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TEST REPORT
IEC 60601-1
Medical Electrical Equipment

Part 1: General requirements for basic safety and essential performance

Report Number. ..... :	**230800858SHA-001**
Date of issue ..... :	**2024-01-09**
Total number of pages ..... :	174
Name of Testing Laboratory preparing the Report ..... :	Intertek Testing Services Shanghai Building No. 86, 1198 Qinzhou Road (North) Shanghai 200233 China
Applicant's name ..... :	GlobTek, Inc.
Address ..... :	186 Veterans Drive Northvale NJ 07647, USA
Test specification:	
Standard ..... :	IEC 60601-1:2005, IEC 60601-1:2005/AMD1:2012, IEC 60601-1:2005/AMD2:2020
Test procedure ..... :	CB Scheme
Non-standard test method ..... :	N/A
TRF template used ..... :	IECEE OD-2020-F1:2020, Ed.1.3
Test Report Form No. ..... :	IEC60601_1U
Test Report Form(s) Originator .... :	UL(US)
Master TRF ..... :	2023-08-24

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Test item description ..... :	Medical Power Supply
Trade Mark(s) ..... :	GlobTek, Inc.
Manufacturer ..... :	GlobTek, Inc. 186 Veterans Drive Northvale NJ 07647, USA
Model/Type reference ..... :	GT*46161-**-** (Refer to page 7 for details.)
Ratings ..... :	Input: 100-240 V~, 50-60 Hz, 0.45 A; Output: 5-5.5 Vdc, Max.3.2 A, Max 16 W, Class II

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):

☒	**CB Testing Laboratory:**	Intertek Testing Services Shanghai	
Testing location/ address.....:		Building No. 86, 1198 Qinzhou Road (North) Shanghai 200233 China	
Tested by (name, function, signature).....:		Vivian Xu (Engineer)	Vivian Xu
Approved by (name, function, signature)...:		Larry Zhong (Mandated reviewer)	Larry Zhong
☐	**Testing procedure: CTF Stage 1:**	N/A	
Testing location/ address.....:			
Tested by (name, function, signature).....:			
Approved by (name, function, signature)...:			
☐	**Testing procedure: CTF Stage 2:**	N/A	
Testing location/ address.....:			
Tested by (name, function, signature).....:			
Witnessed by (name, function, signature) .:			
Approved by (name, function, signature)...:			
☐	**Testing procedure: CTF Stage 3:**	N/A	
☐	**Testing procedure: CTF Stage 4:**	N/A	
Testing location/ address.....:			
Tested by (name, function, signature).....:			
Witnessed by (name, function, signature) .:			
Approved by (name, function, signature)...:			
Supervised by (name, function, signature) :			

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

Attachment 1, Photo of EUT, total 7 pages

Attachment 2, USA National difference, total 4 pages

Attachment 3, Canadian National difference, total 12 pages

Attachment 4, Plug for EN 50075:1990 (portion), total 3 pages

Summary of testing:

Tests performed (name of test and test clause):	**Testing location:**
4.11 Power input 5.7 Humidity preconditioning treatment 5.9.2 Determination of applied part and accessible parts 7.1.2 Legibility of marking 7.1.3 Durability of marking test 8.4.3 Plug discharge test 8.7 Leakage current test 8.8.3 Dielectric strength test 8.8.4.1 Ball pressure test 8.9.4 Creepage and clearance measurements 9.3 Surfaces, corners and edges 11.1 Excessive temperatures in ME EQUIPMENT 13.2 Single fault conditions 15.3.2 Push Test 15.3.3 Impact Test 15.3.4 Drop Test 15.3.6 Moulding Stress Relief 15.5.1.2 Transformer short-circuit test 15.5.1.3 Transformer overload test 15.5.2 Transformer Dielectric Strength	Intertek Testing Services Shanghai Building No. 86, 1198 Qinzhou Road (North) 200233 Shanghai China

Summary of compliance with National Differences (List of countries addressed):

The national difference of USA, Canada have been checked.

The group and national differences for the CENELEC countries, Japan have been checked and found no national differences or deviations from the IEC 60601-1:2005/AMD2:2020 standard.

☒ **The product fulfils the requirements of** IEC 60601-1:2005/AMD2:2020 &EN 60601-1:2006+A2:2021&CAN/CSA-C22.2 No. 60601-1:14/A2:2022&AAMI ES60601-1:2005/AMD2:2021

Statement concerning the uncertainty of the measurement systems used for the tests

☒ **Internal procedure used for type testing through which traceability of the measuring uncertainty has been established:**

Procedure number, issue date and title:

GMS-QC-12 Estimation of Measurement Uncertainty, 19-April-2018 Initial Release.

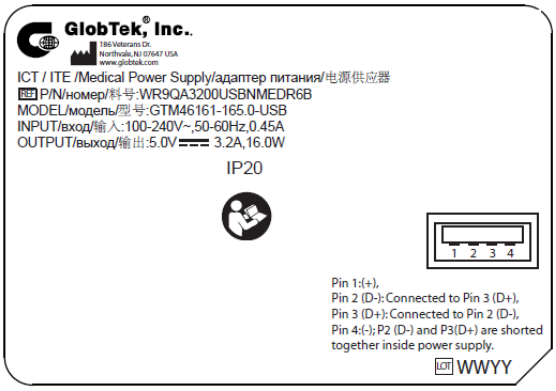
Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.

☐ **Statement not required by the standard used for type testing**

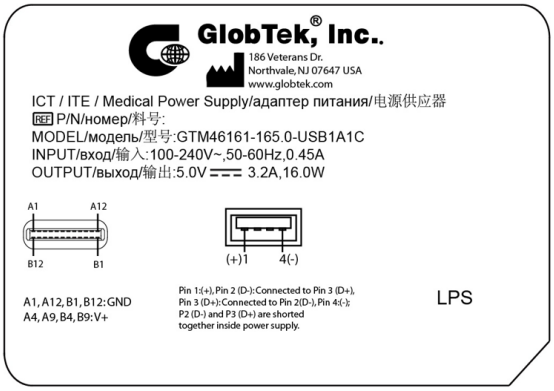
Copy of marking plate:

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.

GTM46161-165.0-USB



GTM46161-165.0-USB1A1C



GTM46161-165.5-USB2C



Other models are with similar label as corresponding above models except for different model name and output ratings.

Note:
The above markings are the minimum requirements required by the safety standard. For the final production samples, the additional markings which do not give rise to misunderstanding may be added.
Other models are with similar label as corresponding above models except different model name and output ratings.
When the equipment is vended to EU, the name and address of the importer or authorized representative within the EEA shall be added on the equipment;

Test item particulars.....:	
Classification of installation and use.....:	Portable
Supply Connection.....:	Direct plug-in
Device type (component/sub-assembly/ equipment/ system)……..:	Component
Intended use (Including type of patient, application location)……:	PSU (external power adapter or internal power supply board)
Mode of operation……:	Continuous
Accessories and detachable parts included……...:	None
Other options include……...:	None
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 was not evaluated for the requirement……...:	N/E (collateral standards only)
- test object does not meet the requirement.....:	F (Fail)
Abbreviations used in the report	
- normal condition……: N.C.	- single fault condition .....: S.F.C.
- means of Operator protection ……: MOOP	- means of Patient protection ....: MOPP
Testing.....:	
Date of receipt of test item .....:	2023-09-01
Date (s) of performance of tests.....:	2023-09-01 to 2023-12-01
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.** This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.	
Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 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) ..... :	Factory 1 GlobTek, Inc. 186 Veterans Drive Northvale NJ 07647, USA Factory 2 GlobTek (Suzhou) Co., Ltd Building 4, No. 76, Jin Ling East Rd., Suzhou Industrial Park, Suzhou, JiangSu 215021, China

General product information and other remarks:

The equipment covered by this report is medical power supply, which can be used as a part of medical equipment. The different models are corresponding to six structure types respectively.
The equipment is consisted of electronic components mounted on PWB then housed with plastic enclosure which secured together by ultrasonic welded.
Transformers used in all models are the same. Some non-critical components may be adjusted according to different output voltage, the parameters of these components depend on output voltage.

All the types are designed for continuous operation and no applied part is defined.

The insulation construction of EUT is evaluated as 2MOPP in this report as customer's request.

Model Similarity:

GT*46161-**-**
The 1st "*" denotes "M" or "-"or "H" for market identification and not related to safety.
The 2nd "*" denotes the rated output wattage designation, which can be "01" to "16", with interval of 1.
The 3rd "*" denotes the standard rated output voltage designation, which can be "5.0" to "5.5" or "05" to "05.5" with interval of 0.1Vdc.
The 4th "*"
=USB means Type 1 with USB*1
=USB1A means Type 2 with USB*1
=USB2A means Type 2 with USB*2
=USBC means Type 2 with USB Type C*1
=USB2C means Type 2 with USB Type C*2
=USB1A1C means Type 2 with USB*1 and USB Type C*1
The last * denote any six character, which can be 0-9 or A-Z or ()[] or – or blank for marketing purposes.

Technical Considerations:

Models GTM46161-165.0-USBC., GTM46161-165.0- USB1A1C and GTM46161-165.5-USB2C are tested as typical models.
The products are not intended to use in environment which altitude exceed 5000m.

Scope of Power Supply evaluation defers the following clauses to be determined as part of the end product investigation:
Clause 7.5 (Safety Signs),
Clause 7.9 (Accompanying Documents are provided for some critical issue like technical data, safety

warnings, necessary information to set up, but further evaluation is needed on end product level.),
Clause 8.11.5 (Mains Fuse with High Breaking Capacity),
Clause 9 (ME Hazard), except 9.1 and 9.3 are evaluated,
Clause 10 (Radiation),
Clause 11.7 (Biocompatibility),
Clause 14 (PEMS),
Clause 16 (ME Systems),
Clause 17 (EMC)
Only plugs for EN 50075:1990(two-pole plug) and AS/NZS 3112:2017 have been evaluated in this report.

Determination of the test conclusion is based on IEC Guide 115 in consideration of measurement uncertainty.

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

INSULATION DIAGRAM

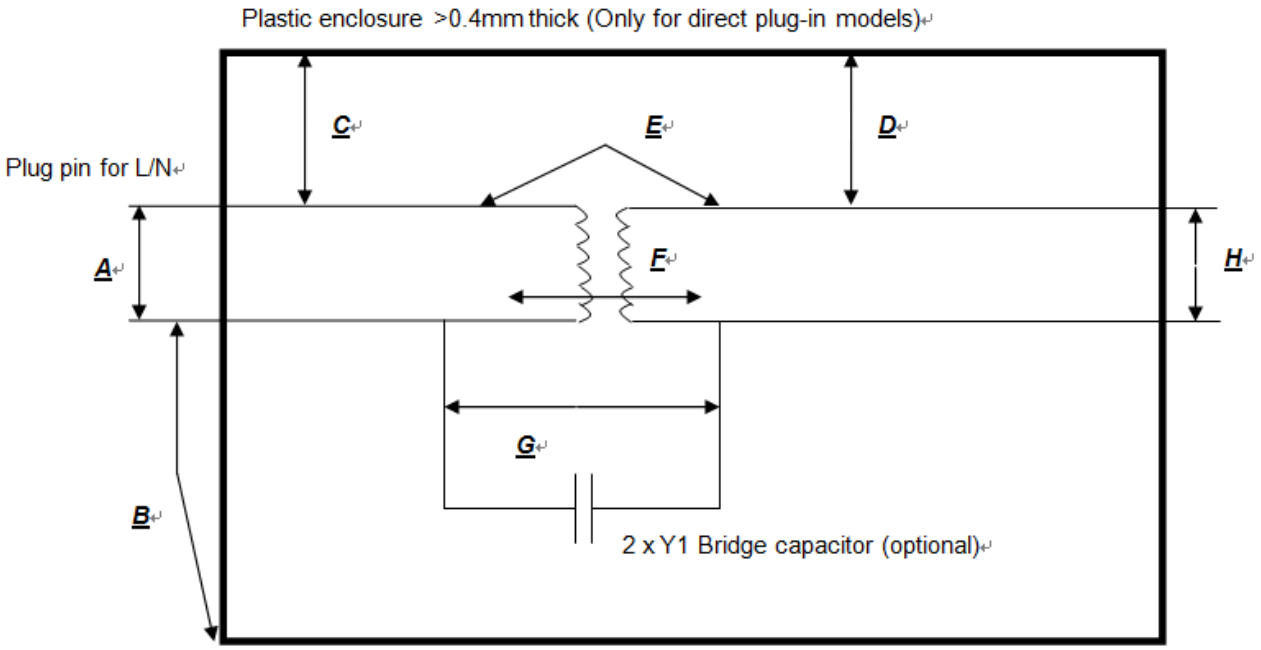


TABLE: INSULATION DIAGRAM		P
Pollution degree	**2**	—
Overvoltage category	**II**	—
Altitude	**Up to 5000m, use multiple factor 1.29 for MOPP, multiple factor 1.48 for MOOP**	—
Additional details on parts considered as applied parts	☒ **None** ☐ **Areas** _____ **(See Clause 4.6 for details)**	—

Area	Number and type of Means of Protection: MOOP, MOPP	CTI	Working voltage		Required creepage (mm)	Required clearance (mm)	Measured creepage (mm)	Measured clearance (mm)	Remarks
			V_{rms}	V_{pk}					
A	1MOOP	IIIb	240	--	3	3	3.7	3.7	Mains opposite polarity
B	2MOPP	IIIb	240	--	8.0	6.5	8.2	8.2	Mains (plug pin) to enclosure (accessible position during normal use)
C	2MOPP	IIIb	240	--	--	--	--	--	Mains to external of enclosure

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

									(>0.4mm thick plastic enclosure, solid insulation)
D	2MOPP	IIIb	--	Max. 48	--	--	--	--	Secondary to external of enclosure (>0.4mm thick plastic enclosure, solid insulation)
E	2MOPP	IIIb	240	352	8.0	6.5	9.0	9.0	Mains to secondary on PCB
F	2MOPP	IIIb	240	352	8.0	6.5	9.0	9.0	Mains to secondary on transformer
G	2MOPP	IIIb	240	352	8.0	6.5	10.5	10.5	Mains to secondary on bridge capacitors, see 8.5.1.2 and 8.8.3
H	2MOPP	IIIb	--	Max. 48	--	--	--	--	Accessible part per 8.4.2c)
Supplementary Information:									

INSULATION DIAGRAM CONVENTIONS and GUIDANCE:

A measured value must be provided in the value columns for the device under evaluation. The symbol > (greater than sign) must not be used. Switch-mode power supplies must be re-evaluated in the device under evaluation therefore N/A must not be used with a generic statement that the component is certified.

Insulation diagram is a graphical representation of equipment insulation barriers, protective impedance and protective earthing. If feasible, use the following conventions to generate the diagram:

- All isolation barriers are identified by letters between separate parts of diagram, for example separate transformer windings, optocouplers, wire insulation, creepage and clearance distances.
- Parts connected to earth with large dots are protectively earthed. Other connections to earth are functional
- Applied parts are extended beyond the equipment enclosure and terminated with an arrow.
- Parts accessible to the operator only are extended outside of the enclosure but are not terminated with an arrow.

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

4	**GENERAL REQUIREMENTS**		**P**
4.1	**Requirements of this standard applied in NORMAL USE and reasonably foreseeable misuse**		**P**
4.2	**RISK MANAGEMENT PROCESS FOR ME EQUIPMENT OR ME SYSTEMS**		**P**
4.2.2	General requirement for RISK MANAGEMENT - PROCESS complies with ISO14971 (2019)…….:	See Appended RM Results Table 4.2	**P**
4.2.3	Evaluating RISK		**P**
4.2.3.1	a) Compliance with the standard reduces residual risk to an acceptable level	Risk management procedure GTQPR05000	**P**
	b) Manufacturer has defined risk acceptability criteria in the RISK MANAGEMENT PLAN…… :	risk management plan Document: Report No. GT-RMPLAN2017-002	**P**
	c) When no specific technical requirements provided manufacturer has determined HAZARDS or HAZARDOUS SITUATIONS exists.		**P**
	- HAZARDS or HAZARDOUS SITUATIONS have been evaluated using the RISK MANAGEMENT PROCESS.		**P**
4.2.3.2	MANUFACTURER has addressed HAZARDS or HAZARDOUS SITUATIONS not specifically addressed in the IEC 60601-1 series.		**P**
4.3	Performance of clinical functions necessary to achieve intended use or that could affect the safety of the me equipment or me system were identified during risk analysis.	No essential performance	**N/A**
	- Performance limits were identified in both NORMAL CONDITION and SINGLE FAULT CONDITION.		**N/A**
	- Loss or degradation of performance beyond the limits specified by the MANUFACTURER were evaluated		**N/A**
	- Functions with unacceptable risks are identified as ESSENTIAL PERFORMANCE……:		**N/A**
	- RISK CONTROL measures implemented		**N/A**
	- Methods used to verify the effectiveness of RISK CONTROL measures implemented		**N/A**
4.4	EXPECTED SERVICE LIFE stated in RISK MANAGEMENT FILE……:	Risk Management Report 6.1.19, 5 years	**P**
4.5	Alternative RISK CONTROL methods utilized:		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	RESIDUAL RISK resulting from the alternative RISK CONTROL measures or tests is acceptable and comparable to RESIDUAL RISK resulting from application of this standard……..: (ISO 14971 Cl. 5.2-5.5, 6, 7.1-7.4)	No alternative risk control method.	**N/A**
	Alternative means based scientific data or clinical opinion or comparative studies ……..:		**N/A**
4.6	RISK MANAGEMENT PROCESS identifies parts that can come into contact with PATIENT but not defined as APPLIED PARTS, subjected to the requirements for APPLIED PARTS, except for Clause 7.2.10 ……..:	No such parts.	**N/A**
	MANUFACTURER assesses the risk of accessible parts coming into contact with the patient: (ISO 14971 Cl. 5.2-5.5, 6, 7.1-7.4)		**N/A**
	Assessment identified the APPLIED PART TYPE requirements ……..:		**N/A**
4.7	ME EQUIPMENT remained SINGLE FAULT SAFE, or the RISK remained acceptable as determined by Clause 4.2……..:	GT-RM2017-002 Cl. 6.3 EL5	**P**
	MANUFACTURER RISK ANALYSIS was used to determine failures to be tested……..: (ISO 14971 Cl. 4.2-4.4)	GT-RM2017-002 Cl. 6.3 EL5	**P**
	Failure of any one component at a time that could result in a HAZARDOUS SITUATION, including those in 13.1, simulated physically or theoretically……..:	See Appended Table 13.2 for simulated physical test.	**P**
4.8	All components and wiring whose failure could result in a HAZARDOUS SITUATION used according to their applicable ratings, unless specified ……..:	All components and wiring used according to applicable rating.	**P**
	Components and wiring exception in the standard or by RISK MANAGEMENT PROCESS		**P**
	RISK MANAGEMENT PROCESS assesses components to identify components where the failure results in a HAZARDOUS SITUATION for components used outside their ratings ……..: (ISO 14971 Cl. 5.2-5.5, 6, 7.1-7.4)	No components used outside their ratings.	**N/A**
	MANUFACTURER identified components where the failure results in a HAZARDOUS SITUATION ……..:	See Table 8.10 b.	**P**
	Components determined to be acceptable where used as a MEANS OF PROTECTION ……..:	See Table 8.10	**P**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Reliability of components used as MEANS OF PROTECTION assessed for conditions of use in ME EQUIPMENT, and they complied with one of the following		**P**
	a) Applicable safety requirements of a relevant IEC or ISO standard		**P**
	b) Requirements of this standard applied in the absence of a relevant IEC or ISO standard		**P**
4.9	A COMPONENT WITH HIGH-INTEGRITY CHARACTERISTICS provided and selected appropriately……..:	No component with high-integrity characteristics	**N/A**
	RISK MANAGEMENT FILE includes an assessment to determine if the failure of components results in unacceptable RISK……..: (ISO 14971 Cl. 5.2-5.5, 6, 7.1-7.4)		**N/A**
	Components identified and required to be COMPONENTS WITH HIGH INTEGRITY CHARACTERISTIC:		**N/A**
4.10	**Power supply**		**P**
4.10.1	ME EQUIPMENT is suitable for connection to indicated power source (select applicable) ……:	Suitable for connection to a SUPPLY MAINS.	**P**
4.10.2	Maximum rated voltage for ME EQUIPMENT intended to be connected to SUPPLY MAINS:	Not hand-held equipment.	**N/A**
	- 250 V for HAND-HELD ME EQUIPMENT (V) ..... :	Not hand-held equipment.	**N/A**
	– 250 V d.c. or single-phase a.c., or 500 V poly-phase a.c. for ME EQUIPMENT and ME SYSTEMS with a RATED input ≤ 4 kVA (V) ..... :	100-240Vac, single phase, less than 4KVA	**N/A**
	– 500 V for all other ME EQUIPMENT and ME SYSTEMS		**N/A**
4.11	**Power input**		**P**
	Steady-state measured input of ME EQUIPMENT or ME SYSTEM at RATED voltage or voltage range and at operating settings indicated in instructions for use didn't exceed marked rating by more than 10% ..... :	See appended Table 4.11	**P**
5	**GENERAL REQUIREMENTS FOR TESTING ME EQUIPMENT**		**P**
5.1	Test not performed when analysis indicated condition being tested was adequately evaluated by other tests or methods ……..:	RM not provided: All the applicable tests were conducted.	**P**
	RISK MANAGEMENT FILE identifies combinations of simultaneous independent faults that could result in a HAZARDOUS SITUATION. (ISO 14971 Cl. 5.2-5.5)		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.3	Tests conducted within the environmental conditions specified in technical description		**P**
	Temperature (ºC), Relative Humidity (%) …….:	0-40 ºC, 0-95%RH.	**—**
	Atmospheric Pressure (kPa) ……:	700-1060hPa.	**—**
5.5	a) Supply voltage during tests was the least favourable of the voltages specified in 4.10.2 or voltages marked on ME EQUIPMENT (V)…….:	90/264V~	**P**
	b) ME EQUIPMENT marked with a RATED frequency range tested at the least favourable frequency within the range (Hz)..... :	60Hz	**P**
	c) ME EQUIPMENT with more than one RATED voltage, both a.c./ d.c. or both external power and INTERNAL ELECTRICAL POWER SOURCE tested in conditions (see 5.4) related to the least favourable voltage, nature of supply, and type of current ..... :	90/264V~,60Hz considered	**P**
	d) ME EQUIPMENT intended for only d.c. supply connection tested with d.c. and influence of polarity considered..... :	Not for DC supply connection.	**N/A**
	e)ME EQUIPMENT tested with alternative ACCESSORIES and components specified in ACCOMPANYING DOCUMENTS to result in the least favourable conditions..... :	No alternative accessory	**N/A**
	f) ME EQUIPMENT connected to a separate power supply as specified in instructions for use	No separate power supply used	**N/A**
5.7	ME EQUIPMENT or parts thereof affected by climatic conditions were set up completely, or partially, with covers detached and subjected to a humidity preconditioning prior to tests of Clauses 8.7.4 and 8.8.3……..:	No additional testing should be considered.	**N/A**
	ME EQUIPMENT heated to a temperature between T and T + 4°C for at least 4 h and placed in a humidity chamber and ambient within 2 °C of T in range of +20°C to +32°C for indicated time	Pre-condition performed: 30°C, 93%RH for 168 h according to client's request.	**—**
5.9	**Determination of APPLIED PARTS and ACCESSIBLE PARTS**		**P**
5.9.1	APPLIED PARTS identified by inspection and reference to ACCOMPANYING DOCUMENTS..... :		**N/A**
5.9.2	**ACCESSIBLE PARTS**		**P**
5.9.2.1	Accessibility determined using standard test finger of Fig. 6	See Appended Table 5.9.2	**P**
5.9.2.2	Test hook of Fig. 7 inserted in all openings of ME EQUIPMENT and pulled with a force of 20 N for 10 s	Test hook can't enter opening	**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.9.2.3	Conductive parts of actuating mechanisms of electrical controls accessible after removal of handles, knobs, levers and the like regarded as ACCESSIBLE PARTS .....:	No such part.	**N/A**
	Conductive parts of actuating mechanisms not considered ACCESSIBLE PARTS when removal of handles, knobs, required use of a TOOL .....:	No such part.	**N/A**
6	**CLASSIFICATION OF ME EQUIPMENT AND ME SYSTEMS**		**P**
6.2	CLASS I ME EQUIPMENT, externally powered	Class II construction for power adapter model.	**P**
	CLASS II ME EQUIPMENT, externally powered		**P**
	INTERNALLY POWERED ME EQUIPMENT	Not internally powered	**N/A**
	EQUIPMENT with means of connection to a SUPPLY MAINS complied with CLASS I or CLASS II ME EQUIPMENT requirements when so connected, and when not connected to SUPPLY MAINS with INTERNALLY POWERED ME EQUIPMENT requirements		**N/A**
	TYPE B APPLIED PART	No applied part.	**N/A**
	TYPE BF APPLIED PART	No applied part.	**N/A**
	TYPE CF APPLIED PART	No applied part.	**N/A**
	DEFIBRILLATION-PROOF APPLIED PARTS	No applied part.	**N/A**
6.3	ENCLOSURES classified according to degree of protection against ingress of water and particulate matter as per IEC 60529 ..... :	IPX0 for adapter model.	**N/A**
6.4	ME EQUIPMENT or its parts intended to be sterilized classified according to method(s) of sterilization in instructions for use ..... :	No sterilization required	**N/A**
6.5	ME EQUIPMENT and ME SYSTEMS intended for use in an OXYGEN RICH ENVIRONMENT classified for such use and complied with 11.2.2	Power supply not investigated for oxygen rich environment	**N/A**
6.6	CONTINUOUS or Non-CONTINUOUS OPERATION..... :	Continuous operation	**P**
7	**ME EQUIPMENT IDENTIFICATION, MARKING, AND DOCUMENTS**		**P**
7.1.2	Legibility of Markings Test for Markings specified in Clause 7.2-7.6.....:	See Appended Table 7.1.2	**P**
7.1.3	Required markings can be removed only with a TOOL or by appreciable force, are durable and remain CLEARLY LEGIBLE during EXPECTED SERVICE LIFE of ME EQUIPMENT in NORMAL USE	See appended Tables 7.1.3	**P**
7.2	**Marking on the outside of ME EQUIPMENT or ME EQUIPMENT parts**		**P**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
7.2.1	At least markings in 7.2.2, 7.2.5, 7.2.6, 7.2.10, and 7.2.13 were applied when size of EQUIPMENT, its part, an ACCESSORY, or ENCLOSURE did not permit application of all required markings ……..:	See attached copy of Marking Plate	**P**
	Remaining markings fully recorded in ACCOMPANYING DOCUMENTS ……:	All required marking provided on name plate.	**N/A**
	Markings applied to individual packaging when impractical to apply to ME EQUIPMENT	No such condition	**N/A**
	Single use item marked……..:	No part intended for a single use.	**N/A**
7.2.2	ME EQUIPMENT marked with:		**P**
	– the name or trademark and contact information of the MANUFACTURER	See attached copy of Marking Plate	**P**
	– a MODEL OR TYPE REFERENCE		**P**
	– a serial number or lot or batch identifier; and		**P**
	– the date of manufacture or use by date		**P**
	Detachable components of the ME EQUIPMENT not marked; misidentification does not present an unacceptable risk, or		**N/A**
	RISK MANAGEMENT FILE includes an assessment of the RISKS relating to misidentification of all detachable parts……..: (ISO 14971 Cl. 5.2-5.5, 6, 7.3)		**N/A**
	Detachable components of the ME EQUIPMENT are marked with the name or trademark of the MANUFACTURER, and		**N/A**
	– a MODEL OR TYPE REFERENCE		**N/A**
	Software forming part of a PEMS identified with a unique identifier……..:	No software	**N/A**
7.2.3	Symbol 11 on Table D.1 used, optionally, advice to OPERATOR to consult ACCOMPANYING DOCUMENTS		**N/A**
	SAFETY SIGN 10 on Table D.2) used, advising OPERATOR that ACCOMPANYING DOCUMENTS must be consulted		**N/A**
7.2.4	ACCESSORIES marked with name or trademark and contact information of their MANUFACTURER, and ……..:	No such accessories.	**N/A**
	- with a MODEL or TYPE REFERENCE		**N/A**
	– a serial number or lot or batch identifier		**N/A**
	– the date of manufacture or use by date		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Markings applied to individual packaging when not practical to apply to ACCESSORIES		**N/A**
7.2.5	ME EQUIPMENT and ME SYSTEM intended to receive power from other equipment, provided with one of the following	Not receive power from other equipment.	**N/A**
	- the name or trademark of the manufacturer of the other electrical equipment and type reference marked adjacent to the relevant connection point; or		**N/A**
	– Table D.2, SAFETY SIGN No. 10 adjacent to the relevant connection point and listing of the required details in the instructions for use; or		**N/A**
	– Special connector style used that is not commonly available on the market and listing of the required details in the instructions for use.		**N/A**
7.2.6	**Connection to the Supply Mains**		**P**
	Marking appearing on the outside of part containing SUPPLY MAINS connection and, adjacent to connection point		**P**
	For PERMANENTLY INSTALLED ME EQUIPMENT, NOMINAL supply voltage or range marked inside or outside of ME EQUIPMENT	Not for permanently installed.	**N/A**
	– RATED supply voltage(s) or RATED voltage range(s) with a hyphen (-) between minimum and maximum voltages (V, V-V)……:	100-240V~	**P**
	Multiple RATED supply voltages or multiple RATED supply voltage ranges are separated by (V/V)…..:	Not so marked.	**N/A**
	– Nature of supply and type of current……..:	Single phase, AC.	**P**
	Symbols 1-5, Table D.1 (used for same parameters……..:	'~' is used.	**P**
	– RATED supply frequency or RATED frequency range in hertz……:	50-60Hz	**P**
	– Symbol 9 of Table D.1 used for CLASS II ME EQUIPMENT……..:	Symbol 9 is used for Class II adapter model.	**P**
7.2.7	RATED input in amps or volt-amps, (A, VA)……:	0.45 A	**P**
	RATED input in amps or volt-amps, or in watts when power factor exceeds 0.9 (A, VA, W)……..:		**N/A**
	RATED input for one or more RATED voltage ranges provided for upper and lower limits of the range or ranges when the range(s) is/are greater than ± 10 % of the mean value of specified range (A, VA,W)……..:		**N/A**
	Input at mean value of range marked when range limits do not differ by more than 10 % from mean value (A, VA, W)……:	No such range provided.	**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Marking includes long-time and most relevant momentary volt-ampere ratings when provided, each plainly identified and indicated in ACCOMPANYING DOCUMENTS (VA)…….:	No such range provided.	**N/A**
	Marked input of ME EQUIPMENT provided with means for connection of supply conductors of other electrical equipment includes RATED and marked output of such means (A, VA, W)…….:	No such range provided.	**N/A**
7.2.8	**Output connectors**		**P**
7.2.8.2	Output connectors are marked, except for MULTIPLE SOCKET-OUTLETS or connectors intended for specified ACCESSORIES or equipment		**P**
	Rated Voltage (V), Rated Current (A)…….:	DC5-5.5 V, max. 3.2 A	**—**
	Rated Power (W), Output Frequency (Hz)…….:	Max. 16 W	**—**
7.2.9	ME EQUIPMENT or its parts marked with the IP environmental Code per IEC 60529 according to classification in 6.3 (Table D.3, Code 2), marking optional for ME EQUIPMENT or parts rated IPX0….:	IPX0	**N/A**
7.2.10	Degrees of protection against electric shock as classified in 6.2 for all APPLIED PARTS marked with relevant symbols …….:	No Applied Parts in power supply	**N/A**
	TYPE B APPLIED PARTS with symbol 19 of Table D.1……..:		**N/A**
	TYPE BF APPLIED PARTS with symbol 20 of Table D.1:		**N/A**
	TYPE CF APPLIED PARTS with symbol 21 of Table D.1……..:		**N/A**
	DEFIBRILLATION-PROOF APPLIED PARTS marked with symbols 25-27 of Table D.1……:		**N/A**
	Proper symbol marked adjacent to or on connector for APPLIED PART……..:		**N/A**
	SAFETY SIGN 2 of Table D.2 placed near relevant outlet……..:		**N/A**
	An explanation indicating protection of ME EQUIPMENT against effects of discharge of a cardiac defibrillator depends on use of proper cables included in instructions for use…….:		**N/A**
7.2.11	ME EQUIPMENT suitable for CONTINUOUS OPERATION		**P**
	DUTY CYCLE for ME EQUIPMENT intended for non-CONTINUOUS OPERATION appropriately marked to provide maximum “on” and “off” time…….:	Continuous operation.	**N/A**
7.2.12	Type and full rating of a fuse marked adjacent to ACCESSIBLE fuse-holder	No accessible fuse-holder	**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Fuse type……:		—
	Voltage (V) and Current (A) rating……:		—
	Operating speed (s) and Breaking capacity……:		—
7.2.13	Physiological effects – SAFETY SIGN and warning statements ……..:	EUT is component power supply only, no physiological effect	**N/A**
	Nature of HAZARD and precautions for avoiding or minimizing the associated RISK described in instructions for use……: (ISO 14971 Cl. 5.2-5.5, 6, 7.2)	Component, to be determined as part of end product.	**N/A**
7.2.14	HIGH VOLTAGE TERMINAL DEVICES on the outside of ME EQUIPMENT accessible without the use of a TOOL marked with symbol 24 of Table D.1	No such high voltage terminal device.	**N/A**
7.2.15	Requirements for cooling provisions marked……:	Component, to be determined as part of end product.	**N/A**
7.2.17	Packaging marked with special handling instructions for transport and/or storage……:	No special protective packaging measures have to be taken.	**N/A**
	Permissible environmental conditions marked on outside of packaging……..:		**N/A**
	Packaging marked with a suitable SAFETY SIGN indicating premature unpacking of ME EQUIPMENT could result in an unacceptable RISK……..:		**N/A**
	RISK MANAGEMENT FILE includes the assessment to determine premature unpacking of ME EQUIPMENT or its parts could result in an unacceptable RISK……: (ISO 14971 Cl. 5.2-5.5, 6, 7.2)		**N/A**
	Packaging of sterile ME EQUIPMENT or ACCESSORIES marked sterile and indicates the methods of sterilization		**N/A**
7.2.18	RATED maximum supply pressure from an external source marked on ME EQUIPMENT adjacent to each input connector, and ……..:	No external pressure source.	**N/A**
	- the RATED flow rate also marked		**N/A**
7.2.19	Symbol 7 of Table D.1 marked on FUNCTIONAL EARTH TERMINAL……..:	No FE terminal.	**N/A**
7.2.20	Removable protective means marked to indicate the necessity for replacement when the function is no longer needed……..:	Component, to be determined as part of end product.	**N/A**
7.2.21	MOBILE ME EQUIPMENT marked with its mass including its SAFE WORKING LOAD in kilograms.....	Not mobile me equipment	**N/A**
7.3	**Marking on the inside of ME EQUIPMENT or ME EQUIPMENT parts**		**P**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
7.3.1	Maximum power loading of heating elements or lamp-holders designed for use with heating lamps marked near or in the heater (W)……:	No heating element, no lamp holder.	**N/A**
	A marking referring to ACCOMPANYING DOCUMENTS provided for heating elements or lamp-holders designed for heating lamps that can be changed only by SERVICE PERSONNEL using a TOOL		**N/A**
7.3.2	Symbol 24 of Table D.1, or SAFETY SIGN No.3 of Table D.2 used to mark presence of HIGH VOLTAGE parts……:	No such HV part.	**N/A**
7.3.3	Type of battery and mode of insertion marked..:		**N/A**
	An identifying marking provided referring to instructions in ACCOMPANYING DOCUMENTS for batteries intended to be changed only by SERVICE PERSONNEL using a TOOL……..:	No battery.	**N/A**
	A warning provided indicating replacement of lithium batteries or fuel cells when incorrect replacement would result in an unacceptable RISK		**N/A**
	RISK MANAGEMENT FILE includes an assessment to determine the replacement of lithium batteries or fuel cells leads to an HAZARDOUS SITUATION if replaced incorrectly……: (ISO 14971 Cl. 5.2-5.5, 6, 7.2)		**N/A**
	ACCOMPANYING DOCUMENTS contain a warning indicating the replacement of lithium batteries or fuel cells by inadequately trained personnel could result in a HAZARDOUS SITUATION……:		**N/A**
7.3.4	Fuses, replaceable THERMAL CUT-OUTS and OVER-CURRENT RELEASES, accessible by use of a TOOL Identified ……..:	Specification adjacent to component	**P**
	Voltage (V) and Current (A) rating…….	T1AL/250V or T2AL/250V for FS1; 1Ω1W for RF1	**—**
	Operating speed(s), size & breaking capacity….:	See the table 8.10	**—**
7.3.5	PROTECTIVE EARTH TERMINAL marked with symbol 6 of Table D.1	No Protective earth terminal	**N/A**
	Markings on or adjacent to PROTECTIVE EARTH TERMINALS not applied to parts requiring removal to make the connection, and remained visible after connection made		**N/A**
7.3.6	Symbol 7 of Table D.1 marked on FUNCTIONAL EARTH TERMINALS	No FE terminal.	**N/A**
7.3.7	Terminals for supply conductors marked adjacent to terminals……:	No hazard if connections are interchanged.	**P**
	Terminal markings included in ACCOMPANYING DOCUMENTS when ME EQUIPMENT too small to accommodate markings	Marked on EUT	**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Terminals exclusively for neutral supply conductor in PERMANENTLY INSTALLED ME EQUIPMENT marked with Code 1 of Table D.3	Not permanently installed	**N/A**
	Marking for connection to a 3-phase supply, complies with IEC 60445	Not 3-phase	**N/A**
	Markings on or adjacent to electrical connection points not applied to parts requiring removal to make connection, and remained visible after connection made		**P**
7.3.8	"For supply connections, use wiring materials suitable for at least X °C" or equivalent, marked at the point of supply connections	No such high temperature	**N/A**
	Statement not applied to parts requiring removal to make the connection, and CLEARLY LEGIBLE after connections made		**N/A**
7.4	**Marking of controls and instruments**		**N/A**
7.4.1	The "on" & "off" positions of switch to control power to ME EQUIPMENT, including mains switch, marked with symbols 12 and 13 of Table D.1 or	No power switch	**N/A**
	– indicated by an adjacent indicator light, or		**N/A**
	– indicated by other unambiguous means		**N/A**
	The "on" & "off" positions of switch to control power to parts of ME EQUIPMENT, marked with symbols 12 and 13 of Table D.1 or		**N/A**
	- marked with symbols 16 and 17 of Table D.1 or		**N/A**
	– indicated by an adjacent indicator light, or		**N/A**
	– indicated by other unambiguous means		**N/A**
	Switches that brings ME EQUIPMENT into "stand-by" may be indicated by symbol 29 of Table D.1		**N/A**
	The "on/off" positions of push button switch with bi-stable positions marked with symbol 14 of Table D.1, and		**N/A**
	– status indicated by adjacent indicator light		**N/A**
	– status indicated by other unambiguous means		**N/A**
	The "on/off" positions of push button switch with momentary on position marked with symbol 15 of Table D.1 or		**N/A**
	– status indicated by adjacent indicator light		**N/A**
	– status indicated by other unambiguous means		**N/A**
7.4.2	Different positions of control devices/switches indicated by figures, letters, or other visual means	No such device.	**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	RISK MANAGEMENT FILE identifies controls where a change in setting during NORMAL USE results in an unacceptable RISK……: (ISO 14971 Cl. 5.2-5.5, 6, 7.1, 7.2)	No such device.	**N/A**
	Controls provided with an associated indicating device when change of setting of a control could result in an unacceptable RISK to PATIENT in NORMAL USE……..:	No stand-by switch	**N/A**
	– or an indication of direction in which magnitude of the function changes		**N/A**
7.4.3	Numeric indications of parameters on ME EQUIPMENT expressed in SI units according to ISO 80000-1 except the base quantities listed in Table 1 expressed in the indicated units	No numeric indications of parameters.	**N/A**
	ISO 80000-1 applied for application of SI units, their multiples, and certain other units		**N/A**
	All Markings in Sub-clause 7.4 complied with tests and criteria of 7.1.2 and 7.1.3……:		**N/A**
7.5	**SAFETY SIGNS**		**N/A**
	SAFETY SIGN with established meaning used	No safety sign used.	**N/A**
	RISK MANAGEMENT PROCESS identifies markings used to convey a warning, prohibition or mandatory action that mitigate a RISK not obvious to the OPERATOR……: (ISO 14971 Cl. 5.2-5.5, 6, 7.2)		**N/A**
	Affirmative statement together with SAFETY SIGN placed in instructions for use if insufficient space on ME EQUIPMENT		**N/A**
	Specified colours in ISO 3864-1 used for SAFETY SIGNs……..:		**N/A**
	Safety notices include appropriate precautions or instructions on how to reduce RISK(S)		**N/A**
	SAFETY SIGNS including any supplementary text or symbols described in instructions for use		**N/A**
	- and in a language acceptable to the intended OPERATOR		**N/A**
7.6	**Symbols**		**P**
7.6.1	Meanings of symbols used for marking described in instructions for use……:	Accompanying documents have been checked.	**P**
7.6.3	Symbols used for controls and performance conform to the IEC or ISO publication where symbols are defined, as applicable	No such symbol is used.	**N/A**
7.7	Colours of the insulation of conductors		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
7.7.1	PROTECTIVE EARTH CONDUCTOR identified by green and yellow insulation	No PE conductor is provided.	**N/A**
7.7.2	Insulation on conductors inside ME EQUIPMENT forming PROTECTIVE EARTH CONNECTIONS identified by green and yellow at least at terminations		**N/A**
7.7.3	Green and yellow insulation identify only following conductors:		**N/A**
	– PROTECTIVE EARTH CONDUCTORS		**N/A**
	– conductors specified in 7.7.2		**N/A**
	– POTENTIAL EQUALIZATION CONDUCTORS		**N/A**
	– FUNCTIONAL EARTH CONDUCTORS		**N/A**
7.7.4	Neutral conductors of POWER SUPPLY CORDS are “light blue”	No power supply cord.	**N/A**
7.7.5	Colours of conductors in POWER SUPPLY CORDS in accordance with IEC 60227-1 or IEC 60245-1	No power supply cord.	**N/A**
7.8	Indicator lights and controls		**N/A**
7.8.1	Red indicator lights, not flashing used only for Warning	No indicator light.	**N/A**
	Yellow indicator lights, not flashing used only for Caution		**N/A**
	Green indicator lights used only for Ready for use		**N/A**
	Red flashing used only for HIGH PRIORITY ALARM CONDITION, interruption of current workflow needed		**N/A**
	Yellow flashing used only MEDIUM PRIORITY ALARM CONDITION, re-planning of workflow needed		**N/A**
	Yellow or Cyan, not flashing used for LOW PRIORITY ALARM CONDITION, planning of future workflow needed.		**N/A**
	Other colours: Meaning other than red, yellow, cyan or green (colour, meaning)……:		**N/A**
7.8.2	Red used only for emergency control	No such indicator light.	**N/A**
7.9	**ACCOMPANYING DOCUMENTS**		**P**
7.9.1	ME EQUIPMENT accompanied by documents containing instructions for use, and a technical description	Accompany documents are provided for some critical issue like technical data, safety warnings, necessary information to set up, but further evaluation is needed on end product level	**P**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	ACCOMPANYING DOCUMENTS identify ME EQUIPMENT by the following, as applicable:		**P**
	– Name or trade-name of MANUFACTURER and contact information for the RESPONSIBLE ORGANIZATION can be referred to……:	GlobTek, Inc.	**P**
	– MODEL or TYPE REFERENCE……:	GT*46161-**-**	**P**
	When ACCOMPANYING DOCUMENTS provided electronically, USABILITY ENGINEERING PROCESS includes instructions as to what is required in hard copy or as markings on ME EQUIPMENT		**N/A**
	ACCOMPANYING DOCUMENTS specify special skills, training, and knowledge required of OPERATOR or RESPONSIBLE ORGANIZATION and environmental restrictions on locations of use		**N/A**
	ACCOMPANYING DOCUMENTS written at a level consistent with education, training, and other needs of individuals for whom they are intended		**N/A**
7.9.2	Instructions for use include the required information		**P**
7.9.2.1	– use of ME EQUIPMENT as intended by the MANUFACTURER:	Power adapter.	**P**
	– frequently used functions,	Power supply only.	**P**
	– known contraindication(s) to use of ME EQUIPMENT	No contraindication.	**P**
	- parts of the ME EQUIPMENT that are not serviced or maintained while in use with the patient		**N/A**
	– name or trademark and address of the MANUFACTURER	GlobTek, Inc.	**P**
	– MODEL OR TYPE REFERENCE	GT*46161-**-**	**P**
	Instruction for use included the following when the PATIENT is an intended OPERATOR:		**N/A**
	– the PATIENT is an intended OPERATOR		**N/A**
	– warning against servicing and maintenance while the ME EQUIPMENT is in use		**N/A**
	- functions the PATIENT can safely use and, where applicable, which functions the PATIENT cannot safely use; and		**N/A**
	–maintenance the PATIENT can perform		**N/A**
	Classifications as in Clause 6, all markings per Clause 7.2, and explanation of SAFETY SIGNS and symbols marked on ME EQUIPMENT		**P**
	Instructions for use are in a language acceptable to the intended operator	English	**P**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
7.9.2.2	Instructions for use include all warning and safety notices		**P**
	Warning statement for CLASS I ME EQUIPMENT included		**P**
	Warnings regarding significant RISKS of reciprocal interference posed by ME EQUIPMENT during specific investigations or treatments		**P**
	Information on potential electromagnetic or other interference and advice on how to avoid or minimize such interference		**P**
	Warning statement for ME EQUIPMENT supplied with an integral MULTIPLE SOCKET-OUTLET provided	No multiple socket-outlet.	**N/A**
	The RESPONSIBLE ORGANIZATION is referred to this standard for the requirements applicable to ME SYSTEMS		**N/A**
7.9.2.3	Statement on ME EQUIPMENT for connection to a separate power supply provided in instructions	No such connection.	**N/A**
7.9.2.4	Warning statement for mains- operated ME EQUIPMENT with additional power source not automatically maintained in a fully usable condition indicating the necessity for periodic checking or replacement of power source	No such additional power source.	**N/A**
	RISK MANAGEMENT FILE assesses the RISK resulting from leakage of batteries……: (ISO 14971 Cl. 5.2-5.5, 6, 7.2)		**N/A**
	Where the RISK is unacceptable, the IFU includes a warning to remove the battery if the ME EQUIPMENT is not likely to be used for some time.	No primary batteries.	**N/A**
	Specifications of replaceable INTERNAL ELECTRICAL POWER SOURCE when provided…….:	No internal electrical power source.	**N/A**
	Warning indicating ME EQUIPMENT must be connected to an appropriate power source when loss of power source would result in an unacceptable RISK……:	Further evaluation is needed on end product level.	**N/A**
7.9.2.5	Instructions for use include a description of ME EQUIPMENT, its functions, significant physical and performance characteristics together with the expected positions of OPERATOR, PATIENT, or other persons near ME EQUIPMENT in NORMAL USE	See “power supply information” in IFU.	**P**
	Information provided on materials and ingredients PATIENT or OPERATOR is exposed to		**N/A**
	Restrictions specified on other equipment or NETWORK/DATA COUPLINGS, other than those forming part of an ME SYSTEM, to which a SIGNAL INPUT/OUTPUT PART may be connected	No SIP/SOP.	**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	APPLIED PARTS specified	No applied parts	**N/A**
7.9.2.6	Information provided indicating where the installation instructions may be found or information on qualified personnel who can perform the installation	No need.	**N/A**
7.9.2.7	Instructions provided indicating not to position ME EQUIPMENT to make it difficult to operate the disconnection device	Further evaluation is needed on end product level.	**N/A**
7.9.2.8	Necessary information provided for OPERATOR to bring ME EQUIPMENT into operation	No need.	**N/A**
7.9.2.9	Information provided to operate ME EQUIPMENT	No detachable parts or accessories.	**N/A**
	Meanings of figures, symbols, warning statements, abbreviations and indicator lights described in instructions for use		**N/A**
7.9.2.10	A list of all system messages, error messages, and fault messages provided with an explanation of messages including important causes and possible action(s) to be taken to resolve the problem indicated by the message	No such message.	**N/A**
7.9.2.11	Information provided for the OPERATOR to safely terminate operation of ME EQUIPMENT	Appliance coupler or plug	**P**
7.9.2.12	Information provided on cleaning, disinfection, and sterilization methods, and applicable parameters that can be tolerated by ME EQUIPMENT parts or ACCESSORIES specified	No need for cleaning, disinfection and sterilization.	**N/A**
	Components, ACCESSORIES or ME EQUIPMENT marked for single use, except when required by MANUFACTURER to be cleaned, disinfected, or sterilized prior to use		**N/A**
7.9.2.13	Instructions provided on preventive inspection, calibration, maintenance and its frequency	Further evaluation is needed on end product level.	**N/A**
	Information provided for safe performance of routine maintenance necessary to ensure continued safe use of ME EQUIPMENT		**N/A**
	Parts requiring preventive inspection and maintenance to be performed by SERVICE PERSONNEL identified including periods of application		**N/A**
	Instructions provided to ensure adequate maintenance of ME EQUIPMENT containing rechargeable batteries to be maintained by anyone other than SERVICE PERSONNEL		**N/A**
7.9.2.14	A list of ACCESSORIES, detachable parts, and materials for use with ME EQUIPMENT provided	No detachable parts or accessories.	**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Other equipment providing power to ME SYSTEM sufficiently described		**N/A**
7.9.2.15	Disposal of waste products, residues, etc., and of ME EQUIPMENT and ACCESSORIES at the end of their EXPECTED SERVICE LIFE are identified in the instruction for us……..:	No disposal of waste.	**N/A**
7.9.2.16	Instructions for use include information specified in 7.9.3 or identify where it can be found (e.g. in a service manual)		**P**
7.9.2.17	Instruction for use for ME EQUIPMENT emitting radiation for medical purposes, indicate the nature, type, intensity and distribution of this radiation	No radiation.	**N/A**
7.9.2.18	The instructions for use for ME EQUIPMENT or ACCESSORIES supplied sterile indicate that they have been sterilized and the method of sterilization	No such need.	**N/A**
	The instructions for use indicate the necessary instructions in the event of damage to the sterile packaging, and where appropriate, details of the appropriate methods of re-sterilization		**N/A**
7.9.2.19	The instructions for use contain a unique version identifier…….:	On page head of manual.	**P**
7.9.3	**Technical description**		**P**
7.9.3.1	All essential data provided for safe operation, transport, storage, and measures or conditions necessary for installing ME EQUIPMENT, and preparing it for use including	See “electrical specification” in IFU.	**P**
	-information required in 7.2		**P**
	-permissible environmental conditions of use including conditions for transport and storage…….. :	See “electrical specification” in IFU.	**P**
	-characteristics of the ME EQUIPMENT, including range(s), accuracy, and precision of the displayed values or an indication where they can be found		**P**
	-special installation requirements such as the maximum permissible apparent impedance of SUPPLY MAINS		**N/A**
	-permissible range of values of inlet pressure and flow, and the chemical composition of cooling liquid		**N/A**
	-description of the means for checking the oil level in partially sealed oil filled ME EQUIPMENT or its parts		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	-warning statement that addresses the HAZARDS that can result from unauthorized modification of the ME EQUIPMENT		**N/A**
	-information pertaining to ESSENTIAL PERFORMANCE and any necessary recurrent ESSENTIAL PERFORMANCE and BASIC SAFETY testing including details of the means, methods and recommended frequency		**N/A**
	Technical description separable from instructions for use contains required information, as follows		**P**
	-information required by 7.2		**P**
	–applicable classifications in Clause 6, warning and safety notices, and explanation of SAFETY SIGNS marked on ME EQUIPMENT		**P**
	– brief description of the ME EQUIPMENT, how the ME EQUIPMENT functions and its significant physical and performance characteristics; and		**P**
	a unique version identifier……..:	Rev. C	**P**
	MANUFACTURER'S optional requirements for minimum qualifications of SERVICE PERSONNEL documented in technical description	No such requirements.	**N/A**
7.9.3.2	**The technical description contains the following required information**		**N/A**
	–type and full rating of fuses used in SUPPLY MAINS external to PERMANENTLY INSTALLED ME EQUIPMENT……:	Not permanently installed me equipment	**N/A**
	– a statement for ME EQUIPMENT with a non-DETACHABLE POWER SUPPLY CORD if POWER SUPPLY CORD is replaceable by SERVICE PERSONNEL, and		**N/A**
	– instructions for correct replacement of interchangeable or detachable parts specified by MANUFACTURER as replaceable by SERVICE PERSONNEL, and		**N/A**
	RISK MANAGEMENT FILE includes an assessment to determine if replacement of components results in any unacceptable RISKS……: (ISO 14971 Cl. 5.2-5.5, 6, 7.1-7.4)		**N/A**
	– warnings identifying nature of HAZARD when replacement of a component could result in an unacceptable RISK, and when replaceable by SERVICE PERSONNEL all information necessary to safely replace the component		**N/A**
7.9.3.3	Technical description indicates, MANUFACTURER will provide circuit diagrams, component part lists, descriptions, calibration instructions to assist to SERVICE PERSONNEL in parts repair	No such need.	**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
7.9.3.4	Means used to comply with requirements of 8.11.1 clearly identified in technical description	Appliance coupler or plug	**P**
8	**PROTECTION AGAINST ELECTRICAL HAZARDS FROM ME EQUIPMENT**		**P**
8.1	Limits specified in Clause 8.4 not exceeded for ACCESSIBLE PARTS and APPLIED PARTS in NORMAL or SINGLE FAULT CONDITIONS		**P**
	RISK MANAGEMENT FILE identifies conductors and connectors where breaking free results in a HAZARDOUS SITUATION……: (ISO 14971 Cl. 4.3)	GT-RM2017-002 Cl.6 EL3	**P**
8.2	**Requirements related to power sources**		**N/A**
8.2.1	**Connection to a separate power source**		**N/A**
	When ME EQUIPMENT specified for connection to a separate power source other than SUPPLY MAINS, separate power source considered as part of ME EQUIPMENT or combination considered as an ME SYSTEM	Connection to mains only	**N/A**
	Tests performed with ME EQUIPMENT connected to separate power supply when one specified		**N/A**
	When a generic separate power supply specified, specification in ACCOMPANYING DOCUMENTS examined		**N/A**
8.2.2	**Connection to an external d.c. power source**		**N/A**
	No HAZARDOUS SITUATION as described in 13.1 developed when a connection with wrong polarity made for ME EQUIPMENT from an external d.c. source	Connection to AC mains only	**N/A**
	ME EQUIPMENT connected with correct polarity maintained BASIC SAFETY and ESSENTIAL PERFORMANCE		**N/A**
	Protective devices that can be reset by anyone without a TOOL returns to NORMAL CONDITION on reset		**N/A**
8.3	**Classification of APPLIED PARTS**		**N/A**
	a) APPLIED PART specified in ACCOMPANYING DOCUMENTS as suitable for DIRECT CARDIAC APPLICATION is TYPE CF	No applied parts	**N/A**
	b) An APPLIED PART provided with a PATIENT CONNECTION intended to deliver electrical energy or an electrophysiological signal to or from PATIENT is TYPE BF or CF APPLIED PART		**N/A**
	c) An APPLIED PART not covered by a) or b) is a TYPE B, BF, or CF		**N/A**
8.4	**Limitation of voltage, current or energy**		**P**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

8.4.2	**ACCESSIBLE PARTS and APPLIED PARTS**		**P**
	a) Currents from, to, or between PATIENT CONNECTIONS did not exceed limits for PATIENT LEAKAGE CURRENT & PATIENT AUXILIARY CURRENT……:	No patient connections.	**N/A**
	b) LEAKAGE CURRENTS from, to, or between ACCESSIBLE PARTS did not exceed limits for TOUCH CURRENT……:	See appended Table 8.7	**P**
	c) Limits specified in b) not applied to parts when probability of a connection to a PATIENT, directly or through body of OPERATOR, is negligible in NORMAL USE, and the OPERATOR is appropriately instructed	The likelihood of the current flowing through body of operator to be determined in end-product evaluation	**N/A**
	Voltage to earth or to other ACCESSIBLE PARTS did not exceed 42.4 V peak a.c. or 60 V d.c. for above parts in NORMAL or single fault condition (V a.c. or d.c.)……:	See appended Table 8.4.2	**P**
	Energy did not exceed 240 VA for longer than 60 s or stored energy available did not exceed 20 J at a potential of 2 V or more (VA or J)…….:	See appended Table 8.4.2	**P**
	Limits in b) does not apply to SIP/SOP connectors and separate power supply connectors if the voltage measured is less than or equal to 60 V d.c. or 42,4 V peak a.c		**N/A**
	d) Voltage and energy limits specified in c) above also applied to the following:	No such part.	**N/A**
	– internal parts touchable by test pin in Fig 8 inserted through an opening in an ENCLOSURE; and		**N/A**
	– internal parts touchable by a metal test rod with a diameter of 4 mm and a length 100 mm, inserted through any opening on top of ENCLOSURE or through any opening provided for adjustment of pre-set controls by RESPONSIBLE ORGANIZATION in NORMAL USE using a TOOL		**N/A**
	Test pin or the test rod inserted through relevant openings with minimal force of no more than 1 N	No opening for adapter model.	**N/A**
	Test rod inserted in every possible position through openings provided for adjustment of pre-set controls that can be adjusted in NORMAL USE, with a force of 10 N		**N/A**
	Test repeated with a TOOL specified in instructions for use		**N/A**
	Test rod freely and vertically suspended through openings on top of ENCLOSURE		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	e) Devices used to de-energize parts when an ACCESS COVER opened without a TOOL gives access to parts at voltages above levels permitted by this Clause comply with 8.11.1 for mains isolating switches and remain effective in SINGLE FAULT CONDITION	No such part for adapter model.	**N/A**
	A TOOL is required when it is possible to prevent the devices from operating		**N/A**
8.4.3	Worst case voltage between pins of plug and between either supply pin and ENCLOSURE did not exceed 60 V one sec after disconnecting the plug of ME EQUIPMENT or its parts (V)……:	See appended Table 8.4.3	**P**
	When voltage exceeded 60 V, calculated or measured stored charge didn't exceed 45µC….:	See appended Table 8.4.3	**P**
8.4.4	Residual voltage of conductive parts of capacitive circuits, having become accessible after ME EQUIPMENT was de-energized after removal of ACCESS COVERS, didn't exceed 60V or calculated stored charge didn't exceed 45µC….:	No such part.	**N/A**
	A device manually discharging capacitors used when automatic discharging was not possible and ACCESS COVERS could be removed only with aid of a TOOL		**N/A**
	Capacitor(s) and connected circuitry marked with symbol 24 of Table D.1, and manual discharging device specified in technical description……:		**N/A**
8.5	**Separation of parts**		**P**
8.5.1	**MEANS OF PROTECTION (MOP)**		**P**
8.5.1.1	Two MEANS of PROTECTION provided for ME EQUIPMENT to prevent APPLIED and other ACCESSIBLE PARTS from exceeding limits in 8.4		**P**
	A MEANS OF PROTECTION protecting APPLIED PARTS or parts identified by 4.6 as parts subject to the same requirements, considered as MEANS OF PATIENT PROTECTION……..:		**P**
	Varnishing, enamelling, oxidation, and similar protective finishes and coatings with sealing compounds re-plasticizing at temperatures expected during operation and sterilization disregarded as MEANS OF PROTECTION		**P**
	Components and wiring forming a MEANS OF PROTECTION comply with 8.10		**P**
8.5.1.2	MEANS OF PATIENT PROTECTION (MOPP)		**P**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Solid insulation forming a MEANS OF PATIENT PROTECTION complied with dielectric strength test……:	See appended Table 8.8.3	**P**
	CREEPAGE and CLEARANCES forming a MEANS OF PATIENT PROTECTION complied with Table 12		**P**
	PROTECTIVE EARTH CONNECTIONS forming a MEANS OF PATIENT PROTECTION complied with Cl. 8.6		**N/A**
	Y1 or Y2 capacitor complying with standard IEC 60384-14 considered one MEANS OF PATIENT PROTECTION ……:	See Appended Tables 8.8.3 and 8.10	**P**
	Single Y1 capacitor used for two MEANS OF PATIENT PROTECTION when the working voltage is less than 42,4 V peak a.c. or 60 V d.c……:	See appended Tables 8.8.3 and 8.10	**P**
	Two capacitors used in series, each RATED for total WORKING VOLTAGE across the pair and have the same NOMINAL capacitance	Two identical Y1 used in series	**P**
	Voltage $_{\text{Total Working}}$ (V) and C $_{\text{Nominal}}$ (μF)……:	250VAC, Max.1000pF, each	**—**
	Optocouplers complying with IEC 60747-5-5:2007, or a later edition. Considered equivalent to requirements in 8.8.2 and 8.9.3	See table 8.10	**—**
	Measurement of Air Clearance and Creepage distance on the outside	See insulation table	**—**
	Dielectric strength test across optocoupler	See table 8.8.3	**—**
8.5.1.3	MEANS OF OPERATOR PROTECTION (MOOP)	The separation between primary and secondary was evaluated by MOPP.	**N/A**
	Solid insulation forming a MEANS OF OPERATOR PROTECTION complied with:		**N/A**
	– dielectric strength test ……:		**N/A**
	– requirements of IEC 60950-1:2005, IEC 60950-1:2005/A1:2009 and IEC 60950:2005/A2:2013 or requirements of IEC 62368-1:2018 for INSULATION CO-ORDINATION		**N/A**
	CREEPAGE and CLEARANCES forming a MEANS OF OPERATOR PROTECTION complied with:		**N/A**
	– limits of Tables 13 to 16 (inclusive); or		**N/A**
	– requirements of IEC 60950-1:2005, IEC 60950-1:2005/A1:2009 and IEC 60950:2005/A2:2013 or requirements of IEC 62368-1:2018 for INSULATION CO-ORDINATION		**N/A**
	PROTECTIVE EARTH CONNECTIONS forming a MEANS OF OPERATOR PROTECTION complied with Cl. 8.6		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	– or with requirements and tests of IEC 60950-1:2005, IEC 60950-1:2005/A1:2009 and IEC 60950:2005/A2:2013 or requirements of IEC 62368-1:2018 for protective earthing……:		**N/A**
	A Y2 (IEC 60384-14) capacitor is considered one MEANS OF OPERATOR PROTECTION……:		**N/A**
	A Y1 (IEC 60384-14) capacitor is considered two MEANS OF OPERATOR PROTECTION……..:		**N/A**
	Two capacitors used in series each RATED for total WORKING VOLTAGE across the pair and have the same NOMINAL capacitance		**N/A**
	Voltage $_{\text{Total Working}}$ (V) and C $_{\text{Nominal}}$ (μF)……..:		**—**
	Optocouplers complying with IEC 60747-5-5:2007, or a later edition. Considered equivalent to requirements in 8.8.2 and 8.9.3		**—**
	Measurement of Air Clearance and Creepage distance on the outside		**—**
	Dielectric strength test across optocoupler		**—**
	Points and applied parts at which impedances of components, CREEPAGE, CLEARANCES, PROTECTIVE EARTH CONNECTIONS or insulation, prevent ACCESSIBLE PARTS from exceeding limits in 8.4 were examined whether a failure at any of these points is to be regarded as a NORMAL or SINGLE FAULT CONDITION		**P**
	A means of protection protecting applied parts, or parts identified by 4.6 as parts subject to the same requirements, considered means of patient protection.....	See the insulation diagram.	**P**
	A means of protection protecting other parts considered means of operator protection	EUT is evaluated according to requirement of MOPP.	**N/A**
8.5.2	**Separation of PATIENT CONNECTIONS**		**N/A**
8.5.2.1	PATIENT CONNECTIONS of F-TYPE APPLIED PART separated from all other parts by equivalent to one MEANS OF PATIENT PROTECTION for a WORKING VOLTAGE equal to the MAX. MAINS VOLTAGE……:	No patient connections	**N/A**
	Separation requirement not applied between multiple functions of a single F-TYPE APPLIED PART		**N/A**
	PATIENT CONNECTIONS treated as one APPLIED PART in the absence of electrical separation between PATIENT CONNECTIONS of same or another function		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	MANUFACTURER has defined if multiple functions are to be considered as all within one APPLIED PART or as multiple APPLIED PARTS……..:		**N/A**
	Classification as TYPE BF, CF, or DEFIBRILLATION-PROOF applied to one entire APPLIED PART		**N/A**
	LEAKAGE CURRENT tests conducted per 8.7.4….:		**N/A**
	Dielectric strength test conducted per 8.8.3……:		**N/A**
	CREEPAGE and CLEARANCES measured ……:		**N/A**
	A protective device connected between PATIENT CONNECTIONS of an F-TYPE APPLIED PART and ENCLOSURE to protect against excessive voltages did not operate below 500 V r.m.s		**N/A**
8.5.2.2	PATIENT CONNECTIONS of a TYPE B APPLIED PART not PROTECTIVELY EARTHED are separated by one MEANS OF PATIENT PROTECTION from metal ACCESSIBLE PARTS not PROTECTIVELY EARTHED…:		**N/A**
	– except when metal ACCESSIBLE PART is physically close to APPLIED PART and can be regarded as a part of APPLIED PART; and		**N/A**
	– RISK that metal ACCESSIBLE PART will make contact with a source of voltage or LEAKAGE CURRENT above permitted limits is acceptably low. In this case 8.7.4.7 d) does not apply		**N/A**
	LEAKAGE CURRENT tests conducted per 8.7.4…:		**N/A**
	Dielectric strength test conducted per 8.8.3 …..:		**N/A**
	Relevant CREEPAGE and CLEARANCES measured		**N/A**
	RISK MANAGEMENT FILE includes an assessment of the RISK of metal ACCESSIBLE PARTS contacting a source of voltage or LEAKAGE CURRENT above the limits…….: (ISO 14971 Cl. 5.2-5.5, 6)		**N/A**
8.5.2.3	**A connector on a PATIENT lead or PATIENT cable located at the end of the lead or cable distal from PATIENT, with conductive part not separated from all PATIENT CONNECTIONS by one MEANS OF PATIENT PROTECTION for a WORKING VOLTAGE equal to MAXIMUM MAINS VOLTAGE**		**N/A**
	- cannot be connected to earth or hazardous voltage while the PATIENT CONNECTIONS are in contact with PATIENT…….:	No patient lead.	**N/A**
	– conductive part of connector not separated from all PATIENT CONNECTIONS did not come into contact with a flat conductive plate of not less than 100 mm diameter		**N/A**
	– CLEARANCE between connector pins and a flat surface is at least 0.5 mm		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	– conductive part pluggable into a mains socket protected from contacting parts at MAINS VOLTAGE by insulation with a CREEPAGE DISTANCE of at least 1.0 mm, a 1500 V dielectric strength and complying with 8.8.4.1		**N/A**
	– required test finger did not make electrical contact with conductive part when applied against access openings with a force of 10 N,		**N/A**
	Test finger test (10 N)……:		**N/A**
	Except when RISK MANAGEMENT PROCESS includes an assessment of RISKS resulting from contact with objects other than mains sockets or flat surfaces……..: (ISO 14971 Cl. 5.2-5.5, 6)		**N/A**
8.5.4	**WORKING VOLTAGE**		**P**
	– Input supply voltage to ME EQUIPMENT was RATED voltage or voltage within RATED range resulting in highest measured value (V)……..:	240Vac	**P**
	– WORKING VOLTAGE for d.c. voltages with superimposed ripple was average value when peak-to-peak ripple less than 10% of average value or peak voltage when peak-to-peak ripple exceeding 10% of average value (V)……:	See Insulation Diagram and Insulation Table	**P**
	– WORKING VOLTAGE for each MEANS OF PROTECTION forming DOUBLE INSULATION was voltage DOUBLE INSULATION, as a whole, subjected to (V)……:	See Insulation Diagram and Insulation Table	**P**
	– Intentional or accidental earthing of PATIENT regarded as a NORMAL CONDITION for WORKING VOLTAGE involving a PATIENT CONNECTION not connected to earth	No patient connection.	**N/A**
	– WORKING VOLTAGE between PATIENT CONNECTIONS of an F-TYPE APPLIED PART and ENCLOSURE was highest voltage appearing across insulation in NORMAL USE including earthing of any part of APPLIED PART (V)……..:	No applied part.	**N/A**
	– WORKING VOLTAGE for DEFIBRILLATION-PROOF APPLIED PARTS determined disregarding possible presence of defibrillation voltages	No defibrillation-proof applied parts.	**N/A**
	– WORKING VOLTAGE was equal to resonance voltage in case of motors provided with capacitors between the point where a winding and a capacitor are connected together and a terminal for external conductors (V)……:	No motor.	**N/A**
8.5.5	DEFIBRILLATION-PROOF APPLIED PARTS		**N/A**
8.5.5.1	Classification "DEFIBRILLATION-PROOF APPLIED PART" applied to one APPLIED PART in its entirety	No defibrillation-proof applied parts.	**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Isolation of PATIENT CONNECTIONS of a DEFIBRILLATION-PROOF APPLIED PART from other parts of ME EQUIPMENT accomplished as follows:		**N/A**
	a) No hazardous electrical energies appear during a discharge of cardiac defibrillator ……..:		**N/A**
	b) ME EQUIPMENT complied with relevant requirements of this standard, providing BASIC SAFETY and ESSENTIAL PERFORMANCE following exposure to defibrillation voltage, and recovery time stated in ACCOMPANYING DOCUMENTS……..:		**N/A**
8.5.5.2	Means provided to limit energy delivered to a 100 Ω load……:		**N/A**
8.6	**Protective and functional earthing and potential equalization of ME EQUIPMENT**		**P**
8.6.1	Requirements of 8.6.2 to 8.6.8 applied		**N/A**
	Parts complying with IEC 60950-1:2005, IEC 60950-1:2005/AMD1:2009 and IEC 60950-1:2005/AMD2:2013 or IEC 62368-1:2018 for protective earthing and serving as MEANS OF OPERATOR PROTECTION but not PATIENT PROTECTION exempted from requirements of 8.6.2 to 8.6.8		**N/A**
8.6.2	PROTECTIVE EARTH TERMINAL is suitable for connection to an external protective earthing system by a PROTECTIVE EARTH CONDUCTOR in a POWER SUPPLY CORD and a suitable plug or by a FIXED PROTECTIVE EARTH CONDUCTOR……:		**N/A**
	Clamping means of PROTECTIVE EARTH TERMINAL of ME EQUIPMENT for FIXED supply conductors or POWER SUPPLY CORDS comply with 8.11.4.3, and cannot be loosened without TOOL	No such construction.	**N/A**
	Screws for internal PROTECTIVE EARTH CONNECTIONS completely covered or protected against accidental loosening from outside……..:	No such construction.	**N/A**
	Earth pin of APPLIANCE INLET forming supply connection to ME EQUIPMENT regarded as PROTECTIVE EARTH TERMINAL		**N/A**
	PROTECTIVE EARTH TERMINAL not used for mechanical connection between different parts of ME EQUIPMENT or securing components not related to protective or functional earthing	No such construction.	**N/A**
8.6.3	PROTECTIVE EARTH CONNECTION not used for a moving part,	No such construction.	**N/A**
	except when MANUFACTURER demonstrated in RISK MANAGEMENT FILE connection will remain reliable during EXPECTED SERVICE LIFE ……: (ISO 14971 Cl. 5.2-5.5, 6, 7.1-7.4)		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
8.6.4	a) PROTECTIVE EARTH CONNECTIONS carried fault currents reliably and without excessive voltage drop……:		**N/A**
	b) Allowable TOUCH CURRENT and PATIENT LEAKAGE CURRENT in SINGLE FAULT CONDITION were not exceeded, when impedance of PROTECTIVE EARTH CONNECTIONS exceeded values in 8.6.4 a) and Table 8.6.4, due to limited current capability of relevant circuits……:		**N/A**
	DETACHABLE POWER SUPPLY CORD specified by manufacturer or delivered with product		**N/A**
8.6.5	**Surface coatings**		**N/A**
	Poorly conducting surface coatings on conductive elements removed at the point of contact		**N/A**
	Coating not removed when requirements for impedance and current-carrying capacity met		**N/A**
8.6.6	**Plugs and sockets**		**P**
	PROTECTIVE EARTH CONNECTION where connection between SUPPLY MAINS and ME EQUIPMENT or between separate parts of ME EQUIPMENT made via a plug and socket was made before and interrupted after supply connections	Certified appliance coupler or plug.	**P**
	- applied also where interchangeable parts are PROTECTIVELY EARTHED		**N/A**
8.6.7	**Terminal for connection of a POTENTIAL EQUALIZATION CONDUCTOR**		**N/A**
	– Terminal is accessible to OPERATOR with ME EQUIPMENT in any position of NORMAL USE	No potential equalization conductor.	**N/A**
	–accidental disconnection avoided in NORMAL USE		**N/A**
	– Terminal allows conductor to be detached without a TOOL		**N/A**
	– Terminal not used for a PROTECTIVE EARTH CONNECTION		**N/A**
	– Terminal marked with symbol 8 of Table D.1		**N/A**
	– Instructions for use contain information on function and use of POTENTIAL EQUALIZATION CONDUCTOR together with a reference to requirements of this standard		**N/A**
	POWER SUPPLY CORD does not incorporate a POTENTIAL EQUALIZATION CONDUCTOR		**N/A**
8.6.8	FUNCTIONAL EARTH TERMINAL not used to provide a PROTECTIVE EARTH CONNECTION		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
8.6.9	**Class II ME EQUIPMENT**		**N/A**
	Third conductor of POWER SUPPLY CORD connected to protective earth contact of MAINS PLUG provided with CLASS II ME EQUIPMENT with isolated internal screens used as functional earth connection to the screen's FUNCTIONAL EARTH TERMINAL, coloured green and yellow	To be further evaluated in end product	**N/A**
	ACCOMPANYING DOCUMENTS include a statement that the third conductor in the POWER SUPPLY CORD is only a functional earth.		**N/A**
	Two MEANS OF PROTECTION provided between insulation of internal screens and all internal wiring connected to them and ACCESSIBLE PARTS		**N/A**
8.7	**LEAKAGE CURRENTS and PATIENT AUXILIARY CURRENTS**		**P**
8.7.1	a) Electrical isolation providing protection against electric shock limits currents to values in 8.7.3……:	See appended Tables 8.7	**P**
	b) Specified values of EARTH LEAKAGE, TOUCH, PATIENT LEAKAGE, and PATIENT AUXILIARY CURRENTS applied in combination of conditions in appended Table 8.7……:	See appended Tables 8.7	**P**
8.7.2	Allowable values specified in 8.7.3 applied under SINGLE FAULT CONDITIONS of 8.1 b), except		**P**
	– where insulation used in conjunction with a PROTECTIVE EARTH CONNECTION, insulation short circuited only under conditions in 8.6.4 b)	No protective earth connection	N/A
	– the only SINGLE FAULT CONDITION for EARTH LEAKAGE CURRENT was interruption of one supply conductor at a time	No protective earth connection	N/A
	– LEAKAGE CURRENTS and PATIENT AUXILIARY CURRENT not measured in SINGLE FAULT CONDITION of short circuiting of one constituent part of DOUBLE INSULATION		**P**
	SINGLE FAULT CONDITIONS not applied at same time as special test conditions of MAXIMUM MAINS VOLTAGE on APPLIED PARTS and non-PROTECTIVELY EARTHED parts of ENCLOSURE		**P**
8.7.3	**Allowable Values**		**P**
	a) Allowable values in 8.7.3 b), c), and d) measured based on, and are relative to currents in Fig 12 a), or by a device measuring frequency contents of currents as in Fig 12 b……:	See appended Table 8.7	**P**
	b) Allowable values of PATIENT LEAKAGE and AUXILIARY CURRENTS are according to Tables 3 & 4, and values of a.c. are relative to currents having a frequency not less than 0.1Hz……:		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	c) TOUCH CURRENT did not exceed 100µA in NORMAL CONDITION and 500µA in SINGLE FAULT CONDITION (I_{TNC}, I_{TSFC})……..:	See appended Table 8.7	**P**
	d) EARTH LEAKAGE CURRENT did not exceed 5 mA in NORMAL CONDITION and 10 mA in SINGLE FAULT CONDITION (I_{ENC}, I_{ESFC})……..:	See appended Table 8.7	**N/A**
	Higher values of EARTH LEAKAGE CURRENT permitted for PERMANENTLY INSTALLED ME EQUIPMENT connected to a supply circuit supplying only this ME EQUIPMENT according to local regulations or IEC 60364-7-710……:	Not permanently installed ME equipment	**N/A**
	e) LEAKAGE CURRENTS, regardless of waveform and frequency, did not exceed 10 mA r.m.s. in NORMAL or in SINGLE FAULT CONDITION (measured with a non-frequency-weighted device……:	See appended Table 8.7	**P**
	f) LEAKAGE CURRENTS flowing in a FUNCTIONAL EARTH CONDUCTOR in a non-PERMANENTLY INSTALLED ME EQUIPMENT are 5 mA in NORMAL CONDITION, 10 mA in SINGLE FAULT CONDITION….:		**N/A**
8.7.4	LEAKAGE and PATIENT AUXILIARY CURRENTS measurements……..:	See appended Table 8.7	**P**
8.8	Insulation		**P**
8.8.1	Insulation relied on as MEANS OF PROTECTION, including REINFORCED INSULATION subjected to testing		**P**
	Insulation exempted from test (complies with clause 4.8)		**P**
	Insulation forming MEANS OF OPERATOR PROTECTION and complying with IEC 60950-1 for INSULATION CO-ORDINATION not tested as in 8.8	No such part.	**N/A**
8.8.2	**Distance through solid insulation or use of thin sheet material**		**P**
	Solid insulation forming SUPPLEMENTARY or REINFORCED INSULATION for a PEAK WORKING VOLTAGE greater than 71 V provided with:	Enclosure is 2.0mm thick	**P**
	a) 0.4 mm, min, distance through insulation, or		**P**
	b) does not form part of an ENCLOSURE and not subject to handling or abrasion during NORMAL USE, and comprised of:		**P**
	– at least two layers of material, each passed the appropriate dielectric strength test.....	See appended Table 8.8.3	**P**
	– or three layers of material, for which all combinations of two layers together passed the appropriate dielectric strength test.....		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Dielectric strength test for one or two layers was same as for one MEANS OF PROTECTION for SUPPLEMENTARY INSULATION		**N/A**
	Dielectric strength test for one or two layers was same as for two MEANS OF PROTECTION for REINFORCED INSULATION	See appended Table 8.8.3	**P**
	BASIC, SUPPLEMENTARY, and REINFORCED INSULATION required between windings of wound components separated by interleaved insulation complying with a) or b), or both, except when		**N/A**
	c) Wire with solid insulation, other than solvent based enamel, complying with a)		**N/A**
	d) Wire with multi-layer extruded or spirally wrapped insulation complying with b) and complying with Annex L		**N/A**
	e) Finished wire with spirally wrapped or multi-layer extruded insulation, complying with Annex L	Certified triple insulated wire is used.	**P**
	– BASIC INSULATION: minimum two wrapped layers or one extruded layer		**N/A**
	– SUPPLEMENTARY INSULATION: minimum two layers, wrapped or extruded		**N/A**
	– REINFORCED INSULATION: minimum three layers, wrapped or extruded		**P**
	In d) and e), for spirally wrapped insulation with CREEPAGE DISTANCES between layers less than in Table 12 or 16 (Pollution Degree 1) depending on type of insulation, path between layers sealed as a cemented joint in 8.9.3.3 and test voltages of TYPE TESTS in L.3 equal 1.6 times of normal values		**N/A**
	Protection against mechanical stress provided where two insulated wires or one bare and one insulated wire are in contact inside wound component, crossing at an angle between 45° and 90° and subject to winding tension……:	Additional protection by insulating tape.	**P**
	Finished component complied with routine dielectric strength tests of 8.8.3……:	See appended Table 8.8.3	**N/A**
	Tests of Annex L not repeated since material data sheets confirm compliance……:	See Table 8.10 and Material Information Attachment	**P**
8.8.3	**Dielectric Strength**		**P**
	Solid insulating materials with a safety function withstood dielectric strength test voltages ……..:	See appended Table 8.8.3	**P**
8.8.4	**Insulation other than wire insulation**		**P**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
8.8.4.1	Resistance to heat retained by all insulation and insulating partition walls during EXPECTED SERVICE LIFE of ME EQUIPMENT		**P**
	ME EQUIPMENT and design documentation examined……:	See the table 8.10	**P**
	RISK MANAGEMENT FILE examined in conjunction with resistance to moisture, dielectric strength, and mechanical strength tests……..: (ISO 14971 Cl. 5.2-5.5, 6, 7.1-7.4)	GT-RM2017-002 Cl. 6 EL4	**P**
	Satisfactory evidence of compliance provided by manufacturer for resistance to heat……:	No evidence is provided.	**N/A**
	Tests conducted in absence of satisfactory evidence for resistance to heat……:	Ball pressure test performed	**P**
	a) ENCLOSURE and other external parts of insulating material, except insulation of flexible cords and parts of ceramic material, subjected to ball-pressure test using Fig 21 apparatus…..:	See appended Table 8.8.4.1	**P**
	b) Parts of insulating material supporting uninsulated parts of MAINS PART subjected to ball-pressure test in a), except at 125 °C ± 2 ° C or ambient indicated in technical description ±2°C plus temperature rise determined during test of 11.1 of relevant part, if higher (°C)…….:	See appended Table 8.8.4.1	**P**
	Test not performed on parts of ceramic material, insulating parts of commutators, brush-caps, and similar, and on coil formers not used as REINFORCED INSULATION	No such material	**N/A**
8.8.4.2	**Resistance to environmental stress**		**P**
	Insulating characteristics and mechanical strength of all MEANS OF PROTECTION not likely to be impaired by environmental stresses including deposition of dirt resulting from wear of parts within EQUIPMENT, potentially reducing CREEPAGE and CLEARANCES below 8.9		**P**
	Ceramic and similar materials not tightly sintered, and beads alone not used as SUPPLEMENTARY or REINFORCED INSULATION	No such material	**N/A**
	Insulating material with embedded heating conductors considered as one MEANS OF PROTECTION but not two MEANS OF PROTECTION	No heating conductor	**N/A**
	Parts of natural latex rubber aged by suspending samples freely in an oxygen cylinder containing commercial oxygen to a pressure of 2.1 MPa ± 70 kPa, with an effective capacity of at least 10 times volume of samples	No such material	**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	There were no cracks visible to naked eyes after samples kept in cylinder at 70 °C ± 2 °C for 96h, and afterwards, left at room temperature for at least 16h	No such material	**N/A**
8.9	**CREEPAGE DISTANCES and AIR CLEARANCES**		**P**
8.9.1.1	CREEPAGE DISTANCES and AIR CLEARANCES are equal to or greater than values in Tables 12 to 16 (inclusive)……:	Refer to Insulation Diagram	**P**
8.9.1.15	CREEPAGE DISTANCES and AIR CLEARANCES for DEFIBRILLATION-PROOF APPLIED PARTS are 4 mm or more to meet 8.5.5.1	No defibrillation-proof applied parts.	**N/A**
8.9.1.16	Conductive coatings applied to non-metallic surfaces, do not result in flaking or peeling reducing any AIR CLEARANCE or CREEPAGE DISTANCE		**N/A**
8.9.2	a) Short circuiting of each single one of CREEPAGE DISTANCES and CLEARANCES in turn did not result in a HAZARDOUS SITUATION , min CREEPAGE and CLEARANCES not applied……..:	The spacing between parts of opposite polarity fulfils the values of Table 11.	**N/A**
8.9.3	**Spaces filled by insulating compound**		**N/A**
8.9.3.1	Only solid insulation requirements applied where distances between conductive parts filled with insulating compound		**N/A**
	Thermal cycling, humidity preconditioning, and dielectric strength tests		**N/A**
8.9.3.2	For insulating compound forming solid insulation between conductive parts, a single sample subjected to thermal cycling PROCEDURE of 8.9.3.4 followed by humidity preconditioning per 5.7 (for 48 hours), followed by dielectric strength test (cl. 8.8.3 at 1,6 x test voltage)……:		**N/A**
	Cracks or voids in insulating compound affecting homogeneity of material didn't occur		**N/A**
8.9.3.3	Where insulating compound forms a cemented joint with other insulating parts, three samples tested for reliability of joint	No such construction.	**N/A**
	A winding of solvent-based enamelled wire replaced for the test by a metal foil or by a few turns of bare wire placed close to cemented joint, and three samples tested as follows:		**N/A**
	– One sample subjected to thermal cycling PROCEDURE of 8.9.3.4, and immediately after the last period at highest temperature during thermal cycling followed by dielectric strength test of cl. 8.8.3 at 1.6 x the test voltage ……..:		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	– The other two samples subjected to humidity preconditioning of 5.7, except for 48 hours only followed by a dielectric strength test of cl. 8.8.3 at 1.6 times the test voltage		**N/A**
8.9.4	Minimum spacing of grooves transvers to the CREEPAGE DISTANCES considered a MEANS OF OPERATOR PROTECTION adjusted based on pollution degree ……:	Pollution degree: II	**P**
	Force was applied between bare conductors and outside metal enclosure when measuring CREEPAGE DISTANCES and AIR CLEARANCES	Refer to Insulation Diagram supplemental information for location and force used	**P**
8.10	**Components and wiring**		**P**
8.10.1	Components of ME EQUIPMENT likely to result in an unacceptable RISK by their movements mounted securely……:	Securely fixed by additional means	**P**
	RISK MANAGEMENT FILE includes an assessment of RISKS related to unwanted movement of components……..: (ISO 14971 Cl. 5.2-5.5, 6, 7.1-7.4)	GT-RM2017-002 Cl. 6.3 EL3	**P**
8.10.2	Conductors and connectors of ME EQUIPMENT adequately secured or insulated to prevent accidental detachment……:	GT-RM2017-002 Cl. 6.3 EL6	**P**
	Stranded conductors are not solder-coated when secured by clamping means to prevent HAZARDOUS SITUATIONS		**P**
8.10.3	Interconnecting flexible cords detachable without a TOOL used provided with means for connection to comply with requirements for metal ACCESSIBLE PARTS when a connection is loosened or broken ……:	No such cord.	**N/A**
8.10.4	**Cord-connected HAND-HELD parts and cord-connected foot-operated control devices**		**N/A**
8.10.4.1	Control devices of ME EQUIPMENT and their connection cords contain only conductors and components operating at 42.4 V peak a.c., max, or 60 V d.c. in circuits isolated from MAINS PART by two MEANS OF PROTECTION	No cord connected hand-held control device, no cord connected foot-operated control device.	**N/A**
8.10.4.2	Connection and anchorage of a flexible cord to a HAND-HELD or foot-operated control device of ME EQUIPMENT, at both ends of the cable to the control device, complies with the requirements for POWER SUPPLY CORDS in Cl. 8.11.3		**N/A**
	Other HAND-HELD parts, if disturbance or breaking of one or more of the connections could result in a HAZARDOUS SITUATION, also comply with tests of Cl. 8.11.3		**N/A**
8.10.5	**Mechanical protection of wiring**		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	a) Internal cables and wiring adequately protected against contact with a moving part or from friction at sharp corners and edges…….:	No internal moving part.	**N/A**
	b) Wiring, cord forms, or components are not likely to be damaged during assembly or during opening or closing of ACCESS COVERS	No access covers	**N/A**
8.10.6	Guiding rollers prevent bending of movable insulated conductors around a radius of less than five times the outer diameter of the lead	No guiding roller.	**N/A**
8.10.7	a) Insulating sleeve adequately secured…….:	See appended Table 8.10	**P**
	b) Sheath of a flexible cord not used as a MEANS OF PROTECTION inside ME EQUIPMENT when it is subject to mechanical or thermal stresses beyond its RATED characteristics	Within its rated characteristics. See the table 8.10.	**P**
	c) Insulated conductors of ME EQUIPMENT subject to temperatures exceeding 70 °C……..:	No such high temperature is acquired by test indicated in 11.1.	**P**
8.11	**MAINS PARTS, components and layout**		**P**
8.11.1	a) ME EQUIPMENT provided with means of electrically isolating its circuits from SUPPLY MAINS simultaneously on all poles……..:	Plug for direct plug-in model	**P**
	PERMANENTLY INSTALLED ME EQUIPMENT connected to a poly-phase SUPPLY MAINS equipped with a device not interrupting neutral conductor, provided local installation conditions prevent voltage on neutral conductor from exceeding limits in 8.4.2 c)	Not permanently installed.	**N/A**
	PERMANENTLY INSTALLED ME EQUIPMENT provided with means to isolate its circuits electrically from the SUPPLY MAINS are capable of being locked in the off position		**N/A**
	- the isolation device specified in the ACCOMPANYING DOCUMENTS		**P**
	b) Means of isolation incorporated in ME EQUIPMENT, or if external, described in technical description ……..:	See appended Table 8.10	**P**
	c) A SUPPLY MAINS switch used to comply with 8.11.1 a) complies with CREEPAGE / CLEARANCES for a MAINS TRANSIENT VOLTAGE of 4 kV……..:		**N/A**
	d) A SUPPLY MAINS switch not incorporated in a POWER SUPPLY CORD or external flexible lead	No mains switch	**N/A**
	e) Actuator of a SUPPLY MAINS switch used to comply with 8.11.1 a) complies with IEC 60447		**N/A**
	f) A suitable plug device used in non-PERMANENTLY INSTALLED ME EQUIPMENT with no SUPPLY MAINS SWITCH……..:		**P**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	g) A fuse or a semiconductor device not used as an isolating means		**P**
	h) ME EQUIPMENT not provided with a device causing disconnection of ME EQUIPMENT from SUPPLY MAINS by producing a short circuit resulting in operation of an overcurrent protection device		**P**
	i) Parts within ENCLOSURE of ME EQUIPMENT with a circuit > 42.4 V peak a.c. or 60 V d.c. that cannot be disconnected from its supply by an external switch or a plug device accessible at all times is protected against touch even after opening ENCLOSURE by an additional covering	No such part.	**N/A**
	A clear warning notice is marked on outside of ME EQUIPMENT to indicate it exceeds allowable touch voltage		**N/A**
	For a part that could not be disconnected from supply by an external switch or a plug device accessible at all times, the required cover or warning notice complied with this clause		**N/A**
	Standard test finger applied		**N/A**
8.11.2	MULTIPLE SOCKET-OUTLETS integral with ME EQUIPMENT complied with 16.2 d), second dash; and 16.9.2	No multiple socket-outlets.	**N/A**
8.11.3	**POWER SUPPLY CORDS**		**N/A**
8.11.3.1	MAINS PLUG not fitted with more than one POWER SUPPLY CORD		**N/A**
8.11.3.2	POWER SUPPLY CORDS are no less robust than ordinary tough rubber sheathed flexible cord (IEC 60245-1:2003, Annex A, designation 53) or ordinary polyvinyl chloride sheathed flexible cord (IEC 60227-1:1993, Annex A, design 53):		**N/A**
	Only polyvinyl chloride insulated POWER SUPPLY CORD with appropriate temperature rating used for ME EQUIPMENT having external metal parts with a temperature > 75 °C touchable by the cord in NORMAL USE …….:		**N/A**
8.11.3.3	NOMINAL cross-sectional area of conductors of POWER SUPPLY CORDS of ME EQUIPMENT is not less than in Table 17…….:	No power supply cord	**N/A**
	For ME EQUIPMENT utilizing POWER SUPPLY CORDS and operating at currents greater than 63 A, apply the electrical regulations appropriate for the jurisdiction in which the ME EQUIPMENT is to be used.		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
8.11.3.4	APPLIANCE COUPLERS complying with IEC 60320-1 are considered to comply with 8.11.3.5 and 8.11.3.6 ……:	No power supply cord	**N/A**
8.11.3.5	**Cord anchorage**		**N/A**
	a) Conductors of POWER SUPPLY CORD provided with strain relief and insulation protected from abrasion at point of entry to ME EQUIPMENT or a MAINS CONNECTOR by a cord anchorage	No power supply cord	**N/A**
	b) Cord anchorage of POWER SUPPLY CORD is an insulating material, or		**N/A**
	– metal, insulated from conductive ACCESSIBLE PARTS non-PROTECTIVELY EARTHED by a MEANS OF PROTECTION, or		**N/A**
	– metal provided with an insulating lining affixed to cord anchorage		**N/A**
	c) Cord anchorage prevents cord from being clamped by a screw bearing directly on cord insulation		**N/A**
	d) Screws to be operated when replacing POWER SUPPLY CORD do not serve to secure any components		**N/A**
	e) Conductors of POWER SUPPLY CORD arranged to prevent PROTECTIVE EARTH CONDUCTOR against strain as long as phase conductors are in contact with their terminals		**N/A**
	f) Cord anchorage prevents POWER SUPPLY CORD from being pushed into ME EQUIPMENT or MAINS CONNECTOR		**N/A**
	Conductors of POWER SUPPLY CORD supplied by MANUFACTURER disconnected from terminals or from MAINS CONNECTOR and cord subjected 25 times to a pull applied with no jerks, each time for 1 s, on sheath of the value in Table 18.....		**N/A**
	Cord subjected to a torque in Table 18 for one minute immediately after pull tests		**N/A**
	Cord anchorage did not allow cord sheath to be longitudinally displaced by more than 2 mm or conductor ends to move over a distance of more than 1 mm from their connected position		**N/A**
	CREEPAGE and CLEARANCES not reduced below limits in 8.9		**N/A**
	It was not possible to push the cord into ME EQUIPMENT or MAINS CONNECTOR to an extent the cord or internal parts would be damaged		**N/A**
8.11.3.6	POWER SUPPLY CORDS protected against excessive bending at inlet opening of equipment	No power supply cord	**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Cord guard complied with test of IEC 60335-1:2001, Clause 25.14, or		**N/A**
	ME EQUIPMENT placed such that axis of cord guard projected at an angle of 45° with cord free from stress, and a mass equal 10 x D^2 gram attached to the free end of cord (g)……..:		**N/A**
	Cord guard of temperature-sensitive material tested at 23 °C ± 2 °C, and flat cords bent in the plane of least resistance		**N/A**
	Curvature of the cord radius, immediately after mass attached, was not less than 1.5 x D ……..:		**N/A**
8.11.4	**MAINS TERMINAL DEVICES**		**N/A**
8.11.4.1	PERMANENTLY INSTALLED and ME EQUIPMENT with non-DETACHABLE POWER SUPPLY CORD provided with MAINS TERMINAL DEVICES ensuring reliable connection	No mains terminal device.	**N/A**
	Terminals alone are not used to keep conductors in position		**N/A**
	Terminals of components other than terminal blocks complying with requirements of this Clause and marked accordingly used as terminals intended for external conductors		**N/A**
	Screws and nuts clamping external conductors do not serve to secure any other component		**N/A**
8.11.4.2	**Arrangement of MAINS TERMINAL DEVICES**		**N/A**
	a) Terminals provided for connection of external cords or POWER SUPPLY CORDS together with PROTECTIVE EARTH TERMINAL grouped to provide convenient means of connection	No mains terminal device.	**N/A**
	d) MAINS TERMINAL DEVICES not accessible without use of a TOOL		**N/A**
	e) MEANS OF PROTECTION are not short circuited when one end of a flexible conductor with NOMINAL cross-sectional area is stripped 8 mm and a single free wire is bent in each possible direction		**N/A**
8.11.4.3	Internal wiring not subjected to stress and CREEPAGE and CLEARANCES not reduced after fastening and loosening a conductor of largest cross-sectional area 10 times	No mains terminal device.	**N/A**
8.11.4.4	Terminals with clamping means for a rewireable flexible cord did not require special preparation of conductors and conductors were not damaged and did not slip out when clamping means tightened	No mains terminal device.	**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
8.11.4.5	Adequate space provided inside ME EQUIPMENT designed for FIXED wiring or a rewireable POWER SUPPLY CORD to allow for connection of conductors		**N/A**
	Correct connection and positioning of conductors before ACCESS COVER verified by an installation test		**N/A**
8.11.5	**Mains fuses and OVER-CURRENT RELEASES**		**P**
	A fuse or OVER-CURRENT RELEASE provided in each supply lead for CLASS I and CLASS II ME EQUIPMENT with a functional earth connection….:	See appended Table 8.10	**P**
	- in at least one supply lead for other single-phase CLASS II ME EQUIPMENT……:	See appended Table 8.10	**P**
	– neutral conductor not fused for PERMANENTLY INSTALLED ME EQUIPMENT	Not permanently installed.	**N/A**
	– fuses or OVER-CURRENT RELEASES omitted due to provision of two MEANS OF PROTECTION between all parts within MAINS PART	No such construction	**N/A**
	Protective devices have adequate breaking capacity based on MANUFACTURER'S expectation of the highest branch circuit current and/or prospective short circuit current:	See appended Table 8.10	**P**
	A fuse or OVER-CURRENT RELEASE not provided in a PROTECTIVE EARTH CONDUCTOR		**P**
	Justification for omission of fuses or OVER-CURRENT RELEASES documented……:		**N/A**
8.11.6	**Internal wiring of the MAINS PART**		**P**
	a) Cross-sectional area of internal wiring in a MAINS PART between MAINS TERMINAL DEVICE or APPLIANCE INLET and protective devices suitable..:	No such internal wire.	**P**
	b) Cross-sectional area of other wiring in MAINS PART and sizes of tracks on printed wiring circuits are sufficient……:	See appended Table 8.10 for details	**P**
9	**PROTECTION AGAINST MECHANICAL HAZARDS OF ME EQUIPMENT AND ME SYSTEMS**		**P**
9.2	**HAZARDS associated with moving parts**		**N/A**
9.2.1	When ME EQUIPMENT with moving parts PROPERLY INSTALLED, used per ACCOMPANYING DOCUMENTS or under foreseeable misuse, RISKS associated with moving parts reduced to an acceptable level……:	No moving parts.	**N/A**
	RISK from contact with moving parts reduced to an acceptable level using protective measures, (access, function, shape of parts, energy, speed of motion, and benefits to PATIENT considered)		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	RESIDUAL RISK associated with moving parts considered acceptable when exposure was needed for ME EQUIPMENT to perform its intended function, and		**N/A**
	RISK CONTROLS implemented……..:		**N/A**
	RISK MANAGEMENT FILE includes an assessment of RISKS associated with moving parts……..: (ISO 14971 Cl. 5.2-5.5, 6, 7.1-7.4)		**N/A**
	All RISKS associated with moving parts have been reduced to an acceptable level		**N/A**
9.2.2	**TRAPPING ZONE**		**N/A**
9.2.2.1	ME EQUIPMENT with a TRAPPING ZONE complied with one or more of the following as feasible:	No trapping zone.	**N/A**
	– Gaps in Clause 9.2.2.2, or		**N/A**
	– Safe distances in Clause 9.2.2.3, or		**N/A**
	– GUARDS and other RISK CONTROL measures in 9.2.2.4, or		**N/A**
	– Continuous activation in Clause 9.2.2.5		**N/A**
	Control of relevant motion complied with 9.2.2.6 when implementation of above protective measures were inconsistent with INTENDED USE of ME EQUIPMENT or ME SYSTEM		**N/A**
9.2.2.2	A TRAPPING ZONE considered not to present a MECHANICAL HAZARD when gaps of TRAPPING ZONE complied with dimensions per Table 20….:		**N/A**
9.2.2.3	A TRAPPING ZONE considered not to present a MECHANICAL HAZARD when distances separating OPERATOR, PATIENT, and others from TRAPPING ZONES exceeded values in ISO 13857:2008 …:		**N/A**
9.2.2.4	**GUARDS and other RISK CONTROL measures**		**N/A**
9.2.2.4.1	A TRAPPING ZONE do not to present a MECHANICAL HAZARD when GUARDS or other RISK CONTROL measures are of robust construction, not easy to bypass or render non-operational, and did not introduce additional unacceptable RISK……..:		**N/A**
9.2.2.4.2	FIXED GUARDS held in place by systems that can only be dismantled with a TOOL		**N/A**
9.2.2.4.3	Movable GUARDS that can be opened without a TOOL remained attached when GUARD was open		**N/A**
	– they are associated with an interlock preventing relevant moving parts from starting to move while TRAPPING ZONE is accessible, and stops movement when the GUARD is opened,		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	– absence or failure of one of their components prevents starting, and stops moving parts		**N/A**
	Movable GUARDS complied with any applicable tests		**N/A**
9.2.2.4.4	Other RISK CONTROL designed and incorporated into to the control system stops movement and		**N/A**
	– SINGLE FAULT CONDITIONS have a second RISK CONTROL, or		**N/A**
	ME EQUIPMENT is SINGLE FAULT SAFE		**N/A**
9.2.2.5	**Continuous activation**		**N/A**
	Continuous activation used as a RISK CONTROL, complies with the following		**N/A**
	a) movement was in OPERATOR'S field of view		**N/A**
	b) movement of ME EQUIPMENT or its parts was possible only by continuous activation of control by OPERATOR		**N/A**
	c) a second RISK CONTROL provided for SINGLE FAULT CONDITION of continuous activation system, or		**N/A**
	- the continuous activation system is SINGLE FAULT SAFE		**N/A**
9.2.2.6	Speed of movement(s) positioning parts of ME EQUIPMENT or PATIENT limited to allow OPERATOR control of the movement		**N/A**
	Over travel of such movement occurring after operation of a control to stop movement, did not result in an unacceptable RISK		**N/A**
9.2.3	**Other MECHANICAL HAZARDS associated with moving parts**		**N/A**
9.2.3.1	Controls positioned, recessed, or protected by other means so that they cannot be accidentally actuated		**N/A**
	- unless for the intended PATIENT, the USABILITY ENGINEERING PROCESS concludes otherwise (e.g. PATIENT with special needs), or		**N/A**
	- activation does not result in an unacceptable RISK		**N/A**
9.2.3.2	Over travel past range limits of the ME EQUIPMENT prevented……:		**N/A**
	Over travel means provided with mechanical strength to withstand loading in NORMAL CONDITION & reasonably foreseeable misuse…..:		**N/A**
9.2.4	**Emergency stopping devices**		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Where necessary to have one or more emergency stopping device(s), emergency stopping device complied with all the following, except for actuating switch capable of interrupting all power……:		**N/A**
	a) Emergency stopping device reduced RISK to an acceptable level		**N/A**
	RISK MANAGEMENT FILE indicates the use of an emergency stopping device reduces the RISK to an acceptable level……..: (ISO 14971 Cl. 5.2-5.5, 6, 7.1-7.5)		**N/A**
	b) Proximity and response of OPERATOR to actuate emergency stopping device could be relied upon to prevent HARM		**N/A**
	c) Emergency stopping device actuator was readily accessible to OPERATOR		**N/A**
	d) Emergency stopping device(s) are not part of normal operation of ME EQUIPMENT		**N/A**
	e) Emergency switching operation or stopping means neither introduced further HAZARD nor interfered with operation necessary to remove original MECHANICAL HAZARD		**N/A**
	f) Emergency stopping device was able to break full load of relevant circuit, including possible stalled motor currents and the like		**N/A**
	g) Means for stopping of movements operate as a result of one single action		**N/A**
	h) Emergency stopping device provided with an actuator in red and easily distinguishable and identifiable from other controls		**N/A**
	i) An actuator interrupting/opening mechanical movements marked on or immediately adjacent to face of actuator with symbol 18 of Table D.1 or “STOP”		**N/A**
	j) Emergency stopping device, once actuated, maintained ME EQUIPMENT in disabled condition until a deliberate action, different from that used to actuate it, was performed		**N/A**
	k) Emergency stopping device is suitable for its application		**N/A**
9.2.5	Means provided to permit quick and safe release of PATIENT in event of breakdown of ME EQUIPMENT or failure of power supply, activation of a RISK CONTROL measure, or emergency stopping		**N/A**
	– and uncontrolled or unintended movement of ME EQUIPMENT that could result in an unacceptable RISK prevented		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	– Situations where PATIENT is subjected to unacceptable RISKS due to proximity of moving parts, removal of normal exit routes, or other HAZARDS prevented		**N/A**
	– Measures provided to reduce RISK to an acceptable level when after removal of counterbalanced parts, other parts of ME EQUIPMENT can move in a hazardous way		**N/A**
	RISK MANAGEMENT FILE includes an assessment of RISKS to the PATIENT related to breakdown of the ME EQUIPMENT ……: (ISO 14971 Cl. 5.2-5.5, 6, 7.1-7.4)		**N/A**
9.3	Rough surfaces, sharp corners and edges of ME EQUIPMENT that could result in injury or damage avoided or covered……:	No rough surface / sharp edge.	**P**
9.4	**Instability HAZARDS**		**N/A**
9.4.1	ME EQUIPMENT and its parts, other than FIXED, for placement on a surface did not overbalance (tip over) or move unexpectedly in NORMAL USE	Direct plug-in type	**N/A**
9.4.2	**Instability – overbalance**		**N/A**
9.4.2.1	ME EQUIPMENT or its parts did not overbalance when prepared per ACCOMPANYING DOCUMENTS, or when tested ……:	No transport position	**N/A**
9.4.2.2	**Instability excluding transport**		**N/A**
	ME EQUIPMENT or its did not overbalance when placed in different positions of NORMAL USE,.....:	Component	**N/A**
	A warning provided when overbalance occurred during 10° inclined plane test		**N/A**
9.4.2.3	**Instability from horizontal and vertical forces**		**N/A**
	a) ME EQUIPMENT or its parts with a mass of 25kg or more, intended to be used on the floor, didn't overbalance due to pushing, leaning against it	Component	**N/A**
	Surfaces of ME EQUIPMENT or its parts where a RISK of overbalancing exists from pushing, etc., permanently marked with a warning of the RISK		**N/A**
	ME EQUIPMENT did not overbalance when tested according to Cl. 9.4.2.3 a)		**N/A**
	b) ME EQUIPMENT, for use on the floor or on a table, did not overbalance due to sitting or stepping		**N/A**
	ME EQUIPMENT or its parts, for use on the floor or on a table, where RISK of overbalancing exists, permanently marked with the RISK warning.....:		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	ME EQUIPMENT did not overbalance when tested according to Cl. 9.4.2.3b)……:		**N/A**
9.4.2.4	**Castors and wheels**		**N/A**
9.4.2.4.1	Means used for transportation of MOBILE ME EQUIPMENT did not result in an unacceptable RISK when MOBILE ME EQUIPMENT moved or parked in NORMAL USE	Component	**N/A**
9.4.2.4.2	Force required to move MOBILE ME EQUIPMENT did not exceed 200 N ……:		**N/A**
9.4.2.4.3	MOBILE ME EQUIPMENT exceeding 45 kg able to pass over threshold ……:		**N/A**
9.4.3	**Instability from unwanted lateral movement (including sliding)**		**N/A**
9.4.3.1	a) Brakes of power-driven MOBILE ME EQUIPMENT normally activated and could only be released by continuous actuation of a control		**N/A**
	b) MOBILE ME EQUIPMENT provided with locking means to prevent unwanted movements		**N/A**
	c) No unwanted lateral movement resulted when MOBILE ME EQUIPMENT placed in its transport position when test per 9.4.3.1		**N/A**
9.4.3.2	**Instability excluding transport**		**N/A**
	a) MOBILE ME EQUIPMENT provided with wheel locks or braking system compliant with 5° tilt test .....:		**N/A**
	b) MOBILE ME EQUIPMENT provided with wheel locks or braking system compliant with lateral stability test		**N/A**
9.4.4	**Grips and other handling devices**		**N/A**
	a) ME EQUIPMENT with a mass of over 20 kg requiring lifting in NORMAL USE or transport provided with suitable handling means, or ACCOMPANYING DOCUMENTS specify safe lifting method		**N/A**
	Handles, suitably placed to enable ME EQUIPMENT or its part to be carried by two or more persons and by examination of EQUIPMENT, its part, or ACCOMPANYING DOCUMENTS		**N/A**
	b) PORTABLE ME EQUIPMENT with a mass > 20 kg provided with one or more carrying-handles suitably placed to enable carrying by two or more persons as confirmed by actual carrying		**N/A**
	c) Carrying handles and grips and their means of attachment withstood loading test.....:		**N/A**
9.5	**Expelled parts HAZARD**		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
9.5.1	Suitability of means of protecting against expelled parts determined by assessment and examination of RISK MANAGEMENT FILE..... : (ISO 14971 Cl. 5.3-5.5, 6, 7.1-7.4)	No expelled parts.	**N/A**
	All identified RISKS associated with expelled parts mitigated to an acceptable level		**N/A**
9.5.2	Cathode Ray tube(s) complied with IEC 60065:2001, Clause 18, or IEC 61965..... :		**N/A**
9.6	**Acoustic energy (including infra- and ultrasound) and vibration**		**N/A**
9.6.1	Human exposure to acoustic energy and vibration from ME EQUIPMENT doesn't result in unacceptable RISK and	Component	**N/A**
	If necessary, confirmed in RISK MANAGEMENT FILE including audibility of auditory alarm signals, and PATIENT sensitivity..... :		**N/A**
	If necessary, confirmed in RISK MANAGEMENT FILE including audibility of auditory alarm signals, PATIENT sensitivity, and (ISO 14971 Cl. 5.2-5.5, 6, 7.1-7.4)		**N/A**
	All identified RISKS mitigated to an acceptable level		**N/A**
9.6.2	**Acoustic energy**		**N/A**
9.6.2.1	PATIENT, OPERATOR, and other persons are not exposed to acoustic energy from ME EQUIPMENT in NORMAL USE	Component	**N/A**
	– 80 dBA for a cumulative exposure of 24 h over a 24 h period (dBA) ..... :		**—**
	- 83 dBA (when halving the cumulative exposure time) (dBA) ..... :		**—**
	– 140 dBC (peak) sound pressure level for impulsive or impact acoustic energy (dB) ..... :		**—**
9.6.2.2	RISK MANAGEMENT FILE examined ..... : (ISO 14971 Cl. 5.2-5.5, 6, 7.1-7.4)		**N/A**
9.6.3	**Hand-transmitted vibration**		**N/A**
	Means provided to protect PATIENT and OPERATOR when hand-transmitted frequency-weighted r.m.s. acceleration generated in NORMAL USE exceeds specified values	No vibration.	**N/A**
	– 2.5 m/s^2 for a cumulative time of 8 h during a 24 h period (m/s^2) ..... :		**N/A**
	– Accelerations for different times, inversely proportional to square root of time (m/s^2)..... :		**N/A**
9.7	**Pressure vessels and parts subject to pneumatic and hydraulic pressure**		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
9.7.2	Pneumatic and hydraulic parts of ME EQUIPMENT or ACCESSORIES met requirements based on examination of RISK MANAGEMENT FILE..... : (ISO 14971 Cl. 5.3-5.5, 6, 7.1-7.4)	No such parts.	**N/A**
	– No unacceptable RISK resulted from loss of pressure or loss of vacuum		**N/A**
	– No unacceptable RISK resulted from a fluid jet caused by leakage or a component failure		**N/A**
	– Elements of ME EQUIPMENT or an ACCESSORY, especially pipes and hoses leading to an unacceptable RISK protected against harmful external effects		**N/A**
	– Reservoirs and similar vessels leading to an unacceptable RISK are automatically depressurized when ME EQUIPMENT is isolated from its power supply		**N/A**
	Means provided for isolation, or local depressurizing reservoirs and similar vessels, and pressure indication when above not possible		**N/A**
	– All elements remaining under pressure after isolation of ME EQUIPMENT or an ACCESSORY from its power supply resulting in an unacceptable RISK provided with clearly identified exhaust devices, and a warning to depressurize these elements before setting or maintenance activity		**N/A**
9.7.4	MAXIMUM EQUIPMENT PRESSURE did not exceed MAXIMUM PERMISSIBLE WORKING PRESSURE for the part, except allowed for pressure relief devices in 9.7.7confirmed by inspection of THE MANUFACTURER'S data for the component, ME EQUIPMENT, and by functional tests ..... :		**N/A**
9.7.5	A pressure vessel withstood a HYDRAULIC TEST PRESSURE when MAXIMUM EQUIPMENT PRESSURE was more than 50 kPa, and product of MAXIMUM EQUIPMENT PRESSURE and volume was more than 200 kPa ..... :		**N/A**
9.7.6	Pressure-control device regulating pressure in ME EQUIPMENT with pressure-relief device completed 100,000 cycles of operation under RATED load and prevented pressure from exceeding 90 % of setting of pressure-relief device in different conditions of NORMAL USE ..... :		**N/A**
9.7.7	Pressure-relief device(s) used where MAXIMUM PERMISSIBLE WORKING PRESSURE could otherwise be exceeded met the following, as confirmed by MANUFACTURER'S data, ME EQUIPMENT, RISK MANAGEMENT FILE, and functional tests..... :		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	a) Connected as close as possible to pressure vessel or parts of system it is to protect		**N/A**
	b) Installed to be readily accessible for inspection, maintenance, and repair		**N/A**
	c) Could be adjusted or rendered inoperative without a TOOL		**N/A**
	d) With discharge opening located and directed as to not to release material towards any person		**N/A**
	e) With discharge opening located and directed as to not to deposit material on parts that could result in an unacceptable RISK		**N/A**
	f) Adequate discharge capacity provided to ensure that pressure will not exceed MAXIMUM PERMISSIBLE EQUIPMENT PRESSURE of system it is connected to by more than 10 % when failure occurs in control of supply pressure		**N/A**
	g) No shut-off valve provided between a pressure-relief device and parts it is to protect		**N/A**
	h) Min number of cycles of operation 100 000, except for one-time use devices (bursting disks)		**N/A**
	RISK MANAGEMENT FILE includes an assessment of the risks associated with the discharge opening of the pressure relief device .....: ISO 14971 Cl. 5.3-5.5, 6, 7.1-7.4)		**N/A**
9.8	**HAZARDS associated with support systems**		**N/A**
9.8.1	ME EQUIPMENT parts designed to support loads or provide actuating forces when a mechanical fault could constitute an unacceptable RISK ..... :	No support systems.	**N/A**
	– Construction of support, suspension, or actuation system complied with Table 21 and TOTAL LOAD		**N/A**
	– Means of attachment of ACCESSORIES prevent possibility of incorrect attachment that could result in an unacceptable RISK		**N/A**
	– RISK ANALYSIS of support systems included MECHANICAL HAZARDS from static, dynamic, vibration, foundation and other movements, impact and pressure loading, temperature, environmental, manufacture and service conditions .....: (ISO 14971 Cl. 5.2-5.5, 6, 7.1-7.4)		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	– RISK ANALYSIS included effects of failures such as excessive deflection, plastic deformation, ductile/brittle fracture, fatigue fracture, instability (buckling), stress-assisted corrosion cracking, wear, material creep and deterioration, and residual stresses from manufacturing PROCESSES		**N/A**
	– Instructions on attachment of structures to a floor, wall, ceiling, included in ACCOMPANYING DOCUMENTS making adequate allowances for quality of materials used to make the connection and list the required materials		**N/A**
	Additional instructions provided on checking adequacy of surface of structure parts will be attached to		**N/A**
9.8.2	Support systems maintain structural integrity during EXPECTED SERVICE LIFE, and TENSILE SAFETY FACTORS are not less than in Table 21, except when an alternative method used to demonstrate structural integrity throughout EXPECTED SERVICE LIFE, or for a foot rest		**N/A**
	Compliance with 9.8.1 and 9.8.2 confirmed by examination of ME EQUIPMENT, RISK MANAGEMENT FILE, specifications and material processing		**N/A**
	RISK MANAGEMENT FILE includes an assessment of the structural integrity of support system ..... (ISO 14971 Cl. 5.3-5.5, 6, 7.1-7.4)		**N/A**
	All identified RISKS are mitigated to an acceptable level		**N/A**
	When test was conducted, testing consisted of application of a test load to support assembly equal to TOTAL LOAD times required TENSILE SAFETY FACTOR while support assembly under test was in equilibrium after 1 min, or not resulted in an unacceptable RISK.....		**N/A**
	Where the equipment is not at equilibrium after 1 min, the RISK MANAGEMENT FILE includes an assessment of the test results..... (ISO 14971 Cl. 5.3-5.5, 6, 7.1-7.4)		**N/A**
9.8.3	**Strength of PATIENT or OPERATOR support or suspension systems**		**N/A**
9.8.3.1	ME EQUIPMENT parts supporting or immobilizing PATIENTS presents no unacceptable RISK of physical injuries and accidental loosening of secured joints		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	RISK MANAGEMENT FILE includes assessment of the RISKS associated with physical injuries and accidental loosening of fixings..... : (ISO 14971 Cl. 5.3-5.5, 6, 7.1-7.4)		**N/A**
	SAFE WORKING LOAD of ME EQUIPMENT or its parts supporting or suspending PATIENTS or OPERATORS is sum of mass of PATIENTS or mass of OPERATORS plus mass of ACCESSORIES supported by ME EQUIPMENT or its parts		**N/A**
	Supporting and suspending parts for adult human PATIENTS or OPERATORS designed for a PATIENT or OPERATOR with a min mass of 135 kg and ACCESSORIES with a min mass of 15 kg, unless stated by MANUFACTURER		**N/A**
	Maximum mass of PATIENT included in SAFE WORKING LOAD of ME EQUIPMENT or its parts supporting or suspending PATIENTS adapted when MANUFACTURER specified applications		**N/A**
	Max allowable PATIENT mass < 135 kg marked on ME EQUIPMENT and stated in ACCOMPANYING DOCUMENTS		**N/A**
	Max allowable PATIENT mass over 135 kg stated in ACCOMPANYING DOCUMENTS		**N/A**
	Examination of markings, ACCOMPANYING DOCUMENTS, and RISK MANAGEMENT FILE confirmed compliance ..... :		**N/A**
9.8.3.2	a) Entire mass of PATIENT or OPERATOR distributed over an area of 0.1 m^2 on a foot rest temporarily supporting a standing PATIENT or OPERATOR ..... :		**N/A**
	Compliance confirmed by examination of ME EQUIPMENT specifications of materials and their processing, and tests ..... :		**N/A**
	b) Deflection of a support surface from PATIENT or OPERATOR loading on an area of support/ suspension where a PATIENT or OPERATOR can sit did not result in an unacceptable RISK		**N/A**
	Compliance confirmed by examination of ME EQUIPMENT, specifications of materials and their processing, and by a test ..... :		**N/A**
9.8.3.3	Dynamic forces that can be exerted on equipment parts supporting or suspending a PATIENT or OPERATOR in NORMAL USE maintained BASIC SAFETY and ESSENTIAL PERFORMANCE confirmed test		**N/A**
9.8.4	**Systems with MECHANICAL PROTECTIVE DEVICES**		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
9.8.4.1	a) A MECHANICAL PROTECTIVE DEVICE provided for the support system		**N/A**
	b) MECHANICAL PROTECTIVE complies with the requirements as follows:		**N/A**
	– Designed based on TOTAL LOAD		**N/A**
	– Has TENSILE SAFETY FACTORS for all parts not less than Table 21, row 7		**N/A**
	– Activated before travel produced an unacceptable RISK		**N/A**
	– Considers Clauses 9.2.5 and 9.8.4.3		**N/A**
	Compliance confirmed by examination of ME EQUIPMENT over travel calculations and evaluation plus functional tests ..... :		**N/A**
9.8.4.2	Activation of MECHANICAL PROTECTIVE DEVICE is made obvious to OPERATOR when ME EQUIPMENT can still be used after failure of suspension or actuation means and activation of a MECHANICAL PROTECTIVE DEVICE		**N/A**
	MECHANICAL PROTECTIVE DEVICE requires use of a TOOL to be reset or replaced		**N/A**
9.8.4.3	**MECHANICAL PROTECTIVE DEVICE intended to function once**		**N/A**
	–use of ME EQUIPMENT not possible until replacement of MECHANICAL PROTECTIVE DEVICE . :		**N/A**
	– ACCOMPANYING DOCUMENTS provided with required information on replacement by service personal		**N/A**
	– ME EQUIPMENT permanently marked with SAFETY SIGN 2 of Table D.		**N/A**
	– Marking is adjacent to MECHANICAL PROTECTIVE DEVICE		**N/A**
	– Compliance confirmed by examination and following test..... :		**N/A**
	A chain, cable, band, spring, belt, jack screw nut, pneumatic or hydraulic hose, structural part or the like, employed to support a load, defeated by a convenient means causing maximum normal load to fall from most adverse position permitted by construction of ME EQUIPMENT		**N/A**
	Load included SAFE WORKING LOAD in 9.8.3.1 when system was capable of supporting a PATIENT or OPERATOR		**N/A**
	No evidence of damage to MECHANICAL PROTECTIVE DEVICE affecting its ability to perform its intended function		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
9.8.5	**Systems without MECHANICAL PROTECTIVE DEVICES**		**N/A**
	Support Systems does not require MECHANICAL PROTECTIVE DEVICES..... :		**N/A**
	RISK MANAGEMENT FILE includes an assessment of RISKS associated with wear on the support system .....: (ISO 14971 Cl. 5.3-5.5, 6, 7.1-7.4)		**N/A**
10	**PROTECTION AGAINST UNWANTED AND EXCESSIVE RADIATION HAZARDS**		**N/A**
10.1	**X-Radiation**		**N/A**
10.1.1	The air kerma did not exceed 5 µGy/hat 5 cm from surface of ME EQUIPMENT.....:	No X-radiation.	**N/A**
	Annual exposure reduced taking into account the irradiated body part, national regulations, and/or international recommendations for ME EQUIPMENT that has permanent proximity to a PATIENT as part of the INTENDED USE		**N/A**
10.1.2	RISK from unintended X-radiation from ME EQUIPMENT producing X-radiation for diagnostic and therapeutic purposes addressed application of applicable particular and collateral standards, or .....:		**N/A**
	RISK MANAGEMENT PROCESS as indicated in RISK MANAGEMENT ILE.....: (ISO 14971 Cl. 5.3-5.5, 6, 7.1-7.4)		**N/A**
10.2	RISK associated with alpha, beta, gamma, neutron, and other particle radiation, addressed in RISK MANAGEMENT PROCESS as shown in RISK MANAGEMENT FILE.....: (ISO 14971 Cl. 5.3-5.5, 6, 7.1-7.4)	No such radiation.	**N/A**
10.3	The power density of unintended microwave radiation at frequencies between 1 GHz and 100 GHz does not exceed 10 W/m2		**N/A**
	Microwave radiation is propagated intentionally		**N/A**
10.4	Relevant requirements of IEC 60825-1:2014 applied to lasers including laser diodes, laser light barriers or similar with a wavelength range of 180nm to 1 mm.	No laser	**N/A**
10.5	RISK associated with visible electromagnetic radiation other than emitted by lasers when applicable, addressed in RISK MANAGEMENT PROCESS as indicated in RISK MANAGEMENT FILE ...: (ISO 14971 Cl. 5.3-5.5, 6, 7.1-7.4)	No such radiation.	**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
10.6	RISK associated with infrared radiation other than emitted by lasers addressed in RISK MANAGEMENT PROCESS as indicated in RISK MANAGEMENT FILE.....: (ISO 14971 Cl. 5.3-5.5, 6, 7.1-7.4)	No such radiation.	**N/A**
10.7	RISK associated with ultraviolet radiation other than emitted by lasers and LEDS addressed in RISK MANAGEMENT PROCESS as indicated in RISK MANAGEMENT FILE.....: (ISO 14971 Cl. 5.3-5.5, 6, 7.1-7.4)	No such radiation.	**N/A**
11	**PROTECTION AGAINST EXCESSIVE TEMPERATURES AND OTHER HAZARDS**		**P**
11.1	**Excessive temperatures in ME EQUIPMENT**		**P**
11.1.1	Temperatures on ACCESSIBLE PARTS did not exceed values in Tables 22 and .....:	See appended Table 11.1.1	**P**
	Surfaces of test corner did not exceed 90 °C		**P**
	THERMAL CUT-OUTS did not operate in NORMAL CONDITION	No thermal cut-out	**N/A**
	RISK MANAGEMENT FILE includes an assessment of the duration of contact for all APPLIED PARTS and ACCESSIBLE PARTS.....: (ISO 14971 Cl. 5.3-5.5, 6, 7.1-7.4)	1 s ≤ t < 10 s	**P**
11.1.2	**Temperature of APPLIED PARTS**		**N/A**
11.1.2.1	APPLIED PARTS (hot or cold intended to supply heat to a PATIENT comply.....:	No applied parts.	**N/A**
	Clinical effects determined and documented in the RISK MANAGEMENT FILE (ISO 14971 Cl. 5.3-5.5, 6, 7.1-7.4)		**N/A**
	Temperature (hot or cold) of APPLIED PARTS intended to supply heat to a PATIENT disclosed in the instructions for use		**N/A**
11.1.2.2	APPLIED PARTS not intended to supply heat to a PATIENT complies with the limits of Table 24 in NORMAL CONDITION and SINGLE FAULT CONDITION ..:		**N/A**
	APPLIED PARTS surface temperature exceeds 41°C disclosed in the instruction manual:		**N/A**
	Maximum Temperature .....:		**—**
	Conditions for safe contact, e.g. duration or condition of the PATIENT.....:		**—**
	Clinical effects with respect to characteristics taken or surface pressure documented in the RISK MANAGEMENT FILE (ISO 14971 Cl. 5.3-5.5, 6, 7.1-7.4)		**N/A**
	APPLIED PARTS surface temperature of equal to or less than 41°C		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Analysis documented in the RISK MANAGEMENT FILE show that APPLIED PART temperatures are not affected by operation of the ME EQUIPMENT including SINGLE FAULT CONDITIONS. Measurement of APPLIED PART temperature according to 11.1.3 is not conducted		**N/A**
	Surfaces of APPLIED PARTS that are cooled below ambient temperatures evaluated in the RISK MANAGEMENT PROCESS..... (ISO 14971 Cl. 5.3-5.5, 6, 7.1-7.4)		**N/A**
11.1.3	Measurements not made when engineering judgment and rationale by MANUFACTURER indicated temperature limits could not exceed, as documented in RISK MANAGEMENT FILE..... (ISO 14971 Cl. 5.3-5.5, 6, 7.1-7.4)	No such temperature limits.	**N/A**
	Test corner not used where engineering judgment and rationale by MANUFACTURER indicated test corner will not impact measurements, as documented in RISK MANAGEMENT FILE..... (ISO 14971 Cl. 5.3-5.5, 6, 7.1-7.4)	Test corner used	**N/A**
	Probability of occurrence and duration of contact for parts likely to be touched and for APPLIED PARTS documented in RISK MANAGEMENT FILE ..... (ISO 14971 Cl. 5.3-5.5, 6, 7.1-7.4)	No such guards.	**N/A**
	e) Where thermal regulatory devices make this method inappropriate, alternative methods for measurement are justified in the RISK MANAGEMENT FILE.....	No alternative method	**N/A**
11.1.4	GUARDS preventing contact with hot or cold accessible surfaces removable only with a TOOL	No such guards.	**N/A**
11.2	**Fire prevention**		**P**
11.2.1	ENCLOSURE has strength and rigidity necessary to prevent a fire and met mechanical strength tests for ENCLOSURES in 15.3	Certified enclosure	**P**
11.2.2	**Me equipment and me systems used in conjunction with OXYGEN RICH ENVIRONMENTS**		**N/A**
11.2.2.1	RISK of fire in an OXYGEN RICH ENVIRONMENT reduced by means limiting spread of	Not used in oxygen rich environments me equipment	**N/A**
	a) No sources of ignition discovered in an OXYGEN RICH ENVIRONMENT under any of the following conditions		**N/A**
	1) when temperature of material raised to its ignition temperature		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	2) when temperatures affected solder or solder joints causing loosening, short circuiting, or other failures causing sparking or increasing material temperature to its ignition temperature		**N/A**
	3) when parts affecting safety cracked or changed outer shape exposing temperatures higher than 300°C or sparks due to overheating		**N/A**
	4) when temperatures of parts or components exceeded 300°C, atmosphere was 100 % oxygen, contact material solder, and fuel cotton		**N/A**
	5) when sparks provided adequate energy for ignition by exceeding limits of Figs 35 to 37 (inclusive), atmosphere was 100 % oxygen, contact material solder, and fuel cotton		**N/A**
	Deviations from worst case limits in 4) and 5) above based on lower oxygen concentrations or less flammable fuels justified and documented in RISK MANAGEMENT FILE……: (ISO 14971 Cl. 5.3-5.5, 6, 7.1-7.4)		**N/A**
	Alternative test in this clause did not identify existence of ignition sources at highest voltage or current, respectively……:		**N/A**
	A safe upper limit determined by dividing upper limit of voltage or current, respectively, with safety margin factor of three .....:		**N/A**
	b) RESIDUAL RISK of fire in an OXYGEN RICH ENVIRONMENT as determined by application of RISK MANAGEMENT PROCESS is based on following configurations, or in combination …….: (ISO 14971 Cl. 5.3-5.5, 6, 7.1-7.4)		**N/A**
	1) Electrical components in an OXYGEN RICH ENVIRONMENT provided with power supplies having limited energy levels lower than those considered sufficient for ignition in 11.2.2.1 a) as determined by examination, measurement or calculation of power, energy, and temperatures in NORMAL and SINGLE FAULT CONDITIONS identified in 11.2.3……:		**N/A**
	2) Max oxygen concentration measured until it did not exceed 25 % in ventilated compartments with parts that can be a source of ignition only in SINGLE FAULT CONDITION and can be penetrated by oxygen due to an undetected leak (%)……:		**N/A**
	3) A compartment with parts or components that can be a source of ignition only under SINGLE FAULT CONDITION separated from another compartment containing an OXYGEN RICH ENVIRONMENT by sealing all joints and holes for cables, shafts, or other purposes		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Effect of possible leaks and failures under SINGLE FAULT CONDITION that could cause ignition evaluated using a RISK ASSESSMENT to determine maintenance intervals by examination of documentation and RISK MANAGEMENT FILE…….:		**N/A**
	4) Fire initiated in ENCLOSURE of electrical components in a compartment with OXYGEN RICH ENVIRONMENT that can become a source of ignition only under SINGLE FAULT CONDITIONS self-extinguished rapidly and no hazardous amount of toxic gases reached PATIENT as determined by analysis of gases …….:		**N/A**
11.2.2.2	RISK of ignition did not occur, and oxygen concentration did not exceed 25% in immediate surroundings due to location of external exhaust outlets of an OXYGEN RICH ENVIRONMENT		**N/A**
11.2.2.3	Electrical connections within a compartment containing an OXYGEN RICH ENVIRONMENT under NORMAL USE did not produce sparks		**N/A**
	– Screw-attachments protected against loosening during use by varnishing, use of spring washers, or adequate torques		**N/A**
	– Soldered, crimped, and pin-and-socket connections of cables exiting ENCLOSURE include additional mechanical securing means		**N/A**
11.2.3	**SINGLE FAULT CONDITIONS related to OXYGEN RICH ENVIRONMENTS ME EQUIPMENT and ME SYSTEMS considered**		**N/A**
	– Failure of a ventilation system constructed in accordance with 11.2.2.1 b) 2)…….:	Not oxygen rich environments me equipment.	**N/A**
	– Failure of a barrier constructed in accordance with 11.2.2.1 b) 3)…….:		**N/A**
	– Failure of a component creating a source of ignition (as defined in 11.2.2.1 a)……..:		**N/A**
	– Failure of solid insulation or creepage and clearances providing equivalent of at least one MEANS OF PATIENT PROTECTION but less than two MEANS OF PATIENT PROTECTION that could create a source of ignition defined in 11.2.2.1 a)…….:		**N/A**
	– Failure of a pneumatic component resulting in leakage of oxygen-enriched gas……..:		**N/A**
11.3	**Constructional requirements for fire ENCLOSURES of ME EQUIPMENT**		**P**
	ME EQUIPMENT met this clause for alternate means of compliance with selected HAZARDOUS SITUATIONS and fault conditions in 13.1.2…….:	GT-RM2017-002 6.3 H2	**P**
	Constructional requirements were met, or		**P**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- constructional requirements specifically analysed in RISK MANAGEMENT FILE …….. : (ISO 14971 Cl. 5.3-5.5, 6, 7.1-7.4)		**N/A**
	Justification, when requirement not met…….:		**N/A**
	a) Flammability classification of insulated wire and connectors within fire ENCLOSURE is minimum V-2, , when test in accordance with IEC 60695-11-10 or :	See appended Table 8.10	**P**
	insulated with PVC, TFE, PTFE, FEP, polychloroprene or polyimide as determined by examination of data on materials……..:	See appended Table 8.10	**P**
	Flammability classification of printed circuit boards, and insulating material on which components are mounted is V-2, or better, based on IEC 60695-11-10 as decided by examination of materials data……:	See appended Table 8.10	**P**
	If no Certification, V tests based on IEC 60695-11-10 conducted on 3 samples of complete parts (or sections of it), including area with min. thickness, ventilation openings	UL 94 approved.	**P**
	b) Fire ENCLOSURE met following:		**P**
	1) No openings at bottom or, as specified in Fig 39, constructed with baffles as in Fig 38, or made of perforated metal as in Table 25, or a metal screen with a mesh ≤ 2 × 2 mm centre to centre and wire diameter of at least 0.45 mm	No openings on the enclosure.	**P**
	2) No openings on the sides within the area included within the inclined line C in Fig 39 or made of perforated metal as in Table 25, or a metal screen with a mesh ≤ 2 × 2 mm centre to centre and wire diameter of at least 0.45 mm		**P**
	3) ENCLOSURE, baffles, and flame barriers have adequate rigidity and are made of appropriate metal or of non-metallic materials……:	See appended Table 8.10	**P**
11.4	**ME EQUIPMENT and ME SYSTEMS intended for use with flammable anaesthetics**		**N/A**
	ME EQUIPMENT, ME SYSTEMS and parts described in ACCOMPANYING DOCUMENTS for use with flammable with Annex G	Not category ap or category apg Me equipment.	**N/A**
11.5	**ME EQUIPMENT and ME SYSTEMS intended for use in conjunction with flammable agents**		**N/A**
	MANUFACTURER'S RISK MANAGEMENT PROCESS addresses possibility of fire and associated mitigations as confirmed by examination of RISK MANAGEMENT FILE ……: (ISO 14971 Cl. 5.3-5.5, 6, 7.1-7.4)	No intended for use in conjunction with flammable agents	**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
11.6	**Overflow, spillage, leakage, ingress of water or particulate matter, cleaning, disinfection, sterilization and compatibility with substances used with the ME EQUIPMENT**		**P**
11.6.1	Sufficient degree of protection provided against overflow, spillage, leakage, ingress of water or particulate matter, cleaning, disinfection and sterilization, and compatibility with substances used with ME EQUIPMENT..... :	EUT is ordinary.	**N/A**
11.6.2	**Overflow in ME EQUIPMENT**		**N/A**
	ME EQUIPMENT incorporates a reservoir or liquid storage that did not wet any MEANS OF PROTECTION, nor result in the loss of BASIC SAFETY or ESSENTIAL PERFORMANCE……:	No such situation.	**N/A**
	Maximum fill level is indicated by marking on the ME EQUIPMENT and a warning or safety notice is given, no HAZARDOUS SITUATION (as specified in 13.1) or unacceptable RISK due to overflow developed when the reservoir or liquid storage chamber is filled to its maximum capacity and the TRANSPORTABLE ME EQUIPMENT is tilted through an angle of 10°, or for MOBILE ME EQUIPMENT exceeding 45 kg, is moved over a threshold as described in 9.4.2.4.3.		**N/A**
	No warning or safety notice provided regarding the maximum fill level, no HAZARDOUS SITUATION (as specified in 13.1) or unacceptable RISK due to overflow developed when the reservoir or liquid storage chamber was filled to 15 % above the maximum capacity and the TRANSPORTABLE ME EQUIPMENT was tilted through an angle of 10°, or in MOBILE ME EQUIPMENT exceeding 45 kg, was moved over a threshold as described in 9.4.2.4.3.		**N/A**
11.6.3	**Spillage on ME EQUIPMENT and ME SYSTEM**		**N/A**
	ME EQUIPMENT and ME SYSTEMS handling liquids constructed that spillage does not wet parts as determined by review of the RISK MANAGEMENT FILE and test……..: (ISO 14971 Cl. 5.3-5.5, 6, 7.1-7.4)	No such situation.	**N/A**
	RISK ANALYSIS identifies the type of liquid, volume, duration and location of the spill…….:		**N/A**
11.6.5	**Ingress of water or particulate matter into ME EQUIPMENT and ME SYSTEMS**		**N/A**
	ME EQUIPMENT with IP Code placed in least favourable position of NORMAL USE and subjected to tests of IEC 60529 (IP Code)…….:	IP20	**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	ME EQUIPMENT met dielectric strength and LEAKAGE CURRENT tests and there were no bridging of insulation or electrical components that could result in the loss of BASIC SAFETY or ESSENTIAL PERFORMANCE in NORMAL CONDITION or in combination with a SINGLE FAULT CONDITION..	See appended Tables 8.7 8.8.3	**P**
11.6.6	**Cleaning and disinfection of ME EQUIPMENT and ME SYSTEMS**		**N/A**
	ME EQUIPMENT/ME SYSTEM and their parts and ACCESSORIES cleaned or disinfected using methods specified in instructions for use……..…:	No cleaning & disinfection requirement.	**N/A**
	Effects of multiple cleanings/disinfections during EXPECTED SERVICE LIFE of EQUIPMENT evaluated by MANUFACTURER……:		**N/A**
11.6.7	**Sterilization of ME EQUIPMENT and ME SYSTEMS**		**N/A**
	ME EQUIPMENT, ME SYSTEMS and their parts or ACCESSORIES intended to be sterilized assessed and documented and compliant with tests……:	No sterilization requirement.	**N/A**
	RISK MANAGEMENT FILE includes an assessment of the RISKS associated with any deterioration following sterilization……: (ISO 14971 Cl. 5.3-5.5, 6, 7.1-7.4)		**N/A**
11.6.8	RISKS associated with compatibility of substances used with ME EQUIPMENT addressed in RISK MANAGEMENT PROCESS……: (ISO 14971 Cl. 5.3-5.5, 6, 7.1-7.4)	Final determination to be competed in the end product.	**N/A**
11.7	ME EQUIPMENT, ME SYSTEM, and ACCESSORIES coming into direct or indirect contact with biological tissues, cells, or body fluids assessed and documented	No such parts.	**N/A**
11.8	Interruption and restoration of power supply did not result in a loss of BASIC SAFETY or ESSENTIAL PERFORMANCE	No such situation.	**N/A**
12	**ACCURACY OF CONTROLS AND INSTRUMENTS AND PROTECTION AGAINST HAZARDOUS OUTPUTS**		**N/A**
12.1	RISKS associated with accuracy of controls and instruments stated.....: (ISO 14971 Cl. 5.3-5.5, 6, 7.1-7.4)	No such control.	**N/A**
12.2	RISK of poor USABILITY, including identification, marking, and documents addressed in a USABILITY ENGINEERING……:	Not applicable to component power supply.	**N/A**
12.3	MANUFACTURER implemented an ALARM SYSTEM compliant with IEC 60601-1-8:2006, IEC 60601-1-8:2006/AMD1:2012 and IEC 60601-1-8:2006/AMD2:2020……..:	No alarm system.	**N/A**
12.4	**Protection against hazardous output**		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
12.4.1	RISKS associated with hazardous output arising from intentional exceeding of safety limits addressed in RISK MANAGEMENT PROCESS……: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)	No hazardous output.	**N/A**
12.4.2	- need for indication associated with hazardous output addressed in RISK MANAGEMENT PROCESS .. (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		**N/A**
12.4.3	RISKS associated with accidental selection of excessive output values for ME EQUIPMENT with a multi-purpose unit addressed in RISK MANAGEMENT PROCESS.....: (ISO 14971 Cl. 5.2-5.5, 6, 7.1-7.4)		**N/A**
12.4.4	RISKS associated with incorrect output addressed in RISK MANAGEMENT PROCESS .....: (ISO 14971 Cl. 5.2-5.5, 6, 7.1-7.4)		**N/A**
12.4.5	**Diagnostic or therapeutic radiation**		**N/A**
12.4.5.1	Adequate provisions to protect OPERATORS, PATIENTS, other persons and sensitive devices in vicinity of unwanted or excessive radiation	No radiation for diagnostic/therapeutic purposes.	**N/A**
	Radiation safety ensured by compliance with requirements of appropriate standards		**N/A**
12.4.5.2	ME EQUIPMENT and ME SYSTEMS designed to produce X-radiation for diagnostic imaging purposes complied with IEC 60601-1-3.....:		**N/A**
12.4.5.3	RISKS associated with radiotherapy addressed in RISK MANAGEMENT PROCESS as .....: (ISO 14971 Cl. 5.2-5.5, 6, 7.1-7.4)		**N/A**
12.4.5.4	RISKS associated with ME EQUIPMENT producing diagnostic or therapeutic radiation other than diagnostic X-rays and radiotherapy addressed in RISK MANAGEMENT PROCESS as.....: (ISO 14971 Cl. 5.2-5.5, 6, 7.1-7.4)		**N/A**
12.4.6	RISKS associated with diagnostic or therapeutic acoustic pressure addressed in RISK MANAGEMENT.....: (ISO 14971 Cl. 5.2-5.5, 6, 7.1-7.4)	No diagnostic or therapeutic acoustic pressure.	**N/A**
13	**HAZARDOUS SITUATIONS AND FAULT CONDITIONS**		**P**
13.1	**Specific HAZARDOUS SITUATIONS**		**P**
13.1.2	**Emissions, deformation of ENCLOSURE or exceeding maximum temperature**		**P**
	– Emission of flames, molten metal, poisonous or ignitable substance in hazardous quantities did not occur		**P**
	– Deformation of ENCLOSURE impairing compliance with 15.3.1 did not occur		**P**
	– Temperatures of APPLIED PARTS did not exceed allowable values in Table 24.....	No applied parts.	**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	– Temperatures of Accessible PARTS THAT ARE LIKELY TO BE TOUCHED, but not intended to be touched did not exceed limits in Table 34.....	See appended Table 11.1.1	**P**
	- Temperatures of ACCESSIBLE PARTS intended to be touched did not exceed limits in Table 23		**P**
	–Allowable values for “other components and materials” in Table 22 times 1.5 minus 12.5 °C were not exceeded		**P**
	Limits for windings in Tables 26, 27, and 31 not exceeded		**P**
	Table 22 not exceeded in all other cases		**P**
	Temperatures measured according to 11.1.3		**P**
	SINGLE FAULT CONDITIONS in 4.7, 8.1 b), 8.7.2, and 13.2.2 relative to emission of flames, molten metal, or ignitable substances, not applied to parts and components where:		**P**
	– Supply circuit was unable to supply 15 W one minute after 15 W drawn from supply circuit in SINGLE FAULT CONDITION ..... :		**N/A**
	- or secondary circuits mounted on materials with a minimum flame rating of -V1, and		**N/A**
	- Secondary circuits energized by less than 60 Vdc, 42.4 Vpeak in NC and SFC, and		**N/A**
	- Secondary circuits limited to 100 VA or 6000 J in NC and SFC, and		**N/A**
	- Wire insulation in secondary circuits of types PVC, TFE, PTFE, FEP, polychloroprene or polybromide		**N/A**
	- or components in the circuit have HIGH INTEGRITY CHARACTERISTICS..... :		**N/A**
	– or parts and components completely contained within a fire ENCLOSURE complying with 11.3 as verified by review of design documentation		**N/A**
	After tests of this Clause, settings of THERMAL CUT-OUTS and OVER-CURRENT RELEASES did not change sufficiently to affect their safety function	Fuse only	**P**
13.1.3	– limits for LEAKAGE CURRENT in SINGLE FAULT CONDITION did not exceed……..:	See appended Table 8.7	**P**
	– voltage limits for ACCESSIBLE PARTS and APPLIED PARTS did not exceed……..:	See appended Table 8.7	**P**
13. 2	**SINGLE FAULT CONDITIONS**		**P**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
13.2.1	During the application of the SINGLE FAULT CONDITIONS listed in 13.2.2 to 13.2.13 (inclusive), the NORMAL CONDITIONS identified in 8.1 a) also applied in the least favourable combination		**P**
	ME EQUIPMENT complied with 13.2.2 -13.2.12…..:	See appended Table 13.2	**P**
	RISK MANAGEMENT FILE includes an assessment of RISKS associated with leakage of liquid in a SINGLE FAULT CONDITION.....: (ISO 14971 Cl. 5.2-5.5, 6, 7.1-7.4)	RMF Reference to specific risks: GT-RM2017-002 6.3 & 6.4 EL7	**P**
	RISK MANAGEMENT FILE defines the appropriate test conditions.....:		**N/A**
13.2.13	ME EQUIPMENT remained safe after tests of 13.2.13.2 to 13.2.13.4, and cooling down to within 3 °C of test environment temperature		**P**
	ME EQUIPMENT examined for compliance or appropriate tests such as dielectric strength of motor insulation according to 8.8.3 conducted		**P**
13.2.13.2	**ME EQUIPMENT with heating elements**		**N/A**
	a 1) thermostatically controlled ME EQUIPMENT with heating elements for building-in, r for unattended operation, or with a capacitor not protected by a fuse connected in parallel with THERMOSTAT contacts met tests	No Heating Elements provided	**N/A**
	a 2) ME EQUIPMENT with heating elements RATED for non-CONTINUOUS OPERATION met tests		**N/A**
	a 3) other ME EQUIPMENT with heating elements met test		**N/A**
	When more than one test was applicable to same ME EQUIPMENT, tests performed consecutively		**N/A**
	Heating period stopped when a heating element or an intentionally weak part of a non-SELF-RESETTING THERMAL CUT-OUT ruptured, or current interrupted before THERMAL STABILITY without possibility of automatic restoration		**N/A**
	Test repeated on a second sample when interruption was due to rupture of a heating element or an intentionally weak part		**N/A**
	Both samples met 13.1.2, and open circuiting of a heating element or an intentionally weak part in second sample not considered a failure by itself		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	b) ME EQUIPMENT with heating elements without adequate heat discharge, and supply voltage set at 90 or 110 % of RATED supply voltage, least favourable of the two (V)		**N/A**
	Operating period stopped when a non-SELF-RESETTING THERMAL CUT-OUT operated, or current interrupted without possibility of automatic restoration before THERMAL STABILITY		**N/A**
	ME EQUIPMENT switched off as soon as THERMAL STABILITY established and allowed to cool to room temperature when current not interrupted		**N/A**
	Test duration was equal to RATED operating time for non-CONTINUOUS OPERATION		**N/A**
	c) Heating parts of ME EQUIPMENT tested with ME EQUIPMENT operated in NORMAL CONDITION at 110 % of RATED supply voltage and as in 11.1, and		**N/A**
	1) Controls limiting temperature in NORMAL CONDITION disabled, except THERMAL CUT-OUTS		**N/A**
	2) When more than one control provided, they were disabled in turn		**N/A**
	3) ME EQUIPMENT operated at RATED DUTY CYCLE until THERMAL STABILITY achieved, regardless of RATED operating time		**N/A**
13.2.13.3	**ME EQUIPMENT with motors**		**N/A**
	a 1) For the motor part of the ME EQUIPMENT, compliance checked by tests of 13.2.8- 13.2.10, 13.2.13.3 b), 13.2.13.3 c), and 13.2.13.4, as applicable	No motors provided in power supply.	**N/A**
	To determine compliance with 13.2.9 and 13.2.10 motors in circuits running at 42.4 V peak a.c./ 60 V d.c. or less are covered with a single layer of cheesecloth which did not ignite during the test		**N/A**
	a 2) Tests on ME EQUIPMENT containing heating parts conducted at prescribed voltage with motor & heating parts operated simultaneously to produce the least favourable condition		**N/A**
	a 3) Tests performed consecutively when more tests were applicable to the same ME EQUIPMENT		**N/A**
	b) Motor met running overload protection test of this clause when:		**N/A**
	1) it is intended to be remotely or automatically controlled by a single control device with no redundant protection, or		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	2) it is likely to be subjected to CONTINUOUS OPERATION while unattended		**N/A**
	Motor winding temperature determined during each steady period and maximum value did not exceed Table 27 (Insulation Class, Maximum temperature measured °C) .....:		**N/A**
	Motor removed from ME EQUIPMENT and tested separately when load could not be changed in appropriate steps		**N/A**
	Running overload test for motors operating at 42.4 V peak a.c./60 V d.c. or less performed only when examination and review of design indicated possibility of an overload		**N/A**
	Test not conducted where electronic drive circuits maintained a substantially constant drive current		**N/A**
	Test not conducted based on other justifications (justification) .....:		**N/A**
	c) ME EQUIPMENT with 3-phase motors operated with normal load, connected to a 3-phase SUPPLY MAINS with one phase disconnected, and periods of operation per 13.2.10		**N/A**
13.2.13.4	**ME EQUIPMENT RATED for NON-CONTINUOUS OPERATION**		**N/A**
	ME EQUIPMENT (other than HAND-HELD) operated under normal load and at RATED voltage or at upper limit of RATED voltage range until increase in temperature was ≤ 5 °C in one hour, or a protective device operated	Continuous operation.	**N/A**
	When a load-reducing device operated in NORMAL USE, test continued with ME EQUIPMENT running idle		**N/A**
	Motor winding temperatures did not exceed values in 13.2.10……:		**N/A**
	Insulation Class……:		**—**
	Maximum temperature measured (°C)……:		**—**
14	**PROGRAMMABLE ELECTRICAL MEDICAL SYSTEMS (PEMS)**		**N/A**
14.1	Requirements in 14.2 to 14,12 not applied to PEMS when it provides no functionality necessary for BASIC SAFETY or ESSENTIAL PERFORMANCE, or	No Such Parts/ PESS relied upon for Basic Safety or Essential Performance	**N/A**
	- when application of RISK MANAGEMENT showed that failure of PESS does not lead to unacceptable RISK……..:		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	RISK MANAGEMENT FILE contains an assessment of RISKS associated with the failure of the PESS: (ISO 14971 Cl. 5.2-5.5, 6)		**N/A**
	Requirements of 14.13 not applied to PEMS intended to be incorporated into an IT NETWORK		**N/A**
	When the requirements of 14.2 to 14.13 apply, the requirements of IEC 62304:2006 and IEC 62304:2006/AMD1:2015 clause 4.3, 5, 7, 8 and 9 apply for the development or modification of software of each PESS		**N/A**
	Software development process for Software Classification applied in accordance with Clause 4.3 and 4.4 of IEC 62304:2006 and IEC 62304:2006/AMD1:2015……..:		**N/A**
	Software development process applied according to Clause 5 of IEC 62304:2006 and IEC 62304:2006/AMD1:2015……:		**N/A**
	Software development process for Software risk management applied according to Clause 7 of IEC 62304:2006 and IEC 62304:2006/AMD1:2015……..:		**N/A**
	Software development process Configuration Management applied according to Clause 8 of IEC 62304:2006 and IEC 62304:2006/ AMD1:2015……:		**N/A**
	Software development process for Software Problem Resolution applied according to Clause 9 of IEC 62304:2006 and IEC 62304:2006/AMD1:2015……..:		**N/A**
14.2	Documents required by Clause 14 reviewed, approved, issued and revised according to a formal document control process…….:		**N/A**
14.3	RISK MANAGEMENT plan required by 4.2.2 includes reference to PEMS VALIDATION plan		**N/A**
14.4	A PEMS DEVELOPMENT LIFE-CYCLE including a set of defined milestones has been documented		**N/A**
	At each milestone, activities to be completed, and VERIFICATION methods to be applied to activities have been defined		**N/A**
	Each activity including its inputs and outputs defined, and each milestone identifies RISK MANAGEMENT activities that must be completed before that milestone		**N/A**
	PEMS DEVELOPMENT LIFE-CYCLE tailored for a specific development by making plans detailing activities, milestones		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	PEMS DEVELOPMENT LIFE-CYCLE includes documentation requirements		**N/A**
14.5	A documented system for problem resolution within and between all phases and activities of PEMS DEVELOPMENT LIFE-CYCLE has been developed and maintained		**N/A**
14.6	**RISK MANAGEMENT PROCESS**		**N/A**
14.6.1	MANUFACTURER considered HAZARDS associated with software and hardware aspects of PEMS including those associated with the incorporating PEMS into an IT-NETWORK, components of third-party origin, legacy subsystems when compiling list of known or foreseeable HAZARDS……..:		**N/A**
	RISK MANAGEMENT FILE includes known or foreseeable HAZARDS associated with software, hardware, incorporation of the PEMS into an IT-NETWORK, components of 3rd party origin and legacy subsystems……: (ISO 14971 Cl. 5.3)		**N/A**
14.6.2	Suitably validated tools and PROCEDURES assuring each RISK CONTROL measure reduces identified RISK(S) satisfactorily provided in addition to PEMS requirements in Clause 4.2.2…:		**N/A**
	RISK MANAGEMENT FILE documents the suitability of tools and procedures to validate each RISK CONTROL measure……: (ISO 14971 Cl. 7.1)		**N/A**
14.7	A documented requirement specification for PEMS and each of its subsystems (e.g. for a PESS) which includes ESSENTIAL PERFORMANCE and RISK CONTROL measures implemented by that system or subsystem……: (ISO 14971 Cl. 7.2)		**N/A**
14.8	An architecture satisfying the requirement is specified for PEMS and each of subsystems …..: (ISO 14971 Cl. 7.2)		**N/A**
14.9	Design is broken up into sub systems and descriptive data on design environment documented……:		**N/A**
14.10	A VERIFICATION plan containing the specified information used to verify and document functions implementing BASIC SAFETY, ESSENTIAL PERFORMANCE, or RISK CONTROL measures……..: (ISO 14971 Cl. 7.2)		**N/A**
	– milestone(s) when VERIFICATION is to be performed for each function		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	– selection and documentation of VERIFICATION strategies, activities, techniques, and appropriate level of independence of the personnel performing the VERIFICATION		**N/A**
	– selection and utilization of VERIFICATION tools		**N/A**
	– coverage criteria for VERIFICATION		**N/A**
	The VERIFICATION performed according to the VERIFICATION plan and results of the VERIFICATION activities documented		**N/A**
14.11	A PEMS VALIDATION plan containing validation of BASIC SAFETY & ESSENTIAL PERFORMANCE		**N/A**
	The PEMS VALIDATION performed according to the PEMS VALIDATION plan with results of PEMS VALIDATION activities and methods used for PEMS VALIDATION documented		**N/A**
	The person with overall responsibility for PEMS VALIDATION is independent		**N/A**
	All professional relationships of members of PEMS VALIDATION team with members of design team documented in RISK MANAGEMENT FILE (ISO 14971 Cl. 7.2)		**N/A**
14.12	Continued validity of previous design documentation assessed under a documented modification/change PROCEDURE		**N/A**
	Software Classification for Software changes applied in accordance with Clause 4.3 and 4.4 of IEC 62304:2006 and IEC 62304:2006/ AMD1:2015……:		**N/A**
	Software Process for Software changes applied according to Clause 5 of IEC 62304:2006 and IEC 62304:2006/ AMD1:2015		**N/A**
	RISK MANAGEMENT for Software changes applied according to Clause 7 of IEC 62304:2006 and IEC 62304:2006/ AMD1:2015		**N/A**
	Configuration management of software changes applied per Clause 8 of IEC 62304:2006 and IEC 62304:2006/ AMD1:2015……:		**N/A**
	Problem resolution for Software changes applied according to Clause 9 of IEC 62304:2006 and IEC 62304:2006/ AMD1:2015.....		**N/A**
14.13	For PEMS incorporated into an IT-NETWORK not VALIDATED by the PEMS MANUFACTURER, instructions made available for implementing the connection include the following……:		**N/A**
	a) Purpose of the PEMS connection to an IT-NETWORK		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	b) required characteristics of the IT-NETWORK		**N/A**
	c) required configuration of the IT-NETWORK		**N/A**
	d) technical specifications of the network connection, including security specifications		**N/A**
	e) intended information flow between the PEMS, the IT-NETWORK and other devices on the IT-NETWORK, and the intended routing through the IT-NETWORK		**N/A**
	f) a list of HAZARDOUS SITUATIONS resulting from failure of the IT-NETWORK to provide the required characteristics (ISO 14971 Cl. 5.2-5.5, 6, 7.1, 7.2)		**N/A**
	ACCOMPANYING DOCUMENTS for the RESPONSIBLE ORGANIZATION include the following:		**N/A**
	– statement that connection to IT-NETWORKS including other equipment could result in previously unidentified RISKS TO PATIENTS, OPERATORS or third parties		**N/A**
	– Notification that the RESPONSIBLE ORGANIZATION identify, analyse, evaluate and control these RISKS		**N/A**
	– Notification that changes to the IT-NETWORK could introduce new RISKS that require additional analysis		**N/A**
	- Changes to the IT-NETWORK include: - changes in network configuration - connection of additional items - disconnection of items - update of equipment - upgrade of equipment		**N/A**
15	**CONSTRUCTION OF ME EQUIPMENT**		**P**
15.1	RISKS associated with arrangement of controls and indicators of ME EQUIPMENT addressed through the application of a USABILITY ENGINEERING PROCESS……..:	See Attached IEC 60601-1-6	**N/A**
15.2	Parts of ME EQUIPMENT subject to mechanical wear, electrical, environmental degradation or ageing resulting in unacceptable RISK when unchecked for a long period, are accessible for inspection, replacement, and maintenance	No such parts.	**N/A**
	Inspection, servicing, replacement, and adjustment of parts of ME EQUIPMENT can easily be done without damage to or interference with adjacent parts or wiring		**N/A**
15.3	**Mechanical strength**		**P**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
15.3.1	Mould stress relief, push, impact, drop, and rough handling tests did not result in loss of BASIC SAFETY or ESSENTIAL PERFORMANCE		**P**
15.3.2	Push test conducted ……..:	See Appended Table 15.3	**P**
	No damage resulting in an unacceptable RISK sustained		**P**
15.3.3	Impact test conducted……:	See Appended Table 15.3	**P**
	No damage resulting in an unacceptable RISK sustained		**P**
15.3.4	**Drop test**		**P**
15.3.4.1	Sample of HAND-HELD ME EQUIPMENT, ACCESSORIES and HAND-HELD part with SAFE WORKING LOAD tested ……..:	No hand-held me equipment.	**N/A**
	No unacceptable RISK resulted		**N/A**
15.3.4.2	Sample of PORTABLE ME EQUIPMENT, ACCESSORIES and PORTABLE part with SAFE WORKING LOAD withstood stress as demonstrated by test……:	1 m drop test was chosen.	**P**
	No damage resulting in an unacceptable RISK sustained	No damage	**P**
15.3.5	MOBILE ME EQUIPMENT and MOBILE part with SAFE WORKING LOAD and in most adverse condition in NORMAL USE passed Rough Handling tests…….:	Not mobile ME equipment.	**N/A**
	No damage resulting in an unacceptable RISK sustained		**N/A**
15.3.6	Examination of ENCLOSURE made from moulded or formed thermoplastic material indicated that material distortion due to release of internal stresses by moulding or forming operations will not result in an unacceptable RISK		**P**
	Mould-stress relief test conducted by placing one sample of complete ME EQUIPMENT, ENCLOSURE or a portion of larger ENCLOSURE, for 7 hours in a circulating air oven at 10°C over the max temperature measured on ENCLOSURE in 11.1.3, but no less than 70 °C……:	90°C	**P**
	No damage resulting in an unacceptable RISK		**P**
15.3.7	INTENDED USE, EXPECTED SERVICE LIFE, and conditions for transport and storage were taken into consideration for selection and treatment of materials used in construction of ME EQUIPMENT	No such environmental influences.	**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Based on review of EQUIPMENT, ACCOMPANYING DOCUMENTS, specifications and processing of materials, and MANUFACTURER'S relevant tests or calculations, corrosion, ageing, mechanical wear, degradation of biological materials due to bacteria, plants, animals and the like, will not result in an unacceptable RISK		**N/A**
15.4	**ME EQUIPMENT components and general assembly**		**N/A**
15.4.1	Incorrect connection of accessible connectors, removable without a TOOL, prevented where an unacceptable RISK exists,……..: (ISO 14971 Cl. 5.2-5.5, 6, 7.1-7.4)	No following connections.	**N/A**
	a) Plugs for connection of PATIENT leads or PATIENT cables cannot be connected to outlets on same ME EQUIPMENT intended for other functions,……:		**N/A**
	b) Medical gas connections on ME EQUIPMENT for different gases to be operated in NORMAL USE are not interchangeable inspection……:		**N/A**
15.4.2	**Temperature and overload control devices**		**N/A**
15.4.2.1	a) THERMAL CUT-OUTS and OVER-CURRENT RELEASES with automatic resetting not used in ME EQUIPMENT when their use could lead to a HAZARDOUS SITUATION……: (ISO 14971 Cl. 5.2-5.5, 6)	No such part.	**N/A**
	b) THERMAL CUT-OUTS with a safety function with reset by a soldering not fitted in ME EQUIPMENT	No such part.	**N/A**
	c) An additional independent non-SELF-RESETTING THERMAL CUT-OUT is provided……..: (ISO 14971 Cl. 5.2-5.5)	No such part.	**N/A**
	d) Operation of THERMAL CUT-OUT or OVER CURRENT RELEASE doesn't result in a HAZARDOUS SITUATION or loss of ESSENTIAL PERFORMANCE ….: (ISO 14971 Cl. 5.2-5.5)		**N/A**
	e) Capacitors or other spark-suppression devices not connected between contacts of THERMAL CUT-OUTS	No such part.	**N/A**
	f) Use of THERMAL CUT-OUTS or OVER-CURRENT RELEASES do not affect safety as verified by following tests		**N/A**
	- Positive temperature coefficient devices) complied with IEC 60730-1: 2010, Clauses 15, 17, J.15, and J.17		**N/A**
	- ME EQUIPMENT containing THERMAL CUT-OUTS and OVER-CURRENT RELEASES operated under the conditions of Clause 13……:		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- SELF-RESETTING THERMAL CUT-OUTS and OVER-CURRENT RELEASES including circuits performing equivalent functions Certified according to appropriate standards……:		**N/A**
	- In the absence of Certification in accordance with IEC standards, SELF-RESETTING THERMAL CUT-OUTS and OVER-CURRENT RELEASES including circuits performing equivalent functions operated 200 times		**N/A**
	Manual reset THERMAL CUT-OUTS and OVER-CURRENT RELEASES Certified in accordance with appropriate IEC standards		**N/A**
	manual reset THERMAL CUT-OUTS and OVER-CURRENT RELEASES operated 10 times		**N/A**
	Thermal protective devices tested separately from ME EQUIPMENT when engineering judgment indicated test results would not be impacted		**N/A**
	g) Protective device incorporating a fluid filled container with heating means, operated when heater switched on with container empty and prevented an unacceptable RISK due to overheating	No such part.	**N/A**
	h) ME EQUIPMENT with tubular heating elements provided with protection against overheating…..: (ISO 14971 Cl. 5.2-5.5)	No such part.	**N/A**
15.4.2.2	Temperature settings clearly indicated when means provided to vary setting of THERMOSTATS		**N/A**
15.4.3	**Batteries**		**N/A**
15.4.3.1	Battery housings provided with ventilation…….: (ISO 14971 Cl. 5.2-5.5)	No batteries.	**N/A**
	Battery compartments designed to prevent accidental short circuiting		**N/A**
15.4.3.2	Means provided to prevent incorrect connection of polarity		**N/A**
	RISK MANAGEMENT FILE includes an assessment of RISKS associated with incorrect connection or replacement of batteries……: (ISO 14971 Cl. 5.2-5.5)		**N/A**
15.4.3.3	Overcharging of battery prevented by virtue of design……:		**N/A**
	RISK MANAGEMENT FILE includes an assessment of RISKS associated with overcharging of batteries……: (ISO 14971 Cl. 5.2-5.5)		**N/A**
15.4.3.4	Primary lithium batteries comply with IEC 60086-4		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Secondary lithium batteries comply with IEC 62133 or IEC 62133-2		**N/A**
15.4.3.5	A properly RATED protective device provided within INTERNAL ELECTRICAL POWER SOURCE to protect against fire……..:		**N/A**
	Protective device has adequate breaking capacity		**N/A**
	Justification for OVER-CURRENT RELEASES or FUSE exclusion is documented		**N/A**
	Short circuit test between the positive and negative poles of an INTERNAL ELECTRICAL POWER SOURCE between the output and protective device(s) omitted where 2 MOOPS provided, or		**N/A**
	Short circuit between the positive and negative poles of an INTERNAL ELECTRICAL POWER SOURCE between the output and protective device(s) does not result in any HAZARDOUS SITUATION		**N/A**
15.4.4	Indicator lights provided to indicate ME EQUIPMENT is ready for……:	No such indicator.	**N/A**
	An additional indicator light provided on ME EQUIPMENT with a stand-by state or a warm-up state exceeding 15 s,		**N/A**
	Indicator lights provided on ME EQUIPMENT incorporating non-luminous heaters to indicate heaters are operational		**N/A**
	RISK MANAGEMENT FILE includes an assessment of RISKS associated with the use of indicator lights for EQUIPMENT incorporating non-luminous heaters……..: (ISO 14971 Cl. 5.2-5.5)		**N/A**
	Requirement not applied to heated stylus-pens for recording purposes		**N/A**
	Indicator lights provided on ME EQUIPMENT to indicate an output exists		**N/A**
	Colours of indicator lights complied with 7.8.1		**N/A**
	Charging mode visibly indicated		**N/A**
15.4.5	RISKS associated with pre-set controls addressed in RISK MANAGEMENT PROCESS……: (ISO 14971 Cl. 5.2-5.5, 6, 7.1-7.4)	No such part in power supply.	**N/A**
15.4.6	**Actuating parts of controls of ME EQUIPMENT**		**N/A**
15.4.6.1	a) Actuating parts cannot be pulled off or loosened during NORMAL USE	No such part in power supply	**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	b) Controls secured so that the indication of any scale always corresponds to the position of the control		**N/A**
	c) Incorrect connection prevented by adequate construction when it could be separated without use of a TOOL		**N/A**
	When torque values per Table 30 applied knobs did not rotate ……..:.		**N/A**
	Tests conducted with no unacceptable RISK …..:		**N/A**
15.4.6.2	Stops on rotating/ movable parts of controls are of adequate mechanical strength ……:		**N/A**
	Torque values in Table 30 applied……:		**N/A**
	No unexpected change of the controlled parameter when tested……:		**N/A**
15.4.7	**Cord-connected HAND-HELD and foot-operated control devices**		**N/A**
15.4.7.1	a) HAND-HELD control devices of ME EQUIPMENT complied with 15.3.4.1	No control devices in power supply.	**N/A**
	b) Foot-operated control device supported an actuating force of 1350 N in its position of NORMAL USE with no damage……..:		**N/A**
15.4.7.2	Control device of HAND-HELD and foot-operated control devices turned in all possible abnormal positions and placed on a flat surface……..:		**N/A**
	No unacceptable RISK caused by changing control setting when accidentally placed in an abnormal position		**N/A**
15.4.7.3	a) Foot-operated control device is at least rated IPX1……..:		**N/A**
	b) ENCLOSURE of foot operated control devices containing electrical circuits is at least IPX6……:		**N/A**
15.4.8	Aluminium wires less than 16 mm^2 in cross-sectional area are not used	No such wire.	**N/A**
15.4.9	a) Oil container in PORTABLE ME EQUIPMENT allows for expansion of oil and is adequately sealed	No such parts in power supply.	**N/A**
	b) Oil containers in MOBILE ME EQUIPMENT sealed to prevent loss of oil during transport		**N/A**
	A pressure-release device operating during NORMAL USE is provided		**N/A**
	c) Partially sealed oil-filled ME EQUIPMENT and its parts provided with means for checking the oil level to detect leakage		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	ME EQUIPMENT and technical description examined, and manual tests conducted to confirm compliance with above requirements		**N/A**
15.5	**MAINS SUPPLY TRANSFORMERS OF ME EQUIPMENT and transformers providing separation in accordance with 8.5**		**P**
15.5.1	**Overheating**		**P**
15.5.1.1	Transformers of ME EQUIPMENT are protected against overheating……:	See appended Tables 15.5.1.2 and 15.5.1.3	**P**
	During tests, windings did not open, no HAZARDOUS SITUATION occurred, and maximum temperatures of windings did not exceed values in Table 31		**P**
	Dielectric strength test conducted after short circuit and overload tests ……:	See appended Table 15.5.2	**P**
15.5.1.2	Transformer output winding short circuited, and test continued until protective device operated or THERMAL STABILITY achieved ……:	See appended Table 15.5.1.2	**P**
	Short circuit applied directly across output windings		**N/A**
15.5.1.3	Multiple overload tests conducted on windings:	No more than one protective device	**N/A**
15.5.2	Transformers operating at a frequency above 1kHz tested according to clause 8.8.3……:	>1kHz	**P**
	Transformer windings provided with adequate insulation		**P**
	Dielectric strength tests were conducted ……:	See appended Table 15.5.2	**P**
15.5.3	Transformers forming MEANS OF PROTECTION as required by 8.5 comply with……..:	See appended Table 8.10	**P**
	- Means provided to prevent displacement of end turns		**P**
	- protective earth screens with a single turn have insulated overlap		**P**
	- Exit of wires form internal windings of toroid transformers protected with double sleeving		**P**
	- insulation between primary and secondary windings complies with 8.8.2		**P**
	- CREEPAGE DISTANCES and AIR CLEARANCE comply with 8.9.4		**P**
16	**ME SYSTEMS**		**N/A**
16.1	After installation or subsequent modification, ME SYSTEM didn't result in an unacceptable RISK	Component power supply; compliance determined in the end product	**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	RISK MANAGEMENT FILE includes an assessment of RISKS associated with installation and modification of an ME SYSTEM……: (ISO 14971 Cl. 5.2-5.5, 6)		**N/A**
	Only HAZARDS arising from combining various equipment to form a ME SYSTEM considered		**N/A**
	– ME SYSTEM provides the level of safety within the PATIENT ENVIRONMENT equivalent to ME EQUIPMENT complying with this standard		**N/A**
	– ME SYSTEM provides the level of safety outside PATIENT ENVIRONMENT equivalent to equipment complying with their respective IEC or ISO safety standards		**N/A**
	– tests performed in NORMAL CONDITION, except as specified		**N/A**
	– tests performed under operating conditions specified by MANUFACTURER of ME SYSTEM		**N/A**
	Safety tests previously conducted on individual equipment of ME SYSTEM according to relevant standards not repeated		**N/A**
	RISK MANAGEMENT methods used by MANUFACTURER of an ME SYSTEM reconfigurable by RESPONSIBLE ORGANIZATION or OPERATOR		**N/A**
	Non-ME EQUIPMENT used in ME SYSTEM complied with applicable IEC or ISO safety standards		**N/A**
	Equipment relying only on BASIC INSULATION for protection against electric shock not used in ME SYSTEM		**N/A**
16.2	**ACCOMPANYING DOCUMENTS of an ME SYSTEM**		**N/A**
	Documents containing all data necessary for ME SYSTEM to be used as intended by MANUFACTURER including a contact address accompany ME SYSTEM or modified ME SYSTEM		**N/A**
	ACCOMPANYING DOCUMENTS regarded as a part of ME SYSTEM		**N/A**
	a) ACCOMPANYING DOCUMENTS provided for each item of ME EQUIPMENT supplied by MANUFACTURER		**N/A**
	b) ACCOMPANYING DOCUMENTS provided for each item of non-ME EQUIPMENT supplied by MANUFACTURER		**N/A**
	c) the required information is provided:		**N/A**
	– specifications, instructions for use as intended by MANUFACTURER, and a list of all items forming the ME SYSTEM		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	– instructions for installation, assembly, and modification of ME SYSTEM to ensure continued compliance with this standard		**N/A**
	– instructions for cleaning and, when applicable, disinfecting and sterilizing each item of equipment or equipment part forming part of the ME SYSTEM		**N/A**
	– additional safety measures to be applied during installation of ME SYSTEM		**N/A**
	– identification of parts of ME SYSTEM suitable for use within the PATIENT ENVIRONMENT		**N/A**
	– additional measures to be applied during preventive maintenance		**N/A**
	– a warning forbidding placement of MULTIPLE SOCKET-OUTLET, when provided and it is a separate item, on the floor		**N/A**
	– a warning indicating an additional MULTIPLE SOCKET-OUTLET or extension cord not to be connected to ME SYSTEM		**N/A**
	– a warning to connect only items that have been specified as part of ME SYSTEM or specified as being compatible with ME SYSTEM		**N/A**
	– maximum permissible load for any MULTIPLE SOCKET-OUTLET(S) used with ME SYSTEM		**N/A**
	– instructions indicating MULTIPLE SOCKET-OUTLETS provided with the ME SYSTEM to be used only for supplying power to equipment intended to form part of ME SYSTEM		**N/A**
	– an explanation indicating RISKS of connecting non-ME EQUIPMENT supplied as a part of ME SYSTEM directly to wall outlet when non-ME EQUIPMENT is intended to be supplied via a MULTIPLE SOCKET-OUTLET with a separating transformer		**N/A**
	– an explanation indicating RISKS of connecting any equipment supplied as a part of ME SYSTEM to MULTIPLE SOCKET-OUTLET		**N/A**
	– permissible environmental conditions of use for ME SYSTEM including conditions for transport and storage		**N/A**
	– instructions to OPERATOR not to, simultaneously, touch parts referred to in 16.4 and PATIENT		**N/A**
	d) the following instructions provided for use by RESPONSIBLE ORGANIZATION:		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	– adjustment, cleaning, sterilization, and disinfection PROCEDURES		**N/A**
	– assembly of ME SYSTEMS and modifications during actual service life evaluated based on the requirements of this standard		**N/A**
16.3	Instructions for use of ME EQUIPMENT intended to receive its power from other equipment in an ME SYSTEM, describe the other equipment to ensure compliance with these requirements		**N/A**
	Transient currents restricted to allowable levels for the specified IPS or UPS		**N/A**
	Technical description and installation instructions specify the actual transient currents where an IPS or UPS is not specified		**N/A**
16.4	Parts of non-ME EQUIPMENT in PATIENT ENVIRONMENT subject to contact by OPERATOR during maintenance, calibration, after removal of covers, connectors operated at a voltage ≤ voltage in 8.4.2 c)		**N/A**
16.5	Safety measures incorporating a SEPARATION DEVICE applied when FUNCTIONAL CONNECTION between ME EQUIPMENT and other items of an ME SYSTEM or other systems can cause allowable values of LEAKAGE CURRENT to exceed		**N/A**
	SEPARATION DEVICE has dielectric strength, CREEPAGE and CLEARANCES required for one MEANS OF OPERATOR PROTECTION		**N/A**
	WORKING VOLTAGE was highest voltage across SEPARATION DEVICE during a fault condition, but not less than MAXIMUM MAINS VOLTAGE (V).....		**N/A**
16.6	**LEAKAGE CURRENTS**		**N/A**
16.6.1	TOUCH CURRENT in NORMAL CONDITION did not exceed 100µA		**N/A**
	TOUCH CURRENT did not exceed 500µA in event of interruption of any non-PERMANENTLY INSTALLED PROTECTIVE EARTH CONDUCTOR		**N/A**
16.6.2	Current in PROTECTIVE EARTH CONDUCTOR of MULTIPLE SOCKET-OUTLET didn't exceed 5 mA		**N/A**
16.6.3	PATIENT LEAKAGE CURRENT and total PATIENT LEAKAGE CURRENT of ME SYSTEM in NORMAL CONDITION did not exceed values.....		**N/A**
16.7	ME SYSTEM complied with applicable requirements of Clause 9		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
16.8	Interruption and restoration power to the ME SYSTEM or any part of the ME SYSTEM did not result in a loss of BASIC SAFETY or ESSENTIAL PERFORMANCE		**N/A**
16.9	**ME SYSTEM connections and wiring**		**N/A**
16.9.1	Incorrect connection of accessible connectors, removable without a TOOL, prevented where unacceptable RISK can result……:		**N/A**
	RISK MANAGEMENT FILE includes an assessment of RISKS associated with plugs for connection of PATIENT leads or cables likely to be located in the PATIENT ENVIRONMENT……..: (ISO 14971 Cl. 5.2-5.5, 6, 7.1-7.4)		**N/A**
	– Plugs for connection of PATIENT leads or PATIENT cables could not be connected to other outlets of the same ME SYSTEM likely to be located in PATIENT ENVIRONMENT, except when examination of connectors and interchanging them proved no unacceptable RISK results		**N/A**
	Medical gas connections on the ME SYSTEM for different gasses operated in NORMAL USE are not interchangeable		**N/A**
16.9.2	**MAINS PARTS, components and layout**		**N/A**
16.9.2.1	a) – MULTIPLE SOCKET-OUTLET only allows connection using a TOOL, or		**N/A**
	– MULTIPLE SOCKET-OUTLET is of a type that cannot accept MAINS PLUGS of any of the kinds specified in IEC/TR 60083, or		**N/A**
	– MULTIPLE SOCKET-OUTLET is supplied via a separating transformer		**N/A**
	b) – MULTIPLE SOCKET-OUTLET marked with SAFETY SIGN 2 of Table D.2 visible in NORMAL USE, and		**N/A**
	– marked either individually or in combinations, with the maximum allowed continuous output in amperes or volt-amperes, or		**N/A**
	– marked to indicate the equipment or equipment parts it may safely be attached to		**N/A**
	– MULTIPLE SOCKET-OUTLET is a separate item or an integral part of ME EQUIPMENT or non-ME EQUIPMENT		**N/A**
	c) MULTIPLE SOCKET-OUTLET complied with IEC 60884-1 and the following requirements:		**N/A**
	– CREEPAGE and CLEARANCES complied with 8.9		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	– It is CLASS I, and PROTECTIVE EARTH CONDUCTOR is connected to earthing contacts in socket-outlets		**N/A**
	– PROTECTIVE EARTH TERMINALS and PROTECTIVE EARTH CONNECTIONS comply with 8.6:		**N/A**
	– ENCLOSURE complied with 8.4.2 d)		**N/A**
	– MAINS TERMINAL DEVICES and wiring complied with 8.11.4, when applicable		**N/A**
	– RATINGS of components are not in conflict with conditions of use ……:		**N/A**
	– Electrical terminals and connectors of MULTIPLE SOCKET-OUTLETS prevent incorrect connection of accessible connectors removable without a TOOL		**N/A**
	– POWER SUPPLY CORD complied with 8.11.3		**N/A**
	d) Additional requirements applied when MULTIPLE SOCKET-OUTLET combined with a separating transformer:		**N/A**
	– Separating transformer complied with this standard or IEC 61558-2-1,……:		**N/A**
	– Separating transformer is CLASS I		**N/A**
	– Degree of protection against ingress of water specified as in IEC 60529		**N/A**
	– Separating transformer assembly marked according to 7.2 and 7.3		**N/A**
	– MULTIPLE SOCKET-OUTLET permanently connected to separating transformer, or socket-outlet of separating transformer assembly cannot accept MAINS PLUGS as identified in IEC/TR 60083		**N/A**
16.9.2.2	The impedance between the protective earth pin in the MAINS PLUG and any part that is PROTECTIVELY EARTHED and protected by only the SUPPLY MAINS circuit over-current release, did not exceed 200 mΩ		**N/A**
	The impedance of an earth pathway protected by an additional intermediate circuit breaker or fuse rated 13A or lower, did not exceed 400 mΩ		**N/A**
	Removal of any single item of equipment in ME SYSTEM will not interrupt the protective earthing of any other part without simultaneous disconnection of electrical supply to that part		**N/A**
	Additional PROTECTIVE EARTH CONDUCTORS can be detachable only by use of a TOOL		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
16.9.2.3	Conductors connecting different items within an ME SYSTEM protected against mechanical damage		**N/A**
17	**ELECTROMAGNETIC COMPATIBILITY OF ME EQUIPMENT AND ME SYSTEMS**		**N/A**
	RISKS associated confirmed by review……:	Not applicable to power supply component; to be determined in the end product	**N/A**
			N/A
	RISK MANAGEMENT FILE includes an assessment of risks associated with the introduction of electromagnetic phenomena into the environment by the EQUIPMENT or SYSTEM……: (ISO 14971 Cl. 5.2-5.5, 6, 7.1-7.4)		**N/A**

ANNEX G	**PROTECTION AGAINST HAZARDS OF IGNITION OF FLAMMABLE ANESTHETIC MIXTURES**		**N/A**
G.2	**Locations and basic requirements**		**N/A**
G.2.1	Parts of CATEGORY APG ME EQUIPMENT in which a FLAMMABLE ANAESTHETIC MIXTURE WITH AIR occurs are CATEGORY AP or APG ME EQUIPMENT and complied with G.3, G.4, and G.5		**N/A**
G.2.2	FLAMMABLE AESTHETIC MIXTURE WITH		**N/A**
G.2.3	A FLAMMABLE AESTHETIC MIXTURE WITH OXYGEN or NITROUS OXIDE		**N/A**
G.2.4	ME EQUIPMENT specified for use with FLAMMABLE AESTHETIC MIXTURE WITH AIR complied with G.4 and G.5		**N/A**
G.2.5	ME EQUIPMENT or parts thereof for use with FLAMMABLE AESTHETIC MIXTURE WITH OXYGEN OR NITROUS OXIDE comply with G.4 and G.6		**N/A**
	ME EQUIPMENT in G.2.4 to G.2.5 met appropriate tests of G.3-G.6 conducted after tests of 11.6.6 and 11.6.7		**N/A**
G.3	**Marking, ACCOMPANYING DOCUMENTS**		**N/A**
G.3.1	CATEGORY APG ME EQUIPMENT prominently marked "APG" (symbol 23 in Table D.1) .....:		**N/A**
	Length of green-coloured band is ≥ 4 cm, and size of marking is as large as possible for particular case		**N/A**
	When above marking not possible, relevant information included in instructions for use.....:		**N/A**
	Marking complied with tests and criteria of 7.1.2 and 7.1.3		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.3.2	CATEGORY AP ME EQUIPMENT prominently marked, with a green-coloured circle "AP" (symbol 22 in Table D.1) .....:		**N/A**
	Marking is as large as possible for the particular case		**N/A**
	When above marking not possible, the relevant information included in instructions for use.....:		**N/A**
	Marking complied with tests and criteria of 7.1.2 and 7.1.3		**N/A**
G.3.3	The marking placed on major part of ME EQUIPMENT for CATEGORY AP or APG parts		**N/A**
G.3.4	ACCOMPANYING DOCUMENTS contain an indication enabling the RESPONSIBLE ORGANIZATION to distinguish between CATEGORY AP and APG parts		**N/A**
G.3.5	Marking clearly indicates which parts are CATEGORY AP or APG when only certain ME EQUIPMENT parts are CATEGORY AP or APG		**N/A**
G.4	**Common requirements for CATEGORY AP and CATEGORY APG ME EQUIPMENT**		**N/A**
G.4.1	a) CREEPAGE and CLEARANCES are according to Table 12 for one MEANS OF PATIENT PROTECTION		**N/A**
	b) Connections protected against accidental disconnection		**N/A**
	c) CATEGORY AP and APG not provided with a DETACHABLE POWER SUPPLY CORD,		**N/A**
G.4.2	**Construction details**		**N/A**
	a) Opening of an ENCLOSURE protecting against penetration of gases or vapours into ME EQUIPMENT or its parts possible only with a TOOL		**N/A**
	b) ENCLOSURE complies with.....:		**N/A**
	– no openings on top covers of ENCLOSURE,		**N/A**
	– openings in side-covers prevented penetration of a solid cylindrical test rod		**N/A**
	– openings in base plates prevented penetration of a solid cylindrical test		**N/A**
	c) Short circuiting conductor(s) to a conductive part (when no explosive gasses) did not result in loss of integrity of the part, an unacceptable temperature, or any HAZARDOUS SITUATION		**N/A**
G.4.3	a) Electrostatic charges prevented on CATEGORY AP and APG ME EQUIPMENT by a combination of appropriate measures		**N/A**
	– Use of antistatic materials with a limited electrical resistance.....:		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	– Provision of electrically conductive paths from ME EQUIPMENT or its parts to a conductive floor, protective earth or potential equalization system, or via wheels to an antistatic floor		**N/A**
	b) Electrical resistance limits of aesthetic tubing, mattresses/ pads, castor tires & other antistatic material comply with ISO 2882 .....:		**N/A**
G.4.4	Corona cannot be produced by components or parts of ME EQUIPMENT operating at more than 2000 V a.c. or 2400 V d.c. and not included in ENCLOSURES complying with G.5.4 or G.5.5		**N/A**
G.5	**Requirements and tests for CATEGORY AP ME EQUIPMENT, parts and components**		**N/A**
G.5.1	ME EQUIPMENT, its parts or components do not ignite FLAMMABLE AESTHETIC MIXTURES WITH AIR under NORMAL USE and CONDITIONS based on compliance with G.5.2 to G.5.5		**N/A**
	Alternatively, ME EQUIPMENT, its parts, and components complied with requirements of IEC 60079-0 for pressurized ENCLOSURES (IEC 60079-2); for sand-filled ENCLOSURES, IEC 60079-5; or for oil immersed equipment, IEC 60079-6; and with this standard excluding G.5.2 to G.5.5.....:		**N/A**
G.5.2	Temperature limits .....:		**N/A**
G.5.3	ME EQUIPMENT, its parts, and components producing sparks in NORMAL USE and CONDITION complied with temperature requirements of G.5.2, and U_{max} and I_{max} occurring in their circuits, and complied as follows:		**N/A**
	Measured $U_{max} \leq U_{zR}$ with I_{zR} as in Fig. G.1.....:		**N/A**
	Measured $U_{max} \leq U_c$ with C_{max} as in Fig. G.2 .....:		**N/A**
	Measured $I_{max} \leq I_{zR}$ with U_{zR} as in Fig G.1 .....:		**N/A**
	Measured $I_{max} \leq I_{zL}$ with L_{max} and a $U_{max} \leq 24$ V as in Fig G.3.....:		**N/A**
	– Combinations of currents and corresponding voltages within the limitations IzR.UzR ≤ 50 W extrapolated from Fig G.1		**N/A**
	No extrapolation made for voltages above 42 V		**N/A**
	– Combinations of capacitances and corresponding voltages within limitations of $C/2U^2 \leq 1.2$ mJ extrapolated from Fig G.2		**N/A**
	No extrapolation made for voltages above 242V		**N/A**
	U_{max} determined using actual resistance R		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	– Combinations of currents and corresponding inductances within limitations $L/2I^2 \leq 0.3$ mJ extrapolated from Fig G.3		**N/A**
	No extrapolation made for inductances larger than 900 mH		**N/A**
	– U_{max} was the highest supply voltage occurring in circuit under investigation with sparking contact open		**N/A**
	– I_{max} was the highest current flowing in circuit under investigation with sparking contact closed		**N/A**
	– C_{max} and L_{max} taken as values occurring at the component under investigation producing sparks		**N/A**
	– Peak value considered when a.c. supplied		**N/A**
	– An equivalent circuit calculated to determine equivalent max capacitance, inductance, and equivalent U_{max} and I_{max}, either as d.c. or a.c. peak values in case of a complicated circuit.....:		**N/A**
	Temperature measurements made according to 11.1, and U_{max}, I_{max}, R, L_{max} , and C_{max} determined with application of Figs G.1-G.3.....:		**N/A**
	Alternatively, compliance was verified by examination of design data ..... :		**N/A**
G.5.4	**External ventilation with internal overpressure**		**N/A**
	ME EQUIPMENT, its parts, and components enclosed in an ENCLOSURE with external ventilation by means of internal overpressure complied with the following requirements:		**N/A**
	a) FLAMMABLE AESTHETIC MIXTURES WITH AIR t removed by ventilation before EQUIPMENT energized,		**N/A**
	b) Overpressure inside ENCLOSURE was 75 Pa, min., in NORMAL CONDITION (Pa).....:		**N/A**
	Overpressure maintained at the site of potential ignition		**N/A**
	ME EQUIPMENT could be energized only after the required minimum overpressure was present long enough to ventilate the ENCLOSURE		**N/A**
	ME EQUIPMENT energized at will or repeatedly when overpressure was continuously present		**N/A**
	c) Ignition sources de-energized automatically when during operation overpressure dropped below 50 Pa (Pa).....:		**N/A**
	d) External surface of ENCLOSURE did not exceed 150 °C in 25 °C .....:		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.5.5	**ENCLOSURES with restricted breathing**		**N/A**
	ME EQUIPMENT, its parts, and components enclosed in an ENCLOSURE with restricted breathing complied with the following:		**N/A**
	a) A FLAMMABLE AESTHETIC MIXTURE WITH AIR did not form inside ENCLOSURE with restricted breathing		**N/A**
	b) Gasket or sealing material used to maintain tightness complied with aging test B-b of IEC 60068-2-2, Clause 15, at 70 °C ± 2 °C and 96 h ..:		**N/A**
	c) Gas-tightness of ENCLOSURE containing inlets for flexible cords maintained		**N/A**
	Cords are fitted with adequate anchorages to limit stresses as determined by test		**N/A**
	Overpressure not reduced below 200 Pa		**N/A**
	Tests waived when examination of ENCLOSURE indicated it is completely sealed or gas-tight without a doubt (100 % degree of certainty)		**N/A**
	Operating temperature of external surface of ENCLOSURE was ≤ 150 °C in 25 °C (°C).....:		**N/A**
	Steady state operating temperature of ENCLOSURE also measured (°C) .....:		**N/A**
G.6	**CATEGORY APG ME EQUIPMENT, parts and components thereof**		**N/A**
G.6.1	ME EQUIPMENT, its parts, and components did not ignite FLAMMABLE AESTHETIC MIXTURE WITH OXYGEN OR NITROUS OXIDE under NORMAL USE and SINGLE FAULT CONDITION		**N/A**
	ME EQUIPMENT, its parts, and components not complying with G.6.3 subjected to a CONTINUOUS OPERATION test		**N/A**
G.6.2	Parts and components of CATEGORY APG ME EQUIPMENT operating in a FLAMMABLE AESTHETIC MIXTURE WITH OXYGEN OR NITROUS OXIDE supplied from a source isolated from earth by insulation equal to one MEANS OF PATIENT PROTECTION and from electrical parts by insulation twice the MEANS OF PATIENT PROTECTION .....:		**N/A**
G.6.3	Test of G.6.1 waived when the following requirements were met in NORMAL USE and under NORMAL and SINGLE FAULT CONDITIONS .....:		**N/A**
	a) no sparks produced and temperatures did not exceed 90 °C, or		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	b) a temperature limit of 90 °C not exceeded, sparks produced in NORMAL USE, and SINGLE FAULT CONDITIONS, except U_{max} and I_{max} occurring in their circuits complied with requirements, taking C_{max} and L_{max} into consideration:		**N/A**
	Measured $U_{max} \leq U_{zR}$ with I_{zR} as in Fig. G.4 .....:		**N/A**
	Measured $U_{max} \leq U_{zc}$ with C_{max} as in Fig. G.5.....:		**N/A**
	Measured $I_{max} \leq I_{zR}$ with U_{zR} as in Fig G.4 .....:		**N/A**
	Measured $I_{max} \leq I_{zL}$ with L_{max} and a $U_{max} \leq 24$ V as in Fig G.6 .....:		**N/A**
	– Extrapolation from Figs G.4, G.5, and G.6 was limited to areas indicated		**N/A**
	– U_{max} was the highest no-load voltage occurring in the circuit under investigation, taking into consideration mains voltage variations as in Cl. 4.10		**N/A**
	– I_{max} was the highest current flowing in the circuit under investigation, considering MAINS VOLTAGE variations as in Cl. 4.10		**N/A**
	– C_{max} and L_{max} are values occurring in relevant circuit		**N/A**
	– U_{max} additionally determined with actual resistance R when equivalent resistance R in Fig G.5 was less than 8000 Ω		**N/A**
	– Peak value considered when a.c. supplied		**N/A**
	– An equivalent circuit calculated to determine max capacitance, inductance, and U_{max} and I_{max}, either as d.c. or a.c. peak values in case of a complicated circuit .....:		**N/A**
	– When energy produced in an inductance or capacitance in a circuit is limited by voltage or current-limiting devices, two independent components applied, to obtain the required limitation even when a first fault (short or open circuit) in one of these components		**N/A**
	- requirement not applied to transformers complying with this standard		**N/A**
	- requirement not applied to wire-wound current-limiting resistors provided with a protection against unwinding of the wire in case of rupture		**N/A**
	Compliance verified by examination of CATEGORY APG ME EQUIPMENT, parts, and components , or		**N/A**
	Temperature measurements made in accordance with 11.1.....:		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- or U_{max}, I_{max}, R, L_{max} and C_{max} determined together with application of Figs G.4-G.6 ..... :		**N/A**
	Alternatively, compliance verified by comparison with design data ..... :		**N/A**
G.6.4	ME EQUIPMENT, its parts, and components heating a FLAMMABLE AESTHETIC MIXTURE WITH OXYGEN OR NITROUS OXIDE provided with a non-SELF-RESETTING THERMAL CUT-OUT and complied with 15.4.2.1 ..... :		**N/A**
	Current-carrying part of heating element is not in direct contact with FLAMMABLE AESTHETIC MIXTURE WITH OXYGEN OR NITROUS OXIDE		**N/A**
G.7	Test apparatus for flammable mixtures according to this Clause and Fig G.7		**N/A**
ANNEX L	**INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION**		**N/A**
L.1	BASIC, SUPPLEMENTARY, DOUBLE, and REINFORCED INSULATION in wound components without interleaved insulation complied with this Annex	Approved TIW is used in mains transformer.	**N/A**
L.2	**Wire construction**		**N/A**
	Overlap of layers when wire is insulated with two or more spirally wrapped layers of tape is adequate to ensure continued overlap during manufacture of wound component		**N/A**
	Layers of spirally wrapped wire insulation are sufficiently secured to maintain the overlap		**N/A**
L.3	**Type Test**		**N/A**
	The wire subjected to tests of L.3.1 to L.3.4 at a temperature and a relative humidity specified	Approved TIW is used in mains transformer.	**N/A**
	Temperature (°C) ..... :		**—**
	Humidity (%)..... :		**—**
L.3.1	Dielectric strength		**N/A**
	Dielectric strength test of Clause 8.8.3 for the appropriate type and number of MOP(s) conducted with no breakdown:	Approved TIW is used in mains transformer.	**N/A**
	– 3000 V for BASIC and SUPPLEMENTARY INSULATION (V) ..... :		**N/A**
	– 6000 V for REINFORCED INSULATION (V)..... :		**N/A**
L.3.2	**Flexibility and adherence**		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Sample subjected to flexibility and adherence	Approved TIW is used in mains transformer.	**N/A**
	Sample examined per IEC 60851-3: 1997, cl. 5.1.1.4, followed by dielectric test of cl. 8.8.3, with no breakdown		**N/A**
	Test voltage was at least the voltage in Tables 6 and 7 but not less than the following:		**N/A**
	– 1500 V for BASIC and SUPPLEMENTARY INSULATION (V) .....:		**N/A**
	– 3000 V for REINFORCED INSULATION (V) .....:		**N/A**
	Tension applied to wire during winding on mandrel calculated from the wire diameter equivalent to 118 MPa ± 11.8 MPa .....:		**N/A**
L.3.3	**Heat Shock**		**N/A**
	Sample subjected to heat shock test 9 of IEC 60851-6:1996, followed by dielectric strength test of clause 8.8.3	Approved TIW is used in mains transformer.	**N/A**
	Test voltage was at least the voltage in Tables 6 and 7, but not less than the following:		**N/A**
	– 1500 V for BASIC and SUPPLEMENTARY INSULATION (V) .....:		**N/A**
	– 3000 V for REINFORCED INSULATION (V) .....:		**N/A**
	Oven temperature based on Table L.2 (°C).....:		**—**
	Mandrel diameter and tension applied as in clause L.3.2, (MPa; N/mm^2) .....:		**N/A**
	Dielectric strength test conducted at room temperature after removal from the oven		**N/A**
L.3.4	**Retention of electric strength after bending**		**N/A**
	Five samples prepared as in L.3.2 subjected to dielectric strength and bending tests	Approved TIW is used in mains transformer.	**N/A**
	Test voltage was at least the voltage in Tables 6 and 7, but not less than the following:		**N/A**
	– 1500 V for BASIC and SUPPLEMENTARY INSULATION (V) .....:		**N/A**
	– 3000 V for REINFORCED INSULATION (V) .....:		**N/A**
	Test voltage applied between the shot and conductor		**N/A**
	Mandrel diameter and tension applied as in L.3.2, (MPa; N/mm^2).....:		**N/A**
L.4	**Tests during manufacture**		**N/A**
L.4.1	Production line dielectric strength tests done by the manufacture per L.4.2 and L.4.3.....:	Approved TIW is used in mains transformer.	**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
L.4.2	Test voltage for routine testing (100 % testing) is at least the voltage in Tables 6 and 7 but not less than the following:	Approved TIW is used in mains transformer.	**N/A**
	– 1500 V r.m.s. or 2100 V peak for BASIC and SUPPLEMENTARY INSULATION (V)..... :		**N/A**
	– 3000 V r.m.s. or 4200 V peak for REINFORCED INSULATION (V)..... :		**N/A**
L.4.3	Sampling tests conducted using twisted pair samples (IEC 60851-5:1996, clause 4.4.1) ..... :	Approved TIW is used in mains transformer.	**N/A**
	Minimum breakdown test voltage at least twice the voltage in Tables 6 and 7 but not less than:		**N/A**
	– 3000 V r.m.s. or 4200 V peak for BASIC and SUPPLEMENTARY INSULATION..... :		**N/A**
	– 6000 V r.m.s. or 8400 V peak for REINFORCED INSULATION..... :		**N/A**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

4.2.2	**RM RESULTS TABLE: General requirements for RISK MANAGEMENT**			**P**
Clause of ISO 14971	**Document Ref. in RMF (Document No. paragraph/clause, version)**		**Result - Remarks**	**Verdict**
	General process	**Particular Medical Device**		
4.1	Risk management procedure GTQPR05000 A2 5.0	—	Risk Management Process (excluding production and post-production)	**P**
4.2	Risk management procedure GTQPR05000 A2 5.0	—	Adequate Resources	**P**
4.2	Risk management procedure GTQPR05000 A2 5.0	—	Assignment of qualified personnel	**P**
4.2	Risk management procedure GTQPR05000 A2 5.0	—	Policy for determining criteria for risk acceptability	**P**
4.3	—	Risk Management Report 2.0	Competence of personnel	**P**
4.4a	—	Risk management plan GT-RMPLAN2017-002	Risk Management Plan - the scope of the planned risk management activities	**P**
4.4b	—	Risk management plan GT-RMPLAN2017-002	Risk Management Plan - assignment of responsibilities and authorities	**P**
4.4c	—	Risk management plan GT-RMPLAN2017-002	Risk Management Plan - requirements for review of risk management activities	**P**
4.4d	—	Risk management plan GT-RMPLAN2017-002	Risk Management Plan - criteria for risk acceptability	**P**
4.4e	—	Risk management plan GT-RMPLAN2017-002	Risk Management Plan - a method to evaluate the overall residual risk, and criteria for acceptability of the overall residual risk	**P**
4.4f	—	Risk management plan GT-RMPLAN2017-002	Risk Management Plan - activities for verification of the implementation and effectiveness of risk control measures	**P**
4.5	—	Risk management procedure GTQPR05000 A2 6.0	Risk Management File	**P**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

4.2.2	RM RESULTS TABLE: General requirements for RISK MANAGEMENT			P
Clause of ISO 14971	**Document Ref. in RMF (Document No. paragraph/clause, version)**		**Result - Remarks**	**Verdict**
	General process	**Particular Medical Device**		
5.1	—	Risk management procedure GTQPR05000 A2 6.0	Risk Analysis - Process	**P**
5.2	—	--	Risk Analysis - Intended use and reasonably foreseeable misuse	**N/A**
5.3	—	Risk Management Report GT-RM2017-002 6.1	Risk Analysis - Identification of characteristics related to safety	**P**
5.4	—	Risk Management Report GT-RM2017-002 6.2	Risk Analysis - Identification of hazards and hazardous situations	**P**
5.5	—	Risk Management Report GT-RM2017-002 6.4	Risk Analysis - Risk estimation	**P**
6	—	Risk Management Report GT-RM2017-002 7	Risk Evaluation	**P**
7.1	—	Risk Management Report GT-RM2017-002 8.1	Risk Control - Risk control option analysis	**P**
7.2	—	Risk Management Report GT-RM2017-002 8.1	Risk Control - Implementation of risk control measures	**P**
7.3	—	Risk Management Report GT-RM2017-002 8.2	Risk Control - Residual risk evaluation	**P**
7.4	—	Risk Management Report GT-RM2017-002 8.3	Risk Control - Benefit-risk analysis	**P**
7.5a	—	Risk Management Report GT-RM2017-002 8.1	Risk Control - Risks arising from risk control measures (new hazards or hazardous situations introduced)	**P**
7.5b	—	Risk Management Report GT-RM2017-002 8.2	Risk Control - Risks arising from risk control measures (estimated risks for previously identified hazardous situations affected)	**P**
7.6	—	Risk Management Report GT-RM2017-002 8.1	Risk Control - Completeness of risk control	**P**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

4.2.2	**RM RESULTS TABLE: General requirements for RISK MANAGEMENT**			**P**
Clause of ISO 14971	**Document Ref. in RMF (Document No. paragraph/clause, version)**		**Result - Remarks**	**Verdict**
	General process	**Particular Medical Device**		
8	—	Risk Management Report GT-RM2017-002 10	Evaluation of overall residual risk	**P**
9	—	GT-RM2017-002 A.2	Risk management review	**P**
Supplementary Information: **Document Ref should be with regards to the policy/procedure documents and documents containing Risk Management Process -specific output.**				

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

4.3	TABLE: ESSENTIAL PERFORMANCE		N/A
List of ESSENTIAL PERFORMANCE functions	**MANUFACTURER'S document number reference or reference from this standard or collateral or particular standard(s)**	**Remarks**	

Supplementary Information:

ESSENTIAL PERFORMANCE is performance, the absence or degradation of which, would result in an unacceptable risk.

4.11	TABLE: Power Input				P
Operating Conditions / Ratings	**Voltage (V)**	**Frequency (Hz)**	**Current (A)**	**Power (W)**	**Power factor (cos φ)**
For Model GTM46161-165.0-USBC					
Normal condition	90	50	0.346	17.10	--
Normal condition	90	60	0.322	16.98	--
Normal condition	100	50	0.305	16.89	--
Normal condition	100	60	0.289	16.85	--
Normal condition	240	50	0.145	16.90	--
Normal condition	240	60	0.142	16.88	--
Normal condition	264	50	0.135	16.93	--
Normal condition	264	60	0.132	16.95	--
For Model GTM46161-165.0- USB1A1C					
Normal condition	85	50	0.228	11.26	--
Normal condition	85	60	0.218	11.24	--
Normal condition	100	50	0.209	11.35	--
Normal condition	100	60	0.201	11.19	--
Normal condition	240	50	0.101	11.13	--
Normal condition	240	60	0.978	11.12	--
Normal condition	264	50	0.091	10.80	--
Normal condition	264	60	0.089	10.84	--

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

4.11	TABLE: Power Input					P
Operating Conditions / Ratings		**Voltage (V)**	**Frequency (Hz)**	**Current (A)**	**Power (W)**	**Power factor (cos φ)**
For Model GTM46161-165.5-USB2C						
Normal condition		85	50	0.228	11.25	--
Normal condition		85	60	0.218	11.24	--
Normal condition		100	50	0.208	11.23	--
Normal condition		100	60	0.199	11.21	--
Normal condition		240	50	0.097	10.65	--
Normal condition		240	60	0.095	10.65	--
Normal condition		264	50	0.089	10.63	--
Normal condition		264	60	0.088	10.63	--
Supplementary Information:						

5.9.2	TABLE: Determination of ACCESSIBLE parts	P
Location	**Determination method (NOTE1)**	**Comments**
Enclosure	Test finger, test hook	Can't insert
Supplementary information: [1)] NOTE: The determination methods are: visual; rigid test finger; jointed test finger; test hook.		

7.1.2	TABLE: Legibility of Marking	P
Markings tested	**Ambient Illuminance (lx)**	**Remarks**
Outside Markings (Clause 7.2).....:	100-1500	Readable
Inside Markings (Clause 7.3).....:	**--**	N/A
Controls & Instruments (Clause 7.4).....:	**--**	N/A
SAFETY SIGNS (Clause 7.5).....:	100-1500	Readable
Symbols (Clause 7.6).....:	100-1500	Readable

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

7.1.2	TABLE: Legibility of Marking	P

Supplementary information:

Observer, with a visual acuity of 0 on the log Minimum Angle of Resolution (log MAR) scale or 6/6 (20/20) and is able to read N6 of the Jaeger test card in normal room lighting condition (~500lx), reads marking at ambient illuminance least favourable level in the range of 100 lx to 1,500 lx. The ME EQUIPMENT or its part was positioned so that the viewpoint was the intended position of the OPERATOR or if not defined at any point within the base of a cone subtended by an angle of 30° to the axis normal to the centre of the plane of the marking and at a distance of 1 m.

7.1.3	TABLE: Durability of marking test	P

Characteristics of the Marking Label tested:		Remarks
Material of Marking Label .....:	PET	P
Ink/other printing material or process .....:	Heat transfer print	P
Material (composition) of Warning Label .....:	PET	P
Ink/other printing material or process .....:	Heat transfer print	P
Other .....:	--	N/A
Marking Label Tested:		**Remarks**
first for 15 s with a cloth rag soaked with distilled water		P
15 s with a cloth rag soaked with ethanol 96%		P
15 s with a cloth rag soaked with isopropyl alcohol.		P

Supplementary information:

Marking rubbed by hand, first for 15 s with a cloth rag soaked with distilled water, then for 15 s with a cloth rag soaked with ethanol 96%, and then for 15 s with a cloth rag soaked with isopropyl alcohol.

8.4.2	TABLE: TABLE: Working Voltage / Power Measurement	P

Test supply voltage/frequency (V/Hz)[1] .....:

Location From/To	Measured values					Remarks
	Vrms	Vpk or Vdc	Peak-to-peak ripple[2]	Power W/VA	Energy (J)	
Transformer, primary to secondary	Max. 276Vrms	--	--	--	--	For all models
USB to earth	--	**5.06**	--	--	--	For all models

Supplementary Information:

[1] The input supply voltage to the ME EQUIPMENT was the RATED voltage or the voltage within the RATED voltage range which results in the highest measured value. See clause 8.5.4.

[2]. If the d.c peak-to-peak ripple >10%, waveform considered as a.c. See clause 8.4.2

[3] Voltage measurement of all conductive ACCESSIBLE PARTS of the SIP/SOP connection or separate power supply output connections to earth used a resistor of 10 kΩ + 500 Ω. See clause 8.4.2

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

8.4.3	**TABLE: ME EQUIPMENT for connection to a power source by a plug - measurement of voltage or calculation of stored charge 1 s after disconnection of plug from mains supply**	**P**

Maximum allowable voltage (V).....:	**60**

Voltage measured (V)										
Voltage Measured Between:	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Plug pins 1 and 2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Plug pin 1 and plug earth pin	--	--	--	--	--	--	--	--	--	--
Plug pin 2 and plug earth pin	--	--	--	--	--	--	--	--	--	--
Plug pin 1 and enclosure	--	--	--	--	--	--	--	--	--	--
Plug pin 2 and enclosure	--	--	--	--	--	--	--	--	--	--

Maximum allowable stored charge when measured voltage exceeded 60 v (μc).....:	**45**

Calculated stored charge (μc)										
Voltage Measured Between:	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Plug pins 1 and 2	--	--	--	--	--	--	--	--	--	--
Plug pin 1 and plug earth pin	--	--	--	--	--	--	--	--	--	--
Plug pin 2 and plug earth pin	--	--	--	--	--	--	--	--	--	--
Plug pin 1 and enclosure	--	--	--	--	--	--	--	--	--	--
Plug pin 2 and enclosure	--	--	--	--	--	--	--	--	--	--

Supplementary information:

8.4.4	**TABLE: Internal capacitive circuits – measurement of residual voltage or calculation of the stored charge in capacitive circuits (i.e., accessible capacitors or circuit parts) after de-energizing ME EQUIPMENT**	**N/A**

Maximum allowable residual voltage (V).....:	**60 V**
Maximum allowable stored charge when residual voltage exceeded 60 V .....:	**45 μC**

Description of the capacitive circuit (i.e., accessible capacitor or circuit parts)	**Measured residual voltage (V)**	**Calculated stored charge (μC)**	**Remarks**

Supplementary information:

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

8.5.5.1a	TABLE: defibrillation-proof applied parts – measurement of hazardous electrical energies	N/A

Test Condition: Figs. 9 & 10	Measurement made on accessible part	Applied part with test voltage	Test voltage polarity	Measured voltage between Y1 and Y2 (mV)	Remarks

Supplementary information:

8.5.5.1b	TABLE: defibrillation-proof applied parts – verification of recovery time	N/A

Applied part with test voltage	Test voltage polarity	Recovery time from documents (s)	Measured recovery time (s)	Remarks
Supplementary information:				

8.5.5.2	TABLE: DEFIBRILLATION-PROOF APPLIED PARTS or PATIENT CONNECTIONS of DEFIBRILLATION-PROOF APPLIED PARTS - Energy reduction test –measurement of Energy delivered to a 100 Ω load	N/A

Test Voltage applied to	Measured Energy E1 (mJ)	Measured Energy E2 (mJ)	Energy E1 as % of E2 (%)
PATIENT CONNECTION 1 or APPLIED PART with PATIENT CONNECTIONS 2, 3, and 4 of the same APPLIED PART connected to earth			
PATIENT CONNECTION 2 or APPLIED PART with PATIENT CONNECTIONS 1, 3, and 4 of the same APPLIED PART connected to earth			
PATIENT CONNECTION 3 or APPLIED PART with PATIENT CONNECTIONS 1, 2, and 4 of the same APPLIED PART connected to earth			
PATIENT CONNECTION 4 or APPLIED PART with PATIENT CONNECTIONS 1, 2, and 3 of the same APPLIED PART connected to earth			

Supplementary information: For compliance: E1 must at least 90% of E2
E1= Measured energy delivered to 100 Ω with ME Equipment connected;
E2= Measured energy delivered to 100 Ω without ME equipment connected.

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

8.6.4	**TABLE: Impedance and current-carrying capability of PROTECTIVE EARTH CONNECTIONS**	**N/A**

Type of ME EQUIPMENT & impedance measured between parts	**Test current (A) /Duration (s)**	**Voltage drop measured between parts (V)**	**Maximum calculated impedance (mΩ)**	**Maximum allowable impedance (mΩ)**
PERMANENTLY INSTALLED ME EQUIPMENT, impedance between PROTECTIVE EARTH TERMINAL and a PROTECTIVELY EARTHED part	-	-	-	100
ME EQUIPMENT with an APPLIANCE INLET, impedance between earth pin in the APPLIANCE INLET and a PROTECTIVELY EARTHED part	-	-	-	100
ME EQUIPMENT with a non-DETACHABLE POWER SUPPLY CORD, impedance between the protective earth pin in the MAINS PLUG and a PROTECTIVELY EARTHED part	-	-	-	200

Supplementary information:

PERMANENTLY INSTALLED ME EQUIPMENT, impedance between PROTECTIVE EARTH TERMINAL and a PROTECTIVELY EARTHED part - Limit 100 mΩME EQUIPMENT with an APPLIANCE INLET, impedance between earth pin in the APPLIANCE INLET and a PROTECTIVELY EARTHED part - Limit 100 mΩ
ME EQUIPMENT with an APPLIANCE INLET, impedance between earth pin in the protective earth pin on the DETACHABLE POWER SUPPLY CORD and a PROTECTIVELY EARTHED part - Limit 200 mΩ
ME EQUIPMENT with a non-DETACHABLE POWER SUPPLY CORD, impedance between the protective earth pin in the MAINS PLUG and a PROTECTIVELY EARTHED part - Limit 200 mΩ

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

8.7	TABLE: leakage current				P
Type of leakage current and test condition (including single faults)	**Supply voltage (V)**	**Supply frequency (Hz)**	**Measured max. value (µA)**	**Remarks**	
Fig. 13 - Earth Leakage (ER)	—	—	—	Maximum allowed values: 5 mA NC; 10 mA SFC	
N/A					
Fig. 14 - Touch Current (TC)	—	—	—	Maximum allowed values: 100 µA NC; 500 µA SFC	
GTM46161-165.0-USBC					
NC,S1=1,S5=0	264	60	3.7	With frequency-weighted device	
NC,S1=1,S5=1	264	60	3.3		
SFC,S1=0,S5=0	264	60	3.8		
SFC,S1=0,S5=1	264	60	3.5		
NC,S1=1,S5=0	264	60	17.3	With Not-frequency-weighted device	
NC,S1=1,S5=1	264	60	17.0		
SFC,S1=0,S5=0	264	60	18.5		
SFC,S1=0,S5=1	264	60	17.2		
GTM46161-165.0- USB1A1C					
NC,S1=1,S5=0	264	60	3.5	With frequency-weighted device	
NC,S1=1,S5=1	264	60	3.6		
SFC,S1=0,S5=0	264	60	4.2		
SFC,S1=0,S5=1	264	60	3.8		
NC,S1=1,S5=0	264	60	18.3	With Not-frequency-weighted device	
NC,S1=1,S5=1	264	60	19.0		
SFC,S1=0,S5=0	264	60	19.5		
SFC,S1=0,S5=1	264	60	18.2		
GTM46161-165.5-USB2C					
NC,S1=1,S5=0	264	60	3.8	With frequency-weighted device	
NC,S1=1,S5=1	264	60	3.5		
SFC,S1=0,S5=0	264	60	4.2		
SFC,S1=0,S5=1	264	60	3.9		
NC,S1=1,S5=0	264	60	19.3	With Not-frequency-weighted device	
NC,S1=1,S5=1	264	60	19.0		
SFC,S1=0,S5=0	264	60	20.6		
SFC,S1=0,S5=1	264	60	19.3		
Supplementary information:					

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

Note 1: For EARTH LEAKAGE CURRENT see 8.7.3 d) and 8.7.4.5;
Note 2: For TOUCH CURRENT see 8.7.3 c) and 8.7.4.6;

Note 3: For PATIENT LEAKAGE CURRENT SEE 8.7.3.b) and 8.7.4.7
Note 4: Total PATIENT LEAKAGE CURRENT values are only relative to equipment with multiple APPLIED PARTS of the same type. See 8.7.4.7 h). The individual APPLIED PARTS complied with the PATIENT LEAKAGE CURRENT values.

Note 5: In addition to conditions indicated in the Table, tests conducted at operating temperature and after humidity preconditioning of 5.7, EQUIPMENT energized in stand-by condition and fully operating, max rated supply frequency, at 110 % of the max RATED MAINS VOLTAGE, and after relevant tests of Clause 11.6 (i.e., overflow, spillage, leakage, ingress of water and particulate matter, cleaning & disinfection, & sterilization).

A: after humidity preconditioning treatment .B: before humidity preconditioning treatment

ER - Earth leakage current
TC – Touch current
P - Patient leakage current
PA – Patient auxiliary current
TP – Total Patient current
PM - Patient leakage current with mains on the applied parts
MD - Measuring device

A - After humidity conditioning
B - Before humidity conditioning
1 - Switch closed or set to normal polarity
0 - Switch open or set to reversed polarity
NC - Normal condition
SFC - Single fault condition

8.8.3	**TABLE: Dielectric strength test of solid insulating materials with safety function – means of operator protection (MOOP) / means of patient protection (MOPP)**	**P**

Insulation under test (area from insulation diagram)	**Insulation Type (1 or 2 MOOP/MOPP)**	**Reference Voltage**		**A.C. test voltages in V r.m.s[1)]**	**Dielectric breakdown after 1 minute Yes/No[2)]**
		PEAK WORKING VOLTAGE (U) V_{peak}	**PEAK WORKING VOLTAGE (U) V d.c.**		
A	1MOOP	340	--	1500	No breakdown
B	2 MOPP	340	--	4000	No breakdown
C	2 MOPP	340	--	4000	No breakdown
D	1 MOPP	--	Max. 48	1000	No breakdown
E	2 MOPP	352	--	4000	No breakdown

Supplementary information:

[1] Alternatively, per the Table (i.e., __dc), a d.c. test voltage equal to the peak value of the a.c. test voltage used.
[2] A) Immediately after humidity treatment of 5.7, ME EQUIPMENT de-energized, B) after required sterilization PROCEDURE, ME EQUIPMENT de-energized, C) after reaching steady state operating temperature as during heating test of 11.1.1, and D) after relevant tests of 11.6 (i.e., overflow, spillage, leakage, ingress of water, cleaning, disinfection, and sterilization).

8.8.4.1	**TABLE: Resistance to heat - Ball pressure test of thermoplastic parts**		**P**
	Allowed impression diameter (mm) .....:	**≤ 2 mm**	**—**
	Force (N).....:	**20**	**—**

Part/material	**Test temperature (°C)**	**Impression diameter (mm)**
Enclsoure	125	1.3

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

Bobbin **of transformer**	125	1.0
Supplementary information: resistance to heat for insulation of thermoplastic materials that used as SUPPLEMENTARY INSULATION or REINFORCED INSULATION established by performing the ball-pressure test in at a temperature 25 °C higher than the temperature of the insulation measured during the tests of 13.2.2 to 13.2.13 (inclusive).		

8.9.2	**TABLE: Short circuiting of each single one of the CREEPAGE DISTANCES and AIR CLEARANCES for insulation in the MAINS PART between parts of opposite polarity in lieu of complying with the required measurements in 8.9.4**	**N/A**

Specific areas of circuits short-circuited and test conditions	**Test in lieu of CREEPAGE DISTANCE or AIR CLEARANCE[1)]**	**HAZARDOUS SITUATION observed (i.e., fire hazard, shock hazard, explosion, discharge of parts, etc.)? Yes/No**	**Remarks**
See the table 13.1			
Supplementary information: [1)] Note: AC - AIR CLEARANCE CD - CREEPAGE DISTANCE			

8.9.3.2	**Table: Thermal cycling tests on one sample of insulating compound forming solid insulation between conductive parts**			**N/A**
Part Test	**8.9.3.4 - Test duration and temperature for 10 cycles after which the sample was subjected to Humidity Preconditioning per Cl. 5.7**	**Dielectric test voltage**	**Dielectric strength test after humidity preconditioning per cl. 5.7 except for 48 h only, Breakdown: Yes/No**	**Crack or voids in the insulating compound: Yes/No**
	68 h at T1 ± 2 °C = ___°C [1)]			
	1 h at 25 °C ± 2 °C			
	2 h at 0 °C ± 2 °C			
	1 or more h at 25 °C ± 2 °C			
Supplementary information: [1)] T1 = 10 °C above the maximum temperature of relevant part determined per 11.1.1, or 85 °C, the higher of the two. 10 °C not added to T1 when temperature measured by an embedded thermocouple. Used gradual transition from one temperature to another.				

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

8.9.3.3	**Table: Thermal cycling tests on one sample of cemented joint with other insulating parts (see 8.9.3.3)**			**N/A**
Part tested	**Sample**	**Each test duration and temperature**	**Dielectric test voltage**	**Dielectric strength test Breakdown: Yes/No**
	1	**10 Cycles conducted of the following:**		
		1 - 68 h at T1 ± 2 °C = ___°C[1]		
		2 - 1 h at 25 °C ± 2 °C		
		3 - 2 h at 0 °C ± 2 °C		
		4 - 1 or more h at 25 °C ± 2 °C		
	2	**Humidity Conditioning per 5.7**		
	3	**Humidity Conditioning per 5.7**		

Supplementary information:

1) T1 = 10 °C above the maximum temperature of relevant part determined per 11.1.1, or 85 °C, the higher of the two. 10 °C not added to T1 when temperature measured by an embedded thermocouple. Used gradual transition from one temperature to another.

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

8.10	TABLE: List of critical components				P
Component / Part No..	**Manufacturer / Trademark**	**Type No. / model No.**	**Technical data**	**Standard No. / Edition**	**Mark(s) & Certificates of conformity 1)**
Plastic enclosure and Blade holder	TEIJIN CHEMICALS LTD	LN-1250G	V-0, 125°C, Min. thickness:1.5mm	UL 94, IEC/EN 62368-1	UL E50075 and tested with appliance
Alt.	SABIC INNOVATIVE PLASTICS B V	945 (GG)	V-0, 125°C, Min. thickness:1.5mm	UL 796,	UL E45329 and tested with appliance
Alt.	SABIC INNOVATIVE PLASTICS US L L C	915R(GG)	V-0, 125°C, Min. thickness:1.5mm	IEC/EN 62368-1	UL E121562 and tested with appliance
Alt.	LG CHEM (GUANGZHOU) ENGINEERING PLASTICS CO LTD	LUPOY EF-1006F(m)	V-0, 125°C, Min. thickness:1.5mm	UL 796,	UL E248280 and tested with appliance
Alt.	COVESTRO DEUTSCHLAND AG [PC RESINS]	FR6005 + (z)	V-0, 125°C, Min. thickness:1.5mm	IEC/EN 62368-1	UL E41613 and tested with appliance
Alt.	SILVER AGE ENGINEERING PLASTICS (DONGGUAN) CO LTD	PC2330	V-0, 130°C, Min. thickness:1.5mm	UL 796,	UL E225348 and tested with appliance
Alt.	SABIC JAPAN L L C	945	V-0, 125°C, Min. thickness:1.5mm	UL 94, IEC/EN 62368-1	UL E207780 and tested with appliance
PCB	WALEX ELECTRONIC (WUXI) CO LTD	T2, T2A, T2B, T4	V-0, 130°C, Min. 1.2mm thickness	UL 796, IEC/EN 62368-1	UL E154355 and tested with appliance
Alt.	DONGGUAN HE TONG ELECTRONICS CO LTD	CEM1, 2V0, FR4	V-0, 130°C, Min. 1.2mm thickness	UL 796, IEC/EN 62368-1	UL E243157 and tested with appliance
Alt.	CHEERFUL ELECTRONIC	02, 03, 03A	V-0, 130°C, Min. 1.2mm thickness	UL 796, IEC/EN 62368-1	UL E199724 and tested with appliance
Alt.	DONGGUAN DAYSUN ELECTRONIC CO LTD	DS2	V-0, 130°C, Min. 1.2mm thickness	UL 796, IEC/EN 62368-1	UL E251754 and tested with appliance
Alt.	SHANGHAI AREX PRECISION ELECTRONIC CO LTD	02V0, 03V0, 04V0	V-0, 130°C, Min. 1.2mm thickness	UL 796, IEC/EN 62368-1	UL E186016 and tested with appliance

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

Alt.	SHENZHEN TONGCHUANG XIN ELECTRONICS CO LTD	TCX	V-0, 130°C, Min. 1.2mm thickness	UL 796, IEC/EN 62368-1	UL E250336 and tested with appliance
Alt.	PACIFIC WIN INDUSTRIAL LTD	PW-02, PW-03	V-0, 130°C, Min. 1.2mm thickness	UL 796, IEC/EN 62368-1	UL E228070 and tested with appliance
Alt.	GOLDEN TRIANGLE PCB & TECHNOLOGIES LTD	GT-D	V-0, 130°C, Min. 1.2mm thickness	UL 796, IEC/EN 62368-1	UL E340752 and tested with appliance
Alt.	KUOTIANG ENT LTD	C-2, C-2A, C-4	V-0, 130°C, Min. 1.2mm thickness	UL 796, IEC/EN 62368-1	UL E227299 and tested with appliance
Alt.	KINGBOARD LAMINATES HOLDINGS LTD	KB-3151C, KB-5150	V-0, 130°C, Min. 1.2mm thickness	UL 796, IEC/EN 62368-1	UL E123995 and tested with appliance
Alt.	SHENZHEN JINDIAN PRECISION CIRCUIT CO LTD	JD-1, JD-1A	V-0, 130°C, Min. 1.2mm thickness	UL 796, IEC/EN 62368-1	UL E347010 and tested with appliance
Fusible resistor (RF1)	ANHUI CHANGSHENG ELECTRONICS CO LTD	RXF21-1W	1 Ω, 1 W	UL 248-1, UL 248-14, IEC/EN 62368-1	UL E306095 and tested with appliance
Alt.	SHENZHEN GREAT ELECTRONICS CO LTD	RXF-1W	1 Ω, 1 W	UL 248-1, UL 248-14, IEC/EN 62368-1	UL E301541 and tested with appliance
Alt.	JIANGSU XINYANG ELECTRONIC COMPONENT CO LTD	RF10-1W	1 Ω, 1 W	UL 248-1, UL 248-14, IEC/EN 62368-1	UL E312842 and tested with appliance
Alt.	SHENZHEN KAYOCOTA ELECTRONICS CO LTD	FRKNP-1WS	1 Ω, 1 W	UL 248-1, UL 248-14, IEC/EN 62368-1	UL E318056 and tested with appliance
Alt.	TZAI YUAN ENTERPRISE CO LTD	KNF1W	1 Ω, 1 W	UL 248-1, UL 248-14, IEC/EN 62368-1	UL E355632 and tested with appliance
Alt.	Yageo Components (Suzhou) Co. Ltd.	FKN	1 Ω, 1 W	UL 248-1, UL 248-14, IEC/EN 62368-1	UL E323780 and tested with appliance
Fuse (FS1) (For circuit diagram/ PCB layout type 1 & 2)	Conquer Electronics Co., Ltd.	MST series	T1 A or T2 A, 250V	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40017118
Alt.	SUZHOU WALTER ELECTRONIC CO LTD	2000	T1 A or T2 A, 250V	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40018790

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

Alt.	SUZHOU WALTER ELECTRONIC CO LTD	2010	T1 A or T2 A, 250V	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40018781
Alt.	Bel Fuse Ltd.	RST	T1 A or T2 A, 250V	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40011144
Alt.	Cooper Bussmann LLC	SS-5	T1 A or T2 A, 250V	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40015513
Alt.	Walter Electronic Co. Ltd.	ICP series	T1 A or T2 A, 250V	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40012824
Alt.	Shenzhen Lanson Electronics Co. Ltd.	SMT	T1 A or T2 A, 250V	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40012592
Alt.	Das & Sons International Ltd.	385T	T1 A or T2 A, 250V	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40008524
Fuse (RF1) (For circuit diagram/ PCB layout type 2)	Walter Electronic Co. Ltd.	ICP series	T1 A or T2 A, 250V	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40012824
Alt.	Zhongshan Lanbao Electrical Appliances Co., Ltd.	RTI-10 Serie(s)	T1 A or T2 A, 250V	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40017009
Bridging-Capacitor (CY1, CY2) (optional)	TDK Corporation	CD	250Vac, 125°C, Max. 1000pF	IEC/EN 60384-14	VDE 40029780
Alt.	Success Electronics Co., Ltd.	SE	250Vac, 125°C, Max. 1000pF	IEC/EN 60384-14	VDE 40037211
Alt.	Success Electronics Co., Ltd.	SB	250Vac, 125°C, Max. 1000pF	IEC/EN 60384-14	VDE 40037221
Alt.	Murata Mfg. Co., Ltd.	KX	250Vac, 125°C, Max. 1000pF	IEC/EN 60384-14	VDE 40002831
Alt.	Walsin Technology Corp.	AH	250Vac, 125°C, Max. 1000pF	IEC/EN 60384-14	VDE 40001804
Alt.	JYA-NAY Co., Ltd.	JN	250Vac, 125°C, Max. 1000pF	IEC/EN 60384-14	VDE 40001831
Alt.	Haohua Electronic Co.	CT7	250Vac, 125°C, Max. 1000pF	IEC/EN 60384-14	VDE 40003902
Alt.	Hongzhi Enterprises Ltd.	Y	250Vac, 125°C, Max. 1000pF	IEC/EN 60384-14	VDE 40038760
Alt.	SHANTOU HIGH-NEW TECHNOLOGY DEVELOPMNT ZONE SONGTIAN ENTERPRISE CO LTD	CD	250Vac, 125°C, Max. 1000pF	IEC/EN 60384-14	VDE 40025754

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

Varistor MOV1	Joyin Co., Ltd.	JVR10N471K, JVR14N471K	300Vac, coating is V-0, 125 °C, 6KV/3KA, pulse test passed	IEC 61051-1, IEC 61051-2, IEC 61051-2-2	VDE 005937
Alt.	Centra Science Corp.	10D471K, 14D471K	300Vac, coating is V-0, 125 °C, 6KV/3KA, pulse test passed	IEC 61051-1, IEC 61051-2, IEC 61051-2-2	VDE 40008220
Alt.	Thinking Electronic Industrial Co., Ltd.	TVR10471K, TVR14471K, TFV10S471K, TVR10621K	300Vac, coating is V-0, 125 °C, 6KV/3KA, pulse test passed	IEC 61051-1, IEC 61051-2, IEC 61051-2-2	VDE 005944
Alt.	Success Electronics Co., Ltd.	SVR10D471K, SVR14D471K	300Vac, coating is V-0, 125 °C, 6KV/3KA, pulse test passed	IEC 61051-1, IEC 61051-2, IEC 61051-2-2	VDE 40030401
Alt.	Ceramate Techn. Co., Ltd.	GNR10D471K , GNR14D471K	300Vac, coating is V-0, 125 °C, 6KV/3KA, pulse test passed	IEC 61051-1, IEC 61051-2, IEC 61051-2-2	VDE 40031745
Alt.	Brightking (Shenzhen) Co., Ltd.	14D471K, 10D471K	300Vac, coating is V-0, 125 °C, 6KV/3KA, pulse test passed	IEC 61051-1, IEC 61051-2, IEC 61051-2-2	VDE 40027827
Alt.	Lien Shun Electronics Co., Ltd.	10D471K, 14D471K	300Vac, coating is V-0, 125 °C, 6KV/3KA, pulse test passed	IEC 61051-1, IEC 61051-2, IEC 61051-2-2	VDE 40005858
Alt.	HONGZHI ENTERPRISES LTD	HEL-10D471K, HEL-14D471K	300Vac, coating is V-0, 125 °C, 6KV/3KA, pulse test passed	IEC 61051-1, IEC 61051-2, IEC 61051-2-2	VDE 40008621
Alt.	GUANGXI NEW FUTURE INFORMATION INDUSTRY CO LTD	10D471K, 14D471K	300Vac, coating is V-0, 125 °C, 6KV/3KA, pulse test passed	IEC 61051-1, IEC 61051-2, IEC 61051-2-2	VDE 40030322
Alt.	Thinking Electronic Industrial Co., Ltd.	TVR10471-M	300Vac, coating is V-0, 125 °C, 6KV/3KA, pulse test passed	IEC 61051-1, IEC 61051-2, IEC 61051-2-2	VDE 40036061
Alt.	SHANTOU HIGH-NEW TECHNOLOGY DEVELOPMNT ZONE SONGTIAN ENTERPRISE CO LTD	10D471K, 14D471K, 10D621K	300Vac, coating is V-0, 125 °C, 6KV/3KA, pulse test passed	IEC 61051-1, IEC 61051-2, IEC 61051-2-2	VDE 40023049
Alt.	Guangdong Huiwan Electronics Technology Co Ltd	V-471K-10D, V-471K-10E V-471K-14D, V-471-14E	300Vac, coating is V-0, 125 °C, 6KV/3KA, pulse test passed	IEC 61051-1, IEC 61051-2, IEC 61051-2-2	VDE 40043880

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

Alt.	XIAMEN SET ELECTRONICS CO LTD	TFV8S471K, TFV10S471K	300Vac, coating is V-0, 125 °C, 6KV/3KA, pulse test passed	IEC 61051-1, IEC 61051-2, IEC 61051-2-2	TUV J 50554061
Thermal conductive pad	Suzhou Springgrass Electronic Technology Co., LTD	HRTP-M16	V-0, 130°C, Min. thickness: 5.8mm	UL 94 IEC/EN 62368-1	UL E528141 and tested with appliance
Alt.	SUZHOU HUIMEI PACKAGING PRODUCTS CO LTD	HM-300	V-0, 130°C, Min. thickness: 5.8mm	UL 94 IEC/EN 62368-1	UL E516470 and tested with appliance
Alt.	PIONEER MATERIAL PRECISION TECH	PMP-P-300	V-0, 130°C, Min. thickness: 5.8mm	UL 94 IEC/EN 62368-1	UL E153203 and tested with appliance
Transformer (T1)	GlobTek, Shan Dong Boam Electric Co Ltd, WUXI HAOPUWEI ELECTRONICS CO.,LTD,	XF01036	Class B	IEC/EN 62368-1	Tested with appliance
-Insulation system	GLOBTEK INC	GTX-130-TM	Class B	UL 1446 IEC/EN 62368-1	UL E243347 and tested with appliance
Alt.	ELECTRIC CO LTD	ENG130-1	Class B	UL 1446 IEC/EN 62368-1	UL E308897 and tested with appliance
Alt.	SHAN DONG BOAM ELECTRIC CO LTD	BOAM-01, B1	Class B	UL 1446 IEC/EN 62368-1	UL E252329 and tested with appliance
Alt.	WUXI HAOPUWEI ELECTRONICS CO LTD	ZT-130	Class B	UL 1446 IEC/EN 62368-1	UL E315275 and tested with appliance
-Magnet wire (primary)	PACIFIC ELECTRIC WIRE & CABLE (SHENZHEN) CO LTD	UEWN/U, UEWS/U	MW28-C, 130°C	UL 1446 IEC/EN 62368-1	UL E201757 and tested with appliance
Alt.	JUNG SHING WIRE CO LTD	UEW-4, UEY-2	MW75C, 130°C	UL 1446 IEC/EN 62368-1	UL E174837 and tested with appliance
Alt.	JIANGSU HONGLIU MAGNET WIRE TECHNOLOGY CO LTD	2UEW/130	MW75-C, 130°C	UL 1446 IEC/EN 62368-1	UL E335065 and tested with appliance
Alt.	CHANGZHOU DAYANG WIRE & CABLE CO LTD	2UEW/130	MW75-C, 130°C	UL 1446 IEC/EN 62368-1	UL E158909 and tested with appliance
Alt.	WUXI JUFENG COMPOUND LINE CO LTD	2UEWB	MW75#, 130°C	UL 1446 IEC/EN 62368-1	UL E206882 and tested with appliance

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

Alt.	JIANGSU DARTONG M & E CO LTD	UEW	MW 75-C, 130°C	UL 1446 IEC/EN 62368-1	UL E237377 and tested with appliance
Alt.	SHANDONG SAINT ELECTRIC CO LTD	UEW/130	MW75#, 130°C	UL 1446 IEC/EN 62368-1	UL E194410 and tested with appliance
Alt.	ZHEJIANG LANGLI ELECTRIC EQUIPMENTS CO LTD	UEW	MW 79#, 130°C	UL 1446 IEC/EN 62368-1	UL E222214 and tested with appliance
Alt.	NINGBO JINTIAN NEW MATERIAL CO LTD	2UEW/155	MW 79#, 155°C	UL 1446 IEC/EN 62368-1	UL E227047 and tested with appliance
Alt.	HUIZHOU HUILI INDUSTRIAL CO LTD	MIW-B(x)	MW75#, 130°C	UL 1446 IEC/EN 62368-1	UL E322908 and tested with appliance
-Triple-insulated wire (Secondary)	Great Leoflon Industrial Co., Ltd.	TRW (B) Serie(s)	Class B, 130°C, reinforced insulation	IEC/EN 62368-1	VDE 136581
Alt.	KBI COSMOLINK CO.,LTD.	TIW-M Serie(s)	Class B, 130°C, reinforced insulation	IEC/EN 62368-1	VDE 138053
Alt.	Furukawa Electric Co., Ltd. Electronics	TEX-E	Class B, 130°C, reinforced insulation	IEC/EN 62368-1	VDE 006735
Alt.	TOTOKU ELECTRIC CO LTD	TIW-2	Class B, 130°C, reinforced insulation	IEC/EN 62368-1	VDE 40005152
Alt.	E&B TECHNOLOGY CO LTD	E&B-XXXB, E&B-XXXB-1	Class B, 130°C, reinforced insulation	IEC/EN 62368-1	VDE 40023473
Alt.	SHENZHEN JIUDING NEW MATERIAL CO LTD	DTIW-B	Class B, 130°C, reinforced insulation	IEC/EN 62368-1	VDE 40037495
-Bobbin	CHANG CHUN PLASTICS CO LTD	T375J, T375HF, T373J	V-0, 150°C, thickness 0.45 mm min.	UL 94 IEC/EN 62368-1	UL E59481 and tested with appliance
Alt.	SUMITOMO BAKELITE CO LTD	PM-9820, PM-9630, PM-9823	V-0, 150°C, thickness 0.74 mm min.	UL 94 IEC/EN 62368-1	UL E41429 and tested with appliance
Alt.	Resonac Techno Service Corporation	CP-J-8800	V-0, 150°C, thickness 0.45 mm min.	UL 94 IEC/EN 62368-1	UL E514814 and tested with appliance
Alt.	CHANG CHUN PLASTICS CO LTD	4130	V-0, 150°C, thickness 0.45 mm min.	UL 94 IEC/EN 62368-1	UL E59481 and tested with appliance
-Insulating tape	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	1350F-1, 1350T-1, 44	Min.130°C	UL 510A IEC/EN 62368-1	UL E17385 and tested with appliance

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

Alt.	HUIZHOU YAHUA ELECTRONIC TECHNOLOGY CO LTD	CT	Min.130°C	UL 510A IEC/EN 62368-1	UL E495875 and tested with appliance
Alt.	BONDTEC PACIFIC CO LTD	370S	Min.130°C	UL 510A IEC/EN 62368-1	UL E175868 and tested with appliance
Alt.	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	PZ CT WF	Min.130°C	UL 510A IEC/EN 62368-1	UL E165111 and tested with appliance
Alt.	JINGJIANG JINGYI ADHESIVE PRODUCT CO LTD	JY25-A	Min.130°C	UL 510A IEC/EN 62368-1	UL E246950 and tested with appliance
Alt.	CHANG SHU LIANG YI TAPE INDUSTRY CO LTD	LY-XX	Min.130°C	UL 510A IEC/EN 62368-1	UL E246820 and tested with appliance
Alt.	SHEN ZHEN WEI CHUANG DA PACKAGING MATERIALS CO., LTD.	W-001	Min.130°C	UL 510A IEC/EN 62368-1	UL E333581 and tested with appliance
-PTFE tubing	Great Holding Industrial Co Ltd	TFT, TFS	Min. 300V, 200°C	UL 224 IEC/EN 62368-1	UL E156256 and tested with appliance
Alt.	Shenzhen Woer Heat-Shrinkable Material Co Ltd	WF	600V, 200°C	UL 224 IEC/EN 62368-1	UL E203950 and tested with appliance
Alt.	Changyuan Electronics (Shenzhen) Co Ltd	CB-TT-T, CB-TT-S	Min. 300V, 200°C	UL 224 IEC/EN 62368-1	UL E180908 and tested with appliance
Detachable integral plug	GlobTek, Inc.	Q-SAA, Q-AU	Input: 100-240 Vac, 50-60 Hz or 50/60 Hz, 0.45A	AS/NZS 3112	Test report 210601525SHA-001
Coupler	GlobTek, Inc.	Q-Coupler	Max 240V, Max 1A	IEC 60320-1	Test report 231100265SHA-001

8.10 b	**TABLE: List of identified components with HIGH INTEGRITY CHARACTERISTICS**				**N/A**
Object / part No.	**Manufacturer/ trademark**	**Type / model**	**Technical data**	**Standard**	**Mark(s) of conformity[1)]**
- Description:					

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

- Description:					
- Description:					

Supplementary information:

[1)] Provided evidence ensures the agreed level of compliance. See OD-CB2039.

8.11.3.5	**TABLE: CORD ANCHORAGES**			**N/A**
Cord under test	**Mass of equipment (kg)**	**Pull (N)**	**Torque Nm)**	**Remarks**

Supplementary information:

8.11.3.6	**TABLE: Cord guard**		**N/A**
Cord under test	**Test mass**	**Measured curvature**	**Remarks**

Supplementary information:

9.2.2.2	**TABLE: Measurement of gap "a" according to Table 20 (ISO 13852: 1996)**			**N/A**
Part of body	**Allowable adult gap[1)], mm**	**Measured adult gap, mm**	**Allowable children gap[1)], mm**	**Measured children gap, mm**
Body	**> 500**		**> 500**	
Head	**> 300 or < 120**		**> 300 or < 60**	
Leg	**> 180**		**> 180**	
Foot	**> 120 or < 35**		**> 120 or < 25**	
Toes	**> 50**		**> 50**	
Arm	**> 120**		**> 120**	
Hand, wrist, fist	**> 100**		**> 100**	
Finger	**> 25 or < 8**		**> 25 or < 4**	

Supplementary information: [1)] In general, gaps for adults used, except when the device is specifically designed for use with children, values for children applied.

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

9.2.3.2	TABLE: Over-travel End Stop Test	N/A
ME EQUIPMENT end stop	**Test Condition (cycles, load, speed)**	**Remarks**
Supplementary information:		

9.4.2.1	TABLE: Instability—overbalance in transport position	N/A
ME EQUIPMENT preparation	**Test Condition (transport position)**	**Remarks**
Supplementary information:		

9.4.2.2	TABLE: Instability—overbalance excluding transport position	N/A
ME EQUIPMENT preparation	**Test Condition (excluding transport position) Test either 5 ° incline and verify Warning marking or 10 ° incline)**	**Remarks**
Supplementary information:		

9.4.2.3	TABLE: Instability—overbalance from horizontal and vertical forces	N/A
ME EQUIPMENT preparation	**Test Condition (force used, direction of force, weight of equipment, location of force)**	**Remarks**
Supplementary information:		

9.4.2.4.2	TABLE: Castors and wheels – Force for propulsion	N/A
ME EQUIPMENT preparation	**Test Condition (force location and height)**	**Remarks**
Supplementary information:		

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

9.4.2.4.3	TABLE: Castors and wheels – Movement over a threshold	N/A
ME EQUIPMENT preparation	**Test Condition (speed of movement)**	**Remarks**
Supplementary information:		

9.4.3.1	TABLE: Instability from unwanted lateral movement (including sliding) in transport position	N/A
ME EQUIPMENT Preparation	**Test Condition (transport position, working load, locking device(s), caster position)**	**Remarks**
Supplementary information:		

9.4.3.2	TABLE: Instability from unwanted lateral movement (including sliding) excluding transport position	N/A
ME EQUIPMENT Preparation	**Test Condition (working load, locking device(s), caster position, force, force location, force direction)**	**Remarks**
Supplementary information:		

9.4.4	TABLE: Grips and other handling devices	N/A
Clause and Name of Test	**Test Condition**	**Remarks**
Supplementary information:		

9.7.5	TABLE: Pressure vessels					N/A
Hydraulic, Pneumatic or Suitable Media and Test Pressure	**Vessel Burst**	**Permanent Deformation**	**Leaks**	**Vessel fluid substance**	**Remarks**	
Supplementary Information:						

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

9.8.3.2	TABLE: PATIENT support/suspension system - Static forces	N/A

ME EQUIPMENT part or area	Position	Load	Area	Remarks

Supplementary Information:

9.8.3.3	TABLE: Support/Suspension System – Dynamic forces due to loading from persons	N/A

ME EQUIPMENT part or area	Position	Safe Working Load	Area	Remarks

Supplementary Information:

10.1.1	TABLE: Measurement of X - radiation	N/A

Maximum allowable radiation pA/kg (µSv/h) (mR/h)	36 (5 µSv/h) (0.5 mR/h)	
Surface area under test Surface no./ Description[1)]	**Measured Radiation, pA/kg (µSv/h) (mR/h)**	Remarks
1/ /		
2/ /		
3/ /		
4/ /		
5/ /		
6/ /		
7/ /		
8/ /		
9/ /		
10/ /		

Supplementary information:
[1)] Measurements made at 5 cm from any surface to which OPERATOR (other than SERVICE PERSONNEL) can gain access without a TOOL, is deliberately provided with means of access, or is instructed to enter regardless of whether or not a TOOL is needed to gain access

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

11.1.1	TABLE: Excessive temperatures in ME EQUIPMENT				P
Model No. .....:		GT*46161-165.0-USB	GT*46161-165.0-USB	GT*46161-165.0-USB1A1C	GT*46161-165.0-USB1A1C
Test ambient (°C) .....:		39.4	39.4	40.0	40.0
Test supply voltage/frequency (V/Hz)[4]...:		90 V /60 Hz	264 V /50 Hz	90 V /60 Hz	264 V /50 Hz

Model No.	Thermo-couple No.	Thermocouple location[3]	Max allowable temperature[1] from Table 22, 23 or 24 or RM file for AP[5] (°C)	Max measured temperature[2], (°C)	Remarks
Test voltage: 90 V, 60 Hz; performed in the oven 40 ºC, GT*46161-165.0-USB					
1	1	Plastic enclosure inside near plug blade	85	80.8	--
1	2	FS1 body	--	74.5	--
1	3	MOV1 body	125	86.3	--
1	4	C1 body	105	93.3	--
1	5	LF1 body	120	104.7	--
1	6	T1 coil	120	107.1	--
1	7	T1 core	120	96.3	--
1	8	LF2 body	120	87.5	--
1	9	Plastic enclosure inside near T1	85	70.6	--
1	10	Plastic enclosure outside near T1	71	65.5	--
1	11	Test corner	40	39.4	--
1	12	ambient	40	40.0	--
Test voltage: 264 V, 50 Hz; performed in the oven 40 ºC, GT*46161-165.0-USB					
2	1	Plastic enclosure inside near plug blade	85	73.8	--
2	2	FS1 body	--	65.2	--
2	3	MOV1 body	125	73.7	--
2	4	C1 body	105	81.3	--
2	5	LF1 body	120	87.2	--
2	6	T1 coil	120	105.0	--
2	7	T1 core	120	94.5	--
2	8	LF2 body	120	87.2	--
2	9	Plastic enclosure inside near T1	85	69.8	--

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

2	10	Plastic enclosure outside near T1	71	64.7	--
2	11	Test corner	40	39.4	--
2	12	ambient	40	40.0	--
Test voltage: 90 V, 60 Hz; performed in the oven 40 ºC, GT*46161-165.0-USB1A1C					
3	1	Plastic enclosure inside near plug blade	85	59.4	--
3	2	FS1 body	--	60.2	--
3	3	MOV1 body	125	65.9	--
3	4	C1 body	105	72.5	--
3	5	LF1 body	120	75.0	--
3	6	T1 coil	120	88.1	--
3	7	T1 core	120	81.3	--
3	8	LF2 body	120	81.6	--
3	9	Plastic enclosure inside near T1	85	77.4	--
3	10	Plastic enclosure outside near T1	71	67.1	--
3	11	Test corner	40	40.5	--
3	12	ambient	40	40.0	--
Test voltage: 264 V, 50 Hz; performed in the oven 40 ºC, GT*46161-165.0-USB1A1C					
4	1	Plastic enclosure inside near plug blade	85	54.9	--
4	2	FS1 body	--	58.2	--
4	3	MOV1 body	125	63.0	--
4	4	C1 body	105	70.2	--
4	5	LF1 body	120	70.7	--
4	6	T1 coil	120	90.6	--
4	7	T1 core	120	83.9	--
4	8	LF2 body	120	81.3	--
4	9	Plastic enclosure inside near T1	85	79.6	--
4	10	Plastic enclosure outside near T1	71	69.2	--
4	11	Test corner	40	40.7	--
4	12	ambient	40	40.0	--

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:
[1] Maximum allowable temperature on surfaces of test corner is 90 °C
[2] Max temperature determined in accordance with 11.1.3e)
[3] When thermocouples used to determine temperature of windings, limits of Table 22 reduced by 10 °C.
[4] Supply voltage:
- ME EQUIPMENT with heating elements - 110 % of the maximum RATED voltage;
- Motor operated ME EQUIPMENT - least favourable voltage between 90 % of the minimum RATED and 110 % of the maximum RATED voltage. ME EQUIPMENT operated under normal load and normal DUTY CYCLE.
- Combined heating and motor operated and other ME EQUIPMENT - tested both at 110 % of the maximum RATED voltage and at 90 % of the minimum RATED voltage.

[5] **APPLIED PARTS** intended to supply heat to a **PATIENT - S**ee RISK MANAGEMENT FILE containing temperatures and clinical effects. Also, see instructions for use.

11.1.3d	**TABLE: Temperature of windings by change-of-resistance method**						**N/A**
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:							

11.2.2.1	**TABLE: Alternative method to 11.2.2.1 a) 5) to determine existence of an ignition source**	**N/A**
Areas where sparking might cause ignition:		**Remarks**
1.		
6.		
Materials of the parts between which sparks could occur (Composition, Grade Designation, Manufacturer):		**Remarks**
1.		
2.		
Test parameters selected representing worst case conditions for ME EQUIPMENT:		**Remarks**
Oxygen concentration (%)..... :		
Fuel ..... :		
Current (A) ..... :		
Voltage (V)..... :		
Capacitance (μF) ..... :		
Inductance or resistance (h or Ω).... :		
No. of trials (300 Min) ..... :		

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

Sparks resulted in ignition (Yes/No) :		
Supplementary information: Test procedure of 11.2.2.1 a) 5) & Figs 35-37 used for tests. For circuits not in Figs 35-37, test voltage or current set at 3 times the worst-case values with other parameters set at worst case values to determine if ignition can occur. Information from Risk Management, as applicable:		

11.6.1	**TABLE: overflow, spillage, leakage, ingress of water, cleaning, disinfection, sterilization, compatibility with substances**	**N/A**

Clause / Test Name	**Test Condition**	**Part under test**	**Remarks**

Supplementary information:

Information from Risk Management, as applicable:

13.1.2	**TABLE: measurement of power or energy dissipation in parts & components to waive SINGLE FAULT CONDITIONS in 4.7, 8.1 b), 8.7.2, and 13.2.2 relative to emission of flames, molten metal, or ignitable substances**	**N/A**

Power dissipated less than (W) ..... :	**15**
Energy dissipated less than (J) .....:	**900**

Part or component tested	**Measured power dissipated (W)**	**Calculated energy dissipated (J)**	**SINGLE FAULT CONDITIONS waived (Yes/No)**	**Remarks**

Supplementary information:

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

13.2	**TABLE: SINGLE FAULT CONDITIONS in accordance with 13.2.2 to 13.2.13, inclusive**	**P**

Clause No.	Description of SINGLE FAULT CONDITION	Results observed	HAZARDOUS SITUATION (Yes/No)[2)]
13.2.2	**Electrical SINGLE FAULT CONDITIONS per Cl. 8.1:**	**—**	**—**
	C1 shorted	Unit shutdown, immediately. FS1 and RF1 open. No hazard	No
	C2 shorted	Unit shutdown, immediately. FS1 and RF1 open. No hazard	No
	BD1 shorted	Unit shutdown, immediately. FS1 and RF1 open. No hazard	No
	DS1 shorted	Unit operated normally for 7 hours. No damage. No hazard.	No
	RS10 shorted	Unit shutdown, immediately. No damage. No hazard.	No
	RS7 shorted	Normal operation. No load.	No
	DS3 shorted	Unit operated normally for 3 seconds with rated current, then was shutdown. No damage. No hazard.	No
	C5 shorted	Unit operated normally for 3 seconds with 10.3 W load, then was shutdown. No damage. No hazard.	No
	RS20 shorted	Unit operated normally for 7 hours. No damage. No hazard.	No
13.2.3	**Overheating of transformers per Clause 15.5:**	**—**	**—**
		See 15.5	NO
13.2.4	**Failure of THERMOSTATS according to 13.2.13 & 15.4.2, overloading - THERMOSTATS short circuited or interrupted, the less favourable of the two:**	**—**	**—**
		No thermostat used	N/A
13.2.5	**Failure of temperature limiting devices according to 13.2.13 & 15.4.2, overloading, THERMOSTATS short circuited or interrupted, the less favourable of the two:**	**—**	**—**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

Clause No.	Description of SINGLE FAULT CONDITION	Results observed	HAZARDOUS SITUATION (Yes/No)[2)]
		No temperature limiting device	N/A
13.2.6	**Leakage of liquid - RISK MANAGEMENT FILE examined to determine the appropriate test conditions (sealed rechargeable batteries exempted)**	**—**	**—**
			N/A
13.2.7	**Impairment of cooling that could result in a HAZARD using test method of 11.1:**	**—**	**—**
	Single ventilation fans locked consecutively	No fan used	N/A
	Ventilation openings on top and sides impaired by covering openings on top of ENCLOSURE or positioning of ME EQUIPMENT against walls	No ventilation opening	N/A
	Simulated blocking of filters	No filter	N/A
	Flow of a cooling agent interrupted	No cooling agent used	N/A
13.2.8	**Locking of moving parts – Only one part locked at a time – Also see 13.2.10 below:**	**—**	**—**
		No moving part	N/A
13.2.9	**Interruption and short circuiting of motor capacitors – Motor capacitors short & open circuited [1)] – Also see 13.10**	**—**	**—**
		No motor	N/A
13.2.10	**Additional test criteria for motor operated ME EQUIPMENT in 13.2.8 &13.2.9:**	**—**	**—**
	For every test in SINGLE FAULT CONDITION of 13.2.8 and 13.2.9, motor-operated EQUIPMENT stared from COLD CONDITION at RATED voltage or upper limit of RATED voltage range for specified time:	No motor	N/A
	Temperatures of windings determined at the end of specified test periods or at the instant of operation of fuses, THERMAL CUT-OUTS, motor protective devices	No motor	N/A
	Temperatures measured as specified in 11.1.3 d)	No motor	N/A
	Temperatures did not exceed limits of Table 26	No motor	N/A
13.2.11	**Failures of components in ME EQUIPMENT used in conjunction with OXYGEN RICH ENVIRONMENTS:**	**—**	**—**
			N/A
13.2.12	**Failure of parts that might result in a MECHANICAL HAZARD (See 9 & 15.3):**	**—**	**—**

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

Clause No.	Description of SINGLE FAULT CONDITION	Results observed	HAZARDOUS SITUATION (Yes/No)[2)]
		To be checked on end product	N/A

Supplementary information:
[1)] Test with short-circuited capacitor not performed when motor provided with a capacitor complying with IEC 60252-1 and the ME EQUIPMENT not intended for unattended use including automatic or remote control. See Attachment # and appended Table 8.10.

Information from Risk Management, as applicable:
[2)]Dielectric strength tested according to table 8.8.3.

15.3	TABLE: Mechanical Strength tests [1)]		P
Clause	**Name of Test**	**Test conditions**	**Observed results/Remarks**
15.3.2	**Push Test**	**Force = 250 N ± 10 N for 5 s**	No visible damage.
15.3.3	**Impact Test**	**Steel ball (50 mm in dia., 500 g ± 25 g) falling from a 1.3 m**	No visible damage.
15.3.4.1	**Drop Test (hand-held)**	**Free fall height (m) =**	N/A
15.3.4.2	**Drop Test (portable)**	**Drop height (cm) =5cm**	No visible damage.
15.3.5	**Rough handling test**	**Travel speed (m/s) =**	N/A
15.3.6	**Mould Stress Relief**	**7 h in oven at temperature (°C) = 90°C**	No visible damage.

Supplementary information: **[1)]** As applicable, Push, Impact, Drop, Mould Stress Relief and Rough Handling Tests (delete not applicable rows or state N/A in Remarks field).

15.4.6	TABLE: actuating parts of controls of ME EQUIPMENT – torque & axial pull tests				N/A
Rotating control under test	**Gripping diameter "d" of control knob (mm)[1)]**	**Torque from Table 30 (Nm)**	**Axial force applied (N)**	**Unacceptable RISK occurred Yes/No**	**Remarks**

Supplementary information: [1)] Gripping diameter (d) is the maximum width of a control knob regardless of its shape (e.g. control knob with pointer)

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

15.5.1.2	TABLE: transformer short circuit test short-circuit applied at end of windings or at the first point that could be short circuited under SINGLE FAULT CONDITION		P
Primary voltage (most adverse value from 90 % to 110 % of RATED voltage)(V)[1] ..... :		90/264Vac	—
RATED input frequency (Hz) ..... :		60	—

Winding tested	Class of insulation (A, B, E, F, or H)	Type of protective device (fuse, circuit breaker) /Ratings	Protective device operated Yes/No	Time to THERMAL STABILITY (when protective device did not operate)(Min)	Maximum allowed temp from Table 31 (ºC)	Maximum winding temp measured (ºC)	Ambient (ºC)
XF01036 secondary GT*46161-165.0-USB	B	Fuse 1A	No	10min	165[3]	83	24
XF01036 secondary GT*46161-165.0-USB1A1C	B	Fuse 2A	No	10min	165[3]	105	24

Supplementary information:

[1] Loads on other windings between no load and their NORMAL USE load. Short-circuit applied at end of windings or at the first point that could be short circuited under SINGLE FAULT CONDITION.

[2] SMPS current limiting circuits operated immediately.

[3] Thermocouples are used, so the limit is to be reduced by10 ºC.

15.5.1.3	TABLE: transformer overload test – conducted only when protective device under short-circuit test operated	P
Primary voltage, most adverse value between 90 % to 110 % of RATED voltage (V)[1]... :		See below
RATED input frequency (Hz) ..... :		60
Test current just below minimum current that would activate protective device & achieve THERMAL STABILITY under method a) (A) ..... :		See below
Test current based on Table 32 when protective device that operated under method a) is external to transformer, and it was shunted (A) ..... :		Not 60127-1 fuse

Winding tested	Class of insulation (A, B, E, F, H)	Type of protective device used (fuse, circuit breaker)/Ratings	Maximum allowed temp from Table 31 (ºC)	Maximum winding temp measured (ºC)	Ambient (ºC)
XF01036 secondary GT*46161-165.0-USB	B	Fuse 1A (OL current 2.34)	165[2]	85	25
XF01036 secondary GT*46161-165.0-USB1A1C	B	Fuse 2A (OL current 2.34)	165[2]	105	25

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:
[1] Loads on other windings between no load and their NORMAL USE load.
Time durations: - IEC 60127-1 fuse: 30 min at current from Table 32.
Non IEC 60127-1 fuse: 30 min at the current based on characteristics supplied by fuse manufacturer, specifically, 30 min clearing-time current. When no 30 min clearing-time current data available, test current from Table 32 used until THERMAL STABILITY achieved.
- Other types of protective devices: until THERMAL STABILITY achieved at a current just below minimum current operating the protective device in a). This portion concluded at specified time or when a second protective device opened.
[2] Thermocouples are used, so the limit is to be reduced by10 ºC.

15.5.2	**TABLE: Transformer dielectric strength after humidity preconditioning of 5.7**				**P**
Transformer Model/Type/ Part No	**Test voltage applied between**	**Test voltage, (V)**	**Test frequency (Hz)**	**Breakdown Yes/No**	**Deterioration Yes/No**
All models	Primary & secondary windings	4000	60	No	No
All models	Secondary winding & core	4000	60	No	No
All models	Primary winding	1200	300	No	No
Supplementary information: Tests conducted under the conditions of 11.1, in ME EQUIPMENT or under simulated conditions on the bench. See Clause 15.5.2 for test parameters & other details					

16.6.1	**TABLE: LEAKAGE CURRENTS in ME SYSTEM _ TOUCH CURRENT MEASUREMENTS**				**N/A**
Specific area where TOUCH CURRENT measured (i.e., from or between parts of ME SYSTEM within PATIENT ENVIRONMENT)	**Allowable TOUCH CURRENT in NORMAL CONDITION (μA)**	**Measured TOUCH CURRENT in NORMAL CONDITION (μA)**	**Allowable TOUCH CURRENT in event of interruption of PROTECTIVE EARTH CONDUCTOR, (μA)**	**Measured TOUCH CURRENT in event of interruption of PROTECTIVE EARTH CONDUCTOR, (μA)**	
	100		**500**		
	100		**500**		
	100		**500**		
	100		**500**		
	100		**500**		
Supplementary information:					

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

SP	**TABLE: Additional or special tests conducted**	**N/A**

Clause and Name of Test	**Test type and condition**	**Observed results**
Supplementary information:		

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

	Attachment - Software – IEC 62304:2006+AMD1:2015		—
4.3	**[A, B, C] Software safety classification**		—
	a) The MANUFACTURER assigns to each SOFTWARE SYSTEM a software safety class according to the RISK of HARM to the patient, operator, or other people resulting from a HAZARDOUS SITUATION to which the SOFTWARE SYSTEM can contribute in a worst-case-scenario		N/A
	The SOFTWARE SYSTEM is software safety class A if:		—
	– the SOFTWARE SYSTEM not contribute to a HAZARDOUS SITUATION; or		N/A
	– the SOFTWARE SYSTEM contribute to a HAZARDOUS SITUATION which does not result in unacceptable RISK after consideration of RISK CONTROL measures external to the SOFTWARE SYSTEM		N/A
	The SOFTWARE SYSTEM is software safety class B if:		—
	– the SOFTWARE SYSTEM contribute to a HAZARDOUS SITUATION which results in unacceptable RISK after consideration of RISK CONTROL measures external to the SOFTWARE SYSTEM and the resulting possible HARM is non-SERIOUS INJURY		N/A
	The SOFTWARE SYSTEM is software safety class C if:		—
	– the SOFTWARE SYSTEM contribute to a HAZARDOUS SITUATION which results in unacceptable RISK after consideration of RISK CONTROL measures external to the SOFTWARE SYSTEM and the resulting possible HARM is death or SERIOUS INJURY		N/A
	For a SOFTWARE SYSTEM initially classified as software safety class B or C, the MANUFACTURER has implemented additional RISK CONTROL measures external to the SOFTWARE SYSTEM and subsequently has assigned a new software safety classification to the SOFTWARE SYSTEM		N/A
	c) The MANUFACTURER documents the software safety class assigned to each SOFTWARE SYSTEM in the RISK MANAGEMENT FILE		N/A
	d) When a SOFTWARE SYSTEM is decomposed into SOFTWARE ITEMS, and when a SOFTWARE ITEM is decomposed into further SOFTWARE ITEMS, such SOFTWARE ITEMS inherit the software safety classification of the original SOFTWARE ITEM (or SOFTWARE SYSTEM) unless the MANUFACTURER documents a rationale for classification into a different software safety class		N/A

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	A rationale explains how the new SOFTWARE ITEMS are segregated so that they may be classified separately		N/A
	e) The MANUFACTURER documents the software safety class of each SOFTWARE ITEM if that class is different from the class of the SOFTWARE ITEM from which it was created by decomposition		N/A
	f) When applied to a group of SOFTWARE ITEMS, the MANUFACTURER uses the PROCESSES and TASKS which are required by the classification of the highest-classified SOFTWARE ITEM in the group unless the MANUFACTURER documents in the RISK MANAGEMENT FILE a rationale for using a lower classification		N/A
	g) Class C requirements apply for each SOFTWARE SYSTEM, until a software safety class is assigned		N/A
4.4	**[A, B, C] LEGACY SOFTWARE**		—
	Clauses 5 through 9 have applied to demonstrate the compliance of LEGACY SOFTWARE		N/A
	As alternative, clauses 4.4.2 through 4.4.5 have applied to demonstrate the compliance of LEGACY SOFTWARE		N/A
4.4.2	[A, B, C] RISK MANAGEMENT ACTIVITIES		—
	The MANUFACTURER:		N/A
	a) assesses any feedback, including post-production information, on LEGACY SOFTWARE regarding incidents and / or near incidents, both from inside its own organization and / or from users		N/A
	b) performs RISK MANAGEMENT ACTIVITIES associated with continued use of the LEGACY SOFTWARE		N/A
	Considering the following aspects:		N/A
	– integration of the LEGACY SOFTWARE in the overall MEDICAL DEVICE architecture		N/A
	– continuing validity of RISK CONTROL measures, implemented as part of the LEGACY SOFTWARE		N/A
	– identification of HAZARDOUS SITUATIONS associated with the continued use of the LEGACY SOFTWARE		N/A
	– identification of potential causes of the LEGACY SOFTWARE contributing to a HAZARDOUS SITUATIONS		N/A
	– definition of RISK CONTROL measures for each potential cause of the LEGACY SOFTWARE contributing to a HAZARDOUS SITUATIONS		N/A
4.4.3	[A, B, C] Gap analysis		N/A

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Based on the software safety class of the LEGACY SOFTWARE, the MANUFACTURER performs a gap analysis of available DELIVERABLES against those required according to 5.2, 5.3, 5.7, and Clause 7		N/A
	a) The MANUFACTURER assesses the continuing validity of available DELIVERABLES		N/A
	b) Where gaps are identified, the MANUFACTURER EVALUATES the potential reduction in RISK resulting from the generation of the missing DELIVERABLES and associated ACTIVITIES		N/A
	c) Based on this evaluation, the MANUFACTURER determines the DELIVERABLES to be created and associated ACTIVITIES to be performed		N/A
	SOFTWARE SYSTEM test records are the minimum DELIVERABLES to be created		N/A
4.4.4	[A, B, C] Gap closure activities		N/A
	a) The MANUFACTURER establishes and executes a plan to generate the identified DELIVERABLES		N/A
	Objective evidences have used to generate required DELIVERABLES without performing ACTIVITIES required by 5.2, 5.3, 5.7 and Clause 7		N/A
	b) The plan addresses the use of the problem resolution PROCESS for handling problems detected in the LEGACY SOFTWARE and DELIVERABLES in accordance with Clause 9		N/A
	c) Changes to the LEGACY SOFTWARE have performed in accordance with Clause 6.		N/A
4.4.5	[A, B, C] Rationale for use of LEGACY SOFTWARE		N/A
	The MANUFACTURER documents the VERSION of the LEGACY SOFTWARE together with a rationale for the continued use of the LEGACY SOFTWARE		N/A
5	**SOFTWARE DEVELOPMENT PROCESS**		—
5.1	**Software development planning**		—
5.1.1	[A, B, C] The MANUFACTURER establishes a software development plan (or plans) for conducting the ACTIVITIES of the software development PROCESS appropriate to the scope, magnitude, and software safety classifications of the SOFTWARE SYSTEM to be developed.		N/A
	The SOFTWARE DEVELOPMENT LIFE CYCLE MODEL is either fully defined or be referenced in the plan (or plans).		N/A
	The plan addresses the following:		N/A

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	a) the PROCESSES to be used in the development of the SOFTWARE SYSTEM		N/A
	b) the DELIVERABLES (includes documentation) of the ACTIVITIES and TASKS		N/A
	c) TRACEABILITY between SYSTEM requirements, software requirements, SOFTWARE SYSTEM test, and RISK CONTROL measures implemented in software		N/A
	d) software configuration and change management, including SOUP CONFIGURATION ITEMS and software used to support development		N/A
	e) software problem resolution for handling problems detected in the MEDICAL DEVICE SOFTWARE, DELIVERABLES and ACTIVITIES at each stage of the life cycle		N/A
5.1.2	[A, B, C] The MANUFACTURER updates the plan, as appropriate, as development proceeds		N/A
5.1.3	[A, B, C] Software development plan reference to SYSTEM design and development		N/A
	a) As inputs for software development, SYSTEM requirements are referenced in the software development plan by the MANUFACTURER		N/A
	b) In the software development plan, the MANUFACTURER includes or references procedures for coordinating the software development with the system development necessary to satisfy 4.1 (such as system integration, verification, and validation)		N/A
5.1.4	[C] Associated with the development of SOFTWARE ITEMS of class C, in the software development plan are included or referenced:		N/A
	a) standards		N/A
	b) methods		N/A
	c) tools		N/A
5.1.5	[B, C] The MANUFACTURER includes or references in the software development plan, a plan to integrate the SOFTWARE ITEMS (including SOUP) and performs testing during integration		N/A
5.1.6	[A, B, C] In the software development plan, the following VERIFICATION information are included or referenced:		N/A
	a) DELIVERABLES requiring VERIFICATION		N/A
	b) the required VERIFICATION TASKS for each life cycle ACTIVITY		N/A
	c) milestones at which the DELIVERABLES are VERIFIED		N/A
	d) the acceptance criteria for VERIFICATION of the DELIVERABLES		N/A

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.1.7	[A, B, C] In the software development plan the MANUFACTURER includes or references a plan to conduct the ACTIVITIES and TASKS of the software RISK MANAGEMENT PROCESS, including the management of RISKS relating to SOUP		N/A
5.1.8	[A, B, C] In the software development plan the MANUFACTURER includes or references information about the documents to be produced during the software development life cycle		N/A
	For each identified document or type of document the following information has included or referenced:		N/A
	a) title, name or naming convention		N/A
	b) purpose		N/A
	c) procedures and responsibilities for development, review, approval and modification		N/A
5.1.9	[A, B, C] The MANUFACTURER includes or references software configuration management information in the software development plan		N/A
	The software configuration management information includes or references:		N/A
	a) the classes, types, categories or lists of items to be controlled		N/A
	b) the software configuration management ACTIVITIES and TASKS		N/A
	c) the organization(s) responsible for performing software configuration management and ACTIVITIES		N/A
	d) their relationship with other organizations, such as software development or maintenance		N/A
	e) when the items are to be placed under configuration control		N/A
	f) when the problem resolution PROCESS is to be used		N/A
5.1.10	[B, C] The items to be controlled include tools, items or settings, used to develop the MEDICAL DEVICE SOFTWARE, which could impact the MEDICAL DEVICE SOFTWARE		N/A
5.1.11	[B, C] The MANUFACTURER plans to place CONFIGURATION ITEMS under documented configuration management control before they are VERIFIED		N/A
5.1.12	[B, C] In the software development plan the MANUFACTURER includes or references a procedure for:		N/A
	a) identifying categories of defects that may be introduced based on the selected programming technology that are relevant to their SOFTWARE SYSTEM		N/A

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	b) documenting evidence that demonstrates that these defects do not contribute to unacceptable RISK		N/A
5.2	**Software requirements analysis**		—
5.2.1	[A, B, C] For each SOFTWARE SYSTEM of the MEDICAL DEVICE, the MANUFACTURER defines and documents SOFTWARE SYSTEM requirements from the SYSTEM level requirements		N/A
5.2.2	[A, B, C] As appropriate to the MEDICAL DEVICE SOFTWARE, the MANUFACTURER includes in the software requirements:		N/A
	a) functional and capability requirements		N/A
	b) SOFTWARE SYSTEM inputs and outputs		N/A
	c) interfaces between the SOFTWARE SYSTEM and other SYSTEMS		N/A
	d) software-driven alarms, warnings, and operator messages		N/A
	e) SECURITY requirements		N/A
	f) user interface requirements implemented by software		N/A
	g) data definition and database requirements		N/A
	h) installation and acceptance requirements of the delivered MEDICAL DEVICE SOFTWARE at the operation and maintenance site or sites		N/A
	i) requirements related to methods of operation and maintenance		N/A
	j) requirements related to IT-network aspects		N/A
	k) user maintenance requirements		N/A
	l) regulatory requirements		N/A
5.2.3	[B, C] The MANUFACTURER includes RISK CONTROL measures implemented in software in the requirements as appropriate to the MEDICAL DEVICE SOFTWARE		N/A
5.2.4	[A, B, C] The MANUFACTURER re-EVALUATES the MEDICAL DEVICE RISK ANALYSIS when software requirements are established and update it as appropriate		N/A
5.2.5	[A, B, C] The MANUFACTURER ensures that existing requirements, including SYSTEM requirements, are re-EVALUATED and updated as appropriate as a result of the software requirements analysis ACTIVITY		N/A
5.2.6	[A, B, C] The MANUFACTURER verifies and documents that the software requirements:		N/A
	a) implement SYSTEM requirements including those relating to RISK CONTROL		N/A
	b) do not contradict one another		N/A

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	c) are expressed in terms that avoid ambiguity		N/A
	d) are stated in terms that permit establishment of test criteria and performance of tests		N/A
	e) can be uniquely identified		N/A
	f) are traceable to SYSTEM requirements or other source		N/A
5.3	**Software ARCHITECTURAL design**		N/A
5.3.1	[B, C] The MANUFACTURER transforms the requirements for the MEDICAL DEVICE SOFTWARE into a documented ARCHITECTURE that describes the software's structure and identifies the SOFTWARE ITEMS		N/A
5.3.2	[B, C] The MANUFACTURER develops and documents an ARCHITECTURE for the interfaces between the SOFTWARE ITEMS and the components external to the SOFTWARE ITEMS (both software and hardware), and between the SOFTWARE ITEMS		N/A
5.3.3	[B, C] If a SOFTWARE ITEM is identified as SOUP, the MANUFACTURER specifies functional and performance requirements for the SOUP item that are necessary for its intended use		N/A
5.3.4	[B, C] If a SOFTWARE ITEM is identified as SOUP, the MANUFACTURER specifies the SYSTEM hardware and software necessary to support the proper operation of the SOUP item		N/A
5.3.5	[C] The MANUFACTURER identifies any segregation between SOFTWARE ITEMS that is necessary for RISK CONTROl, and states how to ensure that such segregation is effective		N/A
5.3.6	[B, C] The MANUFACTURER verifies and documents that:		N/A
	a) the ARCHITECTURE of the software implements SYSTEM and software requirements including those relating to RISK CONTROL		N/A
	b) the software ARCHITECTURE is able to support interfaces between SOFTWARE ITEMS and between SOFTWARE ITEMS and hardware		N/A
	c) the MEDICAL DEVICE ARCHITECTURE supports proper operation of any SOUP items		N/A
5.4	**Software detailed design**		N/A
5.4.1	[B, C] The MANUFACTURER subdivides the software until it is represented by SOFTWARE UNITS		N/A
5.4.2	[C] The MANUFACTURER documents a design with enough detail to allow correct implementation of each SOFTWARE UNIT		N/A

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.3	[C] The MANUFACTURER documents a design for any interfaces between the SOFTWARE UNIT and external components (hardware or software), as well as any interfaces between SOFTWARE UNITS, detailed enough to implement each SOFTWARE UNIT and its interfaces correctly		N/A
5.4.4	[C] The MANUFACTURER verifies and documents that the software detailed design:		N/A
	a) implements the software ARCHITECTURE		N/A
	b) is free from contradiction with the software ARCHITECTURE		N/A
5.5	**SOFTWARE UNIT implementation**		N/A
5.5.1	[A, B, C] The MANUFACTURER implements each SOFTWARE UNIT		N/A
5.5.2	[B, C] The MANUFACTURER establishes strategies, methods and procedures for verifying the SOFTWARE UNITS		N/A
	Where VERIFICATION is done by testing, the test procedures are EVALUATED for adequacy		N/A
5.5.3	[B, C] The MANUFACTURER establishes acceptance criteria for SOFTWARE UNITS prior to integration into larger SOFTWARE ITEMS as appropriate, and ensures that SOFTWARE UNITS meet acceptance criteria		N/A
5.5.4	[C] When present in the design, the MANUFACTURER includes additional acceptance criteria as appropriate for:		N/A
	a) proper event sequence		N/A
	b) data and control flow		N/A
	c) planned resource allocation		N/A
	d) fault handling (error definition, isolation, and recovery)		N/A
	e) initialisation of variables		N/A
	f) self-diagnostics		N/A
	g) memory management and memory overflows		N/A
	h) boundary conditions		N/A
5.5.5	[B, C] The MANUFACTURER performs the SOFTWARE UNIT VERIFICATION and documents the results		N/A
5.6	**Software integration and integration testing**		N/A
5.6.1	[B, C] The MANUFACTURER integrates the SOFTWARE UNITS in accordance with the integration plan		N/A
5.6.2	[B, C] The MANUFACTURER verifies that the SOFTWARE UNITS have been integrated into SOFTWARE ITEMS and/or the SOFTWARE SYSTEM in accordance with the integration plan and retains records of the evidence of such verification		N/A

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.6.3	[B, C] The MANUFACTURER tests the integrated SOFTWARE ITEMS in accordance with the integration plan and documents the results		N/A
5.6.4	[B, C] For software integration testing, the MANUFACTURER addresses whether the integrated SOFTWARE ITEM performs as intended		N/A
5.6.5	[B, C] The MANUFACTURER EVALUATES the integration test procedures for adequacy		N/A
5.6.6	[B, C] When software items are integrated, the MANUFACTURER conducts REGRESSION TESTING appropriate to demonstrate that defects have not been introduced into previously integrated software		N/A
5.6.7	[B, C] The MANUFACTURER:		N/A
	a) documents the test result (pass/fail and a list of ANOMALIES)		N/A
	b) retains sufficient records to permit the test to be repeated		N/A
	c) identifies the tester		N/A
5.6.8	[B, C] The MANUFACTURER enters ANOMALIES found during software integration and integration testing into a software problem resolution PROCESS		N/A
5.7	**SOFTWARE SYSTEM testing**		N/A
5.7.1	[A, B, C] Establish tests for software requirements		—
	a) The MANUFACTURER establishes and performs a set of tests, expressed as input stimuli, expected outcomes, pass/fail criteria and procedures, for conducting SOFTWARE SYSTEM testing, such that all software requirements are covered		N/A
	b) The MANUFACTURER EVALUATES the adequacy of VERIFICATION strategies and test procedures.		N/A
5.7.2	[A, B, C] The MANUFACTURER enters ANOMALIES found during software system testing into a software problem resolution PROCESS		N/A
5.7.3	[A, B, C] When changes are made during SOFTWARE SYSTEM testing, the MANUFACTURER:		N/A
	a) repeats tests, performs modified tests or performs additional tests, as appropriate, to verify the effectiveness of the change in correcting the problem		N/A
	b) conducts testing appropriate to demonstrate that unintended side effects have not been introduced		N/A
	c) performs relevant RISK MANAGEMENT ACTIVITIES as defined in 7.4		N/A
5.7.4	[A, B, C] Evaluate SOFTWARE SYSTEM testing		N/A

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	The MANUFACTURER EVALUATES the appropriateness of VERIFICATION strategies and test procedures		N/A
	The MANUFACTURER verifies that:		N/A
	a) all software requirements have been tested or otherwise VERIFIED		N/A
	b) the TRACEABILITY between software requirements and tests or other VERIFICATION is recorded		N/A
	c) test results meet the required pass/fail criteria		N/A
5.7.5.	[A, B, C] In order to support the repeatability of tests, the MANUFACTURER documents:		N/A
	a) a reference to test case procedures showing required actions and expected results		N/A
	b) the test result (pass/fail and a list of ANOMALIES)		N/A
	c) the version of software tested		N/A
	d) relevant hardware and software test configurations		N/A
	e) relevant test tools		N/A
	f) date tested		N/A
	g) the identity of the person responsible for executing the test and recording the test results		N/A
5.8	**Software RELEASE for utilization at a SYSTEM level**		N/A
5.8.1	[A, B, C] The MANUFACTURER ensures that all software VERIFICATION ACTIVITIES has been completed and the results EVALUATED before the software is released		N/A
5.8.2	[A, B, C] The MANUFACTURER documents all known residual ANOMALIES		N/A
5.8.3	[B, C] The MANUFACTURER ensured that all known residual ANOMALIES have been EVALUATED to ensure that they do not contribute to an unacceptable RISK		N/A
5.8.4	[A, B, C] The MANUFACTURER documented the VERSION of the MEDICAL DEVICE SOFTWARE that is being released		N/A
5.8.5	[B, C] The MANUFACTURER documents the procedure and environment used to create the released software		N/A
5.8.6	[B, C] The MANUFACTURER ensures that all software development plan (or maintenance plan) ACTIVITIES and TASKS are complete along with the associated documentation		N/A
5.8.7	[A, B, C] For at least a period of time determined as the longer of: the life time of the MEDICAL DEVICE SOFTWARE as defined by the MANUFACTURER or a time specified by relevant regulatory requirements, the MANUFACTURER archives:		N/A

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	a) the MEDICAL DEVICE SOFTWARE and CONFIGURATION ITEMS		N/A
	b) the documentation		N/A
5.8.8	[A, B, C] The MANUFACTURER establishes procedures to ensure that the released MEDICAL DEVICE SOFTWARE can be reliably delivered to the point of use without corruption or unauthorised change		N/A
	These procedures address the production and handling of media containing the MEDICAL DEVICE SOFTWARE including as appropriate:		N/A
	– replication		N/A
	– media labelling		N/A
	– packaging		N/A
	– protection		N/A
	– storage		N/A
	– delivery		N/A
7	**SOFTWARE RISK MANAGEMENT PROCESS**		—
7.1	**Analysis of software contributing to hazardous situations**		—
7.1.1	[B, C] The MANUFACTURER identifies SOFTWARE ITEMS that could contribute to a hazardous situation identified in the MEDICAL DEVICE RISK ANALYSIS ACTIVITY of ISO 14971		N/A
7.1.2	[B, C] The MANUFACTURER identifies potential causes of the SOFTWARE ITEM identified above contributing to a hazardous situation		N/A
	The MANUFACTURER considers potential causes including, as appropriate:		N/A
	a) incorrect or incomplete specification of functionality		N/A
	b) software defects in the identified SOFTWARE ITEM functionality		N/A
	c) failure or unexpected results from SOUP		N/A
	d) hardware failures or other software defects that could result in unpredictable software operation		N/A
	e) reasonably foreseeable misuse		N/A
7.1.3	[B, C] If failure or unexpected results from SOUP is a potential cause of the SOFTWARE ITEM contributing to a hazardous situation, the MANUFACTURER EVALUATES as a minimum any ANOMALY list published by the supplier of the SOUP item relevant to the VERSION of the SOUP item used in the MEDICAL DEVICE to determine if any of the known ANOMALIES result in a sequence of events that could result in a hazardous situation		N/A

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
7.1.4	[B, C] The MANUFACTURER documents in the RISK MANAGEMENT FILE potential causes of the SOFTWARE ITEM contributing to a hazardous situation		N/A
7.2	**RISK CONTROL measures**		—
7.2.1	[B, C] For each case documented in the RISK MANAGEMENT FILE where a SOFTWARE ITEM could contribute to a HAZARDOUS SITUATION, the MANUFACTURER defines and documents RISK CONTROL measures in accordance with ISO 14971		N/A
7.2.2	[B, C] If a RISK CONTROL measure is implemented as part of the functions of a SOFTWARE ITEM, the MANUFACTURER:		N/A
	a) includes the RISK CONTROL measure in the software requirements		N/A
	b) assigns to each SOFTWARE ITEM that contributes to the implementation of a RISK CONTROL measure a software safety class based on the RISK that the RISK CONTROL measure is controlling		N/A
	c) develops the SOFTWARE ITEM in accordance with Clause 5		N/A
7.3	**VERIFICATION of RISK CONTROL measures**		—
7.3.1	[B, C] The implementation of each RISK CONTROL measure documented in 7.2 is VERIFIED, and this VERIFICATION is documented		N/A
	The MANUFACTURER reviewers the RISK CONTROL measure and determines if it could result in a new HAZARDOUS SITUATION		N/A
7.3.3	[B, C] The MANUFACTURER documents TRACEABILITY of software HAZARDS as appropriate:		N/A
	a) from the hazardous situation to the SOFTWARE ITEM		N/A
	b) from the SOFTWARE ITEM to the specific software cause		N/A
	c) from the software cause to the RISK CONTROL measure		N/A
	d) from the RISK CONTROL measure to the VERIFICATION of the RISK CONTROL measure		N/A
7.4	**RISK MANAGEMENT of software changes**		—
7.4.1	[A, B, C] The MANUFACTURER analyses changes to the MEDICAL DEVICE SOFTWARE (including SOUP) to determine whether:		N/A
	a) additional potential causes are introduced contributing to a hazardous situation		N/A
	b) additional software RISK CONTROL measures are required		N/A

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
7.4.2	[B, C] The MANUFACTURER analyses changes to the software, including changes to SOUP, to determine whether the software modification could interfere with existing RISK CONTROL measures		N/A
7.4.3	[B, C] The MANUFACTURER performs relevant RISK MANAGEMENT ACTIVITIES defined in 7.1, 7.2 and 7.3 based on these analyses		N/A
8	**SOFTWARE CONFIGURATION MANAGEMENT PROCESS**		—
8.1	**Configuration identification**		—
8.1.1	[A, B, C] The MANUFACTURER establishes a scheme for the unique identification of CONFIGURATION ITEMS and their VERSIONS to be controlled according to the development and configuration planning specified in 5.1		N/A
8.1.2	[A, B, C] For each SOUP CONFIGURATION ITEM being used, including standard libraries, the MANUFACTURER documents:		N/A
	a) the title		N/A
	b) the MANUFACTURER		N/A
	c) the unique SOUP designator		N/A
8.1.3	[A, B, C] The MANUFACTURER documents the set of CONFIGURATION ITEMS and their VERSIONS that comprise the SOFTWARE SYSTEM configuration		N/A
8.2	**Change control**		—
8.2.1	[A, B, C] The MANUFACTURER changes CONFIGURATION ITEMS identified to be controlled according to 8.1 only in response to an approved CHANGE REQUEST		N/A
8.2.2	[A, B, C] The MANUFACTURER implements the change as specified in the CHANGE REQUEST		N/A
	The MANUFACTURER identifies and performs any ACTIVITY that needs to be repeated as a result of the change, including changes to the software safety classification of SOFTWARE SYSTEMS and SOFTWARE ITEMS		N/A
8.2.3	[A, B, C] The MANUFACTURER verifies the change, including repeating any VERIFICATION that has been invalidated by the change and taking into account 5.7.3 and 9.7		N/A
8.2.4	[A, B, C] The MANUFACTURER maintains records of the relationships and dependencies between:		N/A
	a) CHANGE REQUEST		N/A
	b) relevant PROBLEM REPORT		N/A

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	c) approval of the CHANGE REQUEST		N/A
8.3	[A, B, C] The MANUFACTURER retains retrievable records of the history of controlled CONFIGURATION ITEMS including SYSTEM configuration		N/A
9	**SOFTWARE PROBLEM RESOLUTION PROCESS**		—
9.1	[A, B, C] The MANUFACTURER prepares a PROBLEM REPORT for each problem detected in the MEDICAL DEVICE SOFTWARE		N/A
	PROBLEM REPORTS include a statement of criticality (for example, effect on performance, SAFETY, or SECURITY) as well as other information that may aid in the resolution of the problem (for example, devices affected, supported accessories affected)		N/A
9.2	[A, B, C] The MANUFACTURER:		N/A
	a) investigates the problem and if possible identify the causes		N/A
	b) EVALUATES the problem's relevance to SAFETY using the software RISK MANAGEMENT PROCESS		N/A
	c) documents the outcome of the investigation and evaluation		N/A
	d) creates a CHANGE REQUEST(S) for actions needed to correct the problem, or document the rationale for taking no action		N/A
9.3	[A, B, C] The MANUFACTURER advises relevant parties of the existence of the problem, as appropriate		N/A
9.4	[A, B, C] The MANUFACTURER approves and implements all CHANGE REQUESTS, observing the requirements of the change control PROCESS		N/A
9.5	[A, B, C] The MANUFACTURER maintains records of PROBLEM REPORTS and their resolution including their VERIFICATION		N/A
	The MANUFACTURER updates the RISK MANAGEMENT FILE as appropriate		N/A
9.6	[A, B, C] The MANUFACTURER performs analysis to detect trends in PROBLEM REPORTS		N/A
9.7	[A, B, C] The MANUFACTURER verifies resolutions to determine whether:		N/A
	a) problem has been resolved and the PROBLEM REPORT has been closed		N/A
	b) adverse trends have been reversed		N/A

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	c) CHANGE REQUESTS have been implemented in the appropriate MEDICAL DEVICE SOFTWARE and ACTIVITIES		N/A
	d) additional problems have been introduced		N/A
9.8	[A, B, C] When testing, retesting or REGRESSION TESTING SOFTWARE ITEMS and SYSTEMS following a change, the MANUFACTURER includes in the test documentation:		N/A
	a) test results		N/A
	b) ANOMALIES found		N/A
	c) the VERSION of software tested		N/A
	d) relevant hardware and software test configurations		N/A
	e) relevant test tools		N/A
	f) date tested		N/A
	g) identification of the tester		N/A

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

Attachment	**Software - Mapping of required evidence and manufacturer documents**			**N/A**
Standard Clause	Deliverables	Title	Revision #	Date
4.3	Software safety classification document			
4.3	Specification of risk control measures external to software system			
4.3	Rationale of classification for decomposed software system			
4.4.2	Risk management activities for legacy software			
4.4.3	Gap analysis for legacy software			
4.4.4	Gap closure plan for legacy software			
4.4.5	Rationale for use of legacy software			
5.1.1	Software development plan			
5.1.3	Software requirements reference to software design and development document			
5.1.4	Development standards, methods and tools records for class C software			
5.1.5	Software integration and integration testing plan			
5.1.6	Software verification plan			
5.1.7	Software risk management plan			
5.1.8	Document management procedures			
5.1.9	Software configuration management procedures			
5.2	Software system requirements specification			
5.2.3	Specification of risk control measure implemented in software			
5.3	Software system architecture design specification			
5.3	Software item architecture design specification			
5.4	Software item detailed design specification			

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

Attachment	**Software - Mapping of required evidence and manufacturer documents**			**N/A**
Standard Clause	Deliverables	Title	Revision #	Date
5.4	Software unit detailed design specification			
5.5.1	Software unit implementation records			
5.5.2	Software unit verification process			
5.5.3	Software unit acceptance criteria			
5.5.5	Software unit verification records			
5.6.1	Software unit integration process			
5.6.2	Software unit integration records			
5.6.4	Software unit integration testing records			
5.6.5	Evaluation of software unit integration test			
5.6.6	Software unit regression testing process			
5.6.7	Software unit regression testing records			
5.6.8	Software problem resolution process			
5.7	Software system testing process			
5.7	Software system testing records			
5.8	Software system release process			
5.8	Software system release record			
5.8	Statement of known residual anomalies			
7.1	Software hazard analysis process			
7.1	SOUP anomaly lists			
7.2	Risk control process			
7.3	Risk control verification process			
7.4	Risk management of software change process			
8.1	Configuration identification record			
8.2	Change control process			
8.2	Records for traceability of change			
9	Software problem resolution process			

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

Attachment	**Software - Mapping of required evidence and manufacturer documents**			**N/A**
Standard Clause	Deliverables	Title	Revision #	Date
9	Software problem resolution records			
Supplementary information:				

Attachment 1: Photo of EUT

Photo 1: Photo of EUT

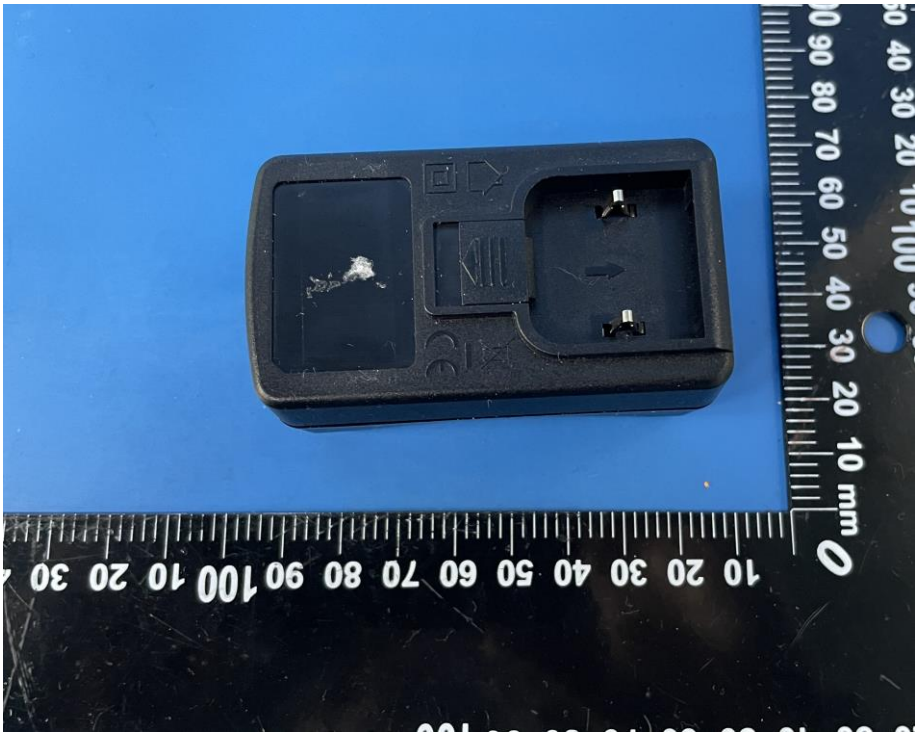


Photo 2: side view of EUT GTM46161-165.0-USBC

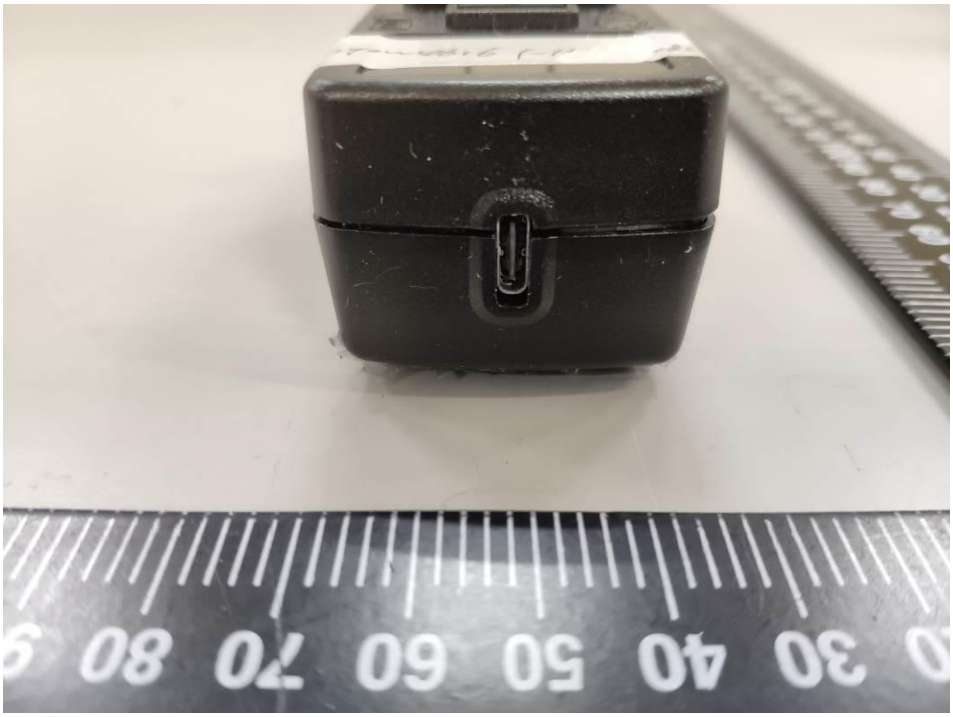


Photo 3: PCB view of EUT GTM46161-165.0-USBC

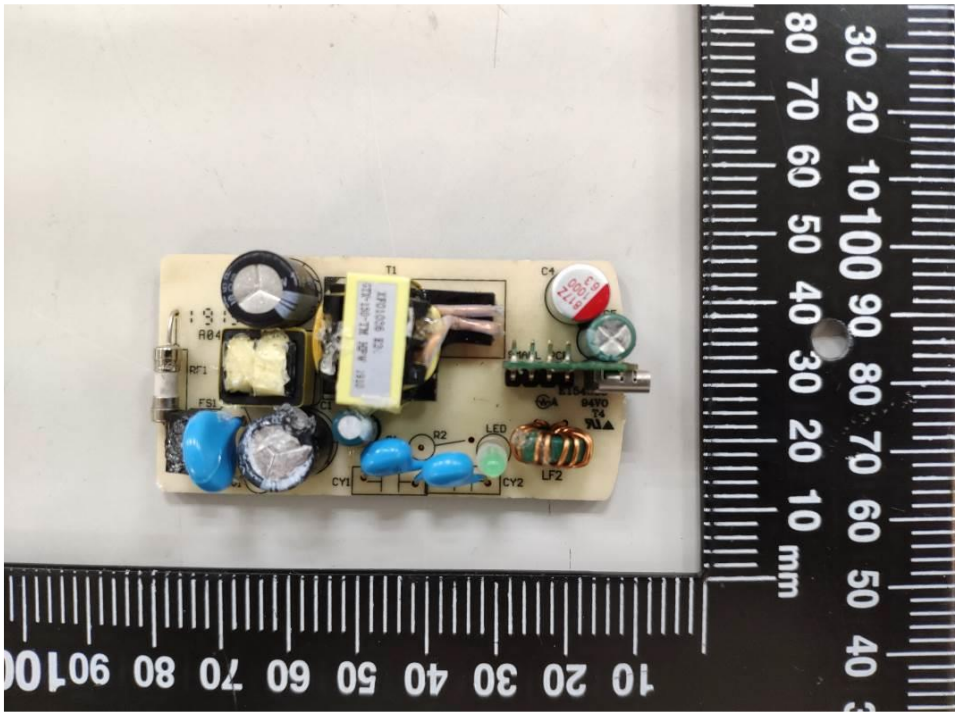


Photo 4: PCB view of EUT GTM46161-165.0-USBC

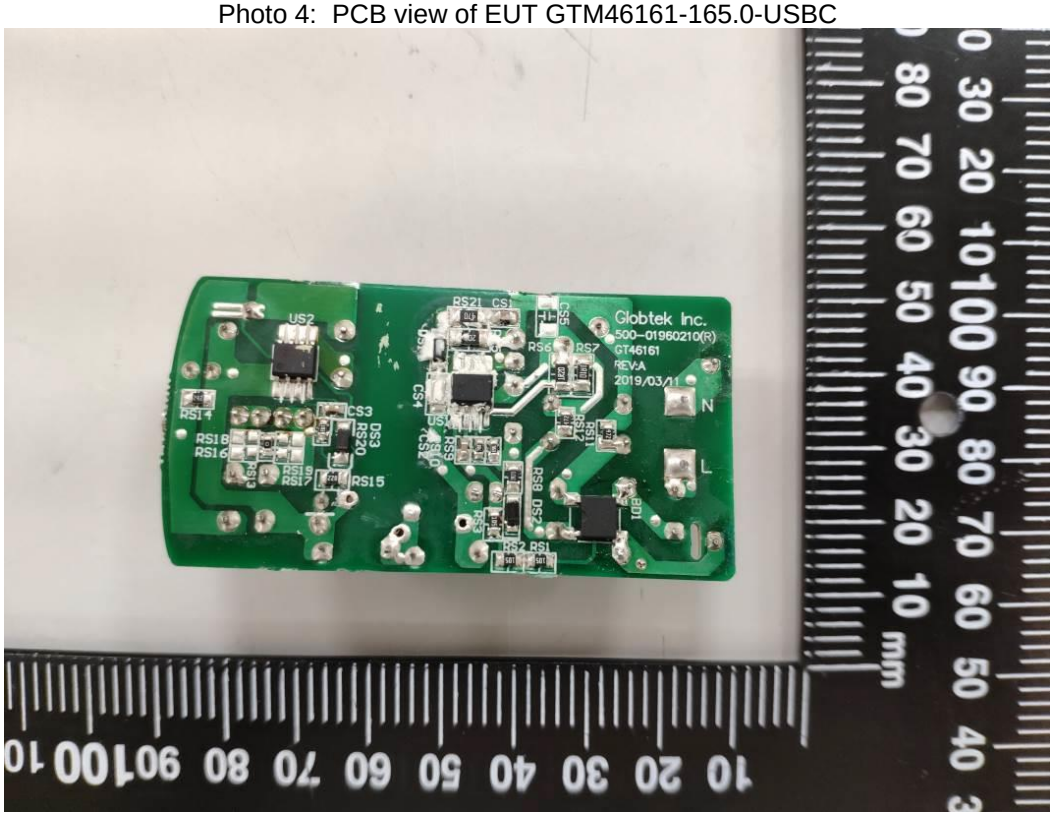


Photo 5: Back view of EUT GTM46161-165.0- USB1A1C

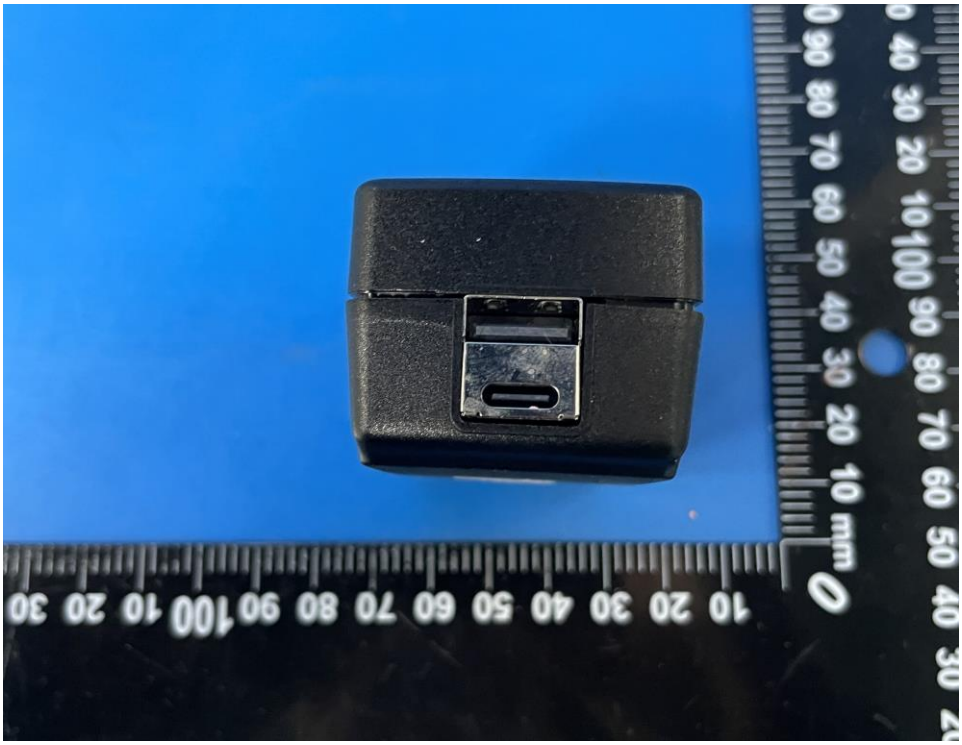


Photo 6: Internal view of EUT GTM46161-165.0- USB1A1C

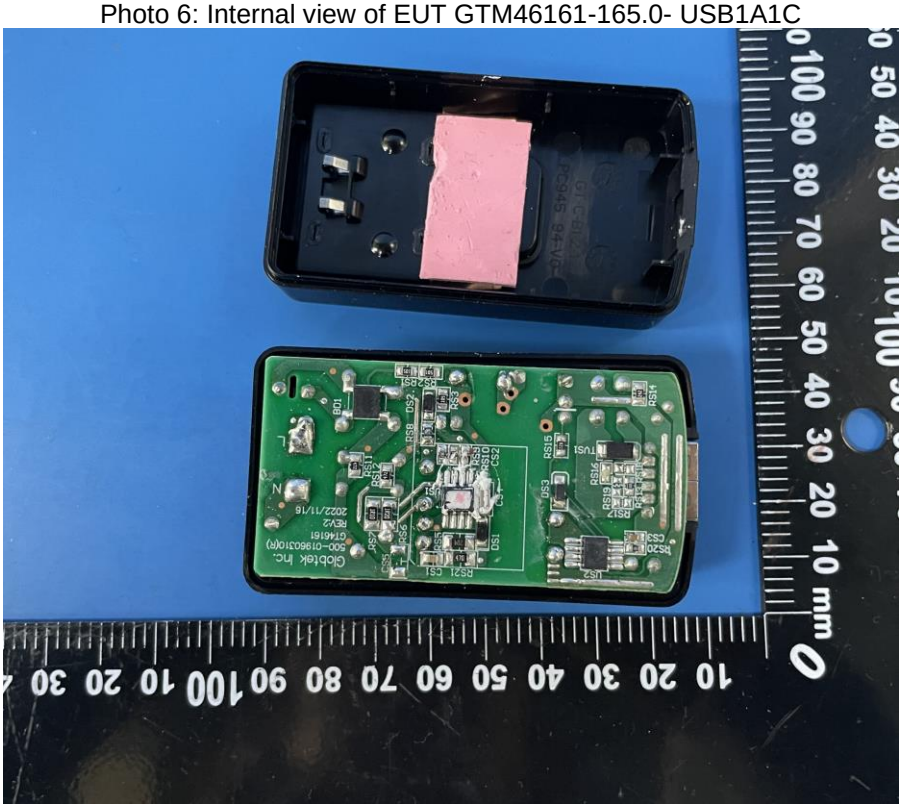


Photo 7: PCB view of EUT GTM46161-165.0- USB1A1C

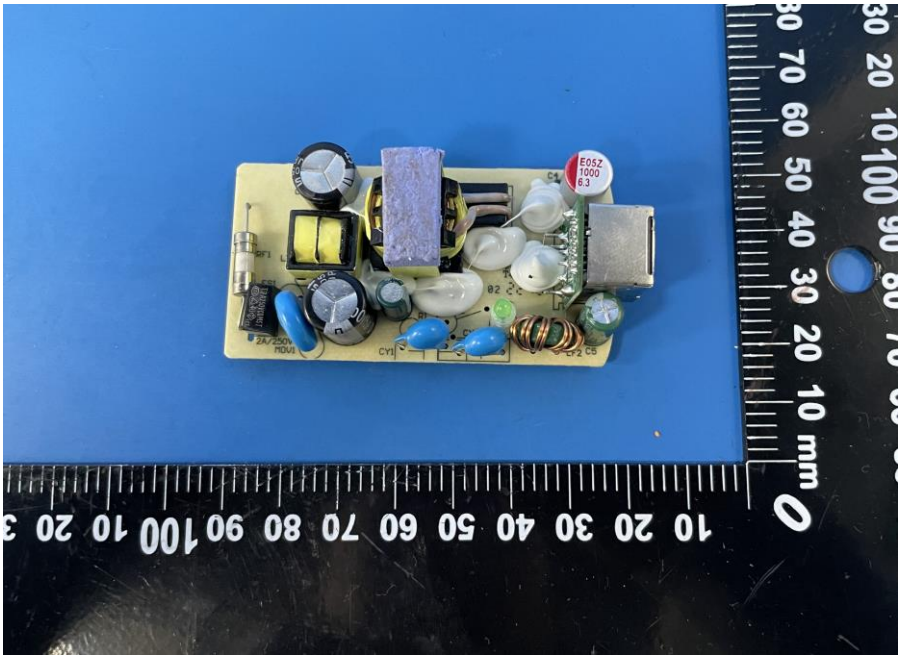


Photo 8: PCB view of EUT GTM46161-165.0- USB1A1C

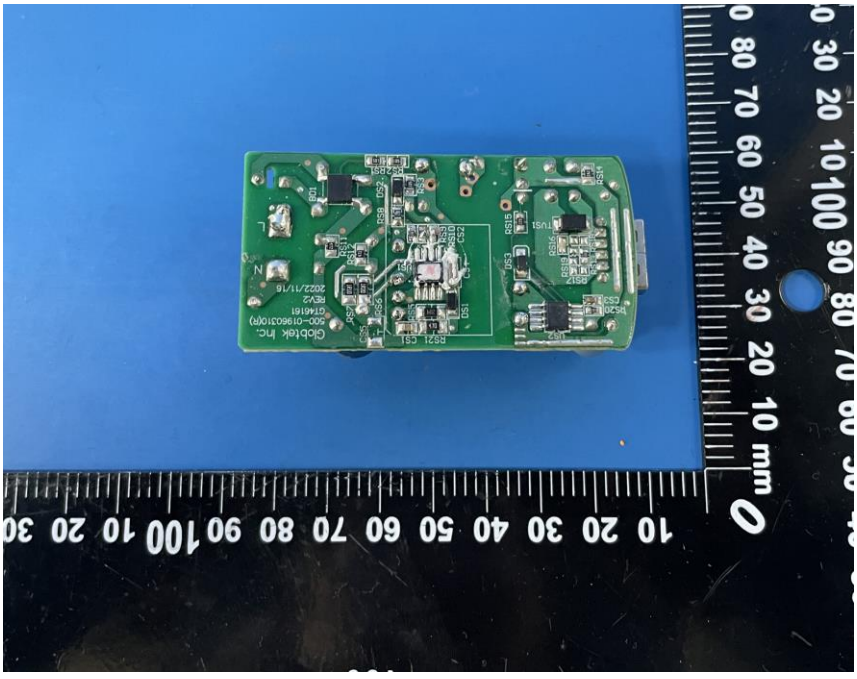


Photo 9: Side view of EUT GTM46161-165.5- USB2C with EN 50075 plug



Photo 10: Side view of EUT GTM46161-165.5- USB2C with AS/NZS 3112 plug

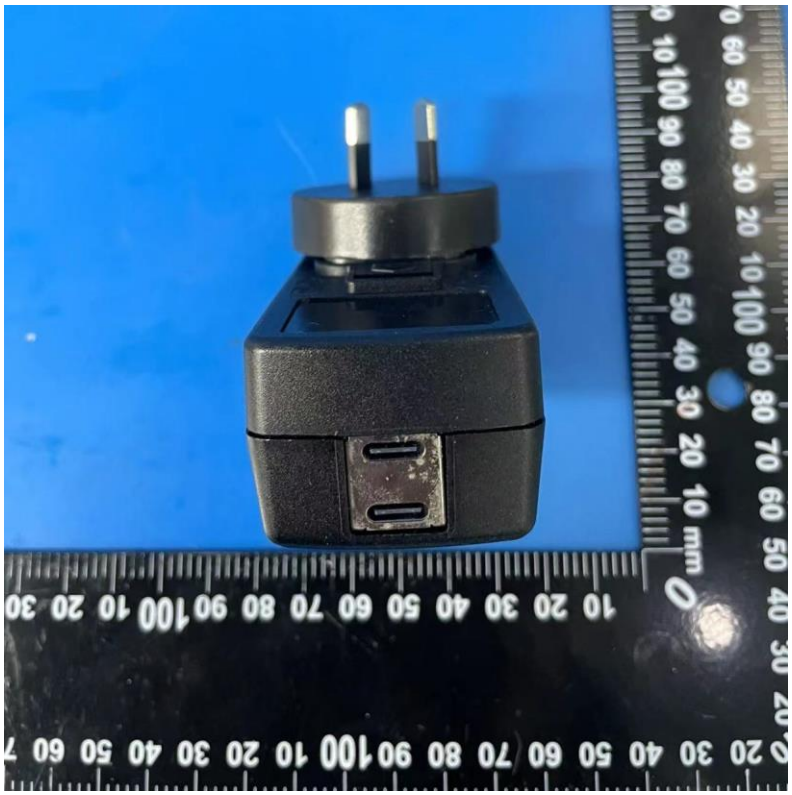


Photo 11: Internal view of EUT GTM46161-165.5- USB2C

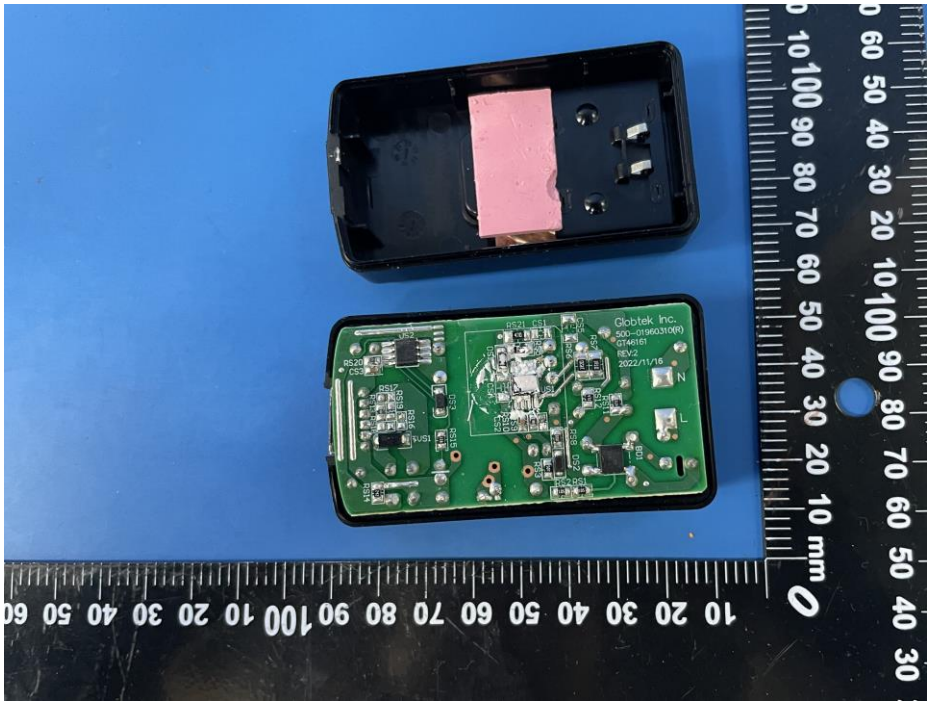


Photo 12: PCB view of EUT GTM46161-165.5- USB2C

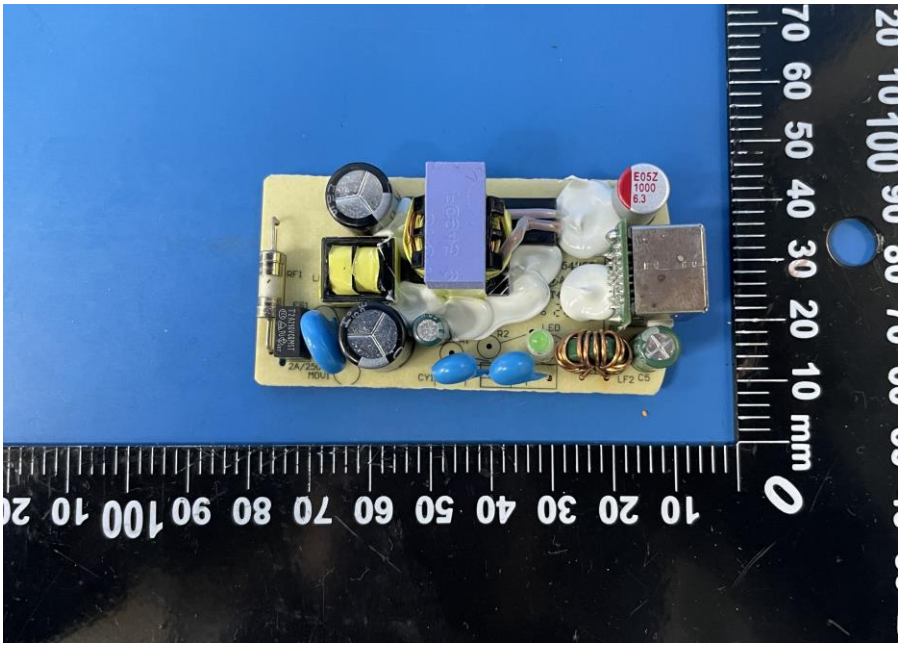
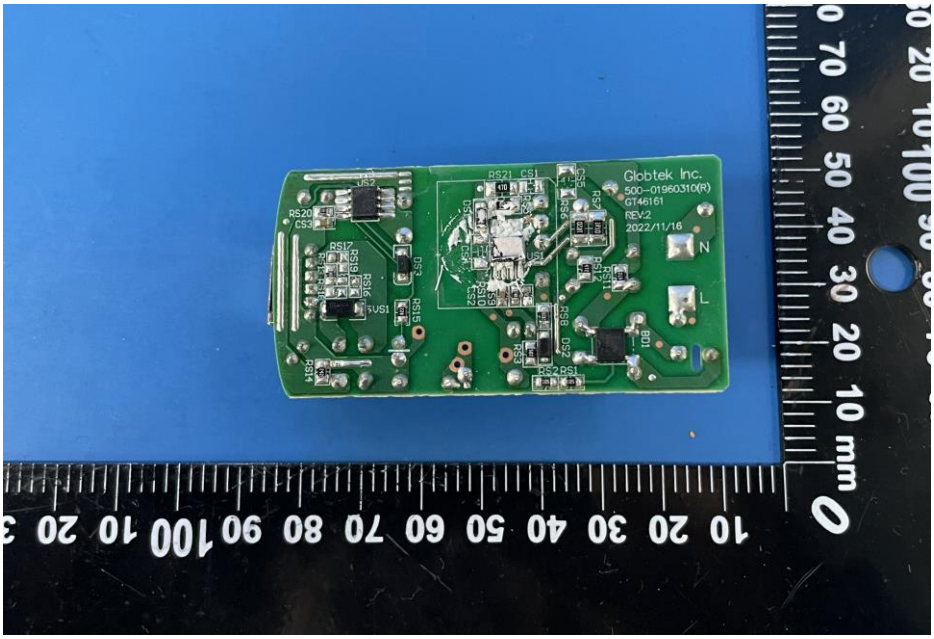


Photo 13: PCB view of EUT GTM46161-165.5- USB2C



IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

Attachment 2: The US National Differences

ATTACHMENT TO TEST REPORT **IEC 60601-1** **US NATIONAL DIFFERENCES** **MEDICAL ELECTRICAL EQUIPMENT - PART 1: GENERAL REQUIREMENTS FOR BASIC SAFETY AND ESSENTIAL PERFORMANCE**			
Differences according to.....:	National standard AAMI ES60601-1:2005,ES60601-1:2005/AMD1 1:2012 , ES60601-1:2005/AMD2:2021		
TRF template used: .....:	IECEE OD-2020-F3, Ed. 1.1		
Attachment Form No.....:	US_ND_IEC60601_1U		
Attachment Originator .....:	UL(US)		
Master Attachment.....:	2022-07-01		
Copyright © 2022 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.			
	National Differences		P
4.8	Components of ME EQUIPMENT		P
	b) where there is no relevant IEC/ISO standard, the relevant ANSI standard applied; if no relevant ANSI standard exists, the requirements of this standard were applied. (*Replacement of clause 4.8 b*)		P
4.10.2	SUPPLY MAINS FOR ME EQUIPMENT AND ME SYSTEMS		P
	(Replacement to reflect agreement with the National Electrical Code (NEC): The reference to "500 V" replaced with "600 V" in the second and third dashes.		P
	(Addition to reflect agreement with the NEC) In the text of the second-to-last dash of this sub-clause, "and the NEC" added after reference to "IEC 60364-4-41"		N/A
6.0	**Classification of ME EQUIPMENT and ME SYSTEMS**		N/A
6.6	Mode of operation		N/A
	(Addition to reflect agreement with NFPA 70) X-Ray systems are classified as long time operation (> 5 min) or momentary operation (< 5 sec).	No X-RAY systems	N/A
7.0	**ME EQUIPMENT identification, marking and documents**		N/A
7.2.11	Mode of operation		N/A

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	(Addition to reflect agreement with NFPA 70) X-Ray systems are marked as long time operation or momentary operation.	No X-RAY systems	N/A
7.2.22	(*Addition of new item*) Colours of medical gas cylinders	No medical gas used.	N/A
	To reflect agreement with NFPA 99: Cylinders containing medical gases and their connection points are coloured in accordance with the requirements of NFPA 99.		N/A
8.0	**Protection against electrical hazards from ME EQUIPMENT**		P
8.2	Requirements related to power sources		N/A
	(Addition to reflect agreement with the NEC) All FIXED ME EQUIPMENT and PERMANENTLY INSTALLED ME EQUIPMENT are CLASS I ME EQUIPMENT.		N/A
8.6.1	Application of requirements		N/A
	(Addition to reflect agreement with NFPA 99) The enclosure of X-ray ME EQUIPMENT operating over 600 Vac, 850 Vdc MAINS VOLTAGE, or containing voltages up to 50 V peak and enclosed in protectively earthed enclosure as well as connections to X-ray tubes and other high voltage components that include high voltage shielded cables are PROTECTIVELY EARTHED.	No X-RAY systems	N/A
	(Addition to reflect agreement with NFPA 99) Non-current carrying conductive parts of X-Ray ME EQUIPMENT likely to become energized are PROTECTIVELY EARTHED	See above	N/A
8.7.3	Allowable values		P
	(Deletion to reflect agreement with NFPA 99 which does not allow for allowance greater than the stated values) Delete the second sentence and note to sub-clause 8.7.3 d) so that it reads: d) The allowable values of the EARTH LEAKAGE CURRENT are 5 mA in NORMAL CONDITION and 10 mA in SINGLE FAULT CONDITION	No patient leakage current or patient auxiliary current.	P
8.11	MAINS PARTS, components and layout		N/A
	(Addition to reflect agreement with the NEC) Permanently connected ME EQUIPMENT has provision for the connection of one of the wiring systems that is in accordance with the NEC.		N/A

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

	Exception: Fixed and stationary X-ray ME EQUIPMENT supplied from a branch circuit rated at 30 A or less, and ME EQUIPMENT that is not strictly portable but obviously is intended to be stationary, may be acceptable if provided with a length of attached hard service flexible cord - such as Type S, or the equivalent, for supply connection.	No X-RAY systems	N/A
	The installation of connecting cords between EQUIPMENT parts meets the requirements of the NEC, as applicable. Cable used as external interconnection between units are as follows:	No such cable.	N/A
	1) If exposed to abuse, the cables are Type SJT, SJTO, SJO, ST, SO, STO, or equivalent flexible cord or similar multiple-conductor appliance-wiring material such as computer cable		N/A
	2) If not exposed to abuse, the cables are as indicated in item 1) above or are: i) Type SPT-2, SP-2, or SPE-2, or equivalent, ii) Type SVr, SVRO, SVE, or equivalent flexible cord or similar multiple-conductor appliance wiring material, or iii) An assembly of insulated wires each with a nominal insulation thickness of 0.8 mm (1/32 inch) or more, enclosed in acceptable insulating tubing having a nominal wall thickness of 0.8 mm (1/32 inch) or more.		N/A
	Receptacles provided as part of ME EQUIPMENT or ME SYSTEMS for use in the patient care areas of paediatric wards, rooms, or areas are listed tamper resistant or employ a listed tamper resistant cover in accordance with the NEC.	No such receptacles provided	N/A
	b) For ME EQUIPMENT provided with NEMA configuration non-locking plug types 120 V/15 A, 125 V/20 A, 250 V/15 A, 250 V/20 A “Hospital Grade” mains plug is provided and the POWER SUPPLY CORD is marked.		N/A
8.11.3.2	*(Addition to reflect agreement with the NEC)* The flexible cord is of a type that is acceptable for the particular application. It is acceptable for use at a voltage not less than the rated voltage of the appliance and has an ampacity, as given in the NEC, not less than the current rating of the appliance ..... :	No such cord.	N/A
8.11.3.3	Cross-sectional area of POWER SUPPLY CORDS		N/A

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	(Addition to reflect agreement with NFPA 99) For X-Ray ME EQUIPMENT with an attachment plug, the current rating on a hospital grade plug should be 2X the maximum input current of the equipment.	Not X-ray equipment.	N/A
	1) If exposed to abuse, the cables are Type SJT, SJTO, SJO, ST, SO, STO, or equivalent flexible cord or similar multiple-conductor appliance-wiring material such as computer cable.		N/A
	2) If not exposed to abuse, the cables are as indicated in item 1) above or are: i) Type SPT-2, SP-2, or SPE-2, or equivalent, ii) Type SVr, SVRO, SVE, or equivalent flexible cord or similar multiple-conductor appliance wiring material, or iii) An assembly of insulated wires each with a nominal insulation thickness of 0.8 mm (1/32 inch) or more, enclosed in acceptable insulating tubing having a nominal wall thickness of 0.8 mm (1/32 inch) or more.		N/A
	Receptacles provided as part of ME EQUIPMENT or ME SYSTEMS for use in the patient care areas of paediatric wards, rooms, or areas are listed tamper resistant or employ a listed tamper resistant cover in accordance with the NEC.		N/A
	b) For ME EQUIPMENT provided with NEMA configuration non-locking plug types 120 V/15 A, 125 V/20 A, 250 V/15 A, 250 V/20 A “Hospital Grade” mains plug is provided and the POWER SUPPLY CORD is marked.		N/A

IEC 60601-1 Attachment			
Clause	Requirement + Test	Result - Remark	Verdict

Attachment 3: The Canadian National Differences

ATTACHMENT TO TEST REPORT **IEC 60601-1** **CANADA NATIONAL DIFFERENCES** MEDICAL ELECTRICAL EQUIPMENT — PART 1: GENERAL REQUIREMENTS FOR BASIC SAFETY AND ESSENTIAL PERFORMANCE			
Differences according to ..... :	Canadian National standard: CAN/CSA-C22.2 No. 60601-1:08, CAN/CSA-C22.2 No. 60601-1:14 (including amendment 1) and Amendment 2:2022 (MOD) to CAN/CSA-C22.2 No. 60601-1:14		
TRF template used:..... :	IECEE OD-2020-F3, Ed. 1.1		
Attachment Form No. ..... : **Attachment Originator.....** : **Master Attachment**..... :	CA_ND_IEC60601_1U CSA Group Dated 2022-08-12		
Copyright © 2022 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.			
Note *: IEC CANADIAN NATIONAL DIFFERENCES in Canada are called CANADIAN DEVIATIONS.			
	Canadian National Differences		P
1	**Scope, object and related standards**		P
1.1	**Scope**		P
	[Replace the first paragraph with the following] This Standard applies to the BASIC SAFETY and ESSENTIAL PERFORMANCE of MEDICAL ELECTRICAL EQUIPMENT and MEDICAL ELECTRICAL SYSTEMS designed to be used in accordance with CSA C22.1 (Canadian Electrical Code, Part I) and CSA Z32.		P
	[Add the following note] Note 1A: In the IEC 60601 Standards series adopted for use in Canada, the Canadian standards may modify, replace, or delete requirements contained in the IEC standard as appropriate to the ME EQUIPMENT and ME SYSTEMS under evaluation, and they may add other BASIC SAFETY and ESSENTIAL PERFORMANCE requirements		---
1.3	**Collateral standards**		P
	[Replace this clause with the following] Applicable Canadian 60601 collateral standards become normative at the date of their publication and apply together with this Standard.		P
1.4	**Particular standards**		P
	[Replace this clause with the following] Applicable Canadian 60601/80601 particular standards may modify, replace, or delete		P

IEC 60601-1 Attachment			
Clause	Requirement + Test	Result - Remark	Verdict

	requirements contained in this Standard. The requirement of a Canadian 60601/80601 particular safety standard takes priority over this Standard.		
2	**Normative references**		P
	In this CSA Group adoption, any reference to International Standards shall be replaced by the relevant National Standard of Canada. **Note 1DV:** *For additional information about normative Standards in Canada, refer to the* Canadian Electrical Code, Part I, *Appendix A.* Where reference is made to CSA Group Standards, such reference are considered to refer to the latest edition and all amendments published to that edition. This Standard refers to the following Standards, and the years shown indicate the latest editions available at the time of printing: **CSA Group** B51-09 Boiler, pressure vessel, and pressure piping code C22.1-21 Canadian Electrical Code, Part I C22.2 No. 0:20 General requirements — Canadian Electrical Code, Part II C22.2 No. 0.4-17 *Bonding of electrical equipment* C22.2 No. 21-95 (R2009) Cord sets and power supply cords C22.2 No. 42-10 General use receptacles, attachment plugs, and similar wiring devices C22.2 No. 49-10 Flexible cords and cables C22.2 No. 100:14 (R2019) *Motors and generators* C22.2 No. 248 series of Standards Low-voltage fuses C22.2 No. 308-18 Cord reels and multi-outlet assemblies CAN/CSA-E61558-2-1-03 (R2012) Safety of power transformers, power supply units and similar — Part 2: Particular requirements for separating transformers for general use CSA C22.2 No. 62368-1:19 Audio/video, information and communication technology equipment — Part 1: Safety requirements Z32-09 Electrical safety and essential electrical systems in health care facilities CAN/CSA-Z305.8-03 (R2013) Medical supply units		P

IEC 60601-1 Attachment			
Clause	Requirement + Test	Result - Remark	Verdict
	Z305.12-06 (R2012) Safe storage, handling, and use of portable oxygen systems in residential buildings and health care facilities Z305.13-09 Plume scavenging in surgical, diagnostic, therapeutic, and aesthetic settings CAN/CSA-Z5359-10 Low-pressure hose assemblies for use with medical gases CAN/CSA-Z9170-1-11 Terminal units for medical gas pipeline systems — Part 1: Terminal units for use with compressed medical gases, vacuum, and anaesthetic gas scavenging systems CAN/CSA-Z10524-1:12 Pressure regulators for use with medical gases — Part 1: Pressure regulators and pressure regulators with flow-metering devices CAN/CSA-Z15002:12 Flow-metering devices for connection to terminal units of medical gas pipeline systems **ASME (American Society of Mechanical Engineers)** PTC 25-2008 Pressure Relief Devices **CGA (Compressed Gas Association)** V-1-2013 Standard for Compressed Gas Cylinder Valve Outlet and Inlet Connections V-5-2008 (reaffirmed 2013) Diameter Index Safety System (Noninterchangeable Low Pressure Connections for Medical Gas Applications) **ISO (International Organization for Standardization)** 32:1977 Gas cylinders for medical use — Marking for identification of content 407:2004 Small medical gas cylinders — Pin-index yoke-type valve connections 9170-2:2008 Terminal units for medical gas pipeline systems — Part 2: Terminal units for anaesthetic gas scavenging systems		
3	**Terminology and definitions**		**N/A**
3.41	**HIGH VOLTAGE**		N/A
	[Replace this Clause in the Canadian deviations in the adopted Standard with the following] voltage above 1000 V ac for ac circuits or voltage above 1060 V dc for dc circuits, as defined in the *Canadian Electrical Code, Part I*	Noted, but no such HV in EUT	N/A
4.	**General requirements**		P

IEC 60601-1 Attachment			
Clause	Requirement + Test	Result - Remark	Verdict

4.1A	*[Add the following clause]* General requirements applicable to ME EQUIPMENT and ME SYSTEMS are provided in CAN/CSA-C22.2 No. 0.		P
4.8	**Components of ME EQUIPMENT**		P
	[Replace Items a) and b) and Note 2 with the following]	UL approved	P
	a) The applicable safety requirements of a relevant CSA Group, IEC, or ISO Standard; or		P
	b) where there is no relevant CSA Group, IEC, or ISO Standard, the requirements of this Standard shall be applied		P
	Note 2: If there are neither requirements in this Standard nor in a CSA Group, IEC, or ISO Standard, any other applicable source (e.g., standards for other types of devices, national standards) could be used to demonstrate compliance with the RISK MANAGEMENT PROCESS.		---
4.10.2	**SUPPLY MAINS for ME EQUIPMENT and ME SYSTEMS**		P
	[Replace the first sentence with the following] ME EQUIPMENT intended to be connected to SUPPLY MAINS shall be in accordance with the Canadian Electrical Code, Part I, and the following RATED voltages shall not be exceeded:		P
7.	**ME EQUIPMENT identification, marking and documents**		P
7.5	**Safety signs**		P
	[Replace the paragraph starting with "When supplementary text" in IEC Amendment 1 with the following] When supplementary text is placed together with safety signs, the supplementary text shall be in English and French for the intended OPERATOR.		
7.7	**Colours of the insulation of conductors**		P
7.7.1	**PROTECTIVE EARTH CONDUCTOR**		P
	[Replace Clause 7.7.1 in the adopted Standard with the following] A PROTECTIVE EARTH CONDUCTOR shall be identified throughout its length by green or green and yellow coloured insulation.		P
7.7.2	**PROTECTIVE EARTH CONNECTIONS**		P
	[Replace Clause 7.7.2 in the adopted Standard with the following] A PROTECTIVE EARTH CONDUCTOR or a PROTECTIVE EARTH CONNECTION of any insulation on conductors shall be identified by either green or green and yellow colours at least at the termination of the conductors.	UL approved.	P

IEC 60601-1 Attachment			
Clause	Requirement + Test	Result - Remark	Verdict

7.7.3	**Green or green and yellow insulation**		P
	[Replace Clause 7.7.3 in the adopted Standard, as modified by IEC Amendment 1, with the following]		P
	Identification by green or green and yellow insulation shall only be used for:		P
	- PROTECTIVE EARTH CONDUCTORS (see Clause 8.6.2);		P
	- conductors as specified in Clause 7.7.2; **Note:** In other safety Standards such as CSA C22.2 No. 62368-1, internal connections between conductive parts and the main protective earth are called "protective bonding conductors".		P
	- POTENTIAL EQUALIZATION CONDUCTORS (see Clause 8.6.7);		P
	- FUNCTIONAL EARTH CONDUCTORS (see Clause 8.6.9).		P
7.7.4	**Neutral conductor**		N/A
	[Replace Clause 7.7.4 in the adopted Standard with the following] Colours of neutral conductors and POWER SUPPLY CORD conductors shall be in accordance with the *Canadian Electrical Code, Part I*, CSA C22.2 No. 21, and CSA C22.2 No. 49.		N/A
7.7.5	**POWER SUPPLY CORD conductors**		P
	[Replace Clause 7.7.5 in the adopted Standard with the following] Colours of conductors in POWER SUPPLY CORDS shall be in accordance with the Canadian Electrical Code, Part I, CSA C22.2 No. 21, and CSA C22.2 No. 49.		P
	Compliance with the requirements of Clause 7.7 is checked by inspection.		P
7.9	**ACCOMPANYING DOCUMENTS**		P
7.9.2.1	**General**		P
	[Replace the last paragraph in the adopted Standard with the following] The instructions for use shall be in English and French for the intended OPERATOR.		P
8	**Protection against electrical HAZARDS from ME EQUIPMENT**		P
8.6	**Protective earthing, functional earthing and potential equalization of ME EQUIPMENT**		P
8.6.4	**Impedance and current-carrying capability**		P
	[Replace Clause 8.6.4 in the adopted Standard, as modified by IEC Amendments 1		P

IEC 60601-1 Attachment			
Clause	Requirement + Test	Result - Remark	Verdict

	and 2, with the following]		
	PROTECTIVE EARTH CONNECTIONS shall be able to carry fault currents reliably and without excessive voltage drop.		P
	Impedance and current-carrying capability shall comply with CSA C22.2 No. 0.4.		PN/A
	For PERMANENTLY INSTALLED ME EQUIPMENT and ME EQUIPMENT with a non-DETACHABLE POWER SUPPLY CORD, the impedance between the PROTECTIVE EARTH TERMINAL (inside the ME EQUIPMENT) and any part that is PROTECTIVELY EARTHED shall not exceed 100 mΩ. For ME EQUIPMENT with an APPLIANCE INLET, the impedance between the earth pin of the APPLIANCE INLET and any part that is PROTECTIVELY EARTHED shall not exceed 100 mΩ……..:		N/A
	In addition to the test above, for ME EQUIPMENT with a non-DETACHABLE POWER SUPPLY CORD or any DETACHABLE POWER SUPPLY CORD (supplied or specified by the MANUFACTURER), the impedance between the protective earth pin of the MAINS PLUG and the PROTECTIVE EARTH TERMINAL (inside the ME EQUIPMENT) shall not exceed 100 mΩ…….:		P
	Where an APPLIANCE INLET forms the supply connection to ME EQUIPMENT, the earth pin of the APPLIANCE INLET is regarded as the PROTECTIVE EARTH TERMINAL. The combined testing requirements above are equivalent to 200 mΩ impedance testing requirements as described in IEC 60601-1. Separate testing is required to comply with CSA C22.2 No. 0.4.		P
	Testing shall be carried out using a DETACHABLE POWER SUPPLY CORD as provided or specified (length and cross-sectional area as per the Canadian Electrical Code, Part I) by the MANUFACTURER.		P
	The test current shall have the following characteristics: — for cord-connected equipment, twice the rating of the attachment plug cap, but not less than 40 A; — for equipment for permanent connection to the supply, twice the rating of the fuse that is required by the *Canadian Electrical Code*, *Part I* for the branch circuit to which the equipment is connected, up to 250 A; and — 500 A for equipment for permanent connection to the supply when a branch circuit fused at over 250 A is required.		P
	Compliance is checked by the following test: — for test currents up to 500 A, the measured potential drop shall not exceed 4 V;		

IEC 60601-1 Attachment			
Clause	Requirement + Test	Result - Remark	Verdict

	— for equipment that requires branch circuit fusing over 250 A, the measured potential drop multiplied by the required fusing and divided by 250 shall not exceed 4 V; — there shall be no melting of any metal in the bond and no heating or burning that is likely to create a fire hazard; and — the time duration— the time duration for testing is indicated in Table 8.6.4A:		
	Table 8.6.4A **Time duration of impedance test current** **Fusing of branch circuit required for equipment (A)** / **Time (min)** 0–30 / 2 31–60 / 4 61–100 / 6 101–200 / 8 201 and over / 10 **Note:** *Additional information can be found in CSA C22.2 No. 0.4.*		P
	Alternatively, dc may be used for this test, if the ME EQUIPMENT is rated dc.		N/A
	Note: When protective earth is relied on as a MEANS OF PROTECTION, the test current is determined based on the location where a fault could occur. If the prospective fault is in the mains supply circuit prior to the overcurrent protection included in the ME EQUIPMENT, the test current for that part of the protective earth circuit is based on the rating of the external overcurrent protection included in the building infrastructure or specified in the ACCOMPANYING DOCUMENTS (two times the interrupt rating of the external overcurrent protection). If the prospective fault is in the mains supply circuit after the overcurrent protection included in the ME EQUIPMENT, the test current is based on the rating of the overcurrent protection included in the ME EQUIPMENT (two times the interrupt rating of the ME EQUIPMENT overcurrent protection). In either case, the minimum test current is 40 A. The voltage drop between the parts described is measured and the impedance determined from the current and voltage drop. If the measured impedance is within the permitted limit, either the impedance measurement is then repeated using a current source with a no-load voltage sufficient to deliver the specified current into the total impedance, or the current-carrying ability of the relevant protective earth conductor and protective earth connection is confirmed by checking that their cross-sectional area is at least equal to that of the relevant current-carrying conductors.		P
8.7	**LEAKAGE CURRENTS and PATIENT AUXILIARY CURRENTS**		P
8.7.3	**Allowable values**		P
	[Add the following paragraph]	Considered.	P

IEC 60601-1 Attachment			
Clause	Requirement + Test	Result - Remark	Verdict

	Allowable values shall be in accordance with the Canadian Electrical Code, Part I.		
8.11	**MAINS PARTS, components and layout**		P
8.11.3.2	**Types**		P
	[Replace this clause with the following]		N/PA
	The following requirements for POWER SUPPLY CORDS shall apply:		P
	a) The MAINS PLUG of non-PERMANENTLY INSTALLED EQUIPMENt shall be:		P
	i) if moulded-on type, a hospital-grade mains plug complying with CSA C22.2 No. 21;	Power supply cord not provided, and therefore it was excluded this report.	N/A
	ii) a hospital-grade disassembly attachment plug type complying with CSA C22.2 No. 42; or		N/A
	iii) Class II equipment having fuses on the line side(s), and the neutral may use a non-polarized attachment plug or a polarized attachment plug. CSA configuration type 1-15P shall be required and meets all applicable requirements in CSA C22.2 No. 21 and CSA C22.2 No. 42. Where a polarized attachment plug is used, the POWER SUPPLY CORD is connected to the wiring of the EQUIPMENT on the ungrounded side of the line when any of the following devices are used in the primary circuit:		
	1) the centre contact of an Edison base lampholder;		N/A
	2) a single pole switch;		N/A
	3) an automatic control with a marked off position;		N/A
	4) a solitary fuse/fuse holder; or		N/A
	5) any other single pole overcurrent protective device.		N/A
	b) A detachable POWER SUPPLY CORD for non-PERMANENTLY INSTALLED EQUIPMENT (cord-connected equipment) shall be of a type:		N/A
	i) that can be shown to be unlikely to become detached accidentally, unless it can be shown that detachment will not constitute a safety HAZARD to a PATIENT or OPERATOR;		N/A
	ii) for which it can be shown that the impedance of the earth (ground) circuit contacts will not constitute a safety HAZARD to a PATIENT or OPERATOR; and		N/A
	iii) that has a terminal configuration or other constructional feature that will minimize the possibility of its replacement by a detachable POWER SUPPLY CORD which could create a HAZARDOUS SITUATION.		N/A
	c) The detachable POWER SUPPLY CORD shall:		N/A
	i) comply with the applicable requirements of CSA C22.2 No. 21; and		N/A
	ii) not be smaller than No. 18 AWG, and the mechanical serviceability is not less than:		N/A
	1) Type SJ or equivalent for ME EQUIPMENT that is mobile or exposed to abuse; and		N/A
	2) Type SV or equivalent for ME EQUIPMENT that is not exposed to abuse (or Type HPN if required		N/A

IEC 60601-1 Attachment			
Clause	Requirement + Test	Result - Remark	Verdict

	because of temperature). **Note:** See CSA C22.2 No. 49 for requirements for the cord types mentioned in Sub-item 2).		
	d) Installation of POWER SUPPLY CORDS shall meet the requirements of the Canadian Electrical Code, Part I, as applicable.		N/A
	[Add the following to this Canadian deviation in the adopted Standard] The POWER SUPPLY CORD used with the ME EQUIPMENT shall be in accordance with the temperature rating to which it has been RATED. **Note 1DV:** Refer to the Canadian Electrical Code, Part I, Tables 11 and 12 for additional information.		N/A
	Compliance is checked by inspection and measurement……..:		N/A
8.11.3.3	**Cross-sectional area of POWER SUPPLY CORD conductors**		N/A
	[Replace Clause 8.11.3.3 in the adopted Standard, as modified by Amendment 2, with the following] The NOMINAL cross-sectional area of conductors of any POWER SUPPLY CORD of ME EQUIPMENT shall be not less than the requirements of the Canadian Electrical Code, Part I, and CSA C22.2 No. 21. **Note:** Table 17 can be used for European countries or other countries where the nominal cross-sectional area is measured in mm2 (HAR); American Wire Gauge (AWG) is the nominal cross-sectional area used in Canada as per the Canadian Electrical Code, Part I.		N/A
	Compliance is checked by inspection……..:		N/A
8.11.5	**Mains fuses and OVER-CURRENT RELEASES**		P
	[Replace Clause 8.11.5 in the Canadian deviations in the adopted Standard with the following] Installation of overcurrent protective devices shall be in accordance with the Canadian Electrical Code, Part I	See the table 8.10.	P
9	**Protection against MECHANICAL HAZARDS of ME EQUIPMENT and ME SYSTEMS**		N/A
9.7	**Pressure vessels and parts subject to pneumatic and hydraulic pressure**		N/A
9.7.5	**Pressure vessels**		N/A
9.7.5	*[Replace this clause with the following]* Pressure vessels shall comply with the requirements of CSA B51, as applicable		N/A
9.7.7	**Pressure-relief device**		N/A
	[Add the following as the first paragraph of this Clause] A pressure-relief device shall comply, as		N/A

IEC 60601-1 Attachment			
Clause	Requirement + Test	Result - Remark	Verdict

	applicable, with the requirements of ASME PTC 25 or equivalent Canadian requirements.		
13	**HAZARDOUS SITUATIONS and fault conditions**		N/A
13.2	**SINGLE FAULT CONDITIONS**		N/A
13.2.9	**Interruption and short circuiting of motor capacitors**		N/A
	[Replace the second paragraph of the compliance statement in the adopted Standard with the following] The test with a short-circuited capacitor is not performed if the motor is provided with a capacitor that complies with IEC 60252-1 or is included as part of the evaluation of the motor in accordance with CSA C22.2 No. 100, and the ME EQUIPMENT is not intended for unattended use (including automatic or remote control).		N/A
	For additional test criteria, see Clause 13.2.10.		N/A
15	**Construction of ME EQUIPMENT**		N/A
15.4	**ME EQUIPMENT components and general assembly**		N/A
15.4.1	**Construction of connectors**		N/A
	[Add the following item]		N/A
	bA) The point of connection of gas cylinders to ME EQUIPMENT is gas-specific and clearly identified so that errors are avoided when a replacement is made. Medical gas inlet connectors on ME EQUIPMENT shall be:		N/A
	i) gas-specific, yoke type, or nut and nipple type valve connections complying with CGA V-1 for pressures over 1380 kPa (200 psi); or	No gas connection	N/A
	ii) DISS type complying with CGA V-5 for pressures 1380 kPa (200 psi) or less and configured to permit the supply of medical gases from low-pressure connecting assemblies complying with CAN/CSA-Z5359		N/A
	Note: Users of this Standard should consult the CSA Z305 series of Standards, CAN/CSA-Z9170-1, ISO 9170-2, CAN/CSA-Z10524, and CAN/CSA-Z15002 for further information regarding inlet connectors; ISO 407 for requirements addressing yoke type valve connections; and ISO 32 for colour coding.		---
15.4.8	**Internal wiring of ME EQUIPMENT**		N/A
	[Replace this Clause with the following]		N/A
	Internal wiring of ME EQUIPMENT shall be in accordance with the Canadian Electrical Code, Part I.		N/A
	Except for flexible cord, equipment wire, control circuit insulated conductors, and cable, insulated conductors shall be not smaller than No. 14 AWG when made of copper and not smaller than No. 12 AWG when made of aluminium. **Note 1:** See the Canadian Electrical Code, Part I, Rule 4-002.		N/A

IEC 60601-1 Attachment			
Clause	Requirement + Test	Result - Remark	Verdict

	The maximum current that an equipment wire of a given size may carry shall be as specified in Table 12 of the Canadian Electrical Code, Part I. **Note 2:** For additional information refer to the Canadian Electrical Code, Part I, Rule 4-014.		N/A
15.5	**MAINS SUPPLY TRANSFORMERS of ME EQUIPMENT and transformers providing separation in accordance with 8.5**		N/A
15.5.1.3	**Overload test**		N/A
	[Replace the second and third dashed items of Item b) of Clause 15.5.1.3 in the adopted Standard with the following]		N/A
	- Fuses not in accordance with IEC 60127-1 but in accordance with the CSA C22.2 No. 248 series of Standards: 30 min at the current according to the characteristics supplied by the fuse manufacturer, specifically the 30 min clearing-time current. If no 30 min clearing-time current data is available, the test current from Table 32 is used until THERMAL STABILITY is achieved.		N/A
	- Other protective device as per the Canadian Electrical Code, Part I: until THERMAL STABILITY at a current just below that which caused the device to operate in Item a).		N/A
	This portion of the overload test is concluded at the specified time or when a second protective device opens.		N/A
16	**ME SYSTEMS**		N/A
16.1	**General requirements for the ME SYSTEMS**		N/A
	*[Replace the paragraph that starts with "*An ME SYSTEM shall provide:*" with the following]*		N/A
	An ME SYSTEM shall be provided:		N/A
	- within the PATIENT ENVIRONMENT, the level of safety equivalent to ME EQUIPMENT complying with this CSA Group Standard; and	Not medical system	N/A
	- outside the PATIENT ENVIRONMENT, the level of safety equivalent to equipment complying with their respective CSA Group, IEC, or ISO safety Standards.		N/A
	[Replace the third-last paragraph with the following] Non-ME EQUIPMENT, when used in an ME SYSTEM, shall comply with the CSA Group, IEC, or ISO safety Standards that are relevant to that equipment.		N/A
16.9	**ME SYSTEM connections and wiring**		N/A
16.9.2.1	**MULTIPLE SOCKET-OUTLET**		N/A
	[Replace the first sentence of Item c) of Clause 16.9.2.1 in the adopted Standard with the following]		N/A
	c) The MULTIPLE SOCKET-OUTLET shall comply	No MSO	N/A

IEC 60601-1 Attachment			
Clause	Requirement + Test	Result - Remark	Verdict

	with CSA C22.2 No. 308 as applicable and the following requirements.		
	[Add the following note to Item d) in the Canadian deviations in the adopted Standard]		N/A
	d) If the MULTIPLE SOCKET OUTLET is combined with a separating transformer, the following additional requirements shall apply:		N/A
	The separating transformer complies with this Standard.		N/A
	Alternatively, the separating transformer may comply with the requirements of CAN/CSA-E61558-2-1, except that the requirements of maximum RATED output power of 1 kVA and degree of protection IPX4 do not apply.		N/A
	Note 1: As a separating transformer is not a MAINS SUPPLY TRANSFORMER, it does not require more than BASIC INSULATION. Note 2: Limitation of output power is not explained in CAN/CSA-E61558-2-1 and the RATED output power is defined by the fuse in the installation and by the allowable power supply cable used. However, the characteristics of the separating transformer need to be carefully selected, taking into account the variations in the load current of the ME SYSTEM to ensure that the voltage supplied to the various items of the ME SYSTEM remains within the limits specified for the equipment. Note 3: For additional details refer to the Canadian Electrical Code, Part I, Diagrams 1 and 2.		N/A
	The separating transformer assembly shall be a CLASS I construction.		N/A
	The degree of protection against ingress of water as given in IEC 60529 is specified.		N/A
	The separating transformer assembly shall be marked according to the requirements of 7.2 and 7.3.		N/A
	The MULTIPLE SOCKET OUTLET is permanently connected to the separating transformer or,		N/A
	The socket-outlet of the separating transformer assembly shall be of a type that cannot accept MAINS PLUGS of any of the kinds identified in Canadian Electrical Code, Part I (see Figure I.1 and Figure I.2 of this Standard)		N/A
	[Add the following item] dA) The MULTIPLE SOCKET OUTLET complies with the requirements of CSA C22.2 No. 42, CSA C22.2 No. 49, and Item d) of this Standard, as applicable.		N/A

IEC 60601-1 Attachment			
Clause	Requirement + Test	Result - Remark	Verdict

Attachment 4: Plug for EN 50075:1990 (portion)

1.	**Dimensions (Clause 7 of EN 50075)**	P
	Plugs shall comply with standard size. (Standard sheet 1)	P
2.	**Protection Against Electric Shock (Clause 8 of EN 50075)**	P
2.1	Live parts of plugs with the exception of the bare metal parts of the pins, shall not be accessible. (Clause 8.1 of EN 50075)	P
2.2	It shall not be possible to make connection between a pin of a plug and a live socket contact of a socket-outlet while the other pin is an accessible. (Clause 8.2 of EN 50075)	P
2.3	External parts of plugs, with the exception of pins, shall be of insulating material. (Clause 8.3 of EN 50075)	P
3.	**Construction (Clause 9 of EN 50075)**	P
3.1	The plug cannot be opened by hand or by using a general purpose tool. (Clause 9.1 of EN 50075)	P
3.2	Pins of plugs shall be solid and shall have adequate mechanical strength. (Clause 9.3 of EN 50075)	P
3.3	Pins of plugs shall be locked against rotation and adequately fixed into the body of the plug. (Clause 9.4 of EN 50075)	P
3.4	Plugs shall be provided with soldered, crimped or equally effective permanent connection. (Clause 9.5 of EN 50075)	P
3.5	Plug shall be shaped in such a way and made of such a material that they can easily be withdrawn by hand from a socket-outlet. (by gripping the medical power supply's enclosure, Clause 9.6 of EN 50075)	P
4.	**Resistance to Humidity (Clause 10 of EN 50075)**	N/A
	The integrated pins were tested together with the medical power supply. (See test report for medical power supply)	N/A
5.	**Insulation Resistance and Electric Strength (Clause 11 of EN 50075)**	N/A
	(See test report for medical power supply)	N/A
6.	**Mechanical Strength (Clause 13 of EN 50075)**	P
	Plug shall have adequate mechanical strength to withstand the stresses imposed during use.	P
6.1	The plugs are pressed between two flat surfaces with a force of 150N for 5min. 15min after removal of the force, the plug shall not show such deformation as would result in undue alteration of the dimensions which ensure safety. (Clause 13.1 of EN 50075)	P
6.2	The plug is tested in a tumbling barrel. (Clause 13.2 of EN 50075, fall number is shown in test report for medical power supply) After the test, the plug shall show no damage within the meaning of this standard, in particular: --- No part shall become detached or loosened. --- The pin shall not turn when a torque of 0.4Nm is applied. Note: A section of the pin is square constructed for preventing the rotation.	P
6.3	The pins is held in a suitable clamp in such a position that the straight part of a steel wire (D=1+-0.02mm, U-shaped) rests on the plug pin. The plug is caused to move backwards and forwards, so that the wire rubs along the pin. The number of the movements is 20 000, and the rate of the operation is 25 movements per min. (Clause 13.3 of EN 50075)	P
	After the test, the pin show no damage which may effect safety or impair the further use of the plug, in particular, the insulating sleeve shall not have punctured or rucked up.	P
6.4	A pull force of 40N is applied for 60s on each pin in turn in the direction of the longitudinal axis of the pin. The pull is applied 60min after the plug has been placed in a heating cabinet of 70°C. After the plug cooling down to ambient temperature, any pin shall not have displaced in the body of the plug more than 1mm. (Clause 13.4 of EN 50075)	P

IEC 60601-1 Attachment			
Clause	Requirement + Test	Result - Remark	Verdict

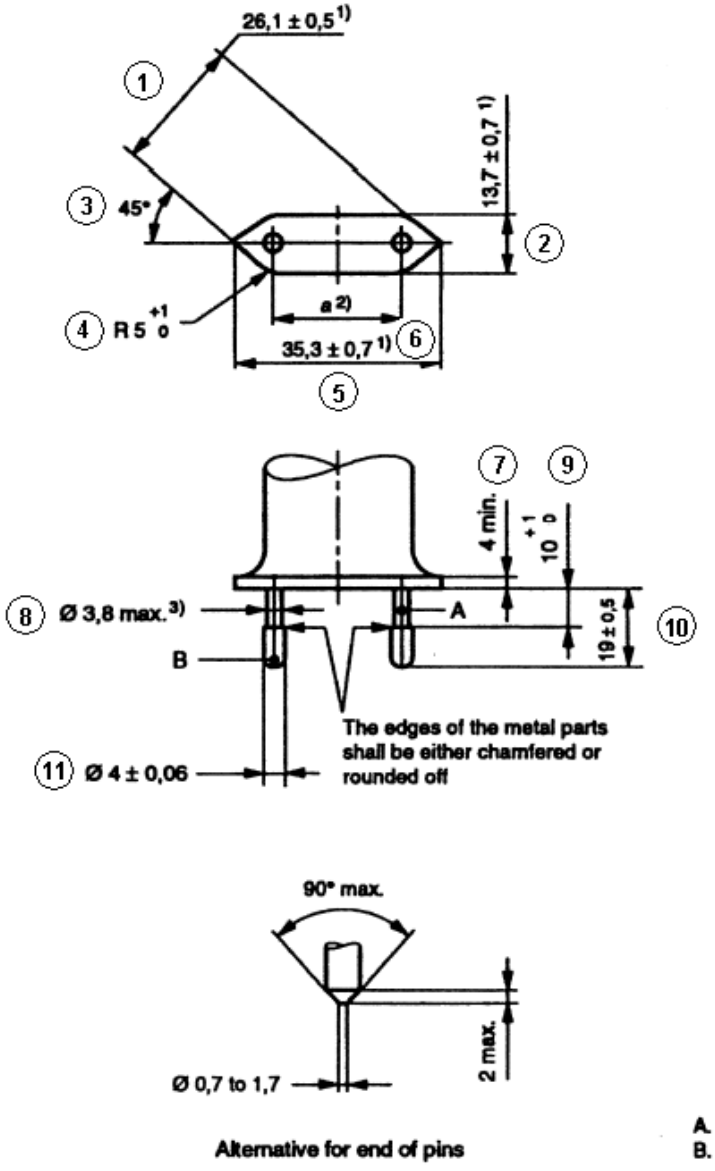
7.	**Resistance to Heat and to Ageing (Clause 14 of EN 50075)**	P
8.	**Current-carrying Parts and Connections (Clause 15 of EN 50075)**	P
8.1	Connection, electrical and mechanical, shall withstand the mechanical stresses occurring in normal use, and electrical connections shall be designed that contact pressure is not transmitted through insulating material. (Clause 15.1 & 15.2 of EN 50075)	P
8.2	Current-carrying parts shall be of copper or an alloy containing at least 58% of copper. (Clause 15.3 of EN 50075)	P
9.	**Creepage Distance, Clearances, and Distances Through Insulation (Clause 16 of EN 50075)**	P
10.	**Resistance of Insulating Material to Abnormal Heat and to fire (Clause 17 of EN 50075)**	P

Dimensions of integral plug

	DIMENSIONS Checked by means of measurement according to EN50075 Standard sheet 1		P
Position	Requirement (mm)	Measured (mm)	Verdict
1	25,6 – 26,6	25,84	P
2	13 – 14,4	13,98	P
3	45°	45°	P
4	R5 – 6	R5,4	P
5	34,6 – 36	35,09	P
6	18-19,2 in the plane of the engagement face	18,15	P
	17-18 at the ends of the pins	17,55	P
7	4min	-	N/A
8	ϕ3,8max	ϕ3,42	P
9	10-11	10,05	P
10	18,5 – 19,5	19,12	P
11	ϕ3,94 - ϕ4,06	ϕ3,98	P
	Dimensions of position 1, 2 and 3 shall not be exceeded within a distance of 18mm from the engagement face of the plug	19,15	P
	The edges of the metal parts shall be either chamfered or rounded off	Rounded off	P

IEC 60601-1 Attachment			
Clause	Requirement + Test	Result - Remark	Verdict

EN50075: 1990 STANDARD SHEET 1



Alternative for end of pins

A. Insulating collar
B. Metal pin

Dimensions in millimetres

1) These dimensions shall not be exceeded within a distance of 18 mm from the engagement face of the plug.

2) Dimension *a* is:

18 mm to 19,2 mm in the plane of the engagement face;

17 mm to 18 mm at the ends of the pins.

3) This dimension may be increased to 4 mm within a distance of 4 mm from the engagement face of the plug.

Pin ends shall be rounded, or conical as shown in detail sketch.

The sketches are not intended to govern design except as regards the dimensions shown.