	Safeguards against transient voltages	IEC-62368-1: 2018
	from external circuits	(Ed.2.0)
	(Clause 5.4.10)	
	Separation between external circuit and	IEC-62368-1: 2018
	earth	(Ed.2.0)
	(Clause 5.4.11)	
	Static stability for floor standing	IEC-62368-1: 2018
	equipment	(Ed.2.0)
	(Clause 8.6.2)	
	Steady state voltage and current limits	IEC-62368-1: 2018
	(Clause 5.2.2.2)	(Ed.2.0)
	Top opening and top openings	IEC-62368-1: 2018
	properties	(Ed.2.0)
	(Clause 6.4.8.3.3)	

1-72/2023-CA/TEC

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



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

SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited, Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122016

Certificate Number: TEC/MRA/CAB/IND-D/63

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Validity: 10/08/2023 to 09/08/2026

Last Amended on: ----

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

3.	EMI/EMC	Electrostatic discharge immunity test	TEC/SD/DD/ EMC-
	Testing for	(IEC 61000-4-2:2008)	221/05/OCT-16
	Telecom		
	Equipment	Radiated, radio-frequency	TEC/SD/DD/ EMC-
		electromagnetic field immunity test	221/05/OCT-16
		(IEC 61000-4-3 :2010)	
		Electrical fast transient/burst immunity	TEC/SD/DD/ EMC-
		test	221/05/OCT-16
		(IEC 61000-4-4: 2012)	
		Surge immunity test	TEC/SD/DD/ EMC-
		(IEC 61000-4-5: 2017)	221/05/OCT-16
		Immunity to conducted disturbances,	TEC/SD/DD/ EMC-
		induced by radio-frequency fields	221/05/OCT-16
		(IEC 61000-4-6:2013)	221/05/001-10
		Voltage dips, short interruption and	TEC/SD/DD/ EMC-
			221/05/OCT-16
		voltage variations immunity tests	221/03/OC1-10
		(IEC 61000-4-11:2017)	
		Conducted Emission	TEC/SD/DD/ EMC-
		CISPR 22	221/05/OCT-16
		Radiated Emission	TEC/SD/DD/ EMC-
		CISPR 22	221/05/OCT-16
		Conducted Emission	TEC/SD/DD/ EMC-
		CISPR 11	221/05/OCT-16
		Radiated Emission	TEC/SD/DD/ EMC-
		CISPR 11	221/05/OCT-16
		Conducted Emission	TEC/SD/DD/ EMC-
		CISPR 32	221/05/OCT-16

1-72/2023-CA/TEC

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



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Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited, Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122016

Certificate Number: TEC/MRA/CAB/IND-D/63

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Validity: 10/08/2023 to 09/08/2026

Last Amended on: ----

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

	EMI/EMC	Radiated Emission	TEC/SD/DD/ EMC-
	Testing for	CISPR 32	221/05/OCT-16
	Telecom		
	Equipment	Conducted Emission	TEC/SD/DD/ EMC-
	• •	CISPR 14-1	221/05/OCT-16
		Radiated Emission	TEC/SD/DD/ EMC-
		CISPR 14-1	221/05/OCT-16
			221/03/001-10
		Conducted Emission	TEC/SD/DD/ EMC-
		CISPR 25	221/05/OCT-16
		Electrostatic Discharge Immunity test	TEC/SD/DD/ EMC-
		ITU-T K.21	221/05/OCT-16
		Llich Engrand Taleson Sunga in music	
		High Energy/Telecom Surge immunity	TEC/SD/DD/ EMC-
		test	221/05/OCT-16
		ITU-T K. 21	
		High Energy/ Telecom Surge immunity	TEC/SD/DD/ EMC-
		test	221/05/OCT-16
		ITU-T K. 44	
4.	Equipment	RF Power output, Transmit Power	ETSI EN 301 893 V2.1.1
	operating in 2.4	control (TPC), Power Density	(2017-05)
	GHz, 5Ghz, 5.8	(Clause 4.2.3:2017)	
	GHz frequency	Adpativity	ETSI EN 301 893 V2.1.1
	bands	(Clause 4.2.7:2017)	(2017-05)
		· · · ·	
		Carrier frequencies	ETSI EN 301 893 V2.1.1
		(Clause 4.2.1:2017)	(2017-05)
		Dynamic Frequency Selection(DFS)	ETSI EN 301 893 V2.1.1
		(Clause 4.2.6.2:2017)	(2017-05)
		(Chase 1.2.0.2.2017)	(2017-00)

1-72/2023-CA/TEC

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



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

SCOPE OF DESIGNATION (ANNEXURE)

Laboratory Name: M/s AA Electro Magnetic Test Laboratory Private Limited, Plot N0. 174, Udyog Vihar, Phase-4, Sector-18, Gurugram-122016

Certificate Number: TEC/MRA/CAB/IND-D/63

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Validity: 10/08/2023 to 09/08/2026

Last Amended on: ----

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

r			
	Equipment	Geo-location capability	ETSI EN 301 893 V2.1.1
	operating in 2.4	(Clause 4.2.10:2017)	(2017-05)
	GHz, 5Ghz, 5.8		
	GHz frequency	Nominal and occupied channel	ETSI EN 301 893 V2.1.1
	bands	bandwidth	(2017-05)
		(Clause 4.2.2:2017)	
		Receiver Blocking	ETSI EN 301 893 V2.1.1
		(Clause 4.2.8:2017)	(2017-05)
		Receiver spurious emission	ETSI EN 301 893 V2.1.1
		(Clause 4.2.5:2017)	(2017-05)
		Transmitter unwanted emissions	ETSI EN 301 893 V2.1.1
		outside the 5GHz RLAN bands	(2017-05)
		(Clause 4.2.4.1:2017)	
		Transmitter unwanted emissions within	ETSI EN 301 893 V2.1.1
		the 5GHz RLAN bands	(2017-05)
		(Clause 4.2.4.2:2017)	
5.	Uninterruptible	Component	IEC 62040-1: 2008
	Power Systems	(Clause 4.5)	
	(UPS) part 1		
	General and	Power Interface	IEC 62040-1: 2008
	safety	(Clause 4.6)	HEC 02010 1. 2000
	requirements for	(Clause 4.0)	
	UPS	Marking & Instructions	IEC 62040-1: 2008
	UIS	(Clause 4.7)	
		Protection Against Electric Shock and	IEC 62040-1: 2008
		Hazards	
		(Clause 5.1)	
		Requirements for Auxiliary Circuits	IEC 62040-1: 2008
		(Clause 5.2)	

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

Uninterruptible	Protective Earthing and Bonding	IEC 62040-1: 2008
Power Systems	(Clause 5.3)	
(UPS) part 1		
General and	AC and DC Power isolation	IEC 62040-1: 2008
safety	(Clause 5.4)	
requirements for	· · ·	
UPS	Over Current and Earth Fault Protection (Clause 5.5)	IEC 62040-1: 2008
	Protection of Personnel-Safety Interlocks	IEC 62040-1: 2008
	(Clause 5.6) Clearance, Creepage Distance and Distance Through Insulation	IEC 62040-1: 2008
	(Clause 5.7) Wiring connections and supply (Clause 6)	IEC 62040-1: 2008
	Connection to Power (Clause 6.2)	IEC 62040-1: 2008
	Wiring terminal for external power conductor (Clause 6.3)	IEC 62040-1: 2008
	Enclosure (Clause 7.1)	IEC 62040-1: 2008
	Stability (Clause 7.2)	IEC 62040-1: 2008
	Mechanical Strength (Clause 7.3)	IEC 62040-1: 2008

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Sl.	Telecom	Test Parameter or Type of Testing	Standard/ S	pecification
No.	Equipment/			
	Product			

Uninterruptible Power Systems (UPS) port 1	Construction Details (Clause 7.4)	IEC 62040-1: 2008
(UPS) part 1 General and safety	Resistance to Fire (Clause 7.5)	IEC 62040-1: 2008
requirements for UPS	Battery Location (Clause 7.6)	IEC 62040-1: 2008
	Temperature Rise (Clause 7.7)	IEC 62040-1: 2008
	Electrical requirement and Simulated abnormal conditions (Clause 8)	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
	Connection to Telecommunication Networks (Clause 9)	IEC 62040-1: 2008

Signed by Sanjay Bhardwaj Date: 09-08-2023 16:56:24 Reason: Approved AD (CA), TEC