

ELECTRICAL LABORATORY- TEST REPORT
Information technology equipment – Safety –
Part 1: General requirements

Test Report N°.....		
Date of issue.....	01-08-2017	
Sample date in.....	30-09-2016	
Date of performance.....	03-10-2016 to 27-05-2017	
Applicant.....		
Customer.....		
Sample description.....	AC-DC SMPS ADAPTOR	
Sample Condition.....	OK	
Customer reference.....	N/A	
Trade mark / Manufacturer.....		
Model / Type / Reference.....	Q10K050100/381600280	
Ratings.....	I/P – 100-240 VAC, 0.2A, 47-63 Hz	
	O/P – 5.0VDC, 1.0A	
Test method(s).....	IEC 60950-1:2005+A1:2009+A2:2013	
Overall verdict	Pass	<input type="checkbox"/>
	Fail	<input type="checkbox"/>

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Institute of Testing & Certification
(India) Private Limited

Authorised Signatory

IEC 60950-1			
Clause no.	Requirement – Test	Results – Remarks	Verdict
1.5	Components		
1.5.1	GENERAL		
	Where safety is involved, components shall comply with the requirement of this standard.		P
1.5.2	Evaluation and testing of components	Refer Table 1	P
1.5.3	Thermal controls	No thermal controls	N/A
1.5.4	Transformers	Transformers Complied with the relevant requirement.	P
1.5.5	Interconnecting cables	In compliance	N/A
1.5.6	Capacitors bridging insulation		N/A
1.5.7	Resistors bridging insulation		N/A
1.5.8	Components in equipment for IT power distribution systems		N/A
1.5.9	Surge suppressors		N/A
1.5.9.1	General		N/A
1.5.9.2	Protection of VDRs		N/A
1.5.9.3	Bridging of functional insulation by a VDR		N/A
1.5.9.4	Bridging of supplementary, double or reinforced insulation by a VDR		N/A
1.6	Power interface		
1.6.1	AC power distribution systems	TN, power system	N/A
1.6.2	Input current		
	The steady state input current of the equipment shall not exceed the RATED CURRENT by more than 10 % under NORMAL LOAD.	Refer Table 2	P
1.6.3	Voltage limit of hand-held equipment		
	The rated voltage of HAND-HELD equipment shall not exceed 250 V.	Direct Plug-in Equipment	N/A
1.6.4	Neutral conductor		P
1.7	Markings and instructions		
1.7.1	Power rating and Identification markings		
1.7.1.1	Power rating markings		
	The power rating marking shall include the following:		
-	Rated voltage(s) rated voltage range(s), in volts	100-240V AC	N/A
-	Symbol for nature of supply, for d.c only	Provided	P
-	Rated current, in milli-amperes or amperes	0.2 Amp	N/A

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Clause no.	Requirement – Test	Results – Remarks	Verdict
1.7.2.5	Operator access with a tool		
	If a tool is necessary to gain access to an operator access area, either all other compartments within that area containing a hazard shall be inaccessible to the operator by the use of the same tool,		N/A
	An acceptable marking for an electric shock hazard is ____ (ISO 3864, No. 5036)		N/A
1.7.2.6	Ozone		
	For equipment that may produce ozone, the installation and operating instructions shall refer to the need to take precautions to ensure that the concentration of ozone is limited to a safe value.		N/A
1.7.3	Short duty cycles		
	Equipment not intended for continuous operation shall be marked with its rated operating time and rated resetting time unless the operating time is limited by the construction.		N/A
1.7.4	Supply voltage adjustment		
	Equipment intended for connection to multiple rated voltages or frequencies, the method of adjustment shall be fully described in the servicing or installation instructions.		N/A
1.7.5	Power outlets on the equipment		
	If any standard power supply outlet in the equipment is accessible to the operator, a marking shall be placed in the vicinity of the outlet to show the maximum load that is permitted to be connected to it.		N/A
1.7.6	Fuse identification		
	Marking shall be located adjacent to each fuse or fuse holder, or on the fuse holder, or in another location provided that it	Fusible resistor (F1) 1W	P
1.7.7	Wiring terminals		
1.7.7.1	Protective earthing and bonding terminals		
	A wiring terminal intended for connection of a protective earthing conductor shall be indicated by the symbol, IEC 60417- 5019		N/A
1.7.7.2	Terminals for a,c. mains supply conductors		
	Permanently connected and equipment with ordinary non- detachable power supply cords:		-

-	terminals intended exclusively for connection of the a.c mains supply neutral conductor, if any, shall be indicated by the capital letter N;		N/A
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IEC 60950-1			
Clause no.	Requirement – Test	Results – Remarks	Verdict
-	stationary pluggable equipment type B:		N/A
-	stationary pluggable equipment type A with a single connection to the a.c mains supply, and provided with a separate protective earthing terminal		N/A
-	Movable of stationary pluggable equipment type A		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks		N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		
	The Touch current from equipment supplied from the a.c mains supply to a telecommunication network or to a cable distribution system shall be limited.		N/A
5.1.8.2	Summation of touch currents from telecommunication networks		
	EUT that provides telecommunication networks connection ports for connection of multiple items of other telecommunication equipment, shall not create a hazard for users and telecommunication network service persons due to Summation of touch current.		N/A
a)	EUT with earthed telecommunication ports		N/A
b)	EUT whose telecommunication ports have no reference to protective earth		N/A
5.2	Electric strength	Refer Table 8	
5.2.1	General	Class II equipment.	
	The electric strength of the solid insulation used in the equipment shall be adequate.		P
5.2.2	Test procedure		
	The insulation is subjected either to a voltage of substantially sine-wave form having a frequency of 50 Hz or 60 Hz, or to a d.c. test voltage equal to the peak voltage of the prescribed a.c. test voltage.	 Refer table - 2	P

5.3	Abnormal operating and fault conditions	Refer Table 9	
5.3.1	Protection against overload and abnormal operation		

Table-3

2.5	Limited power source					
Circuit output tested						
Components	Uoc(V)	Isc (A)		VA		
		Meas.	Limit.	Meas.	Limit	
Normal operation	5.20	0.231	8	4.95	100	
R9 SC	0	0	8	0	100	
Supplementary information:						
SC= Short Circuit, OC = Open Circuit Means unit Shut down immediately, no hazard, no damage. Test voltage: 254.4 VAC, 50Hz Note: Measured Uoc(V) with all load disconnected:						

IEC 60950-1			
Clause no.	Requirement – Test	Results – Remarks	Verdict

Table - 4 A

2.10.2	Table: Working voltage measurement		P
Location	RMS voltage (V)	Peak Voltage (V)	
F1 (Fuse)	241.8	346.4	
C1(4.7µF/450V Capacitor)	240	340	
C2(4.7µF/450V Capacitor)	240	340	
T1 Pin-2 to 5 (Transformer)	240	520	
T1 Pin-4 to 5 (Transformer)	15	20	
U1 Pin 4 to 5 (PWM IC)	240	520	
Supplementary information: input voltage 240 VAC and 60 Hz			

Table -4 B

2.10	Clearances, creepage distances and distances through insulation					P
	Pollution Degree		2			
Clearance (cl) and Creepage distance between	(Vpeak)	(Vrms)	Required Cl (mm)	Measured Cl (mm)	Required Cr (mm)	Measured Cr (mm)
Primary Circuit Line & Neutral	346.4	241.8	1.5	3.10	2.5	3.10
Under C1	340	240	1.5	3.25	2.5	3.25
Under C1	340	240	1.5	2.55	2.5	2.55
T1 pin-2 to 5	520	240	4.4	8.2	5.0	8.5
T1 primary to secondary	340	240	4.0	8.3	5.0	8.4