



Test Report issued under the responsibility of:



TEST REPORT IEC 60950-1 Information technology equipment – Safety – Part 1: General requirements	
Report Number.	11035366 007
Date of issue	22 March, 2016
Total number of pages	7
Applicant's name	FSP Group Inc.
Address	No. 22, Jianguo E. Road, Taoyuan 330 Taiwan
Test specification:	
Standard	IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013
Test procedure	CB Scheme
Non-standard test method	N/A
Test Report Form No.	IEC60950_1F
Test Report Form(s) Originator	SGS Fimko Ltd
Master TRF	Dated 2014-02
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General disclaimer: The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.	

Test item description..... :		Switching Power Supply	
Trade Mark..... :		3Y POWER TECHNOLOGY	
Manufacturer		Same as applicant	
Model/Type reference..... :		FSP050-DIBAN2	
Ratings..... :		Input: 100-240V~, 1.5A, 50-60Hz Output: 12.0Vdc, 4.16A MAX (50W MAX)	
Testing procedure and testing location:			
☒	CB Testing Laboratory:	TÜV Rheinland Taiwan Ltd., Taichung Laboratory	
Testing location/ address		No. 9, Ln. 36, Sec. 3, Minsheng Rd., Daya District, Taichung City, 428 Taiwan	
☐	Associated CB Testing Laboratory:		
Testing location/ address			
Tested by (name + signature)..... :		Cody Chen	Cody Chen
Approved by (name + signature)..... :		Jimmy Lu	Jimmy Lu
☐	Testing procedure: TMP/CTF Stage 1:		
Testing location/ address			
Tested by (name + signature)..... :			
Approved by (name + signature)..... :			
☐	Testing procedure: WMT/CTF Stage 2:		
Testing location/ address			
Tested by (name + signature)..... :			
Witnessed by (name + signature)..... :			
Approved by (name + signature)..... :			
☐	Testing procedure: SMT/CTF Stage 3 or 4:		
Testing location/ address			
Tested by (name + signature)..... :			
Witnessed by (name + signature)..... :			
Approved by (name + signature)..... :			
Supervised by (name + signature)			

TRF No. IEC60950_1F

List of Attachments (including a total number of pages in each attachment):

- None

Summary of testing:**Tests performed (name of test and test clause):**

- No test was considered necessary.

Testing location:

No test request.

Summary of compliance with National Differences**List of countries addressed:**

EU Group Differences, EU Special National Conditions.

☒ The product fulfils the requirements of EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013.

*(CA, DE, DK, FI, GB, IL, KR, SE, SI, US), **(AU, CN, CH, ES, IE, NO), ***(BY, JP)

Explanation of used codes: CA = Canada, DE = Germany, DK=Denmark, FI = Finland, GB = United Kingdom, IL = Israel, KR = Republic of Korea, SE = Sweden, SI = Slovenia, US = United States,

**(AU = Australia, CN = China, CH = Switzerland, ES = Spain, IE = Ireland, NO = Norway),

*** (BY = Belarus, JP = Japan)

* National differences to IEC 60950-1:2005+A1:2009 evaluated.

** National differences to IEC 60950-1:2005 evaluated.

*** National differences to IEC 60950-1:2001 evaluated.

Copy of marking plate

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.



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Test item particulars.....:	
Equipment mobility.....:	☒ movable ☐ hand-held ☒ transportable ☐ stationary ☐ for building-in ☐ direct plug-in
Connection to the mains.....:	☒ pluggable equipment ☒ type A ☐ type B ☐ permanent connection ☐ detachable power supply cord ☐ non-detachable power supply cord ☐ not directly connected to the mains
Operating condition.....:	☒ continuous ☐ rated operating / resting time:
Access location	☒ operator accessible ☐ restricted access location
Over voltage category (OVC)	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other:
Mains supply tolerance (%) or absolute mains supply values : ±10	
Tested for IT power systems : ☒ Yes ☐ No	
IT testing, phase-phase voltage (V)	230V (For Norway)
Class of equipment	☒ Class I ☐ Class II ☐ Class III ☐ Not classified
Considered current rating of protective device as part of the building installation (A) : 16A (20A for North American)	
Pollution degree (PD)	☐ PD 1 ☒ PD 2 ☐ PD 3
IP protection class	IPX0
Altitude during operation (m)	Not over 5000m
Altitude of test laboratory (m)	Not over 2000m
Mass of equipment (kg)	0.276kg
Possible test case verdicts:	
- test case does not apply to the test object : N/A	
- test object does meet the requirement : P (Pass)	
- test object does not meet the requirement : F (Fail)	
Testing.....:	
Date of receipt of test item.....: : N/A	
Date(s) of performance of tests : N/A	
General remarks:	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. Throughout this report a ☐ comma / ☒ point is used as the decimal separator.	

Manufacturer's Declaration per sub-clause 4.2.5 of IEC60950-1:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided.....:

☒ **Yes**☐ **Not applicable**

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies) :

1. ShenZhen HuiLi Electronics CO., LTD.
Block C, Building 4,6,7,8,9,10,11, County 73,
Xin'an, Bao'an, Shenzhen, Guangdong, P.R.
China
2. Zhonghan Electronics (Shenzhen) Co., Ltd.
Building A2 in Section A, Building 4,6,7 in Section
C, JuYuan Industrial Zone, TangWei
Village, FuYong Town, BaoAn Dist., ShenZhen
City, Guangdong, P.R. China
3. Wuxi SPI Technology Co., Ltd.
No. 96, Xinmei Road, New District, Wuxi city,
Jiangsu, P.R. China
4. ZHONGHAN SCIENCE & TECH CO. LTD
Building 9, Section B, JuYuan Industrial Zone,
TangWei Village, FuYong Town, BaoAn District,
ShenZhen City, Guangdong, P.R. China
5. Wuxi ZhongHan Technology Co., Ltd.
Block 106-E, Wuxi Nation HI-TECH Industrial,
Development Zone, Wuxi City, Jiangsu,
Province, P.R. China
6. ShenZhen HuiLi Electronics CO., LTD
Block C, Building 4,6,7,8,9,10,11, County 73,
Xin'an, Bao'an, Shenzhen, Guangdong (Block A,
Building 3, No. 5185, YeeYuan Rd., County 74,
Bao'an), P.R. China

General product information:

Description of change(s):

1. Add additional model FSP050-DIBAN2, which is identical to approved model FSP050-DIBAN2, except for trademark is **3Y POWER TECHNOLOGY**.

For the above described change(s) the following was considered to be necessary:

Change	Testing	Comments
1.	• N/A	See copy of marking plate and sub-clauses.

History of amendments and modifications:

Ref. No. 11035366 001, dated Dec. 24, 2013 (original test report)

TRF No. IEC60950_1F

Ref. No. 11035366 002, dated Mar. 04, 2014 (amendment)
Ref. No. 11035366 003, dated July 22, 2014 (amendment)
Ref. No. 11035366 004, dated January 06, 2015 (amendment)
Ref. No. 11035366 005, dated November 19, 2015 (amendment)
Ref. No. 11035366 006, dated December 30, 2015 (modification)
Ref. No. 11035366 007, dated March 22, 2016 (amendment)

Abbreviations used in the report:

- normal conditions	N.C.	- single fault conditions	S.F.C
- functional insulation	OP	- basic insulation	BI
- double insulation	DI	- supplementary insulation	SI
- between parts of opposite polarity	BOP	- reinforced insulation	RI

Indicate used abbreviations (if any)

TRF No. IEC60950_1F

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.1.1	Power rating marking	The power rating and identification marking are on copy of marking plate or printed on enclosure by laser engraving.	P
	Multiple mains supply connections.....:		N/A
	Rated voltage(s) or voltage range(s) (V)	See copy of marking plate.	P
	Symbol for nature of supply, for d.c. only	Mains from AC source.	N/A
	Rated frequency or rated frequency range (Hz)	See copy of marking plate.	P
	Rated current (mA or A)	See copy of marking plate.	P
1.7.1.2	Identification markings	See below.	P
	Manufacturer's name or trade-mark or identification mark	See copy of marking plate.	P
	Model identification or type reference	See copy of marking plate.	P
	Symbol for Class II equipment only	Class I equipment.	N/A
	Other markings and symbols	Other markings and symbols do not give rise to misunderstanding.	P
1.7.1.3	Use of graphical symbols	Symbol used complying with IEC 60417.	P

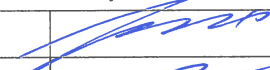
TRF No. IEC60950_1F



Test Report issued under the responsibility of:



TEST REPORT IEC 60950-1 Information technology equipment – Safety – Part 1: General requirements	
Report Number	11035366 006
Date of issue	30 Dec., 2015
Total number of pages	13
Applicant's name	FSP Group Inc.
Address	No. 22, Jianguo E. Road, Taoyuan 330 Taiwan
Test specification:	
Standard	IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013
Test procedure	CB Scheme
Non-standard test method	N/A
Test Report Form No.	IEC60950_1F
Test Report Form(s) Originator	SGS Fimko Ltd
Master TRF	Dated 2014-02
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General disclaimer:	
The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.	

Test item description :		Switching Power Supply	
Trade Mark :			
Manufacturer :		Same as applicant	
Model/Type reference :		FSP030-DHAN1	
Ratings :		Input: 100-240V~, 50-60Hz, 1.2A Output: 12Vdc, 2.5A MAX	
Testing procedure and testing location:			
☒	CB Testing Laboratory:	TÜV Rheinland Taiwan Ltd., Taichung Laboratory	
Testing location/ address		TMP procedure used. For address of testing location see "Testing procedure: TMP/CTF Stage 1" below	
☐	Associated CB Testing Laboratory:		
Testing location/ address			
Tested by (name + signature)			
Approved by (name + signature)			
☒	Testing procedure: TMP/CTF Stage 1:	See below	
Testing location/ address		FSP Group Inc. No. 22, Jianguo E. Road, Taoyuan 330 Taiwan	
Tested by (name + signature)		Fenix Yang	
Approved by (name + signature)		Jean Chen	
☐	Testing procedure: WMT/CTF Stage 2:		
Testing location/ address			
Tested by (name + signature)			
Witnessed by (name + signature)			
Approved by (name + signature)			
☐	Testing procedure: SMT/CTF Stage 3 or 4:		
Testing location/ address			
Tested by (name + signature)			
Witnessed by (name + signature)			
Approved by (name + signature)			
Supervised by (name + signature)			

TRF No.: IEC60950_1F

List of Attachments (including a total number of pages in each attachment):

- None

Summary of testing:**Tests performed (name of test and test clause):**

All applicable tests as described in Test Case were performed.

- The test samples are pre-production without serial numbers.
- Specified maximum ambient temperature is +40°C.
- Highest load according to 1.2.2.1 for this equipment is the operation of the equipment at maximum specified DC load.
- The correction factors of clearance is 1.48, specified in table A. 2 of IEC 60664-1 for altitude 5000m.
- TMP laboratory includes all clauses for testing of the IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013.
- The equipment is complied with sub-clause 2.5 as limited power source.

Testing location:

All tests as described in Test Case and Measurement Sections were performed at the laboratory described on page 2.

Summary of compliance with National Differences**List of countries addressed:**

EU Group Differences, EU Special National Conditions.

☒ The product fulfils the requirements of EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013.

*(CA, DE, DK, FI, GB, IL, KR, SE, SI, US), **(AU, CN, CH, ES, IE, NO), ***(BY, JP)

Explanation of used codes: CA = Canada, DE = Germany, DK=Denmark, FI = Finland, GB = United Kingdom, IL = Israel, KR = Republic of Korea, SE = Sweden, SI = Slovenia, US = United States, ***(AU = Australia, CN = China, CH = Switzerland, ES = Spain, IE = Ireland, NO = Norway), ***(BY = Belarus, JP = Japan)

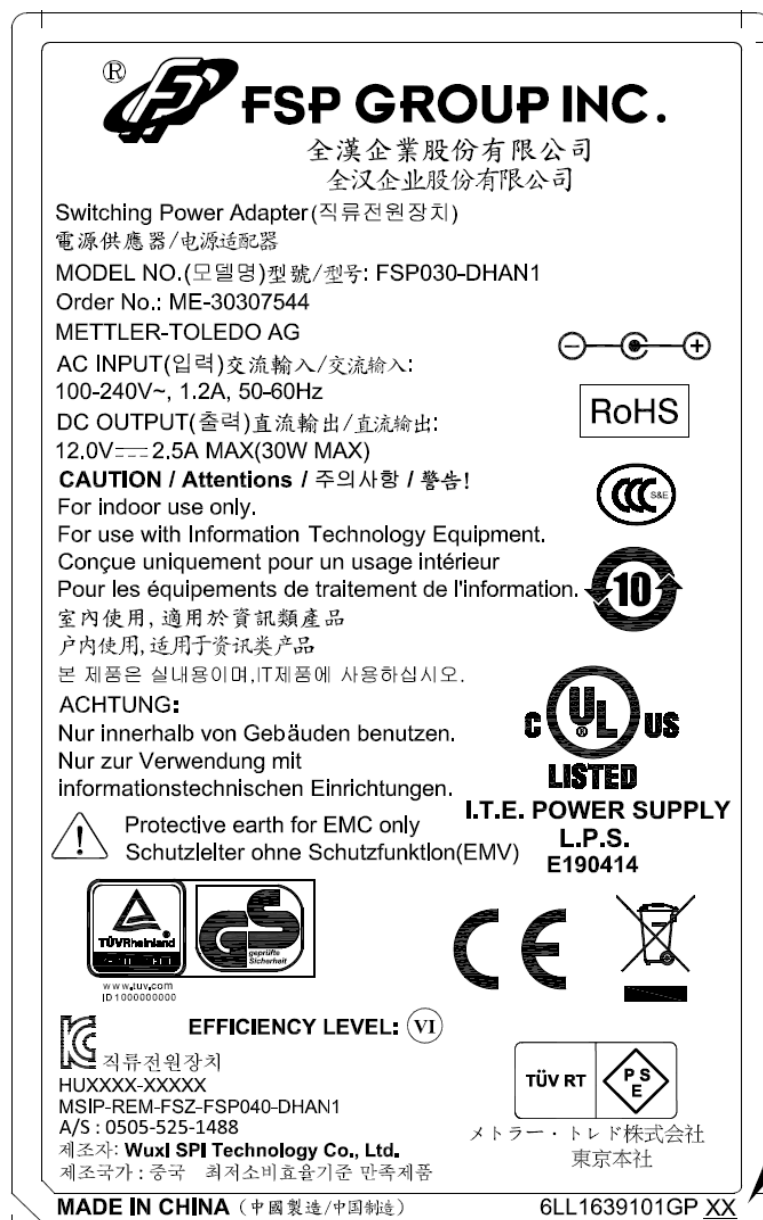
* National differences to IEC 60950-1:2005+A1:2009 evaluated.

** National differences to IEC 60950-1:2005 evaluated.

*** National differences to IEC 60950-1:2001 evaluated.

Copy of marking plate

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.



Test item particulars.....:	
Equipment mobility.....:	☒ movable ☐ hand-held ☒ transportable ☐ stationary ☐ for building-in ☐ direct plug-in
Connection to the mains.....:	☒ pluggable equipment ☒ type A ☐ type B ☐ permanent connection ☐ detachable power supply cord ☐ non-detachable power supply cord ☐ not directly connected to the mains
Operating condition.....:	☒ continuous ☐ rated operating / resting time:
Access location	☒ operator accessible ☐ restricted access location
Over voltage category (OVC)	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other:
Mains supply tolerance (%) or absolute mains supply values : ±10	
Tested for IT power systems : ☒ Yes ☐ No	
IT testing, phase-phase voltage (V) : 230V (For Norway)	
Class of equipment	☒ Class I ☐ Class II ☐ Class III ☐ Not classified
Considered current rating of protective device as part of the building installation (A) : 16A (20A for North American)	
Pollution degree (PD) : ☐ PD 1 ☒ PD 2 ☐ PD 3	
IP protection class : IPX0	
Altitude during operation (m) : Not over 5000m	
Altitude of test laboratory (m) : Not over 2000m	
Mass of equipment (kg) : 0.276kg	
Possible test case verdicts:	
- test case does not apply to the test object : N/A	
- test object does meet the requirement : P (Pass)	
- test object does not meet the requirement : F (Fail)	
Testing.....:	
Date of receipt of test item.....: : 28 Dec., 2015	
Date(s) of performance of tests : 28 – 30 Dec., 2015	
General remarks:	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. Throughout this report a ☐ comma / ☒ point is used as the decimal separator.	

Manufacturer's Declaration per sub-clause 4.2.5 of IEC60950-1:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided.....:

☒ **Yes**☐ **Not applicable**

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies) :

1. ShenZhen HuiLi Electronics CO., LTD.
Block C, Building 4,6,7,8,9,10,11, County 73,
Xin'an, Bao'an, Shenzhen, Guangdong, P.R.
China
2. Zhonghan Electronics (Shenzhen) Co., Ltd.
Building A2 in Section A, Building 4,6,7 in Section
C, JuYuan Industrial Zone, TangWei
Village, FuYong Town, BaoAn Dist., ShenZhen
City, Guangdong, P.R. China
3. Wuxi SPI Technology Co., Ltd.
No. 96, Xinmei Road, New District, Wuxi city,
Jiangsu, P.R. China
4. ZHONGHAN SCIENCE & TECH CO. LTD
Building 9, Section B, JuYuan Industrial Zone,
TangWei Village, FuYong Town, BaoAn District,
ShenZhen City, Guangdong, P.R. China
5. Wuxi ZhongHan Technology Co., Ltd.
Block 106-E, Wuxi Nation HI-TECH Industrial,
Development Zone, Wuxi City, Jiangsu,
Province, P.R. China
6. ShenZhen HuiLi Electronics CO., LTD
Block C, Building 4,6,7,8,9,10,11, County 73,
Xin'an, Bao'an, Shenzhen, Guangdong (Block A,
Building 3, No. 5185, YeeYuan Rd., County 74,
Bao'an), P.R. China

General product information:

Description of change(s):

1. Add additional model FSP030-DHAN1, which is identical to approved model FSP050-DIBAN2, except for model designation, rating of AC input and DC output.
2. Add additional transformer factories list as below,
 - **Quanzhou Heng Tai Sheng Electronics Material Ltd Co.**
 - **Dong Guan Top Nation Electronic Limited.**

For the above described change(s) the following was considered to be necessary:

Change	Testing	Comments
1.	• Input test	See copy of marking plate and sub-clauses. For test results see appended table.
2.	• N/A	See bold parts in appended table for details.

TRF No. IEC60950_1F

History of amendments and modifications:

Ref. No. 11035366 001, dated Dec. 24, 2013 (original test report)
Ref. No. 11035366 002, dated Mar. 04, 2014 (amendment)
Ref. No. 11035366 003, dated July 22, 2014 (amendment)
Ref. No. 11035366 004, dated January 06, 2015 (amendment)
Ref. No. 11035366 005, dated November 19, 2015 (amendment)
Ref. No. 11035366 006, dated December 30, 2015 (modification)

Abbreviations used in the report:

- normal conditions	N.C.	- single fault conditions	S.F.C
- functional insulation	OP	- basic insulation	BI
- double insulation	DI	- supplementary insulation	SI
- between parts of opposite polarity	BOP	- reinforced insulation	RI

Indicate used abbreviations (if any)

TRF No. IEC60950_1F

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.1.1	Power rating marking	The power rating and identification marking are on copy of marking plate or printed on enclosure by laser engraving.	P
	Multiple mains supply connections.....:		N/A
	Rated voltage(s) or voltage range(s) (V)	See copy of marking plate.	P
	Symbol for nature of supply, for d.c. only	Mains from AC source.	N/A
	Rated frequency or rated frequency range (Hz)	See copy of marking plate.	P
	Rated current (mA or A)	See copy of marking plate.	P
1.7.1.2	Identification markings	See below.	P
	Manufacturer's name or trade-mark or identification mark	See copy of marking plate.	P
	Model identification or type reference	See copy of marking plate.	P
	Symbol for Class II equipment only	Class I equipment.	N/A
	Other markings and symbols	Other markings and symbols do not give rise to misunderstanding.	P
1.7.1.3	Use of graphical symbols	Symbol used complying with IEC 60417.	P

TRF No. IEC60950_1F

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.5.1	TABLE: List of critical components					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾	
Critical components						
Transformer (T1)	SPI/FSP ²	8TV00140	Class B	Applicable parts of IEC 60950-1 and classified according to IEC 60085	Accepted by TÜV Rheinland,	
- Triple Insulated Wire	Great Leoflon Industrial CO.,LTD	TRW(B)	130°C	IEC/EN 60950-1 UL 2353	VDE, UL(E211989)	
- Bobbin used in T1	Sumitomo Bakelite Co., Ltd.	PM-9820	V-0, min. 150°C, phenolic, min. 0.8mm thickness	UL 94	UL	

Supplementary information:

1. Provided evidence ensures the agreed level of compliance. See OD-CB2039.
2. The transformer used in below factories is identical in electrical characteristics, physical construction in clearance, creepage and distance through insulation.
Transformer manufacturing plants (factories) list as below:
 - FRESCO FACTORY (SHENZHEN) CO., LTD.
 - FORTRON/SOURCE (CHINA) CORP.
 - HAOHAN ELECTRONIC TECHNOLOGY (JIAN) CO LTD
 - FSP Technology Inc., Kaohsiung Branch
 - PROTEK ELECTRONICS (CHINA) CORP.
 - LI YIN TECHNOLOGY LTD.
 - DONG GUAN LIGHTION ELECTRONICS CO LTD.
 - NANJING SHENNING MAGNETIC & ELECTRONICS CO., LTD
 - FRIENDSHIP ELECTRONIC (DONGGUAN) CO., LTD
 - FSP Group Inc.
 - SPI Electronics Co., Ltd.
 - **Quanzhou Heng Tai Sheng Electronics Material Ltd Co.**
 - **Dong Guan Top Nation Electronic Limited**

1.6.2	TABLE: Electrical data (in normal conditions)						P
U (Vac)/ Freq. (Hz)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status	
For model FSP030-DHAN1							
90/50	0.63	--	35.0	F1	0.63	Max. normal load condition (12Vdc, 2.5A)	
100/50	0.57	1.2	34.8	F1	0.57	Same as above	

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IEC 60950-1						
Clause	Requirement + Test				Result - Remark	Verdict
240/50	0.30	1.2	34.5	F1	0.30	Same as above
264/50	0.28	--	34.5	F1	0.28	Same as above
90/60	0.66	--	35.1	F1	0.66	Same as above
100/60	0.60	1.2	34.9	F1	0.6	Same as above
240/60	0.33	1.2	34.6	F1	0.33	Same as above
264/60	0.31	--	34.6	F1	0.31	Same as above
Supplementary information:						

2.10.5	TABLE: Distance through insulation measurements					P
Distance through insulation (DTI) at/of:		U peak (V)	U rms (V)	Test voltage (Vac)	Required DTI (mm)	DTI (mm)
One layer insulation tape attached on bottom core of transformer (T1) (Basic insulation) ¹⁾		490	291	1740Vac	--	--
Two layers insulation tape attached on side core of transformer (T1) (tested one layer) (reinforced insulation) ¹⁾		490	291	3000Vac	--	--
Triple insulation wire for T1 (reinforced insulation) ²⁾		490	291	3000Vac	--	--

Supplementary information:

Above all sources were tested with equipment before humidity test and after humidity test, for sources see below,

The transformer used in below factories is identical in electrical characteristics, physical construction in clearance, creepage and distance through insulation.

Transformer manufacturing plants (factories) list as below:

- FRESCO FACTORY (SHENZHEN) CO., LTD.
- FORTRON/SOURCE (CHINA) CORP.
- HAOHAN ELECTRONIC TECHNOLOGY (JIAN) CO LTD
- FSP Technology Inc., Kaohsiung Branch
- PROTEK ELECTRONICS (CHINA) CORP.
- LI YIN TECHNOLOGY LTD.
- DONG GUAN LIGHTION ELECTRONICS CO LTD.
- NANJING SHENNING MAGNETIC & ELECTRONICS CO., LTD
- FRIENDSHIP ELECTRONIC (DONGGUAN) CO., LTD
- FSP Group Inc.
- SPI Electronics Co., Ltd.
- **Quanzhou Heng Tai Sheng Electronics Material Ltd Co.**
- **Dong Guan Top Nation Electronic Limited**

1) Test were performed on below insulation tape sources:

TRF No. IEC60950_1F

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

- Mfr. 3M, types 1350F-1 and 44 2) Test was performed on below triple insulation wire: - Mfr. Great Leoflon Industrial, type TRW(B)			
---	--	--	--

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			P
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Reinforced:				
T1: primary winding to secondary winding ¹⁾		AC	3000	No
T1: secondary winding to core ¹⁾		AC	3000	No
Supplementary information:				
Above all sources were tested with equipment before humidity test and after humidity test, for sources see below,				
¹⁾ The transformer used in below factories is identical in electrical characteristics, physical construction in clearance, creepage and distance through insulation. Transformer manufacturing plants (factories) list as below: - FRESCO FACTORY (SHENZHEN) CO., LTD. - FORTRON/SOURCE (CHINA) CORP. - HAOHAN ELECTRONIC TECHNOLOGY (JIAN) CO LTD - FSP Technology Inc., Kaohsiung Branch - PROTEK ELECTRONICS (CHINA) CORP. - LI YIN TECHNOLOGY LTD. - DONG GUAN LIGHTION ELECTRONICS CO LTD. - NANJING SHENNING MAGNETIC & ELECTRONICS CO., LTD - FRIENDSHIP ELECTRONIC (DONGGUAN) CO., LTD - FSP Group Inc. - SPI Electronics Co., Ltd. - Quanzhou Heng Tai Sheng Electronics Material Ltd Co. - Dong Guan Top Nation Electronic Limited				

C.2	TABLE: transformers						P
Loc.	Tested insulation	Working voltage peak / V	Working voltage rms / V	Required electric strength	Required clearance / mm	Required creepage distance / mm	Required distance thr. insul.
		(2.10.2)	(2.10.2)	(5.2)	(2.10.3)	(2.10.4)	(2.10.5)
T1	Primary to secondary (reinforced)	490	291	3000Vac	6.3 ¹⁾	6.3 ²⁾	0.4mm or 3 layers or triple insulated wire

TRF No. IEC60950_1F

IEC 60950-1					
Clause	Requirement + Test	Result - Remark			Verdict
Loc.	Tested insulation	Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers
T1	Primary winding to secondary winding (reinforced) (Internally)	3000Vac	Triple insulation wire used	Triple insulation wire used	See suppleme ntary informatio n
T1	Core to secondary pin (reinforced) (Externally)	3000Vac	8.7	8.7	See suppleme ntary informatio n
Supplementary information: The transformer used in below factories is identical in electrical characteristics, physical construction in clearance, creepage and distance through insulation. Transformer manufacturing plants (factories) list as below: - FRESCO FACTORY (SHENZHEN) CO., LTD. - FORTRON/SOURCE (CHINA) CORP. - HAOHAN ELECTRONIC TECHNOLOGY (JIAN) CO LTD - FSP Technology Inc., Kaohsiung Branch - PROTEK ELECTRONICS (CHINA) CORP. - LI YIN TECHNOLOGY LTD. - DONG GUAN LIGHTION ELECTRONICS CO LTD. - NANJING SHENNING MAGNETIC & ELECTRONICS CO., LTD - FRIENDSHIP ELECTRONIC (DONGGUAN) CO., LTD - FSP Group Inc. - SPI Electronics Co., Ltd. - Quanzhou Heng Tai Sheng Electronics Material Ltd Co. - Dong Guan Top Nation Electronic Limited 1) The correction factors of clearance is 1.48, specified in table A. 2 of IEC 60664-1 for altitude 5000m. 2) The min. creepage distance derived from Table 2N is less than the applicable min. clearance, that value of min. clearance shall be applied as the min. creepage distance.					

TRF No. IEC60950_1F

List of test equipment used:

A completed list of used test equipment shall be provided in the Test Reports when a Manufacturer Testing Laboratory according to TMP/CTF stage 1 or WMT/CTF stage 2 procedure has been used.

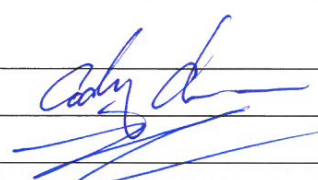
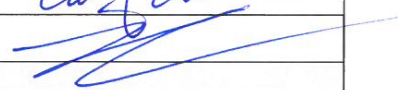
FSP GROUP INC.									
INSTRUMENTATION RECODE DATA SHEET									
TEST INSTRUMENTS									
第 1 頁									
Latest Revision Date: 2015-12-02									
The following instruments were used in tests recorded on the attached data sheets.									
Test Equipments	Electrical	Calibration	Manufacturer	Model No.	Serial No. (FSP)	Serial No.	Date Last Calibrated	Calibration Due Date	NO
	Rating	Range					MM/DD/YY	MM/DD/YY	.Y
Active Load	300W/60A	Vdc: 1-60V; Idc: 0.1-60A; Watt: 1-300W	Chroma	63030	0006533-04	630300020837	07/31/15	07/30/16	110
Digital Power Meter	1000V/20A	Iac @ 60Hz, 50Hz: 0.5-20A; TAF	Yokogawa	WT210	0006530	91H828660	07/31/15	07/30/16	111
AC Power Source	5KV	--	Extech	6750	0006570	1490193	--	--	115
第 4 頁									



Test Report issued under the responsibility of:



TEST REPORT IEC 60950-1 Information technology equipment – Safety – Part 1: General requirements	
Report Number.	11035366 005
Date of issue	19 Nov., 2015
Total number of pages	6
Applicant's name	FSP Group Inc.
Address	No. 22, Jianguo E. Road, Taoyuan 330 Taiwan
Test specification:	
Standard	IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013
Test procedure	CB Scheme
Non-standard test method	N/A
Test Report Form No.	IEC60950_1F
Test Report Form(s) Originator	SGS Fimko Ltd
Master TRF	Dated 2014-02
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General disclaimer:	
The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.	

Test item description..... :		Switching Power Adapter	
Trade Mark..... :			
Manufacturer..... :		Same as applicant	
Model/Type reference..... :		FSP060-DIBAN2	
Ratings..... :		Input: 100-240V~, 50-60Hz, 1.5A Output: 12Vdc, 5.0A MAX	
Testing procedure and testing location:			
☒	CB Testing Laboratory:	TÜV Rheinland Taiwan Ltd., Taichung Laboratory	
Testing location/ address		No. 9, Ln. 36, Sec. 3, Minsheng Rd., Daya District, Taichung City, 428 Taiwan	
☐	Associated CB Testing Laboratory:		
Testing location/ address			
Tested by (name + signature)		Cody Chen	
Approved by (name + signature)		Jean Chen	
☐	Testing procedure: TMP/CTF Stage 1:		
Testing location/ address			
Tested by (name + signature)			
Approved by (name + signature)			
☐	Testing procedure: WMT/CTF Stage 2:		
Testing location/ address			
Tested by (name + signature)			
Witnessed by (name + signature)			
Approved by (name + signature)			
☐	Testing procedure: SMT/CTF Stage 3 or 4:		
Testing location/ address			
Tested by (name + signature)			
Witnessed by (name + signature)			
Approved by (name + signature)			
Supervised by (name + signature)			

List of Attachments (including a total number of pages in each attachment):

- None

Summary of testing:**Tests performed (name of test and test clause):**

- No test sample request.

Testing location:

No test considered necessary.

Summary of compliance with National Differences**List of countries addressed:**

EU Group Differences, EU Special National Conditions.

*(CA, DE, DK, FI, GB, IL, KR, SE, SI, US), **(AU, CN, CH, ES, IE, NO), ***(BY, JP)

Explanation of used codes: CA = Canada, DE = Germany, DK=Denmark, FI = Finland, GB = United Kingdom, IL = Israel, KR = Republic of Korea, SE = Sweden, SI = Slovenia, US = United States,

**(AU = Australia, CN = China, CH = Switzerland, ES = Spain, IE = Ireland, NO = Norway),

*** (BY = Belarus, JP = Japan)

* National differences to IEC 60950-1:2005+A1:2009 evaluated.

** National differences to IEC 60950-1:2005 evaluated.

*** National differences to IEC 60950-1:2001 evaluated.

☒ The product fulfils the requirements of EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013.**Copy of marking plate**

None

Test item particulars :	
Equipment mobility	: ☒ movable ☐ hand-held ☒ transportable ☐ stationary ☐ for building-in ☐ direct plug-in
Connection to the mains	: ☒ pluggable equipment ☒ type A ☐ type B ☐ permanent connection ☒ detachable power supply cord ☐ non-detachable power supply cord ☐ not directly connected to the mains
Operating condition	: ☒ continuous ☐ rated operating / resting time:
Access location	: ☒ operator accessible ☐ restricted access location
Over voltage category (OVC)	: ☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other:
Mains supply tolerance (%) or absolute mains supply values : ±10	
Tested for IT power systems	: ☒ Yes ☐ No
IT testing, phase-phase voltage (V)	: 230V (For Norway)
Class of equipment	: ☒ Class I ☐ Class II ☐ Class III ☐ Not classified
Considered current rating of protective device as part of the building installation (A)	: 16A (20A for North American)
Pollution degree (PD)	: ☐ PD 1 ☒ PD 2 ☐ PD 3
IP protection class	: IPX0
Altitude during operation (m)	: Not over 5000m
Altitude of test laboratory (m)	: Not over 2000m
Mass of equipment (kg)	: 0.276kg
Possible test case verdicts:	
- test case does not apply to the test object.....: N/A	
- test object does meet the requirement: P (Pass)	
- test object does not meet the requirement.....: F (Fail)	
Testing	
Date of receipt of test item : N/A	
Date(s) of performance of tests : N/A	
General remarks:	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. Throughout this report a ☐ comma / ☒ point is used as the decimal separator.	

Manufacturer's Declaration per sub-clause 4.2.5 of IEC60950-1:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided

- ☒ **Yes**
☐ **Not applicable**

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies).....:

1. ShenZhen HuiLi Electronics CO., LTD.
Block C, Building 4,6,7,8,9,10,11, County 73,
Xin'an, Bao'an, Shenzhen, Guangdong, P.R.
China
2. Zhonghan Electronics (Shenzhen) Co., Ltd.
Building A2 in Section A, Building 4,6,7 in Section
C, JuYuan Industrial Zone, TangWei
Village, FuYong Town, BaoAn Dist., ShenZhen
City, Guangdong, P.R. China
3. Wuxi SPI Technology Co., Ltd.
No. 96, Xinmei Road, New District, Wuxi city,
Jiangsu, P.R. China
4. ZHONGHAN SCIENCE & TECH CO. LTD
Building 9, Section B, JuYuan Industrial Zone,
TangWei Village, FuYong Town, BaoAn District,
ShenZhen City, Guangdong, P.R. China
5. Wuxi ZhongHan Technology Co., Ltd.
Block 106-E, Wuxi Nation HI-TECH Industrial,
Development Zone, Wuxi City, Jiangsu,
Province, P.R. China
6. ShenZhen HuiLi Electronics CO., LTD
Block C, Building 4,6,7,8,9,10,11, County 73,
Xin'an, Bao'an, Shenzhen, Guangdong (Block A,
Building 3, No. 5185, YeeYuan Rd., County 74,
Bao'an), P.R. China

General product information:

Description of change(s):

1. Add below additional information in certificate page 2,
Model FSP060-DIBAN2 is equivalent to Cisco P/N (CPN) 341-0508-XX XX and 341-100152-XX XX, where X may be any alphanumeric characters or blank.

For the above described change(s) the following was considered to be necessary:

Change	Testing	Comments
1.	• N/A	For client's request to add additional information in certificate page 2.

TRF No. IEC60950_1F

History of amendments and modifications:

Ref. No. 11035366 001, dated Dec. 24, 2013 (original test report)
Ref. No. 11035366 002, dated Mar. 04, 2014 (amendment)
Ref. No. 11035366 003, dated July 22, 2014 (amendment)
Ref. No. 11035366 004, dated January 06, 2015 (amendment)
Ref. No. 11035366 005, dated November 19, 2015 (amendment)

Abbreviations used in the report:

- normal conditions	N.C.	- single fault conditions	S.F.C
- functional insulation	OP	- basic insulation	BI
- double insulation	DI	- supplementary insulation	SI
- between parts of opposite polarity	BOP	- reinforced insulation	RI

Indicate used abbreviations (if any)



Test Report issued under the responsibility of:

**TEST REPORT**

IEC 60950-1
Information technology equipment – Safety –
Part 1: General requirements

Report Number..... : 11035366 004

Date of issue..... : 06 January, 2015

Total number of pages : 12

Applicant's name : FSP Group Inc.

Address..... : No. 22, Jianguo E. Road, Taoyuan 330 Taiwan

Test specification:

Standard : IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013

Test procedure..... : CB Scheme

Non-standard test method : N/A

Test Report Form No. : IEC60950_1F

Test Report Form(s) Originator : SGS Fimko Ltd

Master TRF : Dated 2014-02

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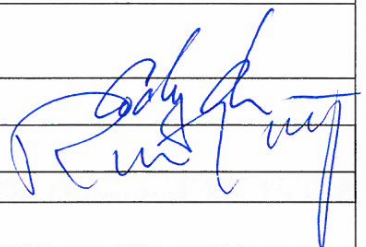
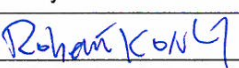
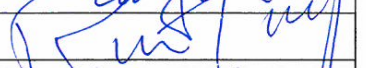
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This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:

The test results presented in this report relate only to the object tested.

This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description :	Switching Power Adapter	
Trade Mark :	1) FSP; 2)  SYSTIUM® TECHNOLOGIES	
Manufacturer :	Same as applicant	
Model/Type reference :	1) FSP050-DIBAN2, 1) & 2) FSP060-DIBAN2	
Ratings :	Input: 100-240V~, 50-60Hz, 1.5A Output: 12Vdc, 4.16A MAX (50W MAX) for model FSP050-DIBAN2; 12Vdc, 5.0A MAX for model FSP060-DIBAN2	
Testing procedure and testing location:		
☒ CB Testing Laboratory:	TÜV Rheinland Taiwan Ltd., Taichung Laboratory	
Testing location/ address	No. 9, Ln. 36, Sec. 3, Minsheng Rd., Daya District, Taichung City, 428 Taiwan	
☐ Associated CB Testing Laboratory:		
Testing location/ address		
Tested by (name + signature)	Cody Chen	
Approved by (name + signature)		
☐ Testing procedure: TMP/CTF Stage 1:		
Testing location/ address		
Tested by (name + signature)		
Approved by (name + signature)		
☐ Testing procedure: WMT/CTF Stage 2:		
Testing location/ address		
Tested by (name + signature)		
Witnessed by (name + signature)		
Approved by (name + signature)		
☐ Testing procedure: SMT/CTF Stage 3 or 4:		
Testing location/ address		
Tested by (name + signature)		
Witnessed by (name + signature)		
Approved by (name + signature)		
Supervised by (name + signature)		

List of Attachments (including a total number of pages in each attachment):

- None

Summary of testing:**Tests performed (name of test and test clause):**

- No test sample request.

Testing location:

No test considered necessary.

Summary of compliance with National Differences**List of countries addressed:**

EU Group Differences, EU Special National Conditions.

*(CA, DE, DK, FI, GB, IL, KR, SE, SI, US), **(AU, CN, CH, ES, IE, NO), ***(BY, JP)

Explanation of used codes: CA = Canada, DE = Germany, DK=Denmark, FI = Finland, GB = United Kingdom, IL = Israel, KR = Republic of Korea, SE = Sweden, SI = Slovenia, US = United States,

**(AU = Australia, CN = China, CH = Switzerland, ES = Spain, IE = Ireland, NO = Norway),

*** (BY = Belarus, JP = Japan)

* National differences to IEC 60950-1:2005+A1:2009 evaluated.

** National differences to IEC 60950-1:2005 evaluated.

*** National differences to IEC 60950-1:2001 evaluated.

☒ The product fulfils the requirements of EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013.**Copy of marking plate**

None

Test item particulars.....:	
Equipment mobility.....:	☒ movable ☐ hand-held ☒ transportable ☐ stationary ☐ for building-in ☐ direct plug-in
Connection to the mains.....:	☒ pluggable equipment ☒ type A ☐ type B ☐ permanent connection ☒ detachable power supply cord ☐ non-detachable power supply cord ☐ not directly connected to the mains
Operating condition.....:	☒ continuous ☐ rated operating / resting time:
Access location	☒ operator accessible ☐ restricted access location
Over voltage category (OVC)	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other:
Mains supply tolerance (%) or absolute mains supply values ±10	
Tested for IT power systems	☒ Yes ☐ No
IT testing, phase-phase voltage (V)	230V (For Norway)
Class of equipment	☒ Class I ☐ Class II ☐ Class III ☐ Not classified
Considered current rating of protective device as part of the building installation (A)	16A (20A for North American)
Pollution degree (PD)	☐ PD 1 ☒ PD 2 ☐ PD 3
IP protection class	IPX0
Altitude during operation (m)	Not over 5000m
Altitude of test laboratory (m)	Not over 2000m
Mass of equipment (kg)	0.276kg
Possible test case verdicts:	
- test case does not apply to the test object : N/A	
- test object does meet the requirement..... : P (Pass)	
- test object does not meet the requirement : F (Fail)	
Testing.....:	
Date of receipt of test item.....:	N/A
Date(s) of performance of tests	N/A
General remarks:	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. Throughout this report a ☐ comma / ☒ point is used as the decimal separator.	

Manufacturer's Declaration per sub-clause 4.2.5 of IEC60950:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided..... :

☒ **Yes**☐ **Not applicable**

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies) :

1. ShenZhen HuiLi Electronics CO., LTD.
Block C, Building 4,6,7,8,9,10,11, County 73, Xin'an, Bao'an, Shenzhen, Guangdong, P.R. China
2. Zhonghan Electronics (Shenzhen) Co., Ltd.
Building A2 in Section A, Building 4,6,7 in Section C, JuYuan Industrial Zone, TangWei Village, FuYong Town, BaoAn Dist., ShenZhen City, Guangdong, P.R. China
3. Wuxi SPI Technology Co., Ltd.
No. 96, Xinmei Road, New District, Wuxi city, Jiangsu, P.R. China
4. ZHONGHAN SCIENCE & TECH CO. LTD
Building 9, Section B, JuYuan Industrial Zone, TangWei Village, FuYong Town, BaoAn District, ShenZhen City, Guangdong, P.R. China
5. Wuxi ZhongHan Technology Co., Ltd.
Block 106-E, Wuxi Nation HI-TECH Industrial, Development Zone, Wuxi City, Jiangsu, Province, P.R. China
6. **ShenZhen HuiLi Electronics CO., LTD
Block C, Building 4,6,7,8,9,10,11, County 73, Xin'an, Bao'an, Shenzhen, Guangdong (Block A, Building 3, No. 5185, YeeYuan Rd., County 74, Bao'an), P.R. China**

General product information:

Description of change(s):

1. Add additional factory as below,
**ShenZhen HuiLi Electronics CO., LTD
Block C, Building 4,6,7,8,9,10,11, County 73, Xin'an, Bao'an, Shenzhen, Guangdong (Block A, Building 3, No. 5185, YeeYuan Rd., County 74, Bao'an), P.R. China**
2. Change factory address as below,
 - Zhonghan Electronics (Shenzhen) Co., Ltd.
Building A2 in Section A, Building 4,6,7 in Section C, JuYuan Industrial Zone, TangWei Village, FuYong Town, BaoAn Dist., ShenZhen City, Guangdong, P.R. China
 - ZHONGHAN SCIENCE & TECH CO. LTD
Building 9, Section B, JuYuan Industrial Zone, TangWei Village, FuYong Town, BaoAn District, ShenZhen City, Guangdong, P.R. China

TRF No. IEC60950_1F

3. Add transformer factory description for client's request.

For the above described change(s) the following was considered to be necessary:

Change	Testing	Comments
1. & 2.	• N/A	See details in " Name and address of factory (ies) " table for factory information.
3.	• N/A	See bold parts in appended table for details.

History of amendments and modifications:

Ref. No. 11035366 001, dated Dec. 24, 2013 (original test report)

Ref. No. 11035366 002, dated Mar. 04, 2014 (amendment)

Ref. No. 11035366 003, dated July 22, 2014 (amendment)

Ref. No. 11035366 004, dated January 06, 2015 (amendment)

Abbreviations used in the report:

- normal conditions	N.C.	- single fault conditions	S.F.C
- functional insulation	OP	- basic insulation	BI
- double insulation	DI	- supplementary insulation	SI
- between parts of opposite polarity	BOP	- reinforced insulation	RI

Indicate used abbreviations (if any)

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.5.1	TABLE: List of critical components					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾	
Critical components						
Transformer (T1)	SPI/FSP ²⁾	8TV00140	Class B	Applicable parts of IEC 60950-1 and classified according to IEC 60085	Accepted by TÜV Rheinland,	
- Triple Insulated Wire	Great Leoflon Industrial CO.,LTD	TRW(B)	130°C	IEC/EN 60950-1 UL 2353	VDE, UL(E211989)	
- Bobbin used in T1	Sumitomo Bakelite Co., Ltd.	PM-9820	V-0, min. 150°C, phenolic, min. 0.8mm thickness	UL 94	UL	
Supplementary information:						
1. Provided evidence ensures the agreed level of compliance. See OD-CB2039.						
2. The transformer used in below factories is identical in electrical characteristics, physical construction in clearance, creepage and distance through insulation.						
Transformer manufacturing plants (factories) list as below:						
- FRESCO FACTORY (SHENZHEN) CO., LTD.						
- FORTRON/SOURCE (CHINA) CORP.						
- HAOHAN ELECTRONIC TECHNOLOGY (JIAN) CO LTD						
- FSP Technology Inc., Kaohsiung Branch						
- PROTEK ELECTRONICS (CHINA) CORP.						
- LI YIN TECHNOLOGY LTD.						
- DONG GUAN LIGHTION ELECTRONICS CO LTD.						
- NANJING SHENNING MAGNETIC & ELECTRONICS CO., LTD						
- FRIENDSHIP ELECTRONIC (DONGGUAN) CO., LTD						
- FSP Group Inc.						
- SPI Electronics Co., Ltd.						

2.10.5	TABLE: Distance through insulation measurements					P
Distance through insulation (DTI) at/of:	U peak (V)	U rms (V)	Test volt- age (Vac)	Required DTI (mm)	DTI (mm)	
One layer insulation tape attached on bottom core of transformer (T1) (Basic insulation) ¹⁾	490	291	1740Vac	--	--	
Two layers insulation tape attached on side core of transformer (T1) (tested one layer)	490	291	3000Vac	--	--	

TRF No. IEC60950_1F

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
(reinforced insulation) ¹⁾					
Triple insulation wire for T1 (reinforced insulation) ²⁾	490	291	3000Vac	--	--
Supplementary information: Above all sources were tested with equipment before humidity test and after humidity test, for sources see below, The transformer used in below factories is identical in electrical characteristics, physical construction in clearance, creepage and distance through insulation. Transformer manufacturing plants (factories) list as below: - FRESCO FACTORY (SHENZHEN) CO., LTD. - FORTRON/SOURCE (CHINA) CORP. - HAOHAN ELECTRONIC TECHNOLOGY (JIAN) CO LTD - FSP Technology Inc., Kaohsiung Branch - PROTEK ELECTRONICS (CHINA) CORP. - LI YIN TECHNOLOGY LTD. - DONG GUAN LIGHTION ELECTRONICS CO LTD. - NANJING SHENNING MAGNETIC & ELECTRONICS CO., LTD - FRIENDSHIP ELECTRONIC (DONGGUAN) CO., LTD - FSP Group Inc. - SPI Electronics Co., Ltd. 1) Test were performed on below insulation tape sources: - Mfr. 3M, types 1350F-1 and 44 2) Test was performed on below triple insulation wire: - Mfr. Great Leoflon Industrial, type TRW(B)					

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			P
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Reinforced:				
T1: primary winding to secondary winding ¹⁾		AC	3000	No
T1: secondary winding to core ¹⁾		AC	3000	No
Supplementary information:				
Above all sources were tested with equipment before humidity test and after humidity test, for sources see below,				
¹⁾ The transformer used in below factories is identical in electrical characteristics, physical construction in clearance, creepage and distance through insulation. Transformer manufacturing plants (factories) list as below:				
- FRESCO FACTORY (SHENZHEN) CO., LTD. - FORTRON/SOURCE (CHINA) CORP. - HAOHAN ELECTRONIC TECHNOLOGY (JIAN) CO LTD				

TRF No. IEC60950_1F

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
- FSP Technology Inc., Kaohsiung Branch - PROTEK ELECTRONICS (CHINA) CORP. - LI YIN TECHNOLOGY LTD. - DONG GUAN LIGHTION ELECTRONICS CO LTD. - NANJING SHENNING MAGNETIC & ELECTRONICS CO., LTD - FRIENDSHIP ELECTRONIC (DONGGUAN) CO., LTD - FSP Group Inc. - SPI Electronics Co., Ltd.			

C.2	TABLE: transformers						P
Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)
T1	Primary to secondary (reinforced)	490	291	3000Vac	6.3 ¹⁾	6.3 ²⁾	0.4mm or 3 layers or triple insulated wire
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers
T1	Primary winding to secondary winding (reinforced) (Internally)			3000Vac	Triple insulation wire used	Triple insulation wire used	See supplementary information
T1	Core to secondary pin (reinforced) (Externally)			3000Vac	8.7	8.7	See supplementary information

Supplementary information:

The transformer used in below factories is identical in electrical characteristics, physical construction in clearance, creepage and distance through insulation.

Transformer manufacturing plants (factories) list as below:

- FRESCO FACTORY (SHENZHEN) CO., LTD.
- FORTRON/SOURCE (CHINA) CORP.
- HAOHAN ELECTRONIC TECHNOLOGY (JIAN) CO LTD
- FSP Technology Inc., Kaohsiung Branch
- PROTEK ELECTRONICS (CHINA) CORP.
- LI YIN TECHNOLOGY LTD.
- DONG GUAN LIGHTION ELECTRONICS CO LTD.

TRF No. IEC60950_1F

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

- NANJING SHENNING MAGNETIC & ELECTRONICS CO., LTD
- FRIENDSHIP ELECTRONIC (DONGGUAN) CO., LTD
- FSP Group Inc.
- SPI Electronics Co., Ltd.

- 1) The correction factors of clearance is 1.48, specified in table A. 2 of IEC 60664-1 for altitude 5000m.
- 2) The min. creepage distance derived from Table 2N is less than the applicable min. clearance, that value of min. clearance shall be applied as the min. creepage distance.

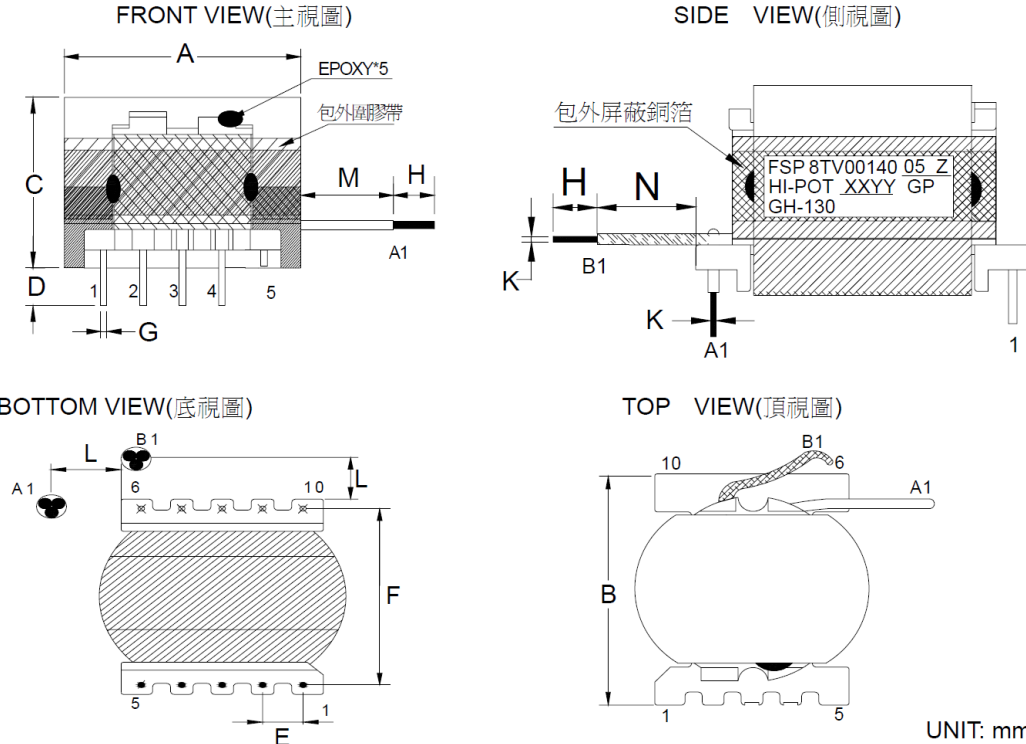
Concentric windings on Phenolic bobbin type PM-9820 (Vertical orientation), core is considered as primary parts, transformer construction as below,

- Secondary winding is triple insulation wire details see appended table 1.5.1 and subclause 2.10.5.12, Annex U.
- One layer of insulation tape provided between primary and secondary windings.
- One layer of insulation tape wrapped on bobbin before winding wrapped.
- Outer shielding is primary.
- All winding endings additionally tubing to prevent mechanical stress in two different windings.
- One layer of insulation tape is provided on bottom core and fold-back upward.
- Two layers of insulation tape are provided on side core.

C.2	TABLE: transformers	P
Details of triple insulated wire used, see appended table 1.5.1. Pin 7, 8, 9, 10 cut off. Pin 5 cut off 1/2 Primary winding/pins: 1-5 (P1), 5-2(P2), 4-3(P3), 3 (E1, E2, E3)shielding Secondary winding/pins: FlyA1 – FlyB1 (fly wires) Bobbin Material (manufacturer, type, ratings, thickness): - Sumitomo Bakelite, phenolic, type PM-9820, V-0, 150°C, min. 0.8mm thickness - Insulation tape; 3M, 1350F-1,44 <u>Detailed illustration of Transformer construction:</u>		

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

二. PHYSICAL DIMENSION (外觀尺寸圖):



DIMENSION	A	B	C	D	E	F	G	H	M	N	L	K
	MAX	MAX	MAX	±0.2	±0.2	±0.3	MA	±0.5	±1.0	±1.0	±0.5	MAX
SPEC	33.5	33.5	21.5	2.8	5.0	28	Φ0.9	3.5	14	16.0	8.0	2.0

NOTE(注意事項)

- PIN6,7,8, 9,10 CUT OFF; PIN5 剪掉 1/2.
- CORE 要磨 GAP. 研磨鐵芯裝 PIN 腳端. 中柱需點 100%濃度凡立水.
- 鐵芯外圍包兩圈膠帶固定鐵芯, 含浸後拆除, 成品要真空含浸.
- 按上圖所示點 5 點黑膠固定, 並烘乾.
- 產品含浸後, 先用 1350F-1*12mm 的膠帶, 沿繞線包方向包 1TS. 再包外屏蔽銅箔 1.1TS, 焊接短路並接於 PIN3, 銅箔焊接點在側邊約 45 度處, 不能在磁芯處. 焊接完成把下面的 TAPE 反包, 最後用 1350F-1*12mm 的膠帶沿繞線包方向包 2TS.
- 飛線 A1 套透明套管, 飛線 B1 套黑色套管

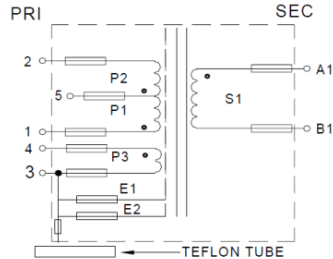
IEC 60950-1

Clause	Requirement + Test	Result - Remark	Verdict
--------	--------------------	-----------------	---------

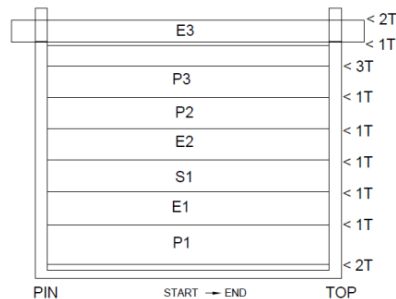
三.SCHEMATIC:(線路圖)

CONNECTION (●: POLARITY)

[線路原理圖(●表示極性)]



四.WINDING:(剖面圖)

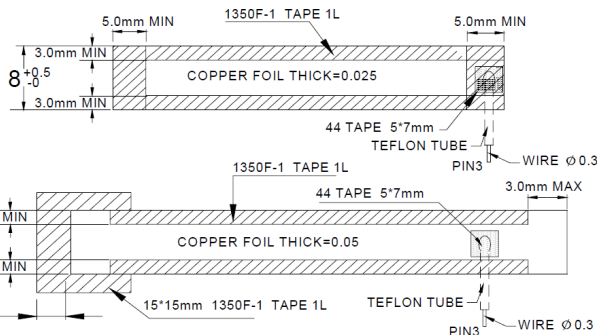


五..WINDING TABLE(繞線結構表):

Winding 繞組	Pin 腳位	Wire 線材		Turns 圈數	Tape Layer 膠帶層數	Winding Method 繞線方式	Remark 備 注
		Diameter 線徑	Type 線種				
P1	1 → 5	Φ0.3*3	2UEW	19Ts	11mm *1 Ts	密繞二層	層間不絕緣
E1	3 →	COPPER FOIL 0.025t*8mm		1.1Ts	11mm *1 Ts		
S1	A1 → B1	Φ0.7*3	TRW(B)	5Ts	11mm *1 Ts	繞二層	層間不絕緣
E2	3 →	COPPER FOIL 0.025t*8mm		1.1Ts	11mm *1 Ts		
P2	5 → 2	Φ0.3*3	2UEW	16Ts	11mm *1 Ts	密繞二層	層間不絕緣
P3	4 → 3	Φ0.3*1	2UEW	6Ts	11mm *3 Ts	均 繞	
E3	→ 3	COPPER FOIL 0.05t*8mm		1.1Ts			外屏蔽銅箔

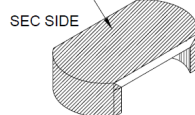
6.1 銅箔加工:

屏蔽銅箔(E1,E2)



6.2.底部鐵芯加工：

包1350F-1 TAPE 26mm*2L



膠帶貼平齊于一次側邊緣

反折于二次側且剪斷反折下去3mm, 以增加安規距離。

3.0mm+0.5/-0

兩側貼1350F-1 5mm*1L, 與鐵芯平齊, 且反折貼在鐵芯裡面。



Test Report issued under the responsibility of:

**TEST REPORT****IEC 60950-1****Information technology equipment – Safety –
Part 1: General requirements****Report Number..... :** 11035366 003**Date of issue..... :** 22 July, 2014**Total number of pages** 8**Applicant's name** FSP Group Inc.**Address..... :** No. 22, Jianguo E. Road, Taoyuan 330 Taiwan**Test specification:****Standard** IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013**Test procedure..... :** CB Scheme**Non-standard test method** N/A**Test Report Form No..... :** IEC60950_1F**Test Report Form(s) Originator.... :** SGS Fimko Ltd**Master TRF** Dated 2014-02**Copyright © 2014 IEC System of Conformity Assessment Schemes for Electrotechnical Equipment and Components (IECEE System). All rights reserved.**

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General disclaimer:

The test results presented in this report relate only to the object tested.

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Test item description..... :		Switching Power Supply	
Trade Mark..... :		SYSTIUM® TECHNOLOGIES	
Manufacturer..... :		Same as applicant	
Model/Type reference..... :		FSP060-DIBAN2	
Ratings..... :		Input: 100-240V~, 50-60Hz, 1.5A Output: 12Vdc, 5.0A MAX	
Testing procedure and testing location:			
☒	CB Testing Laboratory:	TÜV Rheinland Taiwan Ltd., Taichung Laboratory	
Testing location/ address		No. 9, Ln. 36, Sec. 3, Minsheng Rd., Daya District, Taichung City, 428 Taiwan	
☐	Associated CB Testing Laboratory:		
Testing location/ address			
Tested by (name + signature)..... :		Cody Chen	Cody Chen
Approved by (name + signature)..... :		Andy Lee	Andy Lee
☐	Testing procedure: TMP/CTF Stage 1:		
Testing location/ address			
Tested by (name + signature)..... :			
Approved by (name + signature)..... :			
☐	Testing procedure: WMT/CTF Stage 2:		
Testing location/ address			
Tested by (name + signature)..... :			
Witnessed by (name + signature)..... :			
Approved by (name + signature)..... :			
☐	Testing procedure: SMT/CTF Stage 3 or 4:		
Testing location/ address			
Tested by (name + signature)..... :			
Witnessed by (name + signature)..... :			
Approved by (name + signature)..... :			
Supervised by (name + signature)			

TRF No. IEC60950_1F

List of Attachments (including a total number of pages in each attachment):

- None

Summary of testing:**Tests performed (name of test and test clause):**

- No test sample request.

Testing location:

No test considered necessary.

Summary of compliance with National Differences**List of countries addressed:**

EU Group Differences, EU Special National Conditions.

☒ The product fulfils the requirements of EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013.

*(CA, DE, DK, FI, GB, IL, KR, SE, SI, US), **(AU, CN, CH, ES, IE, NO), ***(BY, JP)

Explanation of used codes: CA = Canada, DE = Germany, DK=Denmark, FI = Finland, GB = United Kingdom, IL = Israel, KR = Republic of Korea, SE = Sweden, SI = Slovenia, US = United States, ***(AU = Australia, CN = China, CH = Switzerland, ES = Spain, IE = Ireland, NO = Norway), ***(BY = Belarus, JP = Japan)

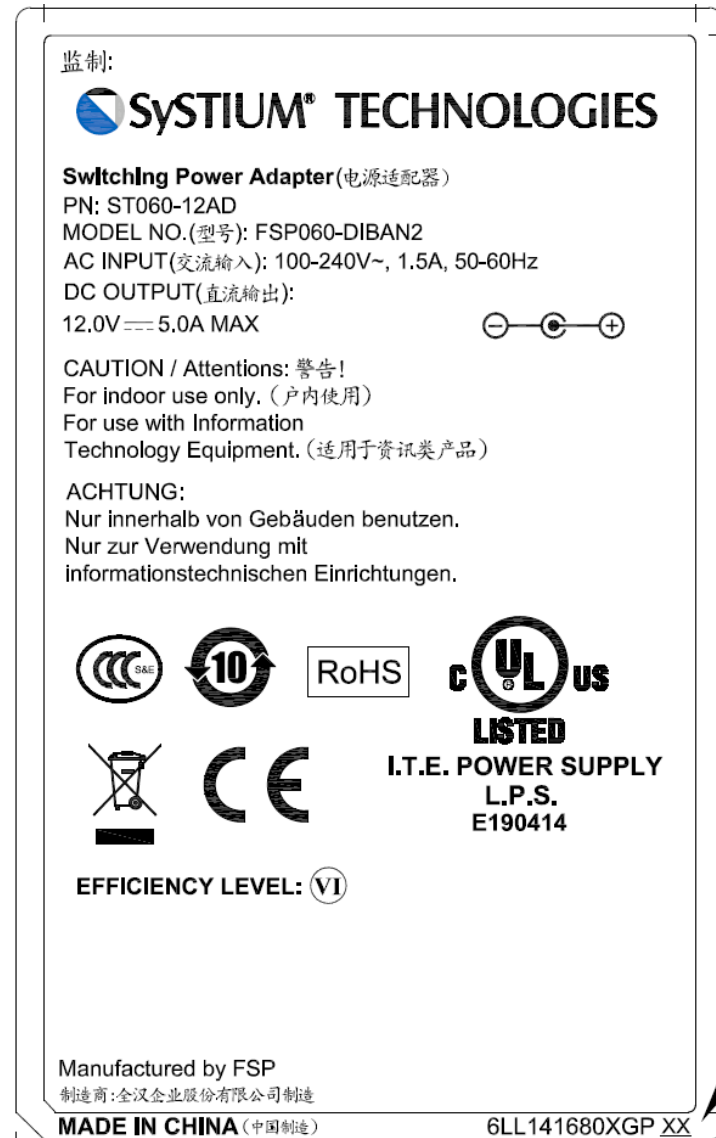
* National differences to IEC 60950-1:2005+A1:2009 evaluated.

** National differences to IEC 60950-1:2005 evaluated.

*** National differences to IEC 60950-1:2001 evaluated.

Copy of marking plate

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.



Test item particulars.....:	
Equipment mobility.....:	☒ movable ☐ hand-held ☒ transportable ☐ stationary ☐ for building-in ☐ direct plug-in
Connection to the mains.....:	☒ pluggable equipment ☒ type A ☐ type B ☐ permanent connection ☐ detachable power supply cord ☐ non-detachable power supply cord ☐ not directly connected to the mains
Operating condition.....:	☒ continuous ☐ rated operating / resting time:
Access location	☒ operator accessible ☐ restricted access location
Over voltage category (OVC)	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other:
Mains supply tolerance (%) or absolute mains supply values ±10	
Tested for IT power systems	☒ Yes ☐ No
IT testing, phase-phase voltage (V)	230V (For Norway)
Class of equipment	☒ Class I ☐ Class II ☐ Class III ☐ Not classified
Considered current rating of protective device as part of the building installation (A)	16A (20A for North American)
Pollution degree (PD)	☐ PD 1 ☒ PD 2 ☐ PD 3
IP protection class	IPX0
Altitude during operation (m)	Not over 5000m
Altitude of test laboratory (m)	Not over 2000m
Mass of equipment (kg)	0.276kg
Possible test case verdicts:	
- test case does not apply to the test object : N/A	
- test object does meet the requirement..... : P (Pass)	
- test object does not meet the requirement : F (Fail)	
Testing.....:	
Date of receipt of test item.....:	N/A
Date(s) of performance of tests	N/A
General remarks:	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.	
Throughout this report a ☐ comma / ☒ point is used as the decimal separator.	

Manufacturer's Declaration per sub-clause 4.2.5 of IEC60950-1:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided.....:

☒ **Yes**☐ **Not applicable****When differences exist; they shall be identified in the General product information section.**

Name and address of factory (ies) :

1. ShenZhen HuiLi Electronics CO., LTD.
Block C, Building 4、6、7、8、9、10、11,
County 73, Xin'an, Bao'an, Shenzhen,
Guangdong, P.R. China
2. Zhonghan Electronics (Shenzhen) Co., Ltd.
Building 2,3,4,10, JuYuan Industrial Zone,
TangWei Village, FuYong Town, BaoAn District,
ShenZhen City, P.R. China
3. Wuxi SPI Technology Co., Ltd.
No. 96, XinmeiRoad, New District, Wuxi city,
Jiangsu, P.R. China
4. ZHONGHAN SCIENCE & TECH CO. LTD
BLD5, JuYuan Industrial, TangWei Village,
FuYong Town, BaoAn, District. ShenZhen City,
P.R. China
5. Wuxi ZhongHan Technology Co., Ltd.
Block 106-E, Wuxi Nation HI-TECH Industrial,
Development Zone, Wuxi City, Jiangsu,
Province, P.R. China

General product information:

Description of change(s):

1. Add additional model FSP060-DIBAN2, which is identical to approved model FSP060-DIBAN2, except for trademark is “ SYSTIUM® TECHNOLOGIES”.

For the above described change(s) the following was considered to be necessary:

Change	Testing	Comments
1.	• N/A	See copy of marking plate and sub-clauses.

History of amendments and modifications:

Ref. No. 11035366 001, dated Dec. 24, 2013 (original test report)

Ref. No. 11035366 002, dated Mar. 04, 2014 (amendment)

Ref. No. 11035366 003, dated July 22, 2014 (amendment)

TRF No. IEC60950_1F

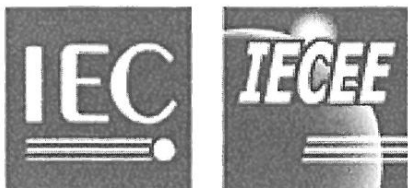
Abbreviations used in the report:

- normal conditions	N.C.	- single fault conditions	S.F.C
- functional insulation	OP	- basic insulation	BI
- double insulation	DI	- supplementary insulation	SI
- between parts of opposite polarity	BOP	- reinforced insulation	RI

Indicate used abbreviations (if any)

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.1.1	Power rating marking	The power rating and identification marking are on copy of marking plate or printed on enclosure by laser engraving.	P
	Multiple mains supply connections.....:		N/A
	Rated voltage(s) or voltage range(s) (V)	See copy of marking plate.	P
	Symbol for nature of supply, for d.c. only	Mains from AC source.	N/A
	Rated frequency or rated frequency range (Hz)	See copy of marking plate.	P
	Rated current (mA or A)	See copy of marking plate.	P
1.7.1.2	Identification markings	See below.	P
	Manufacturer's name or trade-mark or identification mark	See copy of marking plate.	P
	Model identification or type reference	See copy of marking plate.	P
	Symbol for Class II equipment only	Class I equipment.	N/A
	Other markings and symbols	Other markings and symbols do not give rise to misunderstanding.	P
1.7.1.3	Use of graphical symbols	Symbol used complying with IEC 60417.	P

TRF No. IEC60950_1F



Test Report issued under the responsibility of:

**TEST REPORT****IEC 60950-1**
**Information technology equipment – Safety –
Part 1: General requirements**

Report Number..... : 11035366 002

Date of issue..... : Mar. 04, 2014

Total number of pages : 10

Applicant's name : FSP Group Inc

Address..... : No. 22, Jianguo E. Road, Taoyuan 330 Taiwan

Test specification:

Standard : IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013

Test procedure : CB Scheme

Non-standard test method : N/A

Test Report Form No. : IEC60950_1F

Test Report Form(s) Originator : SGS Fimko Ltd

Master TRF : Dated 2014-02

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General disclaimer:

The test results presented in this report relate only to the object tested.

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Test item description :		Switching Power Adapter	
Trade Mark :		FSP	
Manufacturer :		Same as applicant	
Model/Type reference :		1) FSP050-DIBAN2 2) FSP060-DIBAN2	
Ratings :		Input: 100-240V~, 50-60Hz, 1.5A Output: 1) DC 12V, 4.16A MAX (50W MAX) 2) DC 12V, 5.0A MAX	
Testing procedure and testing location:			
☐	CB Testing Laboratory:		
Testing location/ address			
☐	Associated CB Testing Laboratory:		
Testing location/ address			
Tested by (name + signature)			
Approved by (name + signature)			
☒	Testing procedure: TMP/CTF Stage 1:		
Testing location/ address		FSP Group Inc. No. 22, Jianguo E. Road, Taoyuan 330 Taiwan	
Tested by (name + signature)		Andy Lee	
Approved by (name + signature)		Robert Kong	
☐	Testing procedure: WMT/CTF Stage 2:		
Testing location/ address			
Tested by (name + signature)			
Witnessed by (name + signature)			
Approved by (name + signature)			
☐	Testing procedure: SMT/CTF Stage 3 or 4:		
Testing location/ address			
Tested by (name + signature)			
Witnessed by (name + signature)			
Approved by (name + signature)			
Supervised by (name + signature)			

TRF No. IEC60950_1F

List of Attachments (including a total number of pages in each attachment):

N/A

Summary of testing:**Tests performed (name of test and test clause):**

Test is not required.

Testing location:

See page 2

Summary of compliance with National Differences**List of countries addressed:**

EU Group Differences, EU Special National Conditions.

☒ The product fulfils the requirements of EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013.

*(CA, DE, DK, FI, GB, IL, KR, SE, SI, US), **(AU, CN, CH, ES, IE, NO), ***(BY, JP)

Explanation of used codes: CA = Canada, DE = Germany, DK=Denmark, FI = Finland, GB = United Kingdom, IL = Israel, KR = Republic of Korea, SE = Sweden, SI = Slovenia, US = United States, ** (AU = Australia, CN = China, CH = Switzerland, ES = Spain, IE = Ireland, NO = Norway), *** (BY = Belarus, JP = Japan)

* National differences to IEC 60950-1:2005+A1:2009 evaluated.

** National differences to IEC 60950-1:2005 evaluated.

*** National differences to IEC 60950-1:2001 evaluated.

Copy of marking plate

N/A

TRF No. IEC60950_1F

Test item particulars.....:	
Equipment mobility.....:	☒ movable ☐ hand-held ☒ transportable ☐ stationary ☐ for building-in ☐ direct plug-in
Connection to the mains.....:	☒ pluggable equipment ☒ type A ☐ type B ☐ permanent connection ☒ detachable power supply cord ☐ non-detachable power supply cord ☐ not directly connected to the mains
Operating condition.....:	☒ continuous ☐ rated operating / resting time:
Access location	☒ operator accessible ☐ restricted access location
Over voltage category (OVC)	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other:
Mains supply tolerance (%) or absolute mains supply values	±10
Tested for IT power systems	☒ Yes ☐ No
IT testing, phase-phase voltage (V)	
Class of equipment	☒ Class I ☐ Class II ☐ Class III ☐ Not classified
Considered current rating of protective device as part of the building installation (A)	16A (20A for US)
Pollution degree (PD)	☐ PD 1 ☒ PD 2 ☐ PD 3
IP protection class	IPX0
Altitude during operation (m)	Up to 5000m
Altitude of test laboratory (m)	Not over 2000m
Mass of equipment (kg)	0.276kg (model FSP060-DIBAN2) 0.265kg (model FSP050-DIBAN2)
Possible test case verdicts:	
- test case does not apply to the test object : N/A	
- test object does meet the requirement..... : P (Pass)	
- test object does not meet the requirement : F (Fail)	
Testing..... :	
Date of receipt of test item..... : N/A	
Date(s) of performance of tests : N/A	
General remarks:	

"(See Enclosure #)" refers to additional information appended to the report.
 "(See appended table)" refers to a table appended to the report.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

Manufacturer's Declaration per sub-clause 4.2.5 of IEC60950-1:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided.....:

☒ **Yes**

☐ **Not applicable**

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies) :

1. ShenZhen HuiLi Electronics CO., LTD.
Block C, Building 4、6、7、8、9、10、11,
County 73, Xin'an, Bao'an, Shenzhen,
Guangdong, P.R. China
2. Zhonghan Electronics (Shenzhen) Co., Ltd.
Building 2,3,4,10, JuYuan Industrial Zone,
TangWei Village, FuYong Town, BaoAn District,
ShenZhen City, P.R. China
3. Wuxi SPI Technology Co., Ltd.
No. 96, XinmeiRoad, New District, Wuxi city,
Jiangsu, P.R. China
4. ZHONGHAN SCIENCE & TECH CO. LTD
BLD5, JuYuan Industrial, TangWei Village,
FuYong Town, BaoAn, District. ShenZhen City,
P.R. China
5. Wuxi ZhongHan Technology Co., Ltd.
Block 106-E, Wuxi Nation HI-TECH Industrial,
Development Zone, Wuxi City, Jiangsu,
Province, P.R. China

General product information:

Description of change(s):

1. Correct typo in the appended table 2.10.5.
2. Add the following transformer factories in the appended table 5.2 and C.2
 - FRESCO FACTORY (SHENZHEN) CO., LTD.
 - HAOHAN ELECTRONIC TECHNOLOGY (JIAN) CO LTD
 - LI YIN TECHNOLOGY LTD.
 - FSP Technology Inc., Kaohsiung Branch
 - PROTEK ELECTRONICS (CHINA) CORP.

For the above described change(s) the following was considered to be necessary:

Change	Testing	Comments
--------	---------	----------

1.	N/A	Report correction, tube on core of Green and Yellow is considered as basic insulation. Test is not necessary.	
2.	N/A	Add transformer factories information, due to information missing in the original test report, Test is not necessary	
<u>History of amendments and modifications:</u> Ref. No. 11035366 001, dated Dec. 24, 2013 (original test report) Ref. No. 11035366 002, dated Mar. 04, 2014 (amendment)			
Abbreviations used in the report:			
- normal conditions	N.C.	- single fault conditions	S.F.C
- functional insulation	OP	- basic insulation	BI
- double insulation	DI	- supplementary insulation	SI
- between parts of opposite polarity	BOP	- reinforced insulation	RI
Indicate used abbreviations (if any)			

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
2.10.5	TABLE: Distance through insulation measurements				P
Distance through insulation (DTI) at/of:	U peak (V)	U rms (V)	Test voltage (Vac)	Required DTI (mm)	DTI (mm)
Photo coupler (reinforced insulation)(for all sources) ¹⁾	420	250	3000Vac	0.4	¹⁾
Enclosure (reinforced insulation)(for all sources) ¹⁾	420	250	3000Vac	0.4	¹⁾
One layer insulation tape attached on bottom core of transformer (T1) (Basic insulation) ²⁾	490	291	1740Vac	--	--
One layer insulation tape attached on heatsink (HS3) (for all sources) (Basic insulation) ³⁾	490	291	1740Vac	--	--
Two layers insulation tape attached on side core of transformer (T1) (tested one layer) (reinforced insulation) ²⁾	490	291	3000Vac	--	--
Two layers of insulation tape attached on HS2 heatsink (for all sources) (tested one layer) (reinforced insulation) ³⁾	420	250	3000Vac	--	--
Triple insulation wire for T1 (reinforced insulation) ⁴⁾	490	291	3000Vac	--	--
Tube on core of Green and Yellow. (Basic insulation) ⁵⁾	490	291	1740Vac	--	--
Supplementary information: Above all sources were tested with equipment before humidity test and after humidity test, for sources see below. 1) For all sources details refer to table 1.5.1. 2) Test were performed on below insulation tape sources: - Mfr. 3M, types 1350F-1 and 44 3) Test were performed on below insulation tape sources: - Mfr. 3M, types 1350F-1, 1350F-2, 1388Y-1, 1218, 92 - Mfr. Bondtec, types 370S and 371F - Mfr. Symbio, types 35660, 35660Y and 35661 4) Test was performed on below triple insulation wire: - Mfr. Great Leoflon Industrial, type TRW(B) 5) Test were performed on below tube sources: - Mfr. Changyuan Electrocics (Shenzhen) Co., Ltd, type CB-HFT - Tyco Electronics Corp. type Versafit V2 - Well One Co., Ltd. Type Gt-2					

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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			P
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Basic:				
Unit: primary to PE		DC	2460	No
Reinforced:				
Unit: primary to secondary		DC	4242	No
Unit: primary to Enclosure ¹⁾ with metal foil		DC	4242	No
T1: primary winding to secondary winding 4)		AC	3000	No
T1: secondary winding to core 4)		AC	3000	No
Test one layer insulation tape 2)		AC	3000	No
Tube on core of Green and yellow 3)		AC	1740	No
Supplementary information:				
Above was tested with equipment before humidity test and after humidity test, for source see appended table 1.5.1.				
1) For plastic enclosure sources refer to table 1.5.1.				
2) Test Insulation sources: 3M / 1350F-1; 3M / 1350F-2; 3M / 1218; 3M / 92; 3M / 1388Y-1; Bondtec / 370S; Bondtec / 371F; Symbio / 35660; Symbio / 35660Y; Symbio / 35661				
3) Test were performed on below tube sources:				
- Mfr. Changyuan Electrocics (Shenzhen) Co., Ltd, type CB-HFT				
-Tyco Electronics Corp. type Versafit V2				
-Well One Co., Ltd. Type Gt-2				
4) Transformer factories as below:				
1. FRESCO FACTORY (SHENZHEN) CO., LTD.				
2. HAOHAN ELECTRONIC TECHNOLOGY (JIAN) CO LTD				
3. LI YIN TECHNOLOGY LTD.				
4. FSP Technology Inc., Kaohsiung Branch				
5. PROTEK ELECTRONICS (CHINA) CORP.				

C.2	TABLE: transformers						P
Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)

IEC 60950-1							
Clause	Requirement + Test			Result - Remark			Verdict
T1	Primary to secondary (reinforced)	490	291	3000Vac	6.3 ¹⁾	6.3 ²⁾	0.4mm or 3 layers or triple insulated wire
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers
T1	Primary winding to secondary winding (reinforced) (Internally)			3000Vac	Triple insulation wire used	Triple insulation wire used	See supplementary information
T1	Core to secondary pin (reinforced) (Externally)			3000Vac	8.7	8.7	See supplementary information

Supplementary information:

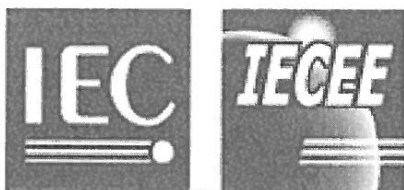
- 1) The correction factors of clearance is 1.48, specified in table A. 2 of IEC 60664-1 for altitude 5000m.
 2) The min. creepage distance derived from Table 2N is less than the applicable min. clearance, that value of min. clearance shall be applied as the min. creepage distance.

Concentric windings on Phenolic bobbin type PM-9820 (Vertical orientation), core is considered as primary parts, transformer construction as below,

- Secondary winding is triple insulation wire details see appended table 1.5.1 and subclause 2.10.5.12, Annex U.
- One layer of insulation tape provided between primary and secondary windings.
- One layer of insulation tape wrapped on bobbin before winding wrapped.
- Outer shielding is primary.
- All winding endings additionally tubing to prevent mechanical stress in two different windings.
- One layer of insulation tape is provided on bottom core and fold-back upward.
- Two layers of insulation tape are provided on side core.

Transformers used in below factories are identical in electrical characteristics, physical construction in clearance, creepage and distance through insulation.

1. FRESCO FACTORY (SHENZHEN) CO., LTD.
2. HAOHAN ELECTRONIC TECHNOLOGY (JIAN) CO LTD
3. LI YIN TECHNOLOGY LTD.
4. FSP Technology Inc., Kaohsiung Branch
5. PROTEK ELECTRONICS (CHINA) CORP.



Test Report issued under the responsibility of:



TEST REPORT
IEC 60950-1
Information technology equipment – Safety –
Part 1: General requirements

Report Number.....: 11035366 001

Date of issue.....: Dec. 24, 2013

Total number of pages.....: 64

CB Testing Laboratory.....: TÜV Rheinland Taiwan Ltd., Taichung Laboratory

Address.....: No. 9, Ln. 36, Sec. 3, Minsheng Rd., Daya District, Taichung City 428, Taiwan

Applicant's name.....: FSP Group Inc.

Address.....: No. 22, Jianguo E. Road, Taoyuan 330 Taiwan

Manufacturer's name.....: Same as applicant

Address.....: Same as applicant

Test specification:

Standard.....: IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013

Test procedure.....: CB Scheme

Non-standard test method.....: N/A

Test Report Form No.....: IEC60950_1E

Test Report Form(s) Originator.....: SGS Fimko Ltd

Master TRF.....: Dated 2013-07

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This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

Test item description.....: Switching Power Adapter

Trade Mark.....: FSP

Manufacturer.....: Same as applicant

Model/Type reference.....: 1) FSP050-DIBAN2

2) FSP060-DIBAN2

Ratings.....: Input: 100-240V~, 50-60Hz, 1.5A

Output: 1) DC 12V, 4.16A MAX (50W MAX)

2) DC 12V, 5.0A MAX

Testing procedure and testing location:		
☐	CB Testing Laboratory:	
Testing location/ address.....:		
☐	Associated CB Testing Laboratory:	
Testing location/ address.....:		
Tested by (name + signature).....:		
Approved by (name + signature).....:		
☒	Testing procedure: TMP	
Testing location/ address.....:		FSP Group Inc. No. 22, Jianguo E. Road, Taoyuan 330 Taiwan
Tested by (name + signature).....:		<i>Forix Yang</i>
Approved by (name + signature).....:		<i>Cody Chen</i>
☐	Testing procedure: WMT	
Testing location/ address.....:		
Tested by (name + signature).....:		
Witnessed by (name + signature)		
Approved by (name + signature).....:		
☐	Testing procedure: SMT	
Testing location/ address.....:		
Tested by (name + signature).....:		
Approved by (name + signature).....:		
Supervised by (name + signature)....:		

List of Attachments (including a total number of pages in each attachment):

- Photo Documentation
- National Differences
- Measurement Section

Total number of pages in each attachment is indicated in each individual attachment; except for Measurement Section is combining with this main test report in the last two pages.

Summary of testing:**Tests performed (name of test and test clause):**

All applicable tests as described in Test Case and Measurement Sections were performed.

- Maximal ambient temperature as specified by the manufacturer +40°C.
- Full load condition used during testing.
- Test samples without serial numbers.
- The correction factors of clearance is 1.48, specified in table A. 2 of IEC 60664-1: 2007 for altitude 5000m.

Testing location:

All tests as described in Test Case and Measurement Sections were performed at the laboratory described on page 2.

Summary of compliance with National Differences**List of countries addressed:**

EU Group Differences, EU Special National Conditions.

☒ The product fulfils the requirements of EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013.

*(CA, DE, DK, FI, GB, IL, KR, SE, SI, US), **(AU, CN, CH, ES, IE, NO), ***(BY, JP)

Explanation of used codes: CA = Canada, DE = Germany, DK=Denmark, FI = Finland, GB = United Kingdom, IL = Israel, KR = Republic of Korea, SE = Sweden, SI = Slovenia, US = United States, ***(AU = Australia, CN = China, CH = Switzerland, ES = Spain, IE = Ireland, NO = Norway), ***(BY = Belarus, JP = Japan)

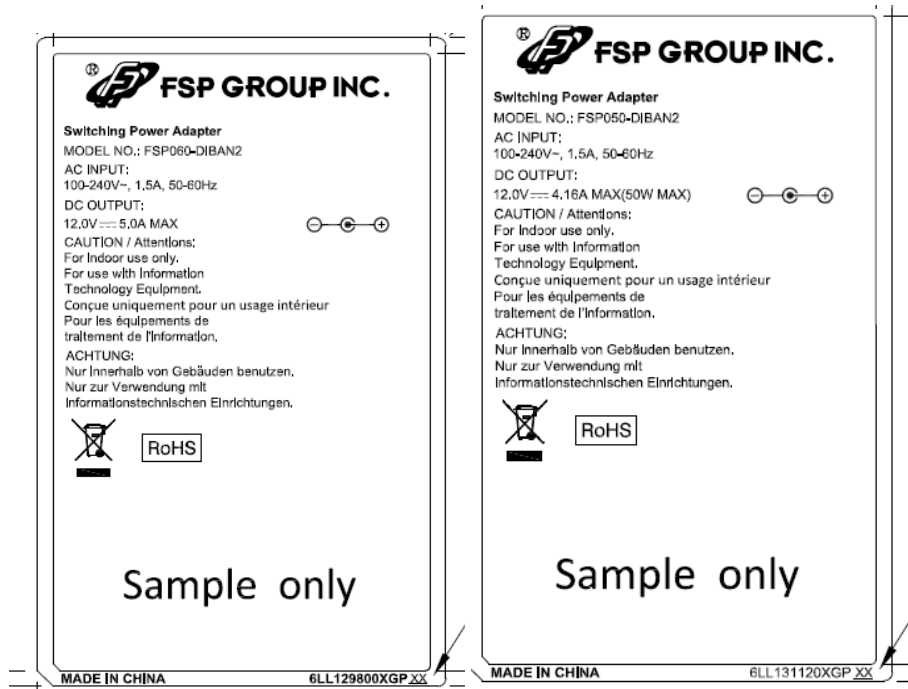
* National differences to IEC 60950-1:2005+A1:2009 evaluated.

** National differences to IEC 60950-1:2005 evaluated.

*** National differences to IEC 60950-1:2001 evaluated.

Copy of marking plate

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.



Note: The rating of equipment will be provided by label or printed on the enclosure by laser engraving

Test item particulars.....:	
Equipment mobility.....:	☒ movable ☐ hand-held ☒ transportable ☐ stationary ☐ for building-in ☐ direct plug-in
Connection to the mains.....:	☒ pluggable equipment ☒ type A ☐ type B ☐ permanent connection ☒ detachable power supply cord ☐ non-detachable power supply cord ☐ not directly connected to the mains
Operating condition.....:	☒ continuous ☐ rated operating / resting time:
Access location	☒ operator accessible ☐ restricted access location
Over voltage category (OVC)	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other:
Mains supply tolerance (%) or absolute mains supply values	±10
Tested for IT power systems	☒ Yes ☐ No
IT testing, phase-phase voltage (V)	230V for Norway
Class of equipment	☒ Class I ☐ Class II ☐ Class III ☐ Not classified
Considered current rating of protective device as part of the building installation (A)	16A (20A for US)
Pollution degree (PD)	☐ PD 1 ☒ PD 2 ☐ PD 3
IP protection class	IPX0
Altitude during operation (m)	Up to 5000m
Altitude of test laboratory (m)	Not over 2000m
Mass of equipment (kg)	0.276kg (model FSP060-DIBAN2) 0.265kg (model FSP050-DIBAN2)
Possible test case verdicts:	
- test case does not apply to the test object : N/A	
- test object does meet the requirement..... : P (Pass)	
- test object does not meet the requirement : F (Fail)	
Testing.....:	
Date of receipt of test item.....:	Nov., 2013
Date(s) of performance of tests	Nov. to Dec., 2013
General remarks:	

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

"(see Enclosure #)" refers to additional information appended to the report.

"(see appended table)" refers to a table appended to the report.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

Manufacturer's Declaration per sub-clause 4.2.5 of IECIEE 02:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided.....:

☒ Yes

☐ Not applicable

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies) :

1. ShenZhen HuiLi Electronics CO., LTD.
Block C, Building 4、6、7、8、9、10、11,
County 73, Xin'an, Bao'an, Shenzhen,
Guangdong, P.R. China
2. Zhonghan Electronics (Shenzhen) Co., Ltd.
Building 2,3,4,10, JuYuan Industrial Zone,
TangWei Village, FuYong Town, BaoAn District,
ShenZhen City, P.R. China
3. Wuxi SPI Technology Co., Ltd.
No. 96, XinmeiRoad, New District, Wuxi city,
Jiangsu, P.R. China
4. ZHONGHAN SCIENCE & TECH CO. LTD
BLD5, JuYuan Industrial, TangWei Village,
FuYong Town, BaoAn, District. ShenZhen City,
P.R. China
5. Wuxi ZhongHan Technology Co., Ltd.
Block 106-E, Wuxi Nation HI-TECH Industrial,
Development Zone, Wuxi City, Jiangsu,
Province, P.R. China

General product information:

The equipment under test (EUT) is a switching power adapter for use within the scope of this standard.

The power supply cord set was not evaluated together with the apparatus. A suitable certified power supply cord set has to be added in the country where the apparatus is sold.

EUT have the following features:

- 1) The top enclosure is secured to bottom enclosure by mechanical coupling and ultrasonic welding.
- 2) Green/Yellow wire is considered as "optional" use.
- 3) The rating of equipment will be shown by label or laser engraving.

Model difference:

		Model: FSP060-DIBAN2	Model: FSP050-DIBAN2
DC Output Rating		12Vdc, 5.0A	12Vdc, 4.16A
Component	C1	120uF, 400V	100uF, 400V
Heatsink	HS3 (top shielding)	Provided	Not provided
Component	R23, R24, R25, R26	0.75 Ohm	0.82 Ohm

Abbreviations used in the report:

- normal conditions	N.C.	- single fault conditions	S.F.C
- functional insulation	OP	- basic insulation	BI
- double insulation	DI	- supplementary insulation	SI
- between parts of opposite polarity	BOP	- reinforced insulation	RI

Indicate used abbreviations (if any)

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	GENERAL	See below.	P
1.5	Components	See below.	P
1.5.1	General	See below.	P
	Comply with IEC 60950-1 or relevant component standard	(see appended tables 1.5.1)	P
1.5.2	Evaluation and testing of components	Components certified to IEC standards and/or their harmonized standards, are used within their ratings and are checked for correct application.	P
1.5.3	Thermal controls		N/A
1.5.4	Transformers	Transformer complied with the relevant requirements.	P
1.5.5	Interconnecting cables	Interconnection o/p cable to other device is carrying only SELV on an energy level below 240VA.	P
1.5.6	Capacitors bridging insulation	Capacitor used in accordance with their rating and complied with subclasses of IEC 60384-14 with at least 21 days damp heat test. The accessible circuit complied with the requirement of Limited Current Circuit in 2.4 after electric strength testing of the insulation with the bridging capacitor in place.	P
1.5.7	Resistors bridging insulation	No such components.	N/A
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		N/A
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N/A
1.5.8	Components in equipment for IT power systems	Phase to earth designed according to phase-to phase working voltage. No capacitor used between phase-to-earth	P
1.5.9	Surge suppressors	Approved Varistor comply with Annex Q used in primary circuit.	P

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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.9.1	General	A fuse is connected in series with VDR.	P
1.5.9.2	Protection of VDRs	Approved Varistor located between mains lines.	P
1.5.9.3	Bridging of functional insulation by a VDR		N/A
1.5.9.4	Bridging of basic insulation by a VDR		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A

1.6	Power interface	See below.	P
1.6.1	AC power distribution systems	Considered.	P
1.6.2	Input current	(see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment		N/A
1.6.4	Neutral conductor	No components connected between line and earth..	N/A

1.7	Marking and instructions	See below.	P
1.7.1	Power rating and identification markings	The power rating and identification marking are on copy of marking plate or printed on enclosure by laser engraving.	P
1.7.1.1	Power rating marking	See copy of marking plate.	P
	Multiple mains supply connections.....:		N/A
	Rated voltage(s) or voltage range(s) (V)	See copy of marking plate.	P
	Symbol for nature of supply, for d.c. only		N/A
	Rated frequency or rated frequency range (Hz)	See copy of marking plate.	P
	Rated current (mA or A)	See copy of marking plate.	P
1.7.1.2	Identification markings	See below.	P
	Manufacturer's name or trade-mark or identification mark	See copy of marking plate.	P
	Model identification or type reference	See copy of marking plate.	P
	Symbol for Class II equipment only		N/A
	Other markings and symbols	Other markings and symbols do not give rise to misunderstanding.	P
1.7.1.3	Use of graphical symbols		N/A
1.7.2	Safety instructions and marking	See below:	P
1.7.2.1	General	Instructions are available.	P

TRF No. IEC60950_1E

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.2	Disconnect devices	Appliance coupler provided as disconnection device.	P
1.7.2.3	Overcurrent protective device		N/A
1.7.2.4	IT power distribution systems	For Norway compliance has to be evaluated during the national approval.	N/A
1.7.2.5	Operator access with a tool		N/A
1.7.2.6	Ozone		N/A
1.7.3	Short duty cycles		N/A
1.7.4	Supply voltage adjustment		N/A
	Methods and means of adjustment; reference to installation instructions		N/A
1.7.5	Power outlets on the equipment		N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference)	Marking adjacent to fuse on PCB as: F1 T3.15AL/250V	P
1.7.7	Wiring terminals	See below.	P
1.7.7.1	Protective earthing and bonding terminals	Appliance inlet used.	P
1.7.7.2	Terminals for a.c. mains supply conductors		N/A
1.7.7.3	Terminals for d.c. mains supply conductors		N/A
1.7.8	Controls and indicators	Refer to below	—
1.7.8.1	Identification, location and marking	Refe to Cl. 1.7.8.2 for indication.	P
1.7.8.2	Colours	For functional indication a LED lights when the equipment is operating.	P
1.7.8.3	Symbols according to IEC 60417		N/A
1.7.8.4	Markings using figures		N/A
1.7.9	Isolation of multiple power sources		N/A
1.7.10	Thermostats and other regulating devices		N/A

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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.11	Durability	The label or marking of laser engraving was subjected to the permanence of marking test. The label or marking of laser engraving was rubbed with cloth soaked with water for 15 s and then again for 15 s with the cloth soaked with petroleum spirit. After this test there was no damage to the label or marking of laser engraving. The marking on the label or marking of laser engraving did not fade. There was no curling nor lifting.	P
1.7.12	Removable parts		N/A
1.7.13	Replaceable batteries	No such component used.	N/A
	Language(s)		—
1.7.14	Equipment for restricted access locations		N/A

2	PROTECTION FROM HAZARDS		P
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas	See below.	P
2.1.1.1	Access to energized parts	The operator can gain access only to parts at SELV or LCC level.	P
	Test by inspection	The equipment is provided with plastic enclosure without any openings.	P
	Test with test finger (Figure 2A)	No access to hazardous parts.	P
	Test with test pin (Figure 2B)	No access to hazardous parts.	P
	Test with test probe (Figure 2C)	No connection to TNV circuits.	N/A
2.1.1.2	Battery compartments	No battery compartments provided.	N/A
2.1.1.3	Access to ELV wiring	No ELV wiring in operator access area.	N/A
	Working voltage (V _{peak} or V _{rms}); minimum distance through insulation (mm)	See above.	—
2.1.1.4	Access to hazardous voltage circuit wiring	.	N/A

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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.1.1.5	Energy hazards	Energy not exceeding 240VA between any two points in output connector of secondary circuit. Refer to appended table 2.1.1.5.	P
2.1.1.6	Manual controls		N/A
2.1.1.7	Discharge of capacitors in equipment	No risk of electric shock, see below.	P
	Measured voltage (V); time-constant (s)	See attachment measurement section table 2.1.1.7.	—
2.1.1.8	Energy hazards – d.c. mains supply		N/A
	a) Capacitor connected to the d.c. mains supply		N/A
	b) Internal battery connected to the d.c. mains supply		N/A
2.1.1.9	Audio amplifiers		N/A
2.1.2	Protection in service access areas		N/A
2.1.3	Protection in restricted access locations		N/A
2.2	SELV circuits		P
2.2.1	General requirements	See below.	P
2.2.2	Voltages under normal conditions (V)	See appended table 2.2.2.	P
2.2.3	Voltages under fault conditions (V)	See appended table 2.2.2.	P
2.2.4	Connection of SELV circuits to other circuits	Complied with 1.5.6, 2.2.2, 2.2.3 and 2.4.3.	P
2.3	TNV circuits		N/A
2.3.1	Limits		N/A
	Type of TNV circuits		—
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions		N/A
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed		—
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed		—
2.3.5	Test for operating voltages generated externally		N/A

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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.4	Limited current circuits		P
2.4.1	General requirements	The output connector is accessible to the user and connected to the primary circuit by Y1 type bridging capacitor.	P
2.4.2	Limit values	See attachment measurement section table 2.4.2.	P
	Frequency (Hz)	Same as above.	—
	Measured current (mA).....	Same as above.	—
	Measured voltage (V)	Same as above.	—
	Measured circuit capacitance (nF or μ F)	Same as above.	—
2.4.3	Connection of limited current circuits to other circuits	Output circuit as limited current circuit connected to other circuits	P
2.5	Limited power sources		P
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output under normal operating and single fault condition	See appended table 2.5.	P
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA).....	See appended table 2.5.	P
	Current rating of overcurrent protective device (A) .:		—
	Use of integrated circuit (IC) current limiters		N/A
2.6	Provisions for earthing and bonding		P
2.6.1	Protective earthing	One optional green/yellow wire connected on the PE pin of approved appliance inlet reliably with solder and hook-in, the other side solder to PCB trace. In addition, Fixed by Glue on PCB. Complied with 2.6.3.	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.2	Functional earthing	Functional earthing circuit is separated from parts at hazardous voltages by double insulation. Green-and-yellow color combination was not used for functional earthing conductors.	P
	Use of symbol for functional earthing		N/A
2.6.3	Protective earthing and protective bonding conductors	See below.	P
2.6.3.1	General	See below.	P
2.6.3.2	Size of protective earthing conductors	See sub-clause 2.6.3.4, rated current below 16A.	N/A
	Rated current (A), cross-sectional area (mm ²), AWG		—
2.6.3.3	Size of protective bonding conductors	See sub-clause 2.6.3.4, rated current below 16A.	P
	Rated current (A), cross-sectional area (mm ²), AWG		—
	Protective current rating (A), cross-sectional area (mm ²), AWG		—
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min)	See attachment measurement section table 2.6.3.4 for test results.	P
2.6.3.5	Colour of insulation	See clause 2.6.1.	P
2.6.4	Terminals	See below.	P
2.6.4.1	General	See below.	P
2.6.4.2	Protective earthing and bonding terminals	The equipment is provided with an appliance inlet.	P
	Rated current (A), type, nominal thread diameter (mm)		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors	The equipment is provided with an appliance inlet.	N/A
2.6.5	Integrity of protective earthing	Refer below:	P
2.6.5.1	Interconnection of equipment	This unit has its own earthing connection. Any other units connected via the output shall be provided SELV only.	P
2.6.5.2	Components in protective earthing conductors and protective bonding conductors	No components in protective earthing conductors.	P

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Clause	Requirement + Test	Result - Remark	Verdict
2.6.5.3	Disconnection of protective earth	It is not necessary to disconnect protective earth except for the removing of the earthed part itself.	P
2.6.5.4	Parts that can be removed by an operator	AC inlet is earth connected before and disconnected after hazardous voltage.	P
2.6.5.5	Parts removed during servicing	It is not necessary to disconnect protective earth except for the removing of the earthed part itself.	P
2.6.5.6	Corrosion resistance	All protective earthing connections in compliance with Annex J.	P
2.6.5.7	Screws for protective bonding	No screws.	N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system	No TNV.	N/A

2.7	Overcurrent and earth fault protection in primary circuits		P
2.7.1	Basic requirements	Equipment relies on a rated fuse or 16 A (13A for GB, 20A for North America) circuit breaker of the wall outlet installation protection of the building installation in regard to L to N short-circuit. Over current protection is provided by the built-in fuse.	P
	Instructions when protection relies on building installation	Not applicable for pluggable equipment type A.	N/A
2.7.2	Faults not simulated in 5.3.7	Considered.	P
2.7.3	Short-circuit backup protection	The building installation is considered as providing short-circuit backup protection.	P
2.7.4	Number and location of protective devices :	Overcurrent protection by one built-in fuse.	P
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel..... :	No service work necessary	N/A

2.8	Safety interlocks		N/A
2.8.1	General principles		N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.8.4	Fail-safe operation		N/A
	Protection against extreme hazard		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches, relays and their related circuits		N/A
2.8.7.1	Separation distances for contact gaps and their related circuits (mm)		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test		N/A
2.8.8	Mechanical actuators		N/A

2.9	Electrical insulation		P
2.9.1	Properties of insulating materials	Natural rubber, asbestos or hygroscopic materials are not used.	P
2.9.2	Humidity conditioning	Tested for 120 hrs.	P
	Relative humidity (%), temperature (°C)	95%, 40°C	—
2.9.3	Grade of insulation	Basic, supplementary, double insulation, reinforced or functional insulation.	P
2.9.4	Separation from hazardous voltages	See below.	P
	Method(s) used	Method 1.	—

2.10	Clearances, creepage distances and distances through insulation		P
2.10.1	General	See below.	P
2.10.1.1	Frequency	Complied.	P
2.10.1.2	Pollution degrees	2	P
2.10.1.3	Reduced values for functional insulation	See 5.3.4.	P
2.10.1.4	Intervening unconnected conductive parts	Complied.	P
2.10.1.5	Insulation with varying dimensions		N/A
2.10.1.6	Special separation requirements		N/A
2.10.1.7	Insulation in circuits generating starting pulses		N/A
2.10.2	Determination of working voltage	See below.	P
2.10.2.1	General	Considered.	P
2.10.2.2	RMS working voltage	See appended table 2.10.2	P
2.10.2.3	Peak working voltage	See appended table 2.10.2	P

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.3	Clearances	See below.	P
2.10.3.1	General	Annex F is considered.	P
2.10.3.2	Mains transient voltages	See below.	P
	a) AC mains supply	2500 Vpk considered.	P
	b) Earthed d.c. mains supplies		N/A
	c) Unearthed d.c. mains supplies		N/A
	d) Battery operation		N/A
2.10.3.3	Clearances in primary circuits	(see appended table 2.10.3 and 2.10.4)	P
2.10.3.4	Clearances in secondary circuits	Refer to sub-clause 5.3.4.	N/A
2.10.3.5	Clearances in circuits having starting pulses		N/A
2.10.3.6	Transients from a.c. mains supply	See sub-clause 2.10.3.2.	P
2.10.3.7	Transients from d.c. mains supply		N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems		N/A
2.10.3.9	Measurement of transient voltage levels	See sub-clause 2.10.3.6.	N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network :		N/A
2.10.4	Creepage distances	See below.	P
2.10.4.1	General	Considered.	P
2.10.4.2	Material group and comparative tracking index	Material group IIIb assumed.	P
	CTI tests	See above.	—
2.10.4.3	Minimum creepage distances	(see appended table 2.10.3 and 2.10.4)	P
2.10.5	Solid insulation	Complied with 2.10.5.2 to 2.10.5.14 and 5.2.	P
2.10.5.1	General	See below.	P
2.10.5.2	Distances through insulation	(see appended table 2.10.5)	P
2.10.5.3	Insulating compound as solid insulation	Certified sources of photo coupler used. See sub-clause 2.10.5.2 and 2.10.10.	P
2.10.5.4	Semiconductor devices	For photo coupler see sub-clause 2.10.5.3.	P
2.10.5.5.	Cemented joints		N/A
2.10.5.6	Thin sheet material – General	Considered.	P

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.5.7	Separable thin sheet material	See appended tables C.2 and appended table 2.10.5, 2.10.3 and 2.10.4 for details applicable.	P
	Number of layers (pcs)	See above.	—
2.10.5.8	Non-separable thin sheet material		N/A
2.10.5.9	Thin sheet material – standard test procedure		P
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure	See below.	P
	Electric strength test	See appended table 2.10.5 and 5.2.	—
2.10.5.11	Insulation in wound components	See below.	P
2.10.5.12	Wire in wound components	Reinforced insulation.	P
	Working voltage	See appended table 2.10.2.	P
	a) Basic insulation not under stress		N/A
	b) Basic, supplementary, reinforced insulation	See below.	P
	c) Compliance with Annex U	Complied with annex U, three layers.	P
	Two wires in contact inside wound component; angle between 45° and 90°	Insulation tape or tubing provided.	P
2.10.5.13	Wire with solvent-based enamel in wound components		N/A
	Electric strength test		—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components		N/A
	Working voltage		N/A
	- Basic insulation not under stress		N/A
	- Supplementary, reinforced insulation		N/A
2.10.6	Construction of printed boards	See below.	P
2.10.6.1	Uncoated printed boards	See appended table 2.10.3 and 2.10.4.	P
2.10.6.2	Coated printed boards		N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board	Single layer PCB used.	N/A
2.10.6.4	Insulation between conductors on different layers of a printed board	Single layer PCB used.	N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.7	Component external terminations	See appended table 2.10.3 and 2.10.4.	P
2.10.8	Tests on coated printed boards and coated components		N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling	Approved sources of opto-couplers used. For detail see table 1.5.1.	P
2.10.10	Test for Pollution Degree 1 environment and insulating compound	See above.	P
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts	Passed 2.10.10.	P

3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General		P
3.1.1	Current rating and overcurrent protection	All internal wires are UL recognized wiring which is PVC insulated, rated 300V, VW-1, min. 105°C and output cable were rated 300V, VW-1, 60°C min., Internal wiring is PVC insulated, the wiring gauge is suitable for current intended to be carried.	P
3.1.2	Protection against mechanical damage	The wireways including holes are smooth and free from sharp edges.	P
3.1.3	Securing of internal wiring	Internal wires are secured by solder with glue or solder with solder pin so that a loosening of the terminal connection is unlikely.	P
3.1.4	Insulation of conductors	The insulation of the individual conductors is suitable for the application and the working voltage. For the insulation material see 3.1.1.	P
3.1.5	Beads and ceramic insulators	Not used.	N/A
3.1.6	Screws for electrical contact pressure	Not used.	N/A
3.1.7	Insulating materials in electrical connections		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.1.8	Self-tapping and spaced thread screws	No self- tapping or spaced thread screws are used.	P
3.1.9	Termination of conductors	All conductors are reliably secured.	P
	10 N pull test	10 N pull tests performed for all relevant conductors. No hazards caused hereby.	P
3.1.10	Sleeving on wiring		N/A
3.2	Connection to a mains supply		P
3.2.1	Means of connection	See below.	P
3.2.1.1	Connection to an a.c. mains supply	Connection to AC mains with appliance inlet.	P
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections	Single supply connection.	N/A
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter of cable and conduits (mm)		—
3.2.4	Appliance inlets	The appliance inlet complied with IEC 60320-1; the connector inserted without difficulty and not supporting the equipment on a flat surface.	P
3.2.5	Power supply cords		N/A
3.2.5.1	AC power supply cords		N/A
	Type		—
	Rated current (A), cross-sectional area (mm ²), AWG		—
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief	Test for output cable. (Per Client's request)	P
	Mass of equipment (kg), pull (N)	0.276kg, 30N	—
	Longitudinal displacement (mm)	0.01	—
3.2.7	Protection against mechanical damage	No parts under this unit likely to damage the power supply cord. No sharp edge.	P
3.2.8	Cord guards		N/A
	Diameter or minor dimension D (mm); test mass (g)		—
	Radius of curvature of cord (mm).....		—

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Clause	Requirement + Test	Result - Remark	Verdict
3.2.9	Supply wiring space		N/A
3.3	Wiring terminals for connection of external conductors <i>Appliance inlet used. No wiring terminals.</i>		N/A
3.3.1	Wiring terminals		N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm ²)..... :		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm) :		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A
3.4	Disconnection from the mains supply		P
3.4.1	General requirement	Disconnect device provided.	P
3.4.2	Disconnect devices	AC inlet is considered as disconnect device.	P
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized	When plug is disconnected, no remaining parts with hazardous voltage in the equipment.	P
3.4.5	Switches in flexible cords		N/A
3.4.6	Number of poles - single-phase and d.c. equipment	The disconnect device disconnects both poles simultaneously.	P
3.4.7	Number of poles - three-phase equipment		N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices	Appliance coupler as disconnect device.	N/A
3.4.10	Interconnected equipment	No interconnected equipment.	N/A
3.4.11	Multiple power sources		N/A
3.5	Interconnection of equipment		P

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Clause	Requirement + Test	Result - Remark	Verdict
3.5.1	General requirements	The power supply is not considered for connection to TNV.	P
3.5.2	Types of interconnection circuits	SELV and LCC circuits.	P
3.5.3	ELV circuits as interconnection circuits		N/A
3.5.4	Data ports for additional equipment		N/A

4	PHYSICAL REQUIREMENTS		P
4.1	Stability		N/A
	Angle of 10°	No overbalancing due to equipment design and mass less than 7kg (length and width by far exceeding the height).	N/A
	Test force (N)		N/A

4.2	Mechanical strength		P
4.2.1	General	See below. After tests, unit complies with the requirements of sub-clause 2.1.1, 2.6.1 and 2.10.	P
	Rack-mounted equipment.		N/A
4.2.2	Steady force test, 10 N	Applied to parts other than serving for enclosure.	P
4.2.3	Steady force test, 30 N	No internal enclosure.	N/A
4.2.4	Steady force test, 250 N	250N on top/right side/left side/bottom of enclosure, enclosure near AC inlet, enclosure near output cable and no damaged. (test with all mentioned sources in appended table 1.5.1)	P
4.2.5	Impact test	See below.	P
	Fall test	No hazard as result from steel sphere ball impact test applied for top/right side/left side/bottom of enclosure, enclosure near AC inlet and enclosure near output cable. (test with all mentioned sources in appended table 1.5.1)	P
	Swing test	See above.	P

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Clause	Requirement + Test	Result - Remark	Verdict
4.2.6	Drop test; height (mm)	No hazard as result from steel sphere ball impact test applied for top/right side/left side/bottom of enclosure, enclosure near AC inlet and enclosure near output cable. (test with all mentioned sources in appended table 1.5.1)	P
4.2.7	Stress relief test	Test performed at 101.1°C per applicant request for 7 hours with enclosure source in table 1.5.1. No safety relevant damages of the enclosure.	P
4.2.8	Cathode ray tubes		N/A
	Picture tube separately certified		N/A
4.2.9	High pressure lamps		N/A
4.2.10	Wall or ceiling mounted equipment; force (N)		N/A

4.3	Design and construction		P
4.3.1	Edges and corners	Edges and corners of the enclosure are rounded.	P
4.3.2	Handles and manual controls; force (N)		N/A
4.3.3	Adjustable controls		N/A
4.3.4	Securing of parts	No connections likely to be exposed to mechanical stress are provided in unit.	P
4.3.5	Connection by plugs and sockets	Mismatching of connectors either not possible or does not result in any hazard.	P
4.3.6	Direct plug-in equipment		N/A
	Torque		—
	Compliance with the relevant mains plug standard		N/A
4.3.7	Heating elements in earthed equipment		N/A
4.3.8	Batteries		N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.9	Oil and grease		N/A
4.3.10	Dust, powders, liquids and gases		N/A
4.3.11	Containers for liquids or gases		N/A
4.3.12	Flammable liquids		N/A
	Quantity of liquid (l)		N/A
	Flash point (°C)		N/A
4.3.13	Radiation	See below.	P
4.3.13.1	General	Neither ionizing radiation nor laser presents. For LED see below.	P
4.3.13.2	Ionizing radiation		N/A
	Measured radiation (pA/kg)		—
	Measured high-voltage (kV)		—
	Measured focus voltage (kV)		—
	CRT markings		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N/A
	Part, property, retention after test, flammability classification		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation		N/A
4.3.13.5	Lasers (including laser diodes) and LEDs	Refer to below.	—
4.3.13.5.1	Lasers (including laser diodes)	No laser	N/A
	Laser class	See above.	—
4.3.13.5.2	Light emitting diodes (LEDs)	The LED used is diffuse type and is considered to comply with the specified limits without further measurement	P
4.3.13.6	Other types		N/A
4.4	Protection against hazardous moving parts		N/A
4.4.1	General		N/A
4.4.2	Protection in operator access areas		N/A
	Household and home/office document/media shredders		N/A
4.4.3	Protection in restricted access locations		N/A
4.4.4	Protection in service access areas		N/A
4.4.5	Protection against moving fan blades		N/A
4.4.5.1	General		N/A
	Not considered to cause pain or injury. a)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Is considered to cause pain, not injury. b) :		N/A
	Considered to cause injury. c) :		N/A
4.4.5.2	Protection for users		N/A
	Use of symbol or warning :		N/A
4.4.5.3	Protection for service persons		N/A
	Use of symbol or warning :		N/A
4.5	Thermal requirements		P
4.5.1	General	No exceeding temperature.	P
4.5.2	Temperature tests	See appended table 4.5.	P
	Normal load condition per Annex L :	(See Annex L)	—
4.5.3	Temperature limits for materials	See appended table 4.5.	P
4.5.4	Touch temperature limits	See appended table 4.5.	P
4.5.5	Resistance to abnormal heat :	Phenolic type bobbin material used in T1 which is acceptable without test.	P
4.6	Openings in enclosures		P
4.6.1	Top and side openings	No openings.	N/A
	Dimensions (mm) :		—
4.6.2	Bottoms of fire enclosures	No openings.	N/A
	Construction of the bottommm, dimensions (mm) .. :		—
4.6.3	Doors or covers in fire enclosures		N/A
4.6.4	Openings in transportable equipment	No openings.	N/A
4.6.4.1	Constructional design measures		N/A
	Dimensions (mm) :		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature (°C), time (weeks) :		—
4.7	Resistance to fire		P
4.7.1	Reducing the risk of ignition and spread of flame	See below.	P
	Method 1, selection and application of components wiring and materials	Materials with the required flammability classes are used.	P
	Method 2, application of all of simulated fault condition tests		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.7.2	Conditions for a fire enclosure	See below.	P
4.7.2.1	Parts requiring a fire enclosure	With having the following parts: - components in primary - components in secondary (not supplied by LPS) - insulated wiring The fire enclosure is required.	P
4.7.2.2	Parts not requiring a fire enclosure	See above.	N/A
4.7.3	Materials		P
4.7.3.1	General	See below.	P
4.7.3.2	Materials for fire enclosures	Refer to appended table 1.5.1.	P
4.7.3.3	Materials for components and other parts outside fire enclosures		N/A
4.7.3.4	Materials for components and other parts inside fire enclosures	The material is made of V-2 material.	P
4.7.3.5	Materials for air filter assemblies		N/A
4.7.3.6	Materials used in high-voltage components		N/A

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current		P
5.1.1	General	See sub-clauses 5.1.2 to 5.1.6.	P
5.1.2	Configuration of equipment under test (EUT)	See below.	P
5.1.2.1	Single connection to an a.c. mains supply	The equipment has single mains connection.	P
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit	Test circuit in Figure 5A used.	P
5.1.4	Application of measuring instrument	Measuring instruments as in annex D used.	P
5.1.5	Test procedure	Applied.	P
5.1.6	Test measurements	See appended table 5.1.6.	P
	Supply voltage (V)	264V	—
	Measured touch current (mA)	See appended table 5.1.6.	—
	Max. allowed touch current (mA)	See appended table 5.1.6.	—

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Clause	Requirement + Test	Result - Remark	Verdict
	Measured protective conductor current (mA)		—
	Max. allowed protective conductor current (mA)		—
5.1.7	Equipment with touch current exceeding 3,5 mA		N/A
5.1.7.1	General		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		N/A
	Supply voltage (V)		—
	Measured touch current (mA)		—
	Max. allowed touch current (mA)		—
5.1.8.2	Summation of touch currents from telecommunication networks		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		P
5.2.1	General	(see appended table 5.2)	P
5.2.2	Test procedure	Table 5B used.	P
5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	P
5.3.2	Motors	No Motor	N/A
5.3.3	Transformers	(see appended Annex C)	P
5.3.4	Functional insulation	Functional insulation complied with the requirements a) or c).	P
5.3.5	Electromechanical components	No electromechanical component provided.	N/A
5.3.6	Audio amplifiers in ITE		N/A
5.3.7	Simulation of faults	Complied.	P
5.3.8	Unattended equipment		N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions	(see appended table)	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.3.9.1	During the tests	Neither fire burns the equipment nor molten metal.	P
5.3.9.2	After the tests	Electric strength test primary to secondary, primary to earth and primary to accessible enclosure wrapped with metal foil were passed.	P

6	CONNECTION TO TELECOMMUNICATION NETWORKS		N/A
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		N/A
6.1.1	Protection from hazardous voltages		N/A
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements		N/A
	Supply voltage (V)		—
	Current in the test circuit (mA)		—
6.1.2.2	Exclusions		N/A

6.2	Protection of equipment users from overvoltages on telecommunication networks		N/A
6.2.1	Separation requirements		N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test		N/A
6.2.2.3	Compliance criteria		N/A

6.3	Protection of the telecommunication wiring system from overheating		N/A
	Max. output current (A)		—
	Current limiting method		—

7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N/A
7.1	General		N/A
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
7.4	Insulation between primary circuits and cable distribution systems		N/A
7.4.1	General		N/A
7.4.2	Voltage surge test		N/A
7.4.3	Impulse test		N/A
A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		P
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		N/A
A.1.1	Samples.....:		—
	Wall thickness (mm).....:		—
A.1.2	Conditioning of samples; temperature (°C)		N/A
A.1.3	Mounting of samples		N/A
A.1.4	Test flame (see IEC 60695-11-3)		N/A
	Flame A, B, C or D		—
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		P
A.2.1	Samples, material.....:		—
	Wall thickness (mm).....:		—
A.2.2	Conditioning of samples; temperature (°C)		N/A
A.2.3	Mounting of samples		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		N/A
	Sample 1 burning time (s)		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A
B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N/A
B.1	General requirements		N/A
	Position		—
	Manufacturer		—
	Type		—
	Rated values		—
B.2	Test conditions		N/A
B.3	Maximum temperatures		N/A
B.4	Running overload test		N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days)		—
	Electric strength test: test voltage (V)		—
B.6	Running overload test for d.c. motors in secondary circuits		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V)		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V)		N/A
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V)		—

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Clause	Requirement + Test	Result - Remark	Verdict
C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		P
	Position	Refer to appended table 1.5.1	—
	Manufacturer	See above.	—
	Type	See above.	—
	Rated values	See above.	—
	Method of protection	Overcurrent protection.	—
C.1	Overload test	(see appended table 5.3)	P
C.2	Insulation	(see appended table 5.2)	P
	Protection from displacement of windings	See appended table C.2.	P
D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		P
D.1	Measuring instrument		P
D.2	Alternative measuring instrument		N/A
E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		N/A
F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)		P
G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N/A
G.1	Clearances		N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply		N/A
G.2.2	Earthed d.c. mains supplies		N/A
G.2.3	Unearthed d.c. mains supplies		N/A
G.2.4	Battery operation		N/A
G.3	Determination of telecommunication network transient voltage (V)		N/A
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks		N/A
G.4.2	Transients from telecommunication networks		N/A
G.4.3	Combination of transients		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.4.4	Transients from cable distribution systems		N/A
G.5	Measurement of transient voltages (V)		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	Determination of minimum clearances :		N/A
H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N/A
J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		P
	Metal(s) used :	Complied.	—
K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V) :		N/A
K.3	Thermostat endurance test; operating voltage (V) :		N/A
K.4	Temperature limiter endurance; operating voltage (V) :		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A
L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)		P
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment	The equipment is operated according to the most unfavorable way of operation given in the operating instructions.	P
M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (Hz)		—
M.3.1.2	Voltage (V)		—
M.3.1.3	Cadence; time (s), voltage (V)		—
M.3.1.4	Single fault current (mA)		—
M.3.2	Tripping device and monitoring voltage		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V)		N/A
N	ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A
P	ANNEX P, NORMATIVE REFERENCES		—
Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		P
	- Preferred climatic categories	Complied.	P
	- Maximum continuous voltage	Complied.	P
	- Combination pulse current	Complied.	P
	Body of the VDR Test according to IEC60695-11-5		N/A
	Body of the VDR. Flammability class of material (min V-1)	Complied.	P
R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A
S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A
T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		N/A
			—
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		P
		Approved triple insulated wire used.	—
V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		P
V.1	Introduction		P
V.2	TN power distribution systems		P
W	ANNEX W, SUMMATION OF TOUCH CURRENTS		N/A
W.1	Touch current from electronic circuits		N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A
X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)		N/A
X.1	Determination of maximum input current		N/A
X.2	Overload test procedure		N/A
Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		N/A
Y.1	Test apparatus		N/A
Y.2	Mounting of test samples		N/A
Y.3	Carbon-arc light-exposure apparatus		N/A
Y.4	Xenon-arc light exposure apparatus		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Z	ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)		P
AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)		N/A
BB	ANNEX BB, CHANGES IN THE SECOND EDITION		—
CC	ANNEX CC, Evaluation of integrated circuit (IC) current limiters		N/A
CC.1	General		N/A
CC.2	Test program 1		N/A
CC.3	Test program 2		N/A
CC.4	Test program 3		N/A
CC.5	Compliance		N/A
DD	ANNEX DD, Requirements for the mounting means of rack-mounted equipment		N/A
DD.1	General		N/A
DD.2	Mechanical strength test, variable N.....		N/A
DD.3	Mechanical strength test, 250 N, including end stops.....		N/A
DD.4	Compliance.....		N/A
EE	ANNEX EE, Household and home/office document/media shredders		N/A
EE.1	General		N/A
EE.2	Markings and instructions		N/A
	Use of markings or symbols.....		N/A
	Information of user instructions, maintenance and/or servicing instructions.....		N/A
EE.3	Inadvertent reactivation test.....		N/A
EE.4	Disconnection of power to hazardous moving parts:		N/A
	Use of markings or symbols.....		N/A
EE.5	Protection against hazardous moving parts		N/A
	Test with test finger (Figure 2A)		N/A
	Test with wedge probe (Figure EE1 and EE2)		N/A

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1.5.1	TABLE: List of critical components					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾	
Plastic Enclosure	SABIC INNOVATIVE PLASTICS US LLC	PC 945	2.0mm thick V-0 min., 120°C min.	UL 94	UL (E121562)	
	STYRON (HONG KONG) LTD	CELEX 3600	2.0mm thick V-0 min., 125°C min.	UL 94	UL (E132010)	
Appliance Inlet (CN1)	TECX-UNIONS ELECTRONIC CO LTD	TU-301-A, TU-301-AP, TU-301-AP-A, TU-301-S, TU-301-SP	250Vac, 10A, 70°C	IEC/EN 60320-1, ANSI/UL 498	VDE, UL(E220004)	
	RONG FENG INDUSTRIAL CO LTD	SS-120	250Vac, 10A, 70°C	IEC/EN 60320-1, ANSI/UL 498	VDE UL(E102641)	
	SOLTEAM ELECTRONICS CO LTD	ST-01	250Vac, 10A, 70°C	IEC/EN 60320-1, ANSI/UL 498	VDE UL(E200241)	
	DONG IL TECHNOLOGY LTD	DAC-11PM	250Vac, 10A, 70°C	IEC/EN 60320-1, ANSI/UL 498	VDE UL(E124791)	
	ZHE JIANG BEI ER JIA ELECTRONIC CO LTD	ST-A01-001L, ST-A01-002L, ST-A01-003J, ST-A01-003K	250Vac, 10A, 70°C	IEC/EN 60320-1, ANSI/UL 498	VDE UL(E225980)	
	RONG FENG INDUSTRIAL CO LTD	SS-7B	250Vac, 10A, 70°C	IEC/EN 60320-1, ANSI/UL 498	VDE UL(E102641)	
	CANAL ELECTRONIC CO LTD	KS-201, KS-202, KS-303, KS-406	250Vac, 10A, 70°C	IEC/EN 60320-1, ANSI/UL 498	VDE UL(E250015)	
	RICH BAY CO LTD	R-301SN	250Vac, 10A, 70°C	IEC/EN 60320-1, ANSI/UL 498	VDE UL(E184638)	
Fuse (F1)	LITTELFUSE WICKMANN WERKE	392	250Vac,T3.15AL	IEC/EN 60127-1, IEC/EN 60127-3 UL 248	VDE UL(E67006)	
	WALTER ELECTRONIC CO LTD	2010	250Vac,T3.15AL	IEC/EN 60127-1, IEC/EN 60127-3 UL 248	VDE UL(E56092)	
	Ever Island Electric Co., Ltd. and Walter Electric	2010	250Vac,T3.15AL	IEC/EN 60127-1, IEC/EN 60127-3 UL 248	VDE UL(E220181)	
	Bel Fuse Ltd.	RST	250Vac,T3.15AL	IEC/EN 60127-1, IEC/EN 60127-3 UL 248	VDE UL(E20624)	

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	Conquer Electronics Co., Ltd.	MST	250Vac,T3.15AL	IEC/EN 60127-1, IEC/EN 60127-3 UL 248	VDE UL(E82636)
	COOPER BUSSMANN L L C	SS-5	250Vac,T3.15AL	IEC/EN 60127-1, IEC/EN 60127-3 UL 248	VDE UL(E19180)
Varistor(V1) (optional)	THINKING ELECTRONIC INDUSTRIAL CO LTD	TVR10471-D TVR10471-V TVR14471 TVR14471-D	300Vac, 385Vdc Coating min. V-1	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 ANSI/UL 1449: SPD type 3 approved	VDE, UL
	THINKING ELECTRONIC INDUSTRIAL CO LTD	TVR10621-D TVR10621-V TVR14621 TVR14621-D	395Vac,510Vdc Coating min. V-1	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 ANSI/UL 1449: SPD type 3 approved	VDE, UL
	THINKING ELECTRONIC INDUSTRIAL CO LTD	TVR10561-D TVR10561-V	350Vac, 450Vdc Coating min. V-1	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 ANSI/UL 1449: SPD type 3 approved	VDE, UL
	THINKING ELECTRONIC INDUSTRIAL CO LTD	TVR14681 TVR14681-D	420Vac,560Vdc Coating min. V-1	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 ANSI/UL 1449: SPD type 3 approved	VDE, UL
	THINKING ELECTRONIC INDUSTRIAL CO LTD	TVR14751 TVR14751-D	465Vac,615Vdc Coating min. V-1	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 ANSI/UL 1449: SPD type 3 approved	VDE, UL
	THINKING ELECTRONIC INDUSTRIAL CO LTD	TVR14561 TVR14561-D	350Vac, 450Vdc Coating min. V-1	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 ANSI/UL 1449: SPD type 3 approved	VDE, UL
LINE CHOKE (L1) (optional)	SPI/FSP	8LM00351	130°C	--	--
THERMISTOR(RTH1)(optional)	Interchangeable	Interchangeable	2.5 Ohm, at 25°C	--	--

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Clause	Requirement + Test		Result - Remark		Verdict
IC including capacitor discharge function (U1)	FAIRCHILD	FAN6756MRMY FAN6757MRMY	100-250Vac, 47-63Hz Total cap.: 0.1-1.33uF Total resistors: 150k-7M Ohm Diode (two provided), Min. 600V, min. 1A	IEC 60950-1 2 nd +A1	Tested by Nemko
X-Capacitor (CX1) (Optional)	HUA JUNG COMPONENTS CO LTD	MKP	Max.0.33uF, Min.250V, 105°C	IEC/EN 60384-14:2005, UL 1414	VDE UL(E149075)
	OKAYA ELECTRIC INDUSTRIES CO LTD	LE SERIES	Max.0.33uF, Min.250V, 105°C	IEC/EN 60384-14:2005, UL 1414	VDE UL(E47474)
	CARLI ELECTRONICS CO LTD	MPX	Max. 0.33uF, Min.250V, 105°C	IEC/EN 60384-14:2005, UL 1414	VDE UL(E120045)
	ISKRA SISTEMI, D D	KNB1560/KNB1563/KNB1562/KNB1530	Max. 0.33uF, Min.250V, 105°C	IEC/EN 60384-14:2005, UL 1414	VDE UL(E103619)
	SHINY SPACE ENTERPRISE CO LTD	SX1	Max. 0.33uF, Min.250V, 105°C	IEC/EN 60384-14:2005, UL 1414	VDE UL(E186561)
	CHIEFCON ELECTRONICS CO LTD	CKX	Max. 0.33uF, Min.250V, 105°C	IEC/EN 60384-14:2005, UL 1414	VDE UL(E209251)
	ZHUHAI SUNG HO ELECTRONICS CO LTD	CMPP	Max. 0.33uF, Min.250V, 105°C	IEC/EN 60384-14:2005, UL 1414	VDE UL(E327138)
LINE CHOKE (L2) (optional)	SPI/FSP	8LM02012	130°C	--	--
Bridge diode (BD1)	Interchangeable	Interchangeable	Min. 4A, Min. 600V	--	--
Cap. (C1) (FSP060-DIBAN2)	Interchangeable	Interchangeable	120uF, Min.400V, 105°C	--	--
Cap. (C1) (FSP050-DIBAN2)	Interchangeable	Interchangeable	100uF, Min.400V, 105°C	--	--
Transformer (T1)	SPI/FSP	8TV00140	Class B	Applicable parts of IEC 60950-1 and classified according to IEC 60085	Accepted by TÜV Rheinland,
Triple Insulated Wire	Great Leoflon Industrial CO.,LTD	TRW(B)	130°C	IEC/EN 60950-1 UL 2353	VDE, UL(E211989)
MOSFET(Q1) for T1	Interchangeable	Interchangeable	Min. 10A, Min. 600V	--	--

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Current Resistor (R23,R24,R25, R26) for T1(FSP060-DIBAN2)	Interchangeable	Interchangeable	Min. 0.75ohm, Min. 1/4W	--	--
Current Resistor (R23,R24,R25, R26) for T1(FSP050-DIBAN2)	Interchangeable	Interchangeable	Min. 0.82ohm, Min. 1/4W	--	--
Bridging Cap. (CY1) (Optional) Y1 only	WALSIN TECHNOLOGY CORP	AH	Max.1000pF, Min.250V, 125°C	IEC/EN 60384-14:2005 UL 1414	VDE UL(E146544)
	TDK-EPC CORPORATION	CD	Max.1000pF, Min.250V, 125°C	IEC/EN 60384-14:2005 UL 1414	VDE UL(E37861)
	MURATA MFG CO LTD	KX	Max.1000pF, Min.250V, 125°C	IEC/EN 60384-14:2005 UL 1414	VDE UL(E37921)
	VISHAY ELECTRONIC GMBH	VY1	Max.1000pF, Min.250V, 125°C	IEC/EN 60384-14:2005 UL 1414	VDE UL(E183844)
	SUCCESS ELECTRONICS CO LTD	SB, SE	Max.1000pF, Min.250V, 125°C	IEC/EN 60384-14:2005 UL 1414	VDE UL(E114280)
	TDK-EPC Corporation	CD Miniature Series	Max.1000pF, Min.250V, 125°C	IEC/EN 60384-14:2005 UL 1414	VDE UL(E37861)
Photocoupler (U2)	Renesas (Nec Electronics Corp Compound Semiconductor Device Div)	PS2561-1, PS2561D-1, PS2561AL1-1, PS2561DL1-1, PS2561BL1-1	Dti=0.4mm Int. dcr: thermal cycling test; Ext. dcr=7mm, 110°C	EN 60747-5-2, IEC 60747-5-2, EN 60950-1, IEC 60950-1, UL 1577	Fimko, VDE, UL (E72422)
	COSMO Electronics Corporation	K1010	Dti=0.5mm Int. dcr.=5.3mm Ext. dcr=8.0mm, thermal cycling test , 100°C	EN 60747-5-2, IEC 60747-5-2, EN 60950-1, IEC 60950-1, UL 1577	Fimko, VDE, UL (E169586)
	Vishay Semiconductor Gmbh	TCET1109	Dti=0.5mm Int. dcr=6.0mm Ext. dcr = 7.7mm, 110°C	EN 60747-5-2, IEC 60747-5-2, EN 60950-1, IEC 60950-1, UL 1577	Fimko, VDE, UL (E76222)
	Vishay Semiconductor Gmbh	TCET1103G, TCET1104G, TCET1108G, TCET1109G, TCET1114G	Dti=0.4mm Int. dcr: thermal cycling test; Ext. dcr = 7mm, 110°C	EN 60747-5-2, IEC 60747-5-2, EN 60950-1, IEC 60950-1, UL 1577	Fimko, VDE, UL (E76222)
	Vishay Semiconductor	SFH617A	Dti=0.6mm Int. dcr.=5.2mm	EN 60747-5-2, IEC 60747-5-2,	Fimko, VDE, UL (E52744)

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	Gmbh		Ext. dcr=7.8mm, thermal cycling test, 100°C	EN 60950-1, IEC 60950-1, UL 1577	
	Everlight Electronics Co., Ltd.	EL817	Dti.=0.5mm, Ext. dcr. = 7.7mm, Int. dcr = 6.0mm, thermal cycling test, 110°C	EN 60747-5-2, IEC/EN 60950-1 UL 1577	Fimko, VDE, UL (E214129)
	Lite-On Technology Corp.	LTV-817	Dti=0.6mm, Int. dcr = 5.2mm, Ext. dcr = 7.6mm, thermal cycling test, 115°C	EN 60747-5-2, IEC 60747-5-2, EN 60950-1, IEC 60950-1, UL 1577	Fimko, VDE, UL (E113898)
	Sharp Corporation	PC123	Dti.=0.4mm, Ext. dcr. =8.0 , Int. dcr = thermal cycling test, 4800V, 110°C	IEC/ENEN 60747-5-2, IEC/EN 60950-1, UL 1577	FI, VDE, UL(E64380)
INSULATION TAPE (Two Layers For HS2) (One layer for HS3 for FSP060-DIBAN2 only)	3M Company Electrical Markets DIV (EMD)	1350F-1, 1350F-2, 1388Y-1	Min. 130°C	UL 94	E17385
	3M Company Electrical Markets DIV (EMD)	1218, 92	Min. 180°C	UL 94	E17385
	Bondtec Pacific Co LTD	370S, 371F	Min. 130°C	UL 94	E175868
	SYMBIO INC	35660, 35660Y, 35661	Min. 130°C	UL 94	E50292
Heat shrinkable tubing (G/Y wire core)	Tyco Electronics Corp.	Versafit V4	VW-1 min.	UL 224	UL (E85381)
	Changyuan Electronics (Shenzhen) Co., Ltd.	CB-HFT	VW-1 min.	UL 224	UL (E180908)
	Tyco Electronics Corp.	Versafit V2	VW-1 min.	UL 224	UL (E35586)
	WELL ONE CO LTD	Gt-2	VW-1 min.	UL 224	UL (E257529)

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Clause	Requirement + Test			Result - Remark	Verdict
PCB	Interchangeable	Interchangeable	V-1 min., 130°C min.	UL, UL 796	UL
G/Y Wire (Optional)	Interchangeable	Interchangeable	18AWG, 600V 105°C min.	--	--
Supplementary information: ¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

1.5.1	TABLE: Opto Electronic Devices	P
Manufacturer : See appended table 1.5.1. Type..... : See appended table 1.5.1. Separately tested..... : See appended table 1.5.1. Bridging insulation : Reinforced External creepage distance : See appended table 1.5.1. Internal creepage distance : See appended table 1.5.1. Distance through insulation : See appended table 1.5.1. Tested under the following conditions : RI		
Input..... : --		
Output..... : --		
Supplementary information:		

1.6.2	TABLE: Electrical data (in normal conditions)					P
U (V)/Hz	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status
Model FSP060-DIBAN2 (load condition: +12V/5.0A)						
90 / 50	1.31	--	69.3	F1	1.31	Max. normal load
100 / 50	1.20	1.5	68.7	F1	1.20	Same as above
240 / 50	0.70	1.5	69.8	F1	0.70	Same as above
264 / 50	0.65	--	68.0	F1	0.65	Same as above
90 / 60	1.34	--	69.2	F1	1.34	Same as above
100 / 60	1.24	1.5	68.7	F1	1.24	Same as above
240 / 60	0.68	1.5	67.8	F1	0.68	Same as above
264 / 60	0.63	--	67.8	F1	0.63	Same as above

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Clause	Requirement + Test				Result - Remark		Verdict
Model FSP050-DIBAN2 (load condition: +12V/4.16A)							
90 / 50	1.09	--	56.9	F1	1.09	Max. normal load	
100 / 50	1.00	1.5	56.5	F1	1.00	Same as above	
240 / 50	0.59	--	56.0	F1	0.59	Same as above	
264 / 50	0.55	--	55.9	F1	0.55	Same as above	
90 / 60	1.12	--	56.9	F1	1.12	Same as above	
100 / 60	1.04	1.5	56.5	F1	1.04	Same as above	
240 / 60	0.58	1.5	56.1	F1	0.58	Same as above	
264 / 60	0.53	--	55.8	F1	0.53	Same as above	
Supplementary information:							

2.1.1.5 c) 1)	TABLE: max. V, A, VA test				P
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
Model: FSP060-DIBAN2					
+12	5.0	11.78	6.8	78.94	
Model: FSP050-DIBAN2					
+12	4.16	11.84	5.9	68.62	
Supplementary information:					
Test voltage 240V/60Hz					

2.1.1.5 c) 2)	TABLE: stored energy			N/A
Capacitance C (μF)		Voltage U (V)	Energy E (J)	
Supplementary information:				

2.2	TABLE: evaluation of voltage limiting components in SELV circuits				P
Component (measured between)			max. voltage (V) (normal operation)		Voltage Limiting Components
			V peak	V d.c.	
Model FSP060-DIBAN2					

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Clause	Requirement + Test	Result - Remark	Verdict
T1 Fly A1 to Fly B1	124	--	--
After D4&D6	--	15	D4&D6
After R13	72	--	--
After C9	--	15	C9
Model FSP050-DIBAN2			
T1 Fly A1 to Fly B1	91	--	--
After D4&D6	--	13.6	D4&D6
After R13	53	--	--
After C9	--	13.6	C9
Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)		
Model FSP060-DIBAN2			
D4&D6	0V, output shutdown, no hazard.		
R13	12.5V, normal operation, no hazard.		
C9	12.5V, normal operation, no hazard.		
Model FSP050-DIBAN2			
D4&D6	0V, output shutdown, no hazard.		
R13	12V, normal operation, no hazard.		
C9	12V, normal operation, no hazard.		
Supplementary information:			
Test voltage 240V/60Hz			

2.5	TABLE: Limited power sources						P
Circuit output tested:							
Note: Measured Uoc (V) with all load circuits disconnected:							
Components	Sample No.	Uoc (V)	I _{sc} (A)		VA		
			Meas.	Limit	Meas.	Limit	
Model: FSP060-DIBAN2							
Normal condition:							
Output (+12V)	1	12.33	6.8	8	80.40	100	
Abnormal condition:							

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Clause	Requirement + Test			Result - Remark		Verdict
U2 Pin 3 to Pin 4, shorted	1	1)	1)	8	1)	100
U2 Pin 1 to Pin 2, shorted	1	1)	1)	8	1)	100
U2 Pin 1 open	1	1)	1)	8	1)	100
U2 Pin 4 open	1	1)	1)	8	1)	100
R23,R24,R25, R26, shorted	1	1)	1)	8	1)	100
R11, shorted	1	1)	1)	8	1)	100
R14, shorted	1	1)	1)	8	1)	100
Output, shorted	1	1)	7	8	1)	100
R5, shorted	1	12.33	6.4	8	76.95	100
U1 Pin 6 open	1	1)	1)	8	1)	100
Model: Model: FSP050-DIBAN2						
Normal condition:						
Output (+12V)	1	12.23	5.8	8	68.13	100
Abnormal condition:						
U2 Pin 3 to Pin 4, shorted	1	1)	1)	8	1)	100
U2 Pin 1 to Pin 2, shorted	1	1)	1)	8	1)	100
U2 Pin 1 open	1	1)	1)	8	1)	100
U2 Pin 4 open	1	1)	1)	8	1)	100
R23,R24,R25, R26, shorted	1	1)	1)	8	1)	100
R11, shorted	1	1)	1)	8	1)	100
R14, shorted	1	1)	1)	8	1)	100
Output, shorted	1	1)	7	8	1)	100
R5, shorted	1	12.23	5.5	8	64.60	100
U1 Pin 6 open	1	1)	1)	8	1)	100
Supplementary information: 1) Unit shutdown, no hazards.						

2.10.2	Table: working voltage measurement				P
Location		RMS voltage (V)	Peak voltage (V)	Comments	
Model FSP050-DIBAN2					

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Clause	Requirement + Test	Result - Remark	Verdict
T1 Pin 1 to Fly A1	280	470	
T1 Pin 1 to Fly B1	289	490	Max. RMS and Peak value
T1 Pin 2 to Fly A1	246	430	
T1 Pin 2 to Fly B1	244	360	
T1 Pin 3 to Fly A1	178	370	
T1 Pin 3 to Fly B1	176	360	
T1 Pin 4 to Fly A1	175	375	
T1 Pin 4 to Fly B1	176	420	
U2 Pin 1 to Pin 3	183	370	
U2 Pin 1 to Pin 4	182	365	
U2 Pin 2 to Pin 3	181	370	
U2 Pin 2 to Pin 4	180	365	
CY1 Pri. to Sec.	175	360	
U2 Pin4 Trace to D6 Trace	174	365	
R5 Trace to U2 Pin2 Trace	182	370	
R5 Trace to CY1 sec. Trace	174	360	
CY1 Pri. Trace to R22 Trace	175	355	
Model FSP060-DIBAN2			
T1 Pin 1 to Fly A1	280	470	
T1 Pin 1 to Fly B1	291	490	Max. RMS and Peak value
T1 Pin 2 to Fly A1	246	460	
T1 Pin 2 to Fly B1	245	360	
T1 Pin 3 to Fly A1	179	375	
T1 Pin 3 to Fly B1	176	360	
T1 Pin 4 to Fly A1	177	410	
T1 Pin 4 to Fly B1	178	435	
U2 Pin 1 to Pin 3	183	370	
U2 Pin 1 to Pin 4	181	370	
U2 Pin 2 to Pin 3	182	370	
U2 Pin 2 to Pin 4	180	370	
CY1 Pri. to Sec.	176	365	
U2 Pin4 Trace to D6 Trace	176	370	

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Clause	Requirement + Test	Result - Remark	Verdict
R5 Trace to U2 Pin2 Trace	182	370	
R5 Trace to CY1 sec. Trace	176	365	
CY1 Pri. Trace to R22 Trace	175	360	
Supplementary information: 1. Test voltage 240V/60Hz 2. The working voltage between primary pins and secondary pins of U2 is below 420Vpk and 250Vrms.			

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements						P
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)	
PCB:							
Functional:							
Trace between L and N before fuse	420	250	2.3 ¹⁾	3.1	2.5	3.1	
Trace under Fuse (F1)	420	250	2.3 ¹⁾	3.1	2.5	3.1	
Reinforced (PCB):							
Trace under U2	420	250	6.0 ¹⁾	7.5	6.0 ²⁾	7.5	
Trace under CY1	420	250	6.0 ¹⁾	7.6	6.0 ²⁾	7.6	
Trace under T1	490	291	6.3 ¹⁾	7.5	6.3 ²⁾	7.5	
Reinforced (Component):							
HS1 to accessible enclosure	420	250	6.0 ¹⁾	6.3	6.0 ²⁾	6.3	
Supplementary information: 1) The correction factor of clearance is 1.48 for high altitude 5000m according to IEC 60664-1 in table A.2. 2) The min. creepage distance derived from Table 2N is less than the applicable min. clearance, that value of min. clearance shall be applied as the min. creepage distance. 3) Two layers of insulation tape attached on HS2 heatsink (secondary side), entended min. 6mm to primary side, refer to photos for details. 4) Green and yellow wire is connected earth pin of appliance inlet to "GND" in secondary. 5) Glue added on the components (C1, L1, L2 and V1) and Green and Yellow wire ends (FG). 6) Tube on core of Green and yellow. 7) Two layers of insulation tape attached on side core of transformer (T1) near secondary pin of CY1 and one layer insulation tape attached on bottom core of transformer (T1) near secondary pin of transforemer. 8) One layer insulation tape attached n the edge of heatsink (HS3) between PE pin of Inlet and HS3. 9) Functional insulation shorted, see 5.3.4. No components reduced distance after 10N force test.							

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Clause	Requirement + Test	Result - Remark	Verdict

2.10.5	TABLE: Distance through insulation measurements					P
Distance through insulation (DTI) at/of:		U peak (V)	U rms (V)	Test voltage (Vac)	Required DTI (mm)	DTI (mm)
Photo coupler (reinforced insulation)(for all sources) ¹⁾		420	250	3000Vac	0.4	¹⁾
Enclosure (reinforced insulation)(for all sources) ¹⁾		420	250	3000Vac	0.4	¹⁾
One layer insulation tape attached on bottom core of transformer (T1) (Basic insulation) ²⁾		490	291	1740Vac	--	--
One layer insulation tape attached on heatsink (HS3) (for all sources) (Basic insulation) ³⁾		490	291	1740Vac	--	--
Two layers insulation tape attached on side core of transformer (T1) (tested one layer) (reinforced insulation) ²⁾		490	291	3000Vac	--	--
Two layers of insulation tape attached on HS2 heatsink (for all sources) (tested one layer) (reinforced insulation) ³⁾		420	250	3000Vac	--	--
Triple insulation wire for T1 (reinforced insulation) ⁴⁾		490	291	3000Vac	--	--
Tube on core of Green and Yellow. (reinforced insulation) ⁵⁾		490	291	1740Vac	--	--

Supplementary information:

Above all sources were tested with equipment before humidity test and after humidity test, for sources see below.

- 1) For all sources details refer to table 1.5.1.
- 2) Test were performed on below insulation tape sources:
 - Mfr. 3M, types 1350F-1 and 44
- 3) Test were performed on below insulation tape sources:
 - Mfr. 3M, types 1350F-1, 1350F-2, 1388Y-1, 1218, 92
 - Mfr. Bondtec, types 370S and 371F
 - Mfr. Symbio, types 35660, 35660Y and 35661
- 4) Test was performed on below triple insulation wire:
 - Mfr. Great Leoflon Industrial, type TRW(B)
- 5) Test were performed on below tube sources:
 - Mfr. Changyuan Electrocics (Shenzhen) Co., Ltd, type CB-HFT
 - Tyco Electronics Corp. type Versafit V2
 - Well One Co., Ltd. Type Gt-2

4.3.8	TABLE: Batteries	N/A
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Clause	Requirement + Test			Result - Remark				Verdict	
The tests of 4.3.8 are applicable only when appropriate battery data is not available								N/A	
Is it possible to install the battery in a reverse polarity position?								N/A	
	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition									
Max. current during fault condition									
Test results:									
- Chemical leaks								Verdict	
- Explosion of the battery								N/A	
- Emission of flame or expulsion of molten metal								N/A	
- Electric strength tests of equipment after completion of tests								N/A	
Supplementary information:									

4.3.8	TABLE: Batteries	N/A
Battery category..... : (Lithium, NiMh, NiCad, Lithium Ion ...)		
Manufacturer		
Type / model..... :		
Voltage		
Capacity..... : mAh		
Tested and Certified by (incl. Ref. No.) :		
Circuit protection diagram:		

MARKINGS AND INSTRUCTIONS (1.7.13)	
Location of replaceable battery	
Language(s)	

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Clause	Requirement + Test	Result - Remark	Verdict

Close to the battery	
In the servicing instructions	
In the operating instructions	

4.5	TABLE: Thermal requirements					P
	Supply voltage (V):	See below	See below	See below	See below	—
	Ambient T _{min} (°C):	--	--	--	--	—
	Ambient T _{max} (°C):	See below	See below	See below	See below	—
Maximum measured temperature T of part/at.....:		T (°C)				Allowed T _{max} (°C)
Test voltage		90V/ 60Hz (Label downwards)	264V/ 50Hz (Label downwards)	90V/ 60Hz (Label upwards)	264V/ 50Hz (Label upwards)	--
Model FSP060-DIBAN2						
AC Inlet		65.4	58.1	67.4	60.2	70
L1 coil		99.2	80.8	99.5	81.6	130
L2 coil		98.4	84.0	99.8	85.6	130
CX1		99.3	83.2	100.4	84.6	105
BD1 near PCB		95.5	85.0	97.1	86.6	130
C1		95.5	87.0	96.8	88.4	105
T1 coil		100.3	95.8	101.1	97.0	110
T1 core		94.1	83.7	95.3	89.2	110
U2		96.8	93.3	96.2	93.7	100
CY1		88.9	84.4	90.2	87.0	125
RTH1		107.6	90.1	106.6	91.3	130
Q1 near PCB		98.2	90.1	98.9	92.3	130
L3 coil		89.1	86.7	88.8	87.1	105
D4&D6 near PCB		102.1	99.2	102.4	99.7	130
C17		91.5	89.0	91.3	88.4	105
C10		95.0	92.8	95.4	92.3	105
G/Y Wire near T1		83.6	82.8	84.5	77.7	105
Top Case inside		76.7	73.2	81.9	77.3	120
Top Case outside		68.8	66.7	73.6	70.4	95
Bottom case inside		91.1	88.6	89.2	86.7	120
Bottom case outside		76.6	74.4	69.5	67.9	95
output wire		49.9	49.4	47.8	48.2	60
Max. ambient temperature Tma (°C): Note: ambient air during test were Tamb = 32.8°C / 31.8°C / 32.8°C / 30.9°C		40.0	40.0	40.0	40.0	--
Model FSP05-DIBAN2						

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Clause	Requirement + Test			Result - Remark			Verdict
AC Inlet	57.1	50.8	59.7	52.0	70		
L1 coil	76.6	64.3	79.6	66.0	130		
L2 coil	88.2	70.0	88.7	69.8	130		
CX1	79.2	67.0	81.1	67.8	105		
BD1 near PCB	86.7	73.9	86.8	72.8	130		
C1	85.4	75.3	87.2	75.4	105		
T1 coil	89.0	91.3	90.5	91.1	110		
T1 core	80.7	82.8	82.2	82.8	110		
U2	88.1	88.7	88.1	87.5	100		
CY1	76.0	74.1	77.0	74.0	125		
RTH1	91.9	75.6	93.3	76.8	130		
Q1 near PCB	88.4	80.2	90.1	80.4	130		
L3 coil	80.3	81.5	82.0	82.0	105		
D4&D6 near PCB	92.5	92.4	93.3	92.3	130		
C17	85.0	86.2	86.4	86.5	105		
C10	82.7	83.9	83.8	83.9	105		
G/Y Wire near T1	73.3	74.2	76.1	75.5	105		
Top Case inside	71.9	73.7	77.5	78.2	120		
Top Case outside	61.8	63.6	68.5	69.0	95		
Bottom case inside	74.5	76.3	71.3	71.5	120		
Bottom case outside	71.3	72.9	65.9	65.8	95		
output wire	45.9	47.3	49.5	50.2	60		
Max. ambient temperature Tma (°C): Note: ambient air during test were Tamb = 34.0°C / 31.1°C / 32.2°C / 30.5°C	40.0	40.0	40.0	40.0	--		
Supplementary information:							
Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
Supplementary information:							
1. The temperatures were measured under worst case normal mode defined in 1.2.2.1 and as described in 1.6.2 at voltage as above. 2. With a specified ambient temperature of +40 °C. Therefore the maximum temperatures measured are recalculated as follows: $T + (40 - T_{amb})$, where T is the maximum temperature measured during test and Tamb is the ambient temperature during the test. Winding components (providing safety isolation): Class 130 material (B) - Tmax = 120°C - 10°C = 110°C User accessible areas which may be touched during normal use: Plastic enclosure - Tmax = 95°C							

4.5.5	TABLE: Ball pressure test of thermoplastic parts			N/A
	Allowed impression diameter (mm)	≤ 2 mm		—
Part		Test temperature (°C)	Impression diameter (mm)	

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information: For bobbin material of T1 with Phenolic material used, that is accepted for test temperatures of up to 125°C without additional test.			
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4.7	TABLE: Resistance to fire				P
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence
Enclosure	1)	1)	1)	1)	1)
Supplementary information: See appended table 1.5.1 for details.					

5.1	TABLE: touch current measurement			P
Measured between:		Measured (mA)	Limit (mA)	Comments/conditions
With grounding				
Fuse in, Line/Neutral to plastic enclosure with metal foil		0.01/0.01	0.25	Switch “e” closed.
Fuse in, Line/Neutral to GND		0.10/0.10	3.5	Switch “e” open.
Without grounding				
Fuse in, Line/Neutral to plastic enclosure with metal foil		0.01/0.01	0.25	Switch “e” closed.
Fuse in, Line/Neutral to output “+ “		0.11/0.11	0.25	Switch “e” closed.
Fuse in, Line/ Neutral to output RTN (-)		0.11/0.11	0.25	Switch “e” closed.
Supplementary information:				
1. Test voltage: 264V/60Hz				
2. CY1=1000pF				

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			P
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Basic:				
Unit: primary to PE		DC	2460	No
Reinforced:				
Unit: primary to secondary		DC	4242	No

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Clause	Requirement + Test	Result - Remark	Verdict
	Unit: primary to Enclosure ¹⁾ with metal foil	DC	4242
	T1: primary winding to secondary winding	AC	3000
	T1: secondary winding to core	AC	3000
	Test one layer insulation tape 2)	AC	3000
	Tube on core of Green and yellow 3)	AC	1740
Supplementary information: Above was tested with equipment before humidity test and after humidity test, for source see appended table 1.5.1. 1) For plastic enclosure sources refer to table 1.5.1. 2) Test Insulation sources: 3M / 1350F-1; 3M / 1350F-2; 3M / 1218; 3M / 92; 3M / 1388Y-1; Bondtec / 370S; Bondtec / 371F; Symbio / 35660; Symbio / 35660Y; Symbio / 35661 3) Test were performed on below tube sources: - Mfr. Changyuan Electrocics (Shenzhen) Co., Ltd, type CB-HFT -Tyco Electronics Corp. type Versafit V2 -Well One Co., Ltd. Type Gt-2			

5.3	TABLE: Fault condition tests					P
	Ambient temperature (°C)		25°C if no other specified.			—
	Power source for EUT: Manufacturer, model/type, output rating		--			—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
Model FSP050-DIBAN2 & FSP060-DIBAN2 (Same results for following component fault tests)						
BD1	shorted	240Vac	1 sec	F1	--	Fuse open: F1. Component damage: BD1. No indication of dielectric breakdown. No hazards.
C1	shorted	240Vac	1 sec	F1	--	Fuse open: F1. Component damage: BD1&U1. No indication of dielectric breakdown. No hazards.
Q1 D to S	shorted	240Vac	1 sec	F1	--	Fuse open: F1. Component damage: U1, BD1, Q1, R23, R23, R25 and R26. No indication of dielectric breakdown. No hazards.
Q1 G to D	shorted	240Vac	1 sec	F1	--	Fuse open: F1. Component damage: U1, BD1, Q1, R23, R23, R25 and R26. No indication of dielectric breakdown. No hazards.
Q1 G to S	shorted	240Vac	5 min	F1	0.68A to 0.03A	Unit shut down immediately. No damage. No indication of dielectric breakdown. No hazards.

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Clause	Requirement + Test				Result - Remark	Verdict
R23, R24, R25, R26	shorted	240Vac	5 min	F1	0.68A to 0.03A	Unit shut down immediately. No damage. No indication of dielectric breakdown. No hazards.
U2 (1-2)	shorted	240Vac	5 min	F1	0.68A to 0.03A	Unit shut down immediately. No damage. No indication of dielectric breakdown. No hazards.
U2 (3-4)	shorted	240Vac	5 min	F1	0.68A to 0.03A	Unit shut down immediately. No damage. No indication of dielectric breakdown. No hazards.
U2 pin 1	opened	240Vac	5 min	F1	0.68A to 0.03A	Unit shut down immediately. No damage. No indication of dielectric breakdown. No hazards.
U2 pin 4	opened	240Vac	5 min	F1	0.68A to 0.03A	Unit shut down immediately. No damage. No indication of dielectric breakdown. No hazards.
U1 Pin 2 to Pin 4	shorted	240Vac	5 min	F1	0.68A	Normal operation, no hazards.
U1 Pin 2 to Pin 6	shorted	240Vac	5 min	F1	0.68A to 0.03A	Unit shut down immediately. No damage. No indication of dielectric breakdown. No hazards.
U1 Pin 2 to Pin 7	shorted	240Vac	5 min	F1	0.68A to 0.03A	Unit shut down immediately. No damage. No indication of dielectric breakdown. No hazards.
U1 Pin 2 to Pin 8	shorted	240Vac	5 min	F1	0.68A to 0.03A	Component damage: U1 No indication of dielectric breakdown. No hazards. (repeat three time with same results)
T1 Pin 1 to Pin 2	shorted	240Vac	1 sec	F1	--	Fuse open: F1. Component damage: U1, Q1, R23, R23, R25 and R26. No indication of dielectric breakdown. No hazards.
T1 Pin 3 to Pin 4	shorted	240Vac	5 min	F1	0.68A to 0.03A	Unit shut down immediately. No damage. No indication of dielectric breakdown. No hazards.
T1 Fly A1 to Fly B1	shorted	240Vac	5 min	F1	0.68A to 0.03A	Unit shut down immediately. No damage. No indication of dielectric breakdown. No hazards.
+12V output	shorted	240Vac	5 min	F1	0.31A to 0.08A	Unit shut down immediately. No damage. No indication of dielectric breakdown. No hazards.
Model FSP060-DIBAN2						

TRF No. IEC60950_1E

IEC 60950-1						
Clause	Requirement + Test				Result - Remark	
+12V output	Overload	240Vac	23 hrs 48 min	F1	0.68→ 0.75→ 0.82	Output load to 6.5A. Output shutdown at 6.8A. Max temperature of T1 coil=93.9°C T1 core=89.1°C Amb=32.7°C
Transformer After D4&D6 to fly B1	Overload	240Vac	23 hrs 20 min	F1	0.68→ 0.78→ 0.81	Winding load to 1.48A. Output shutdown at 1.68A. Max temperature of T1 coil=88.8°C T1 core=84.5°C Amb=34.6°C
Model FSP050-DIBAN2						
+12V output	Overload	240Vac	22 hrs 23 min	F1	0.58→ 0.71→ 0.78	Output load to 5.5A. Output shutdown at 5.8A. Max temperature of T1 coil=105.0°C T1 core=102.0°C Amb=35.1°C
Transformer After D4&D6 to fly B1	Overload	240Vac	24 hrs 15 min	F1	0.58→ 0.70→ 0.74	Winding load to 1.3A. Output shutdown at 1.5A. Max temperature of T1 coil=94.0°C T1 core=96.0°C Amb=33.3°C

TRF No. IEC60950_1E

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

For results with fuse opened, test was repeated two times for all sources of fuse with the same outcome.

C.2	TABLE: transformers						P
Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)
T1	Primary to secondary (reinforced)	490	291	3000Vac	6.3 ¹⁾	6.3 ²⁾	0.4mm or 3 layers or triple insulated wire
Loc.	Tested insulation			Test voltage / V	Measured clearance / mm	Measured creepage dist. / mm	Measured distance thr. insul. / mm; number of layers
T1	Primary winding to secondary winding (reinforced) (Internally)			3000Vac	Triple insulation wire used	Triple insulation wire used	See supplementary information
T1	Core to secondary pin (reinforced) (Externally)			3000Vac	8.7	8.7	See supplementary information

Supplementary information:

- 1) The correction factors of clearance is 1.48, specified in table A. 2 of IEC 60664-1 for altitude 5000m.
 2) The min. creepage distance derived from Table 2N is less than the applicable min. clearance, that value of min. clearance shall be applied as the min. creepage distance.

Concentric windings on Phenolic bobbin type PM-9820 (Vertical orientation), core is considered as primary parts, transformer construction as below,

- Secondary winding is triple insulation wire details see appended table 1.5.1 and subclause 2.10.5.12, Annex U.
- One layer of insulation tape provided between primary and secondary windings.
- One layer of insulation tape wrapped on bobbin before winding wrapped.
- Outer shielding is primary.
- All winding endings additionally tubing to prevent mechanical stress in two different windings.
- One layer of insulation tape is provided on bottom core and fold-back upward.
- Two layers of insulation tape are provided on side core.

TRF No. IEC60950_1E

IEC 60950-1																																																			
Clause	Requirement + Test								Result - Remark		Verdict																																								
C.2	TABLE: transformers											P																																							
Transformer																																																			
Details of triple insulated wire used, see appended table 1.5.1.																																																			
Pin 7, 8, 9,10 cut off. Pin 5 cut off 1/2																																																			
Primary winding/pins: 1-5 (P1), 5-2(P2), 4-3(P3), 3 (E1, E2, E3)shielding																																																			
Secondary winding/pins: FlyA1 – FlyB1 (fly wires)																																																			
Bobbin Material (manufacturer, type, ratings, thickness):																																																			
- Sumitomo Bakelite, phenolic, type PM-9820, V-0, 150°C, min. 0.8mm thickness																																																			
- Insulation tape; 3M, 1350F-1,44																																																			
Detailed illustration of Transformer construction:																																																			
二.PHYSICAL DIMENSION (外觀尺寸圖):																																																			
FRONT VIEW(主視圖)																																																			
SIDE VIEW(側視圖)																																																			
BOTTOM VIEW(底視圖)																																																			
TOP VIEW(頂視圖)																																																			
UNIT: mm																																																			
<table><tr><th>DIMENSION</th><th>A</th><th>B</th><th>C</th><th>D</th><th>E</th><th>F</th><th>G</th><th>H</th><th>M</th><th>N</th><th>L</th><th>K</th></tr><tr><td></td><td>MAX</td><td>MAX</td><td>MAX</td><td>±0.2</td><td>±0.2</td><td>±0.3</td><td>MA</td><td>±0.5</td><td>±1.0</td><td>±1.0</td><td>±0.5</td><td>MAX</td></tr><tr><td>SPEC</td><td>33.5</td><td>33.5</td><td>21.5</td><td>2.8</td><td>5.0</td><td>28</td><td>Φ0.9</td><td>3.5</td><td>14</td><td>16.0</td><td>8.0</td><td>2.0</td></tr></table>													DIMENSION	A	B	C	D	E	F	G	H	M	N	L	K		MAX	MAX	MAX	±0.2	±0.2	±0.3	MA	±0.5	±1.0	±1.0	±0.5	MAX	SPEC	33.5	33.5	21.5	2.8	5.0	28	Φ0.9	3.5	14	16.0	8.0	2.0
DIMENSION	A	B	C	D	E	F	G	H	M	N	L	K																																							
	MAX	MAX	MAX	±0.2	±0.2	±0.3	MA	±0.5	±1.0	±1.0	±0.5	MAX																																							
SPEC	33.5	33.5	21.5	2.8	5.0	28	Φ0.9	3.5	14	16.0	8.0	2.0																																							
NOTE(注意事項)																																																			
1. PIN6,7,8, 9,10 CUT OFF; PIN5 剪掉 1/2.																																																			
2. CORE 要磨 GAP. 研磨鐵芯裝 PIN 腳端.中柱需點 100%濃度凡立水.																																																			
3. 鐵芯外圍包兩圈膠帶固定鐵芯,含浸後拆除,成品要真空含浸.																																																			
4. 按上圖所示點 5 點黑膠固定,並烘乾.																																																			
5. 產品含浸後,先用 1350F-1*12mm 的膠帶,沿繞線包方向包 1TS. 再包外屏蔽銅箔 1.1TS, 焊接短路並接於 PIN3. 銅箔焊接點在側邊約 45 度處,不能在磁芯處. 焊接完成把下面的 TAPE 反包,最後用 1350F-1*12mm 的膠帶沿繞線包方向包 2TS.																																																			
6. 飛線 A1 套透明套管,飛線 B1 套黑色套管																																																			

TRF No. IEC60950_1E

IEC 60950-1

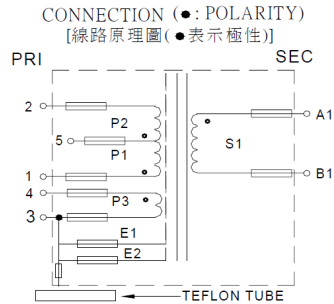
Clause	Requirement + Test	Result - Remark	Verdict
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4. 按上圖所示點 5 點黑膠固定,並烘乾.

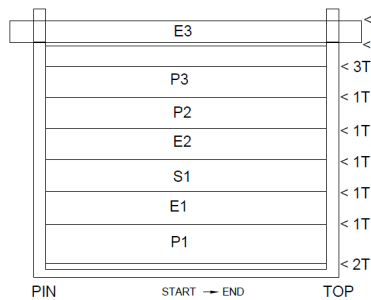
5. 產品含浸後,先用 1350F-1*12mm 的膠帶,沿繞線包方向包 1TS. 再包外屏蔽銅箔 1.1TS, 焊接短路並接於 PIN3, 銅箔焊接點在側邊約 45 度處,不能在磁芯處. 焊接完成把下面的 TAPE 反包,最後用 1350F-1*12mm 的膠帶沿繞線包方向包 2TS.

6. 飛線 A1 套透明套管,飛線 B1 套黑色套管

三.SCHEMATIC:(線路圖)



四.WINDING:(剖面圖)

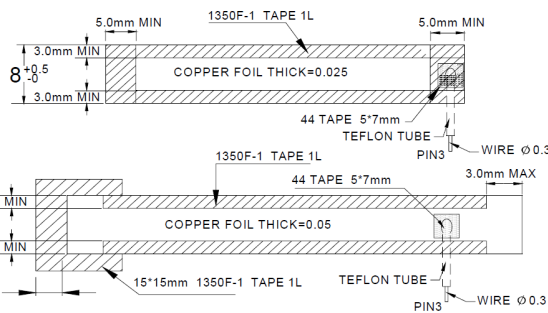


五..WINDING TABLE(繞線結構表):

Winding 繞組	Pin 腳位	Wire 線材		Turns 圈數	Tape Layer 膠帶層數	Winding Method 繞線方式	Remark 備 注
		Diameter 線徑	Type 線種				
P1	1 → 5	Φ0.3*3	2UEW	19Ts	11mm *1 Ts	密繞二層	層間不絕緣
E1	3 →	COPPER FOIL 0.025t*8mm		1.1Ts	11mm *1 Ts		
S1	A1 → B1	Φ0.7*3	TRW(B)	5Ts	11mm *1 Ts	繞二層	層間不絕緣
E2	3 →	COPPER FOIL 0.025t*8mm		1.1Ts	11mm *1 Ts		
P2	5 → 2	Φ0.3*3	2UEW	16Ts	11mm *1 Ts	密繞二層	層間不絕緣
P3	4 → 3	Φ0.3*1	2UEW	6Ts	11mm *3 Ts	均 繞	
E3	→ 3	COPPER FOIL 0.05t*8mm		1.1Ts			外屏蔽銅箔

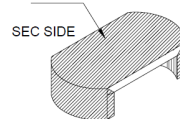
6.1 銅箔加工:

屏蔽銅箔(E1,E2)



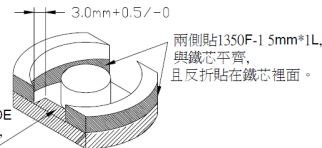
6.2.底部鐵芯加工:

包1350F-1 TAPE 26mm*2L



膠帶貼平齊於一次側邊緣

反折于二次側且剪斷反折下去3mm,
以增加安規距離。



TRF No. IEC60950_1E

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

Test Instrument

Latest Revision Date: 2 2013-10-08

The following instruments were used in tests recorded on the attached data sheets.

Test Equipment	Electrical Rating	Calibration Range	Manufacturer	Model No.	Serial No. (PSP)	Serial No.	Date Last Calibrated MM/DD/YY	Calibration Due Date MM/DD/YY	NO.	Use
Active Load	300W/60A	Vdc: 1-60V; Idc: 0.1-60A; Watt: 1-300W	Chroma	63030	0001609	6300005610 6300005611 6300005612 6300005615	08/02/13	08/01/14	1	
Active Load	300W/60A	Vdc: 1-60V; Idc: 0.1-60A; Watt: 1-300W	Chroma	63030	0001609	0001717 0003009 0003008 0003010	08/02/13 08/02/13 08/02/13 08/02/13	08/01/14 08/01/14 08/01/14 08/01/14	2	X
Digital DC Power Supply	30V/3A	Vdc: 5-30V; Idc: 0.5-3A	Topward	3303D	0001604	689807	03/22/13	03/21/14	3	
Digital DC Power Supply	30V/3A	Vdc: 5-30V; Idc: 0.5-3A	Topward	3303D	0001695	689805	03/22/13	03/21/14	3	
Multimeter	1000V/10A	Vdc: 0.03-1000V; Idc: 0.003-10A; Vac @ 60Hz: 0.003-10A; Vac @ 60Hz: 0.01-750V; R: 100-10M Ohm;	Fuke	45	0001696	7514001	03/22/13	03/21/14	6	
Multimeter	1000V/10A	Vdc: 0.03-1000V; Idc: 0.003-10A; Vac @ 60Hz: 0.003-10A; Vac @ 60Hz: 0.01-750V; R: 100-10M Ohm;	Fuke	45	0001695	7513044	03/22/13	03/21/14	7	
Digital Power Meter	300V/20A	Vac @ 60Hz: 30-290V; TAF Vac @ 50Hz: 30-290V; TAF Iac @ 60Hz: 0.2-20A; TAF Iac @ 60Hz: 0.2-20A; TAF P: 120-1200W; TAF P: 1-1920W;	Protronix	1201	0001999	S/N908086	08/02/13	08/01/14	4	X
Digital Power Meter	300V/20A	Vac @ 60Hz: 30-290V; TAF Vac @ 50Hz: 30-290V; TAF Iac @ 60Hz: 0.2-20A; TAF Iac @ 60Hz: 0.2-20A; TAF P: 120-1200W; TAF P: 1-1920W;	Protronix	1201	0002908	S/N908089	08/02/13	08/01/14	5	
True RMS Meter(scope)	100MHz	Deflection: 5mV/Div-50V/Div Timing: 50ns/Div-5S/Div	Tektronix	TM5720A	0001698	B036192	03/22/13	03/21/14	10	
AC Power Source	2KVA	---	Extech	6220	0001692	E079018	---	---	12	
Withstanding Voltage/Insu.	5KVac/500Vdc	Vdc: 0.5-60V; Vdc: 0.5-5KV; IR: 2H-1G Ohm: 0-120Sec	Extech	7440	0001699	E190465	03/22/13	03/21/14	13	X
Hybrid Temperature Recor	-200-400°C	0-250°C	Yokogawa	DR230	0001702	12W342677	03/22/13	03/21/14	14	
Hybrid Temperature Recor	-200-400°C	0-250°C	Yokogawa	DR230	0001703	12W342678	03/22/13	03/21/14	15	X
Oven	50-300°C	50-300°C	Terchy	CK-3	0003775	860603	09/12/13	09/11/14	16	X
Scope	150MHz	Deflection: 10mV/Div-100V/Div Timing: 100ns/Div-5S/Div	Yokogawa	DL1510C	0001701	12W342825	03/22/13	03/21/14	19	X
Digital Power Meter	300V/20A	Vac @ 60Hz: 30-290V; TAF Vac @ 50Hz: 30-290V; TAF Iac @ 60Hz: 0.2-20A; TAF Iac @ 60Hz: 0.2-20A; TAF P: 120-1200W; TAF P: 1-1920W;	Protronix	1201	0001693	S/N908052	08/02/13	08/01/14	21	
Digital Power Meter	300V/20A	Vac @ 60Hz: 30-290V; TAF Vac @ 50Hz: 30-290V; TAF Iac @ 60Hz: 0.2-20A; TAF Iac @ 60Hz: 0.2-20A; TAF P: 120-1200W; TAF P: 1-1920W;	Protronix	1201	0003802	S/N908049	08/02/13	08/01/14	22	X
Active Load	300W/60A	Vdc: 1-60V; Idc: 0.1-60A; Watt: 1-300W	Chroma	63030	0001719	6300006381	08/02/13	08/01/14	23	
Active Load	100W/20A	Vdc: 1-60V; Idc: 0.1-60A; Watt: 1-300W	Chroma	63010	0001679	6300006008	08/02/13	08/01/14	24	
Active Load	300W/60A	Vdc: 1-60V; Idc: 0.1-60A; Watt: 1-300W	Chroma	63030	0001683	630100003002	08/02/13	08/01/14	25	X
AC Power Source	2KVA	---	Extech	6220	0001692	E079018	---	---	25	
Hybrid Temperature Recor	-200-400°C	0-250°C	Yokogawa	DR130	0001674	12W512527	03/22/13	03/21/14	26	
Active Load	300W/60A	Vdc: 1-60V; Idc: 0.1-60A; Watt: 1-300W	Chroma	63030	0001721	6300006466	08/02/13	08/01/14	28	
Active Load	300W/60A	Vdc: 1-60V; Idc: 0.1-60A; Watt: 1-300W	Chroma	63030	0001718	6300006296	08/02/13	08/01/14	29	
Active Load	100W/20A	Vdc: 1-60V; Idc: 0.1-60A; Watt: 1-300W	Chroma	63010	0001684	630100003004	08/02/13	08/01/14	30	
Active Load	300W/60A	Vdc: 1-60V; Idc: 0.1-60A; Watt: 1-300W	Chroma	63030	0001716	6300006374	08/02/13	08/01/14	31	
Active Load	300W/60A	Vdc: 1-60V; Idc: 0.1-60A; Watt: 1-300W	Chroma	63030	0001677	6300006005	08/02/13	08/01/14	32	

TRF No. IEC60950_1E

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

Latest Revision Date: 2 2013-10-08

The following instruments were used in tests recorded on the attached data sheets.

Test Equipment	Electrical	Calibration	Manufacturer	Model No.	Serial No. (FSP)	Serial No. (FSP)	Date Last Calibrated	Calibration Due Date	NO.	Use
Active Load	300W/60A	Vdc:1-60V; Idc:0.1-60A; Watt:1-300W	Chroma	63030	0001709	6300006510	08/02/13	08/01/14	30	
	300W/60A	Vdc:1-60V; Idc:0.1-60A; Watt:1-300W		63030	0001715	6300006508				
	100W/20A	Vdc:1-60V; Idc:0.1-60A; Watt:1-300W		63010	0001682	630100003001				
	300W/60A	Vdc:1-60V; Idc:0.1-60A; Watt:1-300W		63030	0001713	6300006500				
Active Load	300W/60A	Vdc:1-60V; Idc:0.1-60A; Watt:1-300W	Chroma	63030	0001722	6300006471	08/02/13	08/01/14	31	
	300W/60A	Vdc:1-60V; Idc:0.1-60A; Watt:1-300W		63030	0001708	6300006509				
	300W/60A	Vdc:1-60V; Idc:0.1-60A; Watt:1-300W		63030	0001714	6300006504				
	300W/60A	Vdc:1-60V; Idc:0.1-60A; Watt:1-300W		63030	0001720	6300006479				
Humidity Chamber	0°C~100°C/10~95RH	0°C~60°C/40~95%RH	Yoon	THS-82H	0001724	2292	03/22/13	03/21/14	32	X
Digital Power Meter	640V/20A	Vac @ 60Hz: 30-290V; TAF	Protronix	1201A	0003717	S/N908229	08/02/13	08/01/14	33	
		Vac @ 50Hz: 30-290V; TAF								
		Iac @ 60Hz: 0.2-20A; TAF								
		Iac @ 60Hz: 0.2-20A; TAF								
		P: 120-1200W; TAF								
AC Power Source	3KVA	--	Chroma	6530	0003718	3971	--	--	34	
Active Load	600W	Vdc:1-60V; Idc:0.1-60A	Chroma	63106	0003933	631060000501	08/02/13	08/01/14	35	
Active Load	600W	Vdc:1-60V; Idc:0.1-60A	Chroma	63106	0003933	631060000502	08/02/13	08/01/14	36	
Ground Bond Tester	60A	Iac: 1-60A; R:1m-100m Ohm; B:12V I:0-120Sec	Extech	7316	0004067	1370009	08/02/13	08/01/14	37	X
Digital Power Meter	640V/20A	Vac @ 60Hz: 30-290V; TAF	Protronix	1201A	0003717	S/N908227	08/02/13	08/01/14	38	
		Vac @ 50Hz: 30-290V; TAF								
		Iac @ 60Hz: 0.2-20A; TAF								
		Iac @ 60Hz: 0.2-20A; TAF								
		P: 120-1200W; TAF								
Hybrid Temperature Recor	-200~160°C	0-200°C	Yokogawa	DR130	0002989	7700H8167	03/22/13	03/21/14	39	
Active Load	300W/60A	Vdc:1-60V; Idc:0.1-60A; Watt:1-300W	Chroma	63030	0004483	6300010048	03/22/13	03/21/14	40	
						6300010061				
						6300010054				
						6300010055				
Active Load	300W/60A	Vdc:1-60V; Idc:0.1-60A; Watt:1-300W	Chroma	63030	0004483	6300010068	03/22/13	03/21/14	41	
						6300010101				
						6300010099				
						6300010093				
Active Load	300W/60A	Vdc:1-60V; Idc:0.1-60A; Watt:1-300W	Chroma	63030	0004483	6300010080	03/22/13	03/21/14	42	
						6300010074				
						6300010071				
						6300010045				
Active Load	300W/60A	Vdc:1-60V; Idc:0.1-60A; Watt:1-300W	Chroma	63030	0004483	6300010107	03/22/13	03/21/14	43	
						6300010104				
						6300010103				
						6300010106				
Active Load	300W/60A	Vdc:1-60V; Idc:0.1-60A; Watt:1-300W	Chroma	63030	0004483	6300010051	03/22/13	03/21/14	44	
						6300010070				
						6300010073				
						6300010079				
Active Load	300W/60A	Vdc:1-60V; Idc:0.1-60A; Watt:1-300W	Chroma	63030	0004483	6300010082	03/22/13	03/21/14	45	X
						6300010083				
						6300010075				
						6300010090				
Active Load	300W/60A	Vdc:1-60V; Idc:0.1-60A; Watt:1-300W	Chroma	63030	0004483	6300010109	03/22/13	03/21/14	46	
						6300010118				
						6300010069				
						6300010069				
Active Load	300W/60A	Vdc:1-60V; Idc:0.1-60A; Watt:1-300W	Chroma	63030	0004483	6300010095	03/22/13	03/21/14	47	
						6300010092				
						6300010089				
						6300010072				
Line Leakage Tester	--	Vac: 90-290V; Iac@60Hz:1001u-3501uA	Extech	7611	0004547	1330293	03/26/13	03/25/14	48	
AC Power Source	3KVA	--	Extech	6130	0004546	1130084	--	--	52	
AC Power Source	3KVA	--	Extech	6130	0004546	1130083	--	--	53	
AC Power Source	3KVA	--	Extech	6130	0004546	1130078	--	--	54	
AC Power Source	3KVA	--	Extech	6130	0004546	1130085	--	--	55	
AC Power Source	3KVA	--	Extech	6130	0004546	1130086	--	--	56	
AC Power Source	3KVA	--	Extech	6130	0004546	1130082	--	--	57	
DC Source	0-80Vdc/2KVA	Vdc: 5-80V; Idc: 1-35A	Chroma	62304-80	0004485	E00089362	03/22/13	03/21/14	58	
DC Source	0-80Vdc/2KVA	Vdc: 5-80V; Idc: 1-35A	Chroma	62304-80	0004485	E00089327	03/22/13	03/21/14	59	
Active Load	300W/60A	Vdc:1-60V; Idc:0.1-60A; Watt:1-300W	Chroma	63030	0004483	6300010116	03/22/13	03/21/14	60	
						6300010110				
						6300010094				
						6300010108				

TRF No. IEC60950_1E

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

Latest Revision Date: 2013-10-08

The following instruments were used in tests recorded on the attached data sheets.

Test Equipments	Electrical	Calibration	Manufacturer	Model No.	Serial No. (TAP)	Serial No. (Main)	Date Last Calibration	Calibration Due Date	NO	Use
Active Load	300W/50A	Vdc:1-60V; Idc:0.1-60A; Watt:1-300W	Chroma	63030	0004483	6300010077 6300010076 6300010085 6300010086	03/22/13	03/21/14	41	
Active Load	300W/50A	Vdc:1-60V; Idc:0.1-60A; Watt:1-300W	Chroma	63030	0004483	6300010111 6300010081 6300010058 6300010049 6300010096	03/22/13	03/21/14	42	
Active Load	300W/50A	Vdc:1-60V; Idc:0.1-60A; Watt:1-300W	Chroma	63030	0004483	6300010100 6300010115 6300010105	03/22/13	03/21/14	43	
Hybrid Temperature Recorder	-200~400°C	0~200°C	Yokogawa	DR230	0004952	27D116263	03/22/13	03/21/14	44	
Hybrid Temperature Recorder	-200~400°C	0~200°C	Yokogawa	DR230	0004952	27D116265	03/22/13	03/21/14	45	
Hybrid Temperature Recorder	-200~400°C	0~200°C	Yokogawa	DR230	0004952	27D116358	03/22/13	03/21/14	46	
Hybrid Temperature Recorder	-200~400°C	0~200°C	Yokogawa	DR230	0004952	27D116267	03/22/13	03/21/14	47	
Hybrid Temperature Recorder	-200~400°C	0~200°C	Yokogawa	DR230	0004952	27D116264	03/22/13	03/21/14	48	
Multimeter	1000Vac/750Vdc	Vdc: 0.2-1000V; (TAF) Idc:2mA-2.5A; (TAF) Iac @ 60Hz:0.2-0.6A; (TAF) Vac @ 60Hz: 0.2-700V; (TAF) R: 100-10M Ohm; (TAF) Vdc: 0.02-1000V; Idc:2mA-2.5A; Iac @ 60Hz:0.2-2.5A Vac @ 60Hz: 0.02-700V; R: 100-15M Ohm;	Agilent	34401A	0004584	MY41042023	08/02/13	08/01/14	49	
Multimeter	1000Vac/750Vdc	Vdc: 0.2-1000V; (TAF) Idc:2mA-2.5A; (TAF) Iac @ 60Hz:0.2-0.6A; (TAF) Vac @ 60Hz: 0.2-700V; (TAF) R: 100-10M Ohm; (TAF) Vdc: 0.02-1000V; Idc:2mA-2.5A; Iac @ 60Hz:0.2-2.5A Vac @ 60Hz: 0.02-700V; R: 100-15M Ohm;	Agilent	34401A	0004584	MY41041979	08/02/13	08/01/14	50	
Multimeter	1000Vac/750Vdc	Vdc: 0.2-1000V; (TAF) Idc:2mA-2.5A; (TAF) Iac @ 60Hz:0.2-0.6A; (TAF) Vac @ 60Hz: 0.2-700V; (TAF) R: 100-10M Ohm; (TAF) Vdc: 0.02-1000V; Idc:2mA-2.5A; Iac @ 60Hz:0.2-2.5A Vac @ 60Hz: 0.02-700V; R: 100-15M Ohm;	Agilent	34401A	0004584	MY41041757	08/02/13	08/01/14	51	
Multimeter	1000Vac/750Vdc	Vdc: 0.2-1000V; (TAF) Idc:2mA-2.5A; (TAF) Iac @ 60Hz:0.2-0.6A; (TAF) Vac @ 60Hz: 0.2-700V; (TAF) R: 100-10M Ohm; (TAF) Vdc: 0.02-1000V; Idc:2mA-2.5A; Iac @ 60Hz:0.2-2.5A Vac @ 60Hz: 0.02-700V; R: 100-15M Ohm;	Agilent	34401A	0004584	MY41042018	08/02/13	08/01/14	52	
Hybrid Temperature Recorder	-200~400°C	0~200°C	Yokogawa	DR230	0004584	27D116265	03/22/13	03/21/14	53	X
Digital Power Meter	1000V/20A	Iac @ 50Hz:0.1-20A Iac @ 60Hz:0.1-20A Vac @ 50Hz: 10-690V; Vac @ 60Hz: 10-690V; W: 120-2400W;	Vottech	PM100	0001791	AQ59/5618	03/22/13	03/21/14	54	
Caliper	0-200 mm	20-200 mm	Hilltop	SP-0100-UP	0001686	105213	08/02/13	08/01/14	55	X
Scope	300M Hz	Deflection: 2mV/Div-5V/Div Timing: 5ns/Div-5S/Div Vdc: 0.02-1000V; Idc:2mA-2.5A; Iac @ 60Hz:0.2-2.5A Vac @ 60Hz: 0.02-700V; R: 100-15M Ohm;	Tektronix	TDS3032B	0004603	6027957	08/02/13	08/01/14	56	X
Multimeter	1000Vac/750Vdc	Vdc: 0.02-1000V; Idc:2mA-2.5A; Iac @ 60Hz:0.2-2.5A Vac @ 60Hz: 0.02-700V; R: 100-15M Ohm;	Agilent	34401A	0004584	MY41041808	08/02/13	08/01/14	57	
Scope	300M Hz	Deflection: 2mV/Div-5V/Div Timing: 2ns/Div-5S/Div	Tektronix	TDS3032B	0004603	6028341	03/22/13	03/21/14	58	
Scope	300M Hz	Deflection: 2mV/Div-5V/Div Timing: 5ns/Div-5S/Div	Tektronix	TDS3032B	0004603	6028333	08/02/13	08/01/14	59	
Digital Power Meter	1000V/20A	Iac @ 60Hz:50Hz:0.5-20A; TAF Vac @ 60Hz:50Hz: 15-600V; TAF W: 120-2400W; TAF W: 1-2400W;	Yokogawa	WT210	0004596	27D116226	03/22/13	03/21/14	60	X
Digital Power Meter	1000V/20A	Iac @ 60Hz:50Hz:0.5-20A; TAF Vac @ 60Hz:50Hz: 15-600V; TAF W: 120-2400W; TAF W: 1-2400W;	Yokogawa	WT210	0004596	27D116224	03/22/13	03/21/14	61	
Digital Power Meter	1000V/20A	Iac @ 60Hz:50Hz:0.5-20A; TAF Vac @ 60Hz:50Hz: 15-600V; TAF W: 120-2400W; TAF W: 1-2400W;	Yokogawa	WT210	0004596	27D116221	03/22/13	03/21/14	62	

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Clause	Requirement + Test	Result - Remark	Verdict

TEST INSTRUMENTS

Latest Revision Date: 2 2013-10-08

The following instruments were used in tests recorded on the attached data sheets.

Test Equipment	Electrical	Calibration	Manufacturer	Model No.	Serial No. (FSN)	Serial No. (Lot No.)	Date Last Calibrated	Calibration Due Date	WC	Use
Digital Power Meter	1000V/20A	Iac @ 60Hz, 50Hz: 0.5-20A; TAF Vac @ 60Hz, 50Hz: 15-600V; TAF W: 120-2400W; TAF W: 1-2400W	Yokogawa	WT210	0004596	270116223	03/22/13	03/21/14	10	
Scope	300M Hz	Deflection: 2mV/Div-10V/Div Timing: 2ns/Div-55/Div	Tektronix	TD63032B	0004603	8028339	03/22/13	03/21/14	10	
Scope	300M Hz	Deflection: 2mV/Div-10V/Div Timing: 2ns/Div-55/Div	Tektronix	TD63032B	0004603	8028323	03/22/13	03/21/14	10	
Scope	300M Hz	Deflection: 2mV/Div-10V/Div Timing: 2ns/Div-55/Div	Tektronix	TD63032B	0004603	8028347	03/22/13	03/21/14	10	X
Pull/Push Gauge	250 N	5-39kg	ALGOL	NK-300	0001998	33101	03/22/13	03/21/14	12	X
Multimeter	1000Vac/750Vdc	Vdc: 0.2-1000V; (TAF) Iac: 2mA-2.5A; (TAF) Iac @ 60Hz: 0.2-0.6A; (TAF) Vac @ 60Hz: 0.2-700V; (TAF) R: 100-10M Ohm; (TAF) Vdc: 0.01-1000V; Iac: 2mA-2.5A; Iac @ 60Hz: 0.2-2.5A Vac @ 60Hz: 0.02-700V; R: 100-10M Ohm; Iac @ 60Hz, 50Hz: 0.5-20A; TAF Vac @ 60Hz, 50Hz: 15-600V; TAF W: 120-2400W; TAF W: 1-2400W	Agilent	34401A	0004584	HY41041697	08/02/13	08/01/14	10	
Digital Power Meter	1000V/20A	Iac @ 60Hz, 50Hz: 0.5-20A; TAF Vac @ 60Hz, 50Hz: 15-600V; TAF W: 120-2400W; TAF W: 1-2400W	Yokogawa	WT210	0004596	270116225	03/22/13	03/21/14	10	
Digital Power Meter	1000V/20A	Iac @ 60Hz, 50Hz: 0.5-20A; TAF Vac @ 60Hz, 50Hz: 15-600V; TAF W: 120-2400W; TAF W: 1-2400W	Yokogawa	WT210	0004596	270116222	03/22/13	03/21/14	10	
AC/DC Clamp Meter	200A	Vdc: 40-390V; Vac @ 60Hz: 40-390V (TAF) Iac: 0.1-100A (TAF) Iac: 10-60A (TAF) R: 100-100 Ohm; (TAF) Vdc: 40-390V; Vac @ 60Hz: 40-390V Iac: 0.1-125A Iac: 10-150A R: 100-150 Ohm; F: 50-1000 Hz	PROVA	CM-01	0004516	03390542	03/22/13	03/21/14	11	X
DC Source	0-80Vdc/2KVA	Vdc: 5-80V; Idc: 1-35A	Chroma	62304-80	0004934	E00109518	03/22/13	03/21/14	12	
DC Source	0-80Vdc/2KVA	Vdc: 5-80V; Idc: 1-35A	Chroma	62304-80	0004934	E00109464	03/22/13	03/21/14	12	
DC Source	0-80Vdc/2KVA	Vdc: 5-80V; Idc: 1-35A	Chroma	62304-80	0004934	E00109465	03/22/13	03/21/14	12	
DC Source	0-80Vdc/2KVA	Vdc: 5-80V; Idc: 1-35A	Chroma	62304-80	0004934	E00109467	03/22/13	03/21/14	12	
Scope	200MHz	Deflection: 2mV/Div-5V/Div Timing: 5ns/Div-55/Div	Fluke	199C	0004107	DM8320150	03/22/13	03/21/14	10	
Leakage Current Meter	10mA	Iac @ 60Hz, 50Hz: 0.03-10mA; Vac @ 60Hz, 50Hz: 50-300V; I: 0-1200C	Stropsen	228	--	03038-1	03/26/13	03/25/14	12	X
DC Withstand Voltage Test	12KV	Vac: 0.5-12KV; DC set-off: 100u-9900uA I: 0-1200C	Extech	7472	--	1430020	03/22/13	03/21/14	10	
Test Box for IEC 60950	--	Transfer Impedance: 15-1000000Hz; 5g-51g	--	60990	--	60990	09/23/13	09/22/14	12	X
Counting Scale	6Kg	5g-51g	Nagata	CTR	0001726	26554	03/22/13	03/21/14	10	X
Digital Stopwatch	9H/59MIN/5/5S	1-60min; date error: 0.56 sec/day 16 sec/month	Casio	HS-3	--	009Q68	08/07/13	08/05/14	11	X
Impact-test apparatus for	0.5J	0.5J	Asia Qtech	CJ-3	--	96092	03/22/13	03/21/14	11	X
Active Load	300W/50A	Vdc: 1-60V; Idc: 0.1-60A; Watt: 1-300W	Chroma	63030	0006135	6300019018 6300019019 6300019040 6300019041 6300019034 6300019035 6300019036 6300019037	08/02/13	08/01/14	11	
Active Load	300W/50A	Vdc: 1-60V; Idc: 0.1-60A; Watt: 1-300W	Chroma	63030	0006135	6300019035 6300019036 6300019037	08/07/13	08/01/14	11	
AC Power Source	5KV	--	Extech	6750	0006722	1480157	--	--	105	
Digital Power Meter	1000V/20A	Iac @ 60Hz, 50Hz: 0.5-20A; TAF Vac @ 60Hz, 50Hz: 15-600V; TAF W: 120-2400W; TAF W: 1-2400W	Yokogawa	WT210	0006207	916C17355	08/02/13	08/01/14	10	
Hybrid Temperature Recd	-200-400°C	0-200°C	Yokogawa	DR230	0006205	916B52840	08/02/13	08/01/14	11	
Handwood	13 mm thick, mounted on two layers of plywood each 19 mm to 20 mm thick		Isuzu	3-3172	--	00960111 6303000897 6303000898 6303000899 6303000900 6303000901 6303000902 6303000903 6303000904 6303000905 6303000906 6303000907 6303000908 6303000909 6303000910 6303000911 6303000912 6303000913 6303000914 6303000915 6303000916 6303000917 6303000918 6303000919 6303000920 6303000921 6303000922 6303000923 6303000924 6303000925 6303000926 6303000927 6303000928 6303000929 6303000930 6303000931 6303000932 6303000933 6303000934 6303000935 6303000936 6303000937 6303000938 6303000939 6303000940 6303000941 6303000942 6303000943 6303000944 6303000945 6303000946 6303000947 6303000948 6303000949 6303000950 6303000951 6303000952 6303000953 6303000954 6303000955 6303000956 6303000957 6303000958 6303000959 6303000960 6303000961 6303000962 6303000963 6303000964 6303000965 6303000966 6303000967 6303000968 6303000969 6303000970 6303000971 6303000972 6303000973 6303000974 6303000975 6303000976 6303000977 6303000978 6303000979 6303000980 6303000981 6303000982 6303000983 6303000984 6303000985 6303000986 6303000987 6303000988 6303000989 6303000990 6303000991 6303000992 6303000993 6303000994 6303000995 6303000996 6303000997 6303000998 6303000999	08/02/13	08/01/14	11	X
Thermo-Hygrometer	15-35°C, 40-70%RH	15-35°C, 30-70%RH	Isuzu	3-3172	--	00960111 6303000897 6303000898 6303000899 6303000900 6303000901 6303000902 6303000903 6303000904 6303000905 6303000906 6303000907 6303000908 6303000909 6303000910 6303000911 6303000912 6303000913 6303000914 6303000915 6303000916 6303000917 6303000918 6303000919 6303000920 6303000921 6303000922 6303000923 6303000924 6303000925 6303000926 6303000927 6303000928 6303000929 6303000930 6303000931 6303000932 6303000933 6303000934 6303000935 6303000936 6303000937 6303000938 6303000939 6303000940 6303000941 6303000942 6303000943 6303000944 6303000945 6303000946 6303000947 6303000948 6303000949 6303000950 6303000951 6303000952 6303000953 6303000954 6303000955 6303000956 6303000957 6303000958 6303000959 6303000960 6303000961 6303000962 6303000963 6303000964 6303000965 6303000966 6303000967 6303000968 6303000969 6303000970 6303000971 6303000972 6303000973 6303000974 6303000975 6303000976 6303000977 6303000978 6303000979 6303000980 6303000981 6303000982 6303000983 6303000984 6303000985 6303000986 6303000987 6303000988 6303000989 6303000990 6303000991 6303000992 6303000993 6303000994 6303000995 6303000996 6303000997 6303000998 6303000999	08/02/13	08/01/14	11	X
Active Load	300W/50A	Vdc: 1-60V; Idc: 0.1-60A; Watt: 1-300W	Chroma	63030	0006534	6303000897 6303000898 6303000899 6303000900 6303000901 6303000902 6303000903 6303000904 6303000905 6303000906 6303000907 6303000908 6303000909 6303000910 6303000911 6303000912 6303000913 6303000914 6303000915 6303000916 6303000917 6303000918 6303000919 6303000920 6303000921 6303000922 6303000923 6303000924 6303000925 6303000926 6303000927 6303000928 6303000929 6303000930 6303000931 6303000932 6303000933 6303000934 6303000935 6303000936 6303000937 6303000938 6303000939 6303000940 6303000941 6303000942 6303000943 6303000944 6303000945 6303000946 6303000947 6303000948 6303000949 6303000950 6303000951 6303000952 6303000953 6303000954 6303000955 6303000956 6303000957 6303000958 6303000959 6303000960 6303000961 6303000962 6303000963 6303000964 6303000965 6303000966 6303000967 6303000968 6303000969 6303000970 6303000971 6303000972 6303000973 6303000974 6303000975 6303000976 6303000977 6303000978 6303000979 6303000980 6303000981 6303000982 6303000983 6303000984 6303000985 6303000986 6303000987 6303000988 6303000989 6303000990 6303000991 6303000992 6303000993 6303000994 6303000995 6303000996 6303000997 6303000998 6303000999	08/02/13	08/01/14	11	X
Digital Power Meter	1000V/20A	Iac @ 60Hz, 50Hz: 0.5-20A; TAF Vac @ 60Hz, 50Hz: 15-600V; TAF W: 120-2400W; TAF W: 1-2400W	Yokogawa	WT210	0006530	91H828660	08/02/13	08/01/14	11	X
Hybrid Temperature Recd	-200-400°C	0-200°C	Yokogawa	DR230	0006529	91H723166	03/22/13	03/21/14	11	
High Voltage Probe	1000Vac	Vdc: 1KV-5KV; Vac: 2KV-12KV	Tektronix	P6015A	0006491	8059004	08/02/13	08/01/14	11	X
Rolling Ruler	5.5 m	0-500 cm	3-75	5-75	5-75	5-75	04/02/12	04/01/14	11	X
AC Power Source	5KV	--	Extech	6750	0006722	1480157	--	--	105	
Digital Osc-Meter	100-200MHz	100-200MHz	Chroma	63030	0006530	91H828660	08/02/13	08/01/14	11	X
Explosion-Proof Box	--	--	FSP	--	--	--	--	--	117	
Explosion-Proof Box	--	--	FSP	--	--	--	--	--	117	
Surge test apparatus	Surge for 60065	IEC 60065 Figure 5a & 5b	TESTING LABORATORY	T3-06	0006464	35106	03/22/13	03/21/14	11	
Active Load	100W/2A	Vdc: 1-500V; Idc: 0.1-2A; Watt: 1-100W	Chroma	6310A	0007250	63110A000155 63110A000156 63110A000157 63110A000158 63110A000159 63110A000160 63110A000161 63110A000162 63110A000163 63110A000164 63110A000165 63110A000166 63110A000167 63110A000168 63110A000169 63110A000170 63110A000171 63110A000172 63110A000173 63110A000174 63110A000175 63110A000176 63110A000177 63110A000178 63110A000179 63110A000180 63110A000181 63110A000182 63110A000183 63110A000184 63110A000185 63110A000186 63110A000187 63110A000188 63110A000189 63110A000190 63110A000191 63110A000192 63110A000193 63110A000194 63110A000195 63110A000196 63110A000197 63110A000198 63110A000199 63110A000200 63110A000201 63110A000202 63110A000203 63110A000204 63110A000205 63110A000206 63110A000207 63110A000208 63110A000209 63110A000210 63110A000211 63110A000212 63110A000213 63110A000214 63110A000215 63110A000216 63110A000217 63110A000218 63110A000219 63110A000220 63110A000221 63110A000222 63110A000223 63110A000224 63110A000225 63110A000226 63110A000227 63110A000228 63110A000229 63110A000230 63110A000231 63110A000232 63110A000233 63110A000234 63110A000235 63110A000236 63110A000237 63110A000238 63110A000239 63110A000240 63110A000241 63110A000242 63110A000243 63110A000244 63110A000245 63110A000246 63110A000247 63110A000248 63110A000249 63110A000250 63110A000251 63110A000252 63110A000253 63110A000254 63110A000255 63110A000256 63110A000257 63110A000258 63110A000259 63110A000260 63110A000261 63110A000262 63110A000263 63110A000264 63110A000265 63110A000266 63110A000267 63110A000268 63110A000269 63110A000270 63110A000271 63110A000272 63110A000273 63110A000274 63110A000275 63110A000276 63110A000277 63110A000278 63110A000279 63110A000280 63110A000281 63110A000282 63110A000283 63110A000284 63110A000285 63110A000286 6311				

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

Latest Revision Date: 2013-10-08

The following instruments were used in tests recorded on the attached data sheets.

Test Equipment	Electrical	Calibration	Manufacturer	Model No.	Serial No.	PSR Serial No.	Date Last Calibrated	Calibration Due Date	NO.	Price
Active Load	100W/2A	Vdc:1-500V; Idc:0.1-2A; Watt:1-100W	Chroma	6310A	0007250	63110A000141 63110A000143 63110A000144 63110A000145	03/22/13	03/21/14	120	
Clock	23H/59MIN/59S	1 day; 1 month; date error: 0.4 sec/day 11.4 sec/month	SEIKO	QXA414G	--	--	08/05/13	08/05/14	121	X
Sphere(metal / 50mm / 50g)	--	--	--	--	--	--	--	--	125	X
Ball pressure apparatus (3)	--	--	--	--	--	--	02/24/12	02/23/14	126	
Articulated accessibility pr	--	--	Asia Qtech	ULP-1	0067700	1012791	03/23/12	03/22/14	127	
IEC 60950-1 Figure 2A- T	--	--	Asia Qtech	UFP-2	0066619	0901	03/23/12	03/22/14	128	
IEC 60950-1 Figure 2A- T	--	--	Asia Qtech	BTFP01	0061997	--	--	--	129	
Figure 2B- Test pin	--	--	--	--	--	--	--	--	130	
SYT-DC12KV	12KV / 2mA	Vdc:0.517kv~12.097kv (TAP)	SYT	SYT-DC12KV	0007715	S100-013	03/22/13	03/21/14	131	
ESD Meter	--	--	Chen-Kwa	ES01	0005489	--	05/19/11	05/16/12	132	
Sphere(metal / 50mm / 500g)	--	--	--	--	--	--	--	--	133	
IEC 60950-1 Figure 2A- T	--	--	Asia Qtech	TTP-1	0009260	1090281	08/02/13	08/01/15	134	
IEC 60950-1 Figure 2C- T	--	--	Asia Qtech	TTP-1	0009261	1090892	08/02/13	08/01/15	135	
IEC 60055 7th Figure 6 D	--	--	Asia Qtech	HP A-1	--	2041203	04/13/12	04/12/14	136	
Microscope	60X	--	Microlinks Technology Corp	UH02	--	--	--	--	137	
Thermo-Hygograph	10~35°C, 46~70%RH	15~30°C, 30~60%RH	Isuzu	TH-27R	0002662	ACB404608-147	04/29/13	04/28/14	138	

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ATTACHMENT

Measurement Section

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Report No.11035366 001

Clause	Requirement + Test	Result - Remark	Verdict
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2.1.1.7	TABLE: Discharge test				P
Condition	τ calculated (s)	τ measured (s)	t u→ 0V (s)	Comments	
Discharge IC, type: FAN6756MRMY					
Fuse in (Test voltage 264Vac, 60Hz)	--	78	--	Vo=372V, 37% of Vo=137.64V Voltage measured after 1 sec. = 8V	
Discharge IC, type: FAN6757MRMX					
Fuse in (Test voltage 264Vac, 60Hz)	--	82	--	Vo=364V, 37% of Vo=134.68V Voltage measured after 1 sec. = 8V	
Discharge IC, type: FAN6757MRMX					
Fuse in (Test voltage 90Vac, 60Hz)	--	90	--	Vo=126V, 37% of Vo=47.99V Voltage measured after 1 sec. = 4V	
Supplementary information: Overall capacity: 0.33 μ F (CX1=0.33 μ F) Discharge loop go through by discharge IC, BD1, R18, R19, D5, D8 (Discharge IC tested by Nemko, refer to appended table 1.5.1 for details.)					

2.4.2	TABLE: Limited current circuit measurement					P
Location	Voltage (V)	Current (mA)	Freq. (kHz)	Limit (mA)	Comments	
Secondary pin of CY1 to earth, normal	18.6V	9.3	67.56	47.29	Measuring with a 2k Ω non-inductive resistor.	
Secondary pin of CY1 to earth, normal	76mV	0.152	--	0.7	Measuring instrument of figure D.1 used.	
Supplementary information: Test voltage: 264Vac, 60Hz Overall capacity: CY1 = 1000pF						

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Clause	Requirement + Test	Result - Remark	Verdict
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2.6.3.4	TABLE: Resistance of earthing measurement		P
Location		Resistance measured (mΩ)	Comments
PE pin of AC inlet to trace of green/yellow wire solder pin.		8	Test current at 32A, for 2 min., Vdrop = 0.26V.
PE pin of AC inlet to trace of green/yellow wire solder pin.		--	Test current at 40A, for 2 min., Vdrop = 0.36V.
Supplementary information: Test voltage: 12Vac			

4.6.1, 4.6.2	Table: Enclosure opening measurements		N/A
Location		Size (mm)	Comments
Supplementary information:			

TRF No. IEC60950_1E

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

Information technology equipment – Safety –

Part 1: General requirements

Differences according to.....: EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013

Attachment Form No.: EU_GD_IEC60950_1E

Attachment Originator: SGS Fimko Ltd

Master Attachment: Date 2013-09

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EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013 – CENELEC COMMON MODIFICATIONS

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Clauses, subclauses, notes, tables and figures which are additional to those in IEC60950-1 and it's amendmets are prefixed "Z"		P
Contents (A2:2013)	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZD (informative) IEC and CENELEC code designations for flexible cords		P
General	Delete all the "country" notes in the reference document (IEC 60950-1:2005) according to the following list: 1.4.8 Note 2 1.5.1 Note 2 & 3 1.5.7.1 Note 1.5.8 Note 2 1.5.9.4 Note 1.7.2.1 Note 4, 5 & 6 2.2.3 Note 2.2.4 Note 2.3.2 Note 2.3.2.1 Note 2 2.3.4 Note 2 2.6.3.3 Note 2 & 3 2.7.1 Note 2.10.3.2 Note 2 2.10.5.13 Note 3 3.2.1.1 Note 3.2.4 Note 3. 2.5.1 Note 2 4.3.6 Note 1 & 2 4.7 Note 4 4.7.2.2 Note 4.7.3.1 Note 2 5.1.7.1 Note 3 & 4 5.3.7 Note 1 6 Note 2 & 5 6.1.2.1 Note 2 6.1.2.2 Note 6.2.2 Note 6.2.2.1 Note 2 6.2.2.2 Note 7.1 Note 3 7.2 Note 7.3 Note 1 & 2 G.2.1 Note 2 Annex H Note 2		P
General (A1:2010)	Delete all the "country" notes in the reference document (IEC 60950-1:2005/A1:2010) according to the following list: 1.5.7.1 Note 6.1.2.1 Note 2 6.2.2.1 Note 2 EE.3 Note		P

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
General (A2:2013)	Delete all the "country" notes in the reference document (IEC 60950-1:2005/A2:2013) according to the following list: 2.7.1 Note * 2.10.3.1 Note 2 6.2.2. Note * Note of secretary: Text of Common Modification remains unchanged.		P
1.1.1 (A1:2010)	Replace the text of NOTE 3 by the following. NOTE 3 The requirements of EN 60065 may also be used to meet safety requirements for multimedia equipment. See IEC Guide 112, Guide on the safety of multimedia equipment. For television sets EN 60065 applies.		N/A
1.3.Z1	Add the following subclause: 1.3.Z1 Exposure to excessive sound pressure The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones. NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for "one package equipment", and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.	Added.	N/A
(A12:2011)	In EN 60950-1:2006/A12:2011 Delete the addition of 1.3.Z1 / EN 60950-1:2006 Delete the definition 1.2.3.Z1 / EN 60950-1:2006 /A1:2010	Not portable Sound System.	N/A
1.5.1 (Added info*)	Add the following NOTE: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC. New Directive 2011/65/11 *	Added.	P
1.7.2.1 (A1:2010)	In addition, for a PORTABLE SOUND SYSTEM, the instructions shall include a warning that excessive sound pressure from earphones and headphones can cause hearing loss.		N/A
1.7.2.1 (A12:2011)	In EN 60950-1:2006/A12:2011 Delete NOTE Z1 and the addition for Portable Sound System. Add the following clause and annex to the existing standard and amendments.	Not portable Sound System.	N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx Protection against excessive sound pressure from personal music players		N/A
	Zx.1 General This sub-clause specifies requirements for protection against excessive sound pressure from personal music players that are closely coupled to the ear. It also specifies requirements for earphones and headphones intended for use with personal music players. A personal music player is a portable equipment for personal use, that: – is designed to allow the user to listen to recorded or broadcast sound or video; and – primarily uses headphones or earphones that can be worn in or on or around the ears; and – allows the user to walk around while in use. NOTE 1 Examples are hand-held or body-worn portable CD players, MP3 audio players, mobile phones with MP3 type features, PDA's or similar equipment. A personal music player and earphones or headphones intended to be used with personal music players shall comply with the requirements of this sub-clause. The requirements in this sub-clause are valid for music or video mode only. The requirements do not apply: – while the personal music player is connected to an external amplifier; or – while the headphones or earphones are not used. NOTE 2 An external amplifier is an amplifier which is not part of the personal music player or the listening device, but which is intended to play the music as a standalone music player. The requirements do not apply to: – hearing aid equipment and professional equipment; NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment.	Not portable Sound System	N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	– analogue personal music players (personal music players without any kind of digital processing of the sound signal) that are brought to the market before the end of 2015. NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies. For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.		
	Zx.2 Equipment requirements No safety provision is required for equipment that complies with the following: – equipment provided as a package (personal music player with its listening device), where the acoustic output $L_{Aeq,T}$ is ≤ 85 dBA measured while playing the fixed “programme simulation noise” as described in EN 50332-1; and – a personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is ≤ 27 mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” as described in EN 50332-1. NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level $L_{Aeq,T}$ is meant. See also Zx.5 and Annex Zx. All other equipment shall: - protect the user from unintentional acoustic outputs exceeding those mentioned above; and - have a standard acoustic output level not exceeding those mentioned above, and automatically return to an output level not exceeding those mentioned above when the power is switched off; and	Not portable Sound System.	N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	c) provide a means to actively inform the user of the increased sound pressure when the equipment is operated with an acoustic output exceeding those mentioned above. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an acoustic output exceeding those mentioned above. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time; and NOTE 2 Examples of means include visual or audible signals. Action from the user is always required. NOTE 3 The 20 h listening time is the accumulative listening time, independent how often and how long the personal music player has been switched off. d) have a warning as specified in Zx.3; and e) not exceed the following: 1) equipment provided as a package (player with its listening device), the acoustic output shall be ≤ 100 dBA measured while playing the fixed "programme simulation noise" described in EN 50332-1; and 2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be ≤ 150 mV measured as described in EN 50332-2, while playing the fixed "programme simulation noise" described in EN 50332-1. For music where the average sound pressure (long term $L_{Aeq,T}$) measured over the duration of the song is lower than the average produced by the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. In this case T becomes the duration of the song. NOTE 4 Classical music typically has an average sound pressure (long term $L_{Aeq,T}$) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the song and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. For example, if the player is set with the programme simulation noise to 85 dBA, but the average music level of the song is only 65 dBA, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dBA.		

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.3 Warning The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following: – the symbol of Figure 1 with a minimum height of 5 mm; and – the following wording, or similar: “To prevent possible hearing damage, do not listen at high volume levels for long periods.”  Figure 1 – Warning label (IEC 60417-6044) Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level.	Not portable Sound System.	N/A
	Zx.4 Requirements for listening devices (headphones and earphones)		N/A
	Zx.4.1 Wired listening devices with analogue input With 94 dBA sound pressure output $L_{Aeq,T}$, the input voltage of the fixed “programme simulation noise” described in EN 50332-2 shall be ≥ 75 mV. This requirement is applicable in any mode where the headphones can operate (active or passive), including any available setting (for example built-in volume level control). NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.	Not portable Sound System.	N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.4.2 Wired listening devices with digital input With any playing device playing the fixed “programme simulation noise” described in EN 50332-1 (and respecting the digital interface standards, where a digital interface standard exists that specifies the equivalent acoustic level), the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA. This requirement is applicable in any mode where the headphones can operate, including any available setting (for example built-in volume level control, additional sound feature like equalization, etc.). NOTE An example of a wired listening device with digital input is a USB headphone.	Not portable Sound System.	N/A
	Zx.4.3 Wireless listening devices In wireless mode: – with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and – respecting the wireless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and – with volume and sound settings in the listening device (for example built-in volume level control, additional sound feature like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the abovementioned programme simulation noise, the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA. NOTE An example of a wireless listening device is a Bluetooth headphone.	Not portable Sound System.	N/A
	Zx.5 Measurement methods Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable. Unless stated otherwise, the time interval T shall be 30 s. NOTE Test method for wireless equipment provided without listening device should be defined.	Not portable Sound System.	N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
2.7.1	Replace the subclause as follows: Basic requirements To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;	Replaced.	P
	c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.	No PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT.	N/A
2.7.2	This subclause has been declared 'void'.	Declared.	N/A
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.	Deleted.	N/A
3.2.5.1	Replace "60245 IEC 53" by "H05 RR-F"; "60227 IEC 52" by "H03 VV-F or H03 VVH2-F"; "60227 IEC 53" by "H05 VV-F or H05 VVH2-F2". In Table 3B, replace the first four lines by the following: Up to and including 6 0,75 ^{a)} Over 6 up to and including 10 (0,75) ^{b)} 1,0 Over 10 up to and including 16 (1,0) ^{c)} 1,5 In the conditions applicable to Table 3B delete the words "in some countries" in condition ^{a)} . In NOTE 1, applicable to Table 3B, delete the second sentence.	No power cord provided.	N/A
3.2.5.1 (A2:2013)	NOTE Z1 The harmonised code designations corresponding to the IEC cord types are given in Annex ZD		N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.3.4	In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: Over 10 up to and including 16 1,5 to 2,5 1,5 to 4 Delete the fifth line: conductor sizes for 13 to 16 A		N/A
4.3.13.6 (A1:2010)	Replace the existing NOTE by the following: NOTE Z1 Attention is drawn to: 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz, and 2006/25/EC: Directive on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artificial optical radiation).	Replaced.	N/A
	Standards taking into account mentioned Recommendation and Directive which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		N/A
Annex H	Replace the last paragraph of this annex by: At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 µSv/h (0,1 mR/h) (see NOTE). Account is taken of the background level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.	No X-ray radiation.	N/A
Bibliography	Additional EN standards.		—

ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS	—
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ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
1.2.4.1	In Denmark , certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.	No power cord provided.	N/A
1.2.13.14 (A11:2009)	In Norway and Sweden , for requirements see 1.7.2.1 and 7.3 of this annex.	No cable distribution systems.	N/A
1.5.7.1 (A11:2009)	In Finland , Norway and Sweden , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.	No such resistors.	N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.8	In Norway , due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).	Considered.	P
1.5.9.4	In Finland, Norway and Sweden , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.	No TNV circuits.	N/A
1.7.2.1	In Finland, Norway and Sweden, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In Norway: "Apparatet må tilkoples jordet stikkontakt" In Sweden: "Apparaten skall anslutas till jordat uttag"	The marking text must be provided when marketed in applicable countries.	N/A
1.7.2.1 (A11:2009)	In Norway and Sweden, the screen of the cable distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation need to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by e.g. a retailer. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: "Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing – and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)."		

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.5 (A2:2013)	In Denmark, socket-outlets for providing power to other equipment shall be in accordance with the DS 60884-2-D1:2011. For class I equipment the following Standard Sheets are applicable: DK 1-3a, DK 1-1c, DK 1-1d, DK 1-5a or DK 1-7a, with the exception for STATIONARY EQUIPMENT where the socket-outlets shall be in accordance with Standard Sheet DK 1-1b, DK 1-1c, DK 1-1d or DK 1-5a. Socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance with DS 60884-2-D1 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with by DS 60884-2-D1 Standard Sheet DKA 1-3a or DKA 1-3b. Justification the Heavy Current Regulations, 6c	No socket outlet.	N/A
2.2.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.	No TNV circuits.	N/A
2.3.2	In Finland, Norway and Sweden there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.	No TNV circuits.	N/A
2.3.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.	No TNV circuits.	N/A
2.6.3.3	In the United Kingdom , the current rating of the circuit shall be taken as 13 A, not 16 A.	Complied.	P
2.7.1	In the United Kingdom , to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.	Not DIRECT PLUG-IN EQUIPMENT.	N/A
2.10.5.13	In Finland, Norway and Sweden , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.	No TNV circuits.	N/A
3.2.1.1	In Switzerland, supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets: SEV 6532-2.1991 Plug Type 15 3P+N+PE 250/400 V, 10 A	No power cord provided.	N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998: SEV 5932-2.1998: Plug Type 25 , 3L+N+PE 230/400 V, 16 A SEV 5933-2.1998: Plug Type 21, L+N, 250 V, 16A SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V, 16 A		
3.2.1.1	In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.	No power cord provided.	N/A
3.2.1.1 (A2:2013)	In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Justification the Heavy Current Regulations, 6c	No power cord provided.	N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In Spain, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994. Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994. If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.	No power cord provided.	N/A
3.2.1.1	In the United Kingdom, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.	No power cord provided.	N/A
3.2.1.1	In Ireland, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.	No power cord provided.	N/A
3.2.4	In Switzerland , for requirements see 3.2.1.1 of this annex.	No power cord provided.	N/A
3.2.5.1	In the United Kingdom , a power supply cord with conductor of 1,25 mm ² is allowed for equipment with a rated current over 10 A and up to and including 13 A.	No power cord provided.	N/A
3.3.4	In the United Kingdom, the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm² to 1,5 mm² nominal cross-sectional area.	No power cord provided.	N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.3.6	In the United Kingdom , the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.	Not DIRECT PLUG-IN EQUIPMENT.	N/A
4.3.6	In Ireland , DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.	Not DIRECT PLUG-IN EQUIPMENT.	N/A
5.1.7.1	In Finland, Norway and Sweden TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: • STATIONARY PLUGGABLE EQUIPMENT TYPE A that is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT.		N/A
6.1.2.1 (A1:2010)	In Finland, Norway and Sweden , add the following text between the first and second paragraph of the compliance clause: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. Alternatively for components, there is no distance through insulation requirements for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in	No TNV circuits.	N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	accordance with the compliance clause below and in addition - passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.		
	It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b). It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 60384-14: - the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.	No TNV circuits.	N/A
6.1.2.2	In Finland, Norway and Sweden, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.	No TNV circuits.	N/A
7.2	In Finland, Norway and Sweden, for requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		N/A
7.3 (A11:2009)	In Norway and Sweden, for requirements see 1.2.13.14 and 1.7.2.1 of this annex.		N/A

IEC60950_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

**Annex ZD
(informative)**

IEC and CENELEC code designations for flexible cords

Type of flexible cord	Code designations	
	IEC	CENELEC
PVC insulated cords		
Flat twin tinsel cord	60227 IEC 41	H03VH-Y
Light polyvinyl chloride sheathed flexible cord	60227 IEC 52	H03VV-F H03VVH2-F
Ordinary polyvinyl chloride sheathed flexible cord	60277 IEC 53	H05VV-F H05VVH2-F
Rubber insulated cords		
Braided cord	60245 IEC 51	H03RT-F
Ordinary tough rubber sheathed flexible cord	60245 IEC 53	H05RR-F
Ordinary polychloroprene sheathed flexible cord	60245 IEC 57	H05RN-F
Heavy polychloroprene sheathed flexible cord	60245 IEC 66	H07RN-F
Cords having high flexibility		
Rubber insulated and sheathed cord	60245 IEC 86	H03RR-H
Rubber insulated, crosslinked PVC sheathed cord	60245 IEC 87	H03RV4-H
Crosslinked PVC insulated and sheathed cord	60245 IEC 88	H03V4V4-H

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 CANADA NATIONAL DIFFERENCES

Information technology equipment – Safety –
Part 1: General requirements

Differences according to : CAN/CSA-C22.2 NO. 60950-1A-07

Attachment Form No. : CA_ND_IEC60950_1C

Attachment Originator..... : TÜV SÜD Product Service GmbH

Master Attachment..... : Date (2012-08)

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	Special national conditions		
1.1.1	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2.	Unit was evaluated according to IEC 60950-1.	P
	Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	Considered.	P
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.	Considered.	P
1.5.5	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the CEC/NEC.	Not exceeding 3.05 m.	N/A
	For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the CEC are required to have special construction features and identification markings.	Overall acceptance has to be evaluated during the national approval process.	N/A
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings.	Single phase.	N/A
	A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and	No plug provided.	N/A
	- if it is part of a range that extends into the Table 2 "Normal Operating Conditions."	As above.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	A voltage rating is not be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions."	As above.	N/A
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with CEC Part 1 or NEC are marked with the voltage rating and "Class 2" or equivalent.	Not applicable.	N/A
	- Marking is located adjacent to the terminals	As above.	N/A
	- Marking is visible during wiring	As above.	N/A
2.5	Fuse providing Class 2, Limited Power Source, or TNV current limiting is not operator-accessible unless it is not interchangeable.	Not applicable.	N/A
2.6.3.3	Modify first column on Table 2D to "Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration."	Modified.	P
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is provided for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.	Not applicable.	N/A
	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, provided with special transformer overcurrent protection.	Not applicable.	N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains is in accordance with the NEC/CEC.	No power supply cords provided.	N/A
3.2.1	Attachment plugs of power supply cords are rated not less than 125 percent of the rated current of the equipment.	No power supply cords provided.	N/A
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment comply with special earthing, wiring, marking and installation instruction requirements.	Not connection to DC Mains.	N/A
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.	Not permanent connection equipment.	N/A
3.2.5	Power supply cords are no longer than 4.5 m in length.	No power supply cord provided.	N/A
	Minimum cord length is 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Flexible power supply cords are compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.		N/A
3.2.9	Permanently connected equipment have a suitable wiring compartment and wire bending space.	Not permanent connection equipment.	N/A
3.3	Wiring terminals and associated spacings for field wiring connections comply with CSA C22.2 No. 0.	No power supply cord provided.	N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm ²).	No power supply cord provided.	N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are suitable for Canadian/US wire gauge sizes, are	No power supply cord provided.	N/A
	- rated 125 percent of the equipment rating, and		N/A
	- are specially marked when specified (1.7.7).		N/A
3.3.5	Revise first column of Table 3E to "Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration."	No power supply cord provided.	N/A
3.4.2	Motor control devices are provided for cord-connected equipment with a motor if the equipment is rated more than 12 A,	No such components.	N/A
	- or if the motor has a nominal voltage rating greater than 120 V	As above.	N/A
	- or is rated more than 1/3 hp (locked rotor current over 43 A)	As above.	N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position.	Not applicable.	N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes have a battery disconnect means that may be connected to the computer room remote power-off circuit.	Not applicable.	N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30.	Not applicable.	N/A
4.3.13.5	Equipment with lasers meet the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations 21 CFR 1040, as applicable.	Not applicable.	N/A
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.	Shall be investigated with END system.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) have a flame spread rating of 50 or less.	Shall be investigated with END system.	N/A
	For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.	Shall be investigated with END system.	N/A
Annex H	Equipment that produces ionizing radiation comply with the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations, 21 CFR 1020, as applicable.	Not applicable.	N/A
	Other National Differences		
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements.	UL approved components used. Refer to table 1.5.1 of IEC 60950-1 test report for details.	P
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as either a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply.	Not connection to DC Mains.	N/A
	This maximum operating voltage includes consideration of the battery charging "float voltage" associated with the intended supply system, regardless of the marked power rating of the equipment.	As above.	N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V _{peak} or 60 V _{d.c.} , the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.	No TNV circuit.	N/A
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts.	No TNV circuit.	N/A
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified.	No such protective bonding construction.	N/A
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more reduce the risk of injury due to the implosion of the CRT.	Not applicable.	N/A
4.3.2	Equipment with handles complies with special loading tests.		N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals comply with a special touch current measurement tests.	No TNV circuit.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are overloaded.	Complied. Refer to table 5.3 of IEC 60950-1 test report for details.	P
	During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test shall be repeated twice (three tests total) using new components as necessary	Considered.	P
6.4	Equipment intended for connection to telecommunication network outside plant cable is protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.	No TNV circuit.	N/A
Annex EE	Articulated accessibility probe (Fig EE.3) is used for assessing accessibility to document/media shredders instead of the Figure 2A test finger.		N/A
M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.	No TNV circuit.	N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear comply with special acoustic pressure requirements.	No TNV circuit.	N/A

National Differences to IEC 60950-1:2005 + A1:2009			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1
GERMANY NATIONAL DIFFERENCES

Information technology equipment – Safety –

Part 1: General requirements

Differences according to.....: VDE 0805-1:2011-01

Annex ZC, 1.7.2.1	According to GPSG, section 2, clause 4: If certain rules on the use, supplementation or maintenance of an item of technical work equipment or ready-to-use commodity must be observed in order to guarantee safety and health, instructions for use in German must be supplied when it is brought into circulation.	German manual provided.	P
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National Differences to IEC 60950-1:2005 + A1:2009			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1
ISRAEL NATIONAL DIFFERENCES

Information technology equipment – Safety –
 Part 1: General requirements

Differences according to.....: SI 60950 Part 1

1.1.1	Replace the the text of Note 3 as follows: The requirements of Israel Standard SI 60065 may also be used to meet safety requirements for multimedia equipment. See IEC Guide 112, Guide on the safety of multimedia equipment.	Replaced.	N/A
1.6	The clause is applicable with the following addition:	Overall acceptance has to be evaluated during the national approval process.	N/A
1.6.1	Add following note: In Israel, this clause is applicable subject to the Electricity Law, 1954, its regulations and revisions.	Overall acceptance has to be evaluated during the national approval process.	N/A
1.7	The clause is applicable with the following additions: Subclause 1.7.201 shall be added at the beginning of the clause as follows:	Added.	P
1.7.201	Marking in the Hebrew language The marking in the Hebrew language shall be in accordance with the Consumer Protection Order (Marking of goods), 1983. In addition to the marking required by clause 1.7.1, the following details shall be marked in the Hebrew language. The details shall be marked on the apparatus or on its package, or on a label properly attached to the apparatus or on the package, by bonding or sewing, in a manner that the label cannot be easily removed. 1. Name of the apparatus and its commercial designation; 2. Manufacturer's name and address. If the apparatus is imported, the importer's name and address; 3. Manufacturer's registered trademark, if any; 4. Name of the model and serial number, if any; 5. Country of manufacture.	Overall acceptance has to be evaluated during the national approval process.	N/A
1.7.2.1	The following shall be added to the clause: All the instructions and warnings related to safety shall also be written in the Hebrew language.	Overall acceptance has to be evaluated during the national approval process.	N/A
2	The clause is applicable with the following additions:		P

National Differences to IEC 60950-1:2005 + A1:2009			
Clause	Requirement + Test	Result - Remark	Verdict
2.9.4	The following shall be added at the beginning of the clause: In Israel, according to the Electricity Law, 1954, and the Electricity Regulations (Earthing and means of protection against electricity of voltages up to 1,000V) 1991, seven means of protection against electrocution are permitted, as follows: 1) TN-S - Network system earthing; TN-C-S - Network system earthing; 2) TT - Network system earthing; 3) IT - Network Insulation Terre; 4) Isolated transformer; 5) Safety extra low voltage (SELV or ELV); 6) Residual current circuit breaker (30 mA = I_{Δ}); 7) Reinforced insulation; Double insulation (class II)	Added.	P
2.201	Prevention of electromagnetic interference - Prior to carrying out the tests in accordance with the clauses of this Standard, the compliance of the apparatus with the relevant requirements specified in the appropriate part of the Standard series, SI 961, shall be checked. <u>The apparatus shall meet the requirements in the appropriate part of the Standard series, SI 961.</u> - If there are components in the apparatus for the prevention of electromagnetic interference, these components shall not reduce the safety level of the apparatus as required by this Standard.	Overall acceptance has to be evaluated during the national approval process.	N/A
3	The clause is applicable with the following additions:	Added.	N/A
3.2.1.1	Connection to an a.c. mains supply After the note, the following note shall be added: Note: In Israel, the feed plug shall comply with the requirements of Israel Standard SI 32 Part 1.1.	Overall acceptance has to be evaluated during the national approval process.	N/A
3.2.1.2	Connection to a d.c. mains supply At the end of the first paragraph, the following note shall be added: Note: At the time of issue of this Standard, there is no Israel Standard for connection accessories to d.c.		N/A
Annex P	Normative references (List of relevant Israel Standards that have been inserted in place of some of the International Standards)		P

National Differences to IEC 60950-1:2005 + A1:2009			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1
KOREA NATIONAL DIFFERENCES

Information technology equipment – Safety –
Part 1: General requirements

Differences according to.....: K 60950-1

1.5.101	Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirement (KSC 8305)	No power cord provided.	N/A
8	EMC The apparatus shall comply with the relevant CISPR standards.	Shall be evaluated during national approval	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

**ATTACHMENT TO TEST REPORT IEC 60950-1
U.S.A. NATIONAL DIFFERENCES**

Information technology equipment – Safety –

Part 1: General requirements

Differences according to.....: UL 60950-1-07

Attachment Form No.: US_ND_IEC60950_1C

Attachment Originator.....: TÜV SÜD Product Service GmbH

Master Attachment.....: Date (2012-08)

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	Special national conditions		
1.1.1	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2.	Unit was evaluated according to IEC 60950-1.	P
	Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	See above.	P
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.	Considered.	P
1.5.5	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the CEC/NEC.	Not exceeding 3.05 m.	N/A
	For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the CEC are required to have special construction features and identification markings.	Overall acceptance has to be evaluated during the national approval process.	N/A
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings.	Single-phase equipment.	N/A
	A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and	No plug provided.	N/A
	- if it is part of a range that extends into the Table 2 "Normal Operating Conditions."	As above.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	A voltage rating is not to be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions."	As above.	N/A
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with CEC Part 1 or NEC are marked with the voltage rating and "Class 2" or equivalent.	Not applicable.	N/A
	- Marking is located adjacent to the terminals	As above.	N/A
	- Marking is visible during wiring	As above.	N/A
2.5	Fuse providing Class 2, Limited Power Source, or TNV current limiting is not operator-accessible unless it is not interchangeable.	Not applicable.	N/A
2.6.3.3	Modify first column on Table 2D to "Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration."	Modified.	P
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is provided for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.	Not applicable.	N/A
	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, provided with special transformer overcurrent protection.	Not applicable.	N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains is in accordance with the NEC/CEC.	No power supply cords provided.	N/A
3.2.1	Attachment plugs of power supply cords are rated not less than 125 per cent of the rated current of the equipment.	No power supply cords provided.	N/A
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment comply with special earthing, wiring, marking and installation instruction requirements.	Not connection to DC Mains.	N/A
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.	Not permanent connection equipment.	N/A
3.2.5	Power supply cords are no longer than 4.5 m in length.	No power supply cord provided.	N/A
	Minimum cord length is 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement.		N/A
	Flexible power supply cords are compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.9	Permanently connected equipment have a suitable wiring compartment and wire bending space.	Not permanent connection equipment.	N/A
3.3	Wiring terminals and associated spacings for field wiring connections comply with CSA C22.2 No. 0.	No power supply cord provided.	N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm ²).	No power supply cord provided.	N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are suitable for Canadian/US wire gauge sizes, are	No power supply cord provided.	N/A
	- rated 125 per cent of the equipment rating, and		N/A
	- are specially marked when specified (1.7.7).		N/A
3.3.5	Revise first column of Table 3E to "Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration."	No power supply cord provided.	N/A
3.4.2	Motor control devices are provided for cord-connected equipment with a motor if the equipment is rated more than 12 A,	Equipment is not such a device.	N/A
	- or if the motor has a nominal voltage rating greater than 120 V		N/A
	- or is rated more than 1/3 hp (locked rotor current over 43 A)		N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position.	Not applicable.	N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes have a battery disconnect means that may be connected to the computer room remote power-off circuit.	Not such application.	N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30.	No liquids provided.	N/A
4.3.13.5	Equipment with lasers meet the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations 21 CFR 1040, as applicable.	No laser provided.	N/A
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.	Shall be investigated with END system.	N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) have a flame spread rating of 50 or less.	Shall be investigated with END system.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.	Shall be investigated with END system.	N/A
Annex H	Equipment that produces ionizing radiation complies with U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).	No ionizing radiation.	N/A
	Other National Differences		
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements.	UL approved components used. Refer to table 1.5.1 of IEC 60950-1 test report for details.	P
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as either a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply.	Not connection to DC Mains.	N/A
	This maximum operating voltage includes consideration of the battery charging "float voltage" associated with the intended supply system, regardless of the marked power rating of the equipment.	As above.	N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V _{peak} or 60 V _{d.c.} , the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.	No TNV circuits.	N/A
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts.	No TNV circuits.	N/A
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified.	No such protective bonding construction.	N/A
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more reduce the risk of injury due to the implosion of the CRT.	No CRT.	N/A
4.3.2	Equipment with handles complies with special loading tests.	No handle	N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals comply with a special touch current measurement tests.	No TNV circuits.	N/A
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are overloaded.	Complied. Refer to table 5.3 of IEC 60950-1 test report for details.	P

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test shall be repeated twice (three tests total) using new components as necessary	Considered.	P
6.4	Equipment intended for connection to telecommunication network outside plant cable is protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.	No TNV circuits.	N/A
Annex EE	Articulated accessibility probe (Fig EE.3) is used for assessing accessibility to document/media shredders instead of the Figure 2A test finger.		N/A
Annex M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.	No TNV circuits.	N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear comply with special acoustic pressure requirements.	No TNV circuits.	N/A

National Differences to IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1
AUSTRALIA and NEW ZEALAND NATIONAL DIFFERENCES

Information technology equipment – Safety –

Part 1: General requirements

Differences according to.....: AS/NZS 60950.1:2011

1.2	Insert the following between 'person, service' and 'range, rated frequency': POTENTIAL IGNITION SOURCE 1.2.12	Inserted.	N/A
1.2.12.201	Insert a new Clause 1.2.12.201 after Clause 1.2.12.15 as follows: 1.2.12.201 POTENTIAL IGNITION SOURCE Possible fault which can start a fire if the open-circuit voltage measured across an interruption or faulty contact exceeds a value of 50 V (peak) a.c. or d.c. and the product of the peak value of this voltage and the measured r.m.s. current under normal operating conditions exceeds 15 VA. Such a faulty contact or interruption in an electrical connection includes those which may occur in CONDUCTIVE PATTERNS on PRINTED BOARDS. NOTE 201 An electronic protection circuit may be used to prevent such a fault from becoming a POTENTIAL IGNITION SOURCE. NOTE 202 This definition is from AS/NZS 60065:2003.	Inserted.	N/A
1.5.1	1. Add the following to the end of the first paragraph: 'or the relevant Australian/New Zealand Standard.' 2. In NOTE 1, add the following after the word 'standard': 'or an Australian/New Zealand Standard'	Added.	P
1.5.2	Add the following to the end of the first and third dash items: 'or the relevant Australian/New Zealand Standard'	Added.	P

National Differences to IEC 60950-1:2005																				
Clause	Requirement + Test	Result - Remark	Verdict																	
3.2.5.1	Modify Table 3B as follows: 1. Delete the first four rows and replace with the following: <table><tr><th rowspan="2">RATED CURRENT of equipment A</th><th colspan="2">Minimum conductor sizes</th></tr><tr><th>Nominal cross-sectional area mm²</th><th>AWG or kcmil [cross-sectional area in mm²] see Note 2</th></tr><tr><td>Over 0.2 up to and including 3</td><td>0,5 ^a</td><td>18 [0,8]</td></tr><tr><td>Over 3 up to and including 7.5</td><td>0,75</td><td>16 [1,3]</td></tr><tr><td>Over 7.5 up to and including 10</td><td>(0,75) ^b 1,00</td><td>16 [1,3]</td></tr><tr><td>Over 10 up to and including 16</td><td>(1,0) ^c 1,5</td><td>14 [2]</td></tr></table> 2. Delete NOTE 1. 3. Delete Footnote ^a and replace with the following: ^a This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0,5 mm² three-core supply flexible cords are not permitted; see AS/NZS 3191).	RATED CURRENT of equipment A	Minimum conductor sizes		Nominal cross-sectional area mm ²	AWG or kcmil [cross-sectional area in mm ²] see Note 2	Over 0.2 up to and including 3	0,5 ^a	18 [0,8]	Over 3 up to and including 7.5	0,75	16 [1,3]	Over 7.5 up to and including 10	(0,75) ^b 1,00	16 [1,3]	Over 10 up to and including 16	(1,0) ^c 1,5	14 [2]	Modified.	N/A
RATED CURRENT of equipment A	Minimum conductor sizes																			
	Nominal cross-sectional area mm ²	AWG or kcmil [cross-sectional area in mm ²] see Note 2																		
Over 0.2 up to and including 3	0,5 ^a	18 [0,8]																		
Over 3 up to and including 7.5	0,75	16 [1,3]																		
Over 7.5 up to and including 10	(0,75) ^b 1,00	16 [1,3]																		
Over 10 up to and including 16	(1,0) ^c 1,5	14 [2]																		
4.1.201	Insert a new Clause 4.1.201 after Clause 4.1 as follows: 4.1.201 Display devices used for television purposes Display devices which may be used for television purposes, with a mass of 7 kg or more, shall comply with the requirements for stability and mechanical hazards, including the additional stability requirements for television receivers, specified in AS/NZS 60065.	Inserted.	N/A																	
4.3.6	Delete the third paragraph and replace with the following: <i>Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flatpin socket-outlet complying with AS/NZS 3112 shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.</i>	Deleted.	N/A																	
4.3.16.5	Add the following to the end of the first paragraph: 'or AS/NZS 2211.1'	Added.	N/A																	

National Differences to IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
4.7	Add the following new paragraph to the end of the clause: 'For alternate tests refer to Clause 4.7.201.'	Added.	N/A
4.7.201	Insert a new Clause 4.7.201 after Clause 4.7.3.6 as follows: 4.7.201 Resistance to fire – Alternative tests	Inserted. However, equipment under test materials used and components in compliance with requirements of IEC 60950-1 Alternative test methods were not considered.	N/A
4.7.201.1	4.7.201.1 General Parts of non-metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the apparatus, or the following: (a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1mm in width regardless of length. (b) The following parts which would contribute negligible fuel to a fire: - small mechanical parts, the mass of which does not exceed 4g, such as mounting parts, gears, cams, belts and bearings; - small electrical components, such as capacitors with a volume not exceeding 1,750 mm ³ , integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10. NOTE In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating the fire from one part to another. Compliance shall be checked by the tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5. For the base material of printed boards, compliance shall be checked by the test of 4.7.201.5. The tests shall be carried out on parts of non-metallic material which have been removed from the apparatus. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use. These tests are not carried out on internal wiring.	See above.	N/A

National Differences to IEC 60950-1:2005									
Clause	Requirement + Test	Result - Remark	Verdict						
4.7.201.2	4.7.201.2 Testing of non-metallic materials Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550 °C. Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the sample tested was not thicker than the relevant part.	See above.	N/A						
4.7.201.3	4.7.201.3 Testing of insulating materials Parts of insulating material supporting POTENTIAL IGNITION SOURCES shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750 °C. The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection. NOTE Contacts in components such as switch contacts are considered to be connections. For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test shall not be tested. The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications: <table><tr><td>Clause of AS/NZS 60695.11.5</td><td>Change</td></tr><tr><td colspan="2">9 Test procedure</td></tr><tr><td>9.2 Application of needleflame</td><td> Replace the first paragraph with: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1. If possible the flame shall be applied at least 10 mm from a corner Replace the second paragraph with: The duration of application of the test flame shall be 30 s </td></tr></table>	Clause of AS/NZS 60695.11.5	Change	9 Test procedure		9.2 Application of needleflame	Replace the first paragraph with: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1. If possible the flame shall be applied at least 10 mm from a corner Replace the second paragraph with: The duration of application of the test flame shall be 30 s	See above.	N/A
Clause of AS/NZS 60695.11.5	Change								
9 Test procedure									
9.2 Application of needleflame	Replace the first paragraph with: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1. If possible the flame shall be applied at least 10 mm from a corner Replace the second paragraph with: The duration of application of the test flame shall be 30 s								

National Differences to IEC 60950-1:2005				
Clause	Requirement + Test		Result - Remark	Verdict
		±1 s.		
	9.3 Number of test specimens	Replace with: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.		
	11 Evaluation of test results	Replace with: The duration of burning (t_b) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.		
	The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the sample tested was not thicker than the relevant part.			
4.7.201.4	4.7.201.4 Testing in the event of non-extinguishing material If parts, other than enclosures, do not withstand the glow wire tests of 4.7.201.3, by failure to extinguish within 30 s after the removal of the glowwire tip, the needle-flame test detailed in 4.7.201.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of 4.7.201.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested. NOTE 1 If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing. NOTE 2 If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing. NOTE 3 Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.		See above.	N/A
4.7.201.5	4.7.201.5 Testing of printed boards The base material of printed boards shall be subjected to the needle-flame test of Clause 4.7.201.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest		See above.	N/A

National Differences to IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
	when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a POTENTIAL IGNITION SOURCE. The test is not carried out if the — - Printed board does not carry any POTENTIAL IGNITION SOURCE; - Base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or - Base material of printed boards, on which the available apparatus power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely. Compliance shall be determined using the smallest thickness of the material. NOTE Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximise the apparent power for more than 2 min when the circuit supplied is disconnected.		
6.2.2	For Australia only, delete the first paragraph and Note, and replace with the following: In Australia only, compliance with 6.2.2 shall be checked by the tests of both 6.2.2.1 and 6.2.2.2.	Not apply for.	N/A

National Differences to IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
6.2.2.1	For Australia only, delete the first paragraph including the Notes, and replace with the following: <i>In Australia only, the electrical separation is subjected to 10 impulses of alternating polarity, using the impulse test generator reference 1 of Table N.1. The interval between successive impulses is 60 s and the initial voltage, U_c, is:</i> <i>(i) for 6.2.1 a): 7.0 kV for hand-held telephones and for headsets and 2.5 kV for other equipment; and</i> <i>(ii) for 6.2.1 b) and 6.2.1 c): 1.5 kV.</i> NOTE 201 The 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. NOTE 202 The value of 2.5 kV for 6.2.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.	Not apply for.	N/A
6.2.2.2	For Australia only, delete the second paragraph including the Note, and replace with the following: <i>In Australia only, the a.c. test voltage is:</i> <i>(i) for 6.2.1 a): 3 kV; and</i> <i>(ii) for 6.2.1 b) and 6.2.1 c): 1.5 kV.</i> NOTE 201 Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 202 The 3 kV and 1.5 kV values have been determined considering the low frequency induced voltages from the power supply distribution system.	Not apply for.	N/A
7.3	Add the following before the first paragraph: Equipment providing functions that fall only within the scope of AS/NZS 60065 and that incorporate a PSTN interface, are not required to comply with this Clause where the only ports provided on the equipment, in addition to a coaxial cable connection and a PSTN interface, are audio or video ports and analogue or data ports not intended to be used for telecommunications purposes.	Not apply for.	N/A
Annex P	Normative references (List of relevant Australia/New Zealand Standards that have been inserted in place of some of the International Standards)		P

National Differences to IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1
CHINA NATIONAL DIFFERENCES

Information technology equipment – Safety –

Part 1: General requirements

Differences according to.....: GB4943.1-2011

1.1.2	GB 4943.1-2011 applies to equipment for use at altitudes not exceeding 5000m above sea level, primarily in regions with moderate or tropical climates. Amend the third dashed paragraph of 1.1.2 as: — — equipment intended to be used in vehicles, on board ships or aircraft, at altitudes greater than 5000m;	Unit was applied for tropical climates and operated altitude 5000m.	P
1.4.5	After the third paragraph, add a paragraph: If the equipment is intended for direct connection to an AC mains supply, the tolerances on RATED VOLTAGE shall be taken as +10%,-10% unless a wider tolerance is declared by the manufacturer. The first dash paragraph "-the RATED VOLTAGE is 230V single -phase or 400V three-phase, in which case the tolerance shall be taken as +10% and -10%" of IEC 60950-1:2005 is deleted in GB 4943.1-2011	Complied.	P
1.4.12.1	Tma in clause 1.4.12.1 amended as: Tma: is the maximum ambient temperature permitted by the manufacturer's specification, or 35 °C, whichever is greater. Add note 1: For equipment not to be operated at tropical climatic conditions, Tma: is the maximum ambient temperature permitted by the manufacturer's specification, or 25 °C, whichever is greater. Add note 2: For equipment is to be operated at 2000m-5000m above sea leave, its temperature test conditions and temperature limits are under consideration.	Unit was applied for tropical climates and operated altitude 5000m.	P
1.5. 2	Add a note behind the first break off section in Clause 1.5.2: A component used shall comply with related requirements corresponding altitude of 5000m.	Complied.	P
1.7	Add one paragraph before the last paragraph: The required marking and instruction should be given in normative Chinese unless otherwise specified.	Overall acceptance has to be evaluated during the national approval process.	N/A

National Differences to IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.1	Based on the AC mains supply of China, the RATED VOLTAGE should be 220V (single phase) or 380V (three-phases) for single rated voltage, for RATED VOLTAGE RANGE, it should cover 220V or 380V (three-phases), for multiple RATED VOLTAGES, one of them should be 220V or 380V (three-phases) and set on 220V or 380V (three-phases) when manufactured. And the RATED FREQUENCY or RATED FREQUENCY RANGE should be 50Hz or include 50Hz.	Complied.	P
1.7.2.1	Add requirements of warning for equipment intended to be used at altitudes not exceeding 2000m or at non-tropical climate regions: For equipment intended to be used at altitude not exceeding 2000m, a warning label containing the following or a similar appropriate wording, or a symbol as in annex DD shall fixed to the equipment at readily visible place. "Only used at altitude not exceeding 2000m."  For equipment intended to be used in not-tropical climate regions, a warning label containing the following or a similar appropriate wording, or a symbol as in annex DD shall fixed to the equipment at readily visible place. "Only used in not-tropical climate regions."  If only the symbol used, the explanation of the symbol shall be contained in the instruction manual. The above statements shall be given in a language acceptable to the regions where the apparatus is intended to be used.	Unit was applied for tropical climates and operated altitude 5000m.	N/A
2.7.1	Amended the first paragraph as: Protection in PRIMARY CIRCUITS against overcurrent short-circuits and earth faults shall be provided as an integral part of the equipment except special provisions. And the protective device shall meet the requirement of Clause 5.3. Delete note of Clause 2.7.1.	Complied.	P

National Differences to IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
2.9.2	First section of Clause 2.9.2 amended as two sections: Where required by 2.9.1, 2.10.8.3, 2.10.10 or 2.10.11, humidity conditioning is conducted for 120 h in a cabinet or room containing air with ambient temperature $40\pm 2^{\circ}\text{C}$ and a relative humidity of $(93\pm 3)\%$. During this conditioning the component or subassembly is not energized. For equipment not to be operated at tropical climatic conditions, Where required by 2.9.1, 2.10.8.3, 2.10.10 or 2.10.11, humidity conditioning is conducted for 48 h in a cabinet or room containing air with a relative humidity of $(93\pm 3)\%$. The temperature of the air, at all places where samples can be located, is maintained within 2°C of any convenient value between 20°C and 30°C such that condensation does not occur. Due to pretreatment of equipment operated at high altitude area is humidity conditioning withstand hot shock, specific requirements are to be considered. Add note: For equipment to be operated at 2000 m - 5000m above sea level, assessment and requirement of humidity conditioning for Insulation material properties are considered.	Unit was applied for tropical climates and operated altitude 5000m.	P
2.10.3.1	Amend the third paragraph of Clause 2.10.3.1 to be: These requirements apply for equipment to be operated up to 2000 m above sea level. For equipment to be operated at more than 2000 m above sea level and up to 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of IEC 60664-1. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of IEC 60664-1. Linear interpolation is permitted between the nearest two points in Table A.2. The calculated minimum CLEARANCE using this multiplication factor shall be rounded up to the next higher 0,1 mm increment.	Unit was applied for tropical climates and operated altitude 5000m.	P
2.10.3.3& 2.10.3.4	Add "(applicable for altitude up to 2000m)" in header of Table 2K、2L and 2M.	Add.	P

National Differences to IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.3.4	Add a new section above Table 2K and in Clause 2.10.3.4: Minimum CLEARANCES determined by above rules apply for equipment to be operated up to 2000m above sea level. For equipment to be operated at 2000 m - 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of GB/T16935.1 (IEC 60664-1). For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of GB/T16935.1.	Add.	P
3.2.1.1	Add a paragraph before the last paragraph: Plugs connected to AC mains supply shall comply with GB 1002 or GB 1003 or GB/T 11918 as applicable.	Added.	N/A
4.2.8	Clause 4.2.8 cathode ray tubes quoted Clause 18 of GB8898-2011. Delete note of Clause 4.2.8.		N/A
Annex E	Last section of Annex E amended as: For comparison of winding temperatures determined by the resistance method of this annex with the temperature limits of Table 4B, 35 °C shall be added to the calculated temperature rise. And add note: for equipment not to be operated at tropical climatic conditions, 25 °C shall be added to the calculated temperature rise to compare with the temperature of Table 4B.	Not apply for.	N/A
Annex G.6	Change the second section of Clause G.6 to be: For equipment to be operated at 2000 m - 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of GB/T16935.1. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of IEC 60664-1. Linear interpolation is permitted between the nearest two points in Table A.2. The calculated minimum CLEARANCE using this multiplication factor shall be rounded up to the next higher 0,1 mm increment.	Not used.	N/A
Annex BB (informative)	Amended as : The differences between Chinese national standards GB 4943.1-2011 and GB 4943-2001.	Amended.	P

National Differences to IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DD (normative)	Added annex DD: Instructions for the new safety warning labels. DD.1 Altitude warning label  Meaning of the label: Evaluation for apparatus only based on altitude not exceeding 2000m, therefor it's the only operating condition applied for the equipment .There may be some potential safety hazard if the equipment is used at altitude above 2000m . DD.2 Climate warning label  Meaning of the label: Evaluation for apparatus only based on temperate climate condition, therefor it's the only operating condition applied for the equipment .There may be some potential safety hazard if the equipment is used in tropical climate region.	Unit was applied for tropical climates and operated altitude 5000m.	N/A
Annex EE (informative)	Added annex EE: Illustration relative to safety explanation in normative Chinese, Tibetan, Mongolian, Zhuang Language and Uighu.	Added. Overall acceptance has to be evaluated during the national approval process.	N/A
Other amend-ments	In accordance with the relevant CTL decisions and the amendments of IEC 60950-1, the specific requirements or mistakes in IEC standard are corrected or editorially modified in this part, Including clause 1.7, 2.1.1.7, 2.9.2, Table 2H, Figure 2H, F.8, F.9, M.3 and Annex U.		P
Quoting standards and reference documents	The principles of quoting and referring to other standards in Annex P and reference documents of IEC 60950-1 are as follows: If the date of the reference document is given, only that edition applies, excluding any subsequent corrigenda and amendments. However, parties to agreements based on this part are encouraged to investigate the possibility of applying the most recent editions of the reference documents. For undated references, the latest edition of the referenced document applies, including any corrigenda and amendments. For the usage of international standards in Chinese national standards and industry standards is various, in the aim of achieving easy	Overall acceptance has to be evaluated during the national approval process.	N/A

National Differences to IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
	operation and based on the requirements of GB/T 1.1 and GB/T 20000.2, when quoting an entire international standard in the normative quoting files and reference documents of Annex P of this part, the principles of quotation are as follows: - If there is no national standard or industry standard corresponding to the international standard, then the international standard is quoted; - If there is national standard or industry standard corresponding to the international standard, then either the national or industry standard is quoted; - If the date of the national standard or industry standard is not given, the latest edition of the standard applies; - The national standard or industry standard number, corresponding international standard number and the consistency level code should be identified in parentheses behind the listed national standard or industry standard. When quoting several chapters or clauses of the international standard, the principles of quotation are as follows: - If there is no national standard or industry standard corresponding to the international standard, then the international standard is quoted; - If there is national standard or industry standard corresponding to the international standard, then either the national or industry standard is quoted. Meanwhile, in order to retain the relevant information on international standards, informative annex CC is increased, which gives the table about the comparison of the normative quoting files and reference documents in IEC 60950-1: 2005 and GB 4943.1-2011.		

National Differences to IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict

J 60950-1 (H22) : 2010 TEST REPORT

(Deviations from IEC 60950-1:2001, first edition)

Special National conditions, National deviation and other information according to MITI Ordinance No. 85.
Japanese unique deviations in J60950-1(H22):2010(=JIS C 6950-1:2009)

1.2.4.1	Add the following new notes. Note: Even if the equipment is designed as Class I, the equipment is regarded as Class 0I equipment when 2-pin adaptor with earthing lead wire or cord set having 2-pin plug with earthing lead wire is provided or recommended.	Added. The equipment is "Class I"	N/A
1.2.4.3A	Add the following new clause. 1.2.4.3A CLASS 0I EQUIPMENT Equipment having attachment plug without earthing blade, where protection against electric shock is achieved by: - using BASIC INSULATION, and - providing externally an earth terminal or a lead wire for earthing in order to connect those conductive parts that might assume a HAZARDOUS VOLTAGES in the event of BASIC INSULATION fault to the PROTECTIVE EARTHING CONDUCTOR in the building wiring. NOTE – Class 0I equipment may have a part constructed with Double Insulation or Reinforced Insulation circuit.	Added. The equipment is "Class I"	N/A
1.3.2	Add the following notes after first paragraph: Note 1 Transportable or similar equipment that are relocated frequently for intended usage should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel. Note 2 Considering wiring circumstance in Japan, equipment intended to be installed where the provision for earthing connection is unlikely should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel.	Added.	N/A
1.5.1	Replace the first paragraph with the follows: Where safety is involved, components shall comply either with the requirements of this standard, with the safety aspects of the relevant JIS component standard, or IEC component standards in case there is no applicable JIS component standard is available. However, a component that falls within the scope of METI Ministerial ordinance No. 85 is properly used in accordance with its marked ratings, requirements of 1.5.4, 2.8.7 and 3.2.5 apply,	Added.	P

Japanese Deviations for J60950-1 (H22):2010 (MITI Ordinance Clause 2)

National Differences to IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
	and in addition, a cord connector of power supply cord set mating with appliance inlet complying with the standard sheet of IEC 60320-1, shall comply with relevant standard sheet of IEC 60320-1. Replace Note 1 with the following: Note 1 A JIS or an IEC component standard is considered relevant only if the component in question clearly falls within its scope.		
1.5.2	Replace first sentence in the first dashed paragraph with the following: - a component that has been demonstrated to comply with a JIS component standard harmonized with the relevant IEC component standard, or where such JIS component standard is not available, a component that has been demonstrated to comply with the relevant IEC component standard shall be checked for correct application and use in accordance with its rating. Add a note after the first dashed paragraph as follows: Note 1 See 1.7.5A when Type C.14 appliance coupler rated 10 A per IEC 60320-1 is used with an equipment rated not more than 125 V and rated more than 10 A. Replace first sentence in the third dashed paragraph as follows: - where no relevant IEC component standard or JIS component standard harmonized with the relevant IEC component standard exists, or where components are used in circuits not in accordance with their specified rating, the components shall be tested under the conditions occurring in the equipment.	Added.	P
1.7.1	Replace fifth dashed paragraph with the following: - manufacturer's or responsible company's name or trade-mark or identification mark;	Added. The responsible company's name is list on the marking plate.	P

Japanese Deviations for J60950-1 (H22):2010 (MITI Ordinance Clause 2)

National Differences to IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.5A	Add the following new clause. after 1.7.5 1.7.5A Appliance Coupler If appliance coupler according to IEC60320-1, C.14(rated current: 10A)is used in equipment whose rated voltage is less than 125V and rated current is over 10A, the following instruction or equivalent shall be described in the user instruction. “ Use only designated cord set attached in this equipment”	Added. Overall acceptance has to be evaluated during the national approval process.	N/A
1.7.12	Replace first sentence with the following: Instructions and equipment marking related to safety shall be in Japanese.	Replaced. Overall acceptance has to be evaluated during the national approval process.	N/A
1.7.17A	Add the following new clause. after 1.7.17 1.7.17A Marking for CLASS 0I EQUIPMENT For CLASS 0I EQUIPMENT, the following instruction shall be marked on the visible place of the mains plug or the main body: “Provide an earthing connection” Moreover, for CLASS 0I EQUIPMENT, the following or equivalent instruction shall be indicated on the visible place of the main body or written in the operating instructions: “Provide an earthing connection before the mains plug is connected to the mains. And, when disconnecting the earthing connection, be sure to disconnect after pulling out the mains plug from the mains.”	Added. The equipment is “Class I”	N/A
2.6.3.2	Add the following after 1st paragraph. This also applies to the conductor of lead wire for protective earthing of CLASS 0I EQUIPMENT.	Added. The equipment is “Class I”	N/A
2.6.4.2	Replace 1st paragraph with the following. Equipment required to have protective earthing shall have a main protective earthing terminal. For equipment with a DETACHABLE POWER SUPPLY CORD, the earthing terminal in the appliance inlet is regarded as the main protective earthing terminal except for CLASS 0I EQUIPMENT providing separate main protective earthing terminal other than appliance inlet.	Added. The equipment is “Class I”	N/A
2.6.5.4	Replace 1st sentence with the following. Protective earthing connections of CLASS I EQUIPMENT shall make earlier and break later than the supply connections in each of the following:	Replaced.	P

Japanese Deviations for J60950-1 (H22):2010 (MITI Ordinance Clause 2)

National Differences to IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.5.8A	Add the following new clause. after 2.6.5.8A 2.6.5.8A Earthing of CLASS 0I EQUIPMENT Plugs with a lead wire for earthing shall not be used for equipment having a rated voltage exceeding 150V. For plugs with a lead wire for earthing, the lead wire shall not be earthed by a clip. CLASS 0I EQUIPMENT shall be provided with an earthing terminal or lead wire for earthing in the external location where easily visible.	Added. The equipment is "Class I"	N/A
3.2.3	Add the following after Table 3A: Table 3A applies when cables complying JIS C 3662 or JIS C 3663 are used. In case of other cables, cable entries shall be so designed that a conduit suitable for the cable used can be fitted.	Added.	N/A
3.2.5.1	Add the following to the last of first dashed paragraph. Or mains cords shall be of the sheathed type complying with Appendix 1 of Article 1 of the Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance. Add the following to the last of second dashed paragraph. Or mains cords shall be of the sheathed type complying with Appendix 1 of Article 1 of the Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance.. Delete 1) in Table 3B.	Added.	N/A
3.3.4	Add the following note to Table 3D: Note For cables other than those complying with JIS C 3662 or JIS C 3663, terminals shall be suitable for the size of the intended cables.	Added.	N/A
3.3.7	Add the following after the first sentence: This requirement is not applicable to the external earthing terminal of Class 0I equipment.	Added. The equipment is "Class I"	N/A
4.3.4	Add the following after the first sentence: This requirement also applies to those connections in Class 0I equipment, where CLEARANCE or CREEPAGE DISTANCES over BASIC INSULATION would be reduced to less than the values specified in 2.10.	Added. The equipment is "Class I"	N/A
5.1.3	Add a note after the first paragraph as follows: Note – Attention should be drawn to that majority of three-phase power system in Japan is of delta connection, and therefore, in that case, test is conducted using the test circuit from IEC 60990, figure 13.	Added. Single phase power distribution system used.	N/A

Japanese Deviations for J60950-1 (H22):2010 (MITI Ordinance Clause 2)

National Differences to IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict

5.1.6	Replace Table 5A. as follows	Replaced.	P																																
	<table><tr><th>Type of equipment</th><th>Terminal A of measuring instrument connected to:</th><th>Maximum TOUCH CURRENT mA r.m.s. 1)</th><th>Maximum PROTECTIVE CONDUCTOR CURRENT</th></tr><tr><td>ALL equipment</td><td>ALL equipment Accessible parts and circuits not connected to protective earth</td><td>0,25</td><td>-</td></tr><tr><td>HAND-HELD</td><td rowspan="4">Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT</td><td>0,75</td><td>-</td></tr><tr><td>MOVABLE (other than HAND_HELD, but including TRANSPORTABLE EQUIPMENT</td><td>3,5</td><td>-</td></tr><tr><td>STATIONARY, PLUGGABLE TYPE A</td><td>3,5</td><td>-</td></tr><tr><td>ALL other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7</td><td>3.5 - 5 % of input current</td></tr><tr><td>HAND-HELD</td><td rowspan="2">Equipment main protective earthing terminal (if any) CLASS 0I EQUIPMENT</td><td>0,5</td><td>-</td></tr><tr><td>Others</td><td>1.0</td><td>-</td></tr><tr><td colspan="4">1) If peak values of TOUCH-CURRENT are measured, the maximum values obtained by multiplying the r.m.s. values by 1,414.</td></tr></table>				Type of equipment	Terminal A of measuring instrument connected to:	Maximum TOUCH CURRENT mA r.m.s. 1)	Maximum PROTECTIVE CONDUCTOR CURRENT	ALL equipment	ALL equipment Accessible parts and circuits not connected to protective earth	0,25	-	HAND-HELD	Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT	0,75	-	MOVABLE (other than HAND_HELD, but including TRANSPORTABLE EQUIPMENT	3,5	-	STATIONARY, PLUGGABLE TYPE A	3,5	-	ALL other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7	3.5 - 5 % of input current	HAND-HELD	Equipment main protective earthing terminal (if any) CLASS 0I EQUIPMENT	0,5	-	Others	1.0	-	1) If peak values of TOUCH-CURRENT are measured, the maximum values obtained by multiplying the r.m.s. values by 1,414.			
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Japanese Deviations for J60950-1 (H22):2010 (MITI Ordinance Clause 2)

National Differences to IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
7.2	Add the following after the paragraph: However, the separation requirements and tests of 6.2.1 a), b) and c) do not apply to a CABLE DISTRIBUTION SYSTEM if all of the following apply: – the circuit under consideration is a TNV-1 CIRCUIT; and – the common or earthed side of the circuit is connected to the screen of the coaxial cable and to all accessible parts and circuits (SELV, accessible metal parts and LIMITED CURRENT CIRCUITS, if any); and – the screen of the coaxial cable is intended to be connected to earth in the building installation	Added.	N/A
W.1	Replace second and third sentence in the first paragraph with the following: This distinction between earthed and unearthed (floating) circuit is not the same as between CLASS I EQUIPMENT, CLASS 0I EQUIPMENT and CLASS II EQUIPMENT. Floating circuits can exist in CLASS I EQUIPMENT or CLASS 0I EQUIPMENT and earthed circuits in CLASS II EQUIPMENT.	Added.	N/A
Annex JA	Add a new annex JA with the following contents. Annex JA (normative) Document shredding machines Document shredding machines shall also comply with the requirements of this annex except those of STATIONARY EQUIPMENT used by connecting directly to an AC MAINS SUPPLY of three-phase 200V or more.		N/A
JA.1	Markings and instructions The symbol  (JIS S 0101:2000, 6.2.4) and the following precautions for use shall be marked on readily visible part adjacent to document feed opening. The marking shall be clearly legible, permanent, and easily discernible; - that use by an infants/children may cause a hazard of injury etc.; - that a hand can be drawn into the mechanical section for shredding when touching the document-slot; - that clothing can be drawn into the mechanical section for shredding when touching the document-slot;		N/A

Japanese Deviations for J60950-1 (H22):2010 (MITI Ordinance Clause 2)

National Differences to IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
	- that hairs can be drawn into the mechanical section for shredding when touching the document-slot; - in case of equipment incorporating a commutator motor, that equipment may catch fire or explode by spraying of flammable gas.		
JA.2	Inadvertent reactivation Any safety interlock that can be operated by means of the test finger, Figure JA.1, is considered to be likely to cause inadvertent reactivation of the hazard. Compliance is checked by inspection and, where necessary, by a test with the test finger, Figure JA.1		N/A
JA.3	Disconnection from the mains supply Document shredding machines shall incorporate an isolating switch complying with sub-clause 3.4.2 as the device disconnecting the power of hazardous moving parts. For this switch, two-position (single-use) switch or multi-position (multifunction) switch (e.g., slide switch) may be used. If two-position switch, the positions for "ON" and "OFF" shall be indicated in accordance with sub-clause 1.7.8. If multi-position switch, the position for "OFF" shall be indicated in accordance with sub-clause 1.7.8 and other positions shall be indicated with proper terms or symbols. Compliance is checked by inspection.		N/A
JA.4	Protection against hazardous moving parts Any warning shall not be used instead of the structure for preventing access to hazardous moving parts. Document shredding machines shall comply with the following requirements. Insert the test finger, Figure JA.1, into all openings in MECHANICAL ENCLOSURES without applying appreciable force. It shall not be possible to touch hazardous moving parts with the test finger. This consideration applies to all sides of MECHANICAL ENCLOSURES when the equipment is mounted as intended. Before testing with the test finger, remove the parts detachable without a tool. Insert the wedge-probe, Figure JA.2, into the document-slot. And, against all directions of openings, if straight-cutting type, a force of 45 N shall apply to the probe, and 90 N if cross-cutting type. In this case, the weight of the probe is to be factored into the overall applied force.		N/A

Japanese Deviations for J60950-1 (H22):2010 (MITI Ordinance Clause 2)

National Differences to IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
	Before testing with the wedge-probe, remove the parts detachable without a tool. It shall not be possible to touch any hazardous moving parts, including the shredding roller or the mechanical section for shedding, with the probe.		

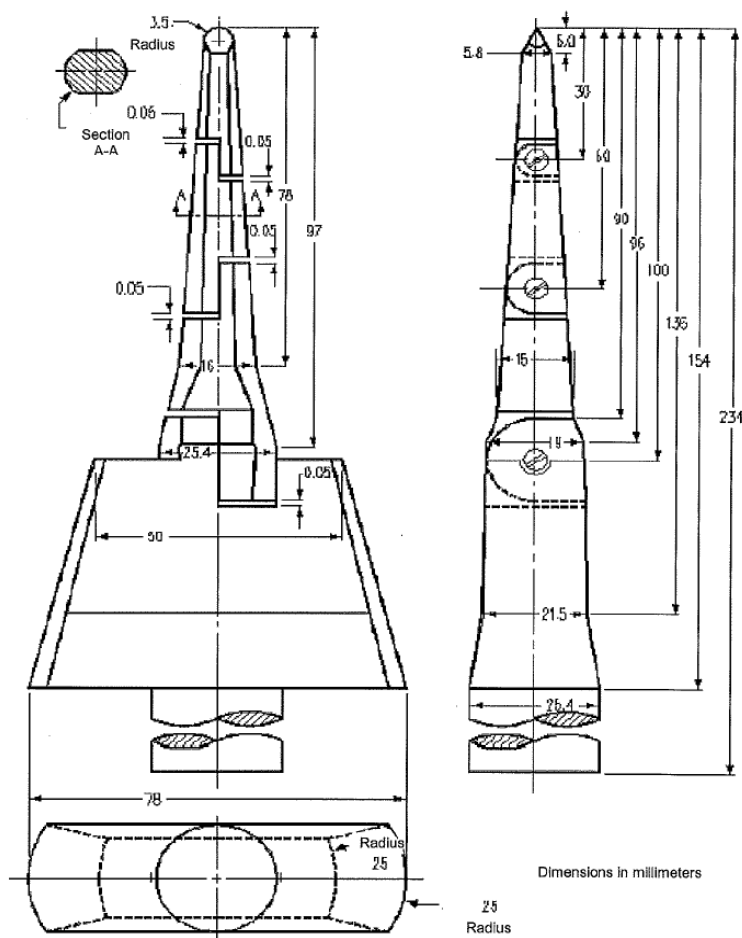
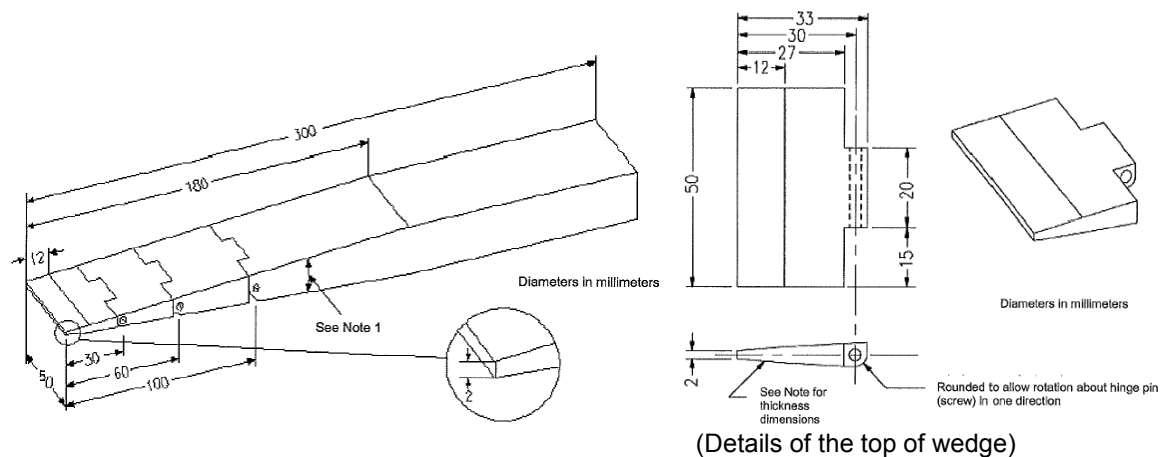


Figure JA.1 Test finger

National Differences to IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict



Distance from the top	Thickness of probe
0	2
12	4
180	24

Note 1 - The thickness of the probe varies linearly, with slope changes at the respective

points shown in the table.

Note 2 –The allowable dimensional tolerance of the probe is +/- 0.127 mm.

ATTACHMENT

Photo Documentation

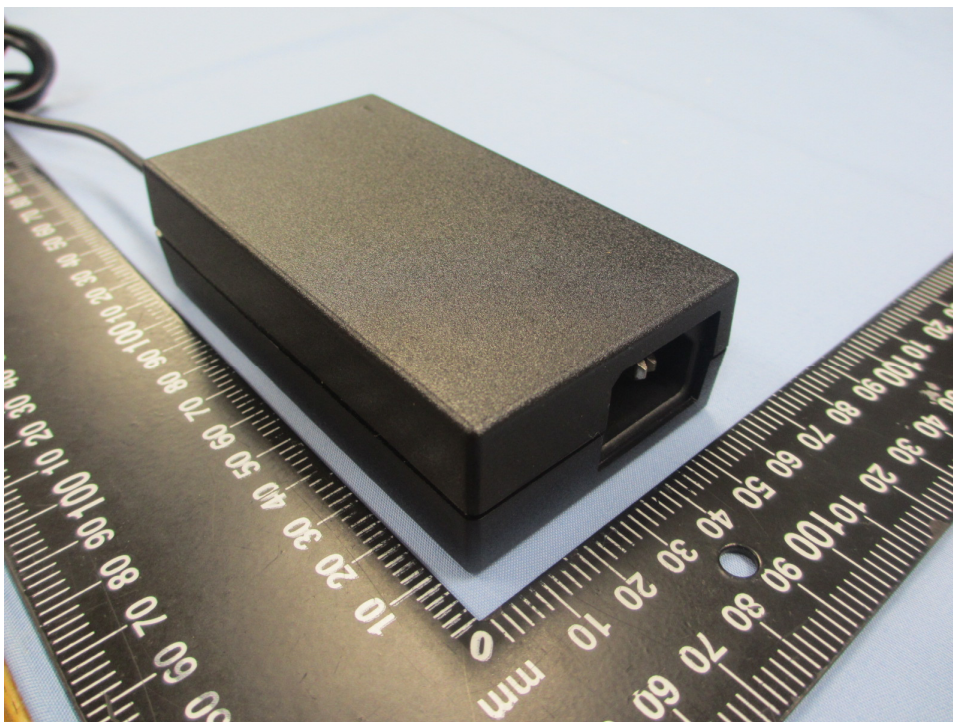


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Report No.:11035366 001

Product: Switching Power Adapter

Type Designation: FSP060-DIBAN2 & FSP050-DIBAN2



Rating provided by label



Rev. 0

ATTACHMENT

Photo Documentation



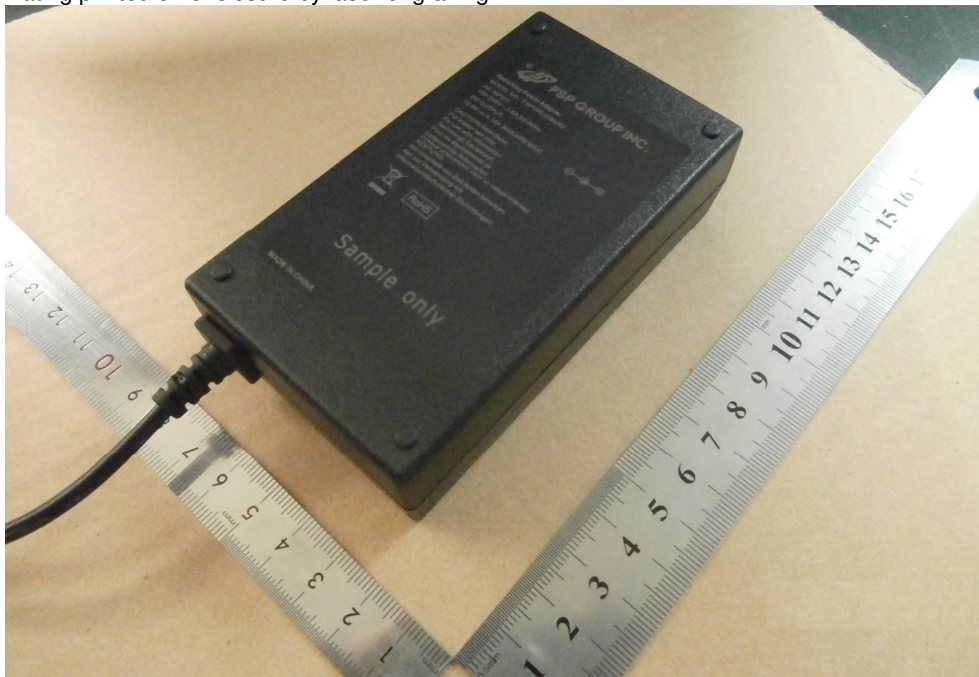
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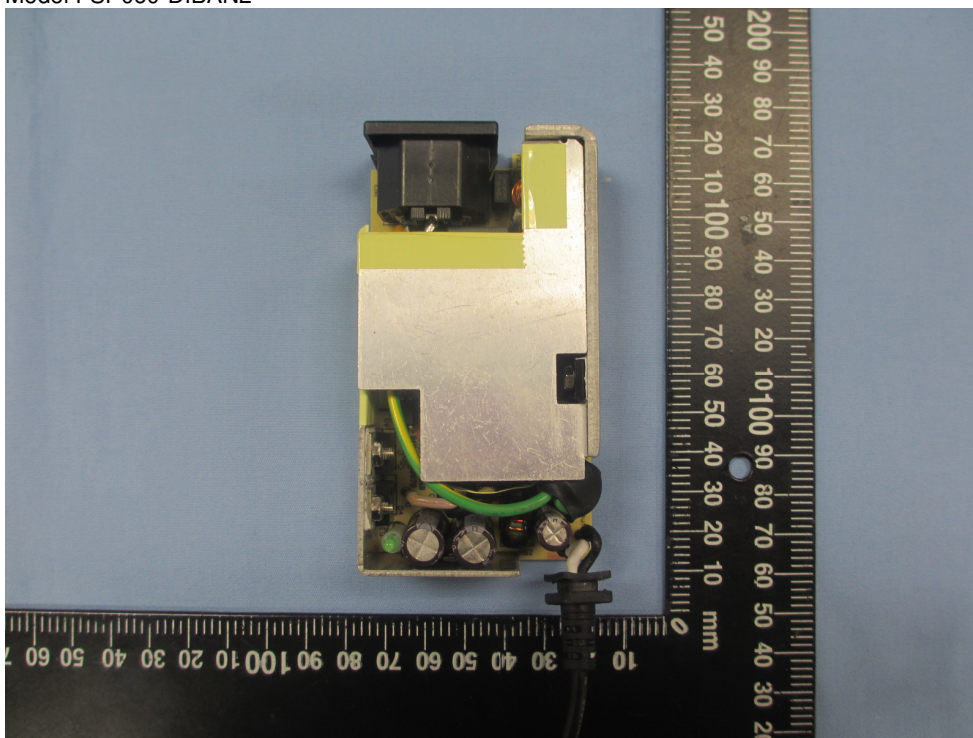
Product: Switching Power Adapter

Type Designation: FSP060-DIBAN2 & FSP050-DIBAN2

Rating printed on enclosure by laser engraving



Model FSP060-DIBAN2



Rev. 0

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Photo Documentation



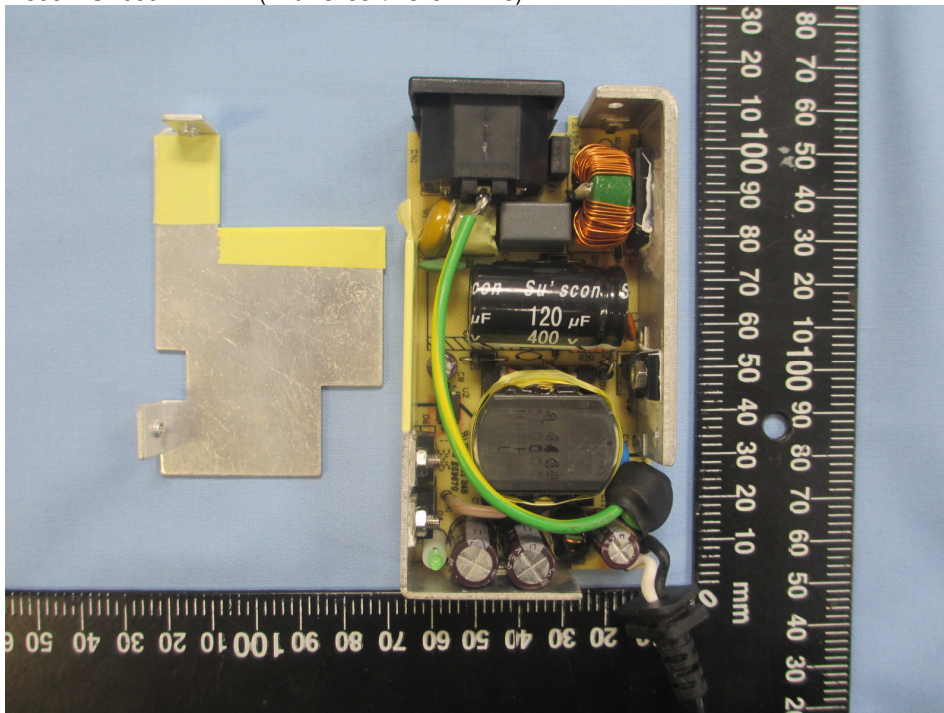
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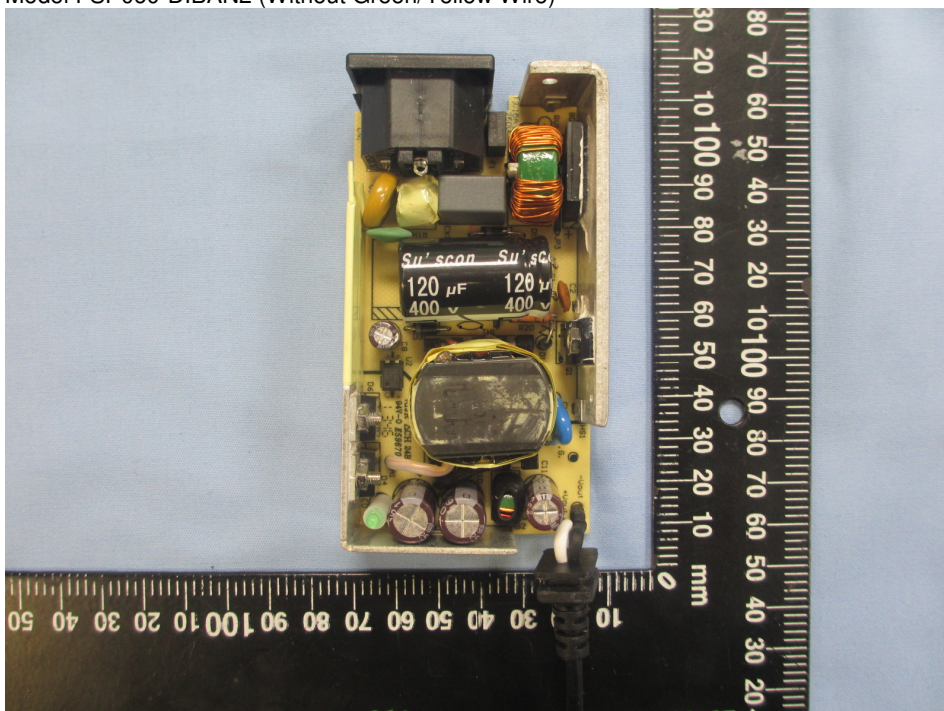
Product: Switching Power Adapter

Type Designation: FSP060-DIBAN2 & FSP050-DIBAN2

Model FSP060-DIBAN2 (With Green/Yellow Wire)



Model FSP060-DIBAN2 (Without Green/Yellow Wire)



Rev. 0

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Photo Documentation



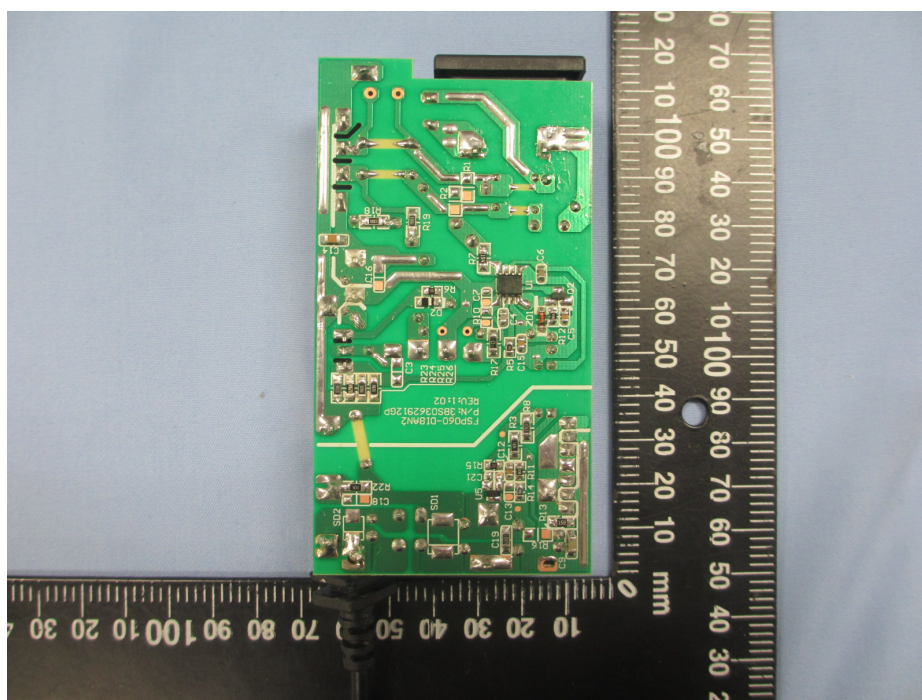
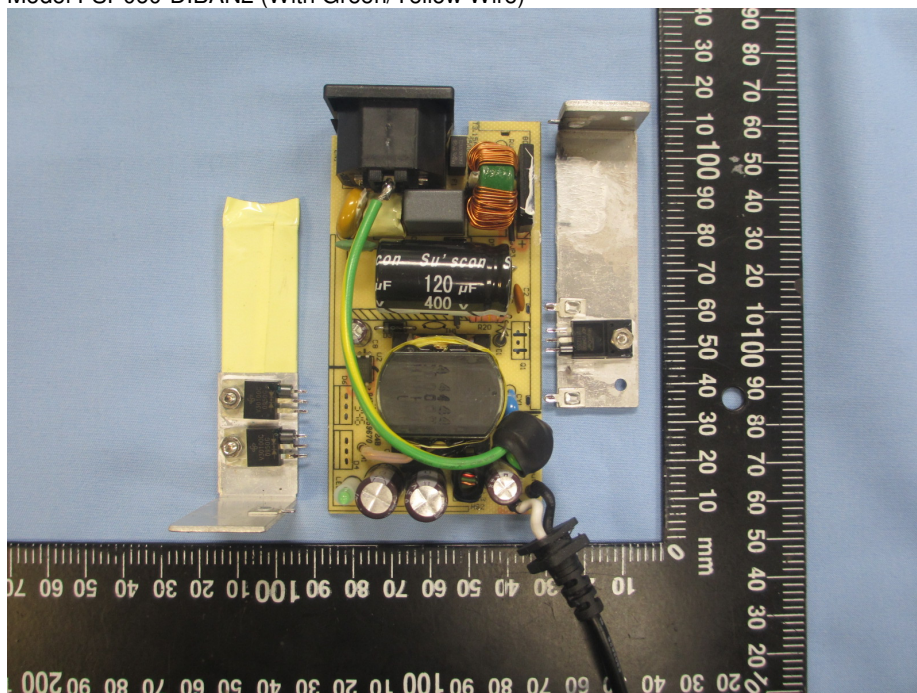
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Report No.:11035366 001

Product: Switching Power Adapter

Type Designation: FSP060-DIBAN2 & FSP050-DIBAN2

Model FSP060-DIBAN2 (With Green/Yellow Wire)



Rev. 0

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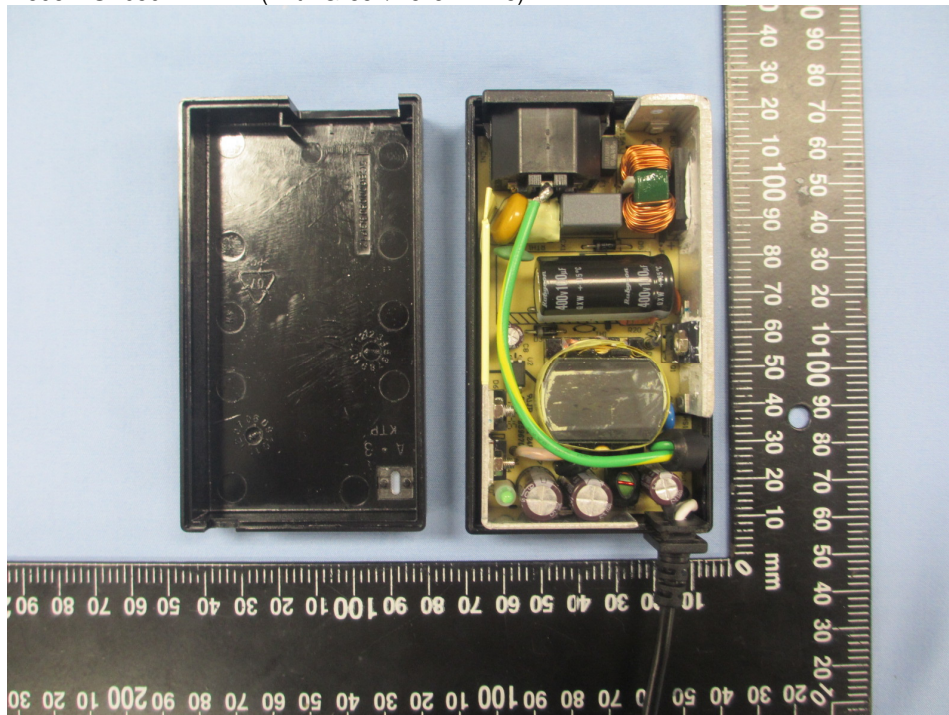
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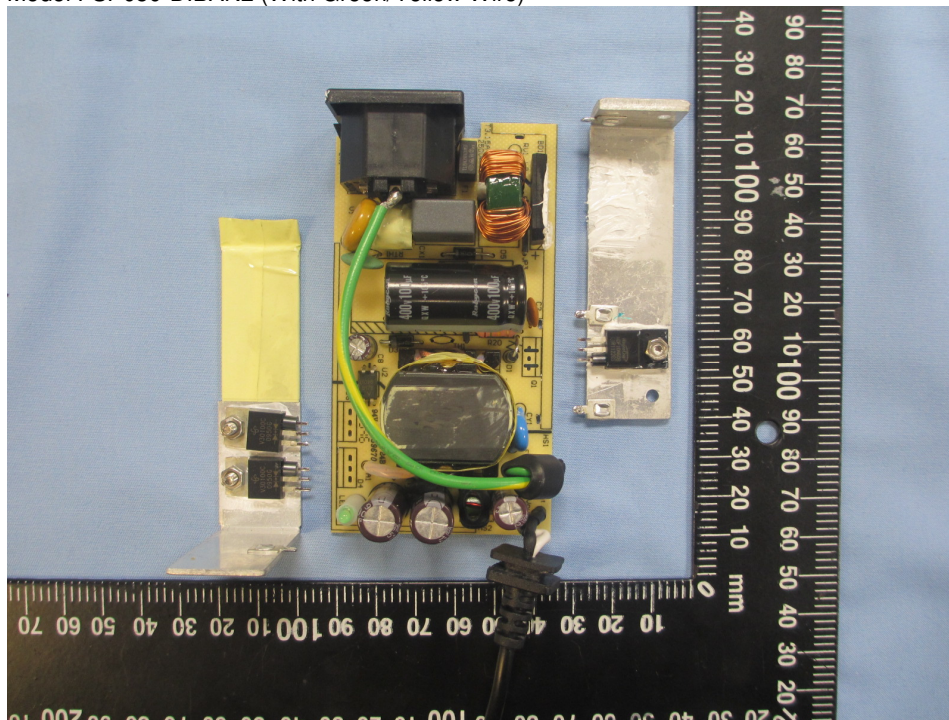
Product: Switching Power Adapter

Type Designation: FSP060-DIBAN2 & FSP050-DIBAN2

Model FSP050-DIBAN2 (With Green/Yellow Wire)



Model FSP050-DIBAN2 (With Green/Yellow Wire)



Rev. 0

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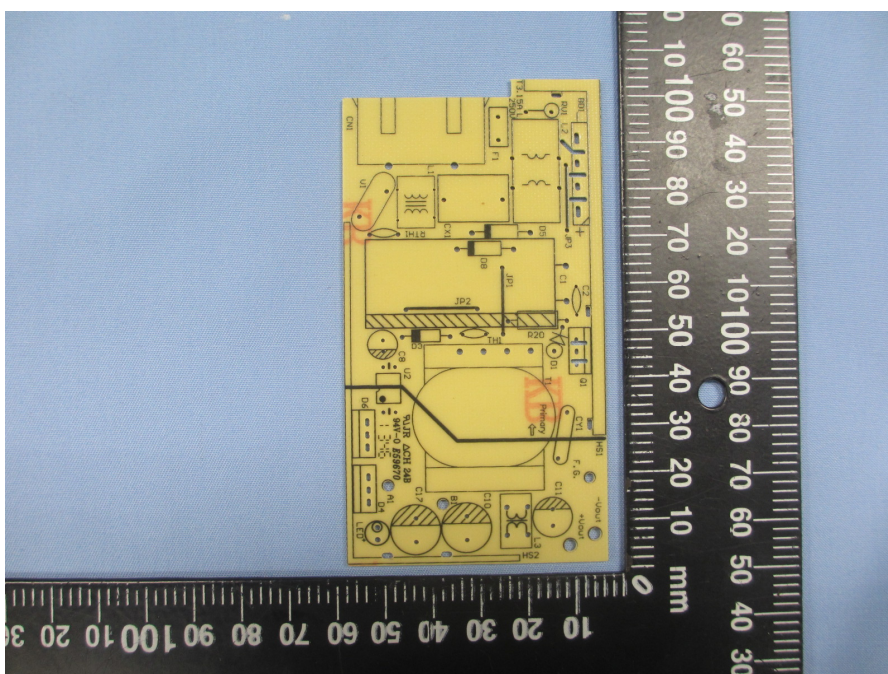
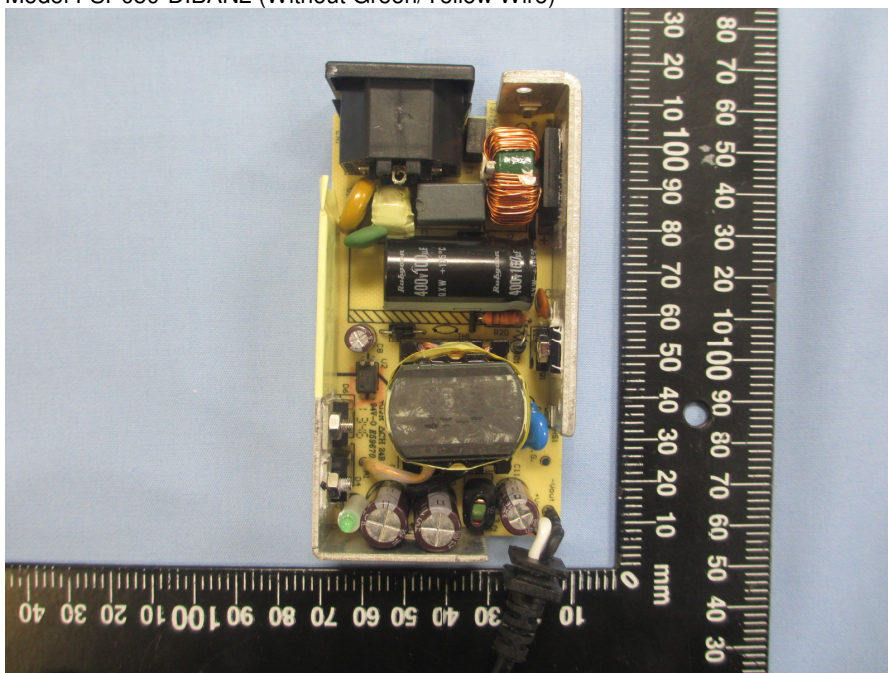
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Report No.:11035366 001

Product: Switching Power Adapter

Type Designation: FSP060-DIBAN2 & FSP050-DIBAN2

Model FSP050-DIBAN2 (Without Green/Yellow Wire)



Rev. 0

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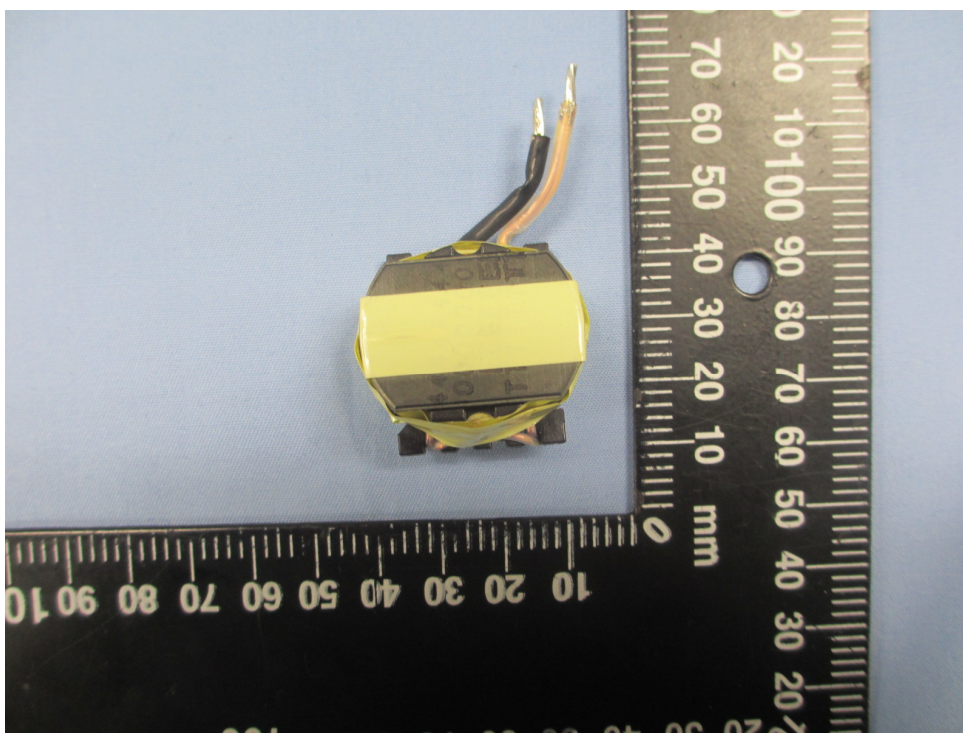
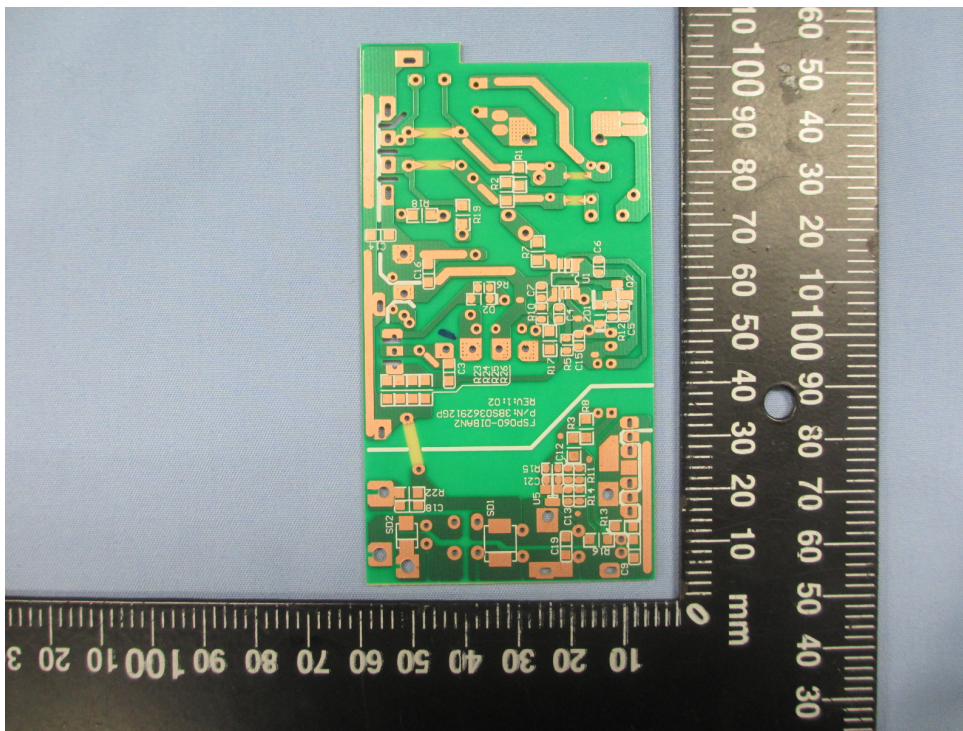


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Product: Switching Power Adapter

Type Designation: FSP060-DIBAN2 & FSP050-DIBAN2



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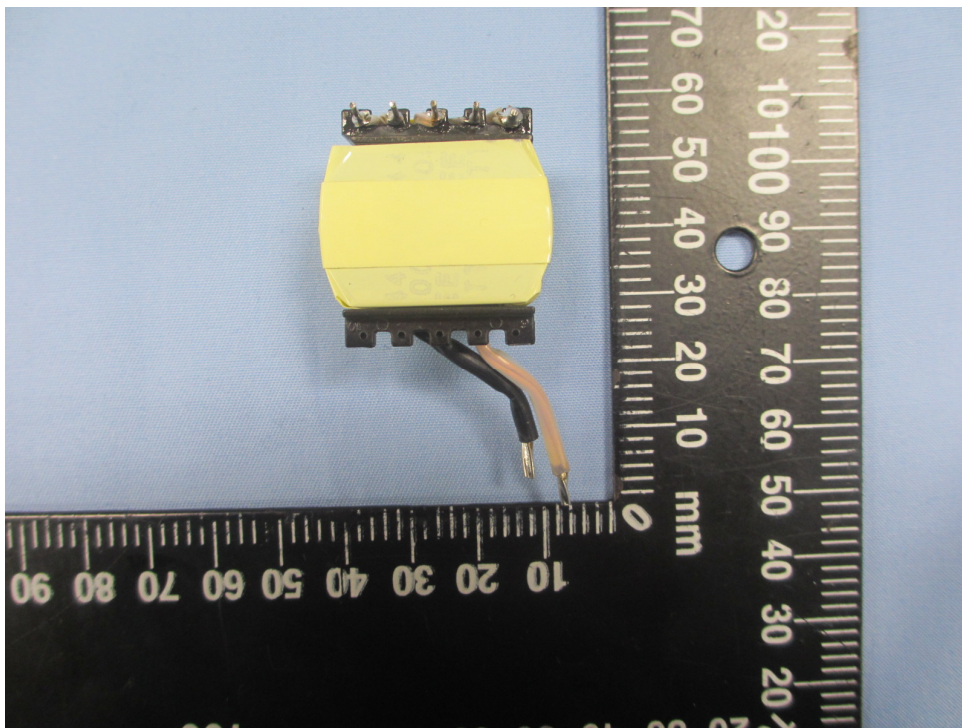


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Product: Switching Power Adapter

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Rev. 0