



National Accreditation Board for
Testing and Calibration Laboratories

CERTIFICATE OF ACCREDITATION

**SUNREN TELECOM LABORATORY, A DIVISION OF M/S
SUNREN TECHNICAL SOLUTIONS PVT. LTD.**

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

**"General Requirements for the Competence of Testing &
Calibration Laboratories"**

for its facilities at

C-475, MIDC PAVANE, TTC INDUSTRIAL AREA, NAVI MUMBAI, THANE, MAHARASHTRA, INDIA

in the field of

TESTING

Certificate Number: TC-7995

Issue Date: 18/10/2021

Valid Until:

17/10/2023

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.

(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Identity : Sunren Technical Solutions Private Limited

Signed for and on behalf of NABL



N. Venkateswaran
Chief Executive Officer



National Accreditation Board for Testing and Calibration Laboratories

SCOPE OF ACCREDITATION

Laboratory Name : SUNREN TELECOM LABORATORY, A DIVISION OF M/S SUNREN TECHNICAL SOLUTIONS PVT. LTD., C-475, MIDC PAVANE, TTC INDUSTRIAL AREA, NAVI MUMBAI, THANE, MAHARASHTRA, INDIA

Accreditation Standard ISO/IEC 17025:2017

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Validity 18/10/2021 to 17/10/2023 **Last Amended on** 03/11/2021

S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
Permanent Facility				
1	ELECTRONICS- EMC TEST FACILITY	All Electronic and Electrical, Information Technology and Telecommunications Equipment	Conducted Emission test (Class A & B)	TEC/SD/DD/EMC-221/05/OCT-16, CISPR14-1: 2016, CISPR 22: 2008, EN 55032:2012, CISPR 32
2	ELECTRONICS- EMC TEST FACILITY	All Electronic and Electrical, Information Technology and Telecommunications Equipment	Conducted Emission test (Class A & B)	TEC/SD/DD/EMC-221/05/OCT-16, CISPR14-1: 2016, CISPR 22: 2008, EN 55032:2012, CISPR 32
3	ELECTRONICS- EMC TEST FACILITY	All Electronic and Electrical, Information Technology and Telecommunications Equipment	ELECTRICAL FAST TRANSIENT (EFT)/ Burst Test	EN 61000-4-4
4	ELECTRONICS- EMC TEST FACILITY	All Electronic and Electrical, Information Technology and Telecommunications Equipment	ELECTRICAL FAST TRANSIENT (EFT)/ Burst Test	IEC 61000-4-4, TEC/SD/DD/EMC-221/05/OCT-16
5	ELECTRONICS- EMC TEST FACILITY	All Electronic and Electrical, Information Technology and Telecommunications Equipment	Electrostatic Discharge Immunity Test	BS EN 55014-2
6	ELECTRONICS- EMC TEST FACILITY	All Electronic and Electrical, Information Technology and Telecommunications Equipment	Electrostatic Discharge Immunity Test	EN 61000-4-2
7	ELECTRONICS- EMC TEST FACILITY	All Electronic and Electrical, Information Technology and Telecommunications Equipment	Electrostatic Discharge Immunity Test	IEC 61000-4-2, TEC/SD/DD/EMC-221/05/OCT-16
8	ELECTRONICS- EMC TEST FACILITY	All Electronic and Electrical, Information Technology and Telecommunications Equipment	Surge Immunity Test	EN 61000-4-5
9	ELECTRONICS- EMC TEST FACILITY	All Electronic and Electrical, Information Technology and Telecommunications Equipment	Surge Immunity Test	IEC 61000-4-5, TEC/SD/DD/EMC-221/05/OCT-16
10	ELECTRONICS- ENVIRONMENTAL TEST FACILITY	All Electrical / Electronic Appliances, Office automation, IT products, Telecom products and Objects having external dimensions less than 1.2 meters x 1.2 meters x 0.9 meters	Cold (Low Temperature) Test	IEC 60068-2-1
11	ELECTRONICS- ENVIRONMENTAL TEST FACILITY	All Electrical / Electronic Appliances, Office automation, IT products, Telecom products and Objects having external dimensions less than 1.2 meters x 1.2 meters x 0.9 meters	Cold Test (Low Temperature)	IS 9000 (Part II/Sec 1 to 4)
12	ELECTRONICS- ENVIRONMENTAL TEST FACILITY	All Electrical / Electronic Appliances, Office automation, IT products, Telecom products and Objects having external dimensions less than 1.2 meters x 1.2 meters x 0.9 meters	Cold Test (Low Temperature)	QM 333/Issue-2
13	ELECTRONICS- ENVIRONMENTAL TEST FACILITY	All Electrical / Electronic Appliances, Office automation, IT products, Telecom products and Objects having external dimensions less than 1.2 meters x 1.2 meters x 0.9 meters	Change of Temperature	IEC 60068-2-14
14	ELECTRONICS- ENVIRONMENTAL TEST FACILITY	All Electrical / Electronic Appliances, Office automation, IT products, Telecom products and Objects having external dimensions less than 1.2 meters x 1.2 meters x 0.9 meters	Change of Temperature	IS 9000: (Part 14)



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15	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	All Electrical / Electronic Appliances, Office automation, IT products, Telecom products and Objects having external dimensions less than 1.2 meters x 1.2 meters x 0.9 meters	Change of Temperature	QM 333/Issue-2
16	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	All Electrical / Electronic Appliances, Office automation, IT products, Telecom products and Objects having external dimensions less than 1.2 meters x 1.2 meters x 0.9 meters	Damp Heat Cyclic Test	IEC 60068-2-30
17	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	All Electrical / Electronic Appliances, Office automation, IT products, Telecom products and Objects having external dimensions less than 1.2 meters x 1.2 meters x 0.9 meters	Damp Heat Cyclic Test	IS 9000:1986 (Part V)
18	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	All Electrical / Electronic Appliances, Office automation, IT products, Telecom products and Objects having external dimensions less than 1.2 meters x 1.2 meters x 0.9 meters	Damp Heat Cyclic Test	QM 333/Issue-2
19	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	All Electrical / Electronic Appliances, Office automation, IT products, Telecom products and Objects having external dimensions less than 1.2 meters x 1.2 meters x 0.9 meters	Damp Heat Steady State	IEC60068-2-78
20	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	All Electrical / Electronic Appliances, Office automation, IT products, Telecom products and Objects having external dimensions less than 1.2 meters x 1.2 meters x 0.9 meters	Damp Heat Steady State	IS 9000:2008 (Part IV)
21	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	All Electrical / Electronic Appliances, Office automation, IT products, Telecom products and Objects having external dimensions less than 1.2 meters x 1.2 meters x 0.9 meters	Damp Heat Steady State	QM 333/Issue-2
22	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	All Electrical / Electronic Appliances, Office automation, IT products, Telecom products and Objects having external dimensions less than 1.2 meters x 1.2 meters x 0.9 meters	Drop, Topple & Fall Test	IEC60068-2-31
23	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	All Electrical / Electronic Appliances, Office automation, IT products, Telecom products and Objects having external dimensions less than 1.2 meters x 1.2 meters x 0.9 meters	Drop, Topple & Fall Test	IS 9000:1979 Part VII -Sec 3 & 4
24	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	All Electrical / Electronic Appliances, Office automation, IT products, Telecom products and Objects having external dimensions less than 1.2 meters x 1.2 meters x 0.9 meters	Drop, Topple & Fall Test	QM 333/Issue-2
25	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	All Electrical / Electronic Appliances, Office automation, IT products, Telecom products and Objects having external dimensions less than 1.2 meters x 1.2 meters x 0.9 meters	Dry Heat Test (High Temperature)	IEC 60068-2-2
26	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	All Electrical / Electronic Appliances, Office automation, IT products, Telecom products and Objects having external dimensions less than 1.2 meters x 1.2 meters x 0.9 meters	Dry Heat Test (High Temperature)	IS 9000: (Part III/ Sec 1 to 5)
27	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	All Electrical / Electronic Appliances, Office automation, IT products, Telecom products and Objects having external dimensions less than 1.2 meters x 1.2 meters x 0.9 meters	Dry Heat Test (High Temperature)	QM 333/Issue-2
28	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	All Electrical / Electronic Appliances, Office automation, IT products, Telecom products and Objects having external dimensions	Ingress Protection IP : IP 1X, IP 2X, IP 3X, IP 4X, IP X3, IP X4, IP X5, IP X6, IP X7	IS/IEC 60529



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29	ELECTRONICS-MISCELLANEOUS PRODUCTS	10 MBPs Interface	Min / Max Peak Voltage for 10 MHz Int	G.703, G.823
30	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	6dB & 20dB Bandwidth / TX Occupied bandwidth / Carrier bandwidth	EN 300328 / EN 301 893 / EN 300 330 / EN 300 220/ EN 302 502/ EN 300 440
31	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Accumulated Transmit Time, Frequency occupation and Hopping sequence / TX FHSS	ETSI EN 300 328, ETSI EN 300 220, ETSI EN 300 330
32	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Adaptive Frequency Agility	ETSI EN 300 220
33	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Adaptivity	ETSI EN 300 328, ETSI EN 300 220, ETSI EN 300 330
34	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Adaptivity	ETSI EN 301 893/ EN 302 502/ EN 300 440
35	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Adjacent channel selectivity	ETSI EN 300 330
36	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Carrier frequencies	ETSI EN 301 893/ EN 302 502/ EN 300 440
37	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Clear channel assessment threshold & Polite spectrum access timing parameters	ETSI EN 300 220
38	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Designation of Centre Frequencies and frequency error	ETSI EN 301 893/ EN 302 502/ EN 300 440
39	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Duty Cycle, Tx sequence, Tx-gap	ETSI EN 300 328, ETSI EN 300 220, ETSI EN 300 330
40	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Dynamic Frequency Selection (DFS)	ETSI EN 301 893/ EN 302 502/ EN 300 440
41	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Frequency Range / Frequency stability / Frequency of Operation	EN 300328 / EN 301 893 / EN 300 330 / EN 300 220/ EN 302 502/ EN 300 440
42	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Geo location Capability	ETSI EN 300 328, ETSI EN 300 220, ETSI EN 300 330



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43	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Geo-location capability	ETSI EN 301 893/ EN 302 502/ EN 300 440
44	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Hopping Frequency Separation	ETSI EN 300 328, ETSI EN 300 220, ETSI EN 300 330
45	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Medium utilization Factor	ETSI EN 300 328, ETSI EN 300 220, ETSI EN 300 330
46	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Nominal, and occupied, channel bandwidth	ETSI EN 301 893/ EN 302 502/ EN 300 440
47	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Out of Band / Spurious Emissions	EN 300328 / EN 301 893 / EN 300 330 / EN 300 220/ EN 302 502/ EN 300 440
48	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Peak Power / EIRP / ERP/ Output Power/ Maximum Transmit Power	EN 300328 / EN 301 893 / EN 300 330 / EN 300 220/ EN 302 502/ EN 300 440
49	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Power spectral Density	EN 300328 / EN 301 893 / EN 300 330 / EN 300 220/ EN 302 502/ EN 300 440
50	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Receiver blocking	ETSI EN 300 328, ETSI EN 300 220, ETSI EN 300 330
51	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Receiver Blocking	ETSI EN 301 893/ EN 302 502/ EN 300 440
52	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Receiver spurious Emission	ETSI EN 300 328, ETSI EN 300 220, ETSI EN 300 330
53	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Receiver spurious emissions	ETSI EN 301 893/ EN 302 502/ EN 300 440
54	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	RF output power, Transmit Power Control (TPC), Power Density	ETSI EN 301 893/ EN 302 502/ EN 300 440
55	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	RX sensitivity	ETSI EN 300 220
56	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Transmitter H-field & Transmitter radiated E-field	ETSI EN 300 330



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57	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Transmitter RF carrier current	ETSI EN 300 330
58	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Transmitter unwanted Emission in OOB Domain	ETSI EN 300 328, ETSI EN 300 220, ETSI EN 300 330
59	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Transmitter unwanted emissions in the spurious domain	ETSI EN 300 328, ETSI EN 300 220, ETSI EN 300 330
60	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Transmitter unwanted emissions outside the 5 GHz RLAN bands	ETSI EN 301 893/ EN 302 502/ EN 300 440
61	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	Transmitter unwanted emissions within the 5 GHz RLAN bands	ETSI EN 301 893/ EN 302 502/ EN 300 440
62	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	TX Adjacent channel power / TX Adaptive power control	ETSI EN 300 220
63	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	TX behaviour under low voltage conditions / TX Short term behaviour	ETSI EN 300 220
64	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Electronic Products with RF output	TX Transient	ETSI EN 300 220
65	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Products with PSTN 2W analog Interface	DTMF Analysis	ITU-T Q.23 (TEC S/INT-2W/02-MAY2001)
66	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Products with PSTN 2W analog Interface	DTMF Analysis	ITU-T Q.23 (TEC S/INT-2W/02-MAY2001)
67	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Products with PSTN 2W analog Interface	Click Test / Condenser Click	ETSI EN 300 001 (TEC/IR/SW/PBX-104/04/OCT 2017)
68	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Products with PSTN 2W analog Interface	Cross Talk	ITU-T Q.552 (TEC/IR/SW/PBX-104/04/OCT 2017)
69	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Products with PSTN 2W analog Interface	Flash	ETSI EN 300 001 (TEC/IR/SW/PBX-104/04/OCT 2017)
70	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with PSTN 2W analog Interface	Psophometric Noise	ITU-T O.41



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71	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Products with PSTN 2W analog Interface	PULSE Dialing Analysis	ETSI EN 300 001 (TEC TSTP IR/SW/PBX-004/03/MAR-2017)
72	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Products with PSTN 2W analog Interface	PULSE Dialing Analysis	ETSI EN 300 001 (TEC TSTP IR/SW/PBX-004/03/MAR-2017)
73	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Products with PSTN 2W analog Interface	PULSE Dialing Analysis	ETSI EN 300 001 (TEC TSTP IR/SW/PBX-004/03/MAR-2017)
74	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Products with PSTN 2W/4W Analog/Leased Line Interface	Transmit Power Spectral Density	ITU-T G.9700, ITU-T G.992, ITU-T G. 993 (TEC S/INT-2W/02-MAY2001)
75	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products operating on AC Mains	Variation in Supply Voltage and frequency	ETSI EN 300 001 (TEC TSTP/TEC/IR/TX/FAX-01/05/MAY 16)
76	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products operating on AC Mains	Variation in Supply Voltage and frequency	ETSI EN 300 001 (TEC TSTP/TEC/IR/TX/FAX-01/05/MAY 16)
77	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products operating on DC supply	Variation in DC Supply voltage	TEC/IR/TX/DMX-006/03.DEC-11, TEC/IR/TX/DMX-007/02/SEP-12
78	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with V.35 Interface	Bit Error Rate	ITU-T G.821 & ITU-T V.35
79	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Products with 10/100 Base Ethernet interface	AC Differential input impedance (Return Loss)	IEEE 802.3
80	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Products with 10/100/1000 Base Ethernet interface	Ethernet Performance (Ping) Throughput, Latency, Frame Loss, LDDP, MAC&Packet, ST, Protocol & RFC test SNMP V2,V3 / IPV4 / IPV6 Protocols, Synchronization, Manageability, Link Speed Test, Duplex (Half/Full) Auto Negotiation, CDR Test Parameter	IEC 802.3, IEC 802.1 / RFC2544 , RFC 4862, RFC 4443, RFC 4291, RFC 2460, RFC 4861, RFC 4862, RFC 1981, RFC 5095, RFC4271, RFC4760, RFC2545, RFC 5036, RFC 3031, RFC 5798, RFC 2205, RFC 3209, RFC 3410, RFC 3416, RFC 1305, RFC 5905 & RFC suits, TCP as per RFC 793, UDP as per RFC 768, SIP, Audio codecs, TCP, RTP, RTCP, LDDP protocol



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81	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Products with 10/100/1000 Base Ethernet, 1G Optical, 10G, 40G,100G Optical interface & Telecom Interfaces	SIP,SIPI, RTP,RTCP,TCP,UDP, MGCP,IPV4, Dual Stack, IPV6, DTMF,SCTP,M3UA, Signalling over IP, IP Conformance, SNMP V2, SNMP V3, OSPF, BGP, BGP4, MBGP, LDP, Static, Dynamic routing, Spanning Tree protocol, MAC Learning, Packet forwarding,IPSec, NAT, Policy, IDS,IPS,UTM URL, Content & Anti-Virus Filtering, Profile for frequency synchronisation, Profile for time and phase synchronisation with full timing support, Profile for time and phase synchronisation with partial Timing support, PPPoE, Radius,	RFC3261,Q1912.5, RFC2516,RFC2544,RFC4251, RFC2131,RFC3046,RFC2684,RF C2236,RFC3376,RFC3550,RFC3 551,RFC793,RFC768,RFC791,R FC4213,RFC2460, RFC8200,RFC4733,RFC4960,RF C2719,RFC3332,RFC3416,RFC3 410,RFC2328,RFC2740,RFC486 2,RFC1981,RFC4443,RFC2545, RFC4271,RFC5036,RFC4760,RF C2865,RFC2516,RFC5654,RFC4 448,RFC3916,RFC4861
82	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Products with 10/100/1000Base Ethernet interface	Differential output voltage	IEEE 802.3
83	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with 2G/GSM Technology Interface	Frequency Error	3GPP TS 51.026, Clause 8
84	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with 2G/GSM Technology Interface	Intermodulation Attenuation	3GPP TS 51.026, Clause 6
85	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with 2G/GSM Technology Interface	Out of Band Gain	3GPP TS 51.026, Clause 6
86	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with 2G/GSM Technology Interface	Output Power	3GPP TS 45.005, Clause 4.1.2
87	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with 2G/GSM Technology Interface	Spurious emissions	3GPP TS 51.026, Clause 5
88	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with 3G/WCDMA Technology Interface	Adjacent Channel Rejection Ratio	3GPP TS 25.143, Clause 13
89	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with 3G/WCDMA Technology Interface	Input intermodulation	3GPP TS 25.143, Clause 11



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90	ELECTRONICS- MISCELLANEOUS PRODUCTS	All products with 3G/WCDMA Technology Interface	Out of band emission	3GPP TS 25.143, Clause 9.1
91	ELECTRONICS- MISCELLANEOUS PRODUCTS	All products with 3G/WCDMA Technology Interface	Out of band gain	3GPP TS 25.143, Clause 8
92	ELECTRONICS- MISCELLANEOUS PRODUCTS	All products with 3G/WCDMA Technology Interface	Output intermodulation	3GPP TS 25.143, Clause 12
93	ELECTRONICS- MISCELLANEOUS PRODUCTS	All products with 3G/WCDMA Technology Interface	Output Power	3GPP TS 25.143, Clause 6
94	ELECTRONICS- MISCELLANEOUS PRODUCTS	All products with 3G/WCDMA Technology Interface	Spurious emissions	3GPP TS 25.143, Clause 9.2
95	ELECTRONICS- MISCELLANEOUS PRODUCTS	All products with 4G/LTE Technology Interface	Adjacent Channel Rejection Ratio	3GPP TS 36.143 Clause 13
96	ELECTRONICS- MISCELLANEOUS PRODUCTS	All products with 4G/LTE Technology Interface	Input intermodulation	3GPP TS 36.143 Clause 11
97	ELECTRONICS- MISCELLANEOUS PRODUCTS	All products with 4G/LTE Technology Interface	Operating band unwanted emissions	3GPP TS 36.143 Clause 9.1
98	ELECTRONICS- MISCELLANEOUS PRODUCTS	All products with 4G/LTE Technology Interface	Out of band gain	3GPP TS 36.143 Clause 8
99	ELECTRONICS- MISCELLANEOUS PRODUCTS	All products with 4G/LTE Technology Interface	Output intermodulation	3GPP TS 36.143 Clause 12
100	ELECTRONICS- MISCELLANEOUS PRODUCTS	All products with 4G/LTE Technology Interface	Output Power	3GPP TS 36.143 Clause 6
101	ELECTRONICS- MISCELLANEOUS PRODUCTS	All products with 4G/LTE Technology Interface	Spurious emissions	3GPP TS 36.143 Clause 9.2



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Laboratory Name : SUNREN TELECOM LABORATORY, A DIVISION OF M/S SUNREN TECHNICAL SOLUTIONS PVT. LTD., C-475, MIDC PAVANE, TTC INDUSTRIAL AREA, NAVI MUMBAI, THANE, MAHARASHTRA, INDIA

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S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
102	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with as per ITU-T G.957 / G.691/ Optical Ethernet 100/1G/10G/40G / 100G/ DWDM/OTN/OTU/PON interfaces	Optical Launch Power (Input / Output)	ITU-T G.957/G.691/ ITU-T G.957/G.691/ IEEE 802.3/IEEE 802.3u/ G.959.1/G.693/G.695/G984.2/G 987.2/G9807.1/G94.1/G989.2/ IEEE 802.3ae/IEEE 802.3ba/IEEE 802.3z/ IEEE 802.3 /G.959.1/G.693/G.695/G984.2/ G987.2/G9807.1/G94.1/G989.2
103	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with as per ITU-T G.957 / G.691/ Optical Ethernet 100/1G/10G/40G / DWDM	Optical Return Loss / Reflection Loss (Optical Reflectance)	ITU-T G. 957, G.691, IEEE 802.3
104	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with as per ITU-T G.957 / G.691/ Optical Ethernet 100/1G/10G/40G / DWDM /OTN/OTU interfaces	Extinction Ratio	ITU-T G.957 / G.691 IEEE 802.3
105	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with as per ITU-T G.957 / G.691/ Optical Ethernet 100/1G/10G/40G / DWDM interfaces	Optical Eye Pattern	ITU-T G.957 / G.691 IEEE 802.3
106	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with as per ITU-T G.957 / G.691/ Optical Ethernet 100/1G/10G/40G / DWDM interfaces	Optical Eye Pattern	ITU-T G.957 / G.691 IEEE 802.3
107	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with as per ITU-T G.957 / G.691/ Optical Ethernet 100/1G/10G/40G /100G/ DWDM/OTN/OTU/PON Interfaces	Receiver Sensitivity (Optical)	ITU-T G.957/G.691/ IEEE 802.3/IEEE 802.3u/ G.959.1/G.693/G.695/G984.2/G 987.2/G9807.1/G94.1/G989.2/ IEEE 802.3ae/IEEE 802.3ba/IEEE 802.3z
108	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with as per ITU-T G.957 / G.691/ Optical Ethernet 100/1G/10G/40G/ 100G/DWDM/ OTN/ OTU/PON interfaces	Optical Spectral Width and wavelength / DWDM channel spacing	ITU-T G.957/G.691/ IEEE 802.3/IEEE 802.3u/IEEE 802.3ah/ G.959.1/G.693/G.694.1/G.695/ G984.2/G987.2/G9807.1/G94.1 /G989.2/IEEE 802.3ae/IEEE 802.3ba/IEEE 802.3z
109	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with as per ITU-T G.957 / G.691/ Optical Ethernet 100/1G/10G/40G/100G/ DWDM/ OTN/OTU	Receiver Overload	ITU-T G.957,ITU-T G.691,ITU-T G.693/G.959.1
110	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with as per ITU-T G.957 / G.691/ Optical Ethernet 100/1G/10G/OTN/OTU interface	Frequency / Bit rate / Baud rate	ITU-T G.703 / G.957 / G.691/ G.694.1 / IEEE 802.3/G.824 /G.709
111	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Products with digital and analog interface	Group Delay	ITU-T Q.552



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112	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Products with digital interface	BIT Rate	ITU-T G.703 & ITU-T G.957
113	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Products with Digital interface	Slip Measurement	ITU-T G.822
114	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Products with Digital interface	Structure Mapping, Synchronization	ITU-T G.703, G.691& ITU-T G.957
115	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with DTMF Parameters (Conformance Test)	RTP payload format for named telephones events, Use of RTP header fields, Payload Format, DTMF: Applications, DTMF: Congestion Consideration, DTMF: Events, DTMF: Payload Format, DTMF: RTP payload format for named telephones events, DTMF: Specification of Events codes for DTMF events, DTMF: Use of RTP header fields, DTMF: Duration negotiation, DTMF: Negotiation of Payload, DTMF: Transmission of Event Packet, DTMF: Verification of sequence no. and time stamp	RFC 4733
116	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with GSM/ GPRS/ EDGE Technology Interface	Adjacent Channel Rejection (speech channels)	3GPP TS 51 010-1 Clause 14.5.1, EN 301 511 (GSM)Clause 4.2.38
117	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with GSM/ GPRS/ EDGE Technology Interface	Frequency Error and phase error	3GPP TS 51 010-1 Clause 13.1 & Clause 13.16.1, EN 301 511 (GSM) Clause 4.2.1 & Clause 4.2.4
118	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with GSM/ GPRS/ EDGE Technology Interface	Output RF Spectrum	3GPP TS 51 010-1 Clause 13.4 & Clause 13.16.3, EN 301 511 (GSM) Clause 4.2.6 & Clause 4.2.11
119	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with GSM/ GPRS/ EDGE Technology Interface	Receiver blocking	3GPP TS 51 010-1 Clause 14.7.1, EN 301 511 (GSM) Clause 4.2.20
120	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with GSM/ GPRS/ EDGE Technology Interface	Reference sensitivity level (speech channels)	3GPP TS 51 010-1 Clause 14.2.1, EN 301 511 (GSM) Clause 4.2.42



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121	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with GSM/ GPRS/ EDGE Technology Interface	Spurious emission (MS in idle mode)	3GPP TS 51 010-1 Clause 12.1.2, EN 301 511 (GSM) Clause 4.2.13
122	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with GSM/ GPRS/ EDGE Technology Interface	Spurious emissions (MS allocated a channel)	3GPP TS 51 010-1 Clause 12.1.1, EN 301 511 (GSM) Clause 4.2.12
123	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with GSM/ GPRS/ EDGE Technology Interface	Transmitter Maximum output power	3GPP TS 51 010-1 Clause 13.3 & Clause 13.16.2, EN 301 511 (GSM) Clause 4.2.5 & Clause 4.2.10
124	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with IPV4 and Dual Stack (Conformance Test)	Model of operation, Internet Header Format, Addressing, Model of operation, Gateways, Interfaces, Function Description, Gateways, Interfaces, Dual IP layer operation: Address Configuration, Dual IP layer operation: DNS, Dual IP layer operation: Tunnelling, Dual IP layer operation: Tunnelling, Dual IP layer operation: Decapsulation, Dual IP layer operation: Link Local Address	RFC 791 and RFC 4213
125	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with IPV4 Parameters Set-D, SNMPv2, SNMPv3, SNMPv2 or Qx Protocol Parameters, SNMPv3 or Qx Protocol Parameters, Dynamic Routing, Static Routing, TCP Parameters, Mac Learning & Pkt Fwdg, Spanning Tree Protocol, OSPFv2, OSPFv3 for IPv6, IPV6 Complete Suite, BGP for IPv6, BGP4, MBGP, LDP, IPSec Functional, NAT Functional, Policy Functional, IDS Functional, IPS Functional, UTM URL, Content & Anti-Virus Filtering Functional, Profile for frequency synchronisation, Profile for time and phase synchronisation with full timing support, Profile for time and phase synchronisation with partial timing support, PPPoE, Radius, MPLS-TP Requirement, Ethernet PWE and Service Identification, TDM PWE and Service Identification (Conformance Test)	IPV4 Functional, SNMPv2 Functional, SNMPv3 Functional, SNMPv2 or Qx Protocol functional, SNMPv3 or Qx Protocol functional, Dynamic Routing Functional, Static Routing Functional, TCP Functional, Mac Learning and Packet Forwarding, Spanning Tree Protocol Root Bridge Election Functional, Spanning Tree Protocol Port Blocking Functional, OSPFv2, OSPFv3, IPSec Functional, NAT Functional, Policy Functional, IDS Functional, IPS Functional, UTM URL, Content & Anti-Virus Filtering Functional, Profile for	RFC 791, RFC 3416, RFC 3410, RFC 793, IEEE 802.1d, RFC2328, RFC2740, RFC2460/8200, RFC4862, RFC1981, RFC4443, RFC2545, RFC4271, RFC4760, RFC5036, RFC2516, RFC2865, RFC 5654, RFC 4448, RFC 3916, Annexure to ER of MTCTE



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126	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with IPV6 Header, IPV6 Packet Size Issues Parameters (Conformance Test)	Header: Version Field, Header: Traffic Class, Header: Flow Label, Header: Payload Length, Header: No next header after IPV6 Header, Header: Hop Limit, Header: Source and Destination Address, IPV6 Extension Header Order, IPV6 Extension Header Options, IPV6 Extension Header Hop by Hop Options, IPV6 Extension Header Routing, IPV6 Extn. Header Fragment Header, IPV6 Packet Size Issues,	RFC 2460 / RFC 8200
127	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Products with ISDN PRI Interface	ISDN PRI Protocol	ITU-T Q.931 & SD/ISN-01
128	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Products with ISDN BRI S/U Interface	ISDN BRI Protocol	ITU-T Q.931 & SD/ISN-01
129	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with ITU-T G.703 / G.957 /G.691 Interface	Bit Error Rate	ITU-T G.826 & ITU-T G.821
130	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with ITU-T G.703 / G.957/G.691/OTN /OTU Interface	Output Jitter / Output Wander; Clock Stability / TIE	ITU-T G.823/G.825/G.783/G.813/O.172/G.8251
131	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with ITU-T G.703 / G.957/G.691/OTN/ OTU Interface	Synchronization: Tolerable Jitter / Wander (Jitter / Wander Tolerance)	ITU-T G.823/G.825/G.783/G.8251
132	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with ITU-T G.703 Interface	Pulse Mask & Coding	ITU-T G.703
133	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with ITU-T G.703 Interface	Pulse Mask, Coding & DC Power	ITU-T G.703
134	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with ITU-T G.703 Interface	Return Loss (Reflection Loss)	ITU-T G.703
135	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with ITU-T G.957 / G.691 interfaces	Side Mode Suppression Ratio	ITU-T G.957 /G.691
136	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with LTE/ LTE-A Technology Interface	Frequency Stability	3GPP TS 36.521-1 6.5, EN 301 908-13 (LTE)



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137	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with LTE/ LTE-A Technology Interface	Maximum output power	3GPP TS 36.521-1 Clause 6.2.2, EN 301 908-13 (LTE) Clause 4.2.2
138	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with LTE/ LTE-A Technology Interface	Power control Absolute Power Tolerance	3GPP TS 36.521-1 6.3.5.1, EN 301 908-13 (LTE)
139	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with LTE/ LTE-A Technology Interface	Receiver Adjacent Channel Selectivity (ACS)	3GPP TS 36.521-1 Clause 7.5, EN 301 908-13 (LTE) Clause 4.2.6
140	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with LTE/ LTE-A Technology Interface	Receiver In-band blocking	3GPP TS 36.521-1 Clause 7.6.1, EN 301 908-13 (LTE) Clause 4.2.7
141	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with LTE/ LTE-A Technology Interface	Receiver Reference Sensitivity level	3GPP TS 36.521-1 Clause 7.3, EN 301 908-13 (LTE) Clause 4.2.12
142	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with LTE/ LTE-A Technology Interface	Receiver spurious emission	3GPP TS 36.521-1 Clause 7.9, EN 301 908-13 (LTE) Clause 4.2.10
143	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with LTE/ LTE-A Technology Interface	Spectrum emissions mask	3GPP TS 36.521-1 Clause 6.6.2.1, EN 301 908-13 (LTE) Clause 4.2.3
144	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with LTE/ LTE-A Technology Interface	Spurious emissions	3GPP TS 36.521-1 Clauses 6.6.3.1, 6.6.3.2, 6.6.3.3, EN 301 908-13 (LTE) Clause 4.2.4
145	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with M3UA Parameters, M3UA Protocol Extensions, Signalling Protocol Over IP	Procedures to Support the M3UA-User, Establishment of Association and Traffic Between SGs and ASPs, M3UA Port Number, M3UA Protocol Extensions, Gateway Component Functions, SS7 Interworking for Connection Control, ISDN Interworking for Connection Control, Architecture for Database Access, SG to SG	RFC 4960, RFC 2719
146	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Products with Optical Ethernet interface 1G/10G	Output Jitter	IEEE 802.3
147	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Products with Optical Ethernet interface 1G/10G	Receive electrical 3dB upper cut off frequency	IEEE 802.3



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148	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Products with Optical Ethernet interface 1G/10G	Vertical Eye Closure penalty	IEEE 802.3
149	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with RTCP Parameters (Conformance Test)	RTCP: Port Assignment, RTCP: Registering Additional Encodings, RTCP: GSM-EFR, RTCP: Guidelines 1 for sample-based audio encodings, RTCP: Guidelines 2 for sample-based audio encodings, RTCP: Port Assignment, RTCP: Registering Additional Encodings	RFC 3551
150	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with RTP Parameters (Conformance Test)	RTP: Sender report RTCP packet version, RTP: Sequence number, RTP: Version and Port, RTP: Payload Type, RTP: SSRC Identification, RTP: Sender report RTCP packet version, RTP: Sequence number, RTP: Version and Port, RTP: Payload Type, RTP: Byte Order, Alignment, and Time Format, RTP: Simple Multicast Audio Conference	RFC 3550
151	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with SCTP Parameters (Conformance Test)	SCTP packet Format, SCTP common header field descriptions, Chunk field descriptions, Optional/variable-length parameters format, Reporting of unrecognized parameters, SCTP association state diagram, User Data Fragmentation, Path Management, Transmission of DATA Chunks, Path Failure Detection	RFC 4960



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152	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with SIP and SIPI Parameters(Conformance Test)	SIP Header : Message Body Type, Generating SIP request (To, R-URI, From, Call-ID, CSeq, Max-Forwards, Via), SIP Dialog and Transaction, SIP Terminating a Session with a BYE request, SIP Creating the initial invite, User Authentication, SIP - Call Flow, SIP Header : Message Body Type, Generating SIP request (To, R-URI, From, Call-ID, CSeq, Max-Forwards, Via), SIP Dialog and Transaction, SIP Terminating a Session with a BYE request, SIP Creating the initial invite, User Authentication, SIP - Max F	RFC 3261 and Q.1912.5
153	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with TCP Parameters (Conformance Test)	Header Format and Sequence Numbers (CONFIP)	RFC 793
154	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with UDP, MGCP Parameters (Conformance Test)	UDP Format, User Terminology, Sequence numbers, Connection Model	RFC 768 and MGCP - H.248
155	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with VOIP interface	SIP Call flow /SIP Signaling/ Verification of Codecs	RFC 4733, 3550,793,768,1305, 3261,2833,2460,791
156	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with WCDMA/ HSPA Technology Interface	Frequency Stability	3GPP TS 34.121-1 5.3, EN 301 908-2 (UM3GPP TS)
157	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with WCDMA/ HSPA Technology Interface	Receiver Adjacent Channel Selectivity (ACS)	3GPP TS 34.121-1 Clause 6.4, EN 301 908-2 (UMTS) Clause 4.2.6
158	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with WCDMA/ HSPA Technology Interface	Receiver In-band blocking	3GPP TS 34.121-1 Clause 6.5.2.1, EN 301 908-2 (UMTS) Clause 4.2.7
159	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with WCDMA/ HSPA Technology Interface	Receiver Reference sensitivity level	3GPP TS 34.121-1 Clause 6.2, EN 301 908-2 (UMTS) Clause 4.2.13
160	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with WCDMA/ HSPA Technology Interface	Receiver spurious emission	3GPP TS 34.121-1 Clause 6.8, EN 301 908-2 (UMTS) Clause 4.2.10



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161	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with WCDMA/ HSPA Technology Interface	Transmitter Maximum output power	3GPP TS 34.121-1 Clause 5.2, EN 301 908-2 (UMTS) Clause 4.2.2
162	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with WCDMA/ HSPA Technology Interface	Transmitter Minimum Output Power	3GPP TS 34.121-1 Clause 5.4.3, EN 301 908-2 (UMTS) Clause 4.2.5
163	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with WCDMA/ HSPA Technology Interface	Transmitter Spectrum emissions mask	3GPP TS 34.121-1 Clause 5.9, EN 301 908-2 (UMTS) Clause 4.2.3
164	ELECTRONICS-MISCELLANEOUS PRODUCTS	All products with WCDMA/ HSPA Technology Interface	Transmitter spurious emissions	3GPP TS 34.121-1 Clause 5.11, EN 301 908-2 (UMTS) Clause 4.2.4
165	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Telecom/IT products with telecom/USB/ Ethernet/Coaxial ports	Lightning voltage/ Lightning current (Verify no damage and no insulation breakdown)	ITU-T K.20, ITU-T K.21, ITU-T K.44 ITU-T K.45
166	ELECTRONICS-MISCELLANEOUS PRODUCTS	All Telecom/IT products with telecom/USB/ Ethernet/Coaxial ports	Power induction and earth potential rise/ Neutral potential rise/ Mains power contact. (Verify no damage and no insulation breakdown)	ITU-T K.20, ITU-T K.21, ITU-T K.44, ITU-T K.45
167	ELECTRONICS-MISCELLANEOUS PRODUCTS	Audio Conferencing Equipment	Voice Conference Verification	Functional Test
168	ELECTRONICS-MISCELLANEOUS PRODUCTS	CDMA2000/2G/ GSM/ GPRS/ EDGE/3G/ WCDMA/ HSPA/4G/ LTE/ LTE-A/BTS	Frequency of Operation/Operating Frequency	NFAP
169	ELECTRONICS-MISCELLANEOUS PRODUCTS	Computer, Data Storage Test, Display Unit, Enterprise Server, Imaging Equipment, Large Network Equipment, Setup Boxes, Small Network Equipment, Telephony, Uninterruptible Power Supplies (UPSs)	Power Testing. (Maximum Power test, UUT Preparation, Sleep Mode Testing, Long Idle Mode Testing, Short Idle Mode Testing, Off Mode Testing, SUT Pre-fill Test, SUT Conditioning Test, Block I/O Active State Test, File I/O Active State Test, Ready Idle State Test, COM Validation Test, Pre-Test UUT Initialization, Luminance Testing, On Mode Testing for Products without ABC Enabled by Default, On Mode Testing for Products with ABC Enabled by Default, Sleep Mode Testing, Off Mode Testing, Additional	IEC 62623:2012, IEC 62301



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170	ELECTRONICS-MISCELLANEOUS PRODUCTS	Fascimile Machine	Satisfactory Fax transmission of T.22 chart	ITU-T T.22
171	ELECTRONICS-MISCELLANEOUS PRODUCTS	Fax / Modem and other products with PSTN 2W analog Interface	DC Resistance	ETSI EN 300 001, TBR-21 (TEC S/INT-2W/02-MAY2001
172	ELECTRONICS-MISCELLANEOUS PRODUCTS	Fax / Modem and other products with PSTN 2W analog Interface	Impedance Unbalance (Longitudinal / Trasnverse Conversion Loss)	ITU-T Q.552 & TBR21(TEC S/INT-2W/02-MAY2001)
173	ELECTRONICS-MISCELLANEOUS PRODUCTS	Fax / Modem and other products with PSTN 2W analog Interface	Receiver Sensitivity	ITU-T T.4 (TEC TSTP/TEC/IR/TX/FAX-01/05/ MAY 16)
174	ELECTRONICS-MISCELLANEOUS PRODUCTS	Fax / Modem and other products with PSTN 2W analog Interface	Receiver Signal for Modem	Functional Test
175	ELECTRONICS-MISCELLANEOUS PRODUCTS	Fax / Modem and other products with PSTN 2W analog Interface	Transmit Power	ITU-T T.4 (TEC TSTP/TEC/IR/TX/FAX-01/05/ MAY 16)
176	ELECTRONICS-MISCELLANEOUS PRODUCTS	Fax /Modem and other products with PSTN 2W analog Interface	Return Loss (Reflection Loss)	ITU-T Q.552 (TEC S/INT-2W/02-MAY2001)
177	ELECTRONICS-MISCELLANEOUS PRODUCTS	Fax/Modem	Observation of Data Speed in presence of Noise	ITU-T T.4 / ITU-T V.92/V.90/V.34b (TEC TSTP/TEC/IR/TX/FAX-01/05/ MAY 16)
178	ELECTRONICS-MISCELLANEOUS PRODUCTS	Fax/Modem	Observation of Data Speed under different SNR	ITU-TT.4/ITU-T V.92/V.90/V.34b (TEC TSTP/TEC/IR/TX/FAX-01/05/ MAY 16)
179	ELECTRONICS-MISCELLANEOUS PRODUCTS	GPON	Protocol Test for GPON Int	EthOGEM/ G.984.2
180	ELECTRONICS-MISCELLANEOUS PRODUCTS	GPON/EPON	Line test	IEEE 802.3ah
181	ELECTRONICS-MISCELLANEOUS PRODUCTS	GPON/EPON	Operating Wavelength Trans, Recv.	G.984.2, Cl. 8.2.5.1, Cl. 8.2.5.2, IEEE 802.3a
182	ELECTRONICS-MISCELLANEOUS PRODUCTS	GPON/EPON	Opt Output Power at ONT & OLT	G.984.2, IEEE 802.3ah



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183	ELECTRONICS- MISCELLANEOUS PRODUCTS	GPON/EPON	Receiver Sensitivity at OLT & OLT	G.984.2, IEEE 802.3ah
184	ELECTRONICS- MISCELLANEOUS PRODUCTS	GPON/EPON	Throughput	G.984.1, RFC 2544
185	ELECTRONICS- MISCELLANEOUS PRODUCTS	GSM BTS Receiver Parameters	AM suppression	3GPP TS 51.021, Clause 7.8
186	ELECTRONICS- MISCELLANEOUS PRODUCTS	GSM BTS Receiver Parameters	Blocking Characteristics	3GPP TS 51.021, Clause 7.6
187	ELECTRONICS- MISCELLANEOUS PRODUCTS	GSM BTS Receiver Parameters	Intermodulation characteristics	3GPP TS 51.021, Clause 7.7
188	ELECTRONICS- MISCELLANEOUS PRODUCTS	GSM BTS Receiver Parameters	Reference interference level	3GPP TS 51.021, Clause 7.5
189	ELECTRONICS- MISCELLANEOUS PRODUCTS	GSM BTS Receiver Parameters	Spurious emissions from the receiver antenna connector	3GPP TS 51.021, Clause 7.9
190	ELECTRONICS- MISCELLANEOUS PRODUCTS	GSM BTS Receiver Parameters	Static Reference Sensitivity Level	3GPP TS 51.021, Clause 7.3
191	ELECTRONICS- MISCELLANEOUS PRODUCTS	GSM BTS Transmitter Parameters	Adjacent channel power	3GPP TS 51.021, Clause 6.5
192	ELECTRONICS- MISCELLANEOUS PRODUCTS	GSM BTS Transmitter Parameters	Intermodulation attenuation	3GPP TS 51.021, Clause 6.7
193	ELECTRONICS- MISCELLANEOUS PRODUCTS	GSM BTS Transmitter Parameters	Intra Base Station System intermodulation attenuation	3GPP TS 51.021, Clause 6.8
194	ELECTRONICS- MISCELLANEOUS PRODUCTS	GSM BTS Transmitter Parameters	Mean transmitted RF carrier power	3GPP TS 51.021, Clause 6.3
195	ELECTRONICS- MISCELLANEOUS PRODUCTS	GSM BTS Transmitter Parameters	Radiated spurious emissions	3GPP TS 51.021, Clause 8
196	ELECTRONICS- MISCELLANEOUS PRODUCTS	GSM BTS Transmitter Parameters	Spurious emissions from the transmitter antenna connector	3GPP TS 51.021, Clause 6.6



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197	ELECTRONICS-MISCELLANEOUS PRODUCTS	GSM BTS Transmitter Parameters	Wideband noise and intra BSS intermodulation attenuation in multicarrier operation	3GPP TS 51.021, Clause 6.12
198	ELECTRONICS-MISCELLANEOUS PRODUCTS	IoT Devices	IoT Dev - Non-0 IMEI or MEID or Unique MAC	GSMA official document IMEI Allocation & Approval Process (for IMEI / MEID)
199	ELECTRONICS-MISCELLANEOUS PRODUCTS	LTE eNodeB Home BS Parameters	Home BS output power for adjacent E-UTRA channel protection: Applicable to Home base Station only	3GPP TS 36.141, Clause 6.2.7
200	ELECTRONICS-MISCELLANEOUS PRODUCTS	LTE eNodeB Home BS Parameters	Home BS output power for adjacent UTRA channel protection : Applicable to Home base Station only	3GPP TS 36.141, Clause 6.2.6
201	ELECTRONICS-MISCELLANEOUS PRODUCTS	LTE eNodeB Home BS Parameters	Home BS output power for co-channel E-UTRA protection: Applicable to Home base Station only	3GPP TS 36.141, Clause 6.2.8
202	ELECTRONICS-MISCELLANEOUS PRODUCTS	LTE eNodeB Receiver Parameters	Adjacent Channel Selectivity (ACS) and narrow-band blocking	3GPP TS 36.141, Clause 7.5
203	ELECTRONICS-MISCELLANEOUS PRODUCTS	LTE eNodeB Receiver Parameters	Blocking	3GPP TS 36.141, Clause 7.6
204	ELECTRONICS-MISCELLANEOUS PRODUCTS	LTE eNodeB Receiver Parameters	Receiver intermodulation	3GPP TS 36.141, Clause 7.8
205	ELECTRONICS-MISCELLANEOUS PRODUCTS	LTE eNodeB Receiver Parameters	Receiver spurious emissions	3GPP TS 36.141, Clause 7.7
206	ELECTRONICS-MISCELLANEOUS PRODUCTS	LTE eNodeB Receiver Parameters	Reference sensitivity level	3GPP TS 36.141, Clause 7.2
207	ELECTRONICS-MISCELLANEOUS PRODUCTS	LTE eNodeB Transmitter Parameters	Adjacent Channel Leakage Power Ratio (ACLR)	3GPP TS 36.141, Clause 6.6.2
208	ELECTRONICS-MISCELLANEOUS PRODUCTS	LTE eNodeB Transmitter Parameters	Base station output power	3GPP TS 36.141, Clause 6.2
209	ELECTRONICS-MISCELLANEOUS PRODUCTS	LTE eNodeB Transmitter Parameters	Operating band unwanted emissions	3GPP TS 36.141, Clause 6.6.3



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210	ELECTRONICS-MISCELLANEOUS PRODUCTS	LTE eNodeB Transmitter Parameters	Transmitter intermodulation	3GPP TS 36.141, Clause 6.7
211	ELECTRONICS-MISCELLANEOUS PRODUCTS	LTE eNodeB Transmitter Parameters	Transmitter spurious emissions	3GPP TS 36.141, Clause 6.6.4
212	ELECTRONICS-MISCELLANEOUS PRODUCTS	Mobile Handset - Feature Phone & Smart Phone	Mobile Emergency Support - Panic Button	3GPP TS 22.101 for GSM/UMTS/ LTE, 3GPP2 C.S0023 for CDMA
213	ELECTRONICS-MISCELLANEOUS PRODUCTS	Mobile Handset and Tablet	Mobile device - Non-Zero IMEI/MEID/ESN	GSMA official document IMEI Allocation & Approval Process
214	ELECTRONICS-MISCELLANEOUS PRODUCTS	Mobile Handset and Tablet	Mobile Emergency Support - Call on 112	3GPP2 C.S0023 for CDMA 2000, 3GPP TS 22.101 and TS 24.008 for GSM/ UMTS/ LTE
215	ELECTRONICS-MISCELLANEOUS PRODUCTS	Mobile Handset and Tablet	Mobile Emergency Support - GPS Location & GPS Compliance	G.S.R. No. 1441 (E) dated 23-11-2017 & 436(E)
216	ELECTRONICS-MISCELLANEOUS PRODUCTS	PABX (all clauses)	Inter / Intra PABX calls, PSTN Connectivity Emergency Services, Compatibility with existing Networks Fault Localization, Operation and Maintenance Features Security & logs Performance Monitoring, Verification of Codecs, Other general functions/ Features, etc.	(TEC/IR/SW/PBX-104/04/OCT 2017)
217	ELECTRONICS-MISCELLANEOUS PRODUCTS	PON Functional Test Parameters	DOS Prevention, SSH v1-2 for CLI in PON	ITU-T G.984.3 section V.2, SSH v2 RFC 4251
218	ELECTRONICS-MISCELLANEOUS PRODUCTS	PON Functional Test Parameters	Frame loss of PON, Latency of PON, Throughput of PON	RFC 2544
219	ELECTRONICS-MISCELLANEOUS PRODUCTS	PON Functional Test Parameters	MAC Address Learning and Aging Control OLT	G.984.1. (For GPON OLT), IEEE 802.3ah (FOR EPON OLT), G.987.2 (FOR XGPON OLT), G.9807.1 (FOR XGSPON OLT), G.694.1 (FOR WDM PON OLT), G.989.2 (FOR NGPON2 OLT) & IEEE 802.1Q (Testing Procedure)



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220	ELECTRONICS- MISCELLANEOUS PRODUCTS	PON Functional Test Parameters	MAC Address Limitation in PON	IEEE 802.3
221	ELECTRONICS- MISCELLANEOUS PRODUCTS	PON Functional Test Parameters	MAC Based 802.1x Authentication in PON	IEEE 802.1x
222	ELECTRONICS- MISCELLANEOUS PRODUCTS	PON Functional Test Parameters	MAC Learning Support at OLT	G.984.1
223	ELECTRONICS- MISCELLANEOUS PRODUCTS	PON Functional Test Parameters	Maximum Bandwidth Limiting in PON	G.984.3 Section 7.5 (For GPON OLT), IEEE 802.3ah (FOR EPON OLT), G.987.2 (FOR XGPON OLT), G.9807.1 (FOR XGSPON OLT), G.694.1 (FOR WDM PON OLT), G.989.2 (FOR NGPON2 OLT)
224	ELECTRONICS- MISCELLANEOUS PRODUCTS	PON Functional Test Parameters	Minimum Guaranteed Bandwidth in PON	G.984.3 Section 7.5. (For GPON OLT), IEEE 802.3ah (FOR EPON OLT), G.987.2 (FOR XGPON OLT), G.9807.1 (FOR XGSPON OLT), G.694.1 (FOR WDM PON OLT), G.989.2 (FOR NGPON2 OLT)
225	ELECTRONICS- MISCELLANEOUS PRODUCTS	PON Functional Test Parameters	Minimum two classes of Classification in PON	G.984.3 Section 7.5. (For GPON OLT), IEEE 802.3ah (FOR EPON OLT), G.987.2 (FOR XGPON OLT), G.9807.1 (FOR XGSPON OLT), G.694.1 (FOR WDM PON OLT), G.989.2 (FOR NGPON2 OLT)
226	ELECTRONICS- MISCELLANEOUS PRODUCTS	PON Functional Test Parameters	Password Based Authentication in PON	ITU-T G.984.3 section 9.2.2, 12.
227	ELECTRONICS- MISCELLANEOUS PRODUCTS	PON Functional Test Parameters	Port-id Based VLAN Support at OLT	G.984.1 (For GPON OLT), IEEE 802.3ah (FOR EPON OLT), G.987.2 (FOR XGPON OLT), G.9807.1 (FOR XGSPON OLT), G.694.1 (FOR WDM PON OLT), G.989.2 (FOR NGPON2 OLT) & IEEE 802.1Q (Testing Procedure)



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228	ELECTRONICS-MISCELLANEOUS PRODUCTS	PON Functional Test Parameters	Switch Fabric Throughput Capability OLT	G.984.1 (For GPON OLT), IEEE 802.3ah (FOR EPON OLT), G.987.2 (FOR XGPON OLT), G.9807.1 (FOR XGSPON OLT), G.694.1 (FOR WDM PON OLT), G.989.2 (FOR NGPON2 OLT)
229	ELECTRONICS-MISCELLANEOUS PRODUCTS	PON Functional Test Parameters	VLAN Stacking to Network Support at OLT	G.984.1, (For GPON OLT), IEEE 802.3ah (FOR EPON OLT), G.987.2 (FOR XGPON OLT), G.9807.1 (FOR XGSPON OLT), G.694.1 (FOR WDM PON OLT), G.989.2 (FOR NGPON2 OLT) & IEEE 802.1Q(testing procedure).
230	ELECTRONICS-MISCELLANEOUS PRODUCTS	Products with PSTN 2W analog Interface	Idle State Power	ITU-T G.712 (TEC S/INT-2W/02-MAY2001)
231	ELECTRONICS-MISCELLANEOUS PRODUCTS	Products with PSTN 2W analog Interface	Idle State Impedance	ETSI EN 300 001 (TEC S/INT-2W/02-MAY2001)
232	ELECTRONICS-MISCELLANEOUS PRODUCTS	Products with PSTN 2W analog Interface	Insulation Resistance / Resistance to Earth / Insulation Test	ETSI EN 300 001, TBR-21 (TEC S/INT-2W/02-MAY2001)
233	ELECTRONICS-MISCELLANEOUS PRODUCTS	Telecom / IT products / circuits	DC Current Measurement (Loop current)	ETSI EN 300 001 (TEC S/INT-2W/02-MAY2001)
234	ELECTRONICS-MISCELLANEOUS PRODUCTS	Telecom / IT products / circuits	AC Current Measurement (Loop current)	ETSI EN 300 001 (TEC S/INT-2W/02-MAY2001)
235	ELECTRONICS-MISCELLANEOUS PRODUCTS	Telecom / IT products / circuits	AC voltage Measurement	ETSI EN 300 001 (TEC S/INT-2W/02-MAY2001)
236	ELECTRONICS-MISCELLANEOUS PRODUCTS	Telecom / IT products / circuits	DC voltage Measurement	ETSI EN 300 001 (TEC S/INT-2W/02-MAY2001)
237	ELECTRONICS-MISCELLANEOUS PRODUCTS	Telecom / IT products / circuits	Resistance Measurement	ETSI EN 300 001, TBR-21 (TEC S/INT-2W/02-MAY2001)
238	ELECTRONICS-MISCELLANEOUS PRODUCTS	Telecom / IT products / circuits	Supply Power Measurement	IEC-62623 / IEC 62301



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239	ELECTRONICS-MISCELLANEOUS PRODUCTS	Telecom Protocols	Verification of E1R2 , SS7, Signalling protocols	E1R2: ITU-T Q.440/441/442 SS7:ITU-T Q.781/782/783/784
240	ELECTRONICS-MISCELLANEOUS PRODUCTS	Telephone / Cordless Telephone/ Voice Terminals	Acoustic Ratings SLR/RLR/STMR/Total Distortion	ITU-T P.57 / P.76/ P.79
241	ELECTRONICS-MISCELLANEOUS PRODUCTS	Telephone / Cordless Telephone/ Voice Terminals	Acoustic Shock Absorption	ITU-T P.360
242	ELECTRONICS-MISCELLANEOUS PRODUCTS	WCDMA NodeB Home BTS AdjChI Op Power	Home base station output power for adjacent channel protection	3GPP TS 25.141, Clause 6.4.6
243	ELECTRONICS-MISCELLANEOUS PRODUCTS	WCDMA NodeB Receiver Parameters	Adjacent Channel Selectivity (ACS)	3GPP TS 25.141, Clause 7.4
244	ELECTRONICS-MISCELLANEOUS PRODUCTS	WCDMA NodeB Receiver Parameters	Blocking characteristics	3GPP TS 25.141, Clause 7.5
245	ELECTRONICS-MISCELLANEOUS PRODUCTS	WCDMA NodeB Receiver Parameters	Intermodulation characteristics	3GPP TS 25.141, Clause 7.6
246	ELECTRONICS-MISCELLANEOUS PRODUCTS	WCDMA NodeB Receiver Parameters	Reference sensitivity level	3GPP TS 25.141, Clause 7.2
247	ELECTRONICS-MISCELLANEOUS PRODUCTS	WCDMA NodeB Receiver Parameters	Spurious Emissions	3GPP TS 25.141, Clause 7.7
248	ELECTRONICS-MISCELLANEOUS PRODUCTS	WCDMA NodeB Transmitter Parameters	Adjacent Channel Leakage Power Ratio (ACLR)	3GPP TS 25.141, Clause 6.5.2.2
249	ELECTRONICS-MISCELLANEOUS PRODUCTS	WCDMA NodeB Transmitter Parameters	Base station output power	3GPP TS 25.141, Clause 6.2
250	ELECTRONICS-MISCELLANEOUS PRODUCTS	WCDMA NodeB Transmitter Parameters	Spectrum emission mask	3GPP TS 25.141, Clause 6.5.2.1
251	ELECTRONICS-MISCELLANEOUS PRODUCTS	WCDMA NodeB Transmitter Parameters	Spurious emissions	3GPP TS 25.141, Clause 6.5.3
252	ELECTRONICS-MISCELLANEOUS PRODUCTS	WCDMA NodeB Transmitter Parameters	Transmitter intermodulation	3GPP TS 25.141, Clause 6.3



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253	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Abnormal operation	(Cl. No.19)IS 302-1:2008+A4
254	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Abnormal operations	(Cl. No.19)IS 302-1:2008+A4
255	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Classification	(Cl. No.6)IS 302-1:2008+A4
256	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Clearances, creepage distances and solid insulation	(Cl. No.29)IS 302-1:2008+A4
257	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Clearances, creepage distances and solid insulation	(Cl. No.29)IS 302-1:2008+A4
258	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Components	(Cl. No.24)IS 302-1:2008+A4
259	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Construction	(Cl. No.22)IS 302-1:2008+A4
260	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Heating test	(Cl. No.11)IS 302-1:2008+A4
261	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Heating test	(Cl. No.11)IS 302-1:2008+A4
262	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Internal wiring	(Cl. No.23)IS 302-1:2008+A4
263	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Leakage current and electric strength	(Cl. No.16)IS 302-1:2008+A4
264	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Leakage current and electric strength	(Cl. No.16)IS 302-1:2008+A4
265	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Leakage current and electric strength at operating temperature	(Cl. No.13) IS 302-1:2008+A4
266	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Leakage current and electric strength at operating temperature	(Cl. No.13)IS 302-1:2008+A4
267	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Marking and instructions	(Cl. No. 7)IS 302-1:2008+A4
268	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Mechanical strength	(Cl. No.21)IS 302-1:2008+A4
269	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Mechanical strength	(Cl. No.21)IS 302-1:2008+A4
270	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Moisture resistance	(Cl. No.15)IS 302-1:2008+A4



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271	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Overload protection	(Cl. No.17)IS 302-1:2008+A4
272	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Overload protection	(Cl. No.17)IS 302-1:2008+A4
273	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Power Input and current test	(Cl. No.10)IS 302-1:2008+A4
274	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Power Input and current test	(Cl. No.10)IS 302-1:2008+A4
275	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Power Input and current test	(Cl. No.10)IS 302-1:2008+A4
276	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Protection against access to live part test	(Cl. No. 8) IS 302-1:2008+A4
277	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Protection against access to live part test	(Cl. No. 8)IS 302-1:2008+A4
278	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Provision for earthing	(Cl. No.27)IS 302-1:2008+A4
279	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Radiation, toxicity and similar hazards	(Cl. No.32)IS 302-1:2008+A4
280	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Screws and connections	(Cl. No.28)IS 302-1:2008+A4
281	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Stability and mechanical hazards	(Cl. No.20)IS 302-1:2008+A4
282	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Supply connection and external flexible cords	(Cl. No.25)IS 302-1:2008+A4
283	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Supply connection and external flexible cords	(Cl. No.25)IS 302-1:2008+A4
284	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Terminals for external conductors	(Cl. No.26)IS 302-1:2008+A4
285	ELECTRONICS- SAFETY TESTING FACILITY	Adapters for household and similar electrical appliances	Terminals for external conductors	(Cl. No.26)IS 302-1:2008+A4
286	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	CLEARANCES and CREEPAGE DISTANCES	IS-616:2017/ IEC 60065 : 2014 (Cl.13.0)
287	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	CLEARANCES and CREEPAGE DISTANCES	IS-616:2017/ IEC 60065 : 2014 (Cl.13.0)
288	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	CLEARANCES and CREEPAGE DISTANCES	IS-616:2017/ IEC 60065 : 2014 (Cl.13.0)
289	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	CLEARANCES and CREEPAGE DISTANCES	IS-616:2017/ IEC 60065 : 2014 (Cl.13.0)



National Accreditation Board for Testing and Calibration Laboratories

SCOPE OF ACCREDITATION

Laboratory Name : SUNREN TELECOM LABORATORY, A DIVISION OF M/S SUNREN TECHNICAL SOLUTIONS PVT. LTD., C-475, MIDC PAVANE, TTC INDUSTRIAL AREA, NAVI MUMBAI, THANE, MAHARASHTRA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-7995 **Page No** 26 of 35

Validity 18/10/2021 to 17/10/2023 **Last Amended on** 03/11/2021

S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
290	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Components (Verification of reports as per relevant Standards)	IS-616:2017/ IEC 60065 : 2014 (Cl.14.0)
291	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Constructional requirements with regard to the protection against electric shock	IS-616:2017/ IEC 60065 : 2014 (Cl. No.8)
292	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Constructional requirements with regard to the protection against electric shock	IS-616:2017/ IEC 60065 : 2014 (Cl. No.8)
293	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Constructional requirements with regard to the protection against electric shock	IS-616:2017/ IEC 60065 : 2014 (Cl. No.8)
294	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Constructional requirements with regard to the protection against electric shock	IS-616:2017/ IEC 60065 : 2014 (Cl. No.8)
295	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Electric shock hazard under normal operating condition	IS-616:2017/ IEC 60065 : 2014 (Cl.9.1 , 9.2)
296	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Electric shock hazard under normal operating condition	IS-616:2017/ IEC 60065 : 2014 (Cl.9.1, 9.2)
297	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Electrical connection and mechanical fixings	IS-616:2017/ IEC 60065 : 2014
298	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Electrical connection and mechanical fixings	IS-616:2017/ IEC 60065 : 2014 (Cl.17.0)
299	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	External Flexible cords	IS-616:2017/ IEC 60065 : 2014 (Cl.16.0)
300	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	External Flexible cords	IS-616:2017/ IEC 60065 : 2014 (Cl.16.0)
301	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	External Flexible cords	IS-616:2017/ IEC 60065 : 2014 (Cl.16.0)
302	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Fault Conditions	IS-616:2017/ IEC 60065 : 2014 (Cl.11)
303	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Fault Conditions	IS-616:2017/ IEC 60065 : 2014 (Cl.11)
304	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Heating under normal operating conditions- General	IS-616:2017/ IEC 60065 : 2014 (Cl. No.7.1)
305	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Heating under normal operating conditions- General	IS-616:2017/ IEC 60065 : 2014 (Cl. No.7.1)



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306	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Heating under normal operating conditions- Heat resistance of insulating material	IS-616:2017/ IEC 60065 : 2014 (Cl. No.7.2)
307	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Input Rating	IS-616:2017/ IEC 60065 : 2014 (Cl No 4.2 & 5.1)
308	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Input Rating	IS-616:2017/ IEC 60065 : 2014 (Cl No 4.2 & 5.1)
309	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Input Rating	IS-616:2017/ IEC 60065 : 2014 (Cl No 4.2 & 5.1)
310	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Input Rating	IS-616:2017/ IEC 60065 : 2014 (Cl No 4.2 & 5.1)
311	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Input Rating	IS-616:2017/ IEC 60065 : 2014 (Cl No 4.2 & 5.1)
312	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Insulation resistance and dielectric strength	IS-616:2017/ IEC 60065 : 2014 (Cl.10.4)
313	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Insulation resistance and dielectric strength	IS-616:2017/ IEC 60065 : 2014 (Cl.10.4)
314	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Marking & Instructions- Identification & supply ratings	IS-616:2017/ IEC 60065 : 2014 (Cl. No. 5.1,5.3, 5.4, 5.5)
315	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Mechanical Strength	IS-616:2017/ IEC 60065 : 2014 (12.6)
316	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Mechanical Strength	IS-616:2017/ IEC 60065 : 2014 (12.7)
317	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Mechanical Strength	IS-616:2017/ IEC 60065 : 2014 (Cl.12.1.3)
318	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Mechanical Strength	IS-616:2017/ IEC 60065 : 2014 (Cl.12.2)
319	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Mechanical Strength	IS-616:2017/ IEC 60065 : 2014 (Cl.12.3)
320	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Mechanical Strength	IS-616:2017/ IEC 60065 : 2014 (Cl.12.5)
321	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Mechanical Strength Drawers	IS-616:2017/ IEC 60065 : 2014 (Cl.12.4)
322	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Mechanical Strength Drop test	IS-616:2017/ IEC 60065 : 2014 (Cl.12.1.5)
323	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Mechanical Strength Impact test	IS-616:2017/ IEC 60065 : 2014 (Cl.12.1.4)



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S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
324	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Mechanical Strength Stress relief test	IS-616:2017/ IEC 60065 : 2014 (Cl.12.1.6)
325	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Stability and mechanical hazards	IS-616:2017/ IEC 60065 : 2014 (Cl.19.0)
326	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Surge Test	IS-616:2017/ IEC 60065 : 2014 (Cl.10.2)
327	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Terminals	IS-616:2017/ IEC 60065 : 2014 (Cl.15.0)
328	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Terminals	IS-616:2017/ IEC 60065 : 2014 (Cl.15.0)
329	ELECTRONICS- SAFETY TESTING FACILITY	Audio, Video and Similar Electronic Apparatus	Terminals	IS-616:2017/ IEC 60065 : 2014 (Cl.15.0)
330	ELECTRONICS- SAFETY TESTING FACILITY	Electric shock hazard under normal operating condition	Electric shock hazard under normal operating condition	IS-616:2017/ IEC 60065 : 2014 (Cl.9.1 , 9.2)
331	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Protection from Hazards Protection from Electric Shock & Energy Hazards	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CL No. 2.1
332	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Abnormal operating & fault conditions	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 5.3
333	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Clearances, Creepage distances and distances through insulation	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) (ONLY Cl. 2.10.1, 2.10.2, 2.10.3, 2.10.4, 2.10.5.1, 2.10.5.2, 2.10.5.3, 2.10.5.4, 2.10.5.5, 2.10.5.7, 2.10.5.9, 2.10.5.10, 2.10.6)
334	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Clearances, Creepage distances and distances through insulation	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) (ONLY Cl. 2.10.1, 2.10.2, 2.10.3, 2.10.4, 2.10.5.1, 2.10.5.2, 2.10.5.3, 2.10.5.4, 2.10.5.5, 2.10.5.7, 2.10.5.9, 2.10.5.10, 2.10.6)



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S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
335	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Connection to cable Distribution System	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) (Cl. 7.1, 7.2,7.3, 7.4 except 7.4.2)
336	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Connections to mains Supply	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) (Cl. 3.2 except 3.2.5)
337	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Connections to mains Supply	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) (Cl. 3.2 except 3.2.5)
338	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Connections to Telecommunication network	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 6.1, 6.2, 6.3
339	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Design & Construction	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) :(Cl. 4.3BatteriesCl. 4.3.8 except 4.3.10, 4.3.11, 4.3.12)
340	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Disconnections from the main Supply	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 3.4
341	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Electric Strength Test	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 5.2



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S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
342	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners & Smart watches)	Electrical Insulation	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 2.9
343	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners & Smart watches)	Electrical requirements & simulated abnormal conditions Touch current & protective conductor current	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 5.1
344	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners & Smart watches)	Interconnection of equipment	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 3.5
345	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners & Smart watches)	Limited Current Circuits	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013)
346	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners & Smart watches)	Limited Current Circuits	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 2.4
347	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners & Smart watches)	Limited Current Circuits	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 2.4
348	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners & Smart watches)	Limited Current Circuits	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 2.4



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349	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Limited Power Sources	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 2.5
350	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Limited Power Sources	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 2.5
351	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Limited Power Sources	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 2.5
352	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Limited Power Sources	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 2.5
353	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Markings & Instructions	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 1.7
354	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Mechanical Strength	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) (CI. 4.2 except 4.2.8 , 4.2.9)
355	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Opening in Enclosure	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) (CI.4.6 except 4.6.2)



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356	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Over-current and earth fault protection in primary circuits and Safety Interlocks	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) (Cl. 2.7, 2.8 except 2.8.5 , 2.8.7)
357	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Physical Requirements Stability	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 4.1
358	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Power Interface	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013)
359	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Power Interface	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013)
360	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Power Interface	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013)
361	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Power Interface	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 1.6
362	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Protection against hazardous moving parts	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 4.4



National Accreditation Board for Testing and Calibration Laboratories

SCOPE OF ACCREDITATION

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Accreditation Standard	ISO/IEC 17025:2017		
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S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
363	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Protection against Lightning	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) ITU-T K.21 / K.44
364	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Protection from Hazards Protection from Electric Shock & Energy Hazards	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 2.1
365	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Protection from Hazards Protection from Electric Shock & Energy Hazards	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 2.1
366	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Provision for earthing and bonding	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 2.6
367	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	SELV Circuits	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013)
368	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	SELV Circuits	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013)
369	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	SELV Circuits	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 2.2



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S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
370	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	SELV Circuits	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 2.2
371	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Thermal Requirements	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 4.5
372	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	TNV Circuits	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 2.3
373	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	TNV Circuits	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 2.3
374	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	TNV Circuits	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 2.3
375	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	TNV Circuits	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 2.3
376	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Wiring Connection and Supply General	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 3.1



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S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
377	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Wiring Terminals for external conductors	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 3.3
378	ELECTRONICS- SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones, Power Adapters, Automatic Data Processing Machine ,CCTV Cameras, CCTV Recorders USB driven Barcode readers, barcode scanners, Iris scanners, Optical fingerprint scanners &Smart watches)	Wiring Terminals for external conductors	IS 13252 (Part 1): 2010 + A1(2013)+A2(2015) IEC 60950-1 :2005+ A1(2009)+A2(2013) CI No. 3.3
379	ELECTRONICS- SAFETY TESTING FACILITY	Mobile Phones / Tablet	Message readability	(CI 5.2) IS 16333 (Part-3)
380	ELECTRONICS- SAFETY TESTING FACILITY	Mobile Phones / Tablet	Text Inputting	(CI 5.1) IS 16333 (Part-3)