

**Laboratory** Component Approval Centre Telecommunications, Bharat Sanchar Nigam Limited, Dooravani Nagar, Bangalore, Karnataka

**Accreditation Standard** ISO/IEC 17025: 2005

**Certificate Number** TC-6698 **Page 1 of 4**

**Validity** 03.01.2018 to 02.01.2020 **Last Amended on --**

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
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**ELECTRONICS TESTING**

I.	<b>OPTO-ELECTRONICS COMPONENTS</b>			
1.	<b>Transformers Inductors Chokes</b>	Visual Examination Voltage Proof Insulation Resistance Inductance	JSS 54500 (Part 1): 1977 Test No. 13.1.1 Test No. 13.2.2 Test No. 13.2.3 Test No.13.2 JSS 54500 (Part 2): 1979	Qualitative (Visual) 1 kV to 5 kV 1 MΩ to 1 GΩ 100 μH to 10 H
2.	<b>EPBT Line Jack Unit</b>	Insulation Resistance Dielectric Strength of Line Jack Unit	Clause 1.3.1, Clause 1.3.3 TEC GR No. GR/LJU-01/06 Aug 2004	1 MΩ to 1 GΩ 1 kV to 5 kV (Leakage current ≤ 100 μA)
3.	<b>Optical Fiber Cables</b>	Crush Test	IEC 60794-1-2: 2003-05 Method E3	1 kg to 500 kg
		Kink Test	IEC 60794 -1-2: 2003-05 Method E10	Qualitative (Visual examination for Kink formation)
4.	<b>Optical Sources</b>	Laser /LED output Power	IEC 61280-1-1 Ed 2.0: 2013-15 Method –A	At 1310 nm and 1550 nm band
		Laser /LED Output Wavelength (Central Wavelength)	IEC 61280-1-3 Ed 2.0: 2010-3 Method A	Power: (+)3 dBm to (-) 80 dBm
		Optical Spectral width	IEC 61280-1-3 (Edition 2.0): 2010 -3 Method A	At 1310 nm and 1550 nm band
		Laser /LED output Wavelength (Peak Wavelength)	IEC 61280-1-3 (Edition 2.0): 2010-3 Method A	At 1310 nm and 1550 nm band
5.	<b>Single Mode Optical Fiber</b>	Attenuation by back Scattering technique using OTDR	IEC 60793-1-40: 2001-07 Method C	At Wave Length 1310 nm &1550 nm Dynamic range: 32 dB (Max)

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		Length by back scattering Technique using OTDR	IEC 60793-1-22: 2001-08 Method B	At wave length 1310 nm and 1550 nm Max: 50 km.
		Point defects (Reflective and non reflective) by back scattering Technique using OTDR	IEC 60793-1-40: 2001-07 Clause. 3.6	At wave lengths 1310 nm and 1550 nm
		Fiber Curl Radius	IEC 60793-1-34 (Side view microscopy) Method A	Curl radius: 1 m to 100 m
		Coating diameter, concentricity and non-circularity of coating layers	Method A of IEC-60793-1-21 (Side view light distribution)	Coating Diameter: ≤ 500 μm, measures natural and colored fiber
		Change of optical transmittance during mechanical and environmental test by back scattering monitoring technique using OTDR	Method B of IEC-60793-1-46, 2001-07	At wave lengths 1310 nm and 1550 nm
		Mode Field Diameter	Method – A (Direct far field scan) of IEC-60793-1-45 2001	Scanning Range: ± 20° Wavelength of operation: 1310 nm & 1550 nm
		Spectral Attenuation (cut-back)	Method: A (Cut- back) of IEC-60793-1-40: 2001	Wavelength Range: 1250nm to 1650nm (LED) Maximum Fiber loss : 50dB
		Cut off Wavelength (Bend reference technique)	IEC-60793-1-44: 2011 (Bend reference technique)	Wavelength Range: 1100 nm-1400 nm

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		Core and cladding diameter, Core and cladding non-circularity, Core/Clad Concentricity (Near field image, near field light distribution, Elliptical Fit)	Method C (Near field image, near field light distribution) Elliptical Fit) of IEC-60793-1-20: 2001	Cladding diameter: 60 µm to 140 µm
6.	Optical fiber patch cord and pig tails	Insertion loss	Method B of IEC-61300-3-4 Edition 3, 2012	At 1310 nm and 1550 nm band
		Return Loss	Method OCWR of IEC-61300-3-6 Edition 3, 2008-12	1 dB to 72 dB at 1310 nm and 1550 nm Band

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**MECHANICAL TESTING**

<b>I. PLASTICS &amp; PLASTIC PRODUCT</b>				
<b>1.</b>	<b>Thermoplastics like Polyethylene, Polyamide, Polybutylene Terapthalate (PBTP)</b>	Melt Flow Index	ASTM D 1238-13 & IS 2530: 1963 RA 2008	0.1 g/10 min to 25 g/10 min
		Density	ASTM D 792-13	0.9000 g/cc to 1.500 g/cc
		Tensile Strength	ASTM D 638-14	Upto 20 kN
		Elongation at break	ASTM D 638-14	5 % to 1500 %
		Environmental Stress Cracking Resistance (ESCR) Polyolefin Materials	ASTM D 1693-13	50 °C to 80 °C
		Hardness	ASTM D 2240-05	Shore D: 50 Units to 75 Units
<b>2.</b>	<b>GS Tape, Foils</b>	Tensile Strength	ASTM D 882-12 / IS 10810 (Part 37): 1984 RA 2016	2 kN to 18 kN
		Elongation	ASTM D 882-12 / IS 10810 (Part 37): 1984 RA 2016	5 % to 100 %
<b>3.</b>	<b>PVC Compound</b>	Thermal Stability	IS 10810 Part 60: 1988 RA 2015	200 °C (±) 0.5 °C
		Tensile strength	IS 10810 Part 7: 1984 RA 2016	2 kN to 18 kN
		Elongation	IS 10810 Part 7: 1984 RA 2016	5 % to 500 %
		Water absorption	IS 10810 Part 33: 1984 RA 2016	Upto 0.5 %